

# TSCOM Overview

Preliminary report  
12-13 November 2018

Hosted by Geoscience Australia and  
Land Information New Zealand

Canberra, Australia

# Role of TSCOM

- Maintain and improve GEBCO products
- Support Seabed 2030
- Monitor bathymetric data availability and encourage acquisition and exchange
- Provide scientific and technical advice on bathymetric topics
- Details about TSCOM can be found on:  
[http://www.gebco.net/about\\_us/committees\\_and\\_groups/](http://www.gebco.net/about_us/committees_and_groups/)

# TSCOM Membership

## Committee Members

Jenifer Austin – Google Ocean Program, USA

Eunmi Chang – Ziin Consulting, Univ. of Seoul

Vicki Ferrini – LDEO, USA

John Hall – Geological Survey of Israel

Timothy Kearns – OneOcean Corporation, USA

Karen Marks – NOAA, USA (Chair)

Caitlyn Raines – ESRI, USA

Marzia Rovere – Istituto di Scienze Marine, Consiglio Nazionale delle Ricerche, Italy

Thierry Schmitt – SHOM, France (Vice Chair)

Pauline Weatherall – British Oceanographic Data Center, UK

Mark Zimmerman – NOAA, USA

## Scientific Advisors

Paul Elmore, NRL, USA

Martin Jakobsson, Stockholm University, Sweden

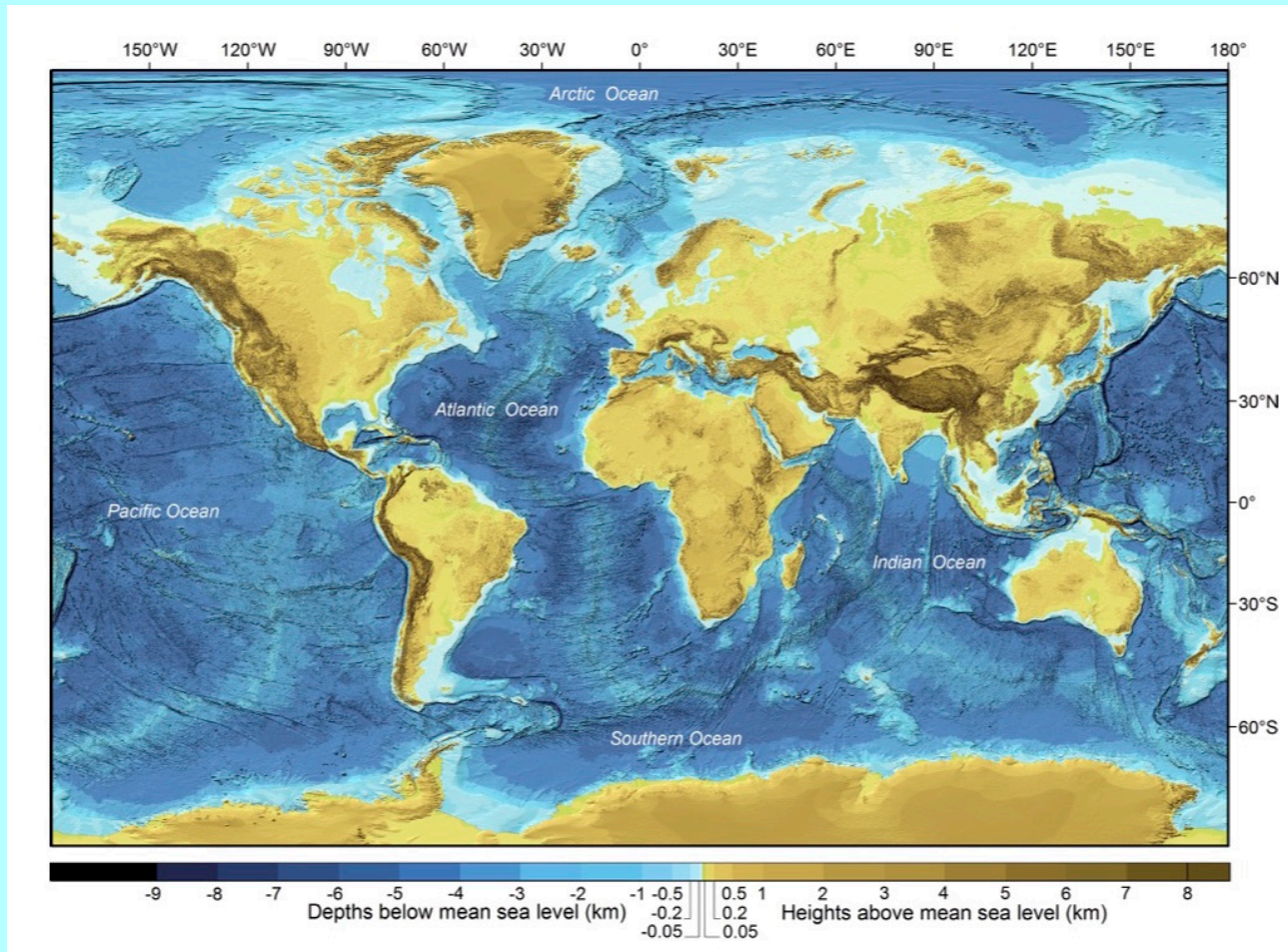
Tony Pharoah, IHO, Monaco

David Sandwell, Scripps Institution of Oceanography, USA

**Seeking new members!**

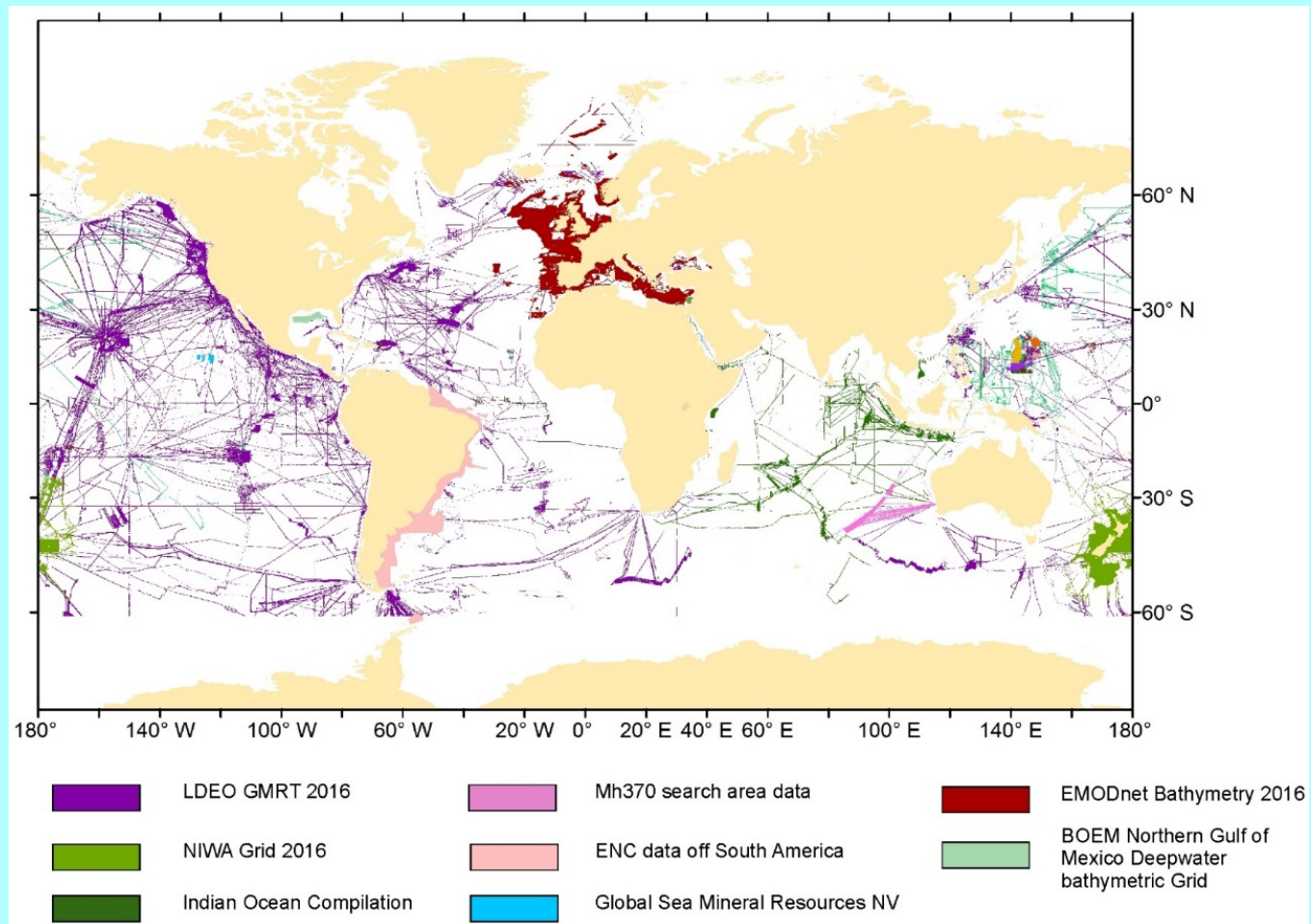


# GEBCO\_2014



- Available for download from <http://www.gebco.net>
