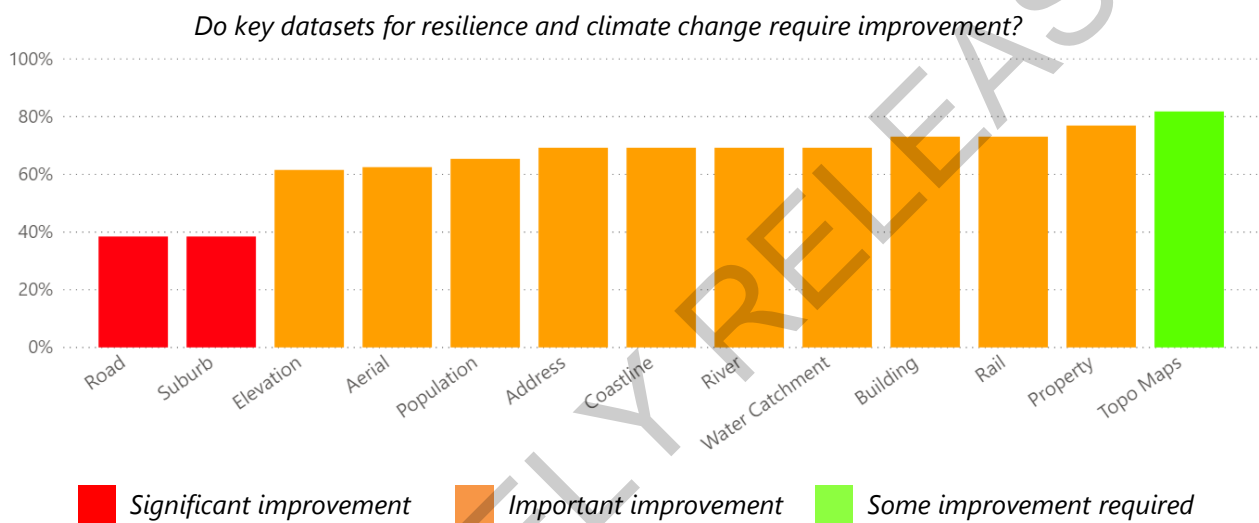# Key Datasets for Resilience and Climate Change

Quarterly Progress Update: October to December 2019

Background

LINZ understands the vital importance of having reliable, accessible information to inform those working in emergency management and climate change. This is why LINZ is investing in key data improvements. Consultation with the user community and collaboration with the data lead agencies identified 12 key datasets and prioritised the required data improvements.

The lead agencies – Stats NZ, Fire and Emergency NZ, NZ Transport Agency, KiwiRail, NIWA and LINZ - approved the data improvement plan in June 2019.

Do key datasets for resilience and climate change require improvement?

Significant improvement   **Important improvement**   **Some improvement required**

The Address key dataset is made up of Address from LINZ and Suburb from Fire and Emergency New Zealand.

Data Improvement Highlights: Quarter 2

- ✓ Stats NZ published Statistical Area 1 data with population counts and other attributes

- ✓ NZTA published State Highway road closures on their data portal and data.govt.nz

- ✓ NIWA improved their river webmap to display main rivers at a national scale

- ✓ Buildings for Marlborough added to the national dataset on LINZ Data Service

- ✓ Aerial photography for Bay of Plenty, Dunedin, Hamilton, Manawatu, Nelson and Tasman published on LINZ Data Service

- ✓ LiDAR data for Waikato and Northland published on LINZ Data Service

- ✓ LINZ published an elevation index to help identify LiDAR derived elevation data

- ✓ Learn how to convert LiDAR data to NZVD2016 vertical datum with this LINZ blog

- ✓ All lead agencies remain engaged with the key dataset improvement project

Priority Improvements Update: Quarter 2

Below is a progress update for October to December 2019 (Quarter 2) and planned milestones for January to March 2020 (Quarter 3). The icons represent improvement status:

🟩 *on track to deliver*   ⬜ *some improvements delivered*   🟧 *need organisation buy in*

Quarterly progress updates are only shared with the NZGIS4EM Committee and the National Emergency Management Agency (NEMA).   An annual update on the data improvement plan will be made publicly available by August 2020.

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

   Q2   Learned more about the address validation process. Working with sample additional addresses to assess their quality and validity.

   Q3   Start to identify outcomes for resilience customers and begin customer engagement.

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

   Q2   LiDAR data has been published for Waikato and Northland.

   Q3   Evaluate tenders, identify suppliers, with contracts in place for data capture. Publish additional LiDAR data as it becomes available.

