

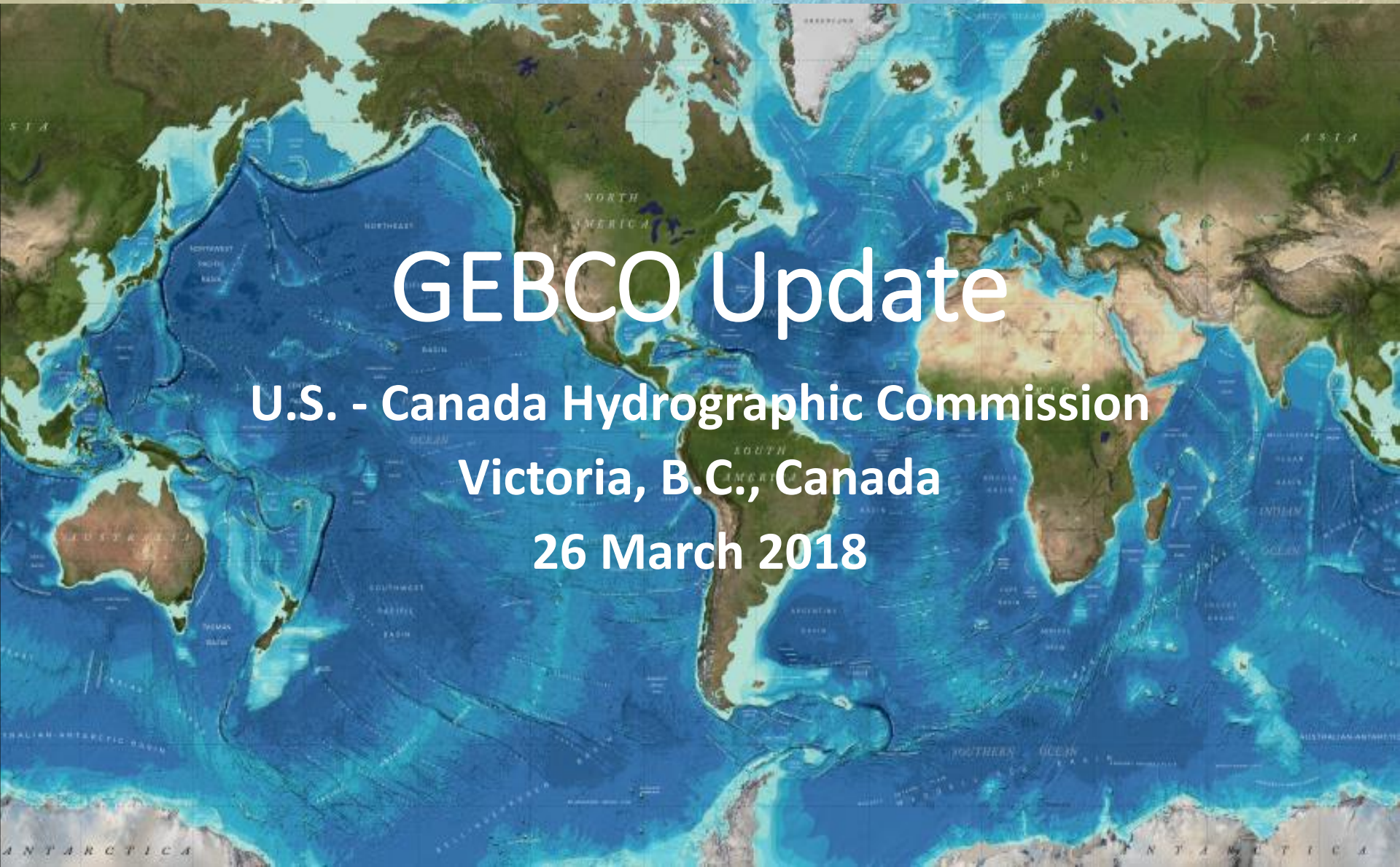


GEBCO

General Bathymetric Chart of the Oceans



UNESCO
United Nations
Educational, Scientific and
Cultural Organization



GEBCO Update

U.S. - Canada Hydrographic Commission

Victoria, B.C., Canada

26 March 2018



The Nippon Foundation-GEBCO Seabed 2030

The Seabed 2030 Establishment Team:

*Graham Allen, Robin Falconer,
David Heydon, Martin Jakobsson,
Larry Mayer, David Millar,
Marzia Rovere, Lisa Taylor*



