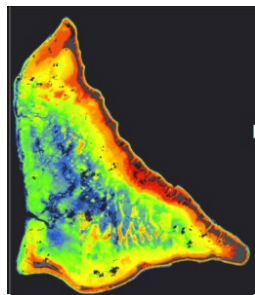


Collaborative Approaches to Coastal Mapping and Seabed 2030 Contributions through Satellite Derived Bathymetry



THE NIPPON FOUNDATION-GEBCO

SEABED
2030

6th Pacific Ocean
Mapping Meeting



Nadi, Fiji
5 November,
2024

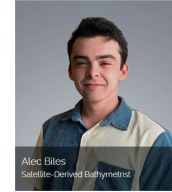
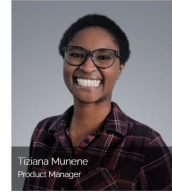
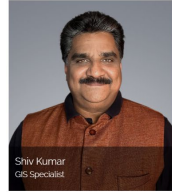
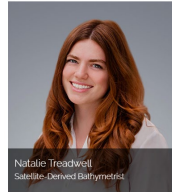
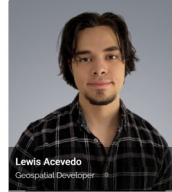
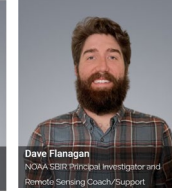
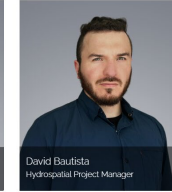
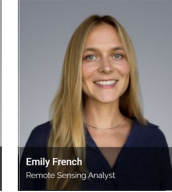
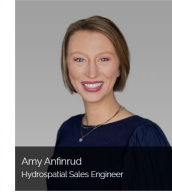
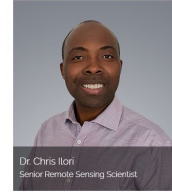
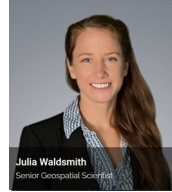
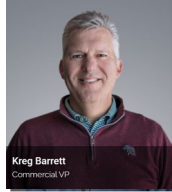
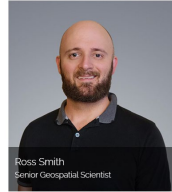
Agenda

1. UKHO Kiribati Project 2019
2. 2024 Seabed 2030 Workshops
 - Jamaica
 - Dominican Republic
3. Student Engagement and Seabed 2030 Contributions

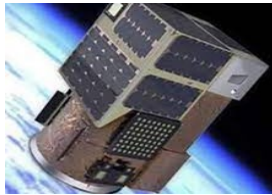


Kyle Goodrich
President & Founder
TCarta
kyle@tcarta.com

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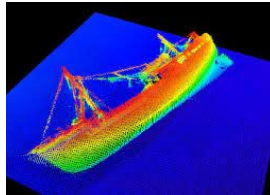
Remote Sensing



Physics



Hydrography



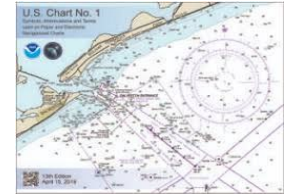
Geospatial Programming



Oceanography



Nautical Charting



T E C H N O L O G Y

A bathymetric map of the Indian Ocean region, showing the continental shelves of Africa, Madagascar, and Australia. The map uses a color scale from light blue (shallow) to dark blue (deep). A semi-transparent white box with a grey border is centered over the map, containing the text "bathymetry from imagery".

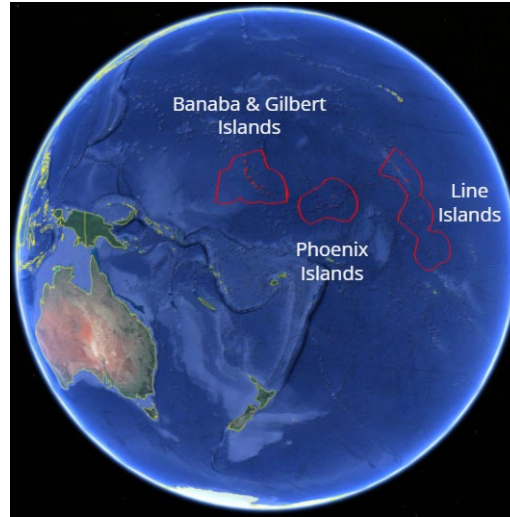
bathymetry from imagery



Contracted by:



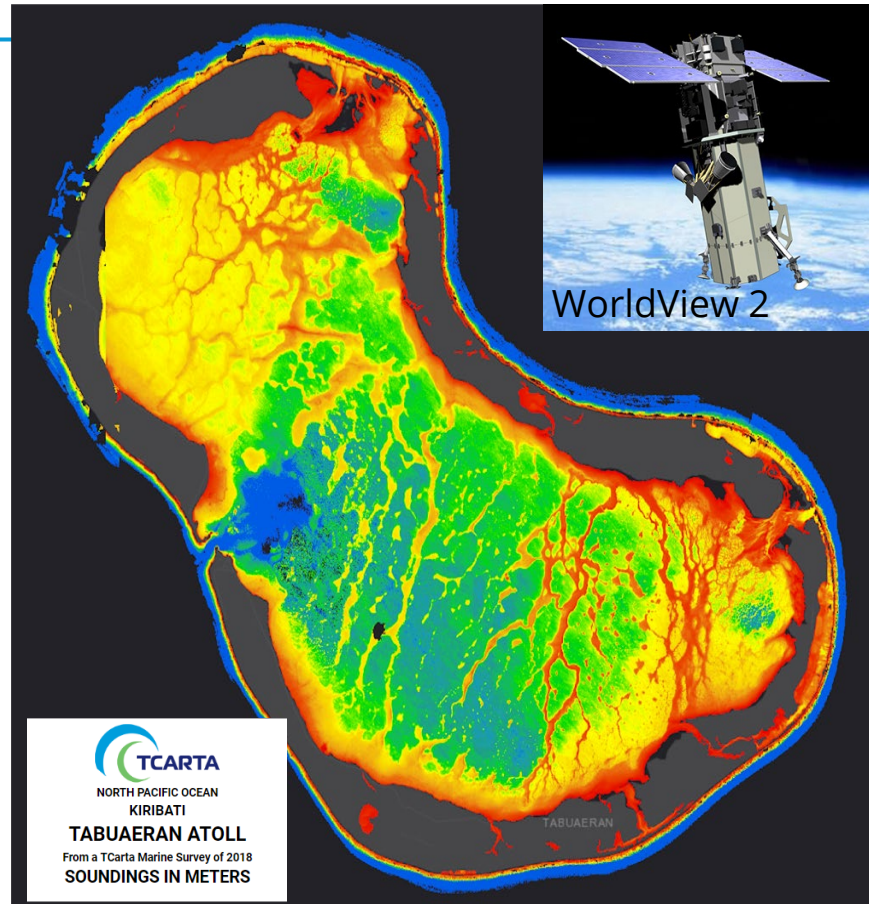
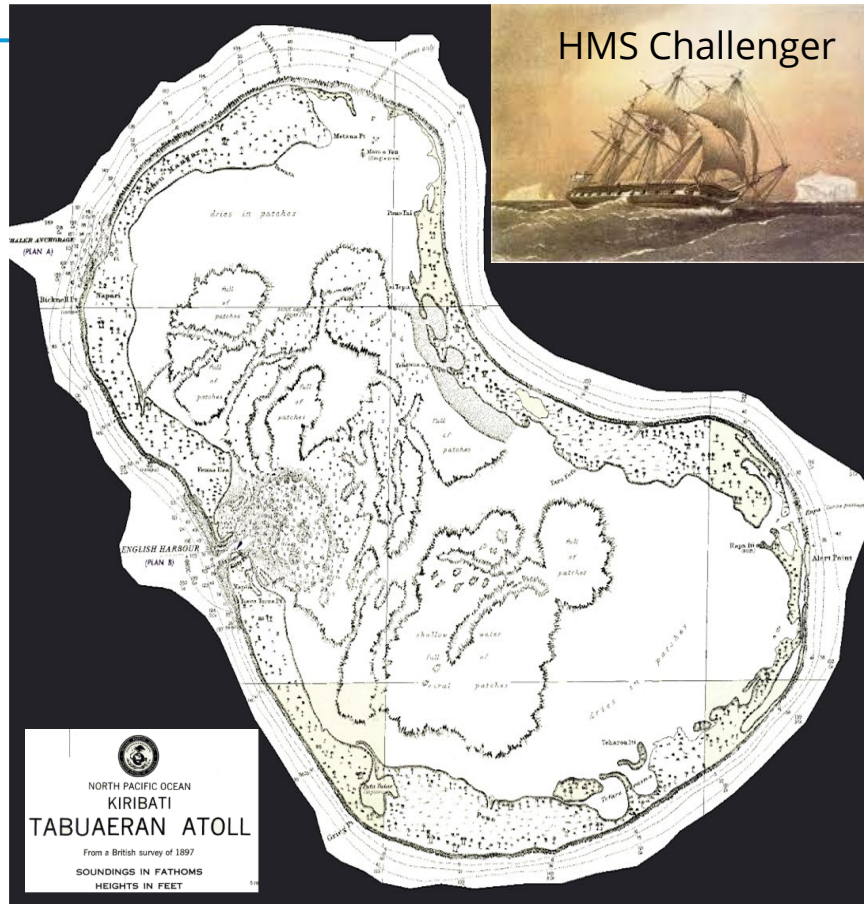
UK Hydrographic Office



