

THE NIPPON FOUNDATION-GEBCO

SEABED
2030

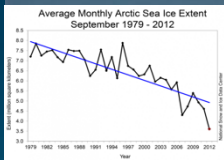
JULY 2023

SEABED 2030

Energizing Ocean Floor Mapping



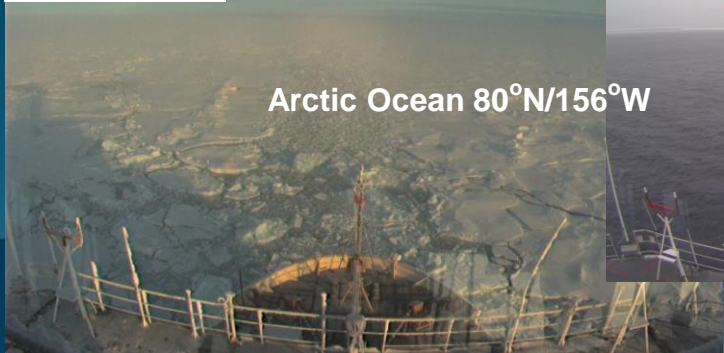
Jamie McMichael-Phillips
Seabed 2030 Director



13 September 2008

12 September 2012

Arctic Ocean 80°N/156°W



Courtesy: Larry Mayer, UNH



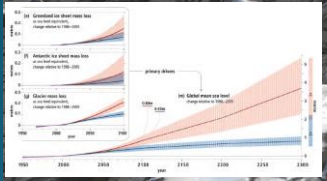
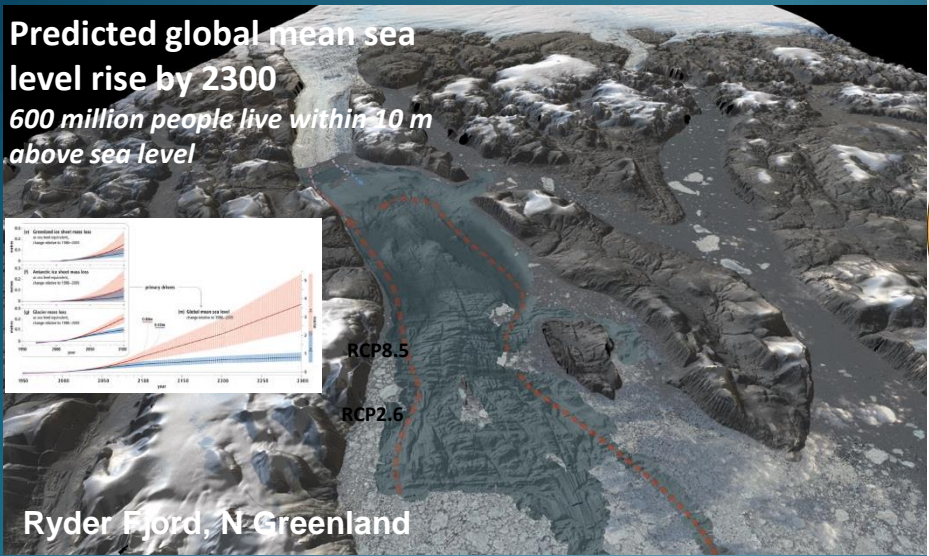
Ocean Pollution

