

**From:** Susan Shaw

**Sent:** Tuesday, 28 August 2018 4:33 PM

**To:** Susan Shaw; Sarah Cowell; 'Jill.Foster@stats.govt.nz'; 'Kirsten.Nissen@stats.govt.nz'; Andre Post; Ben P. Jones; Andrew Ferrel; Tania Janssen; Trent Gulliver; Rob Deakin; Kasey Oomen; Jonathan Ball; 'Matt.Donaldson@fireandemergency.nz'; Chris Kane

**Cc:** Liz Weschenfelder; Jonathan Seaton (JR)

**Subject:** Key Datasets for Resilience & Climate Change - Data Custodian Workshop - People & Property

**When:** Tuesday, 2 October 2018 10:00 AM-3:00 PM (UTC+12:00) Auckland, Wellington.

**Where:** LINZ, 155 The Terrace, Wellington - room to be confirmed

Hi there

Just confirming the date of our key datasets for resilience & climate change data custodian meeting.

The purpose of this workshop will be to pass on the feedback from the NZGIS4EM SIG, hear your existing plans for data improvements, and ultimately generate a prioritised improvement plan for the key datasets.

We have now narrowed the focus of this workshop to 'People and Property' key datasets only :

- Address
- Building
- Property
- Population
- Aerial Imagery

Plus we have invited Andre Post from MPI to join the discussion to represent a key user of these datasets.

Some background info is listed below, but we will send around the feedback and an agenda by 14th Sept.

Thanks, Susan

**Susan Shaw**  
**Senior Resilience Advisor**

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**To:** [Sarah Cowell](#); "[xxxx.xxxxx@xxxx.xxx](#)"; "[xxxxxxx.xxxxx@xxxx.xxx.xy](#)"  
"[xxxx.xxxxxxx@xxxxxxxxxxxxxxxx.xx](#)"; "[Andre Post](#)"; [Andrew Ferrel](#); [Ben P. Jones](#); [Chris Kane](#); [Jonathan Ball](#); [Tania Janssen](#); [Trent Gulliver](#)  
**Cc:** [Rob Deakin](#); [Kasey Oomen](#); [Liz Weschenfelder](#)  
**Subject:** Key Datasets for Resilience & Climate Change - People & Property Data Custodian Workshop  
**Date:** Friday, 28 September 2018 2:51:00 PM  
**Attachments:** [Key Datasets for Resilience - Improvement Plans - September 2018.docx](#)  
[image002.png](#)  
[image003.png](#)

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Hi there

We are looking forward to working with you next Tuesday 2nd October, on the Key Datasets for Resilience and Climate Change.

The workshop will run from 10am until 3pm, and the proposed agenda is set out at the end of this email.

Please find attached an update improvement plan, which now includes all datasets to be discussed.

**Where to find us:**

The workshop will be held in the LINZ offices at 155 The Terrace, Wellington. As you enter Radio New Zealand House on the ground floor, walk straight ahead to the "Argest" doorway. Hoki is the third meeting room on the right.

**Background:**

LINZ has identified 12 key dataset groups which are important for Resilience & Climate Change, based on People, Property, Transport, Rivers and Topography.

The purpose of this workshop is to bring together data custodians from the public sector, with a focus on People, Building, Address, Suburbs, Property and Aerial Photography.

For each of the key datasets, we propose starting with a five minute update from the data custodian on current work plans.

We will then look at the feedback collated to date, to start our discussion on potential data improvements – see attached

- Who is the appropriate data custodian?
- Are the suggested improvements valid and correct?
- Are users aware of the latest developments?
- What might be achievable from the suggested improvements?
- What are the barriers, if not?
- What needs to happen next?

We are pleased to have André Post, from Ministry for Primary Industries (MPI) attending, to represent user requirements during our discussions.

Ultimately, our aim is to agree and implement an improvement plan for each dataset. However, the aim of this workshop is to consider the user feedback received to date and agree our next steps.

We look forward to seeing you next Tuesday .

Thanks, Susan

**Proposed Agenda:**

10:00 - 15:00

10:00 Welcome

10:10 Introduction to agenda

10:15 Go Round

10:30 LINZ Resilience Team update

10:40 Key user perspective - Ministry for Primary Industries - why data is important to their work and key data issues. (André)

10:50 LINZ Topo Team update (Andrew)

10:55 Aerial Photography data improvements

11:15 Break

11:30 LINZ Addressing Team update (Trent)

11:35 Addressing data improvements

12:00 FENZ update (Matt)

12:05 Suburbs

12:30 Lunch

13:00 Stats NZ update (Sarah)

13:05 Census data improvements

13:25 LINZ Topo Team update (Ben)

13:30 Building data improvements

13:50 LINZ IPS Team update (Chris)

13:55 Property data improvements

14:15 Break

14:30 Summarise findings and next steps

14:45 Final go round

15:00 Close

Susan Shaw  
Senior Resilience Advisor

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## Draft Improvement Plans for Key Datasets for Resilience & Climate Change

### Background

LINZ has identified three key challenges where LINZ can make a significant contribution to the big picture and support New Zealand Inc. The key challenges are water, urban areas and resilience and climate change. The focus of this document is to support efforts to prepare for, mitigate and adapt to the impacts on land and sea of climate change and one-off events.