- Next release planned Dec 2018

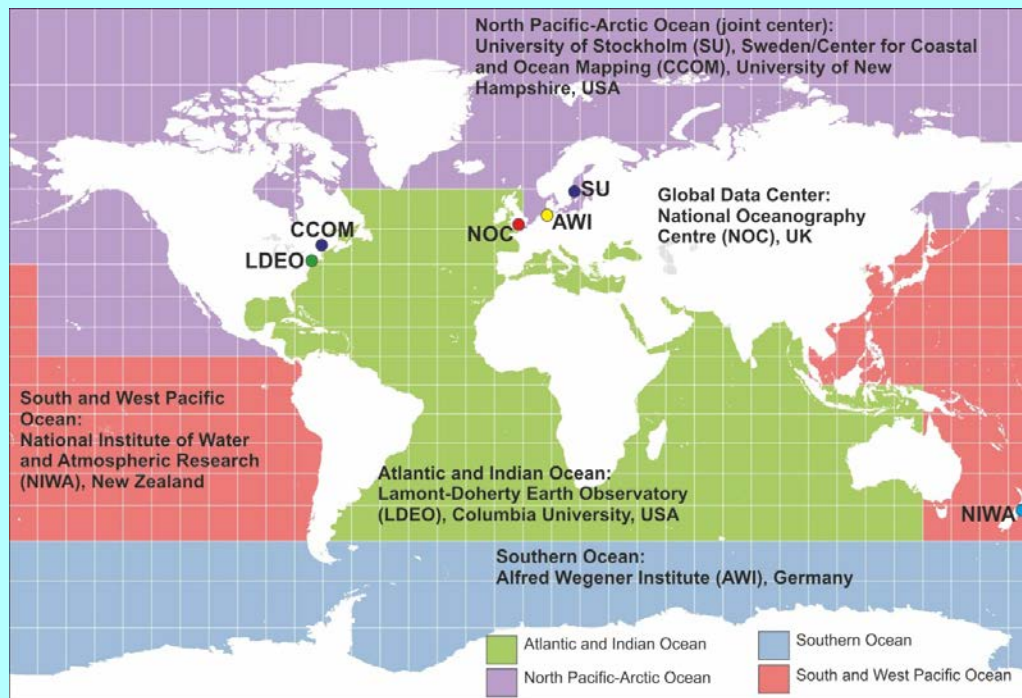
# Data sets added since GEBCO\_2014 release



- “GEBCO\_2017” is current, but not published
- Will be used as base for next release of grid

# Next release of the GEBCO grid

Coverage of the  
Regional Centers for the  
Nippon Foundation-  
GEBCO Seabed 2030  
Project



The next release of the GEBCO grid is through the Nippon Foundation-GEBCO Seabed 2030 Project framework

Overview of the concept:

- Regional Centers work to combine bathymetric data and output from existing mapping initiatives to produce a gridded data set for their region
- The Global Center will incorporate these regional grids into the global GEBCO grid



