The Nippon Foundation-GEBCO Seabed 2030 Project

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Seabed 2030

A collaborative project between The Nippon Foundation and GEBCO to inspire the complete mapping of the world's ocean by 2030 and to compile all bathymetric data into the freely-available GEBCO Ocean Map.

THE NIPPON FOUNDATION

GEBCO

United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

*-The **Nippon Foundation** is a private Japanese-based, non-profit grant-making organization with a mission based around philanthropic activities to pursue global maritime development and assistance for humanitarian work.*

*-The **General Bathymetric Chart of the Oceans (GEBCO)** organization operates under the joint auspices of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO*

Empower the world to ***make policy decisions, use the ocean sustainably***, and ***undertake scientific research*** that is informed by a detailed understanding of the global ocean floor.

Only a small portion of the ocean has been mapped with direct measurement.
*~ 50% of the world's coastal waters remain unsurveyed**

*IHO publication C-55, Status of Surveying and Charting Worldwide

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Vision Established through 2016 Forum for Future Ocean Floor Mapping

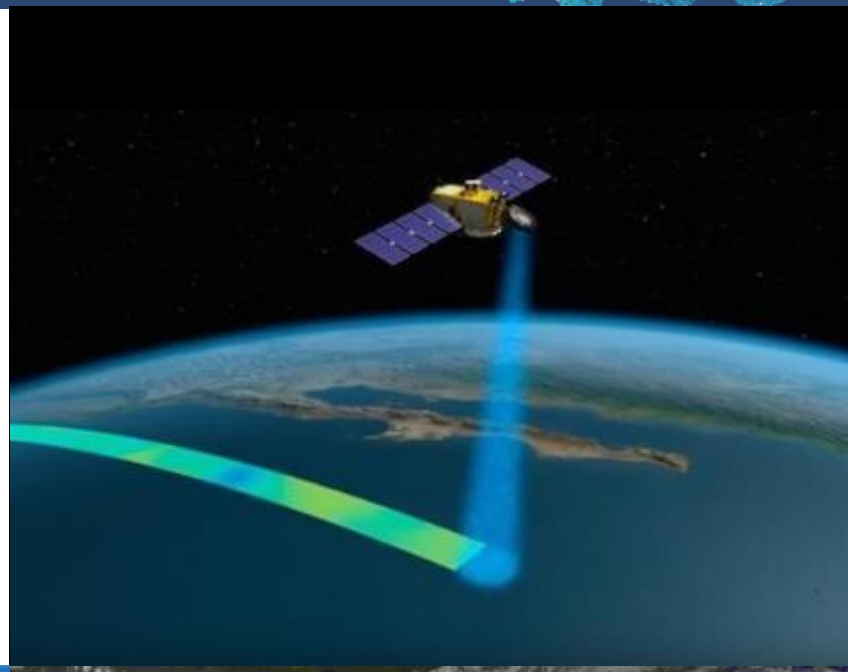
Forum for Future Ocean Floor Mapping

Project Announced at 2017 UN Ocean Conference

THE OCEAN CONFERENCE

Why are Bathymetry Data Important?

- Nautical charts
- Oil and gas exploration
- Safety and storm surge/tsunami inundation models
- Ecosystem identification and management
- Emergency response
- Satellite verification models
- Ocean Models
- Coastal/Marine Spatial Planning
- Coastal Hazard Assessment
- Ocean Exploration
- Coastal Change Analysis
- Sea Level Rise Mitigation
- New Energy Siting
- Marine heritage



The UN Decade of Ocean Science for Sustainable Development (2021-2030)

CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

14 LIFE BELOW WATER

SDG14 will not be achievable without a comprehensive map of the world ocean floor

A Vision for the Decade

Develop scientific knowledge, build infrastructure and foster partnerships for a sustainable and healthy ocean

United Nations Educational, Scientific and Cultural Organization · Intergovernmental Oceanographic Commission · Sustainable Development Goals

Seabed 2030 Strategy

Partnership

- Work with all stakeholders to form a global coalition dedicated to giving the world a complete GEBCO Ocean Map.

Sharing and acknowledging

- Encourage and facilitate the sharing of bathymetric data, giving due acknowledgement to Partners and data contributors.

