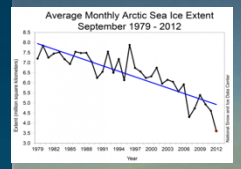
THE NIPPON FOUNDATION-GEBCO
SEABED 2030

JULY 2023

SEABED 2030

Energizing Ocean Floor Mapping

Jamie McMichael-Phillips
Seabed 2030 Director



13 September 2008

Arctic Ocean 80°N/156°W

12 September 2012

Courtesy: Larry Mayer, UNH

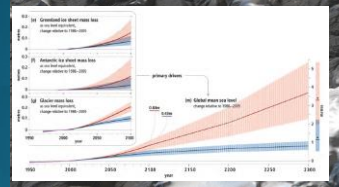
Ocean Pollution

Courtesy: Larry Mayer, UNH

You Can't Properly Manage what you Haven't Measured

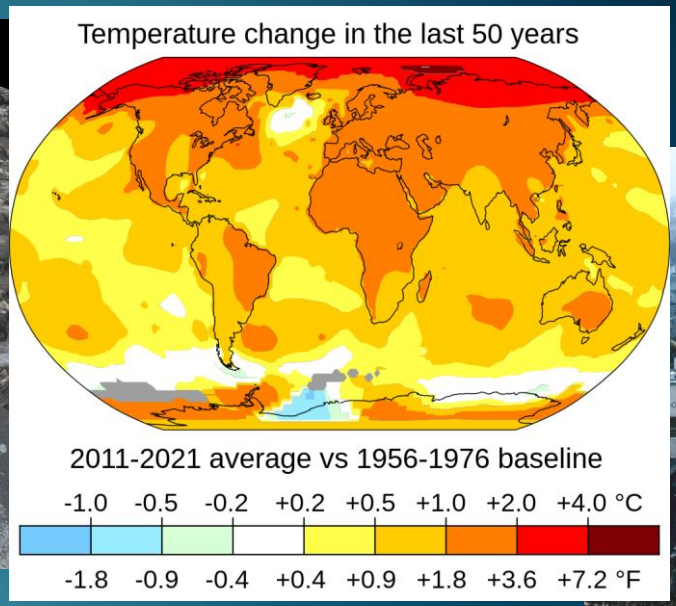
Predicted global mean sea level rise by 2300

