



Toitū Te Whenua
Land Information
New Zealand

Mapping New Zealand's Seafloor

5th South and West Pacific Regional Mapping Community Meeting

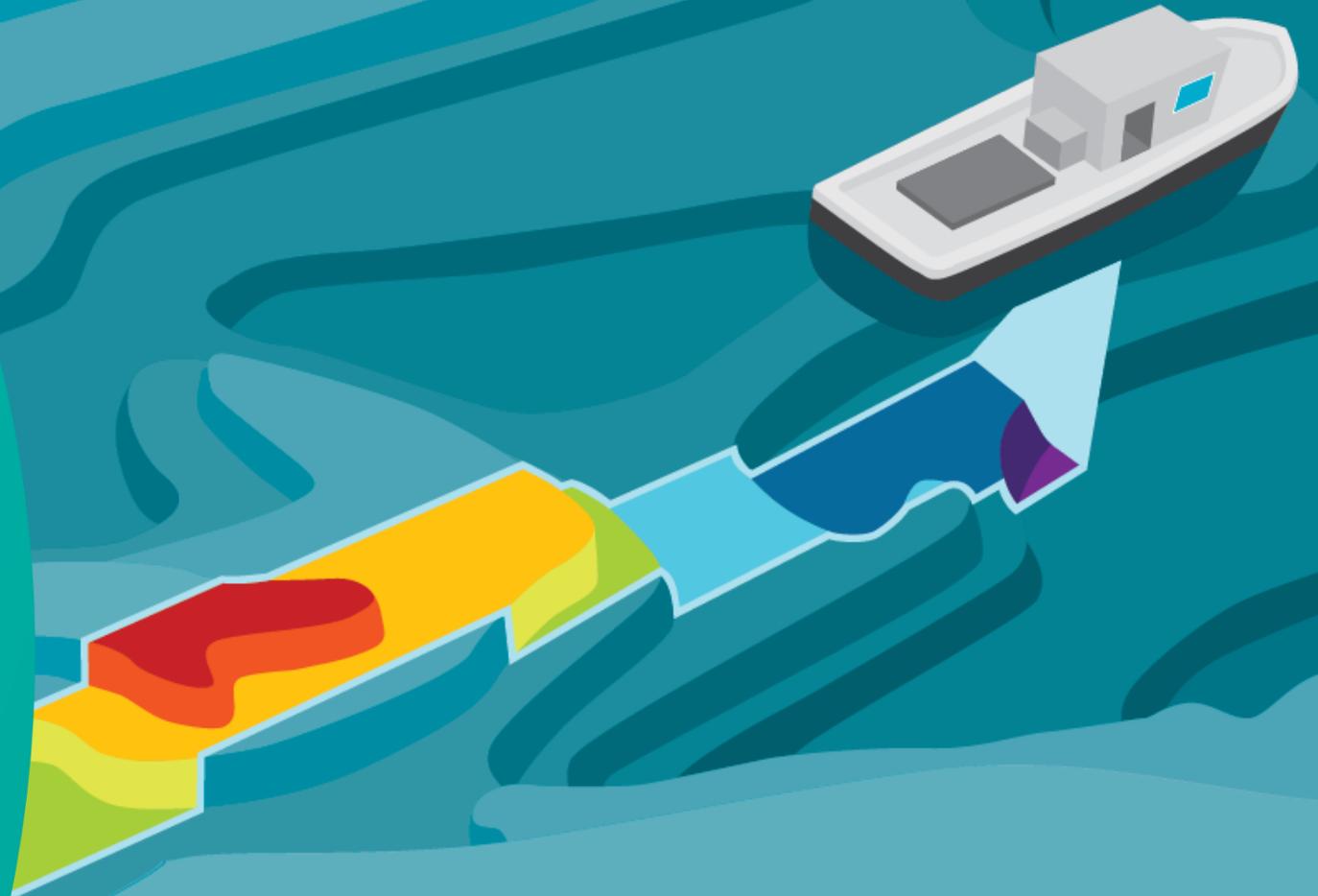
New Zealand Hydrographic Authority

Stuart Caie, Manager Hydrographic Survey

12-14 July 2023



New Zealand Hydrographic Authority

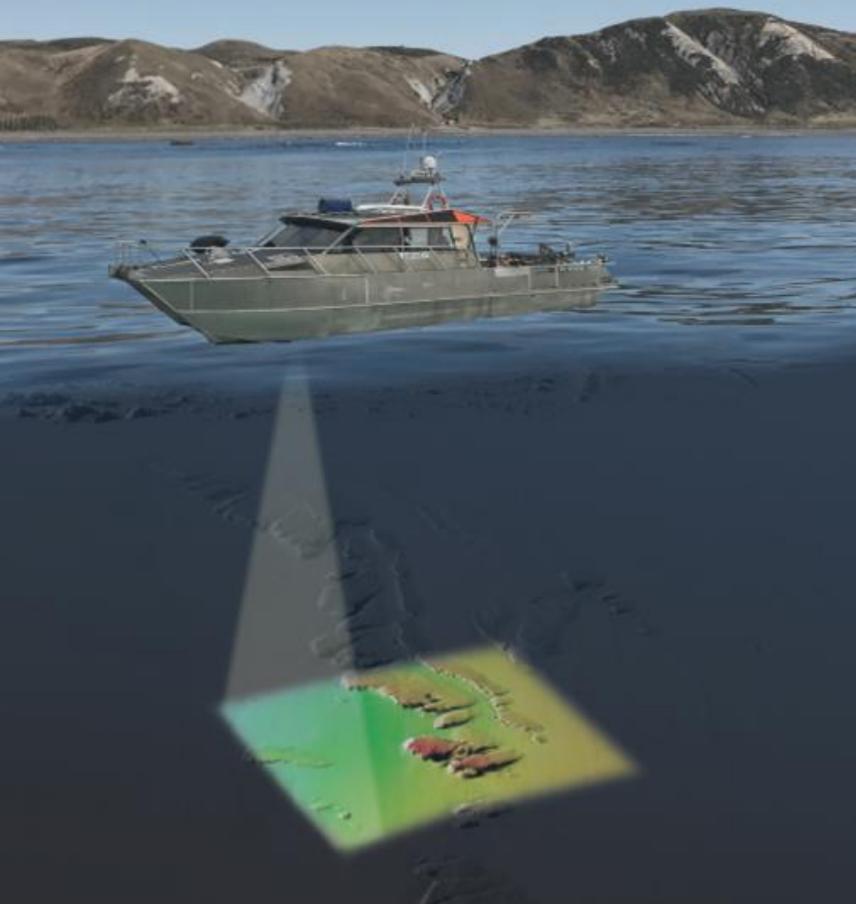


Area of charting responsibility

Survey coverage



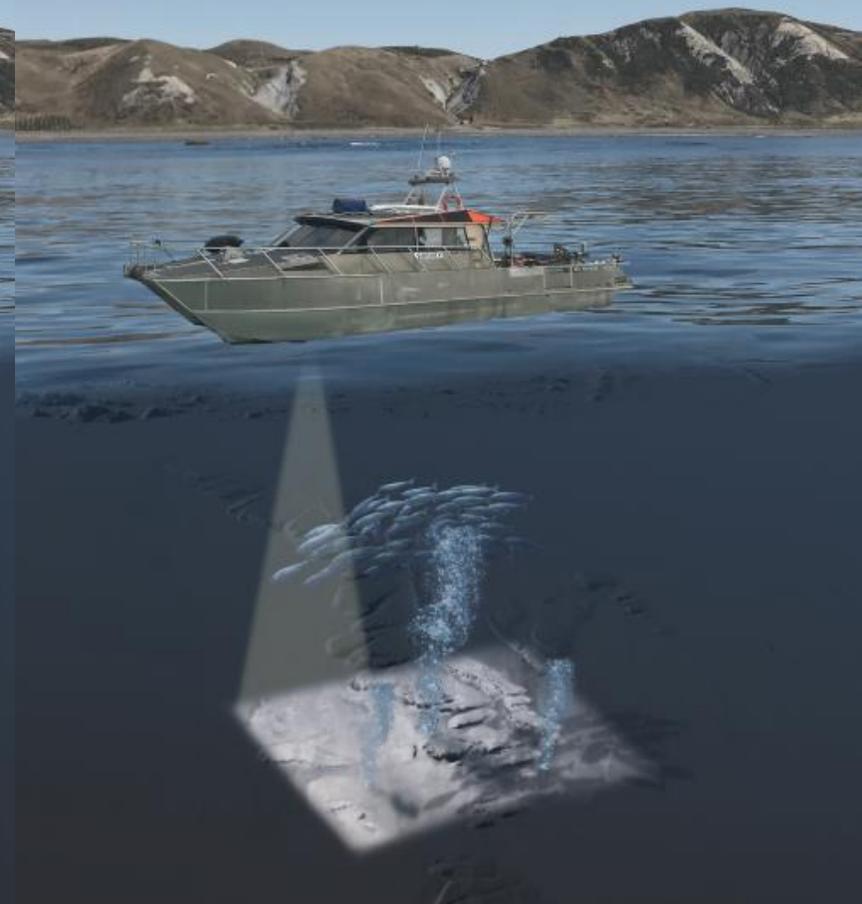
More than bathymetry



Bathymetry



Seafloor backscatter



Water column backscatter

Partnerships for greater outcomes

Bathymetry Map

