

NZMGI-WG Meeting #6 Minutes & Actions

Meeting date	3/05/2024
Time	9.00am-4pm
Venue	GNS Science/ MS Teams
In person attendees	Anna Meissner (LINZ), Annette Wilkinson (LINZ), Ben Reilly (LINZ), Berenika Juzkova (LINZ), Bonita Cooper (MNZ), Bradley Cooper (LINZ), Chris Dick (GWRC), David Field (Ocean Infinity), Declan Stubbing (DML Surveys), Georgia Goodsell (MPI), Hayley Morris (MPI), Heather Duarte (MBIE), Hoani Horsfall (Te Aranga), Jenny Black (GNS Science), Jess Hillman (GNS Science), John Plunkett (Eagle Technology), Karl Majorhazi (Te Arawhiti), Kevin Mackay (NIWA, Seabed 2030), Kevin Smith (DML Surveys), Leanna Barriball (PCE), Marvin Espino (LINZ), Megan Melidonis (GWRC), Mel Duncan (GNS Science), Mike Williams (NIWA), Miles Dunkin (MBIE), Natalia Bradley (MNZ), Natasha Willison-Reardon (The Marokopa and Kiritehere Taiao Group), Peter McComb (Oceanum Science), Phaedra Upton (GNS Science), Rachel Corran (MFE), Rachel Gabara (LINZ), Rātā Chapman Olsen (MPI), Remy Zyngfogel (Calypso), Richard Jennings (Te Arawhiti), Richard Wells (NZDF), Robert Dykes (PCE), Stuart Caie (LINZ), Stuart Henrys (GNS Science), Susi Woelz (NIWA), Trent Gulliver (LINZ), Verena Bosselmann (LINZ)
Virtual attendees	Abigail Crawford (Tuia Group), Adam Greenland (LINZ), Andrew Coote (ConsultingWhere), Becky Shanahan (Hawkes Bay RC), Ben McKay (MPI), Brett Beamsley (MetOcean), Bridgette May-Stanley (MPI), Byron Cochrane (Open Work), Chris Dick (GWRC), David Crossman (IIC Technologies), Dougal Greer (Ecoast), Edward Kuwalek (IIC Technologies), Geoff Dean (ESRI), Geoff O'Malley (LINZ), Glen Clarkin (BOPRC), Hellen Simpson (MPI), Jean Davis (MPI), Jennifer Montano Munoz (Auckland Council), Jodie Robertson (DOC), Josie Crawshaw (BOPRC), Juliane Sellars (MPI), Karen Lisa Tunley (MPI), Karen Pratt (South Taranaki Underwater Club), Leo Zhang (Moana), Jordan Markham (NZDF), Megan Carbines (Auckland Council), Phillip Lubeck (MPI), Pip Bricher (Geoscience Australia), Riki Mules (MPI), Rory McPherson (GWRC), Jason Sharpe (Teradata), Shaun Kingsbury (MPI), Stuart Henrys (GNS Science), Tarn Drylie (Auckland Council)
Apologies from SG members	Emma Burge (MPI), Robin Kuhn (NZDF), Enrique Pardo (DOC), Jochen Schmidt (NIWA), Becky Shanahan (Local Gov), Stephen Hunt (Local Gov), Stacey Faire (Local Gov), Aaron Napier (MFE), Tony Paku (MPI - Customary Fisheries), Apanui Skipper (MPI - Customary Fisheries)

Discussion items

Description

- 1 Welcome and opening of the meeting with three plenary sessions (Phaedra Upton, GNS Science). The presentations were recorded and are available on the [MGI webpage](#) alongside the slide deck. (Video 0:00 – 5:35)

Session 1 - Benefits and opportunities for Marine Geospatial Information in NZ (chaired by Phaedra Upton, GNS Science)

- 1- Geospatial alignment to policy drivers: New Zealand case study, Andy Coote (ConsultingWhere). (Video from 5:35 to 31:05)

Andy Coote is the CEO of [ConsultingWhere](#). His expertise lies in strategy development, return on investment and market assessment. He has undertaken a wide range of strategy studies, business consultancy and advisory assignments for the private and public sectors across the world. His presentation reported on a series of workshops undertaken with members of the NZ MGI Steering Group to help establish alignment of the NZ MGI work programme to the policy drivers of the NZ Government. The World Bank developed an analytical toolset based on the United Nations Integrated Geospatial Information Framework (IGIF) for good practice in designing geospatial strategy. Andy explained how the SG was guided by this framework during the workshops. Anyone interested in a follow up can contact Andy at andrew.coote@consultingwhere.com