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

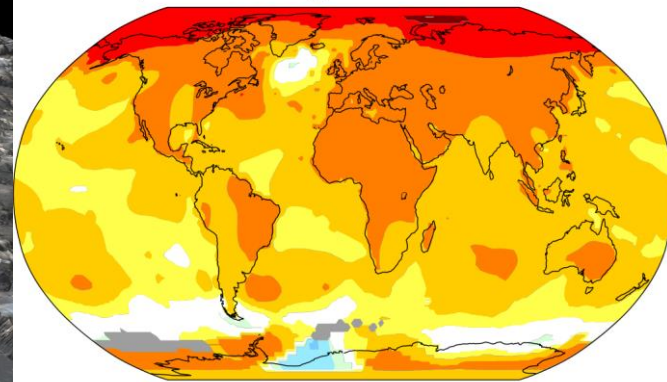


RCP8.5
RCP2.6

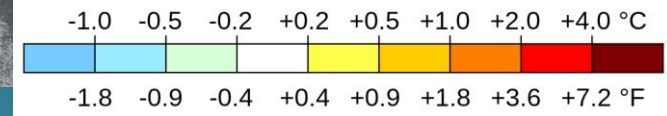
Ryder Fjord, N Greenland

Courtesy: Martin Jakobsson, SU

Temperature change in the last 50 years



2011-2021 average vs 1956-1976 baseline



Climate

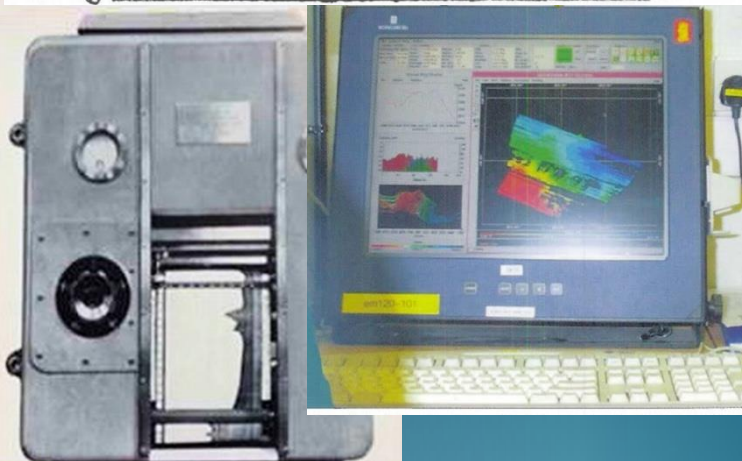
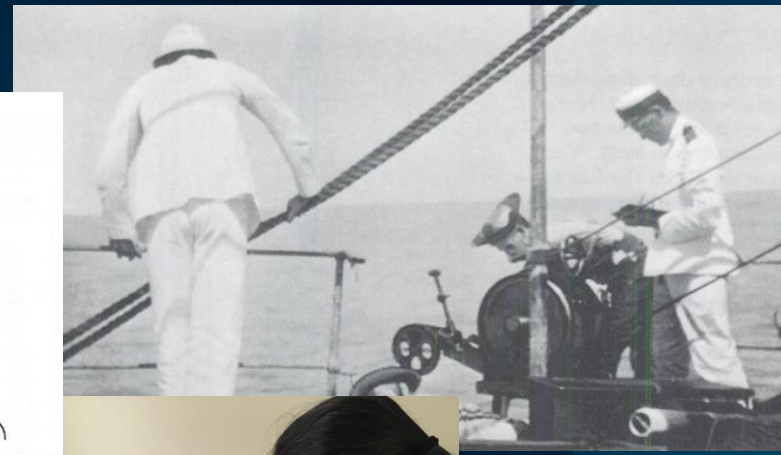
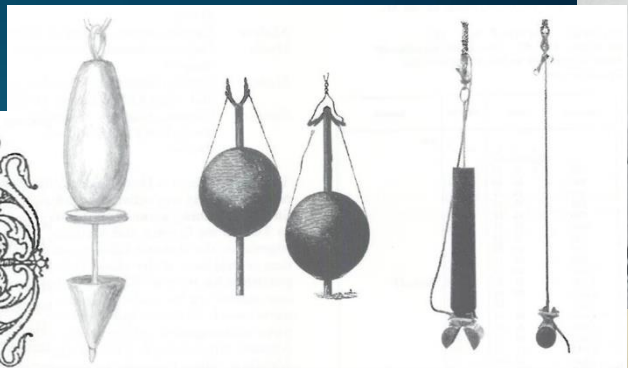
Courtesy: NASA



Alaska 1975

Courtesy: NOAA

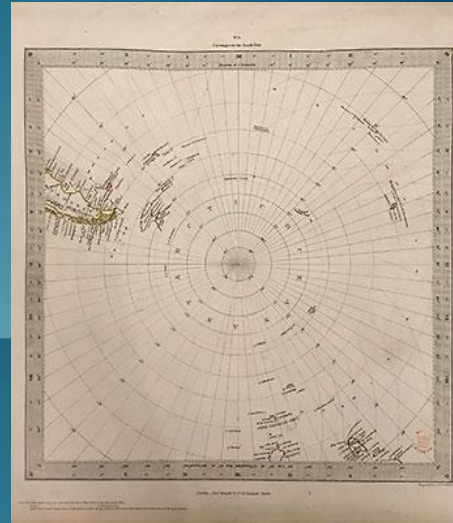
Gathering Depth Information



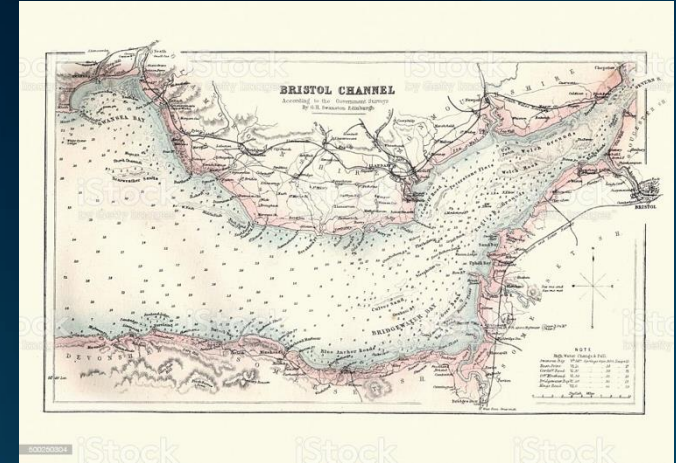
Portrayal as a Necessity



James Cook, 1770

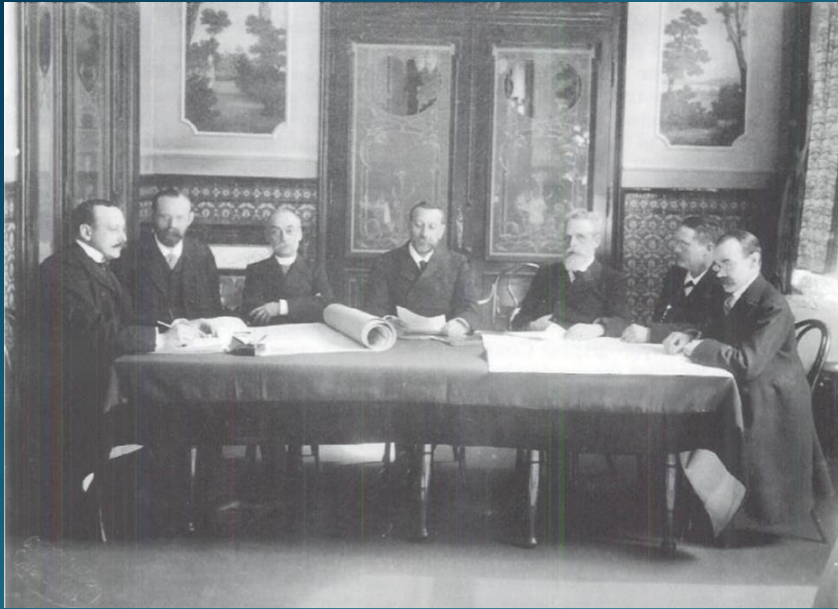


Edward Bransfield, 1820 observation on 1844 chart



Bristol Channel, 1880

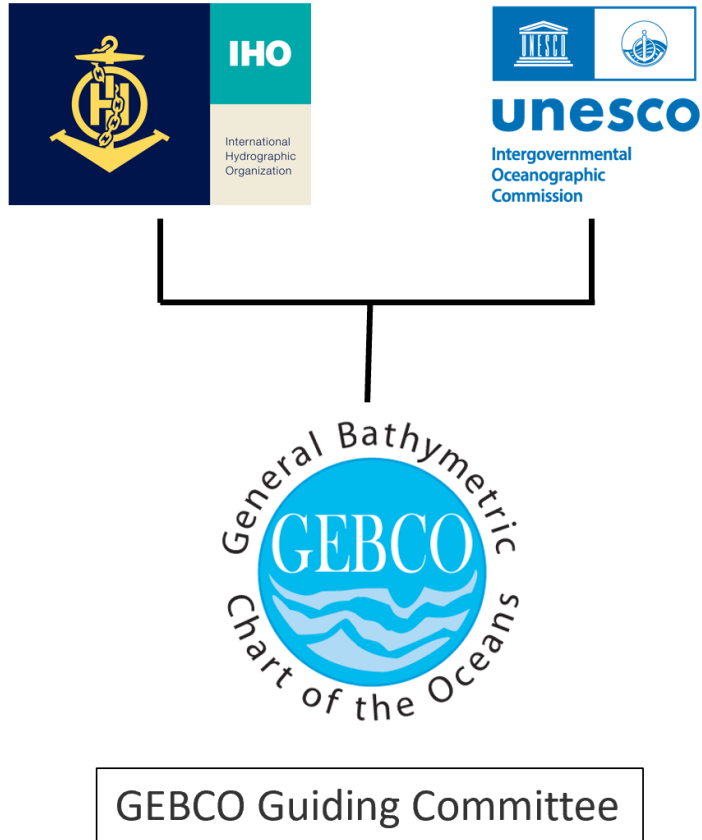
The General Bathymetric Chart of the Oceans GEBCO



Established
1903



GEBCO



Joint programme of:

- The International Hydrographic Organization (IHO)
- &
- The Intergovernmental Oceanographic Commission (IOC/UNESCO)

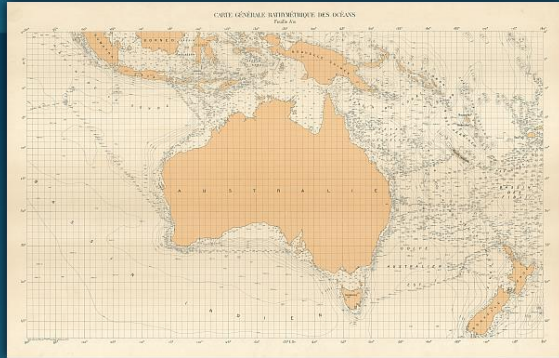
Aim: provide authoritative, publicly-available bathymetry (depth) data sets of the world's oceans