The shape and depth of the seafloor was determined by multibeam echo-sounder sonar technology over 43,300 hectares by the National Institute of Water & Atmospheric Research (NIWA) and Discovery Marine Limited (DML).

These data collectively illustrate the seafloor diversity and complexity over the entire expanse of this iconic coastal area. A sun-illuminated digital elevation model produced from a 2 metre gridded surface was overlain on hillshaded relief to improve the depth visualisation. Depth contours are also shown.

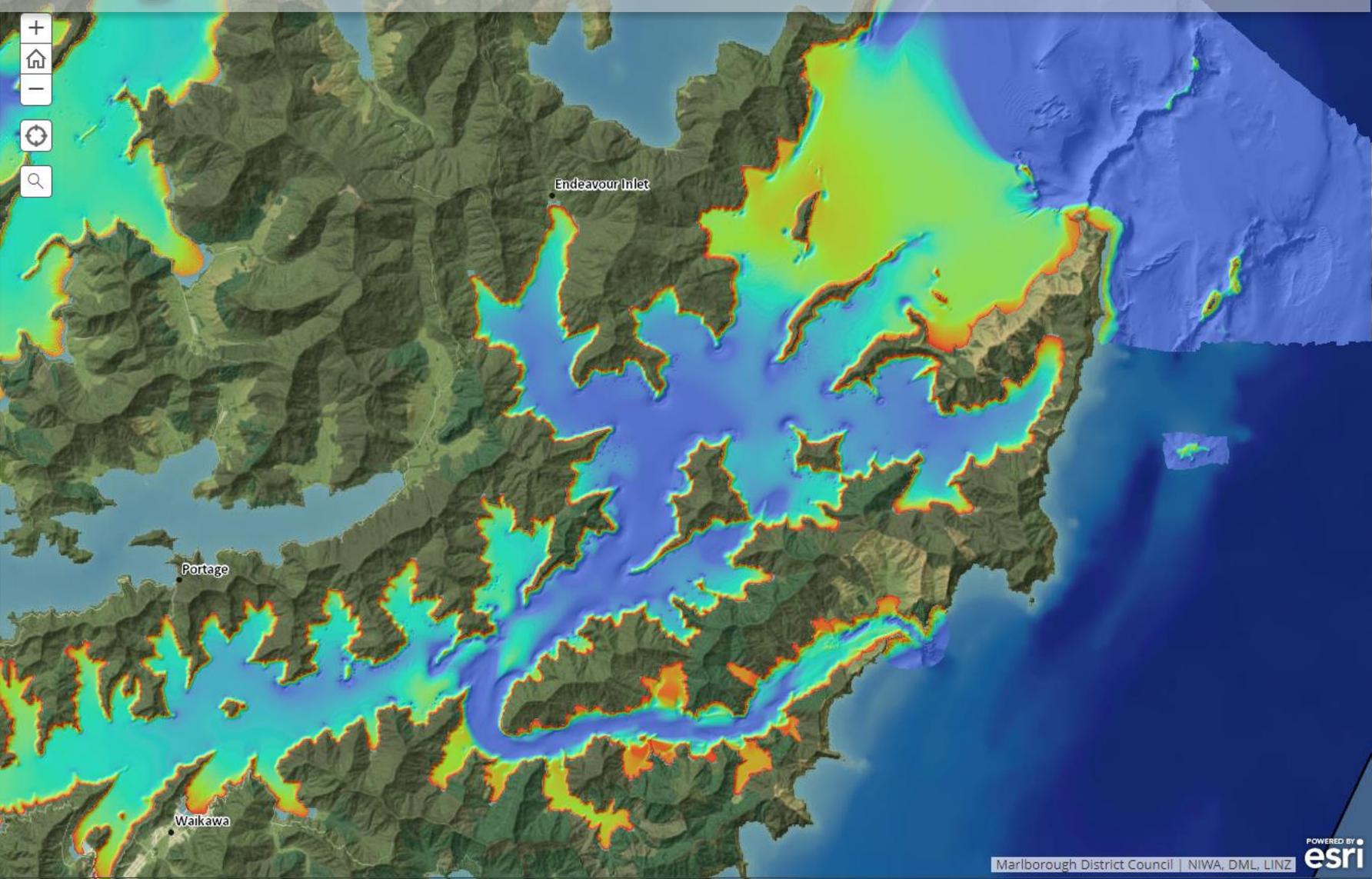
Click on the map to get the water depth at that point.

