

The Regional Council, Environment Waikato, commissioned several LiDAR derived terrain datasets (+/-15cm vertical accuracy) and other datasets to support its duties and functions associated with environmental management through temporal and spatial analyses.

Products Delivered

- Thinned ground strikes in ASCII XYZi
- Non ground strikes in ASCII
- 1m ASCII GRID
- 0.5m contours (shapefiles)

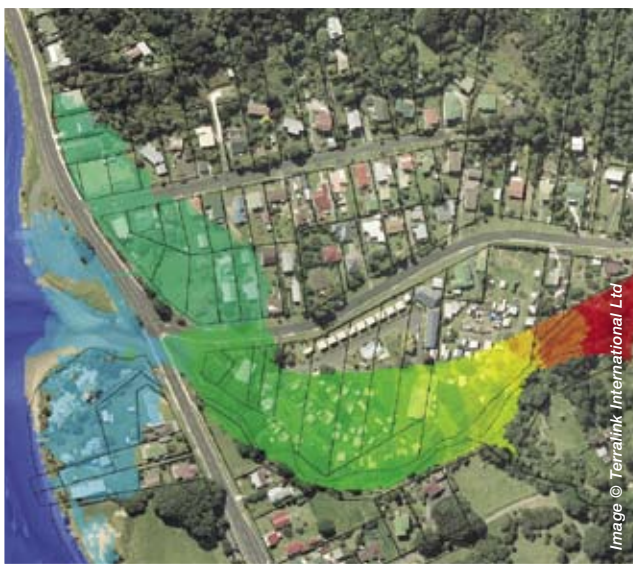
Using this valuable and up to date information, the Waikato Region improved resource and hazard management, in addition to facilitating change detection and monitoring.

The Waikato region is a local government region on the western side of the North Island. It stretches from Lake Taupo and northern King Country in the south, up to the Coromandel Peninsula and the boundary with the Auckland Region. The region has an area of 25,000 km², and an estimated 2006 population of 387,700.

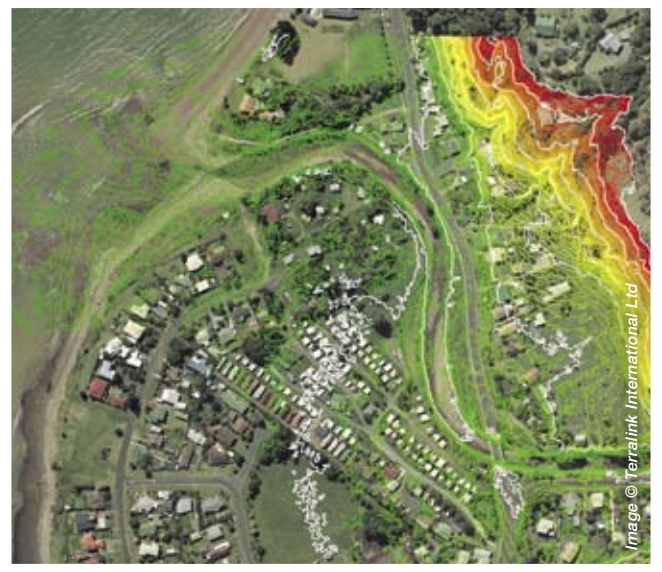


LiDAR Data Applications – Current and Planned

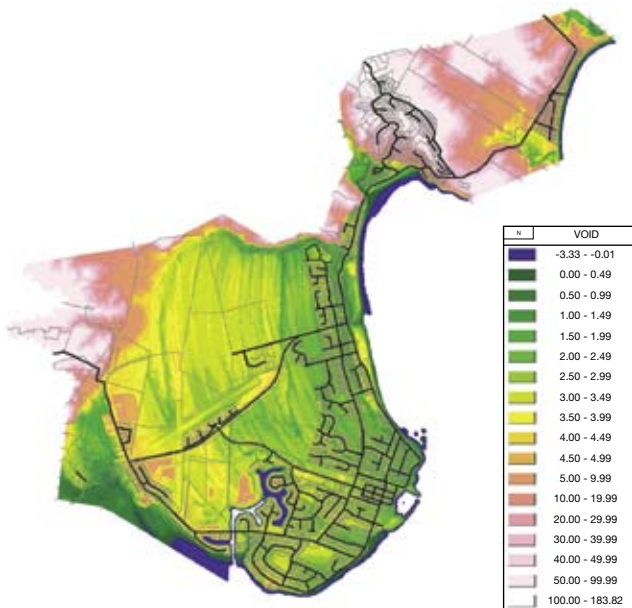
- Assist with planning processes and reviews for Regional and District plans
- Identification and accurate mapping of floodplains and flood hazard areas
- Establishment and ongoing monitoring of local land drainage catchments that are affected by settling peat
- Modelling – inundation, hydraulic, flood hazard, estuarine and delta
- Tsunami mitigation
- Location and capture of assets such as drains, pumps and floodgates
- Regional and national modelling – Raglan fine sediment study, National sediment model and CLUES nitrogen model
- Water catchment investigations – catchment and waterway delineation
- Shoreline landscape assessments
- Vegetation and land cover mapping
- Better identification of topographically based planning zones



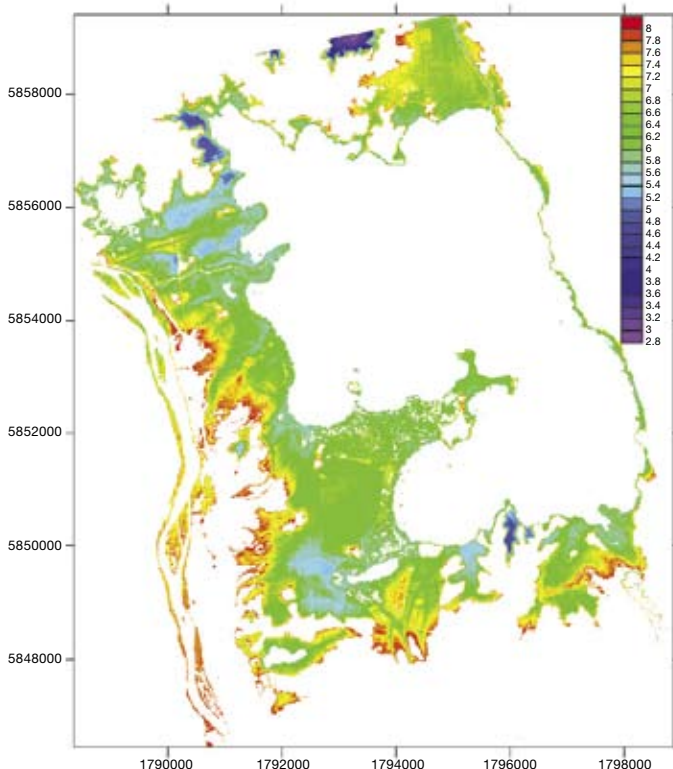
Waiomu Surface Heights



Te Puru Surface Analysis with Contours



Above: Mercury Bay



Above: Lake Waikere

LiDAR Data Applications – Current and Planned *continued*

- Monitoring and analysis of
 - Channels and overland flow paths
 - Tectonic (seismic) processes
 - Peat settlement processes
- Accurate definition of land drainage catchments and systems
- Provision of spatial information that reflects the general state of the environment (e.g. urban, infrastructure, upper catchment, floodplain and coastal information)
- Determination of range of key features
 - Building footprints, outlines and heights
 - Height critical assets such as flood protection stopbank crests. Also used to identify areas/ issues so targeted assessments can be done
- Information to support the management of district infrastructure (e.g. road, stormwater and wastewater)
- Storm and sewer scheme investigations
- Surface analyses (raster/vector)
 - Slope
 - Aspect
 - Curvature
 - Viewsheds
 - 3D models
 - Grids
 - Contours
 - Visualisation 2D and 3D

Acknowledgements

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