Mainly voluntary international community of:

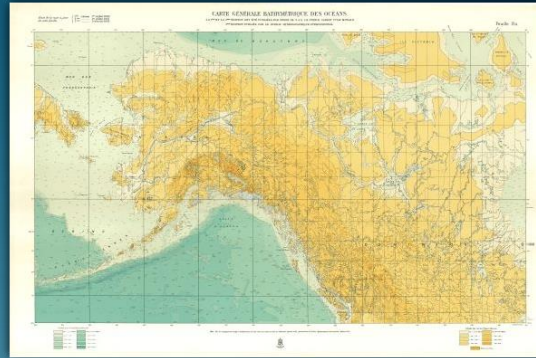
- Scientists
- Oceanographers
- Hydrographers
- Citizens

GEBCO over the decades

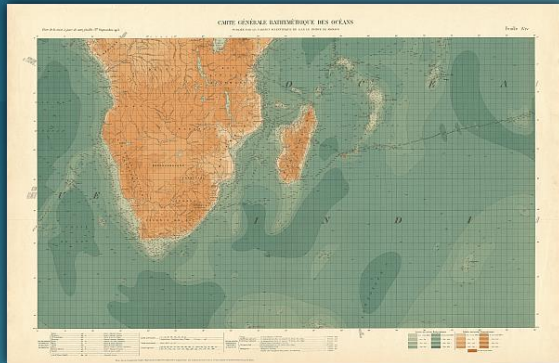
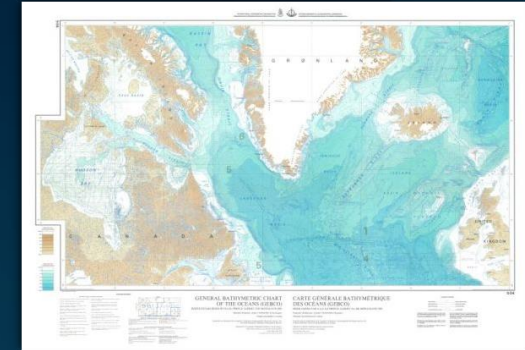
1st Edition 1903



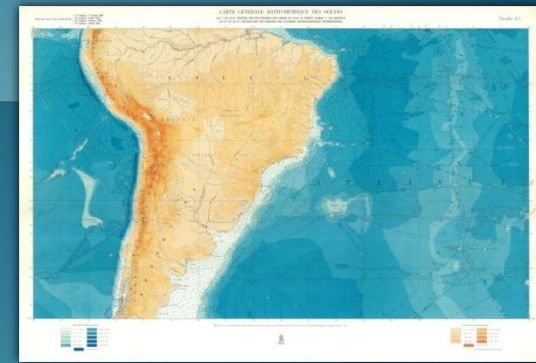
3rd Edition 1932-66



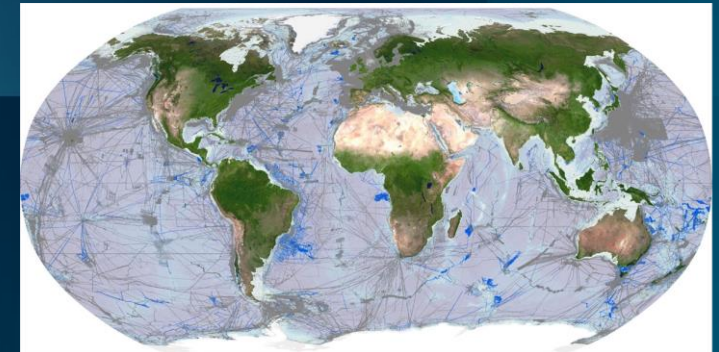
5th Edition 1973-82



2nd Edition 1910-30



4th Edition 1958-73



2023 Release

The Nippon Foundation-GEBCO Seabed 2030 Project



June 2016



June 2017



June 2021

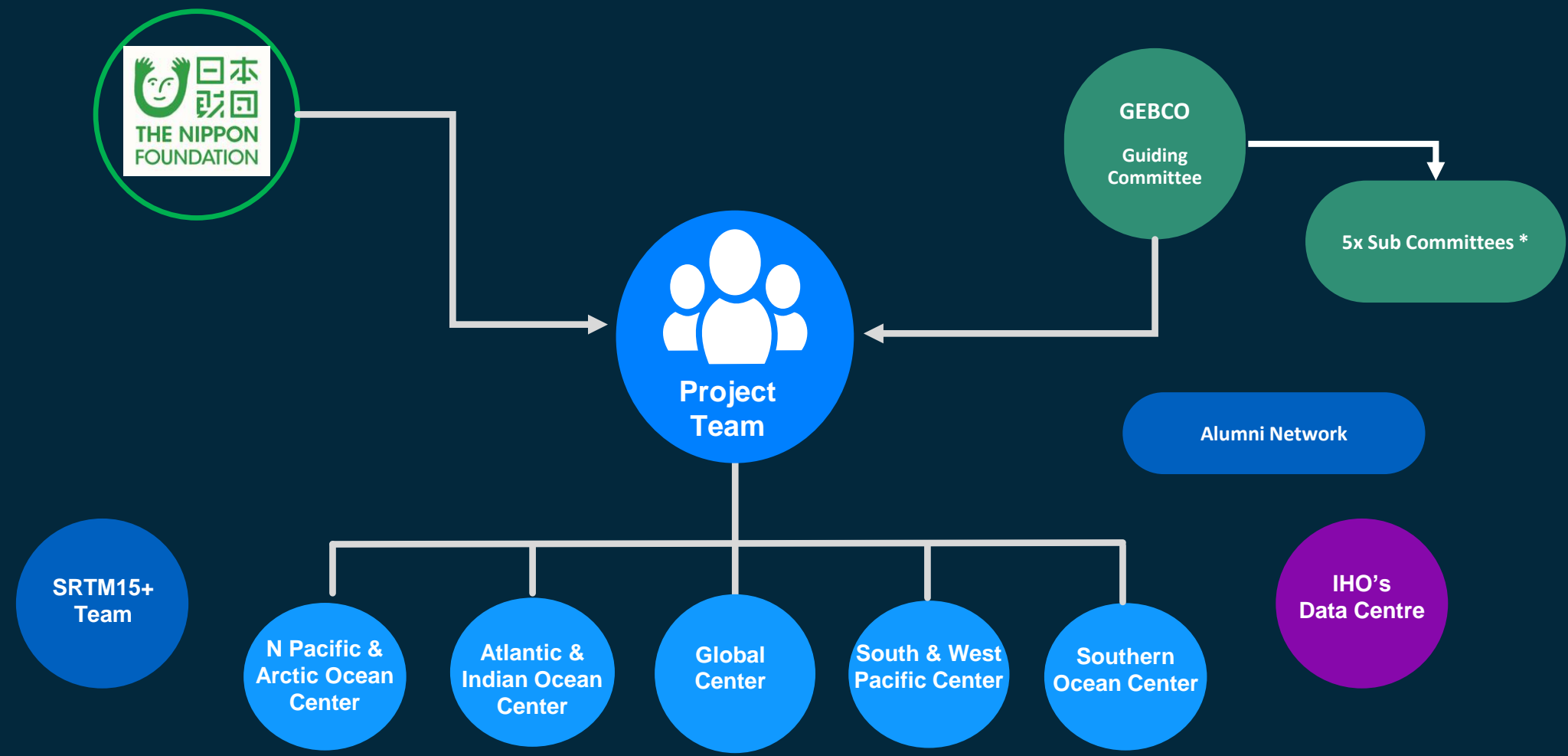


Seabed 2030 = accelerator to GEBCO's aim

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**

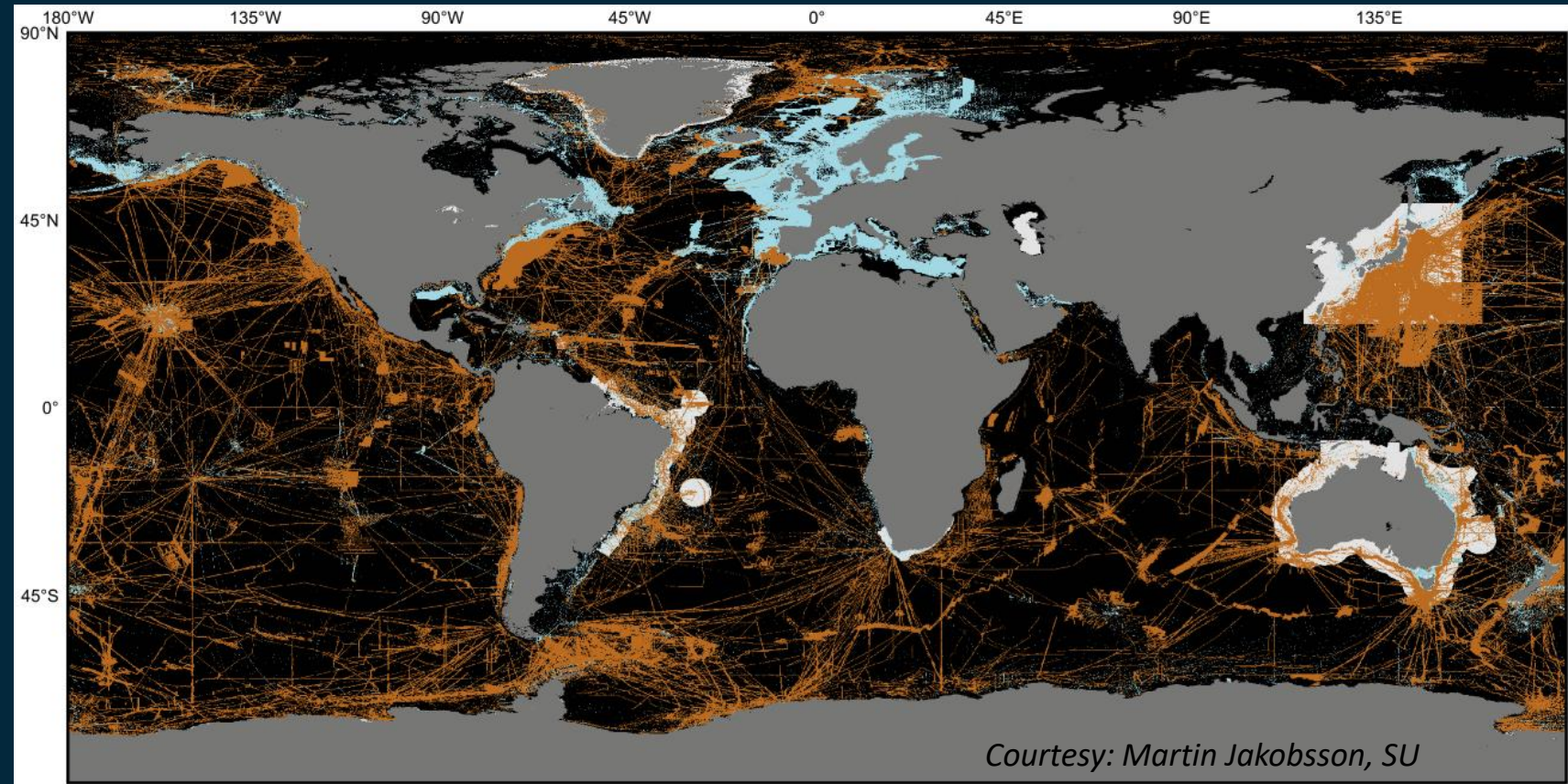