600 million people live within 10 m above sea level



Ryder Fjord, N Greenland

Courtesy: Martin Jakobsson, SU



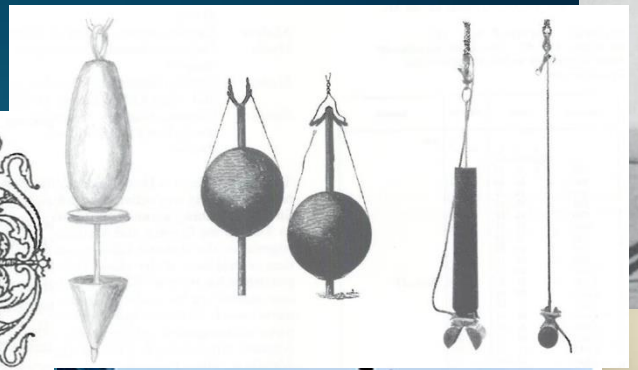
Climate

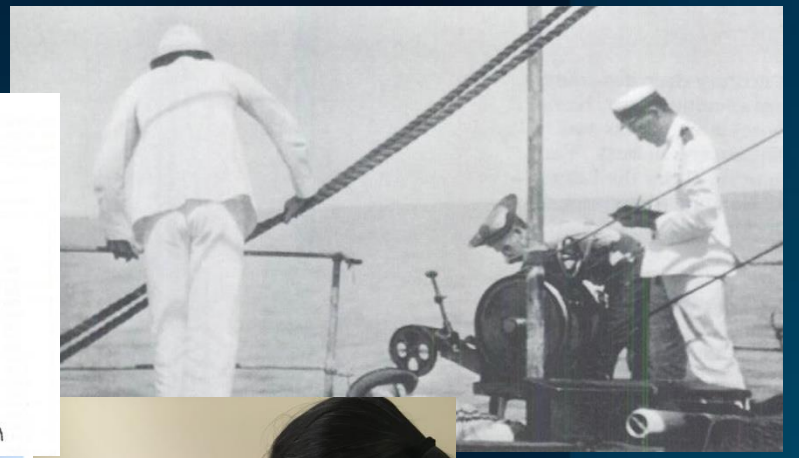
Courtesy: NASA

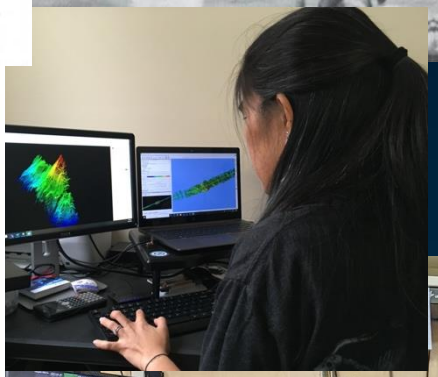
Alaska 1975

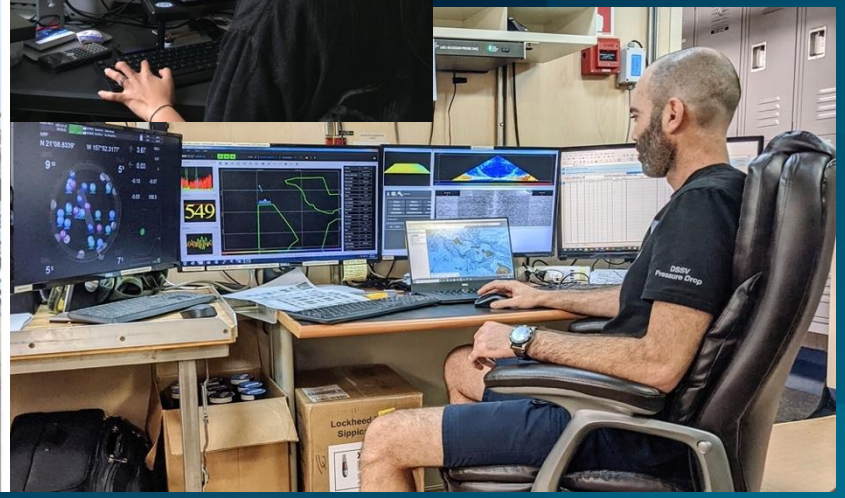
Courtesy: NOAA

Gathering Depth Information

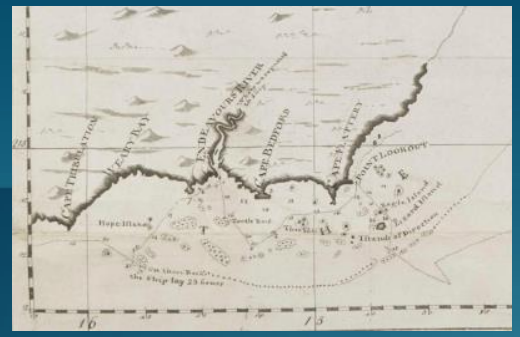




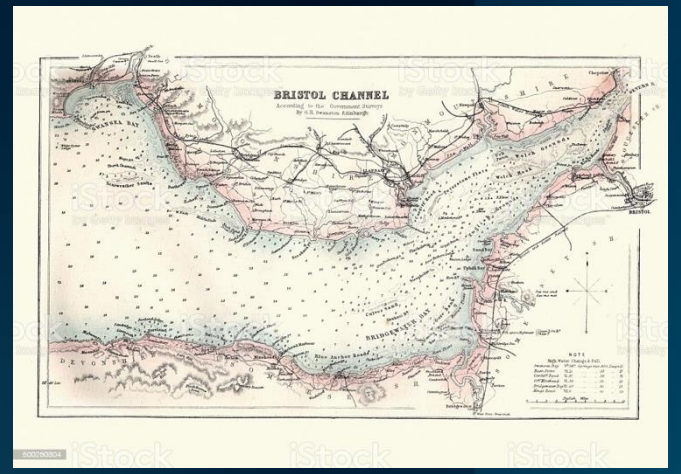




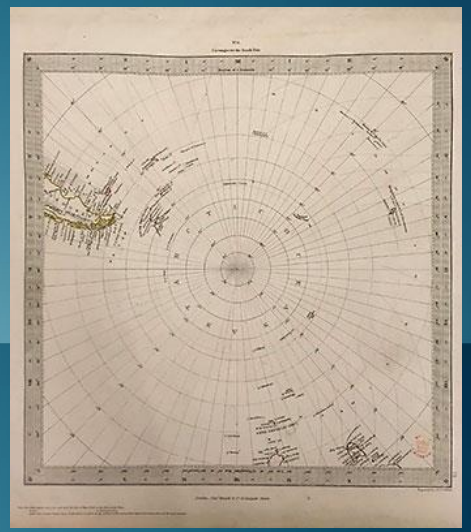
Portrayal as a Necessity



James Cook, 1770



Bristol Channel, 1880



Edward Bransfield, 1820 observation on 1844 chart

The General Bathymetric Chart of the Oceans
GEBCO

Established
1903

GEBCO

Joint programme of:

- The International Hydrographic Organization (IHO)

&

- The Intergovernmental Oceanographic Commission (IOC/UNESCO)

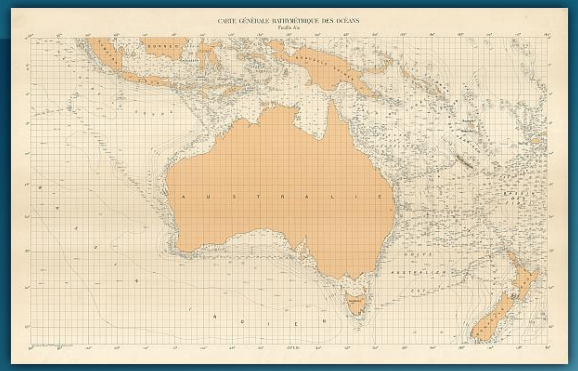
Aim: provide authoritative, publicly-available bathymetry (depth) data sets of the world's oceans

Mainly voluntary international community of:

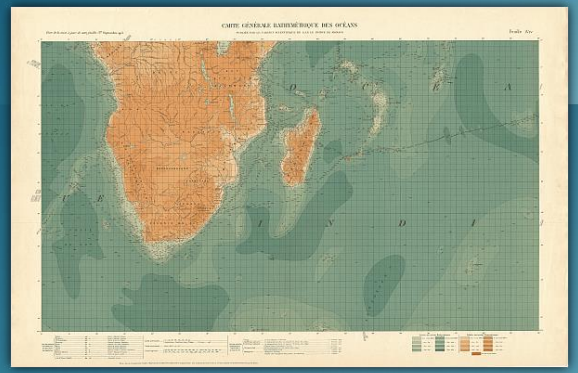
- Scientists
- Oceanographers
- Hydrographers
- Citizens

GEBCO over the decades

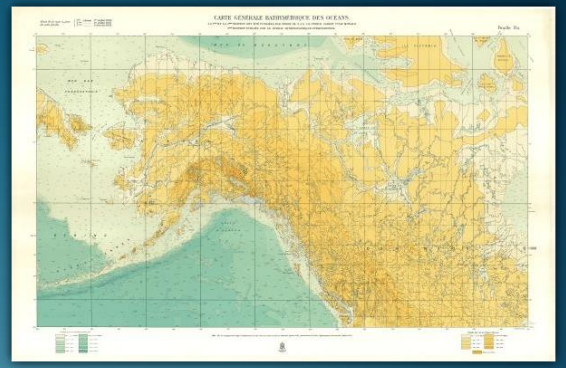
1st Edition 1903



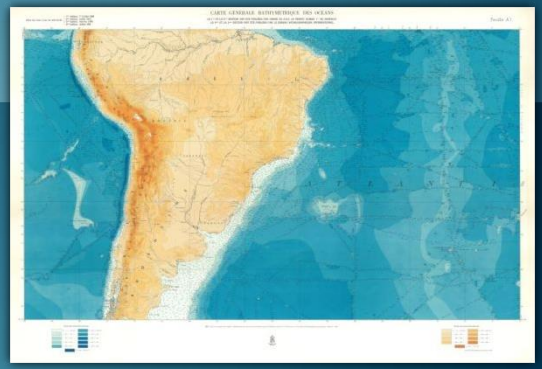
2nd Edition 1910-30



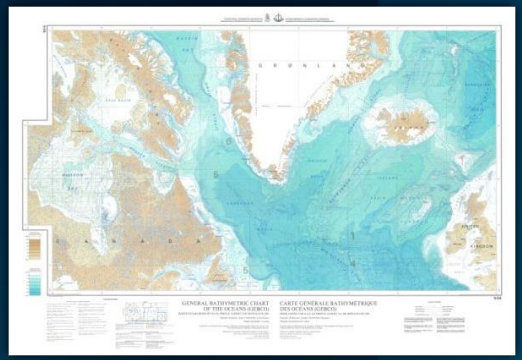
3rd Edition 1932-66



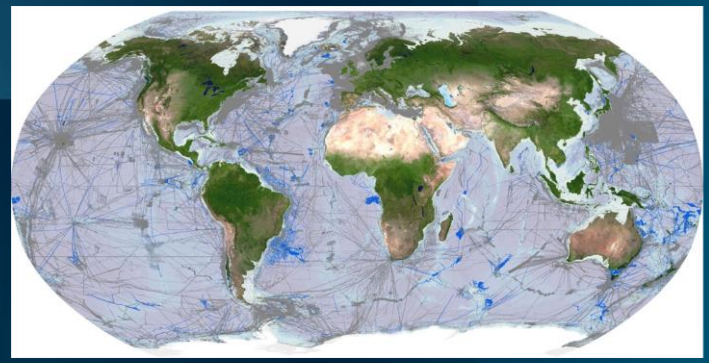
4th Edition 1958-73



5th Edition 1973-82

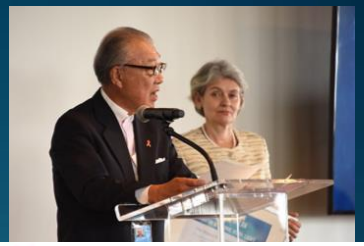


2023 Release



The Nippon Foundation-GEBCO Seabed 2030 Project

Forum for Future Ocean Floor Mapping



THE OCEAN CONFERENCE
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Flagship Programme