- 36 islands/atolls surveyed
- 3,143 km² coverage produced
- 406 images assessed
- 87 images processed
- 3 month program
- 300+ new satellite images collected in less than 3 months



HMS Challenger



Collect once, use many ways - including Seabed 2030



ADMIRALTY

Helping Kiribati combat the effects of climate change

Find out how we are supporting data gathering in the low-lying island chain of Kiribati to help protect 115,000 people from coastal inundation.

THE NIPPON FOUNDATION-GEBCO

SEABED
2030

Onward Use

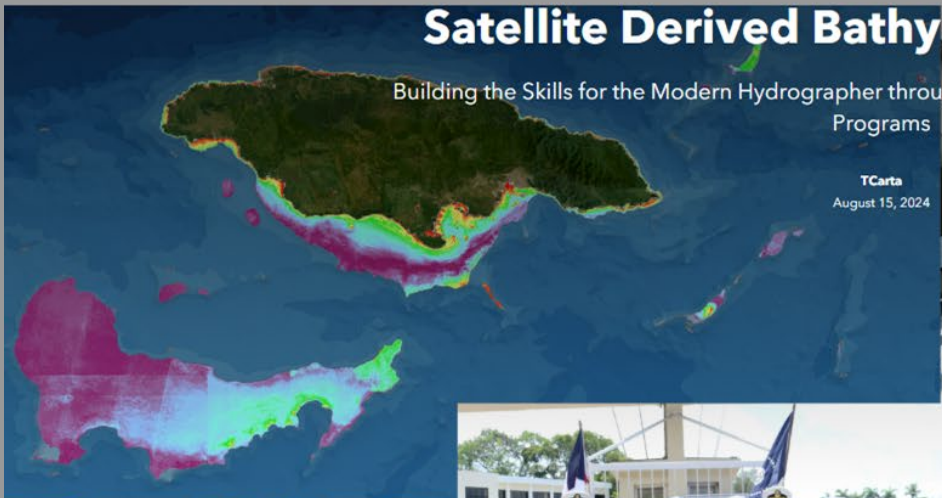
“The data collected will also enable the launch of the **Kiribati Outer Island Transport Infrastructure Investment Project**. Funded by the **World Bank** and **Asian Development Bank**, the project will help to improve maritime infrastructure in the outer islands and relieve the population pressure from its capital, Tarawa.”



