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Toitū Te Whenua
Land Information
New Zealand

New Zealand Nautical Almanac

Includes Annual New Zealand Notices to Mariners

2024/25 Edition | NZ 204

Te Kāwanatanga o Aotearoa
New Zealand Government

Toitū Te Whenua Land Information New Zealand

Our purpose: Understanding, developing and caring for whenua, moana and arawai.

Toitū Te Whenua comes from the proverb *Whatungarongaro te tangata toitū te whenua* which means *People come and go but the land remains/endures.* Therefore, Toitū Te Whenua means ***the land endures,*** and is a reminder that despite changes within our organisation, the land will always be here.

Toitū Te Whenua Land Information New Zealand is the Government's lead agency for location and property information, Crown land and managing overseas investment.

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New Zealand Nautical Almanac

2024/25

including

Annual New Zealand Notices to Mariners

NZ 204

This edition covers the period from
1 July 2024 to 30 June 2025

(Corrected to *New Zealand Notices to Mariners*
Fortnightly Edition No. 8, dated 12 April 2024)

Important Note

The times listed herein are in New Zealand Standard Time (NZST).
Add 1 hour when New Zealand Daylight Time (NZDT) is in force.
New Zealand Daylight Time will be kept from 0200 NZST on 29 September 2024
until 0200 NZST on 6 April 2025.

Time Zone

One uniform time is kept throughout mainland New Zealand. This is the time 12 hours ahead of Coordinated Universal Time, (UTC) and is named New Zealand Standard Time (NZST). One hour of daylight saving, named New Zealand Daylight Time, which is 13 hours ahead of Coordinated Universal Time is observed from 0200 NZST on the last Sunday in September until 0200 NZST on the first Sunday in April. Time kept in the Chatham Islands is 45 minutes ahead of that kept in mainland New Zealand.

Search and Rescue Services

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Preface

The information contained in this publication has been either produced by, or supplied to, Toitū Te Whenua Land Information New Zealand (Toitū Te Whenua LINZ), New Zealand Hydrographic Authority and was current as at the date of compilation. Significant hydrographic information is updated by a fortnightly Notices to Mariners service to which all mariners are encouraged to subscribe. All reasonable efforts have been made to ensure accuracy and completeness of the contents of this Almanac. Toitū Te Whenua LINZ regards third parties from which it receives information as reliable, however Toitū Te Whenua LINZ cannot verify all such information and errors may therefore exist.

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Source of Astronomical Information

All astronomical information has been prepared by Toitū Te Whenua LINZ using software produced by the United States Naval Observatory (USNO) and from data published on the Internet by the USNO and HM Nautical Almanac Office.

Source of Tidal Information

The standard port tidal information in this publication has been prepared by Toitū Te Whenua LINZ from analysis of sea level observations supplied by port companies, regional and district councils, and the National Institute of Water and Atmospheric Research Limited (NIWA).

Some of the secondary port information has been published by the Royal New Zealand Navy in earlier editions of the Nautical Almanac; Toitū Te Whenua LINZ continues to review and update this data as new observations become available.

Source of Light List General Information

Selected text and images contained in the light list section have been reproduced with the permission of the United Kingdom Hydrographic Office www.admiralty.co.uk.

Reproduction of tidal data in local tables, almanacs, newspapers and websites

The data contained in the tide tables may be used, copied and re-distributed free of charge in any format or media, subject to a suitable acknowledgement that the material has been sourced from Toitū Te Whenua LINZ data.

Danger to navigation

When new or suspected dangers to navigation are discovered, or changes are observed in aids to navigation, or corrections to charts and publications are seen to be necessary, mariners are requested to notify Toitū Te Whenua LINZ by Hydrographic Note, see form at the back of this publication.

- Phone: +64 4 460 0110 or 0800 665 463 (NZ callfree only); or
- Email: ntm@linz.govt.nz.

Users are encouraged to notify Toitū Te Whenua LINZ of any suggestions for improving this publication.

Corrections

Any required amendments to this publication will be promulgated through *New Zealand Notices to Mariners*, and will be incorporated into the next edition. Please use the table below as a record of completing corrections for each edition of *New Zealand Notices to Mariners*.

Record of corrections published in fortnightly editions of Notices to Mariners 2024

Edition No	Date Corrected	Edition No	Date Corrected	Edition No	Date Corrected	Edition No	Date Corrected	Edition No	Date Corrected
9		13		17		21		25	
10		14		18		22		26	
11		15		19		23			
12		16		20		24			

Record of corrections published in fortnightly editions of Notices to Mariners 2025

Edition No	Date Corrected	Edition No	Date Corrected	Edition No	Date Corrected	Edition No	Date Corrected	Edition No	Date Corrected
1		4		7		10		13	
2		5		8		11			
3		6		9		12			

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Standard Times

The world is divided into twenty-four equal zones of fifteen degrees longitude in width, in each of which the same time (Zone Time) is kept. The meridian of Greenwich is taken as the centre of the system and of Zone 0. Zones to the east of Zone 0 are numbered -1, -2, etc., and those to the west +1, +2, etc. The twelfth zone is divided into two parts by the International Date Line; that to the west being -12 and that to the east +12. The zone number indicates the number of hours by which Zone Time must be decreased or increased to obtain Universal Time (previously known as Greenwich Mean Time).

International Date Line

The International Date Line is a modification of the line of the 180th meridian, which is drawn so as to include islands of any group, etc., on the same side of the line. The line is defined, in terms of latitude and longitude and of rhumb line courses, as follows:

1. From the North Pole due south along the 180th meridian to 75°N.;
2. Thence south-eastwards to 68°N. and the longitude of the meridian passing between the Diomede Islands (approximately 168° 58′.37W.);
3. Thence due south through Bering Strait to 65° 30′N.;
4. Thence south-westwards to 53°N., 170°E.;
5. Thence south-eastwards to 48°N. and the 180th meridian;
6. Thence due south to 5°S.;
7. Thence south-eastwards to 15°S., 172° 30′W.;
8. Thence due south to 45°S., 172° 30′W.;
9. Thence south-westwards to 51°S., and the 180th meridian;
10. Thence due south to the South Pole.

When crossing the International Date Line:

(a) on an **easterly course, assume yesterday's date;**

(b) on a **westerly course, assume tomorrow's date.**

International Date Line information has been sourced from the *ADMIRALTY List of Radio Signals, Volume 2 Part 2, NP282 2023.*

Astronomical Information

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Astronomical Phenomena

July 2024 – June 2025

Orbital Phenomena of the Earth

Orbital Phenomena		
Aphelion (Earth furthest from Sun)	2024 July 5	05:17
Equinox (Sun moves south of the equator); equal day, night	2024 September 23	00:44
Solstice (Sun furthest south); southern hemisphere longest day	2024 December 21	21:21
Perihelion (Earth nearest to Sun)	2025 January 5	01:28
Equinox (Sun moves north of the equator); equal day, night	2025 March 20	21:01
Solstice (Sun furthest north); southern hemisphere shortest day	2025 June 21	14:42

Solar and Lunar Eclipses

Type of Eclipse	Maximum eclipse		Visibility from New Zealand
Partial eclipse of the Moon	2024 September 18	14:44	Not visible
Annular eclipse of the Sun	2024 October 3	06:45	Not visible
Total eclipse of the Moon	2025 March 14	18:59	Moon rises during event
Partial eclipse of the Sun	2025 March 29	22:47	Not visible

Lunar Perigee and Apogee

	Perigee (Moon closest to Earth)			Apogee (Moon furthest from Earth)		
			Distance (km)			Distance (km)
2024				Jul 12	20:11	404,207
	Jul 24	17:41	365,065	Aug 9	13:31	405,163
	Aug 21	17:02	360,404	Sep 6	02:54	406,108
	Sep 19	01:22	357,529	Oct 3	07:39	406,434
	Oct 17	12:51	357,421	Oct 30	10:50	406,064
	Nov 14	23:16	360,325	Nov 26	23:56	405,183
	Dec 13	01:20	365,513	Dec 24	19:25	404,327
2025	Jan 8	12:01	370,234	Jan 21	16:54	404,134
	Feb 2	14:47	367,572	Feb 18	13:10	404,735
	Mar 2	09:21	362,154	Mar 18	04:37	405,639
	Mar 30	17:25	358,362	Apr 14	10:48	406,210
	Apr 28	04:18	357,365	May 11	12:47	406,154
	May 26	13:34	359,248	Jun 7	22:44	405,436
	Jun 23	16:44	363,355			

Phases of the Moon

	New Moon		First Quarter		Full Moon		Last Quarter	
2024	Jul 6	10:57	Jul 14	10:49	Jul 21	22:17	Jul 28	14:52
	Aug 4	23:13	Aug 13	03:19	Aug 20	06:26	Aug 26	21:26
	Sep 3	13:56	Sep 11	18:06	Sep 18	14:34	Sep 25	06:50
	Oct 3	06:49	Oct 11	06:55	Oct 17	23:26	Oct 24	20:03
	Nov 2	00:47	Nov 9	17:55	Nov 16	09:28	Nov 23	13:28
	Dec 1	18:21	Dec 9	03:27	Dec 15	21:02	Dec 23	10:18
	Dec 31	10:27						
2025			Jan 7	11:56	Jan 14	10:27	Jan 22	08:31
	Jan 30	00:36	Feb 5	20:02	Feb 13	01:53	Feb 21	05:32
	Feb 28	12:45	Mar 7	04:32	Mar 14	18:55	Mar 22	23:29
	Mar 29	22:58	Apr 5	14:15	Apr 13	12:22	Apr 21	13:36
	Apr 28	07:31	May 5	01:52	May 13	04:56	May 20	23:59
	May 27	15:02	Jun 3	15:41	Jun 11	19:44	Jun 19	07:19
	Jun 25	22:32						

Times listed are in New Zealand Standard Time (NZST).
Add 1 hour when New Zealand daylight Time (NZDT) is in force.

True Bearing of the Sun at Sunrise and Sunset

This table gives the true bearing of the rising and setting Sun every tenth day at 10° intervals of latitude from 0° to 60° South. Simple interpolation will give values for other dates and latitudes. Bearings are given to the nearest degree and apply to the time when the Sun's upper limb appears to be coincident with a level, unobstructed horizon.

Observer's Latitude (South)

	0°		10°		20°		30°		40°		50°		60°	
	Bearing°		Bearing°		Bearing°		Bearing°		Bearing°		Bearing°		Bearing°	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Jul 1	67	293	67	293	66	294	64	296	60	300	54	306	41	320
Jul 11	68	292	68	292	67	293	65	295	61	299	55	305	43	317
Jul 21	70	291	69	291	69	292	67	293	64	296	58	302	48	313
Jul 31	72	288	72	288	71	289	69	291	67	294	62	298	53	307
Aug 10	74	286	74	286	74	286	73	288	70	290	67	294	59	301
Aug 20	78	283	78	283	77	283	76	284	74	286	72	289	66	294
Aug 30	81	279	81	279	81	279	80	280	79	281	77	283	73	287
Sep 9	85	275	85	275	85	275	84	276	84	276	83	277	81	279
Sep 19	89	272	89	271	89	271	89	271	89	271	89	272	89	272
Sep 29	92	268	93	268	93	267	93	267	94	266	95	265	96	264
Oct 9	96	264	97	264	97	263	98	262	99	261	101	259	104	256
Oct 19	100	260	100	260	101	259	102	258	104	256	107	254	112	248
Oct 29	103	257	104	256	105	255	106	254	108	252	112	248	119	241
Nov 8	107	254	107	253	108	252	110	250	113	248	117	243	127	234
Nov 18	109	251	110	250	111	249	113	247	116	244	122	238	133	227
Nov 28	111	249	112	248	113	247	115	245	119	241	126	234	139	221
Dec 8	113	247	113	247	115	245	117	243	121	239	128	232	143	217
Dec 18	113	247	114	246	115	245	118	242	122	238	129	231	145	215
Dec 28	113	247	114	246	115	245	118	242	122	238	129	231	145	215
Jan 7	112	248	113	247	114	246	117	243	121	239	128	232	142	218
Jan 17	111	249	111	249	112	247	115	245	118	242	125	235	137	223
Jan 27	108	251	109	251	110	250	112	248	115	245	121	239	131	229
Feb 6	106	254	106	254	107	253	109	251	111	248	116	244	124	235
Feb 16	102	257	103	257	103	256	105	255	107	253	111	249	117	243
Feb 26	99	261	99	261	100	260	101	259	102	258	105	255	109	250
Mar 8	95	265	95	265	96	265	96	264	97	263	99	261	102	259
Mar 18	91	269	91	269	91	269	92	269	92	268	93	268	94	267
Mar 28	87	273	87	273	87	273	87	273	87	273	87	274	86	275
Apr 7	83	277	83	277	83	277	83	277	82	278	81	280	78	282
Apr 17	80	281	80	281	79	281	78	282	77	283	75	285	70	290
Apr 27	76	284	76	284	76	284	75	286	73	288	69	291	63	297
May 7	73	287	73	287	72	288	71	289	69	291	64	296	57	304
May 17	71	289	71	290	70	290	68	292	65	295	60	300	51	310
May 27	69	291	69	292	68	292	66	294	63	298	57	303	46	315
Jun 6	67	293	67	293	66	294	64	296	61	299	54	306	42	318
Jun 16	67	293	66	294	65	295	63	297	60	300	53	307	40	320
Jun 26	67	293	66	294	65	295	63	297	60	300	53	307	40	320
Jul 6	67	293	67	293	66	294	64	296	61	299	54	306	42	318

Sunrise and Sunset Times

July 2024 – June 2025

		Auckland		Bluff		Dunedin		East Cape		Gisborne		Lyttelton	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Jul	1	7:35	17:15	8:32	17:09	8:21	17:03	7:22	16:58	7:27	16:57	8:03	17:03
	11	7:33	17:21	8:28	17:17	8:17	17:10	7:20	17:03	7:24	17:03	8:00	17:09
	21	7:28	17:27	8:20	17:26	8:09	17:20	7:15	17:10	7:19	17:10	7:54	17:18
	31	7:20	17:35	8:09	17:37	7:59	17:31	7:07	17:18	7:11	17:18	7:44	17:28
Aug	10	7:10	17:43	7:55	17:49	7:45	17:42	6:56	17:26	7:00	17:27	7:31	17:39
	20	6:58	17:51	7:39	18:02	7:29	17:55	6:44	17:35	6:48	17:36	7:16	17:49
	30	6:45	17:59	7:21	18:14	7:11	18:07	6:30	17:43	6:33	17:44	7:00	18:00
Sep	9	6:30	18:07	7:02	18:27	6:53	18:19	6:15	17:51	6:18	17:53	6:42	18:11
	19	6:15	18:15	6:42	18:40	6:33	18:31	6:00	18:00	6:02	18:02	6:24	18:23
	29	6:00	18:23	6:22	18:53	6:14	18:44	5:45	18:08	5:46	18:11	6:06	18:34
Oct	9	5:45	18:32	6:02	19:06	5:54	18:57	5:29	18:17	5:31	18:20	5:48	18:46
	19	5:31	18:41	5:44	19:20	5:36	19:11	5:15	18:27	5:16	18:30	5:31	18:58
	29	5:19	18:51	5:27	19:35	5:20	19:25	5:03	18:37	5:03	18:41	5:15	19:11
Nov	8	5:09	19:01	5:12	19:50	5:05	19:39	4:52	18:48	4:52	18:52	5:02	19:24
	18	5:01	19:12	5:00	20:05	4:53	19:54	4:44	18:59	4:43	19:03	4:52	19:38
	28	4:56	19:22	4:51	20:18	4:45	20:07	4:39	19:09	4:38	19:14	4:44	19:50
Dec	8	4:55	19:31	4:47	20:30	4:42	20:18	4:37	19:18	4:36	19:23	4:41	20:01
	18	4:57	19:38	4:48	20:38	4:43	20:27	4:39	19:26	4:38	19:31	4:43	20:09
	28	5:02	19:43	4:54	20:42	4:48	20:31	4:45	19:30	4:44	19:35	4:48	20:13
Jan	7	5:10	19:44	5:03	20:42	4:58	20:30	4:53	19:31	4:52	19:36	4:57	20:13
	17	5:20	19:41	5:16	20:36	5:10	20:25	5:03	19:28	5:02	19:33	5:09	20:09
	27	5:31	19:36	5:31	20:27	5:24	20:16	5:14	19:23	5:14	19:27	5:22	20:01
Feb	6	5:42	19:27	5:46	20:14	5:39	20:04	5:25	19:14	5:25	19:18	5:36	19:49
	16	5:53	19:17	6:02	19:59	5:55	19:49	5:36	19:03	5:37	19:06	5:50	19:36
	26	6:03	19:04	6:17	19:41	6:09	19:32	5:47	18:50	5:48	18:53	6:03	19:20
Mar	8	6:13	18:50	6:32	19:22	6:23	19:13	5:57	18:36	5:58	18:38	6:16	19:03
	18	6:22	18:36	6:46	19:03	6:37	18:54	6:07	18:21	6:08	18:23	6:29	18:45
	28	6:31	18:21	6:59	18:43	6:50	18:35	6:16	18:05	6:18	18:07	6:41	18:27
Apr	7	6:39	18:06	7:13	18:24	7:04	18:16	6:25	17:51	6:28	17:52	6:53	18:09
	17	6:48	17:53	7:26	18:06	7:16	17:58	6:34	17:37	6:37	17:37	7:04	17:52
	27	6:57	17:40	7:39	17:49	7:29	17:41	6:43	17:24	6:46	17:24	7:16	17:37
May	7	7:05	17:29	7:52	17:34	7:42	17:27	6:52	17:13	6:56	17:13	7:27	17:23
	17	7:14	17:21	8:04	17:21	7:54	17:15	7:00	17:04	7:05	17:04	7:38	17:12
	27	7:21	17:15	8:15	17:12	8:04	17:06	7:08	16:57	7:13	16:57	7:48	17:04
Jun	6	7:28	17:11	8:24	17:06	8:13	17:00	7:15	16:54	7:20	16:53	7:56	16:59
	16	7:32	17:11	8:30	17:04	8:19	16:59	7:19	16:53	7:24	16:53	8:01	16:58
	26	7:35	17:13	8:32	17:07	8:21	17:01	7:22	16:56	7:27	16:55	8:04	17:00
Jul	6	7:34	17:17	8:31	17:12	8:19	17:06	7:21	17:00	7:26	16:59	8:02	17:06

Times listed are in New Zealand Standard Time (NZST).

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Sunrise and Sunset Times

July 2024 – June 2025

		Napier		Nelson		New Plymouth		North Cape / Otou		Picton		Puysegur Point	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Jul	1	7:34	16:59	7:54	17:08	7:44	17:12	7:35	17:28	7:51	17:05	8:37	17:18
	11	7:31	17:05	7:51	17:14	7:41	17:18	7:33	17:33	7:48	17:11	8:33	17:25
	21	7:26	17:12	7:45	17:22	7:36	17:25	7:29	17:40	7:42	17:19	8:26	17:35
	31	7:17	17:21	7:36	17:31	7:28	17:33	7:22	17:47	7:33	17:28	8:15	17:46
Aug	10	7:06	17:30	7:24	17:41	7:17	17:42	7:13	17:54	7:21	17:38	8:01	17:57
	20	6:53	17:39	7:10	17:51	7:04	17:51	7:02	18:01	7:07	17:48	7:45	18:10
	30	6:39	17:48	6:55	18:01	6:50	18:00	6:49	18:08	6:52	17:58	7:27	18:22
Sep	9	6:23	17:57	6:39	18:11	6:34	18:09	6:36	18:15	6:36	18:08	7:08	18:34
	19	6:07	18:06	6:22	18:21	6:18	18:18	6:22	18:22	6:19	18:18	6:49	18:47
	29	5:50	18:15	6:04	18:31	6:02	18:27	6:08	18:29	6:01	18:28	6:29	19:00
Oct	9	5:35	18:25	5:48	18:41	5:46	18:37	5:54	18:37	5:45	18:39	6:10	19:13
	19	5:20	18:36	5:32	18:53	5:32	18:47	5:41	18:45	5:29	18:50	5:51	19:27
	29	5:06	18:47	5:18	19:04	5:18	18:57	5:30	18:54	5:15	19:02	5:34	19:41
Nov	8	4:55	18:58	5:05	19:17	5:07	19:09	5:20	19:03	5:02	19:14	5:20	19:56
	18	4:46	19:10	4:56	19:29	4:59	19:20	5:13	19:13	4:53	19:26	5:08	20:10
	28	4:40	19:21	4:50	19:41	4:53	19:31	5:09	19:23	4:47	19:38	5:00	20:24
Dec	8	4:38	19:30	4:47	19:51	4:51	19:41	5:08	19:31	4:44	19:48	4:56	20:35
	18	4:40	19:38	4:49	19:58	4:53	19:48	5:11	19:38	4:46	19:55	4:57	20:43
	28	4:46	19:42	4:54	20:02	4:59	19:52	5:16	19:43	4:51	20:00	5:03	20:47
Jan	7	4:54	19:43	5:03	20:03	5:07	19:53	5:24	19:44	5:00	20:00	5:12	20:47
	17	5:04	19:40	5:14	19:59	5:17	19:50	5:33	19:42	5:11	19:57	5:25	20:42
	27	5:16	19:33	5:26	19:52	5:29	19:44	5:43	19:38	5:23	19:49	5:39	20:33
Feb	6	5:28	19:24	5:39	19:42	5:41	19:35	5:53	19:30	5:36	19:39	5:54	20:20
	16	5:40	19:12	5:52	19:29	5:52	19:23	6:03	19:20	5:49	19:26	6:10	20:05
	26	5:52	18:58	6:04	19:15	6:04	19:09	6:12	19:09	6:01	19:12	6:24	19:47
Mar	8	6:02	18:43	6:16	18:59	6:14	18:54	6:21	18:56	6:13	18:56	6:39	19:29
	18	6:13	18:27	6:27	18:42	6:24	18:39	6:29	18:42	6:24	18:39	6:53	19:10
	28	6:23	18:11	6:38	18:25	6:34	18:23	6:37	18:28	6:35	18:23	7:06	18:50
Apr	7	6:33	17:56	6:49	18:09	6:44	18:08	6:45	18:15	6:46	18:06	7:19	18:31
	17	6:42	17:41	6:59	17:53	6:53	17:53	6:52	18:02	6:56	17:50	7:32	18:13
	27	6:52	17:27	7:10	17:39	7:03	17:40	7:00	17:51	7:07	17:36	7:45	17:56
May	7	7:02	17:16	7:20	17:26	7:12	17:28	7:08	17:41	7:17	17:23	7:58	17:42
	17	7:11	17:06	7:30	17:16	7:22	17:19	7:15	17:33	7:27	17:13	8:10	17:29
	27	7:19	16:59	7:39	17:09	7:30	17:12	7:22	17:27	7:36	17:06	8:21	17:20
Jun	6	7:26	16:55	7:46	17:05	7:37	17:08	7:28	17:24	7:43	17:02	8:29	17:15
	16	7:31	16:55	7:51	17:04	7:42	17:07	7:33	17:24	7:49	17:01	8:35	17:13
	26	7:34	16:57	7:54	17:06	7:44	17:10	7:35	17:26	7:51	17:03	8:37	17:15
Jul	6	7:33	17:02	7:53	17:11	7:43	17:14	7:35	17:31	7:50	17:08	8:36	17:21

Times listed are in New Zealand Standard Time (NZST).

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Sunrise and Sunset Times

July 2024 – June 2025

		Tauranga		Timaru		Waitangi (Chatham Island)		Wellington		Westport		Whangārei	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Jul	1	7:31	17:07	8:12	17:06	8:07	17:04	7:48	17:02	8:02	17:13	7:33	17:20
	11	7:29	17:13	8:09	17:13	8:04	17:10	7:45	17:08	7:59	17:20	7:32	17:25
	21	7:24	17:20	8:02	17:22	7:57	17:19	7:39	17:16	7:53	17:28	7:27	17:32
	31	7:16	17:28	7:52	17:32	7:47	17:29	7:30	17:25	7:44	17:37	7:20	17:39
Aug	10	7:06	17:36	7:39	17:43	7:34	17:40	7:18	17:35	7:32	17:47	7:10	17:46
	20	6:54	17:44	7:23	17:54	7:19	17:51	7:04	17:45	7:18	17:57	6:58	17:54
	30	6:40	17:53	7:06	18:05	7:02	18:02	6:49	17:55	7:02	18:07	6:45	18:02
Sep	9	6:25	18:01	6:49	18:17	6:45	18:13	6:33	18:05	6:46	18:17	6:31	18:09
	19	6:09	18:09	6:30	18:28	6:26	18:25	6:15	18:14	6:28	18:27	6:17	18:17
	29	5:54	18:18	6:11	18:40	6:08	18:36	5:58	18:25	6:11	18:38	6:02	18:24
Oct	9	5:39	18:27	5:53	18:52	5:50	18:48	5:42	18:35	5:54	18:49	5:48	18:33
	19	5:25	18:36	5:36	19:05	5:32	19:01	5:26	18:47	5:38	19:00	5:34	18:41
	29	5:12	18:47	5:20	19:19	5:17	19:14	5:11	18:58	5:23	19:12	5:22	18:51
Nov	8	5:01	18:57	5:06	19:32	5:03	19:27	4:59	19:11	5:11	19:24	5:12	19:01
	18	4:53	19:08	4:55	19:46	4:53	19:41	4:50	19:23	5:01	19:37	5:05	19:11
	28	4:48	19:18	4:48	19:59	4:45	19:54	4:44	19:35	4:55	19:49	5:01	19:21
Dec	8	4:47	19:28	4:44	20:10	4:42	20:04	4:41	19:45	4:52	19:59	4:59	19:30
	18	4:49	19:35	4:46	20:18	4:44	20:12	4:43	19:52	4:54	20:07	5:02	19:37
	28	4:54	19:39	4:51	20:22	4:49	20:16	4:48	19:56	4:59	20:11	5:07	19:41
Jan	7	5:02	19:40	5:00	20:22	4:58	20:16	4:57	19:57	5:08	20:11	5:15	19:42
	17	5:12	19:38	5:12	20:17	5:10	20:12	5:08	19:53	5:19	20:07	5:24	19:40
	27	5:23	19:32	5:26	20:09	5:23	20:04	5:20	19:46	5:32	20:00	5:35	19:35
Feb	6	5:35	19:23	5:40	19:57	5:37	19:52	5:33	19:36	5:45	19:50	5:46	19:27
	16	5:46	19:12	5:54	19:43	5:51	19:38	5:46	19:23	5:58	19:37	5:56	19:17
	26	5:56	18:59	6:08	19:27	6:05	19:22	5:58	19:09	6:10	19:22	6:06	19:05
Mar	8	6:07	18:45	6:22	19:09	6:18	19:05	6:10	18:53	6:22	19:06	6:15	18:51
	18	6:16	18:30	6:34	18:51	6:31	18:47	6:21	18:36	6:34	18:49	6:24	18:37
	28	6:25	18:15	6:47	18:33	6:43	18:29	6:32	18:19	6:45	18:32	6:32	18:23
Apr	7	6:34	18:00	6:59	18:14	6:55	18:11	6:43	18:03	6:56	18:15	6:40	18:09
	17	6:43	17:46	7:11	17:57	7:07	17:54	6:53	17:47	7:06	17:59	6:48	17:55
	27	6:52	17:33	7:23	17:41	7:19	17:39	7:04	17:33	7:17	17:45	6:57	17:43
May	7	7:01	17:22	7:35	17:27	7:30	17:25	7:14	17:20	7:28	17:32	7:05	17:33
	17	7:10	17:13	7:46	17:16	7:41	17:14	7:24	17:10	7:38	17:22	7:13	17:25
	27	7:18	17:07	7:56	17:08	7:51	17:05	7:33	17:03	7:47	17:14	7:20	17:19
Jun	6	7:24	17:03	8:05	17:03	7:59	17:00	7:40	16:59	7:54	17:10	7:27	17:16
	16	7:29	17:03	8:10	17:01	8:05	16:59	7:45	16:58	8:00	17:09	7:31	17:15
	26	7:31	17:05	8:12	17:03	8:07	17:01	7:48	17:00	8:02	17:11	7:33	17:18
Jul	6	7:31	17:10	8:11	17:09	8:06	17:07	7:47	17:05	8:01	17:16	7:33	17:22

Times listed are in New Zealand Standard Time (NZST).
EXCEPT for the Chatham Islands which are 45 minutes ahead of NZST.

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Moonrise and Moonset Times
Auckland

July 2024 – December 2024

		July		August		September		October		November		December	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2024	1	2:21	13:10	4:51	14:00	5:53	16:03	5:14	16:56	4:46	18:40	4:17	19:37
	2	3:33	13:44	5:49	15:00	6:22	17:05	5:35	17:52	5:12	19:41	4:59	20:38
	3	4:45	14:24	6:38	16:04	6:46	18:04	5:56	18:49	5:42	20:43	5:50	21:35
	4	5:55	15:12	7:18	17:09	7:09	19:02	6:18	19:47	6:18	21:46	6:48	22:24
	5	6:59	16:08	7:51	18:12	7:30	19:59	6:41	20:47	7:02	22:45	7:54	23:06
	6	7:55	17:11	8:18	19:13	7:51	20:56	7:08	21:48	7:54	23:39	9:02	23:42
	7	8:41	18:16	8:42	20:12	8:13	21:54	7:40	22:50	8:55	---	10:12	---
	8	9:19	19:21	9:04	21:09	8:37	22:54	8:18	23:52	10:01	0:26	11:21	0:12
	9	9:50	20:24	9:25	22:06	9:05	23:56	9:04	---	11:10	1:06	12:30	0:40
	10	10:16	21:24	9:47	23:04	9:39	---	9:59	0:50	12:21	1:40	13:40	1:06
	11	10:39	22:22	10:09	---	10:20	0:59	11:03	1:43	13:32	2:10	14:51	1:32
	12	11:01	23:19	10:35	0:03	11:11	2:01	12:12	2:28	14:43	2:37	16:04	2:01
	13	11:22	---	11:06	1:04	12:11	2:59	13:25	3:07	15:56	3:04	17:20	2:34
	14	11:44	0:16	11:43	2:08	13:20	3:50	14:38	3:41	17:11	3:33	18:36	3:13
	15	12:08	1:14	12:29	3:12	14:34	4:34	15:52	4:11	18:28	4:04	19:48	4:01
	16	12:36	2:15	13:25	4:14	15:49	5:12	17:07	4:39	19:47	4:40	20:50	4:59
	17	13:10	3:18	14:31	5:11	17:05	5:44	18:23	5:07	21:02	5:24	21:42	6:04
	18	13:51	4:23	15:45	6:00	18:21	6:14	19:41	5:37	22:10	6:17	22:23	7:13
	19	14:43	5:28	17:01	6:42	19:36	6:42	20:59	6:11	23:06	7:19	22:56	8:21
	20	15:45	6:30	18:18	7:18	20:52	7:11	22:16	6:51	23:52	8:25	23:23	9:26
	21	16:55	7:24	19:33	7:48	22:09	7:42	23:26	7:39	---	9:33	23:47	10:28
	22	18:10	8:10	20:46	8:17	23:24	8:18	---	8:34	0:28	10:39	---	11:28
	23	19:26	8:48	22:00	8:44	---	9:00	0:27	9:37	0:57	11:41	0:09	12:25
	24	20:39	9:21	23:13	9:13	0:36	9:49	1:17	10:42	1:23	12:41	0:30	13:22
	25	21:51	9:49	---	9:45	1:40	10:46	1:56	11:48	1:45	13:38	0:52	14:20
	26	23:02	10:16	0:26	10:22	2:35	11:48	2:29	12:51	2:06	14:35	1:15	15:19
	27	---	10:43	1:38	11:05	3:20	12:53	2:56	13:51	2:27	15:32	1:42	16:21
	28	0:13	11:12	2:46	11:56	3:56	13:56	3:19	14:49	2:50	16:31	2:14	17:24
	29	1:24	11:45	3:46	12:53	4:26	14:58	3:41	15:46	3:14	17:31	2:53	18:27
	30	2:36	12:22	4:37	13:56	4:51	15:58	4:02	16:43	3:43	18:34	3:41	19:26
	31	3:46	13:07	5:19	15:00			4:23	17:41			4:38	20:19

January 2025 – June 2025

		January		February		March		April		May		June	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2025	1	5:43	21:04	8:10	21:12	7:01	19:39	9:37	19:42	10:58	20:08	11:59	22:24
	2	6:52	21:42	9:21	21:39	8:14	20:06	10:55	20:27	12:00	21:15	12:28	23:28
	3	8:03	22:15	10:32	22:06	9:28	20:36	12:09	21:21	12:49	22:24	12:53	---
	4	9:13	22:43	11:43	22:35	10:43	21:09	13:14	22:22	13:28	23:32	13:15	0:29
	5	10:23	23:10	12:56	23:09	11:58	21:48	14:09	23:28	14:00	---	13:37	1:28
	6	11:31	23:36	14:09	23:49	13:12	22:34	14:53	---	14:26	0:37	13:58	2:25
	7	12:41	---	15:21	---	14:21	23:29	15:28	0:36	14:49	1:38	14:22	3:23
	8	13:52	0:03	16:27	0:37	15:21	---	15:57	1:42	15:11	2:37	14:48	4:22
	9	15:05	0:33	17:24	1:34	16:11	0:31	16:22	2:44	15:32	3:35	15:19	5:22
	10	16:19	1:09	18:12	2:38	16:52	1:37	16:44	3:45	15:54	4:32	15:55	6:23
	11	17:30	1:52	18:51	3:46	17:25	2:44	17:06	4:43	16:18	5:30	16:39	7:24
	12	18:35	2:44	19:22	4:53	17:53	3:49	17:27	5:41	16:46	6:30	17:31	8:21
	13	19:31	3:45	19:49	5:59	18:17	4:51	17:50	6:38	17:18	7:30	18:31	9:13
	14	20:16	4:52	20:13	7:01	18:39	5:51	18:14	7:37	17:57	8:31	19:35	9:58
	15	20:52	6:01	20:35	8:01	19:00	6:50	18:43	8:37	18:43	9:31	20:42	10:36
	16	21:22	7:09	20:56	8:59	19:22	7:48	19:17	9:38	19:36	10:26	21:49	11:09
	17	21:48	8:13	21:18	9:57	19:45	8:46	19:57	10:38	20:37	11:16	22:56	11:37
	18	22:11	9:14	21:42	10:55	20:11	9:45	20:46	11:37	21:42	11:58	---	12:03
	19	22:32	10:13	22:09	11:55	20:41	10:45	21:42	12:31	22:49	12:35	0:03	12:29
	20	22:54	11:11	22:42	12:56	21:17	11:46	22:44	13:18	23:57	13:06	1:11	12:55
	21	23:16	12:08	23:21	13:57	22:00	12:47	23:51	13:59	---	13:34	2:22	13:24
	22	23:42	13:07	---	14:58	22:52	13:44	---	14:35	1:05	14:01	3:36	13:58
	23	---	14:07	0:08	15:55	23:52	14:37	1:01	15:06	2:14	14:27	4:52	14:40
	24	0:11	15:09	1:05	16:47	---	15:23	2:11	15:34	3:25	14:55	6:09	15:31
	25	0:46	16:12	2:10	17:31	0:59	16:03	3:22	16:01	4:40	15:27	7:21	16:32
	26	1:30	17:12	3:21	18:09	2:09	16:37	4:34	16:29	5:58	16:05	8:24	17:42
	27	2:23	18:08	4:34	18:42	3:21	17:08	5:50	16:59	7:17	16:51	9:14	18:54
	28	3:24	18:57	5:48	19:11	4:34	17:36	7:08	17:34	8:34	17:48	9:54	20:06
	29	4:33	19:39			5:48	18:04	8:28	18:16	9:42	18:54	10:27	21:13
	30	5:46	20:14			7:03	18:33	9:46	19:07	10:39	20:05	10:54	22:17
	31	6:58	20:44			8:19	19:05			11:23	21:16		

Times listed are in New Zealand Standard Time (NZST).

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Moonrise and Moonset Times
Bluff

July 2024 – December 2024

		July		August		September		October		November		December	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2024	1	3:07	13:14	6:04	13:41	6:49	16:03	5:50	17:16	4:55	19:29	4:07	20:45
	2	4:28	13:40	7:01	14:42	7:09	17:13	6:04	18:21	5:13	20:38	4:43	21:50
	3	5:48	14:12	7:45	15:51	7:27	18:20	6:17	19:25	5:36	21:48	5:31	22:46
	4	7:05	14:55	8:18	17:03	7:42	19:25	6:32	20:31	6:05	22:55	6:31	23:32
	5	8:12	15:49	8:44	18:15	7:55	20:29	6:48	21:39	6:44	23:57	7:41	---
	6	9:06	16:55	9:03	19:24	8:09	21:34	7:07	22:48	7:35	---	8:58	0:06
	7	9:46	18:06	9:20	20:30	8:24	22:40	7:31	23:57	8:38	0:50	10:16	0:34
	8	10:17	19:18	9:34	21:35	8:41	23:48	8:03	---	9:50	1:32	11:34	0:56
	9	10:40	20:29	9:48	22:40	9:02	---	8:45	1:03	11:08	2:04	12:52	1:15
	10	10:58	21:37	10:03	23:45	9:29	0:58	9:40	2:03	12:27	2:30	14:11	1:32
	11	11:14	22:43	10:18	---	10:04	2:07	10:47	2:53	13:47	2:51	15:31	1:50
	12	11:29	23:47	10:37	0:52	10:51	3:13	12:04	3:32	15:08	3:10	16:55	2:10
	13	11:43	---	11:00	2:01	11:53	4:11	13:25	4:03	16:31	3:28	18:20	2:34
	14	11:57	0:52	11:30	3:12	13:07	4:58	14:49	4:27	17:56	3:47	19:44	3:04
	15	12:14	1:58	12:11	4:22	14:29	5:34	16:12	4:48	19:23	4:09	21:00	3:45
	16	12:35	3:06	13:06	5:27	15:55	6:03	17:37	5:07	20:51	4:36	22:02	4:39
	17	13:01	4:18	14:16	6:21	17:21	6:26	19:03	5:26	22:13	5:12	22:48	5:46
	18	13:36	5:30	15:36	7:05	18:46	6:46	20:31	5:46	23:23	5:59	23:22	7:01
	19	14:24	6:40	17:02	7:38	20:12	7:05	21:59	6:11	---	6:59	23:47	8:17
	20	15:27	7:42	18:28	8:04	21:38	7:25	23:24	6:42	0:16	8:10	---	9:31
	21	16:43	8:32	19:53	8:25	23:04	7:47	---	7:22	0:55	9:25	0:06	10:41
	22	18:06	9:10	21:17	8:44	---	8:13	0:39	8:15	1:24	10:38	0:23	11:48
	23	19:31	9:39	22:40	9:03	0:29	8:47	1:39	9:18	1:45	11:49	0:37	12:53
	24	20:54	10:02	---	9:23	1:47	9:31	2:24	10:29	2:03	12:56	0:51	13:58
	25	22:16	10:22	0:03	9:46	2:54	10:26	2:57	11:42	2:18	14:02	1:06	15:03
	26	23:36	10:41	1:26	10:14	3:46	11:32	3:22	12:53	2:32	15:06	1:22	16:11
	27	---	10:59	2:45	10:50	4:25	12:42	3:41	14:01	2:46	16:11	1:42	17:20
	28	0:56	11:19	3:58	11:36	4:54	13:53	3:57	15:07	3:01	17:17	2:07	18:30
	29	2:17	11:43	4:59	12:34	5:16	15:03	4:11	16:12	3:18	18:25	2:39	19:38
	30	3:37	12:12	5:46	13:41	5:34	16:11	4:25	17:16	3:40	19:36	3:23	20:38
	31	4:55	12:51	6:22	14:52			4:39	18:22			4:19	21:28

January 2025 – June 2025

		January		February		March		April		May		June	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2025	1	5:28	22:07	8:27	21:44	7:23	20:05	10:34	19:36	12:12	19:48	12:52	22:27
	2	6:45	22:37	9:47	22:01	8:46	20:24	12:02	20:13	13:11	20:58	13:12	23:40
	3	8:04	23:01	11:07	22:20	10:10	20:44	13:21	21:01	13:55	22:14	13:29	---
	4	9:24	23:20	12:28	22:40	11:34	21:08	14:28	22:03	14:26	23:30	13:44	0:49
	5	10:42	23:38	13:51	23:05	12:59	21:38	15:19	23:13	14:49	---	13:58	1:55
	6	12:00	23:56	15:13	23:37	14:21	22:17	15:56	---	15:08	0:43	14:13	3:00
	7	13:19	---	16:31	---	15:34	23:09	16:23	0:28	15:24	1:53	14:29	4:06
	8	14:39	0:14	17:40	0:20	16:34	---	16:44	1:42	15:38	2:59	14:48	5:12
	9	16:02	0:36	18:36	1:15	17:19	0:12	17:01	2:53	15:52	4:05	15:12	6:20
	10	17:24	1:03	19:18	2:21	17:52	1:24	17:16	4:01	16:07	5:10	15:42	7:28
	11	18:42	1:38	19:49	3:35	18:18	2:38	17:30	5:08	16:24	6:15	16:22	8:34
	12	19:48	2:25	20:12	4:51	18:37	3:51	17:44	6:13	16:44	7:23	17:13	9:33
	13	20:40	3:26	20:31	6:05	18:54	5:02	18:00	7:18	17:09	8:31	18:15	10:23
	14	21:19	4:38	20:47	7:15	19:08	6:10	18:17	8:25	17:42	9:38	19:25	11:03
	15	21:47	5:54	21:01	8:23	19:22	7:17	18:38	9:32	18:24	10:42	20:39	11:34
	16	22:09	7:10	21:16	9:29	19:37	8:22	19:05	10:41	19:18	11:38	21:55	11:58
	17	22:26	8:22	21:30	10:35	19:53	9:28	19:41	11:47	20:22	12:25	23:11	12:18
	18	22:42	9:32	21:47	11:41	20:11	10:35	20:26	12:49	21:34	13:02	---	12:36
	19	22:56	10:38	22:07	12:48	20:34	11:43	21:24	13:43	22:49	13:30	0:27	12:54
	20	23:10	11:44	22:32	13:56	21:03	12:51	22:31	14:26	---	13:54	1:44	13:11
	21	23:26	12:49	23:05	15:05	21:42	13:57	23:46	15:01	0:05	14:13	3:04	13:32
	22	23:44	13:55	23:49	16:10	22:32	14:57	---	15:28	1:22	14:31	4:28	13:56
	23	---	15:03	---	17:08	23:35	15:48	1:03	15:50	2:41	14:49	5:54	14:29
	24	0:06	16:13	0:47	17:56	---	16:29	2:23	16:09	4:02	15:08	7:19	15:14
	25	0:34	17:21	1:56	18:33	0:48	17:01	3:43	16:28	5:26	15:30	8:34	16:13
	26	1:13	18:25	3:14	19:03	2:07	17:27	5:06	16:46	6:54	15:59	9:34	17:26
	27	2:03	19:19	4:37	19:27	3:28	17:48	6:31	17:07	8:23	16:37	10:19	18:45
	28	3:08	20:03	6:00	19:47	4:51	18:07	7:59	17:33	9:46	17:29	10:51	20:05
	29	4:23	20:37			6:14	18:26	9:29	18:06	10:55	18:36	11:14	21:21
	30	5:43	21:03			7:39	18:45	10:56	18:50	11:47	19:52	11:33	22:33
	31	7:06	21:25			9:06	19:08			12:24	21:11		

Times listed are in New Zealand Standard Time (NZST).

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Moonrise and Moonset Times
Lyttelton

July 2024 – December 2024

		July		August		September		October		November		December	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2024	1	2:42	13:04	5:29	13:39	6:21	15:54	5:29	17:00	4:43	19:03	4:02	20:12
	2	4:00	13:32	6:27	14:40	6:44	17:01	5:45	18:02	5:04	20:09	4:40	21:16
	3	5:17	14:08	7:13	15:47	7:04	18:05	6:01	19:04	5:29	21:16	5:29	22:12
	4	6:31	14:52	7:49	16:56	7:22	19:08	6:18	20:07	6:01	22:22	6:28	22:59
	5	7:37	15:47	8:17	18:05	7:38	20:10	6:37	21:12	6:42	23:23	7:37	23:37
	6	8:32	16:52	8:39	19:11	7:54	21:12	6:59	22:18	7:33	---	8:50	---
	7	9:15	18:01	8:58	20:15	8:12	22:15	7:26	23:25	8:35	0:16	10:05	0:07
	8	9:48	19:10	9:15	21:17	8:31	23:20	8:00	---	9:45	1:00	11:21	0:32
	9	10:14	20:18	9:32	22:19	8:54	---	8:43	0:29	11:00	1:35	12:35	0:54
	10	10:35	21:23	9:48	23:21	9:24	0:27	9:38	1:29	12:16	2:04	13:51	1:14
	11	10:53	22:26	10:06	---	10:01	1:34	10:44	2:19	13:33	2:28	15:08	1:35
	12	11:10	23:28	10:27	0:26	10:50	2:39	11:58	3:01	14:50	2:50	16:28	1:58
	13	11:27	---	10:53	1:32	11:51	3:37	13:16	3:35	16:09	3:11	17:50	2:25
	14	11:44	0:30	11:26	2:40	13:02	4:25	14:36	4:02	17:31	3:33	19:11	2:59
	15	12:03	1:34	12:09	3:48	14:22	5:05	15:56	4:26	18:55	3:58	20:26	3:42
	16	12:26	2:40	13:04	4:52	15:44	5:37	17:18	4:48	20:20	4:29	21:28	4:37
	17	12:55	3:48	14:12	5:48	17:06	6:03	18:40	5:11	21:39	5:07	22:16	5:44
	18	13:33	4:58	15:30	6:34	18:28	6:26	20:04	5:34	22:48	5:57	22:53	6:56
	19	14:22	6:06	16:53	7:10	19:50	6:49	21:29	6:02	23:43	6:58	23:21	8:10
	20	15:25	7:07	18:15	7:39	21:13	7:11	22:51	6:36	---	8:07	23:43	9:20
	21	16:38	7:59	19:37	8:04	22:36	7:36	---	7:19	0:24	9:19	---	10:28
	22	17:58	8:40	20:57	8:26	23:57	8:06	0:04	8:13	0:56	10:29	0:02	11:32
	23	19:20	9:13	22:17	8:48	---	8:43	1:05	9:16	1:20	11:37	0:19	12:34
	24	20:40	9:39	23:37	9:11	1:13	9:29	1:52	10:25	1:40	12:42	0:35	13:36
	25	21:58	10:02	---	9:37	2:19	10:25	2:27	11:35	1:58	13:45	0:52	14:39
	26	23:15	10:23	0:56	10:08	3:12	11:29	2:55	12:43	2:14	14:46	1:11	15:44
	27	---	10:45	2:13	10:46	3:53	12:37	3:17	13:49	2:31	15:48	1:33	16:50
	28	0:32	11:08	3:24	11:34	4:25	13:45	3:35	14:52	2:48	16:52	2:01	17:58
	29	1:50	11:35	4:24	12:32	4:50	14:52	3:52	15:54	3:08	17:58	2:36	19:04
	30	3:07	12:07	5:13	13:37	5:11	15:57	4:08	16:56	3:32	19:05	3:21	20:04
	31	4:21	12:48	5:51	14:46			4:25	17:58			4:17	20:55

January 2025 – June 2025

		January		February		March		April		May		June	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2025	1	5:24	21:36	8:12	21:24	7:06	19:47	10:06	19:29	11:37	19:46	12:25	22:17
	2	6:38	22:09	9:29	21:45	8:26	20:09	11:29	20:09	12:37	20:55	12:48	23:27
	3	7:55	22:36	10:46	22:06	9:46	20:32	12:47	21:00	13:23	22:08	13:08	---
	4	9:11	22:59	12:04	22:30	11:08	20:59	13:53	22:01	13:57	23:22	13:26	0:33
	5	10:26	23:20	13:23	22:58	12:29	21:32	14:45	23:10	14:24	---	13:42	1:37
	6	11:41	23:40	14:42	23:33	13:48	22:14	15:25	---	14:45	0:32	13:59	2:39
	7	12:57	---	15:57	---	14:59	23:07	15:55	0:22	15:03	1:39	14:18	3:42
	8	14:14	0:01	17:05	0:17	15:59	---	16:19	1:33	15:20	2:43	14:39	4:46
	9	15:33	0:26	18:02	1:13	16:47	0:10	16:39	2:41	15:36	3:45	15:05	5:51
	10	16:52	0:56	18:46	2:19	17:23	1:19	16:57	3:47	15:54	4:48	15:38	6:57
	11	18:08	1:34	19:20	3:30	17:51	2:31	17:13	4:50	16:13	5:51	16:19	8:00
	12	19:14	2:23	19:46	4:43	18:13	3:41	17:30	5:53	16:36	6:55	17:11	8:59
	13	20:07	3:24	20:08	5:53	18:32	4:49	17:47	6:55	17:03	8:01	18:12	9:50
	14	20:48	4:34	20:27	7:01	18:50	5:55	18:07	7:59	17:38	9:06	19:19	10:31
	15	21:19	5:48	20:44	8:06	19:06	6:59	18:31	9:04	18:22	10:08	20:31	11:05
	16	21:44	7:00	21:00	9:10	19:23	8:01	19:01	10:10	19:16	11:04	21:44	11:32
	17	22:04	8:10	21:17	10:13	19:41	9:05	19:38	11:14	20:19	11:52	22:57	11:56
	18	22:22	9:17	21:37	11:16	20:02	10:09	20:24	12:15	21:28	12:31	---	12:16
	19	22:39	10:21	21:59	12:20	20:28	11:14	21:21	13:09	22:40	13:02	0:09	12:36
	20	22:56	11:23	22:27	13:26	20:59	12:20	22:27	13:54	23:53	13:28	1:24	12:57
	21	23:14	12:26	23:02	14:32	21:40	13:23	23:39	14:31	---	13:51	2:41	13:20
	22	23:34	13:29	23:47	15:36	22:31	14:23	---	15:01	1:07	14:12	4:01	13:48
	23	23:59	14:35	---	16:33	23:32	15:14	0:53	15:26	2:22	14:33	5:24	14:24
	24	---	15:41	0:44	17:23	---	15:57	2:10	15:48	3:40	14:55	6:45	15:11
	25	0:30	16:48	1:52	18:03	0:43	16:32	3:27	16:10	5:01	15:20	8:00	16:11
	26	1:10	17:50	3:08	18:36	1:58	17:01	4:46	16:31	6:25	15:52	9:01	17:23
	27	2:02	18:46	4:27	19:02	3:17	17:26	6:07	16:56	7:51	16:33	9:47	18:40
	28	3:05	19:31	5:47	19:26	4:36	17:48	7:32	17:24	9:12	17:27	10:22	19:56
	29	4:17	20:08			5:56	18:09	8:59	18:00	10:21	18:33	10:49	21:09
	30	5:35	20:38			7:17	18:32	10:23	18:47	11:14	19:48	11:11	22:18
	31	6:54	21:02			8:41	18:58			11:54	21:04		

Times listed are in New Zealand Standard Time (NZST).

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Moonrise and Moonset Times
Waitangi (Chatham Island)

July 2024 – December 2024

		July		August		September		October		November		December	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2024	1	2:43	13:04	5:31	13:38	6:23	15:53	5:31	17:00	4:44	19:04	4:02	20:14
	2	4:00	13:32	6:29	14:38	6:47	17:00	5:47	18:02	5:05	20:10	4:39	21:18
	3	5:18	14:07	7:15	15:46	7:06	18:05	6:03	19:05	5:29	21:18	5:28	22:15
	4	6:33	14:51	7:51	16:55	7:23	19:08	6:19	20:08	6:01	22:24	6:27	23:02
	5	7:39	15:46	8:19	18:04	7:40	20:10	6:38	21:13	6:41	23:25	7:35	23:39
	6	8:34	16:50	8:41	19:11	7:56	21:13	6:59	22:19	7:32	---	8:49	---
	7	9:17	17:59	9:00	20:15	8:13	22:16	7:26	23:26	8:33	0:19	10:04	0:09
	8	9:51	19:09	9:17	21:17	8:32	23:22	7:59	---	9:43	1:02	11:20	0:34
	9	10:16	20:17	9:33	22:20	8:55	---	8:42	0:31	10:58	1:38	12:35	0:56
	10	10:37	21:23	9:50	23:22	9:23	0:29	9:37	1:31	12:15	2:06	13:51	1:16
	11	10:55	22:26	10:07	---	10:00	1:36	10:42	2:22	13:32	2:30	15:08	1:36
	12	11:12	23:29	10:28	0:27	10:48	2:41	11:56	3:04	14:50	2:52	16:29	1:59
	13	11:28	---	10:53	1:33	11:49	3:39	13:15	3:37	16:10	3:12	17:51	2:25
	14	11:45	0:31	11:25	2:42	13:01	4:28	14:35	4:05	17:31	3:34	19:13	2:58
	15	12:04	1:35	12:08	3:50	14:20	5:07	15:56	4:28	18:56	3:59	20:28	3:41
	16	12:27	2:41	13:03	4:54	15:43	5:39	17:17	4:50	20:21	4:29	21:30	4:36
	17	12:55	3:49	14:11	5:50	17:05	6:05	18:40	5:12	21:41	5:07	22:19	5:42
	18	13:32	4:59	15:28	6:36	18:28	6:28	20:05	5:35	22:50	5:56	22:55	6:55
	19	14:21	6:08	16:51	7:12	19:50	6:50	21:30	6:02	23:45	6:56	23:23	8:08
	20	15:23	7:10	18:14	7:41	21:13	7:12	22:53	6:36	---	8:05	23:45	9:20
	21	16:36	8:01	19:36	8:06	22:37	7:37	---	7:18	0:27	9:17	---	10:27
	22	17:57	8:43	20:57	8:28	23:58	8:06	0:06	8:12	0:58	10:28	0:04	11:32
	23	19:19	9:15	22:17	8:49	---	8:42	1:07	9:15	1:22	11:37	0:20	12:35
	24	20:39	9:41	23:37	9:12	1:15	9:28	1:54	10:24	1:42	12:42	0:37	13:37
	25	21:58	10:04	---	9:37	2:21	10:23	2:30	11:34	2:00	13:45	0:53	14:40
	26	23:15	10:25	0:57	10:07	3:15	11:27	2:57	12:42	2:16	14:47	1:12	15:45
	27	---	10:46	2:14	10:46	3:56	12:35	3:19	13:48	2:32	15:49	1:34	16:52
	28	0:33	11:08	3:25	11:33	4:28	13:44	3:37	14:52	2:49	16:53	2:01	18:00
	29	1:51	11:35	4:26	12:31	4:53	14:52	3:54	15:54	3:09	17:59	2:35	19:06
	30	3:08	12:07	5:16	13:36	5:13	15:57	4:10	16:56	3:32	19:06	3:19	20:06
	31	4:23	12:47	5:54	14:45			4:26	17:59			4:16	20:57

January 2025 – June 2025

		January		February		March		April		May		June	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2025	1	5:23	21:39	8:11	21:26	7:06	19:49	10:06	19:29	11:39	19:45	12:27	22:16
	2	6:37	22:12	9:29	21:46	8:26	20:10	11:30	20:08	12:40	20:53	12:51	23:26
	3	7:54	22:38	10:46	22:07	9:46	20:33	12:49	20:58	13:26	22:07	13:10	---
	4	9:10	23:01	12:04	22:30	11:08	20:59	13:55	21:59	14:00	23:21	13:27	0:33
	5	10:26	23:21	13:23	22:58	12:30	21:32	14:48	23:08	14:26	---	13:44	1:37
	6	11:41	23:41	14:43	23:32	13:49	22:13	15:28	---	14:47	0:31	14:01	2:40
	7	12:57	---	15:59	---	15:01	23:06	15:58	0:20	15:05	1:38	14:19	3:43
	8	14:14	0:02	17:07	0:16	16:02	---	16:21	1:32	15:22	2:43	14:40	4:47
	9	15:34	0:27	18:04	1:11	16:49	0:08	16:41	2:40	15:38	3:46	15:05	5:52
	10	16:53	0:56	18:49	2:17	17:25	1:18	16:58	3:46	15:55	4:48	15:38	6:58
	11	18:09	1:34	19:22	3:29	17:53	2:30	17:15	4:50	16:14	5:52	16:18	8:02
	12	19:16	2:22	19:49	4:42	18:15	3:41	17:31	5:53	16:36	6:56	17:09	9:01
	13	20:10	3:22	20:10	5:53	18:34	4:49	17:48	6:56	17:03	8:02	18:10	9:52
	14	20:51	4:32	20:28	7:01	18:51	5:55	18:08	8:00	17:38	9:08	19:18	10:34
	15	21:22	5:46	20:45	8:06	19:08	6:59	18:31	9:05	18:21	10:10	20:30	11:07
	16	21:46	6:59	21:02	9:10	19:24	8:02	19:00	10:11	19:14	11:07	21:43	11:35
	17	22:06	8:10	21:18	10:13	19:42	9:05	19:37	11:16	20:17	11:54	22:56	11:58
	18	22:24	9:16	21:37	11:17	20:03	10:10	20:23	12:17	21:26	12:33	---	12:18
	19	22:41	10:21	21:59	12:22	20:28	11:15	21:20	13:11	22:39	13:05	0:09	12:38
	20	22:57	11:24	22:27	13:28	20:59	12:21	22:25	13:56	23:52	13:31	1:24	12:58
	21	23:15	12:27	23:01	14:34	21:39	13:25	23:37	14:33	---	13:53	2:41	13:21
	22	23:35	13:30	23:46	15:38	22:29	14:25	---	15:03	1:07	14:14	4:01	13:48
	23	23:59	14:36	---	16:36	23:31	15:17	0:52	15:28	2:22	14:34	5:25	14:24
	24	---	15:43	0:43	17:25	---	16:00	2:09	15:50	3:40	14:56	6:47	15:10
	25	0:30	16:50	1:51	18:05	0:41	16:35	3:26	16:11	5:01	15:21	8:02	16:09
	26	1:09	17:52	3:06	18:38	1:57	17:03	4:46	16:33	6:26	15:52	9:03	17:21
	27	2:00	18:48	4:26	19:05	3:16	17:28	6:08	16:56	7:52	16:33	9:50	18:38
	28	3:03	19:34	5:46	19:28	4:35	17:50	7:33	17:24	9:13	17:26	10:25	19:55
	29	4:16	20:10			5:56	18:11	9:00	18:00	10:23	18:32	10:51	21:09
	30	5:34	20:40			7:17	18:33	10:24	18:46	11:17	19:46	11:13	22:18
	31	6:53	21:04			8:41	18:59			11:57	21:02		

Times listed are 45 minutes ahead of New Zealand Standard Time (NZST) as observed on the Chatham Islands.

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Moonrise and Moonset Times
Wellington

July 2024 – December 2024

		July		August		September		October		November		December	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2024	1	2:29	13:01	5:10	13:42	6:05	15:52	5:18	16:53	4:39	18:49	4:02	19:54
	2	3:44	13:31	6:07	14:42	6:31	16:57	5:36	17:53	5:02	19:53	4:42	20:56
	3	5:00	14:08	6:55	15:48	6:52	17:59	5:54	18:53	5:29	20:58	5:31	21:53
	4	6:12	14:54	7:32	16:56	7:11	19:00	6:13	19:54	6:02	22:03	6:30	22:41
	5	7:18	15:50	8:02	18:02	7:30	20:00	6:33	20:57	6:44	23:03	7:38	23:20
	6	8:13	16:53	8:26	19:06	7:48	21:01	6:57	22:01	7:36	23:57	8:49	23:52
	7	8:57	18:01	8:47	20:08	8:07	22:02	7:25	23:06	8:37	---	10:02	---
	8	9:32	19:09	9:06	21:09	8:28	23:05	8:01	---	9:45	0:42	11:15	0:19
	9	10:00	20:15	9:24	22:09	8:53	---	8:46	0:10	10:58	1:19	12:28	0:43
	10	10:23	21:18	9:42	23:09	9:24	0:10	9:41	1:09	12:12	1:50	13:41	1:06
	11	10:43	22:19	10:02	---	10:03	1:16	10:46	2:00	13:27	2:16	14:56	1:29
	12	11:01	23:19	10:25	0:12	10:52	2:19	11:58	2:44	14:42	2:40	16:14	1:54
	13	11:20	---	10:52	1:16	11:53	3:17	13:14	3:19	15:59	3:03	17:34	2:23
	14	11:39	0:19	11:27	2:23	13:03	4:07	14:31	3:49	17:18	3:28	18:53	2:59
	15	12:00	1:21	12:11	3:29	14:20	4:48	15:49	4:15	18:40	3:55	20:06	3:44
	16	12:25	2:25	13:07	4:32	15:40	5:22	17:08	4:40	20:02	4:28	21:09	4:40
	17	12:55	3:31	14:14	5:29	17:00	5:51	18:28	5:04	21:20	5:08	21:58	5:46
	18	13:34	4:40	15:30	6:16	18:20	6:17	19:50	5:30	22:28	5:59	22:36	6:57
	19	14:24	5:46	16:50	6:54	19:40	6:41	21:12	6:00	23:24	7:00	23:06	8:08
	20	15:27	6:48	18:11	7:26	21:00	7:06	22:32	6:36	---	8:08	23:30	9:17
	21	16:39	7:41	19:30	7:53	22:20	7:33	23:45	7:21	0:07	9:18	23:51	10:23
	22	17:57	8:24	20:48	8:17	23:39	8:05	---	8:16	0:40	10:27	---	11:25
	23	19:16	8:58	22:05	8:41	---	8:44	0:45	9:18	1:06	11:33	0:10	12:26
	24	20:34	9:27	23:22	9:06	0:54	9:31	1:33	10:26	1:28	12:36	0:28	13:26
	25	21:50	9:52	---	9:34	1:59	10:27	2:11	11:34	1:48	13:37	0:47	14:27
	26	23:05	10:16	0:40	10:07	2:53	11:31	2:40	12:40	2:06	14:37	1:07	15:29
	27	---	10:39	1:55	10:48	3:35	12:37	3:04	13:44	2:24	15:37	1:31	16:34
	28	0:20	11:04	3:04	11:37	4:09	13:44	3:24	14:46	2:43	16:39	2:00	17:40
	29	1:35	11:33	4:04	12:35	4:36	14:49	3:43	15:46	3:05	17:42	2:37	18:44
	30	2:50	12:07	4:54	13:39	4:58	15:52	4:01	16:46	3:31	18:48	3:23	19:44
	31	4:03	12:50	5:34	14:46			4:19	17:46			4:19	20:36

January 2025 – June 2025

		January		February		March		April		May		June	
		Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
2025	1	5:26	21:19	8:06	21:14	6:59	19:39	9:50	19:29	11:17	19:49	12:10	22:14
	2	6:38	21:54	9:21	21:37	8:16	20:03	11:11	20:10	12:18	20:57	12:35	23:22
	3	7:52	22:23	10:35	22:01	9:34	20:28	12:27	21:02	13:05	22:09	12:57	---
	4	9:06	22:48	11:51	22:26	10:53	20:57	13:33	22:03	13:41	23:20	13:16	0:26
	5	10:20	23:11	13:07	22:57	12:12	21:33	14:26	23:11	14:10	---	13:35	1:28
	6	11:32	23:33	14:24	23:33	13:29	22:16	15:08	---	14:33	0:28	13:54	2:29
	7	12:45	23:57	15:38	---	14:40	23:10	15:40	0:21	14:53	1:33	14:14	3:29
	8	14:00	---	16:46	0:19	15:40	---	16:06	1:30	15:11	2:35	14:37	4:31
	9	15:17	0:23	17:43	1:16	16:28	0:12	16:27	2:37	15:30	3:36	15:05	5:35
	10	16:34	0:55	18:28	2:21	17:06	1:20	16:47	3:40	15:49	4:36	15:39	6:39
	11	17:48	1:35	19:04	3:31	17:36	2:30	17:05	4:42	16:10	5:38	16:21	7:41
	12	18:54	2:26	19:32	4:41	18:00	3:39	17:23	5:43	16:34	6:40	17:13	8:39
	13	19:48	3:26	19:56	5:50	18:21	4:45	17:43	6:44	17:03	7:44	18:13	9:31
	14	20:31	4:35	20:16	6:56	18:40	5:48	18:05	7:46	17:40	8:48	19:20	10:14
	15	21:04	5:47	20:35	7:59	18:59	6:50	18:30	8:49	18:24	9:49	20:30	10:49
	16	21:31	6:58	20:53	9:00	19:17	7:51	19:01	9:52	19:18	10:45	21:40	11:18
	17	21:53	8:06	21:12	10:01	19:37	8:52	19:40	10:55	20:20	11:33	22:51	11:43
	18	22:13	9:10	21:33	11:03	20:00	9:54	20:27	11:55	21:27	12:13	---	12:06
	19	22:31	10:12	21:58	12:06	20:27	10:58	21:23	12:49	22:38	12:47	0:01	12:28
	20	22:50	11:13	22:27	13:09	21:01	12:02	22:28	13:35	23:49	13:15	1:13	12:51
	21	23:09	12:14	23:04	14:14	21:42	13:04	23:38	14:14	---	13:40	2:28	13:16
	22	23:32	13:16	23:50	15:16	22:33	14:03	---	14:46	1:01	14:02	3:46	13:47
	23	23:58	14:19	---	16:14	23:34	14:55	0:51	15:13	2:14	14:25	5:07	14:24
	24	---	15:24	0:47	17:04	---	15:39	2:04	15:38	3:29	14:49	6:26	15:13
	25	0:31	16:29	1:54	17:46	0:43	16:16	3:19	16:01	4:48	15:17	7:40	16:14
	26	1:12	17:31	3:07	18:20	1:57	16:47	4:36	16:25	6:10	15:51	8:42	17:24
	27	2:04	18:26	4:24	18:50	3:13	17:14	5:55	16:51	7:33	16:35	9:30	18:40
	28	3:07	19:13	5:42	19:15	4:30	17:38	7:18	17:22	8:52	17:30	10:07	19:54
	29	4:18	19:52			5:47	18:02	8:42	18:01	10:01	18:36	10:36	21:05
	30	5:33	20:23			7:06	18:27	10:04	18:49	10:56	19:49	10:59	22:12
	31	6:50	20:50			8:27	18:55			11:38	21:03		

Times listed are in New Zealand Standard Time (NZST).

Add 1 hour when New Zealand Daylight Time (NZDT) is in force.

Planet Visibility

2024 – 2025

The following diagrams show, in graphical form, when the five "naked-eye" planets Mercury, Venus, Mars, Jupiter and Saturn are visible in the night sky during the period July 2024 – June 2025.

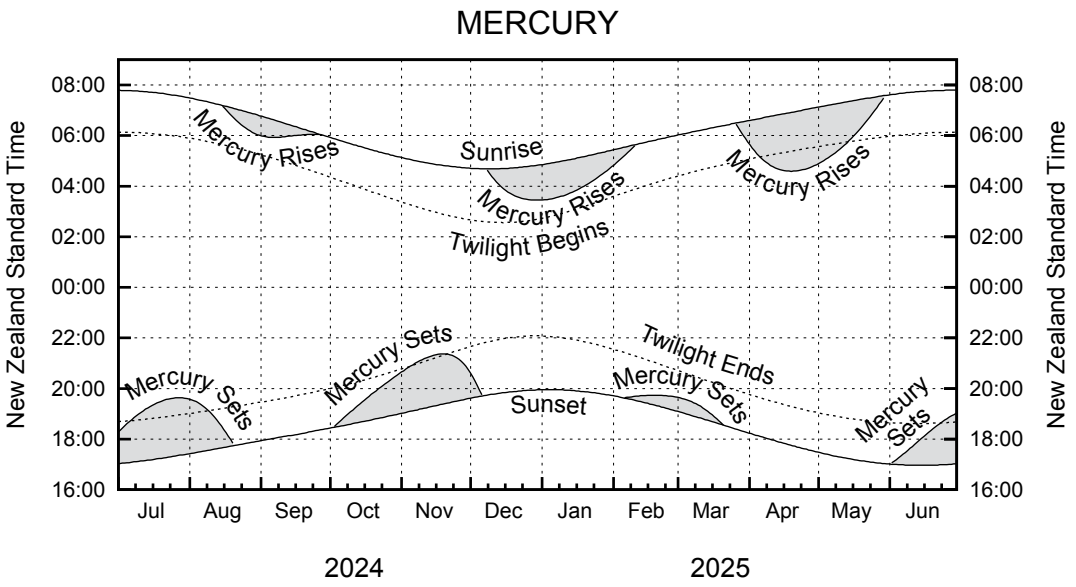
Each diagram spans the hours of darkness, covering the period from 16:00 to 08:00 with midnight being represented by the central line across the diagram. For a given date, time runs from the bottom to the top of the diagram. Times are shown in terms of New Zealand Standard Time; one hour must be added when New Zealand Daylight Time is in force. Each diagram is plotted for Wellington; time differences at other locations in New Zealand will generally not exceed an hour.

In addition to the planet information, the diagrams show the time of sunset and sunrise as well as the end and start of astronomical twilight which is the time when the Sun is 18° below the horizon. The shaded area of each diagram indicates the range of dates/times that the planet is visible in the night sky.

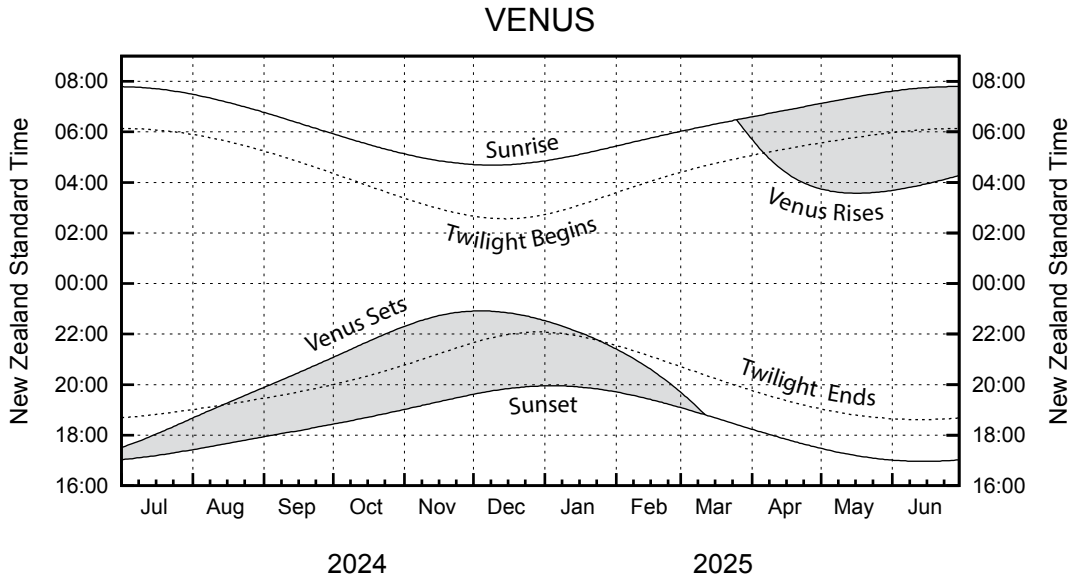
Appearance of the planets

Unless they are near to the horizon, planets can be distinguished from the twinkling stars by their more steady appearance. Twinkling is caused by turbulence in the atmosphere which has a greater effect on the light coming from point sources (stars) than on the light from much closer planets which are not point sources. Another pointer to identifying planets is that they are usually one of the brightest of the objects in the night sky.

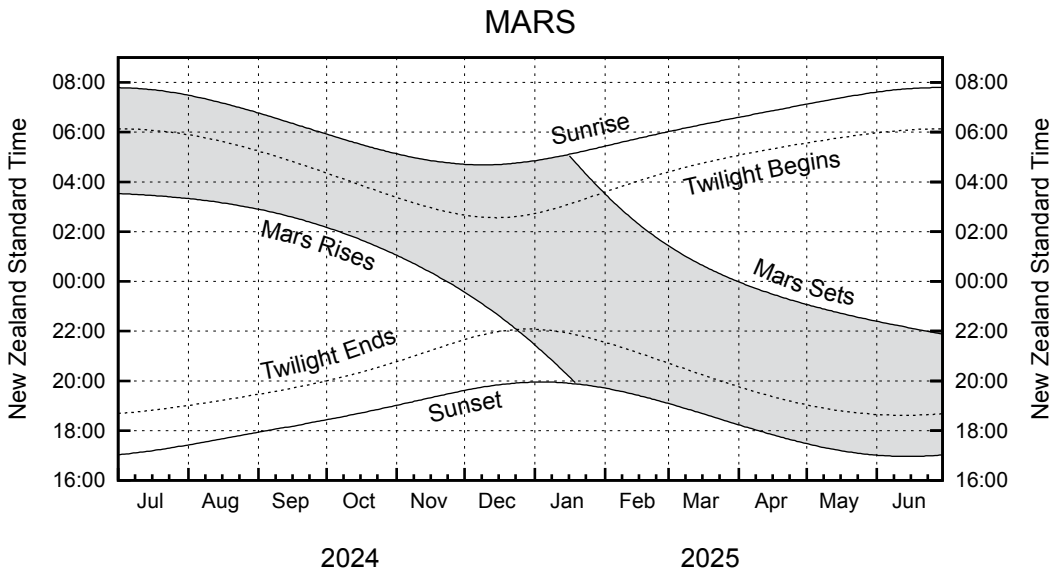
Mercury is the most difficult to see of the bright planets; due to its close proximity to the Sun it is seldom seen in fully dark skies. Venus is readily identified by its brightness – being exceeded by only the Sun and Moon. Venus is often referred to as either the Evening Star (when visible in the west after sunset) or the Morning Star (in the east before sunrise). Mars is notable for its orange-red appearance and is popularly known as the Red Planet. Jupiter's white light always outshines all of the stars whilst pale yellow Saturn is usually the least conspicuous of the five naked-eye planets.



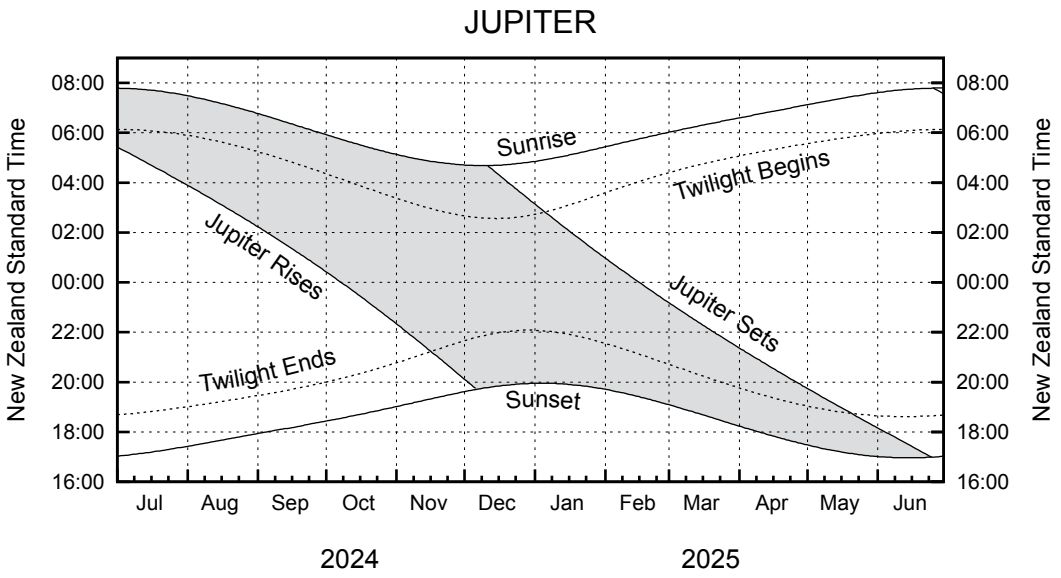
Mercury is the most difficult of the bright planets to see as it always appears near the Sun. This means it is visible only towards the horizon in the twilight sky. The best period to see Mercury in the morning sky will occur during April and early May when the planet rises before twilight begins. Other morning appearances during August-September and December-January are less favourable as Mercury rises during the dawn period. The best time to see Mercury in the evening will occur during July and early August when it sets after twilight has ended. Other evening appearances during October-November, February-March and June are less favourable as Mercury sets before twilight ends.



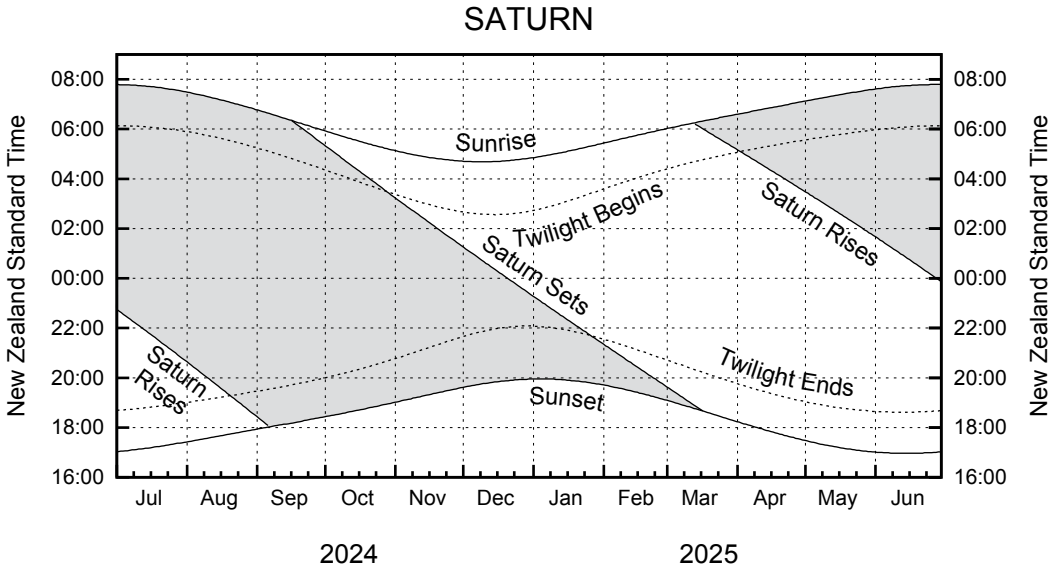
Venus will be in the western sky after sunset from July to late February, being particularly prominent as the bright 'evening star' from mid-August through to late January. During April, the planet will appear in the east as the 'morning star', rising two hours before twilight during the following two months.



Mars will rise two hours before twilight begins during the period July-October. The red planet will rise before midnight from late November and two months later will rise at sunset and be visible throughout the night. Mars will then start to set during the early hours of the morning, at midnight at the end of March and 10 p.m. at the end of June.



Jupiter will rise shortly before twilight begins at the beginning of July, before midnight from early October and at sunset at the beginning of December when the planet will be visible throughout the night. The giant planet will then start setting earlier in the morning hours and from mid-February, Jupiter will set before midnight. Throughout March and April, the planet will set during the evening after which time it will set during twilight and be lost from view towards the end of June.



Saturn rises late evening at the beginning of July and will be visible throughout the night early September. The ringed planet will then start setting during the early morning hours, then during the evening from mid-December. During February, Saturn will set during twilight and will become increasingly difficult to see as the month progresses. The planet will then reappear in the eastern sky, rising as twilight begins at the start of April, then progressively earlier until it rises at midnight at the end of June.

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An Introduction to Tides

The periodic rise and fall of sea level, known as the tide, is caused by the gravitational interactions of the Moon and Sun on the oceans of the Earth. While gravity provides the driving force, the rotation of the Earth, the size and shape of the ocean basins and local coastal circumstances ultimately determine the magnitude and frequency of the tide at a particular place.

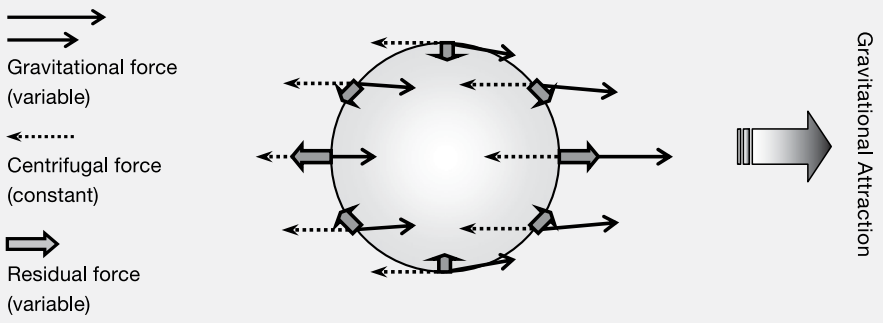
The following is intended to give you a basic understanding of tidal theory and an appreciation of some of the main tidal phenomena with particular reference to New Zealand conditions.

The Cause and Nature of Tides

Gravitational Forces and a Tidal Bulge

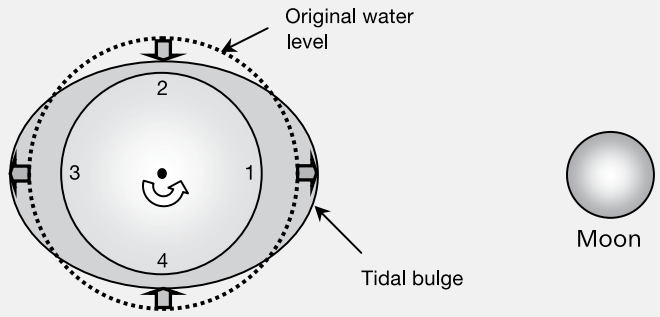
Newton's law of universal gravitation tells us that the strength of the gravitational force between two bodies is a function of their masses and the distance between them. This law also states that the direction of the gravitational attraction force is along the line joining the two bodies.

The Earth and Moon are held together by gravitational attraction, which is balanced at the common centre of gravity by an equal and opposite apparent (centrifugal) force. Away from the centre of gravity the strength of the gravitational force changes as the distance to the Moon varies. The centrifugal force, however, remains constant everywhere on Earth. Therefore, except at the centre of gravity, the gravitational and centrifugal forces are not the same and this inequality creates a residual force. These three forces are depicted in the following diagram.



If the Earth were completely covered by a very deep ocean this residual force would act on the water and produce two bulges, one on the side facing the Moon and one on the opposite side of the Earth.

The diagram below shows the Earth and Moon as viewed from above the North Pole. An observer under the water on the Earth at position 1 is beneath one of the water bulges and would be experiencing a high tide. A quarter of a revolution later, at position 2 where the original water level has been depressed, a low tide would be seen. The high tide, low tide sequence repeats as the observer moves around through points 3 and 4.



The Earth-Sun system is also subject to similar gravitational and centrifugal forces but due to the Sun's greater distance they have less than half the strength of the lunar-related forces. As a consequence, the solar-related residual forces and resulting bulges are correspondingly smaller.

The planet Venus exerts the greatest gravitational pull on the Earth of all the planets but, at just 0.0054% of the effect of the Moon, makes no real impression. Despite being the largest planet, Jupiter's greater distance means that its influence is ten times smaller than Venus. So, the Moon and Sun are the only celestial bodies that have any significant gravitational impact on the Earth.

More Tidal Bulges

The orbital motions of the Moon and Earth cause the directions to the Moon and Sun to change over the course of a month and a year respectively. The tilt of the Earth's axis also causes the directions of the Moon and Sun above and below the Earth's equatorial plane to vary over half of their associated orbital periods. Furthermore, because their orbits are elliptical, the distances to the Moon and Sun also vary throughout their respective month and year long cycles.

The gravitational effect of each of these astronomical cycles can be defined and it is useful to imagine every gravitational variation creating its own unique tidal bulge.

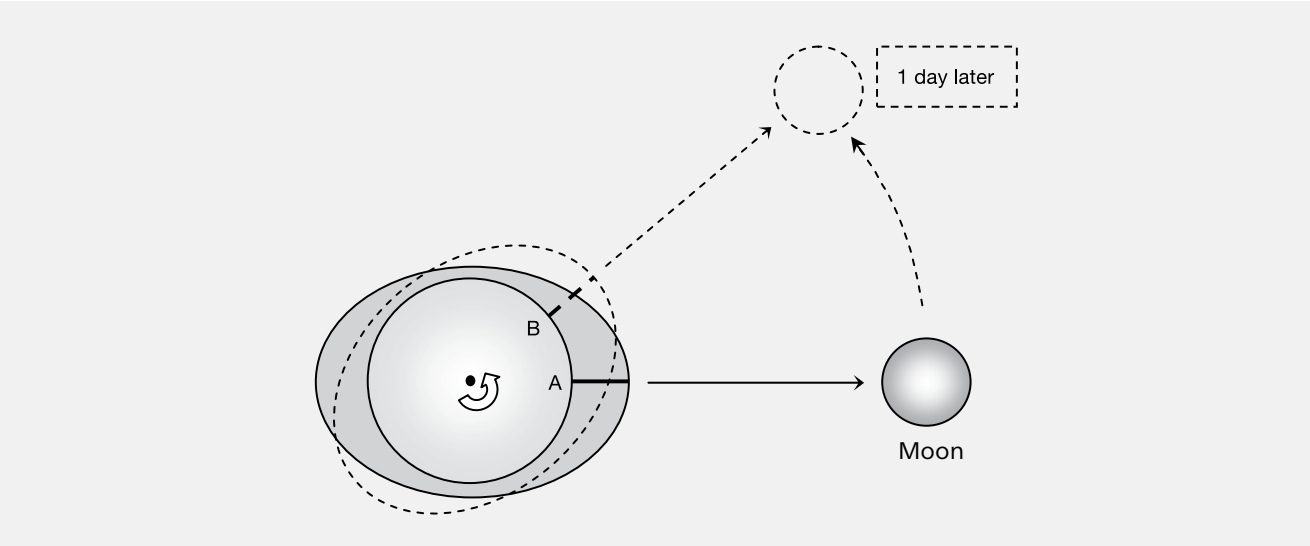
The period of each bulge is identical to that of the gravitational force that created it. These periods therefore, by definition, do not vary and are the same everywhere on Earth. The size, or amplitude, of these bulges is small - the largest having a height of just a few tenths of a metre.

These tidal bulges are known as constituent tides.

Tidal Bulges on the Move

Since gravitational force acts in a direct line, it follows that as the Moon and Sun move relative to Earth, so each of the direction-related tidal bulges must turn to maintain alignment with the appropriate body.

While the Earth rotates on its axis the Moon moves in the same direction around its orbit, turning the lunar tidal bulge as it goes. The diagram below shows the Earth/Moon system as viewed from above the North Pole. Initially an observer at position A sees the tidal bulge pointed in the direction of the Moon. Twenty-four hours later the observer returns to point A, but during the intervening day the Moon has moved along its orbit and rotated the tidal bulge so the observer must wait until reaching point B before catching up with the lunar bulge again.



The elapsed time to catch up to the tidal bulge that is directed towards the Moon is, on average, 24hr 50min. The time between passes under each tidal bulge (successive high waters) is, therefore, approximately 12hr 25min. The actual interval can vary by up to 30 minutes.

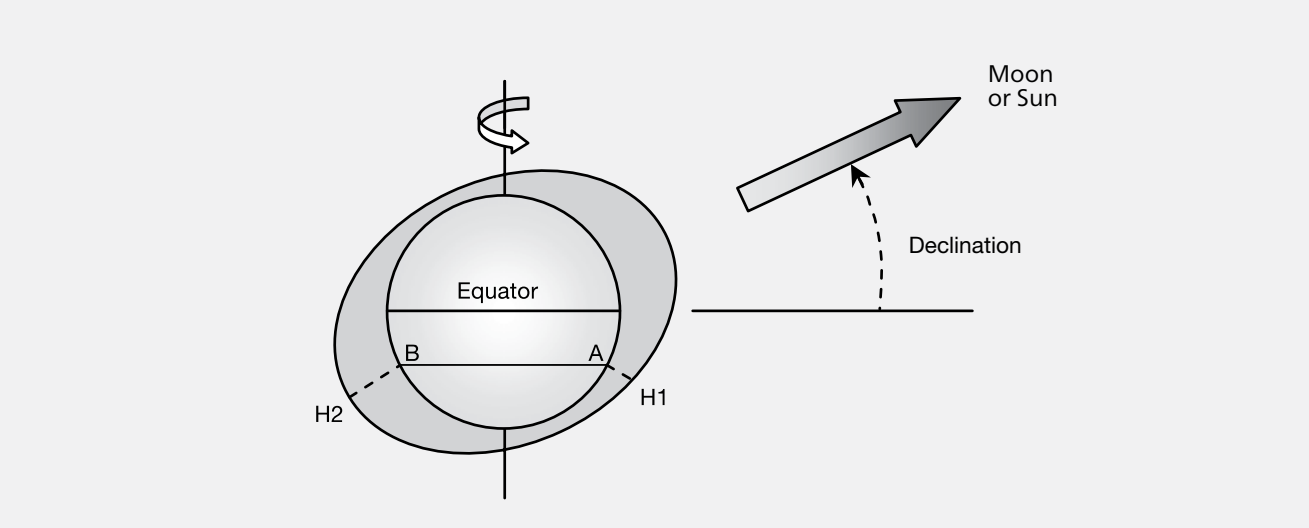
The tidal bulge caused by and pointing in the direction of the Sun is encountered by the rotating Earth after each complete revolution about its axis. Therefore, the interval between successive high waters caused by the solar tide-generating force is 12 hours.

These lunar and solar tide cycles each last half a day and are known as semi-diurnal tides. Since the lunar semi-diurnal tide is dominant over the solar tide, the time of the tide generally advances by nearly one hour each day in accordance with the motion of the Moon.

The bulges revolve around the Earth once every 27.32 days in the case of the lunar tidal bulge and 365.24 days for the Sun's tidal bulge.

Because the Earth is titled on its axis by approximately 23°, the Moon's orbital plane is inclined to the Equator by the same angle. During each orbit the declination of the Moon changes from 23° on one side of the plane of the Earth's equator to the other over a period of 13.66 days. The lunar tidal bulge follows this motion so we have the situation shown in the following diagram (please note, for convenience the Earth's axis is shown in the upright position).

The observer at point A is under a tidal bulge and sees a high tide with height H1. Twelve hours later the observer is at point B and, once again, sees another high tide, this one has height H2. Now H2 is greater than H1 because the declination of the Moon has rotated the tidal bulge. This difference between the heights of successive high tides is known as the diurnal inequality. As the Moon approaches the plane of the Equator, H1 and H2 become equal and the diurnal inequality disappears.



The tidal bulge due to the Sun is similarly affected by the Earth's tilt except that the solar cycle lasts 6 months.

The Moon's declination also has a secondary oscillation that is a little more than 5°. This additional motion changes very slowly and takes 18.61 years before being repeated.

We have now considered the motion of a number of direction-dependent tidal bulges.

Tidal Bulges Changing Size

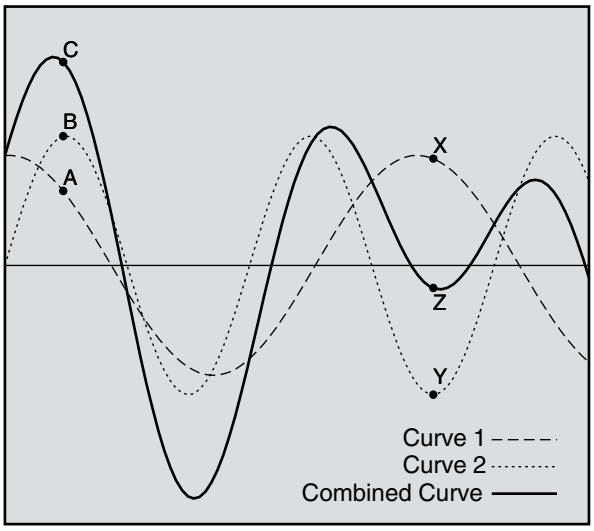
As the orbits of the Moon about the Earth and the Earth around the Sun are not circular, the distance to each of these bodies varies. Since the strength of gravitational attraction is determined, in part, by the distance between the objects, as the distances change so too does the strength of the tide-raising forces.

The lunar distance changes during a period of 27.56 days, which is very close to, but not exactly the same as, the Moon's orbital period. As a further complication, the point of the lunar orbit that is closest to the Earth does not stay in the same place. Instead, it moves slowly around the Moon's orbit, a journey that takes 8.85 years.

The distance related solar tide-generating force changes over a period of 365.26 days. As is the case with the Moon and the Earth, the point where the Earth is closest to the Sun also moves around the Earth's orbit, but this is very slow as it takes 20,930 years to complete the circuit.

Combining Tidal Bulges

Let us now consider what happens when two tidal bulges interact with one another. Since the period of each bulge is different, the rate of change that takes place as they interact will depend on the difference between their periods.
When the peaks of both bulges are aligned the height of the resulting bulge will equal the sum of the heights of the individual bulges. When the peak of one bulge is aligned with the trough of the other, then the heights will tend to cancel one another. Bulges with similar amplitudes will have a far greater effect on one another compared to the effect that a small bulge will have on a larger one. The two bulges will create a new tidal bulge whose size (amplitude) and period are predetermined by the original bulges.



The diagram on the right illustrates how two simple curves merge together to form a new more complex curve.

The height of curve 1 at point A combines with the height of curve 2 at point B to produce a greater height at point C on the combined curve.

The height of curve 1 at point X is reduced by the negative height of curve 2 at point Y to produce a small negative height on the combined curve at Z.

Spring/Neap cycle: This is the most widely known phenomenon resulting from the combination of two tidal bulges. Twice each month the Earth, Moon and Sun more or less line up and we have what are known as the new and full phases of the Moon. At these times the tide generating forces of the Moon and Sun are aligned. As a result, the major lunar and solar tidal bulges combine together to create spring tide conditions when the difference between the heights of high and low water is greater than average.

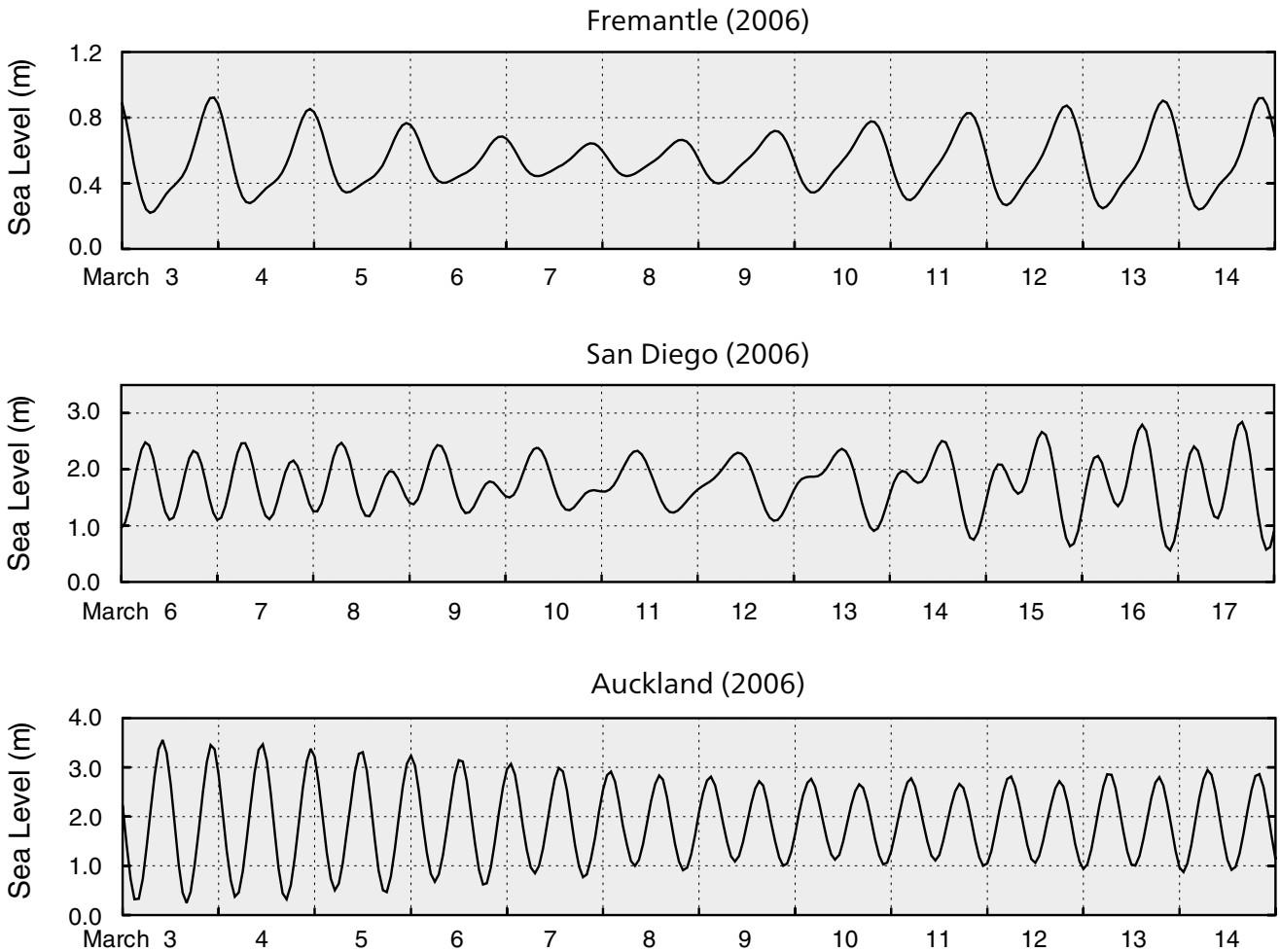
The Moon continues on its way around its orbit and a week later it is at a right angle to the direction of the Sun and the tidal bulges have a cancelling effect on each other. At these times (around first and last quarter Moon) the high water is not so high and the low water is not so low – these are known as neap tides.

The tide, as it is observed, is the end result of the combination of many tidal bulges (constituent tides) each of which is linked to a particular set of Earth-Moon-Sun circumstances.

Fiction Versus Fact

The foregoing explanation describes what is known as the equilibrium tidal theory that is based on a fictitious water-covered Earth where the tidal bulges remain pointed directly towards and away from the Moon and Sun. This simplified theory ignores the effects that the continents, varying water depth, rotation and inertia have on the propagation of the tidal bulges.

Many of the tidal phenomena observed around the world are not explained by the equilibrium theory. For example, the semi-diurnal tide is not universal – some locations experience just one tide a day (a diurnal tidal regime), others have a mixed regime where times of semi-diurnal tides alternate with periods of diurnal tides. Examples of diurnal tides (Fremantle) and mixed tides (San Diego) are shown below together with Auckland's semi-diurnal regime for comparison.



Tide ranges many times greater than predicted by the equilibrium theory are not exceptional. In some places the range can exceed 10 metres (for example Broome and Derby, Western Australia and the Bay of Fundy, Canada) while elsewhere such as the Mediterranean, Baltic and Caribbean Seas the tide is almost non-existent. The spring/neap cycle is a dominant feature of the tides in some regions; in others this twice-monthly rhythm is either not so apparent or reduced to a single cycle per month.

Despite these shortcomings, the equilibrium theory does provide some understanding of the nature of the connection between the tides and the Moon and Sun and it forms the basis of the concepts underlying the constituent tides.

The Effect of the Real World on the Tidal Bulges

The arrangement of the continents has created the world's three major water basins: the Pacific, Atlantic and Indian Oceans. On the scale of these oceans, the passages of connecting water are relatively small and so, broadly speaking, the movement of the tide is constrained within individual ocean basins. The tidal bulge, as developed by the equilibrium theory, must now be considered as a very long wave trapped within each basin.

Each body of water has a natural period of oscillation which will influence its response to the tide raising forces. In general, the oscillation period for the Pacific Ocean is 25 hours and so many of the tides in the Pacific are diurnal. In the Atlantic Ocean the natural oscillation period is about 12½ hours so the tides in the Atlantic are predominantly semi-diurnal. There are, of course, many places where the tidal regime is governed by the local configuration of the land and water depth rather than large scale oceanic forces.

If you take a container of water and move it from side to side, the water level at each end will rise and fall; while across the centre of the container the water level will not change. This over-simplified model describes the nature of the tides in enclosed waters such as the Persian Gulf, Red and Mediterranean Seas.

Now move the container about in a circular fashion. The water level will rise and fall around the edge of the container and the location where the water level does not change is reduced to a point in the centre of the container. This pattern of wave behaviour is similar to what happens within the ocean basins as the Earth rotates. In the northern hemisphere the long tide wave travels in an anti-clockwise direction, whilst the wave in the southern hemisphere goes clockwise. The centre of these Coriolis rotations is known as an amphidrome; a point where there is no tide.

The speed at which a wave travels is controlled by water depth. Those parts of the wave passing over continental shelf regions and shallower coastal areas will slow down and this, in turn, means that the wave front no longer remains straight. The slowing of the wave also causes the wave height to increase. According to the equilibrium tide theory, the height of the tide wave is less than half a metre; slowing the wave in shallow water produces observed tide heights that are many times this value.

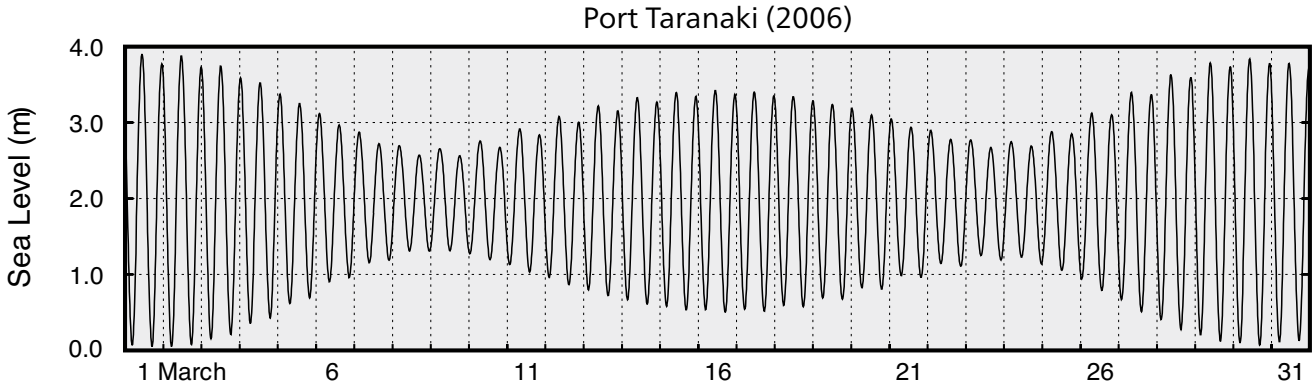
Tides Around New Zealand

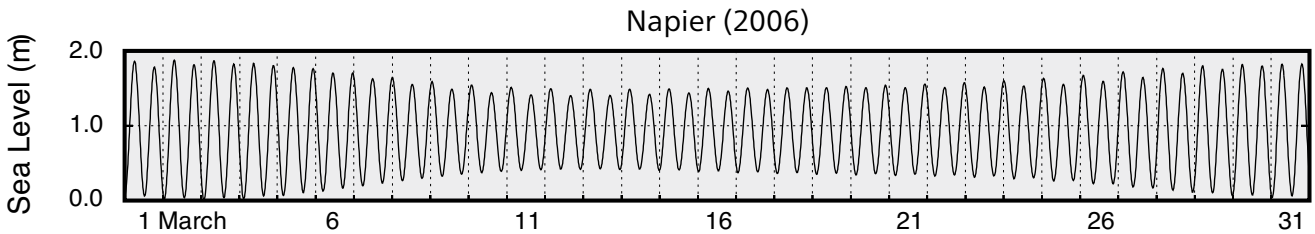
All around the New Zealand coastline the tidal regime is semi-diurnal. This means that on most days two high and two low tides will occur at any given location. However, if the first tide for the day occurs after about 5:10 am there will be just three tides on that day — the fourth one in the sequence will take place very early the following day.

Maximum tidal ranges exceeding 3.5 metres occur at Onehunga, Port Taranaki, Nelson, Westport and Auckland. The smallest tidal ranges (2 metres or less) are experienced at Gisborne, Napier, Wellington and Picton.

The classic fortnightly spring/neap cycle is not seen at Napier, Wellington and Lyttelton. At these sites the solar tides are dominated by the lunar ones and the result is known as a perigean tide.

The following diagrams of predicted tide curves at Port Taranaki and Napier illustrate these range and frequency variations. Note that both the tide curves cover identical periods and are plotted at the same vertical scale.





The diurnal inequality, where successive high or low water heights are not the same, is also apparent in the diagrams. This phenomenon is particularly evident in the Port Taranaki example for high waters during the periods March 8–16 and 22–30.

The tidal bulge travels around New Zealand's coastline in an anti-clockwise direction. This is contrary to what is expected from the Coriolis Effect in the southern hemisphere. Regions surrounded by amphidrome points experience a counter-rotating circulation; New Zealand is situated in such a location which explains why the tidal bulge travels around the country in an anti-clockwise direction.

This tidal bulge takes approximately 13 hours to travel around the North and South Islands. Therefore, at any one given time there is always a high tide (and a low tide) occurring somewhere around the coast. This pattern of flow is the reason why the state of the tides in Auckland's Waitemata and Manukau Harbours are never the same despite their close proximity. The tide has to travel from Auckland around Northland to reach the Manukau Harbour – a journey that takes about 3½ hours on average.

Since the Moon is the principle force driving New Zealand's semi-diurnal tides, a complete tide cycle lasts on average 12 hr 25min. Each incoming (flood) and outgoing (ebb) tide could, therefore, be expected to last about 6 hr 10min. This is indeed the case at most of the standard ports – with Dunedin and Picton being notable exceptions. At Dunedin the flood interval is consistently 30 minutes shorter, and the ebb tide correspondingly longer, than the nominal interval. At Picton the variation is more pronounced. The duration of the incoming tide has a range of 5½ – 9½ hours and ebb tides have a range of 4½ - 8½ hours. The longest durations are observed during the neap tides that occur 3 – 4 days after first quarter Moon in February, March, August and September. This appears to be due to the effect that the sizes of the semi- and quarter-diurnal tidal constituents have on the relatively small neap tide range at Picton.

Cook Strait: Between the North and South Islands the tide travelling northward along the east coast passes the southbound tide to the west. The strong difference between the states of these tides, combined with the east/west tide height difference, produces the complex pattern of strong currents that flow through Cook Strait.

Analysis and Prediction

The actual tide observed at a particular location is the resultant of the combination of all of the gravitationally induced constituent tides that are present there. From studies of celestial motion we know that each tidal cycle follows a simple recurring (harmonic) pattern with a fixed period. The parameters that vary from place to place are the amplitude and time lag (phase) of each constituent.

Harmonic tidal analysis involves taking a series of sea level measurements made at regular intervals, usually hourly, and resolving the amplitude and phase values for each constituent tide that comprises the observed tide at that place.

The period covered by the sea level measurements has a bearing on the information that the analysis can provide. Since the Moon has the greatest effect on the tides, data from at least one month is required to account for the major lunar orbit-related effects. Longer sequences of observations enable the analysis to distinguish between constituent tides with similar periods as well as to determine very long period constituents and generally improve the quality of the results.

The analysis of sea level data for a single month will produce parameters for about 36 constituent tides – the analysis of a years' data will typically yield amplitudes and phases for 68 constituent tides. However, the amplitudes of many of these constituents are usually small (a few millimetres, or less) and as these values are affected by the amount of scatter (noise) in the sea level measurements the reliability of such results is questionable. Meaningful values can usually be obtained for the most significant 20 – 30 constituent tides for the locality.

Wherever possible predictions are based on the analysis of sea level measurements taken over a period of at least one year. This allows the average changes in mean sea level due to seasonal variations in meteorological conditions to be calculated and included in the predictions. These changes do not, however, repeat themselves exactly from year to year so it is advisable to observe and analyse sea level measurements over a number of years.

Once the amplitude and phase values for a set of constituent tides have been calculated they can then be used to create the tide curve for a specified time interval. This information can then be used to find the times and heights of maxima (high water) and minima (low water). Predictions can be made for future and past dates, however their accuracy decreases as the time difference between the measurements used in the analysis and the prediction period increases.

As predictions are given for average meteorological conditions, it follows that when conditions are not average the actual tide times and/or heights may differ from those predicted. The effects of varying meteorological conditions are discussed in the following section.

Meteorological Effects on Tides

Unusually high or low barometric pressure, or prolonged periods of strong winds can result in variations between actual sea level and the predicted heights. Differences between predicted and actual times of high and low water are caused mainly by the wind.

Barometric Pressure: Tide predictions are computed for a standard barometric pressure of 1013 hectopascals (hPa) or millibars. A difference of 1 hPa from the average can cause a difference in height of 1 cm. A low barometer will allow the sea level to rise and a high barometer will tend to depress it. This phenomenon is often described as the inverted barometer effect. The water level does not, however, adjust itself immediately to a change of pressure; it responds to the average change over a considerable area. Changes in sea level due to barometric pressure alone seldom exceed 30 centimetres but, as such circumstances are usually associated with adverse weather conditions, the actual change in sea level is often much greater.

Wind: The effect of the wind on sea level, and therefore on tidal heights and times, is variable and depends largely on the topography of the area. In general it can be said that the wind will raise the level of the sea in the direction towards which it is blowing. This effect is often called wind setup. A strong wind blowing onshore will pile up the water and cause the sea level to be higher than predicted, while winds blowing off the land will have the reverse effect.

Storm surges: The combination of wind setup and the inverted barometer effect associated with storms can create a pronounced increase in sea level. This is often called a storm surge. A long surface wave travelling with the storm depression can further exaggerate this sea level increase. A negative storm surge is the opposite effect, generally associated with high pressure systems and offshore winds, and can create unusually shallow water. This effect is of great importance to very large vessels which may be navigating with small under-keel clearances.

Tidal Streams

A tidal stream is the periodic movement of water in a horizontal direction that is due ultimately to the same astronomical causes as the tide (whereas the tide is a movement in the vertical direction). The tidal stream associated with a rising tide is called the flood stream; that associated with a falling tide is called the ebb stream. A tidal stream is often described by the direction to which it runs. There is usually a period when the flow ceases, known as slack water, before the stream changes direction. Interestingly, slack water does not necessarily occur at times of high or low water.

Tidal streams can be analysed and predicted in much the same way as tides. It is generally simpler however, to compare the stream with the tide at a nearby standard port, and determine the time difference between high or low water at the port and the beginning of the ebb or flood stream in a particular area. This is the method used to compute the tidal stream predictions for Tory Channel / Kura te Au Entrance and Te Aumiti / French Pass that are published in this Almanac.

Cook Strait: The tidal streams in and around Cook Strait are unreliable and mariners are warned to exercise every precaution when navigating in the vicinity. The streams often run in one direction for eight to 10 hours, but cases have been reported of them going for 18 hours or more. When the streams have been running in one direction for an extended period, it has been found that the opposite stream is much weaker or, on some occasions, hardly noticeable. The maximum rates shown on the chart which are normally attained during spring tide conditions are also liable to be encountered at any other time. In the vicinity of Karori Rock and Cape Terawhiti rates of up to 7 knots are frequently experienced, but as a rule do not last for more than about an hour. Small vessels are warned to keep well clear of tide rips as they may lose steerage way and may, in extreme cases, capsize.

Te Aumiti / French Pass: Mariners are cautioned against taking a vessel through the Pass against the stream, as not only does a vessel sometimes not answer the helm owing to the stream eddies acting on the bow, but there is danger of meeting a vessel coming from the opposite direction which is not visible in sufficient time to prevent collision. Powered vessels of moderate size can, with prudence, pass through at slack water or with the tidal stream and in doing so save 15 miles of distance and avoid the heavy cross sea that is frequently met northward of Rangitoto ki te Tonga / D'Urville Island and Stephens Island (Takapourewa). Local knowledge is highly desirable.

The flood and ebb streams attain rates of 5 to 7 knots and do not set directly through the narrow channel but across it. The flood stream sets in a south-westerly direction as far as the narrows and then along the shore between Channel and Rock Cod Points. The ebb stream sets in the opposite direction. See the tidal arrows shown on the chart (NZ 6151). Slack water lasts about 20 minutes. The extraordinary irregularity of the sea bottom, together with the narrowness of the channel, creates many eddies in this area. Care must be taken to prevent a vessel being swung round on to Collinet Point by the eddies.

Tory Channel / Kura te Au Entrance: Tidal streams can be very strong through the east entrance to Tory Channel / Kura te Au, reaching rates of 5 knots as indicated on chart NZ 6154. Tide rips form along the western approaches to the entrance and eddies form around Okukari Bay. Some cross channel shear is present but is generally weak relative to normal channel flows.

Vessels approaching the entrance from Cook Strait against an east-going tidal stream will find that the stream at the entrance normally sets SSE onto the starboard bow. When abreast of West Head Light the stream sets onto the port bow. Care must be taken to account for the effect of the streams. Without local knowledge, low-powered vessels should not use the entrance at spring tides, whether entering or leaving Tory Channel / Kura te Au.

Making Sea Level Measurements

Until quite recently the use of float gauges was the most common method of measuring and recording sea levels. The float gauges were installed in stilling wells that dampened the wave action and, through a system of wires and pulleys, the vertical movement of the float was translated to a pen that traced out a line on a paper chart attached to a rotating drum. Towards the end of the 20th century the pen and paper chart recording system became superseded by digital encoders that allowed sea level readings to be stored electronically, or transmitted by telephone or satellite.

Today there are a number of different types of technology to choose from to make sea level measurements. Some systems are mounted above the water and determine the distance down to the water surface by measuring the time taken for a pulse of sound or radar to travel down to the water and be reflected back to the source. Other systems are placed under the water and measure the water pressure which is converted to the height of the water column above the sensor.

At a particular port the level of the water is expressed as a height above a local datum which is also the datum used for the depths of the sea on nautical charts. This datum is defined with reference to permanent benchmarks ashore and the zero of the tide gauge. The datum adopted usually approximates Lowest Astronomical Tide (LAT) which is the lowest level the tide can be predicted to occur under normal meteorological conditions.

Definitions

Standard Ports
Standard ports are those for which tidal predictions are provided in the form of daily tables giving the times and heights of high and low waters. All times in these tables are in New Zealand Standard Time. Predicted heights are in metres and are based on the Chart Datum of the largest scale chart of the place.

Secondary Ports
Secondary ports are those for which daily predictions are not provided. Data sufficient for calculating times and heights at these ports and places are given after the standard port predictions in this book. Secondary ports are grouped under standard ports with a similar tidal pattern.

Mean Sea Level (MSL)
The average level of the sea surface over a long period or the average level which would exist in the absence of tides.

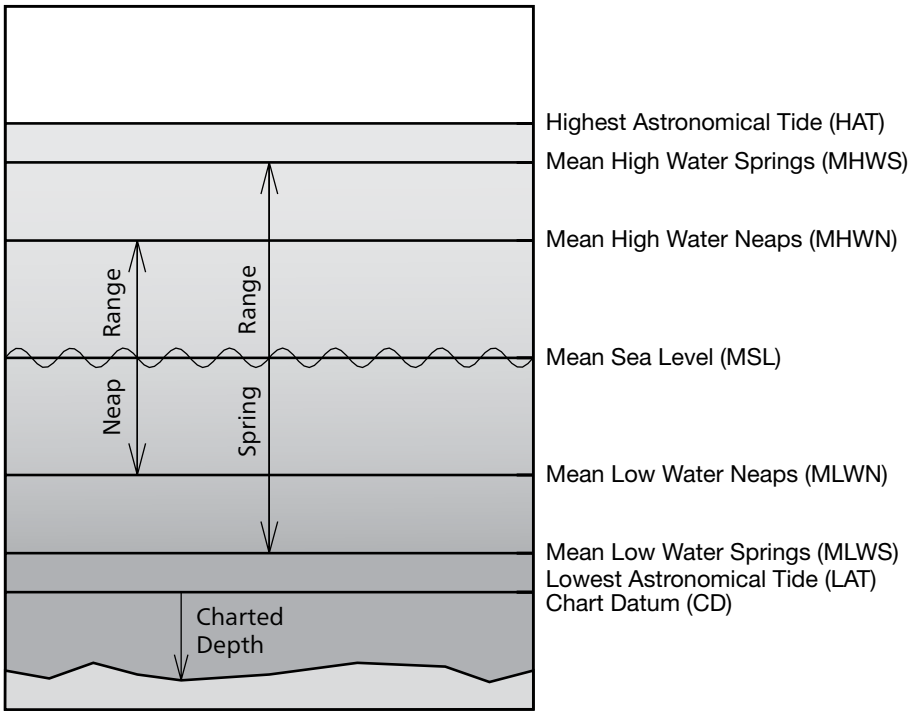
Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS)
The average of the levels of each pair of successive high waters, and of each pair of successive low waters, during that period of about 24 hours in each semi-lunation (approximately every 14 days), when the range of the tide is greatest (spring range).

Mean High Water Neaps (MHWN) and Mean Low Water Neaps (MLWN)
The average of the levels of each pair of successive high waters, and of each pair of successive low waters, during that period of about 24 hours in each semi-lunation (approximately every 14 days), when the range of the tide is least (neap range).

Chart Datum (CD)
A water level so low that the tide will but seldom fall below it. When meteorological conditions are such that sea level is lowered, the tide will fall below the predicted low water heights, and at a place where Chart Datum is at a comparatively high level, the actual depths at or near low water may be considerably less than charted.

Highest and Lowest Astronomical Tide (HAT and LAT)
The highest and lowest tidal levels which can be predicted to occur under average meteorological conditions over 18 years. Modern chart datums are set at the approximate level of Lowest Astronomical Tide (LAT) and Tide Tables list the predicted height of tide above Chart Datum. It should be noted that water level may fall below the level of LAT if abnormal meteorological conditions are experienced.

Diagram Illustrating Tidal Terms



Cautions

1. In certain circumstances a tide at low water may fall below the level of Chart Datum thus giving depths less than the charted depth.
2. The times predicted for high and low water can be affected by changes in the force and direction of the wind and by changes in the barometric pressure. It will generally be found that the heights are increased with onshore and decreased with off-shore winds. Sea level rises as the barometer falls, and vice versa, approximately 1 cm for each millibar difference from the average pressure.

How to Use the Tide Tables

Method to Find Times or Heights of High and Low Waters

Standard Ports
The times and heights of high and low water are tabulated for every day of the year. The zone time used for the predicted times is the Standard Time for the port and is indicated at the top of each page. The heights are shown in metres referred to the Chart Datum of the port concerned.

Secondary Ports

The times of high and low water are obtained by applying the time differences tabulated in the Secondary Ports Table to the daily predictions for the designated standard port. A negative time difference will give an earlier time than that for the standard port and a positive one a later time.

The heights of high and low water are obtained by multiplying the height predictions for the designated standard port by the range ratio value for the secondary port.

Predictions for the standard ports include the seasonal variations. Since the same seasonal variations apply to the designated secondary ports, they are allowed for in the final result and there is no need to apply them separately when using the method described below.

The techniques used to obtain the times and heights of high and low water at secondary ports are explained in detail in the following instruction and examples. The use of the calculation form on the following page is demonstrated by way of an example and a blank form is provided for further use.

Example

Find the times and heights of high and low waters at "**Secondary Port**" on 1 September, using the following extracts:

Extract from Secondary Ports Table :

	Mean Time Differences		Mean Spring, Neap and Sea Level Heights (metres)					Range Ratio
Port	**HW**	**LW**	**MHWS**	**MHWN**	**MLWN**	**MLWS**	**MSL**	
Standard Port	**hhmm**	**hhmm**	**3.2**	**2.8**	**0.8**	**0.5**	**1.92**	
Secondary Port	-0022	+0032	2.3	2.1	0.6	0.3	1.3	0.74

Extract from Predictions: Standard Port

1

FRI

September

Time	m
0316	0.4
0941	3.3
1546	0.6
2207	3.1

Note:

The data used in this example does not refer to the year of these tables nor to any particular ports.

Detailed Instructions

Note: This method produces heights for secondary ports referred to Chart Datum. Users will need to apply a suitable correction if another datum is required.

1. Obtain predicted times and heights of high and low waters at the standard port, enter them in box 1 (Times) and 2 (Heights).
2. Obtain the MSL value for the standard port from the Secondary Ports Table, enter it in box 3 (MSL).
3. Subtract the MSL value for the standard port in box 3 from the predictions in box 2, enter results in box 4. (N.B. the HW column should have positive values, the LW column negative values.)
4. Obtain data for the secondary port from the Secondary Ports Table and enter time differences in box 5, MSL in box 6, range ratio in box 7.
5. Multiply the figures in box 4 by the range ratio in box 7, enter the corresponding products in box 8.
6. Algebraically add the time differences for the secondary port in box 5 to the predicted times for the standard port in box 1, enter the results in box 9. These are the times of high and low water for the secondary port.
7. Algebraically add the values in box 8 to the MSL value for the secondary port in box 6, enter the results in box 10. These are the heights of high and low water for the secondary port.

Calculation Form

Standard Port Data	(1) Times		(2) Heights		(3) MSL	
	HW	LW	HW	LW		
	0941	0316	3.3	0.4	1.9	
	2207	1546	3.1	0.6		
(4) Predicted Height - MSL			1.4	-1.5		
(2) - (3)			1.2	-1.3		
Secondary Port Data	(5) Time Diffs				(6) MSL	(7) Range Ratio
	HW	LW				
	-0022	+0032			1.3	0.74
(8) Calculations			1.0	-1.1		
(4) x (7)			0.9	-1.0		
Secondary Port Results	(9) Times		(10) Heights			
	(1) + (5)		(6) + (8)			
	HW	LW	HW	LW		
	0919	0348	2.3	0.2		
	2145	1618	2.2	0.3		

Standard Port Data	(1) Times		(2) Heights		(3) MSL	
	HW	LW	HW	LW		
(4) Predicted Height - MSL						
(2) - (3)						
Secondary Port Data	(5) Time Diffs				(6) MSL	(7) Range Ratio
	HW	LW				
(8) Calculations						
(4) x (7)						
Secondary Port Results	(9) Times		(10) Heights			
	(1) + (5)		(6) + (8)			
	HW	LW	HW	LW		

Tidal Information

Method to Find Times or Heights Between High and Low Waters

Times and heights between high and low waters of standard and secondary ports can be interpolated by fitting a cosine curve. This interpolation can be accomplished graphically with form reproduced on the following pages, the use of which is explained below. This form is a development of the method published in the *ADMIRALITY Tide Tables* and is reproduced with the permission of the Australian Hydrographic Service, Royal Australian Navy.

This method will give acceptable results provided that the duration of rise or fall is between 5 and 7 hours.

Formulae for use with calculators or computers are also provided courtesy of the Australian Hydrographic Service. The same criterion should be satisfied to obtain acceptable results.

To Find the Height of the Tide at a Given Time

Using the form

1. Plot the time of high water on the time axis marked HW, and the time of low water on the time axis marked LW. Connect these two points by a straight line called the "time-line".

   Note: Hours from 0000 to 0800 are repeated on the right hand side of the scale for use when midnight (0000) falls between HW and LW.

2. Plot the height of high water on the height axis marked HW, and the height of low water on the axis marked LW. Connect these two points by a straight line called the "height-line".
3. To find the height of the tide for a given intermediate time, plot the time on the LW time axis, project it up to the time-line, go across to the curve, go down to the height-line then across to the LW height axis, from which the height can be read off.

Using the formula

If t_1 and h_1 denote the time and height of the tide (high or low) immediately preceding time t, and t_2 and h_2 denote the height of the tide (high or low) immediately following time t, then the height h at time t is given by the following formula:

$h = h_1 + (h_2 - h_1)[(\cos A + 1)/2]$

where $A = \pi([(t - t_1)/(t_2 - t_1)] + 1)$ radians

Note 1: On falling tides $(h_2 - h_1)$ will be negative.

Note 2: t, t_1 and t_2 are in decimal hours.

To Find the Time for a Given Height of the Tide

Using the form

1. As above.
2. As above.
3. To find the time at which a given intermediate height occurs, plot the height on the LW height axis, project it across to the height-line, go up to the curve, across to the time-line, and down to the LW time axis, from which the time can be read off.

Using the formula

With t_1, h_1, t_2, h_2 defined as above, the intermediate time t when the tide is at a given height h, can be calculated from the following formula:

$t = t_1 + (t_2 - t_1)((A/\pi) - 1)$

where $A = 2\pi - \text{acos}([2(h - h_1)/(h_2 - h_1)] - 1)$ radians.

Note 1: On falling tides $(h - h_1)$ and $(h_2 - h_1)$ will be negative.

Note 2: t, t_1 and t_2 are in decimal hours.

Note 3: It is presumed that the range of the acos function is $[0, \pi]$.

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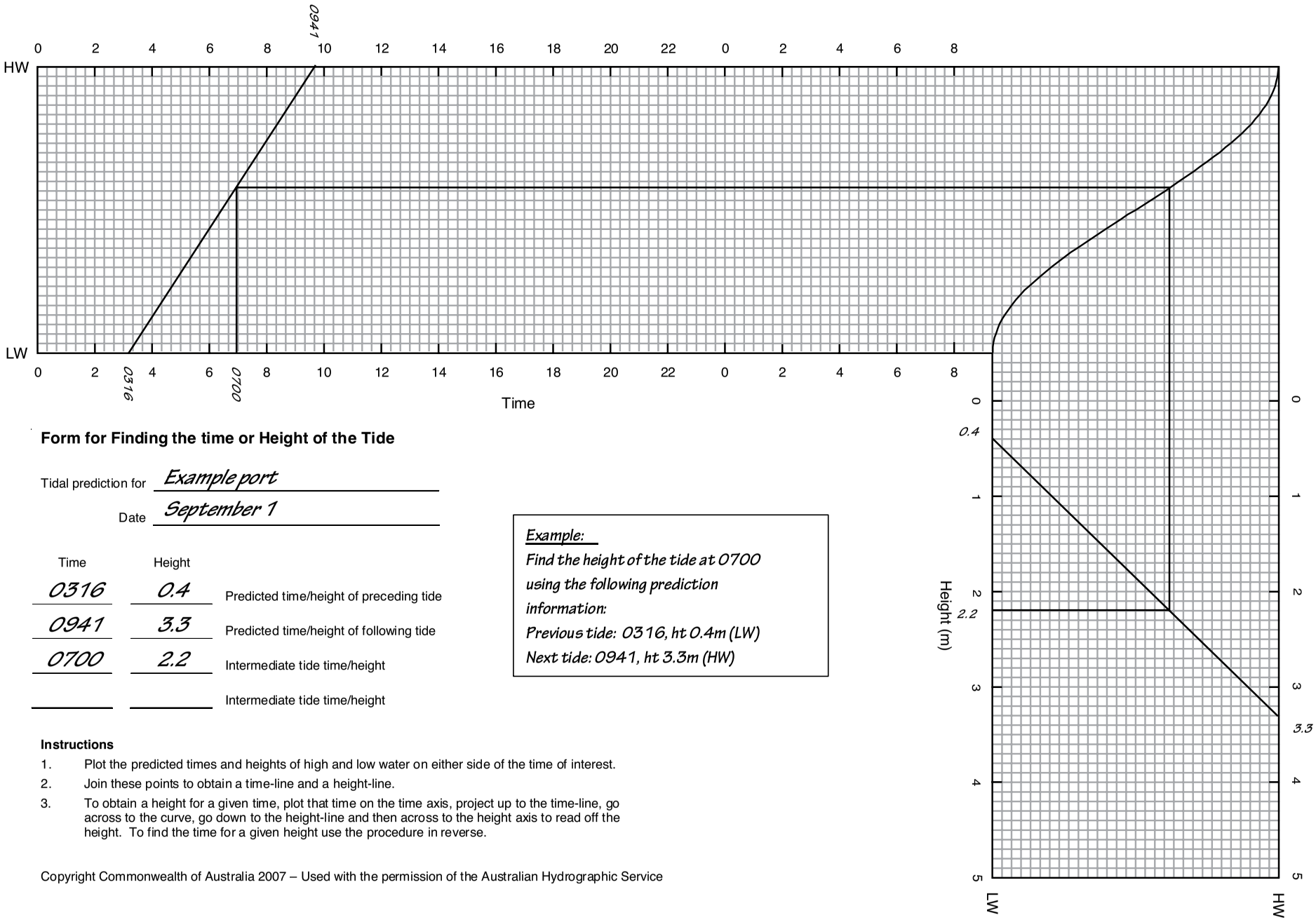

Form for Finding the time or Height of the Tide

Tidal prediction for *Example port*

Date *September 1*

Time	Height	
0316	*0.4*	Predicted time/height of preceding tide
0941	*3.3*	Predicted time/height of following tide
0700	*2.2*	Intermediate tide time/height
		Intermediate tide time/height

Example:
Find the height of the tide at 0700 using the following prediction information:
Previous tide: 0316, ht 0.4m (LW)
Next tide: 0941, ht 3.3m (HW)

Instructions

1. Plot the predicted times and heights of high and low water on either side of the time of interest.
2. Join these points to obtain a time-line and a height-line.
3. To obtain a height for a given time, plot that time on the time axis, project up to the time-line, go across to the curve, go down to the height-line and then across to the height axis to read off the height. To find the time for a given height use the procedure in reverse.

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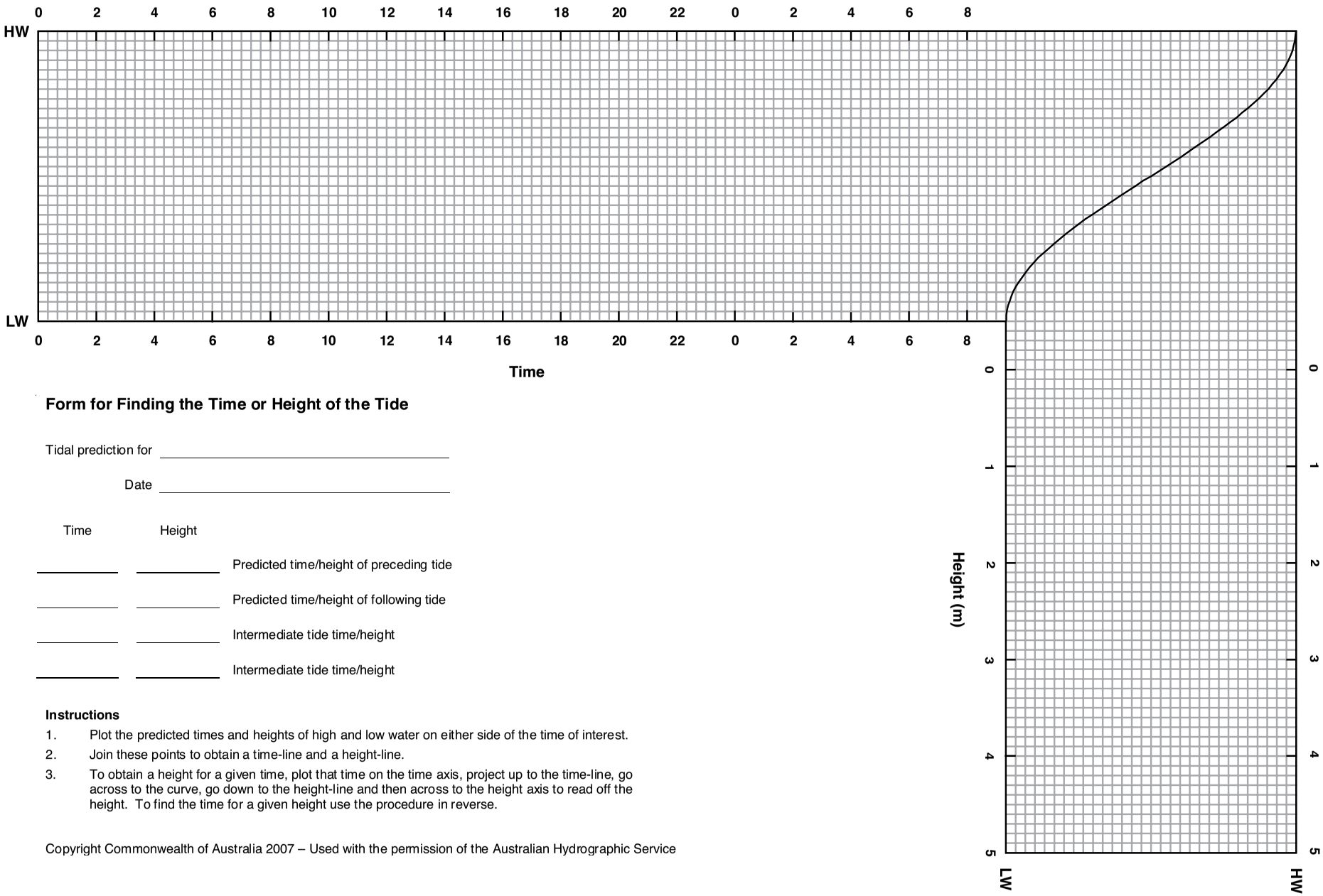

Form for Finding the Time or Height of the Tide

Tidal prediction for _____

Date _____

Time	Height	
_____	_____	Predicted time/height of preceding tide
_____	_____	Predicted time/height of following tide
_____	_____	Intermediate tide time/height
_____	_____	Intermediate tide time/height

Instructions

1. Plot the predicted times and heights of high and low water on either side of the time of interest.
2. Join these points to obtain a time-line and a height-line.
3. To obtain a height for a given time, plot that time on the time axis, project up to the time-line, go across to the curve, go down to the height-line and then across to the height axis to read off the height. To find the time for a given height use the procedure in reverse.

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Standard Port Information

Datum Descriptions

Levels of Zeros of Predictions

Note: Chart datum corresponds to the zero of predictions in all cases.

Auckland	5.233m below B.M. 98-21 SO 69501 (LINZ code DD1N), a bronze plaque set in concrete into the road at the entrance to Captain Cook Wharf.
Bluff	8.620m below Bluff Fundamental B.M. (LINZ code ABCC), a stainless steel pin set in concrete under an iron cover, south eastern corner of Lee and Barrow Streets.
Dunedin	3.728m below B.M. WW 83 (LINZ code AFEQ), a stainless steel pin set into the concrete base at the north western corner of G Shed, Birch Street Wharf.
Gisborne	4.091m below B.M. GB 01 (LINZ code ACVP), a stainless steel pin set in concrete at the east end of No. 6 Wharf.
Lyttelton	4.478m below B.M. UD 40 (LINZ code B40V), a stainless steel pin set in a concrete block adjacent to the main pier of the overbridge to the main wharves.
Marsden Point	4.816m below the RNZN benchmark (LINZ code DJM9), an iron bolt set in concrete near the base of the light standard on the inshore east end of the Northport Ltd. pier near the launch steps.
Napier	4.837m below B.M. H 40 (LINZ code B3XM), a stainless steel pin set in a concrete block under an iron cover near the south western corner of the Port of Napier Ltd. office at the railway crossing.
Nelson	5.733m below B.M. N 1 (LINZ code AC4T), a stainless steel pin set in the front steps to the old brick building in Wakefield Quay, known as Anchor House.
Onehunga	5.593m below B.M. CC 65 (LINZ code ADLT), a stainless steel pin set in a concrete block near the easternmost corner of Shed B, Onehunga Wharf.
Picton	2.716m below Elaine Cairn (LINZ code BQFK), a cairn of cement 0.61m in height, 250m south east of the Ferry Terminal Building.
Port Chalmers	3.816m below Pin 1 SO 17533 (LINZ code DR0F), a stainless steel pin set in concrete under an asphalt and white tile cover immediately to the left of the steps to the Port Chalmers Museum (ex Post Office building).
Port Taranaki	16.185m below New Plymouth Fundamental No. 3 B.M. (LINZ code EE9M), a stainless steel pin set in concrete, under a cast iron cover, near the flagpole in Pioneer Memorial Park, Hakirau Street.
Tauranga	4.103m below B.M. BC 84 (LINZ code B309), a stainless steel pin set in the concrete foundation at the north eastern corner of the Port of Tauranga Ltd. administration building.
Timaru	6.516m below Pin 2 SO 477020 (LINZ code ET02), a stainless steel pin set in the concrete nib edge at the start of the walkway overbridge at Port Loop Road.
Wellington	3.565m below B.M. K80/2 (LINZ code ABPC), a stainless steel pin set in concrete under an iron cover, at the southern end of Lambton Quay, 35m from Willis Street.
Westport	7.351m below B.M. Harbourmasters Office (LINZ code DJMC), a stainless pin set in concrete, immediately above the steps to the pilot boat, adjacent to the Harbourmaster's Office on the main wharf.

Tidal Levels

Standard Port	MHWS	MHWN	MLWN	MLWS	Spring Range	Neap Range	MSL	HAT	LAT
Auckland	3.35	2.80	1.07	0.52	2.83	1.73	1.93	3.74	0.08
Bluff	2.80	2.40	1.10	0.63	2.17	1.30	1.76	3.10	0.32
Dunedin	2.17	1.80	0.43	0.12	2.05	1.37	1.13	2.44	-0.12
Gisborne	2.11	1.73	0.80	0.42	1.69	0.93	1.26	2.22	0.29
Lyttelton	2.58	2.04	0.81	0.34	2.24	1.23	1.45	2.75	0.14
Marsden Point	2.73	2.29	0.96	0.50	2.23	1.33	1.62	3.03	0.16
Napier	1.89	1.49	0.47	0.12	1.77	1.02	0.99	2.01	0.00
Nelson	4.31	3.27	1.62	0.65	3.66	1.65	2.44	4.76	0.18
Onehunga	4.18	3.33	1.45	0.56	3.62	1.88	2.43	4.54	0.12
Picton	1.59	1.05	0.59	0.12	1.47	0.46	0.84	1.72	0.01
Port Chalmers	2.16	1.78	0.53	0.20	1.96	1.18	1.15	2.40	-0.03
Port Taranaki	3.55	2.71	1.20	0.38	3.17	1.51	1.97	3.92	-0.02
Tauranga	1.94	1.65	0.57	0.23	1.71	1.08	1.11	2.18	-0.04
Timaru	2.50	2.09	0.87	0.53	1.97	1.22	1.50	2.72	0.29
Wellington	1.82	1.49	0.80	0.53	1.29	0.69	1.14	1.91	0.44
Westport	3.49	2.79	1.28	0.57	2.92	1.51	2.05	3.87	0.15

Notes:

1. The above levels, in metres, are referred to Chart Datum, which is the same as the zero of the tidal predictions in all cases.
2. The values for the MHWS, MHWN, MLWN and MLWS tidal levels given in the table are the averages of the levels of all spring and neap tides predicted for the period 1 July 2024 – 30 June 2025 using the harmonic constituents derived from the analysis of the observations made at that port during the period given in the table on page 35.

   The average annual value of MHWS etc. varies from year to year in a cycle of approximately 19 years. This variation is in the order of up to 0.1 – 0.15 metres.
3. The values for the spring and neap ranges have been deduced from the spring and neap tidal level values. As a consequence of the annual variation of the tidal levels, the variation in the ranges of the spring and neap tides over the 19 year cycle is twice that of the levels.
4. The value of MSL for each port has been derived from the analysis of tidal observations made at the port during the period given in the table on page 35.
5. The values for HAT and LAT given in the table above are the highest and lowest tidal levels that are predicted to occur under average meteorological conditions during the period 1 January 2000 – 31 December 2018 using the harmonic constituents derived from the analysis of the observations made at that port during the period given in the table on page 35.
6. This table is not intended to be used for the determination of cadastral or administrative boundaries. A table of standard port values for cadastral purposes is available from the Toitū Te Whenua LINZ website www.linz.govt.nz.

Tide Prediction Information

Standard Ports

see pages 37 – 84

Predictions of the Times and Heights of High and Low Waters.

Tidal predictions are compiled for standard barometric pressure. The meteorological conditions that can have an effect on the tide are described on pages 25 – 26.

Users are reminded of the existence of irregular and frequent fluctuations in mean sea level in the Pacific Ocean. Since these are not of astronomical origin, vessels navigating with minimal under keel clearance should recognise that tidal heights alone should not be relied upon to provide for safe navigation in shoal waters. For more information refer to *Annual New Zealand Notice to Mariners, No. 7* on page 239.

The zero of the predicted tide heights for each standard port is described on page 33 and corresponds to Chart Datum.

To find times or heights between high and low waters follow the instructions given on pages 30 – 32.

The following table indicates the years for which tidal observations were obtained. The results of the analysis of that data have been used to generate the following predictions. The number of years of data analysed is also shown. Any difference between the Period of Observations and No. of Years analysed indicates data missing for one or more years.

Standard Port	Period of Observations	No. of Years
Auckland	2005 – 2023	19
Bluff	2003 – 2021	19
Dunedin	2005 – 2023	19
Gisborne	2004 – 2021	17
Lyttelton	2004 – 2023	19
Marsden Point	2004 – 2023	19
Napier	2005 – 2023	19
Nelson	2004 – 2023	19

Standard Port	Period of Observations	No. of Years
Onehunga	2003 – 2023	19
Picton	2005 – 2023	10
Port Chalmers	2005 – 2023	19
Port Taranaki	2005 – 2023	19
Tauranga	2004 – 2023	19
Timaru	2005 – 2023	19
Wellington	2005 – 2023	19
Westport	2015 – 2023	8

Tidal Streams

see pages 85 – 118

Predictions of the times of the commencement of the tidal streams at: Te Aumiti / French Pass
Tory Channel / Kura te Au Entrance

Tidal streams may be subject to irregularities and the predicted times should be regarded as approximate only. Additional tidal stream information can be found on page 26.

Secondary Ports

see pages 119 – 132

Details required for predicting times of high and low waters, and tidal levels, at secondary ports. An alphabetical index of the secondary ports can be found on pages 119 – 121.

The secondary ports are grouped under their reference standard port which can be identified in the alphabetical index.

Instructions for finding the times and heights of high and low waters at secondary ports can be found on pages 28 – 29. To find times or heights between high and low waters follow the instructions given on pages 30 – 32.

Caution

The mean time differences for high and low waters given in the Secondary Ports Table are average values derived from the comparison of simultaneous tide predictions at the secondary port and its reference standard port. Because these time differences are constant, they do not always reflect the actual tide time differences as these are subject to naturally occuring daily variation.

The range of predicted time differences is included in the table to provide the user with an indication of how much the actual time of the tide may differ from the predicted time derived using the mean time difference.

Tidal Predictions

Important Note

Times used in the tide and tidal stream predictions are in New Zealand Standard Time (NZST).

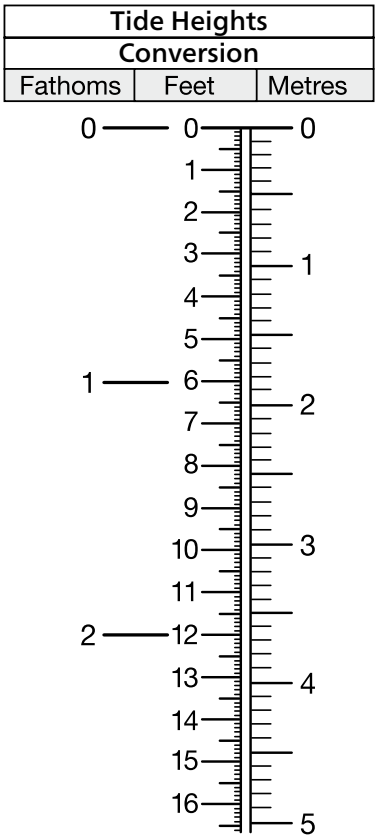
New Zealand Daylight Time (NZDT) will be kept from 0200 NZST 29 September 2024 until 0200 NZST 6 April 2025.

Phases of the Moon

The following symbols are used in the tidal predictions to indicate moon phases:

● New Moon ❍ Full Moon

Conversion Information



	= Fathoms	= Feet	= Metres
Fathoms	1	6	1.829
Feet	0.167	1	0.305
Metres	0.547	3.281	1

Example 2.74m = 2.74 x 0.547 = 1.5fm
= 1fm 3ft

Auckland

Lat. 36° 51´S., Long. 174° 46´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0237 0844 1508 2115	3.2 0.7 3.1 0.9	**16** Tu	0220 0834 1502 2104	2.8 1.1 2.7 1.2
2 Tu	0334 0942 1611 2216	3.2 0.7 3.1 0.9	**17** We	0310 0928 1600 2159	2.8 1.0 2.7 1.2
3 We	0432 1040 1712 2314	3.1 0.7 3.1 0.9	**18** Th	0403 1023 1657 2252	2.8 1.0 2.8 1.1
4 Th	0530 1137 1808	3.1 0.7 3.2	**19** Fr	0459 1117 1750 2344	2.8 0.9 2.9 1.0
5 Fr	0008 0627 1231 1901	0.9 3.1 0.6 3.2	**20** Sa	0555 1209 1840	2.9 0.8 3.1
6 Sa ●	0101 0721 1321 1950	0.8 3.1 0.6 3.3	**21** Su ❍	0034 0650 1258 1928	0.9 3.0 0.7 3.2
7 Su	0151 0812 1408 2037	0.8 3.1 0.6 3.3	**22** Mo	0124 0743 1346 2015	0.8 3.1 0.5 3.3
8 Mo	0239 0900 1452 2121	0.8 3.1 0.7 3.2	**23** Tu	0214 0835 1434 2103	0.6 3.2 0.5 3.4
9 Tu	0325 0945 1535 2204	0.8 3.1 0.7 3.2	**24** We	0304 0924 1522 2152	0.6 3.3 0.4 3.5
10 We	0409 1028 1616 2245	0.9 3.0 0.8 3.1	**25** Th	0355 1014 1610 2241	0.5 3.3 0.4 3.5
11 Th	0451 1109 1657 2326	0.9 3.0 0.9 3.1	**26** Fr	0445 1103 1701 2332	0.5 3.3 0.5 3.4
12 Fr	0533 1149 1739	0.9 2.9 1.0	**27** Sa	0536 1154 1754	0.5 3.3 0.6
13 Sa	0007 0615 1231 1825	3.0 1.0 2.8 1.0	**28** Su	0024 0628 1248 1851	3.4 0.5 3.2 0.7
14 Su	0050 0658 1316 1915	2.9 1.0 2.8 1.1	**29** Mo	0118 0723 1346 1952	3.2 0.6 3.1 0.9
15 Mo	0134 0745 1406 2009	2.9 1.0 2.7 1.2	**30** Tu	0214 0820 1448 2056	3.1 0.7 3.0 0.9
			31 We	0313 0921 1553 2159	3.0 0.8 3.0 1.0

August

	Time	m		Time	m
1 Th	0413 1022 1655 2259	3.0 0.8 3.0 1.0	**16** Fr	0325 0945 1621 2220	2.7 1.0 2.8 1.1
2 Fr	0514 1121 1752 2354	2.9 0.8 3.1 0.9	**17** Sa	0427 1046 1718 2316	2.8 0.9 2.9 1.0
3 Sa	0612 1215 1843	2.9 0.7 3.1	**18** Su	0529 1142 1812	2.9 0.8 3.1
4 Su ●	0046 0706 1304 1931	0.9 3.0 0.7 3.2	**19** Mo	0010 0628 1235 1902	0.8 3.0 0.6 3.3
5 Mo	0134 0755 1349 2015	0.9 3.0 0.7 3.2	**20** Tu ❍	0102 0723 1325 1952	0.6 3.2 0.4 3.4
6 Tu	0218 0839 1430 2056	0.8 3.0 0.7 3.2	**21** We	0153 0814 1413 2040	0.5 3.3 0.3 3.5
7 We	0300 0920 1509 2135	0.8 3.0 0.7 3.1	**22** Th	0243 0904 1502 2129	0.4 3.4 0.3 3.6
8 Th	0339 0958 1546 2213	0.8 3.0 0.7 3.1	**23** Fr	0333 0953 1550 2219	0.3 3.5 0.3 3.5
9 Fr	0417 1035 1624 2250	0.8 3.0 0.8 3.0	**24** Sa	0422 1043 1641 2310	0.3 3.4 0.4 3.5
10 Sa	0454 1112 1703 2328	0.8 2.9 0.9 3.0	**25** Su	0512 1133 1734	0.4 3.3 0.6
11 Su	0532 1151 1745	0.9 2.9 1.0	**26** Mo	0001 0604 1227 1831	3.3 0.5 3.2 0.7
12 Mo	0007 0613 1233 1831	2.9 0.9 2.8 1.1	**27** Tu	0055 0658 1324 1933	3.2 0.6 3.1 0.9
13 Tu	0049 0657 1321 1923	2.8 1.0 2.7 1.1	**28** We	0152 0756 1428 2038	3.0 0.7 3.0 1.0
14 We	0136 0746 1417 2021	2.8 1.0 2.7 1.2	**29** Th	0253 0900 1533 2143	2.9 0.9 2.9 1.0
15 Th	0227 0843 1519 2121	2.7 1.0 2.7 1.2	**30** Fr	0356 1005 1636 2244	2.8 0.9 2.9 1.0
			31 Sa	0458 1105 1732 2339	2.8 0.9 3.0 1.0

September

	Time	m		Time	m
1 Su	0556 1159 1823	2.8 0.8 3.0	**16** Mo	0506 1117 1744 2345	2.9 0.7 3.1 0.7
2 Mo	0028 0648 1245 1908	0.9 2.9 0.8 3.1	**17** Tu	0606 1211 1836	3.1 0.6 3.3
3 Tu ●	0113 0734 1327 1949	0.8 3.0 0.7 3.1	**18** We ❍	0038 0701 1302 1926	0.5 3.3 0.4 3.5
4 We	0154 0815 1405 2028	0.8 3.0 0.7 3.1	**19** Th	0130 0753 1352 2016	0.3 3.4 0.3 3.6
5 Th	0231 0853 1442 2104	0.8 3.1 0.7 3.1	**20** Fr	0220 0843 1441 2106	0.2 3.5 0.3 3.6
6 Fr	0307 0929 1517 2140	0.7 3.1 0.7 3.1	**21** Sa	0309 0932 1530 2156	0.2 3.6 0.3 3.5
7 Sa	0343 1003 1553 2215	0.7 3.0 0.8 3.0	**22** Su	0358 1021 1621 2247	0.2 3.5 0.4 3.4
8 Su	0418 1039 1631 2252	0.8 3.0 0.8 3.0	**23** Mo	0448 1112 1714 2339	0.3 3.4 0.6 3.3
9 Mo	0454 1116 1711 2331	0.8 2.9 0.9 2.9	**24** Tu	0538 1205 1811	0.5 3.2 0.7
10 Tu	0533 1157 1756	0.9 2.8 1.0	**25** We	0033 0632 1302 1913	3.1 0.6 3.1 0.9
11 We	0013 0616 1245 1847	2.8 0.9 2.8 1.1	**26** Th	0130 0731 1405 2019	2.9 0.8 2.9 1.0
12 Th	0100 0705 1340 1945	2.8 1.0 2.7 1.1	**27** Fr	0231 0836 1509 2123	2.8 0.9 2.9 1.0
13 Fr	0153 0804 1443 2048	2.7 1.0 2.7 1.1	**28** Sa	0335 0943 1611 2223	2.7 1.0 2.9 1.0
14 Sa	0254 0911 1548 2150	2.7 1.0 2.8 1.0	**29** Su	0437 1044 1706 2316	2.7 1.0 2.9 1.0
15 Su	0400 1017 1648 2249	2.8 0.9 3.0 0.9	**30** Mo	0534 1136 1755	2.8 0.9 2.9

October

	Time	m		Time	m
1 Tu	0004 0624 1221 1839	0.9 2.9 0.8 3.0	**16** We	0543 1147 1809	3.1 0.6 3.3
2 We	0046 0708 1301 1919	0.8 2.9 0.8 3.0	**17** Th ❍	0014 0639 1239 1901	0.4 3.3 0.4 3.4
3 Th ●	0125 0748 1338 1957	0.8 3.0 0.7 3.0	**18** Fr	0106 0731 1330 1952	0.3 3.5 0.3 3.5
4 Fr	0201 0824 1413 2033	0.7 3.1 0.7 3.0	**19** Sa	0157 0822 1420 2044	0.2 3.6 0.3 3.5
5 Sa	0236 0900 1449 2108	0.7 3.1 0.7 3.0	**20** Su	0246 0911 1510 2135	0.2 3.6 0.4 3.4
6 Su	0311 0934 1525 2144	0.7 3.1 0.8 3.0	**21** Mo	0335 1001 1602 2226	0.2 3.5 0.5 3.3
7 Mo	0346 1010 1603 2222	0.7 3.0 0.8 2.9	**22** Tu	0424 1051 1655 2318	0.3 3.4 0.6 3.2
8 Tu	0423 1048 1644 2302	0.7 3.0 0.9 2.9	**23** We	0514 1143 1751	0.5 3.2 0.8
9 We	0502 1130 1730 2345	0.8 2.9 1.0 2.8	**24** Th	0011 0607 1239 1851	3.0 0.7 3.1 0.9
10 Th	0545 1218 1821	0.9 2.8 1.0	**25** Fr	0107 0704 1338 1953	2.9 0.9 2.9 1.0
11 Fr	0034 0635 1313 1919	2.8 0.9 2.8 1.0	**26** Sa	0205 0807 1438 2054	2.7 1.0 2.9 1.0
12 Sa	0128 0734 1414 2021	2.7 1.0 2.8 1.0	**27** Su	0306 0912 1537 2151	2.7 1.0 2.8 1.0
13 Su	0230 0842 1517 2123	2.7 1.0 2.9 0.9	**28** Mo	0407 1012 1630 2243	2.7 1.0 2.8 1.0
14 Mo	0336 0949 1618 2223	2.8 0.9 3.0 0.8	**29** Tu	0503 1104 1719 2330	2.7 1.0 2.9 0.9
15 Tu	0442 1051 1715 2320	2.9 0.7 3.2 0.6	**30** We	0553 1149 1803	2.8 0.9 2.9
			31 Th	0013 0637 1230 1844	0.9 2.9 0.9 2.9

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Auckland

Lat. 36° 51´S., Long. 174° 46´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0052	0.8	**16** Sa ❍	0043	0.3
	0718	3.0		0711	3.4
	1308	0.8		1310	0.5
	1923	3.0		1931	3.4
2 Sa ●	0130	0.7	**17** Su	0135	0.2
	0756	3.0		0803	3.5
	1345	0.8		1401	0.4
	2002	3.0		2024	3.4
3 Su	0206	0.7	**18** Mo	0225	0.2
	0832	3.1		0853	3.5
	1422	0.8		1452	0.5
	2040	3.0		2116	3.3
4 Mo	0242	0.7	**19** Tu	0314	0.3
	0909	3.1		0942	3.5
	1501	0.8		1544	0.6
	2118	3.0		2207	3.2
5 Tu	0320	0.7	**20** We	0402	0.4
	0947	3.1		1031	3.4
	1541	0.8		1637	0.7
	2159	2.9		2258	3.1
6 We	0358	0.7	**21** Th	0451	0.6
	1027	3.1		1122	3.2
	1624	0.9		1730	0.8
	2241	2.9		2348	3.0
7 Th	0438	0.7	**22** Fr	0540	0.7
	1110	3.0		1213	3.1
	1711	0.9		1825	0.9
	2326	2.9			
8 Fr	0523	0.8	**23** Sa	0039	2.9
	1158	3.0		0633	0.9
	1802	0.9		1306	3.0
				1920	1.0
9 Sa	0015	2.8	**24** Su	0133	2.8
	0613	0.9		0730	1.0
	1251	2.9		1400	2.9
	1858	0.9		2014	1.0
10 Su	0109	2.8	**25** Mo	0228	2.7
	0711	0.9		0830	1.1
	1349	3.0		1453	2.8
	1956	0.9		2108	1.0
11 Mo	0208	2.8	**26** Tu	0326	2.7
	0816	0.9		0929	1.1
	1449	3.0		1545	2.8
	2056	0.8		2159	1.0
12 Tu	0313	2.9	**27** We	0422	2.7
	0922	0.9		1022	1.1
	1548	3.1		1634	2.8
	2156	0.7		2248	1.0
13 We	0418	3.0	**28** Th	0515	2.8
	1025	0.8		1111	1.1
	1646	3.2		1721	2.8
	2254	0.6		2334	0.9
14 Th	0520	3.1	**29** Fr	0602	2.8
	1123	0.6		1155	1.0
	1742	3.3		1806	2.8
	2349	0.4			
15 Fr	0617	3.3	**30** Sa	0017	0.9
	1217	0.5		0646	2.9
	1837	3.3		1236	1.0
				1849	2.9

December

	Time	m		Time	m
1 Su ●	0058	0.8	**16** Mo	0116	0.4
	0727	3.0		0745	3.4
	1317	0.9		1345	0.6
	1931	2.9		2007	3.2
2 Mo	0138	0.7	**17** Tu	0207	0.4
	0806	3.1		0835	3.4
	1357	0.9		1437	0.6
	2014	2.9		2059	3.2
3 Tu	0217	0.7	**18** We	0255	0.4
	0846	3.1		0924	3.4
	1439	0.8		1528	0.7
	2057	3.0		2149	3.2
4 We	0257	0.6	**19** Th	0342	0.5
	0926	3.2		1011	3.3
	1522	0.8		1617	0.7
	2140	3.0		2236	3.1
5 Th	0338	0.6	**20** Fr	0427	0.6
	1009	3.2		1058	3.2
	1608	0.8		1706	0.8
	2224	3.0		2322	3.0
6 Fr	0420	0.7	**21** Sa	0512	0.7
	1053	3.2		1144	3.1
	1655	0.8		1753	0.9
	2310	3.0			
7 Sa	0506	0.7	**22** Su	0008	2.9
	1141	3.1		0559	0.9
	1745	0.8		1230	3.0
	2359	3.0		1840	0.9
8 Su	0555	0.8	**23** Mo	0054	2.8
	1232	3.1		0648	1.0
	1838	0.8		1316	2.9
				1927	1.0
9 Mo	0051	2.9	**24** Tu	0143	2.7
	0651	0.8		0741	1.1
	1326	3.1		1403	2.8
	1933	0.8		2016	1.0
10 Tu	0148	2.9	**25** We	0237	2.7
	0752	0.9		0837	1.2
	1422	3.1		1452	2.8
	2030	0.7		2107	1.0
11 We	0250	3.0	**26** Th	0333	2.7
	0857	0.9		0933	1.2
	1520	3.1		1542	2.8
	2129	0.7		2159	1.0
12 Th	0354	3.0	**27** Fr	0430	2.7
	1000	0.8		1026	1.2
	1619	3.1		1633	2.7
	2228	0.6		2250	1.0
13 Fr	0458	3.1	**28** Sa	0523	2.8
	1100	0.8		1116	1.1
	1718	3.2		1724	2.8
	2327	0.5		2339	0.9
14 Sa	0557	3.2	**29** Su	0612	2.9
	1157	0.7		1203	1.1
	1816	3.2		1814	2.8
15 Su ❍	0023	0.4	**30** Mo	0026	0.9
	0653	3.3		0657	3.0
	1252	0.6		1248	1.0
	1912	3.2		1903	2.9
			31 Tu ●	0110	0.8
				0740	3.1
				1333	0.9
				1950	3.0

January

	Time	m		Time	m
1 We	0153	0.7	**16** Th	0236	0.6
	0823	3.2		0904	3.3
	1418	0.8		1509	0.7
	2036	3.0		2129	3.1
2 Th	0236	0.6	**17** Fr	0320	0.6
	0906	3.3		0948	3.3
	1504	0.8		1554	0.8
	2122	3.1		2212	3.1
3 Fr	0319	0.6	**18** Sa	0402	0.7
	0950	3.3		1030	3.2
	1550	0.7		1637	0.8
	2208	3.2		2254	3.1
4 Sa	0403	0.6	**19** Su	0443	0.8
	1035	3.3		1111	3.2
	1638	0.6		1717	0.8
	2254	3.2		2334	3.0
5 Su	0449	0.6	**20** Mo	0524	0.9
	1122	3.3		1151	3.1
	1726	0.6		1758	0.9
	2342	3.2			
6 Mo	0538	0.7	**21** Tu	0014	2.9
	1212	3.3		0607	1.0
	1817	0.6		1232	3.0
				1839	1.0
7 Tu	0032	3.1	**22** We	0057	2.8
	0632	0.7		0654	1.1
	1303	3.2		1314	2.9
	1909	0.7		1923	1.0
8 We	0127	3.1	**23** Th	0145	2.7
	0731	0.8		0746	1.2
	1358	3.2		1359	2.8
	2005	0.7		2012	1.1
9 Th	0228	3.0	**24** Fr	0240	2.7
	0834	0.9		0842	1.2
	1455	3.1		1449	2.7
	2104	0.7		2106	1.1
10 Fr	0333	3.0	**25** Sa	0341	2.7
	0939	0.9		0940	1.3
	1556	3.1		1543	2.7
	2206	0.7		2204	1.1
11 Sa	0438	3.1	**26** Su	0440	2.7
	1041	0.9		1035	1.2
	1658	3.0		1641	2.7
	2307	0.7		2301	1.0
12 Su	0540	3.1	**27** Mo	0535	2.8
	1141	0.9		1128	1.1
	1759	3.1		1739	2.8
				2354	0.9
13 Mo	0006	0.6	**28** Tu	0625	3.0
	0637	3.2		1218	1.0
	1237	0.8		1834	2.9
	1858	3.1			
14 Tu ❍	0100	0.6	**29** We	0043	0.8
	0729	3.3		0712	3.1
	1331	0.8		1307	0.9
	1952	3.1		1926	3.0
15 We	0150	0.6	**30** Th ●	0129	0.7
	0818	3.3		0757	3.3
	1421	0.8		1355	0.8
	2042	3.1		2015	3.2
			31 Fr	0214	0.6
				0843	3.4
				1443	0.6
				2102	3.3

February

	Time	m		Time	m
1 Sa	0259	0.5	**16** Su	0334	0.7
	0928	3.5		1000	3.2
	1530	0.5		1604	0.8
	2148	3.3		2223	3.1
2 Su	0344	0.5	**17** Mo	0412	0.8
	1014	3.5		1037	3.1
	1617	0.5		1641	0.8
	2235	3.4		2259	3.1
3 Mo	0431	0.5	**18** Tu	0450	0.9
	1102	3.5		1114	3.1
	1705	0.5		1717	0.9
	2323	3.3		2336	3.0
4 Tu	0521	0.6	**19** We	0530	1.0
	1151	3.4		1151	3.0
	1755	0.5		1755	0.9
5 We	0013	3.3	**20** Th	0016	2.9
	0614	0.7		0613	1.1
	1242	3.3		1231	2.9
	1846	0.6		1837	1.0
6 Th	0108	3.2	**21** Fr	0101	2.8
	0712	0.8		0702	1.2
	1336	3.2		1315	2.8
	1942	0.7		1923	1.1
7 Fr	0208	3.1	**22** Sa	0153	2.7
	0815	1.0		0757	1.3
	1435	3.1		1404	2.8
	2042	0.8		2017	1.1
8 Sa	0314	3.0	**23** Su	0253	2.7
	0921	1.0		0856	1.3
	1537	3.0		1459	2.7
	2147	0.8		2119	1.2
9 Su	0421	3.0	**24** Mo	0357	2.8
	1026	1.0		0956	1.2
	1642	2.9		1602	2.7
	2251	0.8		2222	1.1
10 Mo	0523	3.1	**25** Tu	0457	2.9
	1127	1.0		1054	1.1
	1745	3.0		1705	2.8
	2351	0.8		2321	1.0
11 Tu	0620	3.1	**26** We	0550	3.0
	1223	0.9		1148	1.0
	1844	3.0		1805	2.9
12 We	0044	0.8	**27** Th	0014	0.8
	0711	3.2		0641	3.2
	1315	0.9		1239	0.8
	1936	3.1		1900	3.1
13 Th ❍	0132	0.7	**28** Fr ●	0103	0.7
	0758	3.2		0729	3.3
	1402	0.8		1329	0.7
	2023	3.1		1951	3.3
14 Fr	0216	0.7			
	0841	3.3			
	1446	0.8			
	2106	3.2			
15 Sa	0256	0.7			
	0922	3.2			
	1526	0.8			
	2145	3.1			

Remember to add 1 hour for Daylight Saving Time.

Standard Ports

Auckland

Lat. 36° 51´S., Long. 174° 46´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0150	0.5	**16** Su	0228	0.8
	0816	3.5		0851	3.2
	1418	0.5		1454	0.8
	2039	3.4		2116	3.2
2 Su	0237	0.4	**17** Mo	0305	0.8
	0904	3.6		0928	3.2
	1506	0.4		1530	0.8
	2127	3.5		2152	3.1
3 Mo	0324	0.4	**18** Tu	0341	0.9
	0952	3.6		1004	3.1
	1554	0.4		1605	0.8
	2215	3.5		2227	3.1
4 Tu	0412	0.5	**19** We	0418	0.9
	1041	3.5		1039	3.1
	1643	0.4		1641	0.9
	2304	3.5		2303	3.0
5 We	0503	0.6	**20** Th	0457	1.0
	1131	3.4		1117	3.0
	1732	0.5		1718	0.9
	2355	3.4		2342	3.0
6 Th	0557	0.7	**21** Fr	0540	1.1
	1223	3.3		1157	2.9
	1824	0.6		1758	1.0
7 Fr	0050	3.2	**22** Sa	0026	2.9
	0656	0.9		0628	1.2
	1318	3.2		1240	2.8
	1921	0.8		1844	1.1
8 Sa	0151	3.1	**23** Su	0117	2.8
	0800	1.0		0722	1.2
	1418	3.0		1329	2.8
	2023	0.9		1937	1.1
9 Su	0257	3.0	**24** Mo	0215	2.8
	0907	1.1		0821	1.2
	1522	2.9		1426	2.8
	2130	1.0		2040	1.2
10 Mo	0403	3.0	**25** Tu	0318	2.8
	1012	1.1		0921	1.2
	1627	2.9		1529	2.8
	2235	1.0		2146	1.1
11 Tu	0504	3.0	**26** We	0418	2.9
	1112	1.1		1020	1.1
	1729	2.9		1634	2.9
	2334	0.9		2248	1.0
12 We	0558	3.1	**27** Th	0515	3.1
	1205	1.0		1116	0.9
	1826	3.0		1736	3.0
				2343	0.8
13 Th	0025	0.9	**28** Fr	0607	3.3
	0647	3.1		1210	0.7
	1254	0.9		1833	3.2
	1915	3.0			
14 Fr ❍	0110	0.8	**29** Sa ●	0035	0.6
	0732	3.2		0658	3.4
	1337	0.9		1302	0.6
	1959	3.1		1925	3.4
15 Sa	0151	0.8	**30** Su	0125	0.5
	0813	3.2		0748	3.5
	1417	0.8		1352	0.4
	2039	3.2		2016	3.5
			31 Mo	0214	0.4
				0838	3.6
				1442	0.3
				2105	3.6

April

	Time	m		Time	m
1 Tu	0303	0.4	**16** We	0312	0.9
	0929	3.6		0932	3.0
	1531	0.3		1533	0.8
	2154	3.6		2158	3.1
2 We	0353	0.5	**17** Th	0350	1.0
	1020	3.5		1009	3.0
	1620	0.4		1609	0.9
	2245	3.5		2235	3.1
3 Th	0446	0.6	**18** Fr	0430	1.0
	1112	3.4		1048	3.0
	1711	0.5		1647	0.9
	2337	3.4		2315	3.0
4 Fr	0542	0.8	**19** Sa	0514	1.1
	1206	3.3		1130	2.9
	1804	0.7		1728	1.0
5 Sa	0033	3.3	**20** Su	0000	3.0
	0642	0.9		0602	1.1
	1302	3.1		1215	2.9
	1901	0.8		1813	1.0
6 Su	0134	3.1	**21** Mo	0050	2.9
	0746	1.0		0655	1.2
	1401	3.0		1304	2.8
	2004	1.0		1907	1.1
7 Mo	0237	3.0	**22** Tu	0145	2.9
	0851	1.1		0752	1.1
	1504	2.9		1359	2.8
	2110	1.0		2008	1.1
8 Tu	0340	3.0	**23** We	0244	2.9
	0952	1.1		0850	1.1
	1607	2.9		1501	2.9
	2214	1.1		2114	1.0
9 We	0438	3.0	**24** Th	0343	3.0
	1049	1.1		0948	1.0
	1707	2.9		1605	3.0
	2311	1.0		2216	0.9
10 Th	0530	3.0	**25** Fr	0439	3.2
	1139	1.0		1045	0.8
	1801	2.9		1707	3.1
	2359	1.0		2314	0.8
11 Fr	0617	3.1	**26** Sa	0534	3.3
	1225	1.0		1140	0.6
	1848	3.0		1806	3.3
12 Sa	0042	0.9	**27** Su	0007	0.7
	0700	3.1		0628	3.4
	1307	0.9		1234	0.5
	1931	3.1		1900	3.4
13 Su ❍	0122	0.9	**28** Mo ●	0100	0.5
	0740	3.1		0721	3.5
	1345	0.9		1326	0.4
	2010	3.1		1953	3.6
14 Mo	0159	0.9	**29** Tu	0151	0.5
	0818	3.1		0814	3.5
	1422	0.8		1418	0.3
	2046	3.2		2044	3.6
15 Tu	0235	0.9	**30** We	0243	0.5
	0855	3.1		0907	3.5
	1457	0.8		1509	0.3
	2122	3.1		2135	3.6

May

	Time	m		Time	m
1 Th	0335	0.6	**16** Fr	0326	1.0
	1001	3.4		0944	3.0
	1559	0.4		1542	0.8
	2227	3.5		2212	3.1
2 Fr	0430	0.7	**17** Sa	0408	1.0
	1054	3.3		1025	3.0
	1650	0.5		1622	0.9
	2320	3.4		2253	3.1
3 Sa	0527	0.8	**18** Su	0453	1.0
	1148	3.2		1109	2.9
	1743	0.7		1704	0.9
				2338	3.0
4 Su	0015	3.3	**19** Mo	0541	1.0
	0627	0.9		1154	2.9
	1243	3.1		1750	1.0
	1840	0.9			
5 Mo	0113	3.1	**20** Tu	0027	3.0
	0727	1.0		0632	1.0
	1341	3.0		1243	2.9
	1941	1.0		1842	1.0
6 Tu	0212	3.0	**21** We	0119	3.0
	0827	1.0		0726	1.0
	1440	2.9		1337	2.9
	2044	1.1		1941	1.0
7 We	0309	3.0	**22** Th	0214	3.1
	0924	1.1		0822	0.9
	1539	2.8		1436	2.9
	2145	1.1		2044	1.0
8 Th	0403	3.0	**23** Fr	0311	3.1
	1016	1.0		0919	0.8
	1637	2.9		1538	3.0
	2239	1.1		2147	0.9
9 Fr	0453	3.0	**24** Sa	0408	3.2
	1105	1.0		1016	0.7
	1729	2.9		1641	3.1
	2327	1.1		2246	0.8
10 Sa	0540	3.0	**25** Su	0504	3.3
	1150	1.0		1113	0.6
	1816	3.0		1741	3.3
				2343	0.7
11 Su	0010	1.0	**26** Mo	0601	3.3
	0624	3.0		1209	0.5
	1232	0.9		1838	3.4
	1859	3.0			
12 Mo	0050	1.0	**27** Tu ●	0037	0.6
	0705	3.0		0658	3.4
	1312	0.9		1303	0.4
	1939	3.1		1932	3.5
13 Tu ❍	0129	1.0	**28** We	0131	0.6
	0745	3.0		0754	3.4
	1350	0.9		1356	0.4
	2017	3.1		2025	3.6
14 We	0207	1.0	**29** Th	0225	0.6
	0825	3.0		0849	3.4
	1427	0.8		1448	0.4
	2055	3.1		2117	3.6
15 Th	0246	1.0	**30** Fr	0319	0.6
	0904	3.0		0943	3.3
	1504	0.8		1539	0.4
	2132	3.1		2208	3.5
			31 Sa	0414	0.7
				1036	3.3
				1630	0.6
				2300	3.4

June

	Time	m		Time	m
1 Su	0509	0.8	**16** Mo	0434	0.9
	1128	3.2		1049	3.0
	1721	0.7		1644	0.8
	2353	3.3		2318	3.2
2 Mo	0605	0.9	**17** Tu	0521	0.9
	1220	3.1		1135	3.0
	1814	0.9		1730	0.8
3 Tu	0046	3.2	**18** We	0005	3.2
	0659	0.9		0610	0.8
	1313	2.9		1223	3.0
	1910	1.0		1821	0.9
4 We	0139	3.0	**19** Th	0055	3.1
	0753	1.0		0701	0.8
	1407	2.9		1315	3.0
	2008	1.1		1918	0.9
5 Th	0231	3.0	**20** Fr	0148	3.1
	0845	1.0		0755	0.8
	1503	2.8		1413	3.0
	2106	1.1		2019	0.9
6 Fr	0322	2.9	**21** Sa	0243	3.2
	0935	1.0		0852	0.7
	1558	2.8		1515	3.0
	2159	1.1		2122	0.9
7 Sa	0411	2.9	**22** Su	0341	3.2
	1024	1.0		0951	0.7
	1651	2.8		1619	3.1
	2249	1.1		2223	0.8
8 Su	0458	2.9	**23** Mo	0440	3.2
	1111	1.0		1050	0.6
	1741	2.9		1721	3.2
	2334	1.1		2322	0.8
9 Mo	0544	2.9	**24** Tu	0540	3.2
	1156	1.0		1149	0.5
	1826	3.0		1819	3.3
10 Tu	0017	1.1	**25** We ●	0019	0.7
	0629	2.9		0639	3.2
	1239	0.9		1245	0.5
	1909	3.0		1915	3.4
11 We ❍	0059	1.0	**26** Th	0115	0.7
	0714	2.9		0737	3.3
	1320	0.9		1339	0.4
	1949	3.1		2008	3.5
12 Th	0140	1.0	**27** Fr	0209	0.6
	0757	2.9		0833	3.3
	1400	0.8		1430	0.4
	2029	3.1		2059	3.5
13 Fr	0222	1.0	**28** Sa	0303	0.7
	0840	3.0		0925	3.3
	1440	0.8		1519	0.5
	2109	3.1		2149	3.4
14 Sa	0304	0.9	**29** Su	0355	0.7
	0922	3.0		1016	3.2
	1519	0.8		1608	0.6
	2150	3.2		2238	3.3
15 Su	0348	0.9	**30** Mo	0446	0.7
	1005	3.0		1104	3.1
	1600	0.8		1655	0.7
	2233	3.2		2326	3.2

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Bluff

Lat. 46° 36´S., Long. 168° 21´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0326	0.8	**16** Tu	0319	1.2
	0941	2.7		0931	2.3
	1558	0.8		1545	1.2
	2212	2.6		2200	2.3
2 Tu	0427	0.8	**17** We	0415	1.1
	1041	2.7		1026	2.4
	1658	0.9		1642	1.1
	2309	2.6		2254	2.4
3 We	0524	0.8	**18** Th	0508	1.0
	1138	2.7		1120	2.5
	1754	0.8		1736	1.1
				2344	2.5
4 Th	0003	2.7	**19** Fr	0558	0.9
	0618	0.7		1211	2.6
	1233	2.7		1826	1.0
	1847	0.8			
5 Fr	0054	2.7	**20** Sa	0032	2.6
	0709	0.7		0647	0.8
	1324	2.7		1300	2.6
	1937	0.8		1913	0.9
6 Sa ●	0141	2.7	**21** Su ❍	0117	2.7
	0758	0.7		0734	0.7
	1412	2.7		1347	2.7
	2023	0.8		1959	0.8
7 Su	0227	2.7	**22** Mo	0203	2.8
	0845	0.7		0821	0.6
	1458	2.7		1434	2.8
	2107	0.9		2045	0.7
8 Mo	0311	2.7	**23** Tu	0249	2.8
	0929	0.8		0909	0.5
	1542	2.6		1521	2.8
	2150	0.9		2131	0.7
9 Tu	0354	2.6	**24** We	0337	2.9
	1013	0.8		0957	0.5
	1623	2.6		1609	2.8
	2231	1.0		2219	0.7
10 We	0436	2.6	**25** Th	0426	2.8
	1055	0.9		1047	0.5
	1704	2.5		1658	2.8
	2312	1.0		2309	0.7
11 Th	0519	2.5	**26** Fr	0519	2.8
	1137	1.0		1138	0.6
	1745	2.5		1750	2.8
	2354	1.1			
12 Fr	0602	2.4	**27** Sa	0002	0.7
	1219	1.0		0615	2.8
	1828	2.4		1233	0.7
				1845	2.7
13 Sa	0038	1.1	**28** Su	0059	0.8
	0649	2.4		0715	2.7
	1304	1.1		1332	0.8
	1915	2.4		1946	2.6
14 Su	0127	1.2	**29** Mo	0201	0.9
	0740	2.3		0820	2.6
	1352	1.2		1435	0.9
	2006	2.3		2051	2.5
15 Mo	0221	1.2	**30** Tu	0307	0.9
	0834	2.3		0926	2.6
	1447	1.2		1541	1.0
	2103	2.3		2157	2.5
			31 We	0411	0.9
				1030	2.6
				1644	1.0
				2258	2.5

August

	Time	m		Time	m
1 Th	0511	0.8	**16** Fr	0437	1.0
	1129	2.6		1052	2.5
	1742	0.9		1707	1.1
	2352	2.6		2317	2.5
2 Fr	0606	0.8	**17** Sa	0532	0.9
	1223	2.6		1147	2.6
	1834	0.9		1800	0.9
3 Sa	0041	2.6	**18** Su	0007	2.6
	0656	0.8		0623	0.7
	1311	2.6		1237	2.7
	1920	0.9		1849	0.8
4 Su ●	0126	2.7	**19** Mo	0055	2.8
	0741	0.7		0712	0.6
	1355	2.6		1325	2.8
	2003	0.9		1936	0.7
5 Mo	0207	2.7	**20** Tu ❍	0141	2.9
	0824	0.7		0800	0.5
	1435	2.6		1412	2.9
	2043	0.9		2022	0.6
6 Tu	0246	2.7	**21** We	0228	3.0
	0904	0.8		0847	0.4
	1513	2.6		1458	2.9
	2120	0.9		2108	0.5
7 We	0324	2.6	**22** Th	0315	3.0
	0942	0.8		0935	0.4
	1549	2.6		1545	2.9
	2157	0.9		2156	0.5
8 Th	0400	2.6	**23** Fr	0405	3.0
	1019	0.9		1025	0.5
	1624	2.6		1634	2.9
	2233	1.0		2246	0.6
9 Fr	0437	2.5	**24** Sa	0457	2.9
	1056	0.9		1116	0.6
	1700	2.5		1725	2.8
	2310	1.0		2339	0.7
10 Sa	0516	2.5	**25** Su	0553	2.8
	1133	1.0		1211	0.7
	1738	2.4		1821	2.7
	2350	1.1			
11 Su	0558	2.4	**26** Mo	0037	0.8
	1214	1.1		0655	2.7
	1821	2.4		1310	0.9
				1924	2.5
12 Mo	0036	1.1	**27** Tu	0141	0.9
	0647	2.3		0802	2.6
	1301	1.2		1416	1.0
	1912	2.3		2034	2.5
13 Tu	0129	1.2	**28** We	0250	0.9
	0743	2.3		0913	2.5
	1357	1.2		1526	1.1
	2012	2.3		2144	2.5
14 We	0231	1.2	**29** Th	0358	0.9
	0847	2.3		1020	2.5
	1501	1.2		1632	1.0
	2119	2.3		2247	2.5
15 Th	0336	1.1	**30** Fr	0459	0.9
	0952	2.4		1119	2.5
	1608	1.2		1729	1.0
	2222	2.4		2340	2.6
			31 Sa	0551	0.8
				1209	2.6
				1817	0.9

September

	Time	m		Time	m
1 Su	0025	2.6	**16** Mo	0558	0.7
	0638	0.8		1212	2.8
	1253	2.6		1823	0.7
	1900	0.9			
2 Mo	0106	2.7	**17** Tu	0030	2.8
	0720	0.8		0648	0.5
	1331	2.6		1300	2.9
	1939	0.9		1911	0.6
3 Tu ●	0143	2.7	**18** We ❍	0117	3.0
	0759	0.8		0736	0.4
	1407	2.6		1347	3.0
	2015	0.8		1958	0.5
4 We	0218	2.7	**19** Th	0205	3.0
	0835	0.8		0824	0.4
	1441	2.6		1433	3.0
	2049	0.8		2045	0.4
5 Th	0252	2.7	**20** Fr	0253	3.1
	0910	0.8		0913	0.4
	1514	2.6		1520	3.0
	2123	0.9		2133	0.5
6 Fr	0326	2.6	**21** Sa	0343	3.0
	0944	0.9		1003	0.5
	1546	2.6		1609	2.9
	2157	0.9		2223	0.5
7 Sa	0401	2.6	**22** Su	0436	2.9
	1019	0.9		1054	0.6
	1621	2.5		1701	2.8
	2233	1.0		2317	0.7
8 Su	0438	2.5	**23** Mo	0533	2.8
	1056	1.0		1149	0.8
	1658	2.5		1759	2.6
	2312	1.0			
9 Mo	0520	2.4	**24** Tu	0016	0.8
	1137	1.1		0636	2.6
	1740	2.4		1250	0.9
	2358	1.1		1904	2.5
10 Tu	0608	2.4	**25** We	0122	0.9
	1224	1.2		0746	2.5
	1830	2.3		1357	1.1
				2017	2.4
11 We	0051	1.2	**26** Th	0232	1.0
	0705	2.3		0858	2.5
	1320	1.2		1508	1.1
	1932	2.3		2129	2.4
12 Th	0155	1.2	**27** Fr	0340	1.0
	0812	2.3		1004	2.5
	1427	1.2		1613	1.1
	2043	2.3		2229	2.5
13 Fr	0303	1.1	**28** Sa	0439	0.9
	0921	2.4		1059	2.5
	1536	1.2		1708	1.0
	2151	2.4		2319	2.5
14 Sa	0407	1.0	**29** Su	0530	0.9
	1025	2.5		1146	2.5
	1639	1.1		1753	1.0
	2249	2.5			
15 Su	0505	0.9	**30** Mo	0002	2.6
	1121	2.6		0614	0.9
	1733	0.9		1226	2.6
	2341	2.7		1834	0.9

October

	Time	m		Time	m
1 Tu	0040	2.6	**16** We	0005	2.9
	0653	0.8		0623	0.5
	1302	2.6		1234	2.9
	1910	0.9		1846	0.5
2 We	0115	2.7	**17** Th ❍	0054	3.0
	0730	0.8		0713	0.5
	1336	2.6		1322	3.0
	1945	0.8		1934	0.5
3 Th ●	0149	2.7	**18** Fr	0143	3.0
	0805	0.8		0803	0.4
	1409	2.6		1409	3.0
	2018	0.8		2023	0.4
4 Fr	0222	2.7	**19** Sa	0233	3.0
	0839	0.8		0852	0.5
	1441	2.6		1458	2.9
	2051	0.8		2112	0.5
5 Sa	0255	2.6	**20** Su	0324	3.0
	0913	0.9		0942	0.6
	1514	2.6		1547	2.8
	2126	0.9		2204	0.6
6 Su	0331	2.6	**21** Mo	0418	2.8
	0949	0.9		1034	0.7
	1549	2.5		1640	2.7
	2203	0.9		2258	0.7
7 Mo	0410	2.5	**22** Tu	0515	2.7
	1027	1.0		1129	0.9
	1627	2.5		1738	2.6
	2244	1.0		2356	0.8
8 Tu	0453	2.5	**23** We	0617	2.6
	1109	1.1		1228	1.0
	1710	2.4		1843	2.5
	2331	1.1			
9 We	0542	2.4	**24** Th	0100	0.9
	1158	1.1		0724	2.5
	1802	2.3		1333	1.1
				1954	2.4
10 Th	0025	1.1	**25** Fr	0207	1.0
	0639	2.4		0832	2.4
	1254	1.2		1440	1.1
	1903	2.3		2101	2.4
11 Fr	0127	1.1	**26** Sa	0312	1.0
	0744	2.4		0934	2.4
	1359	1.2		1543	1.1
	2013	2.3		2159	2.5
12 Sa	0234	1.1	**27** Su	0409	1.0
	0852	2.4		1026	2.5
	1506	1.1		1636	1.1
	2120	2.4		2248	2.5
13 Su	0338	0.9	**28** Mo	0459	1.0
	0956	2.5		1112	2.5
	1609	1.0		1721	1.0
	2220	2.6		2330	2.5
14 Mo	0437	0.8	**29** Tu	0542	0.9
	1052	2.6		1152	2.5
	1705	0.8		1802	0.9
	2314	2.7			
15 Tu	0532	0.7	**30** We	0008	2.6
	1144	2.8		0622	0.9
	1756	0.7		1229	2.6
				1839	0.9
			31 Th	0044	2.6
				0659	0.9
				1304	2.6
				1914	0.9

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Bluff

Lat. 46° 36´S., Long. 168° 21´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0119	2.6	**16** Sa ○	0125	3.0
	0735	0.9		0743	0.6
	1338	2.6		1349	2.9
	1949	0.8		2004	0.5
2 Sa ●	0154	2.6	**17** Su	0216	2.9
	0811	0.9		0834	0.6
	1412	2.6		1438	2.9
	2024	0.8		2055	0.5
3 Su	0230	2.6	**18** Mo	0308	2.9
	0847	0.9		0924	0.7
	1448	2.6		1529	2.8
	2101	0.9		2146	0.6
4 Mo	0309	2.6	**19** Tu	0401	2.8
	0925	0.9		1015	0.8
	1525	2.5		1621	2.7
	2141	0.9		2239	0.7
5 Tu	0350	2.6	**20** We	0456	2.7
	1006	1.0		1107	0.9
	1606	2.5		1716	2.6
	2225	0.9		2335	0.8
6 We	0435	2.5	**21** Th	0553	2.6
	1050	1.0		1202	1.0
	1651	2.4		1816	2.5
	2313	1.0			
7 Th	0525	2.5	**22** Fr	0033	0.9
	1138	1.1		0652	2.5
	1742	2.4		1300	1.1
				1918	2.4
8 Fr	0006	1.0	**23** Sa	0132	1.0
	0620	2.4		0752	2.4
	1233	1.1		1401	1.1
	1841	2.4		2020	2.4
9 Sa	0104	1.0	**24** Su	0232	1.1
	0720	2.4		0849	2.4
	1333	1.1		1500	1.1
	1946	2.4		2116	2.4
10 Su	0206	1.0	**25** Mo	0327	1.1
	0823	2.5		0942	2.4
	1436	1.0		1554	1.1
	2051	2.5		2206	2.4
11 Mo	0309	0.9	**26** Tu	0418	1.1
	0925	2.6		1029	2.4
	1539	0.9		1642	1.1
	2151	2.6		2251	2.5
12 Tu	0409	0.8	**27** We	0504	1.0
	1023	2.6		1113	2.5
	1637	0.8		1725	1.0
	2248	2.8		2332	2.5
13 We	0506	0.7	**28** Th	0547	1.0
	1118	2.7		1154	2.5
	1731	0.7		1805	1.0
	2341	2.9			
14 Th	0600	0.6	**29** Fr	0012	2.5
	1209	2.8		0628	1.0
	1823	0.6		1233	2.5
				1844	0.9
15 Fr	0033	2.9	**30** Sa	0051	2.6
	0652	0.6		0707	0.9
	1259	2.9		1310	2.6
	1914	0.5		1922	0.9

December

	Time	m		Time	m
1 Su ●	0130	2.6	**16** Mo	0203	2.8
	0746	0.9		0818	0.7
	1348	2.6		1423	2.8
	2001	0.8		2040	0.6
2 Mo	0210	2.6	**17** Tu	0254	2.8
	0825	0.9		0907	0.7
	1427	2.6		1512	2.7
	2041	0.8		2130	0.6
3 Tu	0252	2.6	**18** We	0345	2.7
	0906	0.9		0955	0.8
	1507	2.6		1601	2.7
	2124	0.8		2219	0.7
4 We	0335	2.6	**19** Th	0434	2.7
	0948	0.9		1043	0.9
	1549	2.6		1651	2.6
	2208	0.8		2309	0.8
5 Th	0420	2.6	**20** Fr	0522	2.6
	1033	0.9		1131	1.0
	1635	2.5		1742	2.5
	2256	0.8		2359	0.9
6 Fr	0508	2.6	**21** Sa	0611	2.5
	1120	1.0		1220	1.0
	1725	2.5		1834	2.5
	2347	0.9			
7 Sa	0600	2.6	**22** Su	0049	1.0
	1212	1.0		0701	2.4
	1820	2.5		1311	1.1
				1928	2.4
8 Su	0042	0.9	**23** Mo	0141	1.1
	0655	2.6		0753	2.4
	1308	1.0		1406	1.1
	1920	2.6		2022	2.4
9 Mo	0140	0.9	**24** Tu	0234	1.1
	0754	2.6		0846	2.3
	1408	0.9		1501	1.2
	2022	2.6		2115	2.4
10 Tu	0241	0.9	**25** We	0327	1.2
	0855	2.6		0939	2.3
	1510	0.9		1555	1.1
	2124	2.7		2206	2.4
11 We	0343	0.8	**26** Th	0420	1.2
	0956	2.6		1030	2.4
	1611	0.8		1644	1.1
	2224	2.7		2254	2.4
12 Th	0443	0.8	**27** Fr	0510	1.1
	1054	2.7		1118	2.4
	1709	0.7		1730	1.0
	2322	2.8		2340	2.5
13 Fr	0541	0.7	**28** Sa	0556	1.1
	1149	2.7		1202	2.5
	1804	0.6		1814	1.0
14 Sa	0017	2.8	**29** Su	0025	2.5
	0635	0.7		0640	1.0
	1242	2.8		1245	2.5
	1857	0.6		1857	0.9
15 Su ○	0111	2.8	**30** Mo	0109	2.6
	0728	0.7		0723	0.9
	1333	2.8		1326	2.6
	1949	0.6		1939	0.8
			31 Tu ●	0152	2.6
				0805	0.9
				1407	2.6
				2022	0.8

January

	Time	m		Time	m
1 We	0235	2.7	**16** Th	0324	2.7
	0846	0.8		0932	0.8
	1449	2.7		1538	2.7
	2106	0.7		2155	0.7
2 Th	0318	2.7	**17** Fr	0406	2.7
	0929	0.8		1014	0.8
	1532	2.7		1621	2.6
	2151	0.7		2238	0.8
3 Fr	0403	2.7	**18** Sa	0447	2.6
	1013	0.8		1056	0.9
	1618	2.7		1703	2.6
	2238	0.7		2320	0.9
4 Sa	0449	2.7	**19** Su	0527	2.5
	1100	0.8		1137	1.0
	1706	2.7		1747	2.5
	2327	0.7			
5 Su	0538	2.7	**20** Mo	0002	1.0
	1149	0.8		0608	2.5
	1759	2.7		1220	1.1
				1832	2.4
6 Mo	0019	0.8	**21** Tu	0046	1.1
	0630	2.6		0653	2.4
	1243	0.9		1308	1.1
	1856	2.7		1922	2.4
7 Tu	0115	0.8	**22** We	0134	1.2
	0727	2.6		0744	2.3
	1342	0.9		1401	1.2
	1958	2.6		2016	2.3
8 We	0216	0.9	**23** Th	0228	1.2
	0829	2.6		0842	2.3
	1446	0.9		1500	1.2
	2102	2.6		2115	2.3
9 Th	0320	0.9	**24** Fr	0329	1.2
	0933	2.6		0943	2.3
	1550	0.8		1559	1.2
	2207	2.6		2214	2.3
10 Fr	0425	0.9	**25** Sa	0430	1.2
	1036	2.6		1041	2.3
	1652	0.8		1654	1.1
	2309	2.7		2309	2.4
11 Sa	0526	0.9	**26** Su	0524	1.1
	1135	2.6		1132	2.4
	1751	0.7		1745	1.0
				2359	2.5
12 Su	0007	2.7	**27** Mo	0613	1.0
	0622	0.8		1219	2.5
	1230	2.7		1831	0.9
	1845	0.7			
13 Mo	0101	2.7	**28** Tu	0046	2.6
	0715	0.8		0658	0.9
	1321	2.7		1302	2.6
	1936	0.6		1916	0.8
14 Tu ○	0152	2.8	**29** We	0130	2.7
	0803	0.8		0741	0.8
	1408	2.7		1345	2.7
	2024	0.6		2001	0.7
15 We	0239	2.8	**30** Th ●	0214	2.8
	0849	0.8		0824	0.7
	1454	2.7		1428	2.8
	2111	0.7		2045	0.6
			31 Fr	0257	2.8
				0907	0.7
				1512	2.8
				2131	0.6

February

	Time	m		Time	m
1 Sa	0341	2.9	**16** Su	0409	2.6
	0951	0.6		1020	0.9
	1558	2.9		1625	2.6
	2217	0.6		2242	0.9
2 Su	0426	2.8	**17** Mo	0444	2.6
	1038	0.7		1056	0.9
	1646	2.8		1703	2.5
	2306	0.6		2319	1.0
3 Mo	0514	2.8	**18** Tu	0521	2.5
	1127	0.7		1135	1.0
	1738	2.8		1744	2.4
	2357	0.7		2358	1.1
4 Tu	0606	2.7	**19** We	0602	2.4
	1221	0.8		1218	1.1
	1835	2.7		1830	2.4
5 We	0053	0.8	**20** Th	0042	1.2
	0703	2.6		0649	2.3
	1321	0.8		1308	1.2
	1938	2.6		1924	2.3
6 Th	0155	0.9	**21** Fr	0136	1.2
	0808	2.5		0748	2.3
	1426	0.9		1408	1.2
	2046	2.6		2027	2.3
7 Fr	0303	1.0	**22** Sa	0240	1.3
	0917	2.5		0856	2.2
	1535	0.9		1514	1.2
	2156	2.6		2134	2.3
8 Sa	0411	1.0	**23** Su	0348	1.3
	1025	2.5		1003	2.3
	1640	0.9		1617	1.1
	2301	2.6		2236	2.4
9 Su	0515	1.0	**24** Mo	0450	1.2
	1126	2.6		1100	2.4
	1739	0.8		1713	1.0
	2359	2.6		2330	2.5
10 Mo	0611	0.9	**25** Tu	0543	1.0
	1220	2.6		1149	2.5
	1833	0.7		1803	0.8
11 Tu	0051	2.7	**26** We	0018	2.6
	0700	0.8		0630	0.9
	1307	2.7		1235	2.7
	1921	0.7		1850	0.7
12 We	0137	2.7	**27** Th	0104	2.8
	0745	0.8		0715	0.7
	1351	2.7		1319	2.8
	2006	0.7		1936	0.6
13 Th ○	0218	2.7	**28** Fr ●	0148	2.9
	0826	0.8		0759	0.6
	1432	2.7		1404	2.9
	2048	0.7		2022	0.5
14 Fr	0257	2.7			
	0905	0.8			
	1511	2.7			
	2127	0.8			
15 Sa	0334	2.7			
	0943	0.8			
	1548	2.7			
	2205	0.8			

Remember to add 1 hour for Daylight Saving Time.

Bluff

Lat. 46° 36´S., Long. 168° 21´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0232	2.9	**16** Su	0300	2.7
	0843	0.5		0911	0.8
	1449	3.0		1515	2.6
	2108	0.5		2132	0.9
2 Su	0317	2.9	**17** Mo	0333	2.6
	0928	0.5		0945	0.9
	1536	3.0		1550	2.6
	2156	0.5		2206	0.9
3 Mo	0403	2.9	**18** Tu	0407	2.6
	1016	0.5		1021	0.9
	1626	2.9		1627	2.5
	2245	0.6		2242	1.0
4 Tu	0452	2.8	**19** We	0442	2.5
	1107	0.6		1059	1.0
	1719	2.8		1707	2.5
	2337	0.7		2321	1.1
5 We	0544	2.7	**20** Th	0522	2.4
	1202	0.7		1141	1.1
	1818	2.7		1752	2.4
6 Th	0034	0.8	**21** Fr	0005	1.2
	0644	2.6		0609	2.3
	1303	0.8		1231	1.1
	1924	2.6		1846	2.3
7 Fr	0138	1.0	**22** Sa	0058	1.2
	0752	2.5		0707	2.3
	1411	0.9		1330	1.2
	2036	2.5		1948	2.3
8 Sa	0249	1.1	**23** Su	0200	1.3
	0906	2.5		0815	2.3
	1522	0.9		1435	1.2
	2147	2.5		2056	2.3
9 Su	0359	1.1	**24** Mo	0309	1.2
	1016	2.5		0924	2.3
	1628	0.9		1540	1.1
	2252	2.5		2200	2.4
10 Mo	0502	1.0	**25** Tu	0413	1.1
	1115	2.5		1024	2.4
	1726	0.8		1639	0.9
	2347	2.6		2256	2.5
11 Tu	0555	0.9	**26** We	0509	1.0
	1205	2.6		1116	2.6
	1816	0.8		1732	0.8
				2347	2.7
12 We	0033	2.6	**27** Th	0559	0.8
	0641	0.9		1205	2.7
	1248	2.7		1822	0.6
	1901	0.8			
13 Th	0114	2.7	**28** Fr	0034	2.8
	0722	0.8		0646	0.7
	1328	2.7		1252	2.9
	1942	0.7		1910	0.5
14 Fr ☽	0152	2.7	**29** Sa ●	0120	2.9
	0800	0.8		0732	0.5
	1405	2.7		1339	3.0
	2020	0.8		1958	0.5
15 Sa	0227	2.7	**30** Su	0206	3.0
	0836	0.8		0819	0.5
	1440	2.7		1426	3.0
	2057	0.8		2046	0.5
			31 Mo	0253	3.0
				0906	0.5
				1516	3.0
				2135	0.5

April

	Time	m		Time	m
1 Tu	0341	2.9	**16** We	0336	2.5
	0956	0.5		0952	0.9
	1608	2.9		1559	2.5
	2225	0.6		2213	1.0
2 We	0431	2.8	**17** Th	0413	2.5
	1048	0.6		1031	1.0
	1703	2.8		1640	2.5
	2319	0.7		2254	1.1
3 Th	0526	2.7	**18** Fr	0454	2.4
	1145	0.7		1115	1.0
	1804	2.7		1727	2.4
				2339	1.1
4 Fr	0018	0.9	**19** Sa	0542	2.3
	0629	2.6		1205	1.1
	1248	0.8		1819	2.4
	1912	2.6			
5 Sa	0122	1.0	**20** Su	0031	1.2
	0739	2.5		0638	2.3
	1357	0.9		1301	1.1
	2024	2.5		1918	2.4
6 Su	0233	1.1	**21** Mo	0130	1.2
	0853	2.5		0741	2.3
	1506	0.9		1402	1.1
	2133	2.5		2022	2.4
7 Mo	0341	1.1	**22** Tu	0234	1.2
	0959	2.5		0847	2.4
	1609	0.9		1505	1.0
	2232	2.5		2123	2.5
8 Tu	0441	1.0	**23** We	0336	1.1
	1054	2.5		0947	2.5
	1704	0.9		1604	0.9
	2323	2.6		2221	2.6
9 We	0531	1.0	**24** Th	0434	0.9
	1141	2.6		1043	2.6
	1752	0.8		1700	0.8
				2314	2.7
10 Th	0006	2.6	**25** Fr	0527	0.8
	0614	0.9		1134	2.8
	1222	2.6		1753	0.6
	1835	0.8			
11 Fr	0045	2.6	**26** Sa	0004	2.8
	0654	0.8		0617	0.6
	1300	2.6		1225	2.9
	1914	0.8		1844	0.6
12 Sa	0120	2.6	**27** Su	0053	2.9
	0730	0.8		0707	0.5
	1335	2.7		1315	3.0
	1951	0.8		1934	0.5
13 Su ☽	0155	2.6	**28** Mo ●	0141	2.9
	0806	0.8		0756	0.5
	1410	2.6		1406	3.0
	2026	0.9		2025	0.5
14 Mo	0228	2.6	**29** Tu	0230	2.9
	0840	0.8		0846	0.5
	1445	2.6		1458	3.0
	2101	0.9		2116	0.6
15 Tu	0301	2.6	**30** We	0321	2.9
	0915	0.9		0938	0.5
	1521	2.6		1552	2.9
	2136	0.9		2208	0.7

May

	Time	m		Time	m
1 Th	0414	2.8	**16** Fr	0351	2.5
	1032	0.6		1010	0.9
	1650	2.8		1621	2.5
	2302	0.8		2233	1.0
2 Fr	0511	2.7	**17** Sa	0434	2.4
	1130	0.7		1055	1.0
	1751	2.7		1707	2.5
				2318	1.1
3 Sa	0000	0.9	**18** Su	0521	2.4
	0613	2.6		1143	1.0
	1232	0.8		1757	2.5
	1855	2.6			
4 Su	0103	1.0	**19** Mo	0008	1.1
	0721	2.5		0614	2.4
	1336	0.9		1236	1.0
	2002	2.5		1851	2.5
5 Mo	0209	1.1	**20** Tu	0102	1.1
	0829	2.5		0712	2.4
	1441	0.9		1333	1.0
	2105	2.5		1949	2.5
6 Tu	0313	1.1	**21** We	0201	1.1
	0930	2.5		0813	2.5
	1540	0.9		1432	0.9
	2200	2.5		2048	2.5
7 We	0410	1.0	**22** Th	0302	1.0
	1023	2.5		0913	2.6
	1633	0.9		1532	0.9
	2249	2.5		2147	2.6
8 Th	0459	1.0	**23** Fr	0401	0.9
	1108	2.5		1011	2.7
	1720	0.9		1630	0.8
	2332	2.5		2243	2.7
9 Fr	0543	0.9	**24** Sa	0458	0.8
	1150	2.6		1107	2.8
	1803	0.9		1727	0.7
				2337	2.8
10 Sa	0011	2.6	**25** Su	0552	0.6
	0622	0.9		1202	2.9
	1228	2.6		1821	0.6
	1843	0.9			
11 Su	0048	2.6	**26** Mo	0029	2.8
	0700	0.9		0645	0.5
	1305	2.6		1256	2.9
	1921	0.9		1915	0.6
12 Mo	0124	2.6	**27** Tu ●	0121	2.9
	0736	0.9		0737	0.5
	1342	2.6		1349	2.9
	1958	0.9		2007	0.6
13 Tu ☽	0159	2.6	**28** We	0212	2.9
	0813	0.9		0830	0.5
	1419	2.6		1444	2.9
	2034	0.9		2059	0.6
14 We	0235	2.6	**29** Th	0304	2.8
	0850	0.9		0922	0.5
	1458	2.6		1538	2.8
	2112	1.0		2151	0.7
15 Th	0312	2.5	**30** Fr	0357	2.8
	0929	0.9		1017	0.6
	1538	2.5		1634	2.8
	2151	1.0		2244	0.8
			31 Sa	0453	2.7
				1112	0.7
				1731	2.7
				2339	0.9

June

	Time	m		Time	m
1 Su	0551	2.6	**16** Mo	0500	2.5
	1209	0.8		1122	0.9
	1829	2.6		1734	2.6
				2344	1.0
2 Mo	0036	1.0	**17** Tu	0550	2.5
	0652	2.5		1212	0.9
	1307	0.9		1824	2.5
	1928	2.5			
3 Tu	0135	1.0	**18** We	0036	1.0
	0753	2.5		0645	2.5
	1405	1.0		1306	0.9
	2024	2.5		1918	2.5
4 We	0234	1.1	**19** Th	0132	1.0
	0851	2.5		0743	2.6
	1502	1.0		1403	0.9
	2118	2.4		2016	2.6
5 Th	0330	1.1	**20** Fr	0232	0.9
	0943	2.5		0844	2.6
	1554	1.0		1504	0.9
	2208	2.4		2117	2.6
6 Fr	0421	1.0	**21** Sa	0334	0.9
	1030	2.5		0946	2.7
	1643	1.0		1605	0.8
	2254	2.5		2217	2.6
7 Sa	0507	1.0	**22** Su	0435	0.8
	1114	2.5		1046	2.7
	1729	1.0		1706	0.8
	2336	2.5		2316	2.7
8 Su	0550	1.0	**23** Mo	0533	0.7
	1156	2.5		1145	2.8
	1812	1.0		1804	0.8
9 Mo	0017	2.5	**24** Tu	0012	2.8
	0630	0.9		0629	0.6
	1237	2.5		1242	2.8
	1852	1.0		1859	0.7
10 Tu	0056	2.5	**25** We ●	0105	2.8
	0709	0.9		0723	0.6
	1318	2.5		1337	2.8
	1932	1.0		1952	0.7
11 We ☽	0134	2.6	**26** Th	0158	2.8
	0748	0.9		0815	0.5
	1358	2.6		1431	2.8
	2011	1.0		2043	0.7
12 Th	0213	2.6	**27** Fr	0249	2.8
	0828	0.9		0907	0.6
	1439	2.6		1523	2.8
	2051	1.0		2133	0.7
13 Fr	0252	2.6	**28** Sa	0340	2.8
	0909	0.8		0958	0.6
	1520	2.6		1614	2.7
	2131	1.0		2222	0.8
14 Sa	0332	2.6	**29** Su	0430	2.7
	0951	0.8		1049	0.7
	1603	2.6		1704	2.7
	2213	1.0		2311	0.9
15 Su	0415	2.5	**30** Mo	0522	2.6
	1035	0.8		1139	0.8
	1647	2.6		1754	2.6
	2257	1.0			

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Dunedin

Lat. 45° 53´S., Long. 170° 30´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0602 1142 1833	0.2 2.1 0.2	**16** Tu	0548 1136 1818	0.5 1.8 0.5
2 Tu	0011 0659 1239 1933	2.0 0.2 2.1 0.2	**17** We	0001 0640 1226 1914	1.7 0.5 1.8 0.5
3 We	0106 0754 1334 2029	2.0 0.2 2.1 0.2	**18** Th	0051 0732 1315 2008	1.8 0.4 1.9 0.4
4 Th	0159 0847 1427 2122	2.0 0.2 2.2 0.2	**19** Fr	0139 0823 1404 2058	1.9 0.3 2.0 0.3
5 Fr	0250 0938 1518 2212	2.0 0.2 2.1 0.2	**20** Sa	0225 0913 1452 2147	1.9 0.3 2.1 0.3
6 Sa ●	0338 1028 1607 2258	2.0 0.2 2.1 0.2	**21** Su ❍	0312 1003 1540 2235	2.0 0.2 2.2 0.2
7 Su	0425 1115 1654 2343	2.0 0.2 2.1 0.3	**22** Mo	0400 1052 1629 2322	2.1 0.1 2.2 0.1
8 Mo	0512 1201 1740	1.9 0.3 2.0	**23** Tu	0448 1142 1718	2.1 0.1 2.3
9 Tu	0026 0558 1244 1824	0.3 1.9 0.3 2.0	**24** We	0010 0539 1233 1808	0.1 2.2 0.1 2.3
10 We	0108 0644 1327 1908	0.4 1.8 0.4 1.9	**25** Th	0100 0631 1324 1859	0.1 2.2 0.1 2.2
11 Th	0150 0731 1409 1952	0.4 1.8 0.4 1.8	**26** Fr	0152 0726 1418 1954	0.1 2.1 0.1 2.1
12 Fr	0233 0818 1452 2037	0.5 1.8 0.5 1.8	**27** Sa	0247 0824 1514 2052	0.2 2.1 0.2 2.1
13 Sa	0318 0907 1537 2125	0.5 1.7 0.5 1.7	**28** Su	0344 0924 1613 2152	0.2 2.1 0.2 2.0
14 Su	0406 0956 1627 2216	0.5 1.7 0.6 1.7	**29** Mo	0443 1025 1715 2254	0.2 2.1 0.3 2.0
15 Mo	0456 1046 1721 2309	0.5 1.7 0.6 1.7	**30** Tu	0543 1126 1818 2355	0.3 2.1 0.3 1.9
			31 We	0642 1224 1918	0.3 2.1 0.3

August

	Time	m		Time	m
1 Th	0052 0738 1320 2014	2.0 0.2 2.1 0.3	**16** Fr	0019 0702 1246 1940	1.8 0.4 1.9 0.4
2 Fr	0144 0831 1412 2105	2.0 0.2 2.1 0.3	**17** Sa	0111 0756 1338 2032	1.9 0.3 2.0 0.3
3 Sa	0233 0920 1501 2151	2.0 0.2 2.1 0.3	**18** Su	0200 0848 1428 2121	2.0 0.2 2.2 0.2
4 Su ●	0319 1007 1547 2234	2.0 0.2 2.1 0.3	**19** Mo	0249 0939 1518 2209	2.1 0.1 2.3 0.1
5 Mo	0404 1051 1630 2314	2.0 0.3 2.1 0.3	**20** Tu ❍	0338 1030 1607 2257	2.2 0.0 2.3 0.1
6 Tu	0446 1132 1711 2353	2.0 0.3 2.0 0.3	**21** We	0427 1120 1656 2346	2.3 0.0 2.3 0.0
7 We	0527 1211 1750	1.9 0.3 2.0	**22** Th	0518 1211 1746	2.3 0.0 2.3
8 Th	0031 0608 1250 1828	0.4 1.9 0.4 1.9	**23** Fr	0036 0611 1303 1838	0.0 2.3 0.0 2.2
9 Fr	0109 0649 1329 1907	0.4 1.8 0.4 1.8	**24** Sa	0129 0706 1358 1932	0.1 2.2 0.1 2.1
10 Sa	0149 0732 1409 1949	0.5 1.8 0.5 1.8	**25** Su	0225 0804 1455 2031	0.2 2.2 0.2 2.0
11 Su	0232 0817 1454 2035	0.5 1.8 0.5 1.7	**26** Mo	0323 0905 1556 2134	0.2 2.1 0.3 2.0
12 Mo	0320 0907 1545 2127	0.5 1.7 0.6 1.7	**27** Tu	0424 1008 1659 2238	0.3 2.0 0.3 1.9
13 Tu	0413 1000 1643 2225	0.6 1.7 0.6 1.7	**28** We	0525 1111 1802 2340	0.3 2.0 0.3 1.9
14 We	0509 1056 1744 2323	0.5 1.8 0.6 1.7	**29** Th	0624 1210 1902	0.3 2.0 0.3
15 Th	0607 1152 1845	0.5 1.8 0.5	**30** Fr	0037 0720 1305 1955	1.9 0.3 2.0 0.3
			31 Sa	0128 0811 1355 2043	1.9 0.3 2.0 0.3

September

	Time	m		Time	m
1 Su	0215 0859 1441 2126	2.0 0.3 2.0 0.3	**16** Mo	0135 0823 1404 2054	2.1 0.2 2.2 0.1
2 Mo	0258 0942 1523 2206	2.0 0.3 2.0 0.3	**17** Tu	0225 0915 1454 2143	2.2 0.1 2.3 0.0
3 Tu ●	0339 1023 1602 2243	2.0 0.3 2.0 0.3	**18** We ❍	0315 1007 1544 2232	2.3 0.0 2.4 0.0
4 We	0418 1101 1639 2319	2.0 0.3 2.0 0.3	**19** Th	0405 1058 1633 2322	2.3 -0.1 2.4 0.0
5 Th	0456 1139 1715 2355	1.9 0.3 2.0 0.4	**20** Fr	0457 1150 1724	2.3 0.0 2.3
6 Fr	0533 1216 1751	1.9 0.4 1.9	**21** Sa	0013 0550 1243 1816	0.0 2.3 0.0 2.2
7 Sa	0032 0611 1254 1828	0.4 1.9 0.4 1.8	**22** Su	0107 0646 1339 1911	0.1 2.2 0.1 2.1
8 Su	0112 0652 1335 1908	0.5 1.8 0.5 1.8	**23** Mo	0204 0744 1436 2011	0.2 2.1 0.2 2.0
9 Mo	0155 0737 1421 1955	0.5 1.8 0.5 1.7	**24** Tu	0303 0846 1537 2115	0.2 2.1 0.3 1.9
10 Tu	0244 0826 1513 2048	0.5 1.8 0.6 1.7	**25** We	0404 0950 1640 2221	0.3 2.0 0.3 1.9
11 We	0339 0922 1612 2148	0.6 1.8 0.6 1.7	**26** Th	0505 1053 1742 2323	0.3 2.0 0.4 1.9
12 Th	0437 1021 1715 2250	0.5 1.8 0.6 1.7	**27** Fr	0603 1152 1839	0.3 2.0 0.4
13 Fr	0536 1120 1816 2349	0.5 1.9 0.5 1.8	**28** Sa	0018 0656 1245 1930	1.9 0.3 2.0 0.3
14 Sa	0634 1218 1912	0.4 2.0 0.4	**29** Su	0107 0746 1333 2015	1.9 0.3 2.0 0.3
15 Su	0043 0729 1312 2005	1.9 0.3 2.1 0.2	**30** Mo	0152 0831 1416 2055	1.9 0.3 2.0 0.3

October

	Time	m		Time	m
1 Tu	0233 0913 1455 2134	2.0 0.3 2.0 0.3	**16** We	0201 0852 1430 2118	2.2 0.0 2.3 0.0
2 We	0311 0953 1532 2210	2.0 0.3 2.0 0.3	**17** Th ❍	0253 0945 1521 2208	2.3 0.0 2.3 0.0
3 Th ●	0348 1031 1607 2247	2.0 0.3 2.0 0.3	**18** Fr	0344 1038 1611 2300	2.4 0.0 2.3 0.0
4 Fr	0425 1109 1642 2323	1.9 0.4 1.9 0.4	**19** Sa	0437 1131 1702 2353	2.4 0.0 2.3 0.0
5 Sa	0501 1147 1718	1.9 0.4 1.9	**20** Su	0531 1225 1755	2.3 0.1 2.2
6 Su	0002 0540 1227 1756	0.4 1.9 0.4 1.8	**21** Mo	0047 0627 1320 1851	0.1 2.2 0.2 2.0
7 Mo	0043 0621 1310 1837	0.5 1.9 0.5 1.8	**22** Tu	0144 0725 1417 1950	0.2 2.1 0.2 1.9
8 Tu	0128 0706 1357 1924	0.5 1.8 0.5 1.7	**23** We	0242 0826 1516 2054	0.2 2.0 0.3 1.9
9 We	0218 0756 1450 2018	0.5 1.8 0.6 1.7	**24** Th	0341 0928 1616 2159	0.3 2.0 0.4 1.8
10 Th	0312 0852 1548 2119	0.5 1.8 0.6 1.7	**25** Fr	0438 1030 1714 2259	0.3 1.9 0.4 1.8
11 Fr	0410 0951 1648 2221	0.5 1.8 0.5 1.8	**26** Sa	0533 1126 1808 2352	0.4 1.9 0.4 1.9
12 Sa	0509 1052 1748 2321	0.4 1.9 0.4 1.9	**27** Su	0625 1218 1856	0.4 1.9 0.4
13 Su	0606 1150 1844	0.3 2.0 0.3	**28** Mo	0040 0713 1304 1940	1.9 0.4 1.9 0.4
14 Mo	0017 0703 1246 1936	2.0 0.2 2.1 0.2	**29** Tu	0123 0758 1345 2021	1.9 0.4 1.9 0.3
15 Tu	0110 0758 1339 2027	2.1 0.1 2.2 0.1	**30** We	0203 0841 1424 2100	1.9 0.4 1.9 0.3
			31 Th	0241 0922 1501 2138	1.9 0.4 1.9 0.3

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Dunedin

Lat. 45° 53´S., Long. 170° 30´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0318	1.9	**16** Sa ❍	0325	2.3
	1002	0.4		1020	0.1
	1536	1.9		1551	2.2
	2216	0.3		2241	0.0
2 Sa ●	0355	1.9	**17** Su	0419	2.3
	1042	0.4		1114	0.1
	1612	1.9		1642	2.2
	2256	0.4		2334	0.1
3 Su	0434	1.9	**18** Mo	0513	2.2
	1123	0.4		1207	0.1
	1650	1.9		1735	2.1
	2337	0.4			
4 Mo	0514	1.9	**19** Tu	0028	0.1
	1206	0.4		0608	2.2
	1730	1.8		1300	0.2
				1830	2.0
5 Tu	0021	0.4	**20** We	0123	0.2
	0557	1.9		0704	2.1
	1250	0.5		1354	0.3
	1813	1.8		1927	1.9
6 We	0108	0.4	**21** Th	0217	0.3
	0643	1.9		0801	2.0
	1338	0.5		1449	0.3
	1901	1.8		2028	1.9
7 Th	0158	0.5	**22** Fr	0311	0.3
	0733	1.9		0859	1.9
	1430	0.5		1543	0.4
	1955	1.8		2128	1.8
8 Fr	0250	0.4	**23** Sa	0405	0.4
	0828	1.9		0956	1.9
	1525	0.5		1637	0.4
	2054	1.8		2226	1.8
9 Sa	0346	0.4	**24** Su	0456	0.4
	0925	1.9		1051	1.9
	1622	0.4		1728	0.4
	2154	1.8		2318	1.8
10 Su	0443	0.4	**25** Mo	0546	0.4
	1025	2.0		1142	1.9
	1720	0.4		1816	0.4
	2254	1.9			
11 Mo	0540	0.3	**26** Tu	0005	1.8
	1124	2.0		0635	0.4
	1816	0.3		1228	1.9
	2351	2.0		1901	0.4
12 Tu	0638	0.2	**27** We	0049	1.9
	1220	2.1		0721	0.4
	1910	0.2		1311	1.9
				1944	0.4
13 We	0046	2.2	**28** Th	0130	1.9
	0735	0.1		0807	0.4
	1315	2.2		1351	1.9
	2003	0.1		2026	0.4
14 Th	0139	2.2	**29** Fr	0209	1.9
	0831	0.1		0851	0.4
	1408	2.2		1429	1.9
	2055	0.1		2107	0.4
15 Fr	0232	2.3	**30** Sa	0248	1.9
	0926	0.1		0935	0.4
	1459	2.3		1507	1.9
	2148	0.0		2149	0.4

December

	Time	m		Time	m
1 Su ●	0328	1.9	**16** Mo	0402	2.2
	1018	0.4		1057	0.2
	1545	1.9		1624	2.1
	2232	0.4		2316	0.1
2 Mo	0409	2.0	**17** Tu	0455	2.2
	1101	0.4		1147	0.2
	1625	1.9		1715	2.0
	2316	0.4			
3 Tu	0451	2.0	**18** We	0008	0.2
	1146	0.4		0547	2.1
	1707	1.9		1237	0.2
				1807	2.0
4 We	0002	0.4	**19** Th	0058	0.2
	0536	2.0		0639	2.1
	1231	0.4		1326	0.3
	1753	1.9		1900	1.9
5 Th	0049	0.4	**20** Fr	0148	0.3
	0622	2.0		0730	2.0
	1318	0.4		1415	0.4
	1841	1.9		1954	1.9
6 Fr	0138	0.3	**21** Sa	0236	0.3
	0712	2.0		0822	1.9
	1408	0.4		1504	0.4
	1934	1.9		2049	1.8
7 Sa	0229	0.3	**22** Su	0324	0.4
	0805	2.0		0914	1.8
	1501	0.4		1553	0.5
	2031	1.9		2143	1.8
8 Su	0323	0.3	**23** Mo	0413	0.5
	0901	2.0		1006	1.8
	1556	0.4		1643	0.5
	2130	1.9		2235	1.8
9 Mo	0419	0.3	**24** Tu	0502	0.5
	1000	2.0		1058	1.8
	1653	0.3		1731	0.5
	2229	2.0		2323	1.8
10 Tu	0517	0.3	**25** We	0552	0.5
	1059	2.0		1146	1.8
	1750	0.3		1819	0.5
	2328	2.1			
11 We	0617	0.2	**26** Th	0009	1.8
	1158	2.1		0642	0.5
	1847	0.2		1232	1.8
				1906	0.5
12 Th	0025	2.1	**27** Fr	0053	1.8
	0717	0.2		0733	0.5
	1254	2.1		1316	1.8
	1942	0.2		1952	0.4
13 Fr	0120	2.2	**28** Sa	0136	1.9
	0815	0.2		0821	0.4
	1348	2.1		1357	1.8
	2037	0.1		2037	0.4
14 Sa	0215	2.2	**29** Su	0219	1.9
	0911	0.1		0908	0.4
	1441	2.1		1438	1.9
	2131	0.1		2123	0.4
15 Su ❍	0309	2.2	**30** Mo	0302	2.0
	1005	0.1		0954	0.4
	1533	2.1		1520	1.9
	2224	0.1		2208	0.3
			31 Tu ●	0345	2.0
				1039	0.3
				1602	1.9
				2254	0.3

January

	Time	m		Time	m
1 We	0430	2.0	**16** Th	0523	2.1
	1123	0.3		1210	0.3
	1646	2.0		1741	2.0
	2341	0.3			
2 Th	0515	2.1	**17** Fr	0030	0.2
	1209	0.3		0609	2.0
	1732	2.0		1253	0.3
				1828	1.9
3 Fr	0028	0.2	**18** Sa	0114	0.3
	0602	2.1		0654	1.9
	1256	0.3		1337	0.4
	1821	2.0		1915	1.9
4 Sa	0117	0.2	**19** Su	0157	0.4
	0651	2.1		0739	1.9
	1345	0.3		1420	0.4
	1913	2.0		2004	1.8
5 Su	0207	0.2	**20** Mo	0241	0.4
	0743	2.1		0825	1.8
	1437	0.3		1506	0.5
	2009	2.0		2053	1.8
6 Mo	0301	0.2	**21** Tu	0325	0.5
	0838	2.0		0914	1.7
	1532	0.3		1553	0.5
	2107	2.0		2143	1.7
7 Tu	0357	0.3	**22** We	0414	0.5
	0937	2.0		1006	1.7
	1630	0.3		1643	0.5
	2207	2.0		2234	1.7
8 We	0458	0.3	**23** Th	0507	0.6
	1037	2.0		1059	1.7
	1729	0.3		1735	0.5
	2308	2.1		2325	1.7
9 Th	0600	0.3	**24** Fr	0603	0.6
	1138	2.0		1151	1.7
	1828	0.3		1827	0.5
10 Fr	0007	2.1	**25** Sa	0014	1.8
	0702	0.3		0659	0.5
	1237	2.0		1239	1.7
	1926	0.2		1918	0.5
11 Sa	0105	2.1	**26** Su	0102	1.8
	0801	0.2		0751	0.5
	1333	2.0		1325	1.8
	2022	0.2		2007	0.4
12 Su	0201	2.1	**27** Mo	0149	1.9
	0857	0.2		0841	0.4
	1425	2.1		1410	1.9
	2116	0.2		2056	0.3
13 Mo	0255	2.2	**28** Tu	0235	2.0
	0949	0.2		0927	0.3
	1516	2.1		1454	2.0
	2208	0.1		2143	0.3
14 Tu ❍	0346	2.2	**29** We	0320	2.1
	1038	0.2		1013	0.3
	1605	2.1		1538	2.0
	2257	0.2		2230	0.2
15 We	0435	2.1	**30** Th ●	0406	2.1
	1125	0.2		1058	0.2
	1653	2.0		1624	2.1
	2345	0.2		2318	0.1
			31 Fr	0452	2.2
				1144	0.2
				1711	2.1

February

	Time	m		Time	m
1 Sa	0006	0.1	**16** Su	0038	0.3
	0539	2.2		0615	1.9
	1231	0.2		1256	0.4
	1800	2.1		1835	1.9
2 Su	0055	0.1	**17** Mo	0117	0.4
	0629	2.2		0655	1.8
	1320	0.2		1336	0.5
	1852	2.1		1918	1.8
3 Mo	0146	0.1	**18** Tu	0157	0.5
	0720	2.1		0736	1.8
	1413	0.2		1418	0.5
	1948	2.1		2003	1.8
4 Tu	0241	0.2	**19** We	0241	0.5
	0816	2.1		0822	1.7
	1510	0.3		1505	0.6
	2047	2.1		2051	1.7
5 We	0339	0.3	**20** Th	0329	0.6
	0916	2.0		0913	1.7
	1610	0.3		1557	0.6
	2148	2.0		2144	1.7
6 Th	0442	0.3	**21** Fr	0425	0.6
	1019	1.9		1010	1.6
	1711	0.3		1653	0.6
	2251	2.0		2239	1.7
7 Fr	0546	0.3	**22** Sa	0525	0.6
	1123	1.9		1108	1.7
	1813	0.3		1749	0.5
	2353	2.0		2334	1.8
8 Sa	0649	0.3	**23** Su	0624	0.5
	1223	1.9		1202	1.7
	1912	0.3		1844	0.5
9 Su	0053	2.0	**24** Mo	0027	1.8
	0748	0.3		0719	0.5
	1319	2.0		1252	1.8
	2008	0.2		1936	0.4
10 Mo	0148	2.1	**25** Tu	0118	1.9
	0842	0.3		0810	0.4
	1411	2.0		1340	1.9
	2100	0.2		2027	0.3
11 Tu	0239	2.1	**26** We	0206	2.0
	0930	0.2		0858	0.3
	1459	2.0		1426	2.0
	2149	0.2		2116	0.2
12 We	0327	2.1	**27** Th	0254	2.1
	1015	0.2		0944	0.2
	1544	2.0		1513	2.1
	2234	0.2		2204	0.1
13 Th ❍	0412	2.1	**28** Fr ●	0341	2.2
	1058	0.3		1030	0.1
	1628	2.0		1600	2.2
	2318	0.2		2253	0.1
14 Fr	0455	2.0			
	1138	0.3			
	1711	2.0			
	2359	0.3			
15 Sa	0535	2.0			
	1217	0.3			
	1753	1.9			

Remember to add 1 hour for Daylight Saving Time.

Standard Ports

Dunedin

Lat. 45˚ 53´S., Long. 170˚30´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0428	2.3	**16** Su	0501	2.0
	1117	0.1		1141	0.4
	1648	2.2		1719	1.9
	2343	0.0			
2 Su	0516	2.3	**17** Mo	0003	0.4
	1206	0.1		0537	1.9
	1739	2.2		1217	0.4
				1757	1.9
3 Mo	0033	0.0	**18** Tu	0041	0.4
	0606	2.2		0615	1.8
	1257	0.1		1256	0.5
	1832	2.2		1837	1.8
4 Tu	0127	0.1	**19** We	0121	0.5
	0659	2.1		0654	1.8
	1352	0.2		1338	0.5
	1928	2.2		1920	1.8
5 We	0223	0.2	**20** Th	0204	0.5
	0756	2.0		0738	1.7
	1450	0.2		1425	0.6
	2029	2.1		2007	1.7
6 Th	0323	0.3	**21** Fr	0253	0.6
	0858	1.9		0829	1.6
	1552	0.3		1518	0.6
	2132	2.0		2100	1.7
7 Fr	0427	0.3	**22** Sa	0349	0.6
	1004	1.9		0927	1.6
	1655	0.3		1614	0.6
	2237	2.0		2157	1.7
8 Sa	0532	0.3	**23** Su	0450	0.6
	1110	1.9		1028	1.7
	1757	0.3		1712	0.5
	2340	2.0		2255	1.8
9 Su	0634	0.3	**24** Mo	0550	0.5
	1210	1.9		1125	1.7
	1855	0.3		1809	0.5
				2352	1.9
10 Mo	0039	2.0	**25** Tu	0645	0.4
	0731	0.3		1219	1.9
	1304	1.9		1903	0.4
	1950	0.2			
11 Tu	0132	2.0	**26** We	0046	2.0
	0821	0.3		0737	0.3
	1353	2.0		1309	2.0
	2039	0.2		1956	0.2
12 We	0220	2.0	**27** Th	0137	2.1
	0906	0.3		0826	0.2
	1438	2.0		1358	2.1
	2125	0.2		2048	0.1
13 Th	0304	2.0	**28** Fr	0226	2.2
	0948	0.3		0914	0.1
	1521	2.0		1447	2.2
	2208	0.2		2139	0.1
14 Fr ☽	0345	2.0	**29** Sa ●	0315	2.3
	1027	0.3		1002	0.1
	1601	2.0		1536	2.3
	2248	0.3		2230	0.0
15 Sa	0424	2.0	**30** Su	0404	2.3
	1104	0.3		1052	0.1
	1640	2.0		1626	2.3
	2326	0.3		2321	0.0
			31 Mo	0454	2.3
				1143	0.1
				1719	2.3

April

	Time	m		Time	m
1 Tu	0014	0.0	**16** We	0012	0.4
	0545	2.2		0541	1.8
	1236	0.1		1224	0.5
	1813	2.3		1804	1.9
2 We	0109	0.1	**17** Th	0052	0.5
	0639	2.1		0620	1.8
	1333	0.2		1308	0.5
	1911	2.2		1847	1.8
3 Th	0206	0.2	**18** Fr	0137	0.5
	0738	2.0		0705	1.7
	1433	0.2		1355	0.5
	2012	2.1		1934	1.8
4 Fr	0307	0.3	**19** Sa	0226	0.6
	0842	1.9		0755	1.7
	1534	0.3		1447	0.6
	2116	2.0		2025	1.8
5 Sa	0410	0.3	**20** Su	0320	0.6
	0949	1.9		0852	1.7
	1636	0.3		1542	0.5
	2221	2.0		2122	1.8
6 Su	0513	0.3	**21** Mo	0417	0.5
	1054	1.9		0952	1.7
	1736	0.3		1638	0.5
	2323	2.0		2220	1.8
7 Mo	0612	0.3	**22** Tu	0515	0.5
	1152	1.9		1051	1.8
	1833	0.3		1735	0.4
				2318	1.9
8 Tu	0019	2.0	**23** We	0611	0.4
	0705	0.3		1146	1.9
	1244	1.9		1831	0.3
	1925	0.3			
9 We	0110	2.0	**24** Th	0014	2.0
	0753	0.3		0704	0.3
	1330	2.0		1239	2.1
	2013	0.3		1927	0.2
10 Th	0155	2.0	**25** Fr	0108	2.1
	0836	0.3		0756	0.2
	1413	2.0		1331	2.2
	2057	0.3		2021	0.1
11 Fr	0237	2.0	**26** Sa	0159	2.2
	0916	0.3		0846	0.1
	1453	2.0		1422	2.3
	2138	0.3		2115	0.1
12 Sa	0315	2.0	**27** Su	0250	2.3
	0953	0.3		0937	0.1
	1532	2.0		1514	2.3
	2217	0.3		2209	0.0
13 Su ☽	0352	2.0	**28** Mo ●	0341	2.3
	1030	0.3		1029	0.0
	1609	2.0		1606	2.4
	2255	0.4		2302	0.0
14 Mo	0428	1.9	**29** Tu	0433	2.2
	1107	0.4		1122	0.1
	1647	1.9		1700	2.3
	2333	0.4		2356	0.1
15 Tu	0504	1.9	**30** We	0525	2.2
	1145	0.4		1218	0.1
	1724	1.9		1756	2.3

May

	Time	m		Time	m
1 Th	0052	0.1	**16** Fr	0030	0.4
	0621	2.1		0554	1.8
	1315	0.1		1245	0.5
	1854	2.2		1821	1.9
2 Fr	0149	0.2	**17** Sa	0115	0.5
	0720	2.0		0639	1.8
	1414	0.2		1332	0.5
	1954	2.1		1907	1.9
3 Sa	0247	0.3	**18** Su	0202	0.5
	0823	1.9		0729	1.7
	1513	0.3		1421	0.5
	2056	2.0		1957	1.9
4 Su	0347	0.3	**19** Mo	0253	0.5
	0928	1.9		0823	1.8
	1612	0.3		1513	0.5
	2159	2.0		2052	1.9
5 Mo	0446	0.3	**20** Tu	0347	0.5
	1031	1.9		0921	1.8
	1708	0.3		1608	0.4
	2258	1.9		2149	1.9
6 Tu	0542	0.3	**21** We	0443	0.4
	1127	1.9		1019	1.9
	1802	0.3		1704	0.4
	2352	1.9		2247	2.0
7 We	0633	0.3	**22** Th	0539	0.4
	1217	1.9		1117	2.0
	1853	0.4		1803	0.3
				2345	2.0
8 Th	0041	1.9	**23** Fr	0634	0.3
	0719	0.3		1212	2.1
	1302	1.9		1901	0.2
	1940	0.4			
9 Fr	0125	1.9	**24** Sa	0041	2.1
	0801	0.3		0728	0.2
	1344	2.0		1307	2.2
	2024	0.4		1959	0.2
10 Sa	0206	1.9	**25** Su	0135	2.2
	0842	0.3		0822	0.1
	1424	2.0		1401	2.3
	2106	0.4		2056	0.1
11 Su	0244	1.9	**26** Mo	0229	2.2
	0920	0.3		0916	0.1
	1503	2.0		1455	2.3
	2147	0.4		2151	0.1
12 Mo	0321	1.9	**27** Tu ●	0321	2.2
	0959	0.4		1010	0.1
	1540	2.0		1549	2.3
	2227	0.4		2246	0.1
13 Tu ☽	0358	1.9	**28** We	0414	2.2
	1038	0.4		1105	0.1
	1618	1.9		1644	2.3
	2307	0.4		2340	0.1
14 We	0434	1.8	**29** Th	0507	2.1
	1118	0.4		1200	0.1
	1657	1.9		1739	2.2
	2348	0.4			
15 Th	0513	1.8	**30** Fr	0034	0.1
	1200	0.4		0602	2.1
	1738	1.9		1256	0.1
				1835	2.2
			31 Sa	0128	0.2
				0700	2.0
				1351	0.2
				1932	2.1

June

	Time	m		Time	m
1 Su	0222	0.3	**16** Mo	0138	0.4
	0759	1.9		0705	1.9
	1446	0.2		1358	0.4
	2030	2.0		1933	2.0
2 Mo	0317	0.3	**17** Tu	0227	0.4
	0900	1.9		0758	1.9
	1540	0.3		1448	0.4
	2127	1.9		2025	2.0
3 Tu	0411	0.4	**18** We	0319	0.4
	0959	1.9		0854	1.9
	1633	0.4		1542	0.4
	2223	1.9		2121	2.0
4 We	0504	0.4	**19** Th	0414	0.4
	1053	1.9		0952	2.0
	1725	0.4		1639	0.3
	2316	1.9		2220	2.0
5 Th	0553	0.4	**20** Fr	0511	0.3
	1143	1.9		1051	2.0
	1815	0.4		1739	0.3
				2320	2.0
6 Fr	0006	1.9	**21** Sa	0609	0.3
	0640	0.4		1150	2.1
	1229	1.9		1841	0.3
	1904	0.4			
7 Sa	0051	1.9	**22** Su	0019	2.0
	0724	0.4		0707	0.2
	1313	1.9		1247	2.2
	1950	0.4		1942	0.2
8 Su	0134	1.9	**23** Mo	0116	2.1
	0807	0.4		0804	0.2
	1354	1.9		1344	2.2
	2035	0.4		2041	0.2
9 Mo	0214	1.9	**24** Tu	0211	2.1
	0849	0.4		0900	0.1
	1434	1.9		1439	2.3
	2119	0.4		2136	0.1
10 Tu	0252	1.9	**25** We ●	0304	2.1
	0930	0.4		0955	0.1
	1513	1.9		1534	2.3
	2201	0.4		2230	0.1
11 We ☽	0330	1.9	**26** Th	0357	2.1
	1012	0.4		1049	0.1
	1553	2.0		1628	2.3
	2243	0.4		2322	0.1
12 Th	0409	1.9	**27** Fr	0449	2.1
	1055	0.4		1142	0.1
	1633	2.0		1721	2.2
	2326	0.4			
13 Fr	0449	1.9	**28** Sa	0013	0.1
	1139	0.4		0542	2.1
	1715	2.0		1234	0.1
				1813	2.2
14 Sa	0008	0.4	**29** Su	0102	0.2
	0531	1.8		0635	2.0
	1224	0.4		1325	0.2
	1758	2.0		1904	2.1
15 Su	0052	0.4	**30** Mo	0152	0.3
	0616	1.8		0730	1.9
	1310	0.4		1414	0.3
	1844	2.0		1956	2.0

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Gisborne

Lat. 38˚40´S., Long. 178˚02´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0105	2.0	**16** Tu	0101	1.8
	0722	0.5		0719	0.7
	1337	1.9		1338	1.7
	1948	0.6		1943	0.8
2 Tu	0200	2.0	**17** We	0147	1.8
	0817	0.5		0805	0.7
	1436	1.9		1428	1.8
	2047	0.6		2034	0.8
3 We	0256	1.9	**18** Th	0235	1.8
	0914	0.5		0854	0.7
	1534	1.9		1518	1.8
	2145	0.7		2124	0.8
4 Th	0352	1.9	**19** Fr	0324	1.8
	1010	0.5		0943	0.7
	1631	2.0		1608	1.8
	2242	0.7		2215	0.8
5 Fr	0448	1.9	**20** Sa	0415	1.8
	1104	0.5		1033	0.6
	1725	2.0		1657	1.9
	2337	0.7		2305	0.7
6 Sa ●	0543	1.9	**21** Su ❍	0507	1.8
	1157	0.6		1124	0.6
	1817	2.0		1746	2.0
				2357	0.7
7 Su	0031	0.7	**22** Mo	0600	1.9
	0636	1.9		1215	0.5
	1247	0.6		1835	2.0
	1906	2.0			
8 Mo	0122	0.7	**23** Tu	0049	0.6
	0727	1.8		0654	1.9
	1335	0.6		1306	0.5
	1953	2.0		1926	2.1
9 Tu	0211	0.7	**24** We	0141	0.5
	0815	1.8		0747	2.0
	1421	0.6		1357	0.5
	2039	1.9		2017	2.1
10 We	0257	0.7	**25** Th	0234	0.5
	0901	1.8		0840	2.0
	1505	0.6		1450	0.5
	2123	1.9		2109	2.1
11 Th	0342	0.7	**26** Fr	0327	0.5
	0946	1.8		0934	2.0
	1548	0.7		1543	0.5
	2206	1.9		2203	2.1
12 Fr	0425	0.7	**27** Sa	0420	0.5
	1030	1.8		1028	2.0
	1633	0.7		1639	0.5
	2249	1.9		2257	2.1
13 Sa	0507	0.7	**28** Su	0513	0.5
	1114	1.8		1124	2.0
	1718	0.8		1735	0.6
	2332	1.8		2351	2.0
14 Su	0550	0.7	**29** Mo	0608	0.5
	1200	1.7		1221	2.0
	1805	0.8		1834	0.6
15 Mo	0016	1.8	**30** Tu	0047	2.0
	0634	0.7		0703	0.5
	1248	1.7		1320	1.9
	1854	0.8		1933	0.6
			31 We	0143	1.9
				0759	0.6
				1419	1.9
				2032	0.7

August

	Time	m		Time	m
1 Th	0239	1.9	**16** Fr	0158	1.8
	0855	0.6		0816	0.7
	1518	1.9		1441	1.8
	2130	0.7		2050	0.8
2 Fr	0336	1.8	**17** Sa	0251	1.8
	0952	0.6		0909	0.7
	1613	1.9		1534	1.9
	2226	0.7		2143	0.7
3 Sa	0431	1.8	**18** Su	0346	1.8
	1046	0.6		1003	0.6
	1706	1.9		1626	1.9
	2320	0.7		2236	0.7
4 Su ●	0525	1.8	**19** Mo	0441	1.9
	1137	0.6		1057	0.6
	1756	1.9		1717	2.0
				2330	0.6
5 Mo	0011	0.7	**20** Tu ❍	0537	1.9
	0616	1.8		1150	0.5
	1225	0.6		1809	2.1
	1842	1.9			
6 Tu	0059	0.7	**21** We	0024	0.5
	0704	1.8		0632	2.0
	1310	0.6		1244	0.4
	1926	1.9		1902	2.1
7 We	0144	0.7	**22** Th	0118	0.5
	0749	1.8		0726	2.1
	1353	0.7		1337	0.4
	2009	1.9		1954	2.1
8 Th	0227	0.7	**23** Fr	0211	0.4
	0832	1.8		0821	2.1
	1435	0.7		1431	0.4
	2050	1.9		2048	2.2
9 Fr	0308	0.7	**24** Sa	0304	0.4
	0913	1.8		0915	2.1
	1516	0.7		1525	0.4
	2130	1.9		2142	2.1
10 Sa	0348	0.7	**25** Su	0358	0.4
	0955	1.8		1009	2.1
	1558	0.7		1621	0.5
	2211	1.8		2236	2.1
11 Su	0428	0.7	**26** Mo	0451	0.4
	1037	1.8		1105	2.0
	1642	0.8		1718	0.5
	2253	1.8		2331	2.0
12 Mo	0509	0.7	**27** Tu	0546	0.5
	1122	1.8		1202	2.0
	1728	0.8		1817	0.6
	2336	1.8			
13 Tu	0552	0.7	**28** We	0027	1.9
	1208	1.8		0641	0.5
	1816	0.8		1301	1.9
				1916	0.7
14 We	0021	1.8	**29** Th	0123	1.9
	0637	0.7		0738	0.6
	1258	1.8		1400	1.9
	1906	0.8		2015	0.7
15 Th	0108	1.8	**30** Fr	0221	1.8
	0725	0.7		0835	0.6
	1349	1.8		1458	1.9
	1957	0.8		2112	0.7
			31 Sa	0318	1.8
				0931	0.7
				1553	1.9
				2207	0.7

September

	Time	m		Time	m
1 Su	0413	1.8	**16** Mo	0319	1.8
	1025	0.7		0935	0.6
	1644	1.9		1556	2.0
	2259	0.7		2209	0.6
2 Mo	0506	1.8	**17** Tu	0417	1.9
	1114	0.7		1031	0.5
	1731	1.9		1650	2.0
	2347	0.7		2305	0.5
3 Tu ●	0554	1.8	**18** We ❍	0515	2.0
	1201	0.7		1127	0.5
	1815	1.9		1744	2.1
4 We	0032	0.7	**19** Th	0000	0.5
	0640	1.8		0611	2.1
	1244	0.7		1222	0.4
	1857	1.9		1838	2.1
5 Th	0114	0.7	**20** Fr	0054	0.4
	0722	1.8		0706	2.1
	1325	0.7		1317	0.4
	1937	1.9		1932	2.2
6 Fr	0154	0.7	**21** Sa	0148	0.4
	0803	1.8		0801	2.1
	1406	0.7		1412	0.4
	2017	1.9		2026	2.2
7 Sa	0233	0.7	**22** Su	0242	0.4
	0842	1.8		0855	2.1
	1446	0.7		1507	0.4
	2056	1.8		2120	2.1
8 Su	0312	0.7	**23** Mo	0335	0.4
	0922	1.8		0949	2.1
	1527	0.7		1603	0.5
	2136	1.8		2215	2.1
9 Mo	0351	0.7	**24** Tu	0428	0.4
	1003	1.8		1045	2.1
	1610	0.8		1700	0.6
	2217	1.8		2310	2.0
10 Tu	0431	0.7	**25** We	0522	0.5
	1047	1.8		1141	2.0
	1655	0.8		1758	0.6
	2300	1.8			
11 We	0513	0.7	**26** Th	0005	1.9
	1132	1.8		0617	0.6
	1743	0.8		1238	1.9
	2345	1.8		1856	0.7
12 Th	0558	0.7	**27** Fr	0102	1.8
	1221	1.8		0713	0.6
	1833	0.8		1336	1.9
				1953	0.7
13 Fr	0034	1.8	**28** Sa	0159	1.8
	0648	0.7		0810	0.7
	1313	1.8		1432	1.9
	1925	0.8		2049	0.7
14 Sa	0126	1.8	**29** Su	0255	1.8
	0741	0.7		0906	0.7
	1407	1.8		1525	1.8
	2019	0.7		2142	0.8
15 Su	0221	1.8	**30** Mo	0350	1.7
	0837	0.7		0958	0.7
	1501	1.9		1615	1.8
	2114	0.7		2232	0.8

October

	Time	m		Time	m
1 Tu	0442	1.7	**16** We	0355	1.9
	1048	0.7		1008	0.6
	1701	1.8		1624	2.0
	2318	0.7		2240	0.5
2 We	0529	1.8	**17** Th ❍	0454	2.0
	1133	0.7		1105	0.5
	1744	1.8		1719	2.1
				2337	0.4
3 Th ●	0002	0.7	**18** Fr	0551	2.1
	0613	1.8		1202	0.5
	1216	0.7		1815	2.1
	1825	1.8			
4 Fr	0043	0.7	**19** Sa	0032	0.4
	0654	1.8		0647	2.1
	1257	0.7		1258	0.4
	1905	1.8		1910	2.1
5 Sa	0122	0.7	**20** Su	0126	0.3
	0734	1.8		0741	2.2
	1338	0.7		1353	0.4
	1944	1.8		2005	2.1
6 Su	0200	0.7	**21** Mo	0219	0.4
	0813	1.8		0835	2.2
	1418	0.7		1449	0.5
	2024	1.8		2059	2.1
7 Mo	0238	0.7	**22** Tu	0312	0.4
	0853	1.9		0929	2.1
	1500	0.7		1544	0.5
	2104	1.8		2153	2.0
8 Tu	0317	0.7	**23** We	0405	0.4
	0934	1.9		1023	2.1
	1543	0.8		1640	0.6
	2146	1.8		2247	1.9
9 We	0357	0.7	**24** Th	0457	0.5
	1016	1.8		1118	2.0
	1627	0.8		1736	0.6
	2229	1.8		2341	1.9
10 Th	0440	0.7	**25** Fr	0550	0.6
	1102	1.8		1212	1.9
	1715	0.8		1831	0.7
	2315	1.8			
11 Fr	0526	0.7	**26** Sa	0036	1.8
	1150	1.8		0644	0.7
	1805	0.8		1306	1.9
				1925	0.7
12 Sa	0005	1.8	**27** Su	0131	1.8
	0617	0.7		0739	0.7
	1242	1.9		1359	1.8
	1857	0.7		2018	0.8
13 Su	0059	1.8	**28** Mo	0226	1.7
	0711	0.7		0833	0.8
	1336	1.9		1450	1.8
	1951	0.7		2109	0.8
14 Mo	0156	1.8	**29** Tu	0320	1.7
	0810	0.7		0925	0.8
	1432	1.9		1538	1.8
	2047	0.6		2158	0.8
15 Tu	0256	1.9	**30** We	0411	1.7
	0909	0.6		1015	0.8
	1528	2.0		1624	1.8
	2144	0.6		2244	0.7
			31 Th	0459	1.8
				1101	0.8
				1708	1.8
				2327	0.7

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Gisborne

Lat. 38˚40´S., Long. 178˚02´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0543 1146 1751	1.8 0.8 1.8	**16** Sa ❍	0532 1142 1753	2.1 0.5 2.1
2 Sa ●	0009 0625 1228 1832	0.7 1.8 0.8 1.8	**17** Su	0011 0628 1239 1849	0.4 2.1 0.5 2.1
3 Su	0049 0706 1310 1913	0.7 1.8 0.7 1.8	**18** Mo	0105 0723 1335 1944	0.4 2.1 0.5 2.0
4 Mo	0128 0746 1352 1954	0.7 1.9 0.7 1.8	**19** Tu	0158 0816 1431 2039	0.4 2.1 0.5 2.0
5 Tu	0208 0826 1435 2036	0.6 1.9 0.7 1.8	**20** We	0250 0909 1525 2132	0.4 2.1 0.6 2.0
6 We	0248 0908 1518 2119	0.6 1.9 0.7 1.8	**21** Th	0341 1000 1619 2223	0.5 2.0 0.6 1.9
7 Th	0329 0951 1604 2204	0.6 1.9 0.7 1.8	**22** Fr	0431 1052 1711 2315	0.6 2.0 0.6 1.8
8 Fr	0413 1036 1652 2252	0.6 1.9 0.7 1.8	**23** Sa	0521 1142 1802	0.6 1.9 0.7
9 Sa	0501 1125 1741 2342	0.6 1.9 0.7 1.8	**24** Su	0006 0611 1232 1851	1.8 0.7 1.9 0.7
10 Su	0552 1216 1833	0.7 1.9 0.7	**25** Mo	0057 0703 1321 1940	1.7 0.8 1.8 0.8
11 Mo	0037 0647 1310 1927	1.8 0.7 1.9 0.6	**26** Tu	0149 0755 1409 2029	1.7 0.8 1.8 0.8
12 Tu	0134 0746 1406 2023	1.8 0.6 2.0 0.6	**27** We	0242 0846 1456 2117	1.7 0.8 1.8 0.8
13 We	0234 0846 1502 2120	1.9 0.6 2.0 0.5	**28** Th	0334 0937 1543 2204	1.7 0.8 1.8 0.7
14 Th	0335 0946 1559 2218	1.9 0.6 2.0 0.5	**29** Fr	0423 1025 1629 2249	1.7 0.8 1.8 0.7
15 Fr	0434 1045 1656 2315	2.0 0.5 2.0 0.4	**30** Sa	0510 1112 1714 2333	1.8 0.8 1.8 0.7

December

	Time	m		Time	m
1 Su ●	0554 1157 1758	1.8 0.8 1.8	**16** Mo	0611 1222 1830	2.1 0.6 2.0
2 Mo	0016 0636 1241 1842	0.7 1.8 0.8 1.8	**17** Tu	0045 0705 1318 1925	0.4 2.1 0.6 2.0
3 Tu	0058 0718 1326 1926	0.6 1.9 0.7 1.8	**18** We	0138 0757 1412 2018	0.5 2.1 0.6 1.9
4 We	0139 0800 1410 2011	0.6 1.9 0.7 1.8	**19** Th	0228 0847 1505 2109	0.5 2.0 0.6 1.9
5 Th	0222 0843 1456 2057	0.6 1.9 0.7 1.8	**20** Fr	0316 0936 1554 2158	0.5 2.0 0.6 1.9
6 Fr	0306 0928 1543 2144	0.6 2.0 0.7 1.9	**21** Sa	0403 1023 1642 2245	0.6 2.0 0.7 1.8
7 Sa	0352 1015 1631 2232	0.6 2.0 0.6 1.9	**22** Su	0450 1109 1728 2332	0.7 1.9 0.7 1.8
8 Su	0441 1104 1721 2324	0.6 2.0 0.6 1.9	**23** Mo	0536 1155 1813	0.7 1.9 0.7
9 Mo	0532 1155 1812	0.6 2.0 0.6	**24** Tu	0020 0624 1240 1859	1.7 0.8 1.8 0.7
10 Tu	0018 0627 1248 1906	1.9 0.6 2.0 0.6	**25** We	0109 0714 1326 1945	1.7 0.8 1.8 0.8
11 We	0115 0726 1343 2001	1.9 0.6 2.0 0.6	**26** Th	0200 0804 1412 2032	1.7 0.8 1.8 0.8
12 Th	0215 0826 1440 2058	1.9 0.6 2.0 0.5	**27** Fr	0252 0855 1459 2121	1.7 0.8 1.7 0.8
13 Fr	0316 0926 1537 2157	1.9 0.6 2.0 0.5	**28** Sa	0343 0946 1547 2208	1.7 0.8 1.7 0.7
14 Sa	0416 1026 1635 2254	2.0 0.6 2.0 0.5	**29** Su	0432 1035 1635 2256	1.8 0.8 1.7 0.7
15 Su ❍	0514 1125 1733 2351	2.0 0.6 2.0 0.5	**30** Mo	0519 1123 1723 2342	1.8 0.8 1.8 0.7
			31 Tu ●	0604 1211 1811	1.9 0.8 1.8

January

	Time	m		Time	m
1 We	0027 0649 1258 1859	0.6 1.9 0.7 1.8	**16** Th	0117 0736 1352 1957	0.5 2.0 0.6 1.9
2 Th	0112 0733 1345 1947	0.6 2.0 0.7 1.9	**17** Fr	0205 0824 1441 2045	0.6 2.0 0.7 1.9
3 Fr	0158 0819 1433 2035	0.6 2.0 0.6 1.9	**18** Sa	0250 0909 1527 2130	0.6 2.0 0.7 1.8
4 Sa	0245 0906 1522 2125	0.5 2.0 0.6 1.9	**19** Su	0335 0953 1610 2214	0.6 1.9 0.7 1.8
5 Su	0333 0955 1611 2215	0.5 2.0 0.6 1.9	**20** Mo	0418 1035 1652 2257	0.7 1.9 0.7 1.8
6 Mo	0423 1044 1701 2307	0.5 2.0 0.6 1.9	**21** Tu	0502 1117 1734 2342	0.7 1.9 0.7 1.8
7 Tu	0516 1136 1753	0.6 2.0 0.5	**22** We	0547 1200 1816	0.8 1.8 0.7
8 We	0001 0611 1229 1846	1.9 0.6 2.0 0.6	**23** Th	0029 0634 1243 1901	1.7 0.8 1.8 0.8
9 Th	0058 0709 1324 1941	1.9 0.6 2.0 0.6	**24** Fr	0118 0723 1329 1947	1.7 0.8 1.8 0.8
10 Fr	0158 0809 1420 2039	1.9 0.7 1.9 0.6	**25** Sa	0209 0814 1416 2036	1.7 0.8 1.7 0.8
11 Sa	0259 0909 1518 2138	1.9 0.7 1.9 0.6	**26** Su	0301 0905 1506 2127	1.7 0.8 1.7 0.7
12 Su	0359 1010 1617 2236	1.9 0.7 1.9 0.5	**27** Mo	0352 0956 1557 2217	1.8 0.8 1.7 0.7
13 Mo	0457 1109 1716 2333	2.0 0.7 1.9 0.5	**28** Tu	0441 1047 1649 2307	1.8 0.8 1.8 0.7
14 Tu ❍	0553 1206 1813	2.0 0.7 1.9	**29** We	0529 1138 1741 2356	1.9 0.7 1.8 0.6
15 We	0026 0646 1301 1907	0.5 2.0 0.6 1.9	**30** Th ●	0617 1228 1832	1.9 0.7 1.9
			31 Fr	0045 0705 1318 1923	0.6 2.0 0.6 1.9

February

	Time	m		Time	m
1 Sa	0135 0754 1409 2014	0.5 2.0 0.6 2.0	**16** Su	0223 0839 1455 2101	0.6 1.9 0.7 1.8
2 Su	0224 0844 1459 2105	0.5 2.1 0.5 2.0	**17** Mo	0305 0920 1535 2142	0.7 1.9 0.7 1.8
3 Mo	0315 0934 1550 2157	0.5 2.1 0.5 2.0	**18** Tu	0347 1000 1615 2223	0.7 1.8 0.7 1.8
4 Tu	0407 1026 1641 2250	0.5 2.1 0.5 2.0	**19** We	0429 1041 1655 2306	0.7 1.8 0.7 1.8
5 We	0501 1118 1734 2345	0.5 2.0 0.5 2.0	**20** Th	0513 1122 1736 2351	0.8 1.8 0.7 1.8
6 Th	0557 1212 1827	0.6 2.0 0.5	**21** Fr	0559 1205 1819	0.8 1.8 0.7
7 Fr	0042 0655 1307 1923	1.9 0.6 1.9 0.6	**22** Sa	0038 0646 1250 1905	1.7 0.8 1.7 0.8
8 Sa	0142 0754 1404 2021	1.9 0.7 1.9 0.6	**23** Su	0128 0736 1337 1955	1.7 0.8 1.7 0.8
9 Su	0242 0854 1503 2120	1.9 0.7 1.9 0.6	**24** Mo	0219 0827 1428 2046	1.8 0.8 1.7 0.7
10 Mo	0342 0954 1602 2219	1.9 0.7 1.8 0.6	**25** Tu	0311 0919 1521 2140	1.8 0.8 1.8 0.7
11 Tu	0439 1052 1700 2314	1.9 0.7 1.8 0.6	**26** We	0402 1011 1616 2233	1.8 0.7 1.8 0.6
12 We	0533 1148 1755	1.9 0.7 1.8	**27** Th	0454 1105 1711 2326	1.9 0.7 1.9 0.6
13 Th ❍	0006 0624 1240 1846	0.6 1.9 0.7 1.8	**28** Fr ●	0545 1158 1806	2.0 0.6 1.9
14 Fr	0055 0712 1328 1934	0.6 1.9 0.7 1.8			
15 Sa	0140 0756 1413 2018	0.6 1.9 0.7 1.8			

Remember to add 1 hour for Daylight Saving Time.

Gisborne

Lat. 38˚40´S., Long. 178˚02´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0019	0.5	**16** Su	0113	0.7
	0636	2.0		0725	1.8
	1250	0.5		1341	0.7
	1859	2.0		1950	1.8
2 Su	0111	0.5	**17** Mo	0155	0.7
	0728	2.1		0806	1.8
	1343	0.5		1421	0.7
	1953	2.0		2030	1.8
3 Mo	0204	0.5	**18** Tu	0236	0.7
	0820	2.1		0846	1.8
	1436	0.4		1500	0.7
	2046	2.1		2110	1.8
4 Tu	0257	0.5	**19** We	0317	0.7
	0913	2.1		0926	1.8
	1528	0.4		1538	0.7
	2139	2.1		2151	1.8
5 We	0351	0.5	**20** Th	0359	0.8
	1007	2.1		1006	1.8
	1621	0.4		1618	0.7
	2233	2.0		2232	1.8
6 Th	0447	0.5	**21** Fr	0442	0.8
	1101	2.0		1047	1.8
	1714	0.5		1659	0.7
	2329	2.0		2316	1.8
7 Fr	0544	0.6	**22** Sa	0527	0.8
	1156	2.0		1130	1.8
	1809	0.5		1742	0.7
8 Sa	0027	2.0	**23** Su	0002	1.8
	0642	0.6		0614	0.8
	1252	1.9		1216	1.7
	1906	0.6		1828	0.7
9 Su	0126	1.9	**24** Mo	0051	1.8
	0741	0.7		0702	0.8
	1349	1.9		1304	1.7
	2004	0.6		1918	0.7
10 Mo	0225	1.9	**25** Tu	0141	1.8
	0839	0.7		0753	0.8
	1447	1.8		1356	1.8
	2102	0.7		2011	0.7
11 Tu	0323	1.9	**26** We	0233	1.8
	0937	0.7		0845	0.7
	1545	1.8		1450	1.8
	2159	0.7		2106	0.7
12 We	0418	1.9	**27** Th	0326	1.9
	1033	0.7		0939	0.7
	1642	1.8		1547	1.8
	2253	0.7		2202	0.6
13 Th	0509	1.9	**28** Fr	0420	1.9
	1125	0.7		1033	0.6
	1734	1.8		1644	1.9
	2343	0.7		2258	0.6
14 Fr ❍	0557	1.9	**29** Sa ●	0513	2.0
	1214	0.7		1128	0.5
	1823	1.8		1740	2.0
				2353	0.5
15 Sa	0029	0.7	**30** Su	0608	2.0
	0642	1.8		1223	0.5
	1259	0.7		1836	2.1
	1908	1.8			
			31 Mo	0048	0.5
				0702	2.1
				1318	0.4
				1931	2.1

April

	Time	m		Time	m
1 Tu	0143	0.4	**16** We	0207	0.8
	0757	2.1		0812	1.8
	1412	0.4		1425	0.7
	2025	2.1		2040	1.8
2 We	0238	0.4	**17** Th	0248	0.8
	0852	2.1		0853	1.8
	1506	0.4		1504	0.7
	2120	2.1		2120	1.8
3 Th	0335	0.5	**18** Fr	0331	0.8
	0948	2.1		0934	1.8
	1600	0.4		1544	0.7
	2216	2.1		2202	1.8
4 Fr	0432	0.5	**19** Sa	0414	0.8
	1043	2.0		1016	1.8
	1655	0.5		1625	0.7
	2312	2.0		2245	1.8
5 Sa	0529	0.6	**20** Su	0459	0.8
	1139	1.9		1100	1.7
	1750	0.5		1709	0.7
				2331	1.8
6 Su	0009	2.0	**21** Mo	0545	0.8
	0627	0.6		1146	1.8
	1235	1.9		1756	0.7
	1846	0.6			
7 Mo	0107	1.9	**22** Tu	0019	1.8
	0724	0.7		0633	0.8
	1332	1.8		1236	1.8
	1943	0.7		1846	0.7
8 Tu	0204	1.9	**23** We	0109	1.8
	0820	0.7		0723	0.7
	1429	1.8		1328	1.8
	2040	0.7		1940	0.7
9 We	0258	1.8	**24** Th	0201	1.9
	0915	0.7		0815	0.7
	1525	1.8		1424	1.8
	2135	0.7		2037	0.7
10 Th	0350	1.8	**25** Fr	0254	1.9
	1007	0.7		0909	0.6
	1619	1.8		1521	1.9
	2227	0.7		2134	0.6
11 Fr	0439	1.8	**26** Sa	0349	2.0
	1056	0.7		1005	0.6
	1709	1.8		1619	2.0
	2315	0.7		2232	0.6
12 Sa	0525	1.8	**27** Su	0445	2.0
	1142	0.7		1101	0.5
	1755	1.8		1717	2.0
				2329	0.5
13 Su ❍	0000	0.7	**28** Mo ●	0541	2.1
	0608	1.8		1157	0.4
	1225	0.7		1814	2.1
	1838	1.8			
14 Mo	0043	0.8	**29** Tu	0026	0.5
	0650	1.8		0638	2.1
	1306	0.7		1254	0.4
	1920	1.8		1910	2.1
15 Tu	0125	0.8	**30** We	0123	0.5
	0731	1.8		0735	2.1
	1346	0.7		1349	0.4
	2000	1.8		2006	2.1

May

	Time	m		Time	m
1 Th	0220	0.5	**16** Fr	0220	0.8
	0831	2.1		0821	1.8
	1444	0.4		1431	0.7
	2101	2.1		2051	1.9
2 Fr	0318	0.5	**17** Sa	0304	0.8
	0928	2.0		0904	1.8
	1539	0.4		1513	0.7
	2157	2.1		2133	1.9
3 Sa	0415	0.5	**18** Su	0348	0.8
	1024	2.0		0948	1.8
	1633	0.5		1555	0.7
	2252	2.0		2217	1.9
4 Su	0512	0.6	**19** Mo	0433	0.7
	1119	1.9		1034	1.8
	1728	0.6		1641	0.7
	2348	2.0		2303	1.9
5 Mo	0608	0.6	**20** Tu	0520	0.7
	1215	1.9		1121	1.8
	1823	0.6		1729	0.7
				2351	1.9
6 Tu	0043	1.9	**21** We	0608	0.7
	0702	0.7		1212	1.8
	1310	1.8		1820	0.7
	1918	0.7			
7 We	0136	1.9	**22** Th	0041	1.9
	0755	0.7		0658	0.7
	1404	1.8		1305	1.8
	2012	0.7		1915	0.7
8 Th	0227	1.8	**23** Fr	0133	1.9
	0845	0.7		0750	0.6
	1458	1.8		1401	1.9
	2105	0.8		2012	0.6
9 Fr	0316	1.8	**24** Sa	0227	2.0
	0934	0.7		0844	0.6
	1549	1.7		1459	1.9
	2155	0.8		2111	0.6
10 Sa	0403	1.8	**25** Su	0323	2.0
	1021	0.7		0940	0.5
	1638	1.8		1558	2.0
	2243	0.8		2209	0.6
11 Su	0448	1.8	**26** Mo	0420	2.0
	1106	0.7		1037	0.5
	1724	1.8		1656	2.0
	2328	0.8		2308	0.5
12 Mo	0531	1.8	**27** Tu ●	0517	2.0
	1149	0.7		1135	0.4
	1807	1.8		1754	2.1
13 Tu ❍	0012	0.8	**28** We	0006	0.5
	0614	1.8		0616	2.0
	1230	0.7		1231	0.4
	1849	1.8		1850	2.1
14 We	0055	0.8	**29** Th	0104	0.5
	0657	1.8		0714	2.0
	1311	0.7		1327	0.4
	1930	1.8		1946	2.1
15 Th	0137	0.8	**30** Fr	0202	0.5
	0739	1.8		0811	2.0
	1351	0.7		1422	0.4
	2010	1.8		2041	2.1
			31 Sa	0259	0.5
				0907	2.0
				1516	0.5
				2136	2.1

June

	Time	m		Time	m
1 Su	0355	0.6	**16** Mo	0322	0.7
	1002	1.9		0923	1.8
	1609	0.5		1530	0.6
	2229	2.0		2151	1.9
2 Mo	0450	0.6	**17** Tu	0408	0.7
	1056	1.9		1010	1.8
	1702	0.6		1616	0.6
	2322	2.0		2238	1.9
3 Tu	0542	0.6	**18** We	0455	0.6
	1149	1.8		1059	1.8
	1755	0.7		1706	0.7
				2327	1.9
4 We	0013	1.9	**19** Th	0544	0.6
	0633	0.7		1150	1.9
	1241	1.8		1759	0.7
	1847	0.7			
5 Th	0103	1.9	**20** Fr	0017	1.9
	0722	0.7		0635	0.6
	1333	1.8		1245	1.9
	1939	0.8		1854	0.7
6 Fr	0151	1.8	**21** Sa	0110	2.0
	0810	0.7		0727	0.6
	1425	1.7		1342	1.9
	2030	0.8		1952	0.6
7 Sa	0238	1.8	**22** Su	0205	2.0
	0856	0.7		0823	0.5
	1515	1.7		1440	1.9
	2119	0.8		2051	0.6
8 Su	0324	1.8	**23** Mo	0301	2.0
	0943	0.7		0920	0.5
	1604	1.8		1540	2.0
	2208	0.8		2151	0.6
9 Mo	0409	1.7	**24** Tu	0359	2.0
	1028	0.7		1018	0.5
	1650	1.8		1638	2.0
	2254	0.8		2250	0.6
10 Tu	0454	1.7	**25** We ●	0458	2.0
	1112	0.7		1115	0.5
	1734	1.8		1736	2.1
	2340	0.8		2349	0.6
11 We ❍	0539	1.7	**26** Th	0557	2.0
	1156	0.7		1212	0.4
	1817	1.8		1832	2.1
12 Th	0024	0.8	**27** Fr	0047	0.5
	0624	1.7		0655	2.0
	1238	0.7		1307	0.4
	1859	1.9		1926	2.1
13 Fr	0108	0.8	**28** Sa	0143	0.5
	0708	1.8		0751	2.0
	1320	0.7		1401	0.5
	1941	1.9		2020	2.1
14 Sa	0152	0.8	**29** Su	0238	0.6
	0752	1.8		0845	1.9
	1402	0.7		1452	0.5
	2023	1.9		2112	2.0
15 Su	0237	0.7	**30** Mo	0331	0.6
	0837	1.8		0937	1.9
	1445	0.6		1543	0.6
	2106	1.9		2202	2.0

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Lyttelton

Lat. 43˚36´S., Long. 172˚43´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0604 1218 1837	0.5 2.4 0.6	**16** Tu	0601 1218 1835	0.8 2.1 0.8
2 Tu	0046 0658 1317 1936	2.3 0.5 2.4 0.6	**17** We	0037 0647 1308 1926	2.0 0.7 2.1 0.8
3 We	0143 0753 1415 2034	2.3 0.5 2.5 0.6	**18** Th	0126 0734 1358 2016	2.1 0.7 2.2 0.7
4 Th	0239 0849 1511 2129	2.3 0.5 2.5 0.5	**19** Fr	0214 0822 1446 2104	2.1 0.7 2.3 0.7
5 Fr	0332 0943 1603 2222	2.3 0.5 2.5 0.5	**20** Sa	0302 0911 1534 2153	2.2 0.6 2.4 0.6
6 Sa ●	0425 1036 1653 2311	2.3 0.5 2.5 0.5	**21** Su ❍	0350 1003 1621 2241	2.2 0.5 2.4 0.5
7 Su	0516 1127 1741 2359	2.2 0.5 2.4 0.6	**22** Mo	0440 1054 1710 2330	2.3 0.5 2.5 0.5
8 Mo	0606 1214 1828	2.2 0.6 2.4	**23** Tu	0532 1145 1800	2.3 0.4 2.5
9 Tu	0044 0655 1300 1913	0.6 2.2 0.6 2.3	**24** We	0019 0626 1237 1852	0.4 2.4 0.4 2.5
10 We	0129 0743 1344 1958	0.6 2.2 0.7 2.3	**25** Th	0110 0721 1329 1946	0.4 2.4 0.4 2.5
11 Th	0213 0829 1428 2042	0.7 2.1 0.7 2.2	**26** Fr	0203 0816 1424 2041	0.4 2.4 0.4 2.5
12 Fr	0258 0914 1514 2127	0.7 2.1 0.8 2.1	**27** Sa	0257 0912 1521 2138	0.4 2.4 0.5 2.4
13 Sa	0343 0958 1601 2212	0.7 2.1 0.8 2.1	**28** Su	0352 1007 1621 2235	0.4 2.4 0.5 2.4
14 Su	0429 1043 1652 2259	0.8 2.1 0.9 2.1	**29** Mo	0449 1105 1723 2333	0.5 2.4 0.6 2.3
15 Mo	0515 1130 1743 2347	0.8 2.1 0.9 2.0	**30** Tu	0547 1204 1825	0.5 2.4 0.6
			31 We	0032 0644 1305 1925	2.3 0.5 2.4 0.6

August

	Time	m		Time	m
1 Th	0131 0740 1403 2021	2.2 0.5 2.4 0.6	**16** Fr	0052 0700 1323 1943	2.0 0.7 2.2 0.7
2 Fr	0226 0834 1457 2114	2.2 0.5 2.4 0.6	**17** Sa	0142 0750 1414 2032	2.1 0.6 2.3 0.6
3 Sa	0318 0927 1546 2203	2.2 0.5 2.4 0.6	**18** Su	0232 0842 1504 2122	2.2 0.5 2.4 0.5
4 Su ●	0407 1017 1632 2249	2.2 0.5 2.4 0.6	**19** Mo	0323 0935 1553 2211	2.3 0.4 2.5 0.4
5 Mo	0453 1104 1715 2332	2.2 0.6 2.3 0.6	**20** Tu ❍	0414 1029 1643 2302	2.4 0.4 2.6 0.3
6 Tu	0539 1148 1757	2.2 0.6 2.3	**21** We	0507 1122 1735 2353	2.4 0.3 2.6 0.3
7 We	0014 0624 1230 1839	0.6 2.2 0.6 2.2	**22** Th	0602 1216 1828	2.5 0.3 2.6
8 Th	0055 0708 1311 1921	0.6 2.1 0.7 2.2	**23** Fr	0045 0658 1309 1924	0.3 2.5 0.3 2.5
9 Fr	0136 0751 1353 2004	0.7 2.1 0.7 2.1	**24** Sa	0139 0755 1405 2021	0.3 2.5 0.3 2.5
10 Sa	0218 0835 1437 2048	0.7 2.1 0.8 2.1	**25** Su	0234 0851 1503 2119	0.3 2.5 0.4 2.4
11 Su	0302 0919 1523 2134	0.7 2.1 0.8 2.0	**26** Mo	0331 0949 1604 2218	0.4 2.5 0.5 2.3
12 Mo	0347 1004 1614 2222	0.7 2.1 0.8 2.0	**27** Tu	0430 1048 1708 2318	0.4 2.4 0.5 2.2
13 Tu	0434 1051 1707 2311	0.8 2.1 0.8 2.0	**28** We	0529 1148 1811	0.5 2.4 0.6
14 We	0522 1140 1801	0.8 2.1 0.8	**29** Th	0017 0627 1249 1910	2.2 0.5 2.3 0.6
15 Th	0001 0611 1232 1853	2.0 0.7 2.1 0.8	**30** Fr	0115 0724 1346 2004	2.2 0.6 2.3 0.6
			31 Sa	0209 0817 1437 2053	2.2 0.6 2.3 0.6

September

	Time	m		Time	m
1 Su	0259 0907 1524 2138	2.2 0.6 2.3 0.6	**16** Mo	0204 0815 1435 2051	2.2 0.5 2.4 0.4
2 Mo	0345 0955 1606 2221	2.2 0.6 2.3 0.6	**17** Tu	0256 0910 1526 2142	2.4 0.4 2.5 0.3
3 Tu ●	0428 1039 1646 2302	2.2 0.6 2.3 0.6	**18** We ❍	0349 1005 1617 2234	2.5 0.3 2.6 0.3
4 We	0511 1120 1725 2342	2.2 0.6 2.2 0.6	**19** Th	0444 1100 1710 2328	2.5 0.3 2.6 0.2
5 Th	0552 1201 1805	2.1 0.6 2.2	**20** Fr	0539 1155 1805	2.6 0.2 2.6
6 Fr	0022 0634 1241 1846	0.6 2.1 0.7 2.1	**21** Sa	0022 0636 1251 1903	0.2 2.6 0.3 2.5
7 Sa	0101 0716 1322 1929	0.7 2.1 0.7 2.1	**22** Su	0117 0734 1347 2001	0.3 2.6 0.3 2.4
8 Su	0142 0800 1405 2014	0.7 2.1 0.7 2.0	**23** Mo	0213 0832 1445 2101	0.3 2.5 0.4 2.4
9 Mo	0225 0844 1451 2102	0.7 2.1 0.8 2.0	**24** Tu	0310 0930 1547 2200	0.4 2.5 0.5 2.3
10 Tu	0310 0929 1542 2150	0.7 2.1 0.8 2.0	**25** We	0409 1028 1649 2259	0.5 2.4 0.6 2.2
11 We	0358 1016 1635 2239	0.8 2.1 0.8 2.0	**26** Th	0508 1127 1751 2358	0.5 2.3 0.6 2.2
12 Th	0447 1106 1728 2329	0.7 2.1 0.8 2.0	**27** Fr	0606 1226 1847	0.6 2.3 0.6
13 Fr	0537 1158 1821	0.7 2.2 0.7	**28** Sa	0054 0701 1321 1938	2.2 0.6 2.3 0.6
14 Sa	0020 0628 1250 1911	2.1 0.6 2.2 0.6	**29** Su	0146 0753 1410 2025	2.2 0.6 2.3 0.6
15 Su	0112 0721 1343 2001	2.1 0.6 2.3 0.5	**30** Mo	0234 0842 1455 2108	2.2 0.6 2.2 0.6

October

	Time	m		Time	m
1 Tu	0319 0928 1536 2150	2.2 0.7 2.2 0.6	**16** We	0232 0847 1500 2115	2.4 0.4 2.5 0.3
2 We	0401 1011 1615 2230	2.2 0.7 2.2 0.6	**17** Th ❍	0327 0944 1554 2209	2.5 0.3 2.5 0.3
3 Th ●	0441 1052 1654 2310	2.2 0.7 2.2 0.6	**18** Fr	0423 1041 1648 2305	2.6 0.3 2.5 0.2
4 Fr	0522 1133 1733 2350	2.2 0.7 2.1 0.7	**19** Sa	0519 1137 1744	2.6 0.3 2.5
5 Sa	0603 1214 1815	2.2 0.7 2.1	**20** Su	0000 0617 1233 1843	0.2 2.6 0.3 2.5
6 Su	0030 0645 1255 1859	0.7 2.2 0.7 2.1	**21** Mo	0056 0714 1329 1942	0.3 2.6 0.4 2.4
7 Mo	0111 0729 1339 1946	0.7 2.1 0.7 2.0	**22** Tu	0152 0812 1427 2041	0.3 2.5 0.4 2.3
8 Tu	0154 0813 1425 2034	0.7 2.1 0.8 2.0	**23** We	0248 0909 1526 2139	0.4 2.5 0.5 2.3
9 We	0239 0859 1514 2123	0.7 2.2 0.8 2.0	**24** Th	0345 1005 1625 2236	0.5 2.4 0.6 2.2
10 Th	0326 0947 1606 2212	0.7 2.2 0.8 2.0	**25** Fr	0442 1100 1723 2331	0.6 2.3 0.6 2.2
11 Fr	0416 1036 1659 2301	0.7 2.2 0.7 2.1	**26** Sa	0538 1155 1817	0.6 2.3 0.6
12 Sa	0507 1127 1750 2352	0.7 2.2 0.7 2.1	**27** Su	0024 0632 1247 1905	2.2 0.7 2.2 0.7
13 Su	0600 1220 1841	0.6 2.3 0.6	**28** Mo	0115 0723 1336 1950	2.1 0.7 2.2 0.7
14 Mo	0044 0654 1314 1931	2.2 0.5 2.4 0.5	**29** Tu	0203 0811 1421 2033	2.1 0.7 2.2 0.7
15 Tu	0137 0750 1407 2022	2.3 0.5 2.4 0.4	**30** We	0248 0857 1502 2115	2.2 0.7 2.2 0.7
			31 Th	0330 0941 1543 2156	2.2 0.7 2.2 0.7

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Lyttelton

Lat. 43˚36´S., Long. 172˚43´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0412 1024 1623 2238	2.2 0.7 2.1 0.7	**16** Sa ❍	0405 1024 1629 2245	2.6 0.4 2.5 0.3
2 Sa ●	0453 1107 1704 2319	2.2 0.7 2.1 0.7	**17** Su	0502 1120 1726 2341	2.6 0.4 2.4 0.3
3 Su	0534 1149 1747	2.2 0.7 2.1	**18** Mo	0559 1216 1824	2.6 0.4 2.4
4 Mo	0001 0617 1232 1832	0.7 2.2 0.7 2.1	**19** Tu	0036 0655 1311 1922	0.3 2.6 0.4 2.4
5 Tu	0043 0701 1316 1920	0.7 2.2 0.7 2.1	**20** We	0130 0750 1405 2019	0.4 2.5 0.5 2.3
6 We	0127 0746 1401 2009	0.7 2.2 0.7 2.1	**21** Th	0224 0844 1500 2114	0.5 2.5 0.6 2.3
7 Th	0212 0833 1450 2058	0.7 2.2 0.7 2.1	**22** Fr	0317 0936 1555 2207	0.6 2.4 0.6 2.2
8 Fr	0259 0921 1540 2146	0.7 2.3 0.7 2.1	**23** Sa	0410 1028 1648 2258	0.6 2.3 0.7 2.2
9 Sa	0349 1010 1631 2236	0.7 2.3 0.7 2.2	**24** Su	0503 1118 1739 2348	0.7 2.2 0.7 2.1
10 Su	0442 1101 1722 2326	0.6 2.3 0.6 2.2	**25** Mo	0555 1207 1826	0.8 2.2 0.7
11 Mo	0536 1153 1813	0.6 2.3 0.5	**26** Tu	0037 0646 1255 1911	2.1 0.8 2.2 0.7
12 Tu	0019 0632 1248 1904	2.3 0.5 2.4 0.5	**27** We	0125 0735 1342 1954	2.1 0.8 2.1 0.7
13 We	0114 0729 1343 1957	2.4 0.5 2.4 0.4	**28** Th	0212 0823 1426 2038	2.1 0.8 2.1 0.7
14 Th	0211 0827 1438 2051	2.5 0.4 2.5 0.4	**29** Fr	0258 0910 1509 2122	2.2 0.8 2.1 0.7
15 Fr	0308 0926 1533 2148	2.5 0.4 2.5 0.3	**30** Sa	0341 0955 1552 2206	2.2 0.8 2.1 0.7

December

	Time	m		Time	m
1 Su ●	0424 1040 1635 2250	2.2 0.7 2.1 0.7	**16** Mo	0446 1104 1709 2323	2.6 0.4 2.4 0.4
2 Mo	0507 1123 1720 2333	2.3 0.7 2.1 0.7	**17** Tu	0540 1158 1805	2.6 0.5 2.3
3 Tu	0550 1207 1806	2.3 0.7 2.1	**18** We	0016 0633 1250 1900	0.4 2.5 0.5 2.3
4 We	0017 0634 1252 1855	0.7 2.3 0.7 2.1	**19** Th	0107 0725 1340 1953	0.5 2.5 0.5 2.3
5 Th	0102 0720 1337 1944	0.6 2.3 0.7 2.2	**20** Fr	0157 0815 1430 2044	0.5 2.4 0.6 2.2
6 Fr	0148 0808 1425 2033	0.6 2.4 0.6 2.2	**21** Sa	0246 0904 1520 2133	0.6 2.3 0.6 2.2
7 Sa	0236 0856 1514 2123	0.6 2.4 0.6 2.2	**22** Su	0335 0951 1608 2220	0.7 2.3 0.7 2.2
8 Su	0326 0946 1605 2213	0.6 2.4 0.6 2.3	**23** Mo	0424 1038 1657 2307	0.8 2.2 0.7 2.1
9 Mo	0420 1038 1657 2304	0.6 2.4 0.6 2.3	**24** Tu	0515 1125 1743 2355	0.8 2.1 0.7 2.1
10 Tu	0516 1131 1749 2359	0.6 2.4 0.5 2.4	**25** We	0606 1213 1829	0.8 2.1 0.8
11 We	0613 1227 1842	0.6 2.4 0.5	**26** Th	0045 0657 1302 1914	2.1 0.9 2.1 0.8
12 Th	0056 0712 1323 1937	2.4 0.5 2.4 0.4	**27** Fr	0134 0747 1349 2000	2.1 0.8 2.1 0.8
13 Fr	0155 0812 1420 2033	2.5 0.5 2.4 0.4	**28** Sa	0223 0836 1436 2046	2.2 0.8 2.1 0.8
14 Sa	0253 0911 1517 2130	2.5 0.5 2.4 0.4	**29** Su	0309 0924 1521 2132	2.2 0.8 2.1 0.7
15 Su ❍	0351 1009 1613 2228	2.6 0.5 2.4 0.4	**30** Mo	0353 1010 1605 2219	2.3 0.7 2.1 0.7
			31 Tu ●	0437 1055 1651 2305	2.3 0.7 2.2 0.6

January

	Time	m		Time	m
1 We	0521 1140 1738 2351	2.4 0.7 2.2 0.6	**16** Th	0609 1225 1834	2.4 0.6 2.3
2 Th	0607 1225 1828	2.4 0.6 2.2	**17** Fr	0042 0656 1311 1923	0.5 2.4 0.6 2.2
3 Fr	0037 0654 1311 1918	0.6 2.4 0.6 2.3	**18** Sa	0128 0743 1357 2011	0.6 2.3 0.6 2.2
4 Sa	0125 0743 1359 2009	0.5 2.4 0.6 2.3	**19** Su	0213 0828 1442 2057	0.7 2.3 0.7 2.2
5 Su	0214 0833 1449 2100	0.5 2.4 0.6 2.3	**20** Mo	0258 0913 1527 2142	0.7 2.2 0.7 2.1
6 Mo	0306 0925 1541 2152	0.5 2.4 0.5 2.4	**21** Tu	0345 0959 1614 2227	0.8 2.1 0.8 2.1
7 Tu	0401 1018 1635 2246	0.6 2.4 0.5 2.4	**22** We	0435 1045 1701 2314	0.8 2.1 0.8 2.1
8 We	0459 1114 1729 2342	0.6 2.4 0.5 2.4	**23** Th	0527 1133 1748	0.9 2.1 0.8
9 Th	0600 1211 1825	0.6 2.3 0.5	**24** Fr	0003 0620 1223 1835	2.1 0.9 2.1 0.8
10 Fr	0041 0700 1309 1921	2.4 0.6 2.3 0.5	**25** Sa	0054 0712 1312 1922	2.1 0.9 2.1 0.8
11 Sa	0142 0801 1407 2019	2.4 0.6 2.3 0.5	**26** Su	0145 0801 1401 2010	2.2 0.8 2.1 0.8
12 Su	0241 0859 1504 2116	2.5 0.6 2.3 0.5	**27** Mo	0234 0849 1447 2058	2.2 0.8 2.1 0.7
13 Mo	0337 0954 1558 2212	2.5 0.5 2.3 0.5	**28** Tu	0320 0936 1534 2146	2.3 0.7 2.2 0.6
14 Tu ❍	0430 1047 1651 2305	2.5 0.5 2.3 0.5	**29** We	0405 1022 1621 2235	2.4 0.6 2.2 0.6
15 We	0520 1137 1744 2355	2.5 0.5 2.3 0.5	**30** Th ●	0450 1108 1709 2324	2.4 0.6 2.3 0.5
			31 Fr	0538 1156 1800	2.5 0.5 2.4

February

	Time	m		Time	m
1 Sa	0013 0627 1244 1852	0.5 2.5 0.5 2.4	**16** Su	0058 0708 1322 1936	0.7 2.2 0.7 2.2
2 Su	0102 0718 1334 1945	0.4 2.5 0.5 2.4	**17** Mo	0140 0752 1404 2020	0.7 2.2 0.7 2.1
3 Mo	0154 0811 1425 2039	0.4 2.5 0.5 2.4	**18** Tu	0224 0837 1448 2104	0.8 2.1 0.8 2.1
4 Tu	0248 0906 1520 2134	0.5 2.4 0.5 2.4	**19** We	0310 0923 1533 2149	0.8 2.1 0.8 2.1
5 We	0346 1002 1616 2230	0.5 2.4 0.5 2.4	**20** Th	0359 1010 1620 2236	0.9 2.0 0.8 2.1
6 Th	0446 1100 1713 2329	0.6 2.3 0.5 2.4	**21** Fr	0451 1058 1708 2324	0.9 2.0 0.8 2.1
7 Fr	0549 1159 1811	0.6 2.3 0.5	**22** Sa	0544 1147 1757	0.9 2.0 0.8
8 Sa	0030 0650 1258 1909	2.4 0.6 2.3 0.5	**23** Su	0015 0636 1236 1845	2.1 0.8 2.1 0.8
9 Su	0131 0749 1356 2006	2.4 0.6 2.3 0.5	**24** Mo	0106 0725 1325 1933	2.2 0.8 2.1 0.7
10 Mo	0229 0845 1451 2102	2.4 0.6 2.3 0.5	**25** Tu	0156 0812 1413 2023	2.2 0.7 2.2 0.7
11 Tu	0322 0937 1542 2155	2.4 0.6 2.3 0.5	**26** We	0244 0859 1501 2114	2.3 0.6 2.2 0.6
12 We	0411 1026 1632 2245	2.4 0.6 2.3 0.5	**27** Th	0331 0947 1549 2205	2.4 0.6 2.3 0.5
13 Th ❍	0457 1112 1720 2331	2.4 0.6 2.3 0.6	**28** Fr ●	0419 1035 1640 2257	2.5 0.5 2.4 0.4
14 Fr	0541 1156 1806	2.4 0.6 2.2			
15 Sa	0015 0625 1239 1851	0.6 2.3 0.6 2.2			

Remember to add 1 hour for Daylight Saving Time.

Lyttelton

Lat. 43˚36´S., Long. 172˚43´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0508	2.5	**16** Su	0552	2.2
	1125	0.4		1206	0.7
	1732	2.5		1819	2.2
	2348	0.4			
2 Su	0600	2.5	**17** Mo	0028	0.7
	1216	0.4		0634	2.2
	1827	2.5		1247	0.7
				1902	2.2
3 Mo	0041	0.4	**18** Tu	0110	0.8
	0654	2.5		0718	2.1
	1309	0.4		1329	0.8
	1923	2.5		1945	2.2
4 Tu	0135	0.4	**19** We	0153	0.8
	0751	2.5		0803	2.1
	1403	0.4		1412	0.8
	2019	2.5		2029	2.1
5 We	0232	0.4	**20** Th	0238	0.8
	0849	2.4		0850	2.0
	1500	0.5		1457	0.8
	2117	2.5		2115	2.1
6 Th	0331	0.5	**21** Fr	0327	0.9
	0948	2.4		0938	2.0
	1558	0.5		1543	0.8
	2215	2.5		2201	2.1
7 Fr	0434	0.6	**22** Sa	0419	0.9
	1047	2.3		1026	2.0
	1657	0.5		1632	0.8
	2315	2.4		2249	2.1
8 Sa	0537	0.6	**23** Su	0510	0.8
	1146	2.3		1114	2.0
	1757	0.6		1720	0.8
				2338	2.2
9 Su	0016	2.4	**24** Mo	0600	0.8
	0638	0.6		1202	2.1
	1245	2.3		1809	0.8
	1855	0.6			
10 Mo	0116	2.4	**25** Tu	0028	2.2
	0734	0.6		0648	0.7
	1341	2.3		1250	2.2
	1951	0.6		1859	0.7
11 Tu	0211	2.4	**26** We	0119	2.3
	0826	0.6		0735	0.7
	1434	2.3		1339	2.2
	2045	0.6		1950	0.6
12 We	0301	2.4	**27** Th	0209	2.4
	0914	0.6		0823	0.6
	1523	2.3		1429	2.3
	2135	0.6		2043	0.5
13 Th	0347	2.3	**28** Fr	0258	2.4
	1000	0.6		0912	0.5
	1609	2.3		1520	2.4
	2221	0.6		2137	0.5
14 Fr ❍	0429	2.3	**29** Sa ●	0349	2.5
	1043	0.7		1003	0.4
	1653	2.2		1613	2.5
	2305	0.6		2231	0.4
15 Sa	0511	2.3	**30** Su	0440	2.5
	1125	0.7		1056	0.4
	1736	2.2		1708	2.6
	2347	0.7		2326	0.3
			31 Mo	0535	2.5
				1151	0.4
				1804	2.6

April

	Time	m		Time	m
1 Tu	0022	0.3	**16** We	0042	0.8
	0632	2.5		0646	2.1
	1246	0.4		1256	0.8
	1902	2.6		1913	2.2
2 We	0118	0.4	**17** Th	0125	0.8
	0731	2.5		0733	2.1
	1343	0.4		1339	0.8
	2001	2.6		1958	2.2
3 Th	0216	0.4	**18** Fr	0211	0.8
	0832	2.4		0821	2.0
	1440	0.4		1424	0.8
	2059	2.6		2043	2.2
4 Fr	0316	0.5	**19** Sa	0258	0.8
	0932	2.4		0909	2.0
	1540	0.5		1510	0.8
	2158	2.5		2129	2.2
5 Sa	0418	0.6	**20** Su	0348	0.8
	1032	2.3		0956	2.0
	1640	0.6		1557	0.8
	2258	2.4		2215	2.2
6 Su	0520	0.6	**21** Mo	0437	0.8
	1130	2.3		1043	2.1
	1739	0.6		1647	0.8
	2357	2.4		2304	2.2
7 Mo	0619	0.6	**22** Tu	0526	0.8
	1227	2.3		1130	2.1
	1836	0.6		1737	0.8
				2353	2.3
8 Tu	0054	2.3	**23** We	0614	0.7
	0712	0.6		1218	2.2
	1321	2.3		1828	0.7
	1931	0.7			
9 We	0147	2.3	**24** Th	0044	2.3
	0800	0.7		0701	0.6
	1412	2.3		1308	2.3
	2022	0.7		1921	0.6
10 Th	0234	2.3	**25** Fr	0136	2.4
	0846	0.7		0750	0.5
	1458	2.2		1400	2.4
	2110	0.7		2016	0.5
11 Fr	0318	2.3	**26** Sa	0229	2.5
	0929	0.7		0841	0.5
	1542	2.2		1454	2.5
	2155	0.7		2112	0.4
12 Sa	0359	2.2	**27** Su	0322	2.5
	1011	0.7		0935	0.4
	1624	2.2		1550	2.6
	2238	0.7		2209	0.4
13 Su ❍	0439	2.2	**28** Mo ●	0416	2.5
	1052	0.7		1031	0.4
	1706	2.2		1646	2.7
	2320	0.7		2307	0.4
14 Mo	0519	2.2	**29** Tu	0513	2.5
	1133	0.7		1128	0.3
	1747	2.2		1744	2.7
15 Tu	0001	0.8	**30** We	0003	0.4
	0601	2.1		0612	2.5
	1215	0.8		1225	0.4
	1830	2.2		1843	2.7

May

	Time	m		Time	m
1 Th	0101	0.4	**16** Fr	0100	0.8
	0712	2.5		0704	2.1
	1323	0.4		1310	0.8
	1942	2.6		1927	2.2
2 Fr	0158	0.4	**17** Sa	0144	0.8
	0813	2.4		0752	2.1
	1420	0.5		1354	0.8
	2040	2.6		2012	2.2
3 Sa	0257	0.5	**18** Su	0230	0.8
	0913	2.4		0840	2.1
	1518	0.5		1439	0.8
	2137	2.5		2058	2.3
4 Su	0357	0.6	**19** Mo	0317	0.8
	1011	2.3		0926	2.1
	1617	0.6		1526	0.8
	2234	2.4		2145	2.3
5 Mo	0456	0.6	**20** Tu	0406	0.7
	1107	2.3		1013	2.2
	1714	0.7		1616	0.8
	2330	2.4		2233	2.3
6 Tu	0551	0.6	**21** We	0454	0.7
	1201	2.3		1100	2.2
	1810	0.7		1708	0.7
				2323	2.3
7 We	0024	2.3	**22** Th	0543	0.6
	0642	0.7		1150	2.3
	1253	2.2		1802	0.7
	1903	0.7			
8 Th	0115	2.3	**23** Fr	0015	2.3
	0728	0.7		0632	0.6
	1343	2.2		1242	2.4
	1953	0.8		1857	0.6
9 Fr	0202	2.2	**24** Sa	0109	2.4
	0812	0.7		0722	0.5
	1429	2.2		1337	2.5
	2040	0.8		1954	0.5
10 Sa	0245	2.2	**25** Su	0204	2.4
	0855	0.7		0816	0.4
	1513	2.2		1434	2.5
	2126	0.8		2052	0.5
11 Su	0327	2.2	**26** Mo	0300	2.5
	0937	0.7		0912	0.4
	1555	2.2		1531	2.6
	2209	0.8		2151	0.4
12 Mo	0407	2.1	**27** Tu ●	0356	2.5
	1019	0.8		1010	0.4
	1637	2.2		1629	2.7
	2252	0.8		2249	0.4
13 Tu ❍	0449	2.1	**28** We	0454	2.5
	1102	0.8		1109	0.4
	1718	2.2		1726	2.7
	2335	0.8		2346	0.4
14 We	0532	2.1	**29** Th	0553	2.5
	1144	0.8		1206	0.4
	1800	2.2		1824	2.7
15 Th	0017	0.8	**30** Fr	0042	0.4
	0617	2.1		0653	2.4
	1227	0.8		1302	0.4
	1843	2.2		1921	2.6
			31 Sa	0138	0.4
				0752	2.4
				1358	0.5
				2017	2.5

June

	Time	m		Time	m
1 Su	0234	0.5	**16** Mo	0201	0.7
	0849	2.3		0810	2.2
	1453	0.5		1411	0.7
	2111	2.5		2029	2.3
2 Mo	0329	0.6	**17** Tu	0247	0.7
	0944	2.3		0858	2.2
	1548	0.6		1459	0.7
	2205	2.4		2117	2.3
3 Tu	0424	0.6	**18** We	0335	0.7
	1037	2.3		0946	2.2
	1643	0.7		1550	0.7
	2257	2.3		2207	2.3
4 We	0516	0.7	**19** Th	0425	0.6
	1128	2.2		1035	2.3
	1737	0.8		1644	0.7
	2348	2.2		2258	2.3
5 Th	0605	0.7	**20** Fr	0516	0.6
	1219	2.2		1127	2.3
	1830	0.8		1741	0.6
				2352	2.3
6 Fr	0037	2.2	**21** Sa	0608	0.5
	0652	0.7		1222	2.4
	1308	2.2		1839	0.6
	1920	0.8			
7 Sa	0125	2.1	**22** Su	0048	2.3
	0736	0.7		0701	0.5
	1356	2.2		1319	2.5
	2008	0.8		1938	0.5
8 Su	0210	2.1	**23** Mo	0146	2.4
	0820	0.7		0757	0.4
	1442	2.2		1418	2.5
	2055	0.8		2038	0.5
9 Mo	0254	2.1	**24** Tu	0243	2.4
	0903	0.8		0855	0.4
	1525	2.2		1517	2.6
	2141	0.8		2136	0.4
10 Tu	0337	2.1	**25** We ●	0340	2.4
	0948	0.8		0954	0.4
	1608	2.3		1614	2.6
	2225	0.8		2234	0.4
11 We ❍	0420	2.1	**26** Th	0438	2.4
	1032	0.8		1052	0.4
	1649	2.3		1709	2.6
	2308	0.8		2329	0.4
12 Th	0504	2.1	**27** Fr	0535	2.4
	1115	0.7		1147	0.4
	1731	2.3		1804	2.6
	2350	0.7			
13 Fr	0549	2.1	**28** Sa	0022	0.4
	1159	0.7		0632	2.4
	1814	2.3		1241	0.4
				1857	2.5
14 Sa	0033	0.7	**29** Su	0114	0.5
	0635	2.1		0727	2.3
	1242	0.7		1333	0.5
	1858	2.3		1949	2.5
15 Su	0116	0.7	**30** Mo	0205	0.5
	0723	2.1		0821	2.3
	1326	0.7		1424	0.6
	1943	2.3		2040	2.4

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Marsden Point

Lat. 35˚50´S., Long. 174˚30´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0244	2.6	**16** Tu	0227	2.3
	0902	0.6		0852	0.9
	1522	2.5		1514	2.2
	2128	0.8		2115	1.1
2 Tu	0341	2.6	**17** We	0318	2.3
	0959	0.6		0943	0.9
	1625	2.5		1610	2.3
	2229	0.8		2212	1.1
3 We	0439	2.5	**18** Th	0412	2.3
	1056	0.6		1037	0.9
	1725	2.6		1706	2.3
	2329	0.8		2307	1.0
4 Th	0538	2.5	**19** Fr	0508	2.3
	1152	0.6		1131	0.8
	1821	2.6		1759	2.4
5 Fr	0026	0.8	**20** Sa	0001	0.9
	0635	2.5		0604	2.4
	1246	0.6		1223	0.7
	1913	2.7		1849	2.5
6 Sa ●	0119	0.8	**21** Su ☽	0052	0.8
	0729	2.5		0658	2.5
	1337	0.6		1313	0.6
	2002	2.7		1938	2.6
7 Su	0210	0.8	**22** Mo	0143	0.7
	0819	2.5		0751	2.5
	1425	0.6		1402	0.5
	2049	2.7		2026	2.7
8 Mo	0258	0.8	**23** Tu	0234	0.6
	0906	2.5		0842	2.6
	1510	0.6		1450	0.5
	2133	2.7		2114	2.8
9 Tu	0344	0.8	**24** We	0324	0.6
	0951	2.5		0932	2.7
	1552	0.7		1538	0.4
	2215	2.6		2203	2.9
10 We	0428	0.8	**25** Th	0414	0.5
	1033	2.4		1023	2.7
	1634	0.7		1627	0.4
	2256	2.6		2251	2.9
11 Th	0511	0.8	**26** Fr	0504	0.5
	1115	2.4		1114	2.7
	1714	0.8		1718	0.5
	2335	2.5		2341	2.8
12 Fr	0553	0.8	**27** Sa	0555	0.5
	1156	2.3		1206	2.6
	1756	0.9		1811	0.6
13 Sa	0015	2.5	**28** Su	0032	2.7
	0635	0.9		0647	0.5
	1240	2.3		1301	2.6
	1840	0.9		1907	0.7
14 Su	0057	2.4	**29** Mo	0124	2.6
	0718	0.9		0741	0.6
	1327	2.3		1400	2.5
	1928	1.0		2007	0.8
15 Mo	0140	2.4	**30** Tu	0220	2.5
	0803	0.9		0837	0.6
	1418	2.2		1502	2.5
	2020	1.1		2109	0.9
			31 We	0320	2.5
				0936	0.7
				1606	2.5
				2213	0.9

August

	Time	m		Time	m
1 Th	0421	2.4	**16** Fr	0335	2.2
	1036	0.7		0959	0.9
	1707	2.5		1630	2.3
	2314	0.9		2234	1.0
2 Fr	0522	2.4	**17** Sa	0437	2.3
	1135	0.7		1059	0.8
	1804	2.5		1728	2.4
				2332	0.9
3 Sa	0011	0.8	**18** Su	0538	2.4
	0620	2.4		1156	0.7
	1229	0.7		1822	2.5
	1856	2.6			
4 Su ●	0103	0.8	**19** Mo	0028	0.8
	0713	2.4		0636	2.5
	1319	0.7		1249	0.6
	1943	2.6		1913	2.7
5 Mo	0152	0.8	**20** Tu ☽	0121	0.6
	0801	2.4		0730	2.6
	1404	0.6		1340	0.4
	2027	2.6		2002	2.8
6 Tu	0237	0.8	**21** We	0212	0.5
	0845	2.5		0822	2.7
	1446	0.6		1429	0.4
	2107	2.6		2051	2.9
7 We	0319	0.7	**22** Th	0302	0.4
	0926	2.5		0913	2.8
	1526	0.7		1518	0.3
	2145	2.6		2139	2.9
8 Th	0358	0.7	**23** Fr	0351	0.3
	1004	2.4		1003	2.8
	1603	0.7		1607	0.4
	2222	2.6		2227	2.9
9 Fr	0436	0.7	**24** Sa	0441	0.3
	1042	2.4		1054	2.8
	1641	0.8		1658	0.5
	2257	2.5		2317	2.8
10 Sa	0514	0.8	**25** Su	0530	0.4
	1121	2.4		1146	2.7
	1720	0.8		1751	0.6
	2334	2.5			
11 Su	0552	0.8	**26** Mo	0008	2.7
	1201	2.3		0621	0.5
	1801	0.9		1240	2.6
				1847	0.7
12 Mo	0014	2.4	**27** Tu	0101	2.6
	0631	0.8		0715	0.6
	1245	2.3		1338	2.5
	1846	1.0		1948	0.8
13 Tu	0056	2.3	**28** We	0158	2.4
	0715	0.9		0813	0.7
	1334	2.3		1441	2.4
	1937	1.0		2052	0.9
14 We	0144	2.3	**29** Th	0300	2.3
	0803	0.9		0914	0.8
	1429	2.2		1545	2.4
	2034	1.1		2156	0.9
15 Th	0237	2.2	**30** Fr	0405	2.3
	0859	0.9		1017	0.8
	1529	2.3		1648	2.4
	2134	1.0		2258	0.9
			31 Sa	0508	2.3
				1117	0.8
				1745	2.4
				2354	0.9

September

	Time	m		Time	m
1 Su	0605	2.3	**16** Mo	0515	2.4
	1211	0.7		1129	0.7
	1835	2.5		1754	2.6
2 Mo	0045	0.8	**17** Tu	0003	0.7
	0656	2.4		0614	2.5
	1259	0.7		1224	0.5
	1920	2.5		1846	2.7
3 Tu ●	0130	0.8	**18** We ☽	0057	0.5
	0741	2.4		0710	2.6
	1342	0.7		1316	0.4
	2001	2.5		1936	2.8
4 We	0212	0.7	**19** Th	0148	0.4
	0822	2.4		0802	2.8
	1421	0.7		1407	0.3
	2038	2.6		2025	2.9
5 Th	0250	0.7	**20** Fr	0238	0.3
	0900	2.5		0853	2.8
	1458	0.7		1457	0.3
	2113	2.5		2114	2.9
6 Fr	0326	0.7	**21** Sa	0327	0.2
	0936	2.5		0943	2.9
	1534	0.7		1547	0.4
	2147	2.5		2203	2.9
7 Sa	0401	0.7	**22** Su	0416	0.3
	1012	2.5		1033	2.8
	1610	0.7		1639	0.4
	2221	2.5		2253	2.8
8 Su	0436	0.7	**23** Mo	0505	0.3
	1048	2.4		1124	2.7
	1648	0.8		1732	0.6
	2258	2.4		2345	2.6
9 Mo	0512	0.7	**24** Tu	0556	0.5
	1127	2.4		1218	2.6
	1728	0.9		1828	0.7
	2337	2.4			
10 Tu	0550	0.8	**25** We	0039	2.5
	1210	2.3		0649	0.6
	1812	0.9		1315	2.5
				1929	0.8
11 We	0020	2.3	**26** Th	0137	2.3
	0633	0.8		0748	0.7
	1258	2.3		1417	2.4
	1903	1.0		2032	0.9
12 Th	0109	2.2	**27** Fr	0240	2.3
	0723	0.9		0850	0.8
	1353	2.3		1521	2.4
	2000	1.0		2136	0.9
13 Fr	0204	2.2	**28** Sa	0345	2.2
	0821	0.9		0954	0.9
	1454	2.3		1623	2.3
	2102	1.0		2236	0.9
14 Sa	0305	2.2	**29** Su	0448	2.2
	0926	0.9		1054	0.8
	1557	2.3		1719	2.4
	2206	0.9		2331	0.9
15 Su	0411	2.3	**30** Mo	0544	2.3
	1030	0.8		1147	0.8
	1658	2.4		1807	2.4
	2306	0.8			

October

	Time	m		Time	m
1 Tu	0019	0.8	**16** We	0553	2.5
	0633	2.3		1200	0.5
	1233	0.8		1818	2.7
	1850	2.4			
2 We	0103	0.7	**17** Th ☽	0032	0.4
	0716	2.4		0649	2.7
	1315	0.7		1253	0.4
	1929	2.5		1910	2.8
3 Th ●	0142	0.7	**18** Fr	0124	0.3
	0756	2.4		0742	2.8
	1353	0.7		1346	0.4
	2005	2.5		2000	2.8
4 Fr	0219	0.6	**19** Sa	0214	0.2
	0832	2.5		0833	2.9
	1430	0.7		1437	0.4
	2039	2.5		2051	2.8
5 Sa	0254	0.6	**20** Su	0303	0.2
	0908	2.5		0923	2.9
	1506	0.7		1529	0.4
	2114	2.5		2141	2.8
6 Su	0328	0.6	**21** Mo	0352	0.3
	0944	2.5		1013	2.8
	1543	0.7		1620	0.5
	2150	2.4		2232	2.7
7 Mo	0403	0.6	**22** Tu	0441	0.4
	1020	2.5		1104	2.7
	1621	0.8		1714	0.6
	2228	2.4		2324	2.5
8 Tu	0439	0.7	**23** We	0531	0.5
	1059	2.4		1156	2.6
	1702	0.8		1809	0.7
	2309	2.3			
9 We	0519	0.7	**24** Th	0017	2.4
	1142	2.4		0624	0.6
	1747	0.9		1251	2.5
	2353	2.3		1907	0.8
10 Th	0602	0.8	**25** Fr	0114	2.3
	1230	2.3		0720	0.8
	1838	0.9		1350	2.4
				2007	0.9
11 Fr	0043	2.3	**26** Sa	0214	2.2
	0653	0.8		0821	0.9
	1325	2.3		1450	2.3
	1935	0.9		2107	0.9
12 Sa	0139	2.2	**27** Su	0316	2.2
	0752	0.8		0922	0.9
	1425	2.3		1548	2.3
	2037	0.9		2205	0.9
13 Su	0241	2.2	**28** Mo	0418	2.2
	0856	0.8		1021	0.9
	1527	2.4		1642	2.3
	2140	0.8		2258	0.9
14 Mo	0347	2.3	**29** Tu	0513	2.2
	1001	0.8		1114	0.9
	1627	2.5		1730	2.4
	2240	0.7		2346	0.8
15 Tu	0452	2.4	**30** We	0603	2.3
	1103	0.7		1201	0.8
	1724	2.6		1813	2.4
	2338	0.6			
			31 Th	0029	0.7
				0647	2.4
				1244	0.8
				1852	2.4

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Marsden Point

Lat. 35˚50´S., Long. 174˚30´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0109 0727 1324 1930	0.7 2.4 0.8 2.4	**16** Sa ❍	0100 0723 1326 1938	0.3 2.8 0.5 2.7
2 Sa ●	0146 0805 1402 2007	0.6 2.5 0.8 2.4	**17** Su	0151 0814 1419 2030	0.3 2.8 0.5 2.7
3 Su	0222 0841 1440 2045	0.6 2.5 0.8 2.4	**18** Mo	0241 0905 1511 2122	0.3 2.8 0.5 2.7
4 Mo	0258 0918 1519 2124	0.6 2.5 0.8 2.4	**19** Tu	0330 0954 1603 2213	0.3 2.8 0.6 2.6
5 Tu	0335 0957 1600 2204	0.6 2.5 0.8 2.4	**20** We	0419 1044 1655 2303	0.4 2.7 0.6 2.5
6 We	0414 1038 1643 2247	0.6 2.5 0.8 2.4	**21** Th	0508 1133 1748 2354	0.5 2.6 0.7 2.4
7 Th	0455 1122 1729 2333	0.7 2.5 0.8 2.3	**22** Fr	0558 1224 1841	0.7 2.5 0.8
8 Fr	0541 1210 1820	0.7 2.4 0.9	**23** Sa	0046 0649 1317 1935	2.3 0.8 2.4 0.9
9 Sa	0024 0631 1303 1915	2.3 0.8 2.4 0.8	**24** Su	0140 0744 1410 2030	2.2 0.9 2.4 0.9
10 Su	0119 0728 1359 2014	2.3 0.8 2.4 0.8	**25** Mo	0238 0840 1503 2124	2.2 0.9 2.3 0.9
11 Mo	0220 0830 1458 2114	2.3 0.8 2.5 0.7	**26** Tu	0336 0937 1554 2216	2.2 1.0 2.3 0.9
12 Tu	0325 0934 1557 2214	2.3 0.8 2.5 0.6	**27** We	0433 1032 1642 2304	2.2 1.0 2.3 0.8
13 We	0430 1036 1654 2311	2.4 0.7 2.6 0.5	**28** Th	0525 1122 1728 2349	2.3 1.0 2.3 0.8
14 Th	0531 1136 1750	2.5 0.6 2.7	**29** Fr	0612 1209 1812	2.3 0.9 2.3
15 Fr	0007 0629 1232 1845	0.4 2.7 0.5 2.7	**30** Sa	0032 0655 1252 1855	0.7 2.4 0.9 2.3

December

	Time	m		Time	m
1 Su ●	0113 0736 1334 1937	0.7 2.5 0.8 2.4	**16** Mo	0131 0757 1404 2014	0.4 2.8 0.6 2.6
2 Mo	0152 0816 1416 2019	0.6 2.5 0.8 2.4	**17** Tu	0222 0848 1456 2105	0.4 2.8 0.6 2.6
3 Tu	0232 0855 1458 2102	0.6 2.6 0.8 2.4	**18** We	0311 0936 1546 2155	0.4 2.8 0.6 2.5
4 We	0313 0937 1541 2146	0.6 2.6 0.8 2.4	**19** Th	0359 1023 1635 2242	0.5 2.7 0.7 2.5
5 Th	0354 1019 1626 2231	0.6 2.6 0.8 2.4	**20** Fr	0444 1109 1723 2328	0.6 2.6 0.7 2.4
6 Fr	0437 1104 1714 2318	0.6 2.6 0.8 2.4	**21** Sa	0530 1154 1811	0.7 2.5 0.8
7 Sa	0523 1152 1803	0.6 2.6 0.7	**22** Su	0015 0615 1239 1858	2.3 0.8 2.5 0.8
8 Su	0008 0613 1242 1856	2.4 0.7 2.6 0.7	**23** Mo	0102 0703 1324 1945	2.3 0.9 2.4 0.9
9 Mo	0101 0707 1335 1951	2.4 0.7 2.6 0.7	**24** Tu	0153 0753 1410 2034	2.2 1.0 2.3 0.9
10 Tu	0200 0806 1430 2049	2.4 0.8 2.5 0.7	**25** We	0247 0847 1458 2124	2.2 1.0 2.3 0.9
11 We	0303 0909 1528 2147	2.4 0.8 2.6 0.6	**26** Th	0344 0943 1548 2215	2.2 1.1 2.3 0.9
12 Th	0407 1012 1626 2246	2.4 0.8 2.6 0.5	**27** Fr	0440 1038 1639 2305	2.2 1.1 2.3 0.9
13 Fr	0510 1114 1725 2343	2.5 0.7 2.6 0.5	**28** Sa	0533 1130 1730 2354	2.3 1.0 2.3 0.8
14 Sa	0610 1213 1823	2.6 0.7 2.6	**29** Su	0621 1219 1820	2.4 1.0 2.3
15 Su ❍	0038 0705 1310 1919	0.4 2.7 0.6 2.6	**30** Mo	0040 0706 1306 1908	0.8 2.4 0.9 2.4
			31 Tu ●	0125 0750 1352 1956	0.7 2.5 0.8 2.4

January

	Time	m		Time	m
1 We	0208 0833 1437 2042	0.6 2.6 0.8 2.5	**16** Th	0253 0917 1527 2135	0.5 2.7 0.7 2.5
2 Th	0252 0916 1523 2128	0.6 2.7 0.7 2.5	**17** Fr	0337 1000 1612 2219	0.6 2.7 0.7 2.5
3 Fr	0335 1001 1609 2215	0.5 2.7 0.7 2.5	**18** Sa	0419 1041 1655 2300	0.6 2.6 0.7 2.5
4 Sa	0420 1046 1657 2302	0.5 2.7 0.6 2.5	**19** Su	0500 1121 1736 2341	0.7 2.6 0.8 2.4
5 Su	0506 1132 1745 2352	0.6 2.7 0.6 2.5	**20** Mo	0540 1159 1817	0.8 2.5 0.8
6 Mo	0555 1220 1835	0.6 2.7 0.6	**21** Tu	0023 0623 1238 1859	2.3 0.9 2.4 0.9
7 Tu	0044 0648 1311 1928	2.5 0.7 2.6 0.6	**22** We	0108 0708 1320 1942	2.3 1.0 2.4 0.9
8 We	0141 0745 1405 2023	2.5 0.8 2.6 0.6	**23** Th	0157 0758 1405 2030	2.2 1.1 2.3 0.9
9 Th	0242 0847 1502 2122	2.5 0.8 2.5 0.6	**24** Fr	0252 0854 1456 2123	2.2 1.1 2.2 0.9
10 Fr	0346 0952 1603 2222	2.5 0.9 2.5 0.6	**25** Sa	0351 0952 1551 2219	2.2 1.1 2.2 0.9
11 Sa	0451 1056 1705 2323	2.5 0.8 2.5 0.6	**26** Su	0449 1050 1649 2314	2.3 1.1 2.2 0.9
12 Su	0552 1158 1807	2.6 0.8 2.5	**27** Mo	0544 1145 1746	2.3 1.0 2.3
13 Mo	0021 0649 1255 1905	0.6 2.6 0.8 2.5	**28** Tu	0007 0635 1237 1841	0.8 2.4 0.9 2.4
14 Tu ❍	0115 0742 1349 1959	0.6 2.7 0.7 2.5	**29** We	0057 0722 1326 1932	0.7 2.5 0.8 2.5
15 We	0206 0831 1440 2049	0.5 2.7 0.7 2.5	**30** Th ●	0144 0808 1414 2021	0.6 2.7 0.7 2.6
			31 Fr	0230 0853 1502 2109	0.5 2.8 0.6 2.6

February

	Time	m		Time	m
1 Sa	0315 0938 1549 2157	0.5 2.8 0.6 2.7	**16** Su	0352 1010 1623 2231	0.7 2.6 0.7 2.5
2 Su	0401 1024 1636 2245	0.5 2.9 0.5 2.7	**17** Mo	0429 1045 1700 2308	0.8 2.6 0.8 2.5
3 Mo	0448 1111 1724 2335	0.5 2.8 0.5 2.7	**18** Tu	0507 1121 1737 2347	0.8 2.5 0.8 2.4
4 Tu	0538 1159 1813	0.6 2.8 0.5	**19** We	0547 1158 1814	0.9 2.5 0.8
5 We	0026 0631 1249 1905	2.6 0.7 2.7 0.6	**20** Th	0028 0629 1238 1855	2.4 1.0 2.4 0.9
6 Th	0122 0728 1343 2000	2.6 0.8 2.6 0.6	**21** Fr	0113 0717 1323 1941	2.3 1.1 2.3 1.0
7 Fr	0222 0830 1442 2059	2.5 0.9 2.5 0.7	**22** Sa	0206 0810 1413 2035	2.3 1.1 2.3 1.0
8 Sa	0328 0936 1545 2203	2.5 0.9 2.4 0.8	**23** Su	0304 0910 1510 2135	2.2 1.1 2.2 1.0
9 Su	0434 1041 1651 2306	2.5 0.9 2.4 0.8	**24** Mo	0406 1011 1612 2236	2.3 1.1 2.3 0.9
10 Mo	0536 1144 1754	2.5 0.9 2.4	**25** Tu	0506 1110 1714 2334	2.3 1.0 2.3 0.9
11 Tu	0005 0633 1241 1852	0.7 2.6 0.9 2.4	**26** We	0601 1206 1813	2.5 0.9 2.4
12 We	0059 0724 1333 1944	0.7 2.6 0.8 2.5	**27** Th	0027 0652 1259 1908	0.7 2.6 0.8 2.5
13 Th ❍	0148 0811 1420 2031	0.7 2.6 0.8 2.5	**28** Fr ●	0117 0740 1349 1959	0.6 2.7 0.7 2.7
14 Fr	0232 0853 1504 2113	0.6 2.7 0.7 2.5			
15 Sa	0313 0933 1545 2153	0.7 2.7 0.7 2.5			

Remember to add 1 hour for Daylight Saving Time.

Marsden Point

Lat. 35˚50´S., Long. 174˚30´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0206 0827 1437 2048	0.5 2.8 0.5 2.8	**16** Su	0246 0901 1514 2125	0.7 2.6 0.7 2.6
2 Su	0253 0913 1525 2137	0.5 2.9 0.4 2.8	**17** Mo	0323 0936 1549 2201	0.8 2.6 0.7 2.6
3 Mo	0341 1001 1613 2226	0.5 2.9 0.4 2.8	**18** Tu	0400 1010 1624 2237	0.8 2.5 0.8 2.5
4 Tu	0430 1049 1701 2316	0.5 2.9 0.4 2.8	**19** We	0437 1046 1659 2314	0.9 2.5 0.8 2.5
5 We	0521 1138 1751	0.6 2.8 0.5	**20** Th	0516 1123 1736 2354	0.9 2.4 0.8 2.4
6 Th	0009 0615 1230 1843	2.7 0.7 2.7 0.6	**21** Fr	0558 1204 1816	1.0 2.4 0.9
7 Fr	0104 0714 1325 1939	2.6 0.8 2.5 0.7	**22** Sa	0039 0644 1250 1902	2.4 1.1 2.3 1.0
8 Sa	0205 0816 1426 2040	2.5 0.9 2.4 0.8	**23** Su	0130 0737 1340 1956	2.3 1.1 2.3 1.0
9 Su	0310 0922 1531 2145	2.5 1.0 2.4 0.9	**24** Mo	0227 0835 1438 2057	2.3 1.1 2.3 1.0
10 Mo	0416 1027 1638 2249	2.5 1.0 2.3 0.9	**25** Tu	0328 0937 1541 2200	2.3 1.1 2.3 0.9
11 Tu	0518 1128 1740 2348	2.5 0.9 2.4 0.8	**26** We	0429 1038 1645 2301	2.4 1.0 2.4 0.9
12 We	0613 1222 1835	2.5 0.9 2.4	**27** Th	0525 1135 1746 2357	2.5 0.9 2.5 0.7
13 Th	0039 0701 1311 1924	0.8 2.6 0.8 2.5	**28** Fr	0618 1229 1842	2.7 0.7 2.6
14 Fr ❍	0125 0745 1356 2008	0.8 2.6 0.8 2.5	**29** Sa ●	0049 0709 1321 1936	0.6 2.8 0.6 2.8
15 Sa	0207 0824 1436 2048	0.7 2.6 0.8 2.6	**30** Su	0140 0758 1411 2027	0.5 2.9 0.4 2.9
			31 Mo	0231 0847 1500 2117	0.5 2.9 0.4 2.9

April

	Time	m		Time	m
1 Tu	0321 0937 1549 2207	0.5 2.9 0.4 2.9	**16** We	0332 0938 1550 2208	0.9 2.5 0.8 2.6
2 We	0412 1027 1638 2258	0.5 2.9 0.4 2.9	**17** Th	0410 1016 1627 2246	0.9 2.5 0.8 2.5
3 Th	0506 1119 1729 2351	0.6 2.8 0.5 2.8	**18** Fr	0450 1055 1705 2327	0.9 2.4 0.8 2.5
4 Fr	0601 1213 1822	0.7 2.6 0.6	**19** Sa	0533 1138 1746	1.0 2.4 0.9
5 Sa	0047 0700 1310 1919	2.7 0.8 2.5 0.8	**20** Su	0012 0620 1224 1833	2.4 1.0 2.3 0.9
6 Su	0147 0802 1411 2020	2.6 0.9 2.4 0.9	**21** Mo	0102 0712 1315 1926	2.4 1.0 2.3 1.0
7 Mo	0250 0905 1515 2124	2.5 1.0 2.3 0.9	**22** Tu	0157 0808 1412 2025	2.4 1.0 2.3 1.0
8 Tu	0353 1007 1619 2227	2.5 1.0 2.3 0.9	**23** We	0255 0908 1514 2127	2.4 1.0 2.3 0.9
9 We	0452 1104 1719 2323	2.5 0.9 2.4 0.9	**24** Th	0353 1007 1617 2228	2.5 0.9 2.4 0.8
10 Th	0544 1156 1812	2.5 0.9 2.4	**25** Fr	0450 1104 1719 2327	2.6 0.8 2.5 0.7
11 Fr	0013 0630 1243 1859	0.9 2.5 0.8 2.5	**26** Sa	0544 1159 1817	2.7 0.6 2.7
12 Sa	0057 0712 1325 1941	0.9 2.5 0.8 2.5	**27** Su	0022 0638 1252 1912	0.7 2.8 0.5 2.8
13 Su ❍	0138 0750 1403 2020	0.8 2.5 0.8 2.6	**28** Mo ●	0116 0730 1344 2005	0.6 2.9 0.4 2.9
14 Mo	0217 0827 1440 2056	0.8 2.5 0.7 2.6	**29** Tu	0209 0823 1435 2056	0.5 2.9 0.4 3.0
15 Tu	0255 0902 1515 2132	0.8 2.5 0.7 2.6	**30** We	0302 0915 1526 2148	0.5 2.8 0.4 2.9

May

	Time	m		Time	m
1 Th	0356 1008 1617 2240	0.6 2.8 0.4 2.9	**16** Fr	0347 0950 1600 2223	0.9 2.4 0.8 2.6
2 Fr	0450 1101 1708 2333	0.6 2.7 0.5 2.8	**17** Sa	0429 1032 1640 2305	0.9 2.4 0.8 2.5
3 Sa	0546 1156 1802	0.7 2.6 0.7	**18** Su	0513 1117 1723 2350	0.9 2.4 0.8 2.5
4 Su	0028 0644 1252 1858	2.7 0.8 2.5 0.8	**19** Mo	0600 1204 1809	1.0 2.4 0.9
5 Mo	0126 0742 1351 1956	2.6 0.9 2.4 0.9	**20** Tu	0039 0651 1254 1901	2.5 0.9 2.4 0.9
6 Tu	0224 0841 1451 2057	2.5 0.9 2.3 0.9	**21** We	0131 0744 1350 1957	2.5 0.9 2.4 0.9
7 We	0322 0938 1552 2155	2.5 0.9 2.3 1.0	**22** Th	0225 0840 1449 2058	2.5 0.8 2.4 0.9
8 Th	0416 1032 1649 2250	2.4 0.9 2.3 1.0	**23** Fr	0320 0937 1552 2159	2.6 0.8 2.5 0.8
9 Fr	0505 1122 1741 2340	2.4 0.9 2.4 1.0	**24** Sa	0417 1035 1654 2259	2.6 0.7 2.6 0.8
10 Sa	0551 1207 1828	2.5 0.8 2.4	**25** Su	0513 1131 1754 2358	2.7 0.6 2.7 0.7
11 Su	0025 0633 1249 1910	0.9 2.5 0.8 2.5	**26** Mo	0610 1226 1850	2.7 0.5 2.8
12 Mo	0107 0713 1329 1950	0.9 2.5 0.8 2.5	**27** Tu ●	0055 0706 1320 1945	0.6 2.8 0.4 2.9
13 Tu ❍	0148 0752 1407 2027	0.9 2.5 0.8 2.6	**28** We	0150 0801 1413 2037	0.6 2.8 0.4 2.9
14 We	0227 0831 1444 2105	0.9 2.5 0.8 2.6	**29** Th	0245 0856 1505 2130	0.6 2.7 0.4 2.9
15 Th	0307 0910 1521 2143	0.9 2.4 0.8 2.6	**30** Fr	0339 0950 1557 2221	0.6 2.7 0.5 2.9
			31 Sa	0433 1043 1648 2313	0.7 2.6 0.6 2.8

June

	Time	m		Time	m
1 Su	0527 1136 1739	0.7 2.6 0.7	**16** Mo	0454 1057 1702 2329	0.8 2.5 0.7 2.6
2 Mo	0005 0622 1229 1832	2.7 0.8 2.5 0.8	**17** Tu	0540 1144 1748	0.8 2.4 0.8
3 Tu	0058 0715 1323 1925	2.6 0.8 2.4 0.9	**18** We	0016 0629 1235 1838	2.6 0.8 2.4 0.8
4 We	0150 0808 1418 2021	2.5 0.9 2.3 1.0	**19** Th	0105 0720 1329 1933	2.6 0.8 2.4 0.8
5 Th	0241 0901 1515 2116	2.5 0.9 2.3 1.0	**20** Fr	0157 0814 1427 2032	2.6 0.7 2.5 0.8
6 Fr	0331 0952 1611 2210	2.4 0.9 2.3 1.0	**21** Sa	0251 0910 1529 2135	2.6 0.7 2.5 0.8
7 Sa	0420 1041 1704 2302	2.4 0.9 2.4 1.0	**22** Su	0348 1008 1632 2237	2.6 0.6 2.6 0.8
8 Su	0507 1127 1752 2350	2.4 0.9 2.4 1.0	**23** Mo	0448 1107 1733 2338	2.6 0.6 2.7 0.8
9 Mo	0552 1212 1837	2.4 0.8 2.5	**24** Tu	0548 1204 1832	2.6 0.5 2.7
10 Tu	0035 0636 1254 1919	1.0 2.4 0.8 2.5	**25** We ●	0037 0647 1301 1927	0.7 2.6 0.5 2.8
11 We ❍	0118 0720 1335 1959	1.0 2.4 0.8 2.5	**26** Th	0134 0745 1355 2020	0.7 2.7 0.4 2.8
12 Th	0201 0803 1416 2039	0.9 2.4 0.7 2.6	**27** Fr	0229 0840 1447 2112	0.6 2.7 0.5 2.8
13 Fr	0243 0845 1456 2120	0.9 2.4 0.7 2.6	**28** Sa	0322 0932 1537 2201	0.6 2.6 0.5 2.8
14 Sa	0325 0928 1536 2201	0.9 2.4 0.7 2.6	**29** Su	0414 1023 1625 2250	0.7 2.6 0.6 2.7
15 Su	0409 1012 1618 2244	0.9 2.5 0.7 2.6	**30** Mo	0504 1112 1713 2337	0.7 2.5 0.7 2.7

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Napier

Lat. 39° 29´S., Long. 176° 55´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0049	1.7	**16** Tu	0046	1.5
	0704	0.2		0702	0.5
	1316	1.7		1317	1.5
	1934	0.3		1932	0.5
2 Tu	0146	1.7	**17** We	0134	1.5
	0759	0.3		0747	0.5
	1414	1.7		1405	1.5
	2033	0.3		2021	0.5
3 We	0242	1.7	**18** Th	0221	1.5
	0854	0.3		0835	0.4
	1511	1.7		1454	1.6
	2131	0.3		2110	0.4
4 Th	0338	1.7	**19** Fr	0310	1.5
	0950	0.3		0923	0.4
	1608	1.8		1543	1.6
	2227	0.3		2200	0.4
5 Fr	0434	1.6	**20** Sa	0401	1.5
	1044	0.3		1013	0.4
	1702	1.8		1631	1.7
	2321	0.3		2249	0.3
6 Sa ●	0529	1.6	**21** Su ❍	0452	1.6
	1137	0.3		1103	0.3
	1753	1.8		1721	1.8
				2340	0.3
7 Su	0014	0.3	**22** Mo	0544	1.6
	0622	1.6		1154	0.3
	1228	0.3		1811	1.8
	1843	1.8			
8 Mo	0104	0.3	**23** Tu	0031	0.2
	0712	1.6		0637	1.7
	1317	0.3		1246	0.2
	1931	1.7		1902	1.9
9 Tu	0153	0.3	**24** We	0124	0.2
	0801	1.6		0730	1.7
	1404	0.3		1339	0.2
	2017	1.7		1955	1.9
10 We	0240	0.3	**25** Th	0217	0.2
	0847	1.6		0823	1.8
	1449	0.4		1432	0.2
	2101	1.7		2049	1.9
11 Th	0324	0.4	**26** Fr	0310	0.1
	0931	1.5		0917	1.8
	1534	0.4		1527	0.2
	2146	1.6		2144	1.9
12 Fr	0408	0.4	**27** Sa	0403	0.2
	1015	1.5		1011	1.8
	1619	0.4		1623	0.2
	2230	1.6		2240	1.8
13 Sa	0451	0.4	**28** Su	0457	0.2
	1058	1.5		1106	1.8
	1705	0.5		1721	0.2
	2315	1.6		2337	1.8
14 Su	0534	0.4	**29** Mo	0551	0.2
	1143	1.5		1203	1.8
	1753	0.5		1821	0.3
15 Mo	0000	1.5	**30** Tu	0033	1.7
	0617	0.4		0646	0.2
	1229	1.5		1300	1.7
	1842	0.5		1920	0.3
			31 We	0130	1.7
				0741	0.3
				1359	1.7
				2019	0.3

August

	Time	m		Time	m
1 Th	0227	1.6	**16** Fr	0146	1.5
	0837	0.3		0757	0.4
	1456	1.7		1418	1.6
	2116	0.3		2037	0.4
2 Fr	0322	1.6	**17** Sa	0237	1.5
	0932	0.3		0849	0.4
	1551	1.7		1509	1.7
	2211	0.3		2128	0.4
3 Sa	0417	1.6	**18** Su	0330	1.6
	1026	0.3		0942	0.3
	1643	1.7		1601	1.7
	2303	0.3		2220	0.3
4 Su ●	0510	1.6	**19** Mo	0424	1.6
	1117	0.3		1036	0.3
	1733	1.7		1654	1.8
	2353	0.4		2313	0.2
5 Mo	0600	1.6	**20** Tu ❍	0519	1.7
	1206	0.3		1130	0.2
	1819	1.7		1746	1.9
6 Tu	0040	0.4	**21** We	0006	0.2
	0647	1.6		0613	1.8
	1252	0.4		1224	0.2
	1904	1.7		1840	1.9
7 We	0125	0.4	**22** Th	0100	0.1
	0732	1.6		0707	1.8
	1336	0.4		1318	0.1
	1947	1.7		1934	1.9
8 Th	0208	0.4	**23** Fr	0153	0.1
	0815	1.6		0802	1.9
	1418	0.4		1413	0.1
	2029	1.6		2029	1.9
9 Fr	0250	0.4	**24** Sa	0247	0.1
	0857	1.6		0856	1.9
	1501	0.4		1509	0.1
	2111	1.6		2125	1.9
10 Sa	0331	0.4	**25** Su	0341	0.1
	0938	1.5		0951	1.9
	1545	0.4		1607	0.2
	2154	1.6		2222	1.8
11 Su	0412	0.4	**26** Mo	0436	0.2
	1020	1.5		1047	1.8
	1630	0.5		1705	0.2
	2237	1.5		2319	1.8
12 Mo	0453	0.4	**27** Tu	0530	0.2
	1104	1.5		1144	1.8
	1716	0.5		1805	0.3
	2322	1.5			
13 Tu	0536	0.4	**28** We	0016	1.7
	1149	1.5		0626	0.3
	1805	0.5		1242	1.7
				1904	0.3
14 We	0009	1.5	**29** Th	0113	1.6
	0621	0.5		0722	0.3
	1237	1.5		1340	1.7
	1855	0.5		2002	0.3
15 Th	0056	1.5	**30** Fr	0209	1.6
	0708	0.5		0818	0.4
	1327	1.6		1437	1.7
	1946	0.5		2058	0.4
			31 Sa	0305	1.6
				0913	0.4
				1531	1.7
				2151	0.4

September

	Time	m		Time	m
1 Su	0358	1.5	**16** Mo	0302	1.6
	1006	0.4		0915	0.3
	1622	1.7		1533	1.8
	2241	0.4		2152	0.3
2 Mo	0449	1.5	**17** Tu	0358	1.7
	1055	0.4		1011	0.2
	1709	1.7		1628	1.8
	2328	0.4		2247	0.2
3 Tu ●	0537	1.5	**18** We ❍	0455	1.7
	1142	0.4		1107	0.2
	1753	1.6		1723	1.9
				2341	0.1
4 We	0012	0.4	**19** Th	0550	1.8
	0621	1.5		1203	0.1
	1226	0.4		1818	1.9
	1835	1.6			
5 Th	0055	0.4	**20** Fr	0036	0.1
	0703	1.6		0646	1.9
	1308	0.4		1259	0.1
	1916	1.6		1914	1.9
6 Fr	0136	0.4	**21** Sa	0130	0.1
	0744	1.6		0741	1.9
	1349	0.4		1355	0.1
	1957	1.6		2010	1.9
7 Sa	0215	0.4	**22** Su	0225	0.1
	0824	1.6		0835	1.9
	1431	0.4		1452	0.1
	2038	1.6		2106	1.9
8 Su	0255	0.4	**23** Mo	0319	0.1
	0904	1.6		0931	1.9
	1513	0.4		1549	0.1
	2120	1.6		2202	1.8
9 Mo	0335	0.4	**24** Tu	0413	0.2
	0945	1.6		1026	1.9
	1558	0.4		1647	0.2
	2204	1.5		2259	1.7
10 Tu	0416	0.4	**25** We	0508	0.2
	1027	1.6		1123	1.8
	1644	0.5		1746	0.3
	2248	1.5		2355	1.7
11 We	0459	0.4	**26** Th	0603	0.3
	1113	1.6		1221	1.7
	1732	0.5		1844	0.3
	2334	1.5			
12 Th	0544	0.5	**27** Fr	0051	1.6
	1201	1.6		0659	0.3
	1822	0.5		1318	1.7
				1940	0.4
13 Fr	0023	1.5	**28** Sa	0147	1.5
	0632	0.4		0754	0.4
	1252	1.6		1413	1.6
	1913	0.4		2034	0.4
14 Sa	0114	1.5	**29** Su	0241	1.5
	0724	0.4		0849	0.4
	1345	1.6		1505	1.6
	2005	0.4		2125	0.4
15 Su	0207	1.6	**30** Mo	0334	1.5
	0818	0.4		0941	0.4
	1439	1.7		1554	1.6
	2059	0.3		2213	0.4

October

	Time	m		Time	m
1 Tu	0423	1.5	**16** We	0334	1.7
	1030	0.4		0949	0.2
	1640	1.6		1604	1.8
	2258	0.4		2222	0.2
2 We	0509	1.5	**17** Th ❍	0432	1.8
	1115	0.4		1047	0.2
	1723	1.6		1700	1.9
	2341	0.4		2317	0.1
3 Th ●	0553	1.5	**18** Fr	0529	1.9
	1158	0.4		1144	0.1
	1805	1.6		1757	1.9
4 Fr	0023	0.4	**19** Sa	0013	0.1
	0634	1.6		0625	1.9
	1240	0.4		1241	0.1
	1846	1.6		1854	1.9
5 Sa	0103	0.4	**20** Su	0108	0.1
	0714	1.6		0721	1.9
	1321	0.4		1337	0.1
	1927	1.6		1950	1.9
6 Su	0143	0.4	**21** Mo	0203	0.1
	0753	1.6		0815	1.9
	1403	0.4		1434	0.1
	2009	1.6		2046	1.8
7 Mo	0222	0.4	**22** Tu	0257	0.1
	0833	1.6		0910	1.9
	1446	0.4		1531	0.2
	2051	1.5		2142	1.8
8 Tu	0302	0.4	**23** We	0350	0.2
	0913	1.6		1005	1.9
	1530	0.4		1627	0.2
	2134	1.5		2237	1.7
9 We	0343	0.4	**24** Th	0444	0.2
	0956	1.6		1100	1.8
	1616	0.4		1723	0.3
	2219	1.5		2331	1.6
10 Th	0426	0.4	**25** Fr	0537	0.3
	1041	1.6		1155	1.7
	1703	0.4		1818	0.3
	2305	1.5			
11 Fr	0512	0.4	**26** Sa	0025	1.6
	1130	1.6		0631	0.4
	1753	0.4		1249	1.7
	2354	1.5		1911	0.4
12 Sa	0601	0.4	**27** Su	0118	1.5
	1222	1.6		0725	0.4
	1844	0.4		1342	1.6
				2002	0.4
13 Su	0046	1.5	**28** Mo	0211	1.5
	0655	0.4		0818	0.5
	1316	1.7		1432	1.6
	1937	0.3		2051	0.4
14 Mo	0140	1.6	**29** Tu	0302	1.5
	0752	0.4		0910	0.5
	1411	1.7		1520	1.6
	2031	0.3		2138	0.4
15 Tu	0237	1.6	**30** We	0351	1.5
	0850	0.3		0958	0.5
	1508	1.8		1606	1.6
	2126	0.2		2223	0.4
			31 Th	0437	1.5
				1045	0.5
				1650	1.5
				2307	0.4

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Napier

Lat. 39° 29´S., Long. 176° 55´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0521	1.5	**16** Sa ❍	0510	1.9
	1129	0.4		1126	0.1
	1733	1.5		1737	1.8
	2349	0.4		2352	0.1
2 Sa ●	0603	1.6	**17** Su	0606	1.9
	1212	0.4		1223	0.1
	1815	1.5		1834	1.8
3 Su	0031	0.4	**18** Mo	0047	0.1
	0643	1.6		0701	1.9
	1254	0.4		1320	0.1
	1858	1.5		1931	1.8
4 Mo	0111	0.4	**19** Tu	0141	0.1
	0723	1.6		0756	1.9
	1337	0.4		1416	0.2
	1941	1.5		2026	1.8
5 Tu	0152	0.4	**20** We	0234	0.2
	0804	1.6		0849	1.9
	1420	0.4		1511	0.2
	2024	1.5		2120	1.7
6 We	0233	0.4	**21** Th	0326	0.2
	0846	1.7		0942	1.8
	1505	0.4		1605	0.2
	2108	1.5		2212	1.7
7 Th	0315	0.4	**22** Fr	0417	0.3
	0930	1.7		1034	1.8
	1551	0.4		1657	0.3
	2154	1.5		2304	1.6
8 Fr	0359	0.4	**23** Sa	0508	0.3
	1016	1.7		1125	1.7
	1639	0.4		1748	0.3
	2241	1.6		2354	1.6
9 Sa	0446	0.4	**24** Su	0559	0.4
	1105	1.7		1215	1.6
	1728	0.4		1837	0.4
	2330	1.6			
10 Su	0537	0.4	**25** Mo	0044	1.5
	1157	1.7		0651	0.4
	1819	0.3		1305	1.6
				1925	0.4
11 Mo	0022	1.6	**26** Tu	0134	1.5
	0632	0.4		0742	0.5
	1252	1.7		1353	1.6
	1912	0.3		2012	0.5
12 Tu	0117	1.6	**27** We	0224	1.5
	0730	0.3		0833	0.5
	1348	1.7		1440	1.5
	2006	0.3		2058	0.5
13 We	0214	1.7	**28** Th	0313	1.5
	0829	0.3		0923	0.5
	1445	1.8		1527	1.5
	2102	0.2		2144	0.5
14 Th	0313	1.7	**29** Fr	0401	1.5
	0929	0.2		1010	0.5
	1542	1.8		1613	1.5
	2158	0.2		2230	0.5
15 Fr	0412	1.8	**30** Sa	0446	1.5
	1028	0.2		1056	0.5
	1640	1.8		1658	1.5
	2255	0.2		2314	0.4

December

	Time	m		Time	m
1 Su ●	0530	1.6	**16** Mo	0548	1.9
	1141	0.4		1207	0.2
	1743	1.5		1816	1.7
	2357	0.4			
2 Mo	0612	1.6	**17** Tu	0027	0.2
	1225	0.4		0643	1.9
	1828	1.5		1302	0.2
				1912	1.7
3 Tu	0040	0.4	**18** We	0120	0.2
	0654	1.7		0736	1.9
	1310	0.4		1357	0.2
	1913	1.5		2005	1.7
4 We	0122	0.4	**19** Th	0212	0.2
	0737	1.7		0827	1.8
	1355	0.4		1449	0.2
	1958	1.6		2056	1.7
5 Th	0206	0.4	**20** Fr	0301	0.3
	0821	1.7		0917	1.8
	1442	0.3		1539	0.3
	2044	1.6		2145	1.6
6 Fr	0250	0.3	**21** Sa	0350	0.3
	0907	1.7		1005	1.7
	1529	0.3		1627	0.3
	2131	1.6		2233	1.6
7 Sa	0337	0.3	**22** Su	0437	0.4
	0955	1.7		1052	1.7
	1617	0.3		1713	0.4
	2219	1.6		2319	1.6
8 Su	0426	0.3	**23** Mo	0525	0.4
	1045	1.7		1139	1.6
	1707	0.3		1758	0.4
	2309	1.6			
9 Mo	0518	0.3	**24** Tu	0006	1.5
	1137	1.7		0614	0.5
	1757	0.3		1225	1.6
				1843	0.4
10 Tu	0001	1.6	**25** We	0053	1.5
	0613	0.3		0703	0.5
	1232	1.7		1312	1.5
	1850	0.3		1929	0.5
11 We	0057	1.7	**26** Th	0142	1.5
	0712	0.3		0753	0.5
	1327	1.7		1359	1.5
	1944	0.3		2015	0.5
12 Th	0155	1.7	**27** Fr	0231	1.5
	0811	0.3		0843	0.5
	1425	1.7		1446	1.5
	2040	0.2		2102	0.5
13 Fr	0254	1.7	**28** Sa	0320	1.5
	0912	0.3		0932	0.5
	1523	1.7		1533	1.5
	2138	0.2		2149	0.5
14 Sa	0353	1.8	**29** Su	0408	1.5
	1011	0.2		1020	0.5
	1621	1.7		1621	1.5
	2235	0.2		2236	0.4
15 Su ❍	0452	1.8	**30** Mo	0454	1.6
	1109	0.2		1108	0.4
	1719	1.7		1709	1.5
	2332	0.2		2322	0.4
			31 Tu ●	0539	1.6
				1155	0.4
				1757	1.5

January

	Time	m		Time	m
1 We	0008	0.4	**16** Th	0059	0.3
	0624	1.7		0714	1.8
	1241	0.4		1335	0.3
	1845	1.6		1942	1.6
2 Th	0054	0.3	**17** Fr	0148	0.3
	0710	1.7		0802	1.8
	1329	0.3		1423	0.3
	1933	1.6		2030	1.6
3 Fr	0140	0.3	**18** Sa	0235	0.3
	0757	1.8		0849	1.7
	1417	0.3		1510	0.3
	2021	1.6		2115	1.6
4 Sa	0228	0.3	**19** Su	0320	0.3
	0845	1.8		0934	1.7
	1506	0.3		1554	0.4
	2109	1.7		2159	1.6
5 Su	0317	0.3	**20** Mo	0405	0.4
	0935	1.8		1018	1.6
	1556	0.2		1637	0.4
	2159	1.7		2243	1.6
6 Mo	0409	0.2	**21** Tu	0451	0.4
	1027	1.8		1102	1.6
	1646	0.2		1719	0.4
	2250	1.7		2327	1.5
7 Tu	0502	0.3	**22** We	0537	0.5
	1120	1.8		1146	1.6
	1737	0.2		1802	0.4
	2344	1.7			
8 We	0558	0.3	**23** Th	0012	1.5
	1215	1.8		0625	0.5
	1830	0.3		1231	1.5
				1846	0.5
9 Th	0039	1.7	**24** Fr	0100	1.5
	0657	0.3		0714	0.5
	1310	1.7		1318	1.5
	1925	0.3		1932	0.5
10 Fr	0138	1.7	**25** Sa	0149	1.5
	0756	0.3		0804	0.5
	1408	1.7		1405	1.5
	2021	0.3		2020	0.5
11 Sa	0237	1.7	**26** Su	0238	1.5
	0856	0.3		0853	0.5
	1506	1.7		1454	1.5
	2119	0.3		2108	0.5
12 Su	0337	1.8	**27** Mo	0327	1.6
	0956	0.3		0943	0.5
	1604	1.7		1544	1.5
	2217	0.3		2158	0.4
13 Mo	0435	1.8	**28** Tu	0416	1.6
	1053	0.3		1032	0.4
	1702	1.7		1634	1.5
	2313	0.3		2247	0.4
14 Tu ❍	0530	1.8	**29** We	0504	1.7
	1149	0.3		1121	0.4
	1758	1.6		1725	1.6
				2337	0.3
15 We	0007	0.3	**30** Th ●	0553	1.7
	0623	1.8		1211	0.3
	1243	0.3		1816	1.6
	1851	1.6			
			31 Fr	0026	0.3
				0642	1.8
				1301	0.3
				1906	1.7

February

	Time	m		Time	m
1 Sa	0116	0.2	**16** Su	0207	0.4
	0732	1.8		0819	1.6
	1352	0.2		1437	0.4
	1957	1.7		2043	1.6
2 Su	0207	0.2	**17** Mo	0250	0.4
	0824	1.8		0902	1.6
	1443	0.2		1519	0.4
	2048	1.8		2125	1.6
3 Mo	0259	0.2	**18** Tu	0333	0.4
	0916	1.8		0944	1.6
	1534	0.2		1600	0.4
	2140	1.8		2206	1.6
4 Tu	0352	0.2	**19** We	0417	0.4
	1010	1.8		1027	1.6
	1626	0.2		1641	0.4
	2233	1.8		2249	1.5
5 We	0448	0.2	**20** Th	0502	0.5
	1104	1.8		1110	1.5
	1718	0.2		1722	0.5
	2327	1.8		2333	1.5
6 Th	0545	0.2	**21** Fr	0549	0.5
	1159	1.7		1154	1.5
	1812	0.2		1806	0.5
7 Fr	0024	1.7	**22** Sa	0019	1.5
	0644	0.3		0637	0.5
	1256	1.7		1240	1.5
	1907	0.3		1851	0.5
8 Sa	0122	1.7	**23** Su	0108	1.5
	0743	0.3		0726	0.5
	1353	1.7		1327	1.5
	2004	0.3		1939	0.5
9 Su	0222	1.7	**24** Mo	0157	1.6
	0842	0.3		0815	0.5
	1450	1.6		1416	1.5
	2102	0.3		2029	0.5
10 Mo	0320	1.7	**25** Tu	0248	1.6
	0940	0.3		0905	0.4
	1548	1.6		1507	1.5
	2159	0.3		2121	0.4
11 Tu	0417	1.7	**26** We	0339	1.6
	1036	0.3		0956	0.4
	1644	1.6		1600	1.6
	2255	0.3		2213	0.4
12 We	0511	1.7	**27** Th	0430	1.7
	1129	0.3		1047	0.3
	1738	1.6		1653	1.6
	2347	0.3		2306	0.3
13 Th ❍	0601	1.7	**28** Fr ●	0522	1.8
	1220	0.4		1140	0.3
	1829	1.6		1746	1.7
				2359	0.2
14 Fr	0036	0.3			
	0649	1.7			
	1309	0.4			
	1916	1.6			
15 Sa	0122	0.3			
	0735	1.7			
	1354	0.4			
	2001	1.6			

Remember to add 1 hour for Daylight Saving Time.

Standard Ports

Napier

Lat. 39° 29´S., Long. 176° 55´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0615	1.8	**16** Su	0055	0.4
	1232	0.2		0704	1.6
	1839	1.8		1321	0.4
				1930	1.6
2 Su	0052	0.2	**17** Mo	0138	0.4
	0708	1.9		0747	1.6
	1325	0.2		1403	0.4
	1933	1.8		2011	1.6
3 Mo	0146	0.1	**18** Tu	0220	0.4
	0802	1.9		0829	1.6
	1419	0.1		1443	0.4
	2026	1.8		2051	1.6
4 Tu	0241	0.1	**19** We	0303	0.4
	0857	1.9		0911	1.5
	1512	0.1		1523	0.4
	2120	1.9		2132	1.6
5 We	0336	0.1	**20** Th	0346	0.4
	0952	1.8		0953	1.5
	1605	0.2		1604	0.5
	2215	1.8		2213	1.6
6 Th	0434	0.2	**21** Fr	0431	0.4
	1048	1.8		1037	1.5
	1659	0.2		1645	0.5
	2311	1.8		2257	1.6
7 Fr	0532	0.2	**22** Sa	0516	0.5
	1144	1.7		1121	1.5
	1754	0.2		1729	0.5
				2343	1.6
8 Sa	0008	1.8	**23** Su	0603	0.5
	0630	0.3		1206	1.5
	1241	1.7		1814	0.5
	1850	0.3			
9 Su	0107	1.7	**24** Mo	0030	1.6
	0729	0.3		0651	0.4
	1337	1.6		1253	1.5
	1947	0.3		1902	0.5
10 Mo	0205	1.7	**25** Tu	0120	1.6
	0826	0.3		0740	0.4
	1434	1.6		1343	1.5
	2045	0.4		1954	0.4
11 Tu	0302	1.7	**26** We	0212	1.6
	0921	0.4		0831	0.4
	1530	1.6		1434	1.6
	2140	0.4		2047	0.4
12 We	0356	1.7	**27** Th	0305	1.7
	1014	0.4		0922	0.3
	1624	1.6		1528	1.6
	2233	0.4		2142	0.3
13 Th	0447	1.6	**28** Fr	0358	1.7
	1105	0.4		1015	0.3
	1715	1.6		1623	1.7
	2323	0.4		2238	0.2
14 Fr ❍	0535	1.6	**29** Sa ●	0453	1.8
	1153	0.4		1109	0.2
	1803	1.6		1719	1.8
				2334	0.2
15 Sa	0010	0.4	**30** Su	0548	1.8
	0621	1.6		1204	0.2
	1238	0.4		1814	1.8
	1847	1.6			
			31 Mo	0029	0.1
				0644	1.9
				1259	0.1
				1910	1.9

April

	Time	m		Time	m
1 Tu	0126	0.1	**16** We	0150	0.4
	0740	1.9		0756	1.5
	1354	0.1		1408	0.4
	2005	1.9		2018	1.6
2 We	0222	0.1	**17** Th	0233	0.4
	0837	1.9		0839	1.5
	1449	0.1		1448	0.5
	2100	1.9		2059	1.6
3 Th	0320	0.1	**18** Fr	0317	0.4
	0934	1.8		0922	1.5
	1544	0.2		1529	0.5
	2156	1.9		2141	1.6
4 Fr	0418	0.2	**19** Sa	0401	0.4
	1031	1.8		1006	1.5
	1640	0.2		1611	0.5
	2253	1.8		2224	1.6
5 Sa	0516	0.2	**20** Su	0447	0.4
	1128	1.7		1050	1.5
	1735	0.3		1655	0.5
	2351	1.8		2310	1.6
6 Su	0614	0.3	**21** Mo	0533	0.4
	1224	1.7		1135	1.5
	1831	0.3		1741	0.5
				2358	1.6
7 Mo	0048	1.7	**22** Tu	0621	0.4
	0710	0.3		1223	1.5
	1319	1.6		1831	0.4
	1928	0.4			
8 Tu	0145	1.7	**23** We	0049	1.6
	0805	0.4		0709	0.4
	1414	1.6		1313	1.6
	2023	0.4		1924	0.4
9 We	0239	1.6	**24** Th	0141	1.7
	0857	0.4		0800	0.3
	1507	1.5		1405	1.6
	2117	0.4		2019	0.3
10 Th	0330	1.6	**25** Fr	0235	1.7
	0947	0.4		0852	0.3
	1559	1.5		1500	1.7
	2208	0.4		2116	0.3
11 Fr	0418	1.6	**26** Sa	0330	1.8
	1034	0.4		0946	0.2
	1647	1.5		1557	1.8
	2256	0.4		2213	0.2
12 Sa	0504	1.6	**27** Su	0426	1.8
	1120	0.4		1042	0.2
	1733	1.5		1654	1.8
	2342	0.4		2311	0.2
13 Su ❍	0548	1.6	**28** Mo ●	0523	1.8
	1204	0.4		1138	0.1
	1816	1.6		1751	1.9
14 Mo	0025	0.4	**29** Tu	0008	0.1
	0631	1.5		0621	1.8
	1246	0.4		1235	0.1
	1857	1.6		1848	1.9
15 Tu	0108	0.4	**30** We	0106	0.1
	0714	1.5		0719	1.8
	1327	0.4		1331	0.1
	1938	1.6		1944	1.9

May

	Time	m		Time	m
1 Th	0204	0.1	**16** Fr	0204	0.4
	0817	1.8		0808	1.5
	1427	0.1		1415	0.4
	2040	1.9		2028	1.6
2 Fr	0302	0.1	**17** Sa	0248	0.4
	0915	1.8		0852	1.5
	1523	0.2		1457	0.4
	2137	1.9		2110	1.6
3 Sa	0400	0.2	**18** Su	0333	0.4
	1012	1.7		0937	1.5
	1618	0.2		1540	0.4
	2233	1.8		2155	1.6
4 Su	0457	0.2	**19** Mo	0419	0.4
	1107	1.7		1022	1.5
	1713	0.3		1626	0.4
	2329	1.8		2242	1.6
5 Mo	0553	0.3	**20** Tu	0505	0.4
	1202	1.6		1108	1.5
	1809	0.3		1714	0.4
				2331	1.7
6 Tu	0025	1.7	**21** We	0553	0.4
	0646	0.3		1156	1.6
	1256	1.6		1805	0.4
	1903	0.4			
7 We	0118	1.6	**22** Th	0022	1.7
	0738	0.4		0642	0.3
	1348	1.6		1247	1.6
	1957	0.4		1859	0.4
8 Th	0209	1.6	**23** Fr	0115	1.7
	0827	0.4		0733	0.3
	1439	1.5		1341	1.7
	2049	0.4		1956	0.3
9 Fr	0258	1.6	**24** Sa	0210	1.7
	0914	0.4		0826	0.3
	1528	1.5		1437	1.7
	2139	0.5		2054	0.3
10 Sa	0345	1.5	**25** Su	0306	1.8
	1000	0.4		0921	0.2
	1615	1.5		1535	1.8
	2226	0.5		2153	0.2
11 Su	0430	1.5	**26** Mo	0403	1.8
	1044	0.5		1017	0.2
	1700	1.5		1633	1.9
	2311	0.5		2251	0.2
12 Mo	0514	1.5	**27** Tu ●	0501	1.8
	1128	0.5		1115	0.2
	1743	1.6		1730	1.9
	2354	0.4		2349	0.1
13 Tu ❍	0557	1.5	**28** We	0600	1.8
	1210	0.5		1212	0.1
	1824	1.6		1827	1.9
14 We	0038	0.4	**29** Th	0048	0.1
	0641	1.5		0659	1.8
	1252	0.5		1309	0.1
	1905	1.6		1924	1.9
15 Th	0121	0.4	**30** Fr	0146	0.1
	0725	1.5		0757	1.8
	1334	0.4		1405	0.2
	1946	1.6		2020	1.9
			31 Sa	0243	0.2
				0854	1.7
				1500	0.2
				2115	1.9

June

	Time	m		Time	m
1 Su	0339	0.2	**16** Mo	0306	0.4
	0949	1.7		0909	1.6
	1554	0.2		1513	0.4
	2210	1.8		2129	1.7
2 Mo	0434	0.2	**17** Tu	0352	0.3
	1043	1.7		0955	1.6
	1648	0.3		1600	0.4
	2303	1.7		2217	1.7
3 Tu	0526	0.3	**18** We	0440	0.3
	1135	1.6		1043	1.6
	1741	0.4		1651	0.4
	2355	1.7		2307	1.7
4 We	0616	0.3	**19** Th	0528	0.3
	1226	1.6		1133	1.6
	1834	0.4		1744	0.3
5 Th	0046	1.6	**20** Fr	0000	1.7
	0704	0.4		0618	0.3
	1316	1.5		1225	1.7
	1925	0.4		1840	0.3
6 Fr	0135	1.6	**21** Sa	0054	1.7
	0751	0.4		0710	0.3
	1405	1.5		1321	1.7
	2016	0.5		1938	0.3
7 Sa	0222	1.5	**22** Su	0149	1.7
	0837	0.4		0804	0.2
	1453	1.5		1418	1.8
	2105	0.5		2037	0.3
8 Su	0308	1.5	**23** Mo	0246	1.7
	0922	0.5		0900	0.2
	1540	1.5		1516	1.8
	2152	0.5		2136	0.2
9 Mo	0353	1.5	**24** Tu	0344	1.7
	1007	0.5		0958	0.2
	1626	1.6		1615	1.8
	2238	0.5		2235	0.2
10 Tu	0439	1.5	**25** We ●	0443	1.7
	1052	0.5		1055	0.2
	1709	1.6		1712	1.9
	2323	0.5		2333	0.2
11 We ❍	0524	1.5	**26** Th	0542	1.7
	1136	0.5		1153	0.2
	1751	1.6		1809	1.9
12 Th	0007	0.4	**27** Fr	0030	0.2
	0609	1.5		0640	1.7
	1219	0.4		1248	0.2
	1833	1.6		1904	1.9
13 Fr	0051	0.4	**28** Sa	0126	0.2
	0654	1.5		0736	1.7
	1301	0.4		1343	0.2
	1915	1.6		1958	1.9
14 Sa	0135	0.4	**29** Su	0221	0.2
	0739	1.5		0831	1.7
	1344	0.4		1436	0.2
	1958	1.7		2051	1.8
15 Su	0220	0.4	**30** Mo	0314	0.2
	0824	1.5		0923	1.7
	1428	0.4		1528	0.3
	2043	1.7		2142	1.8

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Nelson

Lat. 41˚16´S., Long. 173˚16´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0459	3.7	**16** Tu	0447	3.3
	1109	1.2		1052	1.5
	1740	3.6		1717	3.3
	2356	1.3		2335	1.7
2 Tu	0601	3.7	**17** We	0548	3.3
	1211	1.2		1154	1.5
	1850	3.6		1828	3.3
3 We	0101	1.2	**18** Th	0042	1.6
	0701	3.7		0647	3.4
	1315	1.2		1257	1.4
	1955	3.8		1934	3.5
4 Th	0158	1.1	**19** Fr	0137	1.4
	0758	3.7		0744	3.5
	1416	1.2		1358	1.3
	2051	3.9		2029	3.7
5 Fr	0248	1.0	**20** Sa	0225	1.2
	0852	3.8		0838	3.6
	1511	1.1		1452	1.1
	2138	4.0		2116	4.0
6 Sa ●	0333	0.9	**21** Su ❍	0310	1.0
	0942	3.8		0930	3.8
	1559	1.0		1542	0.9
	2220	4.1		2159	4.2
7 Su	0416	0.9	**22** Mo	0354	0.8
	1030	3.8		1020	3.9
	1641	1.0		1627	0.7
	2259	4.1		2241	4.4
8 Mo	0456	0.9	**23** Tu	0438	0.7
	1114	3.8		1108	4.1
	1719	1.0		1710	0.6
	2336	4.1		2323	4.4
9 Tu	0535	1.0	**24** We	0523	0.6
	1155	3.8		1154	4.1
	1754	1.0		1753	0.6
10 We	0012	4.0	**25** Th	0006	4.4
	0614	1.0		0609	0.6
	1235	3.8		1239	4.1
	1828	1.1		1836	0.6
11 Th	0048	3.9	**26** Fr	0051	4.3
	0653	1.1		0656	0.7
	1313	3.7		1324	4.1
	1902	1.2		1920	0.8
12 Fr	0126	3.8	**27** Sa	0138	4.2
	0734	1.2		0745	0.8
	1352	3.6		1410	3.9
	1939	1.3		2009	1.0
13 Sa	0208	3.6	**28** Su	0229	4.0
	0817	1.3		0836	1.0
	1433	3.5		1500	3.7
	2022	1.5		2106	1.2
14 Su	0255	3.5	**29** Mo	0325	3.8
	0905	1.4		0932	1.2
	1519	3.4		1558	3.6
	2114	1.6		2217	1.4
15 Mo	0349	3.4	**30** Tu	0427	3.6
	0956	1.5		1035	1.4
	1612	3.3		1711	3.4
	2220	1.7		2337	1.5
			31 We	0534	3.5
				1148	1.5
				1835	3.4

August

	Time	m		Time	m
1 Th	0049	1.4	**16** Fr	0011	1.6
	0642	3.4		0614	3.2
	1305	1.5		1228	1.5
	1948	3.6		1907	3.4
2 Fr	0148	1.3	**17** Sa	0115	1.4
	0746	3.5		0722	3.4
	1412	1.3		1339	1.3
	2043	3.8		2008	3.7
3 Sa	0238	1.1	**18** Su	0207	1.1
	0844	3.6		0823	3.6
	1505	1.2		1436	1.1
	2127	3.9		2056	4.0
4 Su ●	0321	1.0	**19** Mo	0253	0.9
	0933	3.7		0916	3.9
	1548	1.1		1524	0.8
	2205	4.1		2140	4.3
5 Mo	0400	0.9	**20** Tu ❍	0337	0.6
	1016	3.8		1004	4.1
	1624	1.0		1608	0.5
	2240	4.1		2222	4.5
6 Tu	0436	0.9	**21** We	0421	0.4
	1055	3.9		1050	4.3
	1656	0.9		1650	0.4
	2313	4.2		2303	4.6
7 We	0510	0.8	**22** Th	0504	0.4
	1131	3.9		1133	4.4
	1726	0.9		1730	0.4
	2345	4.1		2345	4.6
8 Th	0543	0.9	**23** Fr	0547	0.4
	1205	3.9		1215	4.4
	1756	0.9		1811	0.4
9 Fr	0017	4.0	**24** Sa	0028	4.5
	0617	0.9		0632	0.5
	1238	3.9		1257	4.2
	1826	1.0		1854	0.6
10 Sa	0050	3.9	**25** Su	0113	4.2
	0652	1.0		0717	0.8
	1312	3.8		1341	4.0
	1858	1.1		1941	0.9
11 Su	0126	3.7	**26** Mo	0202	3.9
	0730	1.1		0805	1.0
	1348	3.6		1429	3.7
	1935	1.3		2037	1.3
12 Mo	0206	3.5	**27** Tu	0257	3.6
	0812	1.3		0859	1.3
	1427	3.5		1526	3.4
	2019	1.5		2155	1.5
13 Tu	0254	3.4	**28** We	0401	3.4
	0859	1.4		1007	1.5
	1514	3.3		1647	3.2
	2121	1.7		2326	1.6
14 We	0353	3.2	**29** Th	0515	3.2
	0957	1.5		1134	1.6
	1619	3.2		1828	3.3
	2246	1.7			
15 Th	0502	3.2	**30** Fr	0041	1.5
	1108	1.6		0632	3.2
	1745	3.2		1301	1.6
				1942	3.5
			31 Sa	0138	1.3
				0740	3.4
				1404	1.4
				2031	3.7

September

	Time	m		Time	m
1 Su	0223	1.1	**16** Mo	0145	1.0
	0835	3.5		0806	3.7
	1451	1.2		1414	1.0
	2110	3.9		2032	4.1
2 Mo	0303	1.0	**17** Tu	0231	0.7
	0919	3.7		0857	4.0
	1528	1.0		1501	0.7
	2144	4.1		2116	4.4
3 Tu ●	0338	0.8	**18** We ❍	0315	0.5
	0957	3.9		0943	4.3
	1600	0.9		1544	0.4
	2215	4.1		2157	4.6
4 We	0411	0.8	**19** Th	0358	0.3
	1031	4.0		1027	4.5
	1629	0.8		1626	0.2
	2245	4.2		2238	4.7
5 Th	0442	0.7	**20** Fr	0441	0.3
	1103	4.0		1109	4.5
	1656	0.8		1706	0.2
	2315	4.1		2320	4.6
6 Fr	0513	0.8	**21** Sa	0524	0.3
	1135	4.0		1150	4.5
	1723	0.8		1747	0.4
	2345	4.0			
7 Sa	0544	0.8	**22** Su	0003	4.4
	1205	4.0		0607	0.5
	1752	0.9		1232	4.3
				1829	0.6
8 Su	0016	3.9	**23** Mo	0048	4.1
	0617	0.9		0651	0.8
	1237	3.9		1314	4.0
	1822	1.0		1915	1.0
9 Mo	0049	3.7	**24** Tu	0137	3.8
	0652	1.0		0738	1.1
	1309	3.7		1401	3.7
	1857	1.2		2014	1.3
10 Tu	0126	3.5	**25** We	0233	3.5
	0731	1.2		0833	1.4
	1346	3.6		1459	3.4
	1938	1.4		2137	1.6
11 We	0212	3.4	**26** Th	0340	3.2
	0817	1.4		0944	1.6
	1430	3.4		1625	3.2
	2037	1.6		2311	1.6
12 Th	0312	3.2	**27** Fr	0458	3.1
	0916	1.6		1117	1.7
	1534	3.2		1810	3.2
	2208	1.7			
13 Fr	0428	3.1	**28** Sa	0023	1.5
	1035	1.7		0618	3.2
	1710	3.2		1242	1.6
	2345	1.6		1920	3.4
14 Sa	0550	3.2	**29** Su	0116	1.3
	1205	1.6		0724	3.3
	1841	3.4		1342	1.4
				2006	3.7
15 Su	0052	1.4	**30** Mo	0159	1.1
	0705	3.4		0814	3.5
	1318	1.3		1426	1.2
	1944	3.7		2042	3.9

October

	Time	m		Time	m
1 Tu	0237	1.0	**16** We	0205	0.7
	0855	3.7		0833	4.1
	1501	1.0		1435	0.6
	2115	4.0		2047	4.4
2 We	0311	0.8	**17** Th ❍	0250	0.4
	0931	3.9		0920	4.3
	1531	0.9		1519	0.4
	2145	4.1		2131	4.6
3 Th ●	0342	0.8	**18** Fr	0335	0.3
	1004	4.0		1004	4.5
	1559	0.8		1602	0.3
	2215	4.1		2213	4.6
4 Fr	0413	0.7	**19** Sa	0419	0.3
	1035	4.1		1047	4.5
	1627	0.8		1643	0.3
	2245	4.1		2257	4.5
5 Sa	0444	0.7	**20** Su	0503	0.4
	1106	4.1		1128	4.5
	1654	0.8		1725	0.5
	2315	4.0		2341	4.3
6 Su	0516	0.8	**21** Mo	0547	0.6
	1137	4.1		1210	4.3
	1723	0.9		1808	0.7
	2346	3.9			
7 Mo	0549	0.9	**22** Tu	0027	4.0
	1208	4.0		0632	0.9
	1754	1.0		1253	4.0
				1856	1.0
8 Tu	0020	3.7	**23** We	0117	3.7
	0625	1.0		0719	1.1
	1241	3.8		1340	3.7
	1830	1.2		1955	1.4
9 We	0059	3.5	**24** Th	0213	3.4
	0704	1.2		0812	1.4
	1318	3.6		1437	3.4
	1913	1.4		2114	1.6
10 Th	0146	3.3	**25** Fr	0318	3.2
	0751	1.4		0917	1.6
	1404	3.4		1553	3.2
	2013	1.6		2238	1.6
11 Fr	0248	3.2	**26** Sa	0430	3.1
	0851	1.5		1040	1.7
	1508	3.3		1726	3.2
	2143	1.7		2346	1.5
12 Sa	0405	3.1	**27** Su	0543	3.2
	1010	1.6		1201	1.6
	1640	3.3		1836	3.4
	2315	1.5			
13 Su	0528	3.2	**28** Mo	0039	1.4
	1138	1.5		0647	3.3
	1809	3.5		1303	1.5
				1926	3.6
14 Mo	0023	1.3	**29** Tu	0123	1.2
	0641	3.4		0740	3.5
	1251	1.2		1349	1.3
	1912	3.8		2005	3.7
15 Tu	0117	1.0	**30** We	0203	1.1
	0741	3.8		0823	3.7
	1347	0.9		1427	1.1
	2002	4.1		2040	3.9
			31 Th	0239	0.9
				0901	3.9
				1500	1.0
				2112	4.0

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Nelson

Lat. 41˚16´S., Long. 173˚16´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0313	0.8	**16** Sa ❍	0314	0.5
	0936	4.0		0944	4.4
	1530	0.9		1541	0.5
	2144	4.0		2151	4.3
2 Sa ●	0346	0.8	**17** Su	0401	0.5
	1009	4.1		1029	4.4
	1600	0.8		1625	0.5
	2216	4.0		2238	4.2
3 Su	0420	0.8	**18** Mo	0448	0.6
	1042	4.1		1112	4.4
	1630	0.8		1709	0.6
	2249	3.9		2324	4.1
4 Mo	0454	0.8	**19** Tu	0533	0.7
	1114	4.1		1154	4.2
	1702	0.9		1754	0.8
	2324	3.8			
5 Tu	0530	0.9	**20** We	0012	3.9
	1148	4.0		0618	0.9
	1736	1.0		1237	4.0
				1842	1.1
6 We	0002	3.7	**21** Th	0101	3.7
	0608	1.0		0702	1.1
	1223	3.9		1322	3.8
	1815	1.1		1936	1.3
7 Th	0045	3.6	**22** Fr	0153	3.5
	0650	1.1		0749	1.3
	1303	3.8		1412	3.6
	1903	1.3		2038	1.4
8 Fr	0135	3.4	**23** Sa	0248	3.3
	0738	1.3		0842	1.5
	1351	3.6		1513	3.4
	2003	1.4		2146	1.5
9 Sa	0235	3.3	**24** Su	0346	3.2
	0836	1.4		0945	1.6
	1454	3.5		1623	3.3
	2120	1.5		2249	1.5
10 Su	0344	3.3	**25** Mo	0449	3.2
	0947	1.5		1058	1.7
	1612	3.5		1733	3.3
	2239	1.4		2345	1.4
11 Mo	0458	3.3	**26** Tu	0553	3.3
	1105	1.4		1208	1.6
	1730	3.6		1830	3.4
	2345	1.2			
12 Tu	0608	3.5	**27** We	0035	1.3
	1217	1.2		0653	3.4
	1834	3.8		1304	1.5
				1918	3.5
13 We	0042	1.0	**28** Th	0121	1.2
	0711	3.8		0745	3.5
	1317	0.9		1349	1.3
	1929	4.1		1959	3.7
14 Th	0135	0.8	**29** Fr	0203	1.1
	0807	4.0		0829	3.7
	1409	0.7		1428	1.2
	2018	4.3		2038	3.7
15 Fr	0225	0.6	**30** Sa	0244	1.0
	0857	4.2		0909	3.9
	1456	0.5		1503	1.0
	2105	4.3		2115	3.8

December

	Time	m		Time	m
1 Su ●	0323	0.9	**16** Mo	0352	0.8
	0946	4.0		1017	4.3
	1537	0.9		1614	0.7
	2153	3.8		2226	4.0
2 Mo	0402	0.9	**17** Tu	0440	0.8
	1022	4.1		1100	4.3
	1612	0.9		1658	0.8
	2231	3.8		2314	4.0
3 Tu	0440	0.9	**18** We	0524	0.8
	1058	4.1		1141	4.2
	1648	0.9		1742	0.9
	2312	3.8			
4 We	0519	0.9	**19** Th	0000	3.9
	1134	4.1		0604	0.9
	1726	0.9		1221	4.1
	2354	3.8		1825	1.0
5 Th	0559	0.9	**20** Fr	0044	3.8
	1213	4.1		0642	1.0
	1809	1.0		1301	3.9
				1910	1.1
6 Fr	0040	3.7	**21** Sa	0127	3.6
	0641	1.0		0721	1.2
	1254	4.0		1343	3.8
	1857	1.1		1957	1.3
7 Sa	0128	3.6	**22** Su	0211	3.5
	0727	1.1		0801	1.3
	1342	3.8		1430	3.6
	1952	1.2		2047	1.4
8 Su	0221	3.5	**23** Mo	0257	3.4
	0819	1.2		0848	1.5
	1437	3.7		1523	3.4
	2054	1.2		2140	1.5
9 Mo	0318	3.5	**24** Tu	0348	3.3
	0919	1.3		0945	1.6
	1542	3.7		1623	3.3
	2159	1.2		2235	1.5
10 Tu	0421	3.5	**25** We	0446	3.2
	1029	1.3		1057	1.7
	1650	3.7		1724	3.3
	2303	1.2		2332	1.5
11 We	0530	3.5	**26** Th	0553	3.2
	1142	1.2		1209	1.7
	1755	3.8		1822	3.3
12 Th	0005	1.1	**27** Fr	0029	1.5
	0639	3.7		0659	3.3
	1249	1.1		1308	1.5
	1856	3.9		1915	3.4
13 Fr	0106	1.0	**28** Sa	0124	1.4
	0743	3.8		0757	3.5
	1347	0.9		1357	1.4
	1952	4.0		2004	3.5
14 Sa	0204	0.9	**29** Su	0216	1.3
	0840	4.0		0845	3.7
	1439	0.8		1439	1.2
	2045	4.0		2050	3.6
15 Su ❍	0300	0.8	**30** Mo	0304	1.1
	0931	4.2		0927	3.9
	1528	0.7		1519	1.1
	2136	4.0		2135	3.7
			31 Tu ●	0348	1.0
				1006	4.1
				1558	0.9
				2220	3.8

January

	Time	m		Time	m
1 We	0430	0.9	**16** Th	0511	0.8
	1044	4.2		1126	4.3
	1637	0.9		1725	0.8
	2304	3.9		2344	4.0
2 Th	0509	0.8	**17** Fr	0545	0.8
	1123	4.3		1201	4.2
	1718	0.8		1803	0.9
	2347	3.9			
3 Fr	0549	0.8	**18** Sa	0021	3.9
	1202	4.3		0617	0.9
	1801	0.8		1236	4.1
				1839	1.0
4 Sa	0031	3.9	**19** Su	0057	3.8
	0629	0.8		0648	1.0
	1243	4.2		1311	3.9
	1846	0.8		1916	1.1
5 Su	0115	3.9	**20** Mo	0133	3.7
	0711	0.8		0721	1.2
	1327	4.1		1349	3.8
	1934	0.9		1955	1.2
6 Mo	0200	3.8	**21** Tu	0210	3.6
	0757	1.0		0758	1.3
	1417	4.0		1431	3.6
	2025	1.0		2038	1.4
7 Tu	0249	3.7	**22** We	0251	3.5
	0849	1.1		0843	1.5
	1512	3.9		1520	3.4
	2121	1.1		2126	1.5
8 We	0344	3.6	**23** Th	0339	3.3
	0953	1.3		0942	1.7
	1614	3.7		1617	3.3
	2221	1.2		2222	1.6
9 Th	0451	3.5	**24** Fr	0443	3.2
	1110	1.4		1104	1.8
	1720	3.6		1722	3.2
	2329	1.3		2329	1.7
10 Fr	0610	3.5	**25** Sa	0606	3.2
	1227	1.3		1226	1.7
	1827	3.6		1829	3.2
11 Sa	0043	1.3	**26** Su	0043	1.6
	0728	3.6		0724	3.3
	1333	1.2		1328	1.6
	1933	3.7		1933	3.3
12 Su	0155	1.2	**27** Mo	0152	1.5
	0833	3.8		0823	3.6
	1430	1.1		1418	1.4
	2034	3.7		2031	3.5
13 Mo	0257	1.1	**28** Tu	0247	1.3
	0925	4.0		0909	3.8
	1520	0.9		1502	1.1
	2129	3.8		2122	3.7
14 Tu ❍	0349	1.0	**29** We	0334	1.0
	1009	4.2		0950	4.1
	1605	0.9		1543	0.9
	2219	3.9		2209	3.9
15 We	0433	0.9	**30** Th ●	0415	0.8
	1049	4.2		1028	4.3
	1646	0.8		1624	0.7
	2303	3.9		2252	4.1
			31 Fr	0454	0.6
				1107	4.4
				1705	0.6
				2334	4.2

February

	Time	m		Time	m
1 Sa	0532	0.6	**16** Su	0547	0.8
	1145	4.5		1207	4.2
	1746	0.6		1807	0.9
2 Su	0014	4.2	**17** Mo	0026	4.0
	0610	0.5		0615	0.9
	1226	4.5		1239	4.0
	1828	0.6		1839	1.0
3 Mo	0054	4.2	**18** Tu	0057	3.9
	0650	0.6		0644	1.1
	1308	4.3		1312	3.8
	1911	0.7		1913	1.1
4 Tu	0136	4.1	**19** We	0129	3.8
	0733	0.8		0716	1.2
	1354	4.1		1348	3.7
	1958	0.9		1950	1.3
5 We	0220	3.9	**20** Th	0204	3.6
	0822	1.1		0754	1.5
	1445	3.9		1430	3.5
	2048	1.1		2033	1.5
6 Th	0311	3.6	**21** Fr	0245	3.4
	0924	1.4		0845	1.7
	1544	3.6		1522	3.3
	2147	1.4		2125	1.6
7 Fr	0418	3.4	**22** Sa	0340	3.2
	1047	1.5		1003	1.9
	1652	3.5		1629	3.1
	2301	1.6		2234	1.8
8 Sa	0550	3.3	**23** Su	0507	3.1
	1216	1.5		1144	1.9
	1808	3.4		1748	3.1
9 Su	0033	1.6	**24** Mo	0003	1.8
	0725	3.4		0648	3.2
	1327	1.4		1259	1.7
	1925	3.4		1906	3.2
10 Mo	0155	1.5	**25** Tu	0125	1.6
	0830	3.7		0756	3.5
	1423	1.2		1353	1.4
	2031	3.6		2011	3.5
11 Tu	0255	1.3	**26** We	0225	1.3
	0917	3.9		0845	3.8
	1510	1.1		1439	1.1
	2124	3.7		2104	3.8
12 We	0341	1.1	**27** Th	0311	1.0
	0956	4.1		0926	4.2
	1551	0.9		1522	0.8
	2208	3.9		2150	4.0
13 Th ❍	0418	0.9	**28** Fr ●	0353	0.7
	1032	4.2		1005	4.4
	1628	0.8		1603	0.6
	2246	4.0		2232	4.3
14 Fr	0450	0.8			
	1104	4.3			
	1702	0.8			
	2321	4.1			
15 Sa	0519	0.8			
	1136	4.2			
	1735	0.8			
	2354	4.1			

Remember to add 1 hour for Daylight Saving Time.

Nelson

Lat. 41˚16´S., Long. 173˚16´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0431	0.5	**16** Su	0449	0.8
	1044	4.6		1107	4.2
	1643	0.5		1705	0.8
	2312	4.4		2325	4.2
2 Su	0509	0.4	**17** Mo	0516	0.8
	1123	4.7		1137	4.1
	1725	0.4		1736	0.9
	2352	4.5		2355	4.1
3 Mo	0548	0.4	**18** Tu	0543	0.9
	1204	4.6		1207	4.0
	1806	0.5		1807	1.0
4 Tu	0031	4.4	**19** We	0025	4.0
	0628	0.6		0611	1.0
	1246	4.4		1239	3.8
	1849	0.7		1840	1.1
5 We	0112	4.2	**20** Th	0056	3.9
	0711	0.8		0643	1.2
	1332	4.1		1313	3.7
	1934	0.9		1916	1.2
6 Th	0156	3.9	**21** Fr	0129	3.7
	0800	1.1		0720	1.4
	1423	3.8		1354	3.5
	2023	1.2		1957	1.4
7 Fr	0246	3.6	**22** Sa	0208	3.5
	0906	1.5		0809	1.6
	1523	3.5		1445	3.3
	2124	1.5		2048	1.6
8 Sa	0356	3.3	**23** Su	0300	3.3
	1039	1.7		0924	1.8
	1636	3.3		1553	3.1
	2247	1.7		2157	1.8
9 Su	0541	3.2	**24** Mo	0423	3.2
	1208	1.6		1105	1.8
	1759	3.2		1715	3.1
				2328	1.8
10 Mo	0029	1.7	**25** Tu	0607	3.3
	0718	3.4		1224	1.6
	1315	1.5		1837	3.3
	1919	3.4			
11 Tu	0147	1.6	**26** We	0052	1.6
	0816	3.7		0720	3.5
	1407	1.3		1321	1.3
	2021	3.5		1943	3.5
12 We	0240	1.3	**27** Th	0152	1.3
	0858	3.9		0811	3.9
	1450	1.1		1409	1.0
	2108	3.7		2036	3.9
13 Th	0319	1.1	**28** Fr	0241	0.9
	0934	4.1		0855	4.2
	1528	1.0		1453	0.8
	2147	3.9		2123	4.2
14 Fr ❍	0353	1.0	**29** Sa ●	0324	0.6
	1006	4.2		0936	4.5
	1602	0.9		1536	0.5
	2222	4.1		2206	4.4
15 Sa	0422	0.9	**30** Su	0404	0.4
	1037	4.2		1017	4.6
	1634	0.8		1619	0.4
	2254	4.1		2247	4.6
			31 Mo	0445	0.3
				1059	4.7
				1702	0.4
				2329	4.6

April

	Time	m		Time	m
1 Tu	0525	0.4	**16** We	0514	1.0
	1141	4.5		1138	3.9
	1745	0.5		1740	1.0
				2358	4.1
2 We	0010	4.5	**17** Th	0545	1.1
	0607	0.6		1212	3.8
	1226	4.3		1815	1.1
	1830	0.8			
3 Th	0052	4.2	**18** Fr	0030	3.9
	0653	0.9		0619	1.2
	1314	4.0		1249	3.6
	1917	1.0		1852	1.2
4 Fr	0137	3.9	**19** Sa	0105	3.8
	0747	1.2		0659	1.4
	1408	3.7		1333	3.5
	2009	1.3		1935	1.4
5 Sa	0230	3.6	**20** Su	0146	3.6
	0859	1.5		0751	1.6
	1511	3.4		1426	3.3
	2112	1.6		2027	1.6
6 Su	0342	3.3	**21** Mo	0239	3.4
	1030	1.7		0904	1.7
	1624	3.3		1532	3.2
	2236	1.8		2134	1.7
7 Mo	0523	3.3	**22** Tu	0355	3.3
	1149	1.6		1030	1.7
	1744	3.3		1647	3.2
				2255	1.7
8 Tu	0008	1.7	**23** We	0523	3.4
	0649	3.4		1143	1.5
	1249	1.5		1801	3.4
	1856	3.4			
9 We	0118	1.6	**24** Th	0012	1.5
	0744	3.6		0635	3.6
	1338	1.3		1241	1.2
	1953	3.6		1907	3.6
10 Th	0208	1.4	**25** Fr	0115	1.2
	0825	3.8		0730	3.9
	1419	1.1		1332	1.0
	2039	3.7		2003	3.9
11 Fr	0247	1.2	**26** Sa	0206	0.9
	0900	4.0		0819	4.2
	1456	1.0		1420	0.7
	2117	3.9		2052	4.2
12 Sa	0320	1.0	**27** Su	0253	0.6
	0933	4.1		0904	4.4
	1531	0.9		1507	0.6
	2152	4.0		2139	4.4
13 Su ❍	0350	1.0	**28** Mo ●	0337	0.5
	1004	4.1		0949	4.5
	1603	0.9		1554	0.5
	2224	4.1		2224	4.5
14 Mo	0418	0.9	**29** Tu	0421	0.4
	1035	4.1		1034	4.5
	1635	0.9		1641	0.5
	2256	4.2		2308	4.5
15 Tu	0445	0.9	**30** We	0505	0.5
	1106	4.0		1121	4.4
	1707	0.9		1728	0.7
	2327	4.1		2351	4.4

May

	Time	m		Time	m
1 Th	0551	0.7	**16** Fr	0525	1.1
	1210	4.1		1153	3.7
	1816	0.9		1758	1.1
2 Fr	0036	4.2	**17** Sa	0012	4.0
	0640	1.0		0603	1.2
	1301	3.9		1235	3.6
	1905	1.1		1838	1.2
3 Sa	0124	3.9	**18** Su	0050	3.9
	0738	1.2		0648	1.3
	1357	3.6		1322	3.5
	1958	1.3		1922	1.3
4 Su	0217	3.7	**19** Mo	0133	3.7
	0848	1.5		0741	1.4
	1457	3.4		1414	3.4
	2057	1.6		2012	1.4
5 Mo	0324	3.5	**20** Tu	0226	3.6
	1004	1.6		0845	1.5
	1602	3.3		1512	3.4
	2208	1.7		2112	1.5
6 Tu	0444	3.4	**21** We	0331	3.5
	1111	1.5		0954	1.4
	1709	3.3		1616	3.4
	2325	1.7		2221	1.5
7 We	0559	3.4	**22** Th	0443	3.6
	1208	1.5		1059	1.3
	1814	3.4		1722	3.5
				2332	1.4
8 Th	0032	1.6	**23** Fr	0550	3.7
	0656	3.6		1158	1.2
	1256	1.3		1828	3.7
	1912	3.5			
9 Fr	0125	1.5	**24** Sa	0037	1.2
	0741	3.7		0649	3.9
	1339	1.2		1254	1.0
	2000	3.7		1929	3.9
10 Sa	0208	1.3	**25** Su	0134	0.9
	0820	3.8		0743	4.1
	1419	1.1		1348	0.8
	2042	3.8		2024	4.1
11 Su	0244	1.2	**26** Mo	0226	0.7
	0855	3.9		0834	4.2
	1457	1.1		1441	0.7
	2120	3.9		2116	4.3
12 Mo	0317	1.1	**27** Tu ●	0315	0.6
	0930	3.9		0924	4.3
	1533	1.0		1534	0.7
	2156	4.0		2205	4.4
13 Tu ❍	0348	1.0	**28** We	0402	0.6
	1004	3.9		1015	4.2
	1608	1.0		1626	0.7
	2229	4.1		2251	4.4
14 We	0419	1.0	**29** Th	0450	0.7
	1039	3.9		1106	4.1
	1644	1.0		1716	0.8
	2303	4.1		2337	4.3
15 Th	0451	1.0	**30** Fr	0538	0.8
	1115	3.8		1157	4.0
	1720	1.0		1805	0.9
	2337	4.1			
			31 Sa	0022	4.2
				0629	1.0
				1249	3.8
				1852	1.1

June

	Time	m		Time	m
1 Su	0109	4.0	**16** Mo	0037	4.0
	0723	1.2		0637	1.1
	1341	3.7		1310	3.7
	1939	1.3		1907	1.1
2 Mo	0158	3.8	**17** Tu	0120	3.9
	0821	1.3		0726	1.2
	1433	3.5		1357	3.6
	2029	1.4		1953	1.2
3 Tu	0253	3.6	**18** We	0209	3.8
	0920	1.4		0820	1.2
	1526	3.4		1447	3.6
	2124	1.6		2045	1.3
4 We	0355	3.5	**19** Th	0305	3.8
	1018	1.5		0918	1.2
	1621	3.4		1541	3.6
	2228	1.6		2146	1.3
5 Th	0459	3.4	**20** Fr	0407	3.7
	1113	1.5		1017	1.2
	1720	3.4		1643	3.6
	2336	1.6		2256	1.3
6 Fr	0557	3.5	**21** Sa	0511	3.8
	1204	1.4		1118	1.2
	1821	3.4		1751	3.6
7 Sa	0036	1.6	**22** Su	0006	1.2
	0649	3.5		0613	3.8
	1252	1.4		1220	1.1
	1917	3.5		1900	3.8
8 Su	0126	1.4	**23** Mo	0110	1.1
	0735	3.6		0713	3.9
	1339	1.3		1323	1.0
	2007	3.7		2004	3.9
9 Mo	0209	1.3	**24** Tu	0207	0.9
	0817	3.7		0811	4.0
	1423	1.2		1425	1.0
	2050	3.8		2101	4.1
10 Tu	0247	1.2	**25** We ●	0300	0.8
	0857	3.7		0908	4.0
	1506	1.1		1524	0.9
	2130	3.9		2153	4.2
11 We ❍	0322	1.1	**26** Th	0350	0.7
	0937	3.7		1002	4.0
	1546	1.1		1618	0.8
	2207	4.0		2239	4.3
12 Th	0358	1.1	**27** Fr	0438	0.7
	1017	3.8		1055	4.0
	1626	1.0		1706	0.8
	2244	4.1		2323	4.3
13 Fr	0434	1.0	**28** Sa	0525	0.8
	1059	3.8		1144	3.9
	1705	1.0		1749	0.9
	2320	4.1			
14 Sa	0512	1.0	**29** Su	0006	4.2
	1141	3.7		0610	0.9
	1744	1.0		1230	3.9
	2357	4.1		1830	1.0
15 Su	0552	1.1	**30** Mo	0047	4.1
	1225	3.7		0656	1.0
	1824	1.1		1314	3.8
				1909	1.1

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Onehunga

Lat. 36˚56´S., Long. 174˚47´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0553	3.8	**16** Tu	0526	3.4
	1213	1.0		1148	1.4
	1831	3.7		1807	3.3
2 Tu	0046	1.1	**17** We	0022	1.6
	0655	3.7		0626	3.4
	1315	1.0		1252	1.4
	1936	3.7		1912	3.4
3 We	0151	1.1	**18** Th	0131	1.5
	0758	3.7		0731	3.4
	1417	1.0		1356	1.3
	2039	3.8		2017	3.6
4 Th	0251	1.0	**19** Fr	0233	1.3
	0900	3.7		0836	3.5
	1514	0.9		1455	1.1
	2136	3.9		2114	3.7
5 Fr	0346	0.9	**20** Sa	0328	1.1
	0956	3.7		0935	3.7
	1606	0.9		1548	0.9
	2226	4.0		2205	3.9
6 Sa ●	0435	0.9	**21** Su ❍	0417	0.9
	1046	3.8		1027	3.8
	1653	0.8		1637	0.7
	2312	4.0		2252	4.1
7 Su	0521	0.9	**22** Mo	0504	0.7
	1131	3.8		1116	4.0
	1736	0.8		1723	0.6
	2352	4.0		2337	4.2
8 Mo	0603	0.9	**23** Tu	0550	0.6
	1212	3.7		1202	4.1
	1816	0.9		1808	0.5
9 Tu	0030	3.9	**24** We	0021	4.3
	0642	0.9		0635	0.5
	1250	3.7		1247	4.1
	1854	1.0		1853	0.5
10 We	0106	3.8	**25** Th	0106	4.3
	0721	1.0		0721	0.5
	1326	3.6		1332	4.1
	1930	1.0		1938	0.6
11 Th	0141	3.8	**26** Fr	0151	4.2
	0758	1.1		0807	0.6
	1402	3.6		1419	4.0
	2006	1.2		2026	0.7
12 Fr	0217	3.7	**27** Sa	0238	4.1
	0836	1.2		0855	0.7
	1440	3.5		1507	3.9
	2044	1.3		2116	0.9
13 Sa	0256	3.6	**28** Su	0328	3.9
	0916	1.3		0946	0.9
	1523	3.4		1600	3.7
	2127	1.4		2211	1.1
14 Su	0341	3.5	**29** Mo	0423	3.7
	1001	1.3		1042	1.0
	1611	3.4		1659	3.6
	2217	1.5		2314	1.2
15 Mo	0431	3.4	**30** Tu	0524	3.6
	1051	1.4		1144	1.2
	1706	3.3		1806	3.5
	2315	1.6			
			31 We	0024	1.3
				0632	3.5
				1252	1.2
				1919	3.6

August

	Time	m		Time	m
1 Th	0134	1.3	**16** Fr	0055	1.5
	0745	3.5		0658	3.3
	1400	1.2		1324	1.4
	2027	3.6		1948	3.5
2 Fr	0238	1.2	**17** Sa	0207	1.3
	0851	3.5		0815	3.5
	1500	1.1		1431	1.2
	2124	3.8		2051	3.7
3 Sa	0332	1.1	**18** Su	0306	1.0
	0946	3.6		0918	3.7
	1552	1.0		1527	0.9
	2212	3.9		2144	4.0
4 Su ●	0420	0.9	**19** Mo	0357	0.8
	1033	3.7		1010	3.9
	1637	0.9		1617	0.6
	2254	4.0		2231	4.2
5 Mo	0502	0.9	**20** Tu ❍	0444	0.5
	1114	3.8		1057	4.1
	1717	0.8		1703	0.4
	2331	4.0		2316	4.4
6 Tu	0540	0.8	**21** We	0529	0.4
	1150	3.8		1142	4.3
	1753	0.8		1748	0.3
7 We	0005	4.0	**22** Th	0000	4.5
	0616	0.8		0614	0.3
	1224	3.8		1226	4.3
	1827	0.8		1832	0.3
8 Th	0036	4.0	**23** Fr	0043	4.4
	0650	0.9		0658	0.3
	1255	3.8		1309	4.2
	1900	0.9		1916	0.4
9 Fr	0107	3.9	**24** Sa	0126	4.3
	0723	0.9		0742	0.5
	1327	3.8		1353	4.1
	1933	1.0		2002	0.6
10 Sa	0139	3.8	**25** Su	0211	4.1
	0756	1.0		0828	0.7
	1400	3.7		1439	3.9
	2007	1.1		2050	0.9
11 Su	0213	3.7	**26** Mo	0259	3.8
	0832	1.1		0917	0.9
	1438	3.6		1530	3.7
	2044	1.3		2145	1.1
12 Mo	0253	3.6	**27** Tu	0354	3.6
	0912	1.2		1012	1.2
	1521	3.5		1632	3.5
	2129	1.4		2250	1.4
13 Tu	0340	3.4	**28** We	0500	3.4
	0959	1.4		1118	1.4
	1612	3.4		1747	3.4
	2224	1.6			
14 We	0435	3.3	**29** Th	0006	1.5
	1056	1.5		0619	3.3
	1715	3.3		1233	1.4
	2334	1.6		1906	3.4
15 Th	0541	3.3	**30** Fr	0120	1.4
	1206	1.5		0736	3.3
	1830	3.3		1345	1.4
				2013	3.6
			31 Sa	0223	1.3
				0838	3.5
				1445	1.2
				2107	3.7

September

	Time	m		Time	m
1 Su	0314	1.1	**16** Mo	0240	1.0
	0930	3.6		0855	3.8
	1534	1.0		1503	0.8
	2151	3.9		2118	4.1
2 Mo	0359	0.9	**17** Tu	0332	0.6
	1012	3.8		0947	4.1
	1615	0.9		1554	0.5
	2230	4.0		2206	4.3
3 Tu ●	0438	0.8	**18** We ❍	0420	0.4
	1050	3.9		1034	4.3
	1653	0.8		1641	0.3
	2304	4.1		2252	4.5
4 We	0513	0.7	**19** Th	0505	0.2
	1124	4.0		1119	4.4
	1727	0.7		1726	0.2
	2335	4.1		2335	4.5
5 Th	0547	0.7	**20** Fr	0549	0.2
	1154	4.0		1202	4.4
	1759	0.8		1810	0.3
6 Fr	0005	4.0	**21** Sa	0018	4.4
	0619	0.7		0633	0.3
	1224	4.0		1245	4.3
	1830	0.8		1854	0.4
7 Sa	0034	4.0	**22** Su	0101	4.2
	0650	0.8		0717	0.5
	1254	3.9		1328	4.1
	1902	0.9		1939	0.7
8 Su	0104	3.9	**23** Mo	0145	4.0
	0722	0.9		0801	0.7
	1326	3.8		1413	3.9
	1935	1.1		2027	1.0
9 Mo	0138	3.7	**24** Tu	0233	3.7
	0756	1.0		0849	1.0
	1401	3.7		1504	3.7
	2011	1.2		2122	1.2
10 Tu	0216	3.6	**25** We	0328	3.4
	0834	1.2		0944	1.3
	1442	3.5		1608	3.4
	2054	1.4		2229	1.5
11 We	0300	3.4	**26** Th	0441	3.2
	0920	1.3		1053	1.5
	1532	3.4		1729	3.3
	2148	1.5		2347	1.5
12 Th	0356	3.3	**27** Fr	0606	3.2
	1017	1.5		1212	1.6
	1637	3.3		1846	3.4
	2301	1.6			
13 Fr	0509	3.2	**28** Sa	0100	1.5
	1133	1.5		0717	3.3
	1759	3.3		1324	1.5
				1949	3.5
14 Sa	0027	1.5	**29** Su	0159	1.3
	0635	3.3		0815	3.4
	1256	1.4		1421	1.3
	1920	3.5		2039	3.7
15 Su	0141	1.3	**30** Mo	0249	1.1
	0754	3.5		0904	3.6
	1406	1.1		1508	1.1
	2025	3.8		2122	3.8

October

	Time	m		Time	m
1 Tu	0331	0.9	**16** We	0304	0.6
	0945	3.8		0920	4.1
	1549	0.9		1528	0.5
	2200	4.0		2139	4.3
2 We	0409	0.8	**17** Th ❍	0354	0.4
	1021	3.9		1009	4.3
	1625	0.8		1617	0.4
	2233	4.0		2226	4.4
3 Th ●	0444	0.7	**18** Fr	0441	0.2
	1054	4.0		1055	4.4
	1659	0.8		1703	0.3
	2304	4.1		2311	4.4
4 Fr	0516	0.7	**19** Sa	0526	0.2
	1125	4.0		1139	4.4
	1731	0.8		1749	0.3
	2334	4.0		2356	4.3
5 Sa	0548	0.7	**20** Su	0610	0.4
	1155	4.0		1222	4.3
	1803	0.8		1833	0.5
6 Su	0004	4.0	**21** Mo	0039	4.1
	0620	0.7		0654	0.6
	1226	4.0		1306	4.1
	1835	0.9		1919	0.8
7 Mo	0036	3.9	**22** Tu	0124	3.9
	0653	0.9		0738	0.8
	1258	3.9		1351	3.9
	1910	1.0		2007	1.0
8 Tu	0110	3.7	**23** We	0212	3.6
	0729	1.0		0825	1.1
	1334	3.7		1442	3.6
	1948	1.2		2102	1.3
9 We	0149	3.6	**24** Th	0308	3.4
	0808	1.2		0919	1.4
	1415	3.6		1545	3.4
	2032	1.3		2207	1.5
10 Th	0235	3.4	**25** Fr	0421	3.2
	0854	1.3		1025	1.5
	1506	3.4		1701	3.3
	2128	1.5		2318	1.5
11 Fr	0333	3.3	**26** Sa	0537	3.2
	0953	1.4		1139	1.6
	1613	3.4		1811	3.4
	2241	1.5			
12 Sa	0450	3.2	**27** Su	0026	1.5
	1108	1.5		0643	3.3
	1734	3.4		1249	1.5
				1911	3.5
13 Su	0001	1.4	**28** Mo	0124	1.3
	0614	3.3		0740	3.4
	1228	1.4		1347	1.4
	1850	3.6		2002	3.6
14 Mo	0111	1.2	**29** Tu	0214	1.2
	0727	3.6		0829	3.6
	1337	1.1		1435	1.2
	1953	3.9		2046	3.7
15 Tu	0211	0.9	**30** We	0257	1.0
	0827	3.8		0912	3.8
	1436	0.8		1517	1.0
	2048	4.1		2125	3.9
			31 Th	0336	0.9
				0950	3.9
				1555	0.9
				2200	3.9

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Onehunga

Lat. 36˚ 56´ S., Long. 174˚ 47´ E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0412 1024 1630 2233	0.8 4.0 0.8 4.0	**16** Sa ❍	0418 1034 1644 2251	0.4 4.3 0.5 4.2
2 Sa ●	0447 1057 1705 2306	0.7 4.0 0.8 4.0	**17** Su	0505 1121 1731 2338	0.4 4.3 0.5 4.1
3 Su	0521 1130 1739 2340	0.7 4.0 0.8 3.9	**18** Mo	0551 1206 1817	0.5 4.2 0.7
4 Mo	0556 1203 1815	0.8 4.0 0.9	**19** Tu	0024 0635 1250 1903	3.9 0.7 4.0 0.8
5 Tu	0015 0632 1239 1853	3.8 0.8 3.9 1.0	**20** We	0109 0719 1334 1950	3.7 0.9 3.9 1.0
6 We	0053 0710 1317 1934	3.7 1.0 3.8 1.1	**21** Th	0156 0804 1422 2041	3.6 1.1 3.7 1.2
7 Th	0135 0752 1401 2022	3.6 1.1 3.7 1.2	**22** Fr	0248 0853 1516 2136	3.4 1.3 3.5 1.4
8 Fr	0223 0840 1453 2118	3.4 1.2 3.6 1.3	**23** Sa	0347 0948 1617 2236	3.3 1.5 3.4 1.5
9 Sa	0323 0938 1557 2224	3.4 1.3 3.5 1.3	**24** Su	0451 1052 1719 2337	3.2 1.6 3.4 1.5
10 Su	0434 1047 1708 2333	3.3 1.4 3.6 1.2	**25** Mo	0553 1157 1817	3.3 1.6 3.4
11 Mo	0547 1159 1816	3.4 1.3 3.7	**26** Tu	0034 0651 1259 1911	1.4 3.3 1.5 3.5
12 Tu	0039 0655 1306 1919	1.1 3.6 1.1 3.9	**27** We	0128 0745 1353 2000	1.3 3.5 1.4 3.6
13 We	0139 0756 1407 2017	0.9 3.8 0.9 4.0	**28** Th	0216 0833 1441 2045	1.2 3.6 1.2 3.7
14 Th	0236 0853 1503 2111	0.6 4.1 0.7 4.2	**29** Fr	0300 0916 1523 2126	1.0 3.8 1.1 3.8
15 Fr	0328 0945 1555 2203	0.5 4.2 0.5 4.2	**30** Sa	0341 0956 1603 2206	0.9 3.9 1.0 3.8

December

	Time	m		Time	m
1 Su ●	0420 1034 1642 2244	0.8 3.9 0.9 3.8	**16** Mo	0449 1108 1717 2327	0.6 4.1 0.7 3.9
2 Mo	0458 1111 1721 2323	0.8 4.0 0.9 3.8	**17** Tu	0535 1153 1803	0.6 4.1 0.7
3 Tu	0537 1148 1800	0.8 4.0 0.9	**18** We	0013 0619 1236 1848	3.8 0.7 4.0 0.9
4 We	0003 0617 1227 1842	3.8 0.8 4.0 0.9	**19** Th	0056 0701 1317 1931	3.7 0.9 3.9 1.0
5 Th	0045 0658 1308 1926	3.7 0.9 3.9 1.0	**20** Fr	0138 0742 1358 2014	3.6 1.0 3.8 1.1
6 Fr	0129 0742 1353 2013	3.7 0.9 3.8 1.0	**21** Sa	0220 0824 1440 2059	3.5 1.2 3.7 1.2
7 Sa	0218 0829 1443 2105	3.6 1.0 3.8 1.1	**22** Su	0304 0907 1525 2146	3.4 1.3 3.5 1.3
8 Su	0312 0923 1539 2202	3.5 1.1 3.7 1.1	**23** Mo	0353 0956 1614 2236	3.4 1.5 3.5 1.4
9 Mo	0413 1023 1640 2303	3.5 1.2 3.7 1.1	**24** Tu	0447 1052 1708 2331	3.3 1.5 3.4 1.4
10 Tu	0516 1128 1742	3.6 1.2 3.8	**25** We	0545 1154 1804	3.3 1.6 3.4
11 We	0005 0621 1234 1845	1.0 3.6 1.1 3.8	**26** Th	0028 0646 1259 1902	1.4 3.3 1.6 3.4
12 Th	0107 0725 1339 1947	0.9 3.8 1.0 3.9	**27** Fr	0126 0747 1358 1959	1.4 3.4 1.5 3.5
13 Fr	0209 0828 1441 2048	0.8 3.9 0.9 3.9	**28** Sa	0221 0841 1451 2053	1.2 3.6 1.3 3.5
14 Sa	0306 0926 1537 2145	0.7 4.0 0.8 4.0	**29** Su	0311 0930 1538 2143	1.1 3.7 1.2 3.7
15 Su ❍	0400 1019 1629 2238	0.6 4.1 0.7 4.0	**30** Mo	0356 1014 1622 2229	1.0 3.9 1.0 3.8
			31 Tu ●	0440 1055 1705 2312	0.8 4.0 0.9 3.8

January

	Time	m		Time	m
1 We	0522 1135 1747 2355	0.7 4.1 0.8 3.9	**16** Th	0602 1218 1828	0.7 4.1 0.8
2 Th	0603 1216 1830	0.7 4.1 0.7	**17** Fr	0037 0640 1254 1906	3.8 0.8 4.0 0.9
3 Fr	0038 0646 1258 1913	3.9 0.7 4.1 0.7	**18** Sa	0113 0717 1328 1943	3.8 0.9 3.9 1.0
4 Sa	0121 0729 1341 1958	3.9 0.7 4.1 0.8	**19** Su	0147 0752 1402 2019	3.7 1.0 3.8 1.1
5 Su	0206 0814 1427 2046	3.8 0.8 4.0 0.8	**20** Mo	0222 0827 1437 2056	3.6 1.1 3.7 1.2
6 Mo	0254 0903 1516 2137	3.8 0.9 3.9 0.9	**21** Tu	0300 0906 1517 2137	3.5 1.3 3.6 1.3
7 Tu	0347 0957 1610 2232	3.7 1.0 3.8 1.0	**22** We	0344 0950 1603 2224	3.4 1.5 3.4 1.4
8 We	0444 1058 1709 2332	3.6 1.1 3.7 1.1	**23** Th	0436 1045 1656 2320	3.3 1.6 3.3 1.5
9 Th	0548 1205 1814	3.6 1.2 3.7	**24** Fr	0538 1153 1758	3.3 1.7 3.3
10 Fr	0038 0658 1316 1923	1.1 3.6 1.2 3.6	**25** Sa	0026 0650 1310 1910	1.5 3.3 1.6 3.3
11 Sa	0145 0810 1423 2033	1.1 3.7 1.1 3.7	**26** Su	0138 0804 1418 2022	1.4 3.4 1.5 3.4
12 Su	0249 0914 1523 2136	1.0 3.8 1.0 3.7	**27** Mo	0241 0903 1514 2123	1.3 3.6 1.2 3.6
13 Mo	0346 1009 1616 2230	0.9 4.0 0.9 3.8	**28** Tu	0333 0952 1602 2213	1.0 3.8 1.0 3.8
14 Tu ❍	0436 1057 1704 2317	0.8 4.1 0.8 3.9	**29** We	0420 1036 1646 2258	0.8 4.0 0.8 3.9
15 We	0521 1139 1747 2359	0.7 4.1 0.8 3.9	**30** Th ●	0504 1118 1730 2341	0.6 4.2 0.6 4.1
			31 Fr	0547 1200 1812	0.5 4.3 0.5

February

	Time	m		Time	m
1 Sa	0023 0629 1240 1855	4.1 0.4 4.3 0.5	**16** Su	0044 0648 1255 1910	3.9 0.8 4.0 0.8
2 Su	0105 0711 1322 1938	4.1 0.5 4.3 0.5	**17** Mo	0114 0720 1325 1942	3.9 0.9 3.9 0.9
3 Mo	0147 0755 1406 2023	4.1 0.6 4.2 0.6	**18** Tu	0145 0752 1357 2015	3.8 1.0 3.8 1.0
4 Tu	0232 0842 1452 2111	4.0 0.8 4.0 0.8	**19** We	0218 0826 1433 2051	3.7 1.2 3.6 1.2
5 We	0320 0933 1542 2203	3.8 1.0 3.8 1.0	**20** Th	0257 0905 1514 2132	3.5 1.4 3.5 1.3
6 Th	0415 1032 1641 2303	3.6 1.2 3.6 1.2	**21** Fr	0344 0953 1605 2224	3.4 1.5 3.3 1.5
7 Fr	0521 1142 1750	3.5 1.3 3.5	**22** Sa	0442 1058 1707 2332	3.3 1.7 3.2 1.6
8 Sa	0013 0640 1258 1909	1.3 3.5 1.4 3.4	**23** Su	0558 1223 1827	3.2 1.7 3.2
9 Su	0128 0758 1410 2025	1.3 3.5 1.3 3.5	**24** Mo	0055 0723 1343 1952	1.5 3.3 1.5 3.3
10 Mo	0236 0903 1511 2127	1.2 3.7 1.1 3.6	**25** Tu	0209 0832 1445 2058	1.3 3.6 1.2 3.6
11 Tu	0333 0956 1601 2217	1.0 3.9 0.9 3.8	**26** We	0307 0925 1536 2150	1.1 3.8 0.9 3.8
12 We	0420 1040 1646 2300	0.8 4.0 0.8 3.9	**27** Th	0356 1011 1622 2236	0.8 4.1 0.6 4.1
13 Th ❍	0502 1119 1726 2338	0.7 4.1 0.7 3.9	**28** Fr ●	0442 1055 1707 2319	0.5 4.3 0.4 4.2
14 Fr	0540 1154 1803	0.7 4.1 0.7			
15 Sa	0012 0615 1225 1837	3.9 0.7 4.1 0.8			

Remember to add 1 hour for Daylight Saving Time.

Onehunga

Lat. 36˚56´S., Long. 174˚47´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0525	0.3	**16** Su	0547	0.7
	1136	4.4		1154	4.1
	1750	0.3		1806	0.7
2 Su	0001	4.3	**17** Mo	0013	4.0
	0608	0.3		0619	0.8
	1218	4.4		1223	4.0
	1832	0.3		1837	0.8
3 Mo	0043	4.3	**18** Tu	0042	4.0
	0651	0.3		0650	0.9
	1300	4.4		1252	3.9
	1915	0.4		1908	0.9
4 Tu	0125	4.2	**19** We	0112	3.9
	0735	0.5		0721	1.0
	1343	4.2		1324	3.8
	2000	0.6		1941	1.0
5 We	0209	4.0	**20** Th	0145	3.7
	0821	0.7		0755	1.1
	1429	4.0		1359	3.6
	2046	0.8		2016	1.1
6 Th	0257	3.8	**21** Fr	0222	3.6
	0912	1.0		0834	1.3
	1519	3.7		1439	3.5
	2138	1.1		2057	1.3
7 Fr	0353	3.6	**22** Sa	0307	3.4
	1012	1.3		0922	1.5
	1620	3.5		1529	3.3
	2240	1.3		2148	1.5
8 Sa	0504	3.4	**23** Su	0405	3.3
	1125	1.4		1025	1.6
	1737	3.3		1634	3.2
	2354	1.4		2255	1.6
9 Su	0628	3.4	**24** Mo	0520	3.3
	1244	1.5		1148	1.6
	1902	3.3		1756	3.2
10 Mo	0113	1.4	**25** Tu	0019	1.5
	0744	3.5		0644	3.4
	1354	1.3		1308	1.4
	2012	3.4		1920	3.4
11 Tu	0220	1.3	**26** We	0135	1.3
	0844	3.7		0754	3.6
	1451	1.1		1411	1.2
	2109	3.6		2026	3.6
12 We	0313	1.1	**27** Th	0236	1.0
	0933	3.8		0851	3.9
	1539	1.0		1505	0.8
	2155	3.8		2120	3.9
13 Th	0358	0.9	**28** Fr	0328	0.7
	1014	4.0		0940	4.2
	1621	0.8		1554	0.6
	2235	3.9		2208	4.2
14 Fr ❍	0438	0.8	**29** Sa ●	0416	0.5
	1051	4.1		1026	4.4
	1659	0.7		1640	0.3
	2311	4.0		2254	4.3
15 Sa	0514	0.7	**30** Su	0501	0.3
	1124	4.1		1111	4.4
	1734	0.7		1725	0.3
	2343	4.0		2337	4.4
			31 Mo	0546	0.3
				1155	4.4
				1809	0.3

April

	Time	m		Time	m
1 Tu	0021	4.4	**16** We	0014	4.0
	0630	0.4		0623	0.9
	1238	4.3		1224	3.8
	1853	0.4		1840	0.9
2 We	0104	4.2	**17** Th	0045	3.9
	0716	0.5		0657	1.0
	1323	4.1		1258	3.7
	1938	0.6		1914	1.0
3 Th	0149	4.0	**18** Fr	0120	3.8
	0803	0.8		0733	1.1
	1410	3.8		1335	3.6
	2025	0.9		1952	1.1
4 Fr	0239	3.8	**19** Sa	0158	3.6
	0856	1.1		0815	1.3
	1504	3.6		1417	3.5
	2118	1.2		2034	1.3
5 Sa	0338	3.6	**20** Su	0244	3.5
	0958	1.3		0904	1.4
	1610	3.4		1509	3.3
	2221	1.4		2126	1.4
6 Su	0453	3.4	**21** Mo	0342	3.4
	1111	1.5		1007	1.5
	1730	3.3		1615	3.3
	2336	1.5		2231	1.5
7 Mo	0611	3.4	**22** Tu	0454	3.4
	1224	1.4		1121	1.4
	1844	3.3		1732	3.3
				2347	1.4
8 Tu	0050	1.5	**23** We	0608	3.5
	0718	3.5		1232	1.3
	1329	1.3		1846	3.5
	1946	3.4			
9 We	0153	1.3	**24** Th	0059	1.2
	0813	3.6		0715	3.7
	1423	1.2		1335	1.0
	2039	3.6		1950	3.7
10 Th	0246	1.1	**25** Fr	0202	1.0
	0901	3.8		0813	3.9
	1509	1.0		1432	0.8
	2125	3.8		2047	4.0
11 Fr	0330	1.0	**26** Sa	0258	0.7
	0942	3.9		0907	4.1
	1551	0.9		1524	0.5
	2204	3.9		2139	4.2
12 Sa	0409	0.8	**27** Su	0349	0.5
	1018	4.0		0958	4.3
	1628	0.8		1614	0.4
	2240	4.0		2228	4.3
13 Su ❍	0445	0.8	**28** Mo ●	0438	0.4
	1051	4.0		1046	4.3
	1703	0.7		1701	0.3
	2312	4.0		2315	4.4
14 Mo	0519	0.8	**29** Tu	0525	0.4
	1122	4.0		1133	4.3
	1736	0.7		1747	0.4
	2343	4.0			
15 Tu	0551	0.8	**30** We	0001	4.3
	1153	3.9		0612	0.5
	1808	0.8		1220	4.1
				1833	0.5

May

	Time	m		Time	m
1 Th	0047	4.2	**16** Fr	0026	3.9
	0659	0.7		0640	1.0
	1307	3.9		1241	3.7
	1920	0.7		1856	1.0
2 Fr	0134	4.0	**17** Sa	0103	3.8
	0749	0.9		0719	1.1
	1358	3.7		1321	3.6
	2008	1.0		1936	1.1
3 Sa	0226	3.8	**18** Su	0144	3.7
	0843	1.1		0803	1.2
	1454	3.5		1406	3.5
	2101	1.2		2020	1.2
4 Su	0325	3.6	**19** Mo	0231	3.6
	0943	1.3		0853	1.3
	1559	3.4		1459	3.4
	2201	1.4		2111	1.3
5 Mo	0433	3.5	**20** Tu	0327	3.6
	1048	1.4		0951	1.3
	1708	3.3		1600	3.4
	2309	1.5		2211	1.3
6 Tu	0539	3.4	**21** We	0430	3.6
	1152	1.4		1054	1.2
	1811	3.3		1706	3.5
				2318	1.3
7 We	0016	1.5	**22** Th	0534	3.7
	0639	3.5		1158	1.1
	1252	1.3		1811	3.6
	1909	3.4			
8 Th	0117	1.4	**23** Fr	0025	1.2
	0733	3.6		0637	3.8
	1345	1.2		1259	1.0
	2001	3.6		1914	3.8
9 Fr	0210	1.2	**24** Sa	0129	1.0
	0821	3.7		0737	3.9
	1433	1.1		1359	0.8
	2048	3.7		2015	3.9
10 Sa	0256	1.1	**25** Su	0229	0.8
	0904	3.8		0836	4.0
	1516	1.0		1456	0.6
	2130	3.8		2112	4.1
11 Su	0338	1.0	**26** Mo	0325	0.7
	0943	3.8		0932	4.1
	1555	0.9		1549	0.5
	2208	3.9		2206	4.2
12 Mo	0416	0.9	**27** Tu ●	0418	0.6
	1019	3.9		1025	4.1
	1632	0.8		1640	0.5
	2244	4.0		2257	4.2
13 Tu ❍	0452	0.9	**28** We	0508	0.5
	1054	3.9		1117	4.1
	1707	0.8		1729	0.5
	2317	4.0		2345	4.2
14 We	0527	0.9	**29** Th	0557	0.6
	1128	3.8		1207	4.0
	1743	0.8		1817	0.6
	2351	3.9			
15 Th	0603	1.0	**30** Fr	0033	4.1
	1203	3.7		0646	0.7
	1818	0.9		1256	3.8
				1903	0.8
			31 Sa	0121	4.0
				0735	0.9
				1346	3.7
				1951	1.0

June

	Time	m		Time	m
1 Su	0211	3.8	**16** Mo	0133	3.8
	0825	1.1		0752	1.0
	1439	3.5		1358	3.6
	2040	1.1		2007	1.0
2 Mo	0303	3.7	**17** Tu	0218	3.8
	0918	1.2		0839	1.0
	1533	3.4		1446	3.6
	2133	1.3		2055	1.1
3 Tu	0358	3.6	**18** We	0309	3.8
	1013	1.3		0930	1.0
	1630	3.4		1540	3.6
	2230	1.4		2149	1.1
4 We	0454	3.5	**19** Th	0404	3.8
	1109	1.3		1026	1.0
	1726	3.4		1637	3.6
	2330	1.5		2249	1.1
5 Th	0549	3.5	**20** Fr	0502	3.8
	1205	1.3		1125	1.0
	1821	3.4		1738	3.7
				2353	1.1
6 Fr	0030	1.4	**21** Sa	0603	3.8
	0642	3.5		1226	1.0
	1259	1.3		1842	3.7
	1915	3.5			
7 Sa	0127	1.4	**22** Su	0100	1.1
	0733	3.5		0706	3.8
	1351	1.2		1330	0.9
	2007	3.6		1947	3.8
8 Su	0219	1.3	**23** Mo	0205	1.0
	0822	3.6		0810	3.8
	1439	1.1		1432	0.8
	2055	3.7		2051	3.9
9 Mo	0305	1.2	**24** Tu	0306	0.8
	0907	3.6		0914	3.9
	1523	1.0		1531	0.7
	2138	3.8		2150	4.0
10 Tu	0348	1.1	**25** We ●	0402	0.7
	0950	3.7		1012	3.9
	1604	0.9		1625	0.7
	2218	3.9		2244	4.1
11 We ❍	0428	1.0	**26** Th	0455	0.7
	1031	3.7		1106	3.9
	1644	0.9		1714	0.6
	2256	3.9		2333	4.1
12 Th	0507	1.0	**27** Fr	0543	0.7
	1110	3.7		1156	3.9
	1722	0.9		1801	0.7
	2334	3.9			
13 Fr	0546	1.0	**28** Sa	0020	4.1
	1150	3.7		0630	0.7
	1801	0.9		1243	3.8
				1846	0.8
14 Sa	0012	3.9	**29** Su	0104	4.0
	0626	1.0		0715	0.8
	1231	3.7		1327	3.7
	1841	0.9		1929	0.9
15 Su	0051	3.9	**30** Mo	0146	3.9
	0708	1.0		0800	1.0
	1313	3.7		1411	3.7
	1923	1.0		2012	1.0

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Picton

Lat. 41° 17´S., Long. 174° 00´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0401	1.3	**16** Tu	0327	1.2
	0928	0.4		0926	0.5
	1634	1.2		1549	1.2
	2221	0.5		2157	0.6
2 Tu	0506	1.3	**17** We	0432	1.1
	1027	0.4		1024	0.5
	1758	1.2		1703	1.1
	2334	0.5		2319	0.6
3 We	0610	1.2	**18** Th	0542	1.1
	1126	0.4		1127	0.5
	1921	1.2		1837	1.2
4 Th	0040	0.4	**19** Fr	0028	0.5
	0712	1.2		0652	1.1
	1225	0.4		1232	0.5
	2025	1.3		1956	1.2
5 Fr	0135	0.4	**20** Sa	0123	0.4
	0809	1.3		0800	1.2
	1323	0.4		1334	0.5
	2115	1.4		2052	1.4
6 Sa ●	0223	0.3	**21** Su ❍	0211	0.3
	0903	1.3		0902	1.3
	1419	0.4		1430	0.4
	2157	1.4		2138	1.5
7 Su	0307	0.3	**22** Mo	0254	0.2
	0952	1.3		0956	1.3
	1510	0.4		1520	0.3
	2234	1.5		2219	1.6
8 Mo	0348	0.2	**23** Tu	0335	0.2
	1036	1.3		1044	1.4
	1557	0.3		1604	0.3
	2307	1.5		2258	1.6
9 Tu	0427	0.2	**24** We	0416	0.1
	1116	1.3		1126	1.4
	1639	0.3		1645	0.2
	2337	1.5		2336	1.6
10 We	0505	0.2	**25** Th	0457	0.1
	1151	1.3		1206	1.4
	1718	0.3		1724	0.2
11 Th	0006	1.5	**26** Fr	0015	1.6
	0544	0.2		0538	0.1
	1225	1.3		1244	1.4
	1755	0.3		1804	0.2
12 Fr	0036	1.4	**27** Sa	0055	1.6
	0623	0.3		0621	0.2
	1259	1.3		1320	1.4
	1832	0.3		1846	0.2
13 Sa	0108	1.4	**28** Su	0137	1.5
	0703	0.3		0706	0.2
	1334	1.3		1356	1.3
	1910	0.4		1932	0.3
14 Su	0146	1.3	**29** Mo	0223	1.4
	0746	0.4		0753	0.3
	1412	1.3		1434	1.3
	1952	0.4		2028	0.4
15 Mo	0231	1.2	**30** Tu	0316	1.3
	0833	0.4		0845	0.4
	1455	1.2		1520	1.2
	2045	0.5		2141	0.5
			31 We	0418	1.2
				0944	0.5
				1648	1.1
				2307	0.5

August

	Time	m		Time	m
1 Th	0530	1.1	**16** Fr	0452	1.1
	1049	0.5		1041	0.6
	1907	1.1		1752	1.1
2 Fr	0023	0.5	**17** Sa	0000	0.6
	0648	1.1		0630	1.1
	1200	0.5		1206	0.6
	2021	1.2		1942	1.2
3 Sa	0124	0.4	**18** Su	0104	0.5
	0804	1.2		0800	1.2
	1310	0.5		1321	0.5
	2110	1.3		2040	1.4
4 Su ●	0213	0.3	**19** Mo	0155	0.3
	0904	1.2		0903	1.3
	1412	0.5		1420	0.4
	2148	1.4		2124	1.5
5 Mo	0256	0.3	**20** Tu ❍	0238	0.2
	0951	1.3		0951	1.4
	1504	0.4		1507	0.3
	2222	1.5		2203	1.6
6 Tu	0334	0.2	**21** We	0319	0.1
	1029	1.4		1032	1.5
	1546	0.3		1548	0.2
	2251	1.5		2240	1.7
7 We	0410	0.2	**22** Th	0358	0.1
	1102	1.4		1109	1.5
	1623	0.2		1626	0.1
	2318	1.5		2317	1.7
8 Th	0444	0.2	**23** Fr	0436	0.0
	1132	1.4		1144	1.5
	1656	0.2		1702	0.1
	2343	1.5		2353	1.7
9 Fr	0518	0.2	**24** Sa	0515	0.1
	1200	1.5		1217	1.5
	1727	0.2		1739	0.1
10 Sa	0009	1.5	**25** Su	0029	1.6
	0551	0.2		0554	0.1
	1228	1.4		1248	1.5
	1757	0.2		1817	0.2
11 Su	0037	1.4	**26** Mo	0106	1.5
	0624	0.2		0634	0.2
	1257	1.4		1316	1.4
	1829	0.3		1858	0.3
12 Mo	0108	1.4	**27** Tu	0145	1.4
	0659	0.3		0717	0.3
	1328	1.4		1344	1.3
	1903	0.3		1948	0.4
13 Tu	0144	1.3	**28** We	0231	1.2
	0737	0.4		0805	0.4
	1402	1.3		1414	1.2
	1943	0.4		2101	0.5
14 We	0229	1.2	**29** Th	0331	1.1
	0822	0.4		0904	0.5
	1444	1.2		1458	1.1
	2043	0.5		2246	0.6
15 Th	0330	1.1	**30** Fr	0458	1.0
	0922	0.5		1021	0.6
	1546	1.1		1909	1.1
	2227	0.6			
			31 Sa	0011	0.5
				0648	1.0
				1147	0.6
				2014	1.2

September

	Time	m		Time	m
1 Su	0113	0.5	**16** Mo	0042	0.5
	0809	1.1		0759	1.2
	1306	0.6		1307	0.5
	2056	1.4		2019	1.4
2 Mo	0200	0.4	**17** Tu	0133	0.3
	0859	1.3		0851	1.3
	1408	0.4		1403	0.4
	2130	1.5		2101	1.5
3 Tu ●	0240	0.3	**18** We ❍	0216	0.2
	0938	1.4		0933	1.4
	1453	0.3		1447	0.2
	2159	1.5		2139	1.7
4 We	0315	0.2	**19** Th	0256	0.1
	1010	1.4		1010	1.5
	1528	0.2		1526	0.1
	2225	1.6		2216	1.7
5 Th	0347	0.1	**20** Fr	0334	0.0
	1038	1.5		1045	1.6
	1559	0.2		1602	0.0
	2249	1.6		2251	1.7
6 Fr	0418	0.1	**21** Sa	0411	0.0
	1104	1.5		1118	1.6
	1628	0.1		1638	0.0
	2313	1.6		2325	1.7
7 Sa	0448	0.1	**22** Su	0448	0.1
	1130	1.5		1148	1.6
	1656	0.1		1713	0.1
	2337	1.5		2359	1.6
8 Su	0517	0.1	**23** Mo	0526	0.1
	1156	1.5		1216	1.5
	1724	0.2		1750	0.1
9 Mo	0002	1.5	**24** Tu	0033	1.5
	0547	0.2		0604	0.2
	1223	1.5		1242	1.4
	1753	0.2		1829	0.3
10 Tu	0030	1.4	**25** We	0108	1.3
	0618	0.3		0645	0.3
	1251	1.4		1307	1.3
	1824	0.3		1916	0.4
11 We	0102	1.3	**26** Th	0150	1.2
	0653	0.3		0731	0.4
	1322	1.3		1333	1.2
	1902	0.4		2029	0.6
12 Th	0140	1.2	**27** Fr	0249	1.0
	0734	0.4		0833	0.6
	1358	1.2		1410	1.1
	1954	0.5		2224	0.6
13 Fr	0236	1.1	**28** Sa	0440	1.0
	0833	0.6		1001	0.7
	1451	1.1		1852	1.1
	2141	0.6		2353	0.6
14 Sa	0417	1.0	**29** Su	0648	1.0
	1009	0.6		1136	0.6
	1723	1.1		1950	1.2
	2333	0.6			
15 Su	0633	1.0	**30** Mo	0052	0.5
	1149	0.6		0755	1.2
	1924	1.2		1256	0.5
				2028	1.3

October

	Time	m		Time	m
1 Tu	0137	0.4	**16** We	0102	0.3
	0838	1.3		0826	1.3
	1352	0.4		1338	0.3
	2100	1.4		2031	1.5
2 We	0215	0.3	**17** Th ❍	0147	0.2
	0912	1.4		0908	1.5
	1431	0.3		1423	0.2
	2127	1.5		2111	1.6
3 Th ●	0249	0.2	**18** Fr	0228	0.1
	0942	1.5		0946	1.6
	1504	0.2		1502	0.1
	2153	1.6		2148	1.7
4 Fr	0320	0.1	**19** Sa	0307	0.1
	1010	1.6		1021	1.6
	1533	0.2		1539	0.0
	2217	1.6		2224	1.7
5 Sa	0349	0.1	**20** Su	0345	0.1
	1036	1.6		1054	1.6
	1600	0.1		1615	0.0
	2241	1.6		2258	1.6
6 Su	0418	0.1	**21** Mo	0423	0.1
	1102	1.6		1124	1.6
	1628	0.1		1651	0.1
	2305	1.5		2332	1.5
7 Mo	0447	0.2	**22** Tu	0501	0.2
	1129	1.6		1153	1.5
	1656	0.1		1729	0.2
	2331	1.5			
8 Tu	0516	0.2	**23** We	0005	1.4
	1156	1.5		0541	0.2
	1726	0.2		1220	1.4
	2359	1.4		1809	0.3
9 We	0548	0.3	**24** Th	0041	1.3
	1224	1.5		0623	0.3
	1759	0.2		1246	1.3
				1856	0.4
10 Th	0030	1.3	**25** Fr	0123	1.1
	0624	0.3		0710	0.5
	1255	1.4		1317	1.2
	1838	0.4		2006	0.5
11 Fr	0108	1.2	**26** Sa	0225	1.0
	0707	0.5		0813	0.6
	1333	1.3		1405	1.1
	1934	0.5		2149	0.6
12 Sa	0204	1.1	**27** Su	0416	1.0
	0810	0.6		0939	0.6
	1432	1.1		1753	1.1
	2112	0.6		2313	0.6
13 Su	0405	1.0	**28** Mo	0610	1.0
	0948	0.6		1111	0.6
	1704	1.1		1904	1.2
	2258	0.6			
14 Mo	0623	1.0	**29** Tu	0014	0.5
	1128	0.6		0717	1.2
	1850	1.2		1227	0.5
				1946	1.3
15 Tu	0009	0.4	**30** We	0101	0.4
	0737	1.2		0803	1.3
	1243	0.5		1322	0.4
	1947	1.4		2020	1.4
			31 Th	0141	0.3
				0839	1.4
				1403	0.3
				2050	1.4

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Picton

Lat. 41˚ 17´S., Long. 174˚ 00´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0217	0.2	**16** Sa ○	0157	0.2
	0912	1.5		0924	1.5
	1436	0.2		1440	0.1
	2117	1.5		2122	1.5
2 Sa ●	0250	0.2	**17** Su	0241	0.2
	0942	1.5		1002	1.6
	1507	0.2		1520	0.1
	2144	1.5		2201	1.5
3 Su	0321	0.2	**18** Mo	0323	0.2
	1011	1.6		1037	1.6
	1536	0.1		1558	0.1
	2212	1.5		2238	1.5
4 Mo	0352	0.2	**19** Tu	0404	0.2
	1040	1.6		1110	1.6
	1605	0.1		1636	0.1
	2240	1.5		2315	1.4
5 Tu	0423	0.2	**20** We	0445	0.2
	1109	1.6		1141	1.5
	1635	0.1		1715	0.2
	2310	1.4		2351	1.3
6 We	0456	0.2	**21** Th	0527	0.3
	1139	1.5		1211	1.4
	1708	0.2		1757	0.3
	2342	1.3			
7 Th	0531	0.3	**22** Fr	0030	1.2
	1210	1.5		0610	0.4
	1746	0.2		1242	1.3
				1845	0.4
8 Fr	0018	1.3	**23** Sa	0114	1.2
	0611	0.4		0657	0.4
	1246	1.4		1319	1.2
	1830	0.3		1945	0.5
9 Sa	0102	1.2	**24** Su	0210	1.1
	0658	0.4		0753	0.5
	1330	1.3		1414	1.2
	1928	0.4		2059	0.5
10 Su	0205	1.1	**25** Mo	0323	1.1
	0800	0.5		0902	0.6
	1439	1.2		1603	1.1
	2048	0.5		2213	0.5
11 Mo	0352	1.0	**26** Tu	0450	1.1
	0924	0.6		1023	0.6
	1632	1.2		1742	1.1
	2214	0.5		2316	0.5
12 Tu	0543	1.1	**27** We	0611	1.1
	1054	0.6		1140	0.6
	1804	1.2		1843	1.2
	2325	0.4			
13 We	0700	1.2	**28** Th	0010	0.5
	1210	0.5		0714	1.2
	1907	1.4		1242	0.5
				1928	1.3
14 Th	0022	0.4	**29** Fr	0057	0.4
	0756	1.3		0802	1.3
	1309	0.3		1330	0.4
	1957	1.5		2007	1.3
15 Fr	0112	0.3	**30** Sa	0140	0.4
	0843	1.4		0843	1.4
	1358	0.2		1409	0.3
	2041	1.5		2043	1.4

December

	Time	m		Time	m
1 Su ●	0220	0.3	**16** Mo	0220	0.3
	0919	1.5		0953	1.5
	1443	0.3		1507	0.2
	2118	1.4		2149	1.4
2 Mo	0258	0.3	**17** Tu	0309	0.3
	0953	1.5		1032	1.5
	1516	0.2		1548	0.2
	2153	1.4		2232	1.4
3 Tu	0334	0.3	**18** We	0355	0.3
	1026	1.5		1107	1.5
	1549	0.2		1627	0.2
	2229	1.4		2313	1.4
4 We	0410	0.3	**19** Th	0438	0.3
	1059	1.5		1140	1.5
	1623	0.2		1707	0.2
	2306	1.4		2352	1.3
5 Th	0447	0.3	**20** Fr	0519	0.3
	1133	1.5		1211	1.5
	1700	0.2		1748	0.3
	2345	1.3			
6 Fr	0525	0.3	**21** Sa	0029	1.3
	1208	1.5		0600	0.3
	1740	0.2		1242	1.4
				1830	0.3
7 Sa	0027	1.3	**22** Su	0106	1.3
	0607	0.3		0641	0.4
	1248	1.4		1316	1.3
	1826	0.3		1917	0.4
8 Su	0113	1.2	**23** Mo	0146	1.2
	0653	0.4		0724	0.4
	1335	1.4		1357	1.3
	1919	0.3		2008	0.4
9 Mo	0208	1.2	**24** Tu	0230	1.2
	0746	0.4		0814	0.5
	1436	1.3		1451	1.2
	2021	0.4		2105	0.5
10 Tu	0316	1.1	**25** We	0323	1.1
	0853	0.5		0917	0.6
	1553	1.2		1601	1.1
	2128	0.4		2205	0.5
11 We	0441	1.1	**26** Th	0431	1.1
	1012	0.5		1035	0.6
	1713	1.2		1714	1.1
	2234	0.4		2305	0.5
12 Th	0610	1.1	**27** Fr	0556	1.1
	1132	0.5		1152	0.6
	1822	1.3		1821	1.1
	2336	0.4			
13 Fr	0725	1.2	**28** Sa	0003	0.5
	1240	0.4		0718	1.2
	1921	1.3		1254	0.5
				1921	1.2
14 Sa	0034	0.4	**29** Su	0100	0.5
	0823	1.3		0818	1.3
	1336	0.3		1343	0.4
	2015	1.4		2014	1.2
15 Su ○	0128	0.4	**30** Mo	0154	0.5
	0911	1.4		0903	1.4
	1424	0.2		1425	0.3
	2103	1.4		2103	1.3
			31 Tu ●	0243	0.4
				0942	1.5
				1502	0.3
				2149	1.3

January

	Time	m		Time	m
1 We	0326	0.4	**16** Th	0352	0.3
	1019	1.5		1103	1.6
	1538	0.2		1619	0.2
	2233	1.3		2314	1.4
2 Th	0405	0.3	**17** Fr	0432	0.3
	1055	1.6		1133	1.6
	1615	0.2		1656	0.2
	2314	1.4		2347	1.4
3 Fr	0443	0.3	**18** Sa	0508	0.2
	1130	1.6		1201	1.5
	1653	0.1		1732	0.2
	2354	1.4			
4 Sa	0520	0.2	**19** Su	0016	1.4
	1207	1.6		0542	0.2
	1733	0.1		1228	1.5
				1808	0.2
5 Su	0033	1.4	**20** Mo	0045	1.4
	0558	0.2		0616	0.3
	1246	1.5		1255	1.4
	1815	0.2		1845	0.3
6 Mo	0111	1.3	**21** Tu	0114	1.4
	0639	0.3		0650	0.3
	1328	1.5		1326	1.4
	1901	0.2		1923	0.3
7 Tu	0150	1.3	**22** We	0146	1.3
	0724	0.3		0726	0.4
	1416	1.4		1402	1.3
	1950	0.3		2004	0.4
8 We	0233	1.2	**23** Th	0222	1.2
	0817	0.4		0808	0.5
	1513	1.3		1448	1.2
	2044	0.4		2051	0.5
9 Th	0327	1.2	**24** Fr	0305	1.2
	0927	0.5		0910	0.6
	1620	1.2		1549	1.1
	2144	0.4		2149	0.5
10 Fr	0457	1.1	**25** Sa	0411	1.1
	1053	0.5		1047	0.6
	1734	1.2		1707	1.1
	2249	0.5		2301	0.6
11 Sa	0656	1.1	**26** Su	0613	1.1
	1215	0.5		1215	0.6
	1849	1.2		1835	1.1
	2357	0.5			
12 Su	0816	1.2	**27** Mo	0019	0.6
	1322	0.4		0759	1.2
	1959	1.2		1319	0.5
				2001	1.1
13 Mo	0106	0.5	**28** Tu	0134	0.6
	0909	1.4		0853	1.3
	1415	0.4		1408	0.4
	2101	1.3		2105	1.2
14 Tu ○	0210	0.5	**29** We	0234	0.5
	0952	1.5		0934	1.4
	1500	0.3		1449	0.3
	2153	1.3		2154	1.3
15 We	0306	0.4	**30** Th ●	0320	0.4
	1029	1.5		1011	1.5
	1541	0.2		1527	0.2
	2236	1.4		2235	1.4
			31 Fr	0357	0.3
				1046	1.6
				1604	0.1
				2313	1.4

February

	Time	m		Time	m
1 Sa	0432	0.2	**16** Su	0448	0.2
	1121	1.7		1139	1.6
	1640	0.1		1709	0.1
	2347	1.5		2352	1.5
2 Su	0506	0.1	**17** Mo	0517	0.2
	1156	1.7		1202	1.5
	1718	0.1		1740	0.2
3 Mo	0021	1.5	**18** Tu	0017	1.5
	0542	0.1		0546	0.2
	1232	1.6		1226	1.5
	1757	0.1		1811	0.2
4 Tu	0053	1.5	**19** We	0042	1.5
	0618	0.2		0615	0.2
	1309	1.5		1252	1.4
	1837	0.2		1842	0.3
5 We	0123	1.4	**20** Th	0109	1.4
	0658	0.2		0644	0.3
	1349	1.4		1321	1.3
	1919	0.2		1915	0.3
6 Th	0153	1.3	**21** Fr	0138	1.3
	0743	0.3		0717	0.4
	1435	1.3		1356	1.2
	2006	0.3		1952	0.4
7 Fr	0224	1.2	**22** Sa	0210	1.2
	0844	0.5		0800	0.5
	1531	1.2		1443	1.1
	2100	0.5		2040	0.5
8 Sa	0302	1.1	**23** Su	0252	1.1
	1016	0.6		0926	0.6
	1647	1.1		1557	1.0
	2207	0.6		2158	0.6
9 Su	0643	1.0	**24** Mo	0438	1.0
	1156	0.6		1132	0.6
	1827	1.0		1759	1.0
	2328	0.6		2342	0.7
10 Mo	0816	1.2	**25** Tu	0738	1.1
	1312	0.5		1251	0.6
	2004	1.1		2001	1.1
11 Tu	0054	0.6	**26** We	0113	0.6
	0905	1.3		0835	1.3
	1408	0.4		1345	0.4
	2107	1.2		2101	1.2
12 We	0210	0.5	**27** Th	0218	0.5
	0944	1.4		0915	1.4
	1452	0.3		1428	0.3
	2152	1.3		2143	1.3
13 Th ○	0305	0.4	**28** Fr ●	0302	0.3
	1018	1.5		0951	1.6
	1530	0.2		1506	0.2
	2229	1.4		2221	1.5
14 Fr	0344	0.3			
	1048	1.6			
	1604	0.2			
	2300	1.5			
15 Sa	0417	0.2			
	1115	1.6			
	1637	0.2			
	2327	1.5			

Remember to add 1 hour for Daylight Saving Time.

Picton

Lat. 41˚ 17´S., Long. 174˚ 00´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0338	0.2	**16** Su	0353	0.2
	1026	1.7		1046	1.6
	1543	0.1		1611	0.2
	2255	1.5		2259	1.5
2 Su	0411	0.1	**17** Mo	0421	0.1
	1101	1.7		1108	1.6
	1619	0.1		1640	0.1
	2327	1.6		2323	1.6
3 Mo	0445	0.1	**18** Tu	0448	0.1
	1135	1.7		1131	1.5
	1656	0.1		1709	0.2
	2359	1.6		2347	1.5
4 Tu	0520	0.1	**19** We	0515	0.1
	1210	1.6		1154	1.5
	1733	0.1		1738	0.2
5 We	0028	1.5	**20** Th	0012	1.5
	0555	0.1		0543	0.2
	1245	1.5		1219	1.4
	1811	0.2		1807	0.3
6 Th	0056	1.5	**21** Fr	0038	1.5
	0633	0.2		0611	0.3
	1321	1.4		1247	1.3
	1851	0.2		1839	0.3
7 Fr	0121	1.4	**22** Sa	0106	1.4
	0715	0.3		0644	0.4
	1401	1.3		1319	1.2
	1934	0.4		1914	0.4
8 Sa	0144	1.2	**23** Su	0137	1.3
	0812	0.5		0725	0.5
	1451	1.1		1401	1.1
	2026	0.5		2000	0.5
9 Su	0207	1.1	**24** Mo	0215	1.2
	0951	0.6		0840	0.6
	1612	1.0		1511	1.0
	2138	0.6		2121	0.6
10 Mo	0241	1.0	**25** Tu	0344	1.0
	0352	1.0		1048	0.6
	0641	1.0		1740	1.0
	1140	0.6		2312	0.7
	1828	1.0			
11 Tu	2312	0.7	**26** We	0654	1.1
	0803	1.2		1212	0.6
	1257	0.5		1940	1.1
	2003	1.1			
12 We	0047	0.6	**27** Th	0041	0.6
	0847	1.3		0759	1.3
	1351	0.4		1309	0.4
	2055	1.2		2036	1.2
13 Th	0202	0.5	**28** Fr	0145	0.5
	0922	1.4		0843	1.4
	1432	0.3		1355	0.3
	2133	1.3		2117	1.4
14 Fr ❍	0249	0.4	**29** Sa ●	0231	0.3
	0953	1.5		0922	1.6
	1507	0.2		1436	0.2
	2205	1.4		2155	1.5
15 Sa	0323	0.3	**30** Su	0310	0.2
	1021	1.6		0959	1.7
	1540	0.2		1515	0.1
	2234	1.5		2230	1.6
			31 Mo	0346	0.1
				1035	1.7
				1553	0.1
				2303	1.6

April

	Time	m		Time	m
1 Tu	0421	0.0	**16** We	0419	0.1
	1110	1.7		1058	1.5
	1630	0.1		1639	0.2
	2334	1.6		2321	1.5
2 We	0456	0.1	**17** Th	0447	0.2
	1145	1.6		1124	1.4
	1708	0.1		1709	0.2
				2347	1.5
3 Th	0004	1.5	**18** Fr	0517	0.2
	0533	0.1		1152	1.4
	1220	1.5		1740	0.3
	1747	0.2			
4 Fr	0032	1.5	**19** Sa	0015	1.5
	0611	0.2		0548	0.3
	1256	1.4		1223	1.3
	1827	0.3		1814	0.4
5 Sa	0059	1.4	**20** Su	0046	1.4
	0656	0.4		0626	0.3
	1336	1.2		1259	1.2
	1912	0.4		1854	0.4
6 Su	0125	1.2	**21** Mo	0121	1.3
	0756	0.5		0714	0.4
	1429	1.1		1345	1.1
	2008	0.5		1947	0.5
7 Mo	0155	1.1	**22** Tu	0208	1.2
	0934	0.6		0828	0.5
	1600	1.0		1502	1.0
	2125	0.6		2105	0.6
8 Tu	0602	1.0	**23** We	0346	1.1
	1112	0.6		1007	0.6
	1813	1.0		1714	1.0
	2258	0.7		2241	0.6
9 We	0726	1.1	**24** Th	0557	1.1
	1222	0.5		1125	0.5
	1933	1.1		1855	1.1
10 Th	0025	0.6	**25** Fr	0003	0.5
	0811	1.3		0711	1.3
	1314	0.4		1224	0.4
	2022	1.2		1957	1.2
11 Fr	0131	0.5	**26** Sa	0106	0.4
	0846	1.4		0802	1.4
	1356	0.3		1314	0.3
	2100	1.4		2044	1.4
12 Sa	0216	0.4	**27** Su	0156	0.3
	0917	1.5		0846	1.5
	1433	0.3		1359	0.2
	2133	1.4		2125	1.5
13 Su ❍	0252	0.3	**28** Mo ●	0240	0.2
	0945	1.5		0927	1.6
	1507	0.2		1442	0.2
	2201	1.5		2203	1.6
14 Mo	0323	0.2	**29** Tu	0319	0.1
	1010	1.5		1006	1.6
	1539	0.2		1524	0.2
	2228	1.6		2239	1.6
15 Tu	0351	0.2	**30** We	0358	0.1
	1034	1.5		1044	1.6
	1609	0.2		1605	0.2
	2254	1.6		2314	1.6

May

	Time	m		Time	m
1 Th	0436	0.1	**16** Fr	0425	0.2
	1122	1.5		1103	1.4
	1646	0.2		1648	0.3
	2346	1.5		2330	1.5
2 Fr	0515	0.2	**17** Sa	0458	0.2
	1201	1.4		1137	1.3
	1728	0.3		1723	0.3
3 Sa	0018	1.4	**18** Su	0003	1.5
	0557	0.3		0535	0.3
	1241	1.3		1214	1.3
	1812	0.3		1802	0.4
4 Su	0050	1.3	**19** Mo	0038	1.4
	0645	0.4		0617	0.3
	1327	1.2		1257	1.2
	1901	0.4		1846	0.4
5 Mo	0125	1.2	**20** Tu	0120	1.3
	0748	0.5		0709	0.4
	1425	1.1		1350	1.1
	1958	0.5		1940	0.5
6 Tu	0218	1.1	**21** We	0215	1.3
	0910	0.5		0814	0.4
	1546	1.0		1501	1.1
	2110	0.6		2047	0.5
7 We	0444	1.1	**22** Th	0337	1.2
	1030	0.5		0928	0.5
	1720	1.1		1630	1.1
	2231	0.6		2206	0.5
8 Th	0621	1.1	**23** Fr	0506	1.2
	1133	0.5		1037	0.4
	1838	1.1		1758	1.1
	2347	0.6		2323	0.5
9 Fr	0715	1.2	**24** Sa	0619	1.3
	1225	0.4		1137	0.4
	1934	1.2		1911	1.2
10 Sa	0050	0.5	**25** Su	0029	0.4
	0756	1.3		0717	1.4
	1310	0.4		1231	0.3
	2018	1.3		2009	1.3
11 Su	0138	0.4	**26** Mo	0124	0.3
	0830	1.4		0808	1.4
	1352	0.3		1322	0.3
	2055	1.4		2058	1.4
12 Mo	0217	0.3	**27** Tu ●	0213	0.2
	0902	1.4		0855	1.5
	1430	0.3		1410	0.3
	2128	1.5		2142	1.5
13 Tu ❍	0252	0.2	**28** We	0257	0.2
	0931	1.4		0940	1.5
	1506	0.3		1458	0.3
	2159	1.5		2222	1.5
14 We	0323	0.2	**29** Th	0339	0.1
	1001	1.4		1025	1.4
	1540	0.3		1544	0.3
	2230	1.5		2301	1.5
15 Th	0354	0.2	**30** Fr	0421	0.2
	1031	1.4		1108	1.4
	1614	0.3		1630	0.3
	2300	1.5		2337	1.5
			31 Sa	0503	0.2
				1152	1.3
				1716	0.3

June

	Time	m		Time	m
1 Su	0013	1.4	**16** Mo	0526	0.2
	0547	0.3		1218	1.3
	1237	1.3		1753	0.3
	1802	0.4			
2 Mo	0049	1.4	**17** Tu	0035	1.5
	0635	0.3		0609	0.2
	1323	1.2		1302	1.3
	1849	0.4		1836	0.4
3 Tu	0130	1.3	**18** We	0119	1.4
	0731	0.4		0657	0.3
	1412	1.2		1348	1.2
	1941	0.5		1923	0.4
4 We	0222	1.2	**19** Th	0210	1.4
	0834	0.5		0751	0.3
	1507	1.1		1438	1.2
	2041	0.5		2019	0.4
5 Th	0333	1.2	**20** Fr	0312	1.3
	0937	0.5		0849	0.4
	1609	1.1		1539	1.2
	2150	0.5		2127	0.5
6 Fr	0451	1.2	**21** Sa	0421	1.3
	1036	0.5		0950	0.4
	1718	1.1		1655	1.2
	2301	0.5		2244	0.5
7 Sa	0557	1.2	**22** Su	0530	1.3
	1130	0.5		1051	0.4
	1827	1.2		1822	1.2
				2356	0.4
8 Su	0005	0.5	**23** Mo	0635	1.3
	0650	1.2		1150	0.4
	1220	0.4		1940	1.3
	1927	1.3			
9 Mo	0059	0.4	**24** Tu	0059	0.4
	0735	1.3		0735	1.3
	1308	0.4		1249	0.4
	2017	1.3		2041	1.3
10 Tu	0145	0.4	**25** We ●	0154	0.3
	0817	1.3		0832	1.3
	1354	0.4		1346	0.4
	2059	1.4		2131	1.4
11 We ❍	0224	0.3	**26** Th	0242	0.2
	0857	1.3		0927	1.3
	1437	0.4		1441	0.4
	2137	1.4		2214	1.5
12 Th	0300	0.3	**27** Fr	0327	0.2
	0936	1.3		1018	1.3
	1518	0.4		1533	0.3
	2212	1.5		2254	1.5
13 Fr	0335	0.2	**28** Sa	0409	0.2
	1016	1.3		1105	1.3
	1557	0.3		1620	0.3
	2246	1.5		2331	1.5
14 Sa	0410	0.2	**29** Su	0451	0.2
	1056	1.3		1148	1.3
	1635	0.3		1705	0.3
	2321	1.5			
15 Su	0446	0.2	**30** Mo	0006	1.5
	1136	1.3		0533	0.2
	1713	0.3		1227	1.3
	2357	1.5		1747	0.3

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Standard Ports

Port Chalmers

Lat. 45° 49′S., Long. 170° 39′E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0514	0.3	**16** Tu	0511	0.6
	1129	2.1		1123	1.8
	1745	0.3		1740	0.6
	2358	2.0		2348	1.7
2 Tu	0610	0.3	**17** We	0601	0.5
	1226	2.1		1213	1.8
	1844	0.3		1833	0.6
3 We	0054	2.0	**18** Th	0038	1.8
	0704	0.3		0648	0.5
	1322	2.1		1303	1.9
	1940	0.3		1923	0.5
4 Th	0147	2.0	**19** Fr	0126	1.8
	0756	0.2		0734	0.4
	1416	2.1		1352	2.0
	2032	0.3		2009	0.4
5 Fr	0238	2.0	**20** Sa	0213	1.9
	0847	0.2		0820	0.3
	1508	2.1		1441	2.0
	2122	0.3		2055	0.4
6 Sa ●	0327	2.0	**21** Su ❍	0300	2.0
	0937	0.3		0908	0.3
	1557	2.1		1528	2.1
	2210	0.3		2141	0.3
7 Su	0414	2.0	**22** Mo	0347	2.0
	1026	0.3		0957	0.2
	1643	2.1		1616	2.2
	2256	0.4		2228	0.2
8 Mo	0500	1.9	**23** Tu	0435	2.1
	1113	0.3		1047	0.2
	1727	2.0		1704	2.2
	2341	0.4		2317	0.2
9 Tu	0545	1.9	**24** We	0525	2.1
	1159	0.4		1139	0.2
	1810	2.0		1753	2.2
10 We	0025	0.4	**25** Th	0008	0.2
	0631	1.8		0617	2.1
	1244	0.4		1232	0.2
	1853	1.9		1845	2.2
11 Th	0108	0.5	**26** Fr	0100	0.2
	0717	1.8		0713	2.1
	1327	0.5		1326	0.2
	1937	1.8		1941	2.1
12 Fr	0153	0.5	**27** Sa	0155	0.3
	0805	1.7		0811	2.1
	1411	0.5		1423	0.3
	2024	1.8		2040	2.0
13 Sa	0239	0.6	**28** Su	0253	0.3
	0854	1.7		0912	2.0
	1457	0.6		1523	0.3
	2113	1.7		2142	2.0
14 Su	0328	0.6	**29** Mo	0354	0.3
	0944	1.7		1013	2.0
	1548	0.6		1628	0.4
	2205	1.7		2244	1.9
15 Mo	0419	0.6	**30** Tu	0456	0.3
	1033	1.7		1114	2.0
	1643	0.6		1733	0.4
	2257	1.7		2343	1.9
			31 We	0556	0.3
				1213	2.0
				1834	0.4

August

	Time	m		Time	m
1 Th	0040	1.9	**16** Fr	0007	1.8
	0652	0.3		0617	0.5
	1309	2.0		1234	1.9
	1929	0.4		1855	0.5
2 Fr	0133	1.9	**17** Sa	0058	1.8
	0744	0.3		0707	0.4
	1402	2.1		1326	2.0
	2019	0.4		1942	0.4
3 Sa	0222	2.0	**18** Su	0147	1.9
	0832	0.3		0756	0.3
	1451	2.1		1416	2.1
	2104	0.3		2029	0.3
4 Su ●	0308	2.0	**19** Mo	0235	2.1
	0918	0.3		0844	0.2
	1536	2.1		1504	2.2
	2147	0.4		2115	0.2
5 Mo	0352	2.0	**20** Tu ❍	0323	2.1
	1003	0.3		0934	0.1
	1618	2.0		1552	2.3
	2228	0.4		2202	0.1
6 Tu	0433	1.9	**21** We	0412	2.2
	1045	0.3		1025	0.1
	1657	2.0		1641	2.3
	2308	0.4		2251	0.1
7 We	0513	1.9	**22** Th	0502	2.2
	1126	0.4		1117	0.1
	1735	1.9		1730	2.3
	2347	0.4		2343	0.1
8 Th	0553	1.9	**23** Fr	0555	2.2
	1206	0.4		1211	0.1
	1812	1.9		1822	2.2
9 Fr	0026	0.5	**24** Sa	0036	0.2
	0633	1.8		0651	2.2
	1246	0.5		1306	0.2
	1851	1.8		1919	2.1
10 Sa	0107	0.5	**25** Su	0133	0.2
	0717	1.8		0750	2.1
	1327	0.5		1404	0.3
	1934	1.7		2019	2.0
11 Su	0151	0.6	**26** Mo	0233	0.3
	0804	1.7		0853	2.1
	1413	0.6		1507	0.3
	2023	1.7		2124	1.9
12 Mo	0239	0.6	**27** Tu	0336	0.4
	0856	1.7		0957	2.0
	1503	0.6		1614	0.4
	2119	1.7		2228	1.9
13 Tu	0332	0.6	**28** We	0441	0.4
	0950	1.7		1059	2.0
	1601	0.7		1721	0.4
	2217	1.7		2329	1.9
14 We	0428	0.6	**29** Th	0542	0.4
	1046	1.7		1159	2.0
	1703	0.6		1821	0.4
	2314	1.7			
15 Th	0524	0.6	**30** Fr	0025	1.9
	1141	1.8		0638	0.4
	1802	0.6		1254	2.0
				1914	0.4
			31 Sa	0116	1.9
				0728	0.3
				1344	2.0
				1959	0.4

September

	Time	m		Time	m
1 Su	0202	1.9	**16** Mo	0120	2.0
	0814	0.3		0730	0.2
	1429	2.0		1349	2.2
	2041	0.4		2001	0.2
2 Mo	0246	2.0	**17** Tu	0209	2.1
	0856	0.3		0820	0.1
	1511	2.0		1439	2.2
	2119	0.4		2047	0.1
3 Tu ●	0326	2.0	**18** We ❍	0259	2.2
	0936	0.3		0911	0.0
	1549	2.0		1528	2.3
	2156	0.4		2136	0.1
4 We	0404	1.9	**19** Th	0349	2.3
	1015	0.4		1002	0.0
	1625	2.0		1617	2.3
	2232	0.4		2226	0.1
5 Th	0441	1.9	**20** Fr	0441	2.3
	1052	0.4		1055	0.0
	1700	1.9		1707	2.3
	2309	0.4		2318	0.1
6 Fr	0518	1.9	**21** Sa	0534	2.3
	1130	0.4		1150	0.1
	1735	1.9		1800	2.2
	2347	0.5			
7 Sa	0556	1.8	**22** Su	0014	0.2
	1210	0.5		0630	2.2
	1812	1.8		1247	0.2
				1857	2.1
8 Su	0027	0.5	**23** Mo	0112	0.2
	0637	1.8		0731	2.1
	1252	0.5		1347	0.3
	1854	1.7		2000	2.0
9 Mo	0112	0.6	**24** Tu	0214	0.3
	0724	1.7		0834	2.0
	1338	0.6		1450	0.4
	1944	1.7		2106	1.9
10 Tu	0200	0.6	**25** We	0318	0.4
	0816	1.7		0939	2.0
	1429	0.6		1557	0.4
	2042	1.6		2211	1.9
11 We	0254	0.6	**26** Th	0422	0.4
	0914	1.7		1041	2.0
	1528	0.7		1703	0.5
	2144	1.6		2310	1.9
12 Th	0352	0.6	**27** Fr	0523	0.4
	1013	1.8		1139	2.0
	1631	0.6		1801	0.4
	2243	1.7			
13 Fr	0451	0.5	**28** Sa	0004	1.9
	1110	1.8		0617	0.4
	1731	0.6		1231	2.0
	2338	1.8		1850	0.4
14 Sa	0547	0.5	**29** Su	0053	1.9
	1205	1.9		0705	0.4
	1825	0.4		1319	2.0
				1933	0.4
15 Su	0029	1.9	**30** Mo	0137	1.9
	0639	0.3		0749	0.4
	1258	2.0		1402	2.0
	1914	0.3		2012	0.4

October

	Time	m		Time	m
1 Tu	0218	1.9	**16** We	0144	2.2
	0829	0.4		0757	0.1
	1441	2.0		1414	2.2
	2048	0.4		2021	0.1
2 We	0257	1.9	**17** Th ❍	0236	2.3
	0907	0.4		0849	0.1
	1518	2.0		1504	2.3
	2123	0.4		2111	0.1
3 Th ●	0334	1.9	**18** Fr	0328	2.3
	0944	0.4		0942	0.0
	1553	1.9		1555	2.3
	2158	0.4		2202	0.1
4 Fr	0410	1.9	**19** Sa	0421	2.3
	1021	0.4		1036	0.1
	1627	1.9		1646	2.2
	2235	0.4		2257	0.1
5 Sa	0447	1.9	**20** Su	0515	2.3
	1100	0.5		1132	0.1
	1703	1.8		1740	2.1
	2313	0.5		2354	0.2
6 Su	0525	1.9	**21** Mo	0612	2.2
	1140	0.5		1229	0.2
	1741	1.8		1837	2.0
	2355	0.5			
7 Mo	0607	1.8	**22** Tu	0053	0.3
	1224	0.5		0711	2.1
	1825	1.7		1329	0.3
				1939	1.9
8 Tu	0041	0.6	**23** We	0154	0.3
	0654	1.8		0813	2.0
	1311	0.6		1431	0.4
	1915	1.7		2044	1.9
9 We	0131	0.6	**24** Th	0256	0.4
	0747	1.8		0916	2.0
	1403	0.6		1534	0.5
	2013	1.6		2147	1.8
10 Th	0225	0.6	**25** Fr	0356	0.4
	0845	1.8		1015	1.9
	1501	0.6		1635	0.5
	2115	1.7		2245	1.8
11 Fr	0322	0.6	**26** Sa	0454	0.4
	0944	1.8		1111	1.9
	1601	0.6		1730	0.5
	2214	1.7		2336	1.9
12 Sa	0420	0.5	**27** Su	0547	0.4
	1042	1.9		1201	1.9
	1700	0.5		1818	0.4
	2309	1.8			
13 Su	0517	0.4	**28** Mo	0023	1.9
	1137	2.0		0635	0.4
	1754	0.4		1246	1.9
				1901	0.4
14 Mo	0002	2.0	**29** Tu	0106	1.9
	0612	0.3		0718	0.4
	1231	2.1		1329	1.9
	1845	0.3		1939	0.4
15 Tu	0053	2.1	**30** We	0147	1.9
	0705	0.2		0759	0.4
	1323	2.2		1408	1.9
	1933	0.2		2016	0.4
			31 Th	0226	1.9
				0837	0.4
				1446	1.9
				2051	0.4

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Port Chalmers

Lat. 45° 49′S., Long. 170° 39′E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0304	1.9	**16** Sa ❍	0310	2.3
	0916	0.4		0924	0.1
	1522	1.9		1535	2.2
	2127	0.4		2143	0.1
2 Sa ●	0342	1.9	**17** Su	0404	2.3
	0954	0.5		1019	0.2
	1559	1.9		1628	2.1
	2205	0.4		2238	0.1
3 Su	0421	1.9	**18** Mo	0458	2.2
	1035	0.5		1115	0.2
	1637	1.8		1721	2.1
	2246	0.5		2335	0.2
4 Mo	0501	1.9	**19** Tu	0553	2.2
	1117	0.5		1211	0.3
	1717	1.8		1817	2.0
	2330	0.5			
5 Tu	0545	1.9	**20** We	0033	0.3
	1202	0.5		0649	2.1
	1802	1.7		1307	0.3
				1915	1.9
6 We	0018	0.5	**21** Th	0130	0.3
	0632	1.9		0747	2.0
	1250	0.5		1404	0.4
	1853	1.7		2016	1.8
7 Th	0108	0.5	**22** Fr	0227	0.4
	0724	1.9		0845	1.9
	1341	0.6		1501	0.5
	1949	1.7		2115	1.8
8 Fr	0201	0.5	**23** Sa	0322	0.4
	0819	1.9		0941	1.9
	1435	0.5		1558	0.5
	2048	1.7		2210	1.8
9 Sa	0255	0.5	**24** Su	0417	0.5
	0917	1.9		1034	1.8
	1532	0.5		1651	0.5
	2146	1.8		2300	1.8
10 Su	0352	0.4	**25** Mo	0509	0.5
	1014	1.9		1123	1.8
	1629	0.4		1739	0.5
	2242	1.9		2347	1.8
11 Mo	0450	0.4	**26** Tu	0558	0.5
	1110	2.0		1209	1.8
	1725	0.4		1823	0.5
	2336	2.0			
12 Tu	0547	0.3	**27** We	0031	1.8
	1205	2.1		0644	0.5
	1817	0.3		1252	1.8
				1904	0.5
13 We	0029	2.1	**28** Th	0113	1.9
	0642	0.2		0727	0.5
	1258	2.1		1334	1.8
	1908	0.2		1943	0.4
14 Th	0122	2.2	**29** Fr	0154	1.9
	0737	0.2		0809	0.5
	1351	2.2		1414	1.8
	1959	0.1		2021	0.4
15 Fr	0216	2.3	**30** Sa	0235	1.9
	0830	0.1		0849	0.5
	1444	2.2		1453	1.8
	2050	0.1		2059	0.4

December

	Time	m		Time	m
1 Su ●	0316	1.9	**16** Mo	0349	2.2
	0930	0.5		1004	0.2
	1533	1.8		1611	2.1
	2140	0.4		2222	0.2
2 Mo	0358	1.9	**17** Tu	0442	2.2
	1012	0.5		1057	0.3
	1614	1.8		1702	2.0
	2223	0.4		2316	0.2
3 Tu	0440	2.0	**18** We	0533	2.1
	1056	0.5		1149	0.3
	1657	1.8		1754	2.0
	2308	0.4			
4 We	0524	2.0	**19** Th	0009	0.3
	1141	0.5		0624	2.1
	1742	1.8		1240	0.4
	2357	0.4		1847	1.9
5 Th	0611	2.0	**20** Fr	0101	0.4
	1229	0.5		0715	2.0
	1832	1.8		1331	0.4
				1941	1.8
6 Fr	0046	0.4	**21** Sa	0152	0.4
	0701	2.0		0806	1.9
	1318	0.5		1421	0.5
	1926	1.8		2035	1.8
7 Sa	0138	0.4	**22** Su	0241	0.5
	0754	2.0		0858	1.8
	1410	0.5		1512	0.5
	2023	1.8		2128	1.8
8 Su	0231	0.4	**23** Mo	0332	0.5
	0851	2.0		0949	1.8
	1505	0.4		1604	0.5
	2120	1.9		2218	1.8
9 Mo	0327	0.4	**24** Tu	0424	0.6
	0948	2.0		1039	1.7
	1601	0.4		1654	0.5
	2217	2.0		2306	1.8
10 Tu	0425	0.4	**25** We	0516	0.6
	1046	2.0		1128	1.7
	1658	0.4		1742	0.5
	2313	2.0		2352	1.8
11 We	0525	0.3	**26** Th	0607	0.6
	1142	2.0		1215	1.7
	1754	0.3		1827	0.5
12 Th	0009	2.1	**27** Fr	0038	1.8
	0624	0.3		0656	0.6
	1238	2.0		1300	1.8
	1848	0.2		1910	0.5
13 Fr	0105	2.1	**28** Sa	0123	1.8
	0721	0.2		0741	0.5
	1333	2.1		1343	1.8
	1941	0.2		1951	0.5
14 Sa	0201	2.2	**29** Su	0207	1.9
	0817	0.2		0824	0.5
	1427	2.1		1426	1.8
	2034	0.2		2033	0.4
15 Su ❍	0256	2.2	**30** Mo	0251	1.9
	0911	0.2		0906	0.5
	1519	2.1		1508	1.8
	2127	0.2		2115	0.4
			31 Tu ●	0335	2.0
				0949	0.4
				1551	1.9
				2200	0.4

January

	Time	m		Time	m
1 We	0418	2.0	**16** Th	0509	2.1
	1032	0.4		1122	0.3
	1635	1.9		1727	2.0
	2246	0.3		2342	0.3
2 Th	0503	2.1	**17** Fr	0553	2.0
	1117	0.4		1207	0.4
	1721	1.9		1814	1.9
	2334	0.3			
3 Fr	0549	2.1	**18** Sa	0028	0.4
	1204	0.4		0637	1.9
	1810	1.9		1252	0.4
				1901	1.8
4 Sa	0024	0.3	**19** Su	0112	0.5
	0638	2.1		0722	1.8
	1253	0.4		1337	0.5
	1902	1.9		1949	1.8
5 Su	0115	0.3	**20** Mo	0157	0.5
	0730	2.0		0809	1.8
	1345	0.4		1423	0.6
	1958	2.0		2039	1.7
6 Mo	0208	0.3	**21** Tu	0244	0.6
	0826	2.0		0859	1.7
	1439	0.4		1512	0.6
	2056	2.0		2130	1.7
7 Tu	0305	0.3	**22** We	0334	0.6
	0925	2.0		0952	1.7
	1537	0.4		1605	0.6
	2156	2.0		2221	1.7
8 We	0406	0.4	**23** Th	0430	0.7
	1025	1.9		1045	1.7
	1637	0.4		1658	0.6
	2255	2.0		2312	1.7
9 Th	0509	0.4	**24** Fr	0529	0.6
	1125	1.9		1137	1.7
	1737	0.3		1749	0.6
	2354	2.0			
10 Fr	0612	0.4	**25** Sa	0002	1.8
	1223	2.0		0623	0.6
	1834	0.3		1226	1.7
				1837	0.5
11 Sa	0052	2.1	**26** Su	0051	1.8
	0711	0.3		0712	0.6
	1319	2.0		1313	1.8
	1929	0.2		1922	0.5
12 Su	0149	2.1	**27** Mo	0138	1.9
	0806	0.3		0757	0.5
	1413	2.0		1358	1.8
	2022	0.2		2006	0.4
13 Mo	0243	2.1	**28** Tu	0224	2.0
	0858	0.3		0839	0.4
	1504	2.0		1442	1.9
	2114	0.2		2050	0.3
14 Tu ❍	0334	2.2	**29** We	0309	2.1
	0948	0.3		0922	0.4
	1553	2.0		1526	2.0
	2205	0.2		2135	0.3
15 We	0423	2.1	**30** Th ●	0354	2.1
	1036	0.3		1005	0.3
	1641	2.0		1611	2.0
	2254	0.3		2222	0.2
			31 Fr	0439	2.2
				1051	0.3
				1658	2.1
				2311	0.2

February

	Time	m		Time	m
1 Sa	0525	2.2	**16** Su	0558	1.9
	1138	0.3		1211	0.5
	1746	2.1		1820	1.8
2 Su	0001	0.2	**17** Mo	0033	0.5
	0614	2.1		0637	1.8
	1228	0.3		1252	0.5
	1839	2.1		1903	1.8
3 Mo	0053	0.2	**18** Tu	0114	0.6
	0706	2.1		0720	1.7
	1320	0.3		1336	0.6
	1935	2.0		1950	1.7
4 Tu	0148	0.3	**19** We	0159	0.6
	0804	2.0		0808	1.7
	1417	0.3		1424	0.6
	2036	2.0		2041	1.7
5 We	0247	0.3	**20** Th	0249	0.7
	0905	1.9		0904	1.6
	1517	0.4		1516	0.6
	2138	2.0		2136	1.7
6 Th	0351	0.4	**21** Fr	0347	0.7
	1009	1.9		1003	1.6
	1621	0.4		1613	0.6
	2241	2.0		2231	1.7
7 Fr	0459	0.4	**22** Sa	0449	0.7
	1112	1.9		1059	1.6
	1724	0.4		1710	0.6
	2342	2.0		2325	1.7
8 Sa	0604	0.4	**23** Su	0549	0.6
	1211	1.9		1152	1.7
	1824	0.3		1802	0.5
9 Su	0041	2.0	**24** Mo	0017	1.8
	0703	0.4		0640	0.6
	1307	1.9		1240	1.8
	1919	0.3		1850	0.5
10 Mo	0137	2.1	**25** Tu	0107	1.9
	0755	0.3		0725	0.5
	1358	2.0		1327	1.9
	2010	0.3		1936	0.4
11 Tu	0228	2.1	**26** We	0154	2.0
	0843	0.3		0808	0.4
	1447	2.0		1413	2.0
	2058	0.3		2022	0.3
12 We	0316	2.1	**27** Th	0241	2.1
	0927	0.3		0851	0.3
	1533	2.0		1459	2.1
	2144	0.3		2109	0.2
13 Th ❍	0400	2.1	**28** Fr ●	0327	2.2
	1009	0.3		0936	0.2
	1616	2.0		1545	2.1
	2228	0.3		2157	0.1
14 Fr	0441	2.0			
	1050	0.4			
	1658	1.9			
	2311	0.4			
15 Sa	0520	2.0			
	1131	0.4			
	1739	1.9			
	2352	0.4			

Remember to add 1 hour for Daylight Saving Time.

Port Chalmers

Lat. 45° 49′S., Long. 170° 39′E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0413	2.2	**16** Su	0446	1.9
	1022	0.2		1054	0.4
	1633	2.2		1705	1.9
	2247	0.1		2317	0.5
2 Su	0501	2.2	**17** Mo	0521	1.9
	1111	0.2		1132	0.5
	1724	2.2		1743	1.8
	2339	0.1		2356	0.5
3 Mo	0551	2.2	**18** Tu	0558	1.8
	1203	0.2		1212	0.5
	1818	2.2		1823	1.8
4 Tu	0034	0.2	**19** We	0037	0.6
	0645	2.1		0638	1.7
	1259	0.3		1256	0.6
	1916	2.1		1908	1.7
5 We	0131	0.3	**20** Th	0122	0.6
	0744	2.0		0726	1.6
	1358	0.3		1343	0.6
	2018	2.0		1959	1.7
6 Th	0232	0.4	**21** Fr	0212	0.7
	0849	1.9		0822	1.6
	1501	0.4		1436	0.7
	2123	2.0		2055	1.7
7 Fr	0339	0.4	**22** Sa	0309	0.7
	0955	1.9		0924	1.6
	1607	0.4		1532	0.6
	2228	2.0		2153	1.7
8 Sa	0449	0.4	**23** Su	0411	0.7
	1059	1.9		1023	1.6
	1712	0.4		1630	0.6
	2330	2.0		2249	1.8
9 Su	0554	0.4	**24** Mo	0511	0.6
	1158	1.9		1117	1.7
	1812	0.4		1725	0.5
				2343	1.9
10 Mo	0028	2.0	**25** Tu	0604	0.5
	0650	0.4		1207	1.8
	1251	1.9		1817	0.4
	1905	0.3			
11 Tu	0121	2.0	**26** We	0034	2.0
	0738	0.4		0651	0.4
	1340	2.0		1255	1.9
	1953	0.3		1906	0.3
12 We	0208	2.0	**27** Th	0123	2.1
	0821	0.3		0736	0.3
	1426	2.0		1343	2.0
	2038	0.3		1954	0.2
13 Th	0252	2.0	**28** Fr	0212	2.1
	0901	0.3		0821	0.2
	1508	2.0		1431	2.2
	2120	0.3		2043	0.1
14 Fr ☽	0332	2.0	**29** Sa ●	0300	2.2
	0940	0.4		0907	0.1
	1548	2.0		1521	2.2
	2200	0.4		2133	0.1
15 Sa	0410	2.0	**30** Su	0348	2.2
	1017	0.4		0955	0.1
	1627	1.9		1611	2.3
	2238	0.4		2225	0.1
			31 Mo	0438	2.2
				1047	0.1
				1704	2.3
				2319	0.1

April

	Time	m		Time	m
1 Tu	0530	2.2	**16** We	0526	1.8
	1141	0.2		1139	0.5
	1759	2.2		1752	1.8
2 We	0016	0.2	**17** Th	0009	0.6
	0625	2.1		0607	1.7
	1240	0.2		1224	0.6
	1858	2.1		1836	1.8
3 Th	0115	0.3	**18** Fr	0054	0.6
	0726	2.0		0655	1.7
	1341	0.3		1312	0.6
	2001	2.1		1926	1.8
4 Fr	0219	0.4	**19** Sa	0144	0.6
	0832	1.9		0750	1.6
	1446	0.4		1403	0.6
	2107	2.0		2021	1.7
5 Sa	0325	0.4	**20** Su	0237	0.6
	0940	1.9		0849	1.6
	1551	0.4		1457	0.6
	2211	2.0		2118	1.8
6 Su	0433	0.4	**21** Mo	0335	0.6
	1042	1.9		0948	1.7
	1655	0.4		1553	0.6
	2312	2.0		2214	1.8
7 Mo	0534	0.4	**22** Tu	0432	0.6
	1139	1.9		1042	1.8
	1752	0.4		1649	0.5
				2309	1.9
8 Tu	0007	2.0	**23** We	0526	0.5
	0627	0.4		1134	1.9
	1230	1.9		1743	0.4
	1844	0.4			
9 We	0057	2.0	**24** Th	0001	2.0
	0713	0.4		0616	0.4
	1317	1.9		1224	2.0
	1930	0.4		1836	0.3
10 Th	0142	2.0	**25** Fr	0053	2.1
	0754	0.4		0704	0.3
	1400	2.0		1315	2.1
	2012	0.4		1927	0.2
11 Fr	0224	2.0	**26** Sa	0144	2.1
	0832	0.4		0752	0.2
	1441	1.9		1406	2.2
	2052	0.4		2019	0.1
12 Sa	0302	1.9	**27** Su	0235	2.2
	0908	0.4		0841	0.1
	1520	1.9		1459	2.3
	2130	0.4		2112	0.1
13 Su ☽	0339	1.9	**28** Mo ●	0326	2.2
	0944	0.4		0932	0.1
	1557	1.9		1552	2.3
	2208	0.4		2206	0.1
14 Mo	0414	1.9	**29** Tu	0417	2.2
	1020	0.4		1026	0.1
	1634	1.9		1646	2.3
	2246	0.5		2302	0.1
15 Tu	0449	1.8	**30** We	0511	2.1
	1058	0.5		1123	0.2
	1712	1.8		1742	2.2
	2326	0.5			

May

	Time	m		Time	m
1 Th	0000	0.2	**16** Fr	0544	1.7
	0607	2.1		1159	0.5
	1223	0.2		1812	1.8
	1841	2.2			
2 Fr	0100	0.3	**17** Sa	0030	0.6
	0708	2.0		0630	1.7
	1324	0.3		1246	0.5
	1943	2.1		1900	1.8
3 Sa	0201	0.4	**18** Su	0118	0.6
	0813	1.9		0722	1.7
	1426	0.3		1335	0.5
	2046	2.0		1951	1.8
4 Su	0304	0.4	**19** Mo	0208	0.6
	0918	1.9		0818	1.7
	1528	0.4		1427	0.5
	2147	2.0		2045	1.8
5 Mo	0407	0.4	**20** Tu	0301	0.6
	1018	1.9		0915	1.8
	1628	0.4		1520	0.5
	2245	1.9		2141	1.9
6 Tu	0505	0.4	**21** We	0356	0.5
	1112	1.9		1010	1.8
	1724	0.4		1616	0.4
	2338	1.9		2237	1.9
7 We	0556	0.4	**22** Th	0451	0.4
	1201	1.9		1104	1.9
	1815	0.4		1713	0.4
				2332	2.0
8 Th	0026	1.9	**23** Fr	0544	0.4
	0641	0.4		1157	2.0
	1247	1.9		1809	0.3
	1901	0.4			
9 Fr	0111	1.9	**24** Sa	0026	2.0
	0722	0.4		0636	0.3
	1330	1.9		1251	2.1
	1943	0.4		1905	0.2
10 Sa	0152	1.9	**25** Su	0120	2.1
	0800	0.4		0728	0.2
	1411	1.9		1345	2.2
	2024	0.4		2000	0.2
11 Su	0231	1.9	**26** Mo	0213	2.1
	0837	0.4		0820	0.1
	1451	1.9		1440	2.3
	2102	0.5		2055	0.2
12 Mo	0308	1.9	**27** Tu ●	0306	2.2
	0913	0.4		0913	0.1
	1529	1.9		1536	2.3
	2141	0.5		2150	0.2
13 Tu ☽	0345	1.8	**28** We	0400	2.1
	0951	0.5		1009	0.1
	1608	1.9		1631	2.3
	2221	0.5		2246	0.2
14 We	0422	1.8	**29** Th	0454	2.1
	1031	0.5		1106	0.2
	1647	1.9		1726	2.2
	2302	0.5		2343	0.2
15 Th	0501	1.8	**30** Fr	0549	2.0
	1113	0.5		1205	0.2
	1728	1.9		1822	2.2
	2345	0.5			
			31 Sa	0040	0.3
				0647	2.0
				1303	0.3
				1919	2.1

June

	Time	m		Time	m
1 Su	0137	0.3	**16** Mo	0051	0.5
	0747	1.9		0656	1.8
	1401	0.3		1310	0.4
	2017	2.0		1923	1.9
2 Mo	0234	0.4	**17** Tu	0140	0.5
	0848	1.9		0749	1.8
	1457	0.4		1359	0.4
	2115	1.9		2016	1.9
3 Tu	0331	0.4	**18** We	0230	0.5
	0945	1.9		0845	1.9
	1552	0.4		1452	0.4
	2210	1.9		2112	1.9
4 We	0426	0.5	**19** Th	0324	0.4
	1038	1.8		0941	1.9
	1647	0.5		1548	0.4
	2302	1.8		2209	1.9
5 Th	0517	0.5	**20** Fr	0421	0.4
	1127	1.8		1038	2.0
	1738	0.5		1648	0.4
	2350	1.8		2307	2.0
6 Fr	0604	0.5	**21** Sa	0518	0.3
	1213	1.8		1135	2.0
	1827	0.5		1749	0.3
7 Sa	0036	1.8	**22** Su	0004	2.0
	0647	0.5		0615	0.3
	1257	1.9		1232	2.1
	1913	0.5		1849	0.3
8 Su	0119	1.8	**23** Mo	0101	2.0
	0728	0.5		0710	0.2
	1341	1.9		1330	2.2
	1956	0.5		1946	0.2
9 Mo	0200	1.8	**24** Tu	0156	2.1
	0807	0.4		0804	0.2
	1422	1.9		1426	2.2
	2037	0.5		2042	0.2
10 Tu	0240	1.8	**25** We ●	0251	2.1
	0846	0.4		0859	0.1
	1503	1.9		1522	2.2
	2117	0.5		2136	0.2
11 We ☽	0319	1.8	**26** Th	0344	2.1
	0926	0.4		0954	0.1
	1544	1.9		1615	2.2
	2158	0.5		2230	0.2
12 Th	0359	1.8	**27** Fr	0436	2.1
	1007	0.5		1049	0.2
	1624	1.9		1707	2.2
	2239	0.5		2323	0.2
13 Fr	0439	1.8	**28** Sa	0529	2.0
	1050	0.5		1144	0.2
	1706	1.9		1759	2.2
	2322	0.5			
14 Sa	0522	1.8	**29** Su	0015	0.3
	1135	0.4		0622	2.0
	1749	1.9		1237	0.3
				1850	2.1
15 Su	0006	0.5	**30** Mo	0107	0.3
	0607	1.8		0716	1.9
	1222	0.4		1329	0.3
	1834	1.9		1942	2.0

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Standard Ports

Port Taranaki

Lat. 39° 03´S., Long. 174° 02´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0506 1128 1748	3.1 0.8 3.0	**16** Tu	0451 1111 1731 2346	2.7 1.2 2.7 1.3
2 Tu	0002 0608 1232 1854	0.9 3.1 0.8 3.1	**17** We	0550 1213 1835	2.8 1.1 2.8
3 We	0106 0710 1333 1953	0.9 3.1 0.7 3.2	**18** Th	0049 0650 1314 1933	1.2 2.8 1.0 2.9
4 Th	0205 0809 1429 2046	0.8 3.1 0.7 3.3	**19** Fr	0145 0747 1409 2023	1.1 2.9 0.9 3.1
5 Fr	0257 0903 1519 2134	0.7 3.1 0.6 3.4	**20** Sa	0236 0840 1458 2110	0.9 3.1 0.7 3.3
6 Sa ●	0346 0952 1605 2218	0.7 3.2 0.6 3.4	**21** Su ❍	0323 0930 1544 2154	0.7 3.2 0.5 3.5
7 Su	0431 1037 1648 2258	0.6 3.2 0.6 3.4	**22** Mo	0409 1017 1628 2237	0.5 3.3 0.4 3.6
8 Mo	0514 1119 1727 2337	0.7 3.1 0.6 3.3	**23** Tu	0455 1103 1712 2322	0.4 3.4 0.3 3.7
9 Tu	0554 1158 1805	0.7 3.1 0.7	**24** We	0541 1149 1757	0.3 3.5 0.3
10 We	0015 0634 1236 1842	3.3 0.8 3.1 0.8	**25** Th	0007 0627 1236 1843	3.7 0.3 3.4 0.4
11 Th	0052 0712 1314 1920	3.2 0.8 3.0 0.9	**26** Fr	0054 0715 1324 1932	3.6 0.4 3.4 0.5
12 Fr	0132 0752 1355 2001	3.1 0.9 2.9 1.0	**27** Sa	0144 0805 1415 2025	3.4 0.5 3.2 0.7
13 Sa	0215 0835 1439 2047	3.0 1.0 2.8 1.1	**28** Su	0237 0858 1511 2124	3.3 0.7 3.1 0.9
14 Su	0302 0921 1530 2140	2.9 1.1 2.8 1.2	**29** Mo	0335 0956 1615 2231	3.1 0.9 3.0 1.0
15 Mo	0354 1013 1627 2241	2.8 1.1 2.7 1.3	**30** Tu	0440 1102 1728 2344	2.9 1.0 2.9 1.1
			31 We	0550 1215 1843	2.9 1.0 3.0

August

	Time	m		Time	m
1 Th	0055 0701 1323 1947	1.0 2.9 0.9 3.1	**16** Fr	0018 0622 1245 1908	1.3 2.7 1.1 2.9
2 Fr	0157 0804 1421 2039	0.9 2.9 0.8 3.2	**17** Sa	0122 0727 1346 2002	1.1 2.9 0.9 3.2
3 Sa	0248 0857 1509 2123	0.8 3.0 0.7 3.3	**18** Su	0216 0823 1437 2049	0.8 3.1 0.6 3.4
4 Su ●	0333 0941 1551 2201	0.7 3.1 0.6 3.4	**19** Mo	0304 0912 1523 2133	0.6 3.3 0.4 3.6
5 Mo	0414 1020 1628 2237	0.6 3.2 0.6 3.4	**20** Tu ❍	0349 0958 1607 2216	0.3 3.5 0.2 3.8
6 Tu	0451 1056 1703 2310	0.6 3.2 0.6 3.4	**21** We	0433 1042 1651 2259	0.2 3.6 0.1 3.8
7 We	0526 1129 1736 2343	0.6 3.2 0.6 3.4	**22** Th	0518 1126 1735 2343	0.1 3.7 0.2 3.8
8 Th	0559 1201 1808	0.6 3.2 0.7	**23** Fr	0603 1211 1820	0.2 3.6 0.3
9 Fr	0015 0633 1234 1842	3.3 0.7 3.1 0.8	**24** Sa	0029 0648 1257 1908	3.7 0.3 3.5 0.5
10 Sa	0049 0708 1309 1917	3.2 0.8 3.0 0.9	**25** Su	0117 0736 1346 2000	3.5 0.5 3.3 0.7
11 Su	0127 0745 1348 1958	3.0 0.9 2.9 1.1	**26** Mo	0210 0828 1443 2100	3.2 0.7 3.1 1.0
12 Mo	0209 0827 1434 2047	2.9 1.0 2.8 1.2	**27** Tu	0310 0928 1551 2212	3.0 1.0 2.9 1.1
13 Tu	0259 0918 1532 2150	2.8 1.1 2.7 1.3	**28** We	0420 1040 1714 2333	2.8 1.1 2.8 1.2
14 We	0400 1020 1644 2304	2.7 1.2 2.7 1.4	**29** Th	0540 1203 1835	2.7 1.2 2.9
15 Th	0510 1133 1801	2.7 1.2 2.7	**30** Fr	0047 0658 1315 1938	1.1 2.8 1.1 3.0
			31 Sa	0147 0758 1409 2025	1.0 2.9 0.9 3.2

September

	Time	m		Time	m
1 Su	0234 0844 1453 2104	0.8 3.0 0.8 3.3	**16** Mo	0152 0801 1413 2023	0.7 3.2 0.6 3.5
2 Mo	0314 0922 1530 2138	0.7 3.2 0.6 3.4	**17** Tu	0239 0849 1459 2108	0.4 3.5 0.3 3.7
3 Tu ●	0349 0956 1603 2209	0.6 3.2 0.6 3.4	**18** We ❍	0324 0934 1544 2151	0.2 3.7 0.1 3.9
4 We	0422 1027 1635 2239	0.5 3.3 0.5 3.4	**19** Th	0409 1018 1628 2234	0.1 3.8 0.1 3.9
5 Th	0454 1057 1705 2309	0.5 3.3 0.6 3.4	**20** Fr	0453 1102 1712 2319	0.0 3.8 0.1 3.8
6 Fr	0525 1126 1735 2339	0.6 3.3 0.6 3.3	**21** Sa	0537 1146 1757	0.1 3.7 0.2
7 Sa	0556 1157 1806	0.6 3.2 0.7	**22** Su	0004 0623 1231 1845	3.6 0.3 3.5 0.5
8 Su	0010 0628 1229 1839	3.2 0.7 3.1 0.9	**23** Mo	0053 0710 1321 1938	3.4 0.5 3.3 0.8
9 Mo	0045 0703 1305 1918	3.1 0.9 3.0 1.0	**24** Tu	0146 0802 1418 2040	3.1 0.8 3.0 1.0
10 Tu	0125 0744 1349 2007	2.9 1.0 2.8 1.2	**25** We	0248 0903 1530 2155	2.8 1.1 2.8 1.2
11 We	0216 0834 1448 2112	2.7 1.2 2.7 1.3	**26** Th	0403 1019 1657 2317	2.7 1.2 2.7 1.2
12 Th	0322 0940 1606 2233	2.6 1.3 2.6 1.4	**27** Fr	0528 1145 1817	2.6 1.2 2.8
13 Fr	0440 1100 1731 2352	2.6 1.3 2.7 1.2	**28** Sa	0030 0643 1256 1915	1.1 2.7 1.1 3.0
14 Sa	0559 1218 1841	2.7 1.1 2.9	**29** Su	0125 0737 1347 1959	1.0 2.9 1.0 3.1
15 Su	0058 0706 1321 1936	1.0 2.9 0.9 3.2	**30** Mo	0208 0819 1428 2035	0.8 3.0 0.8 3.2

October

	Time	m		Time	m
1 Tu	0246 0854 1503 2108	0.7 3.2 0.7 3.3	**16** We	0212 0824 1434 2041	0.4 3.5 0.3 3.7
2 We	0319 0926 1535 2138	0.6 3.3 0.6 3.4	**17** Th ❍	0259 0910 1520 2126	0.2 3.7 0.2 3.8
3 Th ●	0351 0956 1605 2208	0.5 3.4 0.6 3.4	**18** Fr	0344 0955 1605 2211	0.1 3.8 0.1 3.8
4 Fr	0422 1026 1635 2237	0.5 3.4 0.6 3.4	**19** Sa	0429 1039 1651 2256	0.1 3.8 0.2 3.7
5 Sa	0452 1055 1705 2307	0.5 3.4 0.6 3.3	**20** Su	0514 1124 1738 2343	0.2 3.7 0.3 3.5
6 Su	0524 1125 1736 2339	0.6 3.3 0.7 3.2	**21** Mo	0600 1210 1827	0.4 3.5 0.6
7 Mo	0556 1158 1811	0.7 3.2 0.9	**22** Tu	0033 0648 1300 1921	3.3 0.6 3.3 0.8
8 Tu	0014 0632 1234 1852	3.1 0.8 3.1 1.0	**23** We	0127 0740 1357 2022	3.0 0.9 3.0 1.0
9 We	0056 0714 1319 1943	2.9 1.0 2.9 1.2	**24** Th	0229 0839 1505 2131	2.8 1.1 2.8 1.2
10 Th	0150 0807 1420 2050	2.7 1.1 2.8 1.3	**25** Fr	0339 0950 1624 2246	2.6 1.3 2.8 1.2
11 Fr	0258 0913 1538 2208	2.6 1.2 2.7 1.3	**26** Sa	0455 1108 1737 2353	2.6 1.3 2.8 1.1
12 Sa	0417 1032 1700 2324	2.6 1.2 2.8 1.1	**27** Su	0605 1218 1835	2.7 1.2 2.9
13 Su	0534 1148 1809	2.8 1.1 3.0	**28** Mo	0048 0700 1311 1920	1.0 2.8 1.1 3.0
14 Mo	0028 0639 1252 1905	0.9 3.0 0.8 3.3	**29** Tu	0132 0744 1354 1959	0.9 3.0 0.9 3.1
15 Tu	0123 0735 1345 1954	0.6 3.3 0.6 3.5	**30** We	0211 0821 1430 2033	0.8 3.1 0.8 3.2
			31 Th	0247 0855 1504 2106	0.7 3.2 0.7 3.3

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Port Taranaki

Lat. 39° 03´S., Long. 174° 02´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0320 0927 1536 2138	0.6 3.3 0.7 3.3	**16** Sa ○	0323 0935 1547 2152	0.2 3.7 0.3 3.6
2 Sa ●	0353 0959 1608 2210	0.6 3.3 0.7 3.3	**17** Su	0411 1022 1635 2240	0.2 3.7 0.3 3.5
3 Su	0426 1030 1641 2243	0.6 3.3 0.7 3.2	**18** Mo	0457 1108 1723 2329	0.3 3.6 0.4 3.4
4 Mo	0500 1103 1716 2318	0.6 3.3 0.8 3.2	**19** Tu	0543 1154 1813	0.4 3.5 0.6
5 Tu	0535 1138 1755 2358	0.7 3.2 0.8 3.0	**20** We	0019 0630 1243 1904	3.2 0.6 3.3 0.8
6 We	0614 1218 1839	0.8 3.1 1.0	**21** Th	0110 0719 1335 1959	3.0 0.9 3.1 1.0
7 Th	0043 0658 1306 1933	2.9 0.9 3.0 1.1	**22** Fr	0204 0811 1432 2057	2.8 1.0 2.9 1.1
8 Fr	0138 0751 1404 2035	2.8 1.0 2.9 1.1	**23** Sa	0303 0910 1535 2158	2.7 1.2 2.8 1.2
9 Sa	0242 0853 1514 2143	2.7 1.1 2.9 1.1	**24** Su	0405 1015 1639 2258	2.7 1.3 2.8 1.2
10 Su	0353 1003 1626 2251	2.8 1.1 3.0 1.0	**25** Mo	0508 1121 1737 2355	2.7 1.3 2.8 1.1
11 Mo	0503 1114 1732 2354	2.9 1.0 3.1 0.8	**26** Tu	0607 1221 1829	2.8 1.2 2.9
12 Tu	0608 1220 1831	3.0 0.8 3.3	**27** We	0046 0658 1311 1914	1.0 2.9 1.1 3.0
13 We	0052 0706 1317 1925	0.6 3.2 0.6 3.4	**28** Th	0131 0743 1354 1955	0.9 3.0 1.0 3.0
14 Th	0145 0759 1410 2015	0.4 3.5 0.4 3.6	**29** Fr	0213 0824 1434 2034	0.8 3.1 0.9 3.1
15 Fr	0235 0848 1459 2104	0.3 3.6 0.3 3.6	**30** Sa	0251 0901 1511 2112	0.7 3.2 0.8 3.2

December

	Time	m		Time	m
1 Su ●	0329 0937 1548 2150	0.7 3.3 0.8 3.2	**16** Mo	0358 1011 1625 2231	0.4 3.6 0.5 3.4
2 Mo	0406 1013 1625 2228	0.6 3.3 0.7 3.2	**17** Tu	0445 1057 1712 2319	0.4 3.5 0.5 3.3
3 Tu	0443 1050 1704 2308	0.6 3.3 0.7 3.2	**18** We	0529 1141 1758	0.5 3.5 0.6
4 We	0522 1128 1746 2351	0.6 3.3 0.8 3.1	**19** Th	0004 0612 1224 1844	3.2 0.6 3.3 0.7
5 Th	0603 1210 1832	0.7 3.3 0.8	**20** Fr	0048 0655 1308 1929	3.1 0.8 3.2 0.8
6 Fr	0037 0648 1257 1922	3.1 0.7 3.2 0.8	**21** Sa	0133 0738 1353 2015	2.9 0.9 3.0 1.0
7 Sa	0128 0737 1350 2016	3.0 0.8 3.1 0.9	**22** Su	0218 0825 1442 2103	2.8 1.1 2.9 1.1
8 Su	0224 0832 1449 2115	2.9 0.9 3.1 0.9	**23** Mo	0307 0916 1534 2155	2.8 1.2 2.8 1.1
9 Mo	0324 0934 1551 2216	2.9 1.0 3.1 0.9	**24** Tu	0402 1015 1630 2250	2.7 1.3 2.8 1.2
10 Tu	0429 1040 1655 2319	2.9 1.0 3.1 0.8	**25** We	0502 1118 1727 2348	2.7 1.3 2.8 1.1
11 We	0535 1148 1758	3.0 0.9 3.2	**26** Th	0605 1221 1824	2.7 1.3 2.8
12 Th	0021 0639 1252 1858	0.7 3.1 0.8 3.2	**27** Fr	0046 0703 1317 1917	1.1 2.8 1.2 2.8
13 Fr	0121 0739 1350 1955	0.6 3.3 0.6 3.3	**28** Sa	0139 0754 1405 2006	1.0 2.9 1.1 2.9
14 Sa	0217 0833 1444 2049	0.5 3.4 0.5 3.4	**29** Su	0226 0839 1450 2052	0.9 3.1 0.9 3.0
15 Su ○	0309 0924 1536 2141	0.4 3.5 0.5 3.4	**30** Mo	0309 0920 1531 2136	0.8 3.2 0.8 3.1
			31 Tu ●	0350 0959 1612 2218	0.6 3.3 0.7 3.2

January

	Time	m		Time	m
1 We	0430 1038 1653 2300	0.5 3.4 0.6 3.3	**16** Th	0513 1124 1739 2344	0.5 3.5 0.6 3.3
2 Th	0510 1118 1736 2342	0.5 3.5 0.6 3.3	**17** Fr	0551 1200 1817	0.6 3.4 0.6
3 Fr	0551 1159 1819	0.5 3.5 0.5	**18** Sa	0021 0627 1236 1854	3.2 0.7 3.3 0.7
4 Sa	0026 0633 1243 1905	3.3 0.5 3.5 0.6	**19** Su	0056 0703 1313 1932	3.1 0.8 3.2 0.8
5 Su	0111 0719 1330 1953	3.2 0.6 3.4 0.6	**20** Mo	0133 0741 1352 2011	3.0 0.9 3.0 0.9
6 Mo	0200 0809 1422 2045	3.1 0.7 3.3 0.7	**21** Tu	0213 0822 1435 2054	2.9 1.1 2.9 1.1
7 Tu	0254 0905 1519 2142	3.1 0.9 3.1 0.8	**22** We	0300 0912 1526 2144	2.8 1.2 2.8 1.2
8 We	0355 1010 1621 2245	3.0 1.0 3.1 0.9	**23** Th	0357 1013 1624 2245	2.7 1.4 2.7 1.2
9 Th	0504 1121 1729 2354	2.9 1.0 3.0 0.9	**24** Fr	0506 1125 1730 2355	2.6 1.4 2.6 1.2
10 Fr	0618 1233 1838	3.0 1.0 3.0	**25** Sa	0621 1238 1839	2.7 1.3 2.7
11 Sa	0103 0727 1339 1945	0.8 3.1 0.9 3.1	**26** Su	0104 0726 1339 1941	1.2 2.8 1.2 2.8
12 Su	0206 0826 1437 2045	0.7 3.3 0.7 3.1	**27** Mo	0202 0818 1429 2034	1.0 3.0 1.0 3.0
13 Mo	0301 0917 1528 2137	0.6 3.4 0.6 3.2	**28** Tu	0250 0902 1513 2120	0.8 3.2 0.8 3.1
14 Tu ○	0349 1003 1615 2224	0.5 3.5 0.5 3.3	**29** We	0332 0942 1555 2203	0.6 3.4 0.6 3.3
15 We	0433 1045 1658 2306	0.5 3.5 0.5 3.3	**30** Th ●	0412 1021 1636 2244	0.4 3.6 0.4 3.4
			31 Fr	0452 1101 1718 2325	0.3 3.7 0.3 3.5

February

	Time	m		Time	m
1 Sa	0533 1141 1800	0.3 3.7 0.3	**16** Su	0556 1202 1818	0.6 3.4 0.6
2 Su	0006 0614 1223 1843	3.5 0.3 3.6 0.3	**17** Mo	0019 0628 1234 1851	3.2 0.7 3.2 0.7
3 Mo	0050 0659 1308 1929	3.4 0.4 3.5 0.5	**18** Tu	0051 0701 1308 1925	3.1 0.9 3.1 0.9
4 Tu	0136 0747 1357 2018	3.3 0.6 3.3 0.6	**19** We	0127 0737 1346 2003	3.0 1.0 2.9 1.0
5 We	0227 0841 1451 2113	3.1 0.8 3.1 0.8	**20** Th	0208 0821 1432 2050	2.8 1.2 2.8 1.2
6 Th	0327 0945 1555 2217	3.0 1.0 2.9 1.0	**21** Fr	0301 0919 1531 2149	2.7 1.4 2.6 1.3
7 Fr	0441 1102 1709 2335	2.9 1.1 2.8 1.1	**22** Sa	0412 1035 1643 2306	2.6 1.4 2.5 1.3
8 Sa	0607 1223 1830	2.9 1.1 2.8	**23** Su	0538 1159 1803	2.6 1.4 2.6
9 Su	0055 0723 1334 1944	1.0 3.0 1.0 2.9	**24** Mo	0028 0654 1309 1915	1.3 2.8 1.2 2.7
10 Mo	0201 0822 1431 2042	0.9 3.2 0.8 3.0	**25** Tu	0133 0750 1403 2011	1.1 3.0 1.0 3.0
11 Tu	0254 0909 1518 2129	0.7 3.3 0.7 3.2	**26** We	0224 0835 1448 2057	0.8 3.2 0.7 3.2
12 We	0337 0950 1600 2209	0.6 3.4 0.6 3.3	**27** Th	0307 0917 1531 2140	0.6 3.5 0.5 3.4
13 Th ○	0416 1026 1638 2245	0.5 3.5 0.5 3.3	**28** Fr ●	0349 0957 1612 2221	0.3 3.7 0.3 3.6
14 Fr	0452 1100 1713 2317	0.5 3.5 0.5 3.3			
15 Sa	0525 1131 1746 2349	0.5 3.4 0.5 3.3			

Remember to add 1 hour for Daylight Saving Time.

Port Taranaki

Lat. 39° 03´S., Long. 174° 02´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0430	0.2	**16** Su	0455	0.5
	1037	3.8		1059	3.4
	1654	0.2		1713	0.5
	2302	3.7		2316	3.3
2 Su	0511	0.1	**17** Mo	0525	0.6
	1118	3.8		1129	3.3
	1736	0.1		1744	0.6
	2344	3.7		2345	3.3
3 Mo	0553	0.2	**18** Tu	0555	0.7
	1201	3.7		1159	3.2
	1820	0.2		1815	0.7
4 Tu	0027	3.6	**19** We	0016	3.2
	0638	0.4		0627	0.8
	1246	3.5		1232	3.1
	1905	0.4		1848	0.8
5 We	0113	3.4	**20** Th	0050	3.0
	0727	0.6		0703	1.0
	1335	3.3		1309	2.9
	1954	0.6		1925	1.0
6 Th	0205	3.2	**21** Fr	0129	2.9
	0823	0.9		0747	1.2
	1431	3.0		1355	2.8
	2049	0.9		2011	1.1
7 Fr	0307	2.9	**22** Sa	0221	2.7
	0930	1.1		0845	1.3
	1539	2.8		1454	2.6
	2158	1.1		2110	1.3
8 Sa	0428	2.8	**23** Su	0332	2.6
	1051	1.2		1000	1.4
	1700	2.7		1609	2.5
	2322	1.2		2226	1.3
9 Su	0559	2.8	**24** Mo	0457	2.6
	1215	1.2		1122	1.3
	1828	2.7		1730	2.6
				2348	1.3
10 Mo	0047	1.1	**25** Tu	0614	2.8
	0714	2.9		1232	1.2
	1324	1.0		1841	2.8
	1938	2.8			
11 Tu	0150	1.0	**26** We	0057	1.0
	0808	3.1		0713	3.0
	1416	0.9		1328	0.9
	2030	3.0		1938	3.0
12 We	0238	0.8	**27** Th	0150	0.8
	0850	3.2		0801	3.3
	1459	0.7		1416	0.6
	2111	3.1		2027	3.3
13 Th	0317	0.7	**28** Fr	0237	0.5
	0926	3.4		0845	3.5
	1536	0.6		1501	0.4
	2146	3.3		2111	3.5
14 Fr ○	0352	0.6	**29** Sa ●	0321	0.3
	0959	3.4		0928	3.7
	1611	0.5		1545	0.2
	2217	3.3		2155	3.7
15 Sa	0425	0.5	**30** Su	0404	0.2
	1030	3.4		1011	3.8
	1643	0.5		1629	0.1
	2247	3.4		2238	3.8
			31 Mo	0448	0.1
				1054	3.8
				1713	0.1
				2321	3.7

April

	Time	m		Time	m
1 Tu	0533	0.2	**16** We	0528	0.8
	1140	3.7		1131	3.2
	1758	0.2		1746	0.7
				2348	3.2
2 We	0006	3.6	**17** Th	0602	0.9
	0621	0.4		1206	3.0
	1228	3.5		1821	0.8
	1845	0.4			
3 Th	0055	3.4	**18** Fr	0024	3.1
	0712	0.6		0641	1.0
	1320	3.2		1246	2.9
	1935	0.7		1901	1.0
4 Fr	0149	3.2	**19** Sa	0105	2.9
	0811	0.9		0728	1.1
	1420	2.9		1334	2.8
	2033	1.0		1947	1.1
5 Sa	0255	2.9	**20** Su	0158	2.8
	0920	1.1		0826	1.2
	1529	2.7		1434	2.7
	2142	1.2		2045	1.2
6 Su	0415	2.8	**21** Mo	0305	2.7
	1039	1.2		0935	1.3
	1650	2.6		1544	2.6
	2305	1.2		2155	1.2
7 Mo	0540	2.8	**22** Tu	0421	2.8
	1156	1.1		1046	1.2
	1811	2.7		1656	2.7
				2309	1.2
8 Tu	0025	1.2	**23** We	0530	2.9
	0648	2.9		1152	1.0
	1259	1.0		1803	2.9
	1914	2.8			
9 We	0124	1.0	**24** Th	0016	1.0
	0738	3.0		0630	3.1
	1348	0.9		1249	0.8
	2002	3.0		1901	3.1
10 Th	0210	0.9	**25** Fr	0113	0.8
	0819	3.2		0722	3.3
	1429	0.7		1341	0.6
	2040	3.1		1953	3.3
11 Fr	0248	0.8	**26** Sa	0205	0.5
	0854	3.2		0811	3.5
	1505	0.7		1430	0.3
	2114	3.2		2042	3.5
12 Sa	0322	0.7	**27** Su	0253	0.3
	0926	3.3		0858	3.7
	1539	0.6		1517	0.2
	2145	3.3		2129	3.7
13 Su ○	0355	0.6	**28** Mo ●	0340	0.2
	0957	3.3		0945	3.7
	1611	0.6		1604	0.1
	2216	3.3		2215	3.7
14 Mo	0426	0.6	**29** Tu	0428	0.2
	1027	3.3		1033	3.7
	1642	0.6		1652	0.2
	2245	3.3		2302	3.7
15 Tu	0456	0.7	**30** We	0516	0.3
	1058	3.2		1123	3.5
	1714	0.6		1739	0.3
	2316	3.3		2350	3.6

May

	Time	m		Time	m
1 Th	0607	0.5	**16** Fr	0547	0.9
	1214	3.3		1150	3.0
	1829	0.5		1804	0.8
2 Fr	0041	3.4	**17** Sa	0009	3.1
	0701	0.7		0629	1.0
	1310	3.1		1234	2.9
	1921	0.7		1845	0.9
3 Sa	0137	3.2	**18** Su	0052	3.0
	0800	0.9		0717	1.0
	1409	2.9		1323	2.8
	2018	1.0		1932	1.0
4 Su	0241	3.0	**19** Mo	0143	3.0
	0905	1.0		0811	1.1
	1515	2.8		1418	2.8
	2122	1.1		2026	1.1
5 Mo	0351	2.9	**20** Tu	0242	2.9
	1013	1.1		0910	1.1
	1624	2.7		1518	2.8
	2234	1.2		2127	1.1
6 Tu	0502	2.8	**21** We	0346	2.9
	1119	1.1		1011	1.0
	1732	2.7		1622	2.8
	2344	1.2		2232	1.0
7 We	0604	2.9	**22** Th	0449	3.0
	1218	1.0		1112	0.9
	1832	2.8		1725	3.0
				2337	0.9
8 Th	0044	1.1	**23** Fr	0549	3.2
	0654	3.0		1211	0.7
	1307	0.9		1825	3.1
	1921	2.9			
9 Fr	0132	1.0	**24** Sa	0038	0.8
	0737	3.0		0645	3.3
	1350	0.8		1307	0.6
	2002	3.0		1922	3.3
10 Sa	0213	0.9	**25** Su	0135	0.6
	0815	3.1		0739	3.4
	1429	0.8		1402	0.4
	2039	3.1		2016	3.5
11 Su	0250	0.8	**26** Mo	0229	0.5
	0851	3.2		0832	3.5
	1506	0.7		1454	0.3
	2114	3.2		2108	3.6
12 Mo	0324	0.8	**27** Tu ●	0321	0.4
	0925	3.2		0925	3.5
	1541	0.7		1545	0.3
	2147	3.3		2158	3.7
13 Tu ○	0358	0.8	**28** We	0412	0.4
	0959	3.2		1018	3.5
	1615	0.7		1635	0.3
	2221	3.3		2248	3.6
14 We	0433	0.8	**29** Th	0504	0.4
	1034	3.1		1111	3.4
	1650	0.7		1725	0.4
	2254	3.2		2338	3.5
15 Th	0508	0.8	**30** Fr	0556	0.5
	1111	3.1		1204	3.3
	1726	0.7		1814	0.5
	2330	3.2			
			31 Sa	0028	3.4
				0649	0.7
				1257	3.1
				1904	0.7

June

	Time	m		Time	m
1 Su	0121	3.2	**16** Mo	0039	3.2
	0743	0.8		0702	0.8
	1351	3.0		1308	3.0
	1956	0.9		1915	0.8
2 Mo	0216	3.1	**17** Tu	0126	3.2
	0838	0.9		0751	0.8
	1445	2.8		1357	3.0
	2051	1.1		2004	0.9
3 Tu	0313	3.0	**18** We	0217	3.1
	0933	1.0		0842	0.8
	1542	2.8		1450	3.0
	2149	1.2		2058	0.9
4 We	0411	2.9	**19** Th	0313	3.1
	1029	1.1		0937	0.8
	1639	2.7		1548	3.0
	2251	1.2		2159	1.0
5 Th	0507	2.8	**20** Fr	0412	3.1
	1124	1.1		1035	0.8
	1737	2.8		1650	3.0
	2351	1.2		2304	0.9
6 Fr	0559	2.9	**21** Sa	0513	3.1
	1217	1.0		1137	0.8
	1831	2.8		1755	3.1
7 Sa	0046	1.1	**22** Su	0009	0.9
	0648	2.9		0615	3.2
	1306	1.0		1239	0.7
	1920	2.9		1859	3.2
8 Su	0134	1.1	**23** Mo	0113	0.7
	0733	2.9		0716	3.2
	1352	0.9		1341	0.6
	2005	3.0		1959	3.3
9 Mo	0217	1.0	**24** Tu	0213	0.6
	0816	3.0		0816	3.3
	1435	0.8		1439	0.5
	2046	3.1		2055	3.5
10 Tu	0257	0.9	**25** We ●	0309	0.5
	0858	3.0		0914	3.3
	1515	0.8		1533	0.4
	2124	3.2		2147	3.6
11 We ○	0336	0.9	**26** Th	0402	0.5
	0938	3.1		1009	3.3
	1554	0.7		1623	0.4
	2202	3.2		2237	3.6
12 Th	0415	0.8	**27** Fr	0452	0.5
	1018	3.1		1101	3.3
	1632	0.7		1711	0.4
	2239	3.3		2324	3.5
13 Fr	0454	0.8	**28** Sa	0541	0.5
	1058	3.1		1150	3.3
	1710	0.7		1757	0.5
	2317	3.3			
14 Sa	0534	0.8	**29** Su	0010	3.4
	1140	3.1		0629	0.6
	1749	0.7		1236	3.2
	2356	3.3		1842	0.7
15 Su	0617	0.8	**30** Mo	0055	3.3
	1223	3.0		0715	0.7
	1831	0.7		1321	3.1
				1926	0.8

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Tauranga

Lat. 37˚39´S., Long. 176˚11´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0222	1.9	**16** Tu	0210	1.7
	0834	0.3		0826	0.5
	1458	1.8		1451	1.6
	2059	0.4		2048	0.6
2 Tu	0318	1.9	**17** We	0259	1.7
	0931	0.3		0916	0.5
	1558	1.8		1546	1.6
	2200	0.5		2142	0.6
3 We	0415	1.9	**18** Th	0350	1.7
	1029	0.3		1008	0.5
	1658	1.9		1640	1.7
	2300	0.5		2236	0.6
4 Th	0512	1.8	**19** Fr	0444	1.7
	1125	0.3		1101	0.5
	1754	1.9		1733	1.7
	2358	0.5		2331	0.6
5 Fr	0609	1.8	**20** Sa	0538	1.7
	1219	0.3		1153	0.4
	1848	1.9		1824	1.8
6 Sa ●	0053	0.4	**21** Su ❍	0024	0.5
	0703	1.8		0633	1.8
	1311	0.3		1244	0.3
	1939	1.9		1914	1.9
7 Su	0145	0.4	**22** Mo	0116	0.4
	0755	1.8		0726	1.8
	1359	0.3		1334	0.3
	2027	1.9		2003	1.9
8 Mo	0234	0.4	**23** Tu	0207	0.3
	0843	1.8		0818	1.9
	1445	0.3		1424	0.2
	2112	1.9		2052	2.0
9 Tu	0321	0.4	**24** We	0258	0.3
	0929	1.8		0910	1.9
	1529	0.4		1513	0.2
	2155	1.9		2141	2.0
10 We	0406	0.4	**25** Th	0348	0.2
	1013	1.7		1001	1.9
	1612	0.4		1603	0.2
	2237	1.8		2231	2.0
11 Th	0448	0.5	**26** Fr	0439	0.2
	1056	1.7		1053	1.9
	1654	0.5		1655	0.2
	2318	1.8		2321	2.0
12 Fr	0530	0.5	**27** Sa	0530	0.2
	1139	1.7		1146	1.9
	1736	0.5		1748	0.3
	2359	1.8			
13 Sa	0611	0.5	**28** Su	0013	2.0
	1223	1.7		0622	0.2
	1820	0.5		1241	1.9
				1843	0.3
14 Su	0041	1.7	**29** Mo	0105	1.9
	0654	0.5		0715	0.3
	1309	1.6		1339	1.8
	1906	0.6		1941	0.4
15 Mo	0124	1.7	**30** Tu	0200	1.9
	0738	0.5		0811	0.3
	1359	1.6		1439	1.8
	1956	0.6		2041	0.5
			31 We	0257	1.8
				0909	0.3
				1540	1.8
				2143	0.5

August

	Time	m		Time	m
1 Th	0356	1.8	**16** Fr	0311	1.6
	1008	0.4		0929	0.5
	1640	1.8		1603	1.7
	2244	0.5		2203	0.6
2 Fr	0455	1.7	**17** Sa	0410	1.6
	1106	0.4		1027	0.4
	1737	1.8		1700	1.7
	2342	0.5		2301	0.5
3 Sa	0552	1.7	**18** Su	0510	1.7
	1200	0.4		1123	0.4
	1830	1.8		1754	1.8
				2357	0.4
4 Su ●	0036	0.5	**19** Mo	0608	1.8
	0646	1.7		1218	0.3
	1251	0.3		1846	1.9
	1918	1.8			
5 Mo	0126	0.4	**20** Tu ❍	0052	0.3
	0736	1.7		0704	1.8
	1338	0.3		1310	0.2
	2003	1.8		1937	2.0
6 Tu	0213	0.4	**21** We	0144	0.2
	0822	1.7		0758	1.9
	1422	0.4		1402	0.1
	2046	1.8		2027	2.0
7 We	0255	0.4	**22** Th	0235	0.2
	0904	1.7		0850	2.0
	1503	0.4		1453	0.1
	2125	1.8		2117	2.1
8 Th	0336	0.4	**23** Fr	0326	0.1
	0945	1.7		0941	2.0
	1543	0.4		1544	0.1
	2204	1.8		2207	2.1
9 Fr	0414	0.4	**24** Sa	0416	0.1
	1024	1.7		1033	2.0
	1622	0.4		1635	0.2
	2241	1.8		2258	2.0
10 Sa	0452	0.4	**25** Su	0506	0.1
	1103	1.7		1126	1.9
	1701	0.5		1728	0.2
	2319	1.8		2349	2.0
11 Su	0531	0.4	**26** Mo	0558	0.2
	1144	1.7		1220	1.9
	1743	0.5		1823	0.3
	2359	1.7			
12 Mo	0611	0.5	**27** Tu	0042	1.9
	1228	1.6		0651	0.2
	1827	0.6		1318	1.8
				1922	0.4
13 Tu	0041	1.7	**28** We	0138	1.8
	0654	0.5		0747	0.3
	1316	1.6		1418	1.8
	1915	0.6		2023	0.5
14 We	0126	1.7	**29** Th	0237	1.7
	0741	0.5		0846	0.4
	1409	1.6		1520	1.7
	2008	0.6		2125	0.5
15 Th	0216	1.6	**30** Fr	0337	1.7
	0833	0.5		0946	0.4
	1505	1.6		1620	1.7
	2104	0.6		2227	0.5
			31 Sa	0438	1.6
				1046	0.4
				1716	1.7
				2324	0.5

September

	Time	m		Time	m
1 Su	0535	1.6	**16** Mo	0445	1.7
	1141	0.4		1056	0.3
	1807	1.8		1724	1.8
				2332	0.3
2 Mo	0017	0.5	**17** Tu	0546	1.8
	0628	1.7		1153	0.3
	1230	0.4		1818	1.9
	1854	1.8			
3 Tu ●	0104	0.4	**18** We ❍	0027	0.2
	0715	1.7		0643	1.9
	1315	0.4		1247	0.2
	1936	1.8		1911	2.0
4 We	0147	0.4	**19** Th	0120	0.1
	0758	1.7		0737	2.0
	1357	0.4		1340	0.1
	2016	1.8		2002	2.0
5 Th	0226	0.4	**20** Fr	0212	0.1
	0838	1.7		0829	2.0
	1436	0.4		1432	0.1
	2053	1.8		2052	2.1
6 Fr	0304	0.4	**21** Sa	0302	0.0
	0916	1.7		0921	2.0
	1513	0.4		1523	0.1
	2129	1.8		2143	2.0
7 Sa	0340	0.4	**22** Su	0352	0.0
	0953	1.7		1012	2.0
	1551	0.4		1615	0.2
	2205	1.8		2234	2.0
8 Su	0416	0.4	**23** Mo	0442	0.1
	1031	1.7		1105	2.0
	1629	0.4		1709	0.2
	2242	1.7		2326	1.9
9 Mo	0453	0.4	**24** Tu	0533	0.2
	1110	1.7		1159	1.9
	1710	0.5		1804	0.3
	2321	1.7			
10 Tu	0532	0.4	**25** We	0019	1.8
	1152	1.7		0625	0.2
	1754	0.5		1256	1.8
				1902	0.4
11 We	0003	1.7	**26** Th	0115	1.7
	0615	0.4		0721	0.3
	1239	1.6		1355	1.8
	1842	0.6		2003	0.5
12 Th	0049	1.6	**27** Fr	0215	1.6
	0703	0.5		0820	0.4
	1332	1.6		1455	1.7
	1935	0.6		2104	0.5
13 Fr	0141	1.6	**28** Sa	0316	1.6
	0756	0.5		0921	0.5
	1429	1.6		1554	1.7
	2033	0.6		2205	0.5
14 Sa	0239	1.6	**29** Su	0417	1.6
	0855	0.5		1021	0.5
	1529	1.7		1648	1.7
	2134	0.5		2301	0.5
15 Su	0342	1.6	**30** Mo	0513	1.6
	0956	0.4		1116	0.5
	1628	1.7		1738	1.7
	2234	0.5		2351	0.5

October

	Time	m		Time	m
1 Tu	0604	1.6	**16** We	0523	1.8
	1205	0.5		1128	0.3
	1823	1.7		1750	1.9
2 We	0036	0.4	**17** Th ❍	0002	0.2
	0649	1.7		0621	1.9
	1249	0.4		1224	0.2
	1904	1.7		1844	2.0
3 Th ●	0117	0.4	**18** Fr	0056	0.1
	0731	1.7		0716	2.0
	1329	0.4		1318	0.2
	1943	1.8		1936	2.0
4 Fr	0155	0.4	**19** Sa	0148	0.0
	0810	1.7		0809	2.0
	1407	0.4		1411	0.1
	2020	1.8		2028	2.0
5 Sa	0231	0.3	**20** Su	0238	0.0
	0847	1.8		0901	2.0
	1445	0.4		1504	0.2
	2056	1.8		2120	2.0
6 Su	0306	0.3	**21** Mo	0328	0.0
	0924	1.8		0952	2.0
	1522	0.4		1557	0.2
	2133	1.7		2211	1.9
7 Mo	0343	0.3	**22** Tu	0418	0.1
	1002	1.7		1044	2.0
	1602	0.4		1650	0.3
	2211	1.7		2303	1.8
8 Tu	0420	0.3	**23** We	0508	0.2
	1042	1.7		1137	1.9
	1643	0.5		1744	0.3
	2250	1.7		2356	1.8
9 We	0500	0.4	**24** Th	0600	0.3
	1124	1.7		1231	1.8
	1728	0.5		1840	0.4
	2333	1.6			
10 Th	0544	0.4	**25** Fr	0051	1.7
	1211	1.7		0653	0.4
	1817	0.5		1327	1.7
				1938	0.5
11 Fr	0021	1.6	**26** Sa	0149	1.6
	0632	0.4		0750	0.5
	1303	1.7		1424	1.7
	1910	0.5		2037	0.5
12 Sa	0114	1.6	**27** Su	0248	1.6
	0726	0.4		0850	0.5
	1359	1.7		1519	1.7
	2007	0.5		2134	0.5
13 Su	0214	1.6	**28** Mo	0347	1.6
	0826	0.4		0948	0.5
	1459	1.7		1612	1.7
	2107	0.5		2228	0.5
14 Mo	0318	1.6	**29** Tu	0443	1.6
	0928	0.4		1043	0.5
	1558	1.8		1701	1.7
	2208	0.4		2317	0.5
15 Tu	0422	1.7	**30** We	0533	1.6
	1029	0.3		1132	0.5
	1655	1.8		1746	1.7
	2306	0.3			
			31 Th	0002	0.4
				0619	1.7
				1217	0.5
				1828	1.7

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Tauranga

Lat. 37° 39´S., Long. 176° 11´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0043	0.4	16 Sa ○	0032	0.1
	0701	1.7		0656	2.0
	1258	0.5		1258	0.2
	1908	1.7		1913	2.0
2 Sa ●	0121	0.4	17 Su	0125	0.1
	0741	1.7		0750	2.0
	1338	0.5		1353	0.2
	1947	1.7		2006	1.9
3 Su	0158	0.3	18 Mo	0216	0.0
	0820	1.8		0842	2.0
	1417	0.4		1446	0.2
	2025	1.7		2059	1.9
4 Mo	0236	0.3	19 Tu	0306	0.1
	0859	1.8		0933	2.0
	1457	0.4		1539	0.3
	2105	1.7		2150	1.9
5 Tu	0314	0.3	20 We	0355	0.1
	0938	1.8		1023	2.0
	1538	0.4		1631	0.3
	2145	1.7		2241	1.8
6 We	0353	0.3	21 Th	0444	0.2
	1019	1.8		1114	1.9
	1622	0.5		1723	0.4
	2227	1.7		2332	1.7
7 Th	0435	0.3	22 Fr	0533	0.3
	1103	1.8		1204	1.8
	1708	0.5		1815	0.4
	2312	1.7			
8 Fr	0520	0.3	23 Sa	0024	1.7
	1149	1.7		0624	0.4
	1757	0.5		1255	1.8
				1908	0.5
9 Sa	0001	1.6	24 Su	0117	1.6
	0609	0.4		0716	0.5
	1240	1.7		1346	1.7
	1849	0.5		2001	0.5
10 Su	0054	1.6	25 Mo	0212	1.6
	0702	0.4		0811	0.5
	1334	1.7		1437	1.7
	1945	0.4		2053	0.5
11 Mo	0153	1.6	26 Tu	0308	1.6
	0801	0.4		0906	0.6
	1431	1.8		1527	1.7
	2043	0.4		2145	0.5
12 Tu	0256	1.7	27 We	0403	1.6
	0902	0.4		1001	0.6
	1529	1.8		1615	1.6
	2142	0.3		2235	0.5
13 We	0400	1.7	28 Th	0455	1.6
	1004	0.4		1052	0.6
	1626	1.9		1702	1.6
	2241	0.2		2321	0.5
14 Th	0502	1.8	29 Fr	0544	1.6
	1104	0.3		1140	0.6
	1723	1.9		1748	1.7
	2337	0.2			
15 Fr	0600	1.9	30 Sa	0005	0.4
	1202	0.3		0629	1.7
	1819	1.9		1224	0.5
				1832	1.7

December

	Time	m		Time	m
1 Su ●	0046	0.4	16 Mo	0105	0.1
	0712	1.7		0733	2.0
	1308	0.5		1336	0.3
	1915	1.7		1948	1.9
2 Mo	0127	0.3	17 Tu	0156	0.1
	0754	1.8		0824	2.0
	1350	0.5		1430	0.3
	1957	1.7		2040	1.9
3 Tu	0207	0.3	18 We	0246	0.2
	0835	1.8		0914	2.0
	1433	0.5		1521	0.3
	2040	1.7		2131	1.8
4 We	0248	0.3	19 Th	0334	0.2
	0917	1.8		1002	1.9
	1518	0.4		1611	0.4
	2124	1.7		2220	1.8
5 Th	0331	0.3	20 Fr	0420	0.3
	1000	1.8		1049	1.9
	1603	0.4		1659	0.4
	2209	1.7		2307	1.7
6 Fr	0414	0.3	21 Sa	0506	0.3
	1044	1.8		1135	1.8
	1650	0.4		1746	0.4
	2255	1.7		2354	1.7
7 Sa	0501	0.3	22 Su	0552	0.4
	1131	1.8		1219	1.8
	1739	0.4		1832	0.5
	2345	1.7			
8 Su	0550	0.3	23 Mo	0041	1.6
	1220	1.8		0639	0.5
	1830	0.4		1304	1.7
				1919	0.5
9 Mo	0038	1.7	24 Tu	0131	1.6
	0642	0.4		0728	0.6
	1311	1.8		1350	1.7
	1923	0.4		2006	0.5
10 Tu	0135	1.7	25 We	0223	1.6
	0739	0.4		0819	0.6
	1405	1.8		1437	1.7
	2019	0.3		2055	0.5
11 We	0236	1.7	26 Th	0317	1.6
	0839	0.4		0913	0.6
	1502	1.8		1525	1.6
	2117	0.3		2145	0.5
12 Th	0339	1.7	27 Fr	0411	1.6
	0941	0.4		1006	0.6
	1600	1.9		1615	1.6
	2216	0.3		2235	0.5
13 Fr	0441	1.8	28 Sa	0504	1.6
	1043	0.4		1058	0.6
	1658	1.9		1705	1.6
	2314	0.2		2324	0.5
14 Sa	0541	1.9	29 Su	0554	1.7
	1143	0.4		1148	0.6
	1756	1.9		1755	1.7
15 Su ○	0011	0.2	30 Mo	0011	0.4
	0638	1.9		0641	1.7
	1241	0.3		1237	0.6
	1853	1.9		1843	1.7
			31 Tu ●	0056	0.4
				0726	1.8
				1324	0.5
				1931	1.7

January

	Time	m		Time	m
1 We	0141	0.3	16 Th	0226	0.3
	0810	1.8		0854	1.9
	1410	0.5		1502	0.4
	2018	1.8		2111	1.8
2 Th	0225	0.3	17 Fr	0312	0.3
	0855	1.9		0939	1.9
	1457	0.4		1548	0.4
	2105	1.8		2156	1.8
3 Fr	0310	0.2	18 Sa	0356	0.3
	0939	1.9		1021	1.9
	1544	0.4		1631	0.4
	2152	1.8		2239	1.8
4 Sa	0356	0.2	19 Su	0438	0.4
	1025	1.9		1102	1.9
	1631	0.3		1713	0.4
	2240	1.8		2322	1.7
5 Su	0443	0.2	20 Mo	0520	0.4
	1112	2.0		1142	1.8
	1720	0.3		1754	0.5
	2329	1.8			
6 Mo	0532	0.3	21 Tu	0004	1.7
	1200	1.9		0602	0.5
	1810	0.3		1222	1.8
				1835	0.5
7 Tu	0021	1.8	22 We	0049	1.7
	0624	0.3		0647	0.6
	1250	1.9		1304	1.7
	1902	0.3		1919	0.5
8 We	0117	1.8	23 Th	0137	1.6
	0720	0.4		0734	0.6
	1343	1.9		1348	1.7
	1956	0.3		2005	0.5
9 Th	0217	1.8	24 Fr	0229	1.6
	0819	0.4		0825	0.7
	1438	1.9		1436	1.6
	2054	0.3		2055	0.6
10 Fr	0319	1.8	25 Sa	0325	1.6
	0921	0.5		0920	0.7
	1537	1.8		1528	1.6
	2153	0.3		2148	0.6
11 Sa	0423	1.8	26 Su	0421	1.6
	1024	0.5		1016	0.7
	1638	1.8		1623	1.6
	2253	0.3		2242	0.5
12 Su	0524	1.8	27 Mo	0516	1.7
	1126	0.5		1111	0.6
	1738	1.8		1719	1.7
	2351	0.3		2335	0.5
13 Mo	0622	1.9	28 Tu	0607	1.7
	1225	0.4		1205	0.6
	1837	1.8		1813	1.7
14 Tu ○	0046	0.3	29 We	0025	0.4
	0716	1.9		0656	1.8
	1321	0.4		1256	0.5
	1932	1.8		1906	1.8
15 We	0138	0.3	30 Th ●	0114	0.3
	0807	1.9		0744	1.9
	1413	0.4		1346	0.4
	2023	1.8		1956	1.8
			31 Fr	0202	0.3
				0830	2.0
				1435	0.3
				2045	1.9

February

	Time	m		Time	m
1 Sa	0249	0.2	16 Su	0330	0.4
	0917	2.0		0951	1.9
	1522	0.3		1600	0.4
	2134	1.9		2210	1.8
2 Su	0336	0.2	17 Mo	0409	0.4
	1003	2.0		1028	1.9
	1611	0.2		1638	0.4
	2223	1.9		2249	1.8
3 Mo	0425	0.2	18 Tu	0448	0.5
	1051	2.0		1106	1.8
	1659	0.2		1716	0.5
	2313	1.9		2329	1.7
4 Tu	0515	0.3	19 We	0528	0.5
	1139	2.0		1143	1.8
	1749	0.2		1754	0.5
5 We	0005	1.9	20 Th	0010	1.7
	0607	0.3		0610	0.6
	1230	2.0		1223	1.7
	1840	0.3		1835	0.5
6 Th	0100	1.9	21 Fr	0056	1.7
	0703	0.4		0656	0.6
	1322	1.9		1306	1.7
	1934	0.3		1920	0.6
7 Fr	0159	1.8	22 Sa	0146	1.6
	0802	0.5		0745	0.7
	1419	1.8		1354	1.7
	2032	0.4		2010	0.6
8 Sa	0302	1.8	23 Su	0241	1.6
	0904	0.5		0840	0.7
	1519	1.8		1447	1.6
	2133	0.4		2105	0.6
9 Su	0406	1.8	24 Mo	0339	1.6
	1009	0.5		0938	0.7
	1622	1.7		1545	1.6
	2234	0.4		2202	0.5
10 Mo	0507	1.8	25 Tu	0437	1.7
	1111	0.5		1036	0.6
	1724	1.7		1645	1.7
	2334	0.4		2300	0.5
11 Tu	0605	1.8	26 We	0532	1.8
	1210	0.5		1133	0.6
	1822	1.8		1744	1.7
				2354	0.4
12 We	0029	0.4	27 Th	0624	1.9
	0658	1.9		1227	0.5
	1304	0.5		1840	1.8
	1916	1.8			
13 Th ○	0119	0.4	28 Fr ●	0047	0.3
	0746	1.9		0714	1.9
	1354	0.4		1319	0.4
	2005	1.8		1933	1.9
14 Fr	0206	0.4			
	0830	1.9			
	1439	0.4			
	2049	1.8			
15 Sa	0249	0.4			
	0912	1.9			
	1521	0.4			
	2131	1.8			

Remember to add 1 hour for Daylight Saving Time.

Standard Ports

Tauranga

Lat. 37˚39´S., Long. 176˚11´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0137	0.3	**16** Su	0223	0.4
	0803	2.0		0841	1.9
	1409	0.3		1450	0.4
	2024	2.0		2103	1.8
2 Su	0227	0.2	**17** Mo	0302	0.5
	0851	2.1		0918	1.8
	1459	0.2		1527	0.4
	2114	2.0		2141	1.8
3 Mo	0316	0.2	**18** Tu	0340	0.5
	0940	2.1		0955	1.8
	1548	0.2		1604	0.4
	2204	2.0		2219	1.8
4 Tu	0407	0.2	**19** We	0418	0.5
	1029	2.1		1031	1.8
	1637	0.2		1640	0.5
	2255	2.0		2257	1.8
5 We	0458	0.3	**20** Th	0458	0.5
	1119	2.0		1109	1.8
	1727	0.2		1718	0.5
	2348	2.0		2338	1.8
6 Th	0552	0.3	**21** Fr	0539	0.6
	1211	2.0		1149	1.7
	1819	0.3		1759	0.5
7 Fr	0044	1.9	**22** Sa	0022	1.7
	0648	0.4		0624	0.6
	1305	1.9		1232	1.7
	1914	0.3		1843	0.5
8 Sa	0143	1.9	**23** Su	0111	1.7
	0747	0.5		0714	0.7
	1403	1.8		1320	1.7
	2012	0.4		1933	0.6
9 Su	0245	1.8	**24** Mo	0204	1.7
	0850	0.5		0808	0.7
	1504	1.7		1414	1.7
	2113	0.5		2028	0.6
10 Mo	0348	1.8	**25** Tu	0301	1.7
	0954	0.6		0905	0.6
	1607	1.7		1513	1.7
	2216	0.5		2127	0.6
11 Tu	0448	1.8	**26** We	0359	1.7
	1055	0.6		1004	0.6
	1709	1.7		1615	1.7
	2315	0.5		2227	0.5
12 We	0543	1.8	**27** Th	0456	1.8
	1152	0.5		1102	0.5
	1805	1.7		1716	1.8
				2324	0.4
13 Th	0009	0.5	**28** Fr	0550	1.9
	0634	1.8		1158	0.4
	1243	0.5		1814	1.9
	1856	1.8			
14 Fr ❍	0058	0.5	**29** Sa ●	0019	0.3
	0720	1.8		0642	2.0
	1329	0.5		1252	0.3
	1942	1.8		1908	2.0
15 Sa	0142	0.4	**30** Su	0112	0.3
	0802	1.9		0734	2.1
	1411	0.4		1344	0.2
	2024	1.8		2001	2.0
			31 Mo	0205	0.2
				0825	2.1
				1434	0.1
				2053	2.1

April

	Time	m		Time	m
1 Tu	0257	0.2	**16** We	0312	0.5
	0916	2.1		0922	1.8
	1525	0.1		1530	0.4
	2145	2.1		2151	1.8
2 We	0349	0.2	**17** Th	0351	0.5
	1007	2.1		1000	1.8
	1615	0.1		1608	0.5
	2237	2.1		2230	1.8
3 Th	0442	0.3	**18** Fr	0431	0.6
	1059	2.0		1039	1.8
	1706	0.2		1647	0.5
	2331	2.0		2311	1.8
4 Fr	0537	0.4	**19** Sa	0514	0.6
	1153	1.9		1121	1.7
	1758	0.3		1728	0.5
				2355	1.8
5 Sa	0027	1.9	**20** Su	0600	0.6
	0633	0.4		1205	1.7
	1249	1.9		1813	0.5
	1853	0.4			
6 Su	0126	1.9	**21** Mo	0043	1.7
	0733	0.5		0649	0.6
	1347	1.8		1254	1.7
	1952	0.5		1903	0.5
7 Mo	0225	1.8	**22** Tu	0134	1.7
	0834	0.5		0741	0.6
	1448	1.7		1348	1.7
	2053	0.5		1958	0.5
8 Tu	0325	1.8	**23** We	0229	1.8
	0935	0.6		0837	0.6
	1550	1.7		1447	1.7
	2154	0.6		2057	0.5
9 We	0422	1.8	**24** Th	0325	1.8
	1033	0.6		0935	0.5
	1648	1.7		1548	1.8
	2251	0.6		2156	0.5
10 Th	0515	1.8	**25** Fr	0421	1.9
	1126	0.5		1032	0.4
	1742	1.7		1649	1.8
	2344	0.5		2255	0.4
11 Fr	0603	1.8	**26** Sa	0517	1.9
	1215	0.5		1129	0.3
	1831	1.8		1748	1.9
				2353	0.4
12 Sa	0031	0.5	**27** Su	0612	2.0
	0647	1.8		1224	0.2
	1259	0.5		1845	2.0
	1915	1.8			
13 Su ❍	0115	0.5	**28** Mo ●	0048	0.3
	0728	1.8		0706	2.0
	1339	0.5		1318	0.2
	1956	1.8		1939	2.1
14 Mo	0155	0.5	**29** Tu	0143	0.3
	0807	1.8		0800	2.1
	1418	0.4		1410	0.1
	2035	1.8		2033	2.1
15 Tu	0234	0.5	**30** We	0237	0.3
	0845	1.8		0853	2.1
	1454	0.4		1502	0.1
	2113	1.8		2126	2.1

May

	Time	m		Time	m
1 Th	0331	0.3	**16** Fr	0326	0.6
	0947	2.0		0933	1.8
	1553	0.2		1539	0.4
	2219	2.1		2206	1.8
2 Fr	0426	0.3	**17** Sa	0408	0.6
	1041	2.0		1015	1.7
	1645	0.2		1620	0.4
	2314	2.0		2248	1.8
3 Sa	0521	0.4	**18** Su	0452	0.6
	1135	1.9		1058	1.7
	1737	0.3		1703	0.5
				2332	1.8
4 Su	0009	2.0	**19** Mo	0538	0.6
	0617	0.4		1144	1.7
	1231	1.8		1749	0.5
	1832	0.4			
5 Mo	0104	1.9	**20** Tu	0019	1.8
	0714	0.5		0627	0.5
	1328	1.8		1233	1.7
	1928	0.5		1839	0.5
6 Tu	0200	1.8	**21** We	0108	1.8
	0811	0.5		0718	0.5
	1426	1.7		1326	1.7
	2027	0.6		1932	0.5
7 We	0256	1.8	**22** Th	0200	1.8
	0908	0.5		0812	0.5
	1524	1.7		1424	1.7
	2125	0.6		2030	0.5
8 Th	0348	1.8	**23** Fr	0255	1.9
	1002	0.5		0908	0.4
	1620	1.7		1524	1.8
	2221	0.6		2130	0.5
9 Fr	0438	1.8	**24** Sa	0350	1.9
	1053	0.5		1005	0.4
	1712	1.7		1625	1.9
	2312	0.6		2230	0.4
10 Sa	0525	1.8	**25** Su	0447	1.9
	1141	0.5		1102	0.3
	1800	1.8		1725	1.9
				2329	0.4
11 Su	0000	0.6	**26** Mo	0544	2.0
	0610	1.8		1159	0.2
	1224	0.5		1823	2.0
	1844	1.8			
12 Mo	0043	0.6	**27** Tu ●	0027	0.3
	0652	1.8		0641	2.0
	1305	0.5		1254	0.2
	1926	1.8		1919	2.0
13 Tu ❍	0125	0.6	**28** We	0123	0.3
	0733	1.8		0737	2.0
	1344	0.5		1348	0.1
	2006	1.8		2014	2.1
14 We	0205	0.6	**29** Th	0219	0.3
	0813	1.8		0833	2.0
	1422	0.4		1440	0.1
	2045	1.8		2108	2.1
15 Th	0245	0.6	**30** Fr	0314	0.3
	0852	1.8		0928	2.0
	1500	0.4		1532	0.2
	2125	1.8		2201	2.1
			31 Sa	0409	0.3
				1022	1.9
				1624	0.3
				2254	2.0

June

	Time	m		Time	m
1 Su	0503	0.4	**16** Mo	0430	0.5
	1115	1.9		1038	1.8
	1715	0.3		1640	0.4
	2346	2.0		2310	1.9
2 Mo	0556	0.4	**17** Tu	0517	0.5
	1208	1.8		1124	1.8
	1807	0.4		1727	0.4
				2356	1.9
3 Tu	0038	1.9	**18** We	0605	0.4
	0649	0.5		1214	1.8
	1302	1.7		1817	0.4
	1900	0.5			
4 We	0129	1.8	**19** Th	0044	1.9
	0741	0.5		0655	0.4
	1356	1.7		1306	1.8
	1955	0.6		1910	0.4
5 Th	0219	1.8	**20** Fr	0134	1.9
	0833	0.5		0747	0.4
	1450	1.7		1403	1.8
	2049	0.6		2007	0.5
6 Fr	0308	1.7	**21** Sa	0228	1.9
	0924	0.5		0843	0.3
	1544	1.7		1503	1.8
	2143	0.6		2107	0.5
7 Sa	0356	1.7	**22** Su	0324	1.9
	1014	0.5		0940	0.3
	1636	1.7		1605	1.8
	2235	0.6		2208	0.4
8 Su	0444	1.7	**23** Mo	0422	1.9
	1101	0.5		1039	0.3
	1725	1.7		1706	1.9
	2324	0.6		2309	0.4
9 Mo	0530	1.7	**24** Tu	0522	1.9
	1147	0.5		1137	0.2
	1811	1.7		1805	2.0
10 Tu	0010	0.6	**25** We ●	0009	0.4
	0615	1.7		0621	1.9
	1230	0.5		1234	0.2
	1855	1.8		1902	2.0
11 We ❍	0054	0.6	**26** Th	0107	0.4
	0659	1.7		0719	1.9
	1311	0.4		1328	0.2
	1937	1.8		1957	2.0
12 Th	0136	0.6	**27** Fr	0203	0.3
	0742	1.7		0815	1.9
	1351	0.4		1421	0.2
	2019	1.8		2049	2.0
13 Fr	0219	0.6	**28** Sa	0257	0.3
	0826	1.7		0909	1.9
	1432	0.4		1512	0.2
	2100	1.8		2140	2.0
14 Sa	0302	0.5	**29** Su	0349	0.3
	0909	1.8		1001	1.9
	1513	0.4		1601	0.3
	2142	1.9		2230	2.0
15 Su	0346	0.5	**30** Mo	0440	0.4
	0953	1.8		1052	1.8
	1556	0.4		1650	0.3
	2225	1.9		2318	1.9

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Timaru

Lat. 44˚23´S., Long. 171˚15´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0457	0.7	**16** Tu	0456	0.9
	1109	2.3		1107	2.1
	1727	0.7		1725	1.0
	2340	2.3		2332	2.0
2 Tu	0551	0.6	**17** We	0543	0.9
	1208	2.4		1157	2.1
	1826	0.7		1816	0.9
3 We	0037	2.3	**18** Th	0021	2.1
	0644	0.6		0628	0.8
	1306	2.4		1247	2.2
	1921	0.7		1903	0.8
4 Th	0131	2.3	**19** Fr	0108	2.1
	0735	0.6		0712	0.8
	1402	2.4		1336	2.3
	2013	0.6		1949	0.8
5 Fr	0222	2.3	**20** Sa	0153	2.2
	0826	0.6		0758	0.7
	1454	2.4		1423	2.4
	2104	0.7		2034	0.7
6 Sa ●	0311	2.3	**21** Su ☽	0238	2.3
	0917	0.6		0845	0.6
	1542	2.4		1509	2.4
	2152	0.7		2120	0.6
7 Su	0358	2.3	**22** Mo	0324	2.3
	1007	0.6		0935	0.6
	1628	2.4		1555	2.5
	2239	0.7		2208	0.6
8 Mo	0444	2.2	**23** Tu	0412	2.4
	1055	0.7		1026	0.5
	1712	2.4		1642	2.5
	2325	0.7		2257	0.6
9 Tu	0530	2.2	**24** We	0502	2.4
	1141	0.7		1118	0.5
	1755	2.3		1732	2.5
				2348	0.6
10 We	0009	0.8	**25** Th	0556	2.4
	0617	2.1		1211	0.5
	1225	0.8		1825	2.5
	1839	2.2			
11 Th	0053	0.8	**26** Fr	0041	0.6
	0705	2.1		0654	2.4
	1309	0.8		1305	0.5
	1924	2.2		1922	2.4
12 Fr	0138	0.9	**27** Sa	0137	0.6
	0754	2.1		0754	2.4
	1353	0.9		1403	0.6
	2011	2.1		2023	2.3
13 Sa	0225	0.9	**28** Su	0237	0.7
	0842	2.0		0855	2.3
	1441	0.9		1505	0.7
	2100	2.1		2125	2.3
14 Su	0315	0.9	**29** Mo	0338	0.7
	0929	2.0		0956	2.3
	1534	1.0		1611	0.7
	2151	2.0		2228	2.2
15 Mo	0406	0.9	**30** Tu	0440	0.7
	1018	2.1		1057	2.3
	1630	1.0		1717	0.7
	2242	2.0		2328	2.2
			31 We	0538	0.7
				1159	2.3
				1818	0.7

August

	Time	m		Time	m
1 Th	0026	2.2	**16** Fr	0559	0.8
	0632	0.7		1218	2.2
	1257	2.4		1837	0.8
	1912	0.7			
2 Fr	0119	2.2	**17** Sa	0039	2.2
	0723	0.6		0646	0.7
	1351	2.4		1308	2.3
	2001	0.7		1922	0.7
3 Sa	0208	2.3	**18** Su	0126	2.2
	0812	0.6		0733	0.6
	1439	2.4		1357	2.4
	2046	0.7		2007	0.6
4 Su ●	0253	2.3	**19** Mo	0213	2.3
	0858	0.7		0821	0.5
	1522	2.4		1443	2.5
	2129	0.7		2053	0.5
5 Mo	0336	2.2	**20** Tu ☽	0300	2.4
	0943	0.7		0911	0.4
	1602	2.4		1530	2.6
	2210	0.7		2141	0.5
6 Tu	0417	2.2	**21** We	0349	2.5
	1026	0.7		1003	0.4
	1640	2.3		1618	2.6
	2251	0.8		2230	0.5
7 We	0457	2.2	**22** Th	0439	2.5
	1108	0.7		1055	0.4
	1718	2.3		1708	2.6
	2331	0.8		2323	0.5
8 Th	0538	2.2	**23** Fr	0534	2.5
	1148	0.8		1150	0.4
	1756	2.2		1801	2.5
9 Fr	0011	0.8	**24** Sa	0017	0.5
	0621	2.1		0632	2.5
	1229	0.8		1246	0.5
	1837	2.1		1900	2.4
10 Sa	0054	0.9	**25** Su	0115	0.6
	0707	2.1		0733	2.4
	1312	0.9		1345	0.6
	1923	2.1		2003	2.3
11 Su	0139	0.9	**26** Mo	0216	0.6
	0756	2.0		0838	2.4
	1359	1.0		1450	0.7
	2015	2.0		2110	2.2
12 Mo	0229	1.0	**27** Tu	0320	0.7
	0847	2.0		0942	2.3
	1453	1.0		1559	0.8
	2110	2.0		2215	2.2
13 Tu	0323	1.0	**28** We	0424	0.7
	0939	2.0		1046	2.3
	1553	1.0		1707	0.8
	2205	2.0		2316	2.2
14 We	0417	0.9	**29** Th	0525	0.7
	1032	2.1		1147	2.3
	1653	1.0		1806	0.8
	2259	2.0			
15 Th	0509	0.9	**30** Fr	0013	2.2
	1125	2.1		0619	0.7
	1748	0.9		1244	2.3
	2350	2.1		1857	0.7
			31 Sa	0104	2.2
				0708	0.7
				1334	2.3
				1942	0.7

September

	Time	m		Time	m
1 Su	0150	2.2	**16** Mo	0058	2.3
	0753	0.7		0708	0.6
	1418	2.3		1329	2.5
	2022	0.7		1940	0.6
2 Mo	0231	2.2	**17** Tu	0147	2.4
	0835	0.7		0757	0.5
	1457	2.3		1417	2.6
	2101	0.7		2026	0.5
3 Tu ●	0310	2.2	**18** We ☽	0236	2.5
	0916	0.7		0848	0.4
	1533	2.3		1505	2.6
	2138	0.7		2114	0.4
4 We	0347	2.2	**19** Th	0326	2.6
	0955	0.7		0940	0.4
	1607	2.3		1554	2.6
	2215	0.8		2205	0.4
5 Th	0424	2.2	**20** Fr	0418	2.6
	1034	0.8		1034	0.4
	1642	2.2		1645	2.6
	2253	0.8		2259	0.4
6 Fr	0502	2.2	**21** Sa	0513	2.6
	1114	0.8		1130	0.4
	1718	2.2		1739	2.5
	2333	0.8		2355	0.5
7 Sa	0543	2.1	**22** Su	0612	2.5
	1155	0.9		1228	0.5
	1757	2.1		1840	2.4
8 Su	0015	0.9	**23** Mo	0055	0.6
	0627	2.1		0715	2.4
	1238	0.9		1329	0.6
	1843	2.0		1946	2.3
9 Mo	0101	0.9	**24** Tu	0157	0.6
	0717	2.1		0821	2.4
	1326	1.0		1434	0.7
	1937	2.0		2054	2.2
10 Tu	0151	1.0	**25** We	0301	0.7
	0810	2.0		0926	2.3
	1420	1.0		1544	0.8
	2036	2.0		2159	2.2
11 We	0246	1.0	**26** Th	0405	0.7
	0906	2.1		1029	2.3
	1521	1.0		1650	0.8
	2135	2.0		2259	2.2
12 Th	0342	0.9	**27** Fr	0505	0.7
	1001	2.1		1128	2.3
	1624	1.0		1747	0.8
	2230	2.0		2352	2.2
13 Fr	0438	0.9	**28** Sa	0558	0.7
	1056	2.2		1221	2.3
	1720	0.9		1834	0.8
	2321	2.1			
14 Sa	0530	0.8	**29** Su	0040	2.2
	1149	2.3		0645	0.7
	1809	0.8		1308	2.3
				1915	0.7
15 Su	0010	2.2	**30** Mo	0124	2.2
	0619	0.7		0728	0.7
	1240	2.4		1350	2.3
	1855	0.7		1953	0.7

October

	Time	m		Time	m
1 Tu	0204	2.2	**16** We	0122	2.5
	0808	0.7		0735	0.4
	1427	2.3		1352	2.6
	2029	0.7		2000	0.4
2 We	0241	2.2	**17** Th ☽	0213	2.6
	0846	0.7		0827	0.4
	1502	2.3		1442	2.6
	2104	0.8		2050	0.4
3 Th ●	0318	2.2	**18** Fr	0306	2.6
	0925	0.8		0920	0.4
	1535	2.2		1532	2.6
	2141	0.8		2142	0.4
4 Fr	0354	2.2	**19** Sa	0400	2.6
	1004	0.8		1016	0.4
	1609	2.2		1625	2.5
	2219	0.8		2238	0.4
5 Sa	0432	2.2	**20** Su	0456	2.6
	1044	0.8		1113	0.5
	1646	2.1		1720	2.4
	2300	0.8		2336	0.5
6 Su	0512	2.2	**21** Mo	0555	2.5
	1126	0.9		1211	0.6
	1726	2.1		1821	2.3
	2344	0.9			
7 Mo	0557	2.1	**22** Tu	0036	0.6
	1211	0.9		0658	2.4
	1813	2.0		1312	0.7
				1927	2.3
8 Tu	0031	0.9	**23** We	0137	0.6
	0647	2.1		0802	2.4
	1300	1.0		1415	0.7
	1907	2.0		2034	2.2
9 We	0121	0.9	**24** Th	0239	0.7
	0741	2.1		0905	2.3
	1355	1.0		1521	0.8
	2008	2.0		2136	2.2
10 Th	0215	0.9	**25** Fr	0339	0.8
	0837	2.1		1004	2.3
	1454	1.0		1623	0.8
	2107	2.0		2232	2.2
11 Fr	0311	0.9	**26** Sa	0437	0.8
	0933	2.2		1059	2.3
	1554	0.9		1717	0.8
	2201	2.1		2323	2.2
12 Sa	0407	0.8	**27** Su	0529	0.8
	1027	2.2		1149	2.2
	1650	0.8		1803	0.8
	2252	2.1			
13 Su	0501	0.7	**28** Mo	0009	2.2
	1120	2.3		0615	0.8
	1740	0.7		1235	2.2
	2342	2.3		1843	0.8
14 Mo	0553	0.6	**29** Tu	0052	2.2
	1212	2.4		0658	0.8
	1827	0.6		1316	2.2
				1920	0.8
15 Tu	0031	2.4	**30** We	0132	2.2
	0644	0.5		0738	0.8
	1302	2.5		1354	2.2
	1913	0.5		1956	0.8
			31 Th	0211	2.2
				0817	0.8
				1430	2.2
				2032	0.8

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Timaru

Lat. 44˚23´S., Long. 171˚15´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0249	2.2	**16** Sa ❍	0250	2.6
	0856	0.8		0904	0.5
	1506	2.2		1515	2.5
	2109	0.8		2124	0.4
2 Sa ●	0328	2.2	**17** Su	0346	2.6
	0937	0.8		1000	0.5
	1542	2.2		1608	2.5
	2149	0.8		2220	0.5
3 Su	0407	2.2	**18** Mo	0442	2.6
	1019	0.8		1057	0.5
	1620	2.1		1703	2.4
	2232	0.8		2318	0.5
4 Mo	0449	2.2	**19** Tu	0539	2.5
	1103	0.9		1154	0.6
	1702	2.1		1802	2.3
	2318	0.9			
5 Tu	0533	2.2	**20** We	0016	0.6
	1150	0.9		0637	2.4
	1749	2.0		1252	0.7
				1905	2.2
6 We	0006	0.9	**21** Th	0113	0.7
	0622	2.2		0737	2.4
	1239	0.9		1350	0.8
	1843	2.0		2007	2.2
7 Th	0056	0.9	**22** Fr	0210	0.7
	0715	2.2		0835	2.3
	1331	0.9		1448	0.8
	1941	2.0		2105	2.2
8 Fr	0149	0.9	**23** Sa	0305	0.8
	0810	2.2		0930	2.2
	1427	0.9		1545	0.8
	2039	2.0		2157	2.1
9 Sa	0243	0.8	**24** Su	0400	0.8
	0905	2.2		1022	2.2
	1524	0.9		1638	0.8
	2133	2.1		2245	2.1
10 Su	0339	0.8	**25** Mo	0451	0.8
	0959	2.3		1110	2.2
	1619	0.8		1724	0.8
	2224	2.2		2331	2.1
11 Mo	0434	0.7	**26** Tu	0540	0.9
	1053	2.3		1156	2.2
	1711	0.7		1806	0.8
	2315	2.3			
12 Tu	0529	0.6	**27** We	0015	2.1
	1146	2.4		0625	0.9
	1801	0.6		1239	2.2
				1845	0.8
13 We	0008	2.4	**28** Th	0059	2.1
	0623	0.6		0707	0.9
	1238	2.4		1320	2.2
	1849	0.5		1923	0.8
14 Th	0101	2.5	**29** Fr	0141	2.2
	0716	0.5		0749	0.8
	1331	2.5		1400	2.2
	1938	0.5		2002	0.8
15 Fr	0156	2.5	**30** Sa	0223	2.2
	0809	0.5		0831	0.8
	1423	2.5		1439	2.1
	2030	0.4		2042	0.8

December

	Time	m		Time	m
1 Su ●	0304	2.2	**16** Mo	0334	2.5
	0913	0.8		0946	0.6
	1517	2.1		1553	2.4
	2124	0.8		2205	0.5
2 Mo	0345	2.2	**17** Tu	0427	2.5
	0956	0.8		1040	0.6
	1558	2.1		1646	2.3
	2208	0.8		2300	0.6
3 Tu	0427	2.2	**18** We	0520	2.5
	1041	0.8		1133	0.6
	1640	2.1		1740	2.3
	2255	0.8		2353	0.6
4 We	0512	2.3	**19** Th	0612	2.4
	1128	0.8		1225	0.7
	1727	2.1		1836	2.2
	2343	0.8			
5 Th	0559	2.3	**20** Fr	0045	0.7
	1216	0.8		0704	2.3
	1819	2.1		1317	0.8
				1931	2.2
6 Fr	0033	0.8	**21** Sa	0135	0.7
	0650	2.3		0757	2.2
	1306	0.8		1408	0.8
	1914	2.1		2025	2.1
7 Sa	0123	0.8	**22** Su	0225	0.8
	0743	2.3		0848	2.2
	1359	0.8		1500	0.9
	2011	2.1		2115	2.1
8 Su	0216	0.7	**23** Mo	0316	0.9
	0838	2.3		0938	2.1
	1454	0.8		1552	0.9
	2105	2.2		2203	2.1
9 Mo	0312	0.7	**24** Tu	0408	0.9
	0933	2.3		1027	2.1
	1551	0.8		1641	0.9
	2159	2.2		2250	2.1
10 Tu	0410	0.7	**25** We	0500	0.9
	1029	2.3		1115	2.1
	1646	0.7		1727	0.9
	2253	2.3		2337	2.1
11 We	0509	0.7	**26** Th	0550	0.9
	1125	2.3		1202	2.1
	1739	0.6		1811	0.9
	2349	2.4			
12 Th	0607	0.6	**27** Fr	0024	2.1
	1220	2.4		0638	0.9
	1831	0.6		1247	2.1
				1852	0.8
13 Fr	0046	2.4	**28** Sa	0112	2.1
	0702	0.6		0722	0.9
	1315	2.4		1331	2.1
	1922	0.5		1933	0.8
14 Sa	0144	2.5	**29** Su	0157	2.2
	0757	0.6		0806	0.8
	1408	2.4		1412	2.1
	2015	0.5		2015	0.8
15 Su ❍	0240	2.5	**30** Mo	0240	2.2
	0852	0.5		0848	0.8
	1501	2.4		1453	2.2
	2109	0.5		2059	0.8
			31 Tu ●	0322	2.3
				0932	0.8
				1534	2.2
				2144	0.7

January

	Time	m		Time	m
1 We	0404	2.3	**16** Th	0456	2.4
	1016	0.8		1107	0.7
	1617	2.2		1713	2.3
	2231	0.7		2326	0.6
2 Th	0447	2.4	**17** Fr	0541	2.3
	1102	0.7		1153	0.7
	1703	2.2		1801	2.2
	2319	0.7			
3 Fr	0533	2.4	**18** Sa	0012	0.7
	1149	0.7		0626	2.3
	1753	2.2		1238	0.8
				1850	2.1
4 Sa	0008	0.6	**19** Su	0057	0.8
	0622	2.4		0712	2.2
	1239	0.7		1324	0.9
	1847	2.2		1940	2.1
5 Su	0059	0.6	**20** Mo	0142	0.9
	0716	2.3		0801	2.1
	1331	0.7		1412	0.9
	1943	2.2		2029	2.1
6 Mo	0152	0.7	**21** Tu	0230	0.9
	0812	2.3		0851	2.1
	1427	0.7		1503	1.0
	2041	2.3		2118	2.0
7 Tu	0249	0.7	**22** We	0322	1.0
	0911	2.3		0943	2.0
	1525	0.7		1555	1.0
	2139	2.3		2208	2.0
8 We	0351	0.7	**23** Th	0420	1.0
	1010	2.3		1035	2.0
	1624	0.7		1647	1.0
	2237	2.3		2259	2.0
9 Th	0455	0.7	**24** Fr	0517	1.0
	1109	2.3		1126	2.0
	1722	0.7		1736	0.9
	2337	2.3		2350	2.1
10 Fr	0556	0.7	**25** Sa	0609	0.9
	1208	2.3		1215	2.0
	1818	0.6		1821	0.9
11 Sa	0037	2.4	**26** Su	0041	2.1
	0654	0.7		0655	0.9
	1304	2.3		1301	2.1
	1911	0.6		1905	0.8
12 Su	0136	2.4	**27** Mo	0128	2.2
	0748	0.6		0739	0.8
	1358	2.3		1344	2.1
	2004	0.6		1948	0.8
13 Mo	0231	2.5	**28** Tu	0212	2.3
	0840	0.6		0821	0.8
	1449	2.3		1426	2.2
	2056	0.6		2032	0.7
14 Tu ❍	0322	2.5	**29** We	0255	2.4
	0930	0.6		0903	0.7
	1538	2.3		1508	2.3
	2148	0.6		2117	0.6
15 We	0410	2.5	**30** Th ●	0337	2.4
	1019	0.6		0947	0.7
	1626	2.3		1551	2.3
	2238	0.6		2204	0.6
			31 Fr	0421	2.5
				1033	0.6
				1637	2.4
				2253	0.5

February

	Time	m		Time	m
1 Sa	0506	2.5	**16** Su	0545	2.2
	1120	0.6		1158	0.8
	1727	2.4		1808	2.1
	2343	0.5			
2 Su	0556	2.4	**17** Mo	0018	0.8
	1211	0.6		0627	2.1
	1821	2.4		1240	0.9
				1854	2.1
3 Mo	0036	0.6	**18** Tu	0101	0.9
	0650	2.4		0713	2.0
	1305	0.7		1326	0.9
	1919	2.3		1943	2.0
4 Tu	0131	0.6	**19** We	0147	1.0
	0749	2.3		0805	2.0
	1403	0.7		1416	1.0
	2020	2.3		2035	2.0
5 We	0231	0.7	**20** Th	0241	1.0
	0852	2.3		0902	2.0
	1504	0.7		1511	1.0
	2122	2.3		2128	2.0
6 Th	0337	0.7	**21** Fr	0341	1.0
	0956	2.2		0958	2.0
	1608	0.7		1607	1.0
	2226	2.3		2222	2.0
7 Fr	0446	0.8	**22** Sa	0443	1.0
	1100	2.2		1052	2.0
	1710	0.7		1700	1.0
	2329	2.3		2315	2.1
8 Sa	0550	0.7	**23** Su	0538	1.0
	1200	2.2		1142	2.0
	1808	0.7		1749	0.9
9 Su	0031	2.3	**24** Mo	0007	2.1
	0647	0.7		0625	0.9
	1255	2.3		1228	2.1
	1901	0.6		1834	0.8
10 Mo	0128	2.4	**25** Tu	0055	2.2
	0738	0.7		0708	0.8
	1347	2.3		1312	2.2
	1952	0.6		1918	0.7
11 Tu	0219	2.4	**26** We	0140	2.3
	0825	0.7		0749	0.7
	1434	2.3		1355	2.3
	2041	0.6		2003	0.6
12 We	0305	2.4	**27** Th	0224	2.4
	0910	0.7		0831	0.6
	1519	2.3		1438	2.4
	2127	0.6		2049	0.5
13 Th ❍	0347	2.4	**28** Fr ●	0308	2.5
	0953	0.7		0915	0.6
	1601	2.3		1524	2.4
	2212	0.6		2137	0.5
14 Fr	0427	2.4			
	1035	0.7			
	1643	2.2			
	2255	0.7			
15 Sa	0506	2.3			
	1116	0.8			
	1725	2.2			
	2337	0.8			

Remember to add 1 hour for Daylight Saving Time.

Timaru

Lat. 44˚23´S., Long. 171˚15´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0353	2.5	**16** Su	0430	2.2
	1002	0.5		1038	0.8
	1611	2.5		1649	2.2
	2228	0.5		2302	0.8
2 Su	0439	2.5	**17** Mo	0506	2.2
	1052	0.5		1118	0.9
	1703	2.5		1729	2.1
	2320	0.5		2343	0.9
3 Mo	0530	2.5	**18** Tu	0545	2.1
	1145	0.6		1200	0.9
	1758	2.5		1813	2.1
4 Tu	0015	0.5	**19** We	0026	0.9
	0627	2.4		0631	2.0
	1242	0.6		1246	1.0
	1859	2.4		1902	2.0
5 We	0113	0.6	**20** Th	0112	1.0
	0729	2.3		0724	1.9
	1342	0.7		1336	1.0
	2003	2.4		1955	2.0
6 Th	0216	0.7	**21** Fr	0206	1.0
	0837	2.2		0824	1.9
	1447	0.7		1430	1.0
	2109	2.3		2050	2.0
7 Fr	0326	0.7	**22** Sa	0305	1.0
	0945	2.2		0923	1.9
	1553	0.7		1527	1.0
	2215	2.3		2146	2.0
8 Sa	0436	0.8	**23** Su	0407	1.0
	1049	2.2		1017	2.0
	1657	0.7		1622	1.0
	2319	2.3		2239	2.1
9 Su	0540	0.8	**24** Mo	0503	0.9
	1148	2.2		1106	2.0
	1755	0.7		1713	0.9
				2330	2.2
10 Mo	0019	2.3	**25** Tu	0550	0.9
	0634	0.7		1152	2.1
	1241	2.2		1801	0.8
	1848	0.7			
11 Tu	0112	2.3	**26** We	0019	2.3
	0721	0.7		0634	0.7
	1330	2.3		1237	2.2
	1935	0.7		1847	0.7
12 We	0159	2.4	**27** Th	0106	2.4
	0803	0.7		0716	0.6
	1414	2.3		1323	2.3
	2020	0.7		1933	0.6
13 Th	0241	2.3	**28** Fr	0152	2.5
	0843	0.7		0800	0.6
	1455	2.3		1409	2.4
	2102	0.7		2022	0.5
14 Fr ❍	0319	2.3	**29** Sa ●	0238	2.5
	0921	0.7		0845	0.5
	1534	2.3		1458	2.5
	2143	0.7		2112	0.4
15 Sa	0355	2.3	**30** Su	0326	2.6
	1000	0.8		0934	0.5
	1611	2.2		1548	2.6
	2222	0.8		2205	0.4
			31 Mo	0415	2.5
				1027	0.5
				1642	2.6
				2300	0.4

April

	Time	m		Time	m
1 Tu	0508	2.5	**16** We	0512	2.0
	1123	0.5		1127	0.9
	1739	2.5		1741	2.1
	2357	0.5		2357	0.9
2 We	0607	2.4	**17** Th	0557	2.0
	1222	0.6		1213	0.9
	1841	2.5		1828	2.1
3 Th	0057	0.6	**18** Fr	0044	1.0
	0712	2.3		0650	1.9
	1324	0.6		1303	1.0
	1947	2.4		1920	2.1
4 Fr	0202	0.7	**19** Sa	0136	1.0
	0822	2.2		0749	1.9
	1429	0.7		1354	1.0
	2054	2.3		2015	2.1
5 Sa	0311	0.7	**20** Su	0232	1.0
	0930	2.2		0847	1.9
	1535	0.7		1448	1.0
	2159	2.3		2109	2.1
6 Su	0419	0.8	**21** Mo	0330	1.0
	1032	2.2		0940	2.0
	1638	0.7		1543	0.9
	2300	2.3		2202	2.1
7 Mo	0520	0.8	**22** Tu	0424	0.9
	1128	2.2		1029	2.1
	1735	0.7		1636	0.8
	2357	2.3		2253	2.2
8 Tu	0611	0.7	**23** We	0514	0.8
	1219	2.2		1116	2.2
	1826	0.7		1727	0.7
				2343	2.3
9 We	0047	2.3	**24** Th	0559	0.7
	0655	0.7		1203	2.3
	1305	2.2		1817	0.6
	1911	0.7			
10 Th	0132	2.3	**25** Fr	0032	2.4
	0735	0.7		0644	0.6
	1347	2.2		1252	2.4
	1953	0.7		1907	0.5
11 Fr	0211	2.3	**26** Sa	0122	2.5
	0812	0.7		0730	0.5
	1427	2.2		1343	2.5
	2033	0.8		1957	0.5
12 Sa	0248	2.2	**27** Su	0212	2.5
	0848	0.8		0818	0.5
	1504	2.2		1435	2.6
	2112	0.8		2050	0.4
13 Su ❍	0322	2.2	**28** Mo ●	0302	2.5
	0924	0.8		0910	0.4
	1541	2.2		1529	2.6
	2151	0.8		2145	0.4
14 Mo	0357	2.2	**29** Tu	0354	2.5
	1003	0.8		1005	0.4
	1619	2.2		1625	2.6
	2231	0.8		2242	0.5
15 Tu	0433	2.1	**30** We	0449	2.4
	1043	0.9		1103	0.5
	1658	2.1		1723	2.6
	2313	0.9		2341	0.5

May

	Time	m		Time	m
1 Th	0549	2.4	**16** Fr	0530	2.0
	1204	0.5		1146	0.9
	1824	2.5		1801	2.2
2 Fr	0041	0.6	**17** Sa	0019	0.9
	0654	2.3		0621	2.0
	1306	0.6		1234	0.9
	1928	2.4		1850	2.1
3 Sa	0144	0.7	**18** Su	0107	0.9
	0802	2.2		0716	2.0
	1408	0.7		1323	0.9
	2033	2.4		1941	2.1
4 Su	0249	0.7	**19** Mo	0159	0.9
	0907	2.2		0811	2.0
	1510	0.7		1413	0.9
	2134	2.3		2034	2.2
5 Mo	0352	0.8	**20** Tu	0252	0.9
	1006	2.2		0903	2.1
	1610	0.8		1507	0.8
	2232	2.3		2126	2.2
6 Tu	0450	0.8	**21** We	0346	0.8
	1059	2.2		0954	2.1
	1706	0.8		1601	0.8
	2325	2.2		2218	2.2
7 We	0540	0.8	**22** Th	0438	0.8
	1148	2.2		1043	2.2
	1756	0.8		1656	0.7
				2311	2.3
8 Th	0014	2.2	**23** Fr	0528	0.7
	0623	0.8		1134	2.3
	1233	2.2		1751	0.6
	1841	0.8			
9 Fr	0057	2.2	**24** Sa	0004	2.4
	0702	0.8		0616	0.6
	1316	2.2		1227	2.4
	1923	0.8		1844	0.6
10 Sa	0138	2.2	**25** Su	0057	2.4
	0738	0.8		0706	0.5
	1356	2.2		1322	2.5
	2003	0.8		1938	0.5
11 Su	0215	2.2	**26** Mo	0150	2.5
	0815	0.8		0757	0.5
	1436	2.2		1418	2.6
	2043	0.8		2033	0.5
12 Mo	0252	2.1	**27** Tu ●	0243	2.5
	0852	0.8		0851	0.4
	1514	2.2		1514	2.6
	2123	0.8		2129	0.5
13 Tu ❍	0328	2.1	**28** We	0337	2.5
	0932	0.8		0948	0.5
	1553	2.2		1610	2.6
	2205	0.9		2226	0.5
14 We	0406	2.1	**29** Th	0433	2.4
	1014	0.9		1046	0.5
	1633	2.2		1707	2.6
	2248	0.9		2324	0.5
15 Th	0446	2.0	**30** Fr	0531	2.4
	1059	0.9		1145	0.5
	1715	2.2		1805	2.5
	2332	0.9			
			31 Sa	0022	0.6
				0633	2.3
				1244	0.6
				1904	2.4

June

	Time	m		Time	m
1 Su	0120	0.7	**16** Mo	0038	0.8
	0735	2.2		0643	2.1
	1341	0.7		1253	0.8
	2003	2.4		1909	2.2
2 Mo	0218	0.7	**17** Tu	0126	0.8
	0836	2.2		0737	2.1
	1437	0.7		1343	0.8
	2101	2.3		2001	2.2
3 Tu	0315	0.8	**18** We	0218	0.8
	0931	2.2		0830	2.2
	1533	0.8		1436	0.8
	2155	2.2		2055	2.2
4 We	0410	0.8	**19** Th	0312	0.8
	1022	2.2		0923	2.2
	1628	0.8		1532	0.8
	2246	2.2		2149	2.2
5 Th	0500	0.8	**20** Fr	0407	0.7
	1110	2.1		1017	2.3
	1720	0.9		1631	0.7
	2334	2.1		2245	2.3
6 Fr	0545	0.8	**21** Sa	0501	0.7
	1156	2.1		1112	2.3
	1807	0.9		1731	0.7
				2342	2.3
7 Sa	0020	2.1	**22** Su	0555	0.6
	0626	0.8		1210	2.4
	1241	2.1		1829	0.6
	1852	0.9			
8 Su	0103	2.1	**23** Mo	0039	2.3
	0706	0.8		0648	0.5
	1326	2.2		1308	2.5
	1935	0.9		1925	0.6
9 Mo	0144	2.1	**24** Tu	0135	2.4
	0744	0.8		0742	0.5
	1408	2.2		1407	2.5
	2016	0.9		2021	0.5
10 Tu	0224	2.1	**25** We ●	0229	2.4
	0824	0.8		0836	0.5
	1449	2.2		1503	2.6
	2058	0.9		2116	0.5
11 We ❍	0302	2.1	**26** Th	0323	2.4
	0906	0.8		0933	0.5
	1530	2.2		1557	2.6
	2140	0.8		2210	0.5
12 Th	0342	2.1	**27** Fr	0416	2.4
	0949	0.8		1029	0.5
	1610	2.2		1649	2.6
	2223	0.8		2304	0.6
13 Fr	0422	2.1	**28** Sa	0511	2.4
	1034	0.8		1124	0.5
	1651	2.3		1742	2.5
	2307	0.8		2357	0.6
14 Sa	0505	2.1	**29** Su	0606	2.3
	1119	0.8		1217	0.6
	1734	2.3		1834	2.4
	2351	0.8			
15 Su	0552	2.1	**30** Mo	0049	0.7
	1206	0.8		0702	2.2
	1820	2.3		1308	0.7
				1927	2.3

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Standard Ports

Wellington

Lat. 41° 17´S., Long. 174° 47´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0015	1.7	**16** Tu	0015	1.5
	0629	0.6		0624	0.8
	1237	1.7		1239	1.6
	1855	0.6		1855	0.8
2 Tu	0111	1.7	**17** We	0059	1.5
	0722	0.6		0705	0.8
	1334	1.8		1324	1.6
	1953	0.6		1939	0.7
3 We	0207	1.7	**18** Th	0145	1.5
	0816	0.6		0747	0.7
	1430	1.8		1409	1.6
	2050	0.6		2025	0.7
4 Th	0304	1.6	**19** Fr	0233	1.5
	0910	0.6		0833	0.7
	1525	1.8		1456	1.6
	2147	0.6		2113	0.7
5 Fr	0359	1.6	**20** Sa	0323	1.5
	1005	0.6		0922	0.7
	1618	1.8		1544	1.7
	2243	0.6		2205	0.7
6 Sa ●	0453	1.6	**21** Su ❍	0415	1.6
	1058	0.6		1013	0.7
	1709	1.7		1634	1.7
	2339	0.7		2300	0.7
7 Su	0546	1.6	**22** Mo	0508	1.6
	1150	0.7		1106	0.7
	1800	1.7		1726	1.7
				2357	0.6
8 Mo	0033	0.7	**23** Tu	0601	1.6
	0636	1.6		1201	0.6
	1240	0.7		1821	1.8
	1850	1.7			
9 Tu	0125	0.7	**24** We	0053	0.6
	0725	1.6		0654	1.6
	1330	0.7		1257	0.6
	1939	1.7		1916	1.8
10 We	0214	0.7	**25** Th	0149	0.6
	0812	1.5		0747	1.7
	1418	0.7		1355	0.6
	2028	1.6		2013	1.8
11 Th	0301	0.7	**26** Fr	0244	0.6
	0858	1.5		0841	1.7
	1507	0.7		1453	0.6
	2116	1.6		2111	1.8
12 Fr	0344	0.7	**27** Sa	0337	0.6
	0943	1.5		0935	1.7
	1554	0.8		1552	0.6
	2203	1.6		2209	1.7
13 Sa	0426	0.7	**28** Su	0430	0.6
	1028	1.5		1031	1.8
	1641	0.8		1651	0.6
	2248	1.5		2306	1.7
14 Su	0506	0.8	**29** Mo	0523	0.6
	1112	1.5		1128	1.8
	1726	0.8		1749	0.6
	2332	1.5			
15 Mo	0545	0.8	**30** Tu	0002	1.7
	1155	1.5		0615	0.6
	1811	0.8		1225	1.8
				1846	0.6
			31 We	0058	1.7
				0708	0.6
				1321	1.8
				1942	0.6

August

	Time	m		Time	m
1 Th	0153	1.6	**16** Fr	0109	1.5
	0801	0.6		0712	0.7
	1415	1.8		1334	1.7
	2036	0.6		1950	0.7
2 Fr	0247	1.6	**17** Sa	0157	1.5
	0853	0.6		0758	0.7
	1507	1.8		1422	1.7
	2129	0.7		2038	0.7
3 Sa	0340	1.6	**18** Su	0248	1.6
	0945	0.7		0848	0.7
	1557	1.7		1512	1.7
	2221	0.7		2130	0.7
4 Su ●	0431	1.6	**19** Mo	0342	1.6
	1035	0.7		0942	0.6
	1646	1.7		1605	1.8
	2313	0.7		2227	0.6
5 Mo	0521	1.5	**20** Tu ❍	0437	1.6
	1124	0.7		1039	0.6
	1734	1.7		1701	1.8
				2326	0.6
6 Tu	0004	0.7	**21** We	0533	1.7
	0609	1.5		1138	0.6
	1212	0.7		1758	1.8
	1821	1.6			
7 We	0054	0.8	**22** Th	0025	0.6
	0656	1.5		0629	1.7
	1301	0.7		1238	0.5
	1909	1.6		1857	1.8
8 Th	0142	0.8	**23** Fr	0124	0.6
	0741	1.5		0725	1.7
	1349	0.8		1339	0.5
	1957	1.6		1956	1.8
9 Fr	0227	0.8	**24** Sa	0221	0.6
	0826	1.5		0821	1.8
	1438	0.8		1440	0.5
	2044	1.5		2055	1.8
10 Sa	0310	0.8	**25** Su	0317	0.6
	0910	1.5		0918	1.8
	1525	0.8		1541	0.5
	2130	1.5		2153	1.8
11 Su	0352	0.8	**26** Mo	0411	0.6
	0954	1.5		1015	1.8
	1612	0.8		1640	0.5
	2215	1.5		2250	1.7
12 Mo	0432	0.8	**27** Tu	0505	0.6
	1037	1.5		1112	1.8
	1657	0.8		1737	0.5
	2258	1.5		2346	1.7
13 Tu	0510	0.8	**28** We	0558	0.6
	1120	1.6		1208	1.8
	1740	0.7		1831	0.6
	2341	1.5			
14 We	0549	0.8	**29** Th	0040	1.7
	1204	1.6		0650	0.6
	1823	0.7		1303	1.8
				1924	0.6
15 Th	0024	1.5	**30** Fr	0133	1.6
	0630	0.7		0742	0.6
	1248	1.6		1355	1.7
	1906	0.7		2015	0.6
			31 Sa	0225	1.6
				0832	0.7
				1445	1.7
				2104	0.7

September

	Time	m		Time	m
1 Su	0316	1.6	**16** Mo	0215	1.6
	0921	0.7		0818	0.6
	1533	1.7		1443	1.7
	2153	0.7		2058	0.6
2 Mo	0405	1.5	**17** Tu	0311	1.6
	1010	0.7		0915	0.6
	1619	1.6		1539	1.8
	2242	0.8		2156	0.6
3 Tu ●	0453	1.5	**18** We ❍	0409	1.7
	1058	0.7		1015	0.6
	1706	1.6		1638	1.8
	2331	0.8		2257	0.6
4 We	0540	1.5	**19** Th	0508	1.7
	1146	0.8		1118	0.5
	1753	1.6		1738	1.8
				2359	0.6
5 Th	0020	0.8	**20** Fr	0606	1.8
	0626	1.5		1221	0.5
	1234	0.8		1839	1.8
	1841	1.5			
6 Fr	0108	0.8	**21** Sa	0100	0.6
	0711	1.5		0704	1.8
	1324	0.8		1325	0.5
	1929	1.5		1939	1.8
7 Sa	0153	0.8	**22** Su	0158	0.6
	0755	1.5		0802	1.8
	1412	0.8		1427	0.5
	2016	1.5		2038	1.8
8 Su	0237	0.8	**23** Mo	0255	0.5
	0839	1.5		0859	1.8
	1500	0.8		1527	0.5
	2102	1.5		2135	1.7
9 Mo	0318	0.8	**24** Tu	0349	0.5
	0922	1.5		0956	1.8
	1546	0.8		1624	0.5
	2145	1.5		2231	1.7
10 Tu	0357	0.8	**25** We	0443	0.6
	1004	1.6		1052	1.8
	1629	0.7		1719	0.5
	2227	1.5		2324	1.7
11 We	0436	0.8	**26** Th	0535	0.6
	1046	1.6		1147	1.8
	1711	0.7		1810	0.6
	2309	1.5			
12 Th	0514	0.7	**27** Fr	0017	1.6
	1129	1.6		0626	0.6
	1752	0.7		1240	1.8
	2351	1.5		1859	0.6
13 Fr	0555	0.7	**28** Sa	0108	1.6
	1214	1.7		0717	0.6
	1834	0.7		1330	1.7
				1947	0.7
14 Sa	0035	1.6	**29** Su	0158	1.6
	0638	0.7		0806	0.7
	1301	1.7		1418	1.7
	1918	0.7		2033	0.7
15 Su	0123	1.6	**30** Mo	0247	1.5
	0726	0.7		0854	0.7
	1350	1.7		1504	1.6
	2006	0.6		2119	0.8

October

	Time	m		Time	m
1 Tu	0335	1.5	**16** We	0244	1.7
	0942	0.8		0853	0.6
	1550	1.6		1517	1.7
	2206	0.8		2129	0.6
2 We	0423	1.5	**17** Th ❍	0344	1.7
	1030	0.8		0956	0.6
	1637	1.5		1618	1.7
	2255	0.8		2232	0.6
3 Th ●	0509	1.5	**18** Fr	0445	1.8
	1119	0.8		1101	0.5
	1725	1.5		1720	1.7
	2344	0.8		2335	0.6
4 Fr	0555	1.5	**19** Sa	0545	1.8
	1209	0.8		1206	0.5
	1814	1.5		1821	1.7
5 Sa	0033	0.8	**20** Su	0036	0.6
	0639	1.5		0643	1.8
	1259	0.8		1310	0.5
	1902	1.5		1921	1.7
6 Su	0119	0.8	**21** Mo	0135	0.6
	0723	1.5		0741	1.9
	1348	0.8		1411	0.5
	1949	1.5		2018	1.7
7 Mo	0202	0.8	**22** Tu	0231	0.5
	0807	1.5		0838	1.9
	1436	0.8		1509	0.5
	2034	1.5		2114	1.7
8 Tu	0243	0.8	**23** We	0325	0.5
	0849	1.6		0934	1.8
	1520	0.7		1604	0.5
	2116	1.5		2207	1.7
9 We	0323	0.8	**24** Th	0417	0.6
	0932	1.6		1028	1.8
	1603	0.7		1656	0.5
	2157	1.5		2259	1.7
10 Th	0402	0.8	**25** Fr	0509	0.6
	1014	1.6		1121	1.8
	1643	0.7		1744	0.6
	2238	1.5		2349	1.6
11 Fr	0441	0.7	**26** Sa	0559	0.6
	1058	1.7		1212	1.7
	1724	0.7		1830	0.6
	2320	1.6			
12 Sa	0523	0.7	**27** Su	0037	1.6
	1144	1.7		0648	0.7
	1805	0.6		1300	1.7
				1914	0.7
13 Su	0005	1.6	**28** Mo	0126	1.6
	0609	0.7		0735	0.7
	1232	1.7		1346	1.6
	1849	0.6		1957	0.7
14 Mo	0053	1.6	**29** Tu	0214	1.5
	0659	0.6		0823	0.8
	1323	1.7		1432	1.6
	1937	0.6		2040	0.8
15 Tu	0147	1.7	**30** We	0301	1.5
	0754	0.6		0910	0.8
	1418	1.7		1518	1.5
	2031	0.6		2126	0.8
			31 Th	0348	1.5
				0959	0.8
				1605	1.5
				2214	0.8

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Wellington

Lat. 41° 17´S., Long. 174° 47´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0435	1.5	**16** Sa ❍	0425	1.8
	1049	0.8		1045	0.6
	1654	1.5		1701	1.7
	2305	0.8		2312	0.6
2 Sa ●	0520	1.5	**17** Su	0524	1.8
	1140	0.8		1150	0.5
	1744	1.5		1802	1.7
	2354	0.8			
3 Su	0605	1.5	**18** Mo	0012	0.6
	1231	0.8		0622	1.8
	1833	1.5		1252	0.5
				1900	1.7
4 Mo	0041	0.8	**19** Tu	0110	0.6
	0649	1.6		0718	1.8
	1321	0.8		1352	0.5
	1920	1.5		1956	1.7
5 Tu	0125	0.8	**20** We	0205	0.6
	0733	1.6		0814	1.8
	1408	0.7		1448	0.5
	2004	1.5		2049	1.7
6 We	0208	0.8	**21** Th	0258	0.6
	0817	1.6		0908	1.8
	1453	0.7		1540	0.6
	2047	1.5		2140	1.7
7 Th	0249	0.8	**22** Fr	0349	0.6
	0901	1.6		1001	1.8
	1536	0.7		1629	0.6
	2129	1.5		2230	1.6
8 Fr	0330	0.7	**23** Sa	0440	0.6
	0945	1.7		1052	1.7
	1617	0.7		1715	0.6
	2211	1.6		2318	1.6
9 Sa	0413	0.7	**24** Su	0528	0.7
	1031	1.7		1140	1.7
	1659	0.6		1758	0.7
	2254	1.6			
10 Su	0458	0.7	**25** Mo	0005	1.6
	1119	1.7		0616	0.7
	1741	0.6		1227	1.6
	2340	1.6		1839	0.7
11 Mo	0547	0.6	**26** Tu	0051	1.6
	1209	1.7		0702	0.7
	1826	0.6		1311	1.6
				1919	0.7
12 Tu	0030	1.7	**27** We	0137	1.5
	0639	0.6		0748	0.8
	1302	1.7		1356	1.5
	1915	0.6		2001	0.8
13 We	0125	1.7	**28** Th	0223	1.5
	0736	0.6		0834	0.8
	1358	1.7		1441	1.5
	2009	0.6		2045	0.8
14 Th	0223	1.7	**29** Fr	0309	1.5
	0836	0.6		0922	0.8
	1458	1.7		1529	1.5
	2107	0.6		2132	0.8
15 Fr	0324	1.8	**30** Sa	0355	1.5
	0940	0.6		1013	0.8
	1559	1.7		1619	1.5
	2210	0.6		2222	0.8

December

	Time	m		Time	m
1 Su ●	0441	1.6	**16** Mo	0502	1.8
	1104	0.8		1130	0.6
	1710	1.5		1741	1.6
	2311	0.8		2347	0.6
2 Mo	0527	1.6	**17** Tu	0559	1.8
	1157	0.8		1231	0.6
	1759	1.5		1837	1.6
3 Tu	0000	0.8	**18** We	0043	0.6
	0612	1.6		0654	1.8
	1248	0.7		1329	0.6
	1847	1.5		1930	1.6
4 We	0046	0.8	**19** Th	0137	0.6
	0658	1.6		0748	1.8
	1337	0.7		1423	0.6
	1933	1.5		2022	1.6
5 Th	0132	0.7	**20** Fr	0230	0.6
	0745	1.7		0840	1.7
	1424	0.7		1513	0.6
	2017	1.5		2111	1.6
6 Fr	0217	0.7	**21** Sa	0320	0.7
	0832	1.7		0932	1.7
	1509	0.7		1600	0.6
	2101	1.6		2159	1.6
7 Sa	0303	0.7	**22** Su	0410	0.7
	0920	1.7		1021	1.7
	1553	0.6		1644	0.7
	2146	1.6		2246	1.6
8 Su	0350	0.7	**23** Mo	0458	0.7
	1009	1.7		1107	1.6
	1637	0.6		1725	0.7
	2233	1.6		2331	1.6
9 Mo	0440	0.6	**24** Tu	0544	0.7
	1100	1.7		1152	1.6
	1721	0.6		1804	0.7
	2322	1.7			
10 Tu	0532	0.6	**25** We	0016	1.6
	1152	1.7		0629	0.8
	1808	0.6		1235	1.5
				1843	0.7
11 We	0014	1.7	**26** Th	0100	1.5
	0627	0.6		0713	0.8
	1246	1.7		1318	1.5
	1858	0.6		1923	0.8
12 Th	0109	1.7	**27** Fr	0144	1.5
	0724	0.6		0757	0.8
	1343	1.7		1403	1.5
	1952	0.6		2005	0.8
13 Fr	0207	1.8	**28** Sa	0229	1.6
	0823	0.6		0843	0.8
	1442	1.7		1450	1.5
	2049	0.6		2050	0.8
14 Sa	0306	1.8	**29** Su	0314	1.6
	0925	0.6		0931	0.8
	1542	1.7		1539	1.5
	2149	0.6		2137	0.8
15 Su ❍	0405	1.8	**30** Mo	0359	1.6
	1028	0.6		1022	0.8
	1642	1.6		1630	1.5
	2249	0.6		2227	0.8
			31 Tu ●	0446	1.6
				1115	0.7
				1721	1.5
				2317	0.8

January

	Time	m		Time	m
1 We	0535	1.6	**16** Th	0016	0.7
	1208	0.7		0627	1.7
	1810	1.5		1301	0.7
				1903	1.6
2 Th	0007	0.7	**17** Fr	0109	0.7
	0624	1.7		0719	1.7
	1301	0.7		1354	0.7
	1859	1.5		1953	1.6
3 Fr	0058	0.7	**18** Sa	0201	0.7
	0715	1.7		0811	1.6
	1352	0.7		1443	0.7
	1947	1.6		2041	1.6
4 Sa	0149	0.7	**19** Su	0251	0.7
	0806	1.7		0901	1.6
	1441	0.7		1529	0.7
	2035	1.6		2128	1.6
5 Su	0241	0.6	**20** Mo	0341	0.7
	0859	1.7		0949	1.6
	1530	0.6		1612	0.7
	2124	1.7		2214	1.6
6 Mo	0334	0.6	**21** Tu	0428	0.7
	0952	1.7		1034	1.6
	1617	0.6		1652	0.7
	2215	1.7		2258	1.6
7 Tu	0428	0.6	**22** We	0513	0.8
	1045	1.7		1118	1.5
	1705	0.6		1730	0.7
	2307	1.7		2341	1.6
8 We	0523	0.6	**23** Th	0557	0.8
	1139	1.7		1200	1.5
	1754	0.6		1808	0.7
9 Th	0001	1.7	**24** Fr	0023	1.6
	0619	0.6		0638	0.8
	1234	1.7		1241	1.5
	1845	0.6		1847	0.8
10 Fr	0057	1.8	**25** Sa	0106	1.6
	0715	0.6		0720	0.7
	1330	1.7		1324	1.5
	1938	0.6		1927	0.8
11 Sa	0153	1.8	**26** Su	0148	1.6
	0812	0.6		0803	0.7
	1426	1.6		1409	1.5
	2033	0.6		2009	0.7
12 Su	0250	1.8	**27** Mo	0232	1.6
	0910	0.6		0848	0.7
	1524	1.6		1457	1.5
	2130	0.6		2055	0.7
13 Mo	0345	1.8	**28** Tu	0319	1.6
	1008	0.6		0937	0.7
	1621	1.6		1548	1.5
	2226	0.6		2144	0.7
14 Tu ❍	0440	1.8	**29** We	0407	1.7
	1107	0.7		1030	0.7
	1717	1.6		1640	1.5
	2321	0.6		2236	0.7
15 We	0534	1.7	**30** Th ●	0458	1.7
	1205	0.7		1127	0.7
	1811	1.6		1733	1.6
				2331	0.7
			31 Fr	0552	1.7
				1224	0.7
				1826	1.6

February

	Time	m		Time	m
1 Sa	0028	0.7	**16** Su	0132	0.8
	0647	1.7		0740	1.6
	1320	0.7		1410	0.8
	1918	1.6		2009	1.5
2 Su	0125	0.6	**17** Mo	0223	0.8
	0744	1.7		0830	1.5
	1414	0.6		1455	0.8
	2011	1.7		2056	1.5
3 Mo	0223	0.6	**18** Tu	0313	0.8
	0841	1.7		0917	1.5
	1507	0.6		1538	0.8
	2105	1.7		2141	1.5
4 Tu	0321	0.6	**19** We	0400	0.8
	0937	1.7		1002	1.5
	1559	0.6		1618	0.8
	2159	1.7		2224	1.5
5 We	0419	0.6	**20** Th	0445	0.8
	1033	1.7		1045	1.5
	1650	0.6		1656	0.8
	2254	1.8		2306	1.6
6 Th	0515	0.6	**21** Fr	0526	0.7
	1127	1.7		1126	1.5
	1741	0.6		1733	0.8
	2349	1.8		2347	1.6
7 Fr	0611	0.6	**22** Sa	0606	0.7
	1222	1.7		1206	1.5
	1832	0.6		1811	0.7
8 Sa	0045	1.8	**23** Su	0028	1.6
	0705	0.6		0646	0.7
	1316	1.7		1247	1.5
	1924	0.6		1850	0.7
9 Su	0139	1.8	**24** Mo	0110	1.6
	0758	0.6		0726	0.7
	1410	1.6		1330	1.5
	2017	0.6		1932	0.7
10 Mo	0233	1.8	**25** Tu	0155	1.7
	0852	0.6		0809	0.7
	1504	1.6		1417	1.5
	2110	0.6		2017	0.7
11 Tu	0325	1.7	**26** We	0242	1.7
	0945	0.7		0857	0.7
	1558	1.6		1508	1.6
	2203	0.7		2107	0.7
12 We	0416	1.7	**27** Th	0332	1.7
	1040	0.7		0949	0.7
	1651	1.5		1602	1.6
	2256	0.7		2202	0.6
13 Th ❍	0507	1.7	**28** Fr ●	0427	1.7
	1135	0.7		1047	0.7
	1743	1.5		1659	1.6
	2348	0.7		2301	0.6
14 Fr	0558	1.6			
	1229	0.8			
	1833	1.5			
15 Sa	0040	0.7			
	0649	1.6			
	1321	0.8			
	1922	1.5			

Remember to add 1 hour for Daylight Saving Time.

Standard Ports

Wellington

Lat. 41˚ 17´ S., Long. 174˚ 47´ E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0524	1.7	**16** Su	0013	0.8
	1148	0.7		0620	1.5
	1755	1.7		1244	0.8
				1850	1.5
2 Su	0002	0.6	**17** Mo	0105	0.8
	0623	1.7		0710	1.5
	1249	0.6		1333	0.8
	1852	1.7		1937	1.5
3 Mo	0105	0.6	**18** Tu	0156	0.8
	0724	1.7		0759	1.5
	1348	0.6		1419	0.8
	1949	1.7		2022	1.5
4 Tu	0208	0.6	**19** We	0246	0.8
	0823	1.7		0846	1.5
	1444	0.6		1501	0.8
	2046	1.8		2107	1.5
5 We	0309	0.5	**20** Th	0333	0.8
	0922	1.7		0931	1.5
	1539	0.6		1542	0.8
	2143	1.8		2149	1.6
6 Th	0408	0.5	**21** Fr	0416	0.7
	1018	1.7		1012	1.5
	1632	0.6		1620	0.8
	2239	1.8		2231	1.6
7 Fr	0505	0.5	**22** Sa	0457	0.7
	1113	1.7		1052	1.5
	1725	0.6		1658	0.8
	2335	1.8		2312	1.6
8 Sa	0559	0.5	**23** Su	0535	0.7
	1207	1.7		1132	1.5
	1817	0.6		1736	0.7
				2353	1.6
9 Su	0030	1.8	**24** Mo	0614	0.7
	0651	0.6		1212	1.5
	1259	1.6		1815	0.7
	1908	0.6			
10 Mo	0123	1.8	**25** Tu	0036	1.7
	0741	0.6		0653	0.7
	1351	1.6		1256	1.6
	1959	0.6		1859	0.7
11 Tu	0213	1.7	**26** We	0122	1.7
	0830	0.7		0736	0.7
	1442	1.6		1343	1.6
	2050	0.7		1946	0.6
12 We	0303	1.7	**27** Th	0210	1.7
	0919	0.7		0823	0.7
	1533	1.5		1435	1.6
	2140	0.7		2038	0.6
13 Th	0351	1.6	**28** Fr	0303	1.7
	1010	0.8		0916	0.6
	1624	1.5		1531	1.6
	2230	0.7		2136	0.6
14 Fr ❍	0440	1.6	**29** Sa ●	0400	1.7
	1101	0.8		1015	0.6
	1713	1.5		1630	1.7
	2321	0.8		2238	0.6
15 Sa	0529	1.6	**30** Su	0501	1.7
	1153	0.8		1118	0.6
	1802	1.5		1729	1.7
				2343	0.6
			31 Mo	0603	1.7
				1221	0.6
				1829	1.8

April

	Time	m		Time	m
1 Tu	0048	0.6	**16** We	0129	0.8
	0704	1.7		0729	1.5
	1322	0.6		1340	0.8
	1927	1.8		1947	1.5
2 We	0153	0.5	**17** Th	0218	0.8
	0805	1.7		0815	1.5
	1421	0.6		1423	0.8
	2026	1.8		2031	1.5
3 Th	0255	0.5	**18** Fr	0304	0.8
	0903	1.7		0859	1.5
	1517	0.6		1504	0.8
	2124	1.8		2114	1.6
4 Fr	0354	0.5	**19** Sa	0347	0.7
	1000	1.7		0940	1.5
	1612	0.6		1543	0.8
	2221	1.8		2156	1.6
5 Sa	0450	0.5	**20** Su	0427	0.7
	1054	1.7		1020	1.5
	1705	0.6		1622	0.8
	2317	1.8		2238	1.6
6 Su	0542	0.5	**21** Mo	0506	0.7
	1147	1.7		1100	1.5
	1758	0.6		1702	0.7
				2321	1.6
7 Mo	0011	1.8	**22** Tu	0545	0.7
	0632	0.6		1142	1.6
	1239	1.6		1745	0.7
	1849	0.6			
8 Tu	0103	1.7	**23** We	0006	1.7
	0720	0.6		0625	0.7
	1329	1.6		1226	1.6
	1939	0.7		1831	0.7
9 We	0152	1.7	**24** Th	0054	1.7
	0806	0.7		0708	0.6
	1419	1.6		1315	1.6
	2028	0.7		1922	0.6
10 Th	0239	1.6	**25** Fr	0145	1.7
	0851	0.7		0757	0.6
	1508	1.5		1409	1.7
	2117	0.7		2017	0.6
11 Fr	0326	1.6	**26** Sa	0240	1.7
	0938	0.8		0850	0.6
	1556	1.5		1507	1.7
	2205	0.8		2116	0.6
12 Sa	0413	1.5	**27** Su	0339	1.7
	1026	0.8		0950	0.6
	1644	1.5		1607	1.7
	2255	0.8		2220	0.6
13 Su ❍	0501	1.5	**28** Mo ●	0441	1.7
	1115	0.8		1053	0.6
	1730	1.5		1707	1.8
	2346	0.8		2326	0.5
14 Mo	0551	1.5	**29** Tu	0544	1.7
	1205	0.8		1156	0.6
	1816	1.5		1807	1.8
15 Tu	0037	0.8	**30** We	0032	0.5
	0640	1.5		0645	1.7
	1254	0.8		1257	0.6
	1902	1.5		1906	1.8

May

	Time	m		Time	m
1 Th	0136	0.5	**16** Fr	0147	0.8
	0745	1.7		0743	1.5
	1356	0.6		1344	0.8
	2005	1.9		1954	1.6
2 Fr	0237	0.5	**17** Sa	0233	0.7
	0842	1.7		0826	1.5
	1453	0.6		1426	0.8
	2103	1.8		2038	1.6
3 Sa	0335	0.5	**18** Su	0317	0.7
	0938	1.7		0908	1.5
	1548	0.6		1508	0.8
	2200	1.8		2123	1.6
4 Su	0430	0.5	**19** Mo	0358	0.7
	1031	1.7		0949	1.5
	1642	0.6		1550	0.7
	2255	1.8		2208	1.6
5 Mo	0521	0.6	**20** Tu	0438	0.7
	1124	1.7		1031	1.6
	1735	0.6		1634	0.7
	2349	1.7		2254	1.7
6 Tu	0609	0.6	**21** We	0519	0.7
	1215	1.6		1115	1.6
	1827	0.6		1721	0.7
				2342	1.7
7 We	0039	1.7	**22** Th	0601	0.6
	0655	0.7		1203	1.6
	1305	1.6		1811	0.6
	1917	0.7			
8 Th	0128	1.6	**23** Fr	0032	1.7
	0739	0.7		0647	0.6
	1354	1.6		1255	1.7
	2005	0.7		1905	0.6
9 Fr	0214	1.6	**24** Sa	0126	1.7
	0822	0.8		0737	0.6
	1441	1.5		1350	1.7
	2052	0.8		2002	0.6
10 Sa	0259	1.5	**25** Su	0223	1.7
	0906	0.8		0832	0.6
	1528	1.5		1449	1.8
	2139	0.8		2103	0.6
11 Su	0345	1.5	**26** Mo	0323	1.7
	0951	0.8		0931	0.6
	1613	1.5		1548	1.8
	2228	0.8		2206	0.6
12 Mo	0433	1.5	**27** Tu ●	0424	1.7
	1039	0.8		1032	0.6
	1658	1.5		1648	1.8
	2317	0.8		2310	0.5
13 Tu ❍	0521	1.5	**28** We	0525	1.7
	1127	0.8		1134	0.6
	1742	1.5		1746	1.9
14 We	0008	0.8	**29** Th	0015	0.5
	0610	1.5		0625	1.7
	1214	0.8		1233	0.6
	1826	1.5		1844	1.9
15 Th	0058	0.8	**30** Fr	0117	0.5
	0657	1.5		0723	1.7
	1300	0.8		1331	0.6
	1910	1.6		1942	1.8
			31 Sa	0216	0.5
				0819	1.7
				1427	0.6
				2039	1.8

June

	Time	m		Time	m
1 Su	0313	0.6	**16** Mo	0246	0.7
	0913	1.7		0837	1.5
	1522	0.6		1437	0.7
	2135	1.8		2054	1.6
2 Mo	0405	0.6	**17** Tu	0329	0.7
	1005	1.7		0921	1.6
	1617	0.6		1524	0.7
	2230	1.7		2143	1.7
3 Tu	0455	0.6	**18** We	0413	0.7
	1057	1.6		1007	1.6
	1710	0.6		1613	0.7
	2322	1.7		2232	1.7
4 We	0542	0.6	**19** Th	0457	0.7
	1148	1.6		1055	1.6
	1801	0.7		1705	0.7
				2324	1.7
5 Th	0012	1.6	**20** Fr	0542	0.6
	0627	0.7		1146	1.7
	1237	1.6		1759	0.6
	1851	0.7			
6 Fr	0100	1.6	**21** Sa	0017	1.7
	0709	0.7		0630	0.6
	1326	1.6		1240	1.7
	1938	0.7		1854	0.6
7 Sa	0145	1.5	**22** Su	0112	1.7
	0751	0.8		0722	0.6
	1412	1.6		1337	1.8
	2024	0.8		1952	0.6
8 Su	0230	1.5	**23** Mo	0209	1.7
	0833	0.8		0817	0.6
	1457	1.5		1435	1.8
	2110	0.8		2051	0.6
9 Mo	0316	1.5	**24** Tu	0308	1.7
	0917	0.8		0915	0.6
	1540	1.6		1532	1.8
	2157	0.8		2153	0.6
10 Tu	0402	1.5	**25** We ●	0408	1.7
	1003	0.8		1014	0.6
	1623	1.6		1630	1.8
	2245	0.8		2254	0.6
11 We ❍	0450	1.5	**26** Th	0507	1.7
	1049	0.8		1113	0.6
	1707	1.6		1726	1.8
	2334	0.8		2355	0.6
12 Th	0537	1.5	**27** Fr	0604	1.7
	1135	0.8		1210	0.6
	1750	1.6		1822	1.8
13 Fr	0024	0.8	**28** Sa	0055	0.6
	0624	1.5		0700	1.7
	1221	0.8		1306	0.6
	1835	1.6		1918	1.8
14 Sa	0113	0.8	**29** Su	0152	0.6
	0709	1.5		0753	1.7
	1306	0.8		1402	0.6
	1920	1.6		2013	1.8
15 Su	0200	0.7	**30** Mo	0247	0.6
	0753	1.5		0846	1.6
	1351	0.8		1456	0.6
	2007	1.6		2108	1.7

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Standard Ports

Westport

Lat. 41˚45´S., Long. 171˚36´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024**

July

	Time	m		Time	m
1 Mo	0617 1232 1849	3.2 1.0 3.1	**16** Tu	0600 1215 1832	2.8 1.4 2.8
2 Tu	0101 0719 1332 1950	1.0 3.2 1.0 3.2	**17** We	0047 0659 1314 1932	1.4 2.9 1.3 2.9
3 We	0201 0818 1431 2048	1.0 3.3 1.0 3.2	**18** Th	0144 0756 1411 2027	1.3 3.0 1.2 3.0
4 Th	0257 0914 1525 2141	0.9 3.3 1.0 3.3	**19** Fr	0237 0850 1504 2117	1.2 3.1 1.1 3.2
5 Fr	0349 1006 1615 2229	0.9 3.3 0.9 3.4	**20** Sa	0327 0941 1552 2204	1.0 3.2 1.0 3.3
6 Sa ●	0438 1055 1700 2313	0.8 3.3 0.9 3.4	**21** Su ❍	0414 1030 1638 2249	0.8 3.3 0.8 3.5
7 Su	0523 1139 1742 2354	0.8 3.3 0.9 3.4	**22** Mo	0501 1116 1723 2334	0.7 3.4 0.7 3.6
8 Mo	0606 1220 1822	0.8 3.2 0.9	**23** Tu	0547 1202 1807	0.6 3.5 0.6
9 Tu	0034 0647 1259 1901	3.3 0.9 3.2 0.9	**24** We	0019 0633 1248 1852	3.6 0.5 3.5 0.6
10 We	0113 0727 1338 1940	3.2 0.9 3.1 1.0	**25** Th	0105 0721 1335 1939	3.6 0.5 3.5 0.6
11 Th	0152 0807 1417 2020	3.1 1.0 3.0 1.1	**26** Fr	0154 0810 1423 2029	3.5 0.6 3.4 0.7
12 Fr	0234 0849 1458 2103	3.0 1.1 2.9 1.2	**27** Sa	0247 0903 1516 2124	3.4 0.8 3.3 0.9
13 Sa	0318 0933 1543 2151	3.0 1.2 2.9 1.3	**28** Su	0345 1000 1615 2227	3.3 0.9 3.1 1.0
14 Su	0408 1022 1634 2246	2.9 1.3 2.8 1.4	**29** Mo	0449 1103 1721 2336	3.2 1.1 3.0 1.1
15 Mo	0502 1117 1731 2346	2.8 1.4 2.8 1.4	**30** Tu	0557 1210 1831	3.1 1.2 3.0
			31 We	0046 0705 1318 1939	1.2 3.0 1.2 3.0

August

	Time	m		Time	m
1 Th	0152 0811 1422 2041	1.1 3.0 1.1 3.1	**16** Fr	0116 0730 1345 2002	1.3 2.9 1.3 2.9
2 Fr	0251 0910 1517 2133	1.0 3.1 1.1 3.2	**17** Sa	0215 0830 1442 2055	1.1 3.0 1.1 3.1
3 Sa	0342 1000 1604 2218	0.9 3.2 1.0 3.3	**18** Su	0307 0923 1531 2143	0.9 3.2 0.8 3.4
4 Su ●	0426 1043 1645 2257	0.9 3.2 0.9 3.3	**19** Mo	0355 1011 1617 2229	0.6 3.4 0.6 3.5
5 Mo	0506 1120 1722 2332	0.8 3.2 0.8 3.3	**20** Tu ❍	0441 1056 1701 2313	0.5 3.5 0.5 3.7
6 Tu	0543 1155 1756	0.8 3.2 0.8	**21** We	0526 1140 1745 2357	0.3 3.6 0.4 3.7
7 We	0006 0617 1228 1830	3.3 0.8 3.2 0.8	**22** Th	0611 1224 1829	0.3 3.6 0.4
8 Th	0039 0652 1300 1903	3.3 0.8 3.2 0.9	**23** Fr	0043 0657 1309 1915	3.7 0.4 3.6 0.5
9 Fr	0113 0726 1334 1938	3.2 0.9 3.1 1.0	**24** Sa	0130 0745 1356 2003	3.6 0.5 3.4 0.6
10 Sa	0148 0802 1409 2014	3.1 1.0 3.0 1.1	**25** Su	0222 0836 1448 2059	3.4 0.7 3.3 0.9
11 Su	0227 0841 1448 2056	3.0 1.1 2.9 1.2	**26** Mo	0320 0933 1548 2203	3.2 1.0 3.1 1.1
12 Mo	0311 0925 1535 2147	2.9 1.3 2.8 1.4	**27** Tu	0427 1039 1700 2319	3.0 1.2 2.9 1.2
13 Tu	0405 1020 1635 2253	2.8 1.4 2.7 1.4	**28** We	0542 1154 1818	2.9 1.3 2.9
14 We	0511 1127 1747	2.7 1.4 2.7	**29** Th	0036 0657 1309 1932	1.2 2.9 1.3 2.9
15 Th	0007 0623 1239 1859	1.4 2.8 1.4 2.8	**30** Fr	0145 0806 1413 2033	1.2 2.9 1.2 3.0
			31 Sa	0242 0901 1505 2120	1.1 3.0 1.1 3.1

September

	Time	m		Time	m
1 Su	0328 0945 1547 2159	0.9 3.1 0.9 3.2	**16** Mo	0244 0900 1507 2119	0.7 3.2 0.7 3.4
2 Mo	0407 1022 1623 2233	0.8 3.1 0.8 3.3	**17** Tu	0332 0947 1553 2204	0.5 3.4 0.5 3.6
3 Tu ●	0442 1054 1655 2304	0.7 3.2 0.8 3.3	**18** We ❍	0417 1032 1637 2249	0.3 3.6 0.3 3.8
4 We	0514 1124 1726 2334	0.7 3.3 0.7 3.3	**19** Th	0502 1115 1720 2333	0.2 3.7 0.3 3.8
5 Th	0545 1154 1757	0.7 3.3 0.7	**20** Fr	0547 1159 1805	0.2 3.7 0.3
6 Fr	0005 0616 1224 1828	3.3 0.7 3.2 0.8	**21** Sa	0019 0632 1244 1851	3.7 0.3 3.6 0.4
7 Sa	0036 0648 1255 1900	3.2 0.8 3.2 0.9	**22** Su	0106 0719 1330 1940	3.6 0.5 3.4 0.6
8 Su	0109 0722 1328 1934	3.1 0.9 3.1 1.0	**23** Mo	0158 0810 1423 2036	3.4 0.8 3.2 0.9
9 Mo	0144 0758 1404 2013	3.0 1.1 2.9 1.2	**24** Tu	0257 0908 1525 2144	3.1 1.0 3.0 1.1
10 Tu	0226 0839 1447 2102	2.9 1.2 2.8 1.3	**25** We	0408 1018 1642 2303	2.9 1.2 2.8 1.2
11 We	0319 0933 1547 2211	2.8 1.3 2.7 1.4	**26** Th	0527 1137 1804	2.8 1.3 2.8
12 Th	0431 1047 1710 2335	2.7 1.4 2.6 1.4	**27** Fr	0022 0643 1252 1916	1.3 2.7 1.3 2.8
13 Fr	0554 1209 1831	2.7 1.4 2.7	**28** Sa	0129 0748 1354 2012	1.2 2.8 1.2 2.9
14 Sa	0050 0707 1320 1937	1.2 2.8 1.2 2.9	**29** Su	0222 0839 1442 2055	1.1 2.9 1.1 3.0
15 Su	0151 0808 1417 2031	1.0 3.0 1.0 3.2	**30** Mo	0303 0918 1520 2130	0.9 3.0 0.9 3.1

October

	Time	m		Time	m
1 Tu	0339 0952 1553 2202	0.8 3.1 0.8 3.2	**16** We	0306 0921 1527 2139	0.4 3.4 0.4 3.6
2 We	0411 1022 1624 2232	0.7 3.2 0.7 3.3	**17** Th ❍	0352 1006 1612 2225	0.3 3.6 0.3 3.7
3 Th ●	0442 1052 1655 2302	0.7 3.3 0.7 3.3	**18** Fr	0438 1051 1657 2311	0.2 3.7 0.3 3.7
4 Fr	0513 1122 1726 2333	0.7 3.3 0.7 3.3	**19** Sa	0524 1136 1743 2357	0.3 3.7 0.3 3.7
5 Sa	0545 1153 1757	0.7 3.2 0.8	**20** Su	0610 1221 1830	0.4 3.6 0.5
6 Su	0005 0617 1224 1830	3.2 0.8 3.2 0.9	**21** Mo	0046 0658 1309 1921	3.5 0.6 3.4 0.7
7 Mo	0038 0651 1257 1905	3.1 0.9 3.1 1.0	**22** Tu	0139 0749 1402 2018	3.3 0.8 3.2 0.9
8 Tu	0115 0727 1333 1945	3.0 1.0 3.0 1.1	**23** We	0239 0846 1504 2125	3.0 1.0 3.0 1.1
9 We	0157 0810 1418 2036	2.9 1.2 2.8 1.2	**24** Th	0347 0953 1619 2240	2.8 1.2 2.8 1.2
10 Th	0252 0904 1518 2145	2.7 1.3 2.7 1.3	**25** Fr	0501 1108 1735 2353	2.7 1.3 2.7 1.2
11 Fr	0405 1018 1642 2308	2.7 1.3 2.7 1.3	**26** Sa	0611 1219 1841	2.7 1.3 2.8
12 Sa	0528 1140 1803	2.7 1.3 2.8	**27** Su	0055 0712 1318 1934	1.2 2.7 1.2 2.9
13 Su	0022 0640 1251 1908	1.1 2.8 1.1 3.0	**28** Mo	0145 0801 1405 2017	1.1 2.8 1.1 3.0
14 Mo	0124 0740 1349 2003	0.9 3.0 0.9 3.2	**29** Tu	0227 0841 1445 2054	1.0 2.9 1.0 3.1
15 Tu	0217 0832 1440 2052	0.6 3.2 0.6 3.4	**30** We	0303 0916 1520 2127	0.9 3.0 0.9 3.2
			31 Th	0338 0949 1553 2200	0.8 3.1 0.8 3.2

Remember to add 1 hour for Daylight Saving Time. Commences 29 September.

Westport

Lat. 41˚45´S., Long. 171˚36´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2024/25**

November

	Time	m		Time	m
1 Fr	0411 1021 1626 2233	0.8 3.2 0.8 3.3	**16** Sa ❍	0418 1031 1639 2253	0.4 3.6 0.4 3.6
2 Sa ●	0445 1054 1659 2307	0.7 3.2 0.8 3.3	**17** Su	0505 1117 1726 2342	0.4 3.6 0.4 3.5
3 Su	0519 1127 1733 2342	0.8 3.2 0.8 3.2	**18** Mo	0552 1204 1815	0.5 3.5 0.5
4 Mo	0553 1201 1808	0.8 3.2 0.8	**19** Tu	0032 0640 1253 1906	3.4 0.7 3.3 0.7
5 Tu	0018 0630 1236 1847	3.1 0.9 3.1 0.9	**20** We	0124 0730 1344 2001	3.2 0.8 3.2 0.9
6 We	0058 0709 1316 1931	3.0 1.0 3.0 1.0	**21** Th	0219 0823 1441 2100	3.0 1.0 3.0 1.0
7 Th	0144 0754 1403 2024	2.9 1.1 2.9 1.1	**22** Fr	0318 0921 1543 2203	2.8 1.2 2.8 1.2
8 Fr	0239 0848 1503 2129	2.8 1.2 2.8 1.1	**23** Sa	0419 1024 1648 2305	2.7 1.3 2.8 1.2
9 Sa	0347 0955 1617 2242	2.8 1.2 2.8 1.1	**24** Su	0520 1128 1748	2.7 1.3 2.7
10 Su	0459 1109 1731 2351	2.8 1.2 2.9 1.0	**25** Mo	0003 0617 1227 1842	1.2 2.7 1.3 2.8
11 Mo	0608 1218 1836	2.9 1.0 3.0	**26** Tu	0055 0709 1318 1929	1.2 2.7 1.2 2.9
12 Tu	0052 0709 1318 1933	0.8 3.0 0.8 3.2	**27** We	0141 0755 1403 2012	1.1 2.8 1.1 2.9
13 We	0148 0804 1412 2026	0.7 3.2 0.7 3.4	**28** Th	0223 0837 1444 2052	1.0 2.9 1.0 3.0
14 Th	0240 0855 1503 2116	0.5 3.4 0.5 3.5	**29** Fr	0304 0916 1522 2131	1.0 3.1 0.9 3.1
15 Fr	0330 0944 1551 2205	0.4 3.5 0.4 3.6	**30** Sa	0343 0954 1600 2209	0.9 3.1 0.9 3.2

December

	Time	m		Time	m
1 Su ●	0421 1031 1638 2248	0.8 3.2 0.8 3.2	**16** Mo	0453 1106 1716 2333	0.6 3.4 0.6 3.4
2 Mo	0459 1108 1716 2327	0.8 3.2 0.8 3.2	**17** Tu	0540 1152 1804	0.6 3.4 0.6
3 Tu	0537 1146 1755	0.8 3.2 0.8	**18** We	0021 0625 1238 1851	3.3 0.7 3.3 0.7
4 We	0008 0616 1225 1837	3.2 0.8 3.2 0.8	**19** Th	0107 0710 1324 1939	3.2 0.8 3.2 0.8
5 Th	0050 0657 1307 1922	3.1 0.9 3.1 0.9	**20** Fr	0153 0755 1410 2027	3.1 0.9 3.1 0.9
6 Fr	0136 0742 1354 2013	3.1 0.9 3.1 0.9	**21** Sa	0239 0842 1459 2116	2.9 1.0 2.9 1.1
7 Sa	0228 0833 1449 2110	3.0 1.0 3.0 0.9	**22** Su	0327 0931 1551 2207	2.8 1.2 2.8 1.2
8 Su	0325 0931 1551 2213	2.9 1.0 3.0 0.9	**23** Mo	0417 1026 1645 2300	2.7 1.3 2.8 1.2
9 Mo	0428 1036 1658 2317	2.9 1.0 3.0 0.9	**24** Tu	0512 1124 1740 2354	2.7 1.3 2.7 1.3
10 Tu	0533 1144 1803	2.9 1.0 3.1	**25** We	0608 1222 1834	2.7 1.3 2.8
11 We	0020 0636 1248 1905	0.9 3.0 0.9 3.2	**26** Th	0049 0704 1317 1927	1.3 2.7 1.3 2.8
12 Th	0120 0737 1348 2003	0.8 3.1 0.8 3.3	**27** Fr	0141 0757 1407 2017	1.2 2.8 1.2 2.9
13 Fr	0218 0834 1443 2059	0.7 3.2 0.7 3.4	**28** Sa	0231 0846 1454 2104	1.1 2.9 1.1 3.0
14 Sa	0312 0927 1536 2152	0.7 3.4 0.6 3.4	**29** Su	0317 0931 1538 2150	1.0 3.1 1.0 3.1
15 Su ❍	0403 1018 1627 2243	0.6 3.4 0.5 3.4	**30** Mo	0401 1013 1621 2234	0.9 3.2 0.9 3.2
			31 Tu ●	0443 1053 1702 2316	0.8 3.3 0.8 3.3

January

	Time	m		Time	m
1 We	0523 1133 1744 2358	0.8 3.3 0.7 3.3	**16** Th	0006 0608 1220 1831	3.3 0.7 3.4 0.7
2 Th	0603 1213 1826	0.7 3.4 0.6	**17** Fr	0044 0646 1258 1910	3.2 0.7 3.3 0.7
3 Fr	0040 0644 1255 1910	3.3 0.7 3.4 0.6	**18** Sa	0121 0723 1335 1949	3.2 0.8 3.2 0.8
4 Sa	0124 0727 1340 1957	3.3 0.7 3.3 0.7	**19** Su	0158 0801 1413 2028	3.1 0.9 3.1 1.0
5 Su	0210 0814 1430 2048	3.2 0.8 3.3 0.7	**20** Mo	0235 0840 1454 2109	2.9 1.1 2.9 1.1
6 Mo	0300 0906 1525 2143	3.1 0.9 3.2 0.8	**21** Tu	0317 0925 1540 2155	2.8 1.2 2.8 1.2
7 Tu	0356 1006 1627 2245	3.1 0.9 3.1 0.9	**22** We	0405 1018 1634 2249	2.7 1.3 2.7 1.3
8 We	0459 1113 1734 2350	3.0 1.0 3.1 1.0	**23** Th	0504 1121 1736 2352	2.7 1.4 2.7 1.4
9 Th	0608 1222 1842	3.0 1.0 3.1	**24** Fr	0611 1228 1841	2.7 1.4 2.7
10 Fr	0057 0716 1330 1948	1.0 3.0 1.0 3.1	**25** Sa	0058 0717 1332 1944	1.4 2.7 1.3 2.8
11 Sa	0202 0821 1432 2050	1.0 3.1 0.9 3.2	**26** Su	0200 0817 1428 2041	1.3 2.8 1.2 2.9
12 Su	0302 0919 1529 2147	0.9 3.2 0.8 3.2	**27** Mo	0254 0908 1517 2132	1.1 3.0 1.0 3.1
13 Mo	0356 1011 1620 2238	0.8 3.3 0.7 3.3	**28** Tu	0341 0953 1602 2217	1.0 3.2 0.8 3.2
14 Tu ❍	0444 1057 1707 2324	0.7 3.4 0.6 3.3	**29** We	0424 1035 1645 2300	0.8 3.3 0.7 3.3
15 We	0527 1140 1750	0.7 3.4 0.6	**30** Th ●	0505 1116 1727 2342	0.7 3.5 0.5 3.4
			31 Fr	0545 1156 1809	0.6 3.6 0.4

February

	Time	m		Time	m
1 Sa	0023 0626 1237 1851	3.5 0.5 3.6 0.4	**16** Su	0046 0649 1259 1911	3.2 0.8 3.3 0.8
2 Su	0104 0708 1321 1936	3.5 0.5 3.5 0.5	**17** Mo	0118 0722 1332 1944	3.2 0.9 3.2 0.9
3 Mo	0147 0752 1408 2024	3.4 0.6 3.5 0.6	**18** Tu	0151 0756 1407 2020	3.1 1.0 3.0 1.0
4 Tu	0234 0842 1500 2116	3.3 0.8 3.3 0.8	**19** We	0227 0835 1447 2100	3.0 1.2 2.9 1.2
5 We	0328 0940 1601 2216	3.1 0.9 3.1 1.0	**20** Th	0309 0921 1536 2150	2.8 1.3 2.8 1.4
6 Th	0432 1049 1711 2326	3.0 1.1 3.0 1.1	**21** Fr	0403 1023 1641 2257	2.7 1.4 2.7 1.5
7 Fr	0547 1205 1827	2.9 1.2 2.9	**22** Sa	0518 1142 1758	2.6 1.5 2.6
8 Sa	0042 0705 1321 1942	1.2 2.9 1.1 3.0	**23** Su	0015 0638 1257 1912	1.5 2.7 1.4 2.7
9 Su	0154 0816 1427 2048	1.2 3.0 1.0 3.0	**24** Mo	0127 0746 1359 2015	1.4 2.8 1.2 2.9
10 Mo	0256 0914 1524 2143	1.0 3.1 0.9 3.1	**25** Tu	0226 0841 1452 2108	1.2 3.0 1.0 3.1
11 Tu	0348 1003 1611 2229	0.9 3.3 0.8 3.2	**26** We	0316 0927 1538 2154	1.0 3.2 0.8 3.3
12 We	0431 1044 1653 2308	0.8 3.3 0.7 3.3	**27** Th	0400 1010 1622 2237	0.7 3.5 0.5 3.5
13 Th ❍	0509 1120 1730 2343	0.7 3.4 0.6 3.3	**28** Fr ●	0441 1052 1704 2318	0.5 3.6 0.4 3.6
14 Fr	0544 1154 1805	0.7 3.4 0.6			
15 Sa	0015 0617 1227 1838	3.3 0.7 3.3 0.7			

Remember to add 1 hour for Daylight Saving Time.

Westport

Lat. 41˚45´S., Long. 171˚36´E.

Time Zone –1200 | **Times and Heights of High and Low Waters** | **Year 2025**

March

	Time	m		Time	m
1 Sa	0522	0.4	**16** Su	0545	0.7
	1133	3.7		1154	3.4
	1746	0.3		1804	0.7
	2359	3.7			
2 Su	0603	0.4	**17** Mo	0012	3.3
	1215	3.8		0616	0.8
	1829	0.3		1224	3.3
				1836	0.8
3 Mo	0041	3.6	**18** Tu	0043	3.3
	0646	0.4		0648	0.9
	1300	3.7		1256	3.2
	1914	0.4		1908	0.9
4 Tu	0124	3.5	**19** We	0115	3.2
	0731	0.5		0721	1.0
	1347	3.5		1331	3.1
	2001	0.6		1943	1.0
5 We	0212	3.4	**20** Th	0149	3.0
	0822	0.7		0758	1.2
	1440	3.3		1409	3.0
	2054	0.9		2021	1.2
6 Th	0306	3.2	**21** Fr	0229	2.9
	0921	1.0		0842	1.3
	1543	3.1		1457	2.8
	2156	1.1		2109	1.4
7 Fr	0413	3.0	**22** Sa	0321	2.8
	1034	1.2		0942	1.4
	1658	2.9		1601	2.7
	2310	1.3		2214	1.5
8 Sa	0535	2.9	**23** Su	0436	2.7
	1156	1.2		1103	1.5
	1819	2.9		1722	2.7
				2336	1.5
9 Su	0031	1.3	**24** Mo	0600	2.7
	0657	2.9		1222	1.4
	1314	1.2		1839	2.7
	1936	2.9			
10 Mo	0145	1.2	**25** Tu	0052	1.4
	0807	3.0		0711	2.8
	1418	1.1		1326	1.2
	2039	3.0		1943	2.9
11 Tu	0244	1.1	**26** We	0153	1.2
	0901	3.1		0807	3.1
	1510	0.9		1420	0.9
	2129	3.1		2036	3.1
12 We	0331	1.0	**27** Th	0244	0.9
	0944	3.2		0856	3.3
	1553	0.8		1508	0.7
	2209	3.2		2124	3.3
13 Th	0409	0.8	**28** Fr	0329	0.7
	1021	3.3		0941	3.5
	1629	0.7		1554	0.5
	2243	3.3		2208	3.5
14 Fr ❍	0443	0.8	**29** Sa ●	0413	0.5
	1053	3.4		1025	3.7
	1702	0.7		1638	0.4
	2313	3.3		2251	3.7
15 Sa	0514	0.7	**30** Su	0456	0.4
	1123	3.4		1108	3.8
	1733	0.7		1722	0.3
	2343	3.3		2334	3.7
			31 Mo	0540	0.3
				1153	3.8
				1807	0.4

April

	Time	m		Time	m
1 Tu	0018	3.7	**16** We	0014	3.3
	0625	0.4		0620	0.9
	1240	3.7		1229	3.2
	1853	0.5		1840	1.0
2 We	0104	3.6	**17** Th	0047	3.2
	0713	0.6		0655	1.0
	1330	3.5		1305	3.1
	1942	0.7		1916	1.1
3 Th	0154	3.4	**18** Fr	0123	3.1
	0806	0.8		0734	1.2
	1426	3.3		1346	3.0
	2037	0.9		1956	1.2
4 Fr	0252	3.2	**19** Sa	0204	3.0
	0909	1.0		0821	1.3
	1532	3.1		1435	2.9
	2141	1.2		2045	1.3
5 Sa	0403	3.0	**20** Su	0257	2.8
	1024	1.2		0920	1.3
	1648	2.9		1537	2.8
	2257	1.3		2146	1.4
6 Su	0524	2.9	**21** Mo	0407	2.8
	1144	1.3		1033	1.4
	1806	2.8		1651	2.7
				2301	1.4
7 Mo	0015	1.4	**22** Tu	0524	2.8
	0640	2.9		1146	1.3
	1256	1.2		1802	2.8
	1916	2.9			
8 Tu	0124	1.3	**23** We	0013	1.3
	0743	3.0		0632	3.0
	1355	1.1		1249	1.1
	2014	2.9		1905	3.0
9 We	0218	1.2	**24** Th	0115	1.1
	0833	3.1		0730	3.2
	1443	1.0		1345	0.9
	2100	3.0		2000	3.2
10 Th	0302	1.0	**25** Fr	0209	0.9
	0914	3.2		0821	3.4
	1523	0.9		1436	0.7
	2137	3.1		2050	3.4
11 Fr	0338	0.9	**26** Sa	0258	0.7
	0948	3.3		0910	3.6
	1557	0.8		1524	0.5
	2210	3.2		2138	3.6
12 Sa	0411	0.8	**27** Su	0345	0.5
	1020	3.3		0958	3.7
	1630	0.8		1611	0.4
	2240	3.3		2225	3.7
13 Su ❍	0443	0.8	**28** Mo ●	0432	0.4
	1051	3.4		1045	3.8
	1701	0.8		1659	0.4
	2311	3.3		2311	3.7
14 Mo	0515	0.8	**29** Tu	0519	0.4
	1122	3.4		1134	3.8
	1733	0.8		1746	0.5
	2342	3.3		2358	3.7
15 Tu	0547	0.8	**30** We	0607	0.5
	1155	3.3		1224	3.7
	1806	0.9		1835	0.6

May

	Time	m		Time	m
1 Th	0047	3.6	**16** Fr	0028	3.2
	0659	0.7		0638	1.0
	1318	3.5		1250	3.1
	1927	0.8		1859	1.1
2 Fr	0141	3.4	**17** Sa	0107	3.1
	0756	0.9		0720	1.1
	1416	3.3		1333	3.0
	2023	1.0		1941	1.2
3 Sa	0241	3.2	**18** Su	0150	3.0
	0859	1.0		0808	1.2
	1521	3.1		1422	3.0
	2126	1.2		2028	1.2
4 Su	0349	3.1	**19** Mo	0242	3.0
	1009	1.2		0903	1.2
	1629	2.9		1518	2.9
	2235	1.3		2124	1.3
5 Mo	0500	3.0	**20** Tu	0343	3.0
	1119	1.2		1006	1.2
	1737	2.9		1621	2.9
	2344	1.3		2229	1.3
6 Tu	0607	2.9	**21** We	0450	3.0
	1222	1.2		1110	1.1
	1839	2.9		1725	2.9
				2335	1.2
7 We	0047	1.3	**22** Th	0554	3.1
	0705	3.0		1212	1.0
	1317	1.2		1827	3.1
	1933	2.9			
8 Th	0139	1.2	**23** Fr	0037	1.1
	0753	3.0		0654	3.2
	1403	1.1		1310	0.9
	2019	3.0		1925	3.2
9 Fr	0223	1.1	**24** Sa	0135	0.9
	0834	3.1		0749	3.4
	1444	1.1		1404	0.8
	2058	3.1		2019	3.4
10 Sa	0302	1.1	**25** Su	0229	0.7
	0911	3.2		0843	3.5
	1521	1.0		1457	0.7
	2133	3.2		2112	3.5
11 Su	0337	1.0	**26** Mo	0321	0.6
	0945	3.2		0935	3.6
	1556	1.0		1549	0.6
	2207	3.2		2203	3.6
12 Mo	0412	0.9	**27** Tu ●	0412	0.6
	1020	3.3		1027	3.7
	1632	0.9		1640	0.6
	2242	3.3		2253	3.6
13 Tu ❍	0447	0.9	**28** We	0503	0.5
	1056	3.3		1120	3.6
	1707	0.9		1731	0.6
	2316	3.3		2344	3.6
14 We	0523	0.9	**29** Th	0555	0.6
	1132	3.3		1213	3.6
	1743	1.0		1822	0.7
	2352	3.3			
15 Th	0559	1.0	**30** Fr	0035	3.5
	1210	3.2		0648	0.7
	1820	1.0		1307	3.4
				1913	0.8
			31 Sa	0128	3.4
				0744	0.8
				1403	3.3
				2006	1.0

June

	Time	m		Time	m
1 Su	0225	3.3	**16** Mo	0136	3.2
	0842	1.0		0753	1.0
	1500	3.1		1406	3.1
	2102	1.1		2010	1.1
2 Mo	0323	3.1	**17** Tu	0224	3.2
	0941	1.1		0843	1.0
	1557	3.0		1456	3.1
	2201	1.2		2100	1.1
3 Tu	0423	3.0	**18** We	0318	3.2
	1039	1.2		0937	1.0
	1653	2.9		1550	3.1
	2300	1.3		2157	1.1
4 We	0521	3.0	**19** Th	0417	3.1
	1135	1.3		1036	1.0
	1749	2.9		1649	3.1
	2358	1.3		2300	1.1
5 Th	0615	2.9	**20** Fr	0520	3.2
	1227	1.3		1137	1.0
	1841	2.9		1752	3.1
6 Fr	0051	1.3	**21** Sa	0005	1.0
	0704	3.0		0622	3.2
	1316	1.3		1239	1.0
	1930	2.9		1854	3.2
7 Sa	0139	1.3	**22** Su	0108	1.0
	0749	3.0		0723	3.3
	1401	1.2		1339	0.9
	2015	3.0		1955	3.3
8 Su	0223	1.2	**23** Mo	0208	0.9
	0832	3.1		0823	3.4
	1444	1.2		1438	0.8
	2058	3.1		2054	3.4
9 Mo	0305	1.1	**24** Tu	0305	0.8
	0914	3.1		0921	3.5
	1526	1.1		1534	0.8
	2138	3.2		2149	3.5
10 Tu	0345	1.1	**25** We ●	0400	0.7
	0955	3.2		1017	3.5
	1607	1.1		1628	0.7
	2218	3.2		2242	3.5
11 We ❍	0425	1.0	**26** Th	0453	0.6
	1035	3.2		1111	3.5
	1646	1.0		1719	0.7
	2257	3.3		2333	3.6
12 Th	0504	1.0	**27** Fr	0545	0.6
	1116	3.2		1203	3.5
	1726	1.0		1808	0.7
	2335	3.3			
13 Fr	0544	1.0	**28** Sa	0022	3.5
	1157	3.2		0635	0.7
	1805	1.0		1252	3.4
				1855	0.8
14 Sa	0014	3.3	**29** Su	0110	3.4
	0625	1.0		0724	0.8
	1239	3.2		1340	3.3
	1844	1.0		1942	0.9
15 Su	0054	3.2	**30** Mo	0158	3.3
	0708	1.0		0813	0.9
	1321	3.2		1426	3.2
	1926	1.0		2028	1.0

Remember to add 1 hour for Daylight Saving Time. Finishes 6 April.

Te Aumiti / French Pass

Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Nelson

The following diagrams depict the direction and rate of the Te Aumiti / French Pass tidal stream at hourly intervals during average spring tide conditions.

Each arrow represents the direction and rate of the tidal stream.

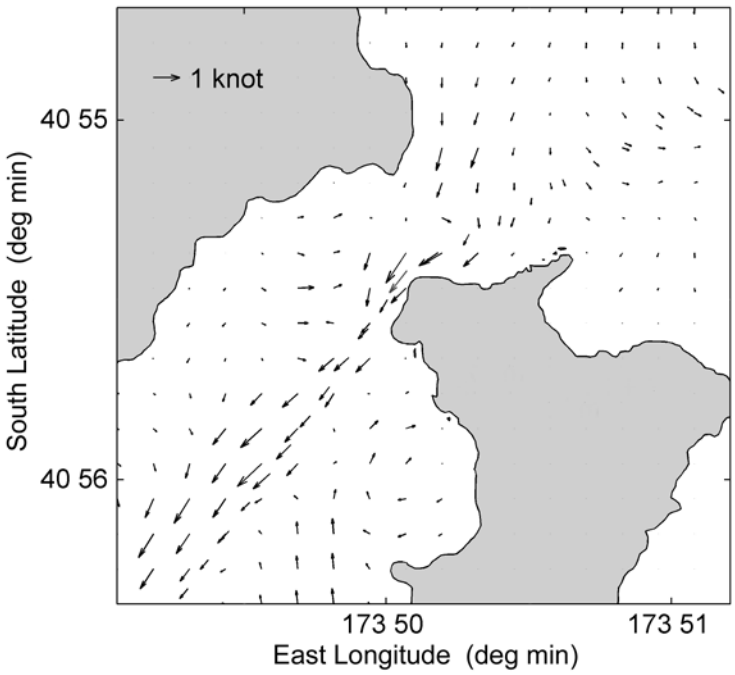
The arrows are arranged in a grid pattern at a spacing of 0.1 nautical miles. Additional arrows are included along the main channel at intervals of 0.1 nautical miles.

The diagrams commence 6 hours before high water and end 6 hours after high water at Nelson. The predicted times of high water at Nelson can be found on pages 58 – 60.

Tidal streams can be influenced by local weather conditions so caution is advised when navigating through this passage. Local tide rips and eddies are not shown on these diagrams. Chart NZ 6151 and the publication *ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51) should be consulted for further information.

Additional notes about tidal streams in general, and the conditions at Te Aumiti / French Pass in particular, can be found on page 26.

Predictions of the times of the commencement of the ebb (NE) and flood (SW) streams at Te Aumiti / French Pass can be found on pages 113 – 115.



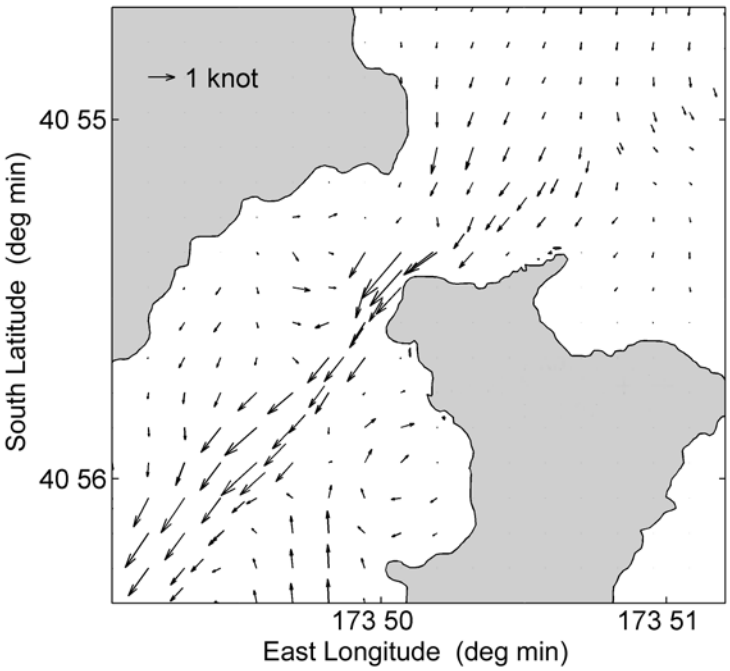
-6hr HW Nelson, Spring Tide

Te Aumiti / French Pass

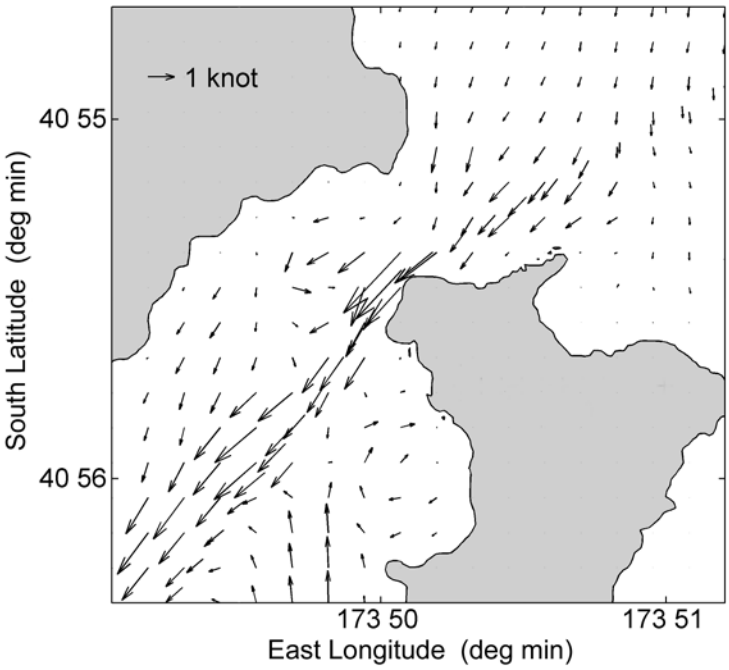
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Nelson



-5hr HW Nelson, Spring Tide



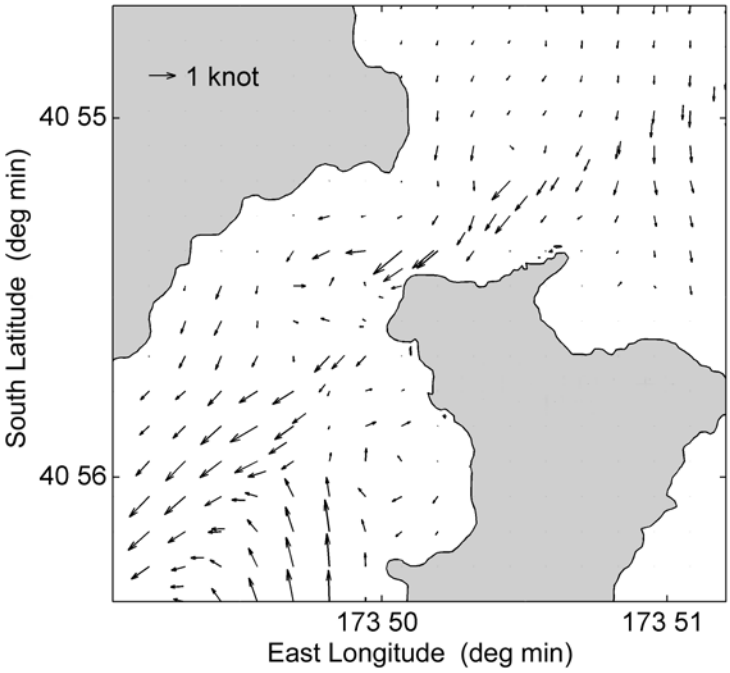
-4hr HW Nelson, Spring Tide

Te Aumiti / French Pass

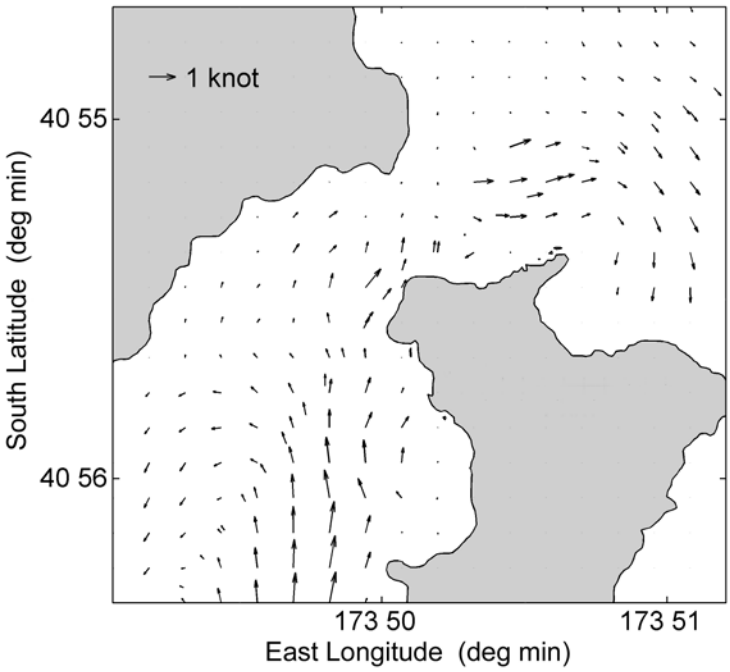
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Nelson



-3hr HW Nelson, Spring Tide



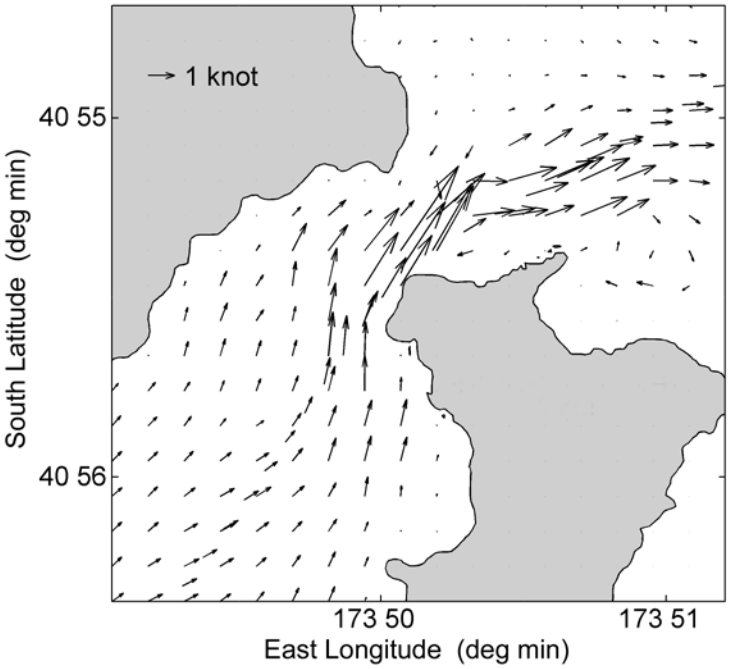
-2hr HW Nelson, Spring Tide

Te Aumiti / French Pass

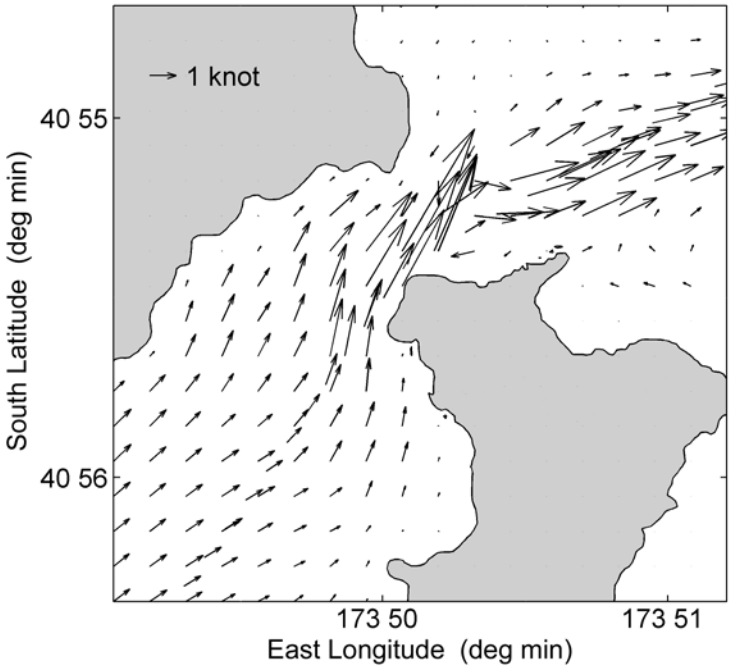
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Nelson



-1hr HW Nelson, Spring Tide



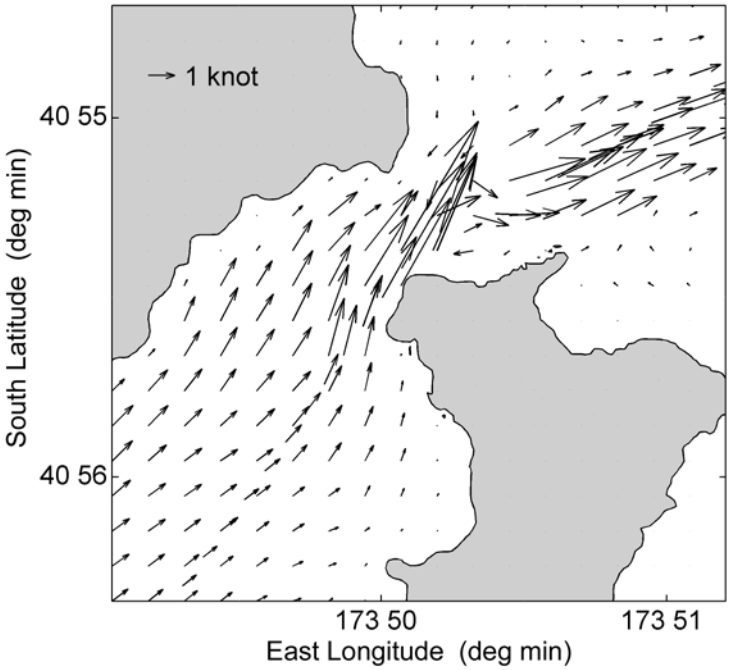
At HW Nelson, Spring Tide

Te Aumiti / French Pass

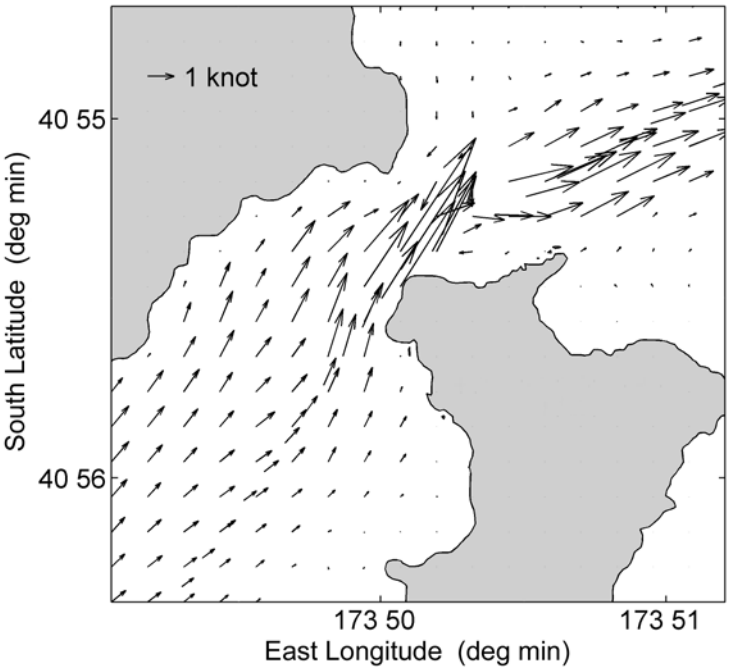
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Nelson



+1hr HW Nelson, Spring Tide



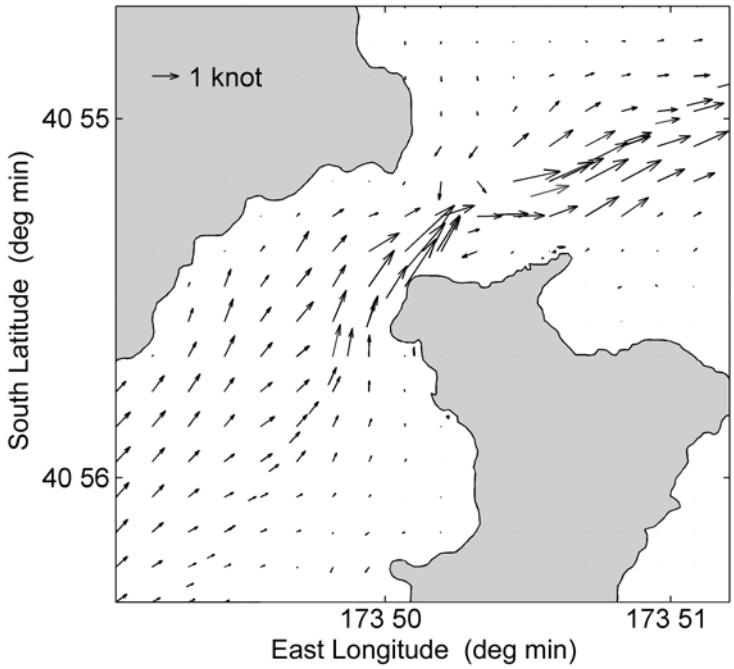
+2hr HW Nelson, Spring Tide

Te Aumiti / French Pass

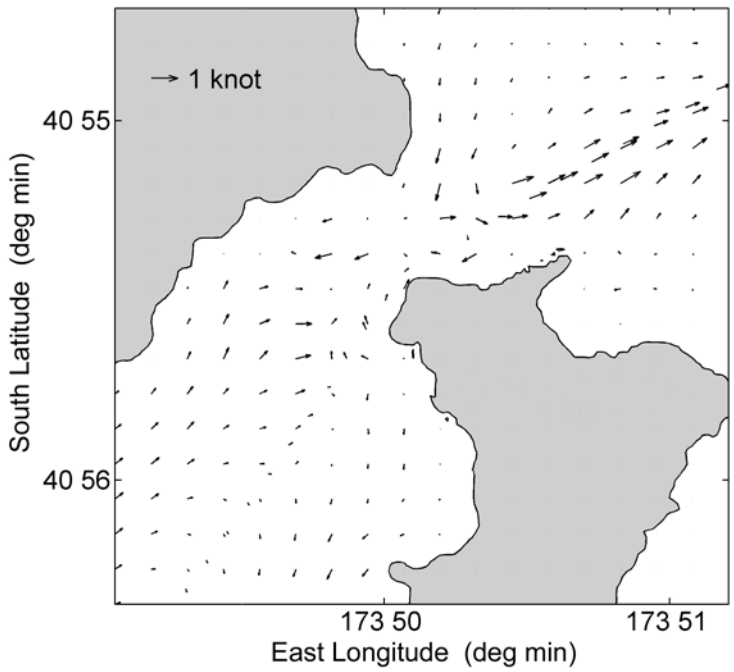
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Nelson



+3hr HW Nelson, Spring Tide



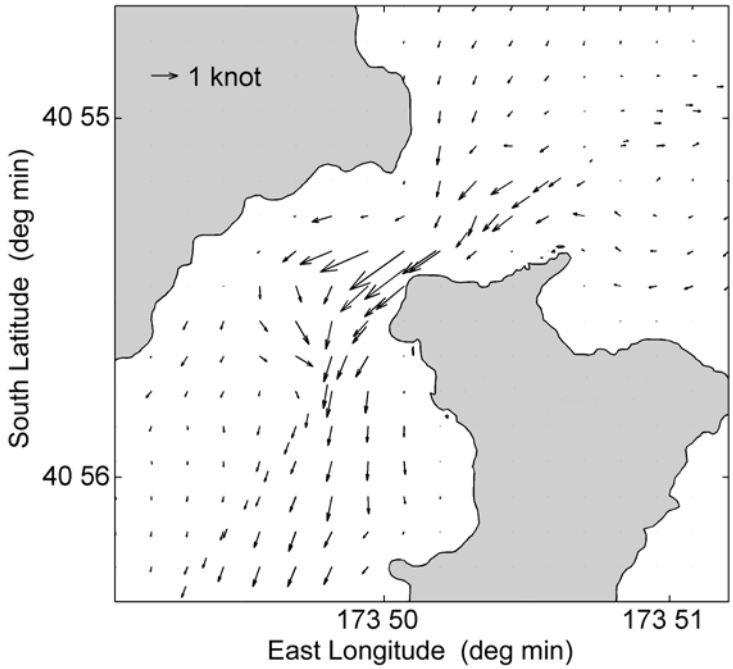
+4hr HW Nelson, Spring Tide

Te Aumiti / French Pass

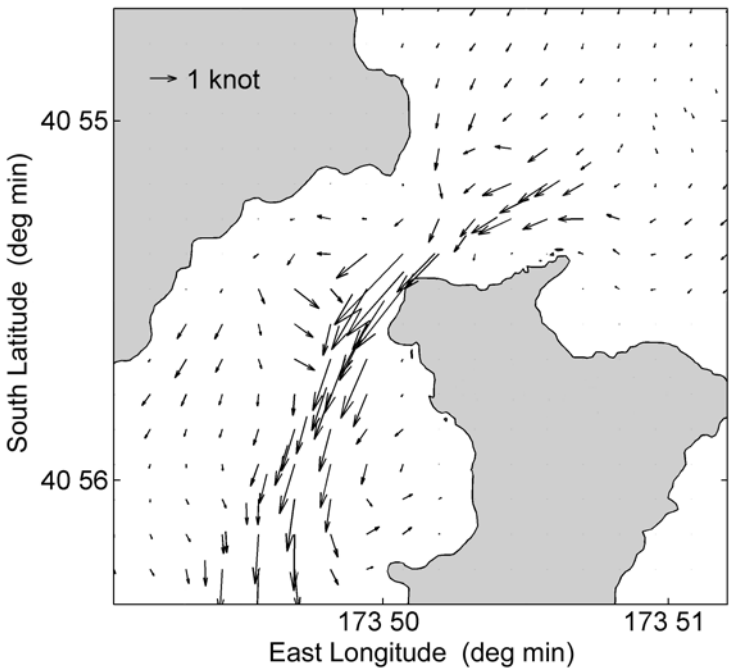
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Nelson



+5hr HW Nelson, Spring Tide



+6hr HW Nelson, Spring Tide

Te Aumiti / French Pass

Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Nelson

The following diagrams depict the direction and rate of the Te Aumiti / French Pass tidal stream at hourly intervals during average neap tide conditions.

Each arrow represents the direction and rate of the tidal stream.

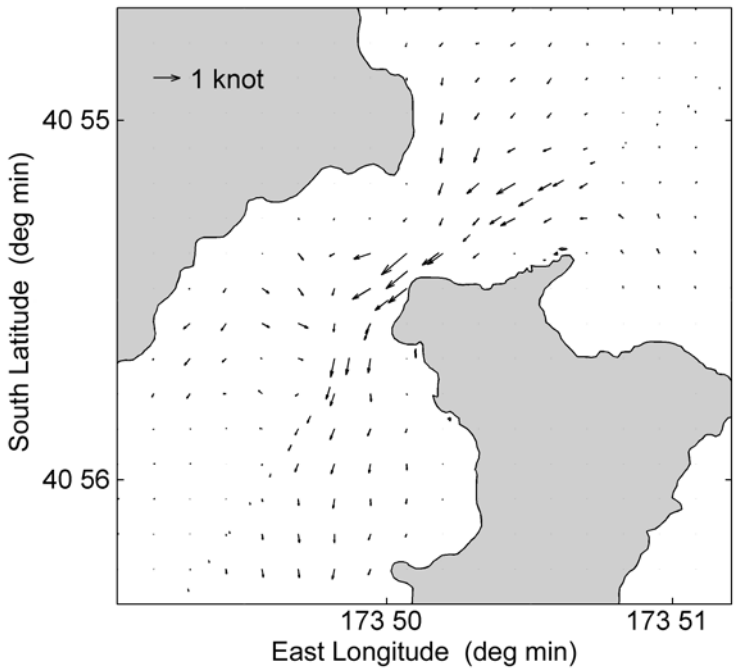
The arrows are arranged in a grid pattern at a spacing of 0.1 nautical miles. Additional arrows are included along the main channel at intervals of 0.1 nautical miles.

The diagrams commence 6 hours before high water and end 6 hours after high water at Nelson. The predicted times of high water at Nelson can be found on pages 58 – 60.

Tidal streams can be influenced by local weather conditions so caution is advised when navigating through this passage. Local tide rips and eddies are not shown on these diagrams. Chart NZ 6151 and the publication *ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51) should be consulted for further information.

Additional notes about tidal streams in general, and the conditions at Te Aumiti / French Pass in particular, can be found on page 26.

Predictions of the times of the commencement of the ebb (NE) and flood (SW) streams at Te Aumiti / French Pass can be found on pages 113 – 115.



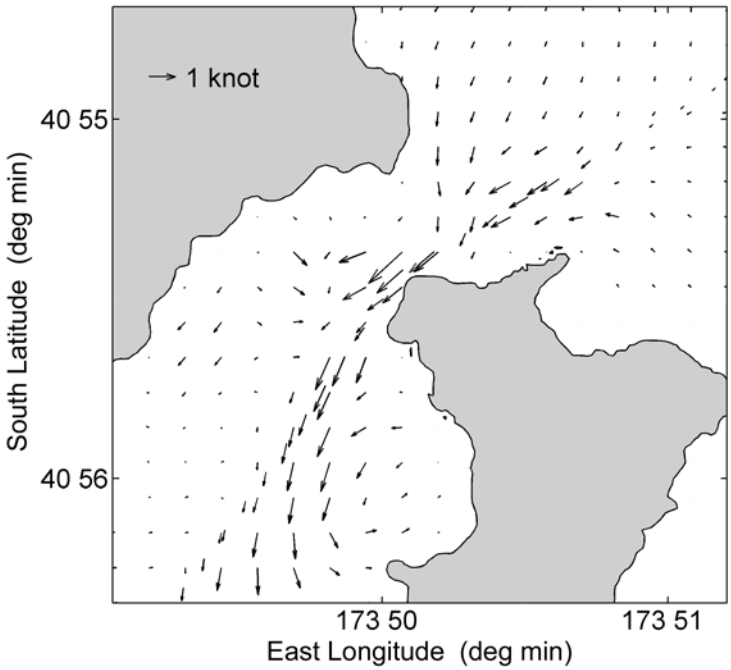
-6hr HW Nelson, Neap Tide

Te Aumiti / French Pass

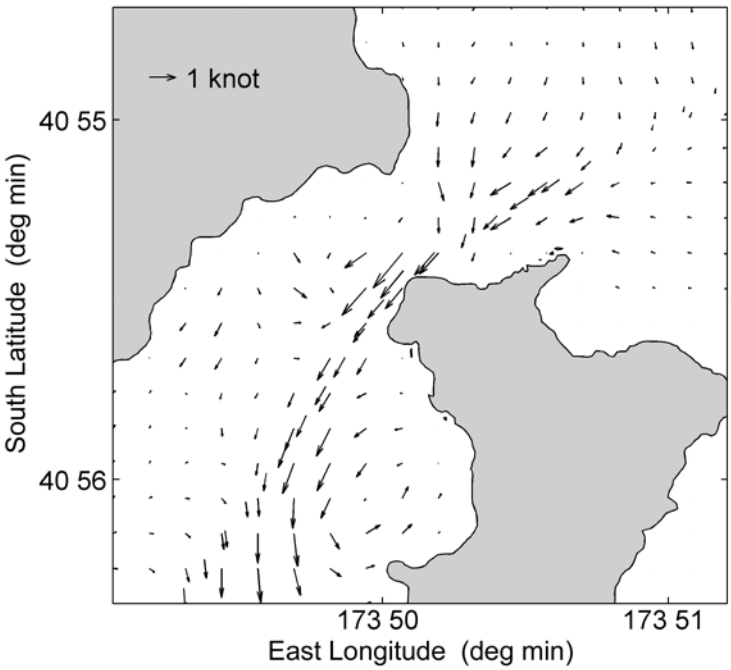
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Nelson



-5hr HW Nelson, Neap Tide



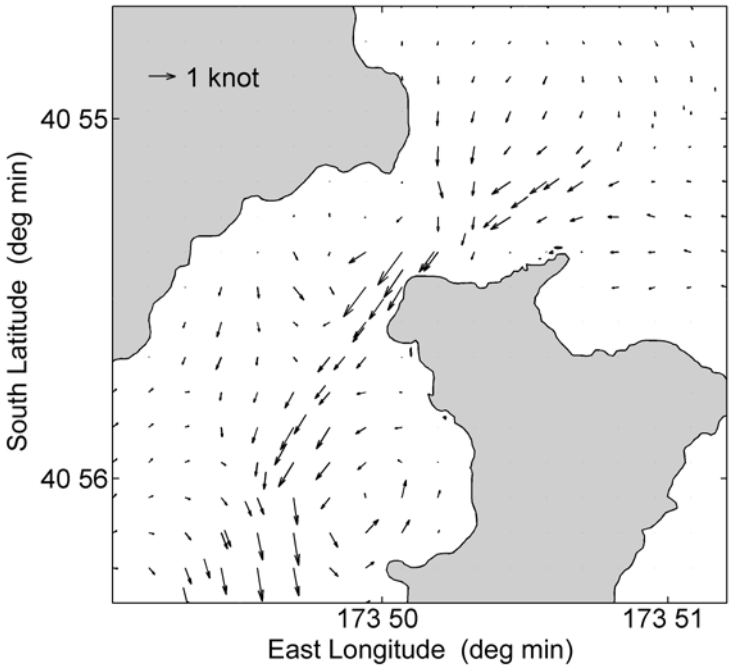
-4hr HW Nelson, Neap Tide

Te Aumiti / French Pass

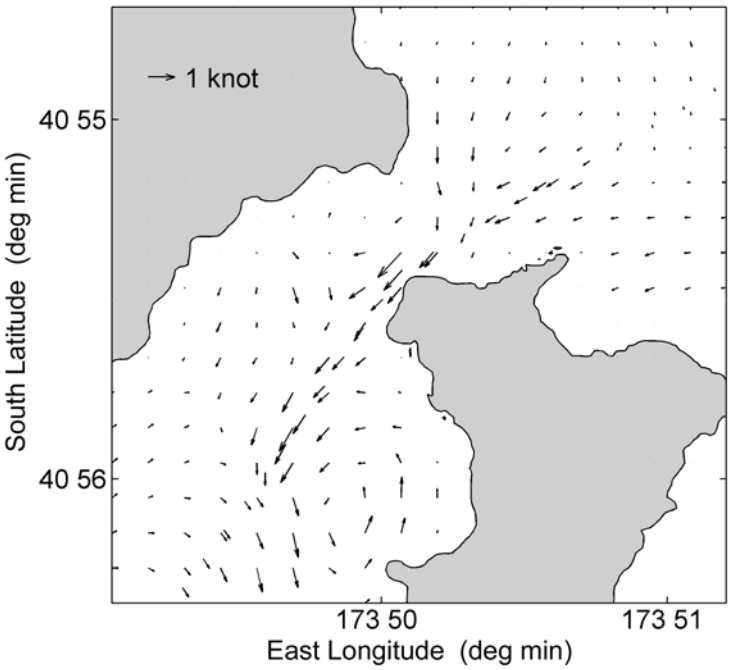
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Nelson



-3hr HW Nelson, Neap Tide



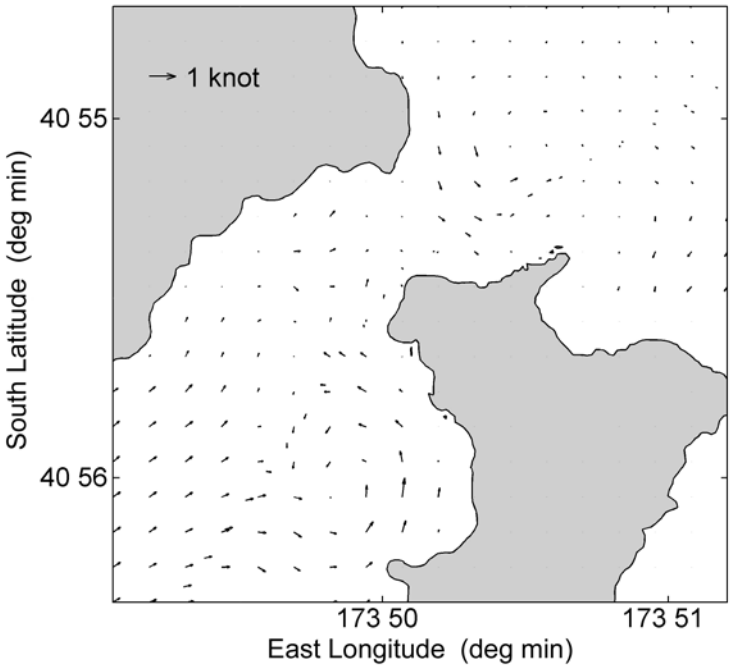
-2hr HW Nelson, Neap Tide

Te Aumiti / French Pass

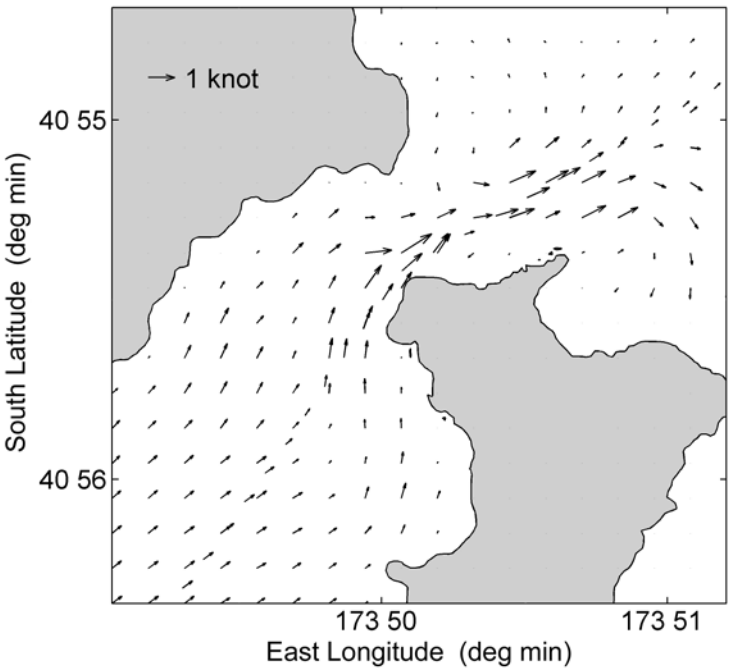
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Nelson



-1hr HW Nelson, Neap Tide



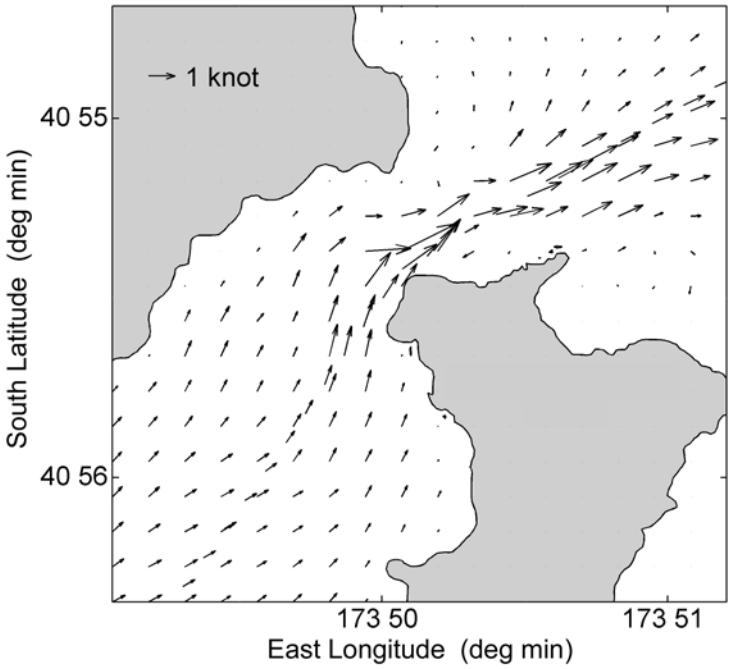
At HW Nelson, Neap Tide

Te Aumiti / French Pass

Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Nelson



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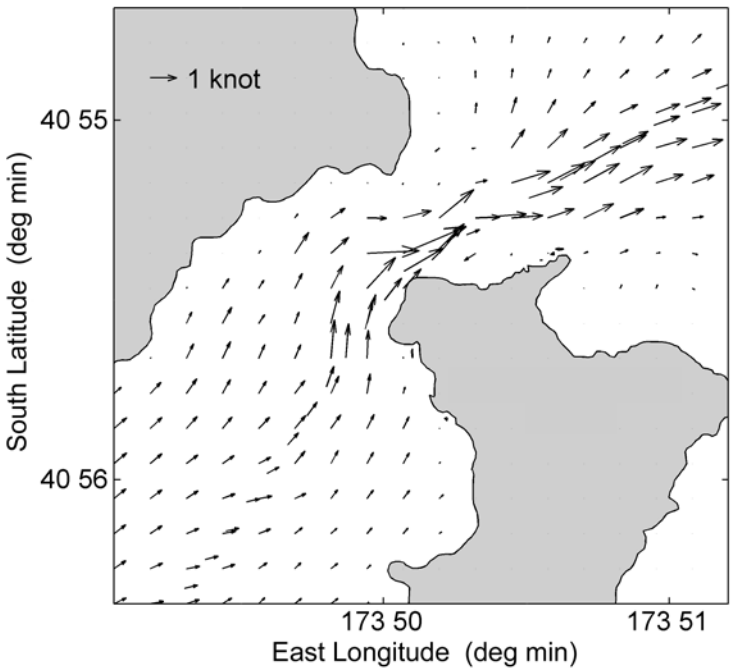


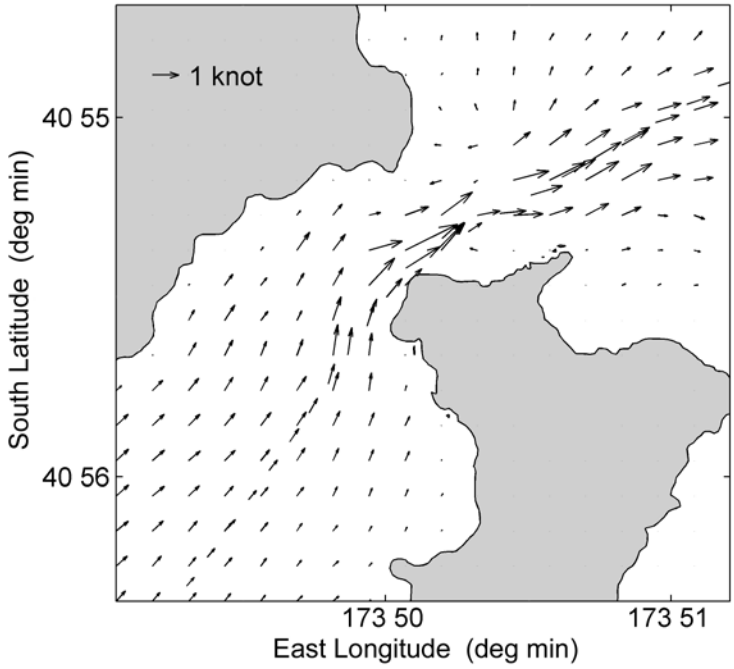
+2hr HW Nelson, Neap Tide

Te Aumiti / French Pass

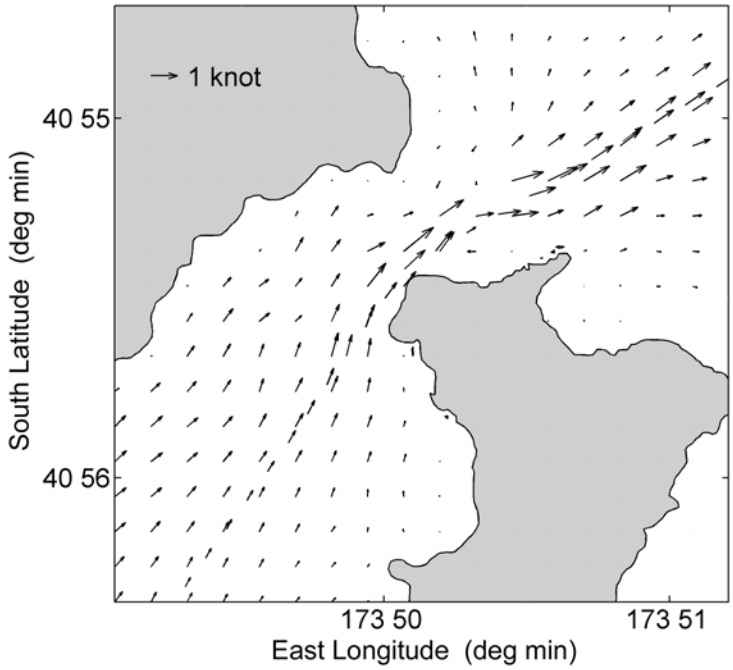
Lat. 40° 55′S., Long. 173° 50′E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Nelson



+3hr HW Nelson, Neap Tide



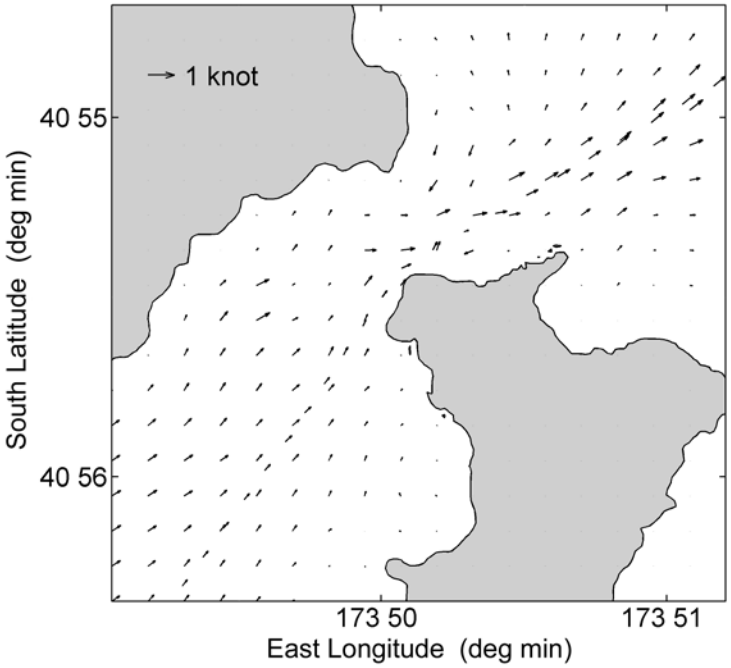
+4hr HW Nelson, Neap Tide

Te Aumiti / French Pass

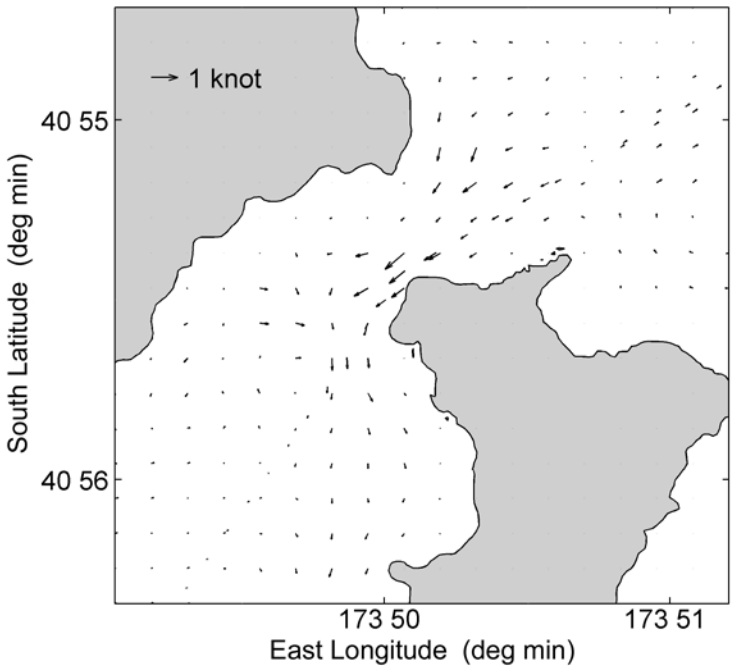
Lat. 40° 55'S., Long. 173° 50'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Nelson



+5hr HW Nelson, Neap Tide



+6hr HW Nelson, Neap Tide

Tory Channel / Kura te Au Entrance

Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Picton

The following diagrams depict the direction and rate of the Tory Channel / Kura te Au Entrance tidal stream at hourly intervals during average spring tide conditions.

Each arrow represents the direction and rate of the tidal stream.

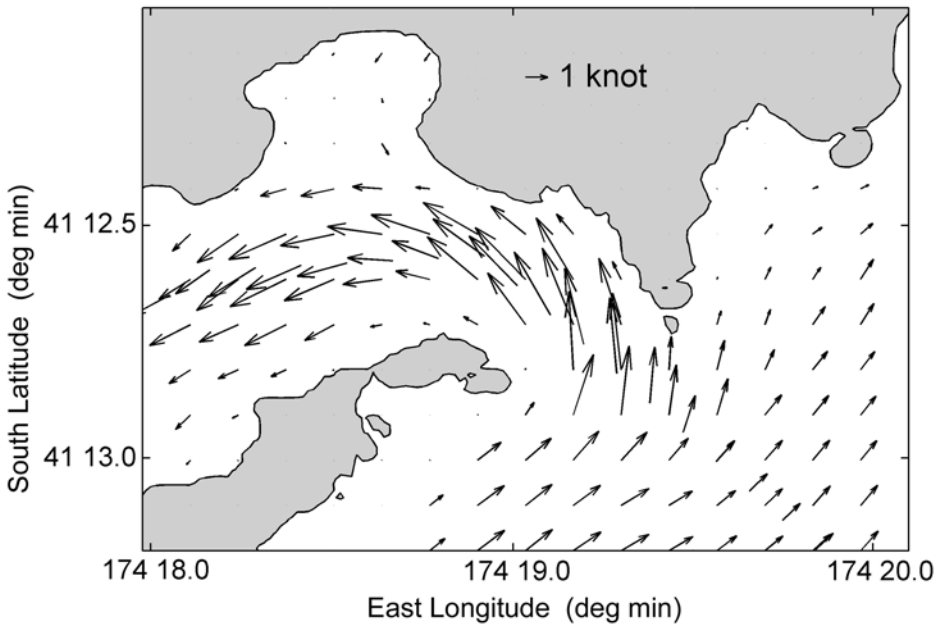
The arrows are arranged in a grid pattern at a spacing of 0.1 nautical miles. Additional arrows are included along the main channel at intervals of 0.1 nautical miles.

The diagrams commence 6 hours before high water and end 6 hours after high water at Picton. The predicted times of high water at Picton can be found on pages 64 - 66.

Tidal streams can be influenced by local weather conditions so caution is advised when navigating through this passage. Local tide rips and eddies are not shown on these diagrams. Chart NZ 6154 and the publication *ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51) should be consulted for further information.

Additional notes about tidal streams in general, and the conditions at Tory Channel / Kura te Au Entrance in particular, can be found on page 26.

Predictions of the times of the commencement of the ebb (E) and flood (W) streams at Tory Channel / Kura te Au Entrance can be found on pages 116 - 118.



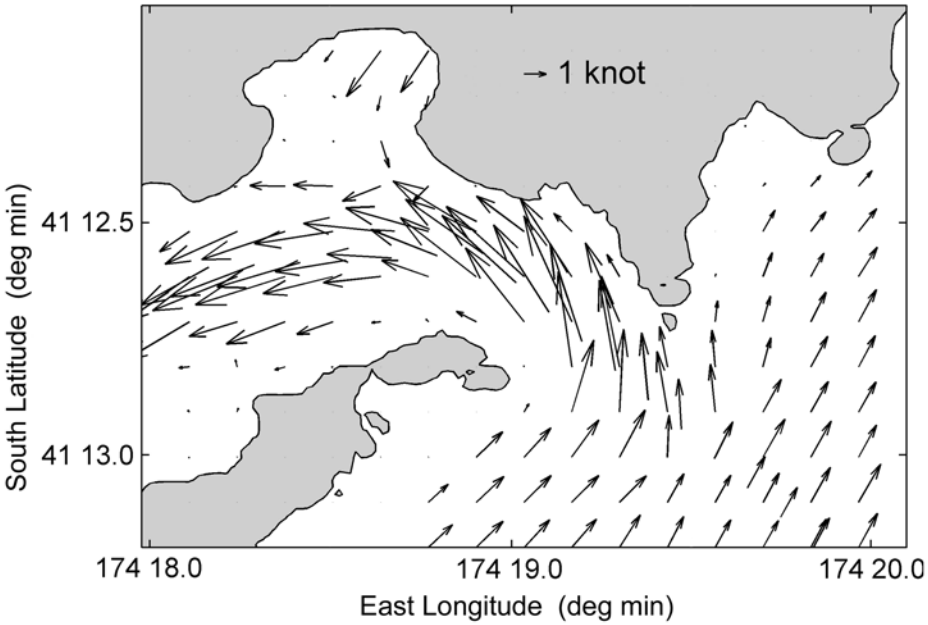
-6hr HW Picton, Spring Tide

Tory Channel / Kura te Au Entrance

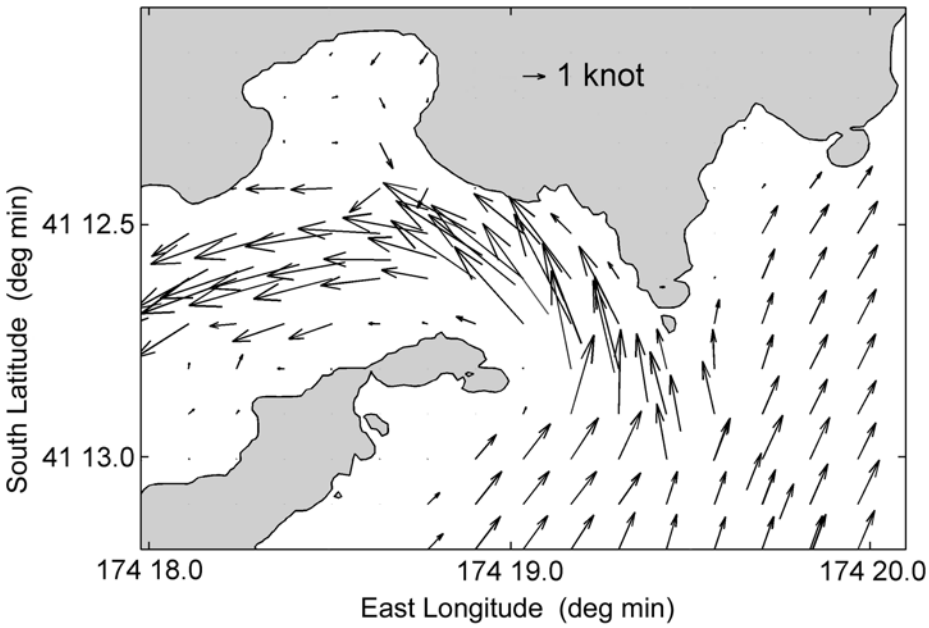
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Picton



-5hr HW Picton, Spring Tide



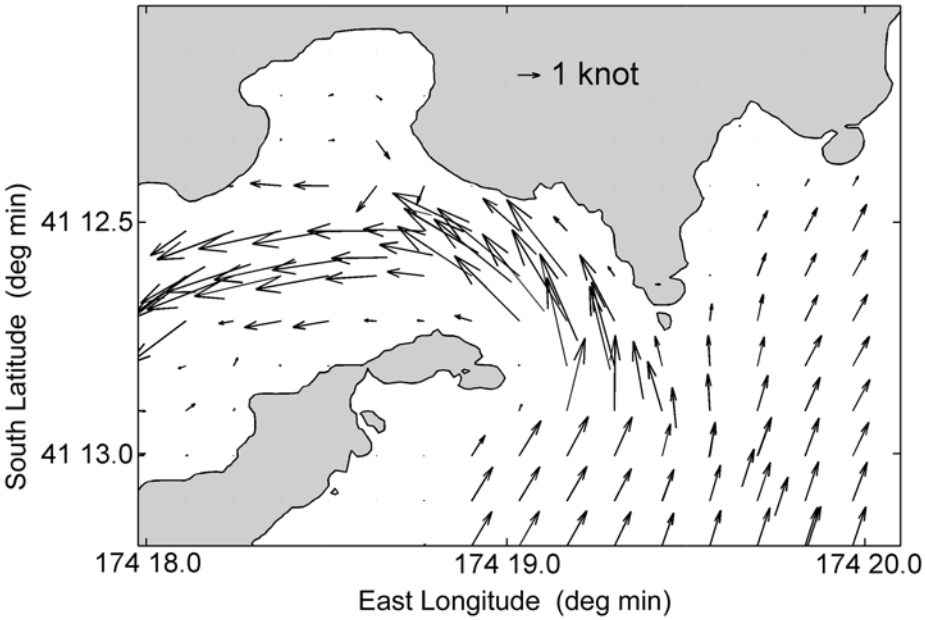
-4hr HW Picton, Spring Tide

Tory Channel / Kura te Au Entrance

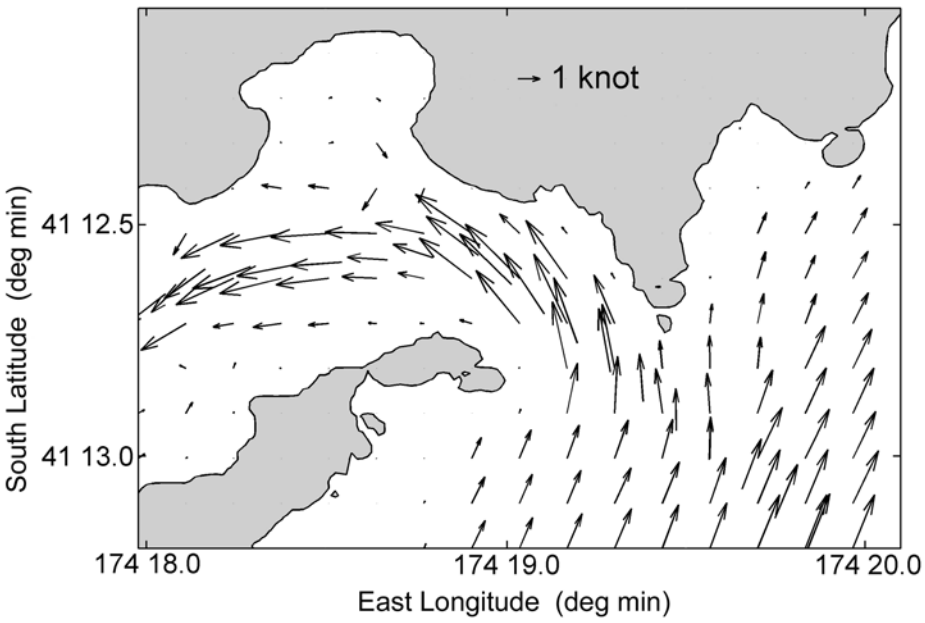
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Picton



-3hr HW Picton, Spring Tide



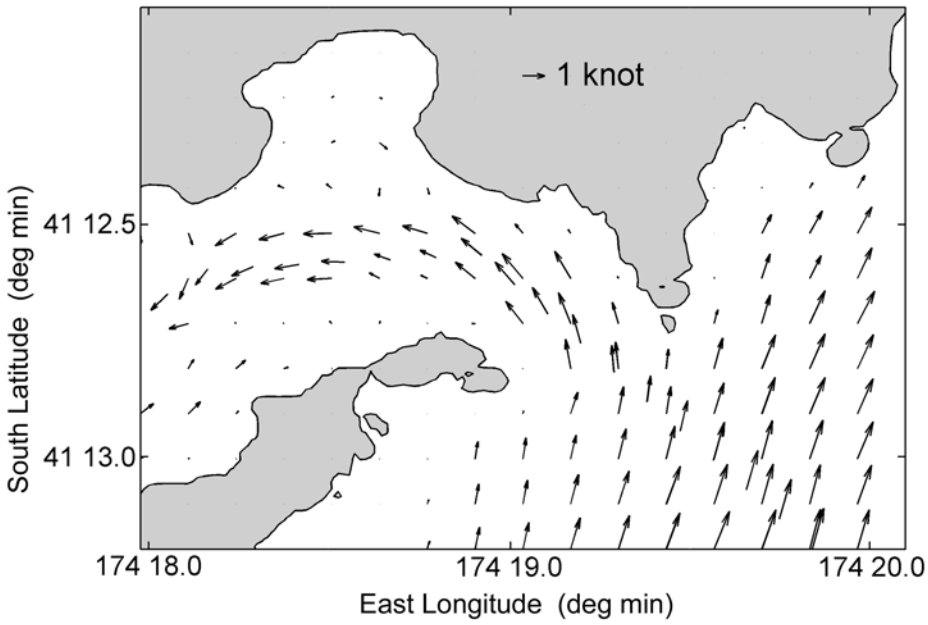
-2hr HW Picton, Spring Tide

Tory Channel / Kura te Au Entrance

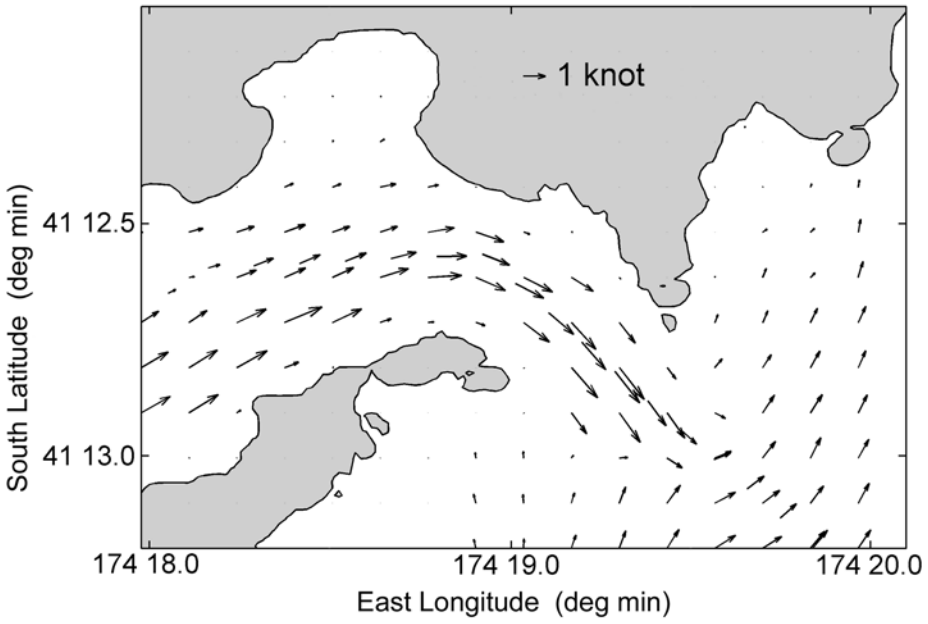
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Picton



-1hr HW Picton, Spring Tide



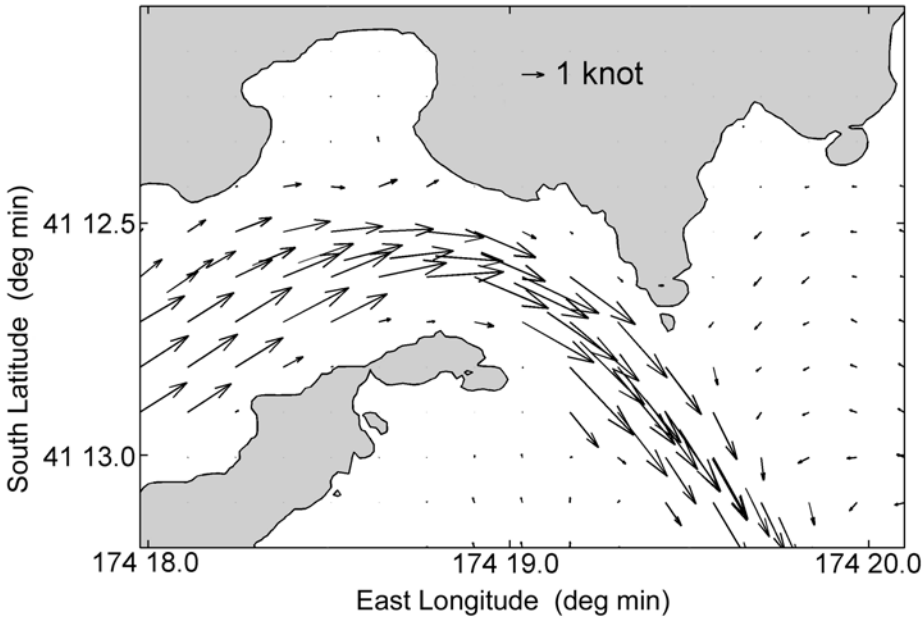
At HW Picton, Spring Tide

Tory Channel / Kura te Au Entrance

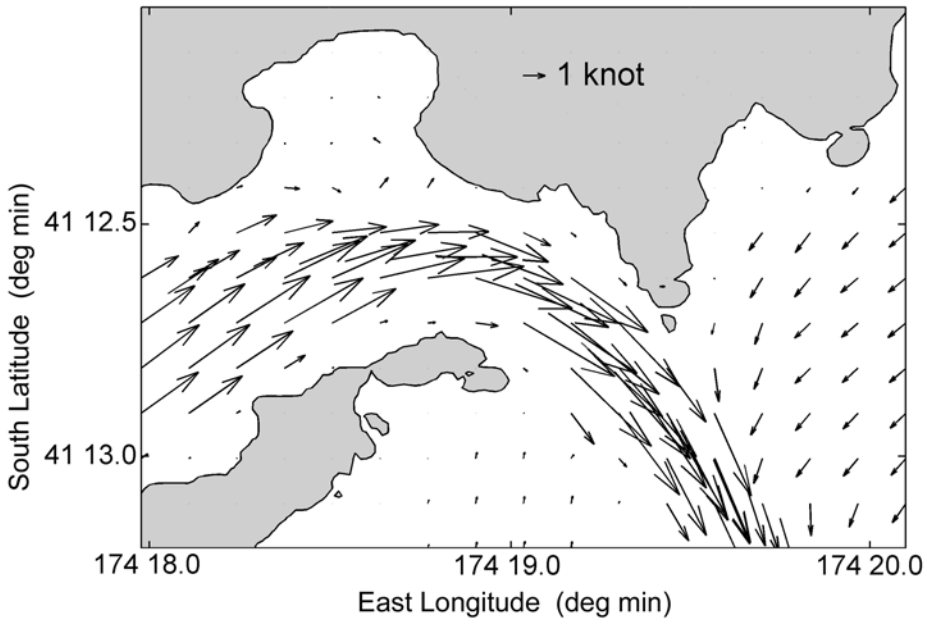
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Picton



+1hr HW Picton, Spring Tide



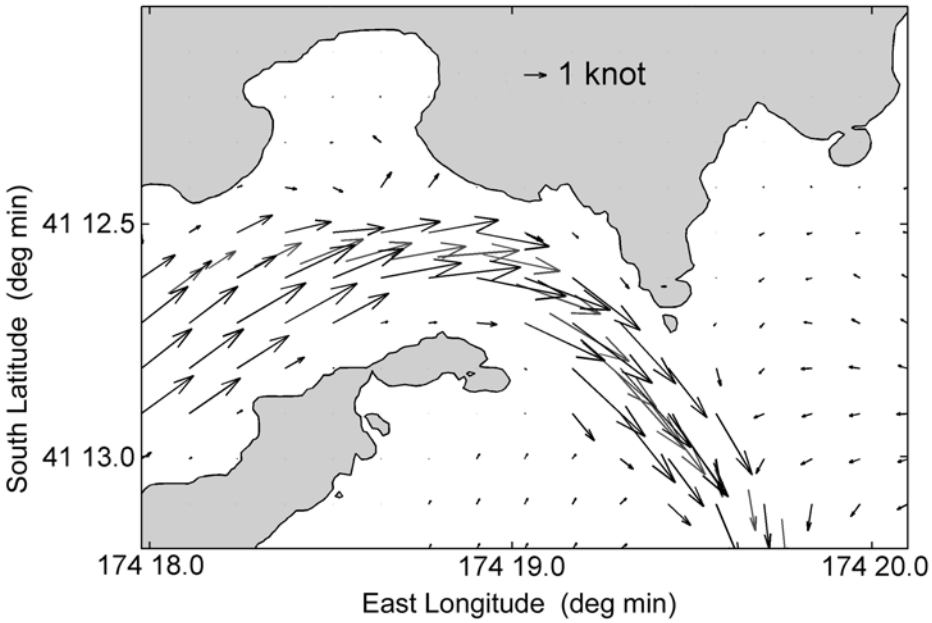
+2hr HW Picton, Spring Tide

Tory Channel / Kura te Au Entrance

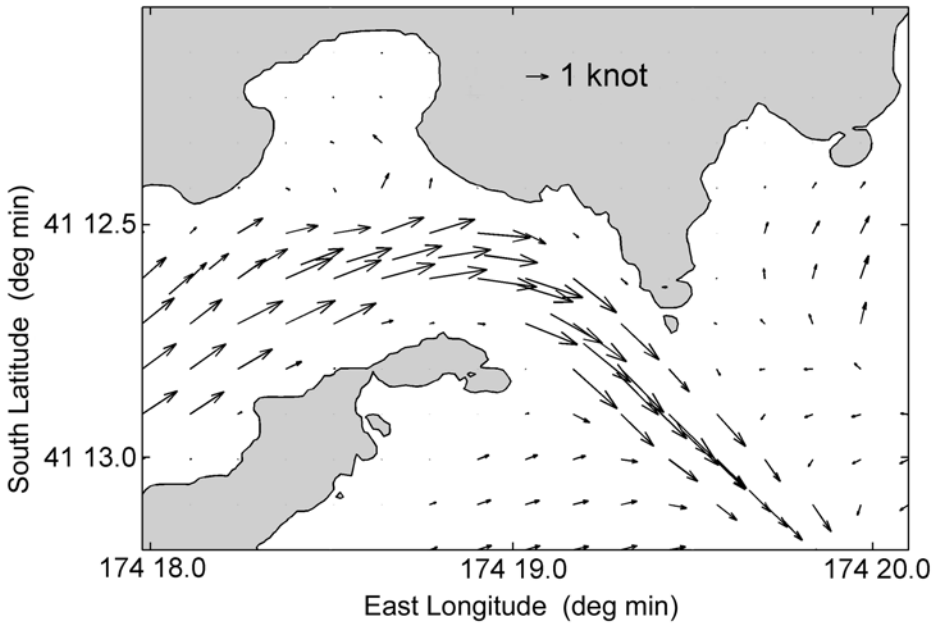
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Picton



+3hr HW Picton, Spring Tide



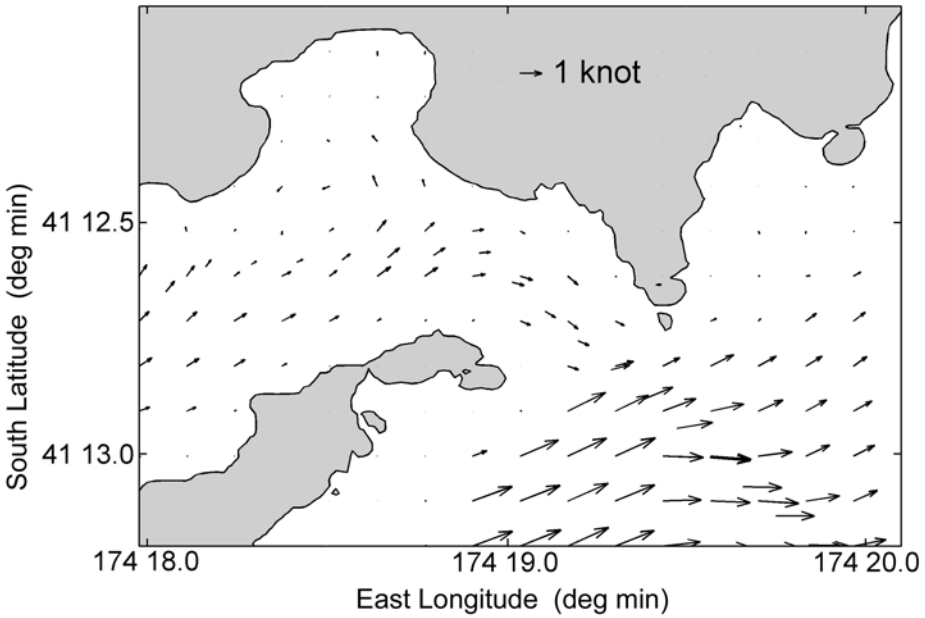
+4hr HW Picton, Spring Tide

Tory Channel / Kura te Au Entrance

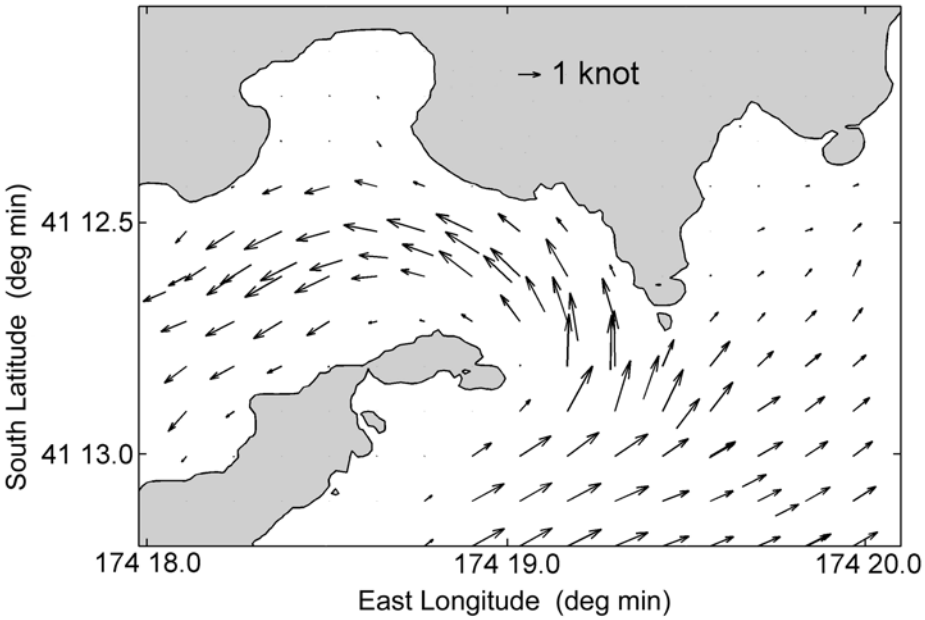
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Spring Tide Conditions

Times Relative to High Water at Picton



+5hr HW Picton, Spring Tide



+6hr HW Picton, Spring Tide

Tory Channel / Kura te Au Entrance

Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Picton

The following diagrams depict the direction and rate of the Tory Channel / Kura te Au Entrance tidal stream at hourly intervals during average neap tide conditions.

Each arrow represents the direction and rate of the tidal stream.

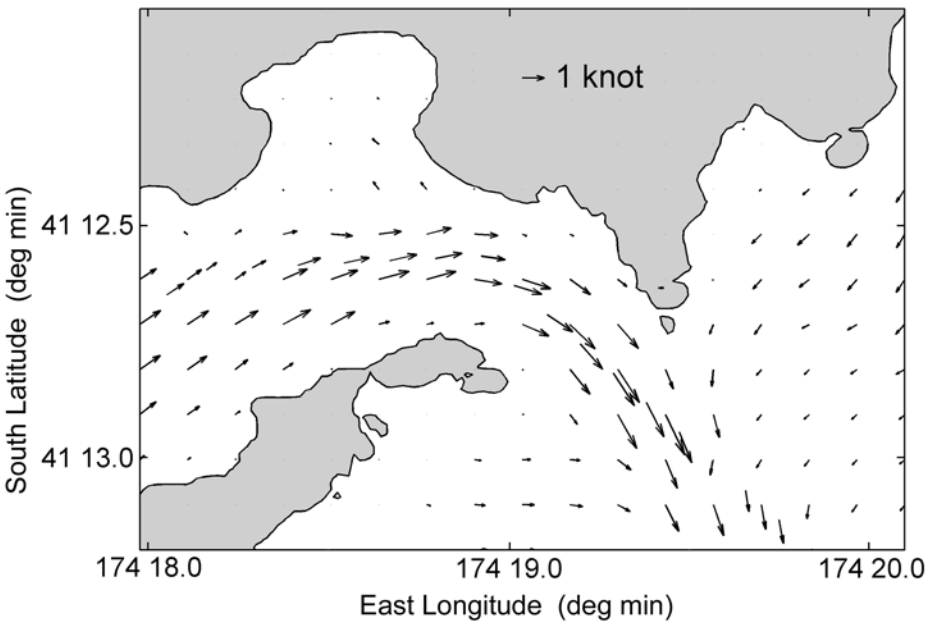
The arrows are arranged in a grid pattern at a spacing of 0.1 nautical miles. Additional arrows are included along the main channel at intervals of 0.1 nautical miles.

The diagrams commence 6 hours before high water and end 6 hours after high water at Picton. The predicted times of high water at Picton can be found on pages 64 - 66.

Tidal streams can be influenced by local weather conditions so caution is advised when navigating through this passage. Local tide rips and eddies are not shown on these diagrams. Chart NZ 6154 and the publication *ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51) should be consulted for further information.

Additional notes about tidal streams in general, and the conditions at Tory Channel / Kura te Au Entrance in particular, can be found on page 26.

Predictions of the times of the commencement of the ebb (E) and flood streams (W) at Tory Channel / Kura te Au Entrance can be found on pages 116 - 118.



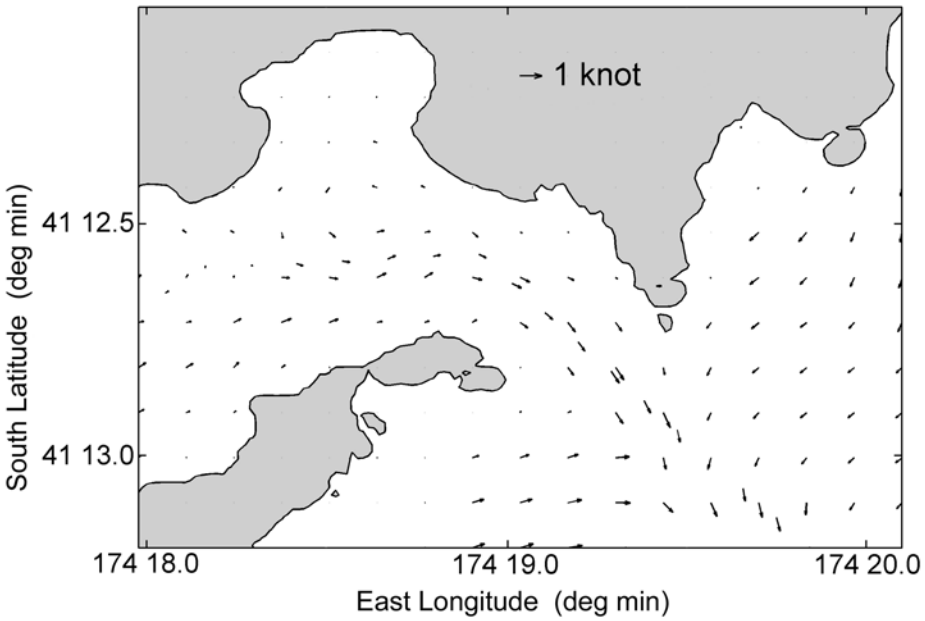
-6hr HW Picton, Neap Tide

Tory Channel / Kura te Au Entrance

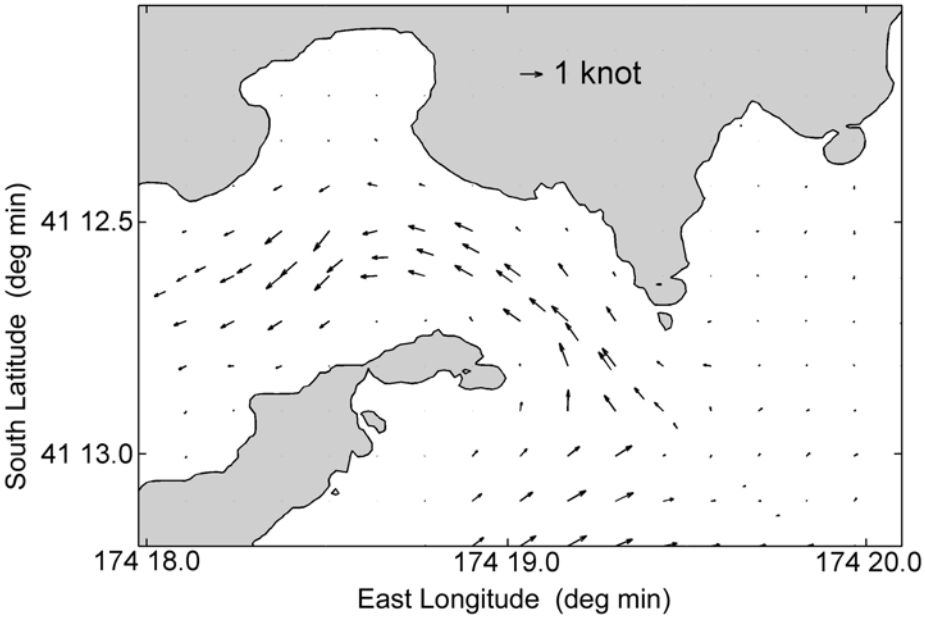
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Picton



-5hr HW Picton, Neap Tide



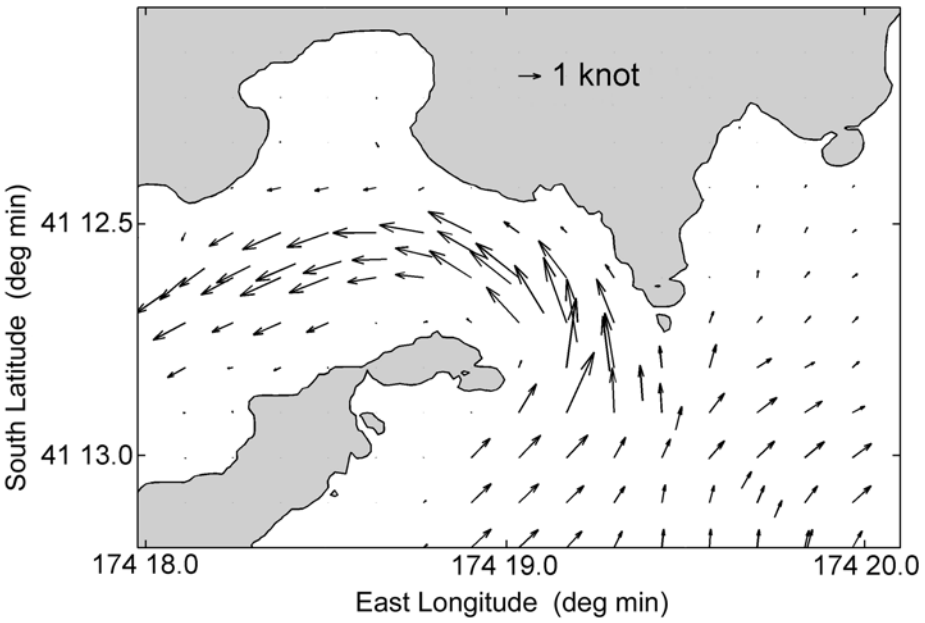
-4hr HW Picton, Neap Tide

Tory Channel / Kura te Au Entrance

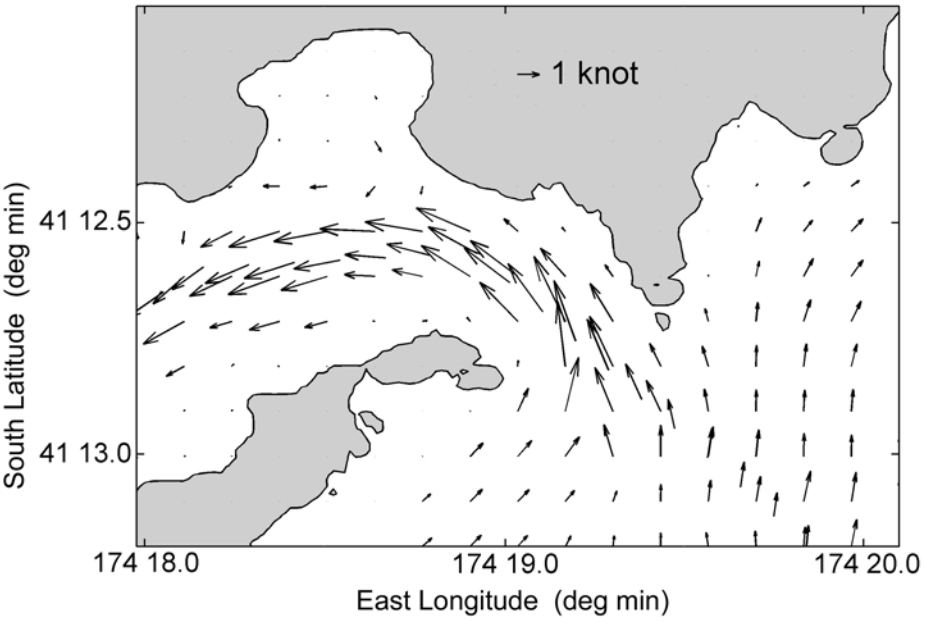
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Picton



-3hr HW Picton, Neap Tide



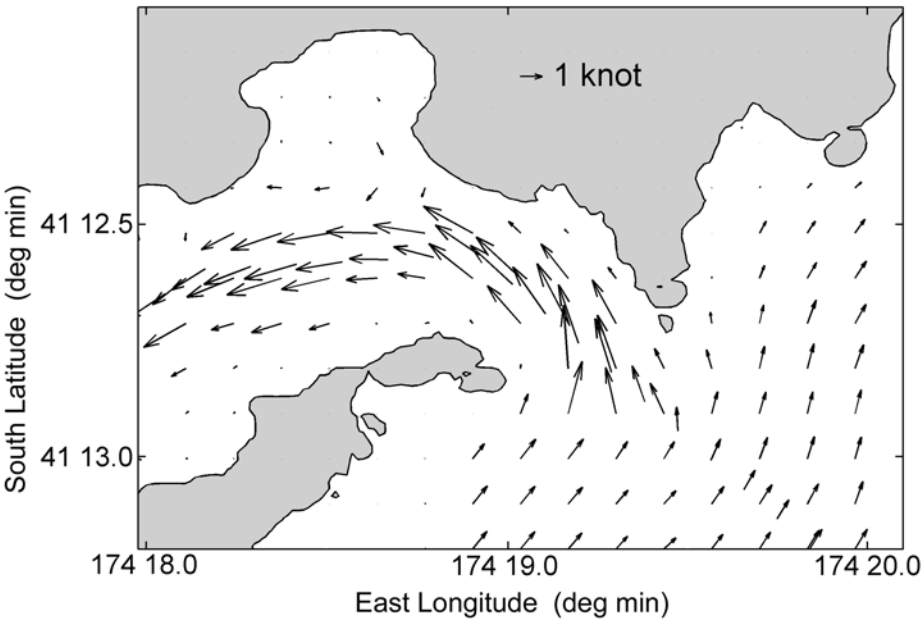
-2hr HW Picton, Neap Tide

Tory Channel / Kura te Au Entrance

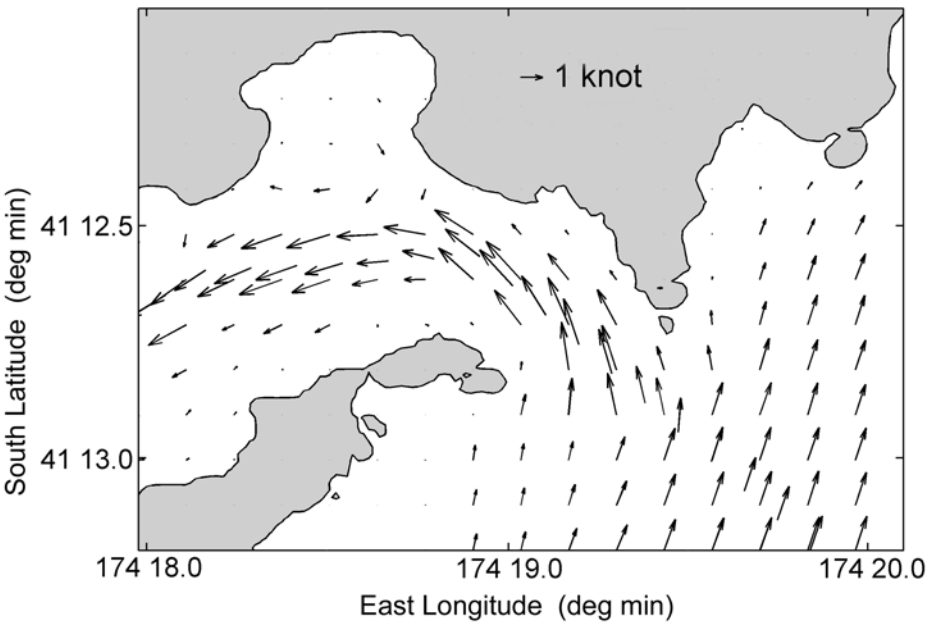
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Picton



-1hr HW Picton, Neap Tide



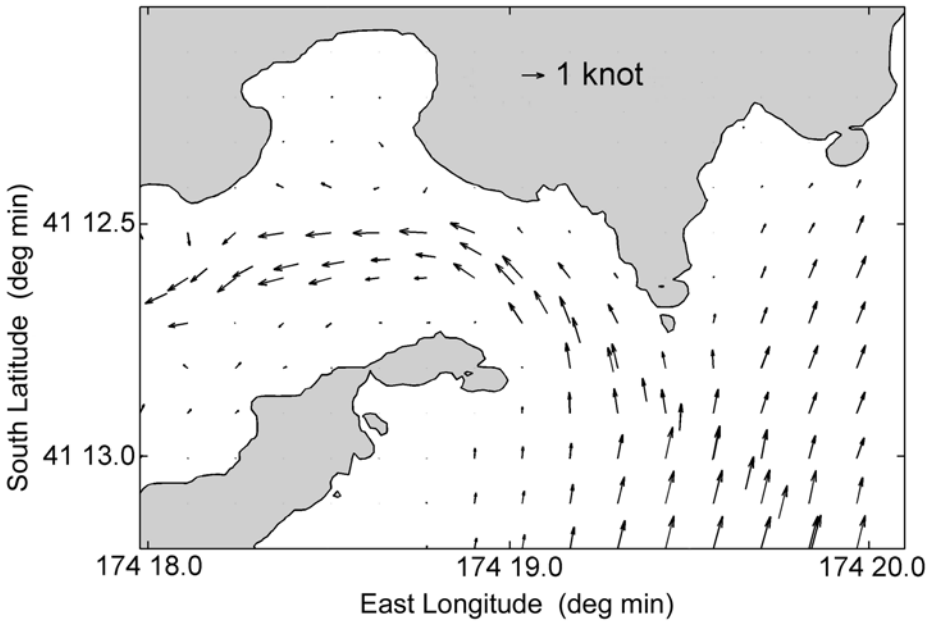
At HW Picton, Neap Tide

Tory Channel / Kura te Au Entrance

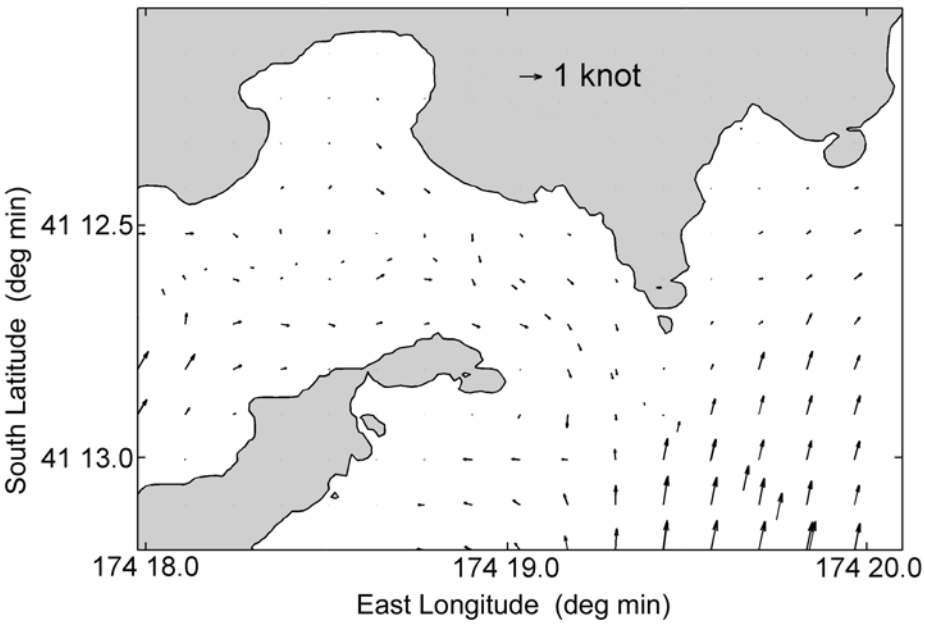
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Picton



+1hr HW Picton, Neap Tide



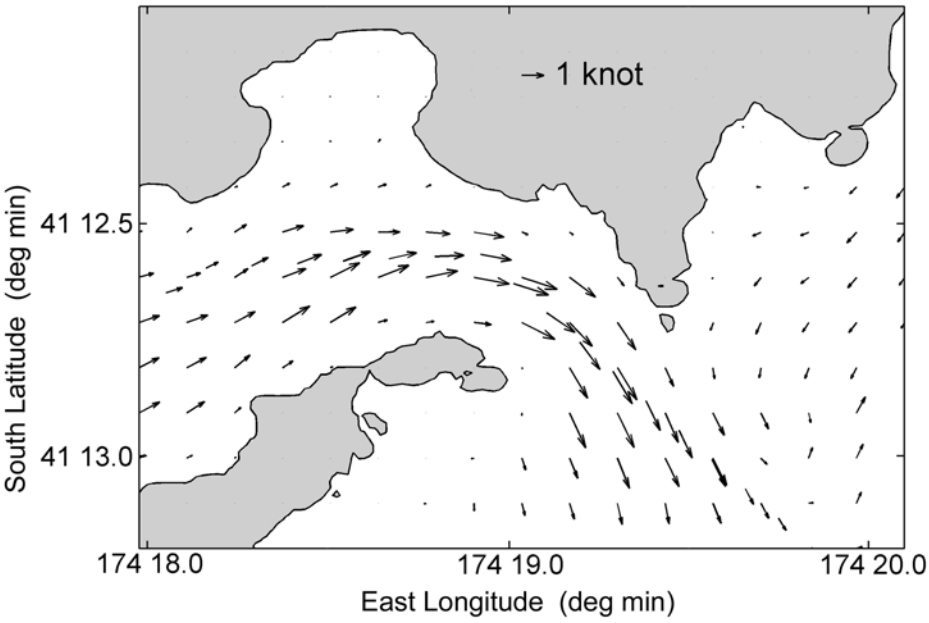
+2hr HW Picton, Neap Tide

Tory Channel / Kura te Au Entrance

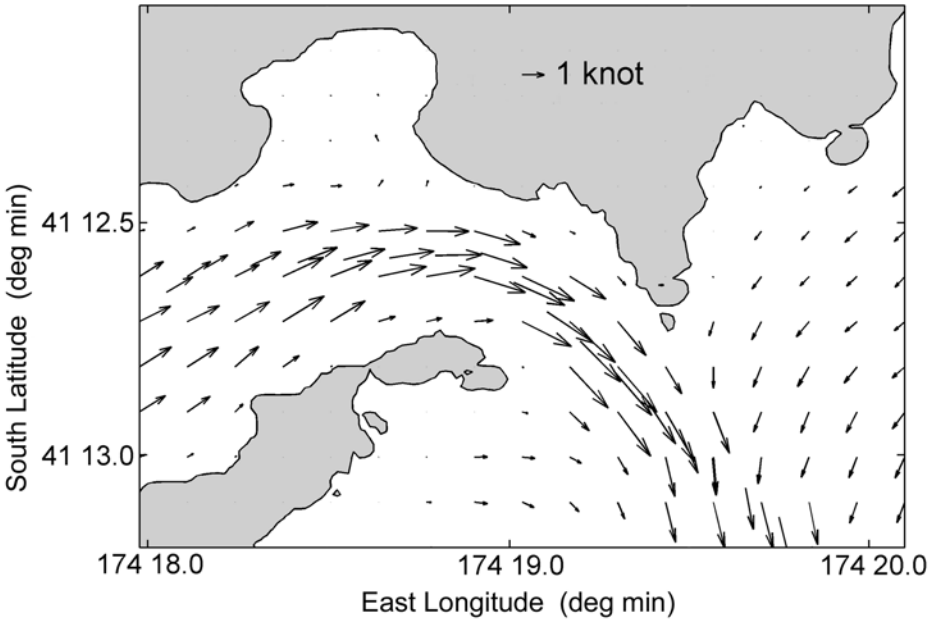
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Picton



+3hr HW Picton, Neap Tide



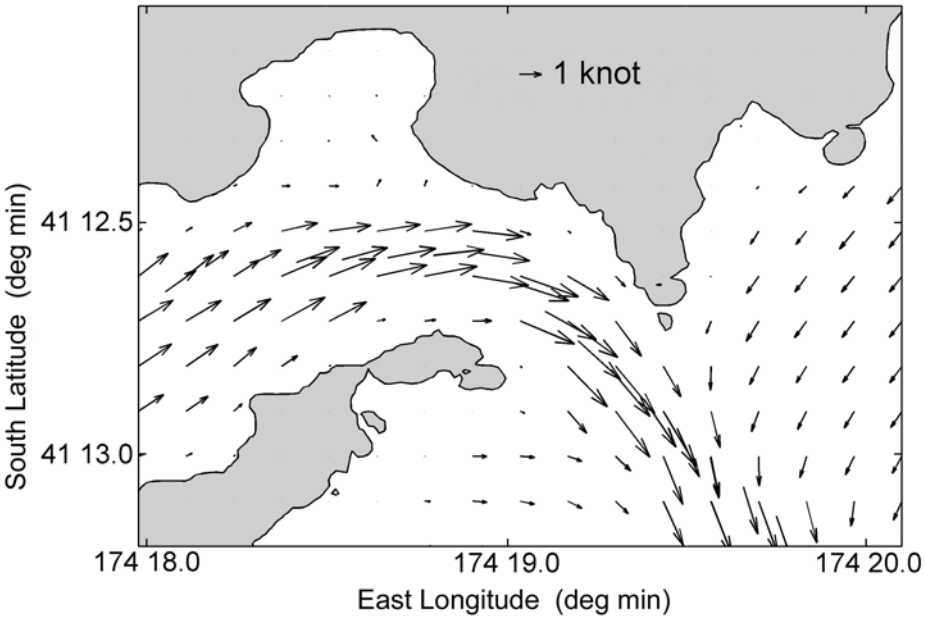
+4hr HW Picton, Neap Tide

Tory Channel / Kura te Au Entrance

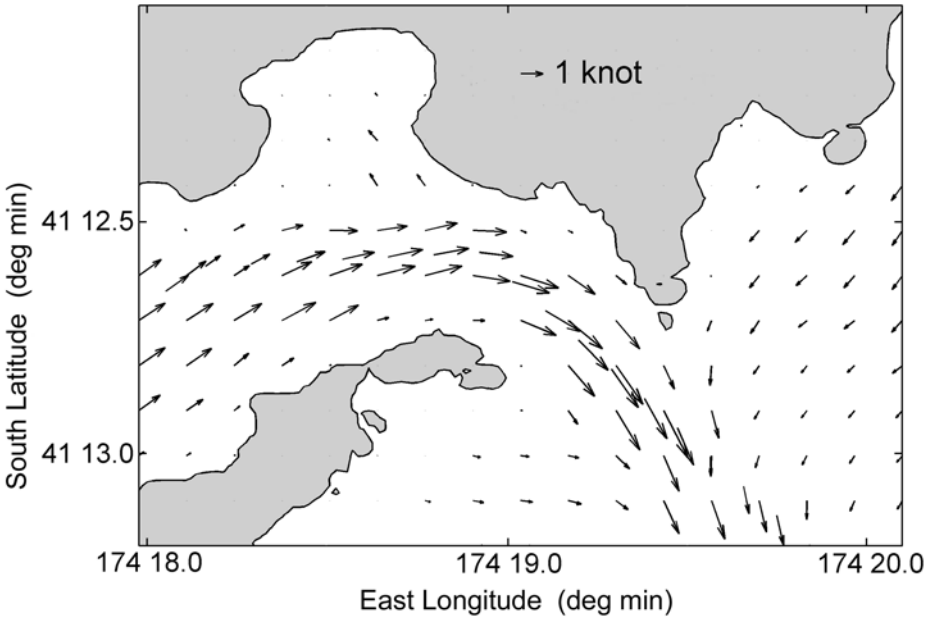
Lat. 41° 13'S., Long. 174° 19'E.

Tidal Stream Diagrams During Neap Tide Conditions

Times Relative to High Water at Picton



+5hr HW Picton, Neap Tide



+6hr HW Picton, Neap Tide

Te Aumiti / French Pass

Lat. 40˚55´S., Long. 173˚50´E.

Time Zone –1200 | **Tidal Stream begins at the time shown in direction indicated** | **Year 2024**

July

	Time	Dir		Time	Dir
1 Mo	0332	NE	**16** Tu	0321	NE
	0830	SW		0814	SW
	1607	NE		1548	NE
	2116	SW		2055	SW
2 Tu	0424	NE	**17** We	0414	NE
	0930	SW		0914	SW
	1702	NE		1645	NE
	2219	SW		2200	SW
3 We	0510	NE	**18** Th	0500	NE
	1033	SW		1015	SW
	1752	NE		1736	NE
	2315	SW		2254	SW
4 Th	0554	NE	**19** Fr	0543	NE
	1133	SW		1115	SW
	1837	NE		1819	NE
				2342	SW
5 Fr	0006	SW	**20** Sa	0626	NE
	0638	NE		1210	SW
	1229	SW		1859	NE
	1919	NE			
6 Sa ●	0051	SW	**21** Su ❍	0028	SW
	0723	NE		0711	NE
	1318	SW		1301	SW
	2000	NE		1939	NE
7 Su	0136	SW	**22** Mo	0113	SW
	0810	NE		0800	NE
	1401	SW		1347	SW
	2042	NE		2022	NE
8 Mo	0217	SW	**23** Tu	0158	SW
	0858	NE		0852	NE
	1441	SW		1431	SW
	2124	NE		2109	NE
9 Tu	0257	SW	**24** We	0245	SW
	0946	NE		0945	NE
	1517	SW		1516	SW
	2207	NE		2159	NE
10 We	0338	SW	**25** Th	0332	SW
	1035	NE		1040	NE
	1552	SW		1600	SW
	2251	NE		2255	NE
11 Th	0418	SW	**26** Fr	0421	SW
	1122	NE		1136	NE
	1627	SW		1645	SW
	2338	NE		2353	NE
12 Fr	0459	SW	**27** Sa	0510	SW
	1210	NE		1232	NE
	1704	SW		1734	SW
13 Sa	0030	NE	**28** Su	0055	NE
	0542	SW		0601	SW
	1259	NE		1331	NE
	1747	SW		1831	SW
14 Su	0125	NE	**29** Mo	0159	NE
	0630	SW		0656	SW
	1352	NE		1433	NE
	1839	SW		1940	SW
15 Mo	0224	NE	**30** Tu	0302	NE
	0720	SW		0757	SW
	1447	NE		1542	NE
	1943	SW		2057	SW
			31 We	0402	NE
				0908	SW
				1651	NE
				2207	SW

August

	Time	Dir		Time	Dir
1 Th	0456	NE	**16** Fr	0434	NE
	1023	SW		0947	SW
	1746	NE		1715	NE
	2305	SW		2233	SW
2 Fr	0545	NE	**17** Sa	0526	NE
	1129	SW		1056	SW
	1830	NE		1802	NE
	2355	SW		2324	SW
3 Sa	0631	NE	**18** Su	0614	NE
	1223	SW		1153	SW
	1909	NE		1841	NE
4 Su ●	0039	SW	**19** Mo	0011	SW
	0714	NE		0659	NE
	1307	SW		1242	SW
	1945	NE		1921	NE
5 Mo	0119	SW	**20** Tu ❍	0055	SW
	0756	NE		0744	NE
	1344	SW		1327	SW
	2021	NE		2002	NE
6 Tu	0156	SW	**21** We	0141	SW
	0837	NE		0832	NE
	1417	SW		1411	SW
	2057	NE		2046	NE
7 We	0231	SW	**22** Th	0225	SW
	0918	NE		0920	NE
	1448	SW		1452	SW
	2134	NE		2134	NE
8 Th	0306	SW	**23** Fr	0310	SW
	0958	NE		1010	NE
	1519	SW		1534	SW
	2213	NE		2226	NE
9 Fr	0341	SW	**24** Sa	0356	SW
	1038	NE		1102	NE
	1550	SW		1619	SW
	2253	NE		2322	NE
10 Sa	0417	SW	**25** Su	0442	SW
	1121	NE		1157	NE
	1623	SW		1706	SW
	2338	NE			
11 Su	0455	SW	**26** Mo	0022	NE
	1205	NE		0530	SW
	1700	SW		1255	NE
				1802	SW
12 Mo	0027	NE	**27** Tu	0127	NE
	0537	SW		0624	SW
	1252	NE		1400	NE
	1744	SW		1919	SW
13 Tu	0124	NE	**28** We	0236	NE
	0624	SW		0730	SW
	1346	NE		1521	NE
	1845	SW		2047	SW
14 We	0228	NE	**29** Th	0346	NE
	0720	SW		0854	SW
	1454	NE		1645	NE
	2008	SW		2159	SW
15 Th	0335	NE	**30** Fr	0448	NE
	0829	SW		1019	SW
	1611	NE		1742	NE
	2130	SW		2255	SW
			31 Sa	0540	NE
				1121	SW
				1820	NE
				2340	SW

September

	Time	Dir		Time	Dir
1 Su	0624	NE	**16** Mo	0600	NE
	1209	SW		1131	SW
	1853	NE		1821	NE
				2348	SW
2 Mo	0021	SW	**17** Tu	0642	NE
	0701	NE		1219	SW
	1246	SW		1859	NE
	1925	NE			
3 Tu ●	0057	SW	**18** We ❍	0033	SW
	0737	NE		0724	NE
	1319	SW		1303	SW
	1955	NE		1937	NE
4 We	0130	SW	**19** Th	0117	SW
	0811	NE		0807	NE
	1349	SW		1346	SW
	2026	NE		2019	NE
5 Th	0202	SW	**20** Fr	0201	SW
	0846	NE		0853	NE
	1417	SW		1427	SW
	2059	NE		2105	NE
6 Fr	0235	SW	**21** Sa	0246	SW
	0923	NE		0940	NE
	1445	SW		1510	SW
	2134	NE		2156	NE
7 Sa	0307	SW	**22** Su	0330	SW
	0958	NE		1031	NE
	1515	SW		1553	SW
	2211	NE		2251	NE
8 Su	0341	SW	**23** Mo	0415	SW
	1037	NE		1123	NE
	1546	SW		1640	SW
	2252	NE		2352	NE
9 Mo	0417	SW	**24** Tu	0503	SW
	1117	NE		1221	NE
	1622	SW		1739	SW
	2338	NE			
10 Tu	0456	SW	**25** We	0059	NE
	1203	NE		0558	SW
	1703	SW		1330	NE
				1901	SW
11 We	0034	NE	**26** Th	0215	NE
	0542	SW		0708	SW
	1256	NE		1500	NE
	1802	SW		2032	SW
12 Th	0144	NE	**27** Fr	0331	NE
	0641	SW		0838	SW
	1408	NE		1631	NE
	1931	SW		2142	SW
13 Fr	0303	NE	**28** Sa	0438	NE
	0757	SW		1000	SW
	1542	NE		1725	NE
	2105	SW		2234	SW
14 Sa	0415	NE	**29** Su	0528	NE
	0924	SW		1059	SW
	1655	NE		1800	NE
	2210	SW		2316	SW
15 Su	0514	NE	**30** Mo	0607	NE
	1036	SW		1143	SW
	1743	NE		1829	NE
	2302	SW		2354	SW

October

	Time	Dir		Time	Dir
1 Tu	0640	NE	**16** We	0622	NE
	1219	SW		1152	SW
	1858	NE		1834	NE
2 We	0029	SW	**17** Th ❍	0008	SW
	0712	NE		0702	NE
	1249	SW		1237	SW
	1925	NE		1912	NE
3 Th ●	0101	SW	**18** Fr	0053	SW
	0744	NE		0744	NE
	1318	SW		1321	SW
	1955	NE		1953	NE
4 Fr	0133	SW	**19** Sa	0139	SW
	0816	NE		0828	NE
	1347	SW		1404	SW
	2026	NE		2039	NE
5 Sa	0205	SW	**20** Su	0224	SW
	0849	NE		0914	NE
	1415	SW		1447	SW
	2059	NE		2130	NE
6 Su	0238	SW	**21** Mo	0310	SW
	0925	NE		1004	NE
	1445	SW		1531	SW
	2135	NE		2225	NE
7 Mo	0312	SW	**22** Tu	0356	SW
	1002	NE		1057	NE
	1517	SW		1621	SW
	2216	NE		2327	NE
8 Tu	0349	SW	**23** We	0444	SW
	1042	NE		1155	NE
	1554	SW		1720	SW
	2304	NE			
9 We	0429	SW	**24** Th	0036	NE
	1128	NE		0537	SW
	1638	SW		1304	NE
				1839	SW
10 Th	0003	NE	**25** Fr	0151	NE
	0516	SW		0642	SW
	1225	NE		1428	NE
	1738	SW		2000	SW
11 Fr	0117	NE	**26** Sa	0305	NE
	0616	SW		0802	SW
	1340	NE		1555	NE
	1907	SW		2106	SW
12 Sa	0240	NE	**27** Su	0410	NE
	0733	SW		0920	SW
	1514	NE		1651	NE
	2036	SW		2157	SW
13 Su	0357	NE	**28** Mo	0500	NE
	0858	SW		1021	SW
	1630	NE		1729	NE
	2142	SW		2240	SW
14 Mo	0455	NE	**29** Tu	0540	NE
	1009	SW		1106	SW
	1719	NE		1800	NE
	2235	SW		2320	SW
15 Tu	0541	NE	**30** We	0614	NE
	1104	SW		1144	SW
	1757	NE		1828	NE
	2322	SW		2356	SW
			31 Th	0646	NE
				1218	SW
				1855	NE

Caution: Tidal Streams may be subject to irregularities and these times should be regarded as approximate only.

Remember to add 1 Hour for Daylight Saving Time. Commences 29 September.

Te Aumiti / French Pass

Lat. 40° 55´S., Long. 173° 50´E.

Time Zone –1200 | **Tidal Stream begins at the time shown in direction indicated** | **Year 2024/25**

November

	Time	Dir		Time	Dir
1 Fr	0031	SW	16 Sa ○	0032	SW
	0717	NE		0725	NE
	1248	SW		1300	SW
	1925	NE		1931	NE
2 Sa ●	0105	SW	17 Su	0120	SW
	0749	NE		0809	NE
	1319	SW		1345	SW
	1956	NE		2019	NE
3 Su	0140	SW	18 Mo	0209	SW
	0823	NE		0856	NE
	1350	SW		1430	SW
	2031	NE		2110	NE
4 Mo	0215	SW	19 Tu	0255	SW
	0858	NE		0945	NE
	1423	SW		1517	SW
	2110	NE		2207	NE
5 Tu	0252	SW	20 We	0342	SW
	0938	NE		1037	NE
	1458	SW		1606	SW
	2155	NE		2307	NE
6 We	0331	SW	21 Th	0427	SW
	1020	NE		1133	NE
	1539	SW		1701	SW
	2247	NE			
7 Th	0414	SW	22 Fr	0011	NE
	1109	NE		0514	SW
	1628	SW		1234	NE
	2349	NE		1803	SW
8 Fr	0503	SW	23 Sa	0117	NE
	1209	NE		0607	SW
	1728	SW		1345	NE
				1910	SW
9 Sa	0102	NE	24 Su	0221	NE
	0601	SW		0709	SW
	1324	NE		1458	NE
	1844	SW		2011	SW
10 Su	0219	NE	25 Mo	0323	NE
	0711	SW		0819	SW
	1447	NE		1601	NE
	2001	SW		2105	SW
11 Mo	0331	NE	26 Tu	0418	NE
	0826	SW		0927	SW
	1559	NE		1647	NE
	2105	SW		2153	SW
12 Tu	0430	NE	27 We	0504	NE
	0936	SW		1022	SW
	1650	NE		1723	NE
	2200	SW		2239	SW
13 We	0518	NE	28 Th	0544	NE
	1035	SW		1106	SW
	1732	NE		1755	NE
	2252	SW		2320	SW
14 Th	0601	NE	29 Fr	0619	NE
	1126	SW		1145	SW
	1810	NE		1826	NE
	2342	SW			
15 Fr	0642	NE	30 Sa	0001	SW
	1214	SW		0653	NE
	1849	NE		1221	SW
				1858	NE

December

	Time	Dir		Time	Dir
1 Su ●	0041	SW	16 Mo	0111	SW
	0726	NE		0757	NE
	1255	SW		1334	SW
	1933	NE		2006	NE
2 Mo	0121	SW	17 Tu	0200	SW
	0802	NE		0843	NE
	1331	SW		1419	SW
	2011	NE		2058	NE
3 Tu	0200	SW	18 We	0246	SW
	0840	NE		0930	NE
	1409	SW		1505	SW
	2056	NE		2152	NE
4 We	0241	SW	19 Th	0327	SW
	0921	NE		1018	NE
	1448	SW		1549	SW
	2145	NE		2246	NE
5 Th	0322	SW	20 Fr	0406	SW
	1008	NE		1107	NE
	1532	SW		1635	SW
	2241	NE		2339	NE
6 Fr	0405	SW	21 Sa	0446	SW
	1058	NE		1159	NE
	1622	SW		1722	SW
	2340	NE			
7 Sa	0452	SW	22 Su	0033	NE
	1158	NE		0526	SW
	1717	SW		1256	NE
				1812	SW
8 Su	0045	NE	23 Mo	0127	NE
	0544	SW		0613	SW
	1304	NE		1356	NE
	1819	SW		1904	SW
9 Mo	0151	NE	24 Tu	0223	NE
	0643	SW		0709	SW
	1417	NE		1458	NE
	1922	SW		1957	SW
10 Tu	0256	NE	25 We	0320	NE
	0751	SW		0819	SW
	1524	NE		1554	NE
	2024	SW		2052	SW
11 We	0359	NE	26 Th	0418	NE
	0902	SW		0928	SW
	1619	NE		1641	NE
	2124	SW		2148	SW
12 Th	0454	NE	27 Fr	0509	NE
	1007	SW		1026	SW
	1707	NE		1721	NE
	2224	SW		2241	SW
13 Fr	0542	NE	28 Sa	0553	NE
	1104	SW		1114	SW
	1749	NE		1759	NE
	2321	SW		2333	SW
14 Sa	0628	NE	29 Su	0632	NE
	1156	SW		1156	SW
	1832	NE		1836	NE
15 Su ○	0018	SW	30 Mo	0022	SW
	0712	NE		0709	NE
	1246	SW		1237	SW
	1917	NE		1916	NE
			31 Tu ●	0107	SW
				0746	NE
				1317	SW
				2000	NE

January

	Time	Dir		Time	Dir
1 We	0150	SW	16 Th	0232	SW
	0825	NE		0912	NE
	1357	SW		1447	SW
	2047	NE		2133	NE
2 Th	0230	SW	17 Fr	0308	SW
	0909	NE		0953	NE
	1440	SW		1526	SW
	2137	NE		2218	NE
3 Fr	0312	SW	18 Sa	0341	SW
	0955	NE		1036	NE
	1524	SW		1603	SW
	2230	NE		2302	NE
4 Sa	0353	SW	19 Su	0412	SW
	1045	NE		1119	NE
	1610	SW		1641	SW
	2324	NE		2347	NE
5 Su	0436	SW	20 Mo	0446	SW
	1139	NE		1206	NE
	1659	SW		1720	SW
6 Mo	0020	NE	21 Tu	0032	NE
	0522	SW		0523	SW
	1240	NE		1257	NE
	1750	SW		1803	SW
7 Tu	0118	NE	22 We	0120	NE
	0614	SW		0608	SW
	1344	NE		1353	NE
	1845	SW		1850	SW
8 We	0219	NE	23 Th	0214	NE
	0717	SW		0706	SW
	1449	NE		1452	NE
	1944	SW		1945	SW
9 Th	0325	NE	24 Fr	0317	NE
	0831	SW		0825	SW
	1550	NE		1552	NE
	2049	SW		2049	SW
10 Fr	0431	NE	25 Sa	0428	NE
	0946	SW		0945	SW
	1645	NE		1646	NE
	2201	SW		2201	SW
11 Sa	0531	NE	26 Su	0528	NE
	1050	SW		1045	SW
	1735	NE		1735	NE
	2312	SW		2309	SW
12 Su	0622	NE	27 Mo	0614	NE
	1147	SW		1135	SW
	1823	NE		1820	NE
13 Mo	0015	SW	28 Tu	0005	SW
	0707	NE		0653	NE
	1238	SW		1220	SW
	1911	NE		1904	NE
14 Tu ○	0108	SW	29 We	0052	SW
	0749	NE		0730	NE
	1324	SW		1302	SW
	1959	NE		1949	NE
15 We	0153	SW	30 Th ●	0135	SW
	0831	NE		0808	NE
	1407	SW		1344	SW
	2046	NE		2034	NE
			31 Fr	0215	SW
				0850	NE
				1426	SW
				2121	NE

February

	Time	Dir		Time	Dir
1 Sa	0254	SW	16 Su	0310	SW
	0934	NE		1001	NE
	1509	SW		1530	SW
	2209	NE		2224	NE
2 Su	0333	SW	17 Mo	0339	SW
	1024	NE		1040	NE
	1552	SW		1603	SW
	2258	NE		2302	NE
3 Mo	0414	SW	18 Tu	0408	SW
	1116	NE		1121	NE
	1636	SW		1638	SW
	2350	NE		2342	NE
4 Tu	0458	SW	19 We	0441	SW
	1213	NE		1205	NE
	1723	SW		1715	SW
5 We	0044	NE	20 Th	0025	NE
	0547	SW		0519	SW
	1313	NE		1256	NE
	1813	SW		1758	SW
6 Th	0143	NE	21 Fr	0113	NE
	0648	SW		0610	SW
	1419	NE		1355	NE
	1911	SW		1849	SW
7 Fr	0253	NE	22 Sa	0215	NE
	0809	SW		0726	SW
	1526	NE		1504	NE
	2022	SW		1956	SW
8 Sa	0415	NE	23 Su	0339	NE
	0935	SW		0904	SW
	1630	NE		1614	NE
	2151	SW		2122	SW
9 Su	0529	NE	24 Mo	0501	NE
	1044	SW		1017	SW
	1729	NE		1714	NE
	2312	SW		2242	SW
10 Mo	0620	NE	25 Tu	0552	NE
	1140	SW		1110	SW
	1820	NE		1804	NE
				2342	SW
11 Tu	0013	SW	26 We	0632	NE
	0700	NE		1156	SW
	1228	SW		1848	NE
	1906	NE			
12 We	0100	SW	27 Th	0029	SW
	0736	NE		0708	NE
	1310	SW		1240	SW
	1948	NE		1930	NE
13 Th ○	0138	SW	28 Fr ●	0112	SW
	0813	NE		0745	NE
	1348	SW		1322	SW
	2027	NE		2013	NE
14 Fr	0211	SW			
	0847	NE			
	1423	SW			
	2106	NE			
15 Sa	0241	SW			
	0924	NE			
	1457	SW			
	2145	NE			

Caution: Tidal Streams may be subject to irregularities and these times should be regarded as approximate only.

Remember to add 1 Hour for Daylight Saving Time.

Te Aumiti / French Pass

Lat. 40˚55´S., Long. 173˚50´E.

Time Zone –1200 | **Tidal Stream begins at the time shown in direction indicated** | **Year 2025**

March

	Time	Dir		Time	Dir
1 Sa	0151	SW	**16** Su	0210	SW
	0825	NE		0850	NE
	1404	SW		1426	SW
	2056	NE		2111	NE
2 Su	0230	SW	**17** Mo	0238	SW
	0909	NE		0925	NE
	1447	SW		1458	SW
	2143	NE		2146	NE
3 Mo	0311	SW	**18** Tu	0306	SW
	0957	NE		1001	NE
	1529	SW		1530	SW
	2230	NE		2222	NE
4 Tu	0352	SW	**19** We	0334	SW
	1048	NE		1040	NE
	1613	SW		1604	SW
	2321	NE		2301	NE
5 We	0436	SW	**20** Th	0407	SW
	1145	NE		1122	NE
	1659	SW		1641	SW
				2342	NE
6 Th	0015	NE	**21** Fr	0445	SW
	0525	SW		1213	NE
	1248	NE		1722	SW
	1748	SW			
7 Fr	0115	NE	**22** Sa	0030	NE
	0631	SW		0534	SW
	1356	NE		1313	NE
	1848	SW		1813	SW
8 Sa	0231	NE	**23** Su	0131	NE
	0801	SW		0648	SW
	1511	NE		1428	NE
	2009	SW		1920	SW
9 Su	0408	NE	**24** Mo	0258	NE
	0927	SW		0826	SW
	1623	NE		1546	NE
	2148	SW		2048	SW
10 Mo	0523	NE	**25** Tu	0429	NE
	1033	SW		0943	SW
	1724	NE		1652	NE
	2304	SW		2210	SW
11 Tu	0608	NE	**26** We	0525	NE
	1124	SW		1039	SW
	1812	NE		1742	NE
	2357	SW		2309	SW
12 We	0643	NE	**27** Th	0604	NE
	1208	SW		1126	SW
	1852	NE		1824	NE
				2358	SW
13 Th	0037	SW	**28** Fr	0640	NE
	0715	NE		1211	SW
	1246	SW		1905	NE
	1927	NE			
14 Fr ❍	0112	SW	**29** Sa ●	0042	SW
	0746	NE		0717	NE
	1321	SW		1254	SW
	2002	NE		1946	NE
15 Sa	0142	SW	**30** Su	0123	SW
	0818	NE		0757	NE
	1354	SW		1339	SW
	2036	NE		2028	NE
			31 Mo	0206	SW
				0842	NE
				1423	SW
				2116	NE

April

	Time	Dir		Time	Dir
1 Tu	0247	SW	**16** We	0236	SW
	0930	NE		0926	NE
	1508	SW		1502	SW
	2204	NE		2150	NE
2 We	0330	SW	**17** Th	0308	SW
	1024	NE		1007	NE
	1554	SW		1539	SW
	2256	NE		2229	NE
3 Th	0418	SW	**18** Fr	0343	SW
	1123	NE		1052	NE
	1642	SW		1617	SW
	2352	NE		2312	NE
4 Fr	0512	SW	**19** Sa	0424	SW
	1230	NE		1147	NE
	1734	SW		1700	SW
5 Sa	0056	NE	**20** Su	0003	NE
	0624	SW		0516	SW
	1343	NE		1251	NE
	1837	SW		1752	SW
6 Su	0217	NE	**21** Mo	0106	NE
	0752	SW		0629	SW
	1459	NE		1406	NE
	1958	SW		1858	SW
7 Mo	0353	NE	**22** Tu	0230	NE
	0909	SW		0752	SW
	1610	NE		1521	NE
	2127	SW		2017	SW
8 Tu	0501	NE	**23** We	0353	NE
	1007	SW		0903	SW
	1707	NE		1624	NE
	2236	SW		2131	SW
9 We	0543	NE	**24** Th	0451	NE
	1055	SW		0959	SW
	1750	NE		1715	NE
	2325	SW		2233	SW
10 Th	0615	NE	**25** Fr	0532	NE
	1136	SW		1049	SW
	1827	NE		1758	NE
				2323	SW
11 Fr	0005	SW	**26** Sa	0611	NE
	0645	NE		1137	SW
	1214	SW		1838	NE
	1900	NE			
12 Sa	0038	SW	**27** Su	0011	SW
	0714	NE		0648	NE
	1249	SW		1225	SW
	1932	NE		1920	NE
13 Su ❍	0109	SW	**28** Mo ●	0055	SW
	0744	NE		0729	NE
	1322	SW		1313	SW
	2004	NE		2004	NE
14 Mo	0138	SW	**29** Tu	0141	SW
	0816	NE		0815	NE
	1355	SW		1401	SW
	2038	NE		2052	NE
15 Tu	0206	SW	**30** We	0226	SW
	0849	NE		0906	NE
	1428	SW		1450	SW
	2113	NE		2141	NE

May

	Time	Dir		Time	Dir
1 Th	0314	SW	**16** Fr	0247	SW
	1004	NE		0944	NE
	1540	SW		1521	SW
	2236	NE		2207	NE
2 Fr	0404	SW	**17** Sa	0326	SW
	1107	NE		1035	NE
	1630	SW		1602	SW
	2336	NE		2253	NE
3 Sa	0503	SW	**18** Su	0412	SW
	1216	NE		1133	NE
	1723	SW		1647	SW
				2347	NE
4 Su	0040	NE	**19** Mo	0506	SW
	0613	SW		1237	NE
	1327	NE		1737	SW
	1822	SW			
5 Mo	0157	NE	**20** Tu	0051	NE
	0727	SW		0610	SW
	1437	NE		1344	NE
	1931	SW		1837	SW
6 Tu	0318	NE	**21** We	0205	NE
	0832	SW		0718	SW
	1541	NE		1451	NE
	2046	SW		1944	SW
7 We	0423	NE	**22** Th	0317	NE
	0927	SW		0820	SW
	1634	NE		1552	NE
	2150	SW		2052	SW
8 Th	0507	NE	**23** Fr	0415	NE
	1014	SW		0917	SW
	1719	NE		1645	NE
	2242	SW		2155	SW
9 Fr	0541	NE	**24** Sa	0501	NE
	1056	SW		1012	SW
	1756	NE		1732	NE
	2325	SW		2251	SW
10 Sa	0611	NE	**25** Su	0542	NE
	1136	SW		1105	SW
	1829	NE		1815	NE
				2343	SW
11 Su	0001	SW	**26** Mo	0623	NE
	0640	NE		1158	SW
	1215	SW		1859	NE
	1902	NE			
12 Mo	0035	SW	**27** Tu ●	0033	SW
	0711	NE		0706	NE
	1251	SW		1252	SW
	1936	NE		1945	NE
13 Tu ❍	0107	SW	**28** We	0121	SW
	0744	NE		0755	NE
	1327	SW		1346	SW
	2009	NE		2033	NE
14 We	0139	SW	**29** Th	0211	SW
	0820	NE		0849	NE
	1405	SW		1438	SW
	2046	NE		2125	NE
15 Th	0212	SW	**30** Fr	0300	SW
	0859	NE		0949	NE
	1442	SW		1528	SW
	2125	NE		2219	NE
			31 Sa	0353	SW
				1052	NE
				1617	SW
				2317	NE

June

	Time	Dir		Time	Dir
1 Su	0448	SW	**16** Mo	0401	SW
	1157	NE		1118	NE
	1704	SW		1632	SW
				2331	NE
2 Mo	0017	NE	**17** Tu	0451	SW
	0546	SW		1216	NE
	1259	NE		1718	SW
	1754	SW			
3 Tu	0123	NE	**18** We	0031	NE
	0644	SW		0545	SW
	1400	NE		1316	NE
	1848	SW		1810	SW
4 We	0230	NE	**19** Th	0136	NE
	0741	SW		0642	SW
	1456	NE		1416	NE
	1951	SW		1910	SW
5 Th	0332	NE	**20** Fr	0242	NE
	0834	SW		0740	SW
	1550	NE		1517	NE
	2056	SW		2018	SW
6 Fr	0421	NE	**21** Sa	0342	NE
	0923	SW		0839	SW
	1640	NE		1616	NE
	2154	SW		2125	SW
7 Sa	0501	NE	**22** Su	0434	NE
	1010	SW		0939	SW
	1723	NE		1710	NE
	2243	SW		2228	SW
8 Su	0536	NE	**23** Mo	0520	NE
	1056	SW		1040	SW
	1801	NE		1759	NE
	2326	SW		2324	SW
9 Mo	0609	NE	**24** Tu	0604	NE
	1140	SW		1142	SW
	1836	NE		1846	NE
10 Tu	0005	SW	**25** We ●	0018	SW
	0642	NE		0652	NE
	1224	SW		1242	SW
	1911	NE		1933	NE
11 We ❍	0040	SW	**26** Th	0109	SW
	0718	NE		0742	NE
	1305	SW		1338	SW
	1947	NE		2020	NE
12 Th	0117	SW	**27** Fr	0158	SW
	0757	NE		0837	NE
	1346	SW		1427	SW
	2025	NE		2109	NE
13 Fr	0154	SW	**28** Sa	0247	SW
	0842	NE		0933	NE
	1426	SW		1512	SW
	2105	NE		2159	NE
14 Sa	0234	SW	**29** Su	0333	SW
	0930	NE		1029	NE
	1507	SW		1554	SW
	2149	NE		2250	NE
15 Su	0315	SW	**30** Mo	0421	SW
	1022	NE		1123	NE
	1548	SW		1634	SW
	2237	NE		2342	NE

Caution: Tidal Streams may be subject to irregularities and these times should be regarded as approximate only.

Remember to add 1 Hour for Daylight Saving Time. Finishes 6 April.

Tory Channel / Kura te Au Entrance

Lat. 41° 13´S., Long. 174° 19´E.

Time Zone –1200 | **Tidal Stream begins at the time shown in direction indicated** | **Year 2024**

July

	Time	Dir		Time	Dir
1 Mo	0456	E	16 Tu	0421	E
	1055	W		1053	W
	1726	E		1644	E
	2346	W		2324	W
2 Tu	0552	E	17 We	0524	E
	1151	W		1148	W
	1829	E		1750	E
3 We	0037	W	18 Th	0028	W
	0637	E		0619	E
	1232	W		1233	W
	1923	E		1855	E
4 Th	0112	W	19 Fr	0106	W
	0717	E		0704	E
	1305	W		1308	W
	2007	E		1946	E
5 Fr	0140	W	20 Sa	0134	W
	0755	E		0749	E
	1334	W		1340	W
	2048	E		2028	E
6 Sa ●	0209	W	21 Su ☽	0202	W
	0838	E		0837	E
	1407	W		1414	W
	2128	E		2109	E
7 Su	0243	W	22 Mo	0232	W
	0923	E		0927	E
	1445	W		1454	W
	2208	E		2152	E
8 Mo	0321	W	23 Tu	0308	W
	1011	E		1020	E
	1530	W		1538	W
	2247	E		2236	E
9 Tu	0404	W	24 We	0351	W
	1059	E		1111	E
	1618	W		1626	W
	2325	E		2324	E
10 We	0452	W	25 Th	0441	W
	1144	E		1204	E
	1709	W		1717	W
11 Th	0004	E	26 Fr	0016	E
	0546	W		0537	W
	1229	E		1255	E
	1802	W		1815	W
12 Fr	0044	E	27 Sa	0110	E
	0643	W		0640	W
	1316	E		1344	E
	1856	W		1917	W
13 Sa	0128	E	28 Su	0207	E
	0743	W		0747	W
	1403	E		1432	E
	1953	W		2026	W
14 Su	0219	E	29 Mo	0307	E
	0846	W		0856	W
	1453	E		1520	E
	2054	W		2144	W
15 Mo	0317	E	30 Tu	0409	E
	0950	W		1005	W
	1545	E		1614	E
	2205	W		2309	W
			31 We	0512	E
				1112	W
				1738	E

August

	Time	Dir		Time	Dir
1 Th	0020	W	16 Fr	0541	E
	0610	E		1202	W
	1208	W		1825	E
	1914	E			
2 Fr	0104	W	17 Sa	0052	W
	0702	E		0650	E
	1252	W		1255	W
	2004	E		1937	E
3 Sa	0134	W	18 Su	0124	W
	0752	E		0749	E
	1327	W		1333	W
	2044	E		2019	E
4 Su ●	0203	W	19 Mo	0152	W
	0838	E		0838	E
	1402	W		1407	W
	2119	E		2056	E
5 Mo	0234	W	20 Tu ☽	0220	W
	0922	E		0922	E
	1440	W		1443	W
	2155	E		2134	E
6 Tu	0307	W	21 We	0253	W
	1003	E		1006	E
	1519	W		1521	W
	2228	E		2215	E
7 We	0344	W	22 Th	0331	W
	1041	E		1050	E
	1559	W		1603	W
	2301	E		2300	E
8 Th	0425	W	23 Fr	0415	W
	1119	E		1134	E
	1640	W		1648	W
	2333	E		2346	E
9 Fr	0509	W	24 Sa	0505	W
	1155	E		1218	E
	1722	W		1738	W
10 Sa	0008	E	25 Su	0035	E
	0556	W		0600	W
	1233	E		1301	E
	1804	W		1834	W
11 Su	0045	E	26 Mo	0125	E
	0644	W		0659	W
	1313	E		1339	E
	1852	W		1935	W
12 Mo	0128	E	27 Tu	0218	E
	0737	W		0804	W
	1355	E		1416	E
	1943	W		2049	W
13 Tu	0216	E	28 We	0317	E
	0833	W		0913	W
	1440	E		1455	E
	2042	W		2225	W
14 We	0314	E	29 Th	0426	E
	0936	W		1028	W
	1532	E		1549	E
	2203	W			
15 Th	0425	E	30 Fr	0005	W
	1049	W		0546	E
	1641	E		1146	W
	2351	W		1915	E
			31 Sa	0057	W
				0702	E
				1244	W
				1959	E

September

	Time	Dir		Time	Dir
1 Su	0129	W	16 Mo	0113	W
	0755	E		0748	E
	1325	W		1326	W
	2032	E		2003	E
2 Mo	0155	W	17 Tu	0139	W
	0834	E		0828	E
	1400	W		1357	W
	2102	E		2036	E
3 Tu ●	0221	W	18 We ☽	0205	W
	0909	E		0905	E
	1431	W		1427	W
	2130	E		2110	E
4 We	0250	W	19 Th	0234	W
	0942	E		0942	E
	1501	W		1459	W
	2158	E		2148	E
5 Th	0320	W	20 Fr	0307	W
	1013	E		1021	E
	1532	W		1536	W
	2226	E		2228	E
6 Fr	0353	W	21 Sa	0345	W
	1044	E		1101	E
	1605	W		1617	W
	2255	E		2310	E
7 Sa	0430	W	22 Su	0430	W
	1116	E		1140	E
	1640	W		1702	W
	2325	E		2354	E
8 Su	0508	W	23 Mo	0520	W
	1150	E		1217	E
	1717	W		1754	W
	2358	E			
9 Mo	0550	W	24 Tu	0040	E
	1226	E		0615	W
	1759	W		1252	E
				1852	W
10 Tu	0036	E	25 We	0128	E
	0635	W		0716	W
	1305	E		1326	E
	1844	W		2002	W
11 We	0120	E	26 Th	0224	E
	0728	W		0824	W
	1347	E		1402	E
	1941	W		2145	W
12 Th	0211	E	27 Fr	0338	E
	0829	W		0950	W
	1435	E		1450	E
	2057	W		2348	W
13 Fr	0323	E	28 Sa	0531	E
	0950	W		1128	W
	1541	E		1904	E
	2309	W			
14 Sa	0511	E	29 Su	0048	W
	1135	W		0702	E
	1805	E		1238	W
				1942	E
15 Su	0036	W	30 Mo	0118	W
	0652	E		0746	E
	1246	W		1320	W
	1925	E		2009	E

October

	Time	Dir		Time	Dir
1 Tu	0141	W	16 We	0123	W
	0817	E		0808	E
	1350	W		1342	W
	2035	E		2012	E
2 We	0204	W	17 Th ☽	0147	W
	0845	E		0842	E
	1415	W		1409	W
	2059	E		2045	E
3 Th ●	0228	W	18 Fr	0213	W
	0913	E		0917	E
	1440	W		1439	W
	2124	E		2119	E
4 Fr	0254	W	19 Sa	0243	W
	0942	E		0954	E
	1506	W		1512	W
	2149	E		2157	E
5 Sa	0322	W	20 Su	0318	W
	1011	E		1032	E
	1533	W		1550	W
	2216	E		2236	E
6 Su	0353	W	21 Mo	0359	W
	1041	E		1109	E
	1605	W		1633	W
	2245	E		2319	E
7 Mo	0428	W	22 Tu	0446	W
	1115	E		1146	E
	1640	W		1724	W
	2318	E			
8 Tu	0506	W	23 We	0002	E
	1150	E		0541	W
	1720	W		1222	E
	2354	E		1822	W
9 We	0551	W	24 Th	0051	E
	1228	E		0643	W
	1807	W		1258	E
				1932	W
10 Th	0036	E	25 Fr	0148	E
	0644	W		0753	W
	1310	E		1340	E
	1905	W		2114	W
11 Fr	0128	E	26 Sa	0309	E
	0749	W		0924	W
	1402	E		1444	E
	2029	W		2317	W
12 Sa	0242	E	27 Su	0510	E
	0919	W		1107	W
	1518	E		1826	E
	2237	W			
13 Su	0500	E	28 Mo	0024	W
	1116	W		0637	E
	1751	E		1223	W
				1912	E
14 Mo	0014	W	29 Tu	0059	W
	0646	E		0720	E
	1233	W		1306	W
	1903	E		1939	E
15 Tu	0056	W	30 We	0123	W
	0733	E		0751	E
	1314	W		1333	W
	1940	E		2003	E
			31 Th	0144	W
				0818	E
				1357	W
				2027	E

Caution: Tidal Streams may be subject to irregularities and these times should be regarded as approximate only.

Remember to add 1 Hour for Daylight Saving Time. Commences 29 September.

Tory Channel / Kura te Au Entrance

Lat. 41° 13´S., Long. 174° 19´E.

Time Zone –1200 | **Tidal Stream begins at the time shown in direction indicated** | **Year 2024/25**

November

	Time	Dir		Time	Dir
1 Fr	0205	W	**16** Sa ○	0153	W
	0845	E		0856	E
	1419	W		1421	W
	2050	E		2054	E
2 Sa ●	0229	W	**17** Su	0222	W
	0913	E		0933	E
	1443	W		1454	W
	2115	E		2132	E
3 Su	0255	W	**18** Mo	0257	W
	0943	E		1012	E
	1509	W		1531	W
	2144	E		2213	E
4 Mo	0325	W	**19** Tu	0338	W
	1015	E		1051	E
	1539	W		1615	W
	2215	E		2257	E
5 Tu	0359	W	**20** We	0426	W
	1050	E		1130	E
	1613	W		1705	W
	2251	E		2344	E
6 We	0440	W	**21** Th	0522	W
	1128	E		1210	E
	1656	W		1804	W
	2332	E			
7 Th	0527	W	**22** Fr	0036	E
	1209	E		0624	W
	1748	W		1252	E
				1916	W
8 Fr	0020	E	**23** Sa	0136	E
	0625	W		0734	W
	1258	E		1343	E
	1853	W		2044	W
9 Sa	0120	E	**24** Su	0250	E
	0735	W		0856	W
	1358	E		1455	E
	2020	W		2222	W
10 Su	0244	E	**25** Mo	0417	E
	0906	W		1026	W
	1526	E		1658	E
	2209	W		2339	W
11 Mo	0447	E	**26** Tu	0539	E
	1051	W		1147	W
	1724	E		1819	E
	2340	W			
12 Tu	0619	E	**27** We	0026	W
	1211	W		0638	E
	1833	E		1240	W
				1859	E
13 We	0032	W	**28** Th	0057	W
	0709	E		0718	E
	1257	W		1313	W
	1914	E		1927	E
14 Th	0103	W	**29** Fr	0121	W
	0746	E		0750	E
	1327	W		1338	W
	1947	E		1954	E
15 Fr	0128	W	**30** Sa	0143	W
	0821	E		0821	E
	1354	W		1400	W
	2020	E		2021	E

December

	Time	Dir		Time	Dir
1 Su ●	0207	W	**16** Mo	0207	W
	0852	E		0924	E
	1424	W		1443	W
	2051	E		2120	E
2 Mo	0235	W	**17** Tu	0244	W
	0924	E		1006	E
	1450	W		1521	W
	2124	E		2206	E
3 Tu	0307	W	**18** We	0328	W
	0959	E		1047	E
	1522	W		1604	W
	2203	E		2255	E
4 We	0344	W	**19** Th	0417	W
	1038	E		1129	E
	1559	W		1654	W
	2246	E		2345	E
5 Th	0428	W	**20** Fr	0511	W
	1120	E		1210	E
	1645	W		1751	W
	2336	E			
6 Fr	0519	W	**21** Sa	0035	E
	1206	E		0609	W
	1740	W		1252	E
				1853	W
7 Sa	0032	E	**22** Su	0125	E
	0619	W		0710	W
	1301	E		1339	E
	1847	W		2004	W
8 Su	0135	E	**23** Mo	0219	E
	0728	W		0814	W
	1404	E		1433	E
	2007	W		2117	W
9 Mo	0248	E	**24** Tu	0315	E
	0846	W		0925	W
	1523	E		1541	E
	2134	W		2229	W
10 Tu	0409	E	**25** We	0417	E
	1015	W		1043	W
	1648	E		1656	E
	2255	W		2332	W
11 We	0532	E	**26** Th	0523	E
	1138	W		1157	W
	1758	E		1758	E
	2356	W			
12 Th	0637	E	**27** Fr	0019	W
	1236	W		0628	E
	1845	E		1247	W
				1845	E
13 Fr	0038	W	**28** Sa	0053	W
	0725	E		0721	E
	1312	W		1319	W
	1923	E		1923	E
14 Sa	0109	W	**29** Su	0122	W
	0806	E		0802	E
	1341	W		1345	W
	2000	E		1959	E
15 Su ○	0137	W	**30** Mo	0151	W
	0845	E		0838	E
	1410	W		1411	W
	2038	E		2038	E
			31 Tu ●	0224	W
				0913	E
				1439	W
				2120	E

January

	Time	Dir		Time	Dir
1 We	0259	W	**16** Th	0325	W
	0952	E		1042	E
	1511	W		1554	W
	2207	E		2256	E
2 Th	0339	W	**17** Fr	0410	W
	1033	E		1120	E
	1550	W		1640	W
	2256	E		2338	E
3 Fr	0423	W	**18** Sa	0456	W
	1116	E		1157	E
	1636	W		1729	W
	2348	E			
4 Sa	0512	W	**19** Su	0017	E
	1205	E		0543	W
	1730	W		1233	E
				1821	W
5 Su	0040	E	**20** Mo	0056	E
	0606	W		0632	W
	1258	E		1310	E
	1831	W		1916	W
6 Mo	0132	E	**21** Tu	0136	E
	0707	W		0723	W
	1355	E		1352	E
	1940	W		2012	W
7 Tu	0224	E	**22** We	0219	E
	0814	W		0817	W
	1458	E		1440	E
	2052	W		2111	W
8 We	0319	E	**23** Th	0305	E
	0929	W		0917	W
	1606	E		1537	E
	2204	W		2213	W
9 Th	0421	E	**24** Fr	0357	E
	1054	W		1035	W
	1714	E		1644	E
	2312	W		2317	W
10 Fr	0545	E	**25** Sa	0505	E
	1210	W		1206	W
	1813	E		1753	E
11 Sa	0008	W	**26** Su	0016	W
	0707	E		0639	E
	1259	W		1259	W
	1902	E		1854	E
12 Su	0050	W	**27** Mo	0101	W
	0800	E		0748	E
	1333	W		1332	W
	1948	E		1950	E
13 Mo	0125	W	**28** Tu	0140	W
	0843	E		0829	E
	1404	W		1400	W
	2036	E		2039	E
14 Tu ○	0201	W	**29** We	0217	W
	0923	E		0906	E
	1437	W		1428	W
	2124	E		2125	E
15 We	0242	W	**30** Th ●	0254	W
	1003	E		0943	E
	1514	W		1500	W
	2211	E		2209	E
			31 Fr	0330	W
				1022	E
				1538	W
				2255	E

February

	Time	Dir		Time	Dir
1 Sa	0410	W	**16** Su	0430	W
	1105	E		1128	E
	1620	W		1657	W
	2338	E		2345	E
2 Su	0453	W	**17** Mo	0508	W
	1150	E		1158	E
	1709	W		1740	W
3 Mo	0024	E	**18** Tu	0018	E
	0543	W		0548	W
	1239	E		1231	E
	1804	W		1825	W
4 Tu	0107	E	**19** We	0052	E
	0635	W		0631	W
	1329	E		1306	E
	1904	W		1911	W
5 We	0148	E	**20** Th	0129	E
	0735	W		0714	W
	1423	E		1345	E
	2007	W		2001	W
6 Th	0228	E	**21** Fr	0208	E
	0842	W		0804	W
	1522	E		1432	E
	2114	W		2054	W
7 Fr	0308	E	**22** Sa	0250	E
	1004	W		0906	W
	1626	E		1531	E
	2223	W		2159	W
8 Sa	0354	E	**23** Su	0342	E
	1141	W		1053	W
	1737	E		1652	E
	2333	W		2325	W
9 Su	0659	E	**24** Mo	0529	E
	1249	W		1236	W
	1848	E		1830	E
10 Mo	0033	W	**25** Tu	0042	W
	0800	E		0734	E
	1328	W		1318	W
	1952	E		1950	E
11 Tu	0119	W	**26** We	0129	W
	0839	E		0815	E
	1400	W		1346	W
	2041	E		2036	E
12 We	0201	W	**27** Th	0206	W
	0915	E		0848	E
	1431	W		1413	W
	2123	E		2114	E
13 Th ○	0241	W	**28** Fr ●	0239	W
	0950	E		0922	E
	1503	W		1442	W
	2203	E		2154	E
14 Fr	0317	W			
	1024	E			
	1538	W			
	2239	E			
15 Sa	0352	W			
	1057	E			
	1616	W			
	2312	E			

Caution: Tidal Streams may be subject to irregularities and these times should be regarded as approximate only.

Remember to add 1 Hour for Daylight Saving Time.

Tory Channel / Kura te Au Entrance

Lat. 41° 13´S., Long. 174° 19´E.

Time Zone –1200 | **Tidal Stream begins at the time shown in direction indicated** | **Year 2025**

March

	Time	Dir		Time	Dir
1 Sa	0311	W	**16** Su	0326	W
	0959	E		1022	E
	1516	W		1545	W
	2233	E		2238	E
2 Su	0345	W	**17** Mo	0357	W
	1040	E		1049	E
	1554	W		1620	W
	2312	E		2307	E
3 Mo	0426	W	**18** Tu	0430	W
	1123	E		1118	E
	1640	W		1657	W
	2354	E		2338	E
4 Tu	0512	W	**19** We	0505	W
	1209	E		1148	E
	1730	W		1737	W
5 We	0033	E	**20** Th	0012	E
	0602	W		0544	W
	1256	E		1221	E
	1825	W		1819	W
6 Th	0111	E	**21** Fr	0047	E
	0658	W		0625	W
	1345	E		1259	E
	1925	W		1907	W
7 Fr	0145	E	**22** Sa	0125	E
	0801	W		0714	W
	1439	E		1343	E
	2029	W		1959	W
8 Sa	0216	E	**23** Su	0207	E
	0922	W		0815	W
	1541	E		1439	E
	2141	W		2106	W
9 Su	0246	E	**24** Mo	0257	E
	1118	W		0959	W
	1706	E		1604	E
	2306	W		2247	W
10 Mo	0329	E	**25** Tu	0439	E
	0447	E		1207	W
	0657	E		1817	E
	1240	W			
	1849	E			
11 Tu	0023	W	**26** We	0023	W
	0751	E		0706	E
	1321	W		1258	W
	1951	E		1935	E
12 We	0116	W	**27** Th	0113	W
	0824	E		0748	E
	1349	W		1327	W
	2031	E		2016	E
13 Th	0156	W	**28** Fr	0146	W
	0854	E		0821	E
	1416	W		1352	W
	2105	E		2050	E
14 Fr ❍	0228	W	**29** Sa ●	0215	W
	0924	E		0854	E
	1443	W		1419	W
	2137	E		2126	E
15 Sa	0257	W	**30** Su	0245	W
	0954	E		0930	E
	1513	W		1450	W
	2208	E		2204	E
			31 Mo	0319	W
				1009	E
				1526	W
				2242	E

April

	Time	Dir		Time	Dir
1 Tu	0357	W	**16** We	0354	W
	1051	E		1036	E
	1607	W		1618	W
	2321	E		2305	E
2 We	0440	W	**17** Th	0428	W
	1136	E		1109	E
	1656	W		1657	W
				2338	E
3 Th	0001	E	**18** Fr	0508	W
	0530	W		1145	E
	1222	E		1740	W
	1750	W			
4 Fr	0039	E	**19** Sa	0016	E
	0625	W		0551	W
	1311	E		1226	E
	1849	W		1829	W
5 Sa	0116	E	**20** Su	0058	E
	0732	W		0647	W
	1406	E		1316	E
	1956	W		1929	W
6 Su	0151	E	**21** Mo	0145	E
	0900	W		0759	W
	1514	E		1418	E
	2117	W		2047	W
7 Mo	0231	E	**22** Tu	0248	E
	1101	W		0944	W
	1655	E		1554	E
	2252	W		2229	W
8 Tu	0632	E	**23** We	0441	E
	1223	W		1133	W
	1839	E		1758	E
9 We	0014	W	**24** Th	0002	W
	0726	E		0629	E
	1303	W		1232	W
	1931	E		1906	E
10 Th	0105	W	**25** Fr	0053	W
	0757	E		0716	E
	1329	W		1304	W
	2005	E		1947	E
11 Fr	0138	W	**26** Sa	0125	W
	0824	E		0750	E
	1352	W		1329	W
	2035	E		2022	E
12 Sa	0205	W	**27** Su	0152	W
	0850	E		0824	E
	1416	W		1354	W
	2105	E		2057	E
13 Su ❍	0231	W	**28** Mo ●	0221	W
	0916	E		0859	E
	1443	W		1423	W
	2132	E		2134	E
14 Mo	0257	W	**29** Tu	0253	W
	0942	E		0938	E
	1512	W		1458	W
	2202	E		2214	E
15 Tu	0324	W	**30** We	0331	W
	1008	E		1020	E
	1543	W		1539	W
	2232	E		2256	E

May

	Time	Dir		Time	Dir
1 Th	0415	W	**16** Fr	0401	W
	1106	E		1042	E
	1627	W		1630	W
	2337	E		2316	E
2 Fr	0505	W	**17** Sa	0442	W
	1157	E		1125	E
	1723	W		1716	W
				2359	E
3 Sa	0020	E	**18** Su	0533	W
	0604	W		1214	E
	1251	E		1812	W
	1826	W			
4 Su	0103	E	**19** Mo	0047	E
	0716	W		0634	W
	1354	E		1313	E
	1940	W		1917	W
5 Mo	0151	E	**20** Tu	0144	E
	0849	W		0752	W
	1509	E		1424	E
	2103	W		2037	W
6 Tu	0300	E	**21** We	0257	E
	1035	W		0925	W
	1641	E		1552	E
	2235	W		2208	W
7 We	0535	E	**22** Th	0432	E
	1153	W		1055	W
	1803	E		1723	E
	2354	W		2333	W
8 Th	0645	E	**23** Fr	0552	E
	1236	W		1159	W
	1855	E		1829	E
9 Fr	0044	W	**24** Sa	0030	W
	0719	E		0643	E
	1305	W		1239	W
	1931	E		1916	E
10 Sa	0117	W	**25** Su	0107	W
	0746	E		0720	E
	1327	W		1308	W
	2002	E		1955	E
11 Su	0142	W	**26** Mo	0134	W
	0811	E		0755	E
	1350	W		1333	W
	2031	E		2033	E
12 Mo	0205	W	**27** Tu ●	0203	W
	0837	E		0831	E
	1414	W		1401	W
	2100	E		2113	E
13 Tu ❍	0231	W	**28** We	0234	W
	0903	E		0911	E
	1442	W		1435	W
	2130	E		2155	E
14 We	0257	W	**29** Th	0312	W
	0932	E		0958	E
	1513	W		1517	W
	2204	E		2240	E
15 Th	0327	W	**30** Fr	0357	W
	1005	E		1049	E
	1549	W		1607	W
	2239	E		2325	E
			31 Sa	0449	W
				1145	E
				1706	W

June

	Time	Dir		Time	Dir
1 Su	0013	E	**16** Mo	0520	W
	0550	W		1220	E
	1245	E		1759	W
	1812	W			
2 Mo	0102	E	**17** Tu	0043	E
	0701	W		0622	W
	1348	E		1320	E
	1922	W		1902	W
3 Tu	0158	E	**18** We	0143	E
	0824	W		0734	W
	1453	E		1422	E
	2039	W		2012	W
4 We	0305	E	**19** Th	0250	E
	0951	W		0853	W
	1559	E		1525	E
	2200	W		2132	W
5 Th	0428	E	**20** Fr	0405	E
	1105	W		1010	W
	1704	E		1634	E
	2318	W		2254	W
6 Fr	0540	E	**21** Sa	0515	E
	1158	W		1118	W
	1801	E		1744	E
7 Sa	0016	W	**22** Su	0004	W
	0629	E		0610	E
	1235	W		1209	W
	1848	E		1845	E
8 Su	0054	W	**23** Mo	0049	W
	0703	E		0654	E
	1302	W		1246	W
	1927	E		1935	E
9 Mo	0122	W	**24** Tu	0122	W
	0732	E		0732	E
	1326	W		1317	W
	2001	E		2020	E
10 Tu	0146	W	**25** We ●	0151	W
	0801	E		0812	E
	1351	W		1347	W
	2034	E		2103	E
11 We ❍	0210	W	**26** Th	0223	W
	0833	E		0859	E
	1419	W		1422	W
	2108	E		2146	E
12 Th	0237	W	**27** Fr	0300	W
	0907	E		0950	E
	1452	W		1506	W
	2144	E		2232	E
13 Fr	0308	W	**28** Sa	0343	W
	0948	E		1045	E
	1530	W		1556	W
	2222	E		2318	E
14 Sa	0344	W	**29** Su	0433	W
	1034	E		1140	E
	1613	W		1652	W
	2305	E			
15 Su	0427	W	**30** Mo	0004	E
	1124	E		0530	W
	1702	W		1232	E
	2351	E		1750	W

Caution: Tidal Streams may be subject to irregularities and these times should be regarded as approximate only.

Remember to add 1 Hour for Daylight Saving Time. Finishes 6 April.

Alphabetical Index of Secondary Ports

Secondary Port	Standard Port of Reference
Ahipara Bay	Port Taranaki
Ahuahu	Tauranga
Akaroa	Lyttelton
Akatarere Point	Marsden Point
Ākitio River Entrance	Napier
Anakakata Bay	Picton
Anawhata	Onehunga
Anita Bay	Westport
Antipodes Island	Bluff
Aotea Harbour	Port Taranaki
Aotea Island	Marsden Point
Aparima	Bluff
Ashburton River Entrance	Timaru
Astrolabe Roadstead	Nelson
Auckland Island	Bluff
Awanui River	Marsden Point
Banks Peninsula	Lyttelton
Bare Island	Napier
Bay of Islands	Marsden Point
Ben Gunn Wharf	Marsden Point
Bay of Plenty	Tauranga
Bethells Beach	Onehunga
Blanket Bay	Westport
Bligh Sound	Westport
Boat Cove	Marsden Point
Boat Harbour	Tauranga
Bon Accord Harbour	Auckland
Bowentown	Tauranga
Bradshaw Sound	Westport
Breaksea Sound	Westport
Bruce Bay	Westport
Burgess Island	Marsden Point
Campbell Island	Bluff
Cape Campbell	Wellington
Cape Farewell	Westport
Cape Kidnappers	Napier
Cape Maria van Diemen	Port Taranaki
Cape Palliser	Wellington
Cape Reinga / Te Rerenga Wairua	Port Taranaki
Cape Terawhiti	Wellington
Cape Turnagain	Napier
Cape Wiwiki	Marsden Point
Carnley Harbour	Bluff
Castlepoint	Napier
Catherine Cove	Nelson
Cavalli Islands	Marsden Point
Cave Bay	Wellington
Chalky Inlet	Westport
Chalky Island	Westport
Charles Sound	Westport
Charleston	Westport
Chatham Island	Lyttelton
Christmas Village Bay	Bluff
Clarks Beach	Onehunga
Coal Island	Westport
Colac Bay	Bluff
Collingwood	Nelson
Conway Flat	Lyttelton
Cook Strait	Picton, Wellington
Cooks Cove	Gisborne
Coppermine Bay	Nelson
Cornwallis	Onehunga
Coromandel Harbour	Auckland
Coromandel Peninsula	Auckland, Marsden Point, Tauranga
Croisilles Harbour	Nelson
D'Urville Island	Nelson
Dairy Factory Wharf	Marsden Point
Dargaville	Port Taranaki
Deas Cove	Westport
Deep Cove	Westport
Devonport Naval Base	Auckland
Dog Island	Bluff
Doubtful Sound	Westport
Doves Bay	Marsden Point
Dryden Bay	Picton
Dusky Sound	Westport
East Arm	Nelson
East Bay	Picton
East Cape	Gisborne
Easy Harbour	Bluff
Elaine Bay	Nelson
Elie Bay	Nelson
Elmslie Bay	Nelson
Ernest Islands	Bluff
Far North	Port Taranaki
Farewell Spit	Nelson
Farmer Point	Marsden Point
Fiordland Sounds	Westport
Fishermans Rock	Picton
Fishing Bay	Westport
Fishing Rock	Marsden Point
Flour Cask Bay	Bluff
Flower Pot	Lyttelton
French Pass	Nelson
Freshwater Basin	Westport
Front Islands	Westport
George Sound	Westport
Gilbert Islands	Westport
Golden Bay, Nelson	Nelson
Golden Bay, Stewart Island / Rakiura	Bluff
Great Barrier Island	Marsden Point
Great Island	Port Taranaki
Great Mercury Island	Tauranga
Green Island	Port Chalmers
Greville Harbour	Nelson
Greymouth	Westport
Haast River Entrance	Westport
Hakatere Entrance	Timaru
Halfmoon Bay	Bluff
Happy Jacks Boat Harbour	Gisborne
Hamilton Bay	Nelson
Hauraki Gulf	Auckland
Haurere Point	Tauranga
Hautere	Bluff
Havelock	Nelson
Hāwea	Westport
Hawke Bay	Napier
Helensville	Port Taranaki
Hicks Bay	Gisborne
Hobsonville	Auckland
Hokianga Harbour	Port Taranaki
Hokitika River Bar	Westport
Horowhenua	Port Taranaki
Houhora Harbour	Marsden Point
Houhora Harbour Entrance	Marsden Point
Huruhi Harbour	Marsden Point
Island Point	Port Taranaki
Jackson Bay	Westport
Jane Coves	Westport
Kaikiekie	Westport
Kaikōura	Lyttelton
Kaingaroa	Lyttelton
Kaipara Harbour	Port Taranaki
Kaiteriteri	Nelson
Kaituna River Entrance	Tauranga
Kapiti	Port Taranaki
Kapiti Island	Port Taranaki
Karaka Bay	Wellington
Karamea River Entrance	Westport
Karehana Bay	Port Taranaki
Karori Rock Light	Wellington
Katikati	Tauranga

Alphabetical Index of Secondary Ports

Secondary Port	Standard Port of Reference
Kauri Point	Tauranga
Kawakaputa Bay	Bluff
Kawau Island	Auckland
Kawhia	Port Taranaki
Kekerengu	Lyttelton
Kenepuru Sound	Nelson
Kerikeri	Marsden Point
Kermadec Islands	Marsden Point
Kingfish Point	Marsden Point
Kohukohu	Port Taranaki
Korotiti Bay	Marsden Point
Kotiatia Point	Marsden Point
Kōtiro Point	Nelson
Kura te Au	Picton
Le Bons Bay	Lyttelton
Leigh	Auckland
Little Wanganui	Westport
Long Island	Picton
Long Point	Napier
Long Sound	Westport
Lottin Point	Tauranga
LPG Terminal	Onehunga
Lucky Bay	Wellington
Macdonell Island	Westport
Mahurangi Harbour	Auckland
Maitai Bay	Marsden Point
Mākara Beach	Port Taranaki
Maketu Estuary Entrance	Tauranga
Mana Marina	Port Taranaki
Man o'War Bay	Auckland
Manawatāwhi	Port Taranaki
Manawatū River Entrance	Port Taranaki
Mangawhai Heads	Marsden Point
Mangōnui	Marsden Point
Man-o-War Bay	Nelson
Mansion House Bay	Auckland
Manu Bay	Port Taranaki
Manukau Harbour	Onehunga
Many Islands	Westport
Māpua	Nelson
Maraetai	Auckland
Marlborough Sounds	Nelson
Matakana River	Auckland
Mātakitaki-a-Kupe	Wellington
Matiatia Bay	Auckland
Maunganui Bay	Marsden Point
McKenzie Bay	Auckland
Milford Sound	Westport
Moeraki	Timaru
Mohua	Nelson
Mokau River Entrance	Port Taranaki
Mokohinau Islands	Marsden Point
Motu Ihupuku	Bluff
Motuara Island	Picton
Motueka	Nelson
Motukawanui Island	Marsden Point
Motunau Beach	Lyttelton
Motunui Island	Tauranga
Motupipi Inlet	Nelson
Moturiki Island	Tauranga
Moutohora Island	Tauranga
Muriwai Beach	Onehunga
Murrays Bay	Auckland
Nagle Cove	Marsden Point
New River Entrance	Bluff
Ngaiotonga Bay	Marsden Point
Ngawi	Wellington
North Cape	Marsden Point
North East Island	Bluff
North Taranaki Bight	Port Taranaki
North West Bay	Port Taranaki
Nugget Point	Bluff
Nydia Bay	Nelson

Secondary Port	Standard Port of Reference
Oamaru	Timaru
Oban	Bluff
Ocean Bay	Wellington
Ōhau Point	Lyttelton
Ōkārito	Westport
Okiwa Bay	Picton
Ōkiwi Bay	Nelson
Ōkukari Bay	Picton
Omaia Island	Marsden Point
Omaio Bay	Tauranga
Ōmāpere	Port Taranaki
Ōmokoroa	Tauranga
Onetaunga Bay	Auckland
Onoua	Lyttelton
Opononi	Port Taranaki
Ōpōtiki Wharf	Tauranga
Opua	Marsden Point
Ōpunake Bay	Port Taranaki
Ōraka	Bluff
Orongorongo River Entrance	Wellington
Ōtaki Beach	Port Taranaki
Oteranga Bay	Wellington
Otou	Marsden Point
Owenga	Lyttelton
Pāharakeke	Nelson
Pahi	Port Taranaki
Papakura Channel	Onehunga
Papamoa Beach	Tauranga
Paparoa Point	Nelson
Paraparaumu Beach	Port Taranaki
Paratutae Island	Onehunga
Pārengarenga Harbour	Marsden Point
Pātea, Taranaki	Port Taranaki
Patea, Fiordland	Westport
Pauanui	Tauranga
Pelorus Sound	Nelson
Pelorus Sound Entrance	Nelson
Perseverance Harbour	Bluff
Pigeon Island	Westport
Piha Beach	Onehunga
Pine Harbour	Auckland
Piopiotahi	Westport
Point Gibson	Lyttelton
Pokohinu	Marsden Point
Pōrangahau River Entrance	Napier
Porirua	Port Taranaki
Port Adventure	Bluff
Port Albert	Port Taranaki
Port Charles	Marsden Point
Port Craig	Bluff
Port Jackson	Marsden Point
Port Ōhope Wharf	Tauranga
Port Underwood	Wellington
Port Waikato	Port Taranaki
Port William/Potirepo	Bluff
Portage	Nelson
Portland Island	Napier
Portland Wharf	Marsden Point
Pourerere	Napier
Pouto Point	Port Taranaki
Preservation Inlet	Westport
Pukatea	Wellington
Pukenui Wharf	Marsden Point
Purau Lead	Lyttelton
Queen Charlotte Sound	Picton
Raglan	Port Taranaki
Rakaia River Mouth	Lyttelton
Rakino Island	Auckland
Rakituma	Westport
Rakiura	Bluff
Rangatira Point	Port Taranaki
Rangaunu Harbour	Marsden Point
Rangitaiki River Entrance	Tauranga

Alphabetical Index of Secondary Ports

Secondary Port	Standard Port of Reference
Rangitata River Entrance	Timaru
Rangitoto ki te Tonga	Nelson
Raoul Island	Marsden Point
Raupo	Port Taranaki
Rawene	Port Taranaki
Richmond Bay	Nelson
Riverton	Bluff
Rocky Point	Marsden Point
Ruapuke Island	Bluff
Russell	Marsden Point
Sandspit	Auckland
Sandspit Passage	Auckland
Scheigis Rock	Marsden Point
Sealers Bay	Westport
Shelly Beach	Port Taranaki
Shelter Islands	Westport
Slipper Island	Tauranga
Small Craft Harbour Islands	Westport
Small Craft Retreat	Bluff
Snares Islands	Bluff
Solander Island	Bluff
South Bay	Lyttelton
South Taranaki Bight	Port Taranaki
Spit Wharf	Port Chalmers
Squally Cove	Nelson
Stephens Island	Nelson
Stephenson Island	Marsden Point
Stewart Island	Bluff
Sub-Antarctic Islands	Bluff
Sumner Head	Lyttelton
Sunday Bay	Nelson
Swamp Bay	Nelson
Taiari	Westport
Taipare Bay	Nelson
Taiporoporo	Westport
Tairua	Tauranga
Taiwawe Bay	Marsden Point
Takapourewa	Nelson
Takerau Bay	Marsden Point
Tamaki River	Auckland
Tamatea	Westport
Tamateatai Point	Marsden Point
Tapuaetahi Bay	Tauranga
Tarakohe	Nelson
Taramahiti Point	Napier
Tasman Bay	Nelson
Tauranga Harbour	Tauranga
Te Aumiti	Nelson
Te Awaroa	Westport
Te Awa-o-Tū	Westport
Te Hāpua	Marsden Point
Te Henga	Onehunga
Te Hoiere Entrance	Nelson
Te Houhou	Westport
Te Iro Bay	Picton
Te Kaha	Tauranga
Te Karaka	Port Taranaki
Te Kauwae-a-Māui	Napier
Te Kōpuru	Port Taranaki
Te Motu-o-Kura	Napier
Te Oka Bay	Lyttelton
Te Puaitaha	Westport
Te Tai-o-Aorere	Nelson
Te Weka Bay	Picton
Te Whanganui	Wellington
Thames	Auckland
Thompson Sound	Westport
Three Kings Islands	Port Taranaki
Tīkapa Moana	Auckland
Tikao Bay	Lyttelton
Tikinui	Port Taranaki
Tini Heke	Bluff
Tinopai	Port Taranaki
Tiritiri Matangi Island	Auckland
Tokomaru Bay	Gisborne
Tolaga Bay Wharf	Gisborne
Tory Channel	Picton
Tōtaranui	Picton
Town Basin	Marsden Point
Town Wharf	Tauranga
Tryphena	Marsden Point
Turn Point	Westland
Tutukaka Harbour	Marsden Point
Unahi Jetty	Marsden Point
Waiheke Island	Auckland
Waihi Beach	Tauranga
Waihopai River Entrance	Bluff
Waiiti Bay	Marsden Point
Waikanae River Entrance	Port Taranaki
Waikawa Bay	Nelson
Waikawa Harbour	Bluff
Waikokopu	Napier
Waiorua Bay	Port Taranaki
Waipapa Point	Bluff
Waipiro Bay	Gisborne
Wairarapa Coast	Napier
Wairau River Entrance	Wellington
Wairoa River Mouth	Napier
Waitangi, Bay of Islands	Marsden Point
Waitangi, Chatham Island	Lyttelton
Waitara River Entrance	Port Taranaki
Waitarere Beach	Port Taranaki
Waiuku	Onehunga
Wakatiri	Tauranga
Weiti River Entrance	Auckland
Welcombe Bay	Westport
West Coast Beaches	Onehunga
Weymouth	Onehunga
Whakaari	Tauranga
Whakahau	Tauranga
Whakapirau	Port Taranaki
Whakatahuri	Nelson
Whakatāne	Tauranga
Whangamatā	Tauranga
Whangamumu Harbour	Marsden Point
Whanganui Inlet	Westport
Whanganui Island	Auckland
Whanganui River Entrance	Port Taranaki
Whangārei	Marsden Point
Whangaroa	Marsden Point
Whangaroa Harbour	Marsden Point
Whangaruru Harbour	Marsden Point
Whangateau Harbour	Auckland
Wharariki	Nelson
Wharekahika	Gisborne
Whau River Entrance	Auckland
White Island	Tauranga
Whites Bay	Wellington
Whitianga	Tauranga
Wilson Bay	Nelson
Yankee River Entrance	Bluff
Yncyca Bay	Nelson

Secondary Ports Table

No.	Port	Lat. S. °	′	Long. E. °	′	Time Differences High Water Mean	Range	Time Differences Low Water Mean	Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6400	**Auckland**	**36**	**51**	**174**	**46**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**3.3**	**2.8**	**1.0**	**0.5**	**1.93**		
6399c	Devonport Naval Base	36	50	174	47	0000	-0007 to +0003	0000	-0007 to +0004	3.2	2.7	0.9	0.4	1.8	1.00	
6399e	Hobsonville	36	47	174	40	+0008	-0013 to +0036	+0003	-0028 to +0033	3.6	3.1	1.1	0.6	2.1	1.07	
6402	Maraetai	36	52	175	03	-0015	-	-0015	-	-	-	-	-	-	-	*
6399d	Onetaunga Bay	36	49	174	42	+0004	-	-0007	-	3.4	2.9	0.9	0.5	2.0	1.04	*
6401b	Pine Harbour	36	53	174	59	-0012	-0033 to +0006	0000	-0025 to +0021	3.2	2.7	0.9	0.3	1.8	1.04	
6402a	Sandspit Passage	36	54	175	11	-0015	-0033 to -0001	-0004	-0025 to +0009	3.3	2.7	0.9	0.3	1.8	1.07	
6401c	Tamaki River	36	55	174	52	0000	-0008 to +0008	0000	-0007 to +0007	3.4	2.8	1.1	0.5	1.9	1.04	
6399f	Whau River Entrance	36	52	174	39	+0010	-0042 to +0031	+0007	-0040 to +0029	3.6	3.1	1.1	0.6	2.1	1.07	
	Coromandel Peninsula															
6405	Coromandel Harbour - Whanganui Island	36	47	175	27	-0021	-0044 to +0011	-0015	-0048 to +0011	2.9	2.3	0.7	0.0	1.5	1.04	
6404	Thames	37	08	175	31	-0017	-0027 to -0009	-0010	-0017 to +0003	3.5	2.9	0.9	0.3	1.9	1.14	
	Hauraki Gulf / Tīkapa Moana															
6396b	Leigh	36	17	174	48	-0012	-0033 to +0013	-0001	-0031 to +0022	2.6	2.2	0.8	0.3	1.5	0.82	
6398	Mahurangi Harbour	36	29	174	43	-0010	-0025 to +0014	0000	-0018 to +0025	2.9	2.4	0.9	0.4	1.7	0.89	
6397a	Matakana River - Sandspit	36	24	174	44	-0006	-0018 to +0015	+0001	-0013 to +0014	2.9	2.5	0.9	0.5	1.7	0.86	
6400a	McKenzie Bay	36	47	174	50	-0012	-0030 to +0008	-0003	-0023 to +0018	3.1	2.6	0.9	0.4	1.7	0.96	
6399a	Murrays Bay	36	44	174	45	-0011	-0030 to +0008	0000	-0021 to +0022	3.1	2.6	0.9	0.3	1.7	1.00	
6399b	Rakino Island	36	44	174	57	-0014	-0039 to +0006	-0003	-0030 to +0022	3.0	2.5	0.9	0.3	1.7	0.96	
6398a	Tiritiri Matangi Island	36	36	174	53	-0013	-0031 to +0007	-0001	-0023 to +0022	2.9	2.5	0.8	0.3	1.7	0.93	
6399	Weiti River Entrance	36	39	174	44	+0001	-0020 to +0022	+0007	-0023 to +0025	3.0	2.5	1.0	0.5	1.8	0.89	
6396c	Whangateau Harbour	36	19	174	47	-	-	-	-	2.7	2.3	0.6	0.2	1.5	0.89	*
	Kawau Island															
6397	Bon Accord Harbour - Mansion House Bay	36	26	174	49	-0010	-0038 to +0012	0000	-0030 to +0023	2.9	2.4	0.9	0.4	1.7	0.89	
	Waiheke Island															
6401	Man o'War Bay	36	47	175	09	-0015	-0033 to -0001	-0004	-0023 to +0014	3.2	2.6	0.9	0.3	1.8	1.04	
6401a	Matiatia Bay	36	47	174	59	-0011	-0028 to +0005	-0002	-0021 to +0016	3.1	2.6	0.9	0.4	1.7	0.96	
6504	**Bluff**	**46**	**36**	**168**	**21**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.8**	**2.4**	**1.1**	**0.6**	**1.76**		
6506	Colac Bay / Ōraka	46	22	167	54	-	-	-	-	2.3	1.8	0.9	0.4	1.3	0.86	*
6503	Dog Island	46	39	168	25	-0017	-0028 to -0002	-0035	-0047 to -0015	2.9	2.5	1.2	0.6	1.8	1.05	
6506a	Kawakaputa Bay	46	23	167	49	-0115	-0148 to -0035	-0119	-0148 to -0048	2.8	2.3	0.9	0.4	1.6	1.09	
6505	New River Entrance	46	32	168	15	-0022	-	-0022	-	2.8	2.5	0.7	0.4	1.6	1.09	*
6500	Nugget Point	46	27	169	49	+0054	+0028 to +0146	+0052	+0025 to +0144	2.5	2.1	0.9	0.7	1.5	0.82	

* Data Approximate - No Data

No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6504	**Bluff**	**46**	**36**	**168**	**21**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.8**	**2.4**	**1.1**	**0.6**	**1.76**		
6510f	Port Craig	46	13	167	22	-0203	-0236 to -0138	-0205	-0230 to -0142	3.1	2.6	1.3	0.7	1.9	1.09	
6505d	Riverton / Aparima	46	22	168	01	-0052	-0107 to -0044	-0048	-0101 to -0041	2.8	2.5	1.2	0.8	1.8	0.91	
6503a	Ruapuke Island	46	47	168	30	-0008	-0032 to +0035	-0013	-0036 to +0030	2.8	2.4	1.1	0.7	1.8	0.95	
6505b	Waihopai River Entrance	46	25	168	20	+0011	-0011 to +0023	+0054	+0031 to +0114	2.6	2.2	1.0	0.8	1.6	0.82	
6501	Waikawa Harbour	46	39	169	10	+0110	+0036 to +0151	+0108	+0042 to +0145	2.3	1.9	0.7	0.3	1.3	0.91	
6502	Waipapa Point	46	39	168	51	-	-	-	-	2.7	2.5	0.9	0.6	1.7	0.95	*
	Stewart Island / Rakiura															
6510d	Christmas Village Bay	46	45	168	00	-0033	-0107 to -0014	-0046	-0112 to -0024	2.4	2.0	1.1	0.6	1.5	0.82	
6509a	Easy Harbour	47	09	167	34	-0200	-0235 to -0140	-0201	-0225 to -0143	2.6	2.2	0.9	0.4	1.6	1.00	
6510	Ernest Islands	46	58	167	41	-0200	-0226 to -0131	-0203	-0224 to -0134	2.2	1.8	0.7	0.2	1.2	0.91	*
6509	Flour Cask Bay	47	17	167	29	-0124	-0146 to -0110	-0136	-0145 to -0128	2.8	2.4	1.0	0.5	1.7	1.05	
6507	Golden Bay	46	54	168	07	-0001	-0022 to +0022	-0012	-0031 to +0014	2.7	2.2	1.1	0.6	1.7	0.95	
6506c	Halfmoon Bay / Oban	46	54	168	08	-0006	-0033 to +0024	-0019	-0039 to +0012	2.6	2.2	1.1	0.6	1.6	0.91	
6508	Port Adventure	47	05	168	11	-0011	-0036 to +0038	-0013	-0036 to +0027	2.9	2.4	1.1	0.6	1.8	1.05	
6510e	Port William / Potirepo	46	50	168	05	-0015	-0043 to +0009	-0028	-0056 to -0005	2.6	2.1	1.1	0.6	1.6	0.91	
6508a	Small Craft Retreat	47	15	167	39	-0100	-0123 to -0037	-0102	-0118 to -0039	3.0	2.5	1.1	0.6	1.8	1.09	
6510c	Yankee River Entrance	46	41	167	53	-0103	-0132 to -0031	-0117	-0144 to -0044	2.3	1.9	0.9	0.5	1.4	0.82	
	Sub-Antarctic Islands															
6535	Antipodes Island	49	40	178	48	+0210	-	-	-	1.8	-	-	-	1.1	-	*
6534	Auckland Island - Carnley Harbour	50	50	166	03	-0042	-0103 to -0027	-0040	-0055 to -0019	1.9	1.4	0.7	0.2	1.1	0.77	
6532	Campbell Island / Motu Ihupuku - Perseverance Harbour	52	33	169	08	+0013	-	+0020	-	1.7	1.4	0.9	0.6	1.2	0.50	*
6510b	Snares Islands / Tini Heke - North East Island	48	01	166	36	-0140	-0226 to -0117	-0143	-0217 to -0124	1.9	1.6	0.7	0.3	1.2	0.73	
6510a	Solander Island / Hautere	46	35	166	53	-0206	-0254 to -0144	-0207	-0243 to -0146	2.3	2.0	0.9	0.4	1.4	0.86	
6425	**Gisborne**	**38**	**40**	**178**	**02**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.1**	**1.7**	**0.8**	**0.4**	**1.26**		
6422	East Cape	37	41	178	33	+0032	-	+0030	-	2.1	1.9	0.7	0.5	1.3	0.94	*
6427	Happy Jacks Boat Harbour	39	01	177	54	0000	-0017 to +0025	0000	-0016 to +0020	2.0	1.7	0.8	0.5	1.3	0.88	
6423a	Tokomaru Bay	38	08	178	20	-	-	-	-	1.9	1.8	0.6	0.5	1.2	0.82	*
6424	Tolaga Bay - Cooks Cove	38	23	178	20	+0005	-0015 to +0025	+0005	-0013 to +0027	1.7	1.6	0.4	0.3	1.0	0.82	
6423b	Tolaga Bay Wharf	38	23	178	19	+0008	-0007 to +0033	+0008	-0006 to +0027	1.6	1.4	0.3	0.1	1.3	0.88	
6423	Waipiro Bay	38	02	178	20	+0011	-0011 to +0024	+0010	-0011 to +0025	2.1	1.8	0.8	0.5	1.3	0.94	
6421	Wharekahika / Hicks Bay	37	35	178	19	+0039	+0018 to +0101	+0039	+0020 to +0102	1.9	1.6	0.5	0.2	1.1	1.00	
6490	**Lyttelton**	**43**	**36**	**172**	**43**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.5**	**2.0**	**0.8**	**0.3**	**1.45**		
6487b	Conway Flat	42	38	173	27	+0015	-0010 to +0033	+0014	-0014 to +0032	1.8	1.3	0.4	0.0	0.8	0.82	
6487	Kaikōura	42	25	173	42	+0017	+0010 to +0025	+0017	+0007 to +0029	1.8	1.4	0.4	0.0	0.9	0.82	

* Data Approximate - No Data

Secondary Ports Table – continued

No.	Port	Lat. S. °	′	Long. E. °	′	Time Differences High Water Mean	Range	Time Differences Low Water Mean	Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6490	**Lyttelton continued**	**43**	**36**	**172**	**43**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.5**	**2.0**	**0.8**	**0.3**	**1.45**		
6486	Kekerengu	42	00	174	01	+0023	0000 to +0036	+0022	-0004 to +0038	1.8	1.3	0.4	0.0	0.9	0.82	
6488b	Motunau Beach	43	03	173	04	+0009	-0012 to +0032	+0008	-0010 to +0035	2.2	1.9	0.7	0.4	1.3	0.82	
6489	New Brighton Pier	43	30	172	44	+0001	-0005 to +0009	+0001	-0006 to +0009	2.4	1.9	0.8	0.3	1.3	0.95	
6486a	Ōhau Point	42	14	173	51	+0014	-0003 to +0013	+0013	-0003 to +0032	1.7	1.2	0.3	0.0	0.8	0.77	
6488	Point Gibson	42	53	173	19	+0014	-0004 to +0034	+0013	-0003 to +0037	2.1	1.6	0.7	0.3	1.1	0.82	
6490b	Purau Lead	43	37	172	46	-0001	-0006 to +0003	-0001	-0005 to +0003	2.6	2.1	0.8	0.3	1.5	1.05	
6491d	Rakaia River Mouth	43	54	172	13	-0046	-	-	-	-	-	-	-	-	-	*
6487a	South Bay	42	26	173	41	+0018	+0002 to +0035	+0017	+0001 to +0035	1.8	1.4	0.5	0.1	0.9	0.77	
6489b	Sumner Head	43	34	172	46	+0001	-0002 to +0005	+0001	-0002 to +0005	2.4	2.0	0.7	0.3	1.3	0.95	
	Banks Peninsula															
6490f	Akaroa	43	48	172	58	-0044	-0126 to +0005	-0042	-0122 to +0008	2.7	2.1	0.9	0.4	1.5	1.05	
6490d	Le Bons Bay	43	44	173	06	-0022	-0046 to +0001	-0025	-0051 to -0002	2.5	1.9	0.8	0.3	1.4	1.00	
6491b	Te Oka Bay	43	52	172	49	-0052	-0107 to -0029	-0052	-0112 to -0033	2.3	1.9	0.7	0.4	1.4	0.86	
6491	Tikao Bay	43	48	172	55	-0043	-	-0042	-	2.6	2.2	0.9	0.6	1.5	0.91	*
	Chatham Islands [1]															
6535a	Flower Pot (Onoua)	44	14	176	14W	+0020	-0002 to + 0039	+0019	-0007 to +0040	1.0	0.8	0.2	0.0	0.5	0.45	
6536a	Kaingaroa	43	44	176	16W	+0053	+0035 to +0108	+0053	+0038 to +0108	1.4	1.1	0.3	0.0	0.7	0.64	
6536b	Owenga	44	02	176	22W	+0022	+0007 to +0052	+0021	+0009 to +0031	1.3	1.0	0.3	0.0	0.7	0.59	
6536	Waitangi	43	57	176	34W	+0022	-0004 to +0052	+0021	-0022 to +0101	0.9	0.6	0.2	0.0	0.4	0.41	
6394	**Marsden Point**	**35**	**50**	**174**	**30**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.7**	**2.2**	**0.9**	**0.5**	**1.62**		
6388e	Maitai Bay	34	49	173	25	+0006	+0010 to +0027	+0009	-0009 to +0026	2.5	2.0	0.9	0.3	1.4	1.00	
6396a	Mangawhai Heads	36	05	174	36	+0004	-0021 to +0027	+0002	-0023 to +0026	2.4	2.1	0.8	0.4	1.4	0.91	
6389	Mangōnui	34	59	173	32	+0033	+0004 to +0100	+0049	+0028 to +0117	2.6	2.2	0.9	0.5	1.6	0.95	
6391d	Ngaiotonga Bay	35	19	174	19	-0011	-0029 to +0013	-0008	-0024 to +0017	2.5	2.0	0.8	0.3	1.4	1.00	
6386f	North Cape / Otou	34	25	173	03	+0013	+0002 to +0026	+0017	+0006 to +0029	2.5	2.0	0.9	0.4	1.4	0.95	
6395a	Portland Wharf	35	48	174	21	+0019	+0006 to +0027	+0013	+0005 to +0023	3.1	2.6	1.1	0.4	1.8	1.23	
6389b	Stephenson Island	34	58	173	47	0000	-0020 to +0022	+0003	-0018 to +0024	2.5	2.1	0.8	0.4	1.4	0.95	
6392a	Taiwawe Bay	35	26	174	23	-0014	-0031 to +0012	-0010	-0026 to +0015	2.5	2.0	0.8	0.3	1.4	1.00	
6389a	Takerau Bay	34	56	173	33	+0004	-0011 to +0021	+0007	-0008 to +0025	2.5	2.1	0.8	0.3	1.5	1.00	
6394a	Town Basin	35	43	174	20	+0025	+0013 to +0032	+0020	+0013 to +0029	3.1	2.6	1.1	0.6	1.8	1.14	
6393	Tutukaka Harbour	35	37	174	32	-0015	-0035 to +0001	-0010	-0029 to +0005	2.3	1.9	0.8	0.3	1.4	0.91	
6391c	Whangamumu Harbour	35	15	174	18	+0014	-0036 to +0104	+0031	-0020 to +0115	2.1	1.9	0.6	0.2	1.2	0.86	
6395	Whangārei	35	46	174	21	+0021	+0012 to +0027	+0014	+0007 to +0020	3.0	2.6	1.0	0.5	1.8	1.14	

[1] Add a further 45 minutes to NZST to obtain Chatham Island Standard Time
* Data Approximate - No Data

No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6394	**Marsden Point continued**	**35**	**50**	**174**	**30**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.7**	**2.2**	**0.9**	**0.5**	**1.62**		
	Awanui River															
6388d	Ben Gunn Wharf	35	00	173	16	+0059	+0041 to +0117	+0122	+0105 to +0138	2.4	2.0	0.6	0.2	1.3	1.00	
6388b	Dairy Factory Wharf	35	02	173	15	+0122	+0043 to +0211	+0223	+0118 to +0311	2.3	1.8	0.6	0.1	1.2	1.00	
6388c	Unahi Jetty	35	00	173	15	+0102	+0004 to +0152	+0117	+0029 to +0210	2.3	1.9	0.6	0.2	1.3	0.95	
	Bay of Islands															
6390c	Cape Wiwiki	35	09	174	08	-0006	-0027 to +0017	-0002	-0026 to +0020	2.5	2.0	0.9	0.4	1.5	0.95	
6390e	Doves Bay	35	12	174	02	-0006	-0025 to +0024	-0002	-0020 to +0031	2.5	2.0	0.9	0.3	1.4	1.00	
6390d	Kerikeri	35	13	173	56	+0002	-0044 to +0049	+0018	-0028 to +0100	2.3	1.9	0.7	0.2	1.3	0.95	
6391b	Maunganui Bay	35	12	174	18	-0008	-0029 to +0015	-0004	-0028 to +0017	2.5	2.0	0.9	0.4	1.4	0.95	
6391a	Opua	35	19	174	07	+0001	-0005 to +0009	0000	-0005 to +0010	2.6	2.2	0.9	0.5	1.5	0.95	
6391	Russell	35	16	174	07	0000	-0026 to +0025	+0004	-0023 to +0029	2.5	2.0	0.9	0.4	1.4	0.95	
6390f	Waitangi	35	16	174	05	+0022	-	+0022	-	2.3	2.0	0.6	0.4	1.4	0.86	*
	Cavalli Islands															
6390b	Motukawanui Island	35	01	173	57	-0002	-0023 to +0022	+0001	-0022 to +0024	2.5	2.0	0.9	0.4	1.5	0.95	
6390a	Waiiti Bay	35	00	173	56	+0013	-	+0009	-	2.2	2.0	0.7	0.5	1.3	0.77	*
	Coromandel Peninsula															
6409	Port Charles	36	31	175	28	-0039	-0059 to -0026	-0035	-0055 to -0021	2.3	1.9	0.6	0.1	1.2	1.00	
6408	Port Jackson	36	29	175	20	-0037	-0057 to -0020	-0032	-0053 to -0015	2.6	2.1	0.8	0.2	1.4	1.09	
	Great Barrier Island (Aotea Island)															
6407a	Korotiti Bay	36	11	175	29	-0035	-0042 to -0024	-0030	-0037 to -0022	2.4	2.1	0.9	0.5	1.5	0.86	
6406	Nagle Cove	36	09	175	19	-0031	-0058 to -0011	-0027	-0053 to -0005	2.6	2.2	1.0	0.4	1.5	1.00	
6407	Tryphena	36	19	175	29	-0029	-0054 to -0004	-0025	-0048 to -0002	2.6	2.2	0.9	0.4	1.5	1.00	
	Great Mercury Island (Ahuahu)															
6410	Huruhi Harbour	36	36	175	46	-0043	-0049 to -0036	-0039	-0046 to -0033	2.5	1.9	0.8	0.2	1.3	1.05	
	Houhora Harbour															
6387b	Farmer Point	34	48	173	10	+0009	-0007 to +0026	+0012	-0004 to +0030	2.6	2.1	0.8	0.3	1.5	1.05	
6387d	Houhora Harbour Entrance	34	50	173	09	+0019	+0003 to +0041	+0016	-0003 to +0037	2.6	2.2	0.9	0.5	1.5	0.95	
6387c	Pukenui Wharf	34	49	173	07	+0030	+0012 to +0100	+0030	+0012 to +0054	2.7	2.2	0.9	0.5	1.6	1.00	
	Kermadec Islands - Raoul Island															
6537	Fishing Rock	29	15	177	55W	-0035	-0049 to -0022	-0032	-0052 to -0019	1.7	1.5	0.6	0.4	1.1	0.59	
6537a	Boat Cove	29	17	177	54W	-0034	-0051 to -0020	-0027	-0048 to -0013	1.7	1.5	0.7	0.4	1.1	0.59	
	Mokohinau Islands															
6396	Burgess Island (Pokohinu)	35	54	175	07	-0024	-0054 to 0000	-0020	-0051 to +0002	2.4	2.0	0.8	0.4	1.4	0.91	

* Data Approximate - No Data

Secondary Ports Table – continued

No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6394	**Marsden Point continued**	**35**	**50**	**174**	**30**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.7**	**2.2**	**0.9**	**0.5**	**1.62**		
	Pārengarenga Harbour															
6387a	Akatarere Point	34	32	172	57	+0054	+0031 to +0123	+0050	+0027 to +0118	2.5	2.2	0.9	0.4	1.5	0.95	
6387	Te Hāpua	34	31	172	56	+0056	+0024 to +0125	+0059	+0030 to +0124	2.6	2.2	0.9	0.4	1.5	1.00	
	Rangaunu Harbour															
6388	Kotiatia Point	34	53	173	17	+0026	+0012 to +0047	+0027	+0010 to +0045	2.5	2.1	0.9	0.4	1.5	0.95	
6388a	Omaia Island	35	00	173	16	-	-	-	-	2.3	2.0	0.5	0.2	1.3	0.95	*
	Whangaroa Harbour															
6389c	Kingfish Point	35	01	173	45	+0002	-0019 to +0031	+0005	-0020 to +0029	2.5	2.1	0.8	0.4	1.4	0.95	
6390	Whangaroa	35	03	173	45	+0006	-0002 to +0017	+0010	+0003 to +0020	2.5	2.1	0.9	0.4	1.5	0.95	
	Whangaruru Harbour															
6392	Rocky Point	35	22	174	21	-	-	-	-	2.2	2.0	0.6	0.3	1.3	0.86	*
6391e	Tamateatai Point	35	21	174	20	+0013	-0011 to +0055	+0019	-0012 to + 0058	2.5	2.1	0.8	0.4	1.4	0.95	
6432	**Napier**	**39**	**29**	**176**	**55**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**1.8**	**1.4**	**0.4**	**0.1**	**0.99**		
	Hawke Bay															
6432a	Cape Kidnappers / Te Kauwae-a-Māui	39	38	177	05	0000	-0017 to +0017	-0002	-0018 to +0014	1.8	1.4	0.4	0.2	0.9	0.94	
6428a	Long Point / Taramahiti Point	39	10	177	50	+0006	-0012 to +0021	+0004	-0012 to +0017	1.8	1.4	0.4	0.1	0.9	1.00	
6428	Portland Island	39	17	177	52	-0015	-	-0015	-	-	-	-	-	-	-	*
6429	Waikokopu	39	04	177	50	+0005	-	+0005	-	1.6	1.5	0.4	0.2	0.9	0.82	*
6430	Wairoa River Mouth	39	03	177	26	0000	-	0000	-	1.6	1.5	0.3	0.2	0.9	0.82	*
	Wairarapa Coast															
6435	Ākitio River Entrance	40	36	176	25	-0100	-	-0100	-	-	-	-	-	-	-	*
6434	Cape Turnagain	40	30	176	37	-0010	-0029 to +0006	-0012	-0031 to +0003	1.8	1.4	0.6	0.1	0.9	1.00	
6436	Castlepoint	40	55	176	13	-0018	-0027 to -0011	-0018	-0027 to -0011	1.6	1.2	0.3	0.0	0.8	0.94	
6433a	Pōrangahau River Entrance	40	15	176	42	-0038	-	-0038	-	-	-	-	-	-	-	*
6433	Pōurerere	40	06	176	52	-0030	-	-0030	-	-	-	-	-	-	-	*
6432b	Te Motu-o-Kura / Bare Island	39	50	177	02	-0002	-0018 to +0017	-0003	-0017 to +0012	1.7	1.4	0.5	0.2	0.9	0.88	
6458	**Nelson**	**41**	**16**	**173**	**16**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**4.3**	**3.2**	**1.6**	**0.6**	**2.44**		
6464	Stephens Island / Takapourewa	40	40	174	00	-0030	-	-0030	-	2.8	2.3	1.1	0.6	1.7	0.59	*
	Croisilles Harbour															
6460	Kōtiro Point	41	05	173	39	-0018	-	-0002	-	3.6	3.0	1.2	0.7	2.1	0.78	*
6460a	Ōkiwi Bay	41	06	173	40	-0010	-0046 to +0044	-0002	-0037 to +0045	4.0	3.2	1.6	0.8	2.4	0.86	
6460c	Squally Cove	41	03	173	45	-0010	-0046 to +0044	-0002	-0037 to +0045	4.0	3.2	1.6	0.8	2.4	0.86	

* Data Approximate - No Data

No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6458	**Nelson continued**	**41**	**16**	**173**	**16**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**4.3**	**3.2**	**1.6**	**0.6**	**2.44**		
	Golden Bay / Mohua															
6453	Collingwood	40	40	172	40	-	-	-	-	4.7	3.8	1.4	0.5	2.6	1.14	*
6528b	Farewell Spit	40	31	173	02	+0010	-0035 to +0054	+0017	-0025 to +0105	3.7	3.1	1.3	0.7	2.2	0.81	
6454	Motupipi Inlet	40	50	172	51	-	-	-	-	5.0	4.1	1.5	0.6	2.8	1.19	*
6452	Tarakohe	40	49	172	54	+0002	-0003 to +0015	+0008	+0004 to +0015	3.9	2.9	1.4	0.6	2.2	0.89	
	Kenepuru Sound															
6470	Portage	41	12	174	02	-0016	-0114 to +0015	-0044	-0146 to -0002	2.9	2.0	0.8	0.1	1.4	0.76	
	Pelorus Sound / Te Hoiere															
6469	Elaine Bay	41	03	173	46	-0026	-0131 to +0009	-0038	-0134 to -0018	2.8	2.0	1.1	0.4	1.5	0.65	
6467c	Elie Bay	41	08	173	59	-0027	-0157 to -0006	-0040	-0142 to -0020	2.8	2.1	1.1	0.4	1.6	0.65	
6465a	Hamilton Bay	40	55	173	51	-0030	-0118 to +0010	-0035	-0134 to +0011	2.7	2.0	1.0	0.4	1.5	0.62	
6471	Havelock	41	17	173	46	-0012	-0106 to +0007	-0025	-0135 to +0005	3.0	2.1	1.1	0.3	1.6	0.73	
6468a	Nydia Bay	41	10	173	48	-0022	-0152 to +0022	-0036	-0157 to +0019	3.0	2.1	1.1	0.4	1.6	0.70	
6454a	Paparoa Point	40	55	173	01	-0033	-0120 to 0000	-0039	-0139 to -0005	2.6	1.9	1.0	0.4	1.4	0.59	
6467	Pelorus Sound / Te Hoiere Entrance	40	55	173	59	-0100	-	-0120	-	2.8	2.2	1.1	0.5	1.6	0.62	*
6467b	Richmond Bay	41	01	173	59	-0029	-0133 to -0013	-0040	-0133 to -0021	2.8	2.0	1.1	0.4	1.5	0.65	
6467a	Sunday Bay	40	59	174	03	-0031	-0125 to +0006	-0040	-0144 to +0002	2.6	2.0	1.0	0.4	1.4	0.59	
6468	Whakatahuri	41	01	174	03	-0051	-0144 to +0029	-0043	-0147 to +0028	2.7	2.1	1.1	0.5	1.6	0.59	
6468c	Wilson Bay	41	05	173	54	-0024	-0128 to 0000	-0039	-0126 to -0016	2.9	2.1	1.1	0.5	1.6	0.65	
6468b	Yncyca Bay	41	08	173	53	-0024	-0204 to +0023	-0037	-0203 to +0021	3.0	2.2	1.1	0.4	1.6	0.70	
	Rangitoto ki te Tonga / D'Urville Island															
6465	Catherine Cove	40	52	173	53	-0031	-0104 to +0005	-0032	-0105 to -0007	2.6	1.9	0.8	0.2	1.4	0.65	
6466c	Coppermine Bay	40	56	173	48	-0005	-0042 to +0037	-0002	-0040 to +0052	3.9	3.1	1.4	0.6	2.2	0.89	
6463	East Arm	40	46	173	52	-0014	-0055 to +0037	-0014	-0049 to +0033	3.3	2.6	1.3	0.6	2.0	0.73	
6462	Greville Harbour / Wharariki	40	52	173	48	-0020	-	-0020	-	3.8	2.9	1.5	0.6	2.2	0.86	*
6463b	Swamp Bay	40	45	173	56	-0014	-0054 to +0038	-0013	-0048 to + 0034	3.3	2.6	1.3	0.6	1.9	0.73	
	Tasman Bay / Te Tai-o-Aorere															
6455	Astrolabe Roadstead	40	58	173	03	-	-	-	-	4.8	3.8	1.2	0.2	2.5	1.24	*
6456	Kaiteriteri	41	03	173	01	+0001	-0005 to +0010	+0005	-0002 to +0011	3.9	2.9	1.3	0.4	2.1	0.95	
6455b	Māpua	41	15	173	06	+0019	-0008 to +0032	+0019	-0011 to +0039	4.1	3.3	1.6	0.6	2.4	0.95	
6455a	Motueka	41	08	173	01	+0005	-0037 to +0036	+0019	-0040 to +0101	4.2	3.4	1.4	0.6	2.4	0.97	
6461	Taipare Bay	41	00	173	43	-0012	-0049 to +0041	-0004	-0040 to +0043	4.0	3.2	1.6	0.8	2.4	0.86	
6466a	Waikawa Bay	40	58	173	48	-	-	-	-	3.9	3.1	1.4	0.6	2.3	0.89	*
	Te Aumiti / French Pass															
6466	Elmslie Bay	40	56	173	51	-0030	-0118 to +0010	-0035	-0133 to +0011	2.7	2.0	1.0	0.4	1.5	0.62	
6466b	Man-o-War Bay / Pāharakeke	40	56	173	50	-0005	-0040 to +0037	-0001	-0039 to +0053	3.9	3.0	1.4	0.6	2.2	0.89	

* Data Approximate - No Data

Secondary Ports Table – continued

No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6375	**Onehunga**	**36**	**56**	**174**	**47**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**4.1**	**3.3**	**1.4**	**0.5**	**2.43**		
	Manukau Harbour															
6374c	Clarks Beach	37	09	174	42	+0008	-0028 to +0026	-0003	-0026 to +0014	4.4	3.5	1.6	0.6	2.6	1.06	
6374	Cornwallis	37	00	174	36	-0013	-0042 to +0031	-0017	-0040 to +0029	3.7	3.1	1.2	0.6	2.2	0.86	
6374a	Papakura Channel - LPG Terminal	37	02	174	50	+0005	-	-0004	-	3.9	3.2	1.1	0.4	2.1	0.97	*
6373	Paratutae Island	37	03	174	31	-0033	-0052 to +0002	-0028	-0047 to +0005	3.3	2.6	1.1	0.4	1.9	0.81	
6375a	Waiuku	37	15	174	44	+0030	-	-	-	-	-	-	-	-	-	*
6374b	Weymouth	37	03	174	52	+0004	-0032 to +0022	-0002	-0027 to +0014	4.5	3.6	1.6	0.6	2.6	1.08	
	West Coast Beaches															
6375c	Anawhata	36	56	174	27	-0101	-0113 to -0043	-0058	-0109 to -0043	3.2	2.5	1.0	0.3	1.7	0.81	
6375e	Muriwai Beach	36	50	174	26	-0040	-	-0030	-	-	-	-	-	-	-	*
6375b	Piha Beach	36	57	174	28	-0045	-	-0035	-	-	-	-	-	-	-	*
6375d	Te Henga / Bethells Beach	36	53	174	27	-0040	-	-0050	-	-	-	-	-	-	-	*
6477	**Picton**	**41**	**17**	**174**	**00**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**1.5**	**1.0**	**0.5**	**0.1**	**0.84**		
	Cook Strait															
6480	Fishermans Rock	41	04	174	36	0000	-	0000	-	1.5	1.0	0.5	0.0	0.7	1.07	*
	Queen Charlotte Sound / Tōtaranui															
6470c	Anakakata Bay	41	03	174	17	0000	-0029 to +0046	+0013	-0014 to +0036	1.7	1.1	0.5	0.1	0.8	1.14	
6470a	Dryden Bay	41	10	174	11	+0002	-0103 to +0246	+0010	-0041 to +0109	1.6	1.1	0.5	0.0	0.8	1.14	
6476	East Bay	41	14	174	08	+0003	-0104 to +0127	+0004	-0042 to +0038	1.5	1.0	0.5	0.0	0.8	1.07	
6474	Long Island	41	07	174	17	0000	-0032 to +0056	+0008	-0028 to +0028	1.6	1.1	0.6	0.1	0.8	1.07	
6470b	Motuara Island	41	06	174	16	-0003	-0145 to +0209	+0004	-0058 to +0052	1.7	1.1	0.6	0.1	0.9	1.14	
6478	Okiwa Bay	41	17	173	55	-0003	-	-0006	-	1.5	1.0	0.5	0.0	0.7	1.07	*
	Tory Channel / Kura te Au															
6479a	Ōkukari Bay	41	12	174	19	-0056	-0240 to +0017	-0039	-0202 to +0008	1.2	0.8	0.5	0.1	0.7	0.79	
6479	Te Iro Bay	41	14	174	11	-0007	-0225 to +0124	-0005	-0116 to +0039	1.4	0.9	0.4	0.0	0.7	1.00	
6475	Te Weka Bay	41	15	174	11	-0010	-0159 to +0109	-0011	-0103 to +0043	1.4	0.9	0.5	0.1	0.7	0.93	
6497	**Port Chalmers**	**45**	**49**	**170**	**39**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.1**	**1.7**	**0.5**	**0.2**	**1.15**		
6499	Green Island	45	57	170	23	-0039	-0048 to -0032	-0038	-0045 to -0030	2.0	1.7	0.4	0.1	1.0	0.95	
6496	Spit Wharf	45	47	170	43	-0013	-0017 to -0009	-0024	-0029 to -0018	2.0	1.6	0.5	0.2	1.1	0.90	

* Data Approximate - No Data

No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6366	**Port Taranaki**	**39**	**03**	**174**	**02**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**3.5**	**2.7**	**1.2**	**0.3**	**1.97**		
6370	Aotea Harbour	38	00	174	50	-0004	-	-0004	-	3.7	2.9	1.2	0.4	2.1	1.03	*
6369	Kawhia	38	04	174	49	+0024	+0002 to +0036	0000	-0011 to +0009	3.7	2.9	1.2	0.4	2.1	1.03	
6442	Mākara Beach	41	13	174	42	-0040	-	-0040	-	1.3	0.9	0.7	0.3	0.8	0.31	*
6372a	Manu Bay	37	49	174	49	-0006	-0046 to +0028	-0009	-0059 to +0024	3.4	2.6	1.2	0.4	1.9	0.94	
6368	Mōkau River Entrance	38	42	174	37	+0010	-0021 to +0052	+0049	-0014 to +0120	2.5	1.8	0.7	0.2	1.2	0.72	
6371	Raglan	37	48	174	53	+0031	+0008 to +0046	+0014	+0003 to +0025	3.3	2.6	0.9	0.1	1.8	1.00	
6372	Port Waikato	37	23	174	44	+0024	-0021 to +0059	+0103	+0010 to +0131	2.3	1.8	0.6	0.2	1.2	0.66	
	Far North															
6384	Ahipara Bay	35	10	173	07	-0031	-0101 to +0011	-0032	-0058 to +0010	3.1	2.3	1.0	0.3	1.7	0.88	
6386	Cape Maria van Diemen	34	29	172	38	-0052	-0134 to -0014	-0104	-0141 to -0025	2.8	2.2	1.0	0.3	1.6	0.78	
6386b	Cape Reinga / Te Rerenga Wairua	34	25	172	40	-0134	-0226 to -0103	-0148	-0237 to -0113	3.0	2.3	1.1	0.5	1.8	0.78	
	Hokianga Harbour															
6382	Kohukohu	35	22	173	32	+0036	-0020 to +0103	+0033	-0010 to +0053	3.6	2.8	1.0	0.1	1.9	1.09	
6380c	Ōmāpere	35	32	173	23	-0005	-0032 to +0028	+0001	-0022 to +0022	2.9	2.3	0.8	0.1	1.6	0.88	
6381	Opononi	35	30	173	24	+0007	-0031 to +0031	+0010	-0029 to +0032	2.9	2.3	0.9	0.2	1.6	0.84	
6381a	Rawene	35	24	173	30	+0027	-0023 to +0052	+0027	-0014 to +0048	3.5	2.7	1.0	0.1	1.9	1.06	
6381b	Te Karaka	35	25	173	25	+0017	-0020 to +0044	+0021	-0018 to +0043	3.2	2.5	0.9	0.1	1.7	0.97	
	Horowhenua															
6445	Manawatū River Entrance	40	28	175	14	+0025	-0042 to +0056	+0042	-0040 to +0132	2.0	1.4	0.7	0.2	1.0	0.56	
6444c	Ōtaki Beach	40	44	175	06	+0013	-0035 to +0116	+0009	-0056 to +0107	2.3	1.7	1.0	0.4	1.3	0.59	
6444d	Waitarere Beach	40	34	175	11	-0020	-	-0020	-	-	-	-	-	-	-	*
	Kaipara Harbour															
6380b	Dargaville	35	56	173	52	+0216	+0132 to +0241	+0301	+0130 to +0333	4.2	3.5	1.4	0.7	2.4	1.09	
6378a	Helensville	36	40	174	27	+0122	+0041 to +0142	+0150	+0051 to +0217	3.9	3.2	1.2	0.4	2.2	1.09	
6376	Island Point	36	14	174	05	+0046	-	+0046	-	3.6	2.8	1.1	0.3	1.9	1.03	*
6379b	Pahi	36	09	174	14	+0120	+0020 to +0153	+0116	+0032 to +0142	3.9	3.1	1.1	0.3	2.1	1.13	
6378b	Port Albert	36	16	174	26	+0119	+0018 to +0152	+0121	+0027 to +0148	3.9	3.1	1.2	0.3	2.2	1.13	
6377	Pouto Point	36	22	174	11	+0042	+0024 to +0054	+0037	+0019 to +0047	3.3	2.6	1.1	0.4	1.9	0.91	
6380d	Raupo	36	07	173	59	+0132	+0050 to +0203	+0151	+0053 to +0220	3.7	2.9	1.0	0.2	2.0	1.09	
6378	Shelly Beach	36	34	174	23	+0100	+0015 to +0132	+0057	+0023 to +0120	3.9	3.0	1.2	0.3	2.1	1.13	
6380	Te Kōpuru	36	02	173	56	+0156	-	+0236	-	3.4	3.0	-	-	-	-	*
6380a	Tikinui	36	07	173	58	+0138	+0044 to +0216	+0155	+0046 to +0231	3.8	2.9	0.8	0.1	2.0	1.16	
6379	Tinopai	36	15	174	15	+0104	+0022 to +0135	+0108	+0026 to +0136	3.5	2.8	1.0	0.2	1.9	1.03	
6379a	Whakapirau	36	09	174	15	+0125	-	+0107	-	3.9	3.0	1.2	0.3	2.1	1.13	
	Kapiti															
6443b	Paraparaumu Beach	40	54	174	59	-0020	-	-0020	-	-	-	-	-	-	-	*
6444	Waikanae River Entrance	40	52	175	00	0000	-0155 to +0050	-0004	-0152 to +0214	1.9	1.2	0.6	0.0	0.9	0.59	

* Data Approximate - No Data

Secondary Ports Table – continued

No.	Port	Lat. S. ° ′	Long. E. ° ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6366	**Port Taranaki continued**	**39 03**	**174 02**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**3.5**	**2.7**	**1.2**	**0.3**	**1.97**		
	Kapiti Island													
6444a	Rangatira Point	40 51	174 56	+0003	-0139 to +0050	+0001	-0209 to +0120	1.9	1.2	0.7	0.1	0.9	0.56	
6444b	Waiorua Bay	40 50	174 57	+0000	-0113 to +0056	+0001	-0125 to +0055	2.0	1.4	0.8	0.2	1.1	0.56	
	Manawatāwhi / Three Kings Islands													
6385	Manawatāwhi / Great Island - North West Bay	34 09	172 09	-0136	-	-0133	-	2.4	2.0	0.7	0.4	1.4	0.63	*
	North Taranaki Bight													
6367	Waitara River Entrance	38 59	174 14	0000	-	0000	-	3.5	2.9	1.1	0.4	2.0	0.97	*
	Porirua													
6443a	Karehana Bay	41 04	174 51	-0007	-0247 to +0144	-0018	-0318 to +0120	1.7	1.1	0.9	0.3	1.0	0.44	
6443	Mana Marina	41 06	174 52	+0003	-0225 to +0050	-0010	-0242 to +0118	1.7	1.2	0.9	0.5	1.1	0.38	
	South Taranaki Bight													
6451	Ōpunake Bay	39 28	173 51	+0008	-0029 to +0055	+0009	-0020 to +0055	3.6	2.5	1.2	0.2	1.9	1.06	
6449	Pātea	39 47	174 29	+0015	-0040 to +0107	+0017	-0102 to +0115	3.2	2.1	1.1	0.1	1.6	0.97	
6447	Whanganui River Entrance	39 57	174 59	+0020	-0041 to +0145	+0023	-0056 to +0141	3.0	2.1	1.3	0.4	1.7	0.81	
6415	**Tauranga**	**37 39**	**176 11**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**1.9**	**1.6**	**0.5**	**0.2**	**1.11**		
	Bay of Plenty													
6418b	Haurere Point	37 58	177 27	-0025	-	-0030	-	-	-	-	-	-	-	*
6415b	Kaituna River Entrance	37 45	176 25	-0018	-0026 to -0005	+0037	+0008 to +0051	1.5	1.2	0.3	0.1	0.8	0.82	
6420	Lottin Point / Wakatiri	37 33	178 10	-0037	-0042 to -0031	-0031	-0036 to -0025	1.9	1.5	0.5	0.1	1.0	1.06	
6416	Maketu Estuary Entrance	37 45	176 27	-0040	-	-	-	-	-	-	-	-	-	*
6414d	Moturiki Island	37 38	176 11	-0023	-0038 to -0012	-0017	-0031 to -0004	2.0	1.6	0.5	0.2	1.1	1.06	
6417	Moutohora Island	37 52	176 59	-0029	-0046 to -0015	-0024	-0038 to -0008	2.0	1.6	0.5	0.2	1.1	1.06	
6419	Omaio Bay - Motunui Island	37 47	177 39	-0033	-0056 to -0006	-0027	-0048 to -0004	1.9	1.6	0.4	0.1	1.0	1.06	
6418a	Ōpōtiki Wharf	38 00	177 17	-0024	-0034 to -0013	-0008	-0021 to +0004	1.8	1.5	0.4	0.1	0.9	1.00	
6415a	Papamoa Beach	37 43	176 20	-0040	-	-	-	-	-	-	-	-	-	*
6418	Port Ōhope Wharf	37 59	177 06	+0020	+0010 to +0028	0000	-0009 to +0012	2.0	1.6	0.5	0.1	1.1	1.12	
6416a	Rangitaiki River Entrance	37 55	176 52	-0013	-0027 to -0013	+0045	+0010 to +0107	1.5	1.2	0.3	0.2	0.8	0.76	
6419a	Te Kaha	37 46	177 40	-0034	-0053 to -0015	-0027	-0044 to -0013	2.0	1.7	0.6	0.2	1.1	1.06	
6413b	Waihi Beach	37 24	175 56	-0015	-	-	-	-	-	-	-	-	-	*
6417a	Whakaari / White Island	37 31	177 11	-0031	-0051 to -0019	-0024	-0040 to -0012	2.0	1.6	0.5	0.2	1.1	1.06	
6417b	Whakatāne	37 57	177 00	-0022	-0032 to -0012	-0008	-0015 to +0002	2.1	1.7	0.7	0.4	1.2	1.00	
	Coromandel Peninsula													
6413	Pauanui	37 04	175 53	-0004	-0031 to +0036	-0002	-0026 to +0023	-	-	-	-	-	-	*
6412a	Slipper Island (Whakahau)	37 03	175 57	-0038	-	-0010	-	2.0	1.8	0.5	0.4	1.2	0.94	*

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No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6415	**Tauranga continued**	**37**	**39**	**176**	**11**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**1.9**	**1.6**	**0.5**	**0.2**	**1.11**		
	Coromandel Peninsula continued															
6412	Tairua	37	01	175	51	+0007	-0010 to +0023	+0018	+0002 to +0035	1.9	1.6	0.5	0.2	1.1	1.00	
6411a	Tapuaetahi Bay / Boat Harbour	36	56	175	51	-0029	-0053 to -0008	-0020	-0044 to -0009	1.9	1.6	0.5	0.2	1.0	1.00	
6413a	Whangamatā	37	12	175	53	-0006	-0026 to +0021	-0008	-0028 o +0007	2.0	1.7	0.6	0.2	1.1	1.06	
6411	Whitianga	36	50	175	42	-0006	-0009 to +0003	-0009	-0013 to -0002	2.1	1.8	0.7	0.4	1.3	1.00	
	Tauranga Harbour															
6414	Bowentown - Katikati Entrance	37	28	175	59	-0005	-	-	-	-	-	-	-	-	-	*
6414a	Katikati Entrance - Kauri Point	37	31	175	59	+0030	-	-	-	-	-	-	-	-	-	*
6414b	Ōmokoroa	37	38	176	03	+0048	+0035 to +0055	+0052	+0039 to +0103	2.0	1.7	0.5	0.2	1.1	1.06	
6414c	Town Wharf	37	40	176	09	+0020	-	-	-	-	-	-	-	-	-	*
6492	**Timaru**	**44**	**23**	**171**	**15**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**2.5**	**2.0**	**0.8**	**0.5**	**1.50**		
6491f	Ashburton River / Hakatere Entrance	44	03	171	48	+0031	-	-	-	-	-	-	-	-	-	*
6495	Moeraki	45	21	170	51	-0008	-0035 to +0016	-0007	-0030 to +0021	2.0	1.5	0.6	0.2	1.1	0.90	
6494	Oamaru	45	06	170	59	-0005	-0017 to +0002	-0004	-0015 to +0001	2.3	1.9	0.8	0.5	1.4	0.90	
6491h	Rangitata River Entrance	44	11	171	31	+0015	-	-	-	-	-	-	-	-	-	*
6439	**Wellington**	**41**	**17**	**174**	**47**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**1.8**	**1.4**	**0.8**	**0.5**	**1.14**		
	Cook Strait - North Island															
6438	Cape Palliser / Mātakitaki-a-Kupe	41	37	175	17	+0010	-	+0010	-	1.5	1.4	0.5	0.3	0.9	1.00	*
6440	Cave Bay	41	20	174	39	-0002	-0102 to +0140	+0010	-0154 to +0155	1.0	0.6	0.6	0.1	0.6	0.75	
6439a	Karori Rock Light	41	21	174	39	+0045	-	+0045	-	-	-	-	-	-	-	*
6438a	Ngawi	41	35	175	14	-0002	-0033 to +0015	-0005	-0040 to +0019	2.2	1.8	1.0	0.7	1.4	1.25	
6438a	Orongorongo River Entrance	41	25	174	54	-0004	-0019 to +0015	-0003	-0024 to +0029	1.8	1.3	0.6	0.5	1.1	1.08	
6441	Oteranga Bay	41	18	174	37	+0107	-	+0113	-	0.9	0.7	0.5	0.3	0.6	0.50	*
	Cook Strait - South Island															
6485	Cape Campbell	41	44	174	15	+0026	+0005 to +0050	+0032	+0009 to +0057	1.6	1.2	0.4	0.0	0.8	1.33	
6481a	Karaka Bay	41	21	174	09	+0122	+0043 to +0158	+0122	+0048 to +0213	1.9	1.5	0.9	0.6	1.2	1.08	
6481	Lucky Bay	41	16	174	17	+0208		+0206		1.3	1.2	0.5	0.4	0.9	0.75	*
6482a	Pukatea / Whites Bay	41	23	174	04	+0118	+0048 to +0202	+0114	+0047 to +0158	1.4	0.9	0.2	0.0	0.6	1.17	
6482	Te Whanganui / Port Underwood - Ocean Bay	41	20	174	06	+0116	+0026 to +0239	+0121	+0035 to +0230	1.5	1.1	0.6	0.3	0.9	1.00	
6483	Wairau River Entrance	41	29	174	03	+0111	+0035 to +0154	+0108	+0034 to +0200	1.8	1.4	0.8	0.4	1.1	1.17	
6526	**Westport**	**41**	**45**	**171**	**36**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**3.4**	**2.7**	**1.2**	**0.5**	**2.05**		
6520	Bruce Bay	43	35	169	35	+0022	-0005 to +0108	+0024	-0001 to +0107	2.9	2.4	1.1	0.5	1.7	0.83	
6528a	Cape Farewell	40	30	172	40	-0032	-0109 to +0010	-0030	-0103 to -0003	3.6	2.9	1.2	0.5	2.1	1.07	

* Data Approximate - No Data

Secondary Ports Table – continued

No.	Port	Lat. °	S. ′	Long. °	E. ′	Time Differences High Water Mean	Time Differences High Water Range	Time Differences Low Water Mean	Time Differences Low Water Range	Mean Spring, Neap and Sea Level Heights (metres) MHWS	MHWN	MLWN	MLWS	MSL	Range Ratio	
6526	**Westport continued**	**41**	**45**	**171**	**36**	**hhmm**	**hhmm to hhmm**	**hhmm**	**hhmm to hhmm**	**3.4**	**2.7**	**1.2**	**0.5**	**2.05**		
6525	Charleston	41	54	171	26	+0010	-0001 to +0019	+0011	+0003 to +0018	3.3	2.6	1.1	0.5	1.9	0.97	
6524	Greymouth	42	26	171	13	+0006	-0026 to +0047	+0008	-0022 to +0051	3.4	2.6	1.3	0.7	2.0	0.93	
6519	Haast River Entrance	43	51	169	03	+0030	-	+0030	-	2.3	1.8	0.6	0.2	1.2	0.72	*
6523	Hokitika River Bar	42	43	170	58	+0010	-	+0010	-	2.3	1.8	0.6	0.2	1.2	0.72	*
6518	Jackson Bay	43	58	168	37	+0027	+0020 to +0040	+0030	+0024 to +0039	2.4	1.9	0.8	0.2	1.3	0.76	
6527	Karamea River Entrance	41	15	172	06	-0035	-	-	-	-	-	-	-	-	-	*
6527c	Little Wanganui	41	24	172	02	-0002	-0046 to +0023	-0001	-0046 to +0024	3.8	2.9	1.5	0.6	2.2	1.10	
6521	Ōkārito	43	13	170	11	+0015	-	+0015	-	2.3	1.8	0.6	0.2	1.2	0.72	*
6528	Whanganui Inlet	40	35	172	35	-0105	-	-0105	-	2.9	2.3	0.8	0.0	1.4	1.00	*
	Doubtful Sound / Patea															
6513b	Blanket Bay	45	18	166	59	+0040	-0001 to +0114	+0043	+0011 to +0114	2.3	1.7	0.8	0.2	1.2	0.72	
6513	Deep Cove	45	28	167	09	+0038	-0001 to +0112	+0041	+0008 to +0114	2.3	1.7	0.8	0.2	1.3	0.72	
6513d	Shelter Islands	45	16	166	54	+0038	-0007 to +0110	+0042	+0006 to +0116	2.3	1.8	0.8	0.2	1.3	0.72	
6513a	Turn Point	45	25	167	01	+0039	+0007 to +0106	+0041	+0015 to +0104	2.3	1.7	0.8	0.2	1.3	0.72	
	Fiordland Sounds															
6515	Hāwea / Bligh Sound	44	48	167	31	+0100	-	+0100	-	2.1	1.8	0.6	0.3	1.2	0.62	*
6514a	Taiporoporo / Charles Sound	45	05	167	06	+0038	-0002 to +0103	+0040	+0007 to +0105	2.9	2.3	0.8	0.2	1.5	0.93	
6514b	Te Houhou / George Sound	44	52	167	22	+0034	+0004 to +0126	+0035	+0007 to +0123	2.5	2.1	0.9	0.3	1.4	0.76	
	Kaikiekie / Bradshaw Sound															
6513c	Macdonell Island	45	16	167	08	+0040	0000 to +0114	+0042	+0009 to +0115	2.3	1.7	0.8	0.2	1.3	0.72	
	Milford Sound / Piopiotahi															
6516	Anita Bay	44	35	167	48	+0032	-0004 to +0104	+0033	+0004 to +0105	2.5	1.9	0.9	0.3	1.4	0.76	
6517	Fresh Water Basin	44	40	167	56	+0032	+0023 to +0042	+0036	+0027 to +0046	2.4	2.0	0.8	0.3	1.4	0.72	
	Rakituma / Preservation Inlet															
6511	Coal Island - Fishing Bay	46	06	166	39	+0109	0000 to +0206	+0113	+0016 to +0205	2.4	1.8	0.8	0.4	1.4	0.69	*
6511a	Welcombe Bay	46	05	166	35	+0103	+0052 to +0116	+0106	+0057 to +0116	2.3	1.9	0.7	0.2	1.3	0.72	
	Taiari / Chalky Inlet															
6511b	Chalky Island - Sealers Bay	46	03	166	33	+0058	+0014 to +0133	+0102	+0025 to +0135	2.5	2.0	0.9	0.3	1.4	0.76	
6511c	Small Craft Harbour Islands	45	58	166	40	+0058	+0020 to +0141	+0100	+0017 to +0139	2.4	1.9	0.8	0.2	1.3	0.76	
	Tamatea / Dusky Sound															
6512a	Front Islands	45	44	166	44	+0101	+0036 to +0141	+0103	+0038 to +0139	2.1	1.6	0.5	0.0	1.0	0.72	
6512	Many Islands	45	46	166	31	+0047	-0004 to +0119	+0049	-0003 to +0119	2.3	1.7	0.7	0.2	1.2	0.72	
6512c	Pigeon Island	45	42	166	33	+0046	-0001 to +0122	+0047	+0001 to +0117	2.3	1.7	0.8	0.2	1.2	0.72	
	Te Awa-o-Tū/ Thompson Sound															
6514	Deas Cove	45	12	166	58	+0040	+0002 to +0115	+0043	+0010 to +0114	2.3	1.8	0.8	0.2	1.3	0.72	
	Te Awaroa / Long Sound															
6511d	Jane Coves	46	02	166	46	+0105	+0023 to +0141	+0110	+0029 to +0149	2.5	2.0	0.8	0.3	1.4	0.76	
	Te Puaitaha / Breaksea Sound															
6512b	Gilbert Islands	45	36	166	41	+0043	-0003 to +0115	+0045	+0007 to +0115	2.3	1.8	0.7	0.2	1.3	0.72	

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Caution: Navigational lights, particularly those in harbour areas, may be difficult to distinguish due to brilliant shore lights, advertising signs, etc. Mariners are requested to report these cases to the appropriate harbour authority and to the General Manager, Safety and Response Services, Maritime New Zealand so that improvements may be made wherever possible.

Introductory Remarks

Lights on mobile oil, gas and drilling platforms are not listed.

The date to which this publication has been amended will be found in the Preface. Updates to lights are promulgated in the fortnightly editions of *New Zealand Notices to Mariners*.

International Light Numbers

The numbers assigned to lights in the *ADMIRALTY List of Lights and Fog Signals* publications, prefixed by the publication's Volume Letter, are the International Numbers, in accordance with the resolutions of the International Hydrographic Organization (IHO).

For all New Zealand lights the Volume Letter is K. For example, the International Number for Castlepoint is K3994.

These letter-number combinations should be quoted whenever lights are referred to.

General Information

The duration of light and darkness are those for which the apparatus was designed. In practice they are subject to some degree of fluctuation, due to slight variations in the working speed of the apparatus. The duration of a flash may also appear to be less than normal when seen from a great distance, and haze has the same apparent effect.

The limits of sectors and of arcs of visibility, and the alignment of direction lights and leading lights are given **as seen by an observer from seaward. All bearings refer to the true compass and are measured clockwise from 000 to 359.**

Racons, Ramarks and AIS are included in the light lists when they are situated at a light station. For details of Coast Radio Stations and Radar Stations, reference must be made to the relevant volumes of the *ADMIRALTY List of Radio Signals* (NP282).

Weather, ice, storm, danger, tide, tidal stream, traffic and port signals may be mentioned when they are shown at a light station but full details will be found in the *ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51).

Layout of Column Headings in the Light Lists

Column 1: Contains the International Number of each light – for clarity the prefix K is omitted.

Column 2: Location, name.
The names of lights having a range of 15 miles and over are printed in **bold** type.
Names of lights owned by Maritime New Zealand are annotated (M).

Column 3: WG584 Latitude and longitude, given to two decimal places of a minute.

Column 4: Characteristics.

Column 5: Elevation in metres above mean high water spring level.

Column 6: Nominal range in sea miles, in **bold** type if 15 miles or more.

Column 7: Description of structure and its height in metres.

Column 8: Remarks, including phase, sectors and arcs of visibility. Phase is expressed in seconds.

Explanation — Lights

Rhythmic lights: The character of a rhythmic light is quick flashing, flashing, isophase or occulting, solely according to the relative durations of light and darkness, and without any reference to the type of apparatus employed. At short distances, and in clear weather, flashing lights may show a faint continuous light.

Rhythmic lights produced by rotating apparatus may be detected at ranges greater than the geographical range by the appearance of the loom of the light.

Meteorological visibility is the greatest distance at which a black object of suitable dimensions can be seen and recognised against the horizon sky or, in the case of night observations, could be seen and recognised if the general illumination were raised to the normal daylight level.

Luminous intensity: The luminous flux leaving a light source, in a given direction, usually expressed as candlepower in candelas.

Lights with differing intensity may appear to change their character at different distances because a part of the character may not be visible. Lights exhibiting a very short flash may not be visible at the range calculated from the Luminous Range Diagram—see Diagram 1.

Sectors: Some lights change colour in sectors, some change character, and a few change both colour and character. Others show different colours in succession.

Aeromarine lights are marine-type lights in which a part of the beam is deflected to an angle of 10°–15° above the horizon for the use of aircraft.

Aero lights are often of great intensity and elevation. Their intensity is usually greater than that of most navigational lights and they may be the first lights, or looms of lights, to be sighted when approaching the land. Those likely to be visible from seaward are inserted in the light lists; their character is always preceded by the word "Aero". These lights are not designed for marine navigation and they are subject to changes which are not always notified to the hydrographic office. The details of the lights may not be complete and this information should be treated with caution.

Obstruction lights mark radio towers, chimneys and other obstructions to aircraft. Like aero lights, they are not maintained for marine navigation, and the same cautionary remarks apply. They are usually red in colour, either fixed, flashing or occulting, but other colours and characters may be employed.

Obstruction lights of high intensity and likely to be visible from seaward are listed with the character preceded by the word "Aero" and with the legend "**Obstruction**" in columns 4 and 8 respectively of the light lists.

Lights on wind turbines are usually located at the top of the turbine house/structure. Their light characteristics are normally aero fixed red; however, occasionally they may exhibit navigation light characteristics. Dependent on the stopped position of the blades, rotation of the turbine blades, prevailing wind speed and direction, vessel approach direction, these lights may on occasion appear to occult, flash or be interrupted. Care should be taken when identifying such lights for navigational purposes.

Daytime lights: Lights shown throughout 24 hours without change of character are annotated "Shown 24 hours" in column 8 of the light lists and during daylight, their intensity may be increased. If, by day, there are any differences to their character, elevation, range or arc of visibility, such differences are shown as a subsidiary entry to the light preceded by the words "*By day*" in column 4 of the light lists.

Cautionary Notes: Where ice conditions are prevalent the windows of lights may be covered with frost or ice, which will greatly reduce the sighting range.

Lights placed at a great elevation are more frequently obscured by cloud, etc., than those near sea level.

The distance of an observer from a light cannot be estimated from its apparent brightness.

The distance at which lights are sighted varies greatly with atmospheric conditions and this distance may be increased by abnormal atmospheric refraction. It will be reduced by fog, haze, dust, smoke or precipitation; a light of low intensity is easily obscured by any of these conditions and the sighting range of even a light of very high intensity is considerably reduced in such conditions. For this reason the intensity or nominal range of a light should always be considered when estimating the range at which it may be sighted, bearing in mind that varying atmospheric conditions may exist between the observer and the light—see Luminous Range Diagram (Diagram 1) and Geographical Range Table (Table 1).

The limits of sectors should not be relied upon; they are those for which the apparatus was designed and they should invariably be checked by compass bearing.

The limits of an arc of visibility are rarely clear cut, especially at a short distance, and instead of disappearing suddenly the light usually fades after the limit of the sector has been crossed.

At the boundary of sectors of different colour there is usually a small arc in which the light may be either obscured, indeterminate in colour, or white.

A light apparatus may be encountered where sector boundaries are defined with far greater accuracy than can be achieved with older sector lights.

In cold weather, and more particularly with rapid changes of weather, the lantern glass and screens are often covered with moisture, frost or snow; the sector of uncertainty is then considerably increased in width and coloured sectors may appear more or less white. The effect is greatest in green sectors and with weak lights. Under these conditions white sectors tend to extend into coloured and obscured sectors, and fixed or occulting lights into flashing ones.

White lights may have a reddish hue under some atmospheric conditions.

When a light is cut off by sloping land the bearing on which the light will disappear will vary with distance and the observer's height of eye.

Nomenclature of Lights

A light must, on a given bearing, maintain a consistent character.

Lights exhibit a distinctive appearance by which they are recognised, e.g. Fixed, Flashing, etc. Those properties of their appearance by which they are distinguished are referred to as the **Character or Characteristics** of the light. The principal characteristics are generally the sequence of intervals of light and darkness exhibited and in some cases the sequence of colours of light exhibited. Lights which are exhibited without interruption or change of characteristics are called **Fixed lights.**

Normally, all lights other than fixed lights exhibit a sequence of intervals of light and darkness, the whole sequence being repeated identically at regular intervals. Such lights are called **Rhythmic lights,** and the time taken to exhibit one complete sequence is called the **Period** of the light. Each element of the sequence (e.g. a flash, an eclipse) is called a **Phase.**

Rhythmic lights which exhibit different colours during each sequence are called **Alternating lights.** The period of an alternating light is the time taken to exhibit the complete sequence, including all changes of colour.

Elevation is the vertical distance between the focal plane of the light and the level of Mean High Water Springs. For vertical lights, e.g. 2 F R(vert), the elevation listed is for the uppermost light.

Luminous range is the maximum distance at which a light can be seen at a given time, as determined by the intensity of the light and the meteorological visibility prevailing at that time; it takes no account of elevation, height of the observer's eye or the curvature of the earth—see Luminous Range Diagram (Diagram 1).

Nominal range is the luminous range when the meteorological visibility is 10 nautical miles.

Geographical range is the maximum distance at which light from a light can theoretically reach an observer, as limited only by the curvature of the earth and the refraction of the atmosphere, and by the elevation of the light and the height of eye of the observer—see Geographical Range Table (Table 1).

Loom: The diffused glow observed from a light below the horizon or hidden by an obstacle, due to atmospheric scattering.

Main light: The major of two or more lights situated on the same support or neighbouring supports.

Subsidiary (auxiliary) light: A light placed on or near the support of a main light and having a special use in navigation.

Sector light: A light presenting different appearances, either of colour or character, over various parts of the horizon. Where no sector limits or arcs of visibility are listed in column 8 of the light lists, then the light is assumed to be visible all around.

Leading lights: Two or more lights associated so as to form a leading line to be followed.

Lights described as "Lts in line" are particular cases, and are intended to mark limits of areas, alignments of cables, alignments for anchoring, etc.; they do not mark a direction to be followed.

Directional light: A light showing over a very narrow sector, forming a single leading light. This sector may be flanked by sectors of greatly reduced intensity, or by sectors of different colours or character.

Directional lights are also used to mark the limits of areas, etc., in the same way as "Lts in line".

Vertical lights: Two or more lights disposed vertically (or horizontally, or in a geometric shape) to give a different character or appearance. If the individual lights serve different purposes, the less important are termed auxiliary lights.

Occassional lights: Lights exhibited only when specially needed (e.g. for fishing vessels, ferries, firing ranges and some private lights).

Reserve and Emergency lights: A distinction is made between Reserve lights and Emergency lights:

- **Reserve lights** retain the character of the main light but have a reduced range and their installation is usually restricted to major stations.
- **Emergency lights** are being installed at certain light stations. The apparatus is of lesser intensity and is automatically activated by a failure of the main light. It is normally visible at 5 nautical miles.

  A second light sequence has been added and the term Emergency light or Reserve light has been used in column 2 of the light lists to indicate those stations where they have been installed; where Reserve or Emergency light details are confirmed they are included with the sequence.

Standby light: An alternative name used for Emergency light or Reserve light.

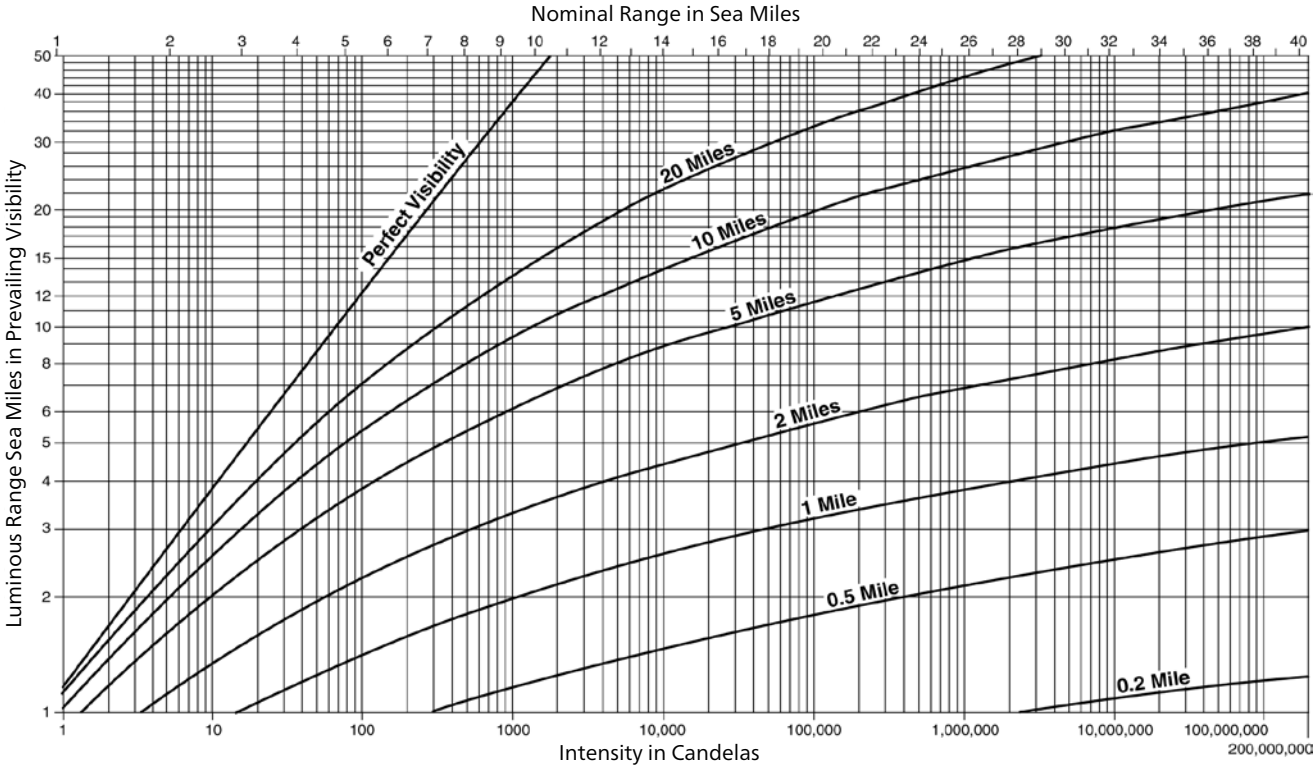
Description of structures:

- **Bands** Where the colour divisions of a structure, or any part of it, are horizontal, the term "bands" is used.
- **Stripes.** Where the colour divisions of a structure, or any part of it, are vertical, the term "stripes" is used.
- **Diagonal stripes.** Where the marking of a structure is in the form of a spiral, the term "diagonal stripes" is used.
- **Shape.** The shape of topmarks and daymarks is often shown diagrammatically; e.g. "White ◻ on beacon" or "Red **O** on mast". Such symbols never refer to the plan cross-section of a structure.
- **Height** is measured from the top of the structure to the ground.

Luminous Range Diagram

This diagram gives the approximate range at which a light may be sighted, at night, in the prevailing meteorological visibility conditions. The straight line labelled "Perfect Visibility" gives the maximum possible luminous range. The diagram is entered from the top border with the charted nominal range of the light. At the point in the diagram where this intersects the appropriate visibility curve the approximate luminous range will be found from the left-hand scale. Example*:* K3994 Castlepoint has a charted nominal range of 19 miles. For an estimated meteorological visibility of 20 miles, the approximate range at which light may be sighted is 32 miles.

Diagram 1



Cautions

1. The diagram gives luminous range i.e., the range at which a light may be sighted, irrespective of its elevation and of the observer's height of eye.
2. Ranges are approximate.
3. The transparency of the atmosphere is not necessarily consistent between the observer and the light.
4. Glare from background lighting will reduce considerably the range at which lights are sighted.

Intensity

The power of a light is normally measured in candelas (cd), the international unit of luminous intensity. However for the purposes of this list, the significant property is not how bright a light is, but how far away it can be seen. Hence the measured intensity values for New Zealand lights have been converted to the corresponding nominal range figures in nautical miles. The correlation between intensity and nominal range may be seen by comparing the scales along the bottom and top of the Luminous Range Diagram.

Table 1 Geographical Range Table

Elevation	Height of Eye of Observer in Metres																						
metres	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30	35	40	45
	Range in Sea Miles																						
0	2.0	2.9	3.5	4.1	4.5	5.0	5.4	5.7	6.1	6.4	7.0	7.6	8.1	8.6	9.1	9.5	10.0	10.4	10.7	11.1	12.0	12.8	13.6
1	4.1	4.9	5.5	6.1	6.6	7.0	7.4	7.8	8.1	8.5	9.1	9.6	10.2	10.6	11.1	11.6	12.0	12.4	12.8	13.2	14.0	14.9	15.7
2	4.9	5.7	6.4	6.9	7.4	7.8	8.2	8.6	9.0	9.3	9.9	10.5	11.0	11.5	12.0	12.4	12.8	13.2	13.6	14.0	14.9	15.7	16.5
3	5.5	6.4	7.0	7.6	8.1	8.5	8.9	9.3	9.6	9.9	10.6	11.1	11.6	12.1	12.6	13.0	13.5	13.9	14.3	14.6	15.5	16.4	17.1
4	6.1	6.9	7.6	8.1	8.6	9.0	9.4	9.8	10.2	10.5	11.1	11.7	12.2	12.7	13.1	13.6	14.0	14.4	14.8	15.2	16.1	16.9	17.7
5	6.6	7.4	8.1	8.6	9.1	9.5	9.9	10.3	10.6	11.0	11.6	12.1	12.7	13.2	13.6	14.1	14.5	14.9	15.3	15.7	16.6	17.4	18.2
6	7.0	7.8	8.5	9.0	9.5	9.9	10.3	10.7	11.1	11.4	12.0	12.6	13.1	13.6	14.1	14.5	14.9	15.3	15.7	16.1	17.0	17.8	18.6
7	7.4	8.2	8.9	9.4	9.9	10.3	10.7	11.1	11.5	11.8	12.4	13.0	13.5	14.0	14.5	14.9	15.3	15.7	16.1	16.5	17.4	18.2	19.0
8	7.8	8.6	9.3	9.8	10.3	10.7	11.1	11.5	11.8	12.2	12.8	13.3	13.9	14.4	14.8	15.3	15.7	16.1	16.5	16.9	17.8	18.6	19.4
9	8.1	9.0	9.6	10.2	10.6	11.1	11.5	11.8	12.2	12.5	13.1	13.7	14.2	14.7	15.2	15.6	16.0	16.4	16.8	17.2	18.1	18.9	19.7
10	8.5	9.3	9.9	10.5	11.0	11.4	11.8	12.2	12.5	12.8	13.5	14.0	14.5	15.0	15.5	15.9	16.4	16.8	17.2	17.5	18.4	19.3	20.0
11	8.8	9.6	10.3	10.8	11.3	11.7	12.1	12.5	12.8	13.2	13.8	14.3	14.9	15.4	15.8	16.3	16.7	17.1	17.5	17.9	18.8	19.6	20.4
12	9.1	9.9	10.6	11.1	11.6	12.0	12.4	12.8	13.1	13.5	14.1	14.6	15.2	15.7	16.1	16.6	17.0	17.4	17.8	18.2	19.1	19.9	20.7
13	9.4	10.2	10.8	11.4	11.9	12.3	12.7	13.1	13.4	13.7	14.4	14.9	15.4	15.9	16.4	16.8	17.3	17.7	18.1	18.4	19.3	20.2	20.9
14	9.6	10.5	11.1	11.7	12.1	12.6	13.0	13.3	13.7	14.0	14.6	15.2	15.7	16.2	16.7	17.1	17.6	18.0	18.3	18.7	19.6	20.4	21.2
15	9.9	10.7	11.4	11.9	12.4	12.8	13.2	13.6	14.0	14.3	14.9	15.5	16.0	16.5	17.0	17.4	17.8	18.2	18.6	19.0	19.9	20.7	21.5
16	10.2	11.0	11.6	12.2	12.7	13.1	13.5	13.9	14.2	14.5	15.2	15.7	16.2	16.7	17.2	17.7	18.1	18.5	18.9	19.2	20.1	21.0	21.7
17	10.4	11.2	11.9	12.4	12.9	13.3	13.7	14.1	14.5	14.8	15.4	16.0	16.5	17.0	17.4	17.9	18.3	18.7	19.1	19.5	20.4	21.2	22.0
18	10.6	11.5	12.1	12.7	13.2	13.6	14.0	14.4	14.7	15.0	15.7	16.2	16.7	17.2	17.7	18.1	18.6	19.0	19.4	19.7	20.6	21.5	22.2
19	10.9	11.7	12.4	12.9	13.4	13.8	14.2	14.6	14.9	15.3	15.9	16.5	17.0	17.5	17.9	18.4	18.8	19.2	19.6	20.0	20.9	21.7	22.5
20	11.1	12.0	12.6	13.1	13.6	14.1	14.5	14.8	15.2	15.5	16.1	16.7	17.2	17.7	18.2	18.6	19.0	19.4	19.8	20.2	21.1	21.9	22.7
22	11.6	12.4	13.0	13.6	14.1	14.5	14.9	15.3	15.6	15.9	16.6	17.1	17.7	18.1	18.6	19.1	19.5	19.9	20.3	20.7	21.5	22.4	23.2
24	12.0	12.8	13.5	14.0	14.5	14.9	15.3	15.7	16.0	16.4	17.0	17.6	18.1	18.6	19.0	19.5	19.9	20.3	20.7	21.1	22.0	22.8	23.6
26	12.4	13.2	13.9	14.4	14.9	15.3	15.7	16.1	16.4	16.8	17.4	18.0	18.5	19.0	19.4	19.9	20.3	20.7	21.1	21.5	22.4	23.2	24.0
28	12.8	13.6	14.3	14.8	15.3	15.7	16.1	16.5	16.8	17.2	17.8	18.3	18.9	19.4	19.8	20.3	20.7	21.1	21.5	21.9	22.8	23.6	24.4
30	13.2	14.0	14.6	15.2	15.7	16.1	16.5	16.9	17.2	17.5	18.2	18.7	19.2	19.7	20.2	20.7	21.1	21.5	21.9	22.2	23.1	24.0	24.7
35	14.0	14.9	15.5	16.1	16.6	17.0	17.4	17.8	18.1	18.4	19.1	19.6	20.1	20.6	21.1	21.5	22.0	22.4	22.8	23.1	24.0	24.9	25.6
40	14.9	15.7	16.4	16.9	17.4	17.8	18.2	18.6	18.9	19.3	19.9	20.4	21.0	21.5	21.9	22.4	22.8	23.2	23.6	24.0	24.9	25.7	26.5
45	15.7	16.5	17.1	17.7	18.2	18.6	19.0	19.4	19.7	20.0	20.7	21.2	21.7	22.2	22.7	23.2	23.6	24.0	24.4	24.7	25.6	26.5	27.2
50	16.4	17.2	17.9	18.4	18.9	19.3	19.7	20.1	20.5	20.8	21.4	22.0	22.5	23.0	23.4	23.9	24.3	24.7	25.1	25.5	26.4	27.2	28.0
55	17.1	17.9	18.6	19.1	19.6	20.0	20.4	20.8	21.2	21.5	22.1	22.7	23.2	23.7	24.1	24.6	25.0	25.4	25.8	26.2	27.1	27.9	28.7
60	17.8	18.6	19.3	19.8	20.3	20.7	21.1	21.5	21.8	22.2	22.8	23.3	23.9	24.3	24.8	25.3	25.7	26.1	26.5	26.9	27.7	28.6	29.4
65	18.4	19.2	19.9	20.4	20.9	21.4	21.7	22.1	22.5	22.8	23.4	24.0	24.5	25.0	25.5	25.9	26.3	26.7	27.1	27.5	28.4	29.2	30.0
70	19.0	19.9	20.5	21.1	21.5	22.0	22.4	22.7	23.1	23.4	24.0	24.6	25.1	25.6	26.1	26.5	26.9	27.4	27.7	28.1	29.0	29.8	30.6
75	19.6	20.5	21.1	21.7	22.1	22.6	23.0	23.3	23.7	24.0	24.6	25.2	25.7	26.2	26.7	27.1	27.5	27.9	28.3	28.7	29.6	30.4	31.2
80	20.2	21.0	21.7	22.2	22.7	23.1	23.5	23.9	24.3	24.6	25.2	25.8	26.3	26.8	27.3	27.7	28.1	28.5	28.9	29.3	30.2	31.0	31.8
85	20.8	21.6	22.2	22.8	23.3	23.7	24.1	24.5	24.8	25.1	25.8	26.3	26.9	27.3	27.8	28.3	28.7	29.1	29.5	29.9	30.7	31.6	32.4
90	21.3	22.1	22.8	23.3	23.8	24.2	24.6	25.0	25.4	25.7	26.3	26.9	27.4	27.9	28.4	28.8	29.2	29.6	30.0	30.4	31.3	32.1	32.9
95	21.8	22.7	23.3	23.9	24.3	24.8	25.2	25.5	25.9	26.2	26.8	27.4	27.9	28.4	28.9	29.3	29.7	30.1	30.5	30.9	31.8	32.6	33.4
100	22.3	23.2	23.8	24.4	24.9	25.3	25.7	26.1	26.4	26.7	27.3	27.9	28.4	28.9	29.4	29.8	30.3	30.7	31.1	31.4	32.3	33.2	33.9
110	23.3	24.2	24.8	25.4	25.8	26.3	26.7	27.0	27.4	27.7	28.3	28.9	29.4	29.9	30.4	30.8	31.3	31.7	32.1	32.4	33.3	34.1	34.9
120	24.3	25.1	25.8	26.3	26.8	27.2	27.6	28.0	28.3	28.7	29.3	29.8	30.4	30.9	31.3	31.8	32.2	32.6	33.0	33.4	34.3	35.1	35.9
130	25.2	26.0	26.7	27.2	27.7	28.1	28.5	28.9	29.2	29.6	30.2	30.8	31.3	31.8	32.2	32.7	33.1	33.5	33.9	34.3	35.2	36.0	36.8
140	26.1	26.9	27.6	28.1	28.6	29.0	29.4	29.8	30.1	30.5	31.1	31.6	32.2	32.6	33.1	33.6	34.0	34.4	34.8	35.2	36.0	36.9	37.7
150	26.9	27.7	28.4	28.9	29.4	29.9	30.2	30.6	31.0	31.3	31.9	32.5	33.0	33.5	34.0	34.4	34.8	35.2	35.6	36.0	36.9	37.7	38.5
160	27.7	28.6	29.2	29.8	30.2	30.7	31.1	31.4	31.8	32.1	32.7	33.3	33.8	34.3	34.8	35.2	35.6	36.0	36.4	36.8	37.7	38.5	39.3
170	28.5	29.4	30.0	30.5	31.0	31.5	31.9	32.2	32.6	32.9	33.5	34.1	34.6	35.1	35.6	36.0	36.4	36.8	37.2	37.6	38.5	39.3	40.1
180	29.3	30.1	30.8	31.3	31.8	32.2	32.6	33.0	33.3	33.7	34.3	34.9	35.4	35.9	36.3	36.8	37.2	37.6	38.0	38.4	39.3	40.1	40.9
190	30.0	30.9	31.5	32.1	32.5	33.0	33.4	33.7	34.1	34.4	35.0	35.6	36.1	36.6	37.1	37.5	37.9	38.4	38.7	39.1	40.0	40.8	41.6
200	30.8	31.6	32.2	32.8	33.3	33.7	34.1	34.5	34.8	35.1	35.8	36.3	36.8	37.3	37.8	38.3	38.7	39.1	39.5	39.8	40.7	41.6	42.3
220	32.2	33.0	33.6	34.2	34.7	35.1	35.5	35.9	36.2	36.5	37.2	37.7	38.3	38.7	39.2	39.7	40.1	40.5	40.9	41.4	42.1	43.0	43.8
240	33.5	34.3	35.0	35.5	36.0	36.4	36.8	37.2	37.6	37.9	38.5	39.1	39.6	40.1	40.4	41.0	41.4	41.8	42.2	42.6	43.5	44.3	45.1
260	34.8	35.6	36.3	36.8	37.3	37.7	38.1	38.5	38.8	39.2	39.8	40.4	40.9	41.4	41.8	42.3	42.7	43.1	43.5	43.9	44.8	45.6	46.4
280	36.0	36.9	37.5	38.0	38.5	39.0	39.4	39.7	40.1	40.4	41.0	41.6	42.1	42.6	43.1	43.5	43.9	44.3	44.7	45.1	46.0	46.8	47.6
300	37.2	38.1	38.7	39.2	39.7	40.2	40.6	40.9	41.3	41.6	42.2	42.8	43.3	43.8	44.3	44.7	45.1	45.5	45.9	46.3	47.2	48.0	48.8
320	38.4	39.2	39.9	40.4	40.9	41.3	41.7	42.1	42.4	42.8	43.4	43.9	44.5	45.0	45.4	45.9	46.3	46.7	47.1	47.5	48.3	49.2	50.0
340	39.5	40.3	41.0	41.5	42.0	42.4	42.8	43.2	43.5	43.9	44.5	45.1	45.6	46.1	46.5	47.0	47.4	47.8	48.2	48.6	49.5	50.3	51.1
360	40.6	41.4	42.1	42.6	43.1	43.5	43.9	44.3	44.6	45.0	45.6	46.1	46.7	47.2	47.6	48.1	48.5	48.9	49.3	49.7	50.6	51.4	52.2
380	41.6	42.5	43.1	43.7	44.1	44.6	45.0	45.3	45.7	46.0	46.6	47.2	47.7	48.2	48.7	49.1	49.5	50.0	50.3	50.7	51.6	52.4	53.2
400	42.7	43.5	44.1	44.7	45.2	45.6	46.0	46.4	46.7	47.0	47.7	48.2	48.7	49.2	49.7	50.1	50.6	51.0	51.4	51.7	52.6	53.5	54.2

Use of Geographical Range Table

Caution: The geographical range of a light, sometimes referred to as the dipping range, can only be used for finding the distance off the light in clear weather when the luminous range is equal to or exceeds the geographical range.

Definition of geographical range: The **maximum** distance at which light from a light can theoretically reach an observer, as limited only by the curvature of the earth and the refraction of the atmosphere, and by the elevation of the light and the height of eye of the observer.

The **Geographical Range Table** can be used to find the geographical range of a light as follows:

Enter the table at the top with the observer's height of eye and at the left, in the elevation column, with the height of the light as taken from the chart or the light lists in this publication. The geographical range can then be taken from the body of the table, e.g.

1. Height of eye of observer 9 metres, charted height of light 30 metres. Geographical range = 17.2 nautical miles.
2. Height of eye 3 metres, charted height of light 52 metres. Geographical range = 18.18 nautical miles.

To find out whether a light is of sufficient power to be visible at its extreme range, reference must be made to the Light List and to the Luminous Range Diagram. For example, to find whether the following lights will be visible at their geographical range to an observer having a height of eye of 8 metres. The estimated meteorological visibility is 20 miles.

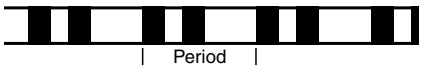
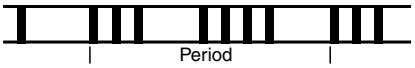
(a) K4486 Cape Foulwind has a nominal range of 9 miles and elevation of light 70 metres.
The Geographical Range Table gives a range of 22.7 miles, the Luminous Range Diagram gives a range of 13 miles. This light, therefore, **will not** be visible at its geographical range for this particular observer.

(b) K3994 Castlepoint has a nominal range of 19 miles and elevation of light 52 metres.
The Geographical Range Table gives a range of 20.38 miles and the Luminous Range Diagram gives a range of 32 miles. This light **will** be visible at its geographical range for this particular observer.

Note:

1. Geographical ranges can only be used in clear weather when the loom of the light is visible before or after the light dips on the horizon.
2. Some lights whose charted range is less than their geographical range may be observed to dip on the horizon in conditions of excellent visibility.
3. Conditions of abnormal refraction may cause the geographical ranges to increase and consequently ranges obtained by this method should be used with caution.

Table 2 Light Characteristics

Class of Light	Characteristic	General Description	Abbreviation	Illustration
A – Fixed	Fixed	A light showing continuously and steadily.	F W	
B – Rhythmic		A rhythmic light is a light showing intermittently with a regular periodicity. The rhythmic character of a light is the regular periodic rhythm presented by the light.		
1 – Occulting, Group Occulting		A light in which the total duration of light in a period is longer than the total duration of darkness and the intervals of darkness (eclipses) are usually of equal duration.		
	(a) Occulting	An occulting light in which an eclipse is regularly repeated.	Oc W	
	(b) Group occulting	An occulting light in which a group of eclipses, specified in number, is regularly repeated. The total duration of light in each period may be equal to the total duration of darkness.	Oc(2)W	
	(c) Composite group occulting	A light similar to a group occulting light except that successive groups in a period have different numbers of eclipses. The total duration of light in each period may be equal to the total duration of darkness.	Oc(3+4)W	
2 – Isophase	Isophase	A light in which all the durations of light and darkness are clearly equal.	Iso W	
3 – Flashing, Group Flashing		A light in which the total duration of light in a period is shorter than the total duration of darkness and the appearances of light (flashes) are usually of equal duration.		
	(a) Flashing	A flashing light in which a flash is regularly repeated (at a rate of less than 50 flashes per minute).	Fl W	
	(b) Long flashing	A single-flashing light in which an appearance of light of not less than 2s duration (long flash) is regularly repeated.	LFl W	
	(c) Group flashing	A flashing light in which a group of flashes, specified in number, is regularly repeated.	Fl(3)W	
	(d) Composite group flashing	A light similar to a group-flashing light except that successive groups in a period have different numbers of flashes.	Fl(3+2)W	

Light Information

Table 2 Light Characteristics

Class Of Light	Characteristic	General Description	Abbreviation	Illustration
4 – Quick Lights		A light in which flashes are repeated at a rate of not less than 50 flashes per minute but less than 80 flashes per minute.		
	(a) Quick	A quick light in which a flash is regularly repeated.	Q W	
	(b) Group quick	A quick light in which a specified group is regularly repeated.	Q(9)W	
			Q(6)+LFl W	
	(c) Interrupted quick	A quick light in which the sequence of flashes is interrupted by regular repeated eclipses of constant and long duration.	IQ W	
NOTE: The group flashing light Fl(6)+LFl W is an exceptional light character reserved for use in IALA Buoyage System to indicate a South Cardinal mark.				
5 – Very Quick Lights		A light in which flashes are repeated at a rate of not less than 80 flashes per minute but less than 160 flashes per minute.		
	(a) Very quick	A very quick light in which a flash is regularly repeated.	VQ W	
	(b) Group very quick	A very quick light in which a specified group of flashes is regularly repeated.	VQ(3)W	
	(c) Interrupted very quick	A very quick light in which the sequence of flashes is interrupted by regularly repeated eclipses of constant and long duration.	IVQ W	
6 – Ultra Quick Lights		A light in which flashes are repeated at a rate of not less than 160 flashes per minute.		
	(a) Ultra quick	An ultra quick light in which a flash is regularly repeated.	UQ W	
	(b) Interrupted ultra quick	An ultra quick light is which the sequence of flashes is interrupted by eclipses of long duration.	IUQ W	
7 – Morse code	Morse code	A light in which appearances of light of two clearly different durations are grouped to represent a character or characters in the Morse Code.	Mo(K)W	
			Mo(AR)W	
			Mo(4)W	

Light Information

Table 2 Light Characteristics

Class of Light	Characteristic	General Description	Abbreviation	Illustration
8 – Fixed and Flashing		A light in which a fixed light is combined with a flashing light of higher luminous intensity.		
	(a) Fixed and flashing	A fixed light varied, at regular intervals, by a single flash of higher luminous intensity.	FFl W	
	(b) Fixed and group flashing	A fixed light varied, at regular intervals, by a group of two or more flashes of higher luminous intensity.	FFl(2)W	
C – Alternating		A light showing different colours alternately.		
1 – Alternating	Alternating	A continuous steady light which shows a change in colour.	Al WGR	
2 – Flashing, Group Flashing	(a) Alternating	See C1 and B3	AlFl WR	
	(b) Alternating group flashing	See C1 and B3	AlFl RW	
			AlFl WWRR	
3 – Occulting, Group Occulting	(a) Alternating occulting	See C1 and B1	AlOc WR	
	(b) Alternating group occulting	See C1 and B1	AlOc WGR	
4 – Fixed and Flashing, Fixed and Group Flashing	(a) Alternating fixed and flashing	See C1, A and B3	AlF W Fl R	
			AlF W Fl RG	
	(b) Alternating fixed and group flashing	See C1, A and B3	AlF W Fl(3)G	
	(c) Alternating fixed and composite group flashing	See C1, A and B3	AlF W Fl WRR	

Light Information

Fog Signals

Sound is often conveyed in an unpredictable way through the atmosphere and the following points should be remembered:

(a) Fog signals are heard at greatly varying distances.

(b) Under certain atmospheric conditions, if a fog signal is a combination of high and low tones, one of the tones may be inaudible.

(c) There are occasionally areas around a station in which the fog signal is wholly inaudible.

(d) Fog may exist a short distance from a station and not be observable from it, so that the signal may not be sounded.

(e) Some fog signal emitters cannot be started immediately after signs of fog are observed.

Mariners are therefore warned that fog signals should never be relied upon implicitly. Particular attention should be given to placing look-outs in positions in which the noises in the ship are least likely to interfere with the hearing of a fog signal; experience shows that, though such a signal may not be heard from the deck or bridge when the engines are moving, it may be heard when the ship is stopped, or from a quiet position.

Fog signals are mainly produced by the following types of emitters:

The Diaphone uses compressed air and generally emits a powerful, low-pitched sound, which often concludes with a brief sound of suddenly lowered pitch termed the "grunt". Where it is known that the sound does not terminate in a "grunt", the signal is annotated "No grunt".

The Horn uses compressed air or electricity to vibrate a diaphragm and exists in a variety of types which differ

greatly in their sound and power; some types, particularly those at major fog signal stations, combine emitter units which
simultaneously produce sounds of different pitch; these are often very powerful. Others produce a single steady tone, whilst others vary continuously in pitch.

The Siren uses compressed air and exists in a variety of types which differ considerably in their sound and power.

The Reed uses compressed air and emits a weak, high-pitched sound; it is particularly weak when hand-operated.

The Explosive emitter produces short reports by the firing of explosive charges.

The Bell, the Gong and the Whistle may be operated by machinery, sounding a regular character; by hand, sounding a somewhat irregular character; or by wave action, sounding erratically.

Morse code fog signals: In a similar manner to lights, the abbreviation "Mo" is included in the abridged description of fog signals which consist of one or more characters of the Morse code; e.g. Horn Mo(AR), Horn Mo(4) and composite fog signals are described, e.g. Siren(2+3).

Fog signal emitters of all types vary greatly in power; reserve emitters are often especially weak.

Some fog signal emitters sound characters composed of separate blasts of two or more different pitches; these are annotated, in column 8 of the light lists, "2-tone", "3-tone", etc. Other emitters commence with an ascending pitch, or conclude with a descending pitch, and are annotated accordingly; others which produce a continuously-varying pitch are annotated "warble tone".

Abbreviations Used in the Light Lists

AHP ..... Above Head of Passes (in miles)
AIS ..... Automatic Identification System Station
Al ..... Alternating
bl ..... Blast
Bu ..... Blue
CALM ..... Catenary Anchor Leg Mooring
Dia ..... Diaphone
Dir Lt ..... Direction Light
E ..... East
ec ..... Eclipse (phase)
ED ..... Existence Doubtful
ENE ..... East Northeast
ESE ..... East Southeast
Explos ..... Explosive fog signal
F ..... Fixed
FFl ..... Fixed and flashing
FFl(. .) ..... Fixed and group flashing
Fl ..... Flashing
Fl(. .) ..... Group flashing
fl ..... Flash (phase)
FPSO ..... Floating Production Storage and Offloading facility
FSO ..... Floating Storage and Offloading facility
FSU ..... Floating Storage Unit
G ..... Green
GRP ..... Glass Reinforced Plastic
HFPB ..... High Focal Plane Buoy
(hor) ..... Horizontal
I ..... Interrupted
Intens ..... Intensified sector
Irreg ..... Irregular
Iso ..... Isophase
Lanby ..... Large Automatic Navigational Buoy
Lat ..... Latitude
Ldg Lts ..... Leading Lights
LED ..... Light Emitting Diode
LFl ..... Long flash
Lit ..... Light (no details known)
Long ..... Longitude
LPG ..... Liquid Petroleum Gas
lt ..... Light (phase)
Lt F ..... Light-float
Lts in line ..... Lights in line
(M) ..... Light owned by Maritime New Zealand
M ..... Sea miles
m ..... Metres
min ..... Minutes
Mo ..... Morse code light or fog signal
MV ..... Mercury vapour discharge lamp greenish-white in colour
N ..... North
NE ..... Northeast
NNE ..... North Northeast
NNW ..... North Northwest
NW ..... Northwest
Oc ..... Occulting
Oc(. .) ..... Group occulting
Occas ..... Occasional
(P) ..... Preliminary
PA ..... Position approximate
PEL ..... Port Entry Light
Q ..... Quick flashing
R ..... Red
Ra refl ..... Radar reflector
Racon ..... Radar responder beacon
RC ..... Circular radio beacon
Ramark ..... Radar beacon (continuous)
Ro Bn ..... Radio beacon
Rot ..... Rotating
RTE ..... Radar Target Enhancer
S ..... South
s ..... Seconds
SAR ..... Search and Rescue
SBM ..... Single Buoy Mooring
SE ..... Southeast
si ..... Silence
Sig Stn ..... Signal Station
SPM ..... Single Point Mooring
SSE ..... South Southeast
SSW ..... South Southwest
SV ..... Sodium vapour discharge lamp orange in colour
SW ..... Southwest
(T) ..... Temporary
TALM ..... Taut Anchor Leg Mooring
TD ..... Temporarily discontinued (non-light AtoN)
TE ..... Temporarily extinguished (light AtoN)
TR ..... Racon temporarily discontinued
Unintens ..... Unintensified sector
UQ ..... Ultra quick flashing
(var) ..... Varying
(vert) ..... Vertical
Vi ..... Violet
Vis ..... Visible
VQ ..... Very quick flashing
W ..... West
W ..... White
Whis ..... Whistle
WNW ..... West Northwest
WSW ..... West Southwest
Y ..... Yellow, amber or orange

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3686	Cape Maria van Diemen (M)	34 28.60 172 38.70		Fl(3)W 20s	91	9	White fibreglass tower 3	*(fl 1, ec 1) x 2, fl 1, ec 15* W (Obscured) 141°- 145° (4°) W 145°-206° (61°) W 314°-141° (187°)
3688	**Cape Reinga / Te Rerenga Wairua** (M)	34 25.60 172 40.65		Fl W 12s	165	**19**	White concrete tower 10	*fl 1, ec 11* W (Obscured) 011°- 013° (2°) W 013°-263° (250°) W (Obscured) 263°- 285° (22°) W (Obscured) 326°- 356° (30°) W 356°-011° (15°)
	Reserve light					10		
3690	**North Cape (Otou) Murimotu Island. Summit** (M)	34 24.89 173 03.03		Fl W 8s	99	**18**	White concrete tower 4	*fl 0.5, ec 7.5* W (Obscured) 080°- 135° (55°) Obscured from shore to 135° W 135°-080° (305°)
	Pārengarenga Harbour							
3690.4	Parengarenga Harbour	34 31.25 172 58.12		Fl(2)W 5s	47	6	White tower 5	*fl 0.3, ec 1, fl 0.3, ec 3.4* Square tower
	Houhora Harbour							
3690.6	Ruakōura / Perpendicular Point	34 49.50 173 10.05		Fl W 4s	97	6	White metal pole	*fl 0.3, ec 3.7*
3690.7	HH2	34 49.54 173 09.38		Q R	5	1	Red ☐ Red metal pole	
3690.76	HH1	34 49.33 173 08.55		Q G	3	1	Green △ Green wooden pole	
3690.77	HH3	34 49.38 173 08.45		Q G	3	1	Green △ Green wooden pole	
3690.8	HH4	34 49.47 173 08.22		Q R	3	2	Red ☐ Red wooden pole	
3690.85	HH6	34 49.19 173 07.56		Q R	3	2	Red ☐ Red wooden pole	
3690.89	HH5	34 48.95 173 07.28		Q G	3	2	Green △ Green wooden pole	
3690.9	Pukenui Wharf. Head SE corner	34 48.85 173 07.16		2 F R(vert)	5			Lamp post
	Rangaunu Harbour							
3691	Wairakia Point	34 54.08 173 18.09		Fl R 2.5s	3	2	Red ☐ Red metal pile beacon 3	*fl 0.3, ec 2.2*
3691.2	Omere, Janus or Toby Rock	34 52.80 173 16.93		Fl(2)R 6s	5	5	Red ☐ Red metal pile beacon 5	*fl 0.3, ec 0.9, fl 0.3, ec 4.5*
3691.3	Otiaia Point	34 53.34 173 16.89		Q G	9	2	Green △ Green metal pile beacon	
3691.35	Scheigis Rock	34 53.42 173 17.67		Fl R 3s	1	2	Red ☐ Red concrete pile beacon 1	*fl 0.3, ec 2.7*
	Awanui Channel							
3691.4	Tohunga	34 55.46 173 17.44		Q G	3	2	Green △ Green wooden pile beacon	
3691.45	AC2	34 56.26 173 16.98		Fl R 3s		2	Red ☐ Red wooden pile beacon	*fl 0.3, ec 2.7*
3691.5	Mangatete	34 57.01 173 16.28		Fl G 2s	3	2	Green △ Green wooden pile beacon 2	*fl 0.3, ec 1.7*
3691.52	AC4	34 57.42 173 15.64		Fl R 3s		2	Red ☐ Red wooden pile beacon 3	*fl 0.3, ec 2.7*
3691.54	Rat Island	34 57.57 173 15.34		Q G	2	2	Green △ Green wooden pile beacon	*fl 0.3, ec 0.7*
3691.55	Home Creek	34 57.90 173 15.23					Green △ Green wooden pile beacon 3	

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3691.56	Mangrove Island	34 58.44 173 15.14		Q G	3	2	Green △ Green wooden pile beacon	*fl 0.3, ec 0.7*
3691.58	Junction Reach	34 58.89 173 14.60		Q R	2	2	Red ☐ Red pile beacon 2	*fl 0.3, ec 0.7* 2 piles
3691.59	J4	34 58.99 173 14.65		Q R	2	2	Red ☐ Red pile beacon 2	*fl 0.3, ec 0.7*
3691.595	J6	34 59.35 173 14.96		Q R		2	Red ☐ Red wooden pile beacon 3	*fl 0.3, ec 0.7*
3691.598	Prices	34 59.33 173 15.29		Q G		2	Green △ Green wooden pile beacon 3	*fl 0.3, ec 0.7*
3691.6	J16	34 59.37 173 15.42		Q R	2	2	Red ☐ Red pile beacon 2	*fl 0.3, ec 0.7*
3691.7	J18	34 59.57 173 15.41		Q R	2	2	Red ☐ Red pile beacon 2	*fl 0.3, ec 0.7*
3691.8	J20	34 59.75 173 15.33		Q R	2	2	Red ☐ Red pile beacon 2	*fl 0.3, ec 0.7*
3691.9	A1	34 59.99 173 15.09		Q G	2	2	Green △ Green pile beacon 2	*fl 0.3, ec 0.7*
3691.95	A5	35 00.08 173 15.10		Q G	2	2	Green △ Green pile beacon 2	*fl 0.3, ec 0.7*
3692	Awanui River Unahi Head	35 00.21 173 15.27		2 F G(hor)			Pole	On each end of wharf
3694	Cape Karikari (Whakapouaka) (M)	34 46.99 173 23.84		Fl(3)W 15s	59	10	White tower 3	*(fl 0.5, ec 1.5) x 2, fl 0.5, ec 10.5*
3695	Taipa River Entrance	34 59.51 173 28.20		Fl R 2.5s	2	3	Red ☐ Red metal pole	*fl 0.3, ec 2.2*
	Port Mangōnui							
3696.5	Cole Point	34 58.90 173 31.66		Q G	3	5	Green △ Green metal pole 3	
3697	Port Mangōnui Wharf	34 59.30 173 32.13		2 F G(vert)				Shed
3697.5	Albert Reef	34 55.21 173 31.11		VQ(3)W 5s	4	2	Black ⊜ Black, yellow and black horizontal stripes, pile beacon 4	
	Whangaroa Harbour							
3698	South Head	35 00.33 173 46.14		Fl(2)WR 6s	105	W6 R4	White metal column	*fl 1, ec 1, fl 1, ec 3* W 121°-232° (111°) R 232°-282° (50°)
3698.1	Kingfish Point	35 00.67 173 45.31		Fl W 2s	13	5	White pole 6	*fl 0.3, ec 1.7*
3698.12	Shark Island	35 00.83 173 45.20		Fl R 2.5s	3	2	Red ☐ Red metal pile beacon 3	
3698.14	East Pekapeka	35 00.48 173 44.85		Fl(2)W 5s	2	2	Black ⁞ Black, red and black horizontal stripes, metal pile beacon 2	pillar
3698.15	North Pekapeka	35 00.43 173 44.70		Fl(2)W 5s	2	2	Black ⁞ Black, red and black horizontal stripes, metal pile beacon 2	pillar

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3698.18	West Pekapeka	35 00.61 173 44.26		Fl(2)W 5s	2	2	Black ⁝ Black, red and black horizontal stripes, metal pile beacon 2	pillar
3698.2	Clansman Wharf	35 02.68 173 44.67		2 F R(vert)			Metal pole	steel
	Cavalli Islands							
3699	Nukutaunga Island (M)	34 58.59 173 57.91		Fl W 10s	111	7	White metal tower 4	*fl 1, ec 9*
	Bay of Islands Harbour							
3700	Fraser Rock	35 14.48 174 06.99		Fl WR 4s	13	W9 R8	Grey metal tower 3	*fl 0.7, ec 3.3* R 229°-238.9° (9.9°) W 238.9°-312.8° (73.9°) W 352.9°-229° (236.1°)
3700.5	The Brothers	35 11.86 174 03.90		Q(2)W 5s	5	5	Black ⁝ Black, red and black horizontal stripes, pile beacon 5	*fl 0.3, ec 0.7, fl 0.3, ec 3.7*
3700.55	Motupapa (Cocked Hat) Island	35 11.88 174 02.99		Q R	3	2	Red ☐ Red metal pile beacon	
3700.6	Kerikeri Inlet. No 1S	35 11.83 174 00.56		Q G	3	2	Green △ Green metal pile beacon 3	
3700.601	KK2	35 11.89 174 00.17		Fl R 2s	2	1	Red ☐ Red metal pole 2	*fl 0.3, ec 1.7*
3700.6015	KK3	35 11.83 174 00.38		Fl G 2s	3	1	Green △ Green wooden pile beacon 3	*fl 0.3, ec 1.7*
3700.602	KK4	35 11.86 173 59.92		Fl R 2s	2	1	Red ☐ Red metal pole 2	*fl 0.3, ec 1.7*
3700.603	KK5	35 11.85 174 00.25		Fl G 2s	3	1	Green △ Green wooden pile beacon 3	*fl 0.3, ec 1.7*
3700.604	KK6	35 11.87 173 59.88		Fl R 2s	2	1	Red ☐ Red metal pole 2	*fl 0.3, ec 1.7*
3700.605	KK7	35 12.01 173 59.63		Fl G 2s	3	1	Green △ Green wooden pile beacon 3	*fl 0.3, ec 1.7*
3700.606	KK8	35 11.97 173 59.70		Fl R 2s	2	1	Red ☐ Red metal pole 2	*fl 0.3, ec 1.7*
3700.607	KK9	35 12.21 173 59.52		Fl G 2s	3	1	Green △ Green wooden pile beacon 3	*fl 0.3, ec 1.7*
3700.61	No. 10	35 12.05 173 59.62		Q R	3	2	Red ☐ Red wooden pile beacon	
3700.615	KK12	35 12.21 173 59.54		Fl R 2s	2	1	Red ☐ Red wooden pile beacon 2	*fl 0.3, ec 1.7*
3700.62	No. 13	35 12.35 173 59.39		Q G	3	2	Green △ Green wooden pile beacon	
3700.624	KK17	35 12.44 173 59.12		Fl G 2s	2	1	Green △ Green wooden pile beacon 2	*fl 0.3, ec 1.7*
3700.625	KK19	35 12.50 173 58.84		Fl G 2s	3	2	Green △ Green pile beacon 3	*fl 0.3, ec 1.7*

North Island

Int. K No. (1)	Location - Name (2)	Lat S Long E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3700.626	KK14	35 12.56 173 58.62	Fl R 2s	3	1	Red ☐ Red wooden pile beacon 3	*fl 0.3, ec 1.7*
3700.628	KK Junction	35 12.52 173 58.61	Fl(2+1)G 6s	3	2	Green △ Green, red and green horizontal stripes, wooden pile beacon 3	*fl 0.3, ec 0.4, fl 0.3, ec 1.2, fl 0.3, ec 3.5*
3700.65	DB2	35 11.75 174 02.08	Q R	3	1	Red ☐ Red wooden pile beacon	
3700.7	Doves Bay Marina Breakwater head	35 11.66 174 02.04	2 F G(vert)			Beacon	
3701	**Entrance** Dir Lt	35 16.28 174 05.00	Dir Al WRG	9	**15**	White metal pile beacon	F G 211.2°-213° (1.8°) Al WG 213°-213.3° (0.3°) F W 213.3°-214.6° (1.3°) Al WR 214.6°-215.1° (0.5°) F R 215.1°-216.6° (1.5°)
	Dir Lt		*By day*		9		F W 213.3°-214.6° (1.3°)
3702	Russell Wharf. Head	35 15.72 174 07.21	2 F R(vert)	7	2	Grey metal pole	
3702.1	Hermione Rock	35 15.84 174 05.60	Fl(3)G 10s	4	3	Green △ Green metal pile beacon 4	
3702.6	Micky Rock	35 16.16 174 05.63	Q R	3	2	Red ☐ Red metal pile beacon 3	*fl 0.3, ec 0.7*
3703	Ti Point. Waitangi River Entrance	35 16.39 174 05.01	Q G		2	Green △ Green metal pile beacon	
3703.11	WR1	35 16.38 174 04.96	Fl G 2s	3	1	Green △ Green wooden pile beacon 3	*fl 0.3, ec 1.7*
3703.13	WR3	35 16.36 174 04.92	Fl G 2s	3	1	Green △ Green wooden pile beacon 3	*fl 0.3, ec 1.7*
3703.2	Waitangi Jetty Head	35 16.33 174 04.89	2 F G(vert)			Metal pole	
3704	Taylor Island off N end	35 16.62 174 05.84	Fl G 2.5s	3	5	Green △ Green metal pile beacon 4	*fl 0.3, ec 2.2*
3704.1	Pahia No. 5 Starboard Beacon	35 16.80 174 05.62	Fl G 2s	2	1	Green △ Green wooden pile beacon 2	*fl 0.3, ec 1.7*
3704.2	Paihia Jetty Head	35 16.84 174 05.59	2 F G(vert)	3	3	Beacon	On building
3704.3	Nihinui Point, Starboard Beacon	35 16.66 174 05.47	Fl G 2s	3	1	Green △ Green metal pile beacon 3	*fl 0.3, ec 1.7*
3704.4	Nihinui Point, Port Beacon	35 16.63 174 05.50	Fl R 2s	3	1	Red ☐ Red metal pile beacon 3	*fl 0.3, ec 1.7*
3705.1	Veronica Channel Ldg Lts 172° 24'. Front	35 18.28 174 06.53	F Bu	30	5	White metal tower 36	Framework
3705.2	Veronica Channel Leading Rear Light	35 18.54 174 06.58	F Bu	57	5	Metal pole 6	
			By day Oc W 6s				*ec 2, fl 4*
3705.4	No. 1	35 15.84 174 06.10	Fl G 2s	7	5	Green △ Green metal pile beacon 7	*fl 0.3, ec 1.7*
3705.5	No. 2	35 15.82 174 06.18	Fl R 2s	5	5	Red ☐ Red metal pile beacon 5	*fl 0.3, ec 1.7*
3705.6	No. 3	35 16.64 174 06.23	Fl G 2.5s	5	5	Green △ Green metal pile beacon	*fl 0.3, ec 2.2*
3705.7	No. 4	35 16.65 174 06.31	Fl R 2.5s	5	5	Red ☐ Red metal pile beacon	*fl 0.3, ec 2.2*
3706	No. 5	35 17.87 174 06.37	Fl G 2.5s	4	3	Green △ Green metal pile beacon	*fl 0.3, ec 2.2*

North Island

Int. K No. (1)	Location - Name (2)	Lat S Long E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3707	No. 6	35 18.18 174 06.85	Q R		2	Red ☐ Red metal pile beacon	
3707.4	Okiato Ferry Ramp	35 18.30 174 07.12	2 F R(vert)	3	2	Grey concrete pile beacon 3	
3707.8		35 18.70 174 07.92	Q R	4	2	Red ☐ Red wooden pile beacon 4	
	Opua						
3708	Wharf, Head - NE corner	35 18.66 174 07.19	2 F G(vert)	6	1	Beacon	On shed
3708.3	Opua N Cardinal	35 18.67 174 07.17	Q W	5	2	Black ⍋ Black and yellow horizontal stripes, metal pile beacon	
3708.4	Ferry Ramp	35 18.73 174 07.22	2 F R(vert)	3	2	White pile beacon 3	
3708.5	Marina, Outer Breakwater. N End	35 18.77 174 07.34	Q R	4	1	Grey pile beacon	
3708.6		35 18.83 174 07.36	Q R	4	1	Grey pile beacon	
3708.7		35 18.90 174 07.37	Q R	4	1	Grey pile beacon	
3708.8	S end	35 18.98 174 07.32	Q R	4	1	Grey pile beacon	
3708.9	Inner Breakwater E End	35 18.97 174 07.31	Q G	4	1	Grey pile beacon	
3708.93	Ashbys. N	35 19.08 174 07.16	2 F G(vert)	3	1	Metal pile beacon 3	
3708.95	Ashbys. S	35 19.13 174 07.14	2 F G(vert)	3	1	Metal pile beacon 3	
	Eastern Bay of Islands						
3709	**Cape Brett** (M)	35 10.51 174 19.96	Fl W 15s	146	**17**	White tower 4	*fl 0.1, ec 14.9* W (Obscured) 031°- 106° (75°) W 106°-173° (67°) W (Partially obscured) 173°-195° (22°) Obscured by Otuwhanga Island decreasing out to 2M. W 195°-205° (10°) W (Obscured) 205°- 212.5° (7.5°) Obscured by Motukoku Island (Piercy Island) and over a greater arc when within 3M. W 212.5°-000.9° (148.4°) The old lighthouse (14m) is situated close SW of the new light tower.
3709.5	Hat Island	35 13.03 174 15.15	Q G	4	2	Green △ Green metal pole 2	
3710	Urupukapuka Island - Otehei Bay	35 13.45 174 13.56	VQ(9)W 10s	3	2	Black ⍒ Yellow, black and yellow horizontal stripes, concrete pile beacon 3	
3710.05	Pakatahi Island	35 13.90 174 12.06	Q G	2	2	Green △ Green wooden pole 2	
3710.1	Paramena Reef	35 14.20 174 13.11	Q(2)W 5s	5	2	Black ⍈ Black, red and black horizontal stripes, beacon	*fl 0.3, ec 0.7, fl 0.3, ec 3.7*
3710.2	Okuia Point. Shag Rock	35 14.33 174 14.20	Q(9)W 15s	5	2	Black ⍒ Yellow, black and yellow horizontal stripes, concrete pile beacon 4	
	Whangaruru Harbour						
3710.3	Motukauri Island	35 21.39 174 20.26	Q G	4	2	Green △ Green metal pile beacon	

North Island

Int. K No. (1)	Location - Name (2)	Lat Long S E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3710.4	Hongaio Rock	35 21.43 174 21.00	Q G	4	3	Green △ Green metal pile beacon	
3710.5	Orapa Rock	35 21.72 174 20.55	Q R	4	3	Red ☐ Red pile beacon	
3710.7	Black Rocks	35 22.72 174 21.49	Q G	4	3	Green △ Green metal pile beacon	On steel pile
3711	**Poor Knights Island. N Island** (M)	35 26.90 174 44.27	Fl W 5s	158	**17**	White metal tower 4	*fl 0.1, ec 4.9* W 039°-317° (278°) W (Obscured) 317°- 039° (82°)
	Tutukaka Harbour						
3712	Tutukaka Head (South Gable). N point of harbour entrance. (M)	35 36.69 174 32.75	Fl W 10s	92	14	White metal tower 4	*fl 0.5, ec 9.5* W (Obscured) 006°- 166° (160°) W 166°-006° (200°)
3712.1	Ldg Lts 270° 07'. Front	35 36.89 174 31.98	Fl R 3s	3	5	Red metal pile beacon 2	
3712.11	Ldg Lts Rear	35 36.89 174 31.87	Fl W 1.5s	7	5	White metal pile beacon 1	
3712.12	T1	35 36.81 174 31.90	Q G		1	Green △ Green wooden pole 3	
3712.125	T2	35 36.82 174 31.89	Q R	3	1	Red ☐ Red wooden pole 3	
3712.13	T4	35 36.78 174 31.81	Q R		1	Red ☐ Red metal pile beacon 3	
3712.135	T3	35 36.75 174 31.81	Q G	3	1	Green △ Green wooden pole 3	
3712.14	T5	35 36.73 174 31.75	Q G		1	Green △ Green metal pile beacon 3	
3712.145	T6	35 36.75 174 31.74	Q R	3	1	Red ☐ Red wooden pole 3	
3713	Bream Head (M)	35 50.66 174 34.87	Fl(3)W 20s	172	10	White metal tower 4	*(fl 1, ec 1) x 2, fl 1, ec 15* W (Obscured) 138°- 170° (32°) W 170°-320° (150°) W (Obscured) 320°- 323° (3°) W 323°-326.5° (3.5°) W (Obscured) 326.5°- 050° (83.5°)
3713.5	Wareware Island	35 52.96 174 41.70	Fl(2)W 10s	42	6	Green and white metal	*fl 1, ec 1.5, fl 1, ec 6.5* W 011°-272° (261°) W (Obscured) 272°- 011° (99°) Framework structure
	Hen and Chicken Islands						
3714	Coppermine Island. E end (M)	35 53.18 174 46.84	Fl W 5s	145	9	White metal tower 3	*fl 1, ec 4* Obscured on certain bearings by Hen and Chickens Group. Owing to its elevation the light is liable to be obscured by fog and mist.
3715	Taranga Island. W side (M)	35 57.53 174 41.87	Fl W 10s	119	9	White ▯ Metal tower 3	*fl 1, ec 9* W (Obscured) 184°- 209° (25°) W 209°-227.5° (18.5°) W (Obscured) 227.5°- 324° (96.5°) W 324°-184° (220°) Column tower.

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
	Whangārei Harbour							
3716	Marsden Point Dir Lt 320° 35'.	35 50.34 174 29.97		Dir Al WRG	21	10	Orange ▽ Metal tower	G 314.4°-319.4° (5°) Al WG 319.4°-320.1° (0.7°) W 320.1°-321.1° (1°) Al WR 321.1°-321.8° (0.7°) R 321.8°-326.8° (5°) Framework. R lights on chimney 540m WSW. Conspicuous flare on chimney 0.6M SW.
	Dir Lt			*By day*		W7 R5 G5		G 318.9°-319.4° (0.5°) R 321.8°-322.3° (0.5°)
3716.4	Refinery Wharf. T-head. SE End	35 50.22 174 30.05		2 F R(vert)	23	4	Metal tower	Aluminium framework
3716.42	Refinery Wharf. T-head. NW end	35 50.13 174 29.87		2 F R(vert)	23	4	Metal tower	Aluminium framework
3716.6	Harbour Board Wharf. Head. E end	35 50.08 174 29.44		2 F R(vert)	2	4	Beacon	Wharf whaling
3716.62	Harbour Board Wharf. Head. W end	35 50.06 174 29.35		2 F R(vert)	2	4	Beacon	Wharf whaling
3716.625	Northport Wharf. E end	35 50.00 174 29.37		3 F R(vert)	3	4	Beacon	
3716.63	Northport Wharf. W end	35 49.90 174 29.01		3 F R(vert)	3	4	Beacon	
3716.64	Marsden Cove Marina. Port 5	35 49.86 174 28.48		Fl R 2s	1	1	Red ☐ Red pole	
3716.641	Starboard 5	35 49.86 174 28.44		Fl G 2s	1	1	Green △ Green pole	
3716.642	Port 1	35 50.03 174 28.26		Fl R 2s	1	1	Red ☐ Red pole	
3716.643	Starboard 1	35 50.01 174 28.23		Fl G 2s	1	1	Green △ Green pole	
3716.65	Snake Bank	35 49.69 174 29.09		Fl G 4s	5	3	Green △ Green pile beacon 6	
3716.66	Marsden Bay Beacon No 1	35 49.77 174 28.92		Fl(2+1)R 6s	5	2	Red ☐ Red, green and red horizontal stripes, pile beacon 6	Ra refl
3716.67		35 49.76 174 28.73		Q Y	5	5	Yellow X Yellow pile beacon	Ra refl
3716.699	Sinclair Point. Ldg Lts 287°. Front	35 49.76 174 28.81		Fl W 2.5s	5	5	Yellow and white stripes (direction unknown), pile beacon	
3716.7	Sinclair Point Rear Leading Light. Rear	35 49.54 174 27.92		F R	8	6	Orange ▯ Yellow pile beacon 4	R 200°-340° (140°)
3716.8	Passage Islet	35 49.82 174 29.81		Fl W 3s	6	5	White concrete tower 2	*fl 0.3, ec 2.7* W 278°-133° (215°)
	Shell Cut Reach							
3717.4	Shell Cut Reach East Ldg Lts 115° 21'. Front	35 49.16 174 28.32		F G	5	6	Concrete pile beacon	G 035°-195° (160°)
3717.41	Lort Point. Rear	35 49.85 174 30.15		F R	18	6	Metal tower	R 035°-195° (160°) R (Obscured) 218°- 035° (177°)
3717.43	Lort Point	35 49.85 174 30.29		Fl(2)W 5s	1	1	Black ⁝ Black, red and black horizontal stripes, pile beacon 2	*fl 0.2, ec 1.2, fl 0.2, ec 3.4*
3717.45	Passage Island	35 49.73 174 29.78		Fl(2)W 5s	2	1	Black ⁝ Black, red and black horizontal stripes, pile beacon 2	*fl 0.2, ec 1.2, fl 0.2, ec 3.4*
3717.47	Taurikura	35 49.75 174 31.30		Fl(2)W 5s	2	1	Black ⁝ Black, red and black horizontal stripes, pile beacon 2	*fl 0.2, ec 1.2, fl 0.2, ec 3.4*

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3717.5	Shell Cut Reach West Ldg Lts 295° 21'. Front	35 47.49 174 24.00		F R	5	6	Concrete pile beacon	
3717.51	Shell Cut Reach West Rear	35 46.90 174 22.50		F G	19	9	Metal pile beacon	Neon □ Tower on pile
	Shoal Bay							
3718.751	Shoal Bay S Cardinal	35 48.98 174 29.56		Q(6) + LFl W 15s	4	1	Black ▼ Yellow and black horizontal stripes, wooden pile beacon	
3718.755	Shoal Bay W Cardinal	35 47.91 174 28.18		Q(9)W 15s	4	1	Black ▲ Yellow, black and yellow horizontal stripes, wooden pile beacon	
3718.757	Shoal Bay E Cardinal	35 47.96 174 27.09		Q(3)W 10s	4	1	Black ▼ Black, yellow and black horizontal stripes, wooden pile beacon	
3718.759	Whangārei Heads	35 49.00 174 29.85		Fl G 5s	4	1	Beacon	G (Obscured) 013°- 066° (53°) G 066°-246° (180°) G (Obscured) 246°- 318° (72°)
	Parua Bay							
3718.76	Reserve Point	35 47.57 174 27.40		Q G	3	1	Green pile beacon	
3718.77	The Nook	35 47.31 174 27.71		Q R	3	2	Red □ Red pile beacon 3	
3718.78	Martin Point	35 47.00 174 27.49		Q R	3	2	Red □ Red pile beacon 3	
3718.79	Breakwater	35 46.49 174 27.10		Q R	2	1	Red beacon	
	Tamaterau Beach							
3718.8	Tamaterau	35 47.83 174 24.99		Fl(3)G 10s	5	4	Green △ Green pile beacon	
3718.9	One Tree Point. Ldg Lts 131° 21'. Front	35 48.63 174 26.03		F R	6	6	Pile beacon	R 050°-210° (160°)
3718.91	One Tree Point Leading Rear Light	35 49.32 174 26.99		F G	18	9	Metal tower	G 050°-210° (160°) Neon □
3719	Stevens Point Dir Lt 311° 21'.	35 46.46 174 23.02		Dir F WRG	13	W13 R12 G12	Orange □ Orange metal tower 13	F G 309.6°-311.1° (1.5°) F W 311.1°-311.6° (0.5°) F R 311.6°-313.1° (1.5°) Framework
3719.2	No.T1	35 47.53 174 24.57		Q G	5	1	Green △ Green pile beacon	
3719.4	T6	35 47.30 174 24.14		Fl R 2.5s	5	3	Red □ Red pile beacon	*fl 0.3, ec 2.2*
3719.8	No.T5	35 46.95 174 23.76		Fl G 3s	5	3	Green △ Green pile beacon	
	Wellington Reach							
3720	Ross	35 46.73 174 23.28		Fl(2)R 6s	6	5	Red □ Red pile beacon	
3720.4	No.W2	35 46.55 174 22.77		Q R	5	4	Red □ Red pile beacon	
3720.6	No.W3	35 46.47 174 22.64		Q G	5	1	Green △ Green pile beacon	
3720.7	No.W5	35 46.50 174 22.44		Fl G 3s	5	4	Green △ Green pile beacon	
3720.8	Wellington Rock	35 46.59 174 22.41		Iso R 2s	5	4	Red □ Red pile beacon 5	
	Channel to Portland							
3721	Portland Entrance. Ldg Lts 209° 55'. Front	35 47.27 174 21.78		Fl R 2.5s	5	2	Red concrete pile beacon	*fl 0.3, ec 2.2*
3721.01	Portland Entrance. Rear	35 47.39 174 21.69		Q W	7	2	Red concrete pile beacon	W 205°-220° (15°)
3721.1	P2	35 46.84 174 22.13		Q R	3	2	Red □ Red pile beacon	

North Island

Int. K No. (1)	Location - Name (2)	Lat Long S E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3721.15	Limestone Island	35 46.95 174 21.97	Q G 1.2s	4	2	Green △ Green pile beacon 4	
3721.2	Limestone Island. SE side. P1	35 47.18 174 21.76	Fl G 5s	4	3	Green metal pile beacon 3	Disused wharf. Column on square base.
3721.3	P3	35 47.44 174 21.24	Q G		2	Green △ Green concrete pile beacon	
3721.4	SE Side. P4	35 47.32 174 21.64	Q R	3	2	Red ☐ Red pile beacon	
3721.6	P6	35 47.48 174 21.28	Q R	5	2	Red ☐ Red pile beacon	
	Portland						
3722	Ldg Lts 240°. Front	35 48.06 174 19.99	Q R	17	3	White wooden pole 3	*fl 0.4, ec 0.6* R 150°-330° (180°) R (Obscured) 330°- 150° (180°)
3722.1	Ldg Lts 240°. Rear	35 48.13 174 19.83	F G	41	2	Wooden pole	G 150°-330° (180°) On demand G (Obscured) 330°- 150° (180°) On demand Occas
3722.2	Portland Bulk Cement Wharf, NW side. P5	35 47.81 174 20.97	Q G	5	1	Green △ Green pile beacon	
3722.3	Portland Bulk Cement Wharf, E side. P8	35 47.98 174 20.95 –	Q R	2	2	Red ☐ Red wooden pile beacon	
3722.4	Coal Berth Wharf Head	35 48.07 174 20.84	LFl G 5s	4	3	Tower	*fl 2, ec 3*
3722.45	Cement Berth	35 48.17 174 20.84	2 F G(vert)			Beacon	
3722.46	Cement Berth	35 48.14 174 20.84	2 F G(vert)			Beacon	
3722.49	Portland Turning Basin	35 48.09 174 20.96	Q R 1.2s	4	2	Red ☐ Red pile beacon 4	
3722.5	P10 Ldg Lts Front	35 48.19 174 20.92	Q R	3	3	Red ☐ Red metal pile beacon	*fl 0.4, ec 0.6*
3722.513	No.P7 Ldg Lts Rear	35 48.47 174 20.94	Q G	3	3	Green △ Green concrete pile beacon	*fl 0.4, ec 0.6*
3722.515	No.P9	35 48.82 174 21.06	Fl G 1.5s	3	2	Green △ Green wooden pile beacon	
3722.52	No.P13	35 49.41 174 20.78				Green △ Green concrete pile beacon	
	Channel to Whangārei						
3722.7	Wellington Reach W7	35 46.57 174 22.07	Q G	5	3	Green △ Green pile beacon	
3722.8	North Cardinal Beacon	35 46.66 174 22.12	Q W	5	3	Black ⍋ Black and yellow horizontal stripes, pile beacon	
3723	No.K3	35 46.59 174 21.59	Q G	5	2	Green △ Green pile beacon	
3723.4	No.K5	35 46.50 174 21.40	Q G	5	2	Green △ Green pile beacon	
3723.8	No.K7	35 46.35 174 21.26	Q G	5	2	Green △ Green pile beacon	
3724	No.K8	35 46.38 174 21.17	Q R	5	2	Red ☐ Red pile beacon	
3724.4	No.K9	35 46.18 174 21.20	Q G	5	1	Green △ Green pile beacon	
3724.8	No.K11	35 45.99 174 21.17	Q G	5	1	Green △ Green pile beacon	
3725.7	No.K16	35 45.69 174 21.00	Q R	5	2	Red ☐ Red pile beacon	

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
	Port Whangārei							
3725.8	Port Whangārei Wharf South End	35 45.48 174 21.02		2 F R(vert)	2	2	Beacon	Wharf coping
3725.82	Port Whangārei Wharf North End	35 45.41 174 21.00		2 F R(vert)	2	2	Beacon	Wharf coping
3725.9	No.K17	35 45.43 174 21.08		Q G	5	2	Green △ Green pile beacon	
3726	No.K18	35 45.58 174 20.92		Q R	5	2	Red ☐ Red pile beacon	
3726.4	No.K19	35 45.24 174 21.05		Q G	5	1	Green △ Green pile beacon	
3728	No.K20	35 45.25 174 20.99		Fl R 3s	5	2	Red ☐ Red pile beacon	
3728.4	Slipway	35 44.83 174 20.92		Q R	4	2	Red pile beacon	Seaward end of apron. Dolphin.
3728.6	No.K27	35 44.97 174 21.02		Q G	5	2	Green △ Green pile beacon	
3728.7	Fertiliser Wharf South End	35 45.08 174 20.94		2 F R(vert)	2	2	Beacon	Bulk Cargo Jetty. In whaling
3728.72	Fertiliser Wharf North End	35 45.00 174 20.93		2 F R(vert)	2	2	Beacon	Bulk Cargo Jetty. In whaling
3728.8	No.4 Berth South End	35 44.72 174 20.91		2 F R(vert)	2	2	Beacon	
3728.81	No.4 Berth North End	35 44.65 174 20.90		2 F R(vert)	2	2	Beacon	
	Hātea River							
3729.6	No.H4	35 44.17 174 20.90		Fl R 2s	2	2	Red ☐ Red wooden pile beacon	
3729.7	No.H3	35 44.14 174 20.92		Fl G 2s	2	2	Green △ Green wooden pile beacon	
3729.8	No.H6	35 44.14 174 20.85		Fl R 2s	3	2	Red ☐ Red wooden pile beacon	
3730	No.H8	35 44.12 174 20.79		Fl R 2s	3	2	Red ☐ Red concrete pile beacon	
3730.1	No.H10	35 44.17 174 20.69		Fl R 2s	3	2	Red ☐ Red wooden pile beacon	
3730.15	No.H12	35 44.24 174 20.61		Fl R 2s	4	2	Red ☐ Red metal pile beacon	
3730.61	Pohe bridge starboard pontoon	35 44.14 174 20.13		2 F G(vert)	3	2	Pile beacon	
3730.62	Pohe bridge port pontoon	35 44.06 174 20.10		2 F R(vert)	3	2	Pile beacon	
	Mokohinau Islands							
3734	**Burgess Island (Pokohinu Island)** (M) Reserve light	35 54.37 175 06.90		Fl W 10s	122	**19** 10	White masonry tower 14	*fl 0.1, ec 9.9*
	Mangawhai Harbour							
3735	Sentinel Rock	36 04.94 174 36.17		Fl W 5s	16	4	Pile beacon 2	*fl 0.5, ec 4.5* column
	Great Barrier Island (Aotea Island)							
3736	Motuhaku Island. Summit (M)	36 09.86 175 17.45		Fl W 15s	119	9	White metal column 4	*fl 1, ec 14* Obscured by islands on certain bearings
3736.1	Old Man Rock	36 11.56 175 20.58		Fl(2)W 5s	2	2	Black ⁝ Black, red and black horizontal stripes, concrete, metal pile beacon 2	
3736.2	Tryphena Point (M)	36 19.17 175 28.79		Fl(3)W 6s	26	4	White metal column 3	*(fl 0.5, ec 1) x 2, fl 0.5, ec 2.5*

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3736.6	Cape Rodney (M)	36 16.68 174 49.27		Fl(4)W 20s	53	8	White metal tower 4	*(fl 0.5, ec 1.5) x 3, fl 0.5, ec 13.5* W (Obscured) 103.5°- 127.5° (24°) W 127.5°-358° (230.5°) W (Obscured) 358°- 038.5° (40.5°)
	Ōmaha Bay							
3737	Panetiki Island (The Outpost)	36 17.41 174 49.15		Fl G 5s	18	3	White pile beacon 7	*fl 0.3, ec 4.7* G 193.5°-093.5° (260°) Column beacon
3737.4	Whangateau Harbour. Entrance. Ti Point	36 19.24 174 47.00		Q G	4	2	Green △ Black metal pole 4	Steel pole
	Hauraki Gulf / Tīkapa Moana							
3738	Flat Rock (E of Kawau Is) (M)	36 26.75 174 55.50		Fl W 7s	13	8	White concrete tower 8	*fl 1, ec 6* AIS AtoN, MMSI 995126025
3738.2	Kawati Point (M)	36 23.51 174 50.35		Iso WR 6s	34	W8 R6	White metal tower 4	W (Partially obscured) 080.5°-083.5° (3°) W 083.5°-096.2° (12.7°) R 096.2°-134.5° (38.3°) W 134.5°-221.7° (87.2°) R 221.7°-241° (19.3°) W 241°-271.9° (30.9°) R 271.9°-295° (23.1°)
3738.3	Maori Rock (M)	36 22.95 174 51.45		Fl G 4s	6	2	Green metal pole 6	*fl 0.5, ec 3.5* Steel pipe.
3738.4	Pembles Island (Tangaroa)	36 24.32 174 49.33		Fl W 5s	12	1	White pole 2	*fl 1, ec 4* W (Partially obscured) 142.5°-244.5° (102°) W 244.5°-142.5° (258°)
3738.5	North Cove W Cardinal	36 24.69 174 49.19		Q(9)W 15s	3	1	Black ⧖ Yellow, black and yellow horizontal stripes, pile beacon 2	Column beacon
3738.6	Martello Rock (Ruakoura) (M)	36 25.88 174 48.45		Fl(3)WR 15s	8	W8 R6	White metal pile beacon 4	*(fl 0.5, ec 1.5) x 2, fl 0.5, ec 10.5* W 018.7°-103.7° (85°) R 103.7°-171° (67.3°) W 171°-201° (30°) R 201°-342.3° (141.3°) W 342.3°-349.2° (6.9°) R 349.2°-018.7° (29.5°) Column.
3738.64	Mullet Point	36 26.15 174 46.80		VQ W	3	2	Black ⧗ Black and yellow horizontal stripes, metal pile beacon 2	
3738.68	Half Tide Rock	36 23.82 174 45.34		VQ(3)W 5s	3	2	Black ⧗ Black, yellow and black horizontal stripes, metal pile beacon 2	
3738.7	Matakana River. E entrance point	36 23.82 174 44.55		Fl G 3s	4	2	White pole	
3738.71	Matakana River. W entrance	36 23.89 174 44.51		Fl R 3s	3	2	Red ☐ Red wooden pile beacon	
3738.73	Matakana River (entrance)	36 23.56 174 44.14		Fl R 2s	3	1	Red ☐ Red wooden pile beacon 3	
3739	Motuketekete (M)	36 28.19 174 48.69		Fl WR 10s	34	W8 R5	White metal column 3	*fl 1, ec 9* W (Obscured) 009.5°- 140.3° (130.8°) W 147.7°-191.5° (43.8°) R 191.5°-221.1° (29.6°) W 221.1°-008.8° (147.7°)
3739.5	Te Haupa Island	36 30.87 174 44.83		VQ(6) + LFl W 15s	3	2	Black ⧖ Yellow and black horizontal stripes, pile beacon	

North Island

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3740	**Tiritiri Matangi Island. SE part.** (M)	36 36.33 174 53.85		Fl W 15s	91	**18**	White metal tower 20	*fl 0.5, ec 14.5* Obscured within 4M by North West end of island Round tower.
3741	Whangaparaoa Peninsula Huaroa Point Light (M)	36 35.59 174 50.28		Fl WR 5s	37	W8 R5	White metal column 4	*fl 1, ec 4* R 091°-133.5° (42.5°) Except where obscured by land W 133.5°-345° (211.5°) Except where obscured by land
3741.5	Gulf Harbour Marina	36 37.51 174 47.17		Fl WR 3s	5	W5 R3	Metal mast 4	*fl 0.6, ec 2.4* R 025.1°-053° (27.9°) R 302°-326.8° (24.8°) W 326.8°-025.1° (58.3°)
3741.51	Gulf Harbour Marina Outer Ldg Lts 040°. Front	36 37.44 174 47.34		Q W			White △ Pole	
3741.52	Gulf Harbour Marina Outer Ldg Lts Rear	36 37.42 174 47.37		Fl W 3s			White ▽ Metal pole 5	
3741.6	East Breakwater Head Light	36 37.59 174 47.22		Oc G 5s	3	2	Metal mast 2	*ec 2, fl 3*
3741.65	West Breakwater Head Light	36 37.55 174 47.19		Oc R 5s	3	2	Metal mast 2	*ec 2, fl 3*
3741.71	No.1	36 37.65 174 47.14		Q G	3	2	Green △ Green wooden pile beacon	*fl 0.3, ec 0.7*
3741.72	No.2	36 37.64 174 47.13		Q R	3	2	Red □ Red wooden pile beacon	*fl 0.3, ec 0.7*
3741.81	Gulf Harbour Marina Inner Ldg Lts 025°. Front	36 37.11 174 47.41		Q W			Pole	
3741.82	Gulf Harbour Marina Inner Ldg Lts Rear	36 37.11 174 47.41		Q W			Pole	
3741.9	Weiti River Entrance	36 38.91 174 44.23		Q G	4	3	Green wooden pile beacon	*fl 0.3, ec 0.7*
3741.91	Long Bay Marine Reserve NW Limit Light	36 38.94 174 43.65		Fl(5)Y 20s	5	1	Pole	
3741.92	Long Bay Marine Reserve NE Limit Light	36 39.09 174 44.62		Q R	2	1	Red □ Red pole	
3741.93	Long Bay Marine Reserve SW Limit Light	36 41.78 174 45.71		Fl(5)Y 20s	5	1	Pole	
3741.94	Tipau Point Light	36 42.65 174 45.80		Q(2)G 5s	2	1	Green △ Green wooden pile beacon	*fl 0.4, ec 0.6, fl 0.4, ec 3.6*
3742	The Noises. Maria Island (Ruapuke Island) (M)	36 42.53 175 00.34		Fl(3)WR 15s	35	W7 R4	White column 4	*(fl 0.5, ec 1.5) x 2, fl 0.5, ec 10.5* R 058°-231.8° (173.8°) W 231.8°-279.2° (47.4°) R 279.2°-289.5° (10.3°) W 289.5°-058° (128.5°)
3743	Wairau River Entrance Dir Lt 270° 30'.	36 45.85 174 45.95		Dir F WRG	4	1	Column	F G 265.8°-270.2° (4.4°) F W 270.2°-270.7° (0.5°) F R 270.7°-275.2° (4.5°)
3743.2	Rahopara Point	36 45.65 174 46.33		Fl G 5s	3	2	Green △ Green metal pole	
	Auckland Harbour							
3744	Rangitoto Beacon	36 46.92 174 49.34		Fl R 12s	21	7	Red and white horizontal stripes, concrete tower	*fl 1.5, ec 10.5*
3744.05	Rangitoto Wharf	36 48.56 174 51.73		Fl W 5s	4	1	Grey metal pole 4	Steel pole
3744.1	Rangitoto Saltworks	36 47.58 174 49.44		Q(3)R 8s	2	1	Red □ Red pole	*(fl 0.5, ec 1) x 2, fl 0.5, ec 4.5*

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3745	**Saint Leonards Approach** Dir Lt 216°.	36 47.92 174 47.29		Dir F WRG *By day*	23	**G21** **R21** **W21** **R17** **G17** 4	Metal column	F G 213.5°-214.5° (1°) Al GW 214.5°-215.5° (1°) Alternating green light range 17.0M F W 215.5°-216.5° (1°) Al RW 216.5°-217.5° (1°) Alternating red light range 17.0M F R 217.5°-218.5° (1°)
3746	Rangitoto Channel Ldg Lts 142° 09'. Front	36 49.45 174 50.50		Fl(2)W 4s *By day*	10	14 4	White and red horizontal stripes, concrete pile beacon	*fl 0.4, ec 1, fl 0.4, ec 2.2*
3746.1	Rangitoto Channel Rear Dir Lt	36 50.64 174 51.65		Dir F WRG	8	W12 R11 G11	Red ☐ White pile beacon	F G 141°-141.5° (0.5°) F W 141.5°-142.8° (1.3°) F R 142.8°-143.3° (0.5°)
3748	Bean Rock	36 50.00 174 49.87		Fl(3)WR 8s Siren 30s	15	W14 R11	White metal tower	*(fl 1, ec 1) x 2, fl 1, ec 3* R 050°-070° (20°) W 070°-086° (16°) R 086°-156° (70°) W 156°-164° (8°) R 164°-244° (80°) W 244°-260° (16°) R 260°-284° (24°) Framework tower. FR on One Tree Hill 4.7M SW *bl 5, si 25*
3756	Orakei Wharf	36 50.62 174 48.94		Oc R 6s	8	3	Tower	*ec 2, fl 4*
3758	Orakei Yacht Anchorage - Wave Break E Part E End	36 50.67 174 48.88		VQ(4)G 7s	4	2	Pile beacon	*(fl 0.3, ec 0.3) x 3, fl 0.3, ec 4.9*
3758.2	Wave Break E Part W end	36 50.74 174 48.53		VQ(4)R 7s	4	2	Pile beacon	*(fl 0.3, ec 0.3) x 3, fl 0.3, ec 4.9*
3758.4	Wave Break W Part E end	36 50.75 174 48.48		VQ(4)G 7s	4	2	Pile beacon	*(fl 0.3, ec 0.3) x 3, fl 0.3, ec 4.9*
3758.5	Orakei Marina. Mair Light	36 50.90 174 48.45		Iso WR 2s	7	2	White and red horizontal stripes, fibreglass tower 5	
3758.55	Orakei Marina No.1	36 50.91 174 48.40		Fl G	4	2	Green △ Green wooden pile beacon 2	
3758.6	Wave Break West Part West End	36 50.86 174 47.93		VQ(4)R 7s	4	2	Pile beacon	*(fl 0.3, ec 0.3) x 3, fl 0.3, ec 4.9*
3759	Hobson Point	36 51.05 174 48.25		Fl R 5s	3	2	Red ☐ Red wooden pile beacon 3	
	Devonport							
3764	Devonport Beach Lts in line 009°. Front	36 50.04 174 47.83		F G			White △ White pole	Marks WEST cables
3764.1	Devonport Beach Rear	36 49.96 174 47.84		F R			White △ White pole	Marks WEST cables, 177m from front
3765	Devonport Beach Lts in line 009°. Front	36 50.05 174 47.94		F G			White △ White pole	Marks EAST cables
3765.1	Devonport Beach Rear	36 49.91 174 47.96		F R			White △ White pole	Marks EAST cables, 275 m from front
3766.5	Bell South Cardinal Mark	36 49.99 174 47.66		VQ(6) + LFl W 10s	3	2	Black ⋎ Yellow and black horizontal stripes, pile beacon 2	
3767	Calliope Dock Training Jetty Head	36 49.92 174 47.28		F R	3		Pole	
3768	Calliope S Wharf, SE corner	36 49.93 174 47.18		2 F R(vert)	11		Pole	2 m apart
3768.2	Calliope S Wharf, SW corner	36 49.89 174 46.97		2 F G(vert)	11		Pole	2 m apart
3769		36 49.81 174 46.98		3 F GWR(vert)	6		Flagstaff 3	
3770	Bayswater Wharf Approach Channel. S end	36 49.67 174 46.01		Fl R 3s	2		Red ☐ Red metal pile beacon 6	*fl 0.3, ec 2.7*

North Island

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3770.01	Bayswater Marina 1	36 49.67 174 46.05		Fl G 3s	5	1	Green △ Green pole	
3770.03	Bayswater Marina 2	36 49.53 174 46.02		Fl(2)R 5s	5	1	Red ☐ Red pole	
3770.05	Bayswater Marina 3	36 49.52 174 46.06		Fl(2)G 4s	5	1	Green △ Green pole	
3770.07	Bayswater Marina 4	36 49.45 174 46.03		Fl(2)R 4s	5	1	Red ☐ Red pole	
3770.09	Bayswater Marina 5	36 49.38 174 46.06		Fl G 4s	5	1	Green △ Green pole	
3770.11	Bayswater Marina 6	36 49.39 174 46.03		Fl(2)R 3s	5	1	Red ☐ Red pole	
3770.13	Bayswater Marina Entrance	36 49.34 174 46.00		Q G	5	1	Green metal pole	Green top. On breakwater
3770.15	Bayswater Marina Entrance	36 49.36 174 45.99		Q R	5	1	Red metal pole	Red top. On breakwater.
	Mechanics Bay							
3771	Mechanics Bay. SAR Centre. Breakwater Head	36 50.76 174 47.34		Oc R 6s	5	3	Wooden pile beacon	*ec 2, fl 4*
3772	Mechanics Bay. SAR Centre. Breakwater. Elbow	36 50.75 174 47.32		VQ(2+1)G 6s	5	3	Wooden pile beacon	*fl 0.3, ec 0.4, fl 0.3, ec 1.2, fl 0.3, ec 3.5*
3773	Compass Dolphin (Remains)	36 50.62 174 47.51		Fl(2)W 4s	5	3	Black ⚉ Black, red and black horizontal stripes, wooden pile beacon	
3774	Commercial Harbour, Fergusson Wharf, Northern Dolphin	36 50.39 174 46.98		3 F YR(vert)	5	2	Metal pole	RYR 197°-343° (146°) LED
3797.1	OVH06	36 50.45 174 45.84		F G	5	1	Green △ Green metal, painted pole 3	G (Obscured) 054°- 164° (110°) G 164°-054° (250°)
3797.2	OVH07	36 50.39 174 45.77		F R	5		Grey pole 3	Pole also supports a 5 knot speed sign
3797.3	OVH05	36 50.45 174 45.74		F R	2	1	Red painted, metal pole 1	Black pile
3797.4	Viaduct Harbour. W breakwater	36 50.42 174 45.72		F G	5		Pole	
3797.6	WW01	36 50.36 174 45.53		F G	5	3	Green △ Green painted, metal pole 3	
3797.7	WW02	36 50.34 174 45.58		F R	5	3	Red ☐ Red metal, painted pole 3	
3798	Ldg Lts 229° 45'. Front	36 50.44 174 45.44		F Bu	8	2	Yellow △, on building	LED
3798.1	Ldg Lts Rear	36 50.46 174 45.41		F Bu	13	2	Yellow ▯, on building	LED
	Westhaven Boat Harbour							
3800	Westhaven Boat Harbour E Entrance. E Side	36 50.20 174 45.45		Oc R 6s	3	5	Red ☐ Red pole	
3818	Westhaven Boat Harbour E Entrance. W Side	36 50.17 174 45.24		Fl G 5s	3	5	White concrete column	*fl 0.7, ec 4.3* 5FW lights on bulk cement jetty 0.2M S
3818.5	S-TP01	36 50.26 174 45.29		Fl R 5s	7	1	Red ☐ Red metal, painted pole 7	*fl 0.5, ec 4.5* On top of seawardmost monopile structure
3819	Westhaven Boat Harbour off mole end	36 50.27 174 45.17		Oc G 6s	3	6	Green △ Wooden pile beacon	*ec 2, fl 4*
3829	Harbour Bridge	36 49.77 174 44.79		4 F YGR(vert) Aero Q R Horn 8s	49		Pole	One set on E and one set on W sides of centre of bridge. Aero Q R on highest point of centre of bridge, and 5 F R along top of bridge On highest point of centre of bridge *bl 2, si 6* 120 m SSW
3831	Point Chevalier Reef Light	36 49.86 174 42.34		Q(3)R 6s			Red ☐ Red pole	

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3832	Kauri Pt Armament Depot Light	36 49.43 174 41.84		F G	3	2	White tower 3	On metal pile
	Upper Waitematā Harbour							
3833	Whau River No.1	36 50.00 174 41.96		Q G	3	2	Green △ Green wooden pile beacon 3	
3834	No.2	36 50.42 174 41.46		Q R	5	3	Red ☐ Red wooden pile beacon	
3834.5	No.4	36 50.83 174 40.57		Q R	3	2	Red ☐ Red wooden pile beacon 3	
3835	No.5	36 50.69 174 41.24		Q G	3	2	Green △ Green wooden pole	
3835.5	No.7	36 50.74 174 41.15		Q G	3	2	Green △ Green wooden pile beacon 3	
3836	No.9	36 50.94 174 39.99		Oc G	5	3	Green △ Green wooden pile beacon	
3837.1	Whau River No.6. Pollen Island Marine Reserve NW Limit	36 51.09 174 39.82		Q R	2	1	Red ☐ Red pole	
3837.2	Pollen Island Marine Reserve NE Limit	36 51.10 174 40.28		Fl(5)Y 20s	2	1	Yellow pole	
3837.3	Pollen Island Marine Reserve SE Limit	36 51.70 174 40.91		Fl(5)Y 20s	2	1	Yellow pole	
3838	No.2	36 48.97 174 41.08		F R	2	3	Red ☐ Red wooden pole	
3838.02	No.1	36 48.90 174 40.68		Q G	3	2	Green △ Green wooden pile beacon 3	
3838.04	No.3	36 48.85 174 40.25		Q G	3	2	Green △ Green wooden pile beacon 3	
3838.06	No.4	36 49.01 174 40.68		Q R	3	2	Red ☐ Red wooden pile beacon 3	
3838.08	No.5	36 48.71 174 39.93		Q G	3		Green △ Green wooden pile beacon 3	
3838.1	No.6	36 48.96 174 40.20		F R	2	2	Red ☐ Red wooden pile beacon	
3838.12	No.7	36 48.56 174 39.68		Q G	3	2	Green △ Green wooden pile beacon 3	
3838.14	No.8	36 48.77 174 39.87		Q R	3	2	Red ☐ Red wooden pile beacon 3	
3838.15	No.9	36 48.45 174 39.50		F G	2	2	Green △ Green wooden pile beacon	
3838.18	No.10	36 48.60 174 39.64		Q R	3	2	Red ☐ Red wooden pile beacon 3	
3838.2	No.12	36 48.49 174 39.49		F R	2	2	Red ☐ Red wooden pile beacon	
3838.3	No.11	36 48.42 174 39.24		F G	2	2	Green △ Green wooden pile beacon	
3838.31	No.13	36 48.42 174 39.15		Q G	3	2	Green △ Green wooden pile beacon 3	

North Island

Int. K No. (1)	Location - Name (2)	Lat Long S E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3838.35	No.14A	36 48.46 174 39.14	Fl R 3s	2	2	Red ☐ Red wooden pile beacon	
3838.4	No.15	36 48.45 174 39.05	F G	2	2	Green △ Green wooden pile beacon	
3838.5	No.16	36 48.48 174 39.07	Q R	3	2	Red ☐ Red wooden pile beacon 3	
3839	No.17	36 48.54 174 38.96	F G	3	2	Green △ Green pole	
3840	No.18	36 48.54 174 38.98	F R	3	2	Red ☐ Red pole	
3842	Ranger Rock	36 47.41 174 40.62	Q(3)W 10s	4	5	Black ⊕ Black, yellow and black horizontal stripes, pole	Marks position of rock off Birkdale Wharf and outer end of power cable
3842.2	Beach Haven Wharf	36 47.41 174 40.69	F W			Pole	
3843	Greenhithe Bridge	36 47.07 174 40.16	F R			Red ☐ Red pole	
3843.2		36 47.07 174 40.21	F G			Green △ Green pole	
3844	**National Broadcast Station**	36 50.94 174 37.78	Aero F R	152	**21**	Mast	
3844	**National Broadcast Station**	36 50.66 174 37.86	Aero F R	121	**21**	Mast	
3845	Motuihe Island Wharf. Head (M)	36 48.38 174 56.09	Q W	6		Grey metal mast 3	
3845.1	North Reef	36 47.74 174 56.25	Fl R 3s	5	1	Red ☐ Red pile beacon	*fl 0.5, ec 2.5*
3845.2	Motuihe Island East Cardinal	36 48.53 174 57.68	Q(3)W 5s	4	1	Black ⊕ Black, yellow and black horizontal stripes, wooden pile beacon	
3845.25	Motutapu Island	36 47.77 174 54.95	VQ(6) + LFl W 15s	5	2	Black ⊻ Yellow and black horizontal stripes, lattice beacon	
3845.3	Motutapu Island. E Point (M)	36 44.42 174 56.08	Fl G 2s	7	1	White column 2	*fl 0.5, ec 1.5*
	Waiheke Island						
3845.4	Matiatia Bay Approach Directional Light Dir Lt 077° 10'.	36 46.80 174 59.55	Dir Oc WRG 6s	20	3	White metal pole	*ec 2, fl 4* Oc G 074.6°-076.6° (2°) Oc W 076.6°-077.7° (1.1°) Oc R 077.7°-079.7° (2°)
3846	Putiki Bay. Kennedy Point (M)	36 48.78 175 01.29	Fl WR 10s	25	W7 R5	White metal column 3	*fl 1, ec 9* R 076.8°-102.5° (25.7°) Obscured by Park Point beyond 93° R 226°-301.5° (75.5°) W 301.5°-076.8° (135.3°)
3846.05		36 48.62 175 01.61	Fl R 4s	4	2		
3846.1		36 48.41 175 02.54	Fl R 3s	4	2	Red ☐ Red wooden pile beacon 3	
3846.5	Musick Point	36 50.57 174 54.04	Oc R 6s	7	3	Red ☐ Red metal pile beacon	
3847	Browns Island (Motukorea)	36 49.44 174 53.93	Q W	6	4	Black ⊕ Black and yellow horizontal stripes, metal pole 6	
3847.5	Iliomama Rock	36 48.50 174 53.19	Q WR	2	W5 R3	Black and white horizontal stripes, metal pile beacon	R 062°-249.5° (187.5°) W 249.5°-062° (172.5°) Ra refl
3847.8	Motukorea Channel	36 49.91 174 52.04	LFl W 10s	4	2	Red O Red and white vertical stripes, wooden pile beacon	*fl 2, ec 8*
3848	West Tāmaki Head	36 50.53 174 52.62	Mo(N)WR 6.5s	5	W7 R5	Red and white horizontal stripes, pile beacon	*fl 1, ec 0.5, fl 0.3, ec 4.7* W 103.7°-323.7° (220°) R 323.7°-103.7° (140°)

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3848.5	E Tamaki Head.	36 50.70 174 53.67		Q R	4	2	Red ☐ Red wooden pile beacon	
3848.6		36 50.62 174 53.75		Q G	4	2	Green △ Green wooden pile beacon 4	
3848.7		36 51.05 174 53.01		Fl G 3s	3	2	Green △ Green pole 3	
3848.8		36 51.01 174 53.63		Fl R 3s	3	2	Red ☐ Red pole 3	
	Tāmaki River							
3849	No. 3	36 52.10 174 54.02		Oc G 6s	3	3	Green △ Green wooden pile beacon	*ec 2, fl 4*
3849.05	No. 2	36 51.42 174 53.60		Q R	2	2	Red ☐ Red pile beacon	
3849.1	No. 1A	36 51.77 174 53.75		Fl G 2s	3	2	Green △ Green pole 3	
3849.2	Half Moon Bay Marina. E Breakwater Head	36 52.69 174 53.98		Fl(2)R 6s	3		Pole	
3849.25	Half Moon Bay Marina. W Breakwater Head	36 52.71 174 53.96		F G			Pole	
3849.3	Bucklands Beach Yacht Club Marina. E Breakwater. Head	36 52.72 174 53.89		Oc R 6s	3	5	Pole	*ec 2, fl 4*
3849.5	No. 11	36 52.73 174 53.47		Q G	3	3	Green △ Green wooden pile beacon	*fl 0.3, ec 0.7*
3849.55	No. 4	36 52.85 174 52.99		Q R	3	3	Red ☐ Red wooden pile beacon	*fl 0.3, ec 0.7*
3849.6	No. 13	36 52.95 174 52.52		Fl G 3s	4	2	Green △ Green pole	
3849.62	No. 15	36 53.75 174 52.53		Q G	4	2	Green △ Green pole	
3849.65	No. 12	36 54.16 174 52.44		Q R	5	1	Red ☐ Red pole	
3849.67	No. 16	36 54.32 174 51.80		Fl R 2s	5	1	Red ☐ Red pole	
3849.7	Panmure Bridge. NW Pier	36 54.48 174 51.49		2 F G(vert)			Pole	On Pier at bridge level
3849.72	Panmure Bridge. SE Pier	36 54.50 174 51.51		2 F R(vert)			Pole	On Pier at bridge level
3849.75	No. 24	36 54.93 174 51.45		Fl R 2s	5		Red ☐ Red pole	
3849.8	Pakuranga Bridge. W Pier	36 54.70 174 51.41		F G			Pole	
3849.82	Pakuranga Bridge. E Pier	36 54.71 174 51.46		F R			Pole	
3849.84	Pakuranga Bridge. Centre	36 54.71 174 51.43		1 F RG(vert)			Pole	Centre of bridge span. FG over FR
3849.98		36 53.59 174 57.52		Fl G 5s	4	2	Green △ Green wooden pile beacon	
	Tāmaki Strait							
3850.2	Dennis Rock	36 52.43 174 58.39		Q(9)W 15s	5	2	Black ⧖ Yellow, black and yellow horizontal stripes, pile beacon 4	
3850.5	Maraetai Boat Ramp N Breakwater. Head	36 52.61 175 02.50		Q G	2	3	Green metal pole	
3850.55	Maraetai Boat Ramp S Breakwater. Head	36 52.62 175 02.49		Q R	2	3	Red metal pole	
	Waiheke Channel							
3850.6	Passage Rock (M)	36 51.42 175 07.85		Fl(2)W 10s	14	8	White metal tower 1	*fl 0.5, ec 1, fl 0.5, ec 8*

North Island

Int. K No. (1)	Location - Name (2)	Lat Long S E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3851.5	Ruthe Passage	36 49.40 175 11.99	Fl W 5s	57	7	Grey metal mast	*fl 1, ec 4*
3851.6		36 49.70 175 12.08	Q R	8	3	Red ☐ Red pile beacon	
	Firth of Thames						
3852	Sandspit Passage Sandspit E end. (M)	36 54.02 175 10.96	Fl WR 2s	6	W7 R4	White metal column 5	*fl 0.5, ec 1.5* W 091.3°-124° (32.7°) R 124°-139° (15°) R (Obscured) 139°- 277° (138°) R 277°-287.8° (10.8°) W 287.8°-303.3° (15.5°) R 303.3°-000° (56.7°) Column on wooden piles.
3852.3	Kawakawa Bay Breakwater	36 56.21 175 10.64	Fl W 5s	2	4	Wooden pole	
3853	Wharekawa Quarry. N end of channel	37 03.64 175 18.01	Q G	6	3	Pole 3	Post on concrete pier
3854	Wharekawa Quarry. S end of channel	37 03.71 175 17.96	Q R	8	3	Pole 4	On shipwreck
3855	Kaiaua Boat Ramp	37 06.65 175 18.13	F W	3	2	Grey metal pole 3	
3856	Piako River Outer entrance	37 10.13 175 29.69	Fl WR 3s	3	W5 R3	Red pile beacon	*fl 0.3, ec 2.7* R 002.8°-138.4° (135.6°) W 138.4°-153.8° (15.4°) R 153.8°-346.6° (192.8°) W 346.6°-002.8° (16.2°)
	Thames						
3860	Sewer Outfall - outer end	37 08.27 175 31.39	Fl R 15s	4	3	White beacon 4	F R on war memorial 1 M ENE Square structure on piles
3861	Kaueranga Channel. N side	37 08.39 175 31.80	Fl R 5s			Red pile beacon	Channel liable to change
3862	Kaueranga Channel. N side No.6	37 08.71 175 32.00	Q R	4	3	Red beacon	
3864	Kaueranga Channel. E side No.8	37 08.75 175 32.20	Q R	4	3	Red beacon	
3866	Shortland Wharf. Head Ldg Lts 079° 45'. Front	37 08.75 175 32.61	F R	6	3	White mast vertical stripes 4	Neon
3866.1	Shortland Wharf. Head Ldg Lts Rear	37 08.75 175 32.61	F G	8	3	White mast vertical stripes 7	Neon
3868	Waihou River Outer channel. N side	37 09.18 175 30.74	Fl R 5s	5	3	Red pile beacon	*fl 0.6, ec 4.4*
3878	Cow Islet. Summit (M)	36 48.32 175 24.11	LFl W 8s	33	9	Concrete tower 3	*fl 2, ec 6* Square.
3879	Te Kouma. Head. S end (M)	36 49.46 175 25.41	Fl(2)W 10s	39	5	Metal pile beacon 4	*fl 0.5, ec 2, fl 0.5, ec 7* Column.
3879.5	Sugarloaf Ramp Point	36 48.25 175 28.36	Fl W 20s	12	3	Metal pole 7	
3879.7	Te Kouma Boat Ramp	36 48.27 175 28.40	F Y	4	1	Wooden pile beacon 4	
3879.8	Whangarahi Stream	36 46.00 175 29.00	Fl(3)G 20s	8	2	Green △ Green metal pole 8	
3880	Coromandel. Wharf Head	36 45.78 175 28.97	F R	8	2	Metal pole 6	
3880.5	Little Passage	36 46.20 175 27.39	Fl(3)G 10s	8	2	Green △ Green metal pole 8	
3881	Jetty	36 48.59 175 28.08	Q(4)W 10s	8	1	Metal pole 6	Occas
3882	Channel Island (M)	36 25.30 175 19.89	Fl(2)W 12s	79	9	White metal tower 4	*fl 1, ec 2, fl 1, ec 8* AIS AtoN, MMSI 995126024

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3886	**Cuvier Island (Repanga Island) E end** (M)	36 26.39 175 47.17		Fl W 15s	119	**19**	White metal tower 15	*fl 0.1, ec 14.9* W (Obscured) 086°- 129° (43°) Obscured within 8 M. Obscured off Cape Colville when bearing more than 089°. W 129°-086° (317°)
	Reserve light					10		
3888	Port Charles (M)	36 30.70 175 29.47		Fl(4)W 20s	155	9	Metal column 4	*(fl 0.5, ec 1.5) x 3, fl 0.5, ec 13.5*
3890	Old Man Rock (M)	36 42.60 175 50.80		Fl W 2s	64	8	Concrete column	*fl 0.5, ec 1.5* Pedestal
3892	Ohinau Island. Summit (M)	36 43.63 175 52.63		Fl W 5s	105	9	White metal tower 4	*fl 1, ec 4* Aluminium
	Mercury Bay							
3893	Whitianga Entrance Whakapenui Point	36 49.61 175 42.84		Fl W 3s	30	7	White mast 5	*fl 0.3, ec 2.7* W (Partially obscured) 060°- 301.4° (241.4°) partially obscured by Motukorure Island.
3894	Tairua Harbour - Royal Billy Point Jetty	37 00.34 175 51.68		F R	8		Beacon	On pontoon
3896	Slipper Island (Whakahau)	37 02.90 175 57.21		Fl(2)W 15s	103	9	White metal tower 4	*fl 1, ec 2, fl 1, ec 11* W (Obscured) 041°- 044° (3°) W 044°-056° (12°) W (Obscured) 056°- 092° (36°) W 092°-125° (33°) W (Obscured) 125°- 148.5° (23.5°) W 148.5°-041° (252.5°)
	Whangamatā Harbour							
3897	Whangamata Harbour Entrance Ldg Lts 288° 17'. Front	37 12.18 175 52.67		F R	10	4	Grey concrete pole	Neon
3897.1	Whangamata Harbour Entrance Leading Lights. Rear	37 12.18 175 52.66		F R	12	4	Grey concrete pole	Neon
3897.2	Whangamata Harbour Outer	37 12.25 175 52.98		Q G	3	2	Green △ Green beacon	
3897.3	Whangamata Harbour Inner	37 12.12 175 52.84		Q G	3	1	Green △ Green beacon	
3897.4	Whangamata Harbour Wharf. Head	37 11.98 175 52.72		3 F RW	5		Beacon	Vertically disposed lights
3898	Mayor Island (Tuhua)	37 18.59 176 15.49		Fl(3)WR 15s	30	W7 R4	White metal column 4	*(fl 0.5, ec 1) x 2, fl 0.5, ec 11.5* W 236°-248.5° (12.5°) R 248.5°-274.5° (26°) W 274.5°-094.5° (180°)
	Katikati Harbour							
3898.197	BTN	37 27.42 175 58.38		Fl(2+1)R 3s			Red, green and red horizontal stripes, pile beacon	
3898.198	BT6	37 27.59 175 58.46		Q R 3s			Red pile beacon	*fl 0.3, ec 2.7*
3898.199	BT2	37 27.84 175 58.52		Q R 3s			Red pile beacon	*fl 0.3, ec 2.7*
3898.2	Bowentown Beacon	37 28.34 175 58.72		Q(3)W 10s	3	5	Black ⇕ Black, yellow and black horizontal stripes, pile beacon 3	
3898.217	MW1	37 29.70 175 58.42		Fl G 3s	4	2	Green metal pile beacon 4	*fl 0.3, ec 2.7* Steel beacon

North Island

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3898.218	MW.	37 29.67 175 58.40		Fl(2+1)G 3s	3	3	Green △ Green, red and green horizontal stripes, pile beacon 3	
3898.231	BK	37 27.93 175 58.56		Fl(2+1)G 6s	2	1	Green △ Green, red and green horizontal stripes, pile beacon 2	
3898.232	BK2	37 28.00 175 58.52		Fl R 3s	3		Red ☐ Red pole 3	*fl 0.3, ec 2.7*
3898.234	BK4	37 27.92 175 58.40		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.236	BK8	37 27.88 175 58.05		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.237	BK10	37 28.06 175 57.82		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.238	BK12	37 28.24 175 57.72		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.239	BK14	37 28.43 175 57.62		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.24	TP	37 28.49 175 57.48		Fl(2+1)G 6s	2	1	Green △ Green, red and green horizontal stripes, pile beacon 2	
3898.241	BK16	37 28.74 175 57.44		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.243	BK20	37 29.02 175 57.37		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.245	BK24	37 29.31 175 57.60		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.247	BK28	37 29.57 175 57.87		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3898.248	BK35	37 29.72 175 58.25		Q G 3s			Green pile beacon	*fl 0.3, ec 2.7*
3898.25	TP2	37 28.55 175 57.14		Fl R 3s	2	1	Red ☐ Red pile beacon 2	
3898.251	TP4	37 28.65 175 56.94		Fl R 3s	2	1	Red ☐ Red pile beacon	
3898.5	MW RGR	37 31.44 175 58.96		Fl(2+1)G 3s			Green △ Green, red and green horizontal stripes, pile beacon	
3898.6	Uretara Beacon	37 32.25 175 57.40		Q W			Black ⏢ Black and yellow horizontal stripes, pile beacon	
	Tauranga Harbour							
3899	**The Mount**	37 37.65 176 10.38		Fl W 15s	80	**24**	White beacon concrete 1	W 132°-311.5° (179.5°) Square structure
3899.05	'A' Beacon	37 36.07 176 10.71		VQ(3)W 5s	14	6	Black ⏢ Black, yellow and black horizontal stripes, pile beacon	Ra refl AIS AtoN, MMSI 995126086
3899.1	North Rock	37 37.41 176 10.50		Fl WR 3s	11	W3 R2	Red metal column 5	*fl 0.3, ec 2.7* W 003°-273° (270°) R 273°-003° (90°) Concrete base
3899.2	North West Rock	37 37.75 176 09.99		Fl W 2s	7	5	Metal column	*fl 0.3, ec 1.7*

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3899.4	No.1 Reach. and Cutter Channel. Outbound. Ldg Lts Front	37 38.06 176 09.46		F G	14		White ▯, black vertical stripes Beacon 13	Neon ▯
	Dir Lt 297° 15'.			Dir F WRG	15			F G (Intensified) 291.5°-292° (0.5°) Al WG (Intensified) 292°-297° (5°) Alternating white phase increasing with bearing. F W (Intensified) 297°-297.5° (0.5°) Al WR (Intensified) 297.5°-302.5° (5°) Alternating red phase increasing with bearing. Intens by day on request to Port of Tauranga. F R (Intensified) 302.5°-304.5° (2°)
				Iso R 3s	15			R (Intensified) 304.5°-306.5° (2°) Intens by day on request to Port of Tauranga
3899.41	No.1 Reach. Rear	37 38.15 176 09.40		F G	17		White ▽, black vertical stripes Beacon	Neon ▽. 178m from front
	Dir Lt 209°.			Dir Al WRG	12	6		Al WG 207.25°-208.13° (0.88°) Alternating green light range 4.0M F W 208.13°-209.88° (1.75°) DIRECTIONAL LIGHT. The directional approach light is operated on request. Vessels are to contact Port of Tauranga. Al WR 209.88°-210.75° (0.87°) Alternating red light range 4.0M Occas
3899.5	No.1 Reach Dredged Channel. Eastern boundary limit - Lts in Line Front	37 38.05 176 09.43		F R	8		White ⌓, black vertical stripes Beacon	Neon ▯
3899.51	No.1 Reach Dredged Channel. Rear	37 38.11 176 09.37		F R	14		White ⌔, black vertical stripes Beacon	Neon ▯ 136m from front
3899.7	No.2 Reach. Ldg Lts 180° 10'. Front	37 38.87 176 09.82		Iso G 2s	11	6	White △ White concrete pile beacon	
	Dir Lt 180°.			Dir Q WRG	4	8		Q G 177.5°-179.7° (2.2°) Q W 179.7°-180.2° (0.5°) Q R 180.2°-187.5° (7.3°)
3899.8	No.2 Reach. Rear Dir Lt	37 39.27 176 09.81		Dir F WRG	5		Orange △ Metal, concrete pile beacon 15	F G 175.5°-176.5° (1°) Q G 176.5°-178.5° (2°) F G 178.5°-179.5° (1°) F W 179.5°-180.5° (1°) F R 180.5°-181.5° (1°) Q R 181.5°-183.5° (2°) F R 183.5°-185.5° (2°) Tripod
3900	No.4, Stony Point	37 38.21 176 10.12		Q(2)R 3s	6	4	Red □ Red pile beacon	*fl 0.3, ec 0.7, fl 0.3, ec 1.7*
3900.4	P1	37 38.27 176 10.22		VQ(9)W 10s			Black ⧖ Yellow, black and yellow horizontal stripes, pile beacon	
3902	P3	37 38.24 176 10.37		Fl G 3s			Green △ Green pile beacon	
3902.4	P5	37 38.31 176 10.58		Q G			Green △ Green pile beacon	

North Island

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3903	P7	37 38.43 176 10.68		Q(6) + LFl W 15s			Black ⊻ Yellow and black horizontal stripes, pile beacon	
3904	Salisbury Avenue Jetty. Head	37 38.43 176 10.86		F W	9		Mast	W (Obscured) 133°- 358° (225°)
				F W	9	2		W 358°-133° (135°) white vertically disposed
				F R	8	2		R 358°-133° (135°) red vertically disposed
3904.1	Tug Berth. North Jetty. Head	37 38.46 176 10.86		2 F Y(vert)			Beacon	
3904.29	Cutter Channel	37 38.66 176 10.94		F W	35		Orange and white stripes (direction unknown), tower ▯ 35	Neon ▯
3904.3	Cutter Channel. Old rear lead	37 38.70 176 11.06		F G	39		Tower ▽ 39	Neon ▽ lattice tower
3904.34	No.6	37 38.36 176 10.42		Iso R 2s			Red ☐ Red pile beacon	
3904.5	Mount Maunganui Wharf. North End	37 38.48 176 10.88		2 F G(vert)	7	5	Beacon	
3904.8	No.11	37 38.79 176 10.70		Iso G 2s			Green △ Green pile beacon	
3905	No.13	37 38.91 176 10.75		Iso G 2s			Green △ Green pile beacon	
3905.1	Mount Maunganui Wharf. RoRo Berth	37 38.97 176 10.97		2 F R(vert)			Beacon	
3905.2	No.15	37 39.04 176 10.74		Iso G 2s			Green △ Green pile beacon	
3905.3	No.17	37 39.31 176 10.60		Iso G 2s			Green △ Green pile beacon	
3907	Mount Maunganui Wharf. South End	37 39.58 176 10.87		2 F Y(vert)	10	2	Column	Y 008°-188° (180°) Height of the second light is 8 m
3908.1	No.8	37 39.75 176 10.84		Iso R 2s			Red ☐ Red pile beacon	
3908.4	Town Reach	37 39.96 176 10.59		Fl Y 5s			Yellow X Yellow pile beacon	
3909	Sulphur Point Wharf. North End	37 39.47 176 10.53		2 F R(vert)			Beacon	
3909.1	Sulphur Point Wharf. South End	37 39.90 176 10.47		3 F GWR(vert)			Beacon	
3911	Tanker Berth. North End	37 39.81 176 10.83		2 F WY(vert)			Beacon	
3911.1	Tanker Berth. South End	37 39.94 176 10.80		2 F WG(vert)			Beacon	
3913	No.10	37 40.13 176 10.60		Q R			Red ☐ Red pile beacon	
3913.5	No.12	37 40.26 176 10.54		Q R			Red ☐ Red pile beacon	
3914	Tauranga Bridge Marina, North Breakwater Head	37 40.25 176 10.57		2 F R(vert)	4	2	Pole	
3915	Tauranga Bridge Marina, South Breakwater Head	37 40.25 176 10.60		Q G	3	2	Pole	
3919	Hunters Creek	37 38.44 176 08.07		Fl(2+1)G 6s	7	5	Green △ Green, red and green horizontal stripes, concrete pile beacon	*fl 0.3, ec 0.7, fl 0.3, ec 1.7, fl 0.3, ec 2.7*
3919.01	HC1	37 38.44 176 08.18		Fl G 3s	2	1	Green pile beacon 2	
3919.02	HC2	37 38.33 176 07.89		Fl R 3s	2	1	Red pile beacon 2	
3919.03	HC3	37 38.34 176 08.07		Fl G 3s	2	1	Green pile beacon 2	
3919.035	HC3A	37 38.32 176 07.95		Fl G 3s	2	1	Green △ Green pile beacon 2	

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3919.04	HC5	37 38.21 176 07.82		Fl G 3s	2	1	Green △ Green pile beacon 2	
3919.05	HC7	37 38.14 176 07.72		Fl G 3s	2	1	Green pile beacon 2	
3919.2	WC10	37 38.67 176 08.24		Q R			Red pile beacon	*fl 0.3, ec 0.7*
3919.3	WC12	37 38.70 176 07.62		Q R			Red pile beacon	*fl 0.3, ec 0.7*
3919.303	WC14	37 38.84 176 06.90		Q R	3	2	Red ☐ Red pile beacon 3	
3919.305	WC16	37 38.89 176 06.37		Fl R 3s	2	1	Red ☐ Red pile beacon 2	*fl 0.3, ec 2.7*
3919.306	WC18	37 38.98 176 05.93		Fl R 3s	2	2	Red ☐ Red pile beacon 2	*fl 0.3, ec 2.7*
3919.307	WC18B	37 39.14 176 05.57		Fl R 3s	2	2	Red ☐ Red pile beacon 2	*fl 1, ec 2*
3919.308	WC18(C)	37 39.28 176 05.17		Fl R 3s	2	2	Red pile beacon	
3919.31	WC11	37 39.09 176 05.08		Fl G 3s	2	2	Green △ Green pile beacon	
3919.311	WC13	37 39.14 176 04.63		Q G	2	2	Green △ Green pile beacon	
3919.312	WC15	37 39.18 176 04.21		Fl G 3s	2	2	Green △ Green pile beacon	
3919.313	WC15(B)	37 39.12 176 03.89		Q G	2	2	Green △ Green pile beacon	
3919.314	WC17	37 39.10 176 03.29		Fl G 3s	2	2	Green pile beacon	
3919.315	WC21	37 38.97 176 03.15		Fl G 3s	2	2	Green △ Green pile beacon	
3919.316	WC20	37 39.28 176 03.58		Fl R 3s			Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3919.318	WC23	37 38.78 176 03.07		Q G	2	2	Green △ Green pile beacon	
3919.32	WC22	37 37.71 176 03.83		Fl R 3s		1	Red ☐ Red pile beacon	*fl 0.3, ec 2.7*
3919.321	WC24	37 37.56 176 03.66		Fl R 3s	2	1	Red ☐ Red pile beacon 2	*fl 0.3, ec 2.7*
3919.322	Omokoroa 'OP'	37 38.00 176 03.32		Fl G 3s	2	1	Green pile beacon	
3919.323	WC25	37 38.41 176 03.13		Q G			Green △ Green pile beacon	
3919.325	Rangiwaea 'A'	37 38.40 176 06.23		Fl(2+1)R 10s		2	Red ☐ Red, green and red horizontal stripes, pile beacon	
3919.327	Rangiwaea 'B'	37 38.26 176 06.04		Fl R 3s	2	1	Red ☐ Red pile beacon 2	*fl 0.3, ec 2.7*
3919.333	TE3	37 39.34 176 03.45		Fl G 3s	2	1	Green pile beacon	
3919.338	TE15	37 39.47 176 02.93		Fl G 3s	2	1	Green pile beacon	
3919.36	Motuhoa	37 37.92 176 04.46		Fl G 3s	2	1	Green △ Green pile beacon	
3919.38	OP20	37 37.41 176 04.40		Fl R 3s			Red pile beacon 2	*fl 0.3, ec 2.7*
3919.4	Western 'A'	37 38.23 176 05.99		Q R			Red pile beacon	*fl 0.3, ec 0.7*
3919.41	Western A2	37 38.12 176 05.51		Q R 3s	2	2	Red ☐ Red pile beacon 2	*fl 0.3, ec 2.7*

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3919.5	Western 'B'	37 37.86 176 05.25		Fl(2+1)G 6s			Green △ Green, red and green horizontal stripes, pile beacon	
3919.6	Western 'C'	37 37.99 176 04.85		Q G			Green △ Green pile beacon	
3919.7	Western 'G'	37 39.14 176 03.40		Fl(2+1)G 6s			Green △ Green, red and green horizontal stripes, pile beacon	
3919.8	Omokoroa 'D'	37 37.50 176 03.38		Q R			Red ☐ Red pile beacon	
3919.85	Western 'E'	37 37.27 176 03.18		Fl R 3s	2.5	1	Red ☐ Red pile beacon	
3919.9	Western F	37 36.85 176 02.89		Q G			Green △ Green pile beacon	
3920.2	Otumoetai 'A'	37 39.38 176 10.13		Q G			Green △ Green pile beacon	*fl 0.3, ec 0.7* G (Obscured) 118°- 249.5° (131.5°) G 249.5°-118° (228.5°)
3920.21	Marina Fuel Jetty	37 39.57 176 09.94		3 F R(vert)	5	2	Beacon	1 metre apart
3920.22	Marina North Breakwater Head	37 39.54 176 09.92		Fl W 1.5s	1		Beacon	*fl 0.3, ec 1.2* On platform
3920.3	Martha Beacon Waikareao Estuary	37 39.54 176 09.83		Q R			Red ☐ Red pile beacon	*fl 0.3, ec 0.7*
3920.35	Otumoetai 'C'	37 39.56 176 09.80		Fl(2+1)R 6s			Red ☐ Red, green and red horizontal stripes, pile beacon	*fl 0.3, ec 0.7, fl 0.3, ec 1.7, fl 0.3, ec 2.7*
3920.351	Waikareao Estuary. WK1	37 39.73 176 09.84		Q G	2	1	Green pile beacon 2	
3920.352	WK2	37 39.83 176 09.91		Fl R 3s	2	1	Red ☐ Red pole 2	*fl 0.3, ec 2.7*
3920.353	WK3	37 39.85 176 09.88		Fl G 3s	2	1	Green pile beacon 2	*fl 0.3, ec 2.7*
3920.354	WK4	37 39.97 176 09.96		Fl R 3s	2	1	Red pile beacon 2	*fl 0.3, ec 2.7*
3920.355	WK5	37 39.96 176 09.91		Fl G 3s	2	1	Green pile beacon 2	*fl 0.3, ec 2.7*
3920.356	WK7	37 40.05 176 09.90		Fl G 3s	2	1	Green pile beacon 2	*fl 0.3, ec 2.7*
3920.357	WK9	37 40.17 176 09.89		Fl G 3s	2	1	Green △ Green pile beacon 2	*fl 0.3, ec 2.7*
3920.4	Otumoetai Channel. Otumoetai 'B'	37 39.31 176 09.48		Q G			Green △ Green pile beacon	G (Obscured) 111°- 260° (149°) G 260°-111° (211°)
3920.5	Otumoetai 'D'	37 39.22 176 09.05		Q G	3	2	Green △ Green pile beacon	
3920.6	Otumoetai West Cardinal	37 39.07 176 08.81		Q(9)W 15s	3	2	Black ⧖ Yellow, black and yellow horizontal stripes, pile beacon 4	*(fl 0.3, ec 0.7) x 8, fl 0.3, ec 6.7*
	Bay of Plenty							
3922	Mōtītī Island	37 36.43 176 25.13		Fl(2)W 10s	63	8	White metal column 4	*fl 0.5, ec 1, fl 0.5, ec 8*
3924	**Whakatāne Airport Light**	37 55.58 176 55.29		Aero Fl W 3.7s	14	**15**		
3925	Whakatāne River Entrance. Ldg Lts 171° 08'. Front	37 56.58 177 00.70		F R	5	5	White △ White beacon	Neon O
3925.1	Whakatāne River Entrance. Rear	37 56.62 177 00.70		F R	14	5	White △ White beacon	Neon O
3925.5	Ldg Lts 201° 10'. Front	37 56.79 177 00.53		F G	6	5	Green pole	Neon ▯
3925.51	Ldg Lts Rear	37 56.88 177 00.49		F G	10	5	Green pole	Neon ▯

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3925.55	No. 2 beacon	37 56.42 177 00.68		Q R	3	3	Red ☐ Red beacon 3	
3926	N end, E groyne	37 56.52 177 00.68		Q R	2	1	Red beacon	Spar
3929	Cape Runaway (M)	37 32.32 177 59.10		Fl W 5s	57	9	White fibreglass tower 3	*fl 1, ec 4*
3930	Matakaoa Point (M)	37 33.39 178 18.90		Fl(4)W 20s	20	8	White metal tower 4	*(fl 0.5, ec 1.5) x 3, fl 0.5, ec 13.5* W 105°-303° (198°) Square.
	East Coast							
3932	**East Cape** (M)	37 41.34 178 32.89		Fl W 10s	155	**19**	White metal tower 14	*fl 0.1, ec 9.9* W (Obscured) 111°- 140° (29°) W 140°-143° (3°) W (Obscured) 143°- 153° (10°) W (Partially obscured) 153°-026° (233°) Partially obscured by East Island (Whangaokeno Island) Round.
3950	**Gable End Foreland Light** (M)	38 31.49 178 17.38		Fl W 15s	210	**19**	White metal tower 4	*fl 0.1, ec 14.9*
	Tūranganui-a-Kiwa / Poverty Bay							
3954	Tuaheni Point (M)	38 42.07 178 03.93		LFl W 8s	128	10	White fibreglass column 4	*fl 2, ec 6* Column.
3958	Gisborne Harbour Waikanae Beach Dir Lt 330°.	38 40.49 177 59.26		Dir F WRG F GR	11	9 9	White pile beacon 11	F G 324°-329° (5°) F W 329°-331° (2°) F R 331°-336° (5°) AIS AtoN, MMSI 995121038. G 315°-329° (14°) R 331°-358° (27°)
3958.15	Airport	38 39.71 177 58.90		Aero Fl W 5s			Tower	Occas
3962	South Breakwater Head	38 40.68 178 01.11		Iso G 3s	6	4	Green metal tower	*fl 0.3, ec 2.7* G (Obscured) 236°- 349° (113°) G 349°-236° (247°)
3962.15	South end Butlers Wall	38 40.57 178 01.18		Iso R 3s	6	4	Red beacon 4	Tripod tubular structure
3966	**BUM 8** Ldg Lts 054° 31'. Front	38 40.37 178 01.60		F Bu	8.5	**19**	Orange △ Black metal pile beacon 8.5	
3966.1	**BUM 9** Ldg Lts Rear	38 40.28 178 01.76		F Bu		**19**	Orange ▽ Black and orange vertical stripes metal tower 11	Framework tower
3967		38 39.07 177 57.61		Aero Fl Y 1.5s	21	5	Tower	Occas
3967.4		38 40.36 177 56.78		Aero F R			Tower	Occas
3969	Kahutara Point (M)	39 06.83 177 59.76		Fl(3)W 20s	188	9	White tower 3	*(fl 1, ec 1) x 2, fl 1, ec 15* W (Partially obscured) 028°-031° (3°) May be obscured by Portland Island. W 031°-028° (357°) Round.
3970	Portland Island. S end (M)	39 18.22 177 52.04		Fl W 15s	97	9	White metal tower 4	*fl 1, ec 14*
	Napier Harbour							
3980.5		39 26.21 176 52.03		Aero Oc R 1.5s	8		Beacon	Obstruction Occas

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
3981	**Westshore**	39 27.47 176 52.31		Fl WRG 10s	15	**W16** R13 G13	White metal tower 13	*fl 0.3, ec 9.7* W 228°-248° (20°) R 248°-272° (24°) G 272°-278.3° (6.3°) R 281.6°-287.6° (6°)
	South Pania Channel Dir Lt 280°.			Dir F WRG		14	White metal tower 13	F G 278.25°-279.5° (1.25°) F W 279.5°-280.5° (1°) F R 280.5°-281.75° (1.25°)
				By day		4		
3981.2	Tareha Street Dir Lt	39 28.80 176 53.23		Dir F WRG	14	14	Grey concrete pole 14	F G 218°-219° (1°) F W 219°-220.5° (1.5°) F R 220.5°-221.5° (1°)
				By day		4		
3981.5	East Pier Dir Lt	39 28.66 176 53.75		Dir Oc WRG 10s	10	11	Blue tower 10	*ec 2, fl 8* Oc G 202.1°-204.4° (2.3°) Oc W 204.4°-205.6° (1.2°) Oc R 205.6°-209.6° (4°) AIS AtoN, MMSI 995121067
				By day		3		
				Iso R 4s		6		
3981.6	Western Entrance	39 28.69 176 53.66		Fl(5)G 20s	4	4	Green wooden pile beacon 4	AIS AtoN, MMSI 995121068
3981.7	Inner Harbour Dir Lt	39 29.13 176 53.56		Dir F WRG	6	7	Yellow ◇ Yellow metal tower 4	F G 186.8°-191.5° (4.7°) F W 191.5°-191.9° (0.4°) F R 191.9°-196.6° (4.7°)
				By day		1		
3982.5	Approach Dir Lt 183°.	39 28.67 176 54.53		Dir F WRG	7	11	White tower 4	Iso G 179°-180° (1°) Oc G 180°-181° (1°) F G 181°-182° (1°)
				Iso RG				F W 182°-184° (2°) F R 184°-186° (2°)
				Oc RG				Oc R 186°-188° (2°) Iso R 188°-189° (1°)
3982.72	Green Lead Ldg Lts 171° 48'. Front	39 28.48 176 54.69		F G	20	9	Green △ Yellow pile beacon 20	Strip lights
3982.721	Rear Green Lead	39 28.60 176 54.72		F G	25	9	Green ▽ Grey 30	Strip lights
3982.9	Ldg Lts 158° 02'. Front	39 28.50 176 54.94		F Bu	34	1	Tower, floodlit	Neon
3982.91	Ldg Lts Rear	39 28.63 176 55.01		F Bu	34	1	Tower, floodlit	Neon
3983	Breakwater Harbour Ldg Lts 168°. Front	39 28.46 176 54.80		F R	22	9	Red △ Grey pole 31	Strip lights
3983.1	Breakwater Harbour Leading Lights Rear	39 28.63 176 54.85		F R	25	9	Red ▽ Yellow pole 25	Strip lights
3983.15	Inner Directional Light	39 28.43 176 55.33		Dir FWRG	28	11	White Tower, floodlit	Oc G 107°-108° (1°) F G 108°-110° (2°) Oc W 110°-111° (1°)
				Oc WRG				F W 111°-113° (2°) Oc W 113°-114° (1°) F R 114°-116° (2°) Oc R 116°-117° (1°)
	Ldg Lts Front			F Bu	25	9		Strip Light
3983.151	Ldg Lts Rear	39 28.44 176 55.39		F Bu	26	9	White	Strip Light
3983.2	Breakwater	39 28.17 176 55.20		VQ(2)W 5s	12	5	White mast 9	*fl 0.3, ec 0.3, fl 0.3, ec 4.1*
3983.25	Tower Ldg Lts Rear	39 28.53 176 55.31		F Bu	34	1	Tower, floodlit	Neon
3983.3	Mole Head Ldg Lts Front	39 28.24 176 54.93		Oc R 3s	9	4	White metal tower 7	*ec 0.5, fl 2.5*
	Inner Harbour							
3990	Lts in line 245° 49'. Front	39 35.24 176 56.24		F R	7	10	Orange △ Pile beacon	Neon
3990.1	Rear	39 35.27 176 56.15		F R	10	10	Orange △ White pole	Neon

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3991	Clifton Ldg Lts 212° 16'. Front	39 38.41 177 00.41		F W	5	3	Red △ Concrete pole 5	
3991.1	Ldg Lts Rear	39 38.42 177 00.40		F W	8	3	Red ▽ Concrete pole 8	
3992	Cape Kidnappers / Te Kauwae-a-Māui (M)	39 38.71 177 05.47		Fl(2)W 15s	112	8	White metal tower	*fl 1, ec 2, fl 1, ec 11*
3993	Blackhead Point (M)	40 13.03 176 47.22		Fl(2)W 10s	41	9	White metal tower 4	*fl 1, ec 1, fl 1, ec 7*
3994	**Castlepoint** (M)	40 54.02 176 13.88		Fl(3)W 30s	52	**19**	White metal tower 23	*fl 0.2, ec 2, fl 0.3, ec 2, fl 0.2, ec 25.3* W 209°-029° (180°)
	Reserve light			Fl(3)W 30s		10		
3998	Honeycomb (M)	41 20.62 175 49.65		LFl W 10s	57	10	White metal tower 4	*fl 2, ec 8*
4000	**Cape Palliser (Matakitakiakupe)** (M)	41 36.72 175 17.40		Fl(2)W 20s	78	**26**	White and red horizontal stripes, metal tower 18	Concrete base.
	Reserve light			Fl(2)W 20s		10		
	Wellington Harbour / Port Nicholson							
4004	Baring Head/Ōrua-pouanui (M)	41 24.50 174 52.27		Oc W 15s	87	14	White concrete tower 12	*ec 6, fl 9* W (Obscured) 169°- 192° (23°) W (Obscured) 296°- 301° (5°) W 301°-169° (228°)
4006	Pencarrow Head	41 21.56 174 50.87		Fl(3)WR 12s	18	W12 R10	White concrete tower 17	*(fl 1, ec 2) x 2, fl 1, ec 5* W 000.5°-081° (80.5°) R 081°-176.5° (95.5°) W 176.5°-187.5° (11°)
4007	Lyall Bay	41 20.40 174 47.46		Aero Oc R			Tower	
4007.4		41 20.41 174 48.74		Aero Oc R			Tower	
4010	**Main Entrance.** Ldg Lts 016° 24'. Front	41 19.06 174 51.35		Q W	7	**21**	White tower 4	Black metal pile structure
	Reserve light			W		**19**		Standby light
	Reserve light			W		**16**		Emergency light
4010.1	**Hope Shoal.** Ldg Lts Rear	41 17.79 174 51.85		Iso WRG 4s	17	**W22** R8 G11	Orange and yellow horizontal stripes, metal pile beacon	W (Intensified) 014°-019° (5°) W 019°-123° (104°) W (Intensified) 123°-124° (1°) G (Intensified) 124°-133° (9°) G 133°-183° (50°) W 183°-218° (35°) R 218°-357° (139°) W 357°-014° (17°) Stripes on seaward side of cylinder
				By day Iso W 4s		4		W (Intensified) 014°-019° (5°) Intensified on request
4010.2	Hinds Point. Ldg Lts 168°. Rear	41 20.13 174 51.65		Iso W 2s	9.3	10	White tower 6	W 165°-170° (5°)
4011	Steeple Rock	41 19.46 174 50.74		Iso WR 6s	7	W9 R8	Red and white horizontal stripes, tower	W 133°-190° (57°) R 190°-015° (185°)
4012	Falcon Shoals	41 18.26 174 51.02		Fl R 3s	6	3	Red and white horizontal stripes, pile beacon	
4013	Seatoun Wharf	41 19.12 174 49.82		F R	6		Pole 3	Neon
4014	Matiu/Somes Island, S side	41 15.58 174 51.82		LFl W 10s	29	7	White tower	*fl 4, ec 6* W 314°-107° (153°)
4018	**Point Halswell**	41 17.04 174 49.57		Fl W 3s	8	**15**	Black and white squared, concrete tower 6	*fl 0.3, ec 2.7* W (Obscured) 024°- 070° (46°) W 070°-294° (224°) W (Obscured) 294°- 337° (43°)
4019.6	Evans Bay	41 18.61 174 48.43		Q G	3	5	Black pile beacon	
4020	Burnham Wharf. Head	41 18.61 174 48.72		2 F G(vert)	9		Pole	Top light 9m, Bottom light 7m

North Island

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4021	Miramar Wharf. Head	41 18.80 174 48.65		2 F R(vert)	9		Pole	Top light 9m, Bottom light 7m
4021.4	Off Breakwater head	41 18.70 174 48.03		Q G	3	2	Pile beacon	
4021.5	N pier	41 18.68 174 47.96		F R			Metal mast	Neon
4021.6	Middle pier	41 18.72 174 47.96		F R			Metal mast	Neon
4021.7	S Pier	41 18.75 174 47.94		F R			Metal mast	Neon
4022	Dir Lt 184° 30'.	41 19.00 174 48.41		Dir Iso WRG 4s	8	4	Grey pole 5	Iso G 180°-182° (2°) Iso W 182°-187° (5°) Iso R 187°-189° (2°) on request to Centreport Occas
	Lambton Harbour							
4024	Point Jerningham	41 17.06 174 48.21		Q R	6	5	White pile beacon 4	Red Lts on radio mast .8M SSW
4030	Boat Harbour. E side	41 17.40 174 47.26		Q R	3	3	Orange metal mast 2	*fl 0.1, ec 0.9*
4032	Chaffers Marina	41 17.31 174 46.98		Fl R 5s		3	Wooden pile beacon	*fl 1, ec 4*
4032.1		41 17.36 174 46.99		Fl G 5s	3	3	Wooden pile beacon	*fl 1, ec 4*
4035	Queens Wharf. Head S end. Inner	41 17.14 174 46.80		F R			Pole	SW corner on wharf
4036	Queens Wharf Head S end. Outer	41 17.14 174 46.82		F R			Pole	SE corner of wharf
4043	Kings Wharf	41 16.94 174 47.07		Iso G 3s	6	4	Pile beacon	
4045	Thorndon Container Terminal. Off SE end	41 16.89 174 47.42		Oc G 3s	6	4	Pile beacon	*ec 1, fl 2* Ra refl
4052	Rail Road Ferry Terminal. No. 1	41 15.96 174 47.23		F R	3		Pole	
4052.2	No. 2	41 15.98 174 47.28		F R	3	3	Pole	
4053	Berthing light	41 15.97 174 47.27		Q R 2 F R(hor)	10 6	3 1	White metal mast 6	*fl 0.1, ec 0.9*
4054	Port Nicholson. Days Bay Wharf. Head	41 16.84 174 54.30		2 F GW(vert)	7		Pole	White light has a HEIGHT of 6m
4055	Seaview Wharf. Head S end	41 15.54 174 53.93		2 F G(vert)				
4056.2	Seaview Marina Sector Light	41 15.16 174 54.18		F WRG	4	1	Grey metal pole	G 130°-135° (5°) W 135°-138° (3°) R 138°-143° (5°)
4057	Seaview Marina	41 15.00 174 54.04		Fl W 5s	5	4	Wooden mast 4	*fl 0.3, ec 4.7*
4057.2		41 15.06 174 54.07		Q(2)R 5s			Wooden pile beacon 2	
4057.4		41 15.09 174 54.07		Q(2)G 5s	2		Wooden pile beacon 2	
4057.5	S Breakwater head	41 15.10 174 54.06		Q(2)G 5s	5	2	Wooden mast 4	*fl 0.4, ec 0.6, fl 0.4, ec 3.6*
4057.6	N Breakwater Head	41 15.08 174 54.12		Q(2)R 5s	5	2	Wooden mast 4	*fl 0.4, ec 0.6, fl 0.4, ec 3.6* R (Faint) 071.7°-078.8° (7.1°) R 078.8°-294.6° (215.8°) R (Faint) 294.6°-326.4° (31.8°) R (Obscured) 326.4°- 071.7° (105.3°)
4058	Petone Wharf. Head	41 13.81 174 52.19		2 F R(vert)	9	4	Pole	Bottom light HEIGHT 7m
	Cook Strait							
4061	Island Bay. Ldg Lts 012° 18'. Front	41 20.65 174 46.27		F R			Pole	Occas
4061.1	Island Bay. Rear	41 20.63 174 46.28		F R			Pole	Occas
4062.1	Tongue Point (M)	41 20.38 174 39.62		Fl WR 4s	44	W9 R6	White metal tower 4	*fl 0.8, ec 3.2* W 012°-139.3° (127.3°) R 297.4°-012° (74.6°)

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Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4063	Oteranga. S Limit	41 19.08 174 38.12		Fl(3)WR 20s	90	W7 R4	White △ White and orange vertical stripes, beacon	*(fl 1.5, ec 0.5) x 2, fl 1.5, ec 14.5* R 058°-148° (90°) W 328°-058° (90°) More than one beacon
4063.4	Oteranga. N Limit	41 17.70 174 37.10		LFl WR 20s	25	W8 R5	White △ White and orange vertical stripes, beacon	*fl 5, ec 15* R 017°-107° (90°) W 107°-197° (90°) More than one beacon
4066.2	Ohau Point (M)	41 14.35 174 38.72		Fl(2)W 15s	104	8	White metal tower 4	*fl 1, ec 2, fl 1, ec 11* W (Obscured) 033°- 094° (61°) W 094°-318° (224°) Visibility 94° to shore
	Te Awarua-o-Porirua Harbour							
4066.3	Tawhitikurī / Goat Point. Mana. Dir Lt 100° 06'.	41 05.33 174 52.00		Dir Oc WRG 2.5s			White △ Column	*ec 0.8, fl 1.7* Oc G 092.4°-099° (6.6°) Oc W 099°-101.1° (2.1°) Oc R 101.1°-131.6° (30.5°)
4066.4	Paremata Dir Lt 171° 24'.	41 06.40 174 51.93		Dir Oc WRG 2.5s			Column	*ec 0.8, fl 1.7* Oc G 170.1°-171.2° (1.1°) Oc W 171.2°-171.8° (0.6°) Oc R 171.8°-173° (1.2°)
4066.5		41 05.96 174 51.82		Fl(4)G 6s	4	1	Green △ Green pile beacon 4	
4066.6	Mana Marina. N breakwater. Head	41 06.07 174 51.96		Fl R 3s	4	1	Grey metal pole 3	*fl 0.5, ec 2.5*
4066.7	S breakwater. Head	41 06.08 174 51.96		Fl G 3s	4	1	Grey metal pole 3	*fl 0.5, ec 2.5*
4066.8		41 05.71 174 51.77		Fl G 2s	4	1	Green △ Green pile beacon 4	
4067	**Paraparaumu**	40 54.09 174 59.51		Aero Fl W 3.5s	24	**15**	Tower	Shown sunset to 2200 Occas
4068	Waikanae	40 51.85 175 01.12		Iso G 6s	6	5	Beacon	G 060°-216° (156°)
	Whanganui Port							
4072	**Whanganui Airport**	39 57.58 175 01.53		Aero Fl W 4s	39	**15**		Occas
4076	Centre	39 56.77 174 59.12		Fl R 2s	9	4	Red and white ☐, squared Mast 7	*fl 0.5, ec 1.5*
4078	North Head, Bar. Ldg Lts 059°. Front	39 56.70 174 59.41		F R	16		Black X White pile beacon	Neon ▯ Moved as necessary to mark channel over the bar. Traffic signals.
4078.1	North Head, Bar. Rear	39 56.67 174 59.47		F R	23		White and black border stripe O White and black vertical stripes, pile beacon	Neon ▯ Triangular
4081	Wharves	39 56.72 174 59.39		2 F WR(vert)	2	1	Pile beacon	On wharf pile
4082	Te Anau hulk	39 56.76 174 59.55		Q G	6	2	Beacon	On fo'c'sle head of hulk
4084	Patea River. Entrance E side	39 46.27 174 29.48		Fl W 3s	41	7	White column 5	*fl 0.3, ec 2.7* W (Obscured) 110.5°- 133° (22.5°) W (Obscured) 299°- 310.5° (11.5°) W 310.5°-110.5° (160°)
4084.5	Kupe Platform	39 51.06 174 07.20		Aero Mo(U)WR 15s Horn (U) 30s	24	10	Production platform	Shown on each corner of the platform. Morse
4084.6	Maari Wellhead Platform	39 59.15 173 17.63		Mo(U)W 15s Horn (U) 30s	27	10		*(fl 0.65, ec 0.25) x 2, fl 1.5, ec 11.7* At SE & NW corners of platform. *(bl 0.75, si 1) x 2, bl 2.5, si 24* Morse

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Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4084.75	FPSO Raroa	39 58.36 173 17.86		Mo(U)W 15s		10	FPSO 20	*(fl 0.65, ec 0.25) x 2, fl 1.5, ec 11.7* Shown on forward mast
				Mo(U)R 15s		10		*(fl 0.65, ec 0.25) x 2, fl 1.5, ec 11.7* Shown on the port & starboard bridge wings
				Horn (U) 30s				*(bl 0.75, si 1) x 2, bl 2.5, si 24* Morse
4085	Oaonui - Prohibited Anchorage Area. S Limit	39 25.61 173 49.25		Iso WR 6s	37	W12 R10	Black and white stripes (direction unknown), metal 11	R 062°-137° (75°) W 347°-062° (75°)
4086	Oaonui - Prohibited Anchorage Area. N Limit	39 22.09 173 46.88		F WR	29	W12 R10	Black and white stripes (direction unknown), metal 11	W 057°-132° (75°) R 342°-057° (75°)
4087	Gas Production Platform Maui A	39 33.28 173 26.95		Aero Mo(U)WR 15s Horn (U) 30s	27	10	Production platform	*(fl 0.4, ec 0.5) x 2, fl 1.2, ec 12* *(bl 0.7, si 1) x 2, bl 2.5, si 24.1* Morse.
	Pipeline marker light.			Oc(2)R 6s	49	11		*ec 1, fl 1, ec 1, fl 3* R 226.5°-256.5° (30°) On NE side.
	Pipeline marker light.			Oc R 10s	21	5		*ec 4, fl 6* R 038°-060° (22°) On SW side.
4087.5	**Maui B**	39 38.72 173 19.01		Aero Mo(U)WR 15s Horn (U) 30s	18	**15**	Production platform	*(fl 1, ec 1) x 2, fl 3, ec 8* At N & S corner *(bl 0.7, si 1) x 2, bl 2.5, si 24.1* Morse
	Pipeline marker light.			Fl(3)R 10s	19	5		R 208.5°-252° (43.5°) On NE side.
4087.8	FPSO Umuroa	39 25.66 173 14.21		Mo(U)W 15s	43	10	FPSO	*(fl 1, ec 1) x 2, fl 3, ec 8* Shown on main mast and turret at bows
				Mo(U)W 15s	40	10		*(fl 1, ec 1) x 2, fl 3, ec 8* Shown on main mast and turret at bows
				F R	39	2		Shown on flare tower and funnel
				Horn (U) 30s				*(bl 0.7, si 1) x 2, bl 2.5, si 24.1* Morse
4088	**Cape Egmont** (M)	39 16.50 173 45.21		Fl W 8s	33	**19**	White metal tower 20	*fl 0.5, ec 7.5* W (Obscured) 200°- 210° (10°) W (Obscured) 342°- 352° (10°) W 352°-200° (208°)
4089	Puniho (M)	39 11.58 173 47.51		Fl(3)W 10s	8	9	White metal tower 4	*(fl 0.5, ec 1.5) x 2, fl 0.5, ec 5.5*
	Port Taranaki							
4091	**Airport (New Plymouth)**	39 00.55 174 10.84		Aero Fl W 3.7s	42	**15**	Tower 15	*fl 0.2, ec 3.5* Occas
4092	Breakwater. Head	39 03.04 174 02.53		Fl G 2s	13	10	Green metal mast 6	*fl 0.4, ec 1.6*
4092.8	Lee Breakwater. Head	39 03.30 174 02.68		Q(4)R 6s	13	5	Red metal mast 9	*(fl 0.5, ec 0.5) x 3, fl 0.5, ec 2.5*
4093	Port Taranaki Ldg Lts 197° 16'. Front	39 03.65 174 02.51		VQ R	9	R5 R12	Orange O Orange lattice beacon	R strip light 1m long Pyramid beacon.
4093.1	Port Taranaki Leading Rear	39 03.72 174 02.48		VQ R	20	R5 R12	Orange O Orange lattice beacon	R strip light 1m long Pyramid beacon. 135m from front
4093.2	Otaikakaho Reef North Cardinal Mark	39 03.46 174 02.40		Q W	3	5	Black ⏢ Black and yellow horizontal stripes, pile beacon 2	
4093.3	Turning Basin Centre	39 03.14 174 02.29		Fl Y 5s	4	1	White pole 1	Y 280°-063° (143°)
4094	Moturoa Wharf Light. Ldg Lts 242° 47'. Front	39 03.41 174 01.90		VQ W	8	4	Orange △ Orange pole 4	Lts in Line, with rear light, to indicate channel limit.
4094.1	Moturoa Wharf Rear	39 03.43 174 01.84		VQ W	20	4	Orange metal tower 7	88 from front

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4094.5	Blyde Wharf light. Ldg Lts 247° 31'. Front	39 03.44 174 01.98		VQ G	15	3	Orange △ Green pole 9	Lts in Line, with rear light, to indicate channel limit.
4094.51	Blyde Wharf Rear	39 03.45 174 01.94		VQ G	20	3	Orange △ 12	62m from front
4095	Breakwater Berth Ldg Lts 285° 06'. Front	39 03.28 174 02.08		VQ R	18	3	Red metal pole 12	Mast
4095.1	Breakwater Berth Rear	39 03.26 174 02.00		VQ R	24	3	Red metal pole 18	Mast. 115m from front
4095.2	Port Taranaki Marina	39 03.42 174 02.83		Q R	4		Grey pile beacon 4	Steel
4095.5	Waitara River. Entrance - Directional Light Dir Lt	38 59.86 174 14.17		Dir F WRG	13	W8 R6 G6		F R 146.9°-151.3° (4.4°) F W 151.3°-152.1° (0.8°) F G 152.1°-156.4° (4.3°) Shed. Caution: Vessels should not attempt to enter without recent local knowledge.
4095.8	Pohokura B	38 54.70 174 16.30		Horn (U) 30s 3 Mo(U)R 15s	24 24	10 4	Production platform	*(bl 0.7, si 1) x 2, bl 2.5, si 24.1* Morse *(fl 1, ec 1) x 2, fl 3, ec 8*
	Taharoa							
4096	Ironsand Terminal	38 09.94 174 42.30		LFl(2)W 20s	36	12	Red and white horizontal stripes, tower 12	*fl 2, ec 4, fl 2, ec 12*
4097	Prohibited Anchorage Area. S Limit. Lts in line 077° 36'. Front	38 10.71 174 42.43		F R	4	3	White and red stripes (direction unknown), beacon	Neon □ Rectangular
4097.5	Prohibited Anchorage Area. S Limit. Rear	38 10.70 174 42.50		F R	10	3	White and red stripes (direction unknown), beacon	Neon □ Rectangular
4098	Prohibited Anchorage Area. N Limit. Lts in line 090°. Front	38 10.00 174 42.16		F R	3	3	White and red stripes (direction unknown), beacon	Neon □ Rectangular beacon
4098.5	Prohibited Anchorage Area. N Limit. Rear	38 10.00 174 42.27		F R	6	3	White and red stripes (direction unknown), beacon	Neon □. 160m from front. Rectangular beacon
4099	*Taharoa Offshore Terminal*	38 10.59 174 39.91		Fl W 5s		6	SPM Orange buoy	*fl 1, ec 4* Ra refl AIS AtoN, MMSI 995121026
	Kawhia Harbour							
4101		38 05.63 174 47.57		Q W	7	5	White ◇ White and yellow horizontal stripes, pole	*fl 0.2, ec 0.8* Dangerous to use in line with K4101.1 for crossing the bar. Vessels should not attempt to enter without recent local knowledge.
4101.1		38 05.75 174 47.81		Iso W 4s	11	5	White ◇ White and yellow horizontal stripes, beacon	See K4101 Dangerous to use in line with K4101 for crossing the bar. Vessels should not attempt to enter without recent local knowledge.
	Whāingaroa Harbour							
4104	Putoetoe Point. Ldg Lts 089° 18'. Front	37 48.05 174 51.76		F R	7	12	Orange and white border stripe △ Beacon 7	Caution: Vessels should not attempt to enter without recent local knowledge.
4104.1	Putoetoe Point. Middle.	37 48.04 174 52.04		F R	13	12	Orange and white border stripe △ Beacon	
4104.2	**Putoetoe Point. Rear.** Dir Lt	37 48.04 174 52.39		Dir F WRG	26	**W22** **R20** **G20**	Orange and white border stripe ◇ Beacon 8	Alignment of white sector may be altered to indicate deepest water.
4104.3		37 47.94 174 51.96		F R	3	1	Red □ Red wooden pole	

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Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
	Manukau Harbour							
4107	Ninepin Rock	37 03.02 174 30.19		Fl(4)W 30s	29	14	1	*(fl 0.1, ec 4.9) x 3, fl 0.1, ec 14.9* Ra refl Pedestal
4108	Manukau Heads	37 03.07 174 32.72		Oc W 6s	234	12	White wooden	*ec 2, fl 4* W 028°-130° (102°) W (Obscured) 130°- 238° (108°)
4109	Papakura Channel No.2 Dir Lt	37 01.48 174 40.07		Dir Fl WR	4	7	Red ☐ Red metal pile beacon	W 077.5°-079° (1.5°) White phase increasing with bearing. F W 079°-081° (2°) WR 081°-082.5° (1.5°) Red phase increasing with bearing. Tripod
				Q R	6	3		*fl 0.3, ec 0.7*
4110	1	37 02.37 174 40.80		Q G	4	3	Green △ Green metal pile beacon	*fl 0.3, ec 0.7*
4110.01	Grahams Beacon	37 03.40 174 40.85		Fl R 2s	3	2	Red ☐ Red wooden pile beacon	
4110.03	Kauritutahi	37 05.01 174 39.94		Fl R 8s	3	2	Red ☐ Red wooden pile beacon	
4110.05	Matakawau Point Light	37 06.36 174 40.12		Fl G 2s	12	2	Wooden pole 4	
4110.06	Kellys Landing	37 07.25 174 40.70		Fl R 6s	3	2	Red ☐ Red wooden pile beacon	
4110.07	Tokaroa Point Light	37 08.44 174 40.90		Fl G 4s	3	2	Metal pole 3	
4110.085	Waiau Pa	37 09.04 174 42.25		Fl R 6s	4	2	Red wooden pile beacon 4	
4110.1	4	37 01.91 174 42.15		Fl R 2s	5	3	Red ☐ Red metal pile beacon	*fl 0.5, ec 1.5*
4110.2	6	37 01.96 174 43.52		Fl R 4s	4	3	Red ☐ Red metal pile beacon	*fl 1, ec 3*
4110.3	8	37 02.14 174 45.20		Fl R 2s	4	3	Red ☐ Red metal pile beacon	*fl 0.5, ec 1.5*
4110.33	1A	37 02.47 174 45.58		Fl G 2s	3	3	Green △ Green wooden pile beacon	
4110.38	8A	37 01.81 174 46.67		Fl R 6s	3	3	Red ☐ Red wooden pile beacon	
4110.4	No.3	37 02.16 174 46.71		Fl G 6s	4	3	Green △ Green metal pile beacon	*fl 0.5, ec 5.5*
4110.45	3A	37 02.09 174 47.48		Fl(2)G 5s	3	3	Green △ Green wooden pile beacon	
4110.5	5	37 02.12 174 47.93		Q G	4	3	Green △ Green metal pile beacon	*fl 0.3, ec 0.7*
4110.6	10	37 01.89 174 47.96		Q R	4	3	Red ☐ Red metal pile beacon	*fl 0.3, ec 0.7*
4110.7	7	37 02.24 174 49.03		Q G	3	3	Green △ Green metal pile beacon	*fl 0.3, ec 0.7*
4110.8	9	37 02.38 174 49.53		Fl G 4s	4	3	Green △ Green metal pile beacon	*fl 1, ec 3*
4110.9	Te Pua Point	37 03.29 174 51.78		Fl R 4s	5	2	Red wooden pile beacon 5	
4110.95	Weymouth	37 03.16 174 51.32		Fl R 2s	4	2	Red wooden pile beacon 4	
4111	LPG Terminal North West End Light	37 02.18 174 49.67		Q W	2	1	Beacon	
4111.1	LPG Terminal South East End Light	37 02.21 174 49.70		Q W	2	1	Beacon	
4111.2	LPG Terminal North West Dolphin	37 02.18 174 49.65		Q W	3	1		
4111.3	LPG Terminal South East Dolphin	37 02.21 174 49.72		Q W	3	1		
4111.4	Pipe Terminal Platform Light	37 02.19 174 49.68		Q W	2	1	Pole	

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Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4111.5	Service Platform South West Side Light	37 02.19 174 49.67		2 F R(vert)	7	1	Pole 5	Height of second light is 5m
4111.6	Service Platform North West Corner Light	37 02.19 174 49.66		Q W	2	1	Pole	
4112	Airport Prohibited Anchorage Area South West Corner Light	37 01.39 174 45.22		Q Y	2	4	Pole	
4112.4		37 00.32 174 48.65		F W			Beacon	
4113	Auckland International Airport Light	37 00.38 174 47.35		Aero Fl W 4s	38		Tower	Occas
4113.3	McLaughlins Mount Light	37 00.81 174 50.76		Aero Oc R 2s	77		Tower	
4115	Lawry Point	36 59.44 174 37.01		Fl W 5s	6	5	Red and white horizontal stripes, metal pile beacon	*fl 1, ec 1, fl 1, ec 2* Column
	Wairōpā Channel							
4116.15	Alpha	37 00.82 174 36.58		Fl R 3s	2	2	Red ☐ Red metal pile beacon 2	
4116.2	Wairopa Channel No.3	37 00.68 174 36.71		Fl(3)G 6s			Green △ Green metal pile beacon	
4116.25	Wairopa Channel No.5	37 00.43 174 36.74		Q(4)G 6s	2	2	Green △ Green metal pile beacon 2	
4116.3	Wairopa Channel No.7	37 00.08 174 36.92		Fl G 3s			Green △ Green metal pile beacon	
4116.31	Wairopa Channel No.9	36 59.63 174 37.72		Oc G 3s	2	2	Green △ Green metal pile beacon 2	
4116.32	Wairopa Channel No.11	36 58.97 174 38.38		Fl(2)G 4s	2	2	Green △ Green metal pile beacon 2	
4116.33	Wairopa Channel No.2	36 58.16 174 38.97		Fl(2)R 5s	2	2	Red ☐ Red metal pile beacon 2	
4116.34	Wairopa Channel No.13	36 57.49 174 40.06		Fl(3)G 6s			Green △ Green metal pile beacon	
4116.35	Wairopa Channel No.4	36 57.38 174 39.92		Fl(3)R 6s	2	2	Red ☐ Red metal pile beacon	
4116.36	Wairopa Channel No.15	36 57.29 174 40.37		Q(4)G 3s			Green △ Green metal pile beacon	
4116.37	Wairopa Channel No.6	36 57.21 174 40.36		Q(4)R 6s	2	2	Red ☐ Red metal pile beacon 2	
4116.38	Wairopa Channel No.15A	36 57.29 174 41.08		Fl G 3s	2	2	Green △ Green metal pile beacon 2	
4116.4	Wairopa Channel No.8	36 57.21 174 41.08		Fl R 3s			Red ☐ Red metal pile beacon	
4116.45	Wairopa Channel No.17	36 57.24 174 41.38		Fl(2)G 5s	2	2	Green △ Green metal pile beacon 2	
4116.5	Wairopa Channel No.10	36 57.16 174 41.32		Fl(2)R 5s			Red ☐ Red metal pile beacon	
4116.6	Wairopa Channel No.10A	36 56.91 174 41.66		Fl(3)R 6s	2	2	Red ☐ Red metal pile beacon 2	
4116.65	Wairopa Channel No.12	36 56.65 174 41.97		Q(4)R 6s	2	2	Red ☐ Red metal pile beacon 2	
4116.7	Wairopa Channel No.19	36 56.71 174 42.06		Q(4)G 6s	2	2	Green △ Green metal pile beacon 2	
4116.75	Wairopa Channel No.21	36 56.51 174 42.40		Oc G 6s	2	2	Green △ Green metal pile beacon 2	

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Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4116.76	Wairopa Channel No.14	36 56.45 174 42.38		Oc R 6s	2	2	Red ☐ Red metal pile beacon 2	
4116.77	Wairopa Channel No.23	36 56.46 174 42.74		Fl G 5s	2	2	Green △ Green metal pile beacon 2	
4116.78	Wairopa Channel No.16	36 56.40 174 43.04		Fl R 6s	2	2	Red ☐ Red metal pile beacon 2	
4116.79	Wairopa Channel No.25	36 56.51 174 43.67		Q(4)G 6s	2	2	Green △ Green metal pile beacon 2	
4116.8	Wairopa Channel No.18	36 56.44 174 43.67		Fl(4)R 6s			Red ☐ Red metal pile beacon	
4117	Wairopa Channel No.27	36 56.28 174 44.23		Q G	2	1	Green △ Green wooden pile beacon	
4117.1	Wairopa Channel No.29	36 56.20 174 44.63		Fl G 4s	2	1	Green △ Green wooden pile beacon	*fl 1.5, ec 2.5*
4117.2	Wairopa Channel No.31	36 56.16 174 45.12		Q G	2	1	Green △ Green wooden pile beacon	
4117.3	Wairopa Channel No.33	36 56.09 174 45.70		Oc G 6s	2		Green △ Green pile beacon	
4117.4	Wairopa Channel No.20	36 56.02 174 45.69		Oc R 6s	2	2	Red ☐ Red wooden pile beacon	*ec 2, fl 4*
4117.45	Wairopa Channel No.35	36 56.02 174 45.93		Q G	2		Green △ Green pile beacon	
4117.5	Wairopa Channel No.20A	36 55.97 174 46.02		Q R	2	2	Red ☐ Red metal pile beacon 2	
4117.6	Wairopa Channel No.37	36 56.02 174 46.18		Fl G 4s	2	1	Green △ Green wooden pile beacon	*fl 1.5, ec 2.5*
4117.7	Wairopa Channel No.39	36 56.09 174 46.49		Q G	2	1	Green △ Green wooden pile beacon	
4117.8	Wairopa Channel No.22	36 56.04 174 46.50		Q R	2	1	Red ☐ Red wooden pile beacon	
4117.9	Wairopa Channel No.24	36 56.05 174 46.72		Fl R 4s	2	1	Red ☐ Red wooden pile beacon	*fl 1.5, ec 2.5*
4118	Wairopa Channel Reef Beacon	36 56.11 174 46.77		Fl G 4s	4	2	Green △ Green wooden pile beacon	
4119	Wairopa Channel Onehunga. Wharf. W end	36 55.99 174 46.96		F R	5	3		Shed A
4119.5	Wairopa Channel Silt deflector, Head	36 55.99 174 46.87		Q R	2		Red ☐ Red pile beacon	
4122	**Piha** (M)	36 58.22 174 28.06		Fl W 15s	266	**20**	White concrete tower 5	*fl 0.1, ec 14.9*
	Kaipara Harbour							
4130	Pouto Point	36 21.75 174 10.87		Fl W 5s	6	6	White tower 4	*fl 0.3, ec 4.7*
4132	South Head	36 25.72 174 14.14		Fl W 7.5s	41	8	White tower 4	*fl 0.5, ec 7* Round
4133		36 29.16 174 19.43		Iso G 5s	2	5	Green △ Green wooden pole 2	*fl 2.5, ec 2.5*
4134	Kaipara River Shelly Beach E side of channel	36 31.01 174 22.68		Fl WR 10s	6	W4 R2	Red concrete pile beacon 2	*fl 0.5, ec 9.5* R 082°-123° (41°) W 123°-082° (319°) round concrete base
4135		36 35.97 174 23.07		Fl G 6s	2	2	Green △ Green wooden pole 2	*fl 1.5, ec 4.5*
4136	Helensville	36 36.81 174 24.19		Fl G 4s	4	2	Grey metal pile beacon 4	*fl 0.3, ec 3.7* Column

North Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4137	Kaipara River Entrance	36 37.10 174 25.13		Q(3)G 8s	3	2	White wooden pile beacon 3	
4137.5	Mussel Rock	36 15.68 174 15.05		Q R	3	2	Red ☐ Red metal pole 3	
4138	Wairoa River, Middle Channel, M1	36 14.24 174 06.84		Q G	3	2	Green △ Green metal pole 3	
4140	Sail Point. Summit	36 11.69 174 03.62		Fl W 3s	10	6	White metal tower 10	*fl 0.3, ec 2.7* Round
	Hokianga Harbour							
4151	Ferry Landing	35 23.17 173 31.63		Fl R 3s	3	1	White and grey horizontal stripes, concrete pile beacon	
4152	Takataka Rock Light	35 22.58 173 32.39		Q(3)W 10s	2	2	Black, yellow and black horizontal stripes, concrete pile beacon	*(fl 0.2, ec 1) x 2, fl 0.2, ec 7.4* Column
4153	Tauroa Point (M)	35 11.07 173 03.46		Fl(2)W 10s	65	9	White fibreglass tower 3	*fl 1, ec 1.5, fl 1, ec 6.5*

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South Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4180	Cape Farewell. Pillar Point. (M)	40 30.17 172 42.83		Fl W 5s	166	9	White metal tower 4	*fl 1, ec 4*
	Golden Bay / Mohua							
4182	**Farewell Spit. Bush End Point** (M)	40 32.70 173 00.54		Fl WR 15s	30	**W19** **R15**	White and orange metal tower 27	*fl 0.1, ec 14.9* W (Obscured) 089.5°- 117° (27.5°) W 117°-297° (180°) R 297°-336.8° (39.8°) W 336.8°-089.5° (112.7°) framework, orange top.
	Tarakohe Harbour							
4198	Main Ldg Lts 138° 50'. Front	40 49.47 172 53.87		F Bu	8	7	White △ Wooden mast	Neon □
4198.1	Main Leading Lights. Rear	40 49.48 172 53.88		F Bu	10	7	Wooden mast	Neon □
4199	East outer mole. Head	40 49.23 172 53.64		Fl R 5s	6	3	Metal tower 2	*fl 1, ec 4* R 201°-245° (44°) Obscured until about 2.6 M from harbour entrance Round
4199.1	West outer mole. Head	40 49.27 172 53.58		Fl G 5s	6	4	Metal tower 2	*fl 1, ec 4* Round
4201	East inner mole. Head	40 49.30 172 53.74		Oc R 3s	4	3	Metal tower 2	*ec 1, fl 2* Round
4201.1	West inner mole. Head	40 49.34 172 53.68		Oc G 3s	4	3	Metal tower 2	*ec 1, fl 2* Round
	Tasman Bay / Te Tai-o-Aorere							
4204	Separation Point (M)	40 46.92 172 59.89		Fl W 8s	18	8	White metal tower 3	*fl 0.5, ec 7.5* W 099°-328° (229°)
4206	Pitt Head (M)	40 56.91 173 04.02		Fl(2)WR 15s	23	W7 R4	Orange □, white vertical stripes Beacon 3	*fl 1, ec 2, fl 1, ec 11* R 063°-191° (128°) W 191°-337° (146°) R 337°-348° (11°)
	Motueka							
4212	Channel North Side	41 08.19 173 01.78		Q G 1.2s	3	2	Green wooden pile beacon	*fl 0.3, ec 0.9* Caution: Vessels should not attempt to enter without recent local knowledge.
4213	Training wall. Channel South Side	41 08.25 173 01.82		Q R 1.2s	2	2	Pile beacon	*fl 0.3, ec 0.9*
4214	Channel North Side	41 08.23 173 01.66		Iso G 4s	3	2	Green wooden pile beacon	*fl 2, ec 2*
	Māpua							
4220.16	Māpua Port Pile	41 15.00 173 06.74		Fl R 2s	3	2	Red □ Red pile beacon	Pile with ladder and band of red retroreflective tape
	Port Nelson							
4222	**Schnapper**	41 12.19 173 19.41		Fl(4)WR 20s	13	**W15** R8	Metal column 11	*(fl 0.06, ec 3.24) x 3, fl 0.06, ec 10.04* R 031°-047° (16°) W 047°-225° (178°) Ra refl Steel
4224	**Port Nelson Landfall Light**	41 15.34 173 16.80		Fl(2)WR 12s	22	**W20** **R17**	Metal lattice beacon 18	*fl 0.2, ec 2.8, fl 0.2, ec 8.8* R 067°-095° (28°) W 095°-216° (121°) Steel pylon, Fl R on Radio masts 2.2 and 3.0 M SW.
4225	Haulashore Island. Dir Lt 164° 45'.	41 16.14 173 15.36		Dir Al WRG	8	W14 R11 G11	White △ White pile beacon	F G 157.2°-162.2° (5°) Al WG 162.2°-164° (1.8°) White phase increasing with bearing. Light range green 11 F W 164°-165.5° (1.5°) Al WR 165.5°-167.2° (1.7°) Red phase increasing with bearing. Light range red 11 F R 167.2°-177.2° (10°) More than one beacon.
4225.1	Rear	41 16.45 173 15.48		F Bu	27	10	White ▽ White beacon	Bu 130°-174° (44°) Neon □ Bu (Partially obscured) 174°-188° (14°) Neon □ Bu 188°-200° (12°) Neon □

South Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4225.6	Fairway Beacon	41 13.99 173 14.16		Q W	13	9	Black ⌃ Black and yellow horizontal stripes, pile beacon	*fl 0.2, ec 0.8*
4225.8	Approach Beacon	41 15.44 173 15.18		Oc R 4s	8	5	Red □ Red pile beacon	*ec 1, fl 3*
4226	S mole. Off head	41 15.77 173 15.30		Iso G 2s	3	7	Green metal pile beacon	
4227	Entrance. Ldg Lts 135° 25'. Front	41 15.99 173 15.71		F G	6		White △ White beacon	Neon ▯
4227.1	Entrance. Rear	41 16.11 173 15.86		F G	9		White ▽ White beacon	G 122°-148° (26°) Neon ▯
4227.4	Boulder Bank W end No.1	41 15.73 173 15.45		Q R	3	5	Red pile beacon	
4227.5	No.2	41 15.79 173 15.55		Iso R 2s	2		Red pile beacon	
4227.6	No.3	41 15.82 173 15.65		Iso R 2s	2		Red pile beacon	
4227.7	No.4	41 15.81 173 15.74		Iso R 2s	2		Red pile beacon	
4228	Haulashore Island N End. Ldg Lts 270°. Front	41 15.87 173 15.47		F W	3		White ◇ White beacon	
4228.1	Haulashore Island N End. Rear	41 15.87 173 15.40		F W	4	3	White △ White beacon	
4230	Brunt Quay. NW Corner	41 15.59 173 16.27		Iso G 2s			Green metal pole	
4230.15		41 15.74 173 16.11		Iso G 2s	6	3	Green beacon	
4230.2		41 15.80 173 16.04		Iso G 2s			Green pole	
4231	NW side of channel. No.5	41 15.75 173 15.85		Iso R 2s	7	2	Red wooden pile beacon	
4231.02	No.6	41 15.65 173 15.96		Iso R 2s	7	2	Red wooden pile beacon	
4231.04	No.7	41 15.54 173 16.08		Iso R 2s	7	2	Red wooden pile beacon	
4231.06	No.8	41 15.46 173 16.17		Iso R 2s	7	2	Red wooden pile beacon	
4231.08	No.9	41 15.38 173 16.27		Iso R 2s	7	2	Red wooden pile beacon	
4231.1	No.10	41 15.37 173 16.40		Mo(A)W 8s	7	2	Red O Red and white vertical stripes, pile beacon	*fl 0.8, ec 1.2, fl 2.4, ec 3.6*
	Boat Harbour Channel							
4231.2	No.12	41 15.26 173 16.53		Iso R 2s	7	2	Red wooden pile beacon	
4231.23	No.14	41 15.25 173 16.68		Iso R 2s	7	2	Red wooden pile beacon	
4231.24	No.15	41 15.29 173 16.68		Iso G 2s	7	2	Green wooden pile beacon	
4231.26	No.16	41 15.28 173 16.76		Iso R 2s	7	2	Red wooden pile beacon	
4231.27	No.17	41 15.34 173 16.85		Iso G 2s	7	2	Green wooden pile beacon	
4231.28	No.18	41 15.42 173 16.88		Fl R 6s	7	2	Red wooden pile beacon	
4231.33	No.20	41 15.51 173 16.87		Iso R 2s	7	2	Red wooden pile beacon	
4231.5	No.23	41 15.44 173 16.90		Iso G 2s	7	2	Green wooden pile beacon	
	Tasman Bay / Te Tai-o-Aorere							
4233	Croisilles Harbour	41 04.62 173 39.92		Fl WR 5s	14	W5 R4	White pole 1	W 124°-139° (15°) R 139°-124° (345°) on rock
4234	Okuri Point (M)	40 58.59 173 45.72		Fl WR 4s	34	W8 R5	White metal tower 3	*fl 0.8, ec 3.2* R 160°-210° (50°) W 210°-160° (310°) Except where obscured by land.
4236	**Stephens Island (Takapourewa). N end** (M)	40 39.92 174 00.02		Fl W 6s	183	**18**	White metal tower 15	*fl 0.1, ec 5.9* W 054°-350° (296°) W (Obscured) 350°- 054° (64°)
	Reserve light			Fl W 6s		10		

South Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4237	Anatakupu Island (M)	40 53.80 173 52.16		Fl W 3s	31	4	Fibreglass column 2	*fl 1, ec 2*
4237.4	Kapowai Bay. South end	40 54.23 173 50.47		Fl R 3s	4	1	White tower	*fl 0.3, ec 2.7* Square tower
	Te Aumiti / French Pass							
4238	Channel Point (M)	40 55.44 173 50.10		F WR	3	W10 R7	White	R (Obscured) 034°- 053° (19°) Obscured in Waikawa Bay by Two Island Point. W 053°-148° (95°) R 148°-238° (90°) House.
4240	Reef (M)	40 55.42 173 50.01		Fl W 1.5s	5	4	White beacon 5	*fl 0.5, ec 1*
4241	Elmslie Bay.Wharf. Head	40 55.59 173 50.64		Fl G 3s	3	1		Cargo Shed
	Chetwode Islands							
4242	Ninepin Rock (M)	40 54.88 174 03.26		Fl W 4s	17	8	White metal tower 3	*fl 0.8, ec 3.2*
4242.05	Oke Rock	40 55.55 174 01.62		Fl G 10s	6	3	Green △ Green pile beacon 7	*fl 1, ec 9* Ra refl
	Pelorus Sound / Te Hoiere							
4242.1	Maud Island (Te Hoiere). NE Point	41 00.97 173 54.44		Fl W 15s	24	10	White pole 2	W 088°-031° (303°) White post
4242.15	Dart Rock	41 02.66 173 49.05		Fl(2)W 20s	3	5	Black ⁚ Black, red and black horizontal stripes, pole	*fl 0.5, ec 1, fl 0.5, ec 18* White post
4242.17	Flax Point Light	41 05.55 173 46.99		Fl W 10s	9	2	White pole 2	*fl 0.5, ec 9.5*
4242.2	Tawero Point Orchard Light	41 03.68 173 57.01		Fl W 5s	9	5	White pole 2	W 099°-320° (221°)
4242.3	Tawero Point South Light	41 03.94 173 56.85		Fl W 10s	11	5	White pole 2	W 217°-052° (195°)
4242.4	Turn Point North Light	41 08.28 173 52.22		Fl(2)W 15s	6	5	White pole 2	W 040°-233° (193°)
4242.5	Turn Point South Light	41 08.56 173 52.05		Fl W 10s	7	5	White pole 2	*fl 0.5, ec 9.5* W 357°-190° (193°)
4242.6	One Tree Point North Light	41 11.40 173 51.89		Fl W 10s	7	5	White pole 2	W 178°-008° (190°)
4242.7	One Tree Point South Light	41 11.75 173 51.84		Fl G 10s	6	3	White pole 2	G 187°-022° (195°)
4242.9	Black Point Light	41 14.41 173 51.04		Fl W 5s	2	5	White pole 2	*fl 0.5, ec 4.5*
	Havelock Harbour							
4243	No.1	41 14.83 173 50.78		Fl G 2s	2	3	Wooden pile beacon	*fl 0.5, ec 1.5*
4243.1	No.3	41 15.19 173 50.35		Fl G 3s	2	3	Green pile beacon	*fl 0.5, ec 2.5*
4243.15	No.5	41 15.36 173 49.93		Fl G 4s		3	Green wooden pile beacon	*fl 0.5, ec 3.5*
4243.17	No.7	41 15.51 173 49.13		Fl G 5s	2	3	Green pile beacon	*fl 0.5, ec 4.5*
4243.2	No.2	41 15.58 173 48.68		Fl R 2s	2	3	Red pile beacon	*fl 0.5, ec 1.5*
4243.27	No.4	41 15.60 173 47.81		Fl(2)R 4s		3	Pile beacon	*fl 0.5, ec 1, fl 0.5, ec 2*
4243.3	Shag Point	41 15.54 173 47.80		Fl W 3s	2	3	White pile beacon	*fl 0.5, ec 2.5*
4243.35	Ldg Lts 104°. Front	41 15.81 173 47.43		F Bu	3	2	White △ White wooden pole	
4243.36	Ldg Lts 104°. Rear	41 15.83 173 47.53		F Bu	5	2	White ▽ White wooden pole	
4243.4	No.9	41 15.76 173 47.29		Fl(2)G 4s	3	3	Green pile beacon	
4243.44	No.6	41 15.74 173 47.00		Fl(2)R 5s		3	Red pole	
4243.48	No.11	41 15.72 173 46.73		Fl(2)G 5s		3	Green pole	
4243.5	No.8	41 15.77 173 46.73		Fl(2)R 6s	2	3	Red pile beacon	*fl 0.5, ec 5.5*

South Island

Int. K No. (1)	Location - Name (2)	Lat S Long E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4243.504	No.10	41 15.79 173 46.61	Fl R 3s	1	3	Red wooden pile beacon	
4243.506	No.12	41 15.92 173 46.46	Fl R 3s	2	3	Red wooden pile beacon	
4243.508	No.14	41 15.95 173 46.37	Fl R 3s	1	3	Red wooden pile beacon	
4243.51	Cullen Point	41 15.98 173 46.34	Fl R 3s	3	3	White pole 2	*fl 0.3, ec 2.7*
4243.517	No.13	41 15.95 173 46.27	Fl G 3s		3	Green pile beacon	
4243.6	No.15	41 16.11 173 46.28	Fl G 3s	4	3	Green wooden pile beacon	*fl 0.5, ec 2.5*
4243.601	No.17	41 16.19 173 46.27	Fl G 3s	2	3	Green wooden pile beacon	
4243.603	No.19	41 16.27 173 46.25	Fl G 3s	2	3	Green wooden pile beacon	
4243.605	No.21	41 16.36 173 46.24	Fl G 3s	2	3	Green wooden pile beacon	
4243.609	No.23	41 16.43 173 46.23	Fl G 3s	2	3	Green wooden pile beacon	
4243.61	Johnson Light	41 16.43 173 46.27	Fl R 3s		3	Pole 3	*fl 0.5, ec 2.5*
	Cook Strait						
4244	Cape Jackson Light (M)	40 59.67 174 18.82	Fl(3)W 20s	87	9	White metal tower 4	*(fl 1, ec 1) x 2, fl 1, ec 15* W 050°-003° (313°) May be obscured by cliffs within 50metres of the light.
4244.5	Cape Jackson Rock	40 59.39 174 19.13	Fl W 4s	15	3	Grey concrete tower 15	*fl 0.4, ec 3.6* White tower on concrete base
4246	**The Brothers** (M)	41 06.20 174 26.50	Fl W 10s	79	**19**	White wooden tower 12	*fl 0.1, ec 9.9*
	Reserve light		Fl W 10s		10		
			Fl R 10s	70	10		*fl 1.5, ec 8.5* R 164.5°-169.5° (5°) Visible over Cook Rock, but obscured within 0.8M.
			Fl R 10s	74	10		*fl 1.5, ec 8.5* R 008°-014° (6°) Visible over awash rocks.
	Queen Charlotte Sound / Tōtaranui						
4248	Motuara Island. S end	41 05.95 174 16.58	Fl(2)W 10s	28	8	White metal tower 5	*fl 0.4, ec 1.6, fl 0.4, ec 7.6* Framework tower
4248.5	Scott Point	41 08.54 174 13.21	Fl(2)G 5s	3	4	Green △ White pile beacon	G (Obscured) 110°- 210° (100°) G 210°-110° (260°)
4249	Edgecombe Point	41 09.26 174 12.04	Fl W 10s	3	5	White wooden pile beacon 3	*fl 0.5, ec 9.5*
4249.5	Farnham Point	41 10.35 174 12.03	LFl WRG 10s	6	10	White metal tower	*fl 2, ec 8* G 218.4°-220.5° (2.1°) W 220.5°-223.7° (3.2°) R 223.7°-225.8° (2.1°)
4250	Kurakura Point	41 10.97 174 12.16	Fl(3)W 15s	28	10	White metal column 3	*(fl 0.8, ec 1.2) x 2, fl 0.8, ec 10.2* Red top
4251	Snake Point	41 12.19 174 10.16	Q(6) + LFl W 15s	3	1	Black ⋎ Yellow and black horizontal stripes, concrete pile beacon 4	
4252	Dieffenbach Point	41 13.90 174 08.78	Fl W 3s	15	6	White wooden tower 3	*fl 0.3, ec 2.7*
4253	Luke Rock Lateral	41 13.18 174 08.32	Fl G 5s	3	5	Green △ Green concrete pile beacon	*fl 0.3, ec 4.7* Column
4253.5	Allports Island	41 14.35 174 03.44	Q(5)W 10s	3	5	White pole 2	*(fl 0.3, ec 0.7) x 4, fl 0.3, ec 5.7*
4254	The Snout	41 15.03 174 02.92	Fl(3)W 10s	14	7	White metal pole 2	*fl 0.5, ec 1, fl 0.5, ec 8*
4254.3	Waikawa Marina Northern End	41 15.57 174 02.54	Oc(2)G 6s	6	2		*fl 3, ec 1, fl 1, ec 1*

South Island

Int. K No. (1)	Location - Name (2)	Lat Long S E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4254.5	Waikawa Bay Marina. S Breakwater	41 15.89 174 02.37	Oc WRG 3s	5	8	White metal pole 4	*ec 0.5, fl 2.5* G 213.2°-218° (4.8°) W 218°-228.2° (10.2°) R 228.2°-233.2° (5°)
4254.6	Waikawa Bay Marina. N Breakwater	41 15.85 174 02.38	Fl G 3s	3	2	White metal pole 3	*fl 0.5, ec 2.5*
4255	Picton Point	41 15.26 174 02.19	Fl R 2.5s	3	2	White pole 3	*fl 0.5, ec 2*
4255.1	Houhou Light	41 15.23 173 58.44	Fl G 5s	2	2	Green △ Green and white horizontal stripes, pile beacon	Pillar
	Picton Harbour						
4256	Mabel Island. S Point	41 16.16 174 00.89	Fl W 2s	4	4	White concrete pile beacon 4	*fl 0.3, ec 1.7* W (Obscured) 112.8°- 182.2° (69.4°) W 182.2°-112.8° (290.6°)
4256.2	Picton Harbour Approaches	41 16.60 174 00.53	Fl G 3s	2	1	White pile beacon	*fl 0.3, ec 2.7*
4256.7	Shelly Beach	41 16.91 174 00.71	Fl R 3s	3	5	White metal pile beacon	*fl 0.3, ec 2.7*
4256.85	Shelly Beach Breakwater	41 17.22 174 00.53	Fl R 6s Q Bu	5 5	2	White metal pole 3	*fl 0.5, ec 5.5* On separate pole supporting marina sign Occas
4256.9	Picton Floating Breakwater	41 17.26 174 00.50	Fl G 4s	2	5	White metal pole 2	*fl 0.5, ec 3.5*
4257	Waitohi Wharf. Head	41 16.94 174 00.39	F R W Q Bu	7 20	6 5	Metal tower	Framework flood-lighting tower Warning light is exhibited when large vessels are manoeuvring at Picton Wharves. Occas
4257.8	Light. 176° 05'. Ldg Lts Front	41 17.30 174 00.49	F G	4	2	Concrete pole 3	
4257.81	Leading Light. Rear	41 17.31 174 00.48	F G	6	2	Concrete pole 4	
4258	Ferry Terminal No.1 Wharf. Head	41 17.05 174 00.40	F G	8		Mast 4	
4258.2	Ferry Terminal No.1 Wharf. Root	41 17.11 174 00.33	F G	10			On ferry terminal
4259	Ferry Terminal No.2 Wharf. Head	41 17.00 174 00.39	F R	6		Grey mast 3	
4259.2	Ferry Terminal No.2 Wharf. Root	41 17.07 174 00.30	F R	10		Blue mast 6	
4260	Wedge Point	41 15.50 174 00.67	Mo(A)W 8s	8	5	White pile beacon 2	*fl 0.2, ec 1.4, fl 3, ec 3.4*
4260.2	Shakespeare Bay. Inner	41 16.33 174 00.24	Q(4)R 6s	2	3	White pile beacon 2	*(fl 0.4, ec 0.6) x 3, fl 0.4, ec 2.6*
4260.3	Shakespeare Bay. No.3	41 16.31 173 59.87	LFl G 5s	2	3	White pile beacon 1	
4260.4	Shakespeare Bay. Outer	41 15.96 174 00.28	Q(5)G 10s	2	3	White pile beacon 2	*(fl 0.3, ec 0.7) x 4, fl 0.3, ec 5.7*
	Tory Channel / Kura Te Au						
4262	West Head	41 12.80 174 18.88	Mo(N)WR 10s	47	8	White tower 4	*fl 1, ec 1, fl 0.5, ec 7.5* R 009.1°-052.2° (43.1°) W (Obscured) 052.2°- 090.2° (38°) W 090.2°-247.5° (157.3°) R 247.5°-270.9° (23.4°) W 270.9°-009.1° (98.2°)
4264	Arapaoa Island. Ldg Lts 311° 45'. Front	41 12.16 174 18.30	Q W	7	11	White △ White and orange vertical stripes, tower 6	
4264.1	Arapaoa Island. Rear	41 12.10 174 18.22	Iso W 2s	27	11	White △ White and orange vertical stripes, tower 6	
4264.5	Wheki Rock	41 12.44 174 18.31	Fl G 3s	2	2	Green pile beacon	*fl 0.3, ec 2.7*

South Island

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4265	East Head Dir Lt	41 12.62 174 19.41		Dir Al WRG	35	3	White wooden pole 1	F G 083.1°-087° (3.9°) Al WG 087°-090.7° (3.7°) F W 090.7°-095.1° (4.4°) Al WR 095.1°-098.8° (3.7°) F R 098.8°-103° (4.2°) R light on mast 2.3 M NE
4266	Scraggy Point	41 12.90 174 18.32		Fl(2)W 10s	19	5	White metal pile beacon 2	*fl 0.5, ec 2, fl 0.5, ec 7*
4266.1	Motukina Point	41 14.63 174 15.29		Fl R 5s	14	4	White pole 2	*fl 0.5, ec 4.5*
4267	Te Uira-Karapa Point. W	41 14.22 174 15.04		Fl W 5s	8	6	White metal pole 3	*fl 0.4, ec 4.6*
4267.1	Te Uira-Karapa Point. E	41 14.19 174 15.24		Fl G 3s	18	4	White wooden pole 2	An old light tower (3 m) is situated close W
4267.4	Arrowsmith Point	41 14.61 174 12.05		Fl(4)W 15s	4	5	White pole	*(fl 0.5, ec 1) x 3, fl 0.5, ec 10* W (Obscured) 048°- 081.1° (33.1°) W 081.1°-270.4° (189.3°) W (Obscured) 270.4°- 318.5° (48.1°)
4268	Ruaomoko Point. E	41 14.61 174 10.00		Fl(3)W 10s	22	5	White pile beacon 2	*(fl 0.5, ec 1) x 2, fl 0.5, ec 6.5*
4268.2	Ruaomoko Point. W	41 14.51 174 09.66		Q W	7.5	5	White pile beacon 2	
4268.21	Otamango Point	41 15.06 174 09.51		Fl R 3s	6	4	White pole 2	*fl 0.3, ec 2.7*
	Cook Strait							
4268.3	Fighting Bay. N limit	41 18.41 174 14.09		Fl(4)WR 20s	189	W7 R4	White △ White and orange vertical stripes, beacon	*(fl 1, ec 0.5) x 3, fl 1, ec 14.5* W 221°-263° (42°) R 263°-310° (47°)
4268.4	Fighting Bay. S Limit	41 20.14 174 10.45		LFl(2)WR 20s	117	W7 R5	White △ White and orange vertical stripes, beacon	*fl 2, ec 0.5, fl 2, ec 15.5* R 271°-301° (30°) W 301°-051° (110°)
4269	Robertson Point	41 21.08 174 07.11		Fl W 5s	16	5	White concrete pile beacon 2	*fl 0.5, ec 4.5* Column
4272	Blenheim (Aerodrome)	41 30.80 173 52.20		Aero Fl Al WG 3.7s				
4273		41 32.56 173 48.00		Aero Oc R				
4274	**Cape Campbell** (M)	41 43.65 174 16.52		Fl W 15s	47	**19**	White and black horizontal stripes, metal tower 22	*fl 0.5, ec 14.5* Obscured by land when bearing more than 010 degrees.
	Kaikōura Peninsula							
4275	Point Kean (M)	42 25.45 173 42.94		Fl(2)W 15s	41	9	Yellow metal tower 4	*fl 1, ec 2, fl 1, ec 11*
4276	North Wharf. Ldg Lts 221° 35'. Front	42 24.77 173 42.17		F G	6		Orange metal pole 4	
4276.1	North Wharf. Rear	42 24.81 173 42.12		F G	7		Orange metal pole 4	
4277	Kaikōura South Breakwater Head	42 25.56 173 40.85		Iso G 2s	6	6	Black and white horizontal stripes, metal pole 3	
4279	Point Gibson (M)	42 52.97 173 18.98		Fl W 10s	76	10	Red and white horizontal stripes, metal tower 3	*fl 1, ec 9* W 202°-027° (185°)
4282	Motunau River. Entrance. Ldg Lts Front	43 03.02 173 04.60		F R	6	3	Mast	Caution: Vessels should not attempt to enter without local knowledge.
4282.1	Motunau River. Entrance. Rear.	43 03.00 173 04.57		F R	12	3	Mast	
	Lyttelton Harbour / Whakaraupō							
4286	**Godley Head**	43 35.22 172 48.43		LFl(3)W 26s	127	**17**	Grey metal column 4	*(fl 2, ec 4) x 2, fl 2, ec 12* W 180°-330° (150°)
4287	No.3	43 35.62 172 49.27		Fl G 5s	6	4	Green △ Green Buoyant beacon 6	*fl 1, ec 4* AIS AtoN, MMSI 995121042
4287.2	No.5	43 36.04 172 48.19		Fl G 2.5s		4	Green △ Green Buoyant beacon 6	*fl 1, ec 1.5* AIS AtoN, MMSI 995121043

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4287.4	No 8	43 36.30 172 47.87		Fl R 2.5s		4	Red □ Red Buoyant beacon 6	*fl 1, ec 1.5* AIS AtoN, MMSI 995121044
4287.5	No.9	43 36.24 172 47.40		Fl G 2.5s		4	Green △ Green Buoyant beacon 6	*fl 1, ec 1.5* AIS AtoN, MMSI 995121045
4287.7	No.11	43 36.42 172 45.97		Fl G 5s		4	Green △ Green Buoyant beacon 6	*fl 1, ec 4* AIS AtoN, MMSI 995121046
4287.8	No.12	43 36.49 172 46.35		Fl R 5s		4	Red □ Red Buoyant beacon 6	*fl 1, ec 4* AIS AtoN, MMSI 995121047
4287.9	No.13	43 36.56 172 44.75		Fl G 5s		4	Green △ Green Buoyant beacon 6	*fl 1, ec 4* AIS AtoN, MMSI 995121048
4289.5	North Stake Front Stbd No.31	43 36.80 172 42.82		F G	6	5	Green △ Green pile beacon 6	Piled Beacon with Platform
4289.6	North Stake Rear Stbd No.33	43 36.89 172 42.06		F G	6	5	Green △ Green pile beacon 6	Piled Beacon with Platform
4290	Centre Stakes Lead No.35 Ldg Lts Front	43 36.85 172 42.83		Q W	8	6	Orange ▯ White pile beacon 8	*fl 0.5, ec 0.5* Piled Beacon with Platform
	Dir Lt 260° 39'.			Dir F WRG		10		F G 259.25°-260.35° (1.1°) Light oscillates at the margins of the white sector. F W 260.35°-260.95° (0.6°) F R 260.95°-262.05° (1.1°) Light oscillates at the margins of the white sector.
	Dir Lt			*By day*		W4.8 R3 G3		F G 259.25°-260.35° (1.1°) Light oscillates at the margins of the white sector. F W 260.35°-260.95° (0.6°) F R 260.95°-262.05° (1.1°) Light oscillates at the margins of the white sector.
4290.05	South Stakes Front Port No.36	43 36.90 172 42.84		F R	6	5	Red □ Red pile beacon 6	Piled Beacon with Platform
4290.06	South Stakes Rear Port No.38	43 36.99 172 42.09		F R	6	5	Red □ Red pile beacon 6	Piled Beacon with Platform
4290.1	Centre Stakes Rear Lead No.37	43 36.94 172 42.08		Iso W 4s	18	7	Orange ▯ White pile beacon 18	*fl 2, ec 2* Piled Beacon with Platform
4291	Parson Rock Beacon	43 36.81 172 45.13		Fl(2)R 10s	7	4	Red □ Red pile beacon	*fl 0.5, ec 1, fl 0.5, ec 8*
4293	Sticking Point	43 36.62 172 44.01		Fl(2)G 5s	8	5	White pile beacon	
4295	North Turn Off Lead No.21 Ldg Lts Front	43 36.55 172 42.89		F R	10	9	Orange △ White tower 10	R 293.53°-311.53° (18°) Tubular Tower with Platform
				By day		1		R 293.53°-311.53° (18°)
4295.1	North Turn Off Rear Lead No.23	43 36.55 172 42.88		F R	10	9	Orange ▽ White tower 14	R 293.53°-311.53° (18°) Tubular Tower with Platform
				By day		1		R 293.53°-311.53° (18°)
4296	Centre Turn Off Lead No.22 Ldg Lts Front	43 36.60 172 42.78		F Bu	10	9	Orange △ White tower 10	Bu 293.53°-311.53° (18°) Tubular Tower with Platform
				By day		1		Bu 293.53°-311.53° (18°)
4296.1	Centre Turn Off Rear Lead No.24	43 36.59 172 42.77		F Bu	14	9	Orange ▽ White tower 14	Bu 293.53°-311.53° (18°) Tubular Tower with Platform
				By day		1		Bu 293.53°-311.53° (18°)
4299	West Mole Port Beacon No.30	43 36.51 172 42.96		Q R		3	Black and white stripes (direction unknown), lattice beacon	*fl 0.3, ec 0.7*

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4300	East Mole Stbd Beacon No.29	43 36.55 172 43.06		Q G	6	3	Green △ Green pile beacon	*fl 0.3, ec 0.7* Piled Beacon with Platform
4301	South Turn Off Lead No.26 Ldg Lts Front	43 36.63 172 42.66		F R	10	9	Orange △ White tower 10	R 293.53°-311.53° (18°) Tubular Tower with Platform
				By day		1		R 293.53°-311.53° (18°)
4301.1	South Turn Off Rear Lead No.28	43 36.63 172 42.65		F R	14	9	Orange ▽ White tower 14	R 293.53°-311.53° (18°) Tubular Tower with Platform
				By day		1		R 293.53°-311.53° (18°)
4303	Purau Bay Front Lead No.40	43 36.81 172 46.44		Q W	8	6	Orange □ White tower 8	*fl 0.5, ec 0.5* Piled Beacon with Platform
	Dir Lt			Dir F WRG		10		F G 238.81°-241.06° (2.25°) Light oscillates at the margins of the white sector. F W 241.06°-241.56° (0.5°) F R 241.56°-243.81° (2.25°) Light oscillates at the margins of the white sector.
	Dir Lt			*By day*		W4.8 R3 G3		F G 238.81°-241.06° (2.25°) Light oscillates at the margins of the white sector. F W 241.06°-241.56° (0.5°) F R 241.56°-243.81° (2.25°) Light oscillates at the margins of the white sector.
4303.1	Purau Bay Rear Lead No.42	43 37.13 172 45.64		Iso W 4s	18	7	Orange □ White pile beacon 18	*fl 2, ec 2* Piled Beacon with Platform
4310	**Steep Head** (M)	43 44.71 173 07.67		Fl W 5s	156	**19**	White metal tower 4	*fl 1, ec 4* W (Obscured) 001°- 025.75° (24.75°) W (Obscured) 093.27°- 161° (67.73°) W 161°-001° (200°) Owing to its elevation the light is liable to be obscured by fog and mist.
	Akaroa Harbour							
4314	Akaroa Head (M)	43 53.41 172 58.76		Fl W 10s	68	**19**	White fibreglass tower 3	*fl 0.5, ec 9.5* W (Obscured) 071°- 089° (18°) Obscured from seaward by Timutimu Head when bearing more than 071 degrees. W 089°-116° (27°) W (Obscured) 116°- 150° (34°) W (Partially obscured) 209°-262° (53°) W 262°-071° (169°)
4315	Akaroa Harbour Ldg Lts 330° 36'. Front	43 49.11 172 54.21		F G	10	7	Grey wooden pole 7	power pole
4315.1	Akaroa Harbour Rear Leading Light	43 48.41 172 53.66		F G	83	7	Brown wooden pole 7	
4316	Green Point	43 48.91 172 56.79		Fl G 5s	4	2	White wooden pole 5	On W end of reef
4318	Childrens Bay Ldg Lts 058° 36'. Front	43 48.11 172 58.04		F G	7	5	Red O, yellow squared, on street light Pole	Neon □
4318.1	Childrens Bay Leading Rear Light	43 48.09 172 58.08		F G	10	5	Red O, yellow squared, on street light Pole	Neon □
	Timaru Harbour							
4324	**Airport**	44 17.90 171 13.47		Aero Fl W 3.7s	31	**15**		*fl 0.2, ec 3.5* Location beacon
4328	Timaru Harbour Ldg Lts 267° 35'. Front	44 23.09 171 15.53		F G	16	5	Orange △ White concrete pole	Neon □

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4328.1	**Benvenue Cliff Middle Light** Dir Lt	44 23.11 171 14.78		Dir F WRG F G *By day*	25 25	**W21** **R17** **G17** 10 5	Orange △ beacon 4	F G 265°-266.5° (1.5°) Al WG 266.5°-267.2° (0.7°) White phase increasing with bearing. Alternating green light range 17M. F W 267.2°-268° (0.8°) Al WR 268°-268.7° (0.7°) Red phase increasing with bearing. Alternating red light range 17M. F R 268.7°-270.2° (1.5°) Neon ▯ Neon ▯
4328.2	Timaru Harbour Rear Light	44 23.12 171 14.62		F G	30	7	Orange △ beacon 4	Neon ▯
4329	Eastern Extension Mole. Spur Breakwater Head Light	44 23.16 171 16.01		Fl R 5s	17	11	Tower	*fl 1, ec 4* F R lights on radio mast 2.5 M N.
4329.4	Outer North Mole Head Light	44 23.19 171 15.72		Fl G 10s	10	6	White wooden mast 8	
4330	East Mole Head Light. Light in Line, with rear light, to mark limits of channel. Ldg Lts Front	44 23.37 171 15.62		F R	7	2	Metal beacon 4	R 003°-244° (241°) Neon ▯ R (Obscured) 244°- 347° (103°) Neon ▯ Box
4330.1	No. 2 Wharf Root Rear Light	44 23.59 171 15.29		F R	20	2	Metal pole	Neon ▯ Box
4331	War Memorial	44 23.86 171 15.15		F W *By day*	44	14 10	Mast	
4332	Inner North Mole Head Light	44 23.28 171 15.60		Fl G 2s	6	5	White lattice beacon	*fl 0.3, ec 1.7* Electric lights in railway yard are visible from seaward especially when approaching from south. Inclined 45 degrees from vertical
4340	Tuhawaiki Point (M)	44 26.58 171 15.64		LFl W 10s	29	9	White metal tower 9	*fl 2, ec 8*
	Oamaru Harbour							
4348	Breakwater. Head	45 06.34 170 58.83		Fl R 5s	8	5	Lattice beacon	*fl 0.3, ec 4.7*
4350	Holmes Wharf. Head	45 06.36 170 58.68		F G	4	2	Mast	Lamp Post
4358	Moeraki. Ldg Lts 216° 31'. Front	45 21.68 170 50.94		Q W	11	6	Mast 4	
4358.1	Moeraki. Leading Lights. Rear	45 21.89 170 50.71		Iso W 4s	51	6	Mast 4	
4360	Katiki Point (M)	45 23.70 170 52.05		Iso W 12s	56	14	White wooden tower 8	W (Obscured) 018°- 029° (11°) W 181°-018° (197°)
4362	Heyward Point	45 45.37 170 41.53		Fl WR 5s	25	W9 R7	White tower 4	*fl 0.7, ec 4.3* W 043°-259° (216°) R 259°-306.5° (47.5°) R (Obscured) 306.5°- 339° (32.5°)
	Otago Harbour							
4363	Fairway Beacon	45 45.07 170 43.62		Fl(2)R 5s	9	5	Red □ Red pile beacon	*fl 0.5, ec 1, fl 0.5, ec 3* Pivoted at base. AIS AtoN, MMSI 995121033
4364	**Taiaroa Head**	45 46.42 170 43.73		LFl(2)W 18s	60	**18**	White masonry tower 12	*fl 2, ec 4, fl 2, ec 10* W (Obscured) 023°- 158° (135°) W 158°-300° (142°) W (Obscured) 300°- 307° (7°) Disused Signal Station Fl R(occas) light on mast 7.5M WSW
4365	North Mole	45 46.24 170 43.16		Fl(3)W 5s	11	5	Black △▽ Black, yellow and black horizontal stripes, metal pile beacon	Ra refl AIS AtoN, MMSI 995121034

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4366	**Approach Channel** Dir Lt 186° 09'.	45 47.90 170 43.11		Dir F WRG	19	**W21** **R17** **G17**	Red △ White tower 5	F G 183.65°-185.1° (1.45°) Al WG 185.1°-185.45° (0.35°) Alternating green light range 17.0M. White phase increasing with bearing F W 185.45°-186.85° (1.4°) Al WR 186.85°-187.2° (0.35°) Alternating red light range 17.0M. Red phase increasing with bearing F R 187.2°-188.65° (1.45°) An overspill of white light is visible at night to eastward and westward of the fixed red and green sectors. Vessels should ensure they have crossed the red and green sectors before turning on to the leading line. Range 5M when sighted outside the main Directional Light Sectors.
				By day		4		
4366.1	Cross Channel Leads Te Umukuri (Wellers Rock) Ldg Lts 103° 15'. Front	45 47.91 170 42.91		F Bu	15	3	White △ White pile beacon 15	
4366.2	Cross Channel Leads Te Umukuri (Wellers Rock) Ldg Lts Rear	45 47.92 170 42.99		F Bu	15	3	White ▽ White pile beacon 15	
	Lower Harbour							
4366.9	No. 1	45 46.50 170 43.21		Fl G 3s	3	2	Green △ Green pile beacon	
4367	No. 1A	45 46.81 170 43.14		Fl(2)G 5s	3	3	Green △ Green pile beacon	Ra refl
4367.1	Harington Point	45 47.00 170 43.38		F Y	3	4	Red metal pile beacon 3	Y 177°-182° (5°)
				Oc R 10s	3	2		*ec 1, fl 9*
4367.12	Spit Tide Gauge Pile	45 47.15 170 43.12		Oc G 4s	3	3	Green △ Green metal pile beacon	
4367.2	No. 2	45 47.27 170 43.39		Fl R 3s	3	3	Red □ Red pile beacon	Ra refl
4367.3	No. 3	45 47.36 170 43.09		Fl(2)G 4s	3	3	Green △ Green pile beacon	Ra refl
4367.4	No. 4. Groyne. Head	45 47.44 170 43.31		Fl(2)R 4s	3	3	Red □ Red pile beacon	Ra refl Tripod
4367.5	No. 5	45 47.50 170 42.95		Fl(3)G 6s	3	3	Green △ Green pile beacon	*(fl 0.5, ec 1) x 2, fl 0.5, ec 2.5* Ra refl AIS AtoN, MMSI 995121035
4367.6	No. 6. Groyne. Head	45 47.61 170 43.11		Fl(3)R 6s	3	3	Red □ Red pile beacon	Ra refl
4367.7	No. 7	45 47.60 170 42.76		Fl G 3s	3	3	Green △ Green pile beacon	Ra refl Neon □ AIS AtoN, MMSI 995121036
4367.8	No. 8. Groyne. Head	45 47.72 170 42.87		Fl R 3s	3	3	Red □ Red pile beacon	Ra refl Tripod
4367.9	No. 9	45 47.67 170 42.46		Oc G 4s	5	3	Green △ Green pile beacon	*ec 1, fl 3* Ra refl AIS AtoN, MMSI 995121037
4368	No. 10. Groyne. Elbow	45 47.80 170 42.48		Oc R 10s	3	2	Red □ Red pile beacon	*ec 1, fl 9* Ra refl
4368.2	No. 11	45 47.65 170 41.81		Fl G 2.5s	3	1	Green △ Green pile beacon	Ra refl
4368.3	No. 12	45 47.79 170 41.76		Fl R 2.5s	3	1	Red □ Red pile beacon	Ra refl
4368.4	No. 13	45 47.48 170 40.81		Fl(2)G 5s	3	3	Green △ Green pile beacon	Ra refl
4368.45	No. 13A Ldg Lts 283° 15'. Front	45 47.46 170 40.21		F G	3	3	Green △ Green pile beacon	Ra refl Neon □
4368.46	Ldg Lts Rear	45 47.36 170 39.57		Q W	5	5	White △ White pile beacon	*fl 0.5, ec 0.5* Tripod

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4368.5	No. 14	45 47.63 170 40.75		Fl(2)R 4s	3	3	Red □ Red pile beacon	Ra refl
4368.6	No. 15	45 47.55 170 39.83		Fl G 3s	3	3	Green △ Green pile beacon	Ra refl
4368.7	No. 16	45 47.61 170 40.25		Fl(3)R 6s	3	3	Red □ Red pile beacon	Ra refl
4368.72	No. 16A	45 47.69 170 39.92		Fl R 3s	3	3	Red □ Red pile beacon	Ra refl
4368.8	No. 17 - Off Pulling Point	45 47.75 170 39.39		F G	3	3	Green △ Green pile beacon	Ra refl Neon ▯ Tripod
4368.9	No. 18	45 47.89 170 39.47		Fl(2)R 5s	3	3	Red □ Red pile beacon	Ra refl
4368.95	No. 18A	45 47.99 170 39.04		Oc R 4s	3	3	Red □ Red pile beacon	Ra refl
4369	No. 19 - Off Acheron Head	45 47.89 170 38.74		F G	3	3	Green △ Green pile beacon	Ra refl Neon ▯ Tripod
4369.1	No. 19A	45 47.90 170 38.47		Fl(3)G 6s	3	3	Green △ Green pile beacon	Ra refl
4369.2	No. 20	45 48.04 170 38.50		Fl(3)R 6s	3	3	Red □ Red pile beacon	Ra refl
4369.22	No. 20A	45 48.11 170 38.30		Fl R 3s	3	3	Red □ Red pile beacon	Ra refl Tripod
4369.5	No. 21	45 47.93 170 38.33		Fl G 3s	3	3	Green △ Green pile beacon	Ra refl
4369.52	No. 21A	45 48.00 170 38.14		F G	3	3	Green △ Green pile beacon	Ra refl Neon ▯
4369.6	No. 22	45 48.20 170 38.14		Fl(2)R 4s	3	3	Red □ Red pile beacon	Ra refl
4369.7	No. 23 Ldg Lts 012° 30'. Front	45 48.08 170 38.00		Oc G 4s	3	3	Green △ Green pile beacon	*ec 1, fl 3* Ra refl
4369.71	Deborah Bay Ldg Lts Rear	45 47.81 170 38.08		Q W	3	3	Black and white horizontal stripes, pile beacon	*fl 0.5, ec 0.5*
4369.8	No. 24	45 48.30 170 38.01		Fl R 3s	4	3	Red □ Red pile beacon	Ra refl
4369.82	No. 24A	45 48.48 170 37.95		Fl(2)R 4s	4	3	Red □ Red pile beacon	Ra refl
4369.83	No. 25 - Off Rocky Point	45 48.27 170 37.79		F G	3	6	Green △ Green pile beacon 3	Ra refl Neon ▯ Tripod
	Dir Lt			*By day*		2		F R 345°-350° (5°) F Y 350°-355° (5°)
4369.84		45 48.49 170 37.59		Fl(2)G 5s	2	2	Green pile beacon 2	*fl 0.5, ec 0.5, fl 0.5, ec 3.5*
4369.85	Boiler Point	45 48.49 170 37.62		Fl R 3s	3	2	Red pile beacon 3	
4369.86	Multi Purpose Berth. N end	45 48.51 170 37.70		Fl G	5		Beacon	
4370	No. 26	45 48.63 170 38.01		Fl R 3s	3	1	Red □ Red pile beacon	Ra refl
	Port Chalmers							
4370.2	No. 27	45 48.49 170 37.70		Oc G 10s	3	1	Green pile beacon	*ec 2.5, fl 7.5*
4370.25	Container Terminal Wharf. NE end	45 48.73 170 37.59		4 F W(hor)			Beacon	
4370.26	Ldg Lts 191° 30'. Front	45 48.87 170 37.72		F Bu	15	2	White pole 15	
4370.261	Ldg Lts Rear	45 48.94 170 37.70		F Bu	15	2	White pole 15	
4370.27	Beach Street Wharf. E end	45 48.83 170 37.75		F G			Beacon	Neon ▯
4370.3	No. 28	45 48.81 170 37.99		Fl(2)R 4s	3	3	Red □ Red pile beacon	Ra refl
4370.74	No. 29	45 48.99 170 37.80		F G	3	3	Green △ Green pile beacon	Neon ▯
4370.9	No. 30	45 49.06 170 37.98		Fl R 3s	3	1	Red □ Red pile beacon	Ra refl

South Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4371		45 49.16 170 37.75		VQ(3)W 5s	3	1	Black ⊕ Black, yellow and black horizontal stripes, pile beacon 3	Wharf - SE corner
4371.5		45 49.20 170 37.61		VQ(6) + LFl W 15s	3	1	Black ⊻ Yellow and black horizontal stripes, pile beacon 3	Ra refl Wharf - off SW corner
4372	No. 32 Ldg Lts 028° 20'. Front	45 49.24 170 37.92		Q(2)R 4s	3	1	Red □ Red and white horizontal stripes, pile beacon	Ra refl
4372.1	Ldg Lts Rear	45 49.16 170 37.98		Q R	3	1	Red pile beacon	
4372.2	Halfway Islands Passage Ldg Lts 044° 43'. Front	45 49.38 170 37.94		Fl(2)Y 4s	3	1	White △ Black pile beacon	
4372.21	Halfway Islands Passage Ldg Lts Rear	45 49.30 170 38.05		Q Y	3	1	White ▽ Black pile beacon	
	Upper Harbour							
4372.4	No. 2A Ldg Lts 208° 20'. Front	45 49.82 170 37.47		Fl(2)R 4s	3	1	Red pile beacon	Double pile
4372.5	Ldg Lts Rear	45 49.86 170 37.44		Q R	3	1	White pile beacon	100m from front.
4373	Goat Island No. 1	45 49.56 170 37.62		Q G	3	1	Pile beacon	
4373.2	No. 2 Quarantine Island/Kamau Taurua	45 49.61 170 37.69		Q R	3	2	Pile beacon	
4373.25	No. 33	45 49.44 170 37.71		Fl(3)G 6s	3	3	Green △ Green wooden pile beacon 3	*(fl 0.5, ec 0.5) x 2, fl 0.5, ec 3.5*
4373.3	No. 3	45 49.71 170 37.23		Fl(2)G 5s	3	1	Green △ Green pile beacon	
4373.4	No. 4	45 49.81 170 37.25		Fl(2)R 5s	3	1	Red □ Red pile beacon	
4373.44	No. 5	45 49.74 170 36.87		Q G	3	1	Green △ Green pile beacon	
4373.6	No. 6	45 49.83 170 36.88		Q R	3	1	Red □ Red pile beacon	
4373.7	No. 7	45 49.77 170 36.51		Fl(2)G 5s	3	1	Green △ Green pile beacon	
4373.8	No. 8	45 49.86 170 36.54		Fl(2)R 5s	3	1	Red □ Red pile beacon	
4373.9	No. 8A	45 49.90 170 36.32		Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374	Kilgours Point. No. 9	45 49.88 170 36.15		Fl(3)G 6s	3	1	Green △ Green pile beacon	
	Victoria Channel							
4374.1	No. 11	45 50.00 170 35.82		Q G	3	1	Green △ Green pile beacon	
4374.12	No. 12	45 50.06 170 35.87		Q R	3	1	Red □ Red pile beacon	F R lights on radio masts 3.1 M SSW
4374.125	No. 13	45 50.04 170 35.72		Fl(2)G 5s	3	1	Green △ Green pile beacon	
4374.13	No. 15	45 50.07 170 35.62		Fl(3)G 6s	3	1	Green △ Green pile beacon	
4374.14	No. 16	45 50.14 170 35.66		Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.16	No. 17	45 50.12 170 35.52		Q G	3	1	Green △ Green pile beacon	
4374.18	No. 18	45 50.20 170 35.54		Q R	3	1	Red □ Red pile beacon	
4374.2	No. 19	45 50.17 170 35.44		Iso G 4s	3	1	Green △ Green pile beacon	
4374.22	No. 20	45 50.29 170 35.45		Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.24	No. 21	45 50.25 170 35.36		Fl(2)G 5s	3	1	Green △ Green pile beacon	

South Island

Int. K No. (1)	Location - Name (2)	Lat Long S E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4374.26	No. 22	45 50.40 170 35.37	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.28	No. 23	45 50.38 170 35.28	Fl(3)G 6s	3	1	Green △ Green pile beacon	
4374.29	No. 24	45 50.49 170 35.32	Q R	3	1	Red □ Red pile beacon	
4374.3	No. 25	45 50.47 170 35.23	Q G	3	1	Green △ Green pile beacon	
4374.31	No. 26	45 50.67 170 35.24	Fl(2)R 5s	3	1	Red □ Red pile beacon	Double pile
4374.32	No. 27	45 50.65 170 35.16	Fl(2)G 5s	3	1	Green △ Green pile beacon	Double pile
4374.33	No. 28	45 50.83 170 35.15	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.34	No. 29	45 50.80 170 35.08	Fl(3)G 6s	3	1	Green △ Green pile beacon	
4374.36	No. 30	45 51.01 170 35.03	Q R	3	1	Red □ Red pile beacon	
4374.38	No. 31	45 50.98 170 34.96	Q G	3	1	Green △ Green pile beacon	
4374.39	No. 32	45 51.16 170 34.91	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.395	No. 33	45 51.13 170 34.83	Fl(2)G 5s	3	1	Green △ Green pile beacon	
4374.4	No. 34	45 51.28 170 34.81	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.42	No. 35	45 51.25 170 34.74	Fl(3)G 6s	3	1	Green △ Green pile beacon	
4374.43	No. 36	45 51.41 170 34.70	Q R	3	1	Red □ Red pile beacon	
4374.44	No. 37	45 51.38 170 34.63	Q G	3	1	Green △ Green pile beacon	
4374.45	Beacon at Burkes	45 51.36 170 34.58	Fl Y	2		Yellow X Yellow pile beacon	
4374.46	No. 38	45 51.53 170 34.59	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.47	No. 39	45 51.49 170 34.52	Fl(2)G 5s	3	1	Green △ Green pile beacon	
4374.48	No. 40	45 51.70 170 34.43	Fl(3)R 6s	3	1	Red □ Red and white horizontal stripes, pile beacon	Marks telegraph cable
4374.5	No. 41	45 51.66 170 34.34	Fl(3)G 6s	3	1	Green △ Green and white horizontal stripes, pile beacon	Marks telegraph cable
4374.52	No. 42	45 51.85 170 34.21	Q R	3	1	Red □ Red pile beacon	Double pile
4374.54	No. 43	45 51.80 170 34.13	Q G	3	1	Green △ Green pile beacon	Double pile
4374.55	No. 44	45 51.95 170 33.99	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.56	No. 45	45 51.89 170 33.94	Fl(2)G 5s	3	1	Green △ Green pile beacon	
4374.58	No. 46	45 52.03 170 33.78	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.6	No. 47	45 51.97 170 33.74	Fl(3)G 6s	3	1	Green △ Green pile beacon	
4374.61	No. 48	45 52.08 170 33.63	Q R	3	1	Red □ Red pile beacon	
4374.615	No. 49	45 52.02 170 33.60	Q G	3	1	Green △ Green pile beacon	
4374.62	No. 50	45 52.11 170 33.50	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.64	No. 51	45 52.06 170 33.45	Fl(2)G 5s	3	1	Green △ Green pile beacon	
4374.65	No. 52	45 52.16 170 33.33	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.655	No. 53	45 52.11 170 33.29	Fl(3)G 6s	3	1	Green △ Green pile beacon	

South Island

Int. K No. (1)	Location - Name (2)	Lat S Long E (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4374.66	No. 54	45 52.21 170 33.12	Q R	3	1	Red □ Red pile beacon	
4374.68	No. 55	45 52.16 170 33.07	Q G	3	1	Green △ Green pile beacon	Double pile
4374.7	No. 56	45 52.26 170 32.88	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.72	No. 57	45 52.19 170 32.84	Fl(2)G 5s	3	1	Green △ Green pile beacon	
4374.725	Ravensbourne Wharf. E end	45 52.22 170 32.69	F G	3	1	Beacon	Neon
4374.73	Centre	45 52.24 170 32.63	2 F G(vert)	3	1	Beacon	
4374.735	W end	45 52.25 170 32.57	F G	3	1	Beacon	Neon
4374.74	No. 58	45 52.35 170 32.43	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.76	No. 59	45 52.29 170 32.41	Fl(3)G 6s	3	1	Green △ Green pile beacon	
4374.77	No. 60	45 52.40 170 32.21	Q R	3	1	Red □ Red pile beacon	
4374.78	No. 61	45 52.35 170 32.19	Q G	3	1	Green △ Green pile beacon	
4374.8	No. 62	45 52.45 170 31.98	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.82	No. 63	45 52.40 170 31.96	Fl(2)G 5s	3	1	Green △ Green pile beacon	
4374.83	No. 64	45 52.50 170 31.76	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4374.84	No. 66	45 52.54 170 31.58	Q R	3	1	Red □ Red pile beacon	
4374.86	No. 67	45 52.47 170 31.65	Q G	3	1	Green △ Green pile beacon	
4374.88	No. 68	45 52.58 170 31.41	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4374.9	LPG Wharf - E	45 52.45 170 31.54	F G	2	1		Neon On E dolphin
4374.91	Leith Wharf. Head	45 52.43 170 31.43	F G	3	1	Beacon	Neon E end, side of pumphouse
4374.96	Oil Jetty. Head	45 52.47 170 31.28	2 F G(vert)	9		Beacon 5	
	Dunedin						
4374.98	No. 70	45 52.61 170 31.27	Fl(3)R 6s	3	1	Red □ Red pile beacon	Temporarily removed. Temporarily removed.
4375	No. 72	45 52.65 170 31.15	Q R	3	1	Red □ Red pile beacon	
4375.02	No. 74	45 52.74 170 30.97	Fl(2)R 5s	3	1	Red □ Red pile beacon	
4375.1	No. 76	45 52.85 170 30.76	Fl(3)R 6s	3	1	Red □ Red pile beacon	
4375.2	Rattray Street Wharf. E end	45 52.72 170 30.79	2 F G(vert)	17	1	Beacon	Shed
4375.5	Birch Street Wharf. E end	45 52.84 170 30.66	F G			Beacon	
4376	Cape Saunders S end (M)	45 52.83 170 43.70	LFl W 10s	58	10	White metal tower 4	*fl 2, ec 8* W (Obscured) 064°- 072° (8°) W (Obscured) 181.5°- 254° (72.5°) W 254°-064° (170°)
4380	Nugget Point. E end (M)	46 26.90 169 49.08	LFl(2)W 12s	75	14	White masonry tower 9	*fl 2, ec 2, fl 2, ec 6*
4381	Tautuku Peninsula (M)	46 36.70 169 26.28	Fl(3)W 15s	32	8	White metal tower 4	*(fl 0.5, ec 1.5) x 2, fl 0.5, ec 10.5*
4382	Slope Point (M)	46 40.44 169 00.07	Fl W 5s	33	8	White metal tower 3	*fl 1, ec 4* W 268°-098° (190°) Round.
4384	Waipapa Point (M)	46 39.59 168 50.84	Fl(5)W 20s	21	9	White wooden tower 13	*(fl 1, ec 1) x 4, fl 1, ec 11*
4387	Bushy Point (M)	46 36.38 168 31.07	Fl(2)W 15s	7	8	White metal tower 4	*fl 1, ec 2, fl 1, ec 11*

South Island

Int. K No. (1)	Location - Name (2)	Lat Long (3)	S E	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
	Stewart Island / Rakiura							
4388	Ackers Point (M)	46 53.74 168 09.81		Fl(3)WR 10s	20	W7 R4	White metal tower 5	*(fl 0.5, ec 1.5) x 2, fl 0.5, ec 5.5* W (Partially obscured) 020°-106° (86°) partially obscured by land W 106°-251.7° (145.7°) R 251.7°-257° (5.3°) W 257°-020° (123°)
4389	Halfmoon Bay	46 53.83 168 08.14		Fl R 5s	2	5	Red □ Red metal pile beacon	
4394	**Dog Island** (M)	46 39.11 168 24.63		Fl W 10s	46	**19**	White and black horizontal stripes, masonry tower 37	*fl 0.1, ec 9.9* Round.
	Reserve light					10		
	Bluff Harbour							
4397	Bluff Harbour Entrance	46 37.47 168 20.55		Fl WR 3s	19	W11 R8	White △ White wooden tower 6	*fl 1, ec 2* R 253°-342° (89°) W 342°-070° (88°)
4398	Stirling Point	46 36.72 168 21.60		F R	11	6	Beacon 7	On old signal station roof
4400	No. 1 Reach. Ldg Lts 031°. Front	46 36.20 168 22.40		F G *By day*	6	10 2	White metal lattice beacon 4	Neon □ Pyramid tower Neon □
4400.1	No. 1 Reach. Rear	46 35.69 168 22.85		F G *By day*	12	12 3	White metal lattice beacon 12	Neon □ Pyramid tower Neon □
4402	No. 2 Reach. Ldg Lts 351°. Front	46 36.03 168 21.65		F R	6	4	White tower	Neon □ Triangular structure
4402.1	No. 2 Reach. Rear	46 35.92 168 21.63		F R	8	4	White beacon	Neon □ Triangular structure
4404	Inner Davey Ldg Lts 133° 25'. Front	46 36.34 168 21.87		Q W	3	5	White lattice beacon	*fl 0.3, ec 0.7* structure on black dolphin
4404.1	Rear. Outer Davey Beacon	46 36.43 168 22.01		Iso W 2s	6	5	White lattice beacon	structure on black dolphin
4405	No. 3 Reach. Ldg Lts 313° 25'. Front	46 35.52 168 20.61		Iso G 2s	7	5	White tower	*fl 0.5, ec 1.5* on pile beacon
4405.1	No. 3 Reach. Rear	46 35.39 168 20.41		Fl W 1.5s	12	5	White metal tower	*fl 0.5, ec 1* W 223.5°-043.5° (180°)
4406	No. 1	46 36.18 168 21.71		Fl G 3s	3	2	Green △ Green pile beacon	*fl 0.5, ec 2.5*
4407	Channel Rocks Beacon	46 36.15 168 21.51		Fl R 2s	7	3	Red pile beacon	*fl 0.7, ec 1.3*
4408	No. 2	46 36.04 168 21.49		Fl(2)G 3s	5	2	Green pile beacon	*fl 0.3, ec 0.7, fl 0.3, ec 1.7*
4410	Argyle Beacon	46 36.06 168 21.36		Q(2)R 5s	5	3	Red □ Red pile beacon	*fl 0.3, ec 0.7, fl 0.3, ec 3.7*
4411	Tidal Beacon	46 35.95 168 21.19		Q R	6	2	Red pile beacon	*fl 0.3, ec 0.7*
4413	No. 3	46 35.85 168 21.20		Fl(3)G 6s	6	3	Green pile beacon	*(fl 0.5, ec 1) x 2, fl 0.5, ec 2.5*
4415	No. 4	46 35.67 168 21.19		Q G	3	2	Green pile beacon	*fl 0.3, ec 0.7*
4424	Ldg Lts 279° 01'. Front	46 35.52 168 19.93		F G	10		White ▽ White beacon	Neon □
4424.1	Ldg Lts Rear	46 35.52 168 19.91		F G	11		White ▽ White beacon	Neon □
4427	Flat Hill Wind Farm	46 35.06 168 17.06		Aero Fl R			Metal windmotor 44	More than one
	Riverton / Aparima							
4432	Howells Point/Taramea	46 23.05 168 01.82		Fl WR 5s	28	W9 R6	White column 4	*fl 1, ec 4* R 009.5°-098° (88.5°) W 185°-298° (113°) R 298°-317° (19°) W 317°-009.5° (52.5°)
4433	Jacobs River Estuary No. 1 Reach Lights Ldg Lts 307° 12'. Front	46 21.33 168 01.53		F G	5	2	White △ White beacon 3	Neon □
4433.1	Jacobs River Estuary No. 1 Reach Lights Rear	46 21.33 168 01.53		F R	5	2	White ▽ White beacon 3	Neon □

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4434	Jacobs River Estuary No. 2 Reach Ldg Lts 249° 26'. Front	46 21.62 168 01.31		F R	3	2	White △ White and red horizontal stripes, beacon 3	Neon ▯
4434.1	Jacobs River Estuary No. 2 Reach Leading Lights Rear	46 21.62 168 01.31		F G	3	2	Red ▽ White and red horizontal stripes, beacon 3	Neon ▯
4435	The Pearl	46 21.48 168 01.09		Q R	3	2	Grey beacon 3	
	Foveaux Strait							
4438	**Raratoka Island (Centre Island) S end** (M) Reserve light Reserve light	46 27.59 167 50.65		Fl WR 15s	81	**W19** **R15** 10 7	White wooden tower 12	*fl 0.1, ec 14.9* R 114°-141° (27°) R 191°-299° (108°) W 299°-114° (175°) Standby light
4440	Long Point (M)	46 15.35 167 06.44		Fl(4)W 15s	23	12	Metal tower 4	*(fl 1, ec 1) x 3, fl 1, ec 8* Aluminium.
4442	**Puysegur Point** (M) Reserve light	46 09.37 166 36.57		Fl W 12s	45	**19** 10	White metal tower 5	*fl 0.1, ec 11.9*
4444	Cape Providence (M)	45 59.92 166 27.10		Fl W 5s	60	9	White fibreglass tower 4	*fl 1, ec 4*
	Fiordland							
4446	Five Fingers Point (M)	45 43.81 166 27.61		Fl(3)W 20s	166	9	Metal tower 9	*(fl 1, ec 1) x 2, fl 1, ec 15* Framework.
4452	Secretary Island. SW Point (M)	45 13.48 166 52.41		Fl(2)W 15s	52	9	Metal 2	*fl 1, ec 2, fl 1, ec 11* W 007°-207° (200°) W (Obscured) 207°- 216° (9°) W (Obscured) 333°- 007° (34°) Aluminium pedestal.
	Milford Sound / Piopiotahi							
4464	Saint Anne Point (M)	44 34.38 167 46.87		Fl W 5s	27	8	White tower 6	*fl 1, ec 4* W (Obscured) 054°- 071° (17°) W 071°-316° (245°) W (Obscured) 316°- 343° (27°)
4464.5	Harrison Cove. Underwater Observatory	44 37.70 167 54.26		Q R			Beacon	
4465	Deep Water Basin (M)	44 40.69 167 54.83		Q(2)W 5s	2	5	Grey metal pile beacon 3	*fl 0.3, ec 0.7, fl 0.3, ec 3.7*
4465.2	No.6	44 40.66 167 54.86		Fl R 4s	2	1	Red □ Red pile beacon 6	*fl 0.3, ec 3.7*
4465.5	Fresh Water Basin. Breakwater Head	44 40.07 167 55.52		2 F G(vert)	5	1	White metal pole 3	1m apart
	Jackson Bay / Okahu							
4466	Jackson Head (M)	43 57.61 168 37.34		Q(2)W 15s	155	9	White metal tower 4	*fl 0.5, ec 0.5, fl 0.5, ec 13.5* W (Obscured) 063°- 091° (28°) W 091°-063° (332°)
4468	Heretaniwha Point (M)	43 35.33 169 33.36		Q(3)W 10s	77	9	White fibreglass tower	*(fl 0.5, ec 0.5) x 2, fl 0.5, ec 7.5*
	Greymouth Harbour							
4470	South Breakwater	42 26.40 171 11.43		LFl W 10s	17	9	White wooden pole	*fl 3.5, ec 6.5* W 016°-196° (180°) F R lights on radio mast 20 M SSW. W (Partially obscured) 196°-238° (42°) F R lights on radio mast 20 M SSW. 47 m from head
4472	South Breakwater	42 26.40 171 11.41		F G	11	3	White concrete column	32 m from head
4473	North Breakwater. Head.	42 26.32 171 11.50		F R	11	3	White concrete column	

South Island

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4475	Main Ldg Lts 128° 06'. Front	42 26.77 171 12.13		F GR	14		Yellow △, black diamond on each side. Tower 14	Neon □. Fixed red Neon □ on each side,(in line with rear light each side indicates limits of channel.) Channel liable to change. Richmond Quay.
4475.1	Main Leading Rear Light	42 26.82 171 12.22		F G	19		White △ Tower 19	Neon □ conspicuous from south west.
4476	Tidal Wall	42 26.50 171 11.75		Q R	5	3	Metal pile beacon 3	27 m from head
4478	Main Wharf. Head	42 26.72 171 12.02		Fl(2+1)G 6s	5	1	Green and red horizontal stripes, wooden pile beacon 2	*fl 0.3, ec 0.4, fl 0.3, ec 1.2, fl 0.3, ec 3.5*
	Westport and Buller River							
4486	Cape Foulwind (M)	41 44.95 171 27.93		Fl W 12s	70	9	White concrete tower 9	*fl 1.2, ec 10.8*
4490	Western Breakwater	41 43.80 171 35.25		Fl W 5s	20	6	Red and white horizontal stripes, tower	*fl 1, ec 4* Square
4491	Western Breakwater Head Light	41 43.66 171 35.22		Fl G 2s	9	5	Green and white horizontal stripes, tower 5	*fl 0.5, ec 1.5* Round. Green band at top.
4492	Eastern Breakwater Head Light	41 43.64 171 35.36		Fl R 2s	9	5	Red and white horizontal stripes, tower 5	*fl 0.5, ec 1.5* Round. Red band at top.
4494	Outer Ldg Lts 165° 35'. Front	41 44.21 171 35.49		F G	10		Yellow □, yellow fluorescent reflective panels. Red X, metal pile beacon 6	Neon □ Steel column with yellow fluorescent reflective panels. Channel liable to change.
4494.1	Outer Leading Rear Light	41 44.38 171 35.55		F G	15		Orange □, orange fluorescent reflective rectangular panels Red ◇, Red and white vertical stripes lattice beacon 11	Neon □. 360m from front. Rectangular
4496	Inner Ldg Lts 169° 42'. Front	41 44.84 171 35.57		Q R	4		Red and white horizontal stripes, beacon	
4496.1	Inner Leading Rear Light	41 44.95 171 35.60		LFl R 5s	7		Red and white horizontal stripes, beacon 2	*fl 2, ec 3*
4496.5	East Limit Transit Beacon	41 44.23 171 35.50		F R	11		Black and white horizontal stripes, pole	Neon □
4496.6	Broad East Pole	41 44.23 171 35.50		F Bu	11		Black and white horizontal stripes, pole	Neon □
4497	Horse Box	41 44.26 171 35.38		Q(3)G 5s	6		Black and white horizontal stripes, metal tower 6	*fl 0.5, ec 4.5* Tripod
4499	Crane Wharf Head	41 44.72 171 35.67		F R	5	1	Beacon	R 105°-160° (55°)
4506	Kahurangi Point (M)	40 46.57 172 13.06		Fl(2)W 15s	46	9	White metal tower 18	*fl 1, ec 2, fl 1, ec 11*

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Chatham Island

Int. K No. (1)	Location - Name (2)	Lat S Long W (3)	Characteristics (4)	Elevation metres (5)	Range miles (6)	Structure Height in metres (7)	Remarks (8)
4541	Point Durham (M)	44 00.63 176 40.51	Fl W 10s	38	9	Metal tower 4	*fl 1, ec 9* W (Obscured) 006.6°- 008.3° (1.7°) W 008.3°-227° (218.7°) W (Obscured) 227°- 237° (10°) W (Obscured) 330.2°- 350.6° (20.4°) W 350.6°-006.6° (16°) Aluminium.
4543	Point Weeding	43 56.60 176 34.31	Fl W 5s	60	7	Metal pile beacon 3	*fl 0.5, ec 4.5* Lights also shown at Point Hanson Jetty 0.55M E. Column **TE 2023**
4544	Hospital Road Sector light - Waitangi	43 57.20 176 33.51	F WRG	15	8	Brown wooden pole 2	G 163°-183° (20°) W 183°-195° (12°) R 195°-215° (20°)
4544.5	Waitangi Wharf Lead Ldg Lts 259° 40'. Front	43 56.78 176 33.60	F Y	8	10	Yellow △ White concrete pole 8	
4544.51	Waitangi Wharf Lead Ldg Lts Rear	43 56.79 176 33.70	F Y	14	10	Yellow ▽ Brown wooden, concrete pole 14	
4544.6	Waitangi Wharf Breakwater Trunk	43 56.72 176 33.58	Fl W 5s	6	3	Brown wooden pole 2	*fl 2, ec 3* W 212°-303° (91°) W (Obscured) 303°- 212° (269°)
4545	Point Somes (M)	43 50.36 176 52.58	Fl(4)W 15s	39	9	Metal tower 4	*(fl 0.5, ec 1.5) x 3, fl 0.5, ec 8.5* Aluminium.
4547	Kaingaroa (Pukerakei) (M)	43 44.13 176 14.43	Fl(3)W 20s	60	9	Metal tower 4	*(fl 1, ec 1) x 2, fl 1, ec 15* Aluminium.
4547.4	Kaingaroa Ldg Lts 170° 06'. Front	43 44.19 176 15.40	Q G	20		White △ White and orange vertical stripes, beacon 4	
4547.41	Kaingaroa Leading Light Rear	43 44.22 176 15.39	Iso G 3s	24		White ▽ White and orange vertical stripes, pile beacon 4	
4547.7	Owenga. Ldg Lts 142° 10'. Front	44 01.51 176 21.93	Q G	12		White △ Lattice beacon 2	
4547.71	Owenga. Rear	44 01.53 176 21.91	Iso G 4s	17		White ▽ Lattice beacon 4	
4549	Cape Fournier (M)	44 03.11 176 19.89	Fl(2)W 15s	122	9	Metal tower 4	*fl 1, ec 2, fl 1, ec 11* Aluminium.

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1 New Zealand Charting and Notices to Mariners

Former *Annual New Zealand Notice to Mariners, No. 1*, published 1 July 2023 and associated changes from NtM Ed 25/23 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authority: Toitū Te Whenua Land Information New Zealand

General Information

1. In accordance with agreements between New Zealand, Australia (AUS) and the British Admiralty (BA) for reducing duplication in charting activities, New Zealand has a defined Charting Area (NZ AREA) the extent of which is shown at the end of this Notice.

2. New Zealand Notices to Mariners (NTMs), are published by Toitū Te Whenua Land Information New Zealand (Toitū Te Whenua LINZ), the New Zealand Hydrographic Authority. There are two main types of NTMs: Annual Notices and fortnightly Notices;

   (a) Annual NTMs (ANTMs) are numbered 1–19 and are published in July as part of the New Zealand Nautical Almanac (NZ 204). They provide important safety critical information for mariners and are updated by fortnightly NTMs.

   (b) Fortnightly NTMs are numbered sequentially following on from the highest numbered ANTM annually and are the authority for correcting New Zealand nautical charts and publications. For more details on the content of this service see the NTM section on the Toitū Te Whenua LINZ website www.linz.govt.nz/products-services/maritime-safety.

3. Fortnightly NTMs can be obtained electronically from Toitū Te Whenua LINZ;

   (a) Via www.linz.govt.nz/products-services/maritime-safety/notices-mariners where current and previous notices can be viewed and downloaded in PDF format; or

   (b) By subscribing to the NTMs email distribution service via www.charts.linz.govt.nz/notices-mariners/subscribe

4. Mariners are requested to notify Toitū Te Whenua LINZ immediately when new or suspected dangers to navigation are discovered or of any shortcomings in charts and publications:

   Toitū Te Whenua Land Information New Zealand
   New Zealand Hydrographic Authority
   Radio New Zealand House
   155 The Terrace
   PO Box 5501
   Wellington 6145
   New Zealand

   Free phone (NZ): 0800 665 463
   Phone: +64 4 460 0110
   Email: ntm@linz.govt.nz

   A reporting form (Hydrographic Note) can be found at the back of the New Zealand Nautical Almanac (NZ 204) and each fortnightly NTM edition. This form is also available online at www.linz.govt.nz/products-services/maritime-safety/safety-sea/report-hazard-navigation-hydrographic-note for download or it can be completed and submitted via the website.

5. Changes to or defects in aids to navigation should be reported via the nearest coast radio station to:

   24-hour Emergency Phone (NZ): 0508 472 269
   Phone (INT): +64 4 577 8030
   Fax: +64 4 577 8038
   Email: rccnz@maritimenz.govt.nz
   Inmarsat-C (POR): 451 200 067

International Chart Series

6. The New Zealand Hydrographic Authority publishes International Charts within the NZ Area which provides the mariner with worldwide coverage to a uniform specification. As part of this series New Zealand has 26 charts covering its adjacent oceans and seas.

   This chart series is available for reprinting by Member States of the International Hydrographic Organization (IHO), with a minimum of modification. Each chart has an international number with the prefix INT, but may also bear a national number allocated by the producer or printer nation to facilitate identification in the national series.

International charts are maintained by NTMs and IHO Member States have undertaken to repeat notices affecting their international charts. Mariners can therefore correct charts from the NTMs of the producer or printer nation concerned.

7. **Selected Nautical Publications**

Publisher	Title	Obtainable from
Toitū Te Whenua Land Information New Zealand (Toitū Te Whenua LINZ) www.linz.govt.nz	Charts of New Zealand and adjacent waters	Chart retailers
	New Zealand Tidal Stream Atlas (NZ 206)	Chart retailers
	New Zealand Chart Catalogue	Toitū Te Whenua LINZ website
	New Zealand Nautical Almanac (NZ 204*)* *(*including *Annual New Zealand Notices to Mariners)*	Chart retailers Book retailers Selected content available from Toitū Te Whenua LINZ website
	New Zealand Notices to Mariners, fortnightly edition (for correcting charts and publications)	Toitū Te Whenua LINZ website Maritime New Zealand Maritime Safety Inspectors Chart retailers
UK Hydrographic Office www.admiralty.co.uk	*ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51), Edition 19, 2015	Admiralty Chart agent UKHO website
	The Mariner's Handbook (NP100), Edition 12, 2021	
	How to Keep Your ADMIRALTY Charts Up-To-Date (NP294), Edition 10, 2017	
	Symbols And Abbreviations Used on ADMIRALTY Charts. Chart NP5011 (INT 1), Edition 8, 2021	
	Guide to ENC Symbols used in ECDIS (NP5012), Edition 2, 2015	
Maritime New Zealand (MNZ) www.maritimenz.govt.nz	*New Zealand's System of Buoys and Beacons* – Revision 2008	Maritime New Zealand MNZ website
	Distress Beacons Save Lives – Revision 2013	
	Radio Handbook – Your Guide to Marine Communication – 2016	
Coastguard Boating Education www.boatingeducation.org.nz	*Safety in Small Craft,* Revised Edition 2021	Boat Books Some chart retailers and chandleries
	Rules of the Road at Sea, 10th Edition, 2018	

Charts and Publications

8. Should you have difficulty in obtaining any charts or publications contact:

Toitū Te Whenua Land Information New Zealand
New Zealand Hydrographic Authority
Radio New Zealand House
155 The Terrace
PO Box 5501
Wellington 6145
New Zealand
Free phone (NZ): 0800 665 463
Phone: +64 4 460 0110
Email: hydro@linz.govt.nz

Maritime New Zealand
PO Box 25620
Wellington 6146
New Zealand
Free phone (NZ): 0508 22 55 22
Phone: +64 4 473 0111
Fax: +64 4 494 1263
Email: enquiries@maritimenz.govt.nz

Legal Status – Use of Charts and Publications

9. For compliance with New Zealand legal requirements for nautical charts and publications please refer to *Maritime Rules Part 25*, available from www.maritimenz.govt.nz/rules/all-rules/

10. When used in an IMO compliant ECDIS, New Zealand ENCs will allow vessels navigating in New Zealand to meet the strict chart carriage requirements of the *International Convention for Safety of Life at Sea, 1974,* (SOLAS), Chapter V (IMO) and *Maritime Rules Part 25: Nautical Charts and Publications* (MNZ).

Official Paper Charts

11. Toitū Te Whenua LINZ produces official nautical charts to aid safe navigation in New Zealand waters and certain areas of Antarctica and the South West Pacific. Using charts safely involves keeping them up-to-date using NTMs.

12. Official nautical charts are available for purchase from approved chart retailers. Contact details for all chart retailers are available from www.linz.govt.nz/products-services/charts/where-find-charts.

    A full list of all Permanent, Temporary and Preliminary notices affecting any given chart can be found using the *New Zealand Chart Catalogue* online database, see paragraph 13 below.

New Zealand Chart Catalogue

13. The online *New Zealand Chart Catalogue* allows mariners to search for all New Zealand ENCs or paper charts by region or chart name/number. The *Chart Catalogue* spatial view is located at www.charts.linz.govt.nz/charts/spatial-viewer. The *Chart Catalogue* list views are located at www.charts.linz.govt.nz/charts.

Official Electronic Navigational Charts (ENCs)

Mariners are strongly advised to read the latest version of the IHO publication S-66 – *Facts about Electronic Charts and Carriage Requirements,* which can be downloaded from www.iho.int.

14. ENCs are specifically designed for use in ECDIS onboard ships. As the New Zealand Hydrographic Authority, Toitū Te Whenua LINZ is responsible for creating and maintaining the official set of ENCs for the New Zealand area of charting responsibility (NZ Area). The NZ Area includes the South West Pacific, New Zealand home waters and the Ross Sea region in Antarctica – see the Area of New Zealand Charting and Coverage of Notices to Mariners map at the end of this notice.

15. The ENC readme.txt file located within the ENC exchange set contains **Important Safety Related Information**. This file should be consulted to ensure that all related issues are taken into consideration.

16. NZ ENCs within the NZ Area are available free-of-charge to mariners by subscribing to the Toitū Te Whenua LINZ NZ ENC Service www.encservice.linz.govt.nz/.

    NZ ENCs are also available from chart retailers through the International Centre for ENCs (IC-ENC) www.ic-enc.org and PRIMAR global distribution network www.primar.org. For more information see www.linz.govt.nz/products-services/charts.

    The release of all new Toitū Te Whenua LINZ ENCs is promulgated through the fortnightly editions of *New Zealand Notices to Mariners* (NTMs). ENC updates are issued for NTMs where appropriate.

17. New Zealand ENCs are official electronic charts produced in accordance with the *IHO Transfer Standard for Digital Hydrographic Data, S-57,* Edition 3.1 and protected using the international data security scheme as defined in the *IHO Data Protection Scheme, S-63,* Edition 1.2.0. They are authorised for use in International Maritime Organization (IMO) compliant ECDIS and can also be used in compatible ECS.

18. Toitū Te Whenua LINZ ENCs currently available are listed at www.linz.govt.nz/products-services/charts/nz-chart-catalogue and the IHO website: www.iho.int.

Chart Images – TIFF Images of Paper Charts

19. Toitū Te Whenua LINZ provides electronic images of New Zealand's official paper charts in high resolution TIFF format.

    Note: Toitū Te Whenua LINZ raster chart images available from www.linz.govt.nz are not geo-referenced, not to be used for navigation and are not corrected for NTMs.

20. Toitū Te Whenua LINZ's raster chart images are available at no cost for users to download via the online *Chart Catalogue*, see paragraph 11 above.

    Note: Data viewed or downloaded from the website is not equivalent to or a replacement for the Official Charts, Notices to Mariners, Tide Table, Light List and Nautical Almanac as specified in MNZ's *Maritime Rules Part 25: Nautical Charts and Publications* (pursuant to Section 36 of the *Maritime Transport Act 1994)*.

Reliance on Charts and Associated Publications

21. While every effort is made to ensure the accuracy of the information on New Zealand charts and other publications, it should be appreciated that it may not always be complete and up to date. The mariner must be the final judge of the reliance to be placed on the information given, bearing in mind their particular circumstances, the need of safe and prudent navigation, local pilotage guidance and the judicious use of available navigational aids.

The Use of Charts and Associated Publications

22. Charts should be used with prudence: there are areas where the source data are old, incomplete or of poor quality. Mariners should use the largest scale appropriate for their particular purpose; apart from being the most detailed, the larger scales are usually corrected first. When extensive new information (such as a new hydrographic survey) is received, some months may elapse before it can be fully incorporated in published charts. On small scale charts of ocean areas where hydrographic information is, in many cases, still sparse, charted shoals may be in error as regards position, least depth and extent. Undiscovered dangers may exist, particularly away from well-established routes.

Further Guidance

23. The Admiralty publication, *The Mariner's Handbook* (NP100) gives a fuller explanation of the limitations of charts. All users should study it in their own interest.

New Zealand's Area of Charting Responsibility

Free to choose, free to use

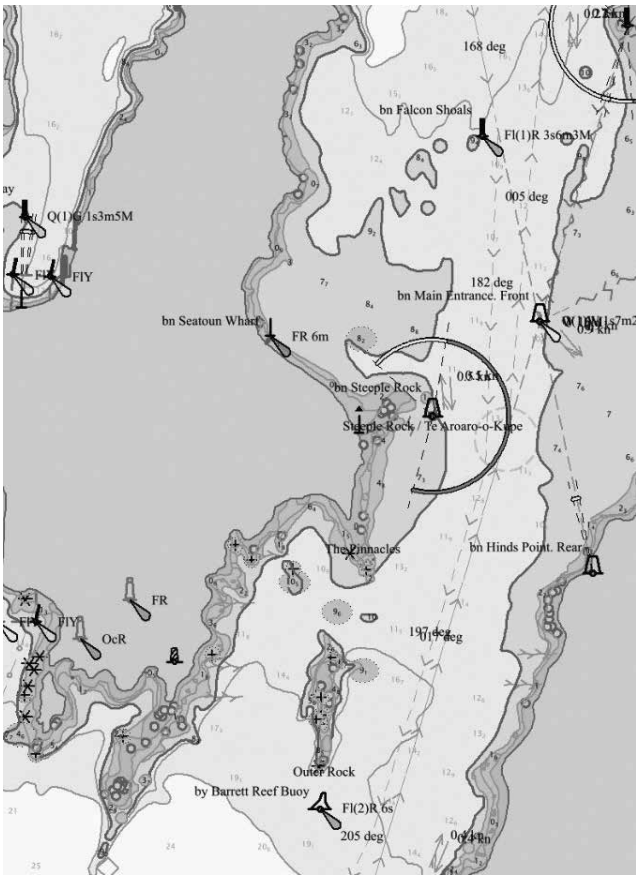
Toitū Te Whenua
Land Information
New Zealand

NZ ENC Service

Official NZ Electronic Navigational Charts

Why do I need NZ ENCs?

NZ ENCs are official electronic navigational charts published and authorised by the New Zealand Hydrographic Authority. They contain up-to-date information necessary for safe navigation in NZ waters, South West Pacific and Ross Dependency, Antarctica.



Benefits of using NZ ENCs:

- Updated fortnightly with the latest information
- Contain more information than a paper chart
- Meet Safety of Life At Sea (SOLAS) requirements

NZ ENCs allow your navigation system to:

- Select displays to show only what you need
- Trigger alarms and warnings based on your vessel's draft and preferred look-ahead requirements
- Query object for more information

Who can use NZ ENCs?

- SOLAS vessels
- State registered commercial vessels
- Recreational boaties

Free of charge for mariners

www.encservice.linz.govt.nz

Te Kāwanatanga o Aotearoa
New Zealand Government

Annual NZ NTM

2	Maritime Rules Part 25 and Chart Retailers

Former *Annual New Zealand Notice to Mariners, No. 2*, published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authorities: Toitū Te Whenua Land Information New Zealand, Maritime New Zealand

Introduction

1. Maritime New Zealand's *Maritime Rules Part 25: Nautical Charts and Publications,* ensures that New Zealand continues to meet its obligations under Chapter V Regulation 27 (Nautical charts and nautical publications) and Regulation 21 (International Code of Signals and IAMSAR Manual) of the International Maritime Organization's *International Convention for the Safety of Life at Sea, 1974,* (SOLAS).

Application

2. *Part 25* sets out the requirements for the carriage of charts and nautical publications on ships. It applies, with certain specified exceptions, to commercial vessels of 12 metres or more in length overall that operate within enclosed water limits and all commercial vessels operating outside the enclosed water limits.

   Part 25 does not apply to:

   (a) The purchase of any charts for recreational use; and

   (b) Overseas retailers of New Zealand charts.

Paper Chart Purchase

3. *Part 25* affects the purchase of charts; Rule 25.7(2A) states:

> (2A) If a paper nautical chart is published by Toitū Te Whenua Land Information New Zealand and purchased in New Zealand, that chart will only meet the requirements of this Part if that chart:
>
> (a) is certified by Toitū Te Whenua Land Information New Zealand as correct up to the date of supply to a chart retailer and is either:
>
> (i) certified by a correcting Chart retailer as correct up to the time of purchase; or
>
> (ii) purchased from a chart retailer before the publication of corrections in the Notice to Mariners that follows the certification by Toitū Te Whenua Land Information New Zealand; and
>
> (b) is maintained in a fully correct condition.

Part 25 can be viewed at www.maritimenz.govt.nz.

Correcting Chart Retailers

4. The following is a list of Correcting Chart Retailers, approved by Toitū Te Whenua LINZ to undertake paper chart corrections and sell charts in compliance with *Part 25*.

Boat Books Ltd.*
22 Westhaven Drive
Westhaven
Auckland 1010
Phone: +64 9 358 5691
Email: crew@boatbooks.co.nz
Website: www.boatbooks.co.nz

Steve's Marine Supplies Ltd.
18 Cross Road
Sulphur Point
Tauranga 3110
Phone: +64 7 578 9593
Email: info@stevesmarine.co.nz
Website: www.stevesmarine.co.nz

Trans Pacific Marine Ltd.**
2 David Sidwell Place
Stanmore Bay
Auckland 0932
Phone: +64 9 424 0997
Email: sales@transpacific.co.nz
Website: www.transpacific.co.nz

* Agents for Australian charts
** Agents for British Admiralty and Australian charts

Compliance

5. The purchase of paper charts in compliance with *Part 25* must be from:

   (a) A chart retailer who has approval from Toitū Te Whenua LINZ to undertake chart corrections; or

   (b) Any Toitū Te Whenua LINZ chart retailer who purchases the chart from the Toitū Te Whenua LINZ contracted Map and Chart Centre and supplies it to the customer before the publication of the next fortnightly edition of *New Zealand Notices to Mariners* (NTMs). The chart must be received by the customer while the NTM edition, for which the Toitū Te Whenua LINZ contracted Map and Chart Centre updated the chart, is still current.

Further Information

6. For further information see www.linz.govt.nz.

3 Official Messages to New Zealand Registered Merchant Ships

Former *Annual New Zealand Notice to Mariners, No. 3*, published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: New Zealand Defence Force (Headquarters Joint Force New Zealand)

General

1. Mariners are informed that the following series of messages will be instituted when so ordered by the Royal New Zealand Navy (RNZN): General Messages "ZLMS" Series.
2. "**ZLMS**" messages addressed to all New Zealand registered merchant ships will be lettered consecutively, commencing with "**A**", in order that masters can check that all such messages have been received.
3. Once the lettered series has been started it is most important that all such messages are received, and masters should take the necessary steps to obtain at the first opportunity any that are missing.

Communications

4. The "**ZLMS**" series of messages will be used to bring into force the particular organisation laid down in *Annual New Zealand Notice to Mariners, No. 3A*, or those instructions issued by the Admiralty which are relevant to New Zealand registered shipping.
5. Collective callsign to which general messages will be addressed is as follows:

   "**ZLMS**" – All New Zealand – registered merchant ships.
6. With the advent of the Global Maritime Distress and Safety System (GMDSS), most shipping companies utilise systems such as Inmarsat A, B, C or M or private HF systems such as Globe Wireless. While closer to the coast or in port, GSM (Global System for Mobile communications) telephones are in regular use.
7. The RNZN will utilise the GMDSS to alert merchant ships to an area of risk by issuing Navigational Warnings or may use any of the following to issue Special Notices to Merchant Ships:
   (a) Via Inmarsat-C over SafetyNET (EGC). This will be the primary means of communication.
   (b) Via Naval, Police or Customs Officers or harbour authorities for merchant ships in harbour if shut down on SafetyNET.
   (c) Via ship owners'/charterers' own communication channels.
   (d) Via radio and television.
8. When appropriate New Zealand registered ships will be instructed to comply with *ADMIRALTY Notices to Mariners, No. 3* and subsequent amendments contained in Part VI of each weekly edition of *ADMIRALTY Notices to Mariners.*
9. This does not relieve the master of the responsibility of maintaining a listening watch for safety information broadcast and official radio broadcasts.
10. It is the responsibility of masters to acquaint themselves with the contents of the *ADMIRALTY Notices to Mariners No. 3* (contained herein as *Annual New Zealand Notice to Mariners, No. 3A*) and subsequent amendments.

3A Safety of British Merchant Ships in Periods of Peace, Tension or Conflict

Former *Annual New Zealand Notice to Mariners, No. 3A*, published 1 July 2023 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authority: United Kingdom Hydrographic Office

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1. General

1.1 This notice describes the organisation by which the Royal Navy (RN) communicates with merchant vessels in periods of peace, tension and conflict. Such messages will normally relate to the safety and security of ships.

1.2 Participation in the procedures outlined in this Annual Notice is encouraged. Detailed reporting will be in accordance with Annex A.

2. UK Military / Civil Shipping Relations

2.1 Through the Shipping Defence Advisory Committee (SDAC), the UK Ministry of Defence and its partners across Government (specifically the Foreign, Commonwealth and Development Office (FCDO) and the Department for Transport (DfT)) maintains regular and frequent dialogue with the UK Shipping Industry, particularly the UK Chamber of Shipping, individual companies and other groups. Within Government, the Joint Maritime Security Centre (JMSC) provides a cross–Government forum for sharing maritime security information.

2.2 The RN Maritime Trade Operations (MTO) organisation provides the operational liaison and interaction between military commanders and the merchant shipping community.

2.3 The RN's Maritime Trade Information Centre (MTIC), based in Portsmouth UK provides the hub for the worldwide provision of information pertinent to merchant vessels primarily focused on the Indian Ocean High Risk Area through the administration of the United Kingdom Maritime Trade Operations (UKMTO) Voluntary Reporting Area (VRA). Further details on the UKMTO VRA are provided in Best Management Practice (BMP) and UK Hydrographic Office (UKHO) Maritime Security Charts (MSCs) Q6099 and Q6111 (see links at paras 3.4 and 5.2 respectively). UKMTO also supports maritime safety and security activity in the English Channel, wider UK EEZ, Gulf of Guinea (see para 2.4) and Mediterranean, (See UKHO MSC Q6110).

2.4 The Maritime Domain Awareness Trade–Gulf of Guinea (MDAT-GOG) is a UK/ French navy partnership providing a virtual reporting mechanism supporting the interregional architecture defined by the Yaoundé code of conduct. The MDAT-GOG supports delivery of a coherent maritime situational awareness picture in the Central and Western Africa maritime space, to inform and support industry and regional responding authorities, contributing to the safety of the mariner. Further details on the MDAT-GOG VRA are provided in Best Management Practice – West Africa (BMP WA) and UKHO Maritime Security Chart, Q6114. (See link at paras 3.4 and 5.2 respectively).

3. Current Operations

3.1 RN MTO directly contributes to freedom of navigation, manoeuvre and trade. The RN maintains a Recognised Maritime Picture (RMP) of military and merchant vessels, that affords military commanders an understanding of all vessels passing through an operational area. This understanding allows military authorities to advise and assist merchant vessels when it is considered appropriate or necessary.

3.2 In response to the combined threats of piracy, terrorism and regional instability within the UKMTO VRA, the RN has deployed a team of UKMTO personnel to Dubai to provide direct face–to–face engagement with masters and regional ship operators. The MTIC administers the UKMTO VRA on behalf of Industry, providing maritime safety and security related information to maritime trade and responding authorities to support informed decision making.

3.3 In addition to UK national activity, the RN operates with NATO and other coalition partners. For all NATO activity the NATO Shipping Centre (NSC), based in Northwood, is normally focal point for liaison with merchant shipping. In the Gulf of Aden, the Maritime Security Centre (Horn of Africa) (MSC-HOA) administers the Group Transit Scheme through the Internationally Recognised Transit Corridor (IRTC) and delivers protection of World Food Programme vessels on behalf of EUNAVFOR. Contact details for both these organisations are provided at Annex B. Mariners should be aware that in response to the highlighted risk in these waters the Maritime Security Transit Corridor (MSTC) is established and incorporates the IRTC, the TSS in the Strait of Bab el Mendeb and West and South of Hanish Al Kubra. UKHO Maritime Security Charts Q6099, Q6111 and The Mariner's Handbook (NP100) contain further information.

3.4 BMP and BMP WA can be downloaded for free from the publishers at www.witherbyseamanship.com. These publications provide Industry advice and best practice recommendations to masters and operators to protect vessels against attack from a range of maritime security threats within the respective regions. Vessels are encouraged to implement the procedures recommended in BMP and BMP WA when operating within the VRA, and to participate in voluntary reporting schemes and dialogue with military authorities in the area through UKMTO and MDAT-GOG respectively.

3.5 Industry endorsed Global Counter Piracy Guidance (GCPG) for Companies, Masters and Seafarers is available in soft copy and can be downloaded for free from the publishers www.witherbyseamanship.com. GCPG has been produced to aid shipping companies, masters and mariners to prepare against piracy as well as other maritime security threats.

3.6 Guidance to UK Flagged Shipping on Measures to Counter Piracy, Armed Robbery and Other Acts of Violence Against Merchant Shipping has been published by DfT and is available for free from their website: https://www.gov.uk/government/publications/guidance-to-uk-flagged-shipping-on-measures-to-counter-piracy-armed-robbery-and-other-acts-of-violence-against-merchant-shipping.

3.7 The International Maritime Bureau Piracy Reporting Centre (IMB PRC) publishes general advice to masters on their website. See Annex B for contact details.

3.8 The World-Wide Navigation Warning Service (WWNWS) may be requested to alert vessels to an area of risk through the promulgation of a Navigation Warning through appropriate NAVAREA Coordinators.

4. Passage Reporting

4.1 During periods of tension or conflict vessels within a defined area of operations may be asked to pass information voluntarily using the passage report format at Annex A. This will facilitate informed decision making and planning by regional and military authorities. In return, reporting vessels may receive advice on the security within the area.

4.2 Initiation of the voluntary passage report procedure will be by promulgation of a Special Notice Navigation Warning, containing text similar to that below:

Special notice to merchant vessels – A risk to merchant vessels exists in [area]. Vessels within or intending to enter this area should contact their owners or national shipping authorities. Merchant vessels are encouraged to submit a report in accordance with ADMIRALTY Annual Notice to Mariners 3 Annex A to [contact details of military authority] when passing [lat/long] and subsequent daily position report requirements as required.

Note: The text of the Special Notice to merchant vessels message issued by the UK will be amended to reflect the prevailing circumstances.

5. Additional Services

5.1 UKMTO provides the primary liaison between military authorities and merchant vessels. This dialogue is supported by the UKHO range of Maritime Security Charts (the Q series of charts) and Security Related Information to Mariners (SRIMs) which provides further details of increased risk, Exclusion Zones, Voluntary Reporting Schemes and other pertinent safety and security advice.

5.2 Further details, including the UKHO range of Maritime Security Charts is available to order or download at the following website: www.admiralty.co.uk/maritime-safety-information/security-related-information-to-mariners

Annex A to UK Annual Notices to Mariners No. 3

Merchant Vessel Voluntary Reporting Scheme

During periods of tension or conflict vessels within a defined area of operations may be asked to pass information voluntarily using the passage reports below. This will facilitate informed decision making and planning by regional and military authorities. In return, reporting vessels may receive information on maritime safety and security within the region.

6. Passage Report Format (Format Alpha)

When sending a Passage Report to UK, NATO or other military authorities, the content and format is as follows, unless requested otherwise.

6.1 The initial report should contain the following:

1. Ship name
2. Flag
3. IMO number
4. Satellite Telephone Number
5. Time and position
6. Course
7. Passage speed
8. Freeboard and Draft
9. Cargo
10. Destination and ETA
11. Name and Contact Details of Company Security Officer
12. Nationality and number of Master and Crew
13. Armed/unarmed security team embarked.

6.2 Subsequent report, vessels are requested to report daily at 0800 UTC:

1. Ship name
2. Callsign and IMO number
3. Time of report in UTC (normally 0800)
4. Ship position
5. Course and speed
6. Any other important information
7. ETA point A/B IRTC if applicable.

6.3 All timings are requested in UTC and the preferred method of communication will be included in the Special Notice Navigation Warning at para 4.2.

6.4 All information provided is treated in strictest commercial confidence.

Annex B To UK Annual Notices to Mariners No. 3

Contact Details for Military Operations

UKMTO:

Tel:	+44 (0) 2392 222060 or 00 971 50 552 3215
e-mail:	watchkeepers@ukmto.org

MDAT–GOG:

Tel:	+33 298228888
e-mail:	watchkeepers@mdat-gog.org
MDAT-GoG Website:	https://gog-mdat.org/home

NSC:

Tel:	+44 (0) 1923 956 574
Fax:	+44 (0) 1923 956 575
e-mail:	info@shipping.nato.int
NSC Website:	www.shipping.nato.int

MSC – HOA:

Tel:	+33 (0) 298 220 220 or +33 (0) 298 220 170
Fax:	+33 (0) 298 220 171
e-mail:	postmaster@mschoa.org
MSCHOA Website:	www.mschoa.org

IMB PRC:

Tel:	+603 2031 0014 (24 Hours Anti-Piracy Helpline)
	+603 2078 5763
Fax:	+603 2078 5769
e-mail:	piracy@icc-ccs.org / imbkl@icc-ccs.org
IMB PRC Website:	www.icc-ccs.org

4 Search and Rescue Information and Procedures

Former *Annual New Zealand Notice to Mariners, No. 4,* published 1 July 2023 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authorities: Civil Aviation Authority, Maritime New Zealand, New Zealand Defence Force (Headquarters Joint Force New Zealand)

New Zealand Search and Rescue Sector (NZSAR)

1. The New Zealand Search and Rescue (NZSAR) sector provides assistance to ships and aircraft missing or in distress in the New Zealand Search and Rescue Region (NZSRR). The organisation is based on the utilisation of civilian and military facilities which are coordinated and controlled through the Rescue Coordination Centre New Zealand (RCCNZ).

Note: Towage or salvage operations are not the function of RCCNZ.

Search and Rescue Coordinating Authorities

2. There are only two Coordinating Authorities for Search and Rescue Operations (SAROPs) in the NZSRR; the New Zealand Police for Category I (CAT I) SAROPs and RCCNZ for Category II (CAT II) SAROPS. Both organisations cooperate closely to ensure the response to a search and rescue (SAR) incident is coordinated by the appropriate Coordinating Authority.

Rescue Coordination Centre New Zealand (RCCNZ)

3. RCCNZ is situated in the Avalon Studios, 41 Percy Cameron Street, Lower Hutt and is responsible for initiating, coordinating, and concluding CAT II search and rescue operations within the NZSRR. The RCCNZ Search and Rescue Officer is responsible for coordinating representatives of civilian and military organisations considered necessary in order to cover the requirements for any SAR operation.

	Telephone	Fax	Others
RCCNZ **24-Hour Emergency** **Administration**	NZ: 0508 472 269 Int: +64 4 577 8030 NZ: 04 577 8034 Int: +64 4 577 8034	NZ: 04 577 8038 Int: +64 4 577 8038 NZ: 04 577 8041 Int: +64 4 577 8041	Inmarsat-C (POR): 451 200 067 Email: rccnz@maritimenz.govt.nz
Taupo Maritime Radio (ZLM)	+64 4 550 5280		Inmarsat-C (POR): 451 200 067 Email: maritime@kordia.co.nz

SAROPS are classified as follows:

CAT I	A SAROP coordinated at the local level; including land operations, subterranean operations, river, lake and inland waterway operations and close-to-shore marine operations. Notes 1. The nature of 'close-to-shore' will vary according to the availability of local resources and the need to task national assets. Typically such operations will be within New Zealand Territorial Waters (12 nautical miles). 2. Category I SAROPs typically require the use of local personnel and resources and can be carried out efficiently and effectively at the local level.
CAT II	A SAROP coordinated at the national level; including operations associated with missing aircraft or aircraft in distress and off-shore marine operations within the New Zealand Search and Rescue Region. Note 1. Category II SAROPs typically require the use of national or international resources and may involve coordination with other States.

Close To Shore Rescues

4. The New Zealand Police and RCCNZ are assisted by local organised groups throughout New Zealand to provide voluntary, advisory, and operational assistance to the NZSAR.

New Zealand Search and Rescue Region

5. A diagram of the NZSRR which extends to 90° South, is shown below.

   The NZSRR is described by a closed polygon as follows:

Vertex	Latitude	Longitude
1	25° 00’S	163° 00’E
2	25° 00’S	180° 00’E
3	15° 33’S	175° 41’W
4	05° 00’S	171° 00’W
5	05° 00’S	157° 00’W
6	30° 00’S	157° 00’W
7	30° 00’S	131° 00’W
8	90° 00’S	131° 00’W
9	25° 00’S	163° 00’E

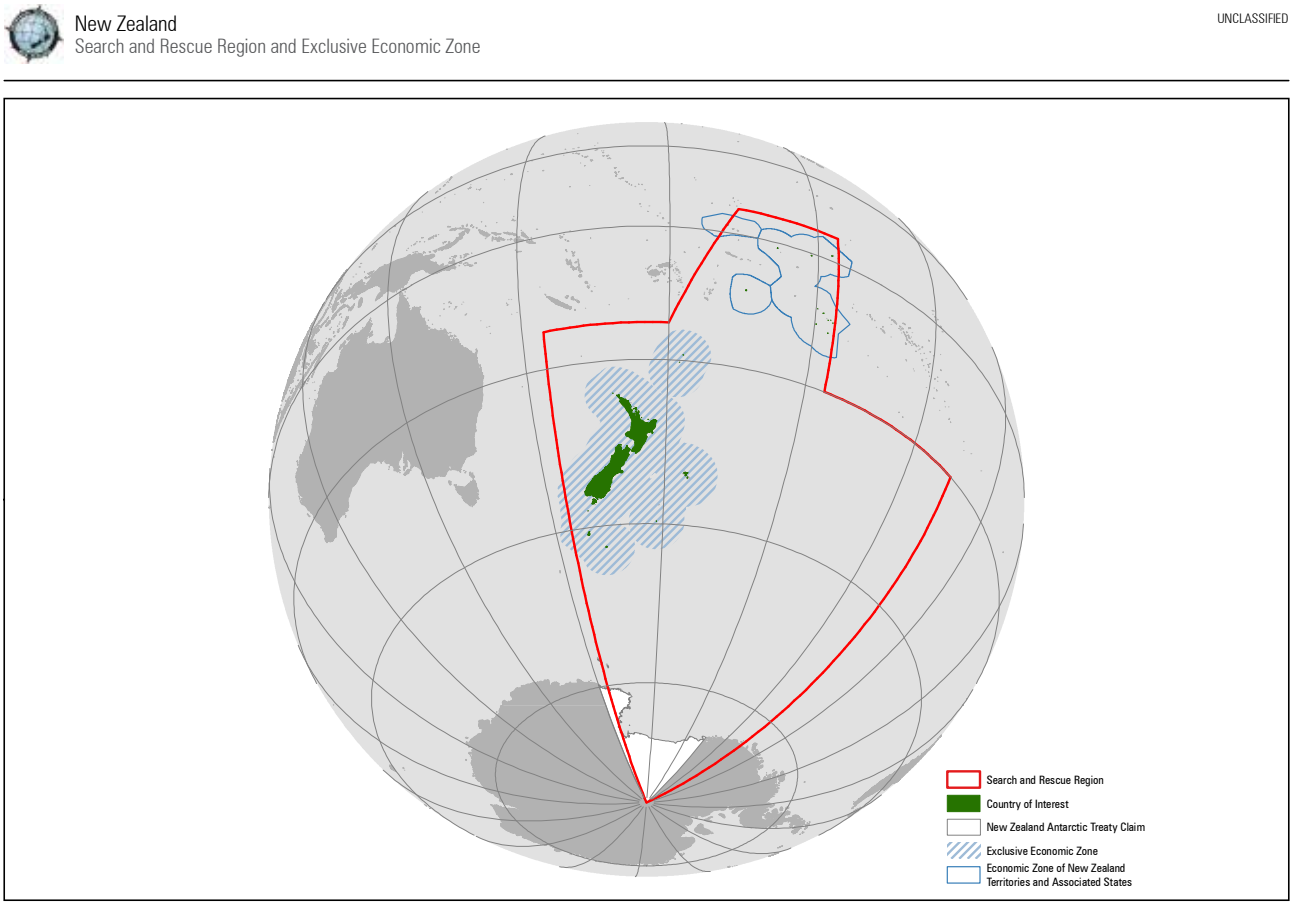


Image reproduced with the permission of Maritime New Zealand

Obligation to Render Assistance

6. Masters of vessels in a distress area should endeavour to give the utmost assistance to persons in distress at sea, and cooperate fully in any SAR operation which is being directed from RCCNZ.

   Section 32 of the *Maritime Transport Act 1994* provides that the master or person in charge of a ship shall, so far as they can do so without serious danger to their own ship, her crew and passengers (if any), render assistance to every person who is found at sea in danger of being lost; an offence is committed by anyone who fails to comply with Section 32. Similar provisions are included in the International Maritime Organization's *International Convention for the Safety of Life at Sea, 1974,* (SOLAS).

Merchant Ship Position Reports

7. New Zealand does not operate a merchant shipping reporting system. New Zealand-owned ships are invited to comply with the International Maritime Organization recommendations which request all ships to participate in other member government merchant shipping reporting systems wherever they exist.

   For more information, see *Annual New Zealand Notices to Mariners, No. 4A* and *No. 4B*.

Guarding of Distress Frequencies

8. The radio watch on the international distress frequencies, which certain ships are required to keep when at sea, is also a vital factor in the coordination of rescue of people in distress at sea. This coordination will not be possible if ships are unable to alert each other, or to be alerted from shore for distress action. Every ship fitted with suitable radio equipment should make its contribution to safety by guarding those distress frequencies applicable for as long as practicable, whether or not required to do so by regulation.

EPIRBs (Emergency Position Indicating Radio Beacons)

9. Modern EPIRBs operating on a frequency of 406 MHz, with a low power homing transmitter on 121.5 MHz, can be located very accurately by the COSPAS-SARSAT/MEOSAR satellite system. The 406 MHz EPIRB has the capability of transmitting unique data containing details such as country of origin, the identity of the vessel and position information derived from either the EPIRB's on-board GPS or the vessel's navigation equipment. This information is transmitted to the ground stations via MEOSAR satellites and then to RCCs via a Mission Control Centre.

   A MEOLUT Local User Terminal has been installed along with two GEOLUTs in New Zealand providing coverage of the New Zealand Search and Rescue Region.

   Ships are reminded that EPIRBs must be registered and any accidental activation of an EPIRB must be immediately reported, preferably through Taupo Maritime Radio. This is purely to establish whether a vessel is in distress, and no costs or prosecution will result from reporting an accidental activation.

Aircraft Used for Search and Rescue Operations

10. Civilian or Royal New Zealand Air Force aircraft may be used for SAR operations. Search aircraft may be equipped with search radar and VHF/UHF Direction Finding (D/F) and homing capability.

    Communications between search aircraft and merchant ships will normally be effected on the following frequencies:

156.8 MHz (Channel 16)	FM Voice	International Distress, Safety and Calling Frequency
2182 kHz	AM Voice	International Distress, Safety and Calling Frequency
3023 kHz	USB Voice	Scene of Search
5680 kHz	USB Voice	Scene of Search

Additionally, communications may be established using a signalling lamp or on the following frequencies:

123.1 MHz	AM Voice	Scene of Search VHF
282.8 MHz	AM Voice	Scene of Search UHF
121.5 MHz	AM Voice	International Aeronautical Emergency (VHF) (this frequency should only be used as a last resort)
243.0 MHz	AM Voice	International Aeronautical Emergency (UHF) (this frequency should only be used as a last resort)

Sea Rescue by Helicopter Procedures to Assist with Location by Helicopter

11. When a distress message is received from a ship in distress, or a medical evacuation is required, the rescue authorities may dispatch a helicopter to assist. Once the helicopter is airborne, the speed with which it locates the ship and the effectiveness of its work depends to a large extent on the cooperation of the ship concerned.

    From the air, especially if there is a lot of shipping in the area, it is very difficult for the helicopter pilot to identify the particular ship concerned, unless that ship uses a distinctive distress signal which can clearly be seen.

    Especially useful for helicopters are:

    (a) By day: orange smoke floats, or orange squares with V or circle, Aldis lamp or heliograph.

    (b) By night: Aldis lamp, night flares.

        i) It is essential that the ship's position be given as accurately as possible.

        ii) As many aircraft are equipped with GPS, latitude and longitude may be used.

        iii) Bearings should be described as true or magnetic, and must be given **from** a fixed object, such as a headland or lighthouse.

        iv) The description of the vessel and local weather conditions should be included if time allows.

        vi) Because of operational limitations, helicopters should not be delayed at the rescue scene. On large vessels a clear stretch of deck should be made available as a pick-up area if possible, and marked with a large letter "H" in white.

For all vessels, the following preparations need to be completed to ensure a safe transfer is made:

12. Note: These procedures may be modified on instructions from the pilot if communications exist.

    (a) Lower all masts, derricks, and radio aerials to provide a clear area for the helicopter to conduct the hoist.

    (b) Keep all unnecessary personnel out of the way while the helicopter is conducting hoist operations.

    (c) Under no circumstances must the hoist cable be attached to the vessel, sudden movements could cause the helicopter to crash if this is done.

    (d) Tie down or stow all loose gear which may be blown by the rotor wash, which can be up to 45 knots downwards. This includes hats, fishing gear, beverage cans, and paper. Nothing must be blown into the rotors, or become entangled with the hoist wire.

    (e) Allow the helicopter's rescue equipment to touch the vessel's deck before handling it. This will allow any static electricity charge present to dissipate. However this should be clear of any flammable mixture spillage or
    venting area to preclude a possible fire or explosion from an electrostatic discharge.

    (f) Ensure the person being hoisted is wearing a lifejacket, if at all possible. If it is a patient, they should be made as comfortable as possible, and if conscious, informed of the procedure of rescue.

    (g) When the helicopter arrives, change course to place the wind thirty degrees on the port bow, or as directed by the pilot and continue at standard speed.

(h) At night, floodlights are useful to illuminate the vessel, but they must be facing down.

(i) By day, the vessel should indicate the apparent wind by flag, smoke, or other means, as long as it does not impair the pilot's visibility.

(j) Personnel on the ship, and survivors leaving the helicopter when it has landed ashore, must obey the instructions of the pilot or crew. Approach and leave the helicopter only from forward, in clear view of the pilot, and stay well clear of the after part of the helicopter, in particular the tail rotor and engine exhausts.

Specifications for Helicopters Involved in SAR in New Zealand

13. Civilian Emergency Medical Service (EMS) helicopters are typically the main aviation resource used for medical evacuations from vessels. Typically all are fitted with marine VHF. Mariners should be aware that the ranges of operation and capabilities will vary, influenced by factors such as weather and visibility.

The main type of military helicopter used for SAR duties in New Zealand is the RNZAF NH90. Expect the NH90 to be deployed from Ohakea within two hours' notice to move (NTM).

This helicopter is routinely configured to transport/rescue up to 12 persons at a time at short range (100 NM).

The aircraft transits at 120 nautical miles per hour in fair weather conditions. This equates to transit times into area of operations (AO) of approx.;

– One hour if the search area is within the radius bound by Hamilton–Nelson.
– Allow up to two hours within the radius bound by Auckland–Greymouth–Christchurch.
– Allow up to four hours for Northland and Southland.

NH90 over-water SAR to vessels is dependent on a number of factors, including time of day, weather conditions, the number of persons, and the nature of the rescue and vessel. It is recommended that liaison commences with unit executives as soon as possible once it is believed that NH90 support will be required for over-water SAR.

Preparations may take longer than the stated two hours' NTM due to the potential to have to fit auxiliary fuel tanks.

The Seasprite is also sometimes used, and can rescue up to four persons. The Seasprite does not have a standard callout requirement and therefore would be utilised on an as required and as available basis.

The Seasprite is a maritime helicopter and therefore is fitted with equipment that allows over-water SAR operations at night. Additionally, the Seasprite is equipped with maritime search equipment including radar and forward looking infrared camera.

The Seasprite typically has a 80-100 NM radius of action (ROA), transits speed of 90 knots ground speed and has an endurance of about 2.5hrs (three pax on board).

NH90 and Seasprite helicopters are fitted with marine VHF, UHF and HF equipment. The HF equipment affords messages to be passed via shore.

Medical Evacuation (MEDEVAC) Checklist

14. (a) Craft with medical emergency – name, callsign
(b) Position – lat/long or bearing/distance
(c) Date/time of position
(d) Craft's course and speed
(e) Patient's name, nationality, age, sex, race
(f) Patient can/cannot speak English
(g) Patient's symptoms
(h) Medication given
(i) Medication available
(j) Radio frequencies in use, monitored, or scheduled
(k) Craft description
(l) Local agent and telephone/fax numbers
(m) Last port of call, destination, ETA
(n) On-scene weather and sea state
(o) Assistance required
(p) Other pertinent information

Use of Ships in Assisting to Locate Aircraft in Distress: Masters' Responsibilities

15. Aircraft which ditch cannot be assumed to stay afloat for long, but it should always be assumed that there will be survivors. Masters of ships within reasonable distance of an aircraft in distress should proceed with the greatest possible speed to its assistance.

If a ship receives a distress message direct from an aircraft or liferaft, a D/F bearing should be taken and passed to a maritime radio station and other vessels in the area, together with the callsign of the aircraft, time taken, and position of the ship.

Means by Which a Ship may Receive Distress Signals

16. Ships may receive distress signals in the following ways:
    (a) By Radio Telephony (R/T) on the appropriate international distress frequency; or
    (b) DSC, Radar, ECG broadcasts over SafetyNet and AIS.
    (c) By visual signals.

Radio Telephony (R/T) Distress Signals

17. Can be received from:
    (a) A distressed aircraft still in flight—see Appendix A of this Notice;
    (b) Survivors after the casualty has occurred, by a hand-operated emergency radio transmitter – see Appendix B of this Notice;
    (c) An international GMDSS distress frequency;
    (d) A maritime or aviation radio station; or
    (e) A distress relay from another vessel or aircraft.

    References:

    - For communications between aircraft stations and stations of the maritime mobile service, the provisions of Article 41 of the International Telecommunications Union's *Radio Regulations (Geneva 2012)* are obligatory.
    - For International Regulations on Distress, Urgency, and Safety Signals, see *ADMIRALTY List of Radio Signals, Volume 1,* NP281, (Parts 1 and 2).

Visual Distress Signals

18. Can be received from:
    (a) A distressed aircraft:

    Apart from obvious signs, an aircraft may indicate that it is in distress by firing rockets or shells throwing red lights fired one at a time or at short intervals or by firing a parachute flare showing a red light. Navigation markers dropped by aircraft at sea, emitting white or yellow smoke or flame and smoke, should not be mistaken for distress signals. Low flying is not in itself an indication of distress. Aircraft in distress which are forced to alight on the sea are instructed to do so ahead and in the lee of a ship.

    (b) An aircraft with an urgent message concerning safety:

    An aircraft having an urgent need to notify information relating to its own safety or that of another aircraft or ship, or the safety of any person on board or within sight may use one of the following signals:

    i) A succession of green pyrotechnic signals; or
    ii) A succession of green flashes with signal apparatus.

    (c) A search aircraft:

    When it is necessary for an aircraft to direct a ship to an aircraft or ship in distress, the aircraft will do so by transmitting precise instructions by any means at its disposal. If not by radio or signal lamp, the instructions will be given by carrying out the following manoeuvres:

    i) Circling the ship at least once;
    ii) Crossing the projected course of the ship close ahead at low altitude; and either rocking the wings, opening and closing the throttle, or changing propeller pitch*; or
    iii) Heading in the direction in which the ship is to be directed. If carried, smoke markers may be laid in the direction to proceed.

    * Important Note: Due to high noise levels on board ships, the sound of changes in throttle settings and propeller pitch may be less effective than rocking the aircraft, and are regarded as alternative means of attracting attention. Green flares and/or white smoke markers may also be released by NZDF aircraft in the vicinity of vessels to indicate that assistance is required, and that the aircraft wishes to establish communications.

(d) Survivors in the sea:

Survivors in a liferaft or other flotation device may use any of the following signals:

i) Pyrotechnic signals emitting one or more red stars;

ii) Flashing a heliograph;

iii) Flashing SOS or other distinctive signal by hand torch or other signalling lamp;

iv) Blowing of whistles;

v) Fluorescent dye marker giving an extensive bright green colour to the sea around the survivors;

vi) A liferaft may also be located by yellow kite or balloon being flown to support the aerial for the emergency radio transmitter;

vii) EPIRB; or

viii) Hand held marine VHF transceiver.

When Assistance is No Longer Required

19. The following aircraft manoeuvres shall mean that the assistance of the ship to which the signal is directed is no longer required:

Crossing the wake of the ship close astern at a low altitude, and:

(a) Rocking the wings; or

(b) Opening and closing the throttle; or

(c) Changing the propeller pitch.

20. Ships should acknowledge receipt of signals from aircraft by hoisting the answering pennant (red and white vertical stripes), by flashing a succession of "T"s by signal light in morse code, or by making a change of heading to follow aircraft. Ships should immediately set watch on radio distress frequencies. If a ship is unable to comply, it should indicate this by hoisting the flag "N" (blue and white checkered squares), or by flashing a succession of "N"s in morse code.

Use of Aircraft in Assisting to Locate Shipping in Distress: Importance of a Distinctive Distress Signal

21. From the air, especially if there is a lot of shipping in the area, it is very difficult for a pilot to identify the particular ship in distress, unless that ship uses a distinctive distress signal which can clearly be seen. Especially useful are orange smoke floats and/or an orange fluorescent sheet with letter V or circle, during the day, or an Aldis lamp during the day or night. In bright sunlight, a heliograph may also be used. The display of these signals will save valuable time in locating the casualty, and may mean the difference between success and failure.

Providing Ship's Position

22. It is essential that the ship's position be given as accurately as possible. Bearings should be described as true or magnetic, and must be given **from** a fixed object, such as a headland or lighthouse. The description of the vessel and local weather conditions should be included if time allows.

Night Search Technique (see diagram below)

23. This technique takes advantage of the greater visibility of pyrotechnics at night. The aircraft will fly through the search area at between 3000 and 5000 feet and use track spacing of 5 – 20 miles. A green flare will be fired approximately every five-ten minutes and on turning.

When a green flare is sighted, it is most important that the following actions are taken:

(a) Wait for the glare of the green flare to die out;

(b) Fire one red flare;

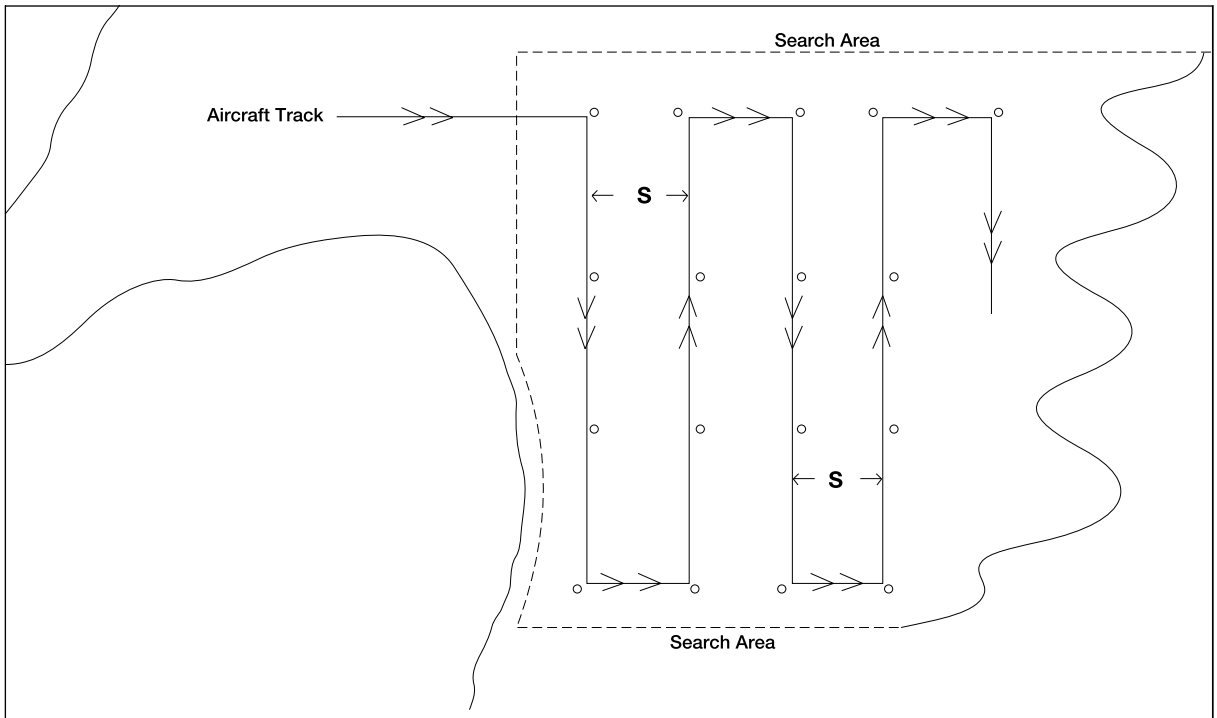
(c) Fire another red flare after about one minute to enable the aircraft to line up on your bearing; and

(d) Fire a third flare when the aircraft is overhead or appears to be going badly off course.

Important Notes:

- Each lifeboat or liferaft should carry at least three red flares.
- If all else fails, use any means at your disposal to attract attention.
- The aircraft will probably drop a marine marker to mark your position **Do Not Touch The Marker** – to do so could result in severe burns or major damage to a liferaft.
- The aircraft may also drop a sonobuoy to act as an electronic marker. Ships may talk to aircraft by recovering the sonobuoy hydrophone hung approximately 30 metres below the sonobuoy and speaking into it in a normal voice. The sonobuoy cannot receive transmission from the aircraft. A written message may also be attached to the buoy or dropped from the aircraft in a small package.

Night Search Technique



The aircraft will fly through the search area at between 3,000 and 5,000 feet, or below cloud if the base is lower. A green pyrotechnic signal will be fired every five to ten minutes, and at each turning point, shown as o in this diagram.

The spacing between adjacent tracks S depends upon the visibility from the aircraft.

Action to be Taken When an Aircraft is Forced to Ditch

24. The captain of a distressed aircraft will be materially assisted in locating a ship if the latter:

    (a) Transmits homing bearings to the aircraft or (if so requested) transmits signal enabling the aircraft to take its own bearings; and

    (b) By day makes black smoke; or

    (c) By night directs a searchlight vertically.

    Ditching an aircraft is difficult and usually dangerous. A ship which knows that an aircraft intends to ditch should, if practicable, try to provide a lee of calm water. This may be achieved by any means at the master's discretion, such as steering on a circular course through 360°.

    An aircraft will usually ditch on the starboard side of a ship and heading into the wind, although, when seas are running high, it may attempt to land along the trough of the seas. In the absence of communication, the former should be assumed.

    At night the ship should floodlight the ditching area as much as possible, without dazzling the pilot, who could lose control at a critical moment. If flame floats are available, six should be laid at 200 metre intervals in line astern to indicate the suggested alighting area.

Ditching Reports from Ships to Aircraft

25. Ditching reports when requested by aircraft should be transmitted in plain language and should comprise the following in the order indicated:

    (a) Unless previously established, position of the ship in lat/long at the time the observation was taken;

    (b) Corrected barometric pressure;

    (c) Surface wind direction in degrees magnetic;

    (d) Surface wind speed in knots;

    (e) Swell length, height, and direction.

    Use one of the following terms:

Swell Length

Term	Criteria
Short	0 – 100 metres
Average	100 – 200 metres
Long	over 200 metres

Swell Height

Term	Criteria
Low	0 – 2 metres
Moderate	2 – 4 metres
Heavy	over 4 metres

    (f) State of sea, specified by one of the terms from the table below, selected according to the average wave height as obtained from the larger well-formed waves of the wave system being observed;

Beaufort Force	Wind speed (Knots)	Sea State	Mean Wave Height (Metres)	Probable Maximum Wave Height (Metres)*
0-1	<4	Calm	<0.2	0.3
2-3	4-10	Smooth	0.5	1.0
4	11-16	Slight	1.0	1.5
5	17-21	Moderate	2.0	2.5
6	22-27	Rough	3.0	4.0
7	28-33	Very Rough	4.0	5.5
8	34-40	High	5.5	7.5
9-10	41-55	Very High	8.0	12.5
11-12	>55	Phenomenal	13.0	>16

* The extreme height may be greater

(g) Visibility (miles or metres);

(h) Amount and height above sea level of base of low cloud (both main layer and any scattered cloud below);

(i) Present weather;

(j) Remarks.

Action to be Taken When Aircraft Survivors are Rescued

26. A survivor from any aircraft casualty at sea who is rescued by a ship may be able to give information which will assist in the rescue of other survivors. Masters should ask the following questions and communicate the answers, together with the position of the rescuing vessel and the time the survivor was rescued, to a maritime radio station:

(a) Did you bale out, or was the aircraft ditched? What was the type and identification of the aircraft, and date and time of the accident?

(b) If you baled out, at what altitude?

(c) How many others did you see leave the aircraft by parachute?

(d) How many ditched with the aircraft?

(e) How many did you see leave the aircraft after ditching?

(f) How many survivors did you see in the water?

(g) What flotation gear did they have?

(h) What was the total number of persons aboard the aircraft before the accident?

(i) What caused the emergency?

Appendix A

Form of Distress Call and Message Transmitted by an Aircraft in Distress:

Aircraft will make distress calls on the air-to-ground frequency in use at the time, but may also make them on maritime R/T calling frequencies.

Aircraft rarely use W/T, but when used for distress will follow maritime procedures.

Distress Communication – **switch to full power** first:

Mayday (preferably spoken three times) followed by as many as possible of the following elements:

(a) Identification of the aircraft;

(b) Nature of distress;

(c) Intention of person in command; and

(d) Present position, altitude, and heading.

Note: The point of ditching could be appreciably different from "present position" depending on the altitude, heading and speed.

Appendix B

Form of Distress Signals from an Aircraft Liferaft:

Survival equipment normally includes either one or a combination of the following radio or visual facilities:

(a) A 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). The 406 MHz frequency is monitored by the COSPAS-SARSAT/EPIRB satellite system alone.

(i) EPIRBs which are buoyant, water resistant, portable devices, normally activated by immersion in water and are capable of being operated away from the aircraft by unskilled persons. By international agreement, this type is mandatory equipment for aircraft on extended over-water flights.

(ii) Emergency Locator Transmitters (ELTs): there are two main types:

- Those attached to the aircraft structure and are either automatically ejected or permanently mounted. Both of these are automatically activated.
- An automatic portable type, which is normally fixed inside the aircraft but can be removed by survivors for use away from the aircraft.

(iii) Personal Locator Beacons (PLBs), which are designed to be carried by survivors and not intended to be fixed to the aircraft. Location of the beacon position is by satellite and/or by aircraft using Direction Finding (D/F) equipment.

(b) Light signalling by means of a lamp and hand key, or handheld reflecting mirror.

4A Modernised Australian Ship Tracking and Reporting System (MASTREP)

Former *Annual New Zealand Notice to Mariners, No. 4A,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: Australian Maritime Safety Authority (AMSA)

Ships' Position Reports – Australian Search and Rescue Region

1. The Australian government operates the Modernised Australian Ship Tracking and Reporting System (MASTREP) for vessels within its Search and Rescue (SAR) area. Additional vessel tracking systems are in force around Australia, in ports and through environmentally sensitive areas such as the Great Barrier Reef Marine Park.
2. MASTREP is a mandatory reporting system for the following vessels:
   (a) foreign vessels from the arrival at its first port in Australia until its departure from its final port in Australia; and
   (b) all regulated Australian vessels whilst in the MASTREP area.
3. MASTREP uses Position Reports, which must be transmitted by the vessel's Automatic Identification System in accordance with the International Maritime Organization's *International Convention for the Safety of Life at Sea, 1974,* (SOLAS). The objective of MASTREP is to contribute to safety of life at sea by providing additional information relating to a vessel's passage.
4. MASTREP is an automated system that ensures search and rescue authorities can obtain AIS information on a vessel's location. This enables nearby vessels to be identified, contacted and advised if another vessel requires assistance.
5. There are no requirements to send Sailing Plans, Deviation Reports or Final Reports. No positive SAR watch is maintained under this system.
6. Participation in MASTREP does not remove the continued obligation of mandatory reporting to REEFVTS when transiting through the Great Barrier Reef and the Torres Strait.
7. In addition to MASTREP, vessels are encouraged to participate in the AMVER system – see *Annual New Zealand Notice to Mariners, No. 4B.*
8. Details of these reporting systems can be obtained from the Ship Reporting Systems section in the *ADMIRALTY List of Radio Signals,* Volume 6, Part 4, NP286(4).

   For further information, see:
   (a) AMSA's website: www.amsa.gov.au
   (b) Australian Hydrographic Services, *Seafarers Handbook for Australian Waters* (AHP20) 5th Edition.

4B	The AMVER Organisation (Pacific Ocean) (Automated Mutual Assistance Vessel Rescue System)

Former *Annual New Zealand Notice to Mariners, No. 4B,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: Maritime New Zealand

Purpose and Details of Organisation

1. The Automated Mutual Assistance Vessel Rescue System (AMVER), operated by the United States Coastguard, is an international maritime mutual assistance organisation which provides important aid to the development and coordination of Search and Rescue (SAR) efforts in the AMVER reporting area. New Zealand is a participant in the AMVER system. New Zealand merchant vessels are encouraged to send movement reports and periodic position reports to the AMVER centre on Governors Island in Lower New York harbour, via selected coast radio stations. Information from these reports is entered onto computer which supplies dead reckoning positions of the vessels. Appropriate information concerning the predicted location and SAR characteristics of each vessel known to be within an area of interest is made available on request to recognised SAR agencies of any nation, or person in distress, for use during an emergency. Predicted locations are disclosed only for reasons concerning maritime safety. AMVER SURPICS (surface pictures) are used in conjunction with ships' position information obtained from sources such as VTS, AIS or Distress Alert messages received via GMDSS Communication terminals.

   SURPICS can only be as accurate as the information fed into the AMVER system, and accuracy can only be achieved by ships' masters ensuring that their reports are correct and are kept up-to-date, particularly in respect of diversions or revised estimation times of arrival at ports.

AMVER Message Types and Format

2. Any vessel of any nation departing on an offshore passage of 24 hours duration or greater is encouraged to become a participant in the AMVER system by sending appropriate AMVER messages in four types of format described in the *US Coastguard AMVER User Manual* which is available from https://www.amver.com/Forms/Manual. The messages may be transmitted at any convenient time as long as the information is accurate and the data corresponds to the time specified. The information may be estimated for a short time in the future, for the present or for a short time past.

Address of AMVER Message

3. If a ship already has an inexpensive means of sending email to an internet address, this is a preferred method. Email may be sent via satellite or via HF radio, depending on the ship's equipment and arrangements with communication providers ashore. Ships must be equipped with a personal computer, an interface between the computer and the ship's communication equipment, and the appropriate software.

   AMVER can be contacted via amvermsg@amver.org or amvermsg@amver.com.

4. All AMVER messages should be addressed to the participating AMVER Coast Radio Station to which the message is sent, 'AMVER (name of station)'. For example, AMVER Taupo. Messages sent to any Canadian station should be addressed to AMVER Halifax or AMVER Vancouver.

   AMVER messages are considered to comply with the USA regulations requiring notification to the Coastguard captain 24 hours before arrival at a US port.

   For further information, see: www.amver.com.

Former *Annual New Zealand Notice to Mariners, No. 4C,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: Maritime New Zealand

Radio Distress Calling

Use Only

If in grave or imminent danger

- **Switch radio to Full Power**
- **Use Ch 16 VHF or 2182, 4125, 6215, 8291, 12290, 16420 SSB**
- **Mayday Mayday Mayday**
- **This is (name of vessel) – Spoken three times**
- **(Callsign) – Spoken once**
- **Mayday (name of vessel and callsign)**
- **Vessel's position in degrees and minutes of latitude and longitude, or bearing and distance relative from a known geographical feature.**
- **Nature of distress and the kind of assistance required.**
- **Number of persons on board.**
- **Any other information which may assist rescuers – description of vessel, liferaft, EPIRB.**
- **Over**
- **Allow a short period for shore station to reply. If no answer, activate your EPIRB and repeat the distress call working through all the distress frequencies.**
- **If contact is made with shore station, inform station if you have activated your EPIRB.**

Do not turn off EPIRB until told to do so by rescue authority.

You can use any means to communicate distress simultaneously.

Digital Selective Calling (DSC)

1. This is an automatic calling system which makes the initial contact between two stations, groups of stations or stations in a selected area. The caller composes a short message which is transmitted directly to the receiving station(s). It is the core part of the Global Maritime Distress Safety System (GMDSS).

New Zealand DSC Coverage

2. The system, based at Taupo Maritime Radio, has a coverage area for the GMDSS oceanic area designations* A3 and A4 in the New Zealand monitored sea area NAVAREA XIV.

3. DSC is not used on the maritime VHF or MF frequency bands and does not cover the GMDSS in-shore area designations* of A1 and A2.

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* Definitions of GMDSS Sea Areas:

A1 – Sea area A1 means an area within the radiotelephone coverage of at least one very high frequency (VHF) coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government. (**VHF DSC alerting not available to shore stations in New Zealand**).

A2 – Sea area A2 means an area, excluding sea area A1, within the radiotelephone coverage of at least one medium frequency (MF) coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government. (**MF DSC alerting not available to shore stations in New Zealand**).

A3 – Sea area A3 means an area, excluding sea areas A1 and A2, within the coverage of a recognized mobile satellite service supported by the ship earth station carried on board, in which continuous alerting is available.

A4 – Sea area A4 means an area outside of sea areas A1, A2 and A3.

DSC Operation

4. When the DSC equipment receives a call it raises an alarm. Embedded within the alert signal is an indication of how subsequent communications should be made, either radiotelephony or radio telex.

   If the caller is in distress, the ship's Identifier Number (MMSI), position and nature of distress are included in the DSC message. For distress and urgency alerts, the alarm sounds continuously until the received information has been read by the operator.

   DSC Distress alerts received by Taupo Maritime Radio are immediately passed to the Rescue Coordination Centre New Zealand (RCCNZ).

5. DSC uses the HF maritime radio frequencies in the 4, 6, 8, 12 and 16 MHz bands.

DSC Distress Procedures

To be used by all HF DSC-equipped vessels operating in the NAVAREA XIV sea areas A3 and A4 if time permits.

6. By a Ship Transmitting a DSC Distress Alert:

(a) If time permits, consult the optimum frequency/range diagrams for communicating with Taupo Maritime Radio which are published quarterly in the *New Zealand Notices to Mariners.* As a general rule the DSC distress channel in the 8 MHz maritime band (8414.5 kHz) may in many cases be an appropriate first choice.

(b) DSC distress alerts may be sent on a number of HF bands by transmitting the distress call either as:

   (i) Five consecutive calls on one frequency (single frequency call attempt), and waiting a few minutes for receiving acknowledgement by a coast station; or

   (ii) Up to six consecutive calls dispersed over a maximum of six distress frequencies (one at MF and five at HF). Note that Taupo Maritime Radio does not monitor the MF DSC distress frequency. Stations transmitting multi-frequency call attempts should be able to receive acknowledgements continuously on all frequencies except for the transmit frequency in use.

(c) After the vessel has received a DSC acknowledgement of their distress alert, transmit a Mayday call on the associated HF radio telephony band. For example, if 8414.5 kHz had been used for the DSC distress alert, then 8291 kHz would be used for the Mayday message.

(d) Normally a DSC acknowledgement should be received from a coast station (Note: a coast station MMSI always begins with "00", for example Taupo Maritime Radio – 005120010).

7. By a Ship Receiving a DSC Distress Alert:

(a) View the details of the distress alert (ship's position, MMSI number etc.).

(b) **Do not acknowledge.** Switch to the associated HF band, and listen to the Mayday call and message, which should follow.

(c) Wait for at least three minutes for an acknowledgement of the Mayday message from a coast station using the selected HF band.

(d) If, after three minutes, no acknowledgement from a coast station is received, transmit a DSC Mayday Relay alert to a suitable shore station if using DSC and inform any Rescue Coordination Centre that a Mayday message has been received and give the details. This relay message can be sent by any means, on any suitable GMDSS distress and safety frequency.

The following frequencies have been assigned to Taupo Maritime Radio (ZLM) for Distress, Urgency and Safety use for DSC, Voice and SITOR:

Bands	DSC	Voice	SITOR (FEC)
HF4	4207.5	4125	4177.5
HF6	6312.0	6215	6268
HF8	8414.5	8291	8376.5
HF12	12577	12290	12520
HF16	16804.5	16420	16695

The following voice Working Frequencies have been allocated to ZLM:

Band	Frequency						
MF2	2207						
HF4	4146	4149					
HF6	6224	6227	6230				
HF8	8297	8294					
HF12	12356	12353	12359	12362	12365		
HF16	16531	16528	16534	16537	16540	16543	16546
HF22	22159	22165	22171	22177			

5	Firing Practice, Exercise and Submarine Safe Bottoming Areas

Former *Annual New Zealand Notice to Mariners, No. 5*, published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: New Zealand Defence Force (Headquarters Joint Force New Zealand), Civil Aviation Authority

Use of Towed Submerged Arrays in Firing Practice and Exercise Areas

1. Warships operating within firing practice and exercise areas may stream towed bodies outside of notified firing and exercise periods. The length and depth of towed arrays may impact the manoeuvrability of a warship, and its ability to manoeuvre in accordance with the requirements of the International Maritime Organization's *International Regulations for the Preventions of Collisions at Sea 1972* (IRPCS) (as adopted by Maritime New Zealand's *Maritime Rules Part 22*). All warships towing submerged arrays will monitor safety relative to other vessels and if necessary display the prescribed lights and/or shapes indicating any special condition that may affect manoeuvrability, as prescribed in the IRPCS. Vessels operating in vicinity of warships within the promulgated firing practice and exercise areas are to:

   a) Operate with particular caution, noting the possibility that towed submerged arrays may be deployed; and

   b) Vessels engaged in fishing are to do so with particular caution, and are to keep the vessel and any deployed gear at a safe distance.

2. Firing and bombing practices and defence exercises take place intermittently in a number of areas off the coast of New Zealand.

3. In view of the responsibilities of range authorities to avoid accidents, limits of practice areas are not shown on New Zealand and British Admiralty charts, and descriptions of areas do not appear in the *ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51). Diagrams of danger areas are included at the end of this notice. However, such range beacons, lights, and marker buoys which may be of assistance to the mariner, or targets which might be a danger to navigation, will be shown on charts and, when appropriate, mentioned in NP51.

4. The principal types of practices carried out are:

Type	Description	Remarks
(a) Air-to-Ground; or (b) Air-to-Sea	(i) Bombing practice from aircraft at ground targets; or (ii) Aircraft firing at towed or stationary targets on sea or land.	Warning signals are usually shown. Firing takes place to seaward of land targets. All marine craft operating as range safety craft or targets will display, for identification purposes, while in the vicinity of the danger area by day, a large red flag at the masthead.
(c) Sea- or Ground-to-Air	Anti-aircraft firing from shore batteries or ships from AA guns or machine guns at a target towed by aircraft as in (a)(ii) above, or at balloons.	Ships show a red flag by day; a night signal is not shown.
(d) Air-to-Air	Aircraft fire at a large white or red sleeve or flag (which may be illuminated by a bright white light) towed by another aircraft moving on a steady course.	
(e) Ground-to-Sea; or (f) Sea-to-Sea; or (g) Sea-to-Ground	Firing from shore batteries or ships at fixed or floating targets.	
(h) Rocket or Guided Weapons Firing	May be (a), (b), (c), (d), (e) or (g) above.	All such firings under Clear (Air and Sea) Range procedure. Devices are generally incorporated whereby the missiles may be destroyed should their flights be erratic. Ships show a red flag by day; a night signal is not shown.

Notification of Practices

Warnings will not be issued in respect of exercise areas D130 and M306 as these areas are considered to be in continual use. These areas are described in the following pages.

5. For the information of ships at sea, warnings of practices will be notified by:
   (a) The broadcast of VHF and R/T (Radio-Telephony) messages which will be promulgated during evening and morning transmission times before any practice takes place. For times and frequencies of these transmissions, see *Annual New Zealand Notice to Mariners, No. 9*;
   (b) *New Zealand Notices to Mariners* (NTMs), if practices are to be of long duration, i.e. seven days or more;
   (c) Additional warnings of Army live-shell practices only will be notified by advertisement in a newspaper or newspapers within the port concerned not less than twenty-four hours before a practice begins and by the New Zealand Maritime Radio regional station for the port concerned not less than twelve hours before any practice;
   (d) In addition to 4(a) for all firings in the New Zealand area, whether in prescribed areas or not, firing warnings are to be passed on R/T 2182 kHz and VHF Channel 16, five minutes prior to the commencement of live firing, every 30 minutes thereafter, and immediately on completion of firings. The nature of the broadcast will be "...I am about to commence gunnery practice....." or "...I have completed gunnery practice..."

Form of Warning

6. In order to promulgate the danger areas, warnings are transmitted:
   (a) Via SafetyNet on Inmarsat-C ECG (Coastal Area Z); and
   (b) As an R/T transmission to the relevant coastal area(s) affected by such warnings as Coastal Navigation Warnings (see *Annual New Zealand Notice to Mariners, No. 9*, paragraphs 7 – 9).

   Note: Warnings may be promulgated in NTMs, see paragraph 5(b) above.

Warning Signals – Visual

7. These consist of a large red flag by day and a fixed red light at night. The absence of any such signal cannot, however, be accepted as evidence that a practice area does not exist. Warning signals are shown from half an hour before practice commences until it ceases.

   Ships and aircraft carrying out night exercises may illuminate with white, green, or red flares.

Caution

8. The range authorities are responsible for ensuring that there should be no risk of damage from falling shell splinters or bullets to any vessel that may be in a practice area. If a vessel is in an area where practice is in progress, the vessel should maintain its course and speed, but, if prevented from doing so by the exigencies of navigation, the vessel should endeavour to clear the area at the earliest possible moment. Practices will not normally take place while a vessel is in a danger area, but the areas must be cleared as soon as possible after the warning has been shown.

Clear Range Procedure

9. The following limits are used by RNZAF crews engaged in dropping live weapons:
   (a) The dropping area is to be at least 30 nautical miles (15 miles*) from the nearest land, outside the 100-metre line and at least 20 nautical miles (10 miles*) from all shipping;
   (b) The visibility is to be greater than five nautical miles and all attacks are to be made from below the cloud base. The target is to be visible at the time of the drop;
   (c) The area through which and into which any weapons will pass or fall is to be clear of all air and sea traffic.

   *Limits used for practice weapons.

Ordnance Brought to the Surface

10. Fishermen operating in the vicinity of firing practice and exercise areas may occasionally bring unexploded missiles or portions of them to the surface in their nets or trawls. These objects may be dangerous and should be treated with great caution and jettisoned immediately (fixing the position, if possible).

    No attempt should be made to tamper with them or bring them back for inspection by naval authorities – For more information, see *Annual New Zealand Notice to Mariners, No. 6*.

Danger Areas (D) and Military Operating Areas (MOA)

11. Full details of permanent and temporary special use airspace areas are listed in the New Zealand Air Navigation Register available through the New Zealand Civil Aviation Authority www.aip.net.nz

Military Operating Area (MOA) – area where military operations, including firings, may take place.

Danger Area (D) – area where dangers may be present, e.g. firings.

Selected Military Operating Areas (MOA)

12. Note:

(a) Inland ranges and those affecting aircraft only are not included in this notice;

(b) These areas are shown on the plans at the end of this notice; and

(c) All coordinates are given in terms of WGS84 datum, (expressed in degrees, minutes and seconds).

No.	Area	Activity
M102	**Bay of Islands, Northland** All that area bounded by great circle lines from 34° 30′ 00″S., 174° 50′ 00″E. to 35° 00′ 00″S., 174° 50′ 00″E. to 35° 00′ 00″S., 174° 15′ 00″E. to 34° 30′ 00″S., 174° 15′ 00″E. and to 34° 30′ 00″S., 174° 50′ 00″E.	Naval firing and air bombing
M103	**South Head, Northland** Area bounded by a circle radius 3 NM centred on the point 36° 28′ 39.1″S., 174° 09′ 38.4″E.	Air firing and bombing
M106	**Kaipara, Northland** All that area bounded by a great circle from 36° 21′ 02.8″S., 174° 18′ 07.8″E. to 36° 32′ 37.4″S., 174° 20′ 50.2″E. thence Anti-clockwise along the arc of a circle of 20 NM radius centred on 36° 47′ 12.5″S., 174° 37′ 52.4″E. to 36° 36′ 53.0″S., 174° 16′ 33.8″E. thence Along great circle lines to 36° 38′ 00.0″S., 174° 09′ 00.0″E. to 36° 33′ 00.0″S., 173° 58′ 00.0″E. to 36° 20′ 05.9″S., 174° 01′ 00.4″E. to 36° 18′ 38.9″S., 174° 09′ 46.2″E. and to 36° 21′ 02.8″S., 174° 18′ 07.8″E.	Military aircraft manoeuvres, naval and air firing, and bombing
M204	**Cuvier Island (Repanga Island), Bay of Plenty** All that area bounded by great circle lines from 35° 50′ 00″S., 176° 25′ 00″E. to 36° 20′ 00″S., 176° 25′ 00″E. to 36° 20′ 00″S., 175° 50′ 00″E. to 35° 50′ 00″S., 175° 50′ 00″E. and to 35° 50′ 00″S., 176° 25′ 00″E.	Naval firing and air bombing
M205	**Bay of Plenty A** All that area bounded by great circle lines from 35° 20' 00"S., 177° 17' 30"E. to 36° 20' 00"S., 177° 17' 30"E. to 36° 20' 00"S., 176° 25' 00"E. to 35° 50' 00"S., 176° 25' 00"E. to 35° 50' 00"S., 175° 50' 00"E. to 35° 20' 00"S., 176° 25' 00"E. and to 35° 20' 00"S., 177° 17' 30"E.	Naval firing and air bombing
M206	**Bay of Plenty B** All that area bounded by great circle lines from 35° 20' 00"S., 178° 10' 00"E. to 36° 20' 00"S., 178° 10' 00"E. to 36° 20' 00"S., 177° 17' 30"E. to 35° 20' 00"S., 177° 17' 30"E. and to 35° 20' 00"S., 178° 10' 00"E.	Naval firing and air bombing

(Continued)

Selected Military Operating Areas (MOA), *Continued*

No.	Area	Activity
M207	**Bay of Plenty C** All that area bounded by great circle lines from 36° 20' 00"S., 177° 17' 30"E. to 37° 20' 00"S., 177° 17' 30"E. to 37° 20' 20"S., 176° 25' 00"E. to 36° 20' 00"S., 176° 25' 00"E. and to 36° 20' 00"S., 177° 17' 30"E.	Naval firing and air bombing
M208	**Bay of Plenty D** All that area bounded by great circle lines from 36° 20' 00"S., 178° 10' 00"E. to 37° 20' 00"S., 178° 10' 00"E. to 37° 20' 00"S., 177° 17' 30"E. to 36° 20' 00"S., 177° 17' 30"E. and to 36° 20' 00"S., 178° 10' 00"E.	Naval firing and air bombing
M302	**Taranaki Bight** All that area bounded by the arc of a circle of 18 NM radius centred on 40° 12′ 34.6″S., 175° 23′ 31.1″E. Anti-clockwise from 40° 05′ 47.7″S., 175° 01′ 46.2″E. to 40° 19′ 34.8″S., 175° 01′ 51.2″E. Thence along a great circle line to 40° 35′ 39.6″S., 174° 11′ 00.9″E. thence Clockwise along the arc of a circle of 60 NM radius centred on 40° 12′ 34.6″S., 175° 23′ 31.1″E. to 39° 49′ 42.4″S., 174° 11′ 18.3″E. thence Along a great circle line to 40° 05′ 47.7″S., 175° 01′ 46.2″E.	Various Permanently activated during daylight hours
M306	**Raumai, Manawatu** All that area bounded by a circle of 4 NM radius centred on 40° 12′16.0″S., 175° 13′ 29.4″E.	Air bombing and air-to-surface firing Permanently activated
M504	**Wairarapa Coast** All that area bounded by great circle lines from 40° 25′ 46.9″S., 178° 02′ 11.0″E. to 41° 02′ 03.9″S., 177° 18′ 50.1″E. to 40° 42′ 44.5″S., 176° 50′ 27.5″E. to 40° 06′ 17.7″S., 177° 33′ 51.5″E. and to 40° 25′ 46.9″S., 178° 02′ 11.0″E.	Air gunnery, surface-to-air and surface-to-surface firings, ships and submarine exercises

Selected Maritime Danger Areas (D)

13. **Note:**

(a) Inland ranges and those affecting aircraft only are not included in this notice;

(b) These areas are shown on the plans at the end of this notice; and

(c) All coordinates are given in terms of WGS84 datum, (expressed in degrees, minutes and seconds)

No.	Area	Activity
D125	**Tiritiri Matangi Island, Hauraki Gulf / Tīkapa Moana** All that area bounded by great circle lines from 36° 31′ 31.8″S., 174° 54′ 56.9″E. to 36° 35′ 30.0″S., 174° 54′ 56.9″E. to 36° 35′ 30.0″S., 174° 52′ 40.4″E. to 36° 36′ 36.3″S., 174° 52′ 40.4″E. to 36° 36′ 17.5″S., 174° 50′ 20.0″E. to 36° 35′ 42.0″S., 174° 49′ 00.0″E. to 36° 31′ 31.8″S., 174° 49′ 00.0″E. and to 36° 31′ 31.8″S., 174° 54′ 56.9″E.	Surface-to-air and surface firing
D130	**Whangaparāoa, Hauraki Gulf / Tīkapa Moana** All that area bounded by great circle lines from 36° 33′ 50.2″S., 174° 52′ 40.4″E. to 36° 36′ 36.3″S., 174° 52′ 40.4″E. to 36° 36′ 17.5″S., 174° 50′ 20.0″E. to 36° 35′ 42.0″S., 174° 49′ 00.0″E. to 36° 33′ 50.2″S., 174° 49′ 00.0″E. and to 36° 33′ 50.2″S., 174° 52′ 40.4″E.	Small arms firing and explosives Permanently activated

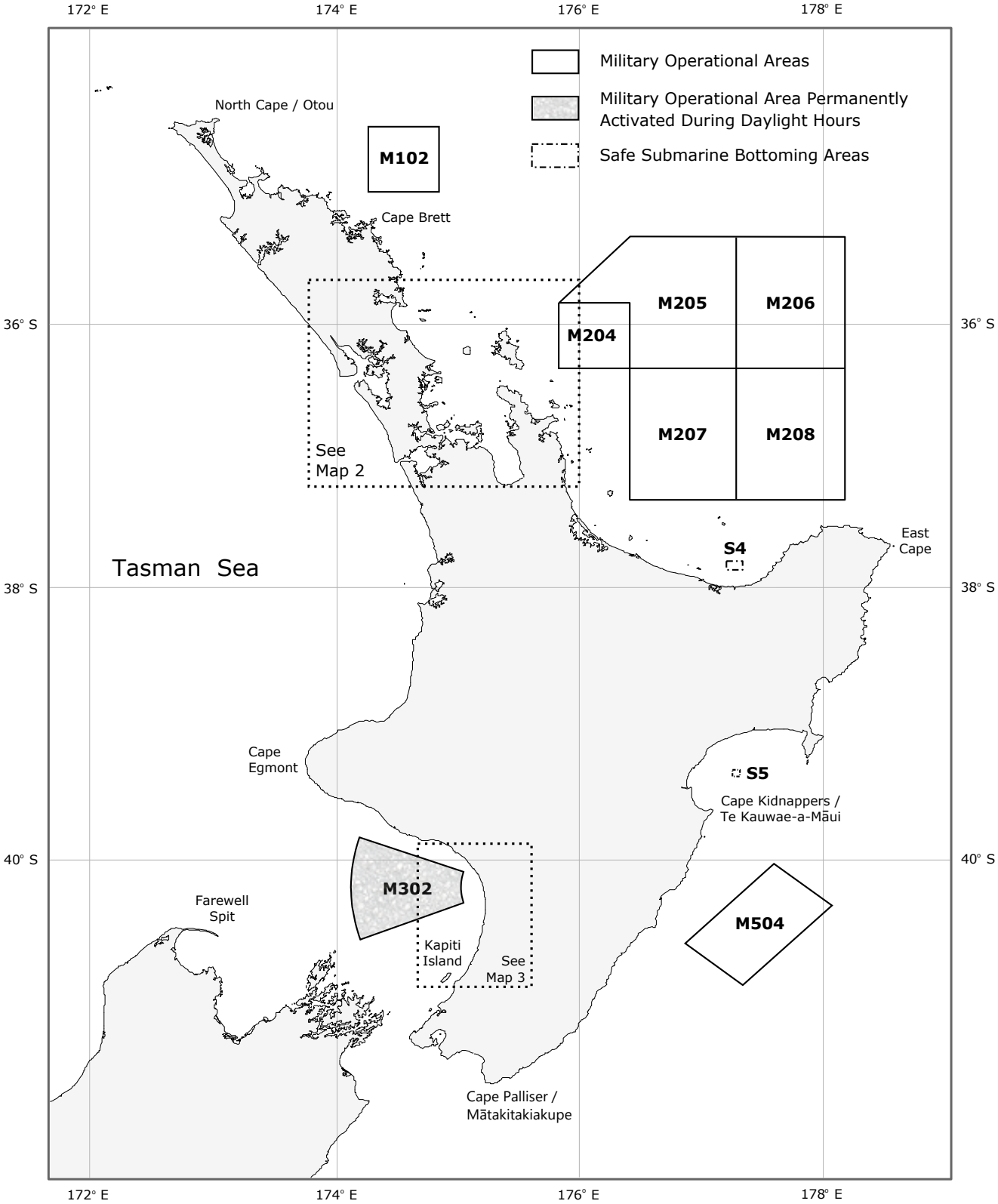
Designated Safe Submarine Bottoming Areas

14. All coordinates are given in terms of WGS84 datum (expressed in degrees, minutes and seconds).

No.	Area	Limits
S1	**Hauraki Gulf / Tīkapa Moana**	All that area bounded by great circle lines from 36° 27′ 54″S., 175° 05′ 00″E. to 36° 29′ 54″S., 175° 05′ 00″E. to 36° 29′ 54″S., 175° 02′ 30″E. to 36° 27′ 54″S., 175° 02′ 30″E. and to 36° 27′ 54″S., 175° 05′ 00″E.
S2	**Te Hauturu-o-Toi / Little Barrier Island**	All that area bounded by great circle lines from 36° 01′ 18″S., 175° 03′ 15″E. to 36° 02′ 51″S., 175° 06′ 30″E. to 36° 04′ 54″S., 175° 05′ 00″E. to 36° 03′ 18″S., 175° 01′ 42″E. and to 36° 01′ 18″S., 175° 03′ 15″E.
S3	**Great Barrier Island (Aotea Island)**	All that area bounded by great circle lines from 36° 26′ 18″S., 175° 42′ 06″E. to 36° 29′ 24″S., 175° 42′ 06″E. to 36° 29′ 24″S., 175° 38′ 30″E. to 36° 26′ 18″S., 175° 38′ 30″E. and to 36° 26′ 18″S., 175° 42′ 06″E.
S4	**Bay of Plenty**	All that area bounded by great circle lines from 37° 47′ 54″S., 177° 20′ 00″E. to 37° 51′ 54″S., 177° 20′ 00″E. to 37° 51′ 54″S., 177° 12′ 00″E. to 37° 47′ 54″S., 177° 12′ 00″E. and to 37° 47′ 54″S., 177° 20′ 00″E.
S5	**Hawke Bay**	All that area bounded by great circle lines from 39° 18′ 54″S., 177° 18′ 36″E. to 39° 21′ 54″S., 177° 18′ 36″E. to 39° 21′ 54″S., 177° 15′ 00″E. to 39° 18′ 54″S., 177° 15′ 00″E. and to 39° 18′ 54″S., 177° 18′ 36″E.

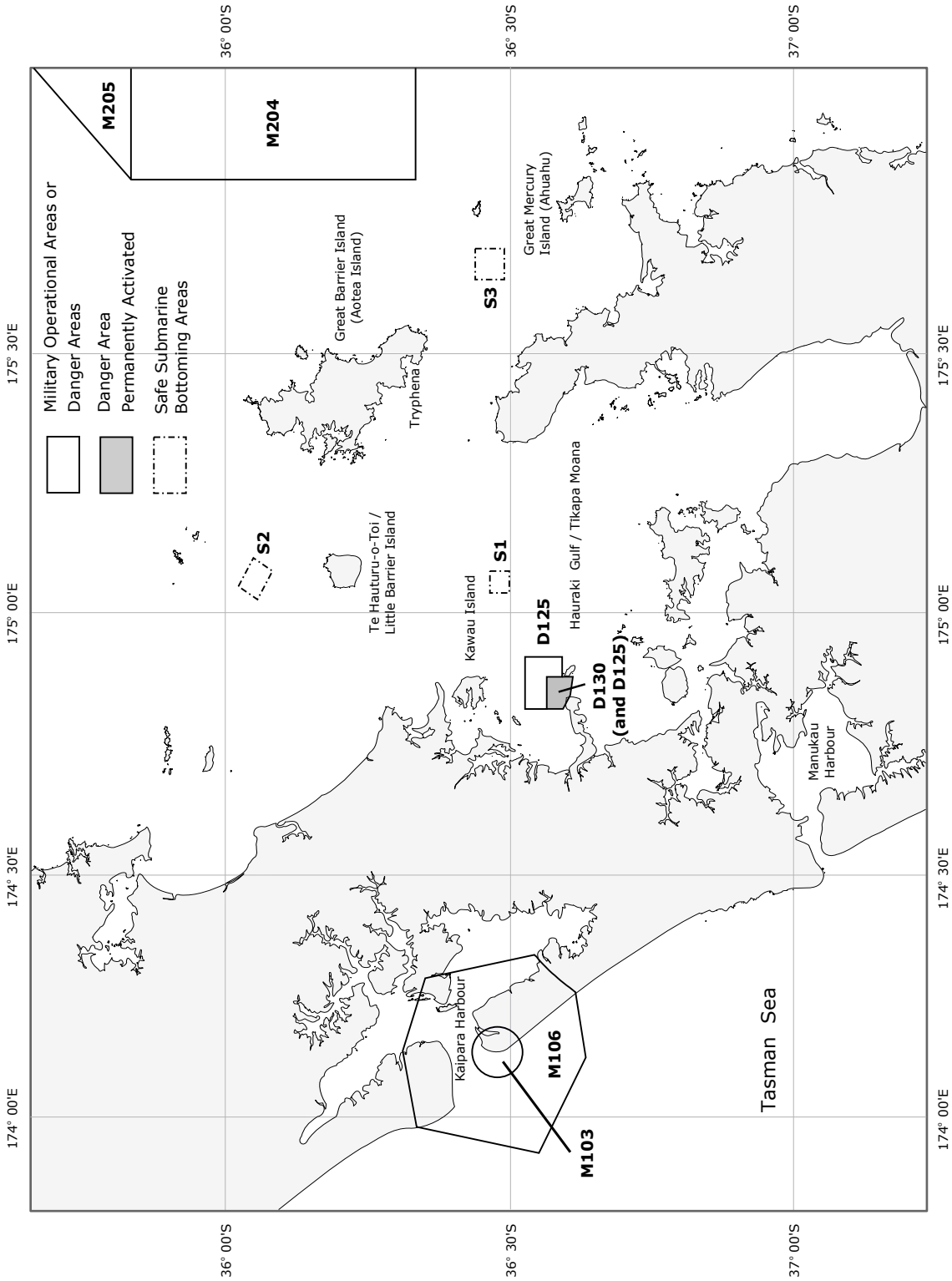
Map 1

Military Operating Areas: North Island, New Zealand



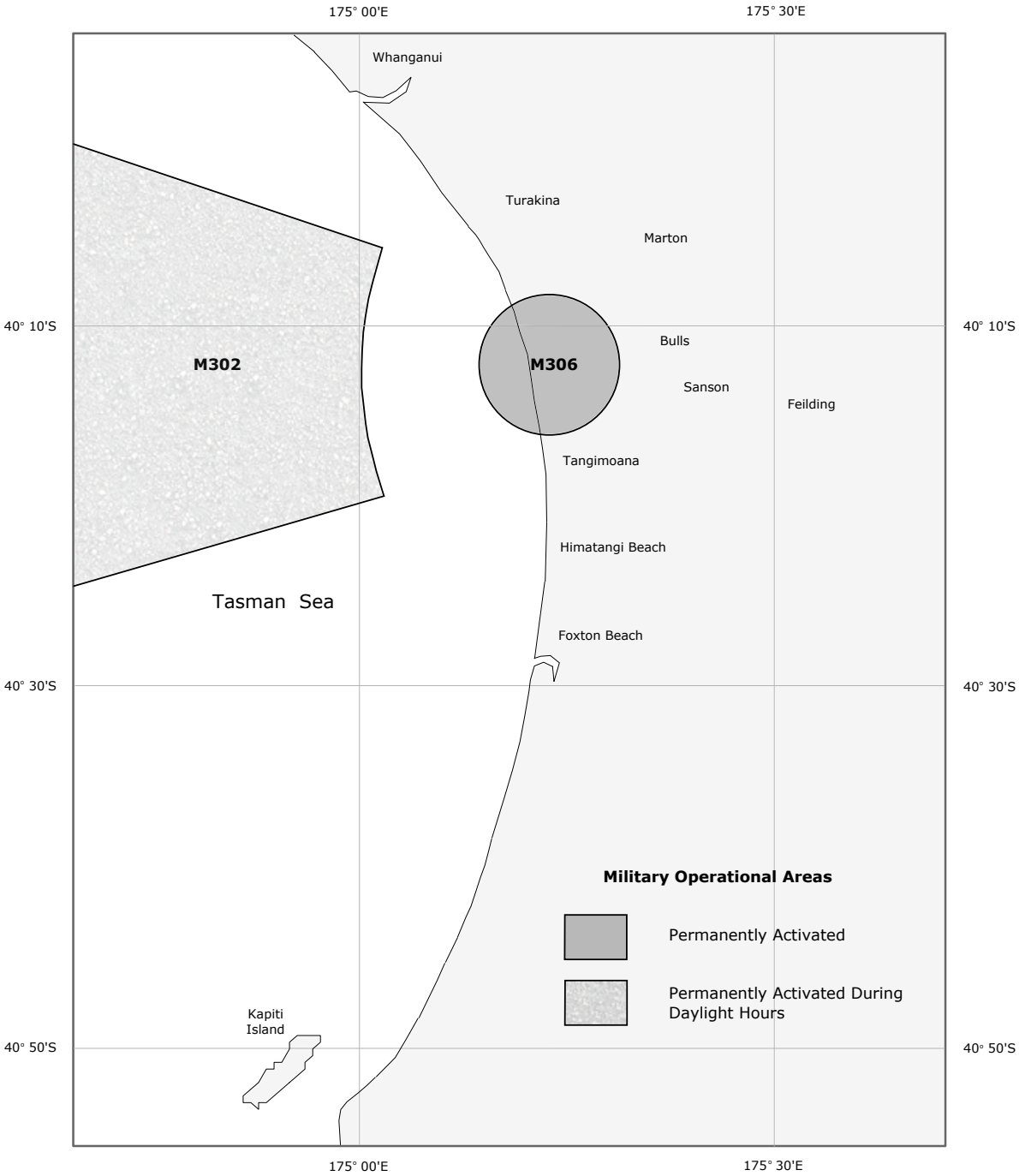
Map 2

Military Operating Areas: North Island, New Zealand – Auckland Area



Map 3

Military Operating Areas: North Island, New Zealand – Kapiti Island – Whanganui



6	Former Mine Danger Areas; Swept Routes And Instructions Regarding Explosives Picked Up At Sea

Former *Annual New Zealand Notice to Mariners, No. 6,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: New Zealand Defence Force (Headquarters Joint Force New Zealand)

1. Minefields were laid in many parts of the world during World War II. Many of these minefields have been swept, others have had routes swept through them. These routes are mostly marked by buoys and have been used safely by shipping for many years. Due to the lapse in time, navigation through these minefields, whether they have been swept or not, is now considered no more dangerous from mines than from any other of the usual hazards to navigation. But in the unswept areas a real danger still exists with regard to anchoring, fishing or any form of submarine or seabed activity. Furthermore, uncharted wrecks and shoals may lie in these areas, some of which are not covered by modern surveys.

   Former mine danger areas are mentioned in appropriate volumes of *ADMIRALTY Sailing Directions,* with full details in an appendix. Even in swept waters and routes there is a remote risk that mines may still remain, having failed to respond to orthodox sweeping methods. Mariners are therefore advised only to anchor in port approaches and established anchorages. In an emergency it is better to anchor in a swept route rather than in unswept waters.

2. Although unlikely, there remains a remote possibility of drifting mines being sighted in New Zealand waters. All drifting mines should be reported immediately to the naval authorities via a coast radio station. The time of sighting and position of the mine is important in the reporting information so that an appropriate warning to other shipping can be broadcast. A drifting mine is best left for the naval experts to deal with. Rifle fire could pierce the casing and sink the mine without causing it to explode. It could then, if it is near the coast, get washed up on a beach or end up in a trawl in a lethal state.

3. Mines, torpedoes, depth charges, bombs and other explosive missiles are sometimes picked up in trawls, often in waters comparatively distant from New Zealand. Explosive weapons are dangerous even if they have been in the water for many years, and the following guidance is given with them:

   (a) A suspected explosive weapon should not be landed on deck if it has been observed while the trawl is still outboard. The trawl should be lowered and where possible towed clear of regular fishing grounds, if possible to a depth of between 20 and 30 metres before cutting away the net as necessary.

   The position and depth of water where the mine was cut away should be passed to the naval authorities via the coast radio station or direct to Headquarters Joint Forces New Zealand 0800 HQJFNZ (0800 475 369) or +64 4 529 6333.

   (b) In the event of the weapon not being detected until the contents of the trawl have been discharged on deck, the master of the fishing vessel must decide whether to rid the ship of the weapon by passing it over the side or to make for the nearest port informing the HQJFNZ and New Zealand Police via the coast radio station without delay. This decision will depend on the circumstances, but should be guided by the following points:

      (i) Great care should be taken to avoid bumping the weapon.

      (ii) If retained onboard it should be stowed on deck, away from heat and vibration, firmly chocked and lashed to prevent movement.

      (iii) It should be kept covered up and damped down. This is important because any explosive which may have become exposed to the atmosphere is liable to become very sensitive to shock if allowed to dry out.

      (iv) The weapon should be kept onboard for as short a time as possible.

      (v) If within two or three hours' steaming of the coastline the safest measure will generally be to run towards the nearest port and lie a safe distance offshore to await the arrival of a bomb disposal unit. Under no circumstances should the vessel bring the mine or weapon into harbour.

   (c) **Under No Circumstances** should attempts be made to clean the weapon for identification purposes, open it or tamper with it in any way.

   (d) A ship with an explosive weapon onboard, or in her gear, should warn other ships in the vicinity giving her position and, if applicable, intended position of jettison.

4. Re-moored mines which have drifted in from deeper water trailing a length of cable, are likely to become dangerous should the cable foul some obstruction on the bottom. In this case the mine may not appear on the surface at all states of the tide. Such mines should be reported in the same way as drifting mines.

5. **Under No Circumstances** should an attempt be made to recover a mine and bring it to port, and rewards formerly paid to mariners for such recovery have been discontinued.

For further information refer to the Admiralty publication *The Mariner's Handbook* (NP100).

7 Under-Keel Clearance

Former *Annual New Zealand Notice to Mariners, No. 7*, published 1 July 2023 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authority: Toitū Te Whenua Land Information New Zealand

Cautionary Notes Charts and Tide Predictions

1. It is increasingly common for mariners to navigate in shallow water with a bare minimum depth below the keel (under-keel clearance). This minimum depth below the keel is usually assessed from the charted depths and predicted tide levels. Given this the mariner should note the following:

   (a) Due to the technical limitations of hydrographic surveys and the uncertainties in tidal reductions for surveys, nautical charts can seldom be absolutely reliable in their representation of depth. Other limitations of hydrographic surveys are discussed at length in the Admiralty publication *The Mariner's Handbook* (NP100).

   (b) The mariner should be aware that any chart, regardless of age of survey, may not show all seabed obstructions or shoalest depths.

   (c) Depths can change quickly in areas where the seabed is highly dynamic. These critical areas are surveyed more frequently but significant changes can occur between surveys. In all cases the mariner should contact the local authority for the latest survey and depth information.

   (d) Water levels, and therefore the least depth over seabed obstructions, are affected by meteorological conditions, i.e. barometric pressure, wind, swell, and both positive and negative storm surges. These are described in the Tidal Section, *New Zealand Nautical Almanac* (NZ 204) and in the *ADMIRALTY Tide Tables* (NP204). As a result, actual water levels may vary appreciably from predicted values.

   (e) Where an expected least depth or an under-keel clearance is determined using only tidal predictions and charted depths the uncertainty in the survey and tidal predictions may be compounded.

Waves Caused by Meteorological Conditions

2. Mariners are warned that in addition to local swell waves, certain meteorological conditions may generate swell waves which can significantly reduce a vessel's under-keel clearance in the approaches to some New Zealand ports. These swell waves may be generated from any or all of the following:

   (a) Long period swell waves with amplitudes up to 0.5 metre and periods up to 20 minutes;

   (b) Infra-gravity waves (waves generated by the interaction between swell waves) with amplitudes up to 1.5 metres and a period of several minutes;

   (c) Rissaga (meteorological tsunami) generated by fast moving atmospheric pressure systems.

   The generation of such swell waves is particularly likely when a deep depression situated to the east of New Zealand is moving quickly towards the south-east. Ports on the east coast of New Zealand which are exposed to swell from south through to east are particularly susceptible to swell effects.

   Mariners should navigate large vessels with caution under swell conditions. The prudent mariner will allow for navigational uncertainties by preserving adequate clearance, both horizontally and vertically.

   New Zealand locations where long period swell, infra-gravity waves and rissaga may be experienced:

   - Approaches to Port Taranaki
   - Approaches to Whangārei Harbour
   - Approaches to Gisborne
   - Approaches to Napier
   - Approaches to Wellington
   - Approaches to Lyttelton
   - Approaches to Timaru
   - Approaches to Otago Harbour
   - Foveaux Strait

Dynamic Under-Keel Clearance Systems

3. Dynamic Under-Keel Clearance (DUKC) systems generate predictive information regarding a particular vessel's under-keel clearance in the expected weather, tidal and sea conditions. The pilot provides this information from the DUKC system to the ship's master.

   DUKC systems are in operation at the following New Zealand ports:

   - Port Taranaki
   - Marsden Point
   - Napier
   - Lyttelton
   - Wellington

8 Information Concerning Submarines

Former *Annual New Zealand Notice to Mariners, No. 8,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: New Zealand Defence Force (Headquarters Joint Force New Zealand)

Warning Signals

1. Mariners are warned that considerable hazard to life may result from the disregard of the following signals which denote the presence of submarines:

   (a) Visual signals. Warships fly the International Code Group "NE2" to denote that submarines which may be submerged, are in the vicinity. Vessels are cautioned to steer so as to give a wide berth to any vessel flying this signal. If from any cause it is necessary to approach her, a good look-out must be kept for submarines whose presence may be indicated only by their periscopes or snort masts showing above the water.

   (b) Pyrotechnics and smoke candles. The following signals are used by submerged submarines:

Signal	Signification
White smoke candle (with flame)..... Yellow smoke candles Yellow and green pyro flares.	Indicates position in response to request from ship or aircraft, or as required.
Red pyro flares..... (may be accompanied by smoke candles repeated as often as possible).	Keep clear I am carrying out emergency surfacing procedure. Do not stop propellers. Clear the immediate area, but stand by to render assistance.

Note: If the red pyro flare signal is sighted and the submarine does not surface within 5 minutes, it should be assumed that the submarine is in distress and has sunk. An immediate attempt should be made to fix the position in which the signal was sighted, after which action in accordance with paragraphs 13 – 19 below should be taken.

2. It must not be inferred from the above that submarines exercise only when in company with escorting vessels. Submarines operate in areas other than promulgated Submarine Exercise Areas.

3. The note *Submarine Exercise Area* on certain charts should not be read to mean that submarines do not exercise outside such areas. Under normal circumstances the majority of submarine exercise activity will be limited to promulgated Military Operating Areas (MOA). However this does not preclude exercises or operations in other areas. In such cases, participating units will make or display appropriate warning signals. Under certain circumstances warnings that submarines are exercising in specified areas may be broadcast by a coast radio station or promulgated in printed navigational warnings.

   For more information regarding Submarine Exercise Areas in New Zealand, see *Annual New Zealand Notice to Mariners, No. 5*.

Navigation Lights

4. Submarines have their masthead and side lights placed well forward and very low over the water in proportion to the length and tonnage of these vessels. In particular:

   (a) Some submarines can show a forward masthead light only in calm confined waters;

   (b) In other submarines the forward masthead light may be lower than the sidelights;

   (c) The main masthead light may be well forward of the mid-point of the submarine's length;

   (d) Some submarines, despite their length, may show only one masthead light.

5. Stern lights are placed very low indeed, and may at times be partially obscured by spray and wash. In some cases the stern lights will be well forward of the after part of the submarine, and thus will not give a true indication of the submarine's length. They are invariably lower than the side lights.

6. The after light of submarines at anchor is mounted on the upper rudder which is some distance astern of the hull's surface waterline. Care must be taken to avoid confusion with two separate vessels of less than 50 metres in length.

7. The overall arrangement of submarine lights is therefore unusual and may well give the impression of markedly smaller and shorter vessels than what they are. Their vulnerability to collision when proceeding on the surface dictates particular caution when approaching them. Nearly all submarines are fitted with an amber quick-flashing light situated above or abaft the main steaming light. This additional light is for use as an aid to identification in narrow waters and areas of dense traffic. Australian submarines will normally burn this identification light under the above conditions, and when entering or leaving harbour at night.

8. Royal Australian Navy (RAN) Collins class submarines exhibit a very quick flashing yellow identification light (120 flashes per minute) VQ.Y. This identification light should not be confused with an air cushion vessel operating in a non-displacement mode which displays the same light.

Sunken Submarine

9. A bottomed submarine which is unable to surface will try to indicate her position by firing candles which give off yellow or white smoke. This will be done either on the approach of surface vessels or at regular intervals. As far as possible yellow candles will be used by day.

Note: It should be remembered that it may be impossible for a submarine to fire her smoke candles. Correspondingly a partially flooded submarine may have only a certain number of her smoke candles available, and searching ships should therefore not expect many to appear.

10. Since oil slicks or debris may be the only indication of the presence or whereabouts of the sunken submarine, it is vitally important that surface ships refrain from discharging anything which might appear to have come from a submarine while they are in the submarine probability area. Searching ships and aircraft can waste many valuable hours investigating these false contacts.

11. Some submarine pyrotechnics can be fitted with message carriers. If a message has been attached, the pyrotechnic will be fitted with a dye marker, which gives off a yellowish-green dye on the surface. Such a pyrotechnic should be recovered as soon as it has finished burning.

12. RAN Collins class submarines are fitted with the purpose Submarine Launched EPIRB (SERB). A description of the SERB is given at paragraph 20 below.

13. The sighting of any beacon answering the attached description should at once be reported by the quickest available means to the Rescue Coordination Centre New Zealand, the Royal New Zealand Navy or New Zealand Police. However, if vessels are unable to establish communications without leaving the vicinity of the submarine, it should be borne in mind that the primary consideration should be for vessels to remain standing by to rescue survivors, and not leave the scene of the accident. Every effort should be made to include in the report the serial number of the beacon; this number is affixed on top of the SERB (see paragraph 20 below).

14. At any time after a submarine accident, survivors may start attempting to escape. Current policy dictates that survivors will wait before escaping until:

    (a) Rescue vessels are known to be standing by; or

    (b) Conditions inside the submarine deteriorate to such an extent that an attempt to escape must be made.

    In this situation, personnel will be wearing a red/orange escape suit enclosed in a red/orange single person life raft or, if escape was conducted immediately (Rush Escape), survivors will be wearing orange coloured Submarine Escape Jerkins (SEJ). SEJs provide no thermal insulation qualities. Survivors wearing SEJs would present the same visual aspect as personnel wearing a large life jacket.

15. It should be noted that, in certain circumstances, the situation described in paragraph 14(b) above may not arise through lack of air supply until several days after the accident. However, if the submarine is badly damaged, survivors may have to make an escape attempt immediately. Any ship finding a SERB should therefore not leave the position, but stand by well clear ready to pick up survivors. The latter will ascend nearly vertically, and it is plainly important that plenty of sea room is given to enable them to do so in safety. On arrival on the surface, they may be exhausted or ill. Therefore, if circumstances are favourable, the presence of a boat already lowered is very desirable. Some survivors may require a recompression chamber, and it will therefore be the aim of the naval authorities to get such a chamber to the scene as soon as possible.

16. In order that those trapped in the submarine will be made aware that help is at hand, Navy vessels drop small charges into the sea. These can be heard from inside the submarine. There is no objection to the use of small charges for this purpose; but it is vital that they are not dropped too close. This is because crew in the process of making ascents are particularly vulnerable to underwater explosions, and may easily receive fatal injuries. A distance of a quarter of a mile is considered to be safe. If no small charges are available, the running of an echo sounder or the banging of the outer skin of the ship's hull with a hammer from a position below the water-line is likely to be heard in the submarine. Such banging and/or sounding should therefore be carried out at frequent intervals.

17. Submarines may at any time release pyrotechnic floats, which on reaching the surface burn with flame and/or smoke thus, serving to mark the position of the wreck. They are likely to acknowledge sound signals by this means.

18. To sum up, the aims of a submarine rescue operation are:

    (a) To fix the exact position of the submarine;

    (b) To get a ship standing by to pick up survivors if practicable with boats already lowered;

    (c) To get medical assistance to survivors picked up;

(d) To get a diver's decompression chamber to the scene in case this is required by those seriously ill after being exposed to great pressure;

(e) To inform the trapped crew that help is at hand; and

(f) To notify appropriate authorities.

19. There is a large Navy organisation designed to fulfil these aims which is always kept at instant readiness for action. It is clear, however, that any ship may at any time find evidence of a submarine disaster, and if she takes prompt and correct action, as described above, she may be in a position to play a vital part.

Submarine Emergency Radio Beacon (SERB)

20. This beacon is made of aluminium, coloured orange and is cylindrical in shape, with two whip aerials. The beacon is fitted with an automatic transmitting unit (battery life of 48 hours) operating on the following frequencies:

- 406.025 MHz COSPAS-SARSAT/EPIRB;
- 243 MHz Military Air Guard; and
- 121.5 MHz Civil Air Guard.

SERBs carried in RAN Collins class submarines can be released from inside the submarine from each Escape Compartment via a Submerged Signal Ejector, and are not tethered to the submarine in any way. Additionally, if pre-programmed by the crew of the disabled submarine, the EPIRB signal can carry a coded message indicating the following information:

(a) Local time of release;

(b) Number of survivors;

(c) Time till escape must start in hours;

(d) Depth (if less than 180 metres) or an indication that rescue is required;

(e) Internal pressure;

(f) Medical status of survivors;

(g) Presence of hostile forces; and

(h) Estimated Lat/Long.

Submarine Launched Expendable Communications Buoy (ECB)

21. This buoy is used for tactical communications between submarines and warships/aircraft. It can, however, be fired in an emergency default mode. In this case it will transmit a SABRE tone on 243 MHz Military Air Guard.

22. General descriptions of Submarine Emergency Radio Beacons (SERB), Expendable Communications Buoys (ECB), smoke candles fired from submarines, sonobuoys, and aircraft floats, smoke and flame markers are as follows:

(a) White Smoke Candles. These are fired from submarines to indicate their position. They burn for up to 15 minutes emitting white smoke and flame, and thus can be seen day or night; they can easily be confused with the smoke and flame of aircraft marine markers and floats.

(b) Yellow Smoke Candles. These are fired from submarines to indicate their position. They burn for about five minutes emitting yellow smoke. They can be seen more easily than the white smoke candles in rough weather, but cannot be seen at night.

(c) Sonobuoys. These are dropped from aircraft to detect submarines and may be encountered anywhere at sea. Other countries have similar sonobuoys but their colour and dimensions are not known.

(d) The Expendable Communications Buoy (ECB) provides a one way line-of-sight communication between the disabled submarine and surface units. The ECB is a programmable tactical buoy which acts as an alert beacon for submarines in distress. When used in the Alert mode, the buoy transmits a tone on 243 MHz.

The ECB is pre-programmed for distress and does not require programming prior to launch. When the ECB arrives at the surface, it deploys an aerial and flotation collar and commences to transmit.

The following statistics are relevant:

Transmitting Cycle	Range	Battery Life
3 Minutes Transmit – 1 Minute	70 NM – Aircraft 18 NM – Shore 15 NM – Ship	4 Hours +

23. The above may frequently be encountered in areas where warships and aircraft exercise, whether or not submarines are present, and should not be confused with submarine emergency buoys and beacons. In case of doubt, the object should be approached to confirm visually whether or not it is a submarine emergency buoy or beacon before reporting it.

24. The following is a list of candle smoke and markers currently used by New Zealand and Australia:

    (a) Submarine Bubble Decoy Mk N2.

    (b) Schermuly Icarus Band Radar flare.

    (c) Marker Man Overboard, Smoke and Light Mk N3 and Series 2.

    (d) Marker Location Marine Mk 25.

    (e) Float Signal Submerged Mk N4.

    (f) Float Signal Submerged (Grenade) Mk N3.

    (g) Candle Smoke Yellow Mk N7.

    (h) Candle Smoke White Mk N6.

    (i) Candle Smoke White Mk 4N.

    (j) Submarine Launched Flare D4A.

    Department of Defence (Navy). (AH 99/50)

25. It should be noted that the Royal Australian Navy no longer uses the frequency 243 MHz and no longer carries ECB on its submarines.

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9	Maritime Safety Information

Former *Annual New Zealand Notice to Mariners, No. 9,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: Maritime New Zealand

Introduction

1. Maritime Safety Information (MSI) is defined as navigational and meteorological warnings, meteorological forecasts, and other urgent safety-related messages. This information is of vital importance to all vessels at sea.

Note that communications related to search and rescue operations such as distress alerts, coordination of operations, local communications and positioning signals are **never** MSI. Search and Rescue operations may, however, involve the broadcasting of MSI in the navigational warning category, described in 3(f) below.

Navigational warnings are designed to give the mariner information relating to dangers and aids to navigation and are primarily to assist mariners in navigation up to the entrance of ports. Information of a less essential nature, and matters within a harbour entrance, which may form the subject of a Notice to Mariners or local harbour warnings, will not normally be broadcast by coast radio stations. Such information is available from harbour authorities, and all vessels are advised to contact the harbour radiotelephone station before entering the port.

Navigational warnings are broadcast for as long as the information is valid and shall remain in force until cancelled by the originating authority.

Types of Warnings

2. There are three types of navigational warnings:

(a) **Long Range Navigational Warnings** – these warnings are part of the NAVAREA system (NAVAREA XIV for New Zealand) of long range navigational warnings concerned with information which ocean-going mariners require for their safe navigation. This includes, in particular, new navigational hazards and failures to important aids to navigation as well as information which may require changes to planned navigational routes.

(b) **Coastal Navigational Warnings** – these warnings provide information which are relevant to safe navigation within areas seaward of the fairway buoy or pilot station, and should not be restricted to main shipping routes.

(c) **Local Navigational Warnings** – these warnings are broadcast to supplement Coastal Navigational Warnings by giving detailed information within inshore waters and often within the limits of a harbour or port authority. These warnings are broadcast via the local harbour VHF radio and are often made available by the ports and harbours on their websites.

3. Types of MSI (*Joint IHO/IMO/WMO Manual on Maritime Safety Information*, IHO Publication S-53, section 4.2.3.):

(a) Casualties to lights, fog signals, buoys and other aids to navigation affecting main shipping lanes;

(b) The presence of dangerous wrecks in or near main shipping lanes and, if relevant, their marking;

(c) Establishment of major new aids to navigation or significant changes to existing ones when such establishment or change might be misleading to shipping;

(d) The presence of large unwieldy tows in congested waters;

(e) Drifting hazards (including derelict ships, ice, mines, containers, other large items over 6 metres in length etc.);

(f) Areas where search and rescue (SAR) and anti-pollution operations are being carried out (for avoidance of such areas);

(g) The presence of newly discovered rocks, shoals, reefs and wrecks likely to constitute a danger to shipping and, if relevant, their marking;

(h) Unexpected alteration or suspension of established routes;

(i) Cable or pipe laying activities, seismic surveys, the towing of large submerged objects for research or exploration purposes, the employment of manned or unmanned submersibles, or other underwater operations constituting potential dangers in or near shipping lanes;

(j) The establishment of research or scientific instruments in or near shipping lanes;

(k) The establishment of offshore structures in or near shipping lanes;

(l) Significant malfunctioning of radio-navigation services and shore-based maritime safety information radio or satellite services;

(m) Information concerning events which might affect the safety of shipping, sometimes over wide areas, e.g. naval exercises, missile firings, space missions, nuclear tests, ordnance dumping zones, etc.;

(n) Operating anomalies identified within Electronic Chart Display Information Systems (ECDIS) including Electronic Navigational Charts (ENC) issues;

(o) Acts of piracy and armed robbery against ships;

(p) Tsunamis and other natural phenomena, such as abnormal changes to sea level;

(q) World Health Organization (WHO) health advisory information; and

(r) Security-related requirements (in accordance with the requirements of the *International Ship and Port Facility Security Code* only).

Long Range Navigational Warnings (NAVAREA XIV – Southwest Pacific)

Area Coordinator

4. Under the World Wide Navigational Warnings Service (WWNWS), New Zealand is the area coordinator for NAVAREA XIV—see Maps 2 and 3 at the end of this notice for extents. Warnings are prefixed NAVAREA XIV and numbered consecutively on an annual basis.

   Maritime New Zealand is the NAVAREA XIV Coordinator, the authority charged with collecting and issuing long range navigational warnings.

   NAVAREA XIV Coordinator
   Phone: +64 4 577 8030 (24 hours)
   Fax: +64 4 577 8038 (office hours)
   Email: rccnz@maritimenz.govt.nz

Reprints of NAVAREA Warnings

5. NAVAREA XIV warnings are broadcast via Taupo Maritime Radio ZLM R/T (Radio Telephony) and on Enhanced Group Calling (EGC) via the Inmarsat SafetyNET Service through the Pacific Ocean Region (POR) and Atlantic Ocean Region West (AOR-W) satellites and the Iridium SafetyCast Service. Warnings are broadcast on receipt and repeated at scheduled broadcasts 0900 and 2100 UTC until cancelled.

   NAVAREA XIV warnings in force are available from the Maritime New Zealand website: www.maritimenz.govt.nz/navarea

   An 'in-force' bulletin of current NAVAREA XIV Warnings will be broadcast each Monday at 0900 UTC via Inmarsat and Iridium EGC.

   When there are no NAVAREA XIV Warnings to be disseminated at the scheduled broadcast time, a message will be issued advising of this.

6. NAVAREA XIV R/T Broadcasts by Taupo Maritime Radio (ZLM)

Radio Station	Callsign	Frequency kHz		Time (UTC)
		Calling	Working	
Taupo Maritime Radio	**ZLM**	6215 12290	6224 12356	0303, 0903, 1503, 2103
		8291 16420	8297 16531	0333, 1003, 1533, 2203

Coastal Navigational Warnings

National Authority

7. Maritime New Zealand is the national authority charged with collating and issuing Coastal Navigation Warnings for New Zealand. They are broadcast to the New Zealand Coastal Warning Area Z. See Maps 1 and 2 illustrating New Zealand Coastal Forecast Areas and the New Zealand Coastal Warning Area respectively. Warnings are prefixed Coastal Navigation Warning and numbered consecutively on an annual basis.

   National Coordinator
   Phone: +64 4 577 8030 (24 hours)
   Fax: +64 4 577 8038
   Email: RCCNZ@maritimenz.govt.nz

   Coastal Navigational Warnings are broadcast via VHF radio and Taupo Maritime Radio ZLM R/T as per the schedule shown below, and on Enhanced Group Calling (EGC) via the Inmarsat SafetyNET Service and the Iridium SafetyCast Service. Warnings are broadcast on receipt and repeated at scheduled broadcasts 0900 and 2100 UTC until cancelled.

Coastal Navigational Warnings are also available from the Maritime New Zealand website www.maritimenz.govt.nz/navarea

The list of current New Zealand Coastal Navigational Warnings is included in the NAVAREA XIV 'in-force' bulletin that are broadcast each Monday at 0900 UTC via Inmarsat and Iridium EGC.

When there are no Coastal Navigational Warnings to be disseminated at the scheduled broadcast time, a message will be issued advising of this.

Many warnings are of a temporary nature, but others may remain in force for several weeks and may be superseded by NTMs.

Coastal Navigational Warnings will not contain meteorological information such as forecasts of gales, storms, cyclones or tropical revolving storms. Meteorological information is broadcast at scheduled times.

8. Coastal R/T Broadcasts by Taupo Maritime Radio

Note: the times shown below are the time of commencement of the transmissions.

Maritime Safety Information (MSI) is transmitted by **Taupo Maritime Radio (ZLM)** on receipt of the message from Maritime New Zealand at the end of the next silence period after receipt and at:

0133, 0533, 1333 and 1733 New Zealand Standard Time (NZST) or New Zealand Daylight Time (NZDT).

An initial call will be made on the calling frequencies 2182, 4125 and 6215 kHz. Warnings will then be broadcast on the working frequencies 2207, 4146 and 6224 kHz.

Masters are recommended to arrange, whenever possible, for a radio operator or an officer to listen at the scheduled time before sailing at which this information is broadcast, in case any dangers affecting their routes are notified.

A warning will be repeated on request by a ship to **ZLM**. Operators should, however, make every effort to obtain these warnings at the scheduled hours of transmission. Normally warnings will be broadcast at routine times and for as long as may be deemed necessary.

Vessels fitted with R/T are requested not to make routine transmissions 2182, 4125 or 6215 kHz during the periods referred to in the schedule of R/T broadcasts.

9. Coastal VHF Broadcasts by Taupo Maritime Radio (ZLM)

Maritime Safety Information (MSI) is transmitted by Maritime Radio VHF stations located around the New Zealand coast at these times:

New Zealand Coastal Areas	0133	0533	0733	*1033	1333	1733	2133	NZST or NZDT
Chatham Islands	0603	1403	1803	2203	Chatham Islands time (45 minutes ahead of NZST or NZDT)			

Broadcasts will include navigational and meteorological warnings, the situation and forecast for all New Zealand sea areas, and Coastal Reports for Shipping. The *1033 broadcast will include all warnings in force and the coastal reports as at 0900 NZST or NZDT (i.e. no situation or forecast information).

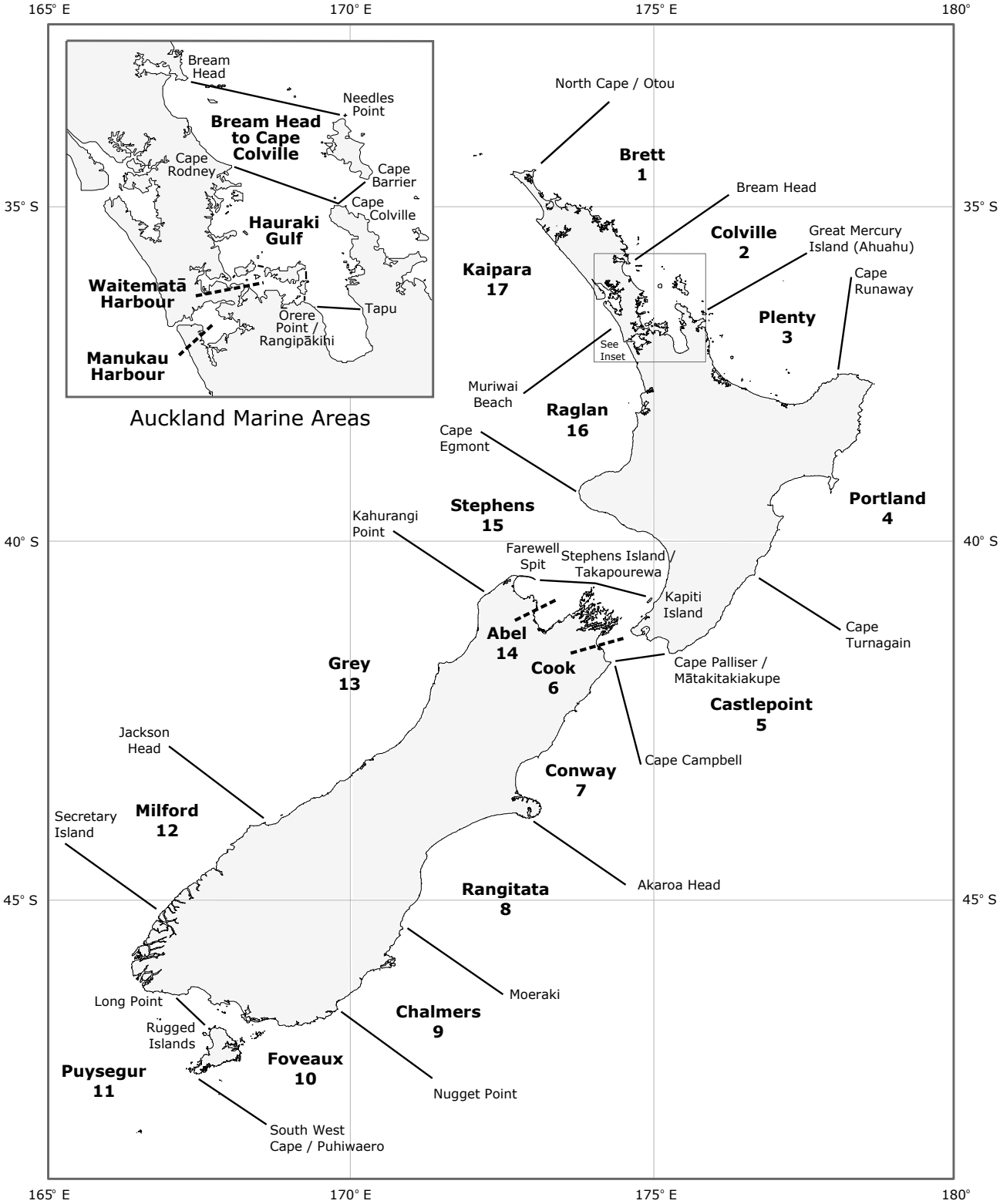
Transmissions will be made simultaneously, but separately, for the North and South Islands on the working channels following a broadcast announcement call on VHF Channel 16.

Vessels must then ensure they select the **appropriate working channel** based on their location at the time — see paragraph 5 of *Annual New Zealand Notice to Mariners, No. 10*. Coastal Navigational Warnings will be broadcast on all stations with the area of interest indicated by the sea area as a prefix.

Map 1

New Zealand Coastal Forecast Areas

Note: Forecast areas extend to approximately 100 km (60 nautical miles) offshore



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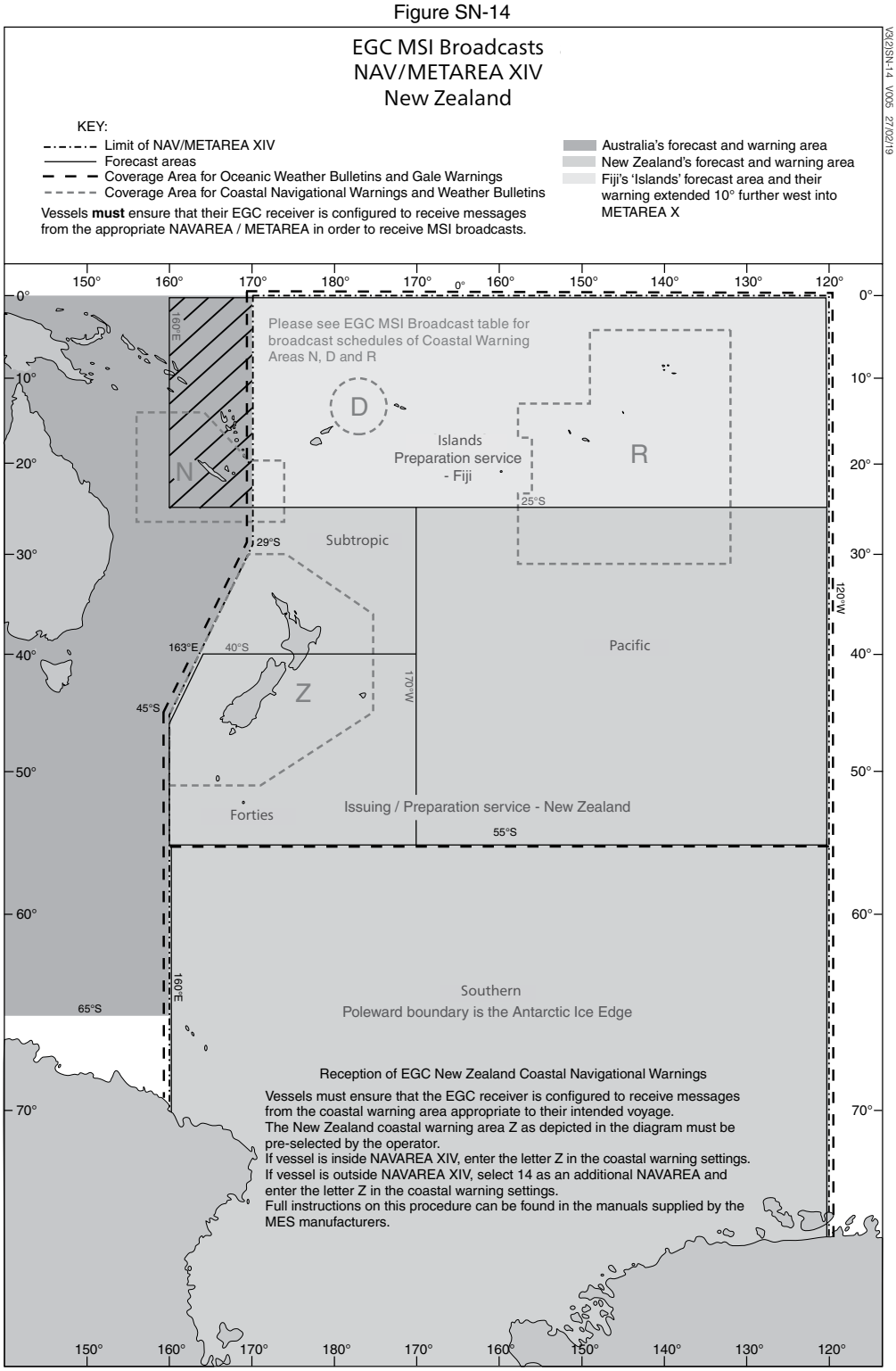
Map 2

Figure SN-14



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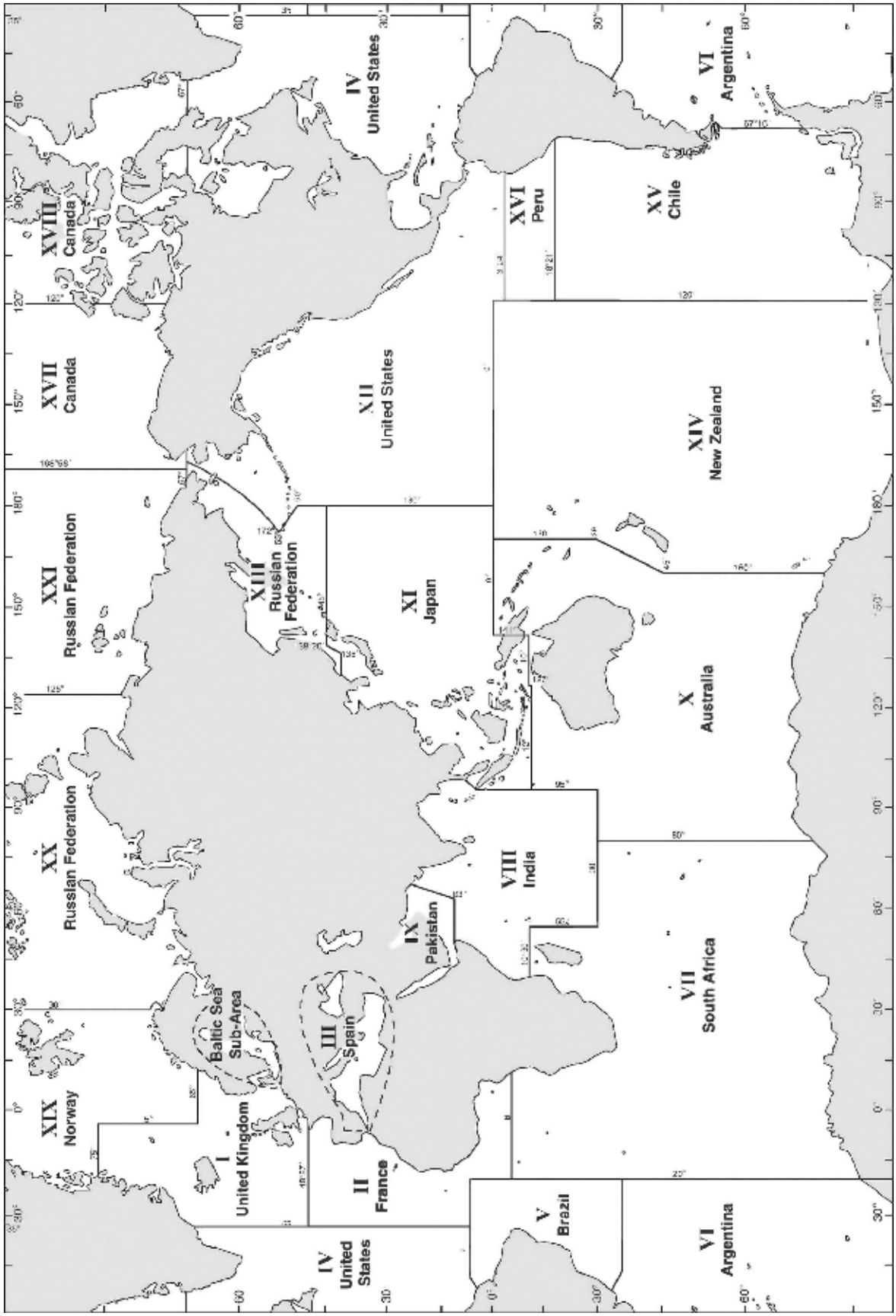
MAP 3



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10 Shipping Routes Around The New Zealand Coast

Former *Annual New Zealand Notice to Mariners, No. 10*, published 1 July 2023 and associated changes from NtM Ed 25/23 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authority: Maritime New Zealand

General Provisions

Safe Navigation

Passage Planning

1. There is an obligation on the master or skipper of a vessel, prior to proceeding to sea, to ensure that the intended voyage is planned.

   Development of a passage plan, and close and continuous monitoring of the vessel's progress and position during the execution of such a plan, are of essential importance for safety of life at sea, safety and efficiency of navigation and protection of the marine environment. It is recommended that shipowners' standing instructions to their masters specifically state that safety of the ship and crew, the prevention of pollution and prevention of damage to the marine environment must always take precedence over commercial considerations.

   The *New Zealand Maritime Transport Act 1994,* Part 3, Section 19 Duties of Master states that the master shall be responsible for the safe operation of the ship, safety of cargo and safety and wellbeing of crew/passengers on voyage. He/she shall have the final authority to control the ship while in command.

   The *Bridge Procedures Guide* issued by the International Chamber of Shipping provides recommendations on the conduct and execution of passage planning. It is recommended that navigators follow the guidance contained therein and use the bridge equipment checklists contained in the Appendices to this document.

Master's Responsibility, Duty and Professional Judgement

2. The voluntary code (summarised at paragraph 6 below) does not replace the obligations of the master to use judgement and discretion in light of the many factors which contribute to a safe passage, including:

   (a) The condition and manoeuvrability of the ship;

   (b) The taking into account of relevant ship's routeing systems such as the IMO approved ships routeing measures;

   (c) The anticipation of known navigational hazards;

   (d) Ensuring sufficient sea room for the safe passage of the ship;

   (e) The prevailing and expected weather conditions;

   (f) Experience; and

   (g) The safety and security of the ship and crew.

   In law, and under the safety management system established by the shipowner, the master has final authority for, and is free to exercise their professional judgement in, matters of safe navigation and protection of the marine environment.

Reporting Arrangements and Summoning Assistance

3. It is recommended that shipowners' standing instructions to their masters:

   (a) Emphasise the need for immediate reporting to Maritime New Zealand (MNZ), through any coastal radio station or by calling Taupo Maritime Radio, of all situations which affect the safety of the ship or its navigation, or might lead to pollution.

   (b) Confirm the master's position as set out in the International Maritime Organization's *International Convention on Salvage 1989,* Article 6(2):

   The master shall have the authority to conclude contracts for salvage operations on behalf of the owner of the vessel. The master or the owner of the vessel shall have the authority to conclude such contracts on behalf of the owner of the property on board the vessel.

   (c) Note that masters are required to comply with MNZ's *Marine Protection Rules Part 103* which requires ships carrying oil or other harmful liquid substances in bulk, to give at least 12 hours notice of arrival to the harbourmaster in that port, and to give notification of the types of cargo carried and its distribution on board.

   Operational transfers must be notified at least 3 hours but not more than 4 days before starting.

   (d) Encourage them to report vessels breaching the voluntary code to MNZ.

4. Communications

VHF

Station Callsign	Calling Channel*	Working Channel*
Cape Reinga Maritime Radio	16	68
Kaitaia Maritime Radio	16	71
Whangārei Maritime Radio	16	67
Great Barrier Maritime Radio	16	69
Auckland Maritime Radio	16	71
Plenty Maritime Radio	16	68
Runaway Maritime Radio	16	71
Tolaga Maritime Radio	16	67
Taranaki Maritime radio	16	67
Cape Egmont Maritime Radio	16	71
Napier Maritime Radio	16	68
Whanganui Maritime Radio	16	69
Wairarapa Maritime Radio	16	67
Wellington Maritime Radio	16	71
Farewell Maritime Radio	16	68
D'Urville Maritime radio	16	67
Picton Maritime Radio	16	68
Kaikōura Maritime radio	16	67
Westport Maritime radio	16	71
Greymouth Maritime Radio	16	68
Fox Maritime Radio	16	67
Akaroa Maritime Radio	16	68
Waitaki Maritime Radio	16	67
Fiordland Maritime Radio	16	71
Chalmers Maritime Radio	16	71
Bluff Maritime Radio	16	68
Puysegur Maritime Radio	16	67
Stewart Island Maritime Radio	16	71
Chatham Islands Maritime Radio	16	60 (Chatham Island) 62 (Pitt Island)

***** Channel 16 is monitored 24/7. Working channels monitored on request.

HF/MF

Station Callsign	Voice Calling	Voice Working	DSC Calling
Taupo Maritime Radio ZLM	2182	2207	no MF DSC
(frequencies in kHz)	4125	4146	4207.5
	6215	6224	6312.0
	8291	8297	8414.5
	12290	12356	12577.0
	16420	16531	16804.5

Maritime Operations Centre (24 hours)
Phone: +64 4 550 5280 or 0800 Maritime (0800 627 484)

Inmarsat C: 582-451-200-067 **Answer Back** MRNZ X
Email: maritime@kordia.co.nz

Rescue Coordination Centre New Zealand (24 hours)
Phone: +64 4 577 8030
Email: rccnz@maritimenz.govt.nz

A Voluntary Code for Ships Carrying Oil or Other Harmful Liquid Substances in Bulk

Summary

5. This voluntary code has been introduced to prevent or reduce the risk of pollution or other damage to the marine environment caused by ships carrying oil or other harmful liquid substances in bulk.

   If there is an oil pollution incident, the measures contained in this voluntary code will also allow more time to respond to such an incident, whilst causing least disruption to existing shipping routes.

   The code stresses the importance of:

   - Safe navigation – at paragraph 1 above;
   - The shipmaster's duty to exercise discretion in particular circumstances – at paragraph 2 above;
   - Prompt reporting to Maritime New Zealand when experiencing any difficulties, which could lead to pollution or other damage to the marine environment, and summoning of salvage assistance without delay – at paragraphs 4 and 5 above;
   - Observing regional routeing schemes – at paragraphs 8 and 9 below.

Scope

6. This voluntary code applies to ships carrying oil or other harmful liquid substances in bulk as defined in Annexes I and II of MARPOL 73/78 *(International Convention for the Prevention of Pollution From Ships,1973).*

   Its adoption by other vessels is welcomed.

   The Areas To Be Avoided – at paragraphs 10 and 11 below – apply to all vessels of the sizes specified.

Recommended Routes Around the New Zealand Coast

General

7. **Ships are to keep at least 5 nautical miles off the land, any charted danger, or any outlying islands, until reaching a position where alteration is required to make port.** Mariners travelling anticlockwise around New Zealand, ie with the North or South Islands on the port side, should consider keeping a further distance off, for example by 7.5 nautical miles in the vicinity of headlands such as North and East Capes to better manage potential shipping encounters. A greater distance off may be necessary in adverse on-shore weather, or if it is known that the ship has any mechanical deficiency that might impair the motive power or manoeuvrability.

Note: All geographical positions are in terms of the WGS84 datum.

8. **Recommended Approaches to New Zealand Ports**

Whangārei	From the North	Pass to the east of the Poor Knights Islands Mandatory Area to be Avoided (refer chart NZ 521), thence midway through Parry Channel and thence to the Pilot Station.
	From the South	Proceed through Colville and Jellicoe Channels keeping at least 3 nautical miles off the land and thence to the Pilot Station.

Auckland	From the North	Enter Hauraki Gulf / Tīkapa Moana through Jellicoe Channel keeping at least 3 nautical miles off land, thence at least 3 nautical miles off Flat Rock, then pass through a point midway between Shearer Rock and The Noises (at least 3 miles off Shearer Rock) before proceeding westwards to intercept the sector light at St Leonards Beach and thence to the Pilot Station.
	From the East	Enter Hauraki Gulf / Tīkapa Moana through Colville Channel keeping to the north of Channel Islands and thence to the Pilot Station.

Transiting between Auckland and Whangārei

Vessels in transit between the pilot stations at Auckland and Whangārei, either north or southbound, should maintain a minimum distance of 3 nautical miles from Shearer Rock, Flat Rock and Cape Rodney and pass midway between Paepae-o-Tū / Bream Tail and Taranga Island.

Tauranga	From the North	Keep at least 4 nautical miles off Mayor Island (Tūhua) and thence to the Pilot Station.
	From the East	Keep at least 5 nautical miles to the north of Volkner Rocks, thence 3 nautical miles to the north of Astrolabe Reef (which breaks in all swell conditions and in fair weather appears like a boat) and thence to the Pilot Station.
	Eastbound	From the Pilot Station set course to pass 3 nautical miles to the north of Astrolabe Reef passing abeam of Brewis Shoal (distance 3.38 nautical miles), thence keeping at least 5 nautical miles north of Volkner Rocks.

Gisborne	From the North	Proceed to the east of Ariel Bank keeping 5 nautical miles off the charted dangers to the south-east of the bank, thence to a position 3.4 nautical miles due east of Young Nicks Head / Te Kurī and thence to the Pilot Station.
	Alternatively	Pass midway between Ariel Bank and Monowai Rocks, thence at least 4 nautical miles off Tuaheni Point and thence to the Pilot Station.
	From the South	Keep at least 5 nautical miles off Kahutara Point (Table Cape) and thence to the Pilot Station.

Napier	From the North and South	Keep at least 5 nautical miles off any charted danger and thence to the Pilot Station.

Wellington	From the East	Keep at least 5 nautical miles off Cape Palliser / Matakitakiakupe and 4 nautical miles off Turakirae Head before proceeding to the designated pilot boarding station. Vessels are to keep well clear of the wave rider buoy (1 nautical mile west of Baring Head / Ōrua-pouanu) and Arabella Rock (0.6 nautical miles north west of Baring Head / Ōrua-pouanu).
	From the West	Pass midway between The Brothers and Fishermans Rock, thence at least 4 nautical miles off Cape Terawhiti, thence at least 4 nautical miles off Karori Rock. When abeam Sinclair Head / Te Rimurapa, vessels requiring a pilot should proceed directly to the designated pilot boarding area. Vessels not requiring a pilot may adjust course to join the leads no closer than 2 nautical miles off the entrance (or greater in southerly weather). Such vessels should beware of departing vessels.

Departing vessels — All departing vessels should note that:

1. Vessels in-bound for pilotage are likely to be under instructions from a local pilot and will be approaching the designated boarding areas of either ALPHA, BRAVO or CHARLIE (or the supplementary bad weather boarding area of DELTA); and
2. Numerous ferries and other vessels exempt from pilotage are likely to be approaching from the west to a position on the leads not less than 2 nautical miles south of the entrance; and
3. Vessels heading east are initially to head southward on the approximate line of the leads but avoiding conflict with vessels manoeuvring to pick up their pilot. Such vessels should maintain this course until clear of harbour limits and in a position to intersect the coastal course line between Baring Head / Ōrua-pouanu and Cape Palliser / Mātakitaki-a-Kupe.

Picton		Pass midway between Cook and Walker Rocks at the entrance to Queen Charlotte Sound / Tōtaranui and thence to the Pilot Station.

Nelson		Keep at least 5 nautical miles off Pitt Head and at least 5 nautical miles off Pepin Island and thence to the Pilot Station.

Lyttelton	From the North	Keep at least 5 nautical miles off the land until approaching the Pilot Station.
	From the South	Keep at least 5 nautical miles off Steep Head, thence at least 3 nautical miles off Long Lookout Point and thence to the Pilot Station.

Timaru	From the North	Keep at least 5 nautical miles off the land until reaching the Pilot Station.
	From the South	Keep at least 5 nautical miles off the land and at least 3 nautical miles off Tuhawaiki Point and thence to the Pilot Station.

Otago Harbour	From the North	Keep at least 5 nautical miles off the land until approaching the Pilot Station.
	From the South	Keep at least 4 nautical miles off Cape Saunders, thence at least 3 nautical miles east of Taiaroa Head and thence to the Pilot Station.

Bluff	From the East	Keep at least 3 nautical miles off Slope Point, at least 3 nautical miles off Waipapa Point, thence at least 1.5 nautical miles south of Dog Island and thence to the Pilot Station.
	From the West	Keep at least 5 nautical miles south of Raratoka Island (Centre Island) and thence to the Pilot Station.

West Coast Stewart Island/ Rakiura	From the South	Keep at least 3 nautical miles off The Knobbies, at least 3 nautical miles off Rugged Islands and 3 nautical miles off Bishop and Clerks Island. From there run a course to the Pilot Station at Bluff.

East Coast Stewart Island/ Rakiura	From the South	Keep 3 nautical miles off Breaksea Islands, thence at least 3 nautical miles off Wreck Reef, thence on to a position at least 2 nautical miles off Kanetetoe Island, thence on to a position at least 2 nautical miles off Zero Rock. From Zero Rock plot a course to the Pilot Station at Bluff.

New Plymouth	From the West	Keep at least 5 nautical miles off Cape Egmont, thence at least 5 nautical miles off the land, thence at least 3 nautical miles off Motumāhanga (Saddleback) and thence to the Pilot Station.
	From the North	Keep at least 5 nautical miles off the land until approaching the Pilot Station.

Manukau	From any direction from seaward, proceed to the Outer Manukau Pilotage Limit. Depths on the bar and entrance to the Manukau Harbour are subject to frequent change and it is dangerous to cross the bar and enter the harbour without recent local knowledge. It is not recommended that vessels enter or leave the harbour during the hours of darkness. No large vessels (those 500 gross tons or greater, or any vessel exceeding 40 metres length overall or greater) may cross the bar during hours of darkness.

Chatham Islands	An Area of Restricted Access has been established around the Chatham Islands. No large vessels (those 500 gross tons or greater, or 40 metres length overall or greater) shall enter into, or remain within, the Chatham Islands Area of Restricted Access without the prior approval of the Harbour master (a fee may be charged). This restriction includes passage between Chatham Island and Pitt Island (Rangiauria) by transiting large vessels. It is recommended that any large vessel transiting the area remains 5 nautical miles clear to the north of Chatham Island or 5 nautical miles clear to the south of Pitt Island (Rangiauria).

IMO Approved Ships' Routeing Measures

9. New Zealand currently has three areas which have been adopted by the IMO in relation to ships' routeing measures. The IMO publication *Ships' Routeing* contains the following definitions:

   (a) **Area to be avoided** – A routeing measure comprising an area with defined limits in which navigation is either particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships, or certain classes of ship.

   (b) **Precautionary area** – A routeing measure comprising an area within defined limits where ships must navigate with particular caution and within which the direction of traffic flow may be recommended.

10. (a) Poor Knights Island is a **mandatory area to be avoided** by all vessels greater than 45 metres length overall (with some exceptions).

    (b) Three Kings Island is an **area to be avoided** by all vessels of 500 gross tons or more.

    (c) An area off the West Coast of the North Island is a **precautionary area.**

    Detail on each of these areas follows:

In the vicinity of the Poor Knights Islands

Reference Charts: NZ 51, NZ 52, NZ 521, NZ 512, NZ 5214, NZ 5216, NZ 5219

In order to avoid the risk of pollution and damage to the environment of this sensitive area, all vessels greater than 45 metres length overall (except as specified below) **shall avoid** the following area.

The area bounded by a line connecting the following geographical positions is designated as a **mandatory area to be avoided**, the westward boundary of which is delineated by Mean High Water Springs.

1. 35° 51′.30S., 174° 35′.50E.
2. 35° 34′.55S., 174° 49′.20E.
3. 35° 29′.60S., 174° 50′.80E.
4. 35° 24′.70S., 174° 50′.20E.
5. 35° 10′.20S., 174° 20′.10E.

Exceptions: The following exemptions are granted in respect of vessels entering the mandatory area to be avoided:

- All vessels of the Royal New Zealand Navy. The exemption granted in respect of the vessels of the Royal New Zealand Navy applies to "any warship, naval auxiliary, other vessels or aircraft owned by a state and used, for the time being, only on government non-commercial service".
- All fishing vessels engaged in fishing operations.
- Barges under tow, provided the cargo is not oil or other harmful liquid substances as defined in Annexes I and II of MARPOL 73/78.

In the region of the Manawatāwhi / Three Kings Islands

Reference Charts: NZ 41, NZ 4111

In order to avoid the risk of pollution and damage to the environment in the area around Manawatāwhi / Three Kings Islands (declared a Wildlife Sanctuary) ships of 500 gross tons or more should **avoid** the area bounded by a line connecting the following geographical positions:

1. 34° 06′.00S., 172° 00′.00E.
2. 34° 06′.00S., 172° 12′.50E.
3. 34° 13′.50S., 172° 12′.50E.
4. 34° 13′.50S., 172° 00′.00E.

Precautionary Area off the West Coast of the North Island of New Zealand

Reference Charts: NZ 43, NZ 45, NZ 48, NZ 443, NZ 4432, NZ 14600 (INT 600), NZ 14601 (INT 601).

The **precautionary area** is defined by a line connecting the following geographical positions, the landward extent of which is determined by Mean High Water Springs (MHWS).

1. The charted line of MHWS at approximately 38° 31′.00S., 174° 37′.80E.
2. 39° 18′.50S., 173° 05′.00E.
3. 39° 26′.00S., 173° 01′.00E.
4. 40° 03′.00S., 173° 04′.00E.
5. 40° 10′.00S., 173° 16′.00E.
6. The charted line of MHWS at approximately 39° 53′.50S., 174° 54′.50E.

Note: All ships should navigate with particular caution in order to reduce the risk of a maritime casualty and resulting marine pollution in the precautionary area.

Mariners are advised to refer to *Annual New Zealand Notice to Mariners, No. 16*.

11 Tsunami Warning System

Former *Annual New Zealand Notice to Mariners, No. 11,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: National Emergency Management Agency, Harbourmasters

Important Note: The contents of this notice are to be brought to the attention of all ships' officers and crews.

Background

Tsunami is a series of waves resulting from undersea earthquakes, volcanic eruptions or landslides and those originating in any part of the Pacific may have serious effects upon shipping in New Zealand's waters.

The attention of mariners is drawn to the Tsunamis section, Chapter 5 of the Admiralty publication *The Mariner's Handbook* (NP100).

Should an earthquake be felt whilst a vessel is at her berth the vessel should immediately have her engines placed on standby, be secured for sea and only essential personnel given access to the gangways. A continuous listening watch should also be maintained on vessels' radios, refer to paragraph 3 below. These steps should be taken whilst awaiting further instructions.

Tsunami Warning System

These procedures have been formalised with Maritime New Zealand, National Emergency Management Agency (NEMA), New Zealand Police, shipowners, port authorities, regional councils and harbourmasters.

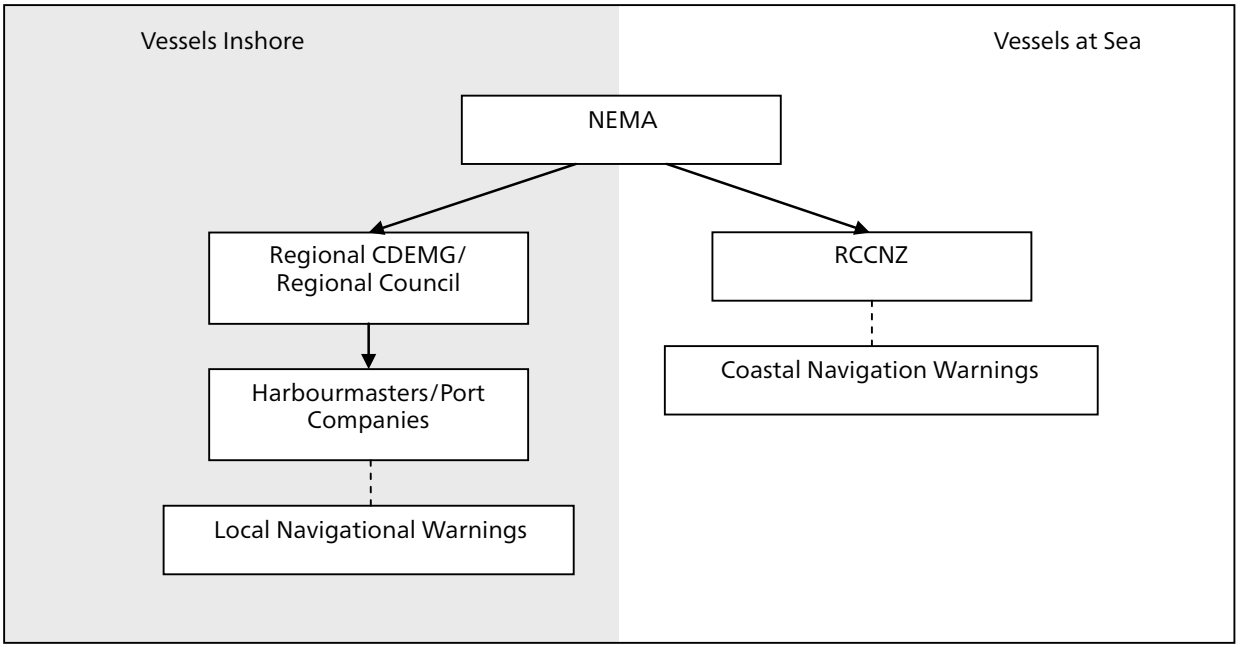
Inter-agency Communication

1. In the event of a potential threat of a tsunami approaching New Zealand, NEMA will advise:
   (a) Each regional Civil Defence Emergency Management Group (CDEMG), and
   (b) The Rescue Coordination Centre New Zealand (RCCNZ).

   Note: For tsunami originating near New Zealand ('local source' tsunami) timely advice by NEMA may not be possible. The only 'warning' may be an earthquake felt on board a vessel in the harbour.

   Each regional CDEMG via regional council and harbourmasters/port authorities will inform the mariner as quickly as possible. Port authorities would likely take their own precautions as per their Emergency Operating Procedures. RCCNZ via Maritime Radio will provide Coastal Navigational Warnings.

Diagram 11.1: Inter-agency Communication in a Tsunami event



For more information on navigational warnings, see *Annual New Zealand Notice to Mariners, No. 9*.

Instructions to Vessels Inshore – Local Navigational Warnings

2. Warning Types

   (a) Verbal: Vessels will be advised verbally by the harbourmaster or port company.

   (b) Sound signal: The signal to be given to warn vessels in harbour to take action is a series of five prolonged blasts. In some ports this signal could be made by sirens (on instructions from the CDEMG).

Harbourmasters may take full control of all shipping operations in their area and masters are required to give their unreserved cooperation.

Table 11.2: Warning Type by Port

Verbal Signal				Sound Signal
Auckland Akaroa Bluff Chatham Islands Dunedin Gisborne	Greymouth Kaikōura Lyttelton Marsden Point Napier Nelson	Onehunga Opua Picton Port Chalmers Port Taranaki Tarakohe Harbour	Tauranga Timaru Westport Wellington Whakatāne Whanganui	Kaingaroa Owenga Waitangi (Chatham Island)

Keeping Radio Watch following the Warning

3. On arrival in port, masters will be advised by the harbourmaster as to which frequency is to be guarded in the event of an alert. On hearing these warnings, masters are to set radio watches. These watches are to be maintained until the threat is declared over by the same authority that issued the original advice. All further instructions will be passed by radio.

Table 11.3: Frequencies to Guard by Port

Port	Callsign	VHF Channels Listening watch on 16 at all times, and
Akaroa	Akaroa Harbour Control	03, 12 (not 24 hours)
Auckland	Auckland Harbour Control	12
Bay of Islands	Russell Radio	63
Bluff	Bluff Harbour Radio	14, 12
Dunedin	Otago Harbour Control	12, 14, 62
Gisborne	Gisborne Harbour Radio	12 (not 24 hours)
Greymouth	Greymouth Harbour Radio	14, 63 (not 24 hours)
Kaikōura	Kaikōura Harbour Control	16 and as directed (not 24 hours)
Lyttelton	Lyttelton Harbour Radio	12
Marsden Point	Whangarei Harbour Radio	11
Napier	Napier Harbour Radio	12
Nelson	Nelson Harbour Radio	12
Onehunga	Auckland Harbour Control	12
Picton	Picton Harbour Radio	18
Port Chalmers	Otago Harbour Control	12, 14, 62
Port Taranaki	New Plymouth Harbour Radio	12, 61
Tauranga	Tauranga Port Radio	12
Timaru	Timaru Harbour Radio	9
Wellington	Wellington Harbour Radio	14
Westport	Westport Harbour Radio ZMH92	14
Whanganui	Whanganui Harbour Radio ZMH211	16 only

Ordering Vessels to Sea

4. In certain cases it may be necessary for the harbourmaster to order vessels to sea to avoid serious damage being caused to ships and harbour structures by strong wave action in their harbours.

Mariners are to advise harbourmasters whenever it is intended to carry out engine maintenance which will immobilise their vessels.

It should be appreciated that the time available for action after receiving the alert signal may be as long as 14 hours or as brief as minutes, depending on the origin of the tsunami.

Instructions to Vessels at Sea – Coastal Navigational Warnings

5. In the case of vessels at sea when a warning of an approaching tsunami is received, advice will be given by the existing navigational warning system.

These warnings may include instructions for ships' immediate movements. It should be noted that the risk of tsunami for vessels at sea is much less (in most cases none) than inshore or in harbour.

Request to all Vessels to Provide Assistance

6. Should a disaster occur ashore, all vessels in port or at sea in New Zealand waters may be called upon to provide assistance at the request of the authorities:

(a) Providing temporary shelter and food for homeless civilians;

(b) Providing rations, water, fuel, and power to local authorities;

(c) Evacuating civilians to another port;

(d) Providing radio communications;

(e) Providing firefighting parties and first aid assistance ashore.

Harbourmasters will coordinate with masters what assistance each ship in port is able to provide. Ships at sea will be contacted by the normal communications system.

For further information see:
https://www.civildefence.govt.nz, Title search – National Tsunami Advisory and Warning Plan.

12 New Zealand Maritime Boundaries

Former *Annual New Zealand Notice to Mariners, No. 12*, published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authorities: Toitū Te Whenua Land Information New Zealand, Ministry for Primary Industries, Ministry of Foreign Affairs and Trade

Introduction

1. In accordance with international law as reflected in the *United Nations Convention on the Law of the Sea* of 1982 (UNCLOS), New Zealand legislation establishes, and regulates activities within, a territorial sea, contiguous zone, exclusive economic zone and continental shelf in the maritime area surrounding New Zealand. The principal legislation relating to these areas is the *Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act 1977,* the *Continental Shelf Act 1964,* the *Fisheries Act 1996,* and the *Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012.* Other New Zealand legislation also has specific application in whole or in part to some of these maritime zones.

2. The **territorial sea** is the belt of sea adjacent to the coast out to a distance of 12 nautical miles from prescribed baselines over which New Zealand, as the coastal state, has the same rights of sovereignty that it exercises over its land territory subject to the right of innocent passage (and transit passage through any straits used for international navigation) of ships of other states. "Innocent passage" excludes fishing activities.

3. The **contiguous zone** is a zone of 12 nautical miles beyond the territorial sea in which New Zealand, as the coastal state, may take action to prevent or punish any infringement of its customs, fiscal, immigration or sanitary laws and regulations applicable within its land territory or territorial sea.

4. The **exclusive economic zone (EEZ)** is a zone extending from the outer limits of the territorial sea to a distance of 200 nautical miles from the baselines of the territorial sea in which New Zealand, as the coastal state, has sovereign rights over the living and non living resources of the sea and seabed and other states have certain freedoms, including the freedoms of navigation and overflight.

5. The **continental shelf** is the seabed and subsoil of the submarine areas that extend beyond the territorial sea of a coastal state throughout the natural prolongation of its land territory to the outer edge of the continental margin. In New Zealand's case the continental margin extends beyond the EEZ in many places and the outer limits have been established on the basis of the recommendations of the United Nations Commission on the Limits of the Continental Shelf. Under UNCLOS, New Zealand exercises sovereign rights over the continental shelf for the purpose of exploring it and exploiting its natural resources. The diagram at the end of this Notice depicts the boundaries of the above zones, including, where applicable, the delimitation of the boundaries of the EEZ and continental shelf with Australia under the treaty of 25 July 2004. The outer limits of the New Zealand Extended Continental Shelf (ECS) north of New Zealand are subject to the delimitation of boundaries with relevant countries.

Baseline of the Territorial Sea and EEZ

6. The baseline from which the breadth of the New Zealand Territorial Sea and EEZ is measured is the low water line around the coast of New Zealand and off-lying islands, and straight baselines across the natural entrance points of bays (not exceeding 24 nautical miles), estuaries and inlets to join points on the low water line.

Official Charts

7. The *Territorial Sea, Contiguous Zone and Exclusive Economic Zone Act 1977* provides that for the purpose of the Act the line of low water for any area depicted on charts published under the authority of Toitū Te Whenua Land Information New Zealand shall be sufficient evidence of the low water mark. The outer limits of the New Zealand Territorial Sea and EEZ are indicated on the small scale chart series. The outer limits of the Territorial Sea are also indicated on the coastal chart series.

Maritime Boundary Downloads

8. The New Zealand Maritime Boundaries described above are available in Shape file format from www.linz.govt.nz/guidance/marine-information/maritime-boundaries/maritime-boundary-downloads or from the Toitū Te Whenua LINZ Data Service at https://data.linz.govt.nz

   Shapefiles are in terms of WGS84.

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Policing the Zone

9. Aircraft of the Royal New Zealand Air Force and ships of the Royal New Zealand Navy are frequently engaged in surveillance activities in New Zealand's fisheries waters. The aircraft may illuminate or contact a vessel without notice. All commercial fishing vessels are required to set watch on HF SSB frequency 2182 kHz or VHF channel 16 when approached by a New Zealand Government ship or aircraft, and must reply when called.

Note: Other vessels can also assist in surveillance work by reporting suspected infringements of the Territorial Sea and EEZ. Refer to paragraph 12 below.

Infringements

Foreign-owned New Zealand Fishing Vessels

10. Infringements in the 12 nautical mile Territorial Sea include:
    (a) Trawling by any vessel over 46 metres;
    (b) Fishing by any foreign-owned New Zealand fishing vessel; and
    (c) Fishing in closed areas.

Note: Under certain conditions foreign vessels may be permitted to fish within the EEZ operating under a specific licence for a limited period.

New Zealand Fishing Vessels

11. Infringements in the 12 nautical mile Territorial Sea include:
    (a) Trawling by any vessel over 46 metres;
    (b) Fishing in closed areas and seasons; and
    (c) Fishing using restricted or illegal methods.

Reporting Suspected Infringements

12. Reports of suspected infringements should be made to the Ministry for Primary Industries' National Communications Centre, Wellington, without delay by telephone: 0800 4 POACHER (0800 4 76224) or email info@mpi.govt.nz.

    As much of the following information as possible should be given:
    (a) Date and time of sighting;
    (b) Position of sighting (latitude and longitude to nearest second if possible);
    (c) Method of position fix;
    (d) Description of vessel including type, name, callsign and any registration numbers;
    (e) Direction and speed of vessel; and
    (f) Activity observed (i.e. fishing, steaming, etc).

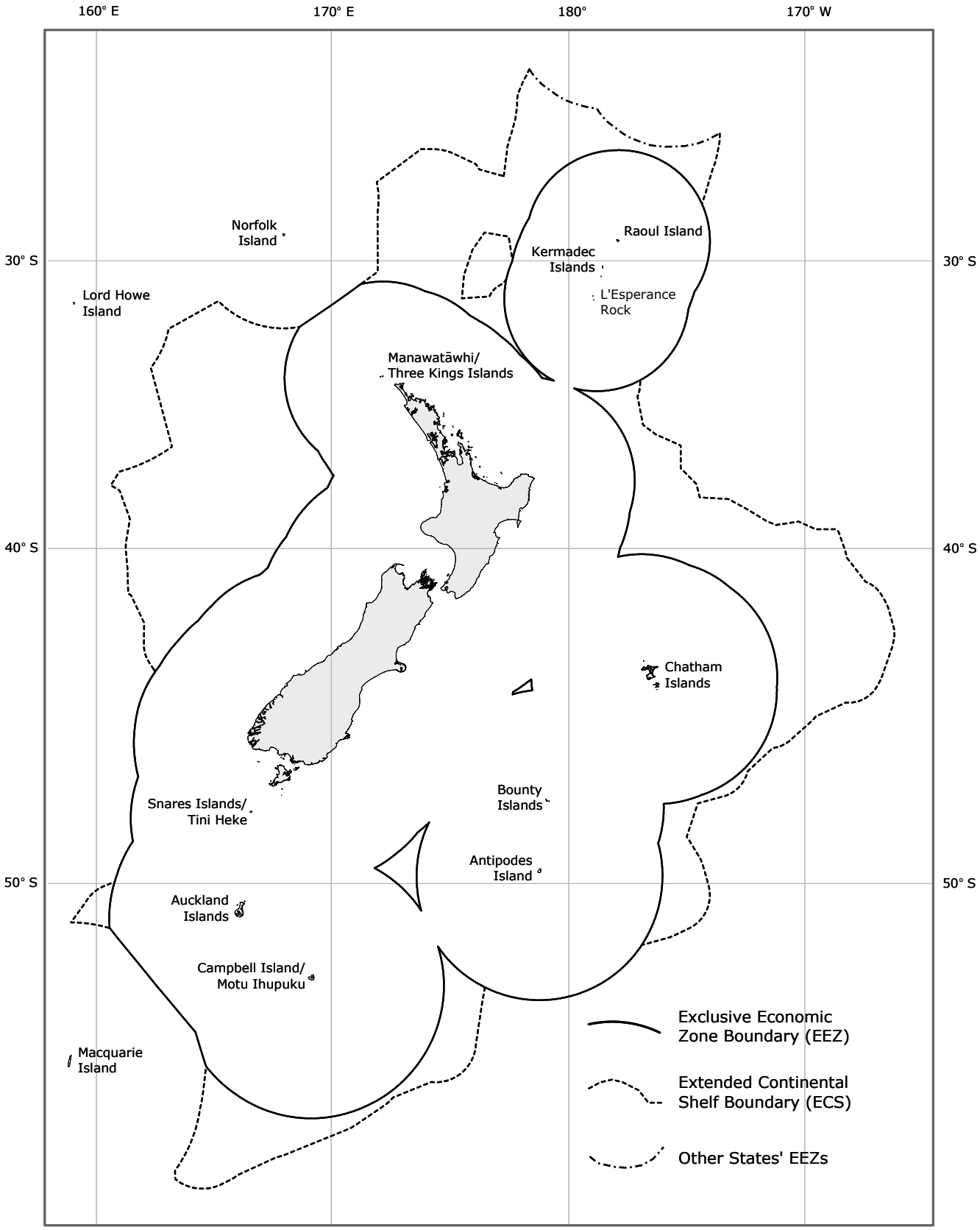
    If possible photographs should be taken and a written report made. Reporting vessels should not attempt to apprehend suspect vessels as they may be operating under a special licence.

    To report any other suspicious or illegal activities, call 0800 4 POACHER (0800 4 76224) immediately.

    For further information on regulations please contact your nearest Ministry for Primary Industries office, see: www.fisheries.govt.nz/contact-us/mpi-fisheries-offices.

12 New Zealand Maritime Boundaries

New Zealand's Exclusive Economic Zone and
Extended Continental Shelf Boundaries



13 Submarine Cables and Pipelines

Former *Annual New Zealand Notice to Mariners, No. 13,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authorities: Toitū Te Whenua Land Information New Zealand, Maritime New Zealand, Spark, Transpower

Caution against Anchoring and Fishing in the Vicinity

1. Mariners are warned that every care should be taken to avoid anchoring or fishing in the vicinity of submarine cables or pipelines, even though there may be no specific prohibitions against doing so. Damaging an under-sea pipeline or cable would rate as a national disaster and very severe criminal penalties may apply. In addition the vessel which has fouled an underwater feature could be exposed to extreme explosion or electrocution risks.

Symbols used on Charts

2. Cables, cable protected areas, pipelines and pipeline protected areas are shown on charts in magenta using the appropriate symbol. Mariners should note the caution on charts which have these symbols.
3. Submarine cables are shown as wavy lines, submarine cable protected areas may be shown bounded by pecked lines or by dashed T-shaped lines interspersed with a short section of the wavy cable symbol.
4. Submarine pipelines are shown as a pecked line using a bulbous type symbol with an annotation such as *gas, chem, oil.* Disused pipelines will be shown with an interrupted pecked line.

Legislation

5. The relevant legislation:
   (a) *Submarine Cables and Pipelines Protection Act 1996*;
   (b) *Submarine Cables and Pipelines Protection Order 2006 Amendment (Pohokura Gas Field Development) Order 2010*;
   (c) *Submarine Cables and Pipelines Protection (Tui Area Development) Order 2007*;
   (d) *Submarine Cables and Pipelines Protection (Kupe Gas Project) Order 2008*;
   (e) *Submarine Cables and Pipelines Protection (Maari Development) Order 2008*;
   (f) *Submarine Cables and Pipelines Protection Order 2009*; and
   (g) *Submarine Cables and Pipelines Protection Order 2009 Amendment (Area-7 Cook Strait) Order 2016*.

6. Further information on the legislation can be obtained from:

Ministry of Transport
PO Box 3175
Wellington 6140
New Zealand
Phone: +64 4 439 9000
www.transport.govt.nz/sea/protectingunderseacables

Transpower New Zealand
PO Box 1021
Wellington 6140
New Zealand
Freephone: 0800 THE GRID (0800 843 4743)
Phone: +64 4 590 7000 (business hours)
www.transpower.co.nz

Danger Involved in Cutting to Clear Anchors or Fishing Gear

7. In the event of fouling a submarine cable, the anchor and gear should be slipped and abandoned without attempting to cut the cable. High voltages are present in submarine cables other than power transmission cables and serious risk exists of loss of life or severe burns from electric shock if any attempt to cut the cable is made. No claim in respect of injury or damage sustained through such interference with a submarine cable will be entertained.
8. In the event of **fouling a pipeline**, the anchor or gear should be slipped and abandoned without attempting to get it clear. Any excessive force applied to the pipeline could result in a rupture; in the case of a gas pipeline the consequential release of gas at high pressure like an explosion could cause severe damage or loss of the vessel. There would be an accompanying severe and immediate fire hazard.

Claims as a Result of Loss of Gear

9. In order to afford greater protection to submarine cables and pipelines, and to avoid extensive repairs and disruption of communication or supplies, the attention of mariners, and particularly fishermen, is drawn to Section 8 of the *Submarine Cables and Pipelines Protection Act 1996.* This section entitles the owner of a ship from which an anchor, net, or any fishing gear has been sacrificed (to avoid damaging a submarine cable or pipeline), to be indemnified for any loss by the owner of the cable or pipeline, provided cautionary measures have been taken beforehand.

10. To establish a claim to such indemnification, the following actions must be carried out:

    (a) A statement supported by the evidence of the crew, should, wherever possible, be drawn up immediately after the occurrence, and the master must, within 24 hours after return to, or next putting into port, make a declaration to the proper authorities. The latter shall communicate the information to the consular authorities of the country to which the owner of the cable belongs.

    (b) The declaration must give the full particulars of the occurrence and should be made to a Maritime Safety Inspector.

    (c) Vessels required to carry official log books should also enter details in the log.

Defence against Prosecution

11. It is a defence to any prosecution under Section 22 of the *Submarine Cables and Pipelines Protection Act 1996* to prove that the breakage or injury to a submarine cable or pipeline was caused by persons acting with the sole object of saving their life or their ships after having taken all the necessary precautions to avoid the damage.

12. It is also a defence under Section 12 of this act if anchoring in any protected or restricted area was necessary for the purpose of saving life or a ship in distress.

Protected Areas under the Act

Greater Auckland Area

13. A number of international submarine cables come ashore in the Auckland area. These cables supply international telecommunications for both New Zealand and Australia to the rest of the world.

    See following page for specific information on submarines cables and the cable protection areas.

Cook Strait Submarine Cable Protection Zone (CPZ)

14. The CPZ protects vital submarine electricity and telecommunication links between the North and South Islands. There are severe restrictions on activities carried out within the CPZ under current legislation.

    (a) See information at the end of this notice for specific information on the CPZ.

    (b) Mariners are advised to consult the publication *Cook Strait Submarine Cable Protection Zone,* which is downloadable from www.transpower.co.nz/cook-strait-cpz-cable-protection-zone.

    (c) Towage through the CPZ: Mariners engaged in towing through the CPZ must be aware of the depth of their towline. Towlines dragging across the exposed submarine cables are likely to cause damage and may result in the failure of a submarine cable.

Other Protected Areas

15. Other areas given protection under the First Schedule of the *Submarine Cables and Pipelines Protection Order 2009* are cable and pipeline installations off Oaonui, Great Barrier Island (Aotea Island), Hauraki Gulf / Tīkapa Moana , Kawau Island, Taharoa, Whangaparāoa Peninsula, Hawke Bay and Maui A and Maui B. Mariners and fishermen are advised to consult the current charts of these areas for further information.

Important Note:

Mariners should be aware that, in order for tugs to keep towlines clear of submarine cables they may not be able to reduce speed or alter course when transiting cable protection zone/areas.

"catch fish...not cables"

There are a number of international submarine cables which come ashore in the Auckland area. These cables supply international communications for both New Zealand and Australia to the rest of the world.

New Zealand is a very isolated nation and as such is extremely reliant upon global communication via submarine cables. Here in New Zealand over 98% of all international communication is carried via submarine fibre optic cables. These cables are a key component of New Zealand's infrastructure and play a significant role in our everyday lives, the general economy and future growth of New Zealand.

These cables are laid in three submarine cable corridors in the greater Auckland area where anchoring and fishing is prohibited under the Submarine Cables & Pipelines Protection Act.

These areas are:

- **Muriwai Beach** out to the 12 mile territorial limit where both anchoring and fishing is prohibited.
- **Scott Point to Island Bay** in the upper Waitemata Harbour where anchoring is prohibited.
- **Takapuna Beach** this runs from Takapuna Beach in the south to just north of the Hen & Chicken Island (opposite Taiharuru Head) where anchoring and fishing is prohibited.

Note: These protected areas are monitored by sea and air patrols.

Symbols Relating To Submarine Cables

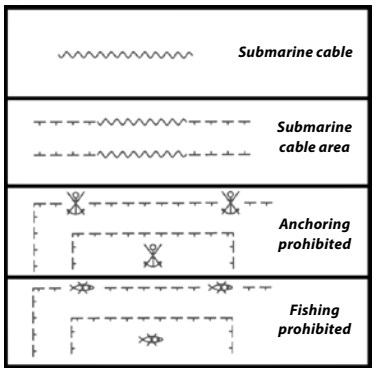


Figure 1.

These are some of the penalties

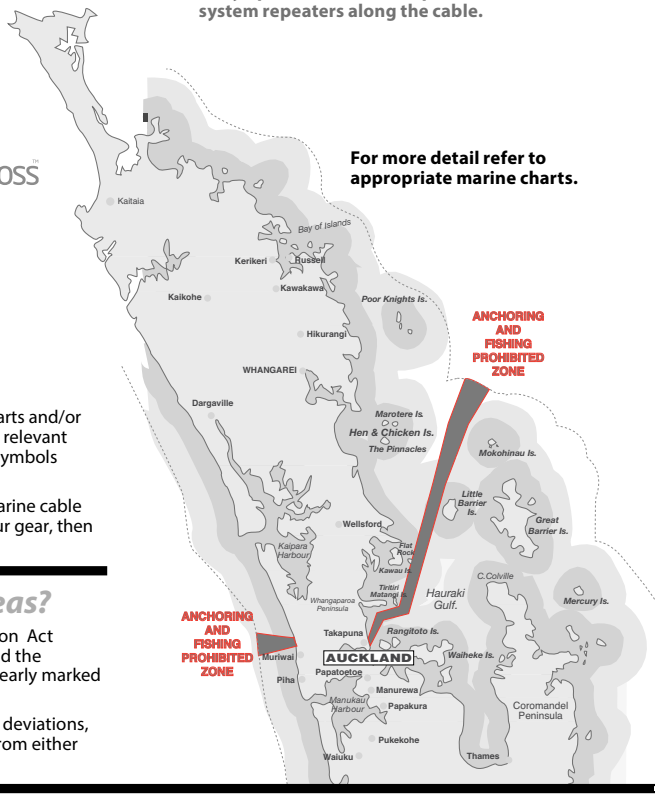
- **A maximum fine of $20,000 for a non-commercial vessel.**
- **A maximum fine of $100,000 for a commercial vessel.**
- **A maximum fine of $250,000 for damaging a submarine cable.**

Additional to the fine for damage, the cable owners would inevitably pursue the recovery of costs associated with repairs, this could be $100,000 plus per day; a typical repair can take up to two weeks.

Be Aware

These International submarine cables carry up to 10,000 volts to power the system repeaters along the cable.

For more detail refer to appropriate marine charts.



What should you do?

- If you are going into any of these areas, be sure to check your marine charts and/or GPS plotter so you know the exact locations of the prohibited zones. The relevant charts are NZ 53, NZ 5322, NZ 532, NZ 522, NZ 52, NZ 42 and NZ 43. The symbols used to mark the zones are detailed in Figure 1.
- If you suspect you have snagged your anchor or fishing gear on a submarine cable in one of these areas, don't try to free it. Note your position, abandon your gear, then call 0800 782 627.

What happens outside the prohibited areas?

These cables are covered by the Submarine Cables and Pipelines Protection Act regardless of whether they are inside or outside a prohibited area. Beyond the confines of the "anchoring and fishing prohibited" areas, the cables are clearly marked on the appropriate marine charts.

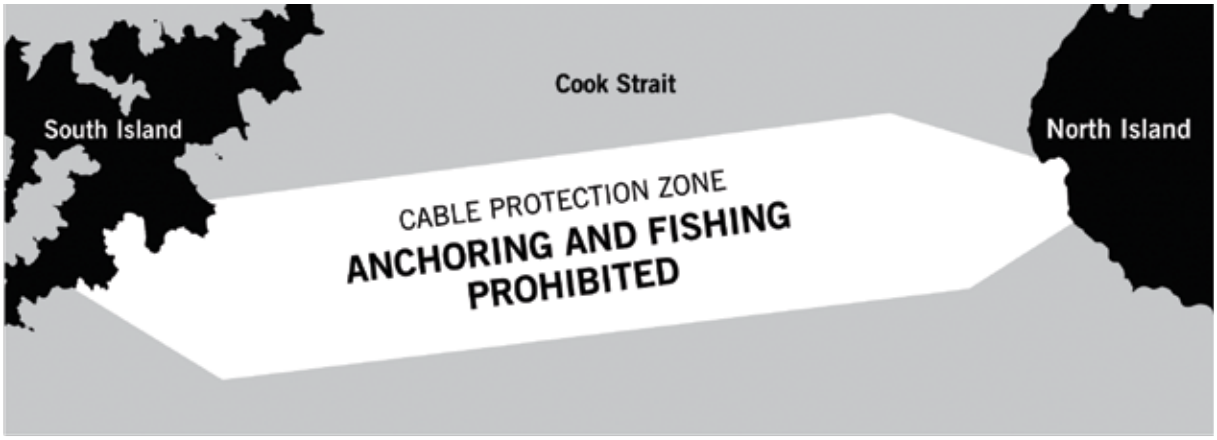
Considering possible positioning inaccuracies and repaired cable section deviations, fishermen are advised to keep a minimum distance of one nautical mile from either side of charted cables.

Note this number:

For any queries regarding submarine cables call: 0800 782 627

COOK STRAIT CABLE PROTECTION ZONE

Transpower's submarine 350,000 volt power cables and fibre optic telecommunication cables, lie on the seabed within the Cook Strait Cable Protection Zone (CPZ). These cables are vital to New Zealand's electricity and communications systems, and to New Zealand's economy.



For a vessel of any size, **FISHING AND ANCHORING ARE ILLEGAL WITHIN THE CPZ.** Under the Submarine Cables and Pipelines Protection Act 1996, having any equipment that may be used for fishing or anchoring deployed over the side of a vessel in the CPZ, is considered to be a fishing or anchoring operation (whether or not such equipment is fully deployed).

What should you do?

If you are going to be in or near the CPZ, check your charts to ensure you know the exact location of the CPZ. The relevant charts include NZ 463, NZ 46, NZ 62, NZ 6212 and NZ615. **IF YOU SNAG YOUR ANCHOR OR FISHING EQUIPMENT ON A CABLE, DO NOT TRY TO FREE IT.** It is recommended that you record your position, abandon your gear and advise Transpower and the CPZ patrol vessel immediately.

Penalties

Penalties for illegal activity apply to both the owner and master of the vessel concerned. Maximum fines are (a) $100,000 for fishing or anchoring in the CPZ, (commercial vessel) or $20,000 (non-commercial vessel), and (b) $250,000 for damaging a submarine cable (wilfully or negligently). The Court may also order forfeiture of the vessel or other property used to commit an offence. Transpower can also take legal action to recover repair costs, which may exceed $40-$65 million, possibly more.

Patrols

The CPZ is patrolled by both patrol vessel (VHF channel 16 and 0274 44 22 88) and helicopter.

Further information

For CPZ co-ordinates and minor exceptions to the prohibition against fishing in small and specific areas near shore, please refer to the Cook Strait Submarine Cable Protection Zone booklet which is downloadable from www.transpower.co.nz

Alternatively you can call us on

0800 THE GRID or 0800 843 4743

Catch fish...
not cables

Disclaimer: The information on this page is not intended as legal advice and should not be taken as such.

14	Ammunition Dumping in the Waters Around New Zealand

Former *Annual New Zealand Notice to Mariners, No. 14,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: New Zealand Defence Force (Headquarters Joint Force New Zealand)

1. Before the present regulations establishing five ammunition dumping areas in depths over 600 metres were brought into force in 1955, it was the practice to dump ammunition in any suitable area off the New Zealand coast adjacent to the loading point providing the depth was greater than 200 metres.

2. Ammunition has been found inside the 200 metre depth contour line, especially in the Hauraki Gulf / Tīkapa Moana area and in waters around the Hen and Chicken Islands (35° 55’S., 174° 45’E. approx). The area within 5 cables of the shores of the Hen and Chicken Islands is potentially dangerous.

3. The areas referred to in paragraph 1 above are defined as being within a radius of 5 nautical miles of the following positions:

   (a) 34° 40’S., 174° 50’E.

   (b) 36° 28’S., 176° 20’E.

   (c) 41° 44’S., 175° 01’E.

   (d) 43° 15’S., 174° 00’E.

   (e) 46° 00’S., 171° 13’E.

4. A disused explosive dumping ground area exists in Hauraki Gulf / Tīkapa Moana between Tiritiri Matangi Island and The Noises in position 36° 38’S., 174° 57’E.

5. The areas are shown on the appropriate charts.

15 Seismic and Other Surveys

Former *Annual New Zealand Notice to Mariners, No. 15,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: Maritime New Zealand

1. Seismic and other surveys are occasionally undertaken off the New Zealand coast in connection with hydrocarbon exploration. It is seldom practical to publish details of the areas of operation except in general terms and vessels carrying out surveys may be encountered without warning. Three types of surveys are practiced:

   (a) **Seismic reflection surveys**

   This is by far the most common form of operation. The survey vessel tows one or more multichannel receiver cables up to 12 km in length at a depth of a few metres, with the end marked by a tail buoy and radar reflector. The seismic energy source is usually an array of airguns mounted below large marker buoys and towed immediately behind the vessel. The cable and airgun arrays may have a lateral extent of a hundred metres or more. Survey speed is typically 4-5 knots.

   (b) **Seismic refraction surveys**

   (i) Single vessel operation: The seismic vessel tows a conventional source array (e.g. airguns) away from a stationary sonobuoy. The buoy contains an amplifier and radio transmitter which transmits the received signals to a shipboard recorder. In the rare case of long range (20 – 30 nautical miles) experiments, explosive charges may be used.

   (ii) Two vessel operation: One vessel tows a conventional reflection acquisition system (generally a cable of 1.5 nautical miles in length) away from another vessel at a fixed location firing a source array.

   (c) **Electromagnetic surveys**

   Another type of survey uses controlled source electromagnetic technology. The survey vessel deploys receiver stations along the survey lines, and then traverses the lines at approximately 2 knots towing a cable several hundred metres long with a transmitter near the sea floor.

2. Survey vessels generally carry the signals described in Rules 23 (a), 24 (a) and 27 (b) and (c) of the *International Regulations for Preventing Collisions at Sea 1972*.

   (a) They may also show the signals **PO** and **IR** (International Code):

   ***IR (India Romeo)**

   'I am engaged in submarine work (underwater operations). Keep clear of me and go slow.'

   * The use of this signal does not relieve any vessel from compliance with the *International Regulations for Preventing Collisions at Sea, 1972*.

   PO (Papa Oscar)

   'You should pass ahead of me (or vessel indicated)'.

   (b) The shooting vessel may display signal B (International Code) or at night a single red light in addition.

3. Survey vessels are unable to manoeuvre freely and masters should therefore give them a wide berth of at least 5.5 km.

4. Refraction survey vessels occasionally keep radio silence if charges are fired by radio so as to avoid uncontrolled firings. Vessels being called by light by a survey vessel should therefore answer by the same means and not by radio or radiotelephone.

5. Further information can be found in Chapter 13 of the Admiralty publication, *The Mariner's Handbook* (NP100).

16 Oil Rigs and Gas Production Platforms

Former *Annual New Zealand Notice to Mariners, No. 16*, published 1 July 2023 and associated changes from NtM Ed 25/23 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authorities : Maritime New Zealand, Toitū Te Whenua Land Information New Zealand

Main Areas of Activity

1. Petroleum exploration rigs and gas and oil production platforms may be encountered off the New Zealand coast. At present, the main areas of activity are off the North Island's West Coast. This area is designated by the International Maritime Organisation (IMO) as a Precautionary Area.

   Reference Charts: NZ 43, NZ 45, NZ 48, NZ 443, NZ 4432, NZ 14600 (INT 600), NZ 14601 (INT 601).

Precautionary Area

2. All ships should navigate with particular caution in order to reduce the risk of a maritime casualty and the resulting marine pollution. The Precautionary Area is defined by a line connecting the following geographical positions, the landward extent of which is determined by Mean High Water Springs (MHWS):

   (a) The charted line of MHWS at approximately 38° 31'.00S., 174° 37'.80E.

   (b) 39° 18'.50S., 173° 05'.00E.

   (c) 39° 26'.00S., 173° 01'.00E.

   (d) 40° 03'.00S., 173° 04'.00E.

   (e) 40° 10'.00S., 173° 16'.00E.

   (f) The charted line of MHWS at approximately 39° 53'.50S., 174° 54'.50E.

Navigational Hazards in Precautionary Area

3. The navigational hazards within the Precautionary Area comprise:

   (a) Maui gas/condensate field westward of Cape Egmont: two manned platforms, with a subsea pipeline to shore;

   (b) Pohokura gas field northward of Cape Egmont: unmanned production platform connected by subsea pipeline to onshore processing facilities;

   (c) Maari oil field south-westward of Cape Egmont: normally unmanned oil production platform and manned Floating Production Storage and Offloading vessel (FPSO) serviced by offtake tankers;

   (d) Tui oil field westward of Cape Egmont: subsea wells only (decommissioned in 2024); and

   (e) Kupe gas/condensate field southwards of Cape Egmont: unmanned production platform with subsea pipeline to onshore processing facilities.

Legislation/Regulations

4. Each surface installation is protected by a 500 metre radius Safety Zone and a Protected Area for subsurface installations and pipelines. See *Annual New Zealand Notice to Mariners, No. 13,* paragraph 5 for relevant legislation.

   For FPSOs, the baseline for the 500 metre Safety Zone is a circle described by the outer extent of movement around the mooring system (not including offtake tankers). Entry into these Safety Zones is prohibited to all except authorised vessels. A fine of up to NZ$1,000 may be imposed for navigating within the Safety Zones.

   The following regulations apply:

   (a) *Submarine Cables and Pipelines Protection Act 1996;*

   (b) *Submarine Cables and Pipelines Protection (Tui Area Development) Order 2007;*

   (c) *Continental Shelf (Maui A Safety Zone) Regulations 1975;*

   (d) *Continental Shelf (Maui B Safety Zone) Regulations 1991;*

   (e) *Continental Shelf (Pohokura Platform B Safety Zone) Regulations 2006;*

   (f) *Continental Shelf (Kupe Wellhead Platform Safety Zone) Regulations 2006*; and

   (g) *Continental Shelf (Maari Development Safety Zones) Regulations 2008*.

Keeping a Safe Margin of Distance

5. When navigating in the vicinity of production platforms and exploration rigs, an adequate safe margin of distance should be allowed. Where there is sufficient sea room, vessels should keep at least 5 nautical miles clear of these installations. Due allowance should always be given to prevailing weather conditions and the possibility of engine, steering or other mechanical failure.

Anchoring and Fishing in the Vicinity of the Permanent Installations is Prohibited
– For more information, see *New Zealand Notice to Mariners, No. 13*.

Importance of Keeping Charts Up-to-Date

6. The positions of the permanent oil and gas installations, submarine pipelines, together with the safety zones and prohibited anchoring and fishing areas, are shown on appropriate New Zealand charts. The positions of exploration rigs that change their location from time to time are promulgated in New Zealand Coastal Navigational Warnings and fortnightly editions of *New Zealand Notices to Mariners*. Mariners should ensure that their charts and navigational warning information is up-to-date at all times.

16A Non-Interference Zones Around Petroleum and Mineral Exploration and Production Activities

Former *Annual New Zealand Notice to Mariners, No. 16A,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: Ministry of Business, Innovation and Employment

1. The Chief Executive of the Ministry of Business, Innovation and Employment can specify a non-interference zone around prospecting, exploration, or mining activities that are authorised under a permit granted under the *Crown Minerals Act 1991*.
2. It is an offence to enter a non-interference zone without reasonable excuse. A fine of up to $10,000 may be imposed for doing so. Enforcement officers can:
   (a) Arrest people entering, or attempting to enter, a zone;
   (b) Prevent ships or people entering a zone;
   (c) Stop and detain a ship in a zone; and
   (d) Remove ships or people from a zone.
3. The zone is specified by a notice published in a fortnightly edition of *New Zealand Notices to Mariners*.
4. A notice will specify:
   (a) The activity to which the non-interference zone relates;
   (b) The locality of the activity;
   (c) The area of the non-interference zone (which can be up to 500 metres from the outer edge of the structure or ship, or any attached equipment, to which the activities relates); and
   (d) The time period for which the notice takes effect.
5. The non-interference zone can be applied within the territorial sea or the exclusive economic zone, or on or above the continental shelf.
6. The relevant sections of the *Crown Minerals Act 1991* are Sections 101A to 101C.
7. Under Section 101B(1) a person also commits an offence if the person intentionally damages or interferes with any structure or ship, or attached equipment, that is used in relation to offshore prospecting, exploration, or mining operations. A non-interference zone does not apply to this offence. An individual convicted of this offence is liable to imprisonment of up to 12 months or a fine of up to $50,000; a company is liable for a fine of up to $100,000.

17	Positions of Navigational Lights on Ships of the Royal New Zealand Navy

Former *Annual New Zealand Notice to Mariners, No. 17,* published 1 July 2023 is cancelled. This is a repetition of the former Notice.

Authority: Maritime New Zealand

Certain warships cannot comply fully with the requirements of the International Maritime Organization's *International Regulations for the Prevention of Collision at Sea 1972* (IRPCS) (as adopted by Maritime New Zealand's *Maritime Rules Part 22*) with regards to the number and positioning of lights. However, these warships comply as closely as possible in accordance with IRPCS Rules 1(c) and (e). Some vessels of 50 metres in length or over, due to their special construction, cannot be fitted with a second masthead light, or may have such lights placed in positions that differ from those normally associated with a ship of that size.

18 Satellite Derived Positions

Former *Annual New Zealand Notice to Mariners, No. 18*, published 1 July 2023 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authority: Toitū Te Whenua Land Information New Zealand

Please also refer to: Chapter 2 of the Admiralty publication *The Mariner's Handbook* (NP100).

The Global Positioning System (GPS) is one of a number of Global Navigation Satellite Systems (GNSS) that are either fully operational or are in the process of being developed. This notice is specific to the use of GPS. If another GNSS such as GLONASS, Galileo, QZ55 or BeiDou is being used, the user should seek advice as to the significance of the issues detailed below relative to that system.

Status

1. The Global Positioning System (GPS) constellation is complete and available for civil use. GPS has a baseline constellation of 24 satellites, but up to 31 satellites may be operational at one time.
2. Mariners are advised to use GPS with the same caution they apply to other aids to navigation and to ensure that positions are checked by all available means.

Derived Positions and Charts

3. GPS is referenced to the World Geodetic System 1984 (WGS84) datum. This datum relates positions on the Earth's surface, or in space, to a mathematically defined figure, in this case the WGS84 spheroid (often referred to as an ellipsoid), which is used to approximate, or to model, the complex shape of the Earth. Its origin is the Earth's centre of mass and it provides positional reference throughout the world. WGS84 is referred to as a global, geocentric geodetic datum. The current New Zealand Geodetic Datum 2000 (NZGD2000) is an example of a geocentric datum that is closely aligned with WGS84.
4. Some local or regional geodetic datums, such as the obsolete New Zealand Geodetic Datum 1949 (NZGD49), use different, non-geocentric, spheroids which provide close approximation to the shape of the Earth over a selected area but become progressively less accurate beyond that region.

   It is essential that the datum to which positions are referred is compatible with the datum used for the chart on which the position is to be plotted.
5. Charts referred to the WGS84 datum enable GPS positions derived in terms of WGS84 to be plotted directly. Note that the user must ensure that the GPS unit is set to display coordinates in terms of WGS84.

Chart Scale

6. Positions plotted on, or extracted from a chart will contain an element of imprecision related to the scale of the chart. Thus, for example, at a scale of 1:500,000, a chart user who is capable of plotting to a precision of 0.2 millimetres must appreciate that this represents approximately 100 metres on the ground. However the same plotting precision on a chart at scale 1: 25,000 represents about five metres on the ground.

19 Rocket Launch Hazard Areas and Warnings

Former *Annual New Zealand Notice to Mariners, No. 19*, published 1 July 2023 is cancelled. Additions and amendments to the former notice are indicated by sidelines.

Authority: Rocket Lab Limited

Introduction

1. Rocket launches to outer space are regularly conducted by Rocket Lab Limited (Rocket Lab) in the vicinity of the southern end of Māhia Peninsula.
2. In view of Rocket Lab's responsibilities to ensure public safety during launch operations, Launch Hazard Areas will be temporarily established for each launch in accordance with its trajectory.
3. Appropriate warnings will be issued through official government and civilian channels or by other methods as Rocket Lab may direct. Such warnings will specify the location, time, and duration of launch operations, and give specific details of the hazard areas. Other pertinent information may be included in the interest of safety.

Notification of Rocket Launches

4. www.rocketlabusa.com/missions/launch-safety provides up-to-date launch timings and Launch Hazard Area information, and details various means of contacting Rocket Lab Range Safety.
5. For the information of ships at sea, warnings of scheduled launches will be notified by:
   (a) Continuous automated broadcast on VHF Channel 79 in the vicinity of Māhia Peninsula; and
   (b) Napier Harbour Radio as part of scheduled hourly navigational warnings on VHF Channel 12.
6. To further promulgate the temporary hazard areas, warnings will be transmitted as NAVAREA XIV and New Zealand Coastal Navigation warnings (see Annual New Zealand Notices to Mariners, No. 9, paragraphs 4 – 9).
7. Rocket Lab Range Control can be contacted during launch operations on VHF Channel 07 when in VHF range of Māhia Peninsula.

Precautionary Rocket Launch Area

8. A Precautionary Rocket Launch Area, within which temporary Launch Hazard Areas (see paragraphs 11 – 15 below) will be established, is shown on nautical charts and at the end of this notice.
9. Vessels approaching the Precautionary Rocket Launch Area shall report to Rocket Lab Range Control on VHF Channel 07 during active Launch periods.
10. Note: All coordinates are given in terms of WGS84 datum, expressed in degrees, minutes and seconds.

Area	Limits
Precautionary Rocket Launch Area	All that area bounded by great circle lines from 39° 06′ 10′′S., 178° 00′ 05′′E. (Kahutara Point) to 38° 54′ 00′′S., 178° 18′ 00′′E. to 38° 54′ 00′′S., 178° 42′ 00′′E. to 39° 54′ 00′′S., 178° 42′ 00′′E. to 39° 54′ 00′′S., 177° 24′ 00′′E. to 39° 10′ 12′′S., 177° 24′ 00′′E. to 39° 09′ 36′′S., 177° 49′ 15′′E. (Long Point / Taramahiti Point) to 39° 06′ 10′′S., 178° 00′ 05′′E. (Kahutara Point)

Launch Hazard Areas

11. For each launch, a temporary Launch Hazard Area will be established within the Precautionary Rocket Launch Area to protect the public and marine operators from the hazardous activities in the vicinity of the launch site.
12. Due to the varying flight paths and times of each rocket launch, and local weather conditions, precise limits of temporary Launch Hazard Areas are not shown on nautical charts, and descriptions of these areas do not appear in this notice or *Admiralty Sailing Directions, New Zealand Pilot (*NP51).
13. To ensure maritime safety, each Launch Hazard Area will be established as a reserved area in accordance with *Hawke's Bay Regional Council Navigation Safety Bylaw 2023 section 9*.
14. Temporary virtual Automatic Identification System (AIS) aids to navigation (AtoNs) shall be used in accordance with IALA regulations and recommendations to clearly identify the perimeter of the Temporary Launch Hazard Area; these virtual AIS AtoNs will supplement information promulgated via the methods listed in paragraph 15 below.

15. Details of Launch Hazard Areas will be notified by:
    (a) Broadcast New Zealand Coastal Navigation warnings;
    (b) Rocket Lab's website www.rocketlabusa.com/missions/launch-safety; and
    (c) Notice boards at local boat ramps and within nearby ports and marinas not less than 48 hours before a launch attempt begins.
16. To ensure the safety of persons, all vessels must maintain a listening watch on VHF Channel 07 while within the active Precautionary Rocket Launch area and must remain outside the Launch Hazard Area while it is in effect unless prior permission is granted by Rocket Lab Range Control.

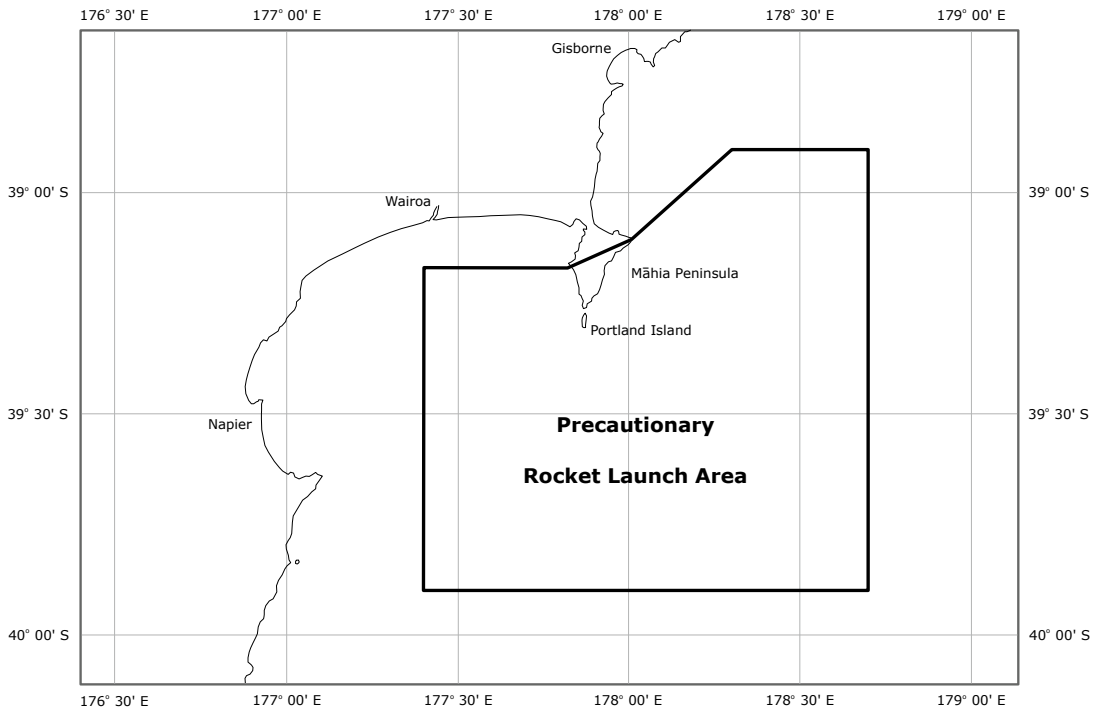
Launch Hazard Area Patrols

17. Prior to conducting launch operations, the Launch Hazard Area may be patrolled by aircraft and surface vessels and monitored by radars and cameras to ensure no persons or vessels are within the Launch Hazard Area.
18. Rocket Lab's Range Control Centre, patrol aircraft and surface vessels are equipped with marine band radios and will attempt to contact any vessel found within the Launch Hazard Area and may request that they leave the area.
19. Any vessel being so warned must immediately leave the designated area until the conclusion of launch operations and must remain clear of the Launch Hazard Area to ensure that it will be safe from falling debris.
20. Rocket Lab's Range Control Centre, patrol aircraft or surface vessels may attempt to contact any vessel approaching a Launch Hazard Area to advise it against entering the designated area.

Space Debris Hazard Area

21. Temporary Space Debris Hazard Areas will be established to notify marine operators of the possibility of space debris falling in specific areas downrange.
22. Due to the varying flight paths and times of each rocket launch, precise limits of temporary Space Debris Hazard Areas are not shown on nautical charts, and descriptions of these areas do not appear in this notice or *ADMIRALTY Sailing Directions, New Zealand Pilot* (NP51).
23. Details of Space Debris Hazard Areas will be notified by:
    (a) Broadcast NAVAREA XIV navigation warnings via MF/HF Radio and EGC.
    (b) Rocket Lab's website www.rocketlabusa.com/missions/launch-safety
24. To ensure the safety of persons, all vessels operating in a Space Debris Hazard Area while it is in effect should navigate with caution.

Precautionary Rocket Launch Area



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MARITIME CONTACTS

Port Operators 278

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Useful Websites 282

Port Operators

Port/Region	Port Operator/Website	Contact	Telephone
Auckland	Ports of Auckland www.poal.co.nz	PO Box 1281, Auckland 1140 info@poal.co.nz	+64 9 348 5000
Bluff	South Port NZ Ltd. www.southport.co.nz	PO Box 1, Bluff 9842 reception@southport.co.nz	+64 3 212 8159
Chatham Islands	Chatham Islands Ports Ltd	PO Box 57 Chatham Islands 8942 portmanager@cietrust.co.nz	+64 3 305 0585 022 067 8795
Dunedin and Port Chalmers	Port Otago Ltd. www.portotago.co.nz Otago Harbour Control	PO Box 8, Port Chalmers 9023 portprotectionofficers@portotago.co.nz	+64 3 472 7890 +64 3 472 9882 021 229 8882
Gisborne	Eastland Port Ltd. www.eastlandport.nz	PO Box 1048, Gisborne 4040 info@eastland.nz	+64 6 868 5129
Greymouth	Grey District Council www.greydc.govt.nz Port of Greymouth	PO Box 382, Greymouth 7840 port@greydc.govt.nz	+64 3 769 8600 +64 3 768 5666
Lyttelton	Lyttelton Port Company www.lpc.co.nz Harbour Radio Security	Private Bag 501, Lyttelton 8841 Waterfront House, 37-39 Gladstone Quay, Lyttelton 8082 office@lpc.co.nz security@lpc.co.nz	+64 3 328 8198 +64 3 328 8198
Napier	Port of Napier Ltd. www.napierport.co.nz	PO Box 947, Napier 4140 info@napierport.co.nz	+64 6 833 4400
Nelson	Port Nelson Ltd. www.portnelson.co.nz	PO Box 844, Nelson 7040 info@portnelson.co.nz	+64 3 548 2099
Picton	Port Marlborough NZ Ltd. www.portmarlborough.co.nz	PO Box 111, Picton 7250 reception@pmnz.co.nz	+64 3 520 3399
Port Tarakohe	Tasman District Council www.tasman.govt.nz Port Manager	1011 Abel Tasman Drive, Pohara Golden Bay 7183 port.tarakohe@tasman.govt.nz	+64 3 525 8174
Port Taranaki	Port Taranaki Ltd. www.porttaranaki.co.nz	PO Box 348 New Plymouth 4340 info@porttaranaki.co.nz	+64 6 751 0200
Tauranga	Port of Tauranga Ltd. www.port-tauranga.co.nz	Private Bag 12504 Tauranga 3143 potl.reception@port-tauranga.co.nz	+64 7 572 8899
Timaru	PrimePort Timaru www.primeport.co.nz	PO Box 544, Timaru 7940 info@primeport.co.nz	+64 3 687 2700
Wellington	CentrePort Wellington www.centreport.co.nz	PO Box 794, Wellington 6140 customerservices@centreport.co.nz	+64 4 495 3800
Westport	Buller District Council www.westportharbour.co.nz	PO Box 21, Westport 7866 westportharbour@bdc.govt.nz	+64 3 788 8086 0800 497 8427
Whakatāne	Port Whakatāne www.whakatane.govt.nz	Private Bag 1002 Whakatāne 3158 info@whakatane.govt.nz	+64 7 306 0500
Whanganui	Whanganui Port www.whanganui.govt.nz	PO Box 637, Whanganui 4540 yourcouncil@whanganui.govt.nz	+64 6 349 0001
Whangārei and Marsden Point	Northport Ltd. www.northport.co.nz	PO Box 44, Ruakaka 0151 administrator@northport.co.nz	+64 9 432 5010

Harbourmasters

Port/Region	Address and Email	Telephone	Mobile
Auckland	Auckland Transport Private Bag 92250, Auckland 1142 harbourmaster@at.govt.nz Emergency 24 hour Duty Officer	+64 9 362 0397 + 64 9 362 0397 ext 0	
Chatham Islands	PO Box 24, Chatham Islands 8942 info@cic.govt.nz	+64 3 305 0033	
Gisborne	Gisborne District Council PO Box 747, Gisborne 4040 harbourmaster@gdc.govt.nz	0800 653 800 +64 6 867 2049	027 234 8057
Greymouth	Port of Greymouth 33 Lord St, Greymouth 7805 PO Box 382, Greymouth 7840 port@greydc.govt.nz	+64 3 768 5666	
Lyttelton, Timaru, Akaroa and Kaikōura	Environment Canterbury PO Box 345, Christchurch 8140 harbourmaster@ecan.govt.nz	+64 3 353 9007 0800 324 636	
Napier	Hawke's Bay Regional Council Private Bag 6006, Napier 4142 harbourmaster@hbrc.govt.nz	+64 6 835 9200	027 445 5592
Nelson	Nelson City Council 110 Trafalgar St, Nelson, 7010 harbourmaster@ncc.govt.nz	0800 664 272 +64 3 548 2099	021 589 736
Northland	Regional Harbourmaster 36 Water Street, Whangārei 0110 harbourmaster@nrc.govt.nz Emergency and 24 hour Duty Officer	+64 9 470 1200 0800 504 639	
Otago	Otago Regional Council 70 Stafford Street, Dunedin 9016 Private Bag 1954, Dunedin 9054 harbour.master@orc.govt.nz	+64 3 474 0827	027 583 5196 027 587 7708
Picton and Marlborough	Marlborough District Council Picton Customer Service Centre 67 High Street, Picton 7220 harbours@marlborough.govt.nz	+64 3 520 7400	
Queenstown and Wanaka	Harbourmasters Office Frankton Marina Queenstown PO Box 108, Arrowtown 9351 harbourmasterqt@smsl.co.nz	+64 3 442 3445	027 434 5289 027 414 2270
Southland	Environment Southland Cnr. North Road and Price Street, Waikiwi Invercargill 9810, Southland Private Bag 90116, Invercargill 9840 habourmaster@es.govt.nz	+64 3 211 5115	021 673 043
Taharoa	Maritime New Zealand 2-8 Bayly Rd Moturoa New Plymouth 4310 PO Box 6091, New Plymouth 4344 David.Vicente@maritimenz.govt.nz	+64 6 751 3131	+64 27 653 0960
Taranaki	TRC Harbourmaster Taranaki Regional Council Private Bag 713 Stratford 4352, Taranaki harbourmaster@trc.govt.nz	+64 6 765 7127	027 544 6912

Harbourmasters

Port/Region	Address & Email	Telephone	Mobile
Tasman District	Tasman District Council Richmond Office 189 Queen Street, Private Bag 4 Richmond 7050 harbourmaster@tasman.govt.nz	+64 3 543 8400 +64 3 543 8433	027 246 1904
Taupō	Department of Internal Affairs Landing Reserve, Redoubt Street, Taupō 3330 PO Box 256, Taupō 3351 harbourmaster@dia.govt.nz	+64 7 378 7176	
Tauranga	Bay of Plenty Regional Council 1 Elizabeth Street, Tauranga 3110 PO Box 364, Whakatāne 3158 harbourmaster@boprc.govt.nz	0800 5KNOTS (0800 55 66 87)	027 519 3559
Waikato	Waikato Regional Council 401 Grey Street, Hamilton East, Hamilton 3216 Private Bag 3038, Waikato Mail Centre Hamilton 3240 HarbourmasterStaff@waikatoregion.govt.nz	+64 7 859 0999 0800 800 401	
Wellington	Greater Wellington Regional Council 100 Cuba Street, Wellington PO Box 11646, Manners Street Wellington 6142 harbours@gw.govt.nz After hours to Beacon Hill Station beacon.hill@gw.govt.nz	+64 4 830 4160 +64 4 388 5470 +64 4 388 1911	
Westport	Buller District Council PO Box 21, Westport 7866 harbourmaster@westportharbour.co.nz	+64 3 788 8086 (24 hours) 0800 497 8427	
Whakatāne	Bay of Plenty Regional Council 5 Quay Street, PO Box 364, Whakatāne 3158 harbourmaster@boprc.govt.nz	+64 7 308 8570 (24 hours) 0800 884 882	029 368 9415
Whanganui	Whanganui Port (2010) PO Box 623, Whanganui 4541 John.blaikie@whanganui.govt.nz	+64 6 344 7684	027 442 5489

Maritime New Zealand Offices

Location	Address	Telephone	Facsimile
Auckland	Level 2, 2A Augustus Terrace, Parnell, Auckland 1052 PO Box 624, Shortland Street, Auckland 1140	+64 9 306 1080	
Christchurch	5 Sheffield Crescent, Burnside, Christchurch 8053 PO Box 39140, Harewood, Christchurch 8545	+64 3 328 7946	
Dunedin	C/O Regus Level 1, 218 George Street Dunedin 9016 PO Box 1272 Dunedin 9054	+64 3 477 4055	
Invercargill	C/O MPI 90 Tweed Street Invercargill 9810 PO Box 1709, Invercargill 9840	+ 64 3 748 1762	
Marine Response	755 Te Atatu Road Auckland 0610 PO Box 45 209, Auckland 0651	0508 472 269 (NZ toll free) On Scene Duty Officer (OSDO) +64 4 473 6369	+64 9 834 3907
Napier	C/- Customs NZ, Ground Floor 6 Ossian Street, Napier 4110 PO Box 12012, Napier 4144	+64 6 835 4889	
Nelson	Duncan Court, 72 Vickerman Street, Nelson 7010 PO Box 5015, Port Nelson, Nelson 7043	+64 3 548 2434	
New Plymouth	2-8 Bayly Road, Blagdon, New Plymouth 4310 PO Box 6091, Moturoa, New Plymouth 4344	+64 6 751 3131	
Rescue Coordination Centre New Zealand (RCCNZ)	Avalon Studios, 41 Percy Cameron Street Lower Hutt 5011 PO Box 30050, Lower Hutt 5040	+64 4 577 8030 0508 472 269 (NZ toll free)	+64 4 577 8041
Tauranga	Rata House 8 Rata Street Mount Maunganui 3116 PO Box 5288, Mount Maunganui South 3149	+64 7 575 2079	
Wellington	Level 11, 1 Grey Street, Wellington 6011 PO Box 25620, Featherston Street, Wellington 6140	+64 4 473 0111 0508 225 522 (NZ toll free)	
Whangārei	2 South End Avenue, Raumanga, Whangārei 0110 PO Box 1843, Whangārei 0140	+64 9 432 7056	

Useful Websites

Organisation	Website
Toitū Te Whenua Land Information New Zealand	www.linz.govt.nz
Maritime New Zealand	www.maritimenz.govt.nz
Department of Conservation	www.doc.govt.nz
Ministry for Primary Industries	www.mpi.govt.nz
Ministry for the Environment	www.mfe.govt.nz
Royal New Zealand Navy	www.navy.mil.nz
MetService	www.metservice.com
Water Safety New Zealand	www.watersafety.org.nz
Yachting New Zealand	www.yachtingnz.org.nz
Coastguard New Zealand	www.coastguard.co.nz
Coastguard Boating Education	www.boatingeducation.org.nz
Australian Maritime Safety Authority	www.amsa.gov.au
AMVER (Automated Mutual Assistance Vessel Rescue System)	www.amver.com
Australian Hydrographic Office	www.hydro.gov.au
United Kingdom Hydrographic Office	www.admiralty.co.uk
Naval Hydrographic and Oceanographic Service	www.shom.fr/
International Hydrographic Organization	www.iho.int
International Maritime Organization	www.imo.org
PRIMAR	www.primar.org
International Centre for ENCs (IC-ENC)	www.ic-enc.org
National Tsunami Advisory and Warning Plan	www.civildefence.govt.nz
New Zealand Tsunami Gauge Network	www.geonet.org.nz/tsunami
Pacific Tsunami Warning Center	www.tsunami.gov

Coastal Distances (these distances are from Port to Port)

	Auckland	Awanui	Bluff	Coromandel	Foxton	Gisborne	Greymouth	Herekino	Hokianga	Hokitika	Kaikōura	Kaipara	Kawhia	Lyttelton	Mangōnui	Napier	Nelson	Oamaru	Onehunga	Ōpōtiki	Pārengarenga	Pātea	Picton	Port Chalmers	Port Taranaki	Raglan	Russell	Tauranga	Thames	Timaru	Tokomaru Bay	Waitangi*	Wellington	Westport	Whakatāne	Whanganui	Whangapē	Whangārei	Whangaroa
Auckland		177	950	35	625	298	707	288	317	728	596	404	466	675	161	372	633	788	427	179	191	570	583	831	509	453	129	144	41	756	246	663	551	662	171	600	293	84	146
Awanui	177		936	181	469	398	552	136	162	573	574	248	311	651	27	478	478	776	271	284	32	414	496	815	354	298	70	243	193	743	355	768	515	506	276	444	141	125	37
Bluff	950	936		931	503	666	408	813	815	388	365	785	664	312	947	610	553	172	733	809	913	533	467	141	598	682	980	865	953	220	702	667	455	454	821	532	801	968	955
Coromandel	35	181	931		589	280	706	290	320	728	578	402	468	662	166	361	632	774	431	163	190	570	564	812	511	455	131	130	27	742	236	656	533	661	154	599	295	82	152
Foxton	625	469	503	589		332	261	342	343	283	135	319	198	218	480	267	105	335	267	464	446	54	76	377	132	216	513	520	612	301	358	489	75	212	476	36	334	570	488
Gisborne	298	398	666	280	332		527	509	540	547	315	606	490	391	386	89	374	509	552	157	415	367	296	553	422	508	352	213	303	475	51	409	268	480	169	359	514	316	369
Greymouth	707	552	408	706	261	527		433	440	20	339	425	319	426	563	471	214	545	380	680	529	240	268	545	251	337	595	725	728	513	562	691	287	59	680	261	428	658	572
Herekino	288	136	813	290	342	509	433		34	457	444	118	181	524	147	572	357	645	141	393	116	290	374	694	224	168	182	352	302	612	463	801	393	395	385	323	8	234	156
Hokianga	317	162	815	320	343	540	440	34		459	449	120	184	533	173	584	360	650	144	424	142	294	374	694	230	171	206	383	333	617	489	787	394	397	416	324	29	265	182
Hokitika	728	573	388	728	283	547	20	457	459		359	443	333	441	584	491	233	559	400	688	550	256	282	524	265	351	617	744	734	525	582	710	303	74	700	277	451	666	592
Kaikōura	596	574	365	578	135	315	339	444	449	359		423	302	85	585	259	184	207	371	456	551	167	102	249	234	320	618	512	601	173	350	437	89	290	468	163	439	615	593
Kaipara	404	248	785	402	319	606	425	118	120	443	423		149	503	258	548	332	624	106	513	225	264	344	664	198	134	293	472	424	591	574	731	364	376	505	294	113	354	267
Kawhia	466	311	664	468	198	490	319	181	184	333	302	149		382	322	430	210	503	85	579	288	143	224	544	72	25	355	538	483	470	518	651	243	268	571	173	176	414	330
Lyttelton	675	651	312	662	218	391	426	524	533	441	85	503	382		665	335	271	150	451	530	631	252	185	192	316	402	698	590	675	118	432	462	174	373	545	251	530	689	671
Mangōnui	161	27	947	166	480	386	563	147	173	584	585	258	322	665		462	489	787	282	272	43	425	507	826	365	309	51	231	181	754	331	754	526	517	264	455	152	113	22
Napier	372	478	610	361	267	89	471	572	584	491	259	548	430	335	462		321	453	496	232	489	305	236	491	362	448	427	288	377	419	123	405	212	427	244	295	577	391	447
Nelson	633	478	553	632	105	374	214	357	360	233	184	332	210	271	489	321		391	280	515	455	104	88	432	145	228	522	571	654	354	413	511	105†	165	527	117	355	581	497
Oamaru	788	776	172	774	335	509	545	645	650	559	207	624	503	150	787	453	391		572	650	753	372	302	50	435	521	820	707	797	52	544	540	292	496	662	361	640	809	795
Onehunga	427	271	733	431	267	552	380	141	144	400	371	106	85	451	282	496	280	572		538	248	212	292	613	143	69	315	497	444	539	599	698	313	331	530	242	136	375	290
Ōpōtiki	179	284	809	163	464	157	680	393	424	688	456	513	579	530	272	232	515	650	538		301	502	433	696	556	566	237	62	180	616	106	530	411	621	15	492	398	196	255
Pārengarenga	191	32	913	190	446	415	529	116	142	550	551	225	288	631	43	489	455	753	248	301		391	473	792	331	275	79	260	210	720	360	784	492	483	293	421	121	142	53
Pātea	570	414	533	570	54	367	240	290	294	256	167	264	143	252	425	305	104	372	212	502	391		96	413	77	161	458	558	592	335	396	522	115	186	514	28	285	518	433
Picton	583	496	467	564	76	296	268	374	374	282	102	344	224	185	507	236	88	302	292	433	473	96		372	158	242	540	489	587	268	327	457	51	219	445	97	369	592	515
Port Chalmers	831	815	141	812	377	553	545	694	694	524	249	664	544	192	826	491	432	50	613	696	792	413	372		478	561	860	746	835	98	588	559	334	538	706	412	689	853	834
Port Taranaki	509	354	598	511	132	422	251	224	230	265	234	198	72	316	365	362	145	435	143	556	331	77	158	478		90	398	577	519	402	454	579	178	202	568	107	219	454	373
Raglan	453	298	682	455	216	508	337	168	171	351	320	134	25	402	309	448	228	521	69	566	275	161	242	561	90		342	525	470	488	536	666	261	284	558	191	163	401	317
Russell	129	70	980	131	513	352	595	182	206	617	618	293	355	698	51	427	522	820	315	237	79	458	540	860	398	342		203	146	787	302	719	560	551	229	488	187	78	36
Tauranga	144	243	865	130	520	213	725	352	383	744	512	472	538	590	231	288	571	707	497	62	260	558	489	746	577	525	203		147	672	162	571	467	681	53	548	357	157	214
Thames	41	193	953	27	612	303	728	302	333	734	601	424	483	675	181	377	654	797	444	180	210	592	587	835	519	470	146	147		765	251	668	556	684	172	621	307	102	164
Timaru	756	743	220	742	301	475	513	612	617	525	173	591	470	118	754	419	354	52	539	616	720	335	268	98	402	488	787	672	765		510	526	260	464	628	327	607	775	762
Tokomaru Bay	246	355	702	236	358	51	562	463	489	582	350	574	518	432	331	123	413	544	599	106	360	396	327	588	454	536	302	162	251	510		432	303	515	118	386	469	265	322
Waitangi*	663	768	667	656	489	409	691	801	787	710	437	731	651	462	754	405	511	540	698	530	784	522	457	559	579	666	719	571	668	526	432		419	644	537	513	794	677	739
Wellington	551	515	455	533	75	268	287	393	394	303	89	364	243	174	526	212	126	292	313	411	492	115	51	334	178	261	560	467	556	260	303	419		238	423	112	394	570	534
Westport	662	506	454	661	212	480	59	395	397	74	290	376	268	373	517	427	165	496	331	621	483	186	219	538	202	284	551	681	684	464	515	644	238		633	212	390	611	525
Whakatāne	171	276	821	154	476	169	680	385	416	700	468	505	571	545	264	244	527	662	530	15	293	514	445	706	568	558	229	53	172	628	118	537	423	633		504	390	188	247
Whangapē	293	141	801	295	334	514	428	8	29	451	439	113	176	530	152	577	355	640	136	398	121	285	369	689	219	163	187	357	307	607	469	794	394	390	390	318		239	161
Whangārei	84	125	968	82	570	316	658	234	265	666	615	354	414	689	113	391	581	809	375	196	142	518	592	853	454	401	78	157	102	775	265	677	570	611	188	551	239		96
Whangaroa	146	37	955	152	488	369	572	156	182	592	593	267	330	671	22	447	497	795	290	255	53	433	515	834	373	317	36	214	164	762	322	739	534	525	247	463	161	96	

***Chatham Island** **† Via Te Aumiti / French Pass 105** **The distances given are in nautical miles and are based on tracks usually followed by ships**

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Toitū Te Whenua
Land Information
New Zealand

Hydrographic Note

(For instructions, see next page)

Toitū Te Whenua Land Information New Zealand
New Zealand Hydrographic Authority
Level 7, Radio New Zealand House
155 The Terrace
PO Box 5501
Wellington 6145
New Zealand

Phone: 0800 665 463 or +64 4 460 0110
Email: ntm@linz.govt.nz

Date ..... Ref.No. .....

Name and address of ship or sender

.....

.....

Tel/Email of sender.....

General locality .....

Subject .....

Position Lat.....Long.....

Position fixing system used .....

Datum .....

Charts affected ..... Edition .....

Dated.....

Latest Notice to Mariners held.....

Publications affected (Edition No. and date of latest supplement, page no., ID no. etc) .....

Details:

A replacement copy of Chart No. .....
is required (see Instruction 4).

Signature of observer/reporter .....

Hydrographic Note

Forwarding Information for Charts and Hydrographic Publications

Note: An acknowledgement of receipt will be sent and the information then used to the best advantage, which may mean immediate action or inclusion in a revision in due course. When a Notice to Mariners is issued, the sender's ship or name is quoted as authority unless (as sometimes happens) the information is also received in a foreign Notice to Mariners. An explanation of the use of contributions from all parts of the world would be too greater task and a further communication should only be expected when the information is of outstanding value or has unusual features.

Instructions:

1. Mariners are requested to notify the New Zealand Hydrographic Authority, Toitū Te Whenua Land Information New Zealand, Radio New Zealand House, 155 The Terrace, PO Box 5501, Wellington 6145, New Zealand, when new or suspected dangers to navigation are discovered, changes observed in aids to navigation, or corrections to publications seem to be necessary. The Admiralty publication, *The Mariner's Handbook* (NP100), Chapter 4, gives general instructions.
2. This form and its instructions have been designed to help both the sender and the recipient. It should be used, or followed, closely, whenever appropriate. Copies of this form may be obtained gratis from the New Zealand Hydrographic Authority at the address above, or in PDF format directly from the Toitū Te Whenua LINZ website, www.linz.govt.nz/products-services/maritime-safety.
3. When a position is defined by sextant angles or bearings (true or magnetic being specified) more than two should be used in order to provide a check. Distances observed by radar should be quoted. However, when there is a series of fixes along a ship's course, only the method of fixing and the objects used need to be indicated. Latitude and longitude should only be used specifically to position the details when they have been fixed by astronomical observations or GPS and a full description of the method, equipment and datum used should be given.
4. Paper Charts: A cutting from the largest scale paper chart is the best medium for forwarding details, the alterations and additions being shown thereon in red. When requested, a new copy will be sent in replacement of a chart that has been used to forward information, or when extensive observations have involved defacement of the observer's chart. If it is preferred to show the amendments on a tracing of the largest scale chart (rather than the chart itself) these should be in red as above, but adequate detail from the chart must be traced in black ink to enable the amendments to be fitted correctly.

   Electronic Navigational Charts (ENCs): A screen dump of the largest scale usage band ENC with the alterations and additions being shown thereon in red.
5. When soundings are obtained, *The Mariner's Handbook* (NP100) should be consulted. The echo sounding trace should be marked with times, depths, etc., and forwarded with the report. It is important to state whether the echo sounder is set to register depths below the surface, or below the keel; in the latter case the vessel's draught should be given. Time and date should be given in order that corrections for the height of the tide may be made where necessary. The make, name, and type of echo sounder set should also be given.
6. Modern echo sounders frequently record greater depths than the set's nominal range, e.g. with a set whose maximum is 500 metres a trace appearing at 50 metres may in fact be 550 metres or even 1,050 metres. Erroneous deep soundings beyond the set's nominal range can usually be recognised by the following:
   (a) The trace being weaker than normal for the depth registered;
   (b) The trace appearing to pass through the transmission line; or
   (c) The "feathery" nature of the trace.
7. Reports which cannot be confirmed or are lacking in certain details should not be withheld. Shortcomings should be stressed and any firm expectation of being able to check the information on a succeeding voyage should be mentioned.
8. Reports of shoal soundings, uncharted dangers and navigational aids out of order should, at the mariner's discretion, also be made by radio to the nearest coast radio station. The draught of modern tankers is such that any uncharted depth under 30 metres or 15 fathoms may be of sufficient importance to justify a radio message.

International Code of Signals (IMO 1969)

Alphabetical flags, with single letter meanings, numeral pendants and morse code symbols.

A Alfa	I have a diver down; Keep well clear at slow speed.	K Kilo	I wish to communicate with you.	U Uniform	You are running into danger.	One Unaone	Used on all Occasions when it is Required to Represent Numbers in Flag Signalling
B Bravo	I am taking in, or discharging, Or carrying dangerous goods.	L Lima	You should stop your vessel instantly.	V Victor	I require assistance.	Two Bissotwo	
C Charlie	Yes (affirmative or "the significance Of the previous group should be read in the affirmative").	M Mike	My vessel is stopped and making No way through the water.	W Whiskey	I require medical assistance.	Three Terrathree	
D Delta	Keep clear of me; I am manoeuvring WITH DIFFICULTY.	N November	No (negative or "the significance Of the previous group should be read in the negative").	X Xray	Stop carrying out your intentions and watch for my signals.	Four Kartefour	
E Echo	I am altering my course To starboard.	O Oscar	Man overboard.	Y Yankee	I am dragging my anchor.	Five Pantafive	
F Foxtrot	I am disabled; Communicate with me.	P Papa	In harbour: all persons should Report on board as the vessel is about to proceed to sea. At sea: it may be used by fishing Vessels to mean "my nets have come fast upon an obstruction".	Z Zulu	I require a tug. When made by fishing vessels Operating in close proximity on The fishing grounds it means "I am shooting nets".	Six Soxisix	
G Golf	I require a pilot. When made by fishing vessels Operating in close proximity on the fishing grounds it means "I am hauling nets".	Q Quebec	My vessel is heathly, and i Request free pratique.	1st substitute	Used to repeat the first flag or pendant in the same hoist.	Seven Setteseven	
H Hotel	I have a pilot on board.	R Romeo	—	2ND Substitute	Used to repeat the second flag or pendant in the same hoist.	Eight Oktoeight	
I India	I am altering my course to port.	S Sierra	I am operating astern propulsion.	3RD Substitute	Used to repeat the third flag or pendant in the same hoist.	Nine Novenine	
J Juliett	Keep well clear of me. I am on fire and have dangerous cargo on board, or i am leaking Dangerous cargo.	T Tango	Keep clear of me i am Engaged in pair trawling.	Code and Answer	Used to acknowledge a signal.	Zero Nadazero	

Note. Single letter signals may be made by any method of signalling. The letters B, C, D, E, G, H, I, S, T, z when made by sound may only be made in compliance with the requirements of the international regulations for preventing collisions at sea, rules 34 and 35.