OCEAN DECADE CHALLENGES

	Pollutants	Coastal -bathymetry
	Ecosystems	Mapping central
	Food from the Ocean	Bathymetry dependent
	Ocean economy	Mapping intensive
	Ocean-climate nexus	Modelling, SLR, etc.
	Ocean-related risks	Bathymetry intensive
	Ocean observing system	Georeferencing
	Ocean digital representation	Central facility
	Capacity development	Strongly needed
	Behaviour change	Resonates with people

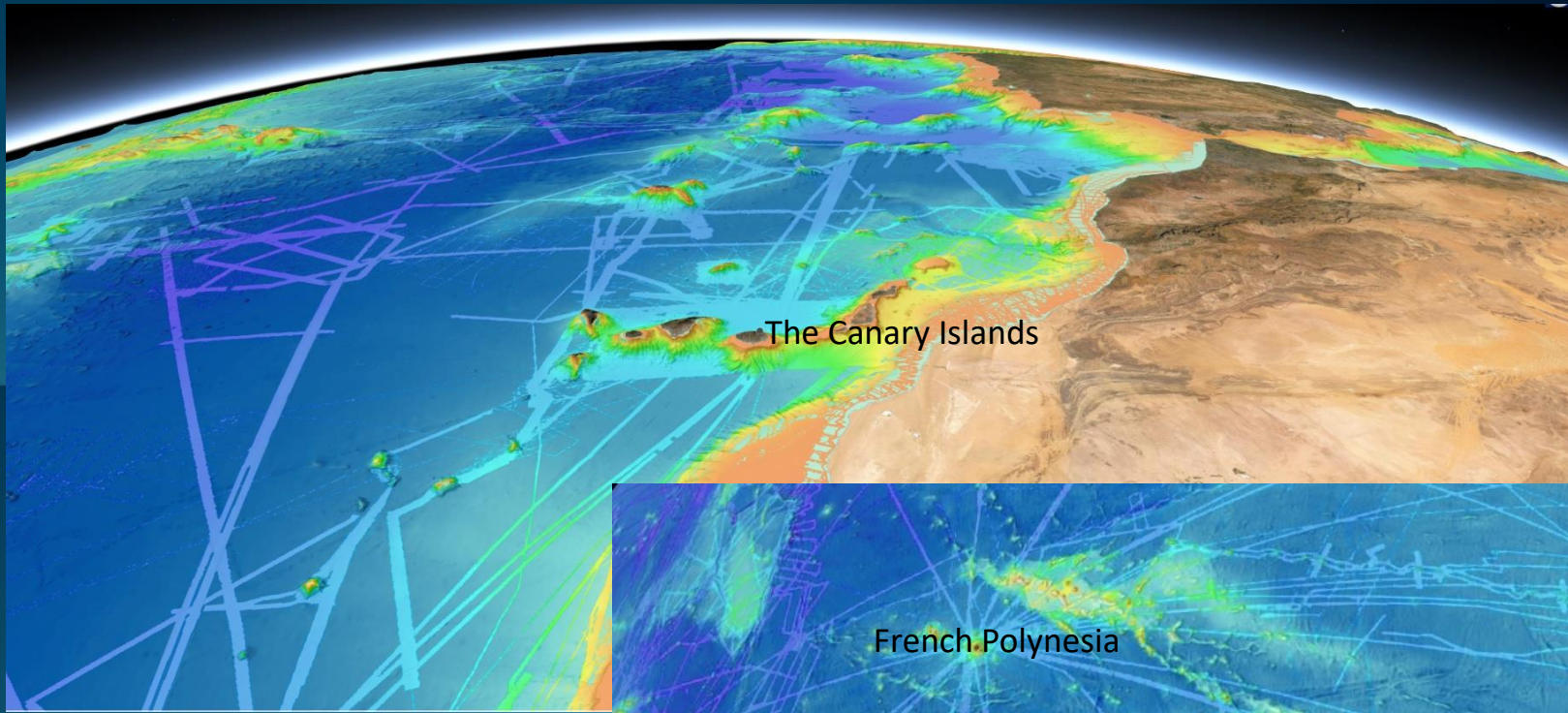
Progress so far ...