Satellite Derived Bathymetry Workshops

Building the Skills for the Modern Hydrographer through Collaborative Projects and Educational Programs

TCarta
August 15, 2024



2024 Seabed 2030 SDB Workshop

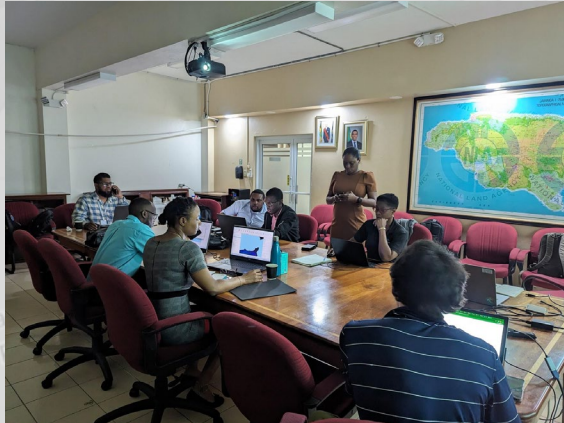
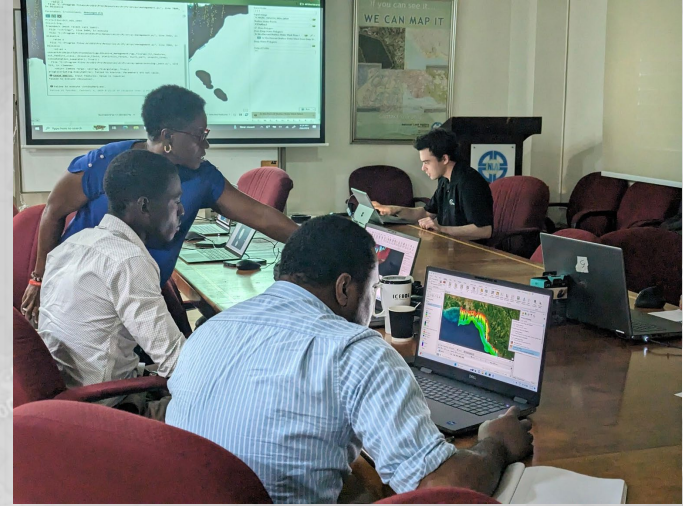


- 5 NLA Staff
- 3 TCarta Staff
- 4.5 days
- "If you can see it, we can map it"