[Tory Channel/Kura Te Au](#)

The powerful tidal forces have scoured out the main channel which ranges in depth from 42-67 metres. The marginal bays are much shallower and have shoals across their entrances.

[Endeavour Inlet](#)

Steep sided with depths ranging from 50m at the entrance to 35 m near the heads of the bay. The inlet shoals steadily at its head to a very shallow and expansive tidal platform.



surface index

Showing 1-20 of 782

NZ Bathymetric Surface Model Index ☆
Land Information New Zealand
CC-BY
🕒 3 Aug 2022
👁 26.8K ↓ 247 **Map ×**

Polygon Layer
616 Polygons

Antarctic Bathymetric Surface Model Index ☆
Land Information New Zealand
CC-BY
🕒 29 Jun 2022
👁 20.3K ↓ 19 **Map +**

Polygon Layer
228 Polygons

NZ Bathymetric Surface Model Index - Third Party ☆
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🕒 3 Nov 2022
👁 21.5K ↓ 78 **Map ×**

Polygon Layer
127 Polygons

2 layers, New Zealand [🔗](#) Find address or place [▶ Contents](#) **Export**



2 layers
New Zealand

Showing 1-20 of 782



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Polygon Layer
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Map ×



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Polygon Layer
228 Polygons

Map +



NZ Bathymetric Surface Model Index - Third Party ☆

Land Information New Zealand

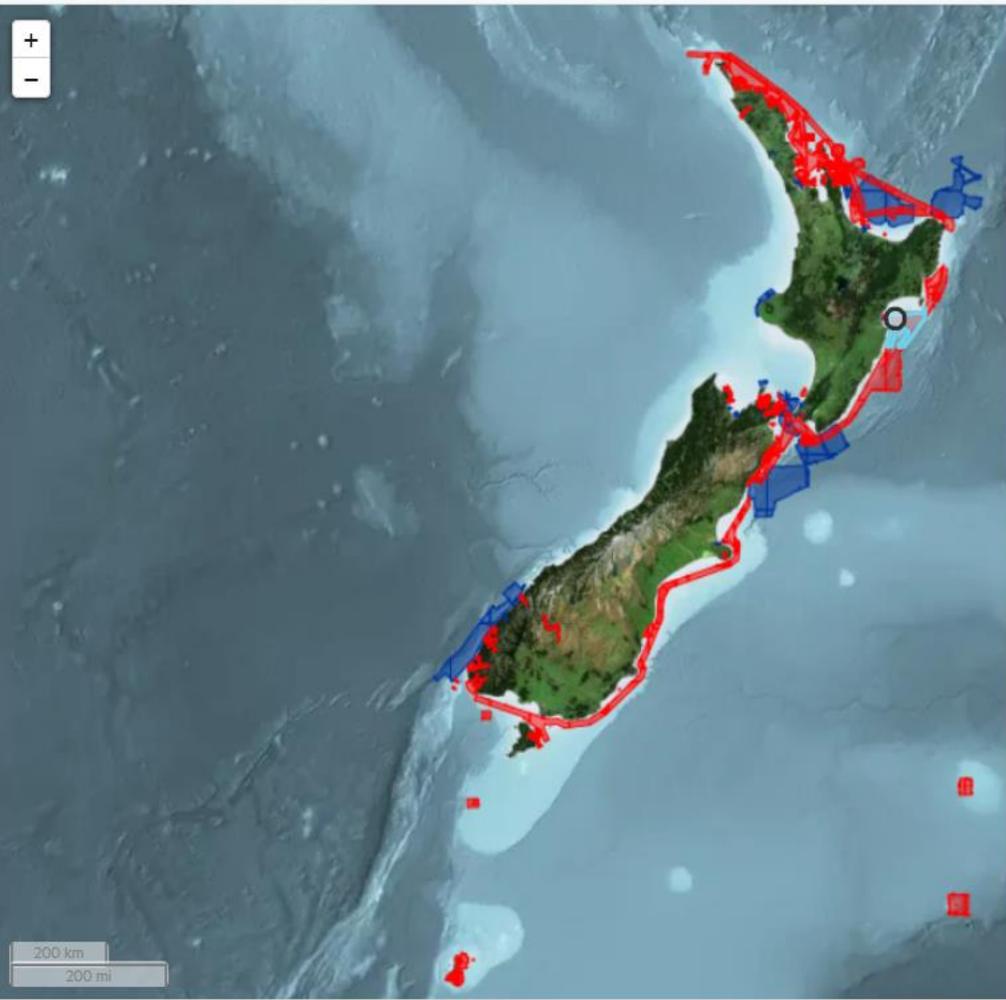
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🕒 3 Nov 2022

