

Key Datasets for Resilience and Climate Change

Data Improvement Plan 2021/22



Acceptance

Role	Name	Signed	Date
Head of Location Information	Aaron Jordan	Approved	26 November 2021

Reference documents

Location	Description
https://www.linz.govt.nz/about-linz/publications/strategy/outcomes-framework	Toitū Te Whenua Outcomes Framework
https://arcg.is/mib49	Key Datasets for Resilience and Climate Change survey
https://linzone/id:A3614757	Metadata Content Guidance
https://www.linz.govt.nz/sites/default/files/media/doc/key_datasets_for_resilience_and_climate_change_-_data_improvement_plan_2019_20.pdf	Data Improvement Plan 2019/20
https://www.linz.govt.nz/system/files_force/media/doc/key_datasets_for_resilience_and_climate_change_-_priority_data_improvement_plan_2020_21.pdf	Data Improvement Plan 2021/22
https://storymaps.arcgis.com/stories/b4dd46f15cea4234a098b4c8caae5b3d	Review of data improvements 2019/21

Revision history

Date	Version	Author	Description
12/10/2021	0.1	Susan Shaw	Draft priority improvements for 2021/22
15/11/2021	0.2	Susan Shaw	Priorities approved by Toitū Te Whenua Location Information Management Team
22/11/2021	0.3	Susan Shaw	Priorities approved by all lead agencies
26/11/2021	1.0	Steve Janes	Proofread by Toitū Te Whenua Communications Team

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Executive Summary

The 12 most critical datasets to support those working in emergency management and climate change are based around People, Property, Transport, Rivers, Land and Coasts.

Over the last two years, Toitū Te Whenua has worked with Stats NZ, NIWA, Fire and Emergency NZ, KiwiRail and Waka Kotahi to ensure these datasets are the authoritative, national single source of truth we can rely on in an emergency.

In June 2019, only two of the key datasets were reasonably fit for emergency management purposes (Topo and Property). As of June 2021, ten datasets are now reasonably fit for purpose, with Roads and Addressing requiring the most improvement.

Our consultation with the emergency management user community and collaboration with lead agencies identified the following data improvement goals for 2021/22:

Key data priority improvements 2021/22



Toitū Te Whenua to publish NZ Addresses as the national, authoritative dataset for physical **addresses** by June 2022.



Toitū Te Whenua to coordinate the publication of PGF **LiDAR** data into open, nationally consistent datasets, and share user benefits by June 2022.



Waka Kotahi to agree options for creating an open, routable, digital **road** network by June 2022.



Stats NZ to develop a method for generating grid-based **population** counts by June 2022.



Toitū Te Whenua to investigate access to title owners as a restricted ArcGIS REST service. We will publish NZ Parcel **Property** Boundaries, which will combine rating unit property boundaries with parcels and a Territorial Authority attribute, by June 2022.



Toitū Te Whenua to update **building outlines** in Auckland, Canterbury, and Hawkes Bay, and improve data maintenance processes by June 2022, enabling future attribution of NZ Building outlines.



Provide an authoritative **suburbs** dataset, owned by Toitū Te Whenua, and based on Fire and Emergency NZ's NZ Localities by June 2022.



Toitū Te Whenua to create a national vector tile **topographic** basemap by June 2022.



Toitū Te Whenua to publish guidance for requesting satellite **imagery** during an emergency by June 2022.



Toitū Te Whenua to publish 'NZ **Coastline** – Mean High Water Springs' by June 2023.



NIWA to improve metadata and accessibility for **River** Names and Water **Catchment** Names layer and improve webmap design by June 2022.



KiwiRail to publish **rail** resilience data and webmap by June 2022.

Introduction

Toitū Te Whenua Land Information New Zealand (LINZ) published its strategic direction for the next ten years in the 2017 Outcomes Framework. The aim of the Outcomes Framework is to direct Toitū Te Whenua's effort and resources on the things which really matter for our customers.

The Outcomes Framework identified three challenges: Water, Urban Development, and Resilience and Climate Change. These three challenges provide a focus for Toitū Te Whenua to consider the big picture and identify where we can work with other organisations to deliver the most value to New Zealand. Toitū Te Whenua reconfirmed this work as an organisational priority in 2021.

The aim of the Resilience and Climate Change challenge is to support efforts to prepare for, mitigate and adapt to the impacts on land and sea of climate change and one-off events (natural and man-made).

One of the results of applying this resilience and climate change lens to our work has been to engage with our customers to identify and improve 12 national key datasets.



The global pandemic was not on our radar when the 12 key datasets were first identified in 2018. The key datasets have proved to be critical to informing our national and regional response to COVID-19.

Purpose

The purpose of this document is to review improvements made to the 12 national key datasets for resilience and climate change during 2020/21 and to establish the priority data improvements for 2021/22.