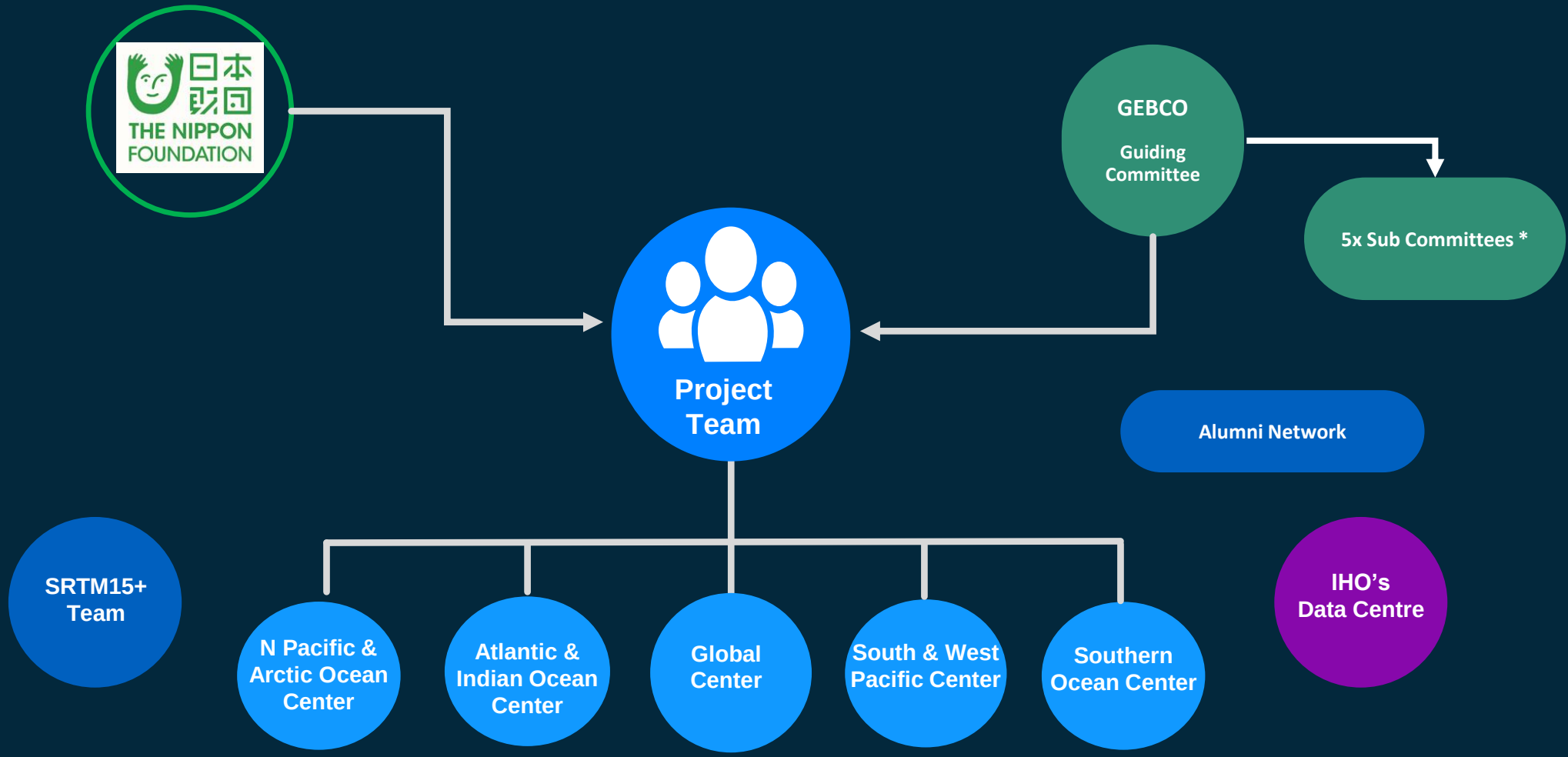
June 2016 → **June 2017** → **June 2021**

Seabed 2030 = accelerator to GEBCO's aim

Collaboration to:

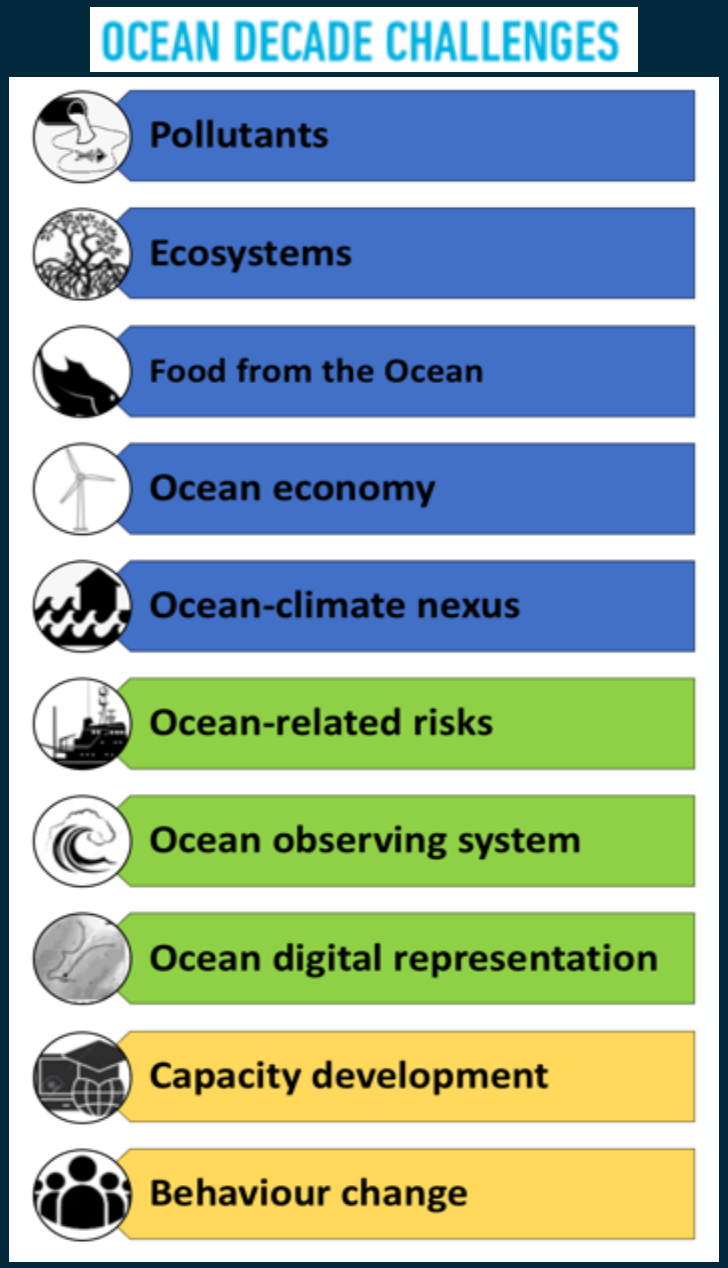
- **inspire 100% seabed mapping by 2030**
- **compile the GEBCO Map**

Seabed 2030 Simplified Network



* *Technical | Regional | Undersea Feature Names | Engagement & Outreach | Education & Training*

- **Clean**
- **Healthy & Resilient**
- **Productive**
- **Predicted**
- **Safe**
- **Accessible**
- **Inspiring & Engaging**



Coastal -bathymetry

Mapping central

Bathymetry dependent

Mapping intensive

Modelling, SLR, etc.