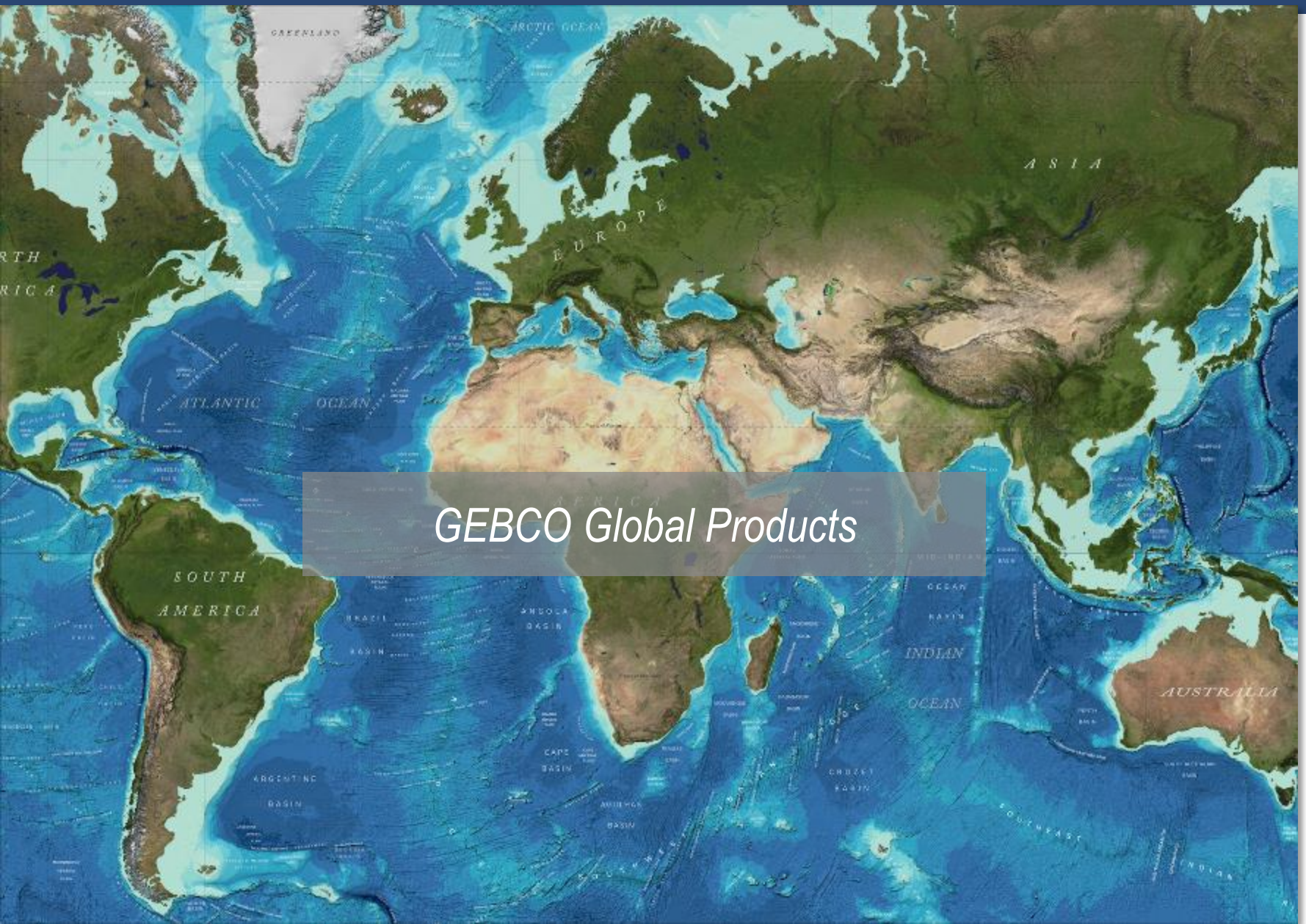
Invest in human capacity development

- Invest in capacity development to increase skills and greater capacity in ocean mapping, and meet growing needs of big data analysis and visualization.

Leverage technology innovation

- Work with technology partners to apply new mapping and data analysis techniques to support Seabed 2030’s mission.

Seabed 2030 Regional Data Assembly



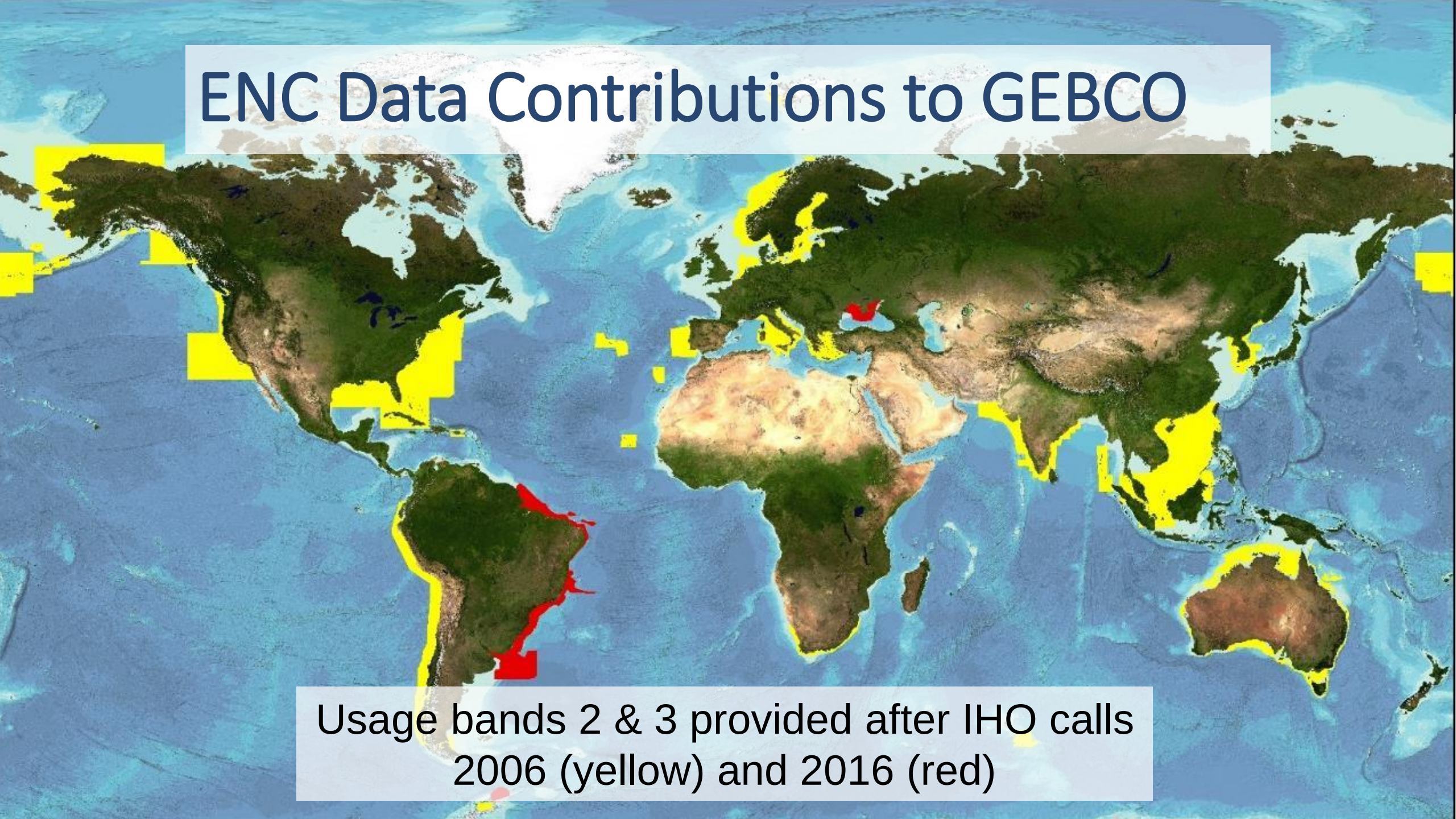
Seabed 2030: Data Centers

- Coordinate with stakeholders
- Build upon ongoing regional efforts including IBCs
- Develop mechanisms for attribution
- Assemble regional & global data products

Data Sources: *Power of the Crowd*

- Government
  - Survey Vessels
- Academic
  - Research Vessels
- Industry
  - Survey Vessels
  - Cruise Ships
  - Fishing Boats
- Public
  - Private Boats and Yachts
  - Recreational Mariners