LINZ has identified 12 key datasets groups which are important to support the work of resilience and climate change:

People & Property:	Address, Building, Property, Population
Transport:	Road and Rail Network
Rivers:	River Network and Water Catchment Boundaries
Topography:	Elevation, Coastline, Aerial Photography and Topo Maps

Issues with these key datasets have been collated from the resilience community. LINZ facilitated a key dataset workshop as part of the NZGIS4EM Special Interest Group in August 2018, and feedback has also been sought via interviews with key users. This feedback has been used to prepare the draft data improvement plans set out in this document.

### Key Data Workshops

It is proposed to run a series of workshops with the data custodians of these key datasets to share the data issues raised and draft an improvement plan. These improvement plans will then be shared with key users for review and then confirmed with the data custodians.

The three workshops will be

People & Property	Custodians:	Stats NZ, LINZ, Fire Emergency NZ, Councils
	Key User:	Ministry for Primary Industries
	Date:	2 October 2018
Transport & Topography	Custodians:	NZ Transport Agency, KiwiRail, Ministry of Transport, LINZ, Councils
	Key User:	North Canterbury Transport Infrastructure Recovery (NCTIR)
	Date:	19 September 2018
Rivers & Coasts	Custodians:	LINZ, NIWA, GNS, Councils
	Key User:	Marlborough District Council
	Date:	16 October 2018



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## Suggestons for general improvements

1. Make it easier to identify key datasets for resilience & climate change on data.govt.nz
2. Add geospatial dataset search to data.govt.nz
3. Set up functionality to enable the regular download and updates of key datasets for resilience for a Council, for a wider region and for New Zealand to enable easy access to date if internet access were not available.
4. Run workshops on key datasets so resilience community can make the most of the available data.
5. Offer call centre assistance, or live chat similar to the Stats NZ website, on key data issues and standards

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Datasets	<ul style="list-style-type: none"> <li>NZ Street Address</li> </ul>
Custodian	Land Information New Zealand (LINZ) –Addressing Team
Use Case	<p>Risk – estimate how many people are within a tsunami evacuation zone</p> <p>Readiness - which addresses are outside travel distance to a Civil Defence Centre</p> <p>Response – which addresses need to be searched immediately after an event</p> <p>Recovery - which addresses need to be demolished after a serious event</p> <p>Climate Change - which addresses are susceptible to sea level rise, flooding, inundation and tsunami</p>
Data Issues	
Good Practice	A national register of addresses is already established, including a known maintenance programme, and established relationships with local authorities. Data is available under Creative Commons licence
Source	Multiple data sources reported including LINZ, Councils, CoreLogic, Esri GeoCoder, which means there is no clear single source of truth for a national dataset.
Coverage	National coverage exists, but data quality, including currency, consistency and completeness, is variable.
Attribution	<p>There is no persistent, unique ID for an address</p> <p>Addresses are not associated with a building ID, to help a user identify a building</p> <p>There is no useful attribute to enable a user to quickly filter the data for a region.</p>
Limitations	<p>Addresses are collected for different purposes, which creates limitations of use during an emergency event.</p> <p>LINZ Addressing datasets currently only includes addresses allocated by local authorities. Local authorities do not collect addresses in a consistent way. For example addresses may be captured for rating purposes only, but need to take account of other addresses in use for example for library membership, dog registration and shops.</p> <p>Different response organisations referencing different address datasets. For example Emergency Services use CoreLogic which includes unallocated addresses.</p> <p>Addresses do not accurately represent individual buildings, for example a hospital campus may have multiple buildings represented by a single address point.</p> <p>Is the correct location of a farm address the farm house, the centre of the farm or the entrance to the farm?</p>





