Hamilton 0.1m Urban Aerial Photos (2016-2017)

Title
> Hamilton 0.1m Urban Aerial Photos (2016-17)

Creator
> LINZ - Land Information New Zealand

Date
> 2017

Description
> Orthophotography over Hamilton City taken in the flying season (summer period) 2016 -17. Imagery was captured for the ‘Hamilton City Council’ by Aerial Surveys Ltd, Unit A1, 8 Saturn Place, Albany,0632, New Zealand. Data comprises: •492 ortho-rectified RGB GeoTIFF images in NZTM projection, tiled into the LINZ Standard 1:1,000 tile layout •Tile layout in NZTM projection containing relevant information. The supplied imagery is in terms of New Zealand Transverse Mercator (NZTM) map projection. The products are tiled into NZTopo50 1:1,000 tiles. Please refer to the supplied tile layout shape file for specific details, naming conventions, etc. Imagery supplied as 10cm pixel resolution (0.1m GSD), 3-band (RGB) uncompressed GeoTIFF. The final spatial accuracy is ±0.2 m @ 95% confidence level in clear open spaces. Index tiles for this dataset are available as layer [Hamilton 0.1m Urban Aerial Photos Index Tiles (2016-17)](http://data.linz.govt.nz/layer/88100)

Source
> Data Acquisition: The aerial photography for this project was captured within the 2014/15 flying season (September 2014 – April 2015) on the following date: 20 March 2015. All photography was captured using Vexcel's digital UCLp camera and flown at: 0.10m GSD: 3850ft (1173m) flying height Camera Lens: 70mm Sun Angle Minimum of +40 degrees Urban Building Displacement Specification Urban 0.10m GSD imagery – using the UCLp camera and by flying with 60% forward overlap and with 30% sidelap (standard stereo coverage), maximum 1.1m building lean per 3m height within the image model area. Data Processing All aspects of the data processing from imagery processing to DTM creation and ortho production and product deliverables was undertaken in-house by Aerial Surveys staff. Map Projection All spatial data for this project provided in terms of New Zealand Transverse Mercator 2000 map projection (NZTM2000) . The datum is New Zealand Geodetic Datum 2000 (NZGD2000). The height datum is orthometric Auckland 1946 (sea level). Image Processing and Aerial Triangulation All imagery has gone through QA checks ensuring there is no cloud cover and cloud shadow. During aerial acquisition the aircraft on-board GPS navigation data and ground base station data collected and post processed. Imagery processed to Level 3 and checked for colour correctness/radiometry and even tonal balance across each project area. The aerial triangulation brings together the GPS data and imagery using a two part process which stitches the imagery together using tie point matching for the relative orientation phase and observing ground control points for the absolute orientation phase. A final report is generated to check RMSE values are within specification. DTM Source: The digital terrain model used for this project was derived from 2008 and 2010 LiDAR DTM data. Outside the existing data we have collected a new DTM from the stereo imagery. The DTM data is merged together seamlessly and accuracy is checked to meet the ortho imagery specification. RGB Ortho Specification Ortho rectification is the process of removing

(from the image) the effects of camera tip/tilt and displacement caused by terrain relief. During this process each frame is 'draped' over the terrain model and the photograph then becomes 'scaled' and 'levelled' in terms of true ground coordinates. The generation of seamlines between frames follow natural physical features such as ridges, valleys, roads and rivers. The seamlines are used for the final ortho mosaic that stitches the imagery together using feather mosaicking techniques. The ortho imagery is then extracted aligned to LINZ 1:1000 sheet tile layout.

Coverage

-37.8685235149 175.166104501 -37.6687482985 175.384649697

Identifier

https://data.linz.govt.nz/layer/88132-hamilton-01m-urban-aerial-photos-2016-2017/

Type

grid

Language

eng

Subject

imageryBaseMapsEarthCover