- 2- IHO S-100: the new hydrographic geospatial standard for marine data, Edward Kuwalek ([IIC Technology](#)) (Video from 31:05 to 52:23)

The International Hydrographic Organization (IHO) is developing a new Universal Hydrographic Data Model, S-100, to facilitate seamless data interoperability through common data models, metadata standards, and encoding rules. S-100's scope goes beyond outcomes for maritime industry and extends to marine science, resource management, environmental monitoring and other applications. Edward Kuwalek described the high-level principles of the S-100 standard, its key components and implications for the maritime industry and beyond.

- 3- The NZ MGI work programme - Celebrating 5 years of achievements, road map updates and setting future priorities, Anna Meissner (Toitū Te Whenua/Land Information NZ, Chair of the NZ MGI SG Vice-Chair) (Video from 52:23 to 1:29:50)

Anna is a Senior Marine Geospatial Specialist at LINZ. She graduated with a PhD in Marine Ecology and has over 20 years' experience working with geospatial data and marine geospatial stakeholders, in the research, private and public sectors. For over five years and since its establishment, Anna has been leading the NZ MGI work programme, for which she presented outcomes achieved since 2019. She provided updates on the road map since the last annual meeting in 2023 (See details in Section 2) and proposed a set of actions for

the WG to collaboratively progress effort in the next year (See details in the Actions Section). The SG members introduced themselves at the end of the presentation.

Session 2 - Data reuse (chaired by Miles Dunkin, MBIE, Vice-Chair of the NZ MGI SG)

1- Enabling environmental data science and applications, Dr Peter McComb (Oceanum) (Video from 1:34:35 to 1:59:30)

Peter McComb is a Physical Oceanographer and Managing Director of [Oceanum](#). He has been promoting open access to essential ocean variables for 20 years. Peter presented on the developments in the OCEANUM.IO platform. The platform seeks to abstract away the core data engineering problems for both expert and non-expert users in environmental science. The success story for OCEANUM.IO is making developers, engineers, planners, scientists and analysts reach their conclusions and deliver their solutions faster and cost-effectively.

2- Improvements in the mapping of commercial fishing effort, Riki Mules (MPI) (Video from 1:59:30 to 2:17:35)

Riki Mules is a senior geospatial analyst with MPI who specialises in the marine and fisheries space. He presented a new tool that was developed to improve the accuracy and speed in which large commercial fishing effort datasets can be plotted.

3- Electronic Navigational Charts and ArcGIS Maritime Server: Revealing the potential of the LINZ ENC Service beyond navigation, Richard Wells (NZDF) and John Plunkett (Eagle Technology) (Video from 2:17:35 to 2:44:00)

With an Earth Sciences and GIS background, Richard Wells has spent 18 of the past 20 years working at GEOINT New Zealand, where he now leads the Maritime Team providing charting and geospatial support to the Royal New Zealand Navy and New Zealand Defence Force. John Plunkett has worked for [Eagle Technology](#) for over 10 years in the technical support team delivering technical support across the Esri Products to customers. Prior to working for Eagle Technology, John served in the Royal New Zealand Navy in the Hydrographic Branch serving on various platforms including HMNZS Resolution and SMB Adventure. Together they presented on the development of software solutions that enabled wider use of LINZ's Electronic Navigational Charts (ENCs) beyond navigation.

Session 3 - Data collection (chaired by Megan Melidonis, GWRC and C-SIG) (Video from 2:45:45 to 2:47:48)

Megan shared a message on behalf of the Coastal-SIG: Many councils currently undertake subtidal mapping in their regions, but the extent of coverage is restricted in many cases by limited resources. Connecting with LINZ, commercial companies, and other entities such as harbours and marinas that are planning to undertake multibeam surveys around the county will enable councils to coordinate work, potentially saving ratepayers money where survey data can be collected opportunistically. If appropriate, councils could fund the processing of these data into benthic habitat maps which can be shared via the national

mapping tool that is currently under development. C-SIG expressed interest interested to learn more about the Mapping Aotearoa's Seafloor tool and asked for councils to be updated during development and data collation.

1- Crowdsourced Bathymetry in Aotearoa NZ, Kevin Mackay (NIWA) (Video from 2:47:48 to 3:06:30)

Kevin Mackay is a marine geologist who has been working for NIWA for 30 years in the Fisheries and Ocean Geology groups. He is currently the Head of the Pacific Data Center for The Nippon Foundation-GEBCO Seabed 2030 Project. Seabed 2030 has taken the challenge to compile a map of the entire oceans by year 2030 and make this data freely available to better understand some of the geological processes, improve models for sea-level rise to mitigate risks around climate change or tsunami threats. A flagship programme for the UN Decade of Ocean Science for Sustainable Development, Seabed 2030 operates in four regional centres. The Pacific Centre is based in NZ at NIWA. Kevin's talk focussed on crowdsourced bathymetry in NZ and collaboration opportunities.

2- Coordinated Seafloor Mapping - Opportunities for broader outcomes, Stuart Caie and Brad Cooper (Toitū Te Whenua Land Information New Zealand) (Video from 3:06:30 to 3:27:10)

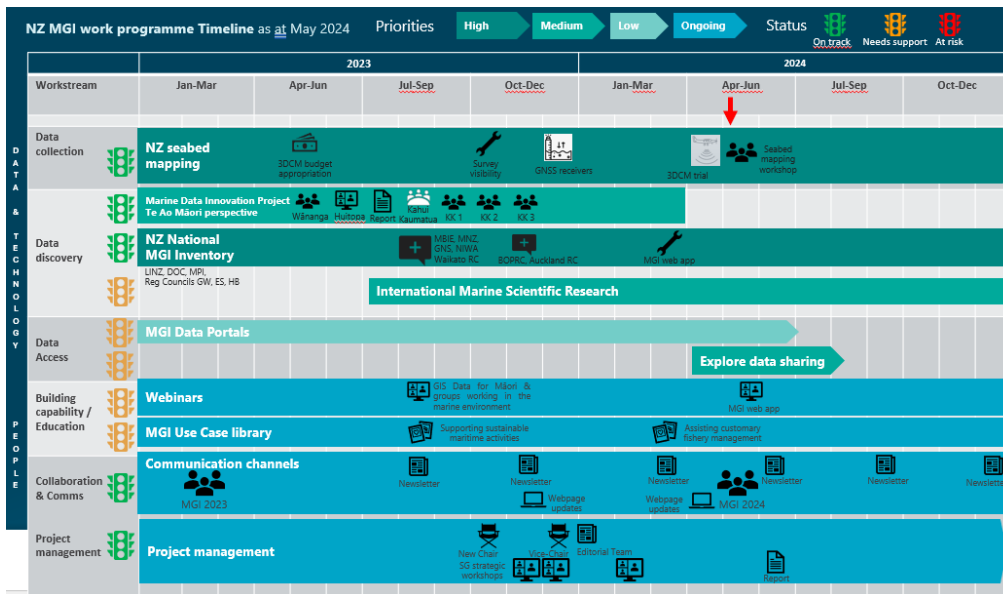
Stuart Caie is a Principal Geospatial Specialist working in the New Zealand Hydrographic Authority at LINZ. He leads the delivery of the national hydrographic survey programme, HYPLAN. Brad Cooper is a senior geospatial specialist at LINZ with a background in hydrographic surveying. Since 2016 NZ seafloor mapping has been achieved through partnerships and collaborations between LINZ and other organisations on an ad-hoc and uncoordinated basis. Members of the NZ MGI WG have identified coordinated seabed data acquisition as a priority improvement since its inception in 2019. The presentation provided an update on LINZ seafloor mapping projects, including 3D Coastal Mapping, the Mapping Aotearoa's Seafloor tool, and introduce a proposal to establish an advisory group under the NZ MGI WG to better coordinate seafloor mapping activities in NZ waters.

The plenary session and online meeting were concluded by an interactive session (See details in Section 3) and by acknowledging the generous sponsors of the event:

- [GNS Science](#)
 - [Oceanum Science](#)
 - [IIC Technologies](#)
 - [ConsultingWhere](#)
 - [Eagle Technology](#)
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2 Road map progress

Key achievements since the last annual meeting included:



- Development by LINZ of the Mapping Aotearoa's Seafloor tool to provide better visibility on past and future seafloor mapping surveys <https://storymaps.arcgis.com/stories/60af74f682bb40ed946a3c60d5cfa973>.
- Completion of the Te Ao Māori component of the DIA innovation project. Outcomes of this component are summarised in the Tiaki Moana Marine Data Engagement report available upon request at hydro@linz.govt.nz.
- Publication of the National MGI Inventory through the MGI web app.
- Building capability through a first webinar on GIS Data for Māori trusts and environmental groups working in the marine environment <https://www.youtube.com/watch?v=4VzW4G4jtoc&list=PLyE56PxGCqSXGUtFlvpNn0bSauF4Xflk&index=1>
- Publication of two storymaps: [Assisting customary fishery management](#) and [Supporting sustainable maritime activities](#).

AM reminded that the MGI webpages provides access to project updates, tools, reports, minutes of meetings etc. Latest updates are also communicated via quarterly [newsletters](#) emailed to the Working Group and published on the MGI webpage.

3 Interactive session (Q/A using Mentimeter) (Video from 3:27:10 to the end). Answers from in-person and virtual attendees were combined where possible.

What are your priorities today? (1-strongly disagree, 5-strongly agree, 38 people replied to this question)

1. Network (4.0)
2. Find out more about MGI Working Group (3.8)
3. Discover new applications of MGI (4.0)
4. Learn more about new tools (4.1)
5. Get updates on progress for MGI Work Programme (3.8)
6. Understand how I can contribute to the Work Programme (4.0)
7. Take part in the workshop (in person attendees only, 4.1)

Have you been involved in the MGI Work Programme? *E.g. Did you share a use case, contribute to the MGI inventory, to the newsletter?* (29 people replied to this question)

1. Yes (51.7% of the responses)
2. No (48.3% of the responses)

How would you like to contribute to the NZ MGI work programme? (scale 1-5) (31 people replied to this question)

1. Identify gaps for future data management guidelines (3.1)
2. Contribute to the National MGI Inventory (3.0)
3. Provide feedback on the MGI Inventory and webapp (3.9)
4. Complete survey on data portal investigation (3.4)
5. Contribute topics for future webinars (3.1)
6. Contribute topics and content for use cases (3.1)
7. Contribute topics and content for newsletters (3.0)
8. Present about my work at MGI 25 (2.6)

How would you rate today's meeting? (scale 1-5) (33 people replied to this question)

1. The presentations were relevant to my work (4.0)
2. The topics were interesting (4.6)
3. I learnt new things (4.5)
4. Time was well managed (4.7)
5. There was enough time to socialise and network (4.3)
6. The event was well catered (in person attendees only, 4.6)
7. The location and venue were good (in person attendees only, 4.8)
8. Good online audio and video (virtual attendees only, 4.9)

What was the most useful part of this meeting? (34 people replied to this question)

1. Presentations Session 1 - opportunities for MGI (15% of the responses)
2. Presentations Session 2 - data reuse (28% of the responses)
3. Presentations Session 3 - data collection (28% of the responses)
4. MGI Programme updates (14% of the responses)
5. Networking (in person only) (16% of the responses)

What would you like covered in the next meeting? (25 people replied)

- Examples of data reuse / use cases - 24%
- Collaboration / community-building effort - 13%
- Data sharing - 13%
- New technologies - 11%
- Project updates - 11%
- MBES / bathymetry (capture, processing, costs) - 9%
- Contestable funding - 2%
- Policy - 2%
- Satellite - 2%
- Customary rights - 2%
- Data infrastructure - 2%
- Datamesh interactive session - 2%
- Data developments - 2%
- Networking - 2%
- Workflows - 2%

4 **Coordinated Seafloor Mapping Workshop** (in person attendees only).

Stuart Caie (LINZ) provided context to setting up the workshop. In 2019, the NZ MGI WG identified coordinated seabed data acquisition as a priority improvement. In 2015, the New Zealand Bathymetry Investigation recommended that there should be “greater coordination of bathymetry acquisition and dissemination in New Zealand”. Previous effort to coordinate seafloor mapping efforts had been made. The purpose of the workshop was to start the conversation on what a coordinated approach to seafloor mapping would look like, who would be involved, what would be the goals etc.

In person attendees were invited to provide ideas around a coordinated seabed mapping effort/programme, feedback on requirements, insights into benefits, and who should be included in the working group and in the user group (See feedback details in Appendix 1).

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- 6 The meeting concluded by a tour of the National Geohazards Monitoring Centre and refreshments.
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Actions

Action	What	Who	When
4.5	Understand how Data Standards and Quality Assessment framework and toolkit can apply to NZ MGI work programme	SG + NZTA	31 Aug 2024
6.1	Identify gaps for future data management guidelines (link to the survey will be communicated to the WG at a later date)	All WG	30 Sep 2024
6.2	Organisations contribute to National MGI Inventory – via the contribution button in the MGI webapp	RC + others	30 Sep 2024
6.3	Provide feedback on MGI webapp and MGI inventory – via the feedback button in the MGI webapp	All WG	31 Jul 2024
6.4	Improve MGI webapp + national inventory based on WG feedback	LINZ + MPI	30 Sep 2024
6.5	Increase visibility of international research in NZ waters	LINZ, GNS, NIWA	31 Aug 2024
6.6	Create a survey to understand value of data portal investigation	SG	31 Jul 2024
6.7	Provide feedback / complete survey on data portal investigation (link to survey will be communicated to the WG at a later date)	All WG	30 Sep 2024
6.8	Contribute topics for future webinars – email ameissner@linz.govt.nz	All WG	31 Aug 2024
6.9	Contribute topics and content for use cases (https://arcg.is/01HmqW)	All WG	31 Aug 2024
6.10	Contribute topics and content for newsletters - email editorsmgi@linz.govt.nz	All WG	31 Aug 2024
6.11	Share topics for presentations and workshops for MGI 25 - email ameissner@linz.govt.nz	All WG	28 Feb 2025
6.12	Examine feedback from workshop and propose plan of actions	SG	31 Aug 2024
6.13	Consider representation of NZ MGI WG on Geomatics	SG	31 Aug 2024

Appendix 1 – Feedback from workshop (1/2)

Requirements	Ideas	Benefits
<ul style="list-style-type: none"> - view people's Areas of Interest (AOI) and priorities, costs, etc - see what mahi is planned ahead - is the data open source? If not do we need to handle different datasets in different ways? - public can submit areas of interest (with some requirements to ensure the data is legitimate ie they aren't submitting rubbish) - greater transparency of planned and upcoming surveys - visualisation of AOI and existing coverage - engagement plan for wider group and industry - who would it benefit? Visibility of who are the stakeholders - good metadata and ability to preview data would be great - Data is discoverable - why? reasons / use cases - data has explanation and "how to use" the system - can we copy/ paste AusSeabed? - visibility of AOI and data holdings - guidance of capture standards for different usage - notification of others AOI - transparency around who can contribute funding - notification of updates in AOI - SG or Board of decision makers - long term plans 2-5 years - time series - marine infrastructure - MHWS 	<ul style="list-style-type: none"> - assess available tools - costs of different options - seafloor mapping - needs definition/scope, not just bathymetry but also non seabed related info/data - is there an existing group that could do it? Once initial actions/setup it could fall under an existing group? - use an existing well known/used tool eg LDS - better coordination of survey design - hosted ENC chart server (for all to use) - current online vector charting service (ENCs) - organisations that fund seabed mapping have decision making role - level of outreach (info will be used culturally, legally etc) - reuse AusSeabed tool - notification function - data sharing arrangements - gap analysis - monthly catch up "one future project" 	<ul style="list-style-type: none"> - no missed opportunities - save \$ - increase NZ contribution to seabed 2030 - collect once, reuse often - richer datasets lead to better marine management - collections are easier to find - collections are more consistent - data standardisation - piggyback on seabed mapping/ bathy capture: collect other datasets

Appendix 1 (continued) – Feedback from workshop (2/2)

Actions	Members of the working group	Members of the user group (bigger than MGI WG)
<ul style="list-style-type: none"> - investigate tools - develop TOR - identify user group 	<ul style="list-style-type: none"> - reps from each organisation - Stuart Caie - Kevin MacKay (NIWA/Seabed 2030) - Jess Hillman (NIWA) - Kevin Smith DML - Enrique Pardo / DOC - Jenny Black - MPI (Rata/Emma) - Dave Field or delegate from OI - organisations collecting seabed information with public funding 	<ul style="list-style-type: none"> - MFE in terms of priority areas - MGI Working Group - Te Arawhiti - iwi/hapu - NGOs - Universities?