

# Manawatu Whanganui 0.4m Rural Aerial Photos (2010-2011)

## Metadata

### File Identifier

f82873c7-2266-05a7-5a42-426f22488c5f

### Language

eng

### Character Set

#### Character Set Code

utf8

### Hierarchy Level

#### Scope Code

dataset

### Hierarchy Level Name

dataset

## Contact

### Responsible Party

#### Organisation Name

LINZ - Land Information New Zealand

#### Position Name

National Imagery Manager

### Contact Info

#### Contact

##### Phone

##### Telephone

##### Voice

04 4600110

##### Address

##### Address

##### Delivery Point

155 The Terrace

##### City

Wellington

##### Postal Code

6145

**Country**

New Zealand

**Electronic Mail Address**

info@linz.govt.nz

**Role****Role Code**

pointOfContact

**Date Stamp****Date**

2014-03-21

**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**

Manawatu Whanganui 0.4m Rural Aerial Photos (2010 – 2011)

**Date****Abstract**

Orthophotography for the Manawatu-Whanganui region taken in the flying season (summer period) of 2010-2011. Coverage encompassed the entire Manawatu-Wanganui Regional councils area. Imagery was captured for the 'MW-Lass (Manawatu-Wanganui LASS Limited)' 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:

- 2,925 x ortho-rectified RGB GeoTIFF images in NZTM projection, tiled into the LINZ Standard 1:5,000 tile layout
- Shape file of the photo-centres in NZTM projection containing relevant Information
- 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 40cm pixel resolution (0.4m

GSD), 3-band (RGB) uncompressed GeoTIFF. The final spatial accuracy is +/-2.5m (@ 90% confidence). Index tiles for this dataset are available as layer [Manawatu Whanganui 0.4m Rural Aerial Photos Index Tiles (2010 - 2011)] (<http://data.linz.govt.nz/layer/1878>).

## Status

### Progress Code

completed

## Point Of Contact

### Responsible Party

#### Organisation Name

LINZ - Land Information New Zealand

#### Position Name

National Imagery Manager

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### Role

#### Role Code

pointOfContact

## Resource Format

### Format

#### Name

\*.xml

#### Version

Unknown

## Resource Constraints

### Security Constraints

#### Classification

##### Classification Code

unclassified

## Resource Constraints

### Legal Constraints

#### Use Limitation

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#### Access Constraints

##### Restriction Code

copyright

## Resource Constraints

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#### Use Constraints

##### Restriction Code

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#### Use Constraints

##### Restriction Code

license

Spatial Representation Type Code

grid

Representative Fraction

Denominator

Integer

5000

Language

eng

Character Set

Character Set Code

utf8

Topic Category Code

imageryBaseMapsEarthCover

Extent

EX \_ Extent

Geographic Element

EX \_ Geographic Bounding Box

174.664936399176.681633014-40.8034340538-38.4532011493

Distribution Info

Distribution

Transfer Options

Digital Transfer Options

On Line

Online Resource

Linkage

URL

<https://data.linz.govt.nz/layer/51767-manawatu-whanganui-04m-rural-aerial-photos-2010-2011/>

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: The project area covered the local authority areas of Tararua

DC, Horowhenua DC, Palmerston North CC, Manawatu DC, Rangitikei DC, Wanganui DC, Ruapehu DC & parts of Stratford, Otorohanga & Taupo DC's. The coverage flown is approximately 25,272 sq km. The NZAM number pertaining to this photographic survey is Sn50921D. Digital imagery was collected between December 2010 – April 2011 (see photocentre shape file for specific frame dates), 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. Coastal runs were flown within 1-hour either side of low-tide. A total of 4,236 frames were accepted for final processing into orthos. During the aerial data acquisition use was made of the permanently logging IBASE's at Taupo, New Plymouth, Palmerston North, Kapiti, Ohakune & our own base station at Bridge Pa aerodrome. A base station was also established over geodetic mark A47F on the Tararua coast. This ensured most flying was undertaken within a 70km radius of an operating base station. NZAM's Rockwell Commander 690, Aero Commander 680 & Cessna 402 aircraft were used for the survey. ~35 hours 'on-survey' flying time was required to complete the photography. 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. 31 x photo-identifiable detail points were surveyed, post-photography, via Vince Belgrave of Sounds Surveying Ltd & Kevin Sewell of Geomatic Surveys Ltd. 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.

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