

THE NIPPON FOUNDATION-GEBCO

SEABED  
2030

6<sup>TH</sup> SEABED2030 PACIFIC OCEAN MAPPING MEETING  
4-6 NOVEMBER 2024. NADI, FIJI

# Crowdsourced Bathymetry as part of the Modern Hydrographic Toolbox

Belén Jiménez



# Crowdsourced Bathymetry - CSB



Crowdsourced bathymetry

Drones

Aircraft

Satellite

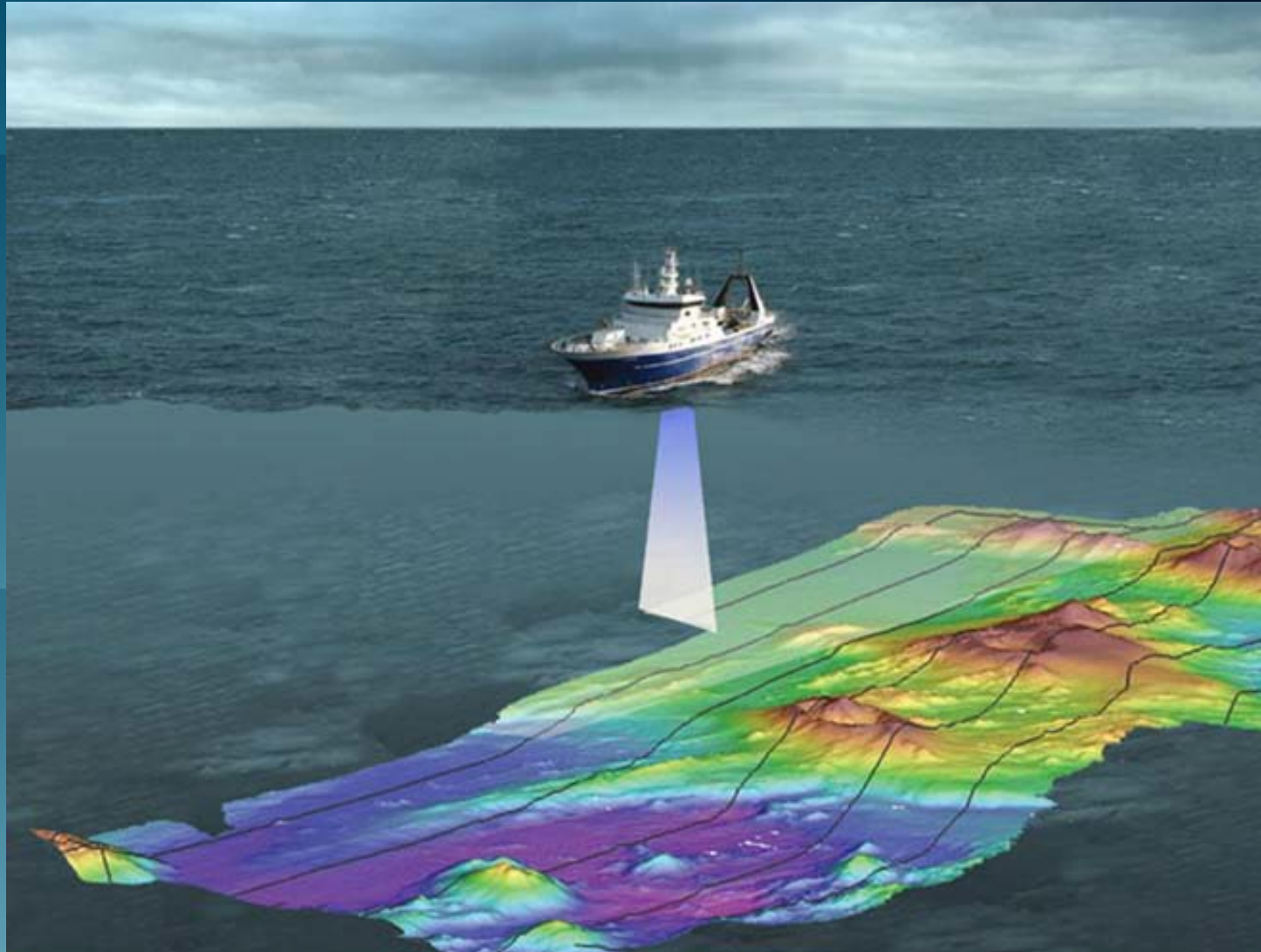
Shipboard

UW's

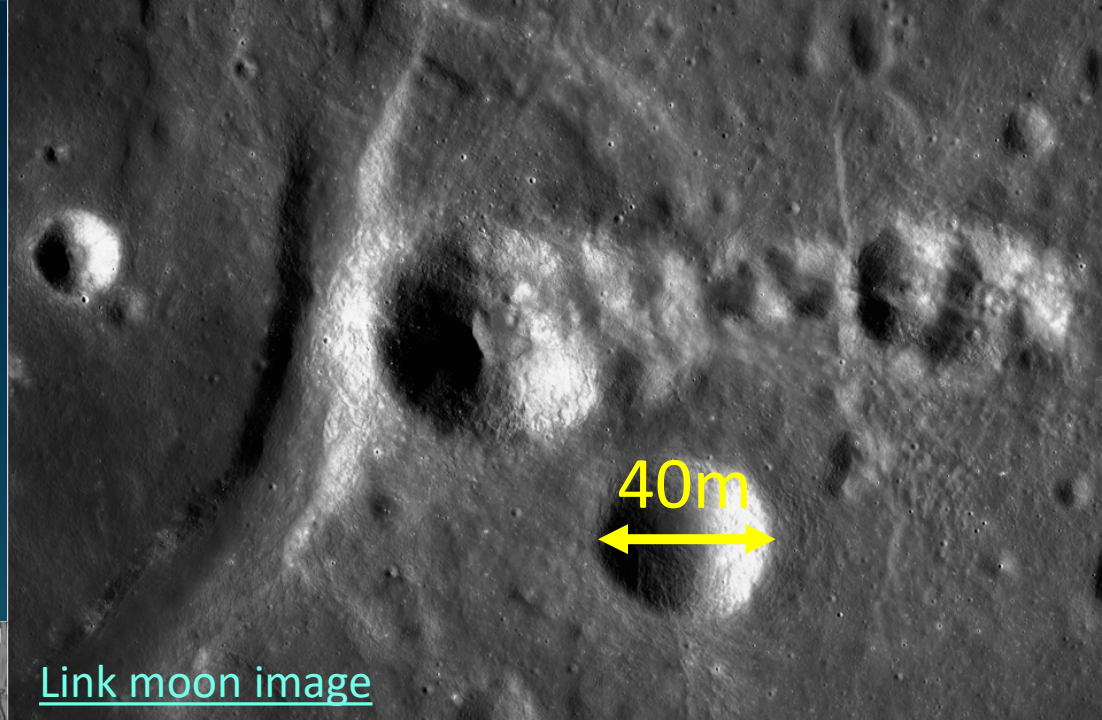
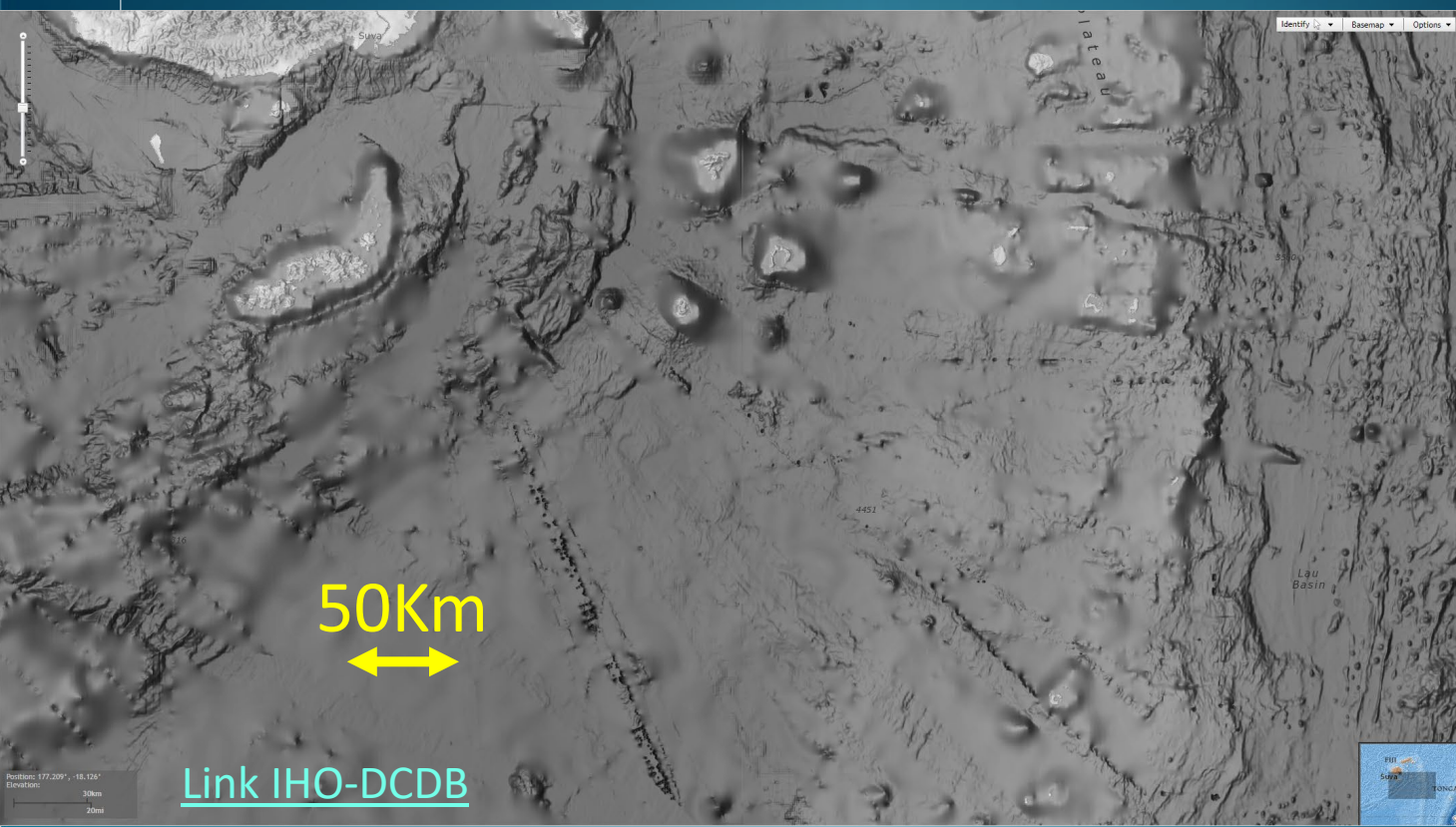
UW's

Crowdsourced bathymetry (CSB) is the collection and sharing of depth measurements from vessels, using standard navigation instruments, while engaged in routine maritime operations.