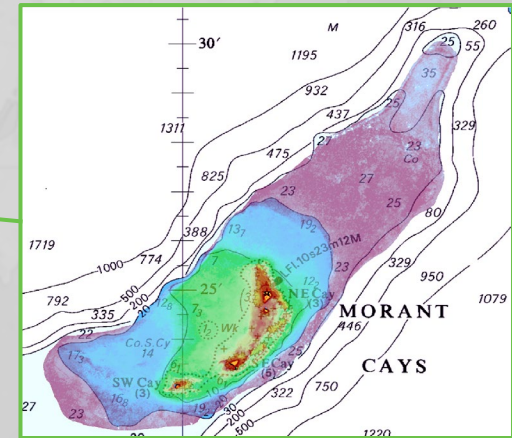
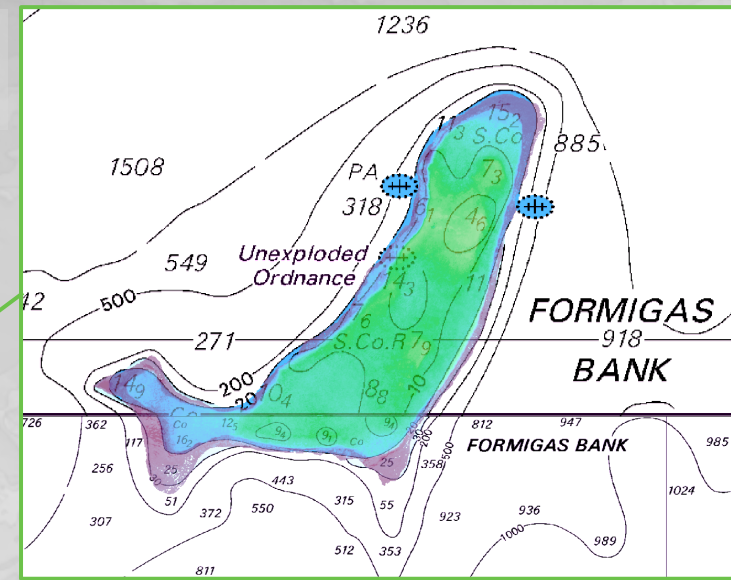
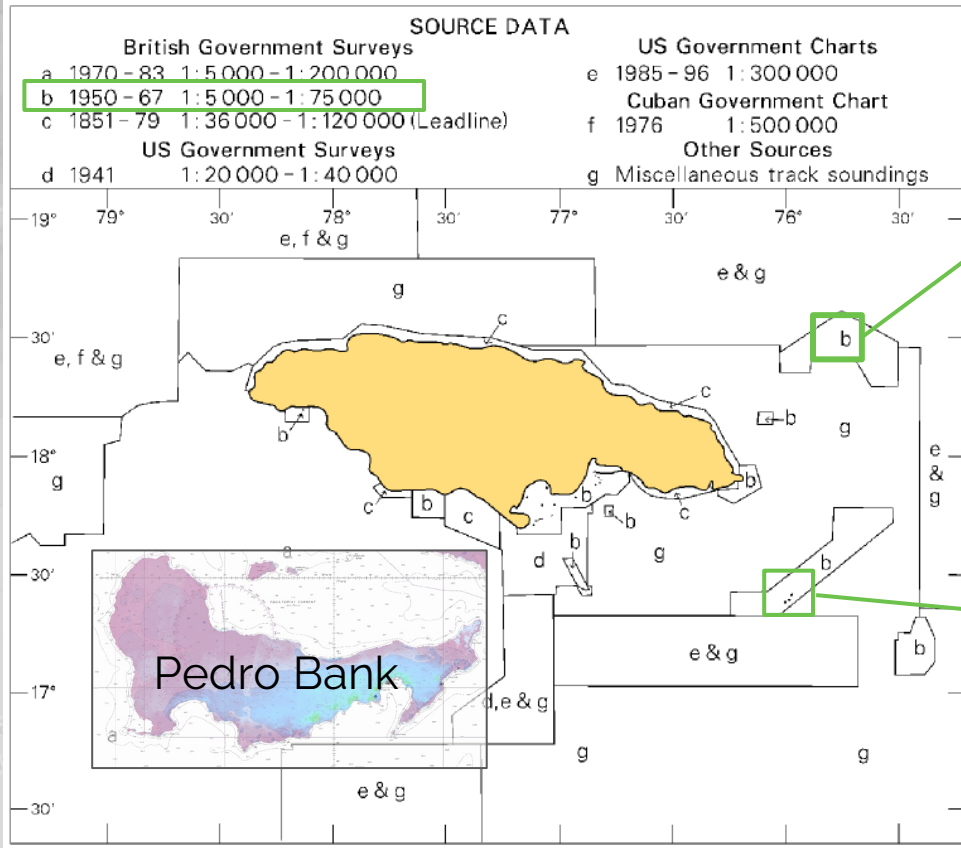


Learning and adapting while underway

- Basics of SDB
- Imagery Selection
- SDB processing
- Bathymetry data cleaning
- QA and accuracy reporting
- Applications of SDB within hydrography
- Multi-source data integration