👁️ 21.5K ↓ 78

Polygon Layer
127 Polygons

Map ×



NZ Bathymetric Surface Model Index			id	2000170
	id	chart_no	chart_no	23
×	2000170	23	serial_no	715-749,784-808,914-933,952-976,977-1004,1013-1037
	2000209	23	serial_no	715-749,784-808,914-933,952-976,977-1004,1013-1037
			surv_org	LINZ
			category	Public
			surv_title	P1011, Shipping Lane 4 Hydrographic Survey (HYD0512-HS17)
			surv_start	2005-09-18
			surv_end	2010-10-29
			quality	Zone of confidence A1
			scale	50000
			surf_res	10
			sound_acc	0.7
			line_space	
			vert_datum	Lowest astronomical tide
			sound_tech	found by multi-beam
			sss_tech	

200 km
200 mi

Search bathy index

Showing 1-20 of 643

Polygon Layer
199 Polygons
CC-BY
16 Jun 2023
39.9K ↓ 1K
Map +

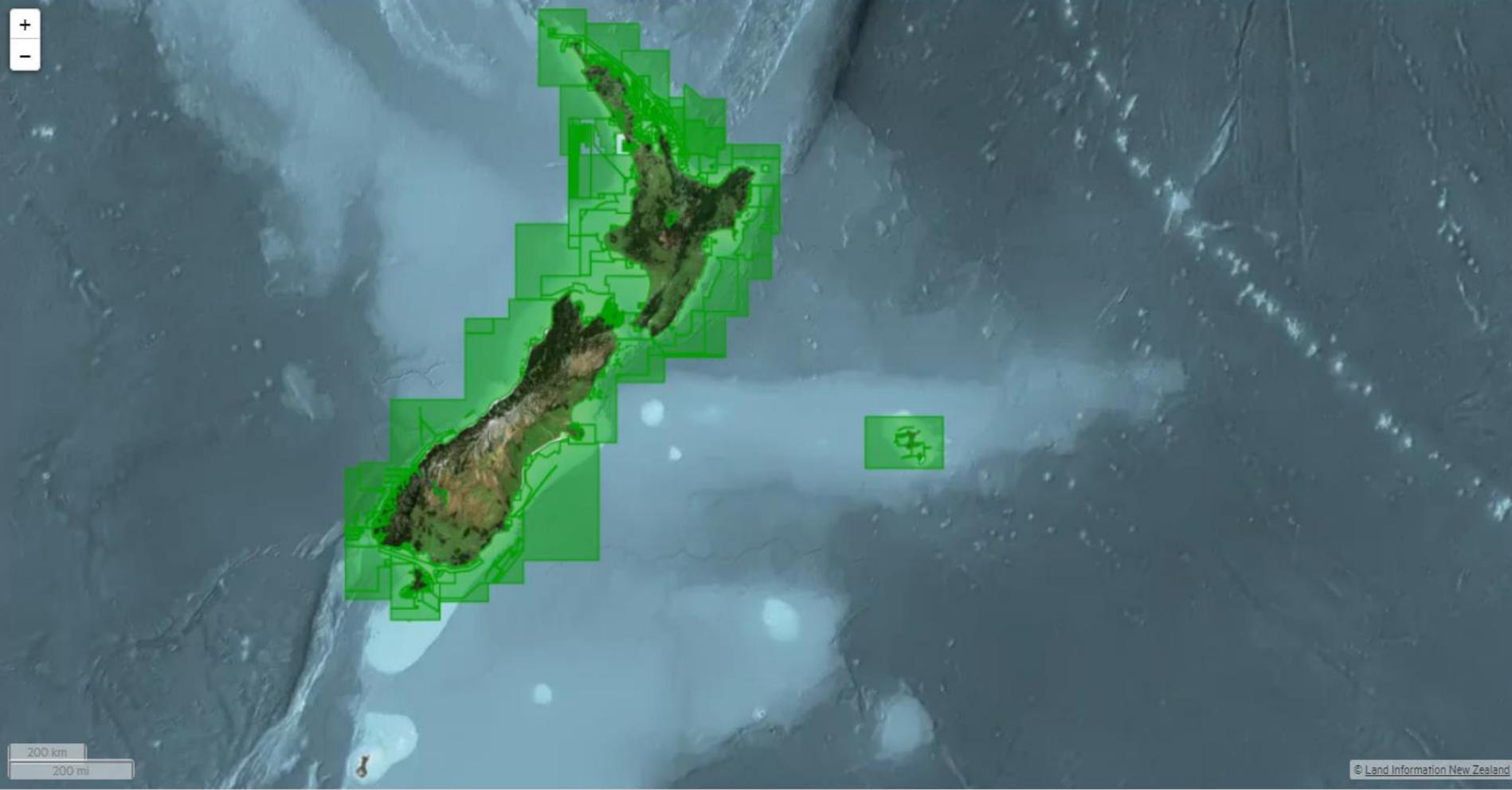
NZ Bathymetric Data Index ☆
Land Information New Zealand
CC-BY
3 Nov 2022
40.7K ↓ 683
Map x

Waikato LiDAR Index Tiles (2021) ☆
Land Information New Zealand
CC-BY
28 Jun 2023
912 ↓ 19
Map +

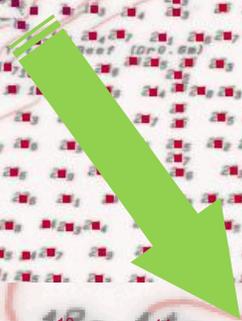
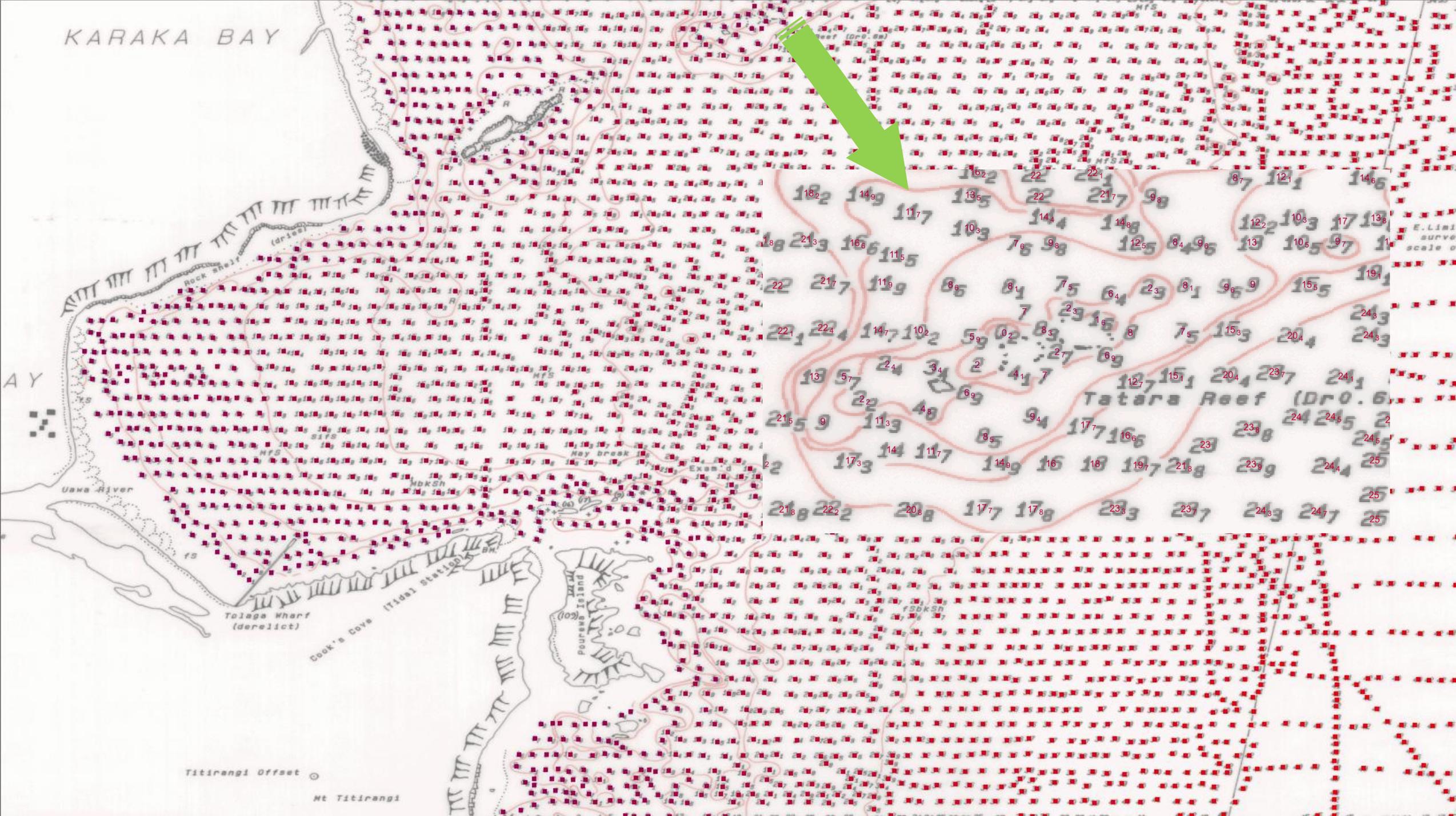
Taranaki LiDAR Index Tiles (2021) ☆
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NZ Bathymetric Data In... x +
New Zealand

NZ Bathymetric Data Index, New Zealand [Share](#)
Find address or place
Contents
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KARAKA BAY



Approximate depth soundings (in meters) from the chart:

182	149	117	135	22	217	98	87	121	146
18	213	166	115	103	76	96	125	84	96
22	217	119	86	81	75	64	23	81	96
221	224	147	102	59	02	83	23	16	8
13	57	24	34	2	41	7	127	151	204
215	9	113	48	69	94	177	166	23	238
2	173	14	117	85	149	16	18	197	218
218	222	208	177	178	233	237	243	247	25

Layers

- ▶ IHO DCDB/NOAA NCEI ?
- ▶ EMODnet
- ▶ Australia
- ▶ Canada
- ▶ France
- ▶ Germany
- ▶ Japan
- ▶ Netherlands
- ▼ New Zealand
 - LINZ Bathymetric Data Index ?
 - LINZ Bathymetric Surface Model Index ?
- ▶ Norway
- ▶ Portugal
- ▶ United Kingdom
- ▶ Other Data Sources
- ▶ Known Non-Public Data ?
- ▶ Bathymetric Coverage Maps

Grid Extract

More Information

Help

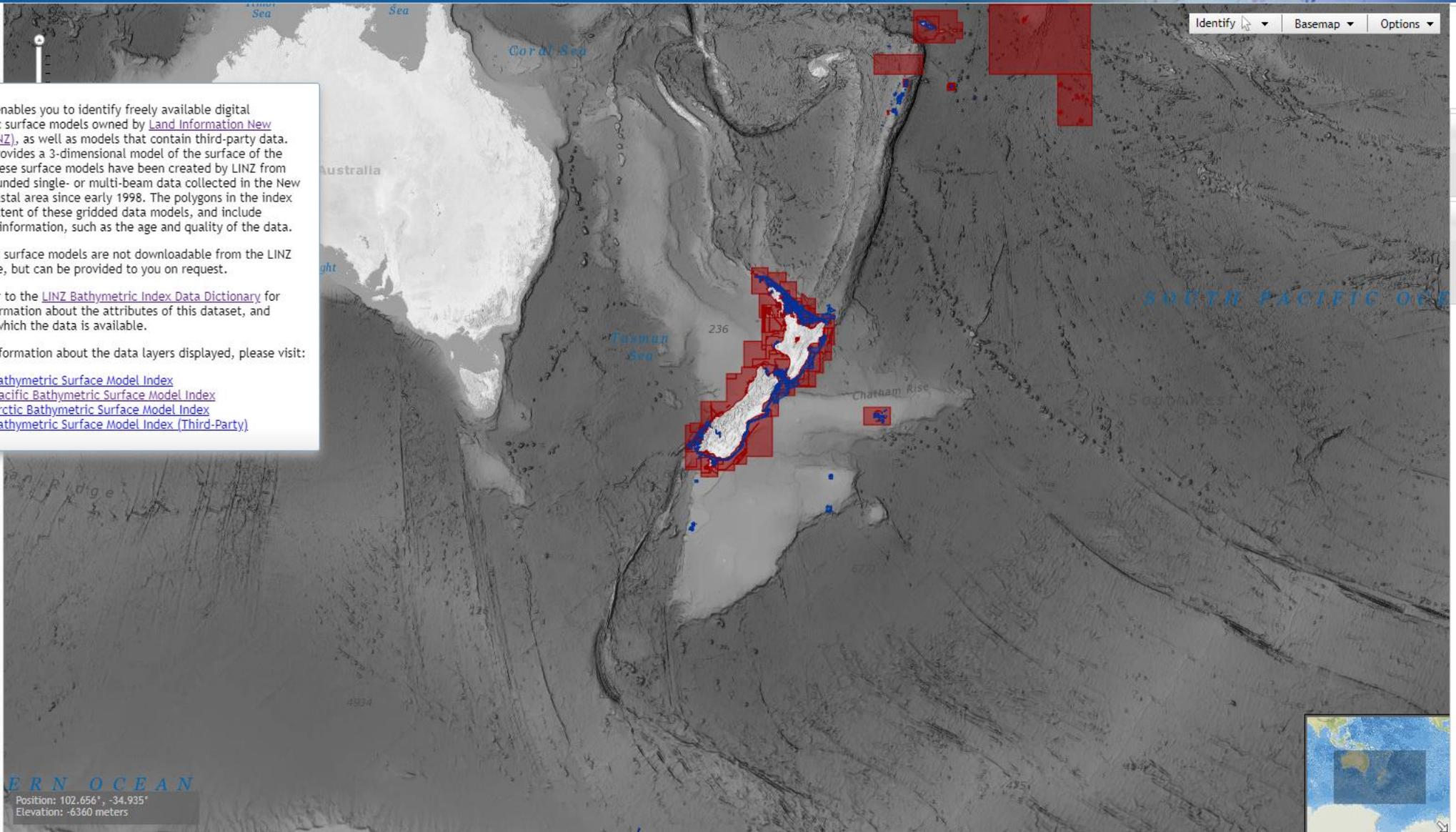
This index enables you to identify freely available digital bathymetric surface models owned by [Land Information New Zealand \(LINZ\)](#), as well as models that contain third-party data. This data provides a 3-dimensional model of the surface of the seafloor. These surface models have been created by LINZ from publically funded single- or multi-beam data collected in the New Zealand coastal area since early 1998. The polygons in the index show the extent of these gridded data models, and include descriptive information, such as the age and quality of the data.

The gridded surface models are not downloadable from the LINZ Data Service, but can be provided to you on request.

Please refer to the [LINZ Bathymetric Index Data Dictionary](#) for further information about the attributes of this dataset, and formats in which the data is available.

For more information about the data layers displayed, please visit:

- [NZ Bathymetric Surface Model Index](#)
- [SW Pacific Bathymetric Surface Model Index](#)
- [Antarctic Bathymetric Surface Model Index](#)
- [NZ Bathymetric Surface Model Index \(Third-Party\)](#)



Identify ▾ Basemap ▾ Options ▾

Mercator
Arctic
Antarctic

< **Marine geospatial information**

Finding and accessing MGI

Managing and reusing MGI

Marine scientific research

Marine scientific research

Each year New Zealand receives applications from people from other countries seeking to undertake marine scientific research (MSR) in the New Zealand Territorial Sea, Exclusive Economic Zone (EEZ) and Continental Shelf.

The New Zealand Ministry of Foreign Affairs and Trade on behalf of the New Zealand Government receives and manages MSR applications from New Zealanders seeking to undertake MSR in waters under the national jurisdiction of other States, and people from other countries seeking to undertake MSR in New Zealand's Territorial Sea, EEZ and Continental Shelf.

Information about applying for consent to carry out MSR in New Zealand's waters can be found on the Ministry for Foreign Affairs and Trade website(link is external).

Consents granted to applicants to undertake MSR usually contain

Transiting vessels – New Zealand's EEZ

- Now easier to collect **bathymetric data** during **transit** in **NZ's EEZ**
- Marine science research application **not required**
- Toitū Te Whenua Land Information New Zealand authorised to request vessels to activate their seafloor mapping systems during transit
- Submit data to NZ for inclusion in **GEBCO grid**
- If your vessel undertakes transits of NZ's EEZ please contact MSR-NZ@linz.govt.nz for further information and a request to collect bathy data

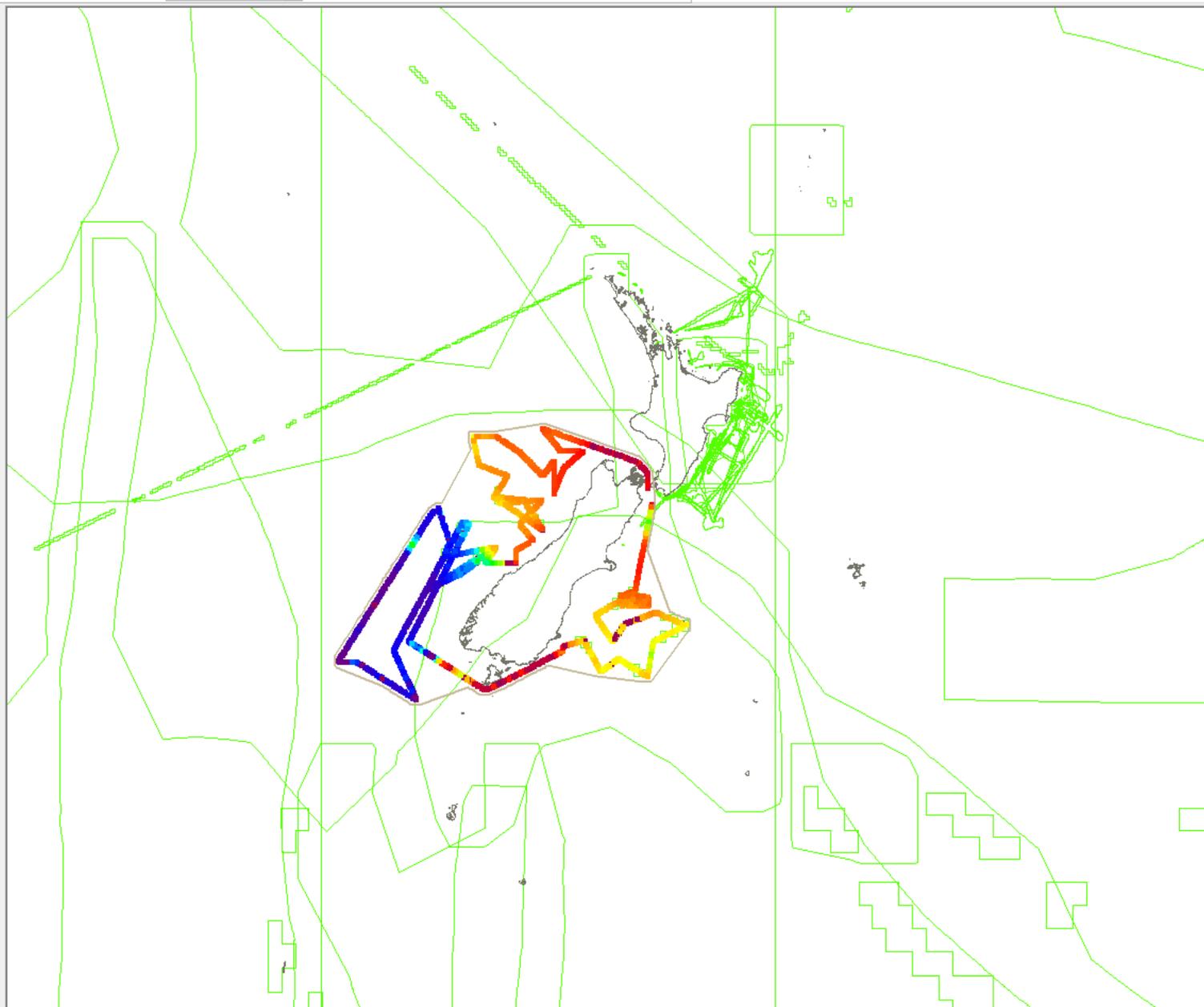
Bluff Harbour, Southland Region.



Layers

Search Layers

- NZHABDB
 - Recycle Bin
 - rfitnc
 - survey
 - surfac
 - prdsur
 - msrsur
- NZ_and_Islands
- 3P_MSR_KNOX02RR_PC_14061-130
- 3P_MSR_RR1002_PC_14061-133



Selection

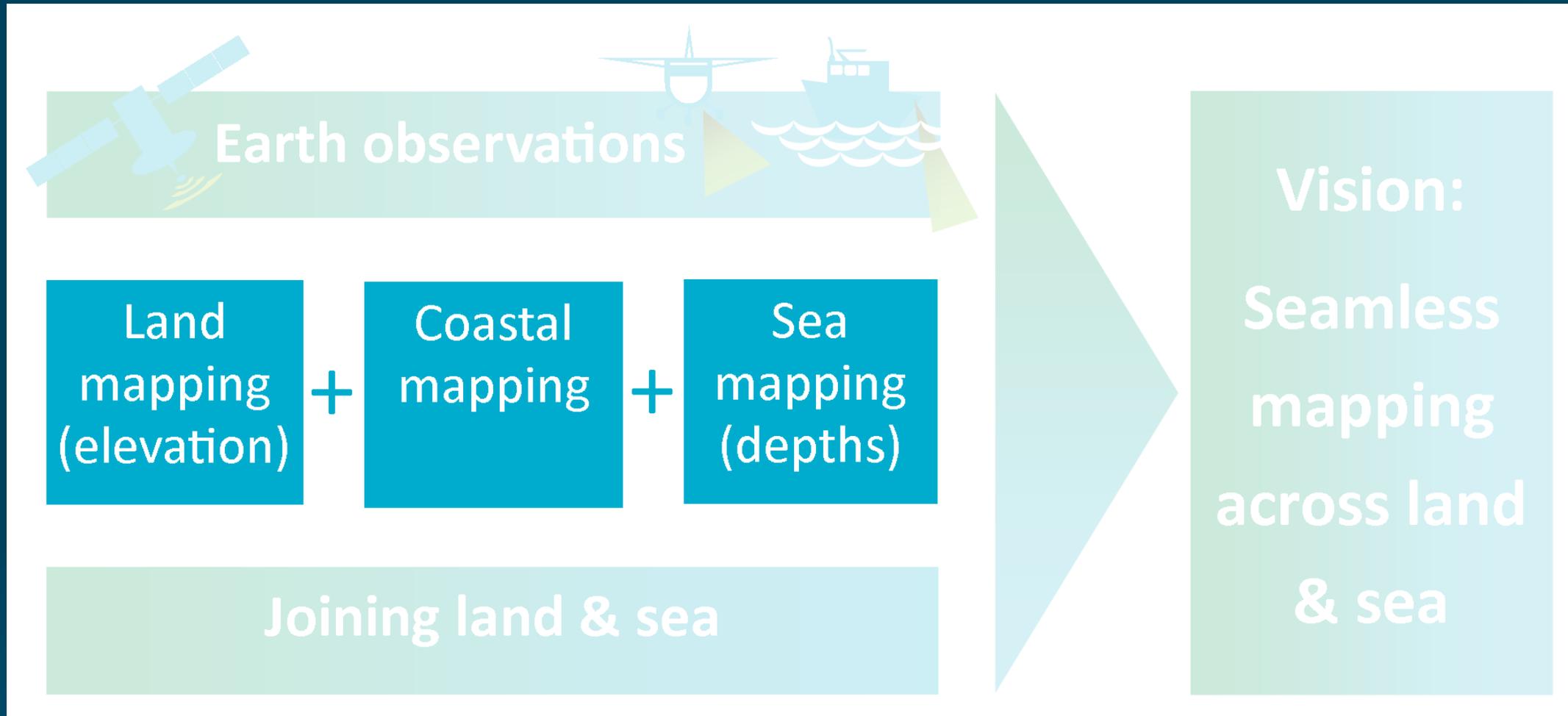
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zone of c...	20220518			