ENC Data Contributions to GEBCO



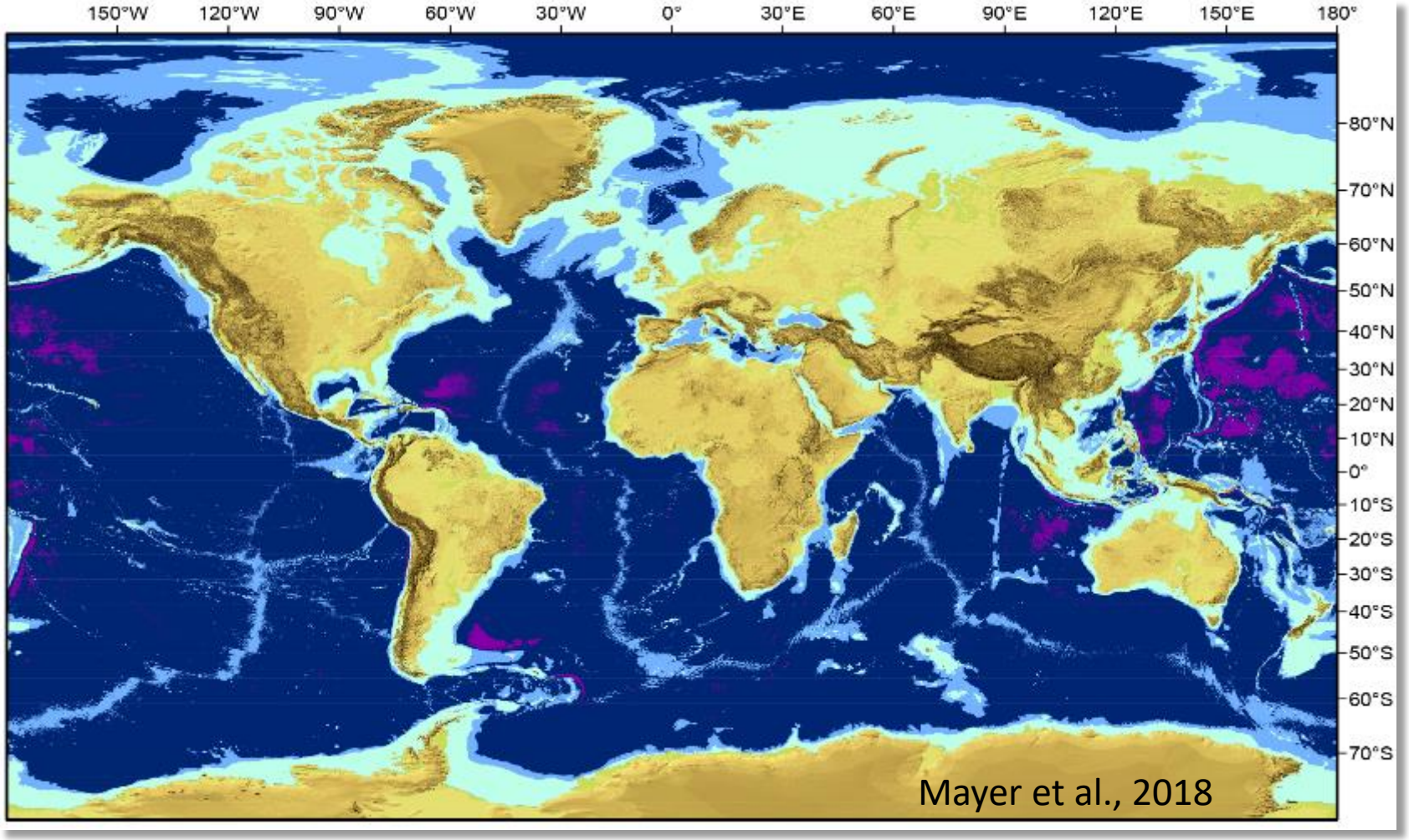
Usage bands 2 & 3 provided after IHO calls
2006 (yellow) and 2016 (red)

Coordinating with IBCs

- Seabed 2030 Atlantic/Indian Oceans Data Center
  - IBC of the Caribbean Sea & Gulf of Mexico (IBCCA)
  - IBC of the Central Eastern Atlantic (IBCEA)
  - IBC of the Mediterranean (IBCM)
  - IBC of the Western Indian Ocean (IBCWIO)
- Seabed 2030 South & West Pacific Data Center
  - IBC of the South Eastern Pacific (IBCSEP)
- Seabed 2030 Arctic/North Pacific Data Center
  - IBC of the Arctic Ocean (IBCAO)
  - IBC of the Caribbean Sea & Gulf of Mexico (IBCCA)
- Seabed 2030 Southern Ocean Data Center
  - IBC of the Southern Ocean (IBCSO)

What does “100% mapped” mean?

Depth-dependent resolution goals

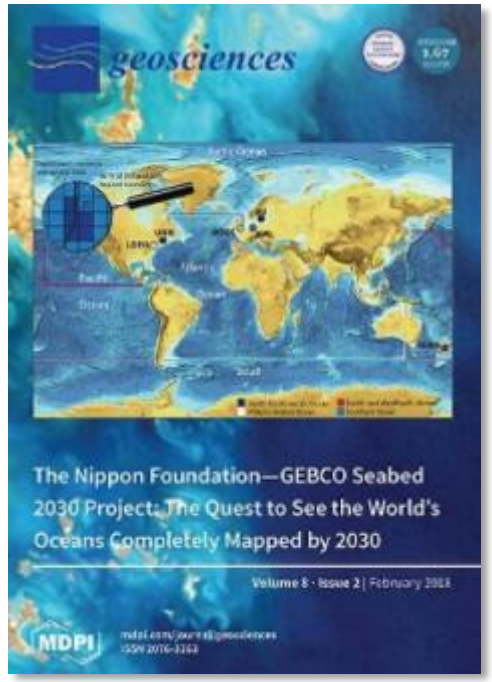


100x100 m (0-1500 m)

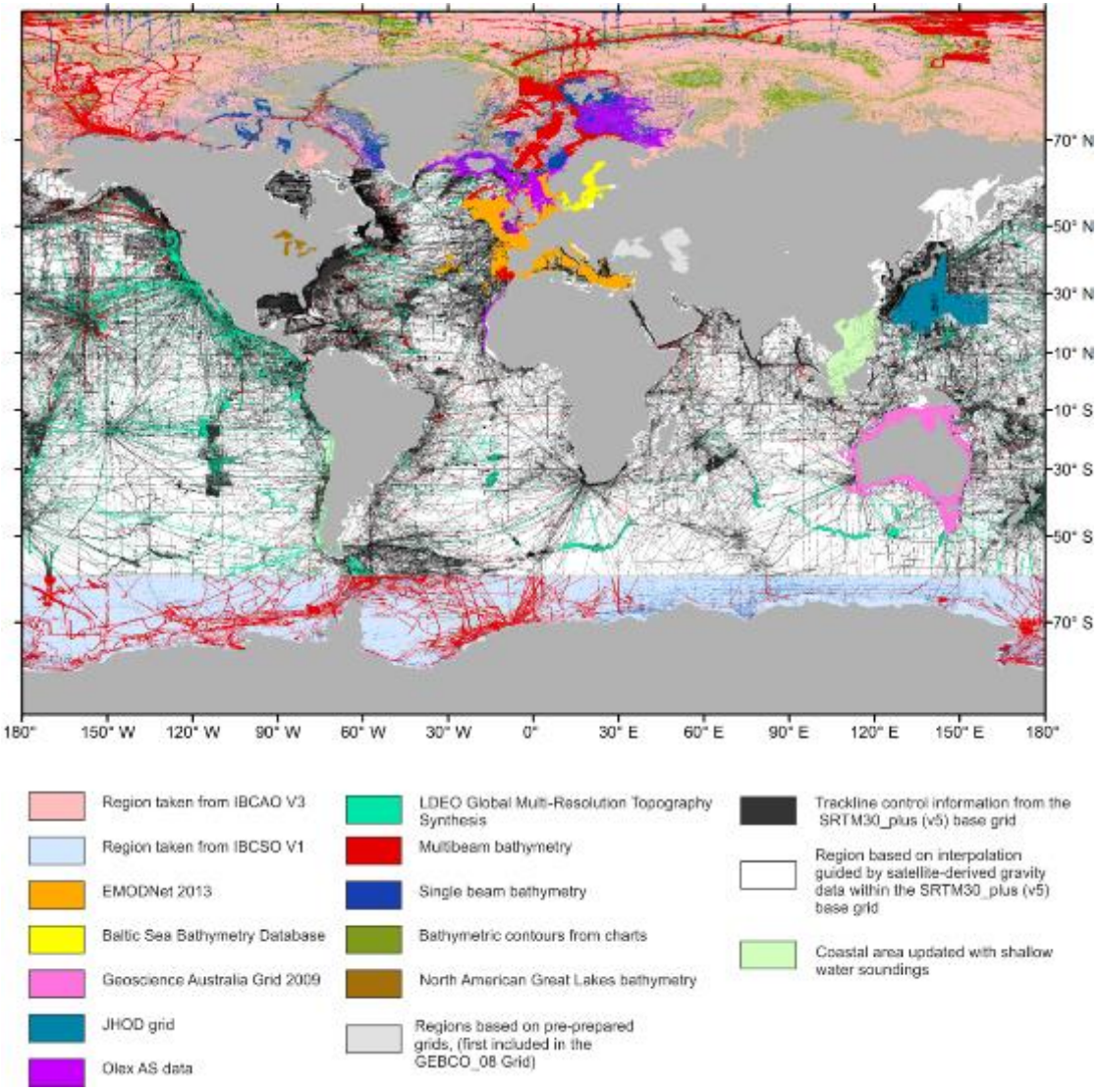
200x200 m (1500-3000 m)

400x400 m (3000-5750 m)

800x800 m (5750-11000 m)



How much of the ocean is mapped?



$$X + Y + Z = 100\%$$

known

unknown

X: Data in GEBCO products

Y: Data that exists but are not yet integrated

- Public
- Embargoed

Z: Data that must be acquired

Completing the Map

Existing data not yet integrated

- Gather information about existing data even if embargoed
- Facilitate data sharing

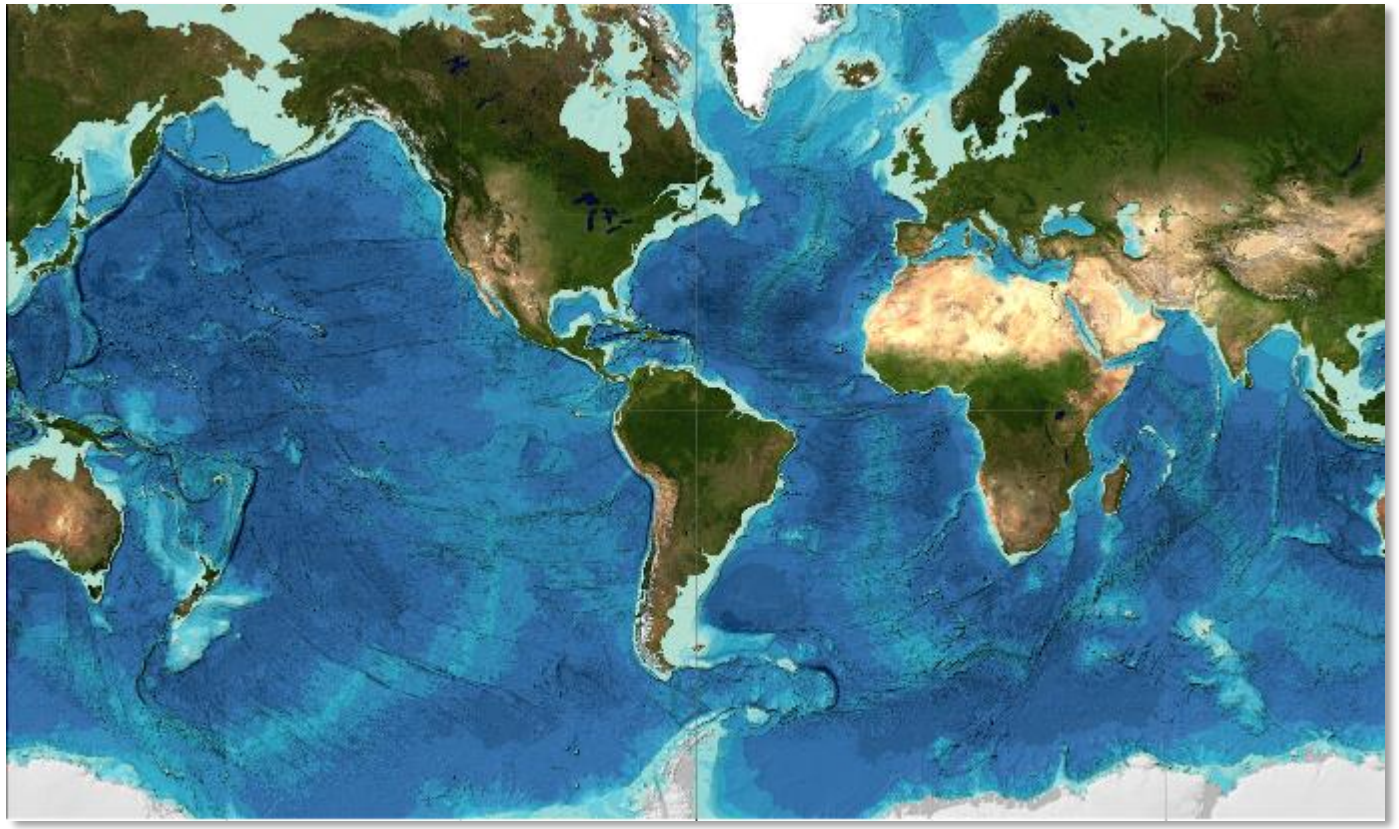
New Data Acquisition

- Identify gaps in coverage
- Inform new acquisition
- Technology innovation
- Accelerate uptake of new technology

$$X + Y + Z = 100\%$$

GEBCO 2019

- Released April 2019
- 15 arc second grid
- Coverage more than doubled
  - GEBCO 2014: 6% of goal
  - GEBCO 2019: 15% of goal
- New data from all sectors
  - Government
  - Academia
  - Industry
  - Private



