



What is LiDAR?

LiDAR stands for Light Detection And Ranging. A LiDAR instrument transmits an intense laser light at an object and detects the laser light reflected back from the object to determine the range from the instrument to the object. A LiDAR flown in an aircraft is an extremely cost effective method of measuring detailed height data relating to the ground and features on the ground. It is ideal for generating digital terrain models and contours, and mapping infrastructure such as power-lines, and corridors for proposed pipeline, rail and road routes.

What is the Climate Futures LiDAR Dataset?

The Climate Futures LiDAR Dataset is new high-resolution digital elevation information captured using LiDAR technology. The dataset will be used to generate topographic maps along the Tasmanian coast with 25 centimetre contours up to 10 metres above sea level. The data covers priority areas of the coastline where life, property and communities may be affected by coastal inundation and storm surges associated with projected rising sea levels and changing weather patterns.

How will the Climate Futures LiDAR Dataset be used?

High-resolution height data can be used by researchers, planners and local government to identify and assess areas that may be affected by or vulnerable to sea level rise, sea inundation, storm or tidal surges. Good quality digital elevation mapping is fundamental to developing appropriate land use planning decisions, building codes, policies and communications. High quality digital elevation mapping can also be used for accurate modelling and emergency response planning.

Who collected the Climate Futures LiDAR Dataset?

Digital Mapping Australia (DiMAP) collected the LiDAR data for the Antarctic Climate & Ecosystems Cooperative Research Centre (ACECRC), as part of the Climate Futures for Tasmania project. The dataset was funded primarily by the Tasmanian Government, through the State Emergency Service and the Commonwealth Natural Disaster Mitigation Program. Extra areas were covered with additional funding from Mineral Resources Tasmania. DiMAP also coordinated the collection of the LiDAR data with other work they were doing in Tasmania – resulting in a very cost-effective outcome for Tasmania.

How accurate is the Climate Futures LiDAR Dataset?

DiMAP checked the digital elevation dataset in detail to the 10-metre contour. Contour mapping generated from this dataset is accurate to ± 25 cm. However, the data should not be relied upon as a substitute for professional site-specific surveying. Additional data above the 10-metre contour was also collected but has not been as carefully checked. Users who are interested in improving the quality of the additional data can contact DiMAP:

service@dimap.com.au

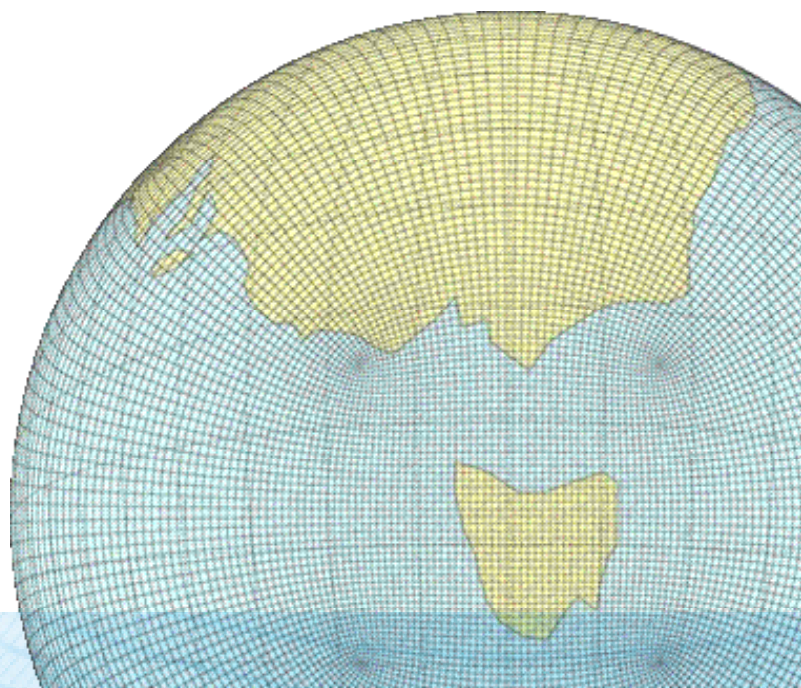
How can I use the Climate Futures LiDAR Dataset?

The LiDAR data and basic overlays can be viewed and generated on-line via 'TheLIST' - the Land Information Service Tasmania that is the Tasmanian Government's web-based spatial information service. However, because of the size and complexity of the dataset, specialised computer equipment, software and processing knowledge is needed to read and manipulate the large quantities of the data required for specialised research and planning purposes. Users wanting to manipulate large quantities of Climate Futures LiDAR data can contact the Department of Primary Industries and Water to discuss how the data can be best obtained:

listdatasales@dpiw.tas.gov.au

The Climate Futures for Tasmania project team is keen to hear about how the dataset is used and would welcome enquiries to:

climatefutures@acecrc.org.au





Technical Specifications

Data captured between 'mean low watermark' and the 10-metre contour.

- Horizontal Accuracy: ±25 cm
Vertical Accuracy: ± 25 cm
Point Density: ≥ 1 per metre
Information tiles: 1 km x 1 km tiles with 50 m overlap
Number of tiles: more than 4,200
Formats Available: ArcInfo Grid, ASCII point, tiff
More than 500Gb of data

Project Fast Facts

- Manager: ACE CRC
Cost: \$350,000
Total Area Covered: 4,200 km²
Funding Providers: Tasmanian State Emergency Service, Natural Disaster Mitigation Program, Department of Primary Industries and Water, Mineral Resources Tasmania, Clarence City Council, Cradle Coast NRM, Hydro Tasmania, Commonwealth Environment Research Facilities

Who owns the Climate Futures LiDAR Dataset?

The LiDAR Dataset was commissioned by the Antarctic Climate & Ecosystems Cooperative Research Centre (ACECRC) and is freely available in the public domain via 'TheLIST'. The dataset has been lodged with the State Government of Tasmania, through the Department of Primary Industries and Water.

The intellectual property rights in the Climate Futures LiDAR Dataset belong to the Antarctic Climate & Ecosystems Cooperative Research Centre. However, the Antarctic Climate & Ecosystems Cooperative Research Centre grants to every person a permanent, irrevocable, free, Australia wide, non-exclusive licence (including a right of sub-licence) to use, reproduce, adapt and exploit the Intellectual Property Rights in the dataset for any purpose, including a commercial purpose.

Users are requested to acknowledge the dataset by including the following statement in their materials.

The LiDAR Dataset was collected as part of the Climate Futures for Tasmania project; a project managed and delivered by the Antarctic Climate & Ecosystems Cooperative Research Centre. The dataset was funded primarily by the State Government of Tasmania through the State Emergency Service and the Commonwealth Natural Disaster Mitigation Program.

Project Contacts

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