# GEBCO\_2014 Release Paper on Most Cited and Top Downloaded Articles Lists

The screenshot shows the AGU Publications website interface. At the top, there's a navigation bar with 'AGU PUBLICATIONS', 'Journals', 'Topics', 'Books', 'EOS', 'Membership', 'AGU.org', and 'Log in / Register'. Below this is a search bar with the text 'Earth and Space Science' and a search icon. The main content area features the article 'A new digital bathymetric model of the world's oceans' by Pauline Weatherall, K. M. Marks, Martin Jakobsson, Thierry Schmitt, Shin Tani, Jan Erik Arndt, Marzia Rovere, Dale Chayes, Vicki Ferrini, and Rochelle Wigley. The article is published in 'Earth and Space Science', an open access AGU journal. It has an attention score of 55, indicating it is in the top 5% of all research outputs scored by Altmetric. The article was first published on 4 August 2015. To the right of the article, there's a summary of AGU's performance: 125 articles published, 600 authors published, 121,839 article downloads, 466 total citations, and an impact factor of 3.2.

## Top Downloaded Articles

6743 Downloads	Potential for a large earthquake near Los Angeles inferred from the 2014 La Habra earthquake
4844 Downloads	Estimating climate sensitivity using two-zone energy balance models
4146 Downloads	A new digital bathymetric model of the world's oceans

## Most Cited Articles

77 Citations	An update to the Horizontal Wind Model (HWM): The quiet time thermosphere
49 Citations	A new digital bathymetric model of the world's oceans
23 Citations	Lightning locating systems: Insights on characteristics and validation techniques

# Updating the GEBCO web site



- The GEBCO web site (<https://www.gebco.net>) was updated to improve its look and make it easier for users to find and access information





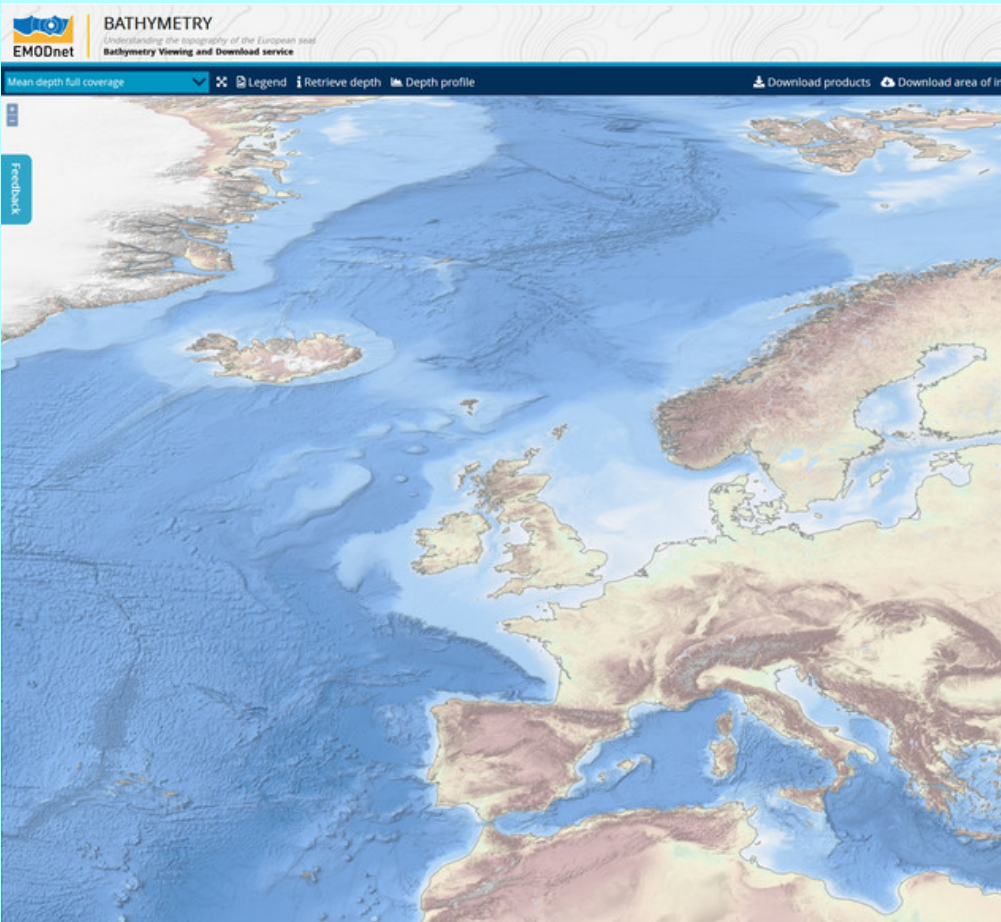
EMODnet



European Marine  
Observation and  
Data Network

# New DTM release – 21 Sept 2018

- Resolution increased from 1/8 to 1/16 arc minutes (~115 m)
- Contains ~12.3 billion data points
- Expanded coverage includes all European seas and European part of the Arctic Ocean and Barents Sea
- Satellite Derived Bathymetry data included for coastal Spain and Greece.
- <http://doi.org/10.12770/18ff0d48-b203-4a65-94a9-5fd8b0ec35f6>

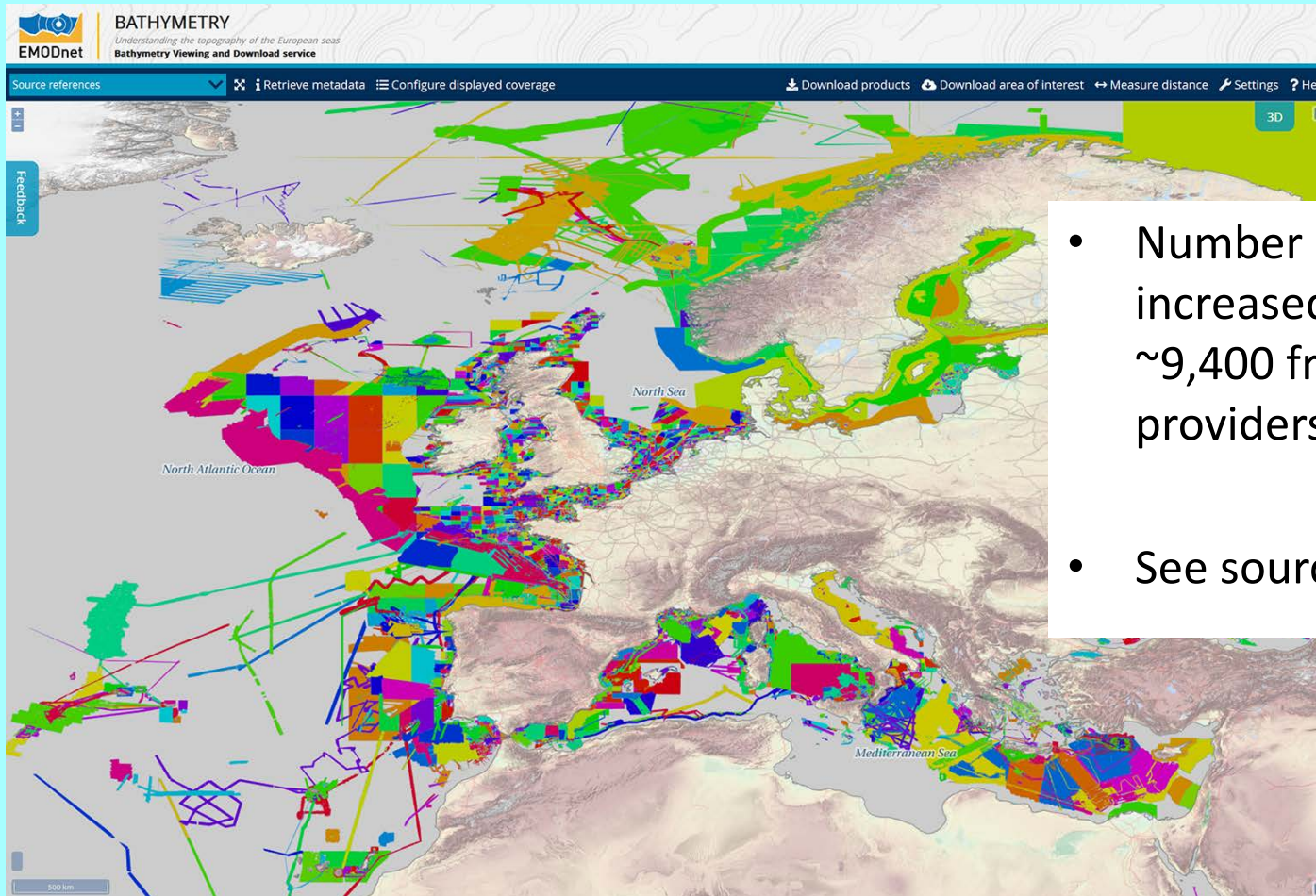




# EMODnet



## More data sets used



- Number of data sets increased from ~7,200 to ~9,400 from 48 data providers
- See source reference layer