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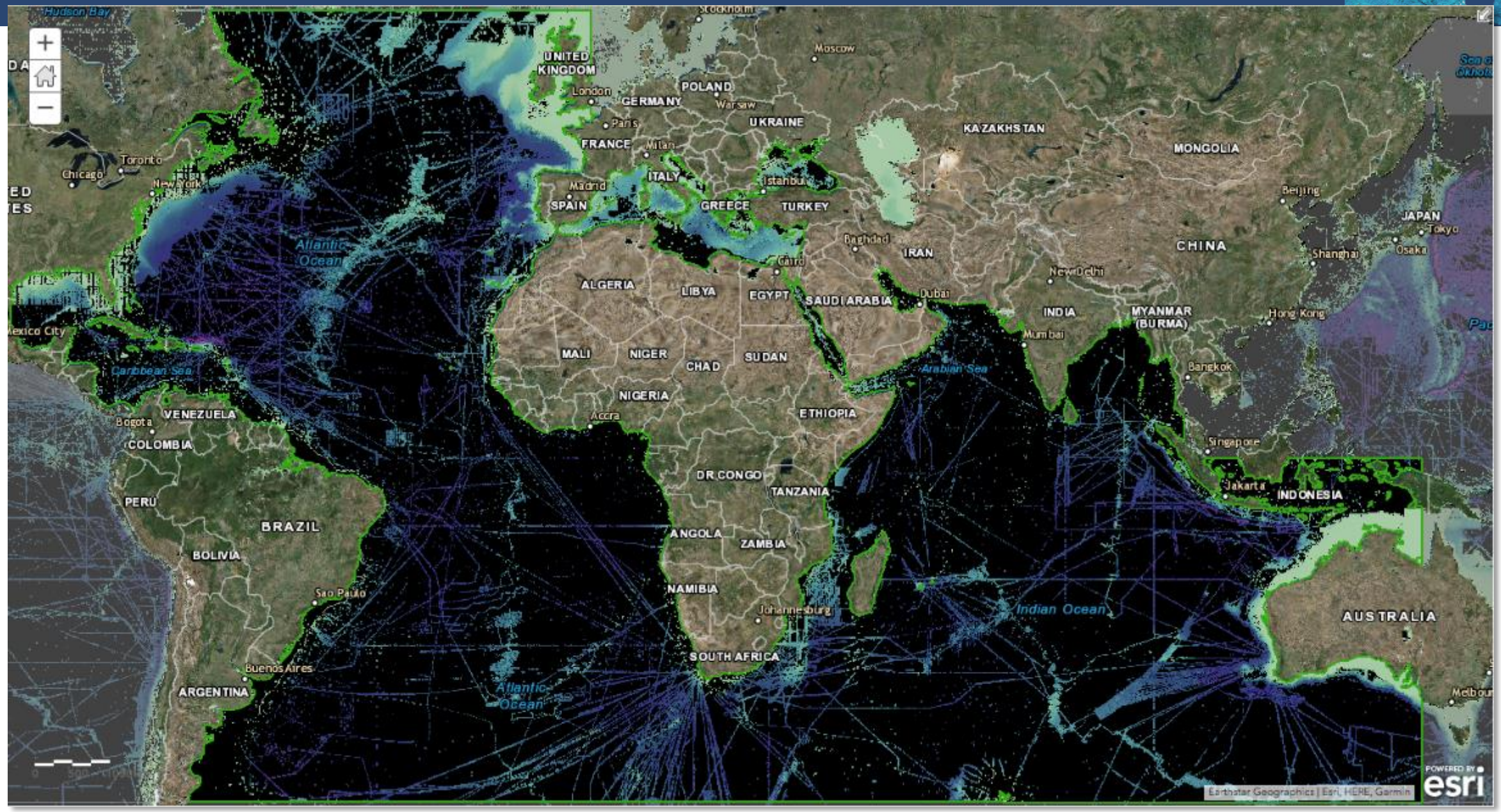
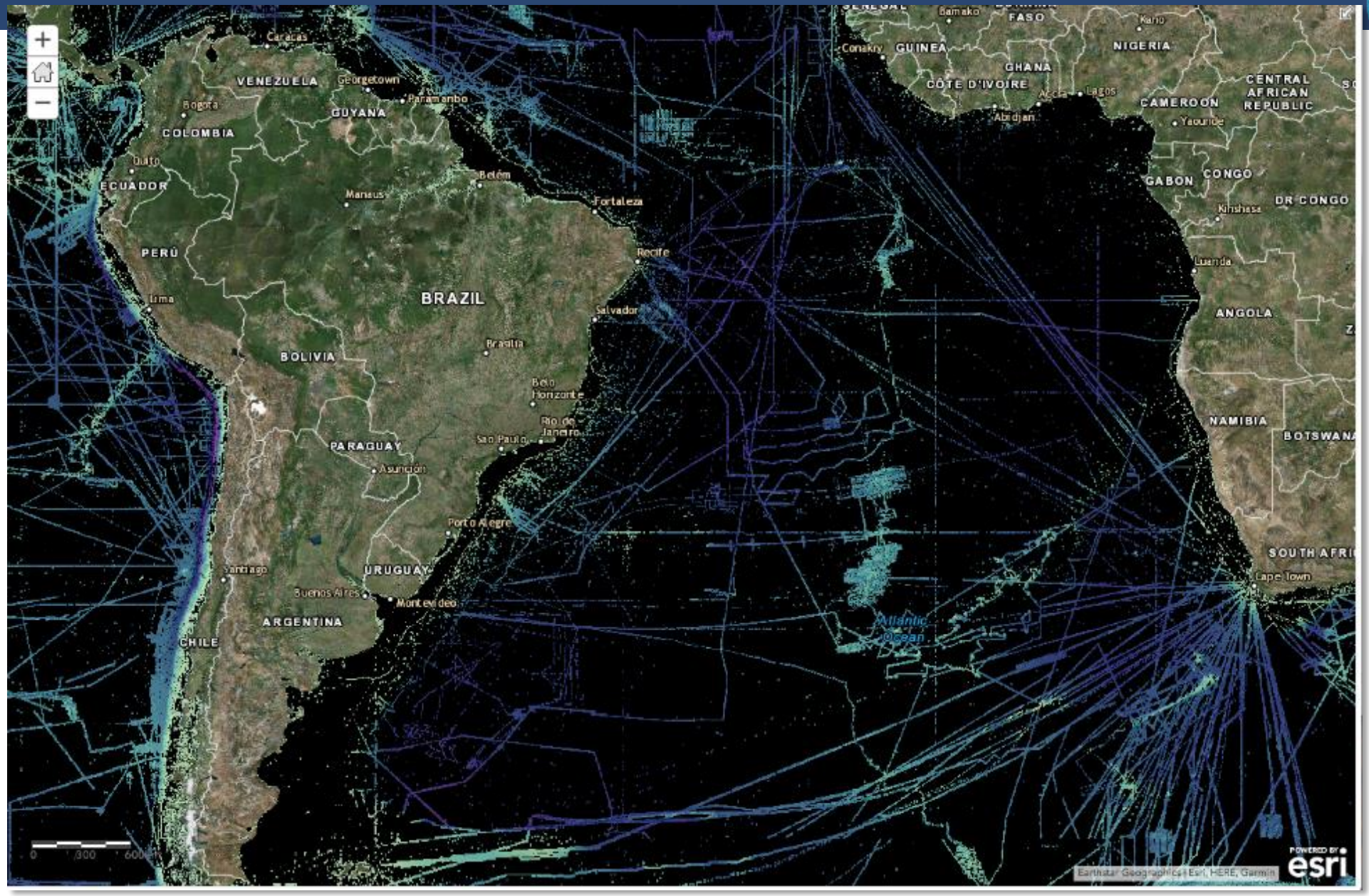
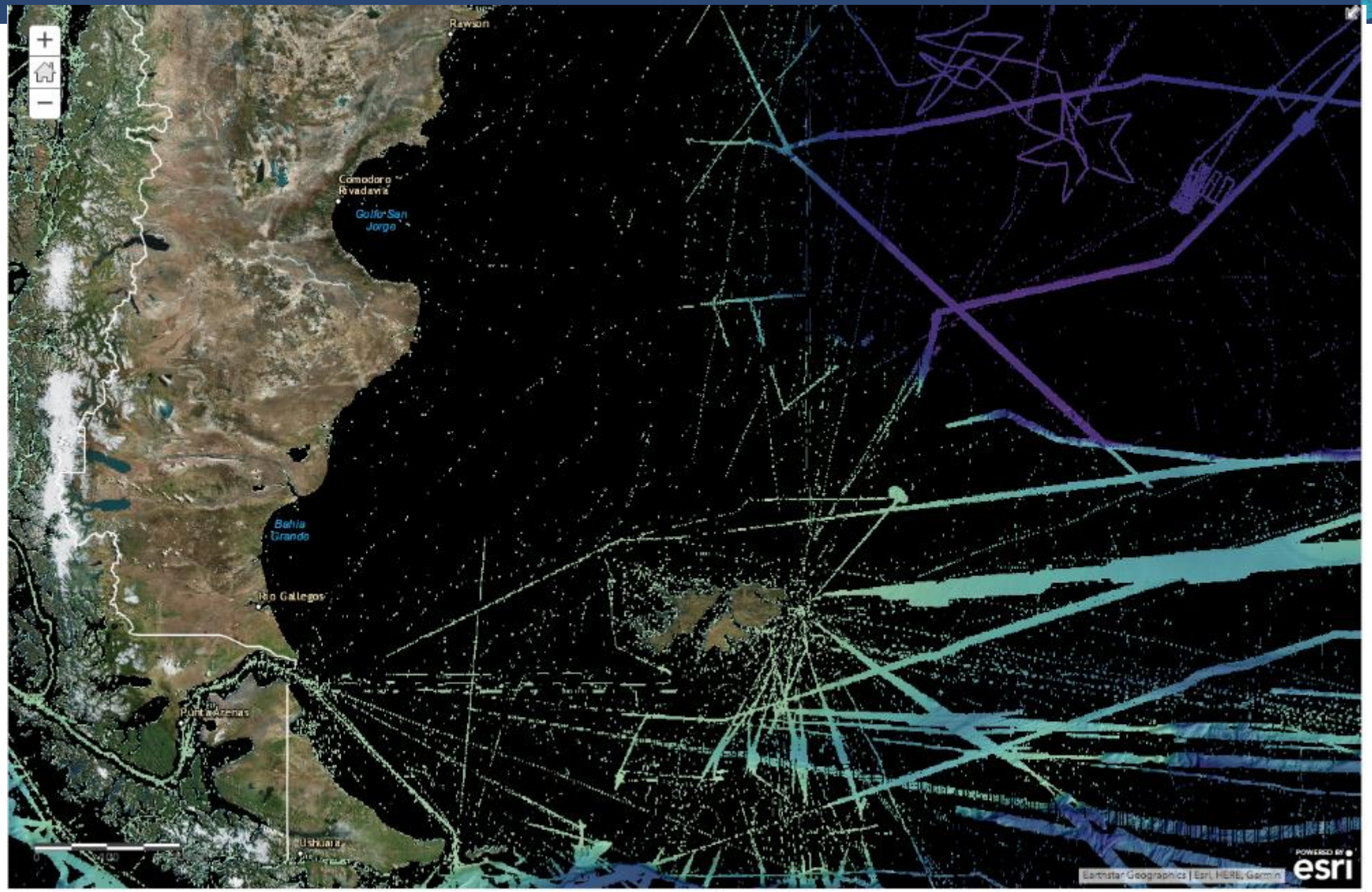
GEBCO 2019 – Atlantic/Indian Region



