Auckland North LiDAR 1m DEM (2016-2018)

- Metadata
  - File Identifier
    - b2232a32-5e75-f644-8c04-2fe7b9d0616a
  - Language
    - eng
  - Character Set
    - Character Set Code
      - utf8
  - Hierarchy Level
    - Scope Code
      - dataset
  - Hierarchy Level Name
    - dataset
  - Contact
    - Responsible Party
      - Organisation Name
        - Toitū Te Whenua Land Information New Zealand
      - Position Name
        - Lidar Coordination Manager
      - Contact Info
        - Contact
          - Phone
            - Telephone
              - Voice
                - 04 4600110
          - Address
            - Address
              - Delivery Point
                - 155 The Terrace
              - City
                - Wellington
              - Postal Code
                - 6011
              - Country
                - New Zealand
              - Electronic Mail Address
                - customersupport@linz.govt.nz
      - Role
        - Role Code

pointOfContact

Date Stamp
Date
2021-10-28

Metadata Standard Name
ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005, Geographic information - Metadata

Metadata Standard Version
1.1

Reference System Info
Reference System
Reference System Identifier
Identifier
Code
2193

Identification Info
Data Identification
Citation
Citation
Title
Auckland North LiDAR 1m DEM (2016-2018)

Date

Abstract
This layer contains the DEM for LiDAR data in the northern Auckland Region captured between 2016 and 2018. - The DSM is available as layer [Auckland North LiDAR 1m DSM (2016-2018)](https://data.linz.govt.nz/layer/105089). - The index tiles are available as layer [Auckland North LiDAR Index Tiles (2016-2018)](https://data.linz.govt.nz/layer/105090). - The LAS point cloud and vendor project reports are available from [OpenTopography](https://portal.opentopography.org/datasets?loc=New%20Zealand). LiDAR was captured for Auckland Council by Aerial Surveys from 16 August 2016 to 9 August 2018. These datasets were generated by Aerial Surveys and their subcontractors. Data management and distribution is by Toitū Te Whenua Land Information New Zealand. Data comprises: - DEM: tif or asc tiles in NZTM2000 projection, tiled into a 1:1,000 tile layout - DSM: tif or asc tiles in NZTM2000 projection, tiled into a 1:1,000 tile layout - Point cloud: las tiles in NZTM2000 projection, tiled into a 1:1,000 tile layout Pulse density specification is at a minimum of 4 pulses/square metre. Vertical Accuracy Specification is +/- 0.2m (95%). Horizontal Accuracy Specification is +/- 0.6m (95%). Vertical datum is NZVD2016.

Status
Progress Code
completed

Point Of Contact
Responsible Party
Organisation Name
Toitū Te Whenua Land Information New Zealand

Position Name
Lidar Coordination Manager

Contact Info

- Contact
  - Phone
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      - Voice
        - 04 4600110
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    - Address
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        - customersupport@linz.govt.nz
- Role
  - Role Code
    - pointOfContact

Resource Maintenance
- Maintenance Information
  - Maintenance And Update Frequency
    - Maintenance Frequency Code
      - notPlanned

Resource Format
- Format
  - Name
    - *.xml
  - Version
    - Unknown

Descriptive Keywords
- Keywords
  - Keyword
    - New Zealand
  - Type
    - Keyword Type Code
      - theme
  - Thesaurus Name
    - Citation
      - Title
        - ANZLIC Jurisdictions
      - Date
      - Edition

Version 2.1

Edition Date
Date
2008-10-29

Identifier
Identifier
Code
http://asdd.ga.gov.au/asdd/profileinfo/anzlic-jurisdic.xml#anzlic-jurisdic

Cited Responsible Party
Responsible Party
Organisation Name
ANZLIC the Spatial Information Council

Role
Role Code
custodian

Resource Constraints
Security Constraints
Classification
Classification Code
unclassified