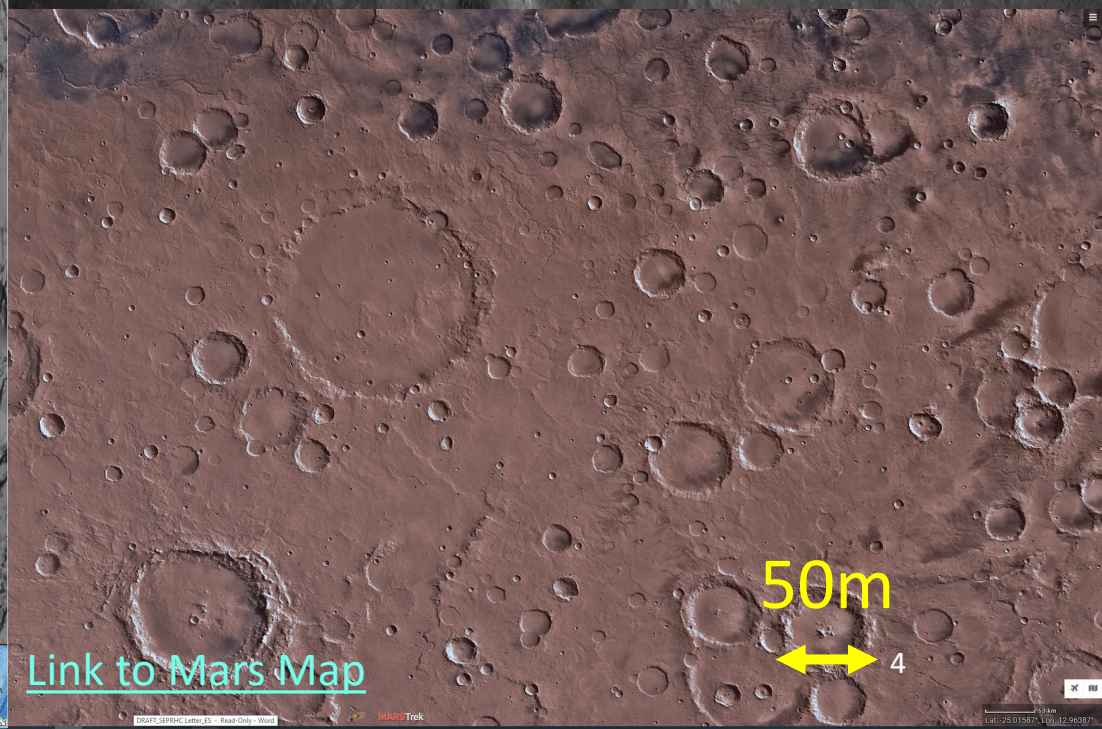
# Is CSB data good enough?



We know the surface of Mars and the Moon better than our own planet

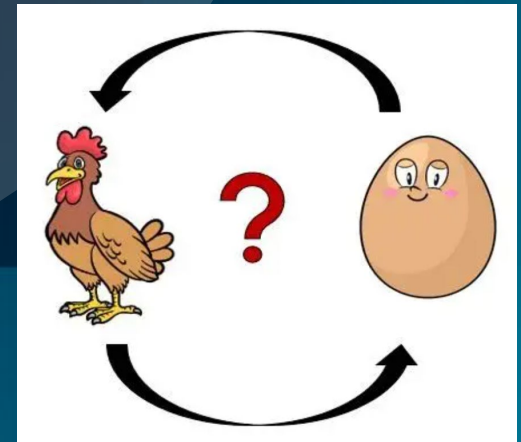


[Link moon image](#)