	Colloquial names used in an emergency response are not included in the address dataset, which makes it difficult to geocode data, especially in rural areas.
Accessibility	Data is not published as an Esri REST service on LINZ Data Service Data is not discoverable as an OGC WFS service on data.govt.nz Data is not discoverable as an Esri REST service from data.govt.nz
Maintenance	There is concern about the consistency between the local and national data.
Metadata	118 total entries on data.govt.nz for address 55 entries on data.govt.nz for address by LINZ and 12 for Stats NZ
<b>Improvements</b>	
Suggested Improvements	<ol style="list-style-type: none"> <li>1. Work required to ensure national addressing data aligns with Councils data.</li> <li>2. Work with Councils to confirm LINZ as single source of truth, and to promote and explain reasons for a consistent approach to the recording of an address.</li> <li>3. LINZ to improve the national dataset by adding known unallocated addresses.</li> <li>4. Assign a persistent, unique ID to each address</li> <li>5. Assign a building ID to each address</li> <li>6. Add two attributes for Regional / Unitary and Territorial Councils to enable the easy filtering of data for both download and webservice.</li> <li>7. Publish address as Esri webservice on LINZ Data Service List data as an OGC WFS and Esri REST service on data.govt.nz</li> <li>8. Tag as key dataset for resilience on data.govt.nz and LINZ Data Service</li> </ol>
Business Case	<i>Business Case to be discussed at workshop</i>
Barriers	<i>Barriers to be discussed at workshop</i>
Priority	<i>Methodology and criteria to be defined</i>
Timeframes	<i>Timeframes to be defined</i>
<b>Agreed Improvement Plan</b>	
Agreed Improvements	<i>To be confirmed</i>
Agreed Timeline	<i>To be confirmed</i>





## People & Property: Suburbs

Datasets	<ul style="list-style-type: none"> <li>NZ Localities Suburbs</li> </ul>
Custodian	Fire & Emergency New Zealand (FENZ)
Use Case	<p>Risk – which communities are at risk from a tsunami event</p> <p>Readiness - which communities are likely to be isolated after a landslide event</p> <p>Response – quickly identify the location of a person requiring emergency support</p> <p>Recovery - which communities require additional funding for economic regeneration after an event</p> <p>Climate Change - which communities are susceptible to sea level rise, flooding, inundation and tsunami</p>
Data Issues	
Good Practice	<p>Suburbs dataset is created and maintained based on a practical requirement to respond to emergency events.</p> <p>Names extend beyond addresses to include islands and bays, which provide more options for identifying a person in distress.</p>
Source	Fire and Emergency NZ is the only source for this data.
Coverage	Complete national coverage
Attribution	<p>Not all localities are associated with a city name or major name, making it difficult to filter and search data.</p> <p>Lakes form part of the suburb boundary, which makes it difficult to use the data for analysis reporting.</p> <p>There is no useful attribute to enable a user to quickly filter the data for a specific region.</p> <p>Data Dictionary is not easily accessible</p>
Limitations	Key limitation is with data accessibility, particularly for a civil defence emergency management response.
Accessibility	<p>Data is not openly available under Creative Commons Licence</p> <p>Data is not discoverable on data.govt.nz</p> <p>Data is not discoverable as an OGC WFS service on data.govt.nz</p> <p>Data is not discoverable as an Esri REST service from data.govt.nz</p>
Maintenance	Routine update programme is not published
Metadata	2 entries on data.govt.nz for suburbs, both from Wellington City Council



Improvements	
Suggested Improvements	<ol style="list-style-type: none"> <li>1. Associated all localities with a city name or major name to enable easier data analysis.</li> <li>2. Remove lakes from suburb and locality boundaries, and maintain lakes as a separate dataset.</li> <li>3. Add two attributes for Regional / Unitary and Territorial Councils to enable the easy filtering of data for both download and webservice.</li> <li>4. Make suburbs available under a Creative Commons licence.</li> <li>5. Publish suburbs as an Esri webservice</li> <li>6. List suburbs as an OGC WFS and Esri REST service on data.govt.nz</li> <li>7. Tag as key dataset for resilience on data.govt.nz</li> <li>8. Expand metadata to include known routine update programme and publish Data Dictionary</li> </ol>
Business Case	<i>Business Case to be discussed at workshop</i>
Barriers	<i>Barriers to be discussed at workshop</i>
Priority	<i>Methodology and criteria to be defined</i>
Timeframes	<i>Timeframes to be defined</i>
Agreed Improvement Plan	
Agreed Improvements	<i>To be confirmed</i>
Agreed Timeline	<i>To be confirmed</i>



## People & Property: Buildings



Datasets	<ul style="list-style-type: none"> <li>NZ Building Outlines (Pilot) – LINZ</li> <li>Building Outlines – Individual maintained by territorial and unitary authorities</li> </ul>
Custodian	Land Information New Zealand (LINZ) -Topography Team
Use Case	<p>Risk - what is the value, use, height, age, construction type and occupancy of the building to estimate potential loss</p> <p>Readiness - which buildings are on land subject to Section 72 of Building Act - natural hazards</p> <p>Response – complete a Rapid Impact Assessment for every building in the affected area within 8 to 48 hours of an event.</p> <p>Recovery - which buildings are damaged and have Section 124 of Building Act applied - no access</p> <p>Climate Change - which building are susceptible to sea level rise, flooding, inundation and tsunami</p>
Data Issues	
Good Practice	<p>Building outlines have been created as an independent dataset, taking into account the potential value of the data to NZ Inc, and thinking more widely than simply a product requirement for Topo Maps.</p> <p>Data is available under Creative Commons licence</p>
Source	Multiple data sources reported including LINZ, Councils and CoreLogic, which means there is no single source of truth for a national dataset.
Coverage	No complete national coverage
Attribution	<p>Buildings do not have a persistent, unique ID, to create a shared identity</p> <p>Buildings are not associated with an address, to help a user identify a building</p> <p>Buildings do not have a use attribute, particularly to define residential to help inform a response</p> <p>Buildings do not have a height, or flood threshold level, for modelling natural hazard risks</p> <p>Buildings do not have a criticality attribute, for example earthquake prone buildings, CDEM buildings</p> <p>Buildings do not identify specific uses eg government owned building, required for potential CDEM facility or to house govt employees</p> <p>There is no attribute to quickly filter the data for a specific region.</p>