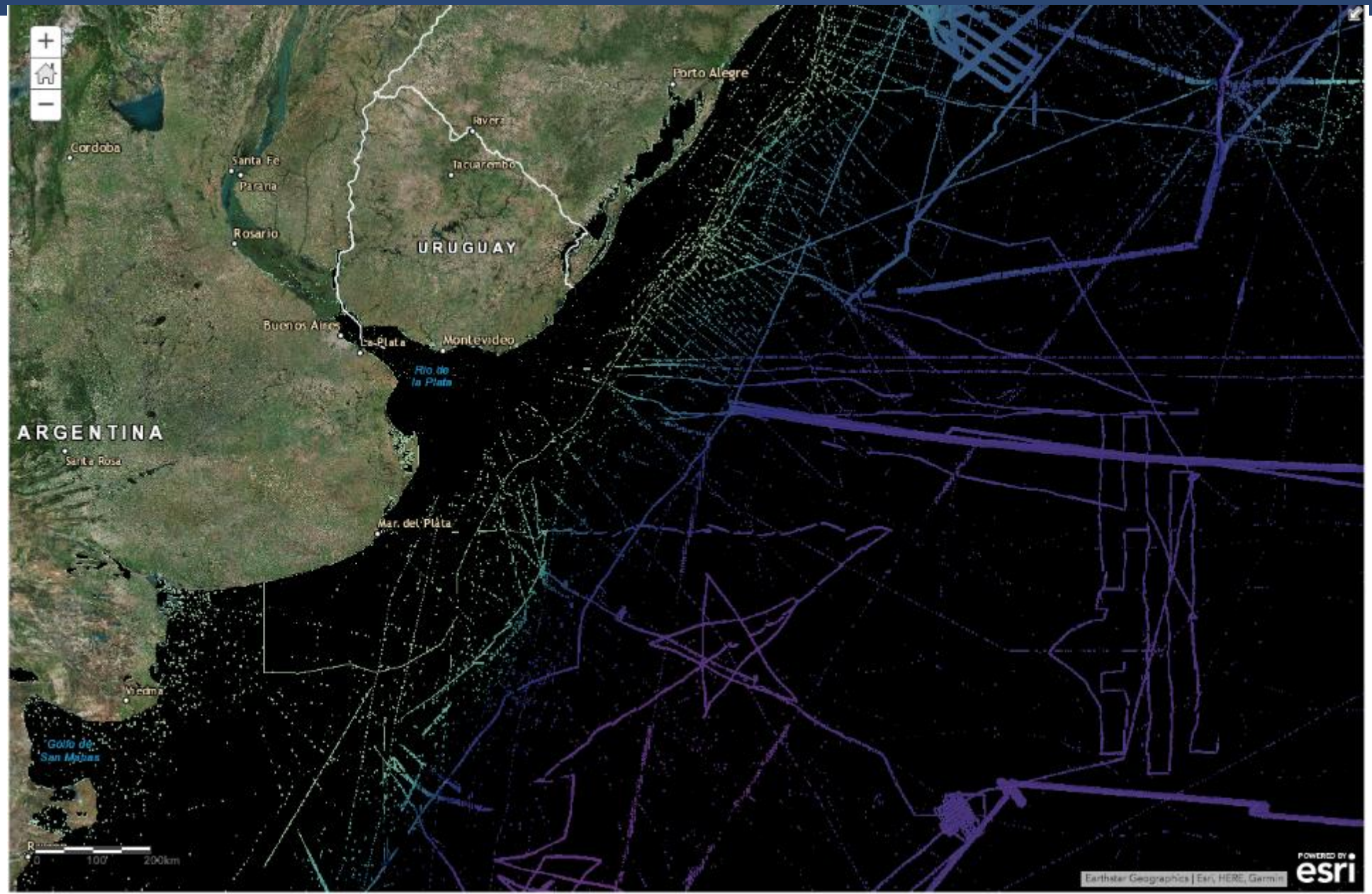
GEBCO 2019 – South Atlantic



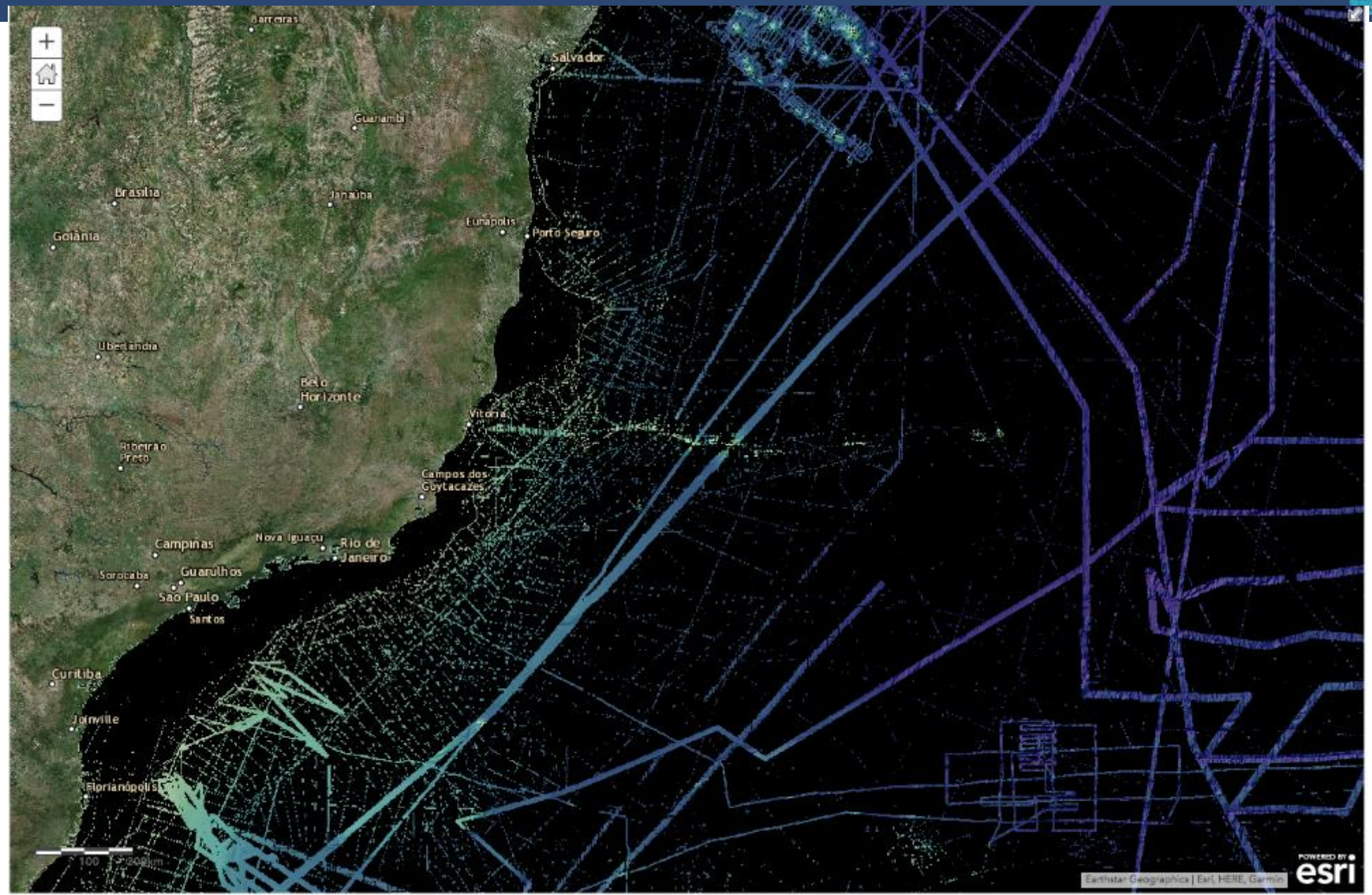
GEBCO 2019 – Southwest Atlantic



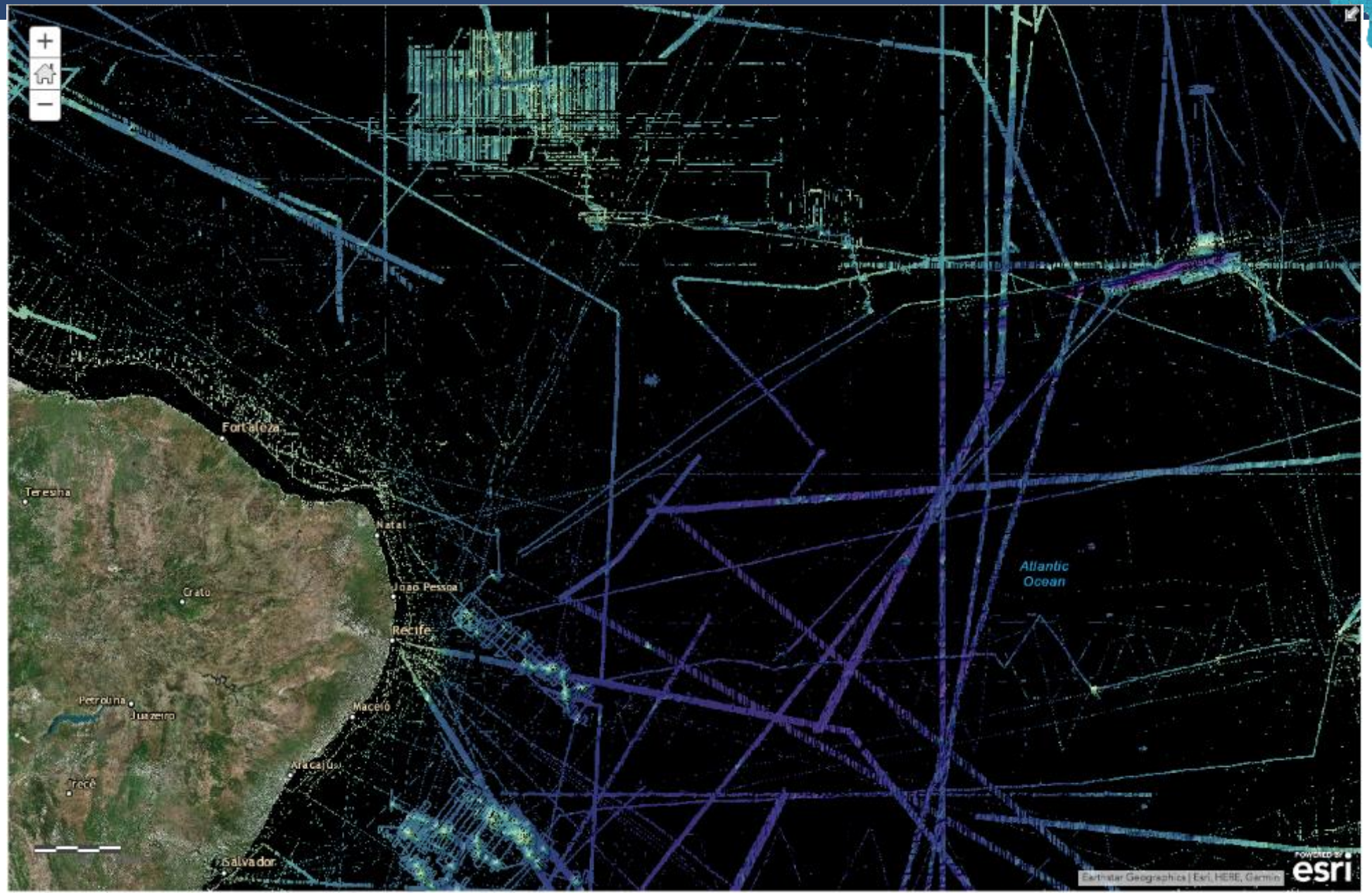
GEBCO 2019 – Southwest Atlantic



GEBCO 2019 – Southwest Atlantic



GEBCO 2019 – Southwest Atlantic



How to participate

- Contribute information about existing data coverage
- Contribute data
  - Gridded data products
  - Points from ENCs
- Share information about future mapping plans
- Engage with Data Centers
- Support and promote GEBCO activities and products

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Thank you!

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