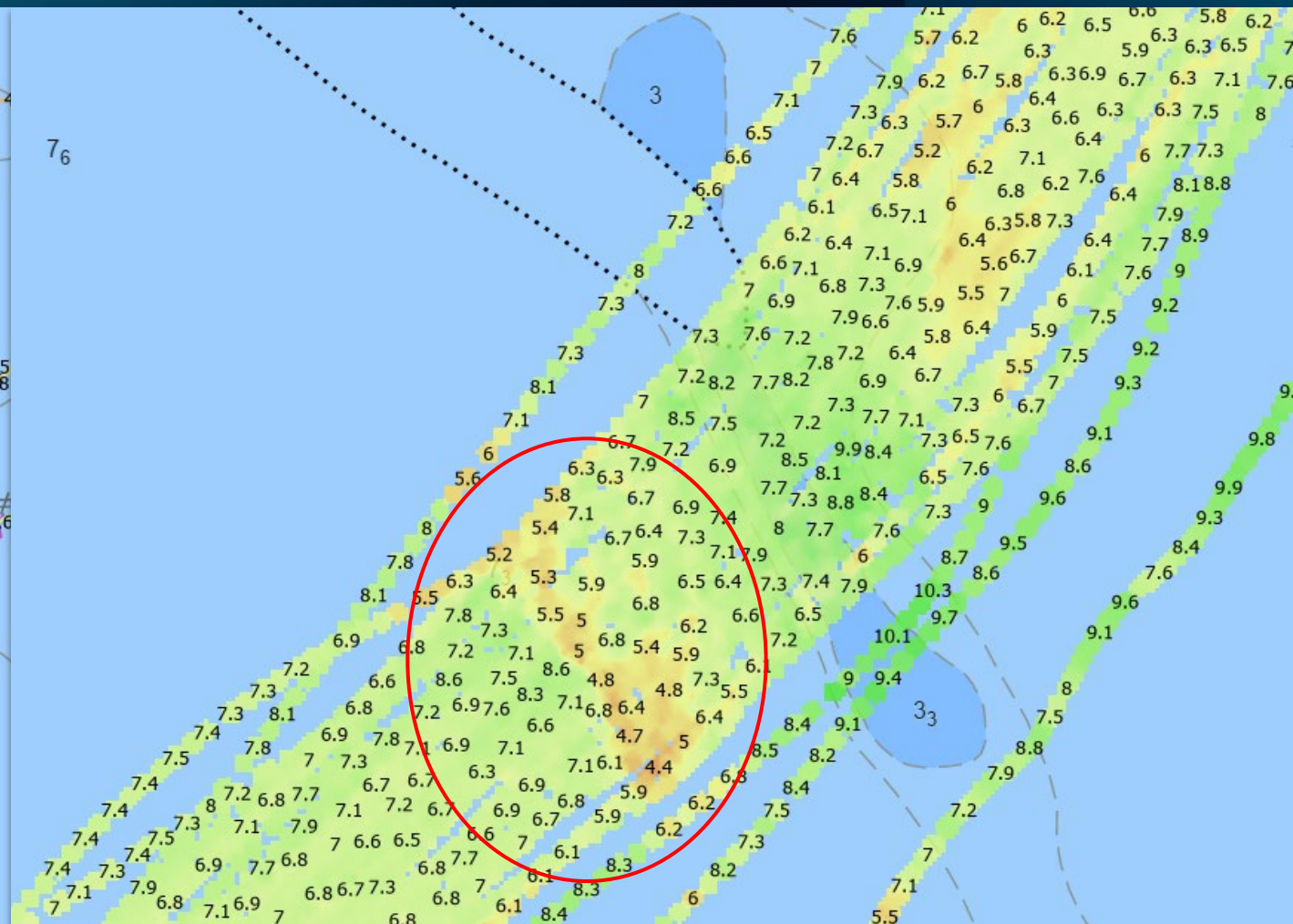
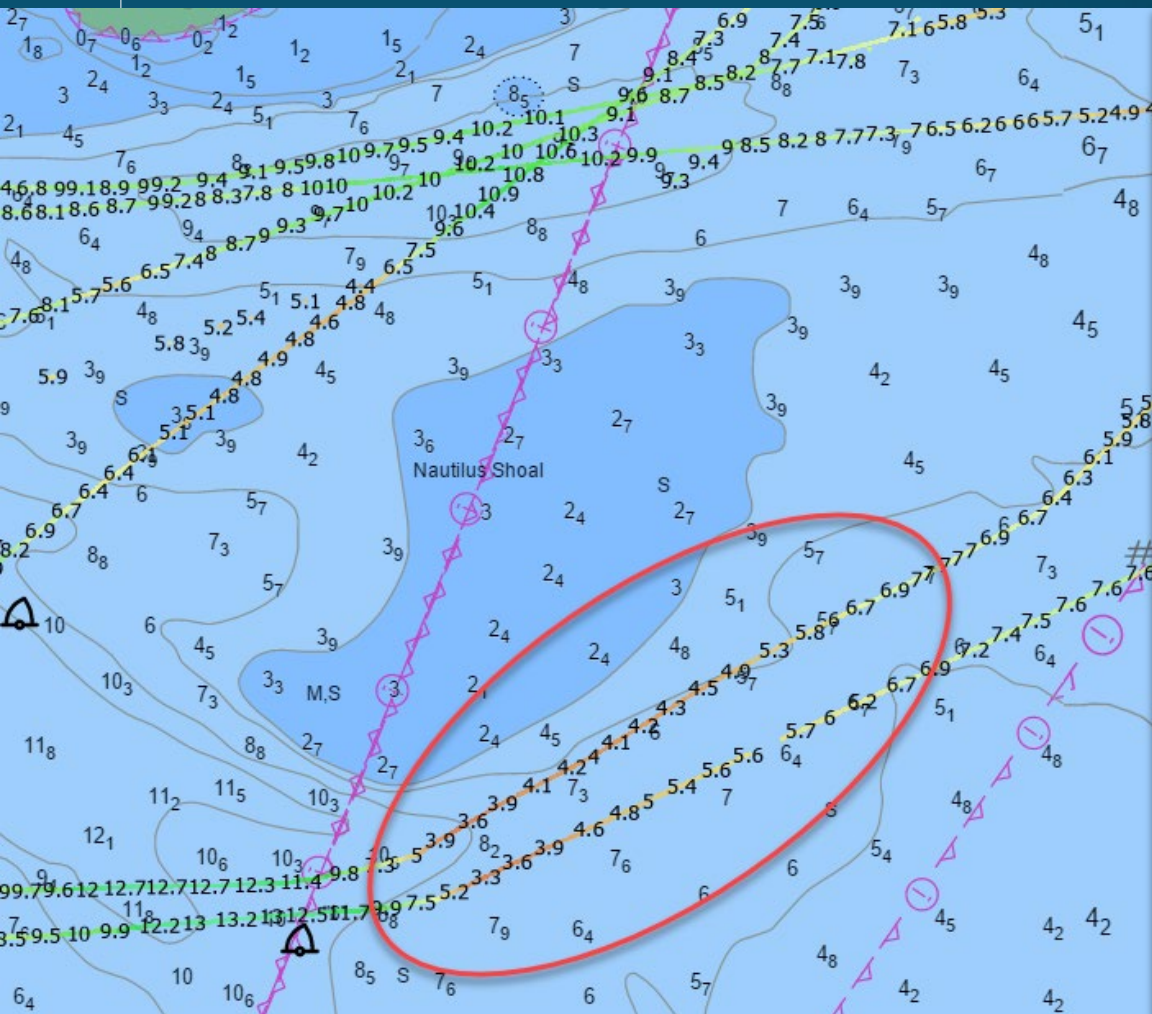