	Data Dictionary is not available
Limitations	Buildings do not adequately represent multistorey buildings or shops
Accessibility	Data is not published as an Esri REST service on LINZ Data Service Data is not discoverable as an OGC WFS service on data.govt.nz Data is not discoverable as an Esri REST service from data.govt.nz
Maintenance	Buildings are updated as part of aerial photography update, which means the national dataset is only current to the latest aerial imagery  Routine update programme is not planned
Metadata	143 total entries on data.govt.nz for building 56 entries on data.govt.nz for building by LINZ

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Improvements	
Suggested Improvements	<ol style="list-style-type: none"> <li>1. Work required to ensure national building data aligns with Councils data. Work with Councils to confirm LINZ as single source of truth.</li> <li>2. Councils may be updating data outside of aerial photography updates. Develop a process to enable updates to be incorporated into the national dataset.</li> <li>3. Provide complete national coverage</li> <li>4. Maintain a persistent, unique ID for each building</li> <li>5. Assign an address to each building - need to agree which address eg on corner or campus</li> <li>6. Assign a height estimate to each building and indication of number of floors. Need to know which height level to assign and a process to estimate number of floors. Talk more with Riskscape.</li> <li>7. Add two attributes for Regional / Unitary and Territorial Councils to enable the easy filtering of data for both download and webservice.</li> <li>8. Set attribute standards, for example to record earthquake prone buildings, to enable consistent national data, then allow Council's to improve this data and feed back into building updates.</li> <li>9. Publish buildings as Esri webservice on LINZ Data Service List data as an OGC WFS and Esri REST service on data.govt.nz</li> <li>10. Tag as key dataset for resilience on data.govt.nz and LINZ Data Service</li> <li>11. Expand metadata to include known routine update programme and publish Data Dictionary</li> </ol>
Business Case	<i>Business Case to be discussed at workshop</i>
Barriers	<i>Barriers to be discussed at workshop</i>
Priority	<i>Methodology and criteria to be defined</i>
Timeframes	<i>Timeframes to be defined</i>
Agreed Improvement Plan	
Agreed Improvements	<i>To be confirmed</i>
Agreed Timeline	<i>To be confirmed</i>



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Datasets	<ul style="list-style-type: none"> <li>NZ Parcels</li> </ul>
Custodian	<p>Land Information New Zealand (LINZ) Land Registry / Integrated Property Services Team</p>
Use Case	<p>Risk – which properties are at risk from a tsunami event</p> <p>Readiness - which properties are likely to be isolated after a landslide event</p> <p>Response - how many properties need to be searched within 48 hours after an event</p> <p>Recovery - which properties are damaged and have Section 124 of Building Act applied - no access</p> <p>Climate Change - which properties are susceptible to sea level rise, flooding, inundation and tsunami</p>
Data Issues	
Good Practice	<p>A national dataset for parcels is in place and is well maintained. Parcel data is available under Creative Commons licence</p>
Source	<p>LINZ is recognised as single source of truth for the national parcel dataset, but property data is also sourced from CoreLogic, Property Guru and Google Maps.</p>
Coverage	<p>Complete national coverage of parcels exists</p>
Attribution	<p>Multiple landowners cannot be recorded against a single parcel.</p> <p>Parcel dataset does not define a property.</p> <p>A property can be defined from parcels, but requires access to the Valuation Assessment data maintained by Councils.</p> <p>Buildings are not associated with a parcel.</p> <p>There is no useful attribute to enable a user to quickly filter the data for a specific region.</p> <p>Data Dictionary is not available</p>
Limitations	<p>All response organisations are required to process parcel information to join parcels with the relevant attributes.</p> <p>It is difficult to define a property is, and depends on the use case.</p> <p>The majority of properties can be defined, but only with access to District Valuation Roll data.</p>