Providing modern survey of remote areas

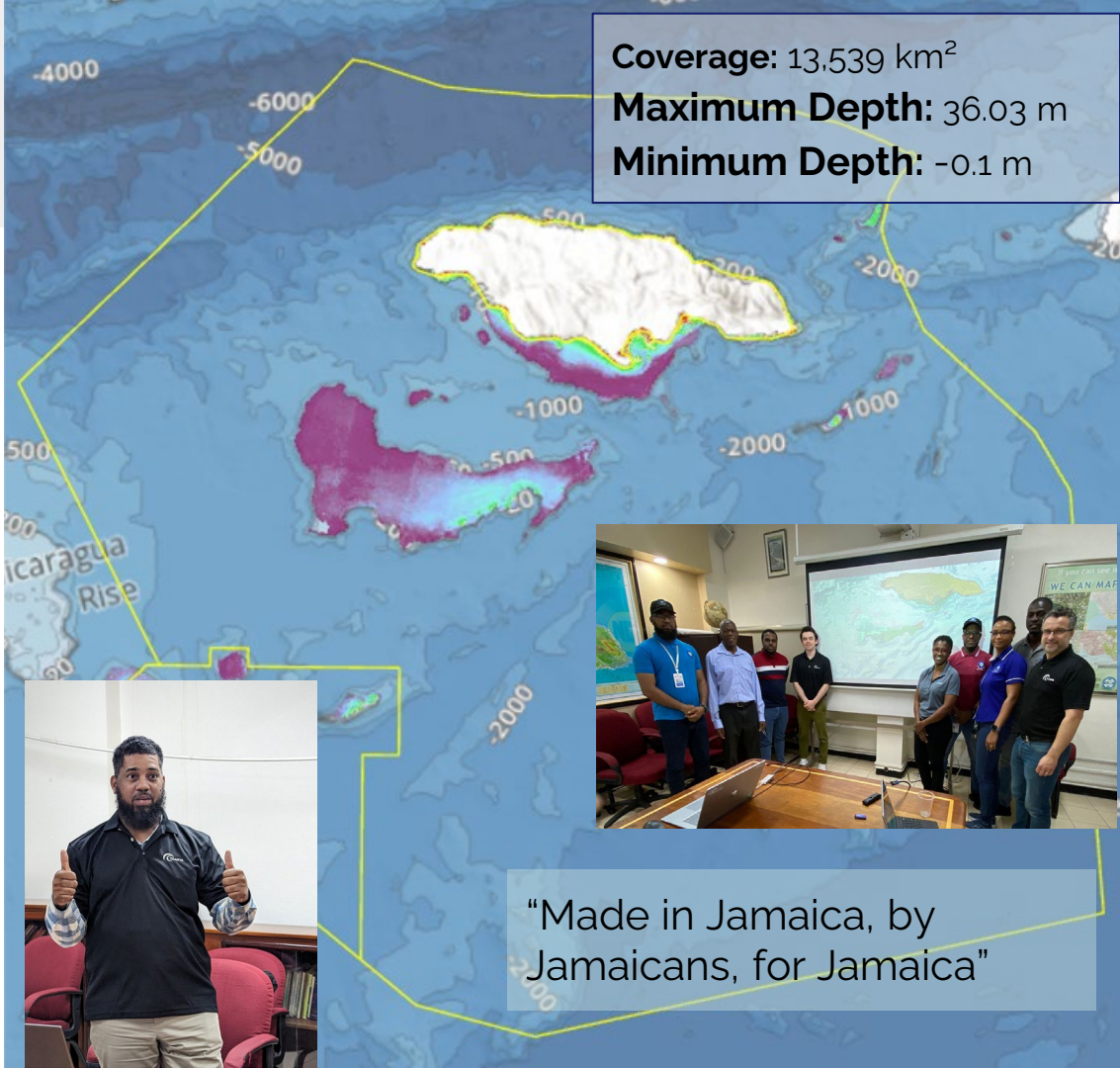
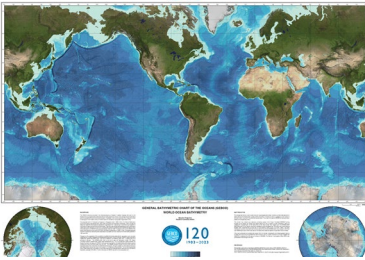