Key Datasets for Resilience and Climate Change

How were the key datasets chosen?

The first step to identify the key datasets was to define 'resilience and climate change'. The '4Rs' of Emergency Management - Reduction, Readiness, Response and Recovery - were agreed as a useful definition of resilience, plus climate change. Organisations representing these five areas were identified, and a literature review determined their data requirements ([Appendix A](#)).

The review identified over a hundred datasets significant to resilience and climate change. How these datasets were assessed and prioritised is explained in the 2019/20 Key Data for Resilience and Climate Change Improvement Plan (<https://tinyurl.com/KeyDataImprovementPlan201920>). 12 datasets were identified as the most critical for resilience and climate change.

What are the key datasets?

The 12 key datasets focus on people, property, transport, rivers, coasts, and land.



Address
Building
Property
Population



Road
Rail



Imagery
Elevation
Coastline
Topo maps



River network
Water catchments

Who is responsible for the key datasets?

National datasets have been identified to represent each of the 12 key datasets, and the lead agency for each dataset has been identified and confirmed by our customers. Toitū Te Whenua is collaborating with five lead agencies to improve the key data - Fire and Emergency NZ, KiwiRail, Waka Kotahi, NIWA and Stats NZ.



12 national key datasets and the lead agency responsible for maintaining the data:

Theme	Key Dataset	Lead Agency
Population	Statistical Area 1 Boundaries	Stats NZ
Building	NZ Building Outlines	Toitū Te Whenua
Address	NZ Street Address	Toitū Te Whenua
	NZ Localities / Suburbs	Fire and Emergency NZ
Property	NZ Primary Parcels	Toitū Te Whenua
Road	National Road Centreline	Waka Kotahi
Rail	NZ Railway Network	KiwiRail
Rivers	River Lines	NIWA
Water Catchments	Watersheds	NIWA
Imagery	NZ Imagery Basemap and Index	Toitū Te Whenua
Elevation	LiDAR and LiDAR Index	Toitū Te Whenua
Topo50	Topo50 and Topo250	Toitū Te Whenua
Coastline	NZ Coastline – Mean High Water	Toitū Te Whenua

Who are our customers?

[NZGIS4EM](#) (New Zealand GIS for Emergency Management) represent geospatial practitioners in central government, local government, the National Emergency Management Agency, and Civil Defence Emergency Management groups working to make GIS integral to emergency management within New Zealand.

NZGIS4EM is well-placed to represent the resilience and climate change data user community. They validated the 12 key datasets in 2018 and helped determine the data improvement priorities for 2019/20. A workshop with the NZGIS4EM community in August 2020 outlined progress to date and shared the draft data improvement priorities for 2020/21.

In 2020 Toitū Te Whenua engaged with the Local Government Geospatial Alliance ([LGGA](#)), who bring together local government to enable geospatial collaboration, capability, and communication. We ran two workshops in August 2020 with LGGA, to review the data improvement priorities for 2020/21 and confirm the criteria assessment ([Appendix C](#)).

A quarterly update on data improvement progress has been prepared for the NZGIS4EM Committee, LGGA Committee and the National Emergency Management Agency to highlight data improvements since June 2019.



Toitū Te Whenua has also engaged with others in central government, local government, Crown Research Institutes, academia, private consultancies, the National Lifelines Council, Regional Councils' River Managers, Regional Hazard Risk Managers special interest groups, and Water NZ to better understand our customers' data requirements.

Why are national key datasets important?

Our customers, particularly those in local government, have done a great deal of work to capture data for their own local area. For example, many Councils have developed detailed river network and water catchment boundaries. These Councils are likely to continue to invest in their own data for emergency management risk reduction, readiness, response, and recovery.

During a major emergency event like the 2016 Kaikoura earthquake or the COVID-19 response, the impacts on multiple local authorities, mean a multi-agency response is required. In these circumstances it is be difficult to access and combine data from multiple local sources. It is critical we have national datasets that which are consistently available across the country from a single, authoritative source. This will ensure effective emergency planning and disaster risk reduction, an efficient emergency response and managed recovery.

Collaboration between local authorities and the lead agencies is vital to ensure the national datasets are accurate, reliable, and fit for purpose.

Review of Key Data Improvements 2020/21

In June 2019, at the start of the first data improvement plan, only **2 of the 12** key datasets were considered reasonably fit for emergency management purposes. These were Topo50 Maps and NZ Primary Parcels.

By June 2021, **10 of the 12** key datasets were reasonably fit for purpose for emergency management. The remaining two datasets requiring the most improvement are Roads and Addressing.

For information on how "fit for purpose for emergency management" has been defined, please refer to [Appendix C](#).

Fire and Emergency New Zealand made significant improvements, openly publishing NZ Localities, and the Suburbs dataset saw the **most significant improvement**.