**EMODnet**



# 3D visualisation in the browser

- Powerful 3D visualisation functionality without plugins

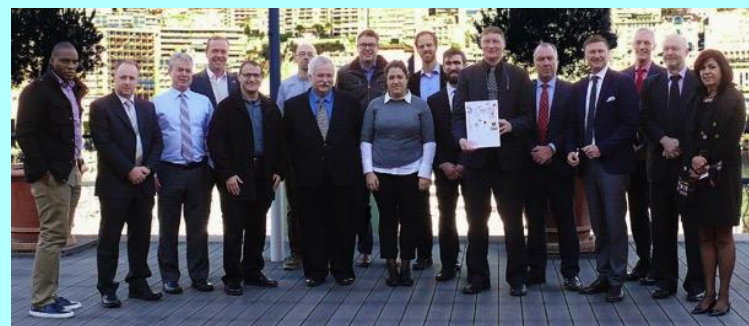




# IHO Crowdsourced Bathymetry WG

*TASK: Prepare an IHO publication on policy for trusted crowdsourced bathymetry to provide guidelines on the collection and assessment of CSB data.*

- 2015 CSBWG established by the IHO IRCC
- Dec 5-6, '17 CSBWG-5 meeting (Monaco)
- Jun 19-21, '18 CSBWG-6 meeting (Boulder, CO)
- Oct '18 IHO Council 2 approval of B-12 Edition 1.0.0
- 1 Jan '19 B-12 Edition 1.0.0 to be published on IHO website (will be placed in the list of Standards and Publications)
- Feb , '19 CSBWG-7 meeting (Quebec City), shift focus to outreach and data uses



CWBWG-5: Monaco



CWBWG-6: Boulder, Colorado, USA

Chair: Jennifer Jencks  
Vice Chair: Serge Gosselin  
Secretary: David Wyatt

# IHO DCDB Enhancements for CSB Data

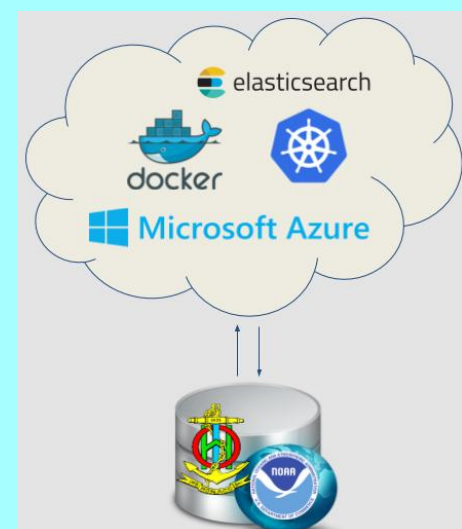
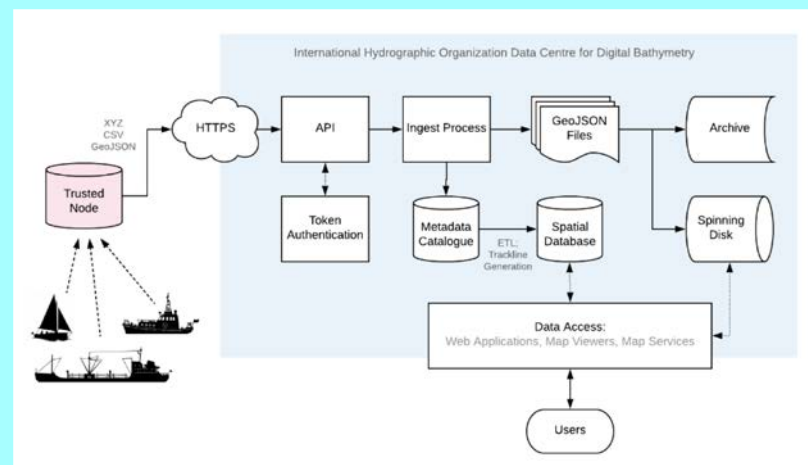
*Objective: To enhance the IHO DCDB infrastructure and interface to allow the public to upload, discover, display and download CSB data via a web-based interface.*