Bathymetry intensive

Georeferencing

Central facility

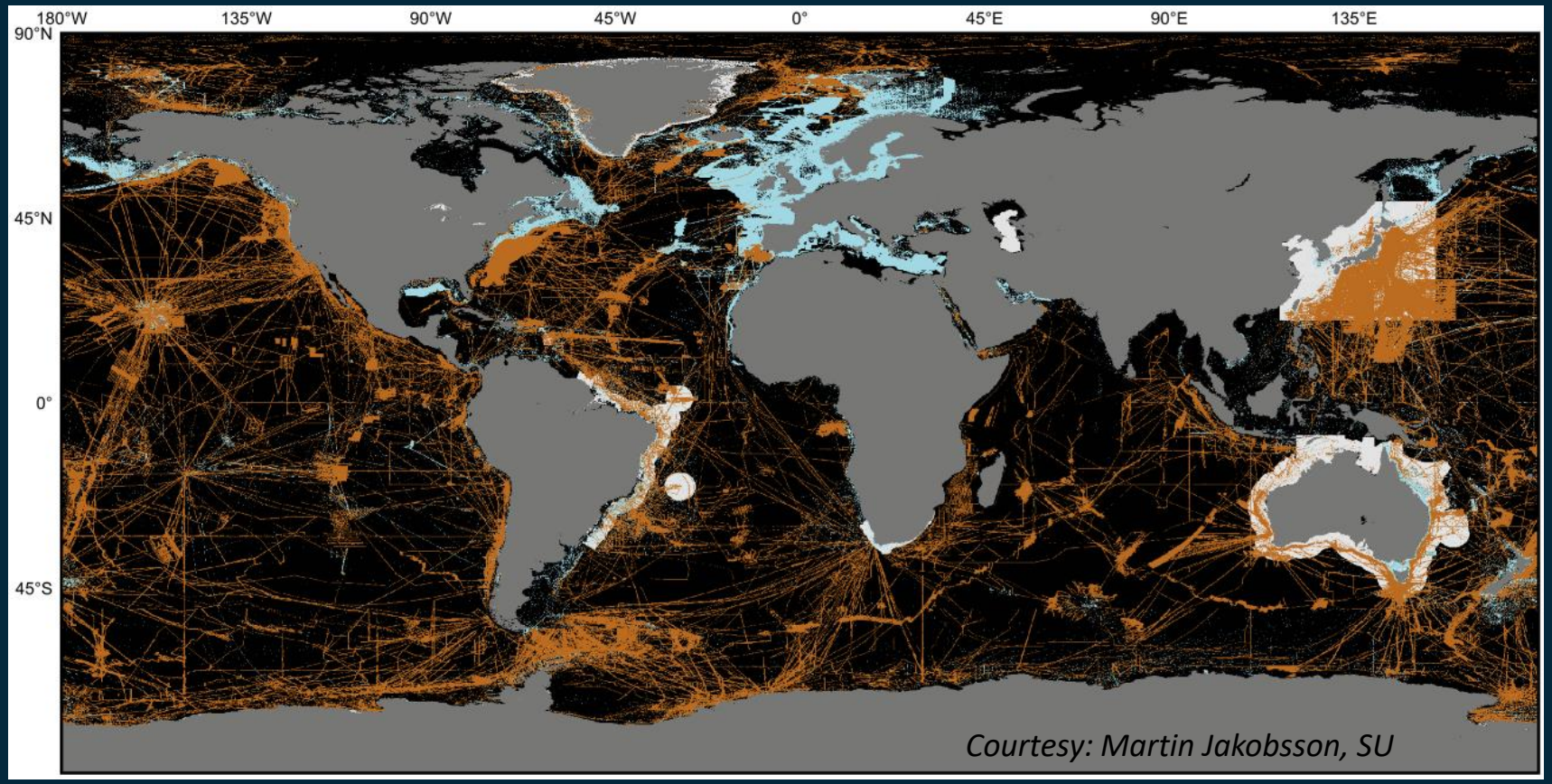
Strongly needed

Resonates with people

Progress so far …

GEBCO Map:

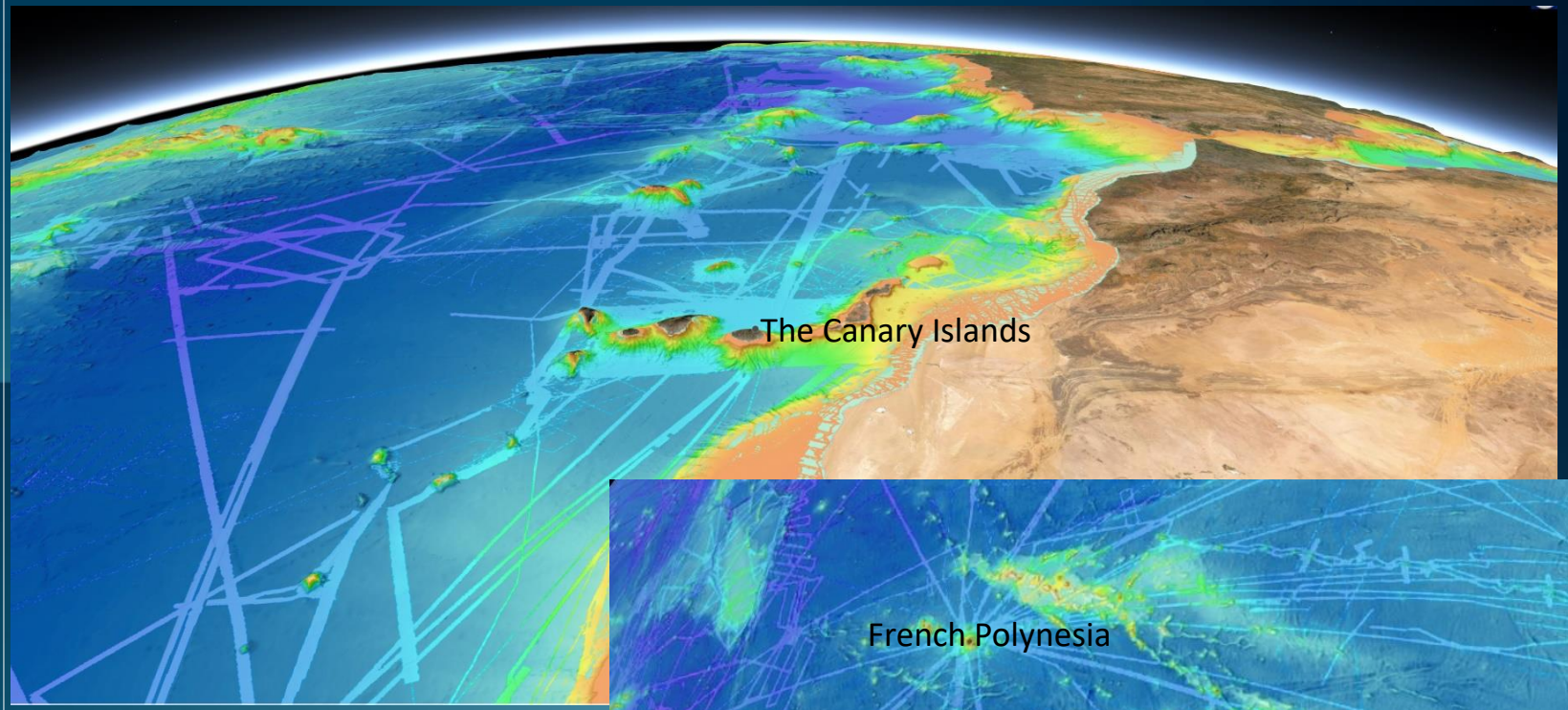
- *6% in 2017*
- Now **24.9%**
  - *90.1 million KM2*
  - *5 x South America*
  - *3 x Africa*