GEBCO Map:

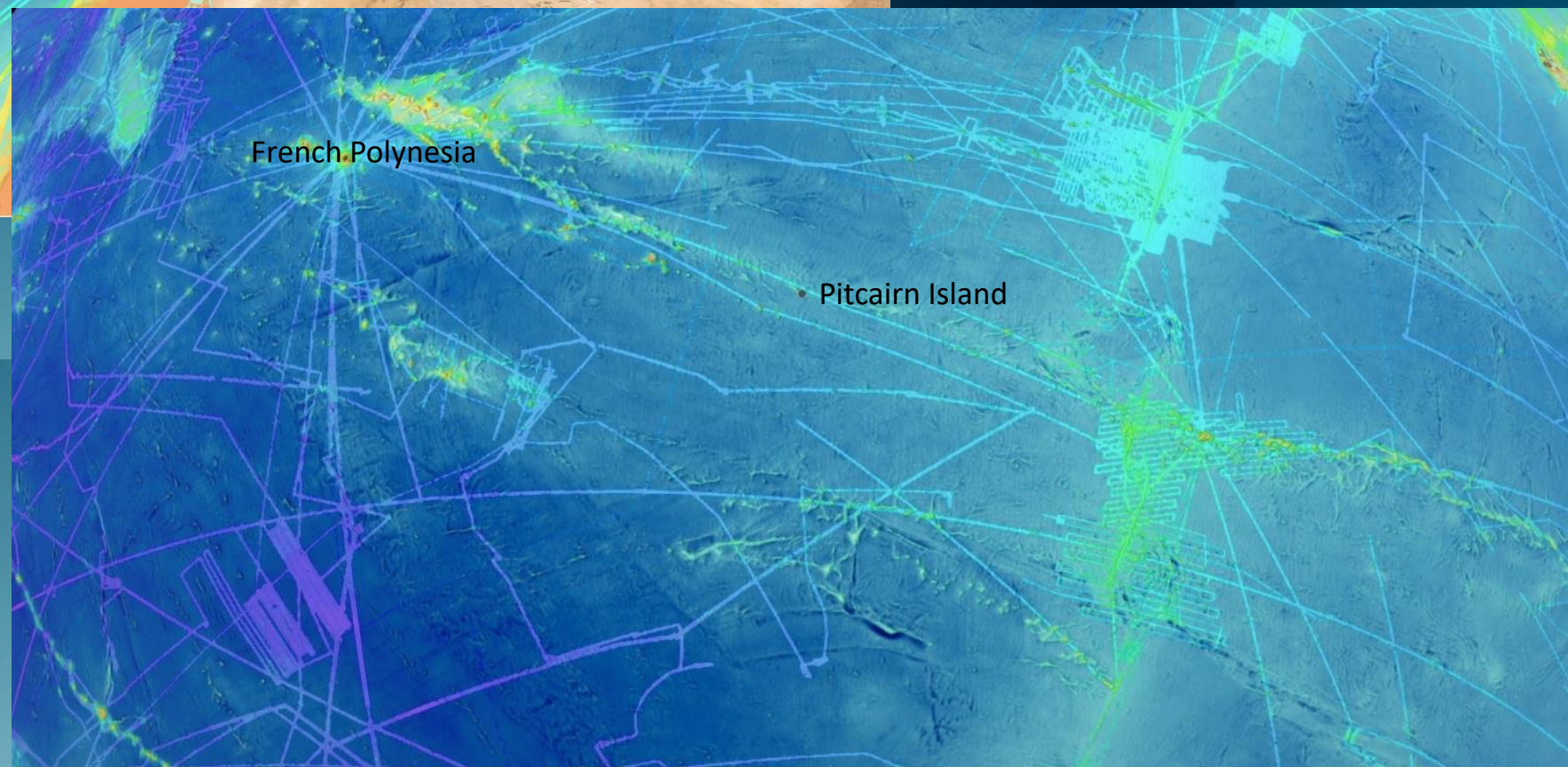
- *6% in 2017*
- Now **24.9%**
 - *90.1 million KM2*
 - *5 x South America*
 - *3 x Africa*