Exploring the  
value of CSB data

Allowing for CSB  
data sharing in  
your country

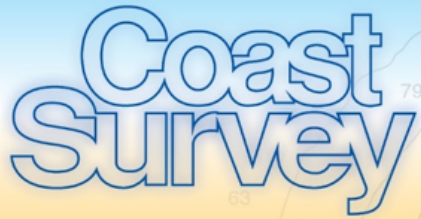


# Examples of the value of CSB



Credit: Anthony Klemm, NOAA

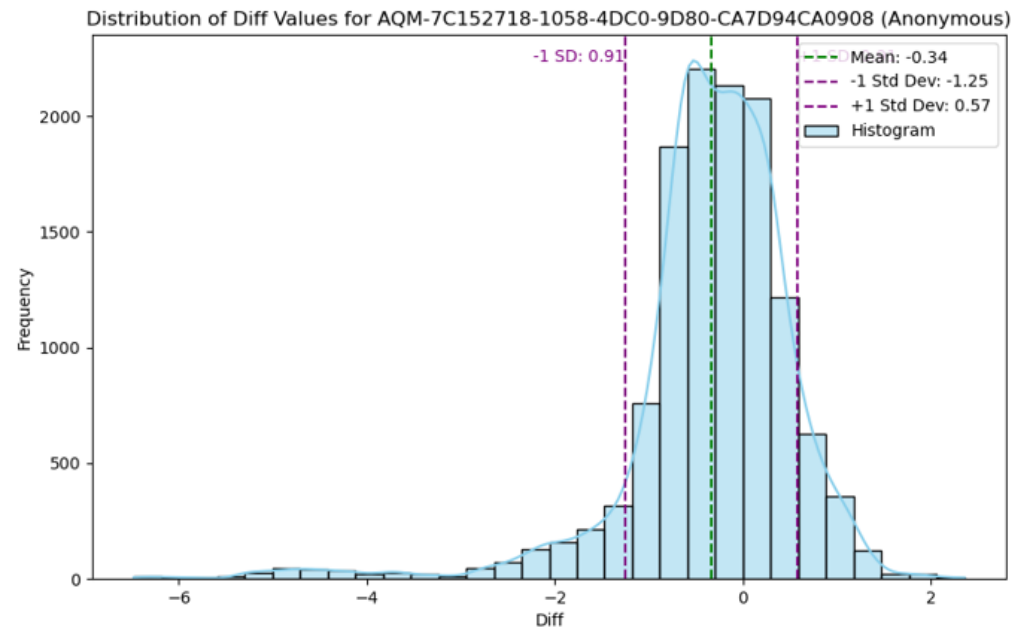
# How to deal with the data?



## The Value of CSB Data A full Crowd-to-Chart Data Pipeline

### Automated data pipeline currently in beta testing

- Scraper developed to programmatically extract CSB data from DCDB
- Automated tide corrections via API
- Vertical bias detection and comparative analysis against reference bathymetry of known accuracy
- Finalizing first-pass uncertainty estimation and metadata format for CSB-specific External Source Data pipeline





