



DCDB CSB Data Pipeline

Recent enhancements, data contributors, next steps

IHO CSBWG 11

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IHO Data Centre for Digital
Bathymetry

National Centers for
Environmental Information

National Oceanic &
Atmospheric Administration

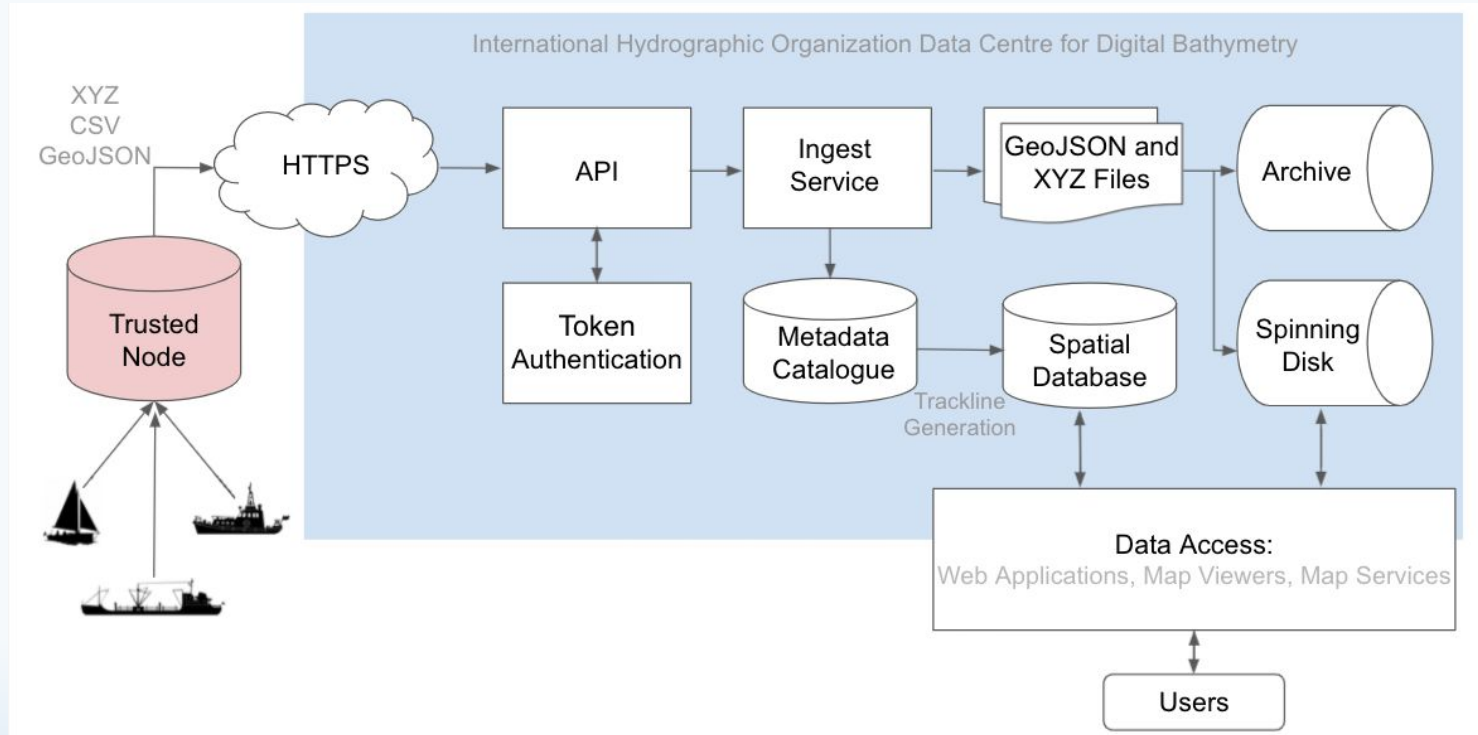
<https://www.ngdc.noaa.gov/iho/>

How to Contribute CSB Data

- The DCDB accepts CSB contributions through a network of "**Trusted Nodes**"
 - Eg: organizations, companies or universities serving as data liaisons between mariners (data collectors) and the DCDB.
 - Trusted Nodes may supply data logging equipment, provide technical support to vessels, download data from data loggers, and be responsible for data transfer directly to the DCDB.
- CSB data must be provided in either CSV or GeoJSON, and capture the minimum required information (XYZ, timestamp).