Pathway for Small Island Nation with a Developing Hydrographic Team to Contribution to Seabed 2030



THE NIPPON FOUNDATION-GEBCO

SEABED 2030



Coverage: 13,539 km²
Maximum Depth: 36.03 m
Minimum Depth: -0.1 m



“Made in Jamaica, by
Jamaicans, for Jamaica”

Dominican Republic July 2024

Satellite Derived Bathymetry Workshop

Day 1



ARMADA
DE REPUBLICA DOMINICANA





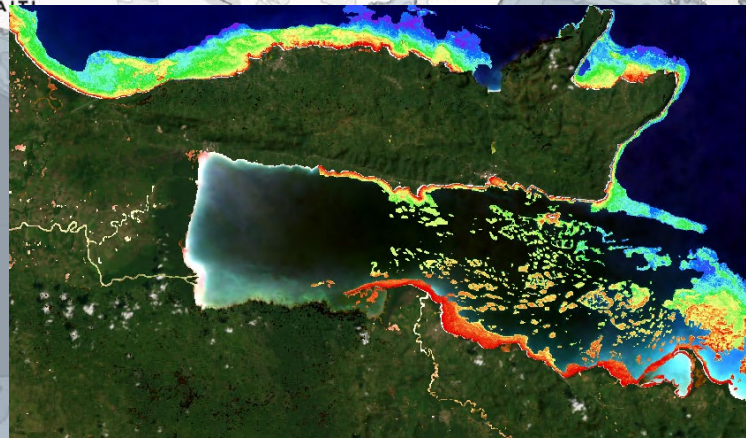
Hands-on learning

Instruction & training materials in Spanish



8 - days of training

Included sargassum tracking

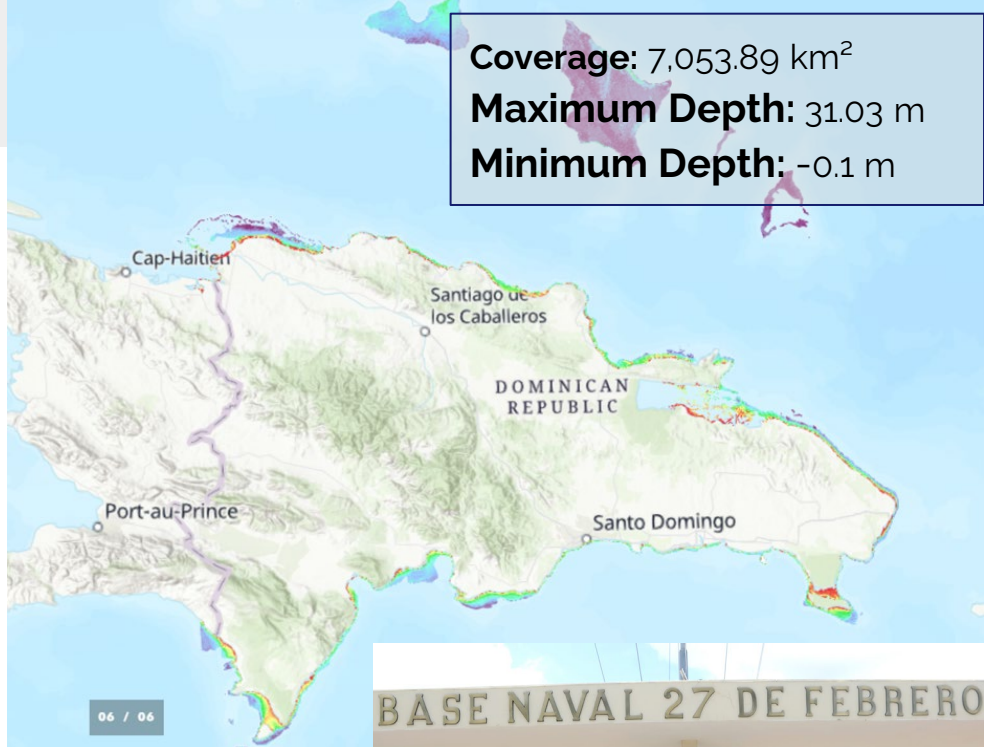
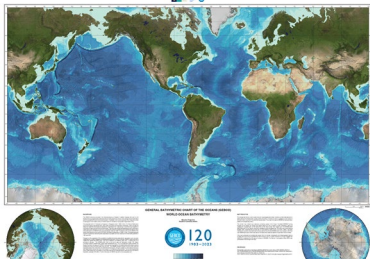