	Some Councils generate revenue from the sale of District Valuation Roll data, which is a barrier to opening up this data.
Accessibility	District Valuation Roll Audit Data is not openly available from Council Parcel data is not published as an Esri REST service on LINZ Data Service Parcel data is not discoverable as an OGC WFS service on data.govt.nz Parcel Data is not discoverable as an Esri REST service from data.govt.nz
Maintenance	Parcels and District Valuation Roll data are well maintained, but are discrete datasets.
Metadata	359 total entries on data.govt.nz for property 31 entries on data.govt.nz for property by LINZ (32 entries for parcel), 31 from Landcare and 20 from Ministry for the Environment
<b>Improvements</b>	
Suggested Improvements	<ol style="list-style-type: none"> <li>1. Provide access to parcel information with all relevant attribution already associated in the layer table, NZParcels to be extended to include land owner, Purpose, Legality, Statute (for non titled properties), Statutory Name, Maori Name and Hydro Name which would be useful information in a response and recovery.</li> <li>2. Work with Local Authorities to open up access to the District Valuation Roll audit files, particularly for use in a cross regional emergency response and the capture of Rapid Assessment information.</li> <li>3. Associate each ParcelID with the relevant Valuation Assessment from the District Valuation Roll to enable the creation of property boundaries, and the identification of cross leases.</li> <li>4. Associate each ParcelID with the relevant Building ID to enable District Valuation Roll data to be associated with the relevant building.</li> <li>5. Enable multiple landowners to be associated with a parcel.</li> <li>6. Add two attributes to parcels for Regional / Unitary and Territorial Councils to enable the easy filtering of data for both download and webservice.</li> <li>7. Publish parcels as Esri webservice on LINZ Data Service List data as an OGC WFS and Esri REST service on data.govt.nz</li> <li>8. Tag as key dataset for resilience on data.govt.nz and LINZ Data Service</li> </ol>
Business Case	<i>Business Case to be discussed at workshop</i>
Barriers	<i>Barriers to be discussed at workshop</i>
Priority	<i>Methodology and criteria to be defined</i>
Timeframes	<i>Timeframes to be defined</i>





Datasets	<ul style="list-style-type: none"> <li>• Meshblock 2013</li> <li>• Census data                             <ul style="list-style-type: none"> <li>○ Age by meshblock (2013 Census)</li> <li>○ Ethnic group by meshblock (2013 Census)</li> <li>○ Age and income in 2013 by TALB2013</li> <li>○ Population by meshblock (2013 Census)</li> <li>○ Sex by meshblock (2013 Census)</li> <li>○ DeprivationIndex 2013 Meshblock</li> <li>○ Status in employment</li> <li>○ Household income</li> <li>○ Religious affiliation</li> <li>○ Work and labour force status</li> </ul> </li> </ul>
Custodian	Stats NZ
Use Case	<p>Risk – estimate number of people left isolated from services following a major Alpine Fault rupture.</p> <p>Readiness - identify vulnerable populations to better inform evacuation planning</p> <p>Response – estimate population counts to identify how many people need to be evacuated and accommodated in a Civil Defence Centre.</p> <p>Recovery – how many people have been displaced after a significant event, and likely to require ongoing welfare support.</p> <p>Climate Change – how many people are susceptible to sea level rise, flooding, inundation and tsunami</p>
Data Issues	
Good Practice	<p>Stats NZ is seen as the preferred source of truth for population data.</p> <p>Stats NZ is the lead agency for government-held data, with the Chief Executive designated as the Government Chief Data Steward, and so is well placed to make changes to improve the value of data.</p> <p>Data is available under Creative Commons licence</p>
Source	Multiple data sources reported including Stats NZ, Council Rates, Riskscape, Spark, Paymark, Farms Online, Federated Farmers, SmartGrowth, Ministry of Social Development, LINZ Buildings, which means there is no single source of truth for current, national population data.
Coverage	Complete national coverage is available from Stats NZ, but dates back to 2013.
Attribution	There is no useful attribute to enable a user to quickly filter the data for a specific region.
Limitations	Population data is only available at meshblock level, which is particularly limiting to help with an emergency event response and recovery. It is hard to extract actionable knowledge from meshblock data.



Accessibility	Information is easier to access from other sources than from Stats NZ  Data is not published as an Esri REST service on Stats NZ Data Service Data is not discoverable as an OGC WFS service on data.govt.nz Data is not discoverable as an Esri REST service from data.govt.nz
Maintenance	Data is not uptodate as only the previous 2013 census data is available. Updated data is not planned to be release until March 2019, 12 months after it was collected. Population estimates for the current year are required for response, plus long term population estimates for recovery and risk assessment.
Metadata	410 total entries on data.govt.nz for population 235 entries on data.govt.nz for population by Stats NZ
<b>Improvements</b>	
Suggested Improvements	<ol style="list-style-type: none"> <li>1. Provide more granular data than meshblock level to better inform decision making while continuing to adhere to privacy rights.</li> <li>2. Make it easier to integrate population attribution, including age, ethnic group and religion, to inform a response.</li> <li>3. Make it easier to integrate population attribution data including gender, deprivation, employment status and income to inform a recovery.</li> <li>4. Identify options for making basic population count information available before March 2019.</li> <li>5. Publish meshblock boundaries, plus more granular data, as Esri webservice on Stats NZ Data Service List data as an OGC WFS and Esri REST service on data.govt.nz</li> <li>6. Tag as key dataset for resilience on data.govt.nz</li> <li>7. Expand metadata including publishing a Data Dictionary</li> </ol>
Business Case	<i>Business Case to be discussed at workshop</i>
Barriers	<i>Barriers to be discussed at workshop</i>
Priority	<i>Methodology and criteria to be defined</i>
Timeframes	<i>Timeframes to be defined</i>
<b>Agreed Improvement Plan</b>	
Agreed Improvements	<i>To be confirmed</i>
Agreed Timeline	<i>To be confirmed</i>