GEBCO

General Bathymetric Chart of the Oceans



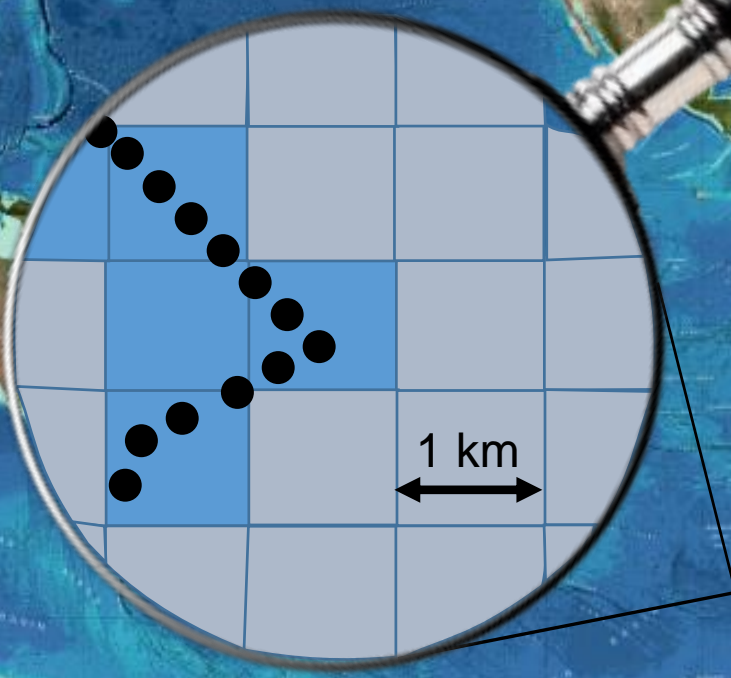
The World Ocean appears to be mapped!

GEBCO

General Bathymetric Chart of the Oceans



If the World Ocean is divided into 1x1 km blocks (grid cells), about 82 % of them do not have depth values.

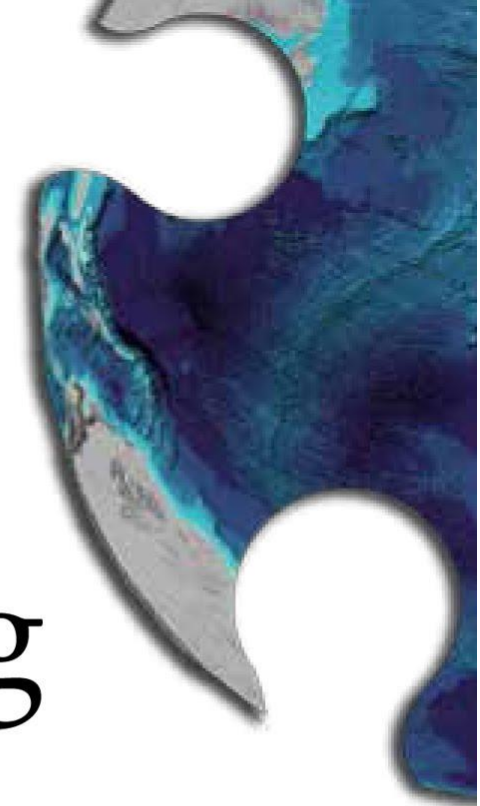


Less than 9% of 1x1 km grid cells have MBES data in them (not necessarily filling them)

The Nippon Foundation-GEBCO

Forum *for* Future Ocean Floor Mapping

June 21-26 -- Monaco



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



1. Vision and mission

Vision:

100% of the World Ocean floor mapped by 2030

Mission:

Produce the definitive map of the World Ocean floor by 2030 to empower the world to make policy decisions, use the ocean sustainability and undertake scientific research based on detailed bathymetric information of the Earth's seabed.

Seabed 2030 Key Documents

<https://seabed2030.gebco.net/>



The Nippon Foundation – GEBCO Seabed2030 Project: The quest to see the world's oceans completely mapped by 2030

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WHAT:



DATA DISCOVERY:

- Concerted effort to find already collected data sets that have not been made publically available
- Take advantage of network of more than 70 GEBCO/Nippon Foundation UNH Training Program alumni, many of whom are now in senior positions at hydrographic agencies world wide
- Develop/maintain regional communities of bathymetric data providers, including industry, government, and academia

WHAT:



DATA SYNTHESIS AND SHARING:

- Development of standards, data assembly, and delivery tools
- Create and distribