ANTARCTIC CLIMATE & ECOSYSTEMS COOPERATIVE RESEARCH CENTRE

climate futures for tasmania

local climate information for local communities

fact sheet 1: LiDAR Dataset

What is the Climate Futures LiDAR Dataset?

The Climate Futures LiDAR Dataset is new high-resolution digital elevation information that can be used to generate topographic maps with 50 centimetre contours up to 10 metres above sea level. The data covers priority areas of Tasmanian 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.

What will the Climate Futures LiDAR Dataset be used for?

High-resolution data can be used by researchers, planners and local government to identify and assess areas that may be affected or vulnerable to sea level rise, sea inundation, storm or tidal surges. Good quality digital elevation mapping (DEM) 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 planning.

Who collected the Climate Futures LiDAR Dataset?

Digital Mapping Australia (DiMAP) collected the LiDAR data for the Antarctic Climate & Ecosystems Cooperative Research Centre (ACE CRC), 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 Natural Disaster Mitigation Program. Extra areas were covered with additional funding from Mineral Resources Tasmania. DiMAP also coordinated the collection of LiDAR data with other work they were doing for Forestry Tasmania – resulting in a very cost-effective outcome for Tasmania.

How was the Climate Futures LiDAR Dataset collected?

The high-resolution data was collected using LiDAR technology. LiDAR stands for Light Detection And Ranging and is an instrument that uses an intense laser light transmitted at an object and detects the laser light reflected by the object. It is reportedly the most cost effective method of capturing detailed height data, of the ground, and of features on the ground. It is ideal for generating digital elevation models and contours, and mapping infrastructure such power-lines, and corridors for proposed pipeline, rail and road routes.

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 the dataset is accurate to +/-25cm. The data should not be relied upon as a substitute for professional site-specific surveying. If users are interested in improving the quality of the data above the 10-metre contour, they should contact DiMAP at:

service@dimap.com.au.

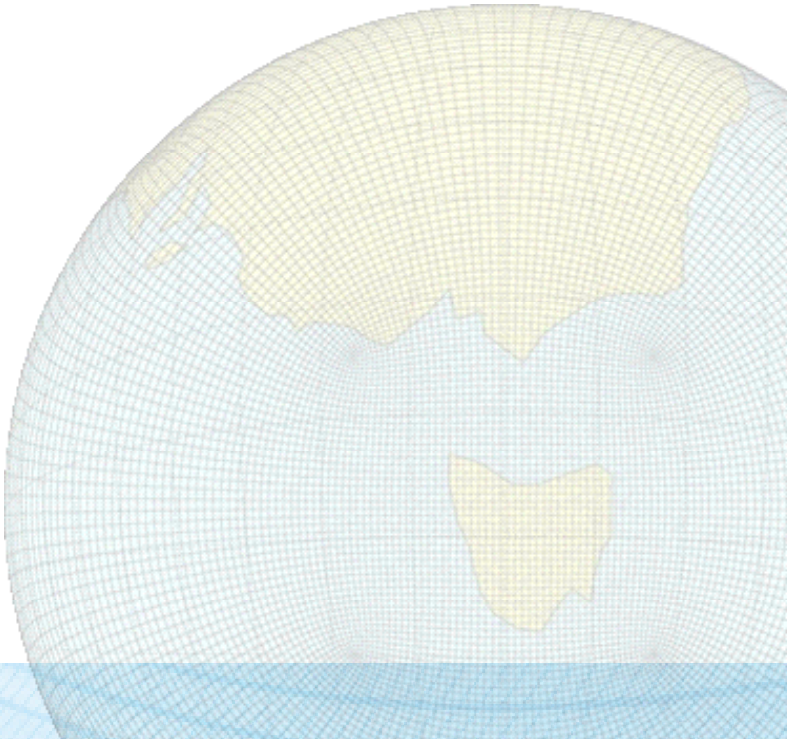
How can I use the Climate Futures LiDAR Dataset?

Through 'TheList' (www.thelist.tas.gov.au), basic overlays can be generated and viewed on-line. However, because of the size and complexity of the dataset, specialised computer equipment, software and processing knowledge is needed to read and manipulate large quantities of the data for specialised research and planning purposes. If you wish to use large quantities of the data, please contact the Department of Primary Industries and Water to discuss how the data can be obtained.

listdatasales@dpiw.tas.gov.au

The Climate Futures for Tasmania project is keen to hear about how the data is used and would welcome advice to:

climatefutures@acecrc.org.au



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Technical Specifications

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

Horizontal Accuracy:	+/-25cm
Vertical Accuracy:	+/- 25cm
Point Density:	>= 1/m
Information tiles:	1km x 1km tiles with 50m overlap
Number of tiles:	morethan4,200
Formats Available:	ASCII XYZ files ESRI ASCII Grid Georeferenced tif

Project Fast Facts

Project Manager:	ACE CRC
Project Cost:	$350,000
Total Area Covered:	4,200km^2
Project Funding Providers:	
	Tasmanian State Emergency Service
	National Disaster Mitigation Program
	Mineral Resources Tasmania

Who owns the Climate Futures LiDAR Dataset?

The LiDAR dataset was commissioned by the Antarctic Climate & Ecosystems Cooperative Research Centre (ACE CRC) and is freely available to the public domain via 'The List'. The dataset has been lodged with the State Government of Tasmania through the Department of Primary Industries & 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.

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