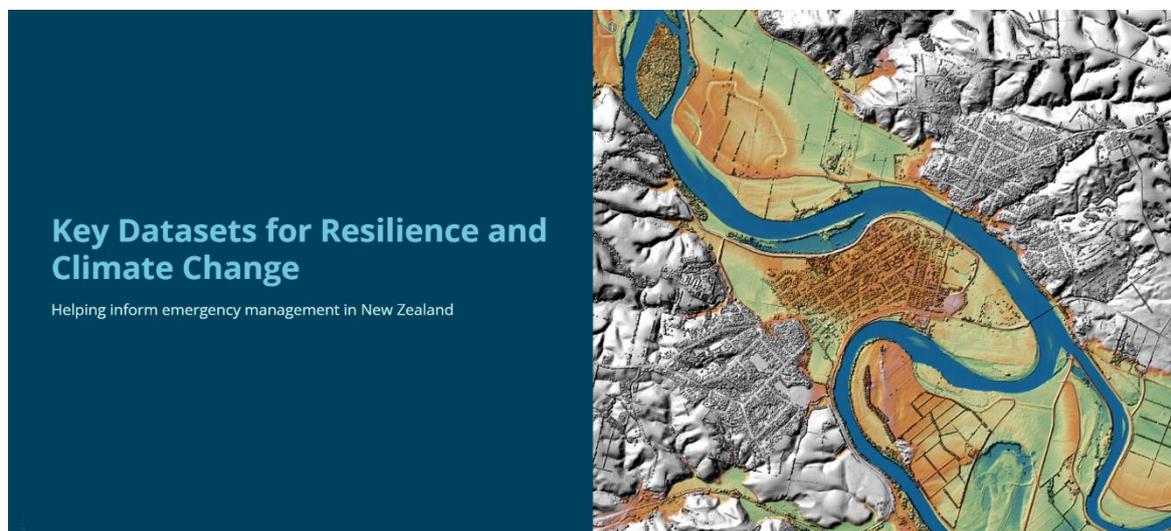
KiwiRail, in response to customer requests, made significant improvements to Rail and this dataset is now **most fit for purpose**.

"I am proud of what has been achieved by Toitū Te Whenua and our partner agencies to improve the key datasets that support effective emergency management. We heard what our emergency management customers told us and together we made significant improvements.

"There will always be more work to do and Toitū Te Whenua is committed to continuing our focus on what can be achieved by working together."

Gaye Searancke, Te Tumu Whakarae / Chief Executive, Toitū Te Whenua

A [storymap](#) has been prepared to highlight the 12 key datasets and share the data improvements with the wider geospatial community. More detail is provided below of progress with the key data improvements during 2020/21, including a summary of the achievements and good news stories from each of the lead agencies. A one-page overview of the data improvement highlights for 2020/21 is available in [Appendix B](#).



Population



Stats NZ to investigate the feasibility of providing small geography **population** count information by June 2022.

Stats NZ are committed to improving the calculation of population counts, and progress has been made on 1km, 250 metre and 100 metre population grid development. The new Data and Statistics Act 2022 will facilitate this work being published in 2021/22.

Stats NZ published estimated resident population, the most accurate population estimate, at June 2018, 2019 and 2020 to SA2 level, and internal migration estimates by Territorial Authority.

Stats NZ also published Functional Urban Areas (FUAs) and Urban Accessibility data. FUAs are based on the linkages between where a person lives and where they work, shop, access health care, and recreate – what can be called a person's activity space. The Urban Accessibility (UA) geography measures degrees of rurality using estimated drive times from rural areas to urban areas. This geography can be used to assess health and educational outcomes of people living in rural areas.

Population data is **85%** fit for purpose, with customers requesting improvements to the level of accuracy and discoverability of population data, with the data prepared ready to respond to an emergency before it is recognised as the national single source of truth.

In addition to the population counts, our customers' priority request is to create a simplified GIS layer to make it easier to understand the complex 2018 census data.

Buildings



LINZ to have **building** outline coverage for 95% of populated areas by September 2020, and have attributed hospitals and schools by June 2021.

Toitū Te Whenua added buildings outlines for Dunedin, Otago, Tasman, Nelson, Waikato and South Canterbury this year, resulting in 95% of the populated area of New Zealand now having building outline coverage. Current coverage includes nearly all regions of New Zealand, except parts of rural Auckland, remote parts of Bay of Plenty, Tasman, and the Southern Alps, as well as Fiordland, Stewart Island, and the Chatham Islands.

Schools and hospitals have been identified and named in NZ Building Outlines, based on the Ministry of Education's schools' register and the Ministry of Health's hospital register. In addition, a new NZ Facilities layer has been created to capture the extent of school and hospital grounds.