IHO

## IHO CL 01/2020 & IRCC CL 21/2020



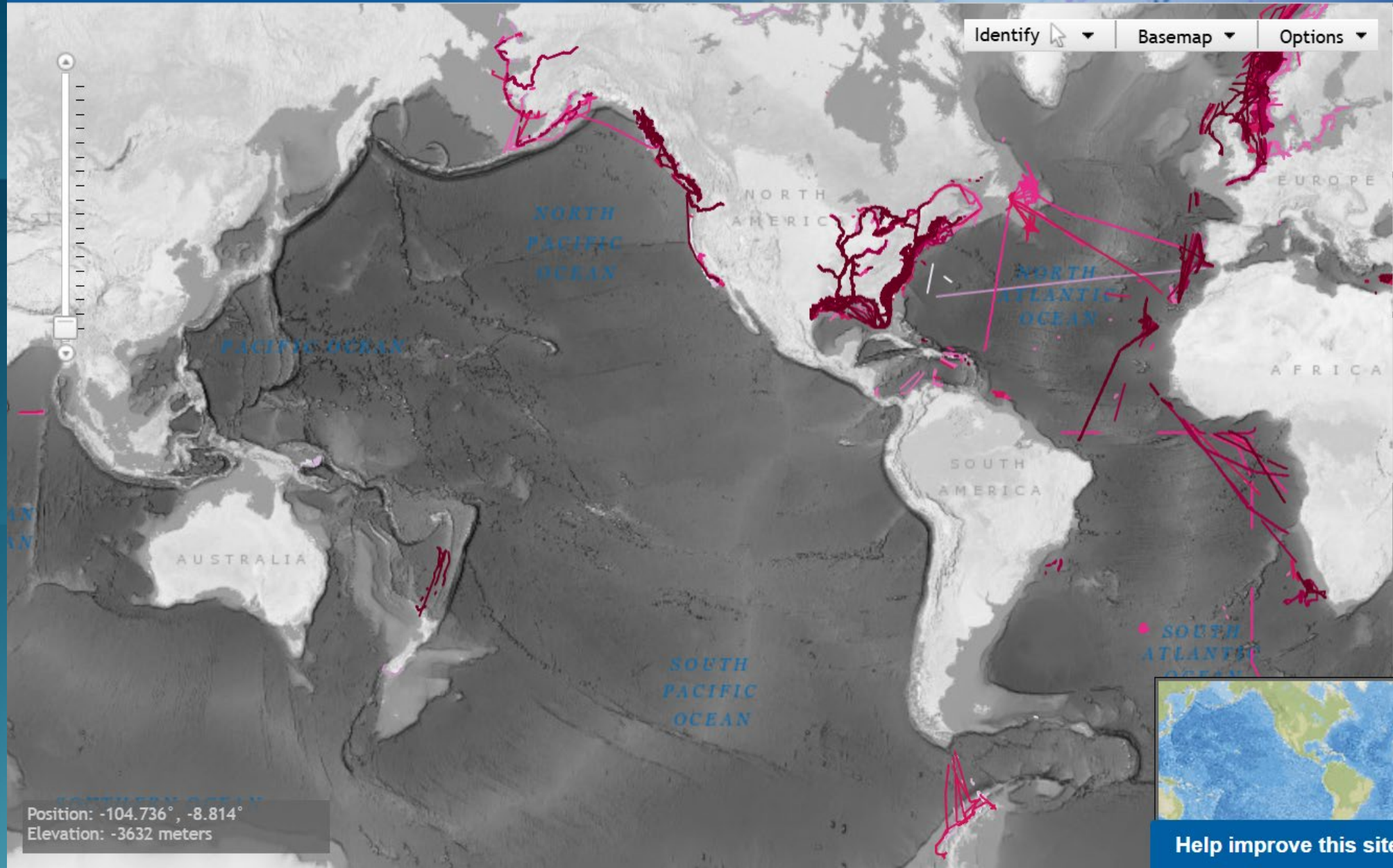
**Pacific Ocean Region:**

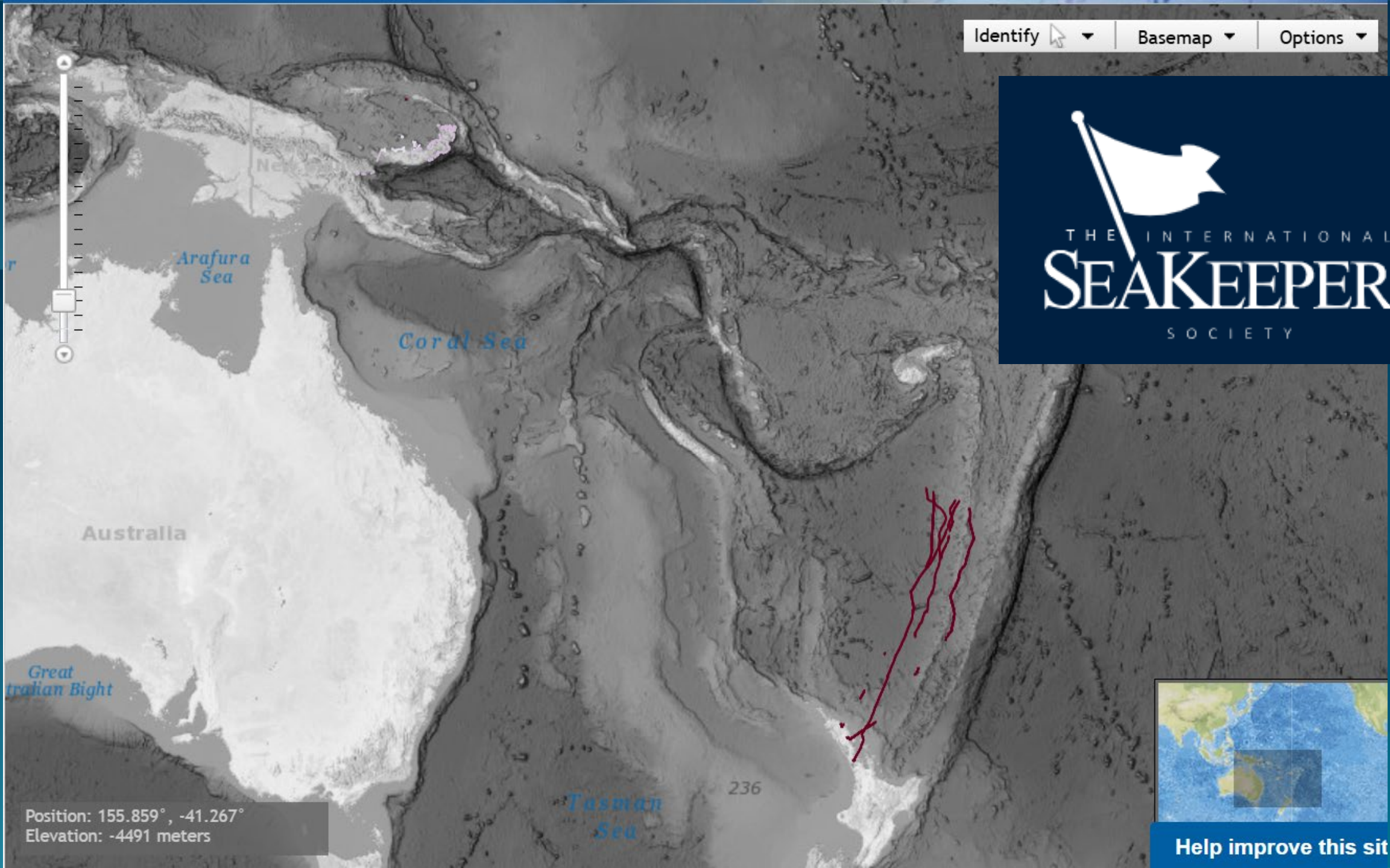
**Kiribati, Fiji, Perú, PNG,  
Australia, New Zealand, Palau,**