IHO DCDB CSB Pipeline



Current Trusted Nodes

Rose Point Navigation System

- Mariners can enable their electronic charting system log file to record *position, depth, and time*.

MacGregor/Carnival Cruise Line

- Data provided by Voyage Data Recorders (VDR) logging depth sounding data for IMO mandated shipborne SB devices.

FarSounder

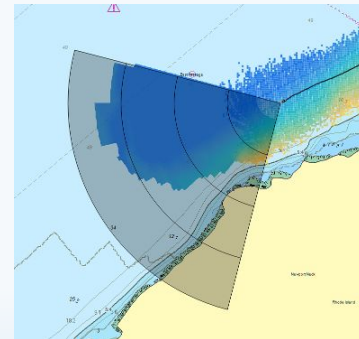
- Manufactures 3D Forward Looking Sonar
- Some clients have agreed to ALSO collect/contribute CSB

Petroleum Geo-Services (PGS)

- Recently established a new bathymetric feed from PGS vessels to the DCDB




www.rosepointnav.com



Voyage Data Recorder



CSB Data Contributions



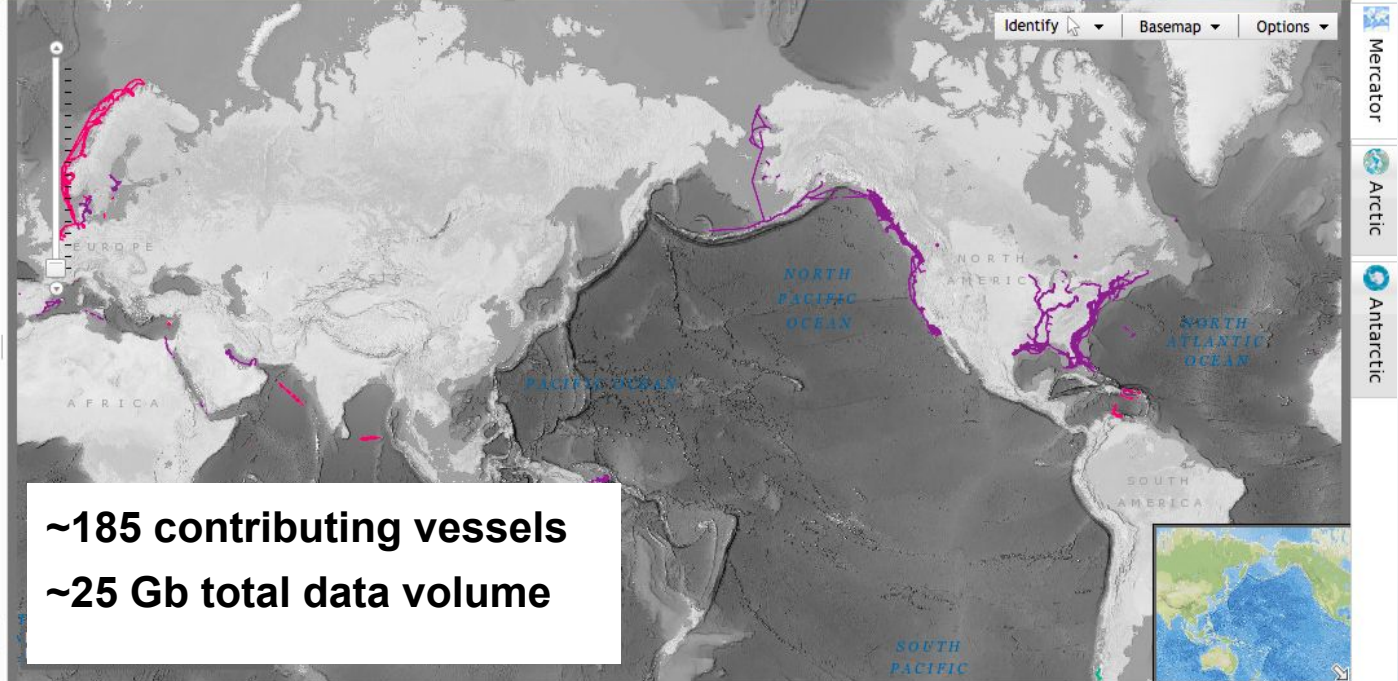
IHO
International Hydrographic Organization

Data Centre for Digital Bathymetry Viewer

Layers

- ▼ IHO DCDB/NOAA NCEI ?
 - Multibeam Surveys ?
 - Multibeam Survey Footprints ?
 - Multibeam Bathymetry Mosaic ?
 - Single-Beam Surveys ?
 - Single-Beam Sounding Density ?
 - NOAA Hydrographic Surveys: ?
 - All Surveys with Digital Data
 - Surveys with BAGs
 - BAG Shaded Relief Imagery ?
- Search NCEI/DCDB Surveys Reset ?
- Crowdsourced Bathymetry Files ?
- Search CSB Files Reset ?
- U.S. Bathymetry Coverage and Gap Analysis ?

EMODnet
Australia
Canada
France
More Information
Help

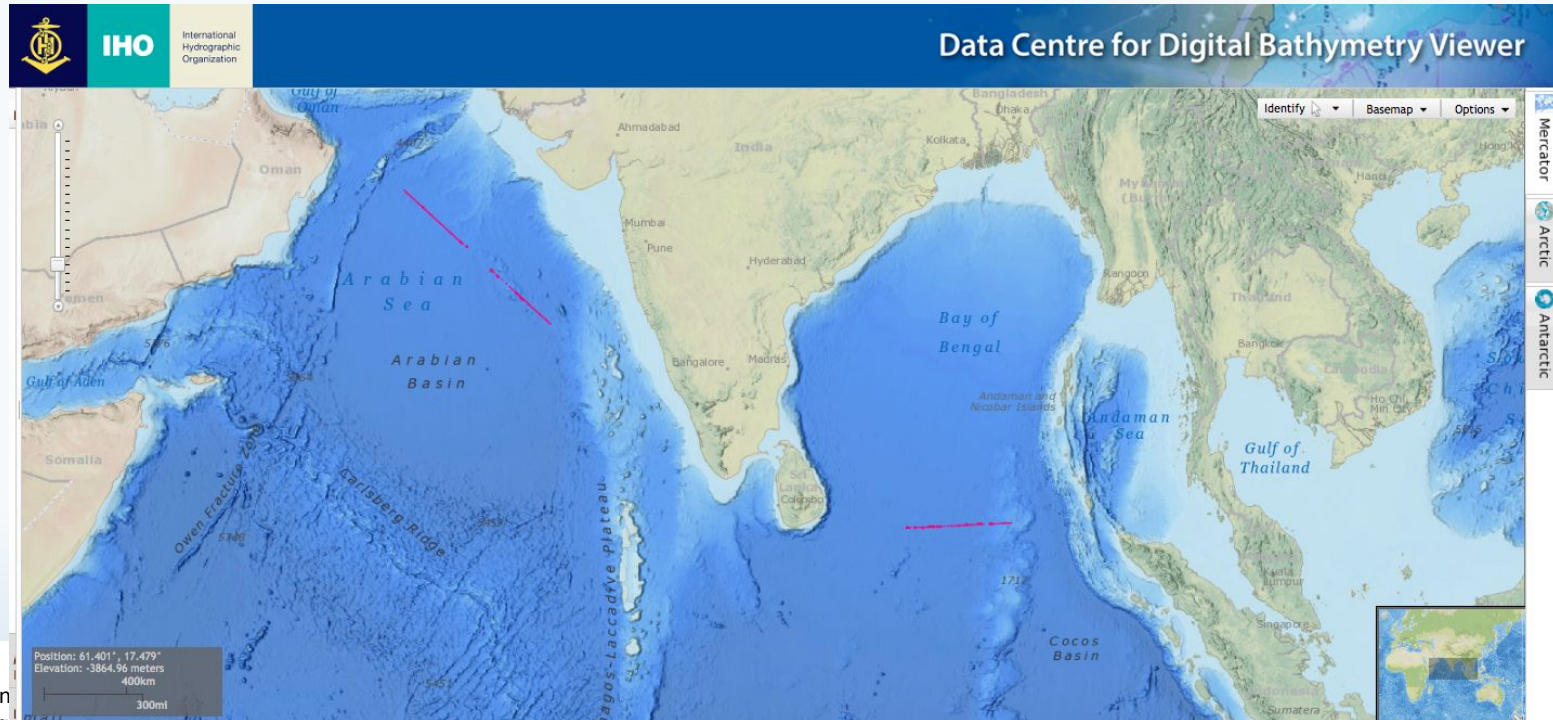


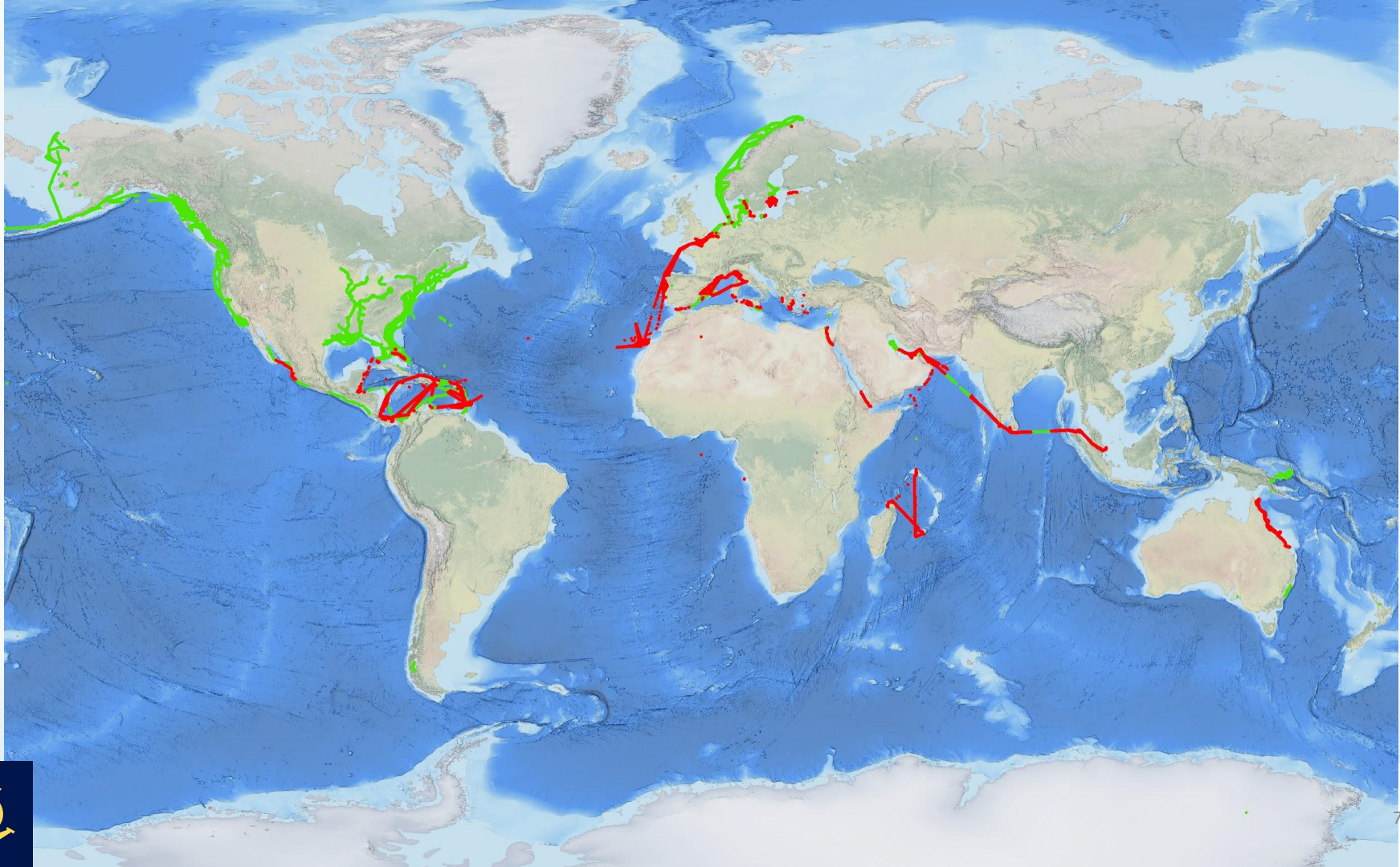
~185 contributing vessels
~25 Gb total data volume



IHO DCDB Enhancements - *Geographic Filter*

Following the feedback provided (and not provided) in response to IHO CL 11/2019, the DCDB implemented a geographic filter for incoming data to take into account coastal countries' positions on the collection of CSB in their areas of jurisdiction.





IHO DCDB Enhancements - *Geographic Filter*

- Member States are now requested to indicate their position on the ***provision of CSB data*** from ships within waters subject to their national jurisdiction into the public domain
- To date, 30 MS (green) have replied positively
- **The geographic filter will be updated in 2021 to reflect updated MS positions.**



Planned DCDB Enhancements - *Infrastructure*

Complete rebuild of crowdsourced bathymetry pipeline that will allow for:

- Improved reliability
- Greater ease in establishing trusted nodes
- Refined geographic filter
- Greater flexibility in allowed data formats
- Simplified data delivery
- Connection to cloud point store once operational

Cloud-hosted point store:

- Several ongoing pilot efforts to visualize and access CSB data from cloud-hosted point store
- Feedback from WG members needed!

The screenshot displays the 'Data Centre for Digital Bathymetry Viewer' interface. The main map shows the Gulf of Alaska region with bathymetry data overlaid in purple. A red dashed box highlights a specific area on the map, with a tooltip that reads 'This value is required.' Below the map, there are two dialog boxes. The first is titled 'Identified Features (111)' and lists a series of file names with timestamps, such as '2019-08-24T20:32 - 2019-08-28T03:02'. The second dialog box is titled 'Request Data from CSB Point Store' and contains the text: 'Please enter your email address to request these data. You will be notified when the file is ready.' It includes an 'Email:' field with a yellow highlight and a warning icon, and an 'Area of Interest:' field with the coordinates '-137.049,55.571,-129.578,56.890'. There are 'OK' and 'Cancel' buttons at the bottom of the dialog. The top right of the interface has 'Identify', 'Basemap', and 'Options' menus. A small inset map of North America is visible in the bottom right corner.

“On Deck” Trusted Nodes

James Cook University (Australia)

- Data submitted to the DCDB
- Awaiting Australia’s response to IHO CL 21/2020

Navico C-MAP

- Submissions have been tested
- Awaiting deployment of new DCDB ingest pipeline

Great Lakes Observing System (GLOS)

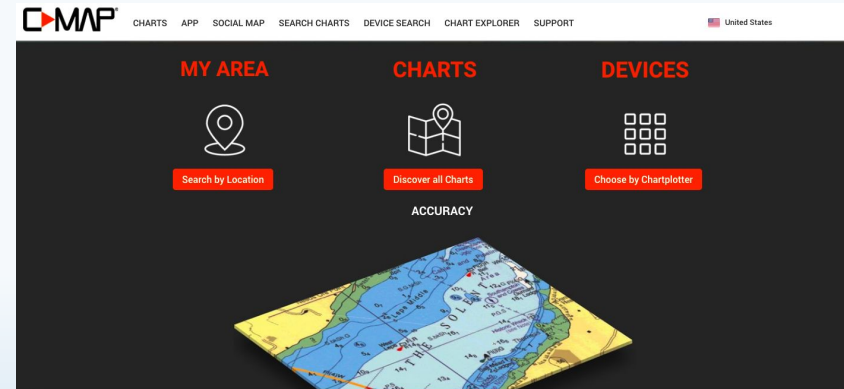
- Awaiting test submissions, initial checks are complete