## Topography: Aerial Photography

Datasets	<ul style="list-style-type: none"> <li>NZ Aerial Imagery</li> </ul>
Custodian	Land Information New Zealand (LINZ) -Topography Team
Use Case	<p>Risk - what land change has happened when compared to historical aerial photography</p> <p>Readiness – where are the suburbs where land is subject to Section 72 of Building Act - natural hazards</p> <p>Response – help define the extent of the damage and provide context to situational awareness reports</p> <p>Recovery – what is the pattern of buildings are damaged and have Section 124 of Building Act applied - no access</p> <p>Climate Change – what is the extent of sea level rise, flooding, inundation and tsunami in a region</p>
Data Issues	
Good Practice	<p>LINZ is currently coordinating the capture of aerial photography, to an agreed standard, to build a centralised dataset.</p> <p>LINZ provides the facility to store aerial photography for Councils and make available for re-use, removing significant overhead for each Council in the supply of aerial photography data.</p> <p>Data is available under Creative Commons licence</p>
Source	Multiple data sources reported including LINZ, Councils, CoreLogic, Eagle Technology and Google. LINZ is recognised as the single source of truth for national data custodianship, but not supply.
Coverage	Not quite complete national coverage
Attribution	No specific feedback on aerial photography index grid attribution
Limitations	<p>Frequency of updates is limited to Council budgets.</p> <p>Coordinate better continuity of capture between regions</p>
Accessibility	<p>Data is not published as an Esri REST service from LINZ Data Service</p> <p>Data is not discoverable as an OGC service on data.govt.nz</p> <p>Data is not discoverable as an Esri REST service from data.govt.nz</p>
Maintenance	Routine update programme is not planned
Metadata	<p>438 total entries on data.govt.nz for aerial</p> <p>319 entries on data.govt.nz for aerial by LINZ</p>



Improvements	
Suggested Improvements	<ol style="list-style-type: none"> <li>1. Confirm LINZ as single source of truth for national aerial photography</li> <li>2. Publish aerial photography as a national basemap service, including large scales.</li> <li>3. Enable aerial photography captured during an event to be stood up as a single service as quickly as possible, rather than feeding out as an ftp which all agencies have to spend time processing.</li> <li>4. Enable timely delivery of satellite imagery in an event</li> <li>5. Provide complete national coverage of aerial photography – fill in the gaps with satellite imagery</li> <li>6. Provide advice on the best way to access and manage large datasets such as aerial photography.</li> <li>7. Tag as key dataset for resilience on data.govt.nz and LINZ Data Service</li> <li>8. Publish Data Dictionary</li> </ol>
Business Case	<i>Business Case to be discussed at workshop</i>
Barriers	<i>Barriers to be discussed at workshop</i>
Priority	<i>Methodology and criteria to be defined</i>
Timeframes	<i>Timeframes to be defined</i>
Agreed Improvement Plan	
Agreed Improvements	<i>To be confirmed</i>
Agreed Timeline	<i>To be confirmed</i>



# Key Datasets for Resilience & Climate Change People & Property Workshop - meeting notes

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**Date:** 2 October 2018

**Attendees:** Sarah Cowell, Jill Foster, & Kirsten Nissen, Stats NZ  
Matt Donaldson, Fire & Emergency New Zealand (FENZ)  
André Post & Jonathan Seaton, Ministry for Primary Industries (MPI)  
Andrew Ferrel & Ben Jones, LINZ Topography Team  
Tania Janssen & Chris Kane, LINZ Addressing Team  
Jonathan Ball, LINZ Data Service Team  
Rob Deakin, Susan Shaw & Kasey Oomen, LINZ Resilience Team

**Apologies:** Trent Gulliver, LINZ Addressing Team

**Purpose:** To discuss key datasets relating to people and property, which have been identified as important for resilience and climate change. Share feedback from the NZGIS4EM community with the public data custodians on how to improve these datasets.

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## **Actions:**

1. Susan to update improvement plans and agree with data custodians before sharing with NZGIS4EM community, ideally in November.
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## **User Story**

Andre Post - Ministry for Primary Industries

Role of MPI is to protect and promote primary industries and trade, including biosecurity, food safety standards and trade.