**The IHO encourages all coastal states to review IRCC CL 1/2020 and, if possible, offer a positive response to IHO Secretariat.**

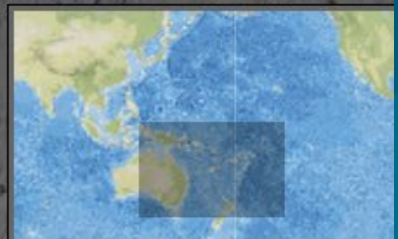
*[https://iho.int/uploads/user/Inter-Regional%20Coordination/IRCC/IRCC\\_Letters/IRCC\\_Letter\\_2020\\_01\\_CSBA\\_Activities.pdf](https://iho.int/uploads/user/Inter-Regional%20Coordination/IRCC/IRCC_Letters/IRCC_Letter_2020_01_CSBA_Activities.pdf)*

# Data Centre for Digital Bathymetry Viewer





Position: 155.859°, -41.267°  
Elevation: -4491 meters



Help improve this sit



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# IHO CL 01/2020 & IRCC CL 21/2020

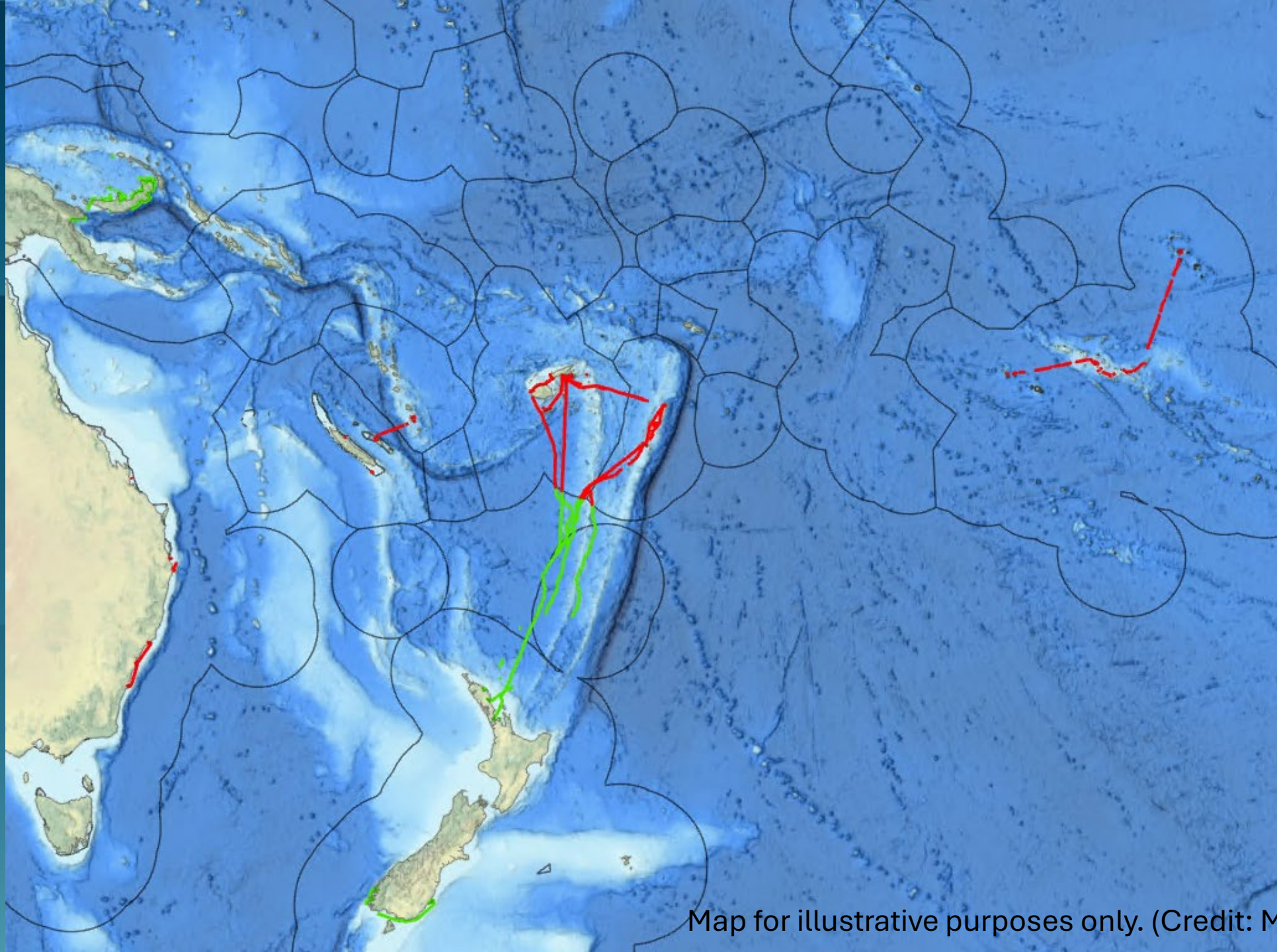
## Pacific Ocean Region:

**Kiribati, Fiji, Perú, PNG, Australia, New Zealand, Palau,**

Fiji	No	-	Yes	>200m; , inform Hydrographic Office of new dataset to allow review of data before DCDB permission granted	Yes	Inform Hydrographic Office of new dataset to allow review of data before DCDB permission granted
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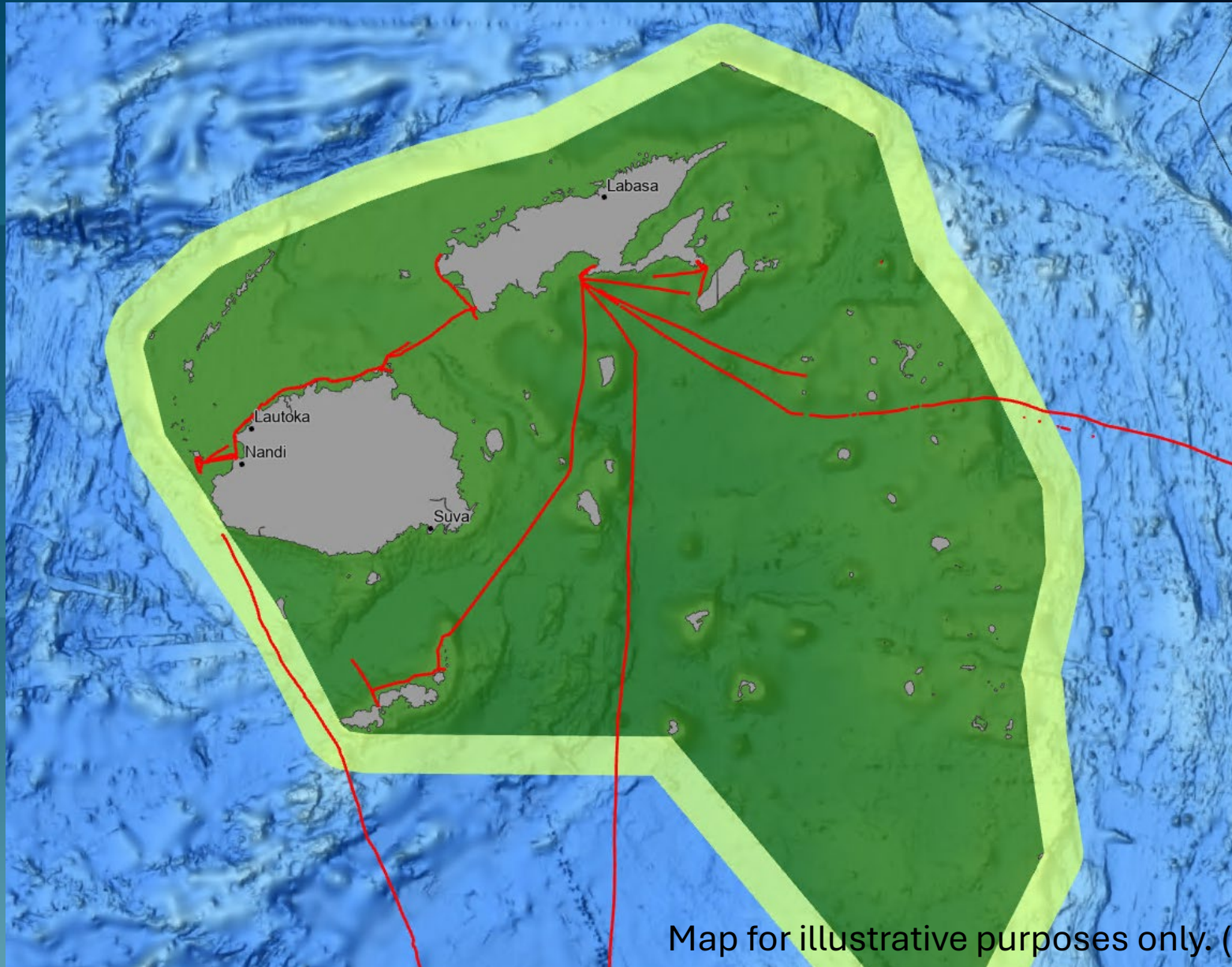
**The IHO encourages all coastal states to review IRCC CL 1/2020 and, if possible, offer a positive response to IHO Secretariat.**

[https://iho.int/uploads/user/Inter-Regional% 20Coordination/IRCC/IRCC\\_Letters/IRCC\\_Letter\\_2020\\_01\\_CSBA\\_Activities.pdf](https://iho.int/uploads/user/Inter-Regional%20Coordination/IRCC/IRCC_Letters/IRCC_Letter_2020_01_CSBA_Activities.pdf)





# CSB Data in Fiji



Map for illustrative purposes only. (Credit: Marine Regions)

# CSB Data in Fiji



Map for illustrative purposes only. (Credit: Marine Regions)

“If we always do what we did, we will always get what we got”



NOTE / TECHNICAL REPORT

# CSB as part of the modern hydrographic toolbox

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<https://ihr.iho.int/wp-content/uploads/2024/05/IHR-30-1-N03.pdf>

# Upcoming events

## CSBWG16 (March 2025)

16<sup>th</sup> CSBWG Meeting  
26-28 March 2025

Co-hosted by:

The National Institute of Water and Atmospheric Research (NIWA) &

Land Information New Zealand (LINZ)

301 Evans Bay Parade, Wellington

*(Directly follows the CSB Tools Workshop, 24-25 March)*



Join us!

### **CSB Tools Workshop**

Wellington, NZ

24-25 March 2025

### **IHO – CSBWG16**

Wellington, NZ

26-28 March 2025

[Read more about the Working Group here](#)

# JOIN OUR MISSION

[www.seabed2030.org](http://www.seabed2030.org)

## Questions?

**Bula Vinaka!**  
**Muchas gracias!**



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