Attributes - msrsur

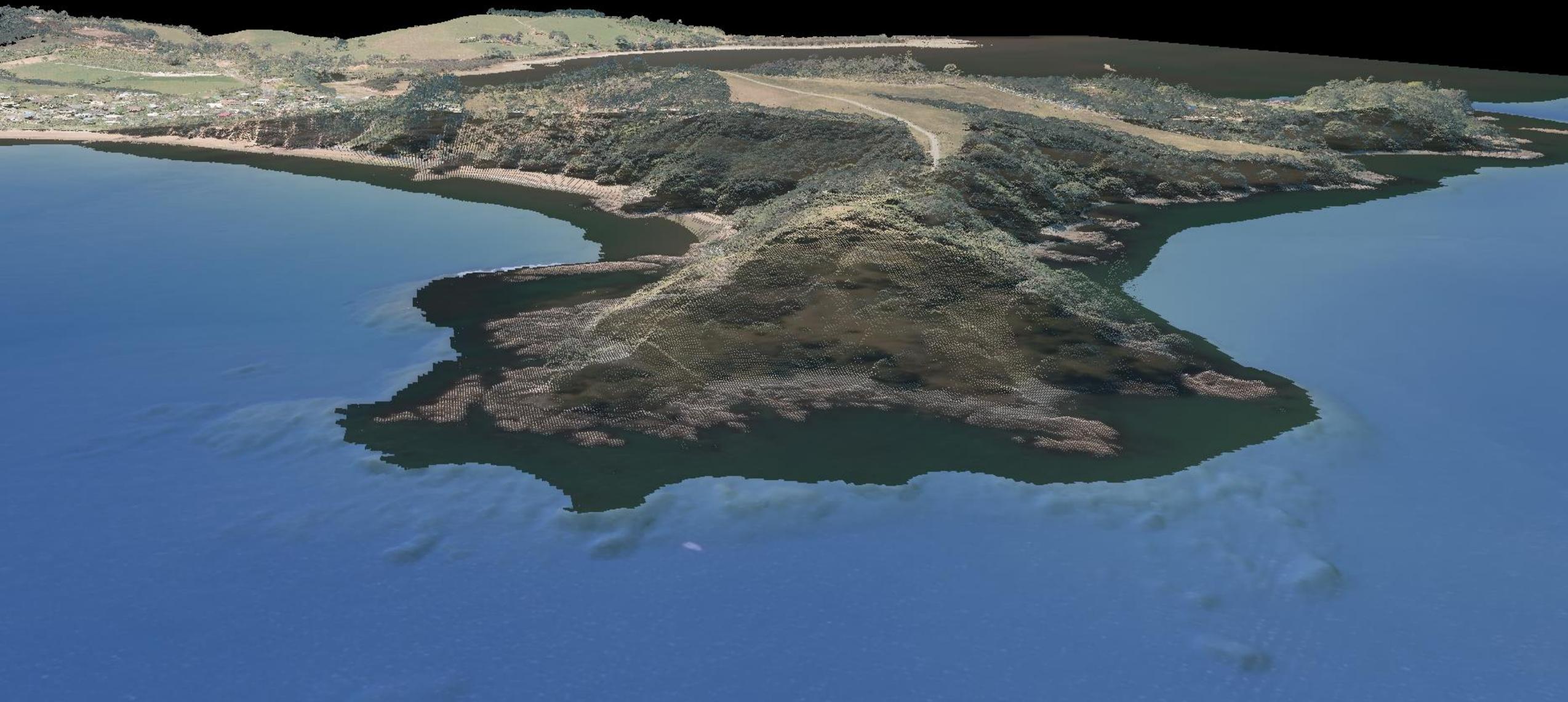
Attributes

Category of zone of confidence in c	zone of confidence C
Compilation date	20220518
Depth range value 1	
Depth range value 2	
Depth units	
Grid identifier	
Horizontal datum	WGS 84
Height/length units	metres
Survey line spacing	
Object name	3P_MSR_RR1002_PC_14061-133
Platform Name	Roger Revelle
Positional accuracy	500.00 m
The scale at which data is rendered	
Sounding accuracy	2.5 m
Category of bathymetric surface	
Status	
The authority responsible for the su	
Survey date - end	20100218
Survey information	Cruise ID RR1002 - https://www.rvdata
Survey date - start	20100126
Survey type	
The horizontal positioning system	WADGNSS
Technique of sounding measureme	found by echo-sounder
Vertical coordinate system	
Vertical datum	
Pictorial representation	
Gridded Surface Method	Swath Angle Weighting
Bathymetric Sensor Frequency	12
Bathymetric Sensor Model	Knudsen 320B/R
Technique of seafloor reflectance	Not collected
Seafloor reflectance processed	No
Sonar system used	Yes
Calibration line available	No
Full sea coverage achieved	False
Category of temporal variation	unassessed
Features detected	False
Significant features detected	False
Least depth of detected features m	False

Mapping NZ 2025



Coastal Mapping



Hihi, Northland – topographic LiDAR and MBES bathymetry

A bathymetric map of Cook Strait, New Zealand, showing depth contours and seafloor topography. The map uses a color scale from light green (shallow) to dark blue (deep). The text "Thank you!" is centered over the map.

Thank you!