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Restriction Code
license

Spatial Representation Type Code
grid

Representative Fraction
Denominator
Integer
1000

Language
eng

- Character Set
  - Character Set Code
    - utf8
- Topic Category Code
  - elevation
- Extent
  - EX _ Extent
    - Geographic Element
      - EX _ Geographic Description
        - Identifier
          - Authority
            - Citation
              - Title
                - ANZMet Lite Country codelist
              - Date
              - Edition
                - Version 1.0
              - Edition Date
                - Date
                  - 2009-03-31
              - Identifier
                - Identifier
                  - Code
                    - http://asdd.ga.gov.au/asdd/profileinfo/anzlic-country.xml#Country
              - Cited Responsible Party
                - Responsible Party
                  - Organisation Name
                    - ANZLIC the Spatial Information Council
                  - Role
                    - Role Code
                      - custodian
            - Code
              - nzl
- Extent
  - EX _ Extent
    - Geographic Element
      - EX _ Geographic Bounding Box
        - 174.15686794873625175.55578930011853-37.057123653801554-36.02306055654798

Distribution Info
- Distribution
  - Transfer Options
    - Digital Transfer Options
      - On Line
        - Online Resource
          - Linkage
            - URL
              - https://data.linz.govt.nz/layer/106410-auckland-north-lidar-1m-dem-2016-2018/

Data Quality Info
- DQ _ Data Quality
  - Scope

DQ _ Scope
Level
Scope Code
dataset

Level Description
Scope Description
Other
dataset

Lineage
LI _ Lineage
Statement

Data Acquisition: Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft 16 August 2016 to 9 August 2018, using Aerial Surveys Optech Orion H300 LiDAR system and a Optech Galaxy system. Please refer to survey report for survey specifications. Data Processing: The LiDAR sensor positioning and orientation (POS) was determined using the collected GPS/IMU datasets and Applanix POSPac software. Please refer to survey report for benchmark and base station information. The POS data was combined with the LiDAR range files and used to generate LIDAR point clouds in NZTM and ellipsoidal heights. This process was undertaken using Optech LMS LiDAR processing software. The data was checked for completeness of coverage. The relative fit of data in the overlap between strips was also checked. The height accuracy of the ground classified LiDAR points was checked using open land-cover survey check site data collected by Sounds Surveying Ltd. This was done by calculating height differences statistics between a TIN of the LiDAR ground points and the checkpoints. The standard deviation statistic is 0.057 m; a RMS of 0.057 m and the average difference is -0.003 m. LiDAR is relative to the control check points. The positional accuracy of the LiDAR data has been checked by overlaying Sounds Surveying Ltd surveyed data over the LiDAR data displayed coded by intensity. The data was found to fit well in position. The point cloud data was then classified withTerraSolid LiDAR processing software into ground and above ground returns using automated routines tailored to the project landcover and terrain. All product deliverables supplied in terms of NZTM map projection and NZVD2016 height datum. Classification of the point cloud followed the classification scheme below: 1 - Unclassified 2 - Ground 3 - Low Vegetation 4 - Medium Vegetation 5 - High Vegetation 6 - Building 12 - Overlap These classifications were not mentioned in survey report but were found to be accurate for publication: 7 - Noise 8 - Model Key-Point 9 - Water 10 - Bridge Deck (Misclassified) Bridge Deck points were reclassified by LINZ from class 10 to class 17 to follow LAS v1.4 (where class 10 is Rail), before providing the classified point cloud data to Open Topography. There were also a small number of synthetic point in these files. These were deemed to be by LINZ a result of Classification Level 3 and does not affect the integrity of these classified point cloud files, CL3_BA30_2016_1000_0844 CL3_BA31_2016_1000_2733 Lakes and large rivers were hydroflattened in the Bare Earth Digital Elevation Model. Disclaimers with this dataset: - Hydroflattening does not meet base specification for rivers. - More than one type of interpolation in the dataset due to re-supplied tiles. This has caused edge artifacts and inconsistent appearance between some tiles. - There are sporadic linear vertical offsets that correspond to the edge of swaths, where the vertical difference is greater than the vertical accuracy. - There are some linear vertical offsets that are parallel to the tile boundaries, but offset to the north-west. - Major spikes and dips were manually removed, but other artifacts may still be in the dataset. - Bridges found in the DEM from spot checking were manually removed, however, some bridges may still remain in the DEM. The deliverables to LINZ were: 1m gridded bare earth digital elevation model (DEM) 1m gridded digital surface model (DSM) Classified point cloud

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