Being in response is business as usual for MPI, with 43 active responses at present. the response phase. Resilience for MPI: readiness and surveillance, MPI led response (biosecurity, trade, food safety), natural disaster response, possible long term management. MPI leads on animal disease, MoH on human disease.

Data requirements MPI have:

- Response specific: collect and manage data, situational awareness (timely – now).
- General: reference data, common reference between agencies, common reference for public, situational awareness (base data).

FarmsOnline – MPI software, restricted under the Biosecurity Act – only allowed to be used for biosecurity.

## Key Datasets for Resilience & Climate Change People & Property Workshop - meeting notes

A few datasets MPI require under the key dataset groups are sourced from CoreLogic. A property and a farm are not the same thing. Farm boundaries are very important for MPI regarding the property group. See presentation for further details.

Questions:

Is community resilience a part of MPI's function? Yes, MPI has a welfare function.

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### 1. Dataset group: Aerial photography

Representative introduction: Andrew Ferrel - LINZ

In CHCH there was a need for imagery – LINZ disseminated this. LINZ started coordinating imagery (with DoC and MPI for funding) and making it available openly; only 7% was available openly prior to CHCH. Currently, LINZ makes sure that all organisations requiring it get it instantly for each update i.e. Eagle, CoreLogic etc.

Discussion:

- We don't want to be having to wait for a download during an event. We want data available via download for preparedness in case we lose internet. MPI does have offline capability. MPI will require more bands than others as they require more detail, they use RGB.
- Metadata and projection is very important – FENZ. MPI use WGS84 for fisheries etc, FENZ use this for broader stuff beyond national – web mercator.

Actions:

LINZ to coordinate LiDAR & aerial imagery – most in agreement

LINZ to provide imagery as a service (consensus agreement) – service needs to be resilient (up 99.9% of the time), available as a REST service.

Issues:

LINZ to coordinate LiDAR & aerial imagery – concern regarding urgency and that capture is fit-for-purpose.

Does everyone have satellites on their buildings? In case we lose internet.

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### 2. Dataset group: Property

Representative introduction: Chris Kane - LINZ

LINZ aim is to make information visible relating to NZ property; LINZ has much of this data but it's not connected; all of the data needs to be linked together. Ideally, we want anyone to be able to understand and access this data; Individual representations of property to be as visible and useable as possible – first aim

## Key Datasets for Resilience & Climate Change People & Property Workshop - meeting notes

- Datasets that are vital include address
- Property is defined as a sellable object
- LINZ currently developing a tool for agencies to use
- ~By the end of March 2019 80% of a good version of a state register will be complete
- A lot of the most valuable data is not in the District Valuation Role. The link to the VA is made by QV or similar
- Rating unit is a proxy for the property
- Rating Valuation Act, and Local Government Rating Act 2007 (defines the rating information that they need to put the property file together)
- DVR to be published for available areas in the next ~3 months. DVR will tell you a little bit about use
- LINZ to go back and forth with the councils, councils will be a main user
- Audit file is for property. A parcel may have a statutory action against it

### Discussion:

- LINZ explorer tool to be released, potentially agencies to pull this information out via a API
- LINZ owns some datasets
- LINZ leading the IPS business case – high cost benefit; councils, QV and CoreLogic – cost is engagement
- Develop tool – start with Environment Canterbury/ braided rivers; Crown property – Land State land register
- Assessment helps to identify a farm – Rating Valuation Act, Local Government Rating Act
- Linking parcel and tile
- Access via local data attributes
- Link datasets to help form a property: parcel I.D – Valuation Assessment (can't see multiple titles) = Rating Unit

### Actions:

- Open up audit files, provide as an Esri service - request

### Issues:

- Liaising with 68 councils to provide us with District Valuation Rd/ - VA

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### 3. Dataset group: Suburbs

Representative introduction: Matt Donaldson - FENZ

No plans for the NZ Localities dataset yet. This was developed from a need for suburbs. All localities of NZ covered: lakes, rivers etc. included. This helped to remove ambiguity from (address) streets as cities/ towns are not used in identification. Still have the same data licence agreement from 2005. FENZ have no money to develop this dataset. Dataset is fairly fit-for purpose but there are not official specifications or requirements for it. Matt is trying to get some funding to develop this and its requirements, ideally make it open via CC. Not appreciated internally, appreciated externally.



## Key Datasets for Resilience & Climate Change People & Property Workshop - meeting notes

FENZ needs to get their CE on board with this. At the moment we're only adjusting boundaries when feedback is given. A lot of feedback is given by NZ Post.

- Localities help identify a 111 call
- Available outside of FENZ by request

Discussion:

Suburbs and localities – completely different. A suburbs dataset doesn't exist; LINZ maybe to develop a suburbs dataset?

