

Tasman 0.5m Rural Aerial Photos Index Tiles (2009-2010)

Title

Tasman 0.5m Rural Aerial Photos Index Tiles (2009-2010)

Creator

LINZ - Land Information New Zealand

Date

2010

Description

Orthophotography for the Tasman region taken in the flying season (summer period) of 2009-2010. Covering the area centred primarily around Murchison Imagery was captured for the 'Tasman District Council' by NZ Aerial Mapping Ltd, 208 Warren Street, PO Box 6, Hastings 4156, New Zealand Data has subsequently been provided to LINZ and this comprises:

- 108 x ortho-rectified RGB GeoTIFF images in NZTM projection, tiled into the LINZ Standard 1:5,000 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 1:5,000 tiles. Please refer to the supplied tile layout shape file for specific details, naming conventions, etc. Imagery supplied as 50cm pixel resolution (0.5m GSD), 3-band (RGB) uncompressed GeoTIFF. The final spatial accuracy is +/-3.0m (@ 90% confidence). Index Tiles ONLY, for actual orthophotos see layer [Tasman 0.5m Rural Aerial Photos (2009-2010)](<http://data.linz.govt.nz/layer/1771>)

Source

Data Acquisition: The NZAM numbers pertaining to this photographic survey is Sn50867D. Digital imagery was collected in Feb-Mar 2010 using NZ Aerial Mapping's Microsoft UCX & UCXp large-format digital cameras. The imagery was collected flying between 18,000' – 22,000' above mean ground, using 60% forward & 30% minimum overlaps. Collected imagery was cloud-free, sun angle of not less than 35-degrees. Data Processing: Image Processing was undertaken following QA of the flown photography. Initial check's included ensuring there is was no evidence of cloud, cloud-shadow, smoke, haze or other issues which may cause problems during downstream processing. Imagery was then converted from 'Level O' (readable only in the proprietary image software) into 'Level 3' - raw, uncorrected RGB imagery. Aerial Triangulation (AT) followed. This process relates one frame to the next, then one run to the next until a continuous 'parallax-free' block of photography is created. Introduction at this point of the surveyed ground control helps 'tie' the block of photography to true ground coordinates from which mapping then commences. NZAM use UltraMap v2.3 & ORIMA software for the image processing & AT components. ~26 x photo-identifiable detail points have been surveyed, post-photography, via Vince Belgrave of Sounds Surveying Ltd, Picton. Trigs and other existing control from previous projects were used to strengthen the block adjustment or as independent checks on position during final QA of the orthos. DTM creation was undertaken by NZAM's Indian-based subcontractors – Genesys International Corporation once AT was complete. Each pair of overlapping photographs was viewed in a stereo environment and a terrain model created for that portion of the earth's surface. Pixel matching & auto-correlation techniques were used - as they are a quick & efficient method of achieving the desired result. Manual checks by stereo compilation staff were done to ensure

gross errors were corrected & the DTM accurately reflected the terrain surface. Final DTM's took the form of breaklines (along ridges, valleys & sharp terrain changes) and masspoints (individual xyz points) to infill & add density to the ground model. A Triangulated Irregular Network (TIN) was then created & used for the ortho-rectification process. Ortho-rectification is the process of removing (from the image) the effects of camera tip / tilt & displacement caused by terrain relief. During this process each frame is 'draped' over the terrain model, the photograph then becomes 'scaled' & 'levelled' and in terms of true ground coordinates. Mosaic lines between frames were created, edited (normally along physical features such as roads, rivers, ridges or similar geographical features) & used during the final 'stitching' of frames together. Tiling was then done into the agreed tile layout & rectified imagery output in the appropriate formats.

Coverage

-42.1434412923 172.129115397 -41.5613052173 172.942261461

Identifier

<https://data.linz.govt.nz/layer/51906-tasman-05m-rural-aerial-photos-index-tiles-2009-2010/>

Type

grid

Language

eng

Subject

imageryBaseMapsEarthCover