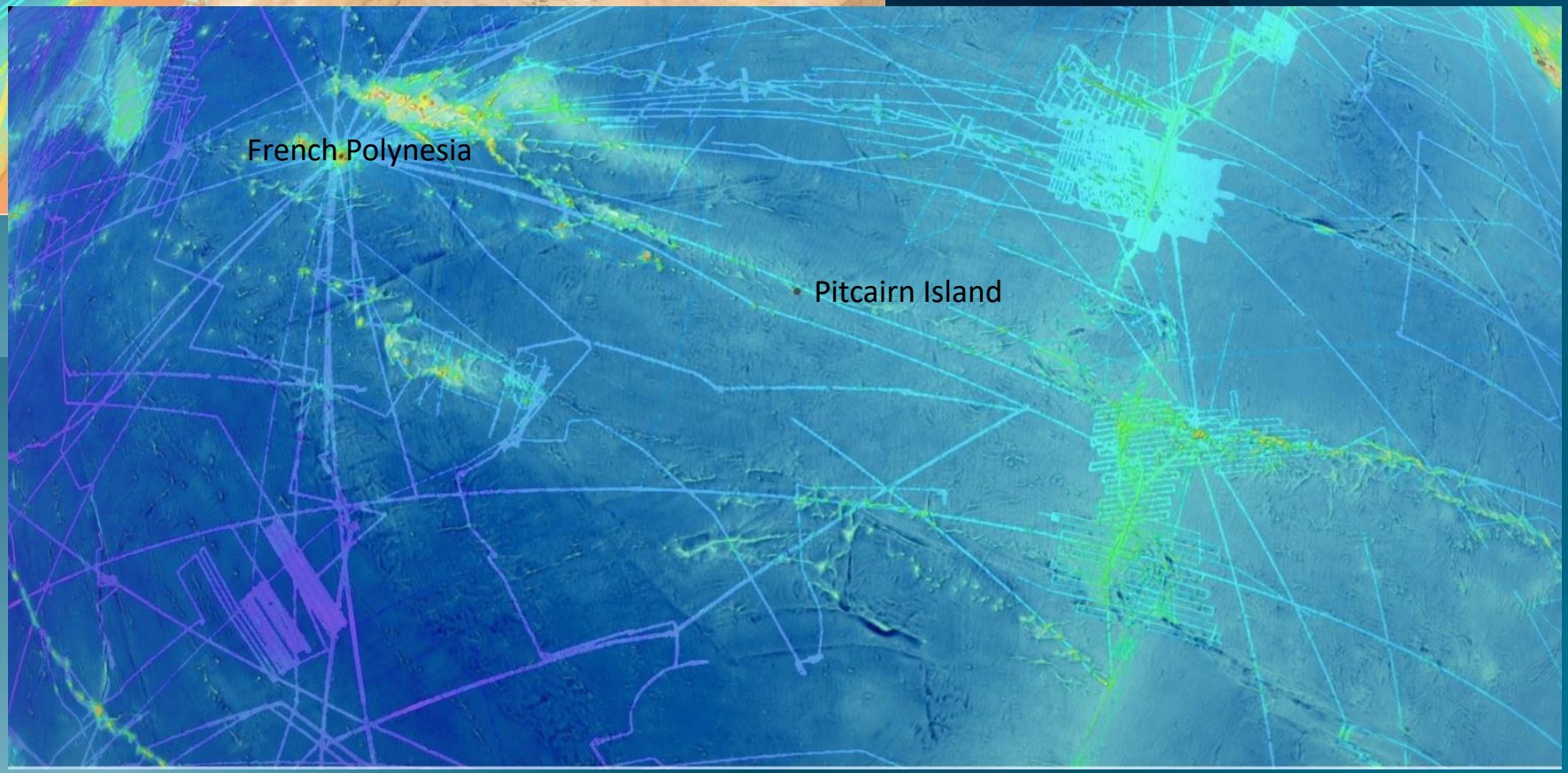


3/4 of ocean floor still to go …..

SEABED 2030

Paucity of Depth Information





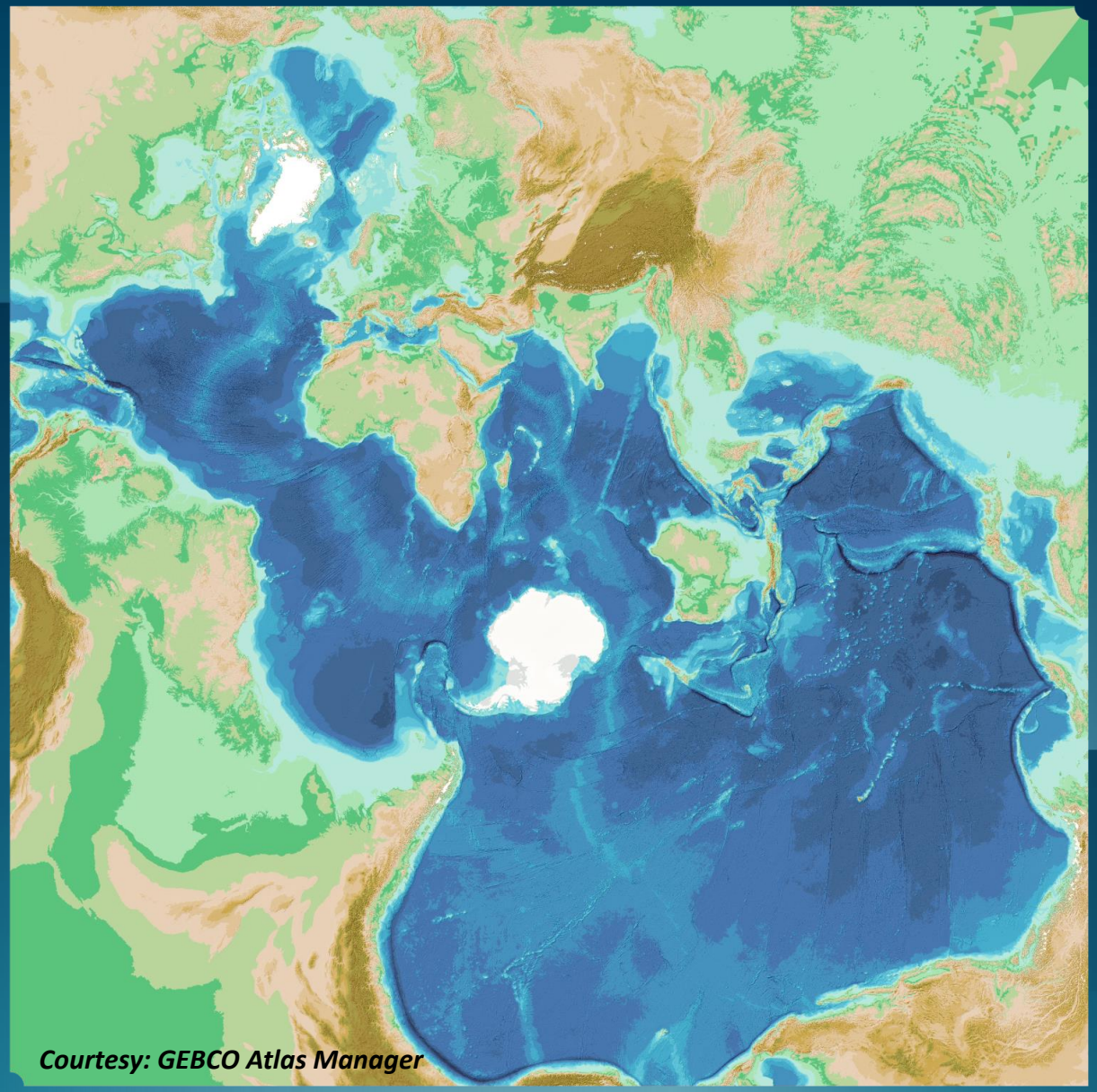
To manage effectively …..

…we <u>must</u> map

Target Resolutions

- Depth dependent
- We will never ask for data of any higher resolution than:
  - 1 x depth value in 100x100m box

At best only one depth value in area ~ size of a soccer pitch



Courtesy: GEBCO Atlas Manager

It really is …..

Our One Ocean!

Vision:

100% Ocean Floor mapped by 2030

SEABED 2030

Thank you

THE NIPPON FOUNDATION

GEBCO 120 1903–2023

IHO International Hydrographic Organization

unesco Intergovernmental Oceanographic Commission

University of New Hampshire

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

National Oceanography Centre

AWI ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG

Stockholm University

NIWA Taihoro Nukurangi

GNS SCIENCE

Land Information New Zealand