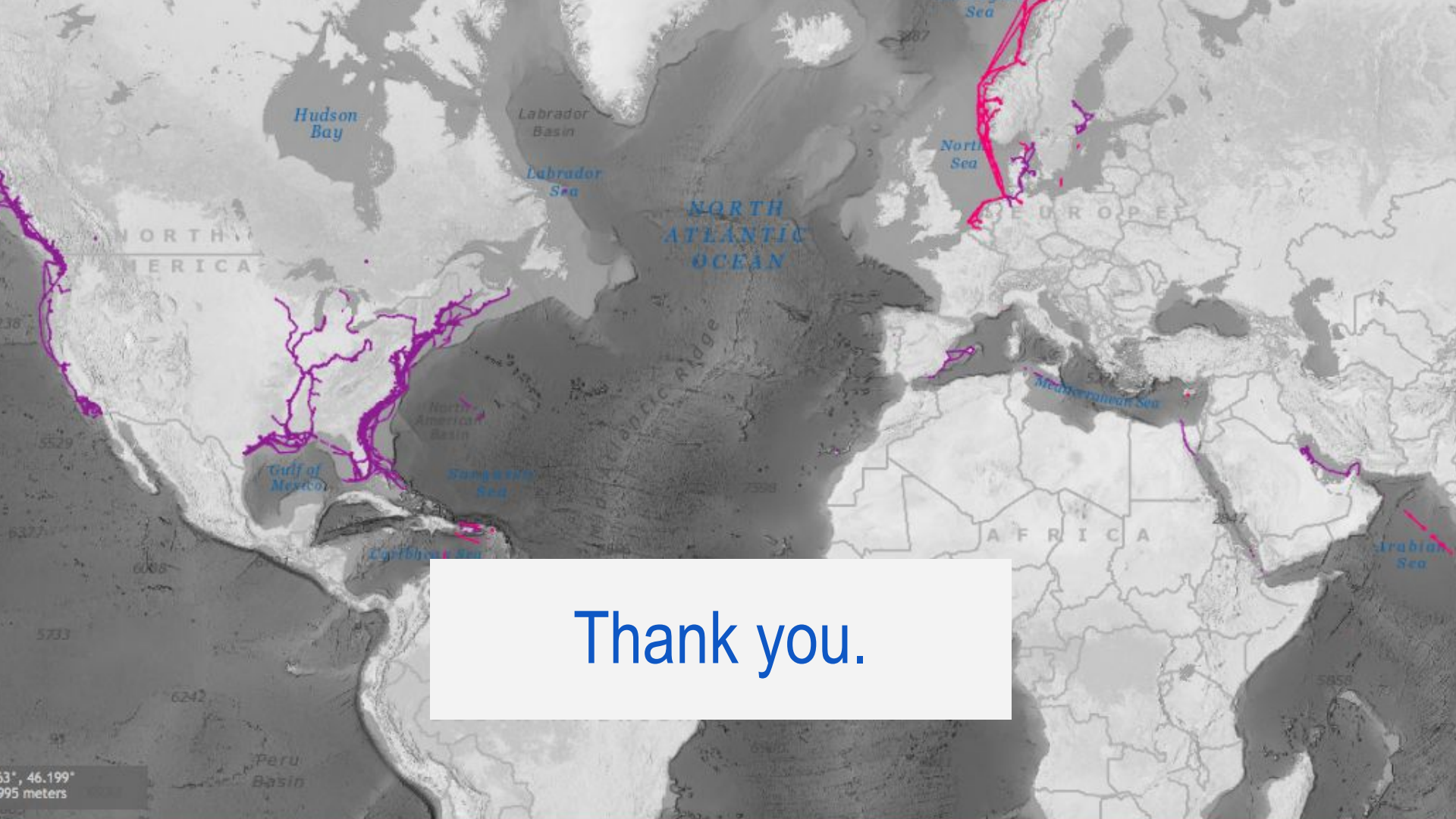
Seabed 2030-funded Projects

- South Africa, Palau, Greenland



SmartLog USB data logger





Thank you.