Buildings data is **77%** fit for purpose, with customers requesting improvements to the coverage, attribution, and update programme, with the data prepared ready to respond to an emergency, before it is recognised as the national single source of truth.

Our customers' priority request is to attribute buildings with an address, an estimate of building height, the building name and usage.

Address



LINZ to provide a more comprehensive national coverage of **addresses** by June 2021.

[NZ Addresses \(Pilot\)](#) was launched in June 2021 to provide more comprehensive national address data for New Zealand. This dataset combines the original AIMS addresses with previously missing addresses sourced from all 67 Territorial Authorities. Work continues to improve the national addresses data, and at this stage, an additional 130,000 missing addresses have been identified.

Address data is **73%** fit for purpose, with customers requesting improvements to the coverage, attribution, accuracy and update programme, with the data prepared ready to respond to an emergency, before it is recognised as the national single source of truth.

Our customers' priority request is to improve coverage of addresses in rural areas, and accurately located address points nationwide.

Suburbs



Fire and Emergency NZ to publish **NZ Localities** under a Creative Commons licence by September 2020 and, together with LINZ, publish the process for NZ Localities updates by February 2021.

Fire and Emergency NZ published [NZ Localities](#) under a Creative Commons licence in August 2020. Official placenames with macrons were appended as an additional related table by Toitū Te Whenua. In addition, the Toitū Te Whenua [website](#) was updated to confirm NZ Localities is used to define the suburb of an allocated address and that any queries relating to NZ Localities should be directed to the LINZ Data Services Team. Where appropriate, LINZ will then raise requests with Fire and Emergency New Zealand for their consideration.



These significant improvements have resulted in Suburbs being the **most improved** of the 12 key datasets in the last year.

Suburbs are **85%** fit for purpose, with customers requesting improvements to the attribution and data topology, with the data prepared ready to respond to an emergency, before it is recognised as the national single source of truth.

Our customers' priority request is to update the data structure of NZ Localities to make it easier to use, and for Toitū Te Whenua to take ownership of the data.

Property



LINZ to improve access to parcel attributes by January 2021 and publish a pilot **property** boundary layer, based on rating unit, by June 2021

Toitū Te Whenua published [NZ Primary Parcels](#) with links to NZ Title Parcel Association List, NZ Property Titles List and NZ Property Title Estates List related tables as an ArcGIS REST service. This provides easier access to legal description and title information.

A [pilot property boundary layer](#) was published, based on rating unit. The aim is to have all Territorial Authorities supplying their District Valuation Roll data to generate this property boundary layer by March 2022. This layer is only available to central and local government agencies.

Property is **81%** fit for purpose, with customers requesting improvements to the attribution, accuracy, and data topology, with the data prepared ready to respond to an emergency event.

Our customers' priority request is to create of a national property boundary layer, and access to title owners as a restricted access ArcGIS REST service.

Road



NZTA to build the internal value proposition to improve access to **road** data, including closed roads and attribution, by June 2021

NZ Transport Agency has continued to build the value proposition for an open roads dataset within Waka Kotahi.

Roads are **42%** fit for purpose, with customers requesting improvements to the coverage, attribution, accuracy, update programme, data topology, licensing, webservices, metadata, discoverability, with the data prepared ready to respond to an emergency, before it is recognised as the national single source of truth.

Our customers' priority request is to create a national, open roads dataset.

Rail



KiwiRail to update metadata for **rail** data, provide access to closed tracks during an emergency by June 2021.

KiwiRail has updated metadata for all eight datasets which form the [KiwiRail network](#), compliant with the agreed metadata standard, and KiwiRail is now considered to be the national single source of truth for rail data.



KiwiRail have been very response to customer requests, with significant data improvements made over the last two years, which has resulted in Rail being the **most fit for purpose** of the 12 key datasets.

Rail is **96%** fit for purpose, with customers requesting the data is prepared ready to respond to an emergency.

Our customers' priority request is to access to closed tracks during an emergency.

Rivers and Water Catchments



NIWA to improve the metadata for River lines and Watersheds, and publish a webmap for national/regional scale water catchments and a draft dataset for major river names by June 2021.

NIWA assigned names to water catchments and published as a [webmap](#), and prepared river names ready for publication in 2021/22.

Rivers and Water Catchments are **77%** fit for purpose, with customers requesting improvements to the coverage, attribution, accuracy, update programme, metadata, with the data prepared ready to respond to an emergency, before it is recognised as the national single source of truth.

Our customers' priority request is to use PGF LiDAR to generate improved river network data.

Imagery



LINZ to establish a process for coordinating the capture and delivery of **imagery** and LiDAR during an event by January 2021.

Toitū Te Whenua published the new [Imagery Basemaps](#), completing the national coverage of imagery for New Zealand with data from Sentinel satellite imagery and the Chatham Islands. 22 imagery datasets have been processed by Toitū Te Whenua between June 2019 and June 2021.