- Localities help identify a 111 call

Actions:

- FENZ are the custodian of NZ Localities - consensus
- Publish as an Esri REST service - consensus
- LINZ - Resilience and Stats NZ to write a letter to FENZ to stress the importance of NZ Localities - consensus
- To be referenced on Data.govt.nz- consensus

Issues: none stated

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#### 4. Dataset group: Population

Representative introduction: Kirsten Nissen and Sarah Cowell – Stats NZ

Census response rates are lower now than in the past. Information mainly released in area units. Statistical Area 2 is the equivalent of old boundaries. Stats feel they have an obligation to deliver more detail (meshblock level) since being in today's meeting, i.e. populations at meshblock by age range. Geographic updates occur annually but migration, deaths etc. make this difficult. Migrants linked to address. Some work is happening on national migration, to be reported on at national level. Population estimates during an event was very challenging, CHCH example; this is now easier with an integrated data infrastructure.

Discussion:

Stats has developed a statistics location register, reference to a dwelling. NZ Deprivation Index updated regularly. Mainly gain measures by service providers which indicate people's absence or presence.

Actions:

- Review stats website etc... Sarah to circulate link for us to place our feedback - consensus
- LINZ to circulate link to NZGIS4EM - consensus
- Stats NZ to confirm process in a response – Stats NZ
- Stats NZ to publish datasets as a service - consensus

Issues:

## Key Datasets for Resilience & Climate Change People & Property Workshop - meeting notes

- Night/ day population
- Seasonal population
- Migration
- Main concern: to be able to respond quickly in an emergency. Stats NZ analyse a cellphone dataset (from providers) post event

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### 5. Dataset group: Address

Representative introduction: Ben Jones and Tania Janssen - LINZ

67 TA's have to provide updates to LINZ – LINZ relies on this. Frequency, quality and format varies. Addressing team puts this detail into AIMS. Addressing standards are set by the surveyor general. Addresses come in and are reviewed against AIMS and are published once complete. This is just a subset of all of the addresses being used.

There is a project being set up to understand all other addresses, LINZ potentially to understand these and create a dataset for NZ fit for all purposes. Different parts of the same council may use different addresses.

The purpose is to have the end product useable by everyone and understood by everyone.

Discussion:

Stats NZ has an up to date register of the address – LINZ to use to help verify address.

- TA's provide address updates
- Governor General as the delegation authority
- Only a subset of national addresses: different data sources/ attributes/ fitness for purpose

Actions:

- LINZ to deliver a national resilience address dataset – will take some time – IPS and Addressing working on this now – long term project
- LINZ to set national addressing standards?

Issues:

- FENZ need to know the relationship between building, property, and address
- All councils maintain data at an agreed quality – accuracy inconsistent
- Only a subset of national addresses: different data sources/ attributes/ fitness for purpose
- Multiple buildings at an address
- Allocated addresses might not represent known
- Approximately 400,000 unallocated addresses

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### 6. Dataset group: Buildings

Representative introduction: Ben Jones – LINZ

## Key Datasets for Resilience & Climate Change People & Property Workshop - meeting notes

Building outlines created from the capture of a roof via aerial imagery; they are not footprints. A number of use cases have come out around this. National coverage is being completed at this time. Realistically we'll have 95% population coverage of NZ's area; 98% coverage of NZ's populated areas by July 2019. Not a pilot dataset anymore. New layer will have: persistent building I.D's, outline will be associated with the imagery, name, use, suburb, town/ city, TA, capture method, capture source, external source I.D, and lifespan. Not all information will be disseminated to avoid user confusion but will be open and available by request. Resolution: 10m2 and above. Main use case is topographic product.

### Discussion:

- Data dictionary specifies what the building has been defined as
- Building outlines are to have on-going maintenance
- Earthquakes building prone register (criticality)

### Actions:

- Associate building with an address – IPS API (in progress) - consensus
- Make available as an Esri REST service - suggestion
- Look at FENZ building data/ names – FENZ and LINZ

### Issues:

- No height estimation
- No information on number of story's within a building
- Criticality not an attribute

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### Lessons learned from today's session:

- Already many improvements happening in similar areas to what is being suggested for each of the dataset groups
- Interesting to get an idea on the scope of work being done
- Stats NZ understanding how we can and/ or could be able to be better ready to respond
- REST services to be looked at as being delivered through the Koordinates platform; seems like a uniform requirement
- Resilience is a good way to get different organisations talking and engaged
- No one size fits all can be assigned to everyone
- We can't do evidence based decision making without location and statistical information being integrated
- Great to be able to discuss these topics freely in a safe environment

Key Datasets for Resilience & Climate Change  
**People & Property Workshop - meeting notes**

- Access to commercial datasets important; removal of barriers
- Changes in mind-set, more willingness to make improvements
- Good to hear about the improvements LINZ has made in a short amount of time etc.

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