3.   NZTA understands the importance of providing easy access to **road closure** data, but currently is unable to commit to an improvement plan.

   Q2   NZTA restructure has taken priority, however State Highway road closures have been published on NZTA data portal and data.govt.nz.

   Q3   Create high level understanding of the work required by NZTA to develop a national closed roads network. Also in discussion with NEMA.

4.   Stats NZ understands the importance of providing **small geography population count** information for use in responding to emergency events and will explore options with LINZ on how best this could be achieved.

   Q2   Published 2018 Statistical Area 1 (SA1) data, similar to meshblock areas, with population counts and additional attributes. LINZ presented on key data project and use of population data in Pigeon Valley Fire to Stats NZ senior managers.

   Q3   Publish spatially enabled SA1 boundaries with attribution on Stats NZ Data Finder and as Esri REST service. Develop data visualisation tool to query and combine population counts for a selected area.

5.   LINZ to improve access to **parcel** attribution by June 2020 and investigate the feasibility of creating a property boundary layer by June 2021.

    Q2   LINZ instructed Eagle Technology to set up a new ArcGIS Online account nzbasemaps.maps.arcgis.com for publishing parcel data.

    Property Data Management Framework white paper undergoing expert review.

    Q3   Publish NZ Primary Parcels as an Esri REST service. Look at security options for restricted access to personal data.

    Create functionality to support restricted access to some individual Council District Valuation Roll data for testing. Publish Property Data Management Framework externally.

6.   LINZ to complete national coverage of **building outlines** by June 2020.

    Q2   Published buildings for Marlborough. Started procurement for Queenstown Lakes, Dunedin, Otago, Tasman and Nelson.

    Q3 Publish buildings for Bay of Plenty and Gisborne. Investigate capturing buildings where there is no aerial imagery e.g. Fiordland. Procure data for Hamilton, Manawatu and Waikato.

7.   Fire and Emergency New Zealand understands the importance of the **suburbs** dataset and is working with LINZ to establish options regarding the dataset by December 2019.

    Q2   Fire and Emergency NZ received legal advice on the potential to transition NZ Localities to a Creative Commons licence and measures to ensure the integrity of the dataset for operational purposes.

    Q3   Fire and Emergency will participate in the NZ Geographic Board's workshop to consider a 'single point of truth' for suburbs and localities, and reiterate the need to ensure that any Public Risk in this space can be mitigated in order to ensure the safety of the New Zealand public in the context of emergency response services.

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

    Q2   Aerial imagery basemap development is progressing. Topo basemap will be second basemap to be developed.

    Q3   Aiming to develop aerial imagery basemap and test inhouse by February 2020. Update website to provide information about Topo50 and Topo250 update schedule and link to update history.

9. LINZ to establish a process for coordinating the capture and delivery of **imagery** and LiDAR during an event by June 2020.

    Q2 Internal processes have been developed for supporting external agencies by coordinating data capture during an emergency response. Recent debrief identified lessons learnt following recent storm event and Whakaari / White Island eruption.

    Q3 LINZ to run staff exercise to test emergency response processes. Draft specification for capturing aerial imagery during an emergency to ensure timely data delivery. Plan user requirements workshop.

10. LINZ to create and maintain a national **coastline** dataset based on the best available data by June 2020.

    Q2 Alternative options for an improved national coastline are being evaluated, and worked on by our summer intern. NIWA, Northland and Greater Wellington Regional Councils are helping define project scope.

    Q3 Complete options investigation and agree the approach internally. Progress towards the agreed approach to bring together the best available LINZ coastline data. Continue engaging with stakeholders.

11. NIWA to improve the availability of **river network and water catchment** data by releasing under Creative Commons license and publishing scale dependant webservices by June 2020.

    Q2 NIWA have improved river webmap to control display of main rivers at a small scale to create a national overview.

    Q3 Improve metadata and test options for improved data delivery of water catchments at a national and regional scale.

12. LINZ to publish key datasets as **Esri REST services** by June 2020.

    Q2 LINZ instructed Eagle Technology to set up a new ArcGIS Online account for publishing key data basedatanz.maps.arcgis.com

    Q3 Publish LINZ key datasets as Esri REST services

13. KiwiRail to improve access to **rail** network data by June 2020.

    Q2 Some progress made on attribution and metadata. Recent focus has been on GIS team structure changes at KiwiRail.

    Q3 KiwiRail has recently lost both GIS staff, and will be focused on recruitment and induction this quarter.