Draft guidelines to support [requesting aerial imagery during an emergency](#) were published and reviewed by the emergency management community.

Aerial imagery is **88%** fit for purpose, with customers requesting improvements to the accuracy and update programme before it is recognised as the national single source of truth.

Our customers' priority request is to add Council's urban imagery to Imagery Basemaps.

Elevation



LINZ to work with all regions to coordinate the acquisition and release of **LiDAR** data into open national datasets by June 2023

Toitū Te Whenua has coordinated the Provincial Growth Fund LiDAR data capture project, co-funding elevation data capture with 10 Regional Councils.

15 LiDAR datasets were published between June 2019 and June 2020, with LiDAR availability and user case studies available via [Elevation Aotearoa](#).

Elevation data is **77%** fit for purpose, with customers requesting improvements to the coverage, update programme, web service formats, with the data prepared ready to respond to an emergency, before it is recognised as the single national source of truth.

Our customers' priority request is to create a single, central source for LiDAR data.

Topo50



LINZ to create a national vector tile **topographic** basemap by June 2022.

A vector tile topo basemap is in development and on track for June 2022 timeframe. The Basemaps Team have also developed an [NZTM2000Quad Tile Matrix Schema](#) this year, allowing better integration of LINZ basemaps with ArcGIS Online.

Topo Maps are **82%** fit for purpose, with customers requesting improvements to the update programme and web services, with the data prepared ready to respond to an emergency.

Our customers' priority request is to better understand Topo data updates.

Coastline



LINZ to publish a national mean high water **coastline** by December 2020.

[NZ Coastline – Mean High Water](#) published on LINZ Data Service and as an ArcGIS REST service. This dataset combines the best available data from LINZ Topo and Hydro Teams to describe our coastline (e.g. mangrove, stony shore).

Coastline data is **88%** fit for purpose, with customers requesting improvements to the update programme, with the data prepared ready to respond to an emergency, before it is recognised as the national single source of truth.

Our customers' priority request is to create "NZ Coastline – Mean High Water Springs".

Data Improvement Priorities 2021/22

All lead agencies remain committed to continuing to improve the key datasets for resilience and climate change in 2021/22 and will focus on the following data improvements:

Key data priority improvements 2021/22



Toitū Te Whenua to publish NZ Addresses as the national, authoritative dataset for physical **addresses** by June 2022.



Toitū Te Whenua to coordinate the publication of PGF **LiDAR** data into open, nationally consistent datasets, and share user benefits by June 2022.



Waka Kotahi to agree options for creating an open, routable, digital **road** network by June 2022.



Stats NZ to develop a method for generating grid-based **population** counts by June 2022.



Toitū Te Whenua to investigate access to title owners as a restricted ArcGIS REST service, and to publish "NZ Parcel **Property** Boundaries", to combine rating unit property boundaries with parcels, with a Territorial Authority attribute, by June 2022.



Toitū Te Whenua to update **building outlines** in Auckland, Canterbury, and Hawkes Bay, and improve data maintenance processes by June 2022, to enable additional attribution of NZ Building Outlines in future.



Provide an authoritative **suburbs** dataset, owned by Toitū Te Whenua, and based on Fire and Emergency NZ's NZ Localities by June 2022.



Toitū Te Whenua to create a national vector tile **topographic** basemap by June 2022.



Toitū Te Whenua to publish guidance for requesting satellite **imagery** during an emergency by June 2022.



Toitū Te Whenua to publish 'NZ **Coastline** – Mean High Water Springs' by June 2023.



NIWA to improve metadata and accessibility for **River** Names and Water **Catchment** Names layer and improve webmap design by June 2022.



KiwiRail to publish **rail** resilience data and webmap by June 2022.

How will data improvements be measured?

It is acknowledged that things change, and it is understood that the commitment of the lead agency to these data improvements is based on current known resourcing and organisational priorities. The data improvements will be measured against the data assessment criteria ([Appendix C](#))

Regular updates will be prepared in collaboration with the lead agencies and reported to the Toitū Te Whenua Location Information Leadership Team, Toitū Te Whenua Executive Leadership Team, Minister O'Connor as Minister for Toitū Te Whenua, the National Emergency Management Agency, NZGIS4EM Committee, and LGGA Committee.

An annual report reviewing the data improvements over the previous 12 months will be prepared in July 2022 and published on the Toitū Te Whenua website.

How can Toitū Te Whenua contribute?

Toitū Te Whenua understands the vital importance of having datasets which are fit for purpose to inform those working in resilience and climate change. This is why Toitū Te Whenua is investing in improving the national key datasets where it is the lead agency.