## ***This Year:***

- Hardened system to prepare for expansion to more data providers.
- Streamlined new contributor onboarding SOP.
- Implementing option for user to choose delivery format (CSV or GeoJson)
- Updated map viewer/integration with IHO DCDB viewer.

## ***Next Steps:***

- Build cloud based storage and processing infrastructure.
- Develop bathymetric sounding point store in cloud



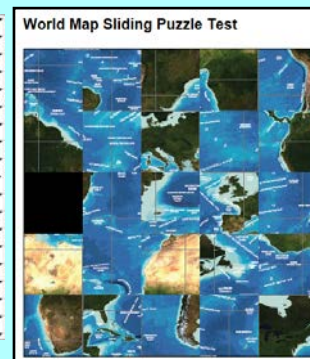
# Metadata Working Group

- Federica Foglini is Chair
- Metadata guidelines for contributing bathymetric data to S2030
- 25 volunteers to work on MWG
- Survey about metadata needs
- Results being synthesized
- Discussions ensuing



# Outreach Working Group

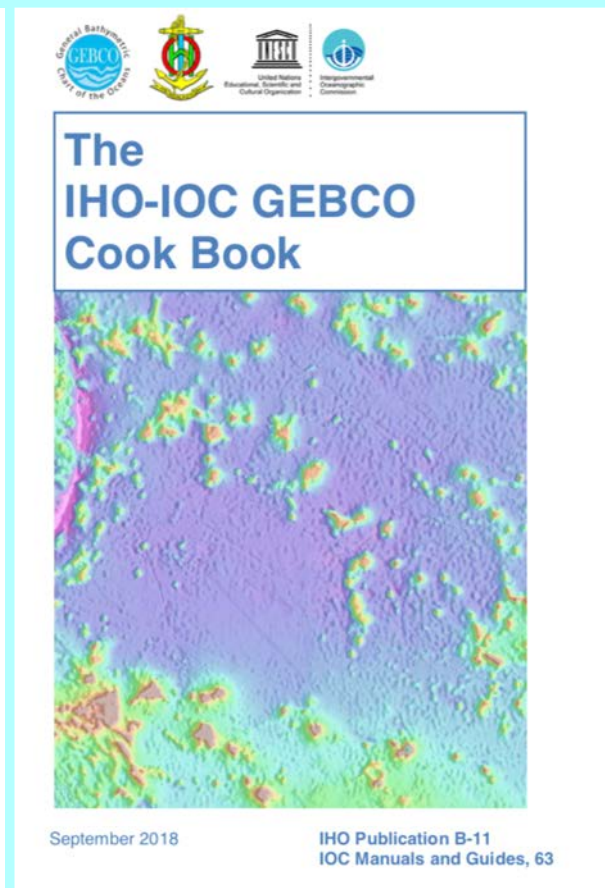
- Hyo Hyun Sung, Eunmi Chang, Vicki Ferrini
- Development of new GEBCO Seabed 2030 website
- Development of online jigsaw puzzle for GEBCO World Map
- Update Subpage for Secondary School Students, etc.
- Seabed 2030 outreach



# IHO-IOC GEBCO Cook Book

At the 2009 GEBCO 25<sup>th</sup> Meeting of TSCOM, the “Cook Book Working Group” was formed to “create a manual that enables users to prepare and grid data for inclusion in GEBCO products,” resulting in:

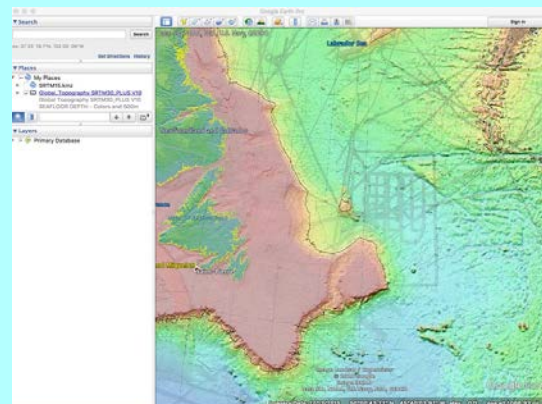
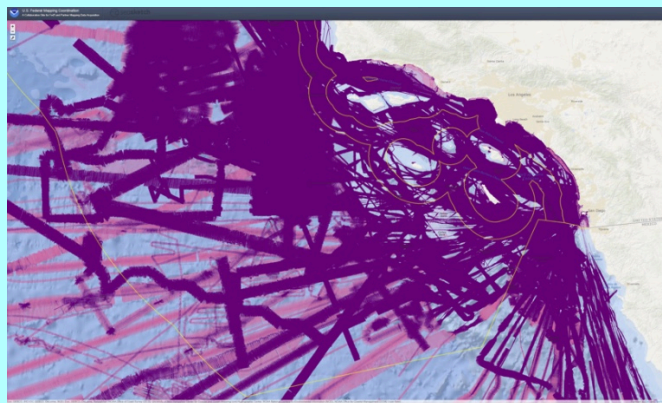
- IHO-IOC GEBCO Cook Book:
  - IHO Publication B-11 (April, 2012)
  - IOC Manuals and Guides, 63 (Oct. 2012)
  - EOS “News Brief” announcing Cook Book was published in EOS Trans. AGU, Feb. 2013
  - Article in Hydro Int’l (April, 2014) highlighted Cook Book
- Used as educational resource, including:
  - UNH CCOM/JHC Ocean Mapping classes
  - Texas A&M University
  - Workshops
  - Used internationally
- Available for Download: <http://www.gebco.net>
- Citation format is published on GEBCO website
- **Updated Sept. 2018, seeking new materials**



# Sept. 2018 Updates to Cook Book – Supports Seabed 2030

- New Chapter 16.0 – Finding Gaps to Map
- Section 16.1 – Google Earth Pro and SRTM30\_PLUS Overlays
- Section 16.2 – Assessing Gaps via Bathymetric Sounding Density
- Section 16.3 – GIS Approach to Prioritizing the Gaps to Map

*Contributors: Karen Marks, NOAA Laboratory for Satellite Altimetry USA, David Sandwell, Scripps Institute of Oceanography USA, Meredith Westington, NOAA Office of Coast Survey USA, Jesse Varner and Jennifer Jencks, NOAA National Centers for Environmental Information USA, Anne-Cathrin Wölfl, GEOMAR Helmholtz Centre for Ocean Research, Germany*





# 13<sup>th</sup> Annual GEBCO Symposium



**14 NOVEMBER 2018**  
CANBERRA, AUSTRALIA

Hosted by:

**GEOSCIENCE AUSTRALIA** and **LAND INFORMATION NEW ZEALAND**



**Australian Government**  
**Geoscience Australia**



**Land Information**  
**New Zealand**  
*Toitū te whenua*

**GEBCO Symposium: MAP THE GAPS**

- James O Fairfax Theatre, Australian National Gallery, Nov. 14, 2018
- Tim Kearns and Jaya Roperez, Conveners
- 44 Presentations, 4 Digital Posters
- Attendees from all over the world

**MAP THE GAPS**

A GEBCO SYMPOSIUM ON BATHYMETRY



# Nautical Chart Adequacy Workshop



- Workshop developed and hosted by NOAA Coast Survey and UNH/CCOM
- Trained hydrographers and cartographers on procedures to assess adequacy of nautical charts using public information
- **Used Chapter 14 “Nautical Chart Adequacy Procedure” of Cook Book**

Shachak Pe’eri and Rochelle Wigley, UNH/CCOM

Workshop- July 2018

# Day 2

- Break-out – New Data Sources
- Plenary Discussion – How can Seabed 2030 Leverage other GEBCO Bodies?
- Plenary Discussion – GEBCO Outreach and Capacity Building



# END OF PRESENTATION