3/4 of ocean floor still to go



**Paucity of
Depth Information**



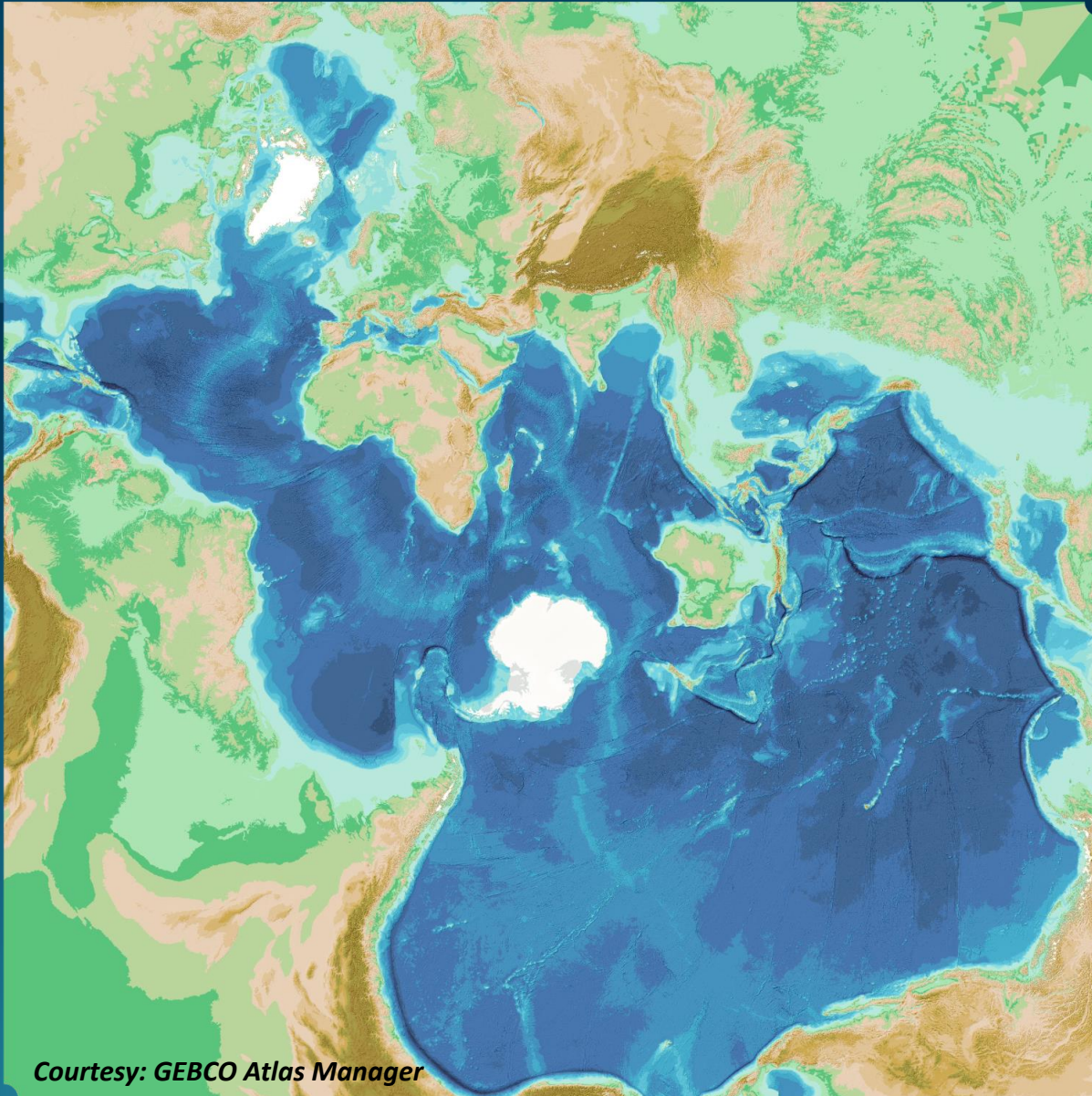
**To manage
effectively**
...we must map

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**

Thank you