Pathway to Participation and Contribution



THE NIPPON FOUNDATION-GEBCO

SEABED 2030

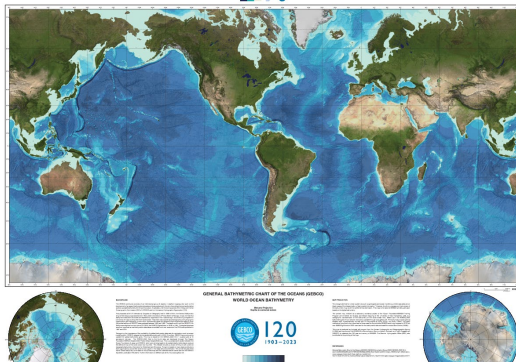


Student-Produced Seabed 2030 Contributions



12-week summer work term - 2023 & 2024

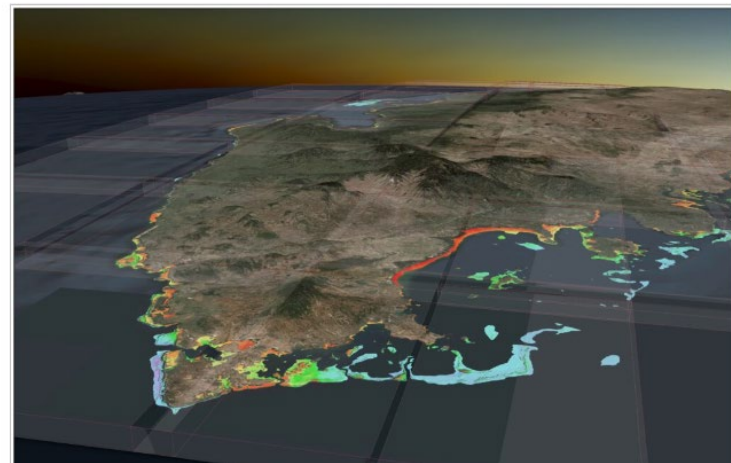
- In-person instruction and virtual workrooms
- SDB supported university research & native villages
- SDB combined with Crowd Sourced Bathymetry



Marine Institute and TCarta Student Internship Program Makes Major Data Contribution to Seabed 2030 Project

TCARTA MARINE // 11.02.2023

Denver, Colorado, 2 November 2023 – TCarta Marine, a global provider of hydrospatial products and services, has delivered three major satellite derived bathymetry (SDB) data sets to The Nippon Foundation-GEBCO Seabed 2030 project. Students in Canada participating in a 2023 summer internship program created the SDB products for the entire coastline of Madagascar, Newfoundland, and two Canadian Arctic research areas.





Vinaka vakalevu. Questions?

Kyle Goodrich
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kyle@tcarta.com

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SEABED
2030

6th Pacific Ocean
Mapping Meeting



Nadi, Fiji
5 November,