The importance of national key datasets maintained by other lead agencies, and their contribution to resilience and climate change is also clear. The lead agency workshop in June 2020 identified several ways in which Toitū Te Whenua can continue to collaborate with lead agencies to ensure the successful outcome for resilience and climate change data improvements.

Toitū Te Whenua will keep in regular contact with all lead agencies over the next 12 months, to prepare quarterly updates and publish an annual review.

Toitū Te Whenua will also identify opportunities to promote the key datasets as the national, authoritative source of truth, which can be relied upon and easily accessed during an emergency, both with customers, lead agency senior managers and Ministers.

In addition, Toitū Te Whenua can support lead agencies with drafting business cases and communications relating to the key datasets for resilience and climate change project. Toitū Te Whenua is committed to facilitating any queries and supporting any government agency about datasets which play a role in resilience and climate change.

Toitū Te Whenua looks forward to working with the emergency management community, the key data lead agencies, and our customers to make a real difference to resilience and climate change.

Appendix A – Definition of Resilience and Climate Change

Resilience was defined as the 4Rs of emergency management. Organisations were identified to represent risk reduction, readiness, response and recovery, plus climate change. A literature review was carried out to identify the data requirements of each of these organisations.

Definition	Representative Organisation	Source of Literature Review
Reduction	Riskscape	Riskscape 2017, Layers list in Riskscape Wiki https://wiki.riskscape.org.nz/index.php/Layers_List
	Tonkin + Taylor	Tonkin + Taylor 2018, Method to calculate Annual Average Damage from flooding. Supplied by Jon Rix
Readiness	Lifelines	Lifelines 2017, New Zealand Lifelines Infrastructure Vulnerability Assessment: Stage 1 https://www.civildefence.govt.nz/assets/Uploads/lifelines/National-Vulnerability-Assessment-Stage-1-September-2017.pdf
Response	Emergency Services	Emergency Services 2016, Emergency Services GIS Contract. Supplied by GEOINT, New Zealand Defence Force
Recovery	Local Government	Wellington City Council 2017, Wellington City Council Resilience Strategy https://wellington.govt.nz/~media/about-wellington/resilient-wellington/files/strategy/resilience-strategyj001767-100-web.pdf?la=en Statistics NZ Open Data Office 2018, Datasets required for recovery
Climate Change	UK Committee on Climate Change	Committee on Climate Change 2017, UK Climate Change Risk Assessment 2017 Evidence Report https://www.theccc.org.uk/tackling-climate-change/preparing-for-climate-change/uk-climate-change-risk-assessment-2017/

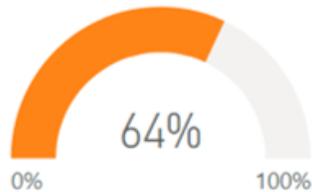
Appendix B –Summary of Data Improvements - 2020/21



Key Datasets for Resilience and Climate Change Data Improvement Plan Review 2020/21

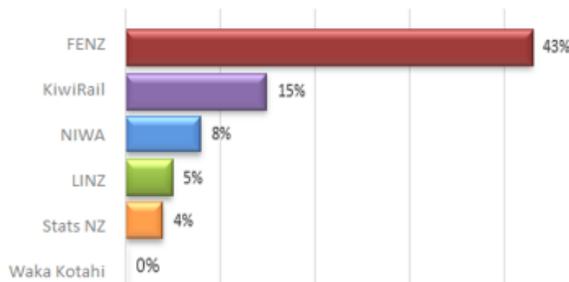
Resilience and Climate Change Key Challenge identifies where LINZ can work with others to deliver the most value to New Zealand over the next 10 years
<https://tinyurl.com/Resilience-Key-Data>

Are the 12 key datasets fit for purpose?



Overall measure of the 12 key datasets being fit for purpose has increased 10% in 2020/21

Key data improvements by lead agency



Average recorded data improvements 2020/21

Data Improvement Highlights



Fire and Emergency NZ published **NZ Localities** under an open Creative Commons license.

Toitū Te Whenua published **NZ Addresses (Pilot)**, extended parcel attribution and developed pilot **property boundary** layer.

Schools and hospitals were identified in NZ **Building Outlines**.



NIWA prepared names for **rivers and catchments** and published catchments.



KiwiRail improved metadata for **rail** datasets and is now considered the national source of truth for rail data.



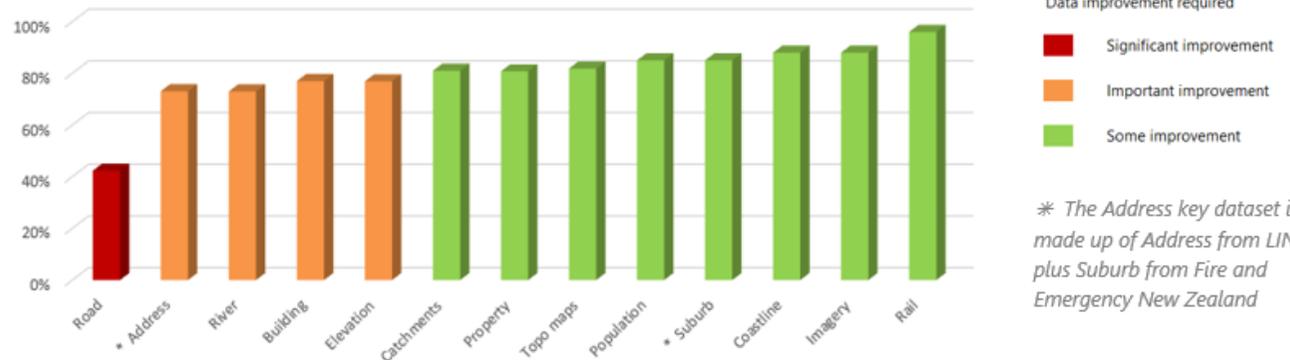
Toitū Te Whenua progressed **LIDAR** capture under Provisional Growth Fund, and published **Elevation Aotearoa**.

Imagery Basemaps was launched, and guidelines for requesting aerial imagery during an emergency were sent out for review.

Development began on a **Topo** Basemap.

NZ Coastline – Mean High Water was published.

Overview of key datasets at June 2021



Appendix B – Summary of Data Improvements – 2019/20

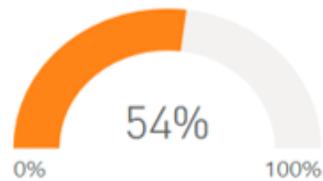


Key Datasets for Resilience and Climate Change

Data Improvement Plan Review 2019/20

Resilience and Climate Change Key Challenge identifies where LINZ can work with others to deliver the most value to New Zealand over the next 10 years
<https://tinyurl.com/Resilience-Key-Data>

Are the 12 key datasets fit for purpose?



Overall measure of the 12 key datasets being fit for purpose has increased 12% in 2019/20

Data Improvement Highlights



Stats NZ launched a **population** dashboard
 LINZ published key data as **Esri REST services**

Buildings were released for Taranaki, Marlborough, Bay of Plenty and Gisborne

Fire and Emergency NZ improved **metadata**



NIWA published **rivers and catchments** under a Creative Commons license and prepared scale dependent webmap



KiwiRail published **rail data** in OGC WFS format and improved attribution

NZ Transport Agency published **State Highway closed roads** on data.govt.nz

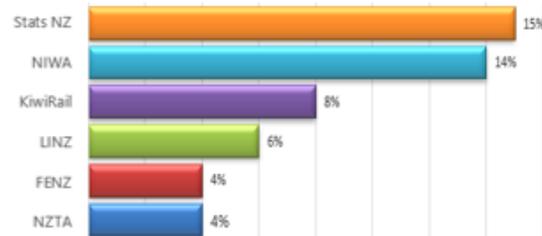


LINZ progressed **LiDAR** capture under Provisional Growth Fund, and published **index layers** for LiDAR and imagery

Additional **imagery** and **LiDAR** data made available on the LINZ Data Service

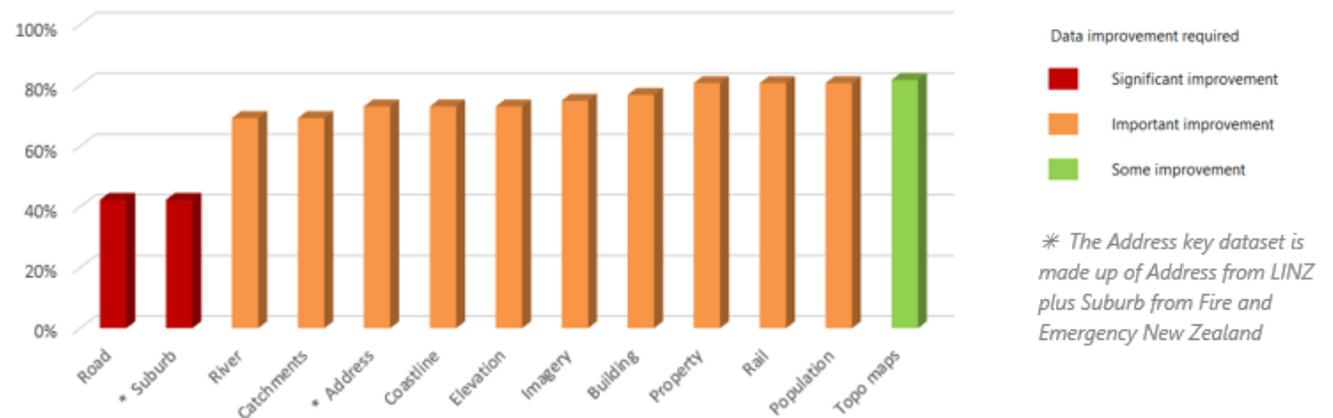
Emergency support data group established on **data.govt.nz**

Key data improvements by lead agency



Average recorded data improvements 2019/20

Overview of key datasets at June 2020



Appendix C – Key dataset assessment criteria: June 2021

Lead Agency	Stats NZ	LINZ	LINZ	FENZ	LINZ	NZTA	KiwiRail	NIWA	NIWA	LINZ	LINZ	LINZ	LINZ
As at 30 June 2021 , does the lead agency provide the key dataset ...	Population	Building	Address	Suburb	Property	Road	Rail	River	Water Catchment	Aerial	Elevation	Coastline	Topo
as a complete national coverage	Yes	Partly	Partly	Yes	Yes	Partly	Yes	Partly	Partly	YES	Partly	Yes	Yes
with relevant attribution	Yes	Partly	Partly	Partly	Partly	Partly	Yes	PARTLY	YES	Yes	Yes	YES	n/a
at an adequate level of accuracy	Partly	Yes	Partly	Yes	Partly	Partly	Yes	Partly	Partly	Partly	Yes	YES	Yes
with an acceptable update programme	YES	Partly	Partly	YES	Yes	Partly	YES	Partly	Partly	Partly	No	Partly	Partly
with suitable vector topology	Yes	Yes	Yes	Partly	Partly	No	Yes	Yes	Yes	n/a	Yes	Yes	n/a
free of charge	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
with a Creative Commons License CC BY	Yes	Yes	Yes	YES	Yes	No	Yes	Yes	Yes	YES	Yes	Yes	Yes
for download in multiple formats	Yes	Yes	Yes	YES	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
as an OGC and Esri webservice	Yes	Yes	Yes	YES	Yes	No	Yes	Yes	Yes	Yes	Partly	Yes	Partly
with appropriate metadata	Yes	Yes	Yes	Yes	Yes	Partly	YES	Partly	Partly	Yes	Yes	Yes	Yes
discoverable on data.govt.nz	Partly	Yes	Yes	YES	Yes	Partly	Yes	Yes	Yes	Yes	YES	Yes	Yes
ready to respond to an event	Partly	No	No	PARTLY	No	Partly	PARTLY	Partly	YES	YES	Partly	PARTLY	No
recognised as the national single source of truth	Partly	Partly	Partly	PARTLY	Yes	No	YES	Partly	Partly	Partly	Partly	PARTLY	Yes

Highlighted squares indicate a data improvement was made between June 2020 – June 2021

Appendix C – Key dataset assessment criteria: June 2020

Lead Agency	Stats NZ	LINZ	LINZ	FENZ	LINZ	NZTA	KiwiRail	NIWA	NIWA	LINZ	LINZ	LINZ	LINZ
As at 30 June 2020 , does the lead agency provide the key dataset ...	Population	Building	Address	Suburb	Property	Road	Rail	River	Water Catchment	Aerial	Elevation	Coastline	Topo
as a complete national coverage	Yes	Partly	Partly	Yes	Yes	Partly	Yes	Partly	Partly	Partly	PARTLY	Yes	Yes
with relevant attribution	YES	Partly	Partly	Partly	Partly	Partly	YES	No	Partly	YES	YES	Partly	n/a
at an adequate level of accuracy	Partly	Yes	Partly	Yes	Partly	Partly	Yes	Partly	Partly	Partly	Yes	Partly	Yes
with an acceptable update programme	Partly	Partly	Partly	Partly	Yes	Partly	Partly	Partly	Partly	Partly	No	Partly	Partly
with suitable vector topology	Yes	Yes	Yes	Partly	Partly	No	Yes	Yes	Yes	n/a	Yes	Yes	n/a
free of charge	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
with a Creative Commons License CC BY	Yes	Yes	Yes	No	Yes	No	Yes	YES	YES	PARTLY	Yes	Yes	Yes
for download in multiple formats	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
as an OGC and Esri webservice	YES	YES	YES	No	YES	No	YES	Yes	Yes	Yes	Partly	YES	Partly
with appropriate metadata	YES	Yes	Yes	YES	Yes	Partly	Partly	Partly	Partly	YES	Yes	Yes	Yes
discoverable on data.govt.nz	Partly	Yes	Yes	No	Yes	PARTLY	Yes	YES	YES	YES	Partly	YES	YES
ready to respond to an event	PARTLY	No	No	No	No	Partly	No	PARTLY	No	PARTLY	PARTLY	No	No
recognised as the national single source of truth	Partly	PARTLY	Partly	No	Yes	No	Partly	Partly	Partly	Partly	Partly	No	Yes

Highlighted squares indicate a data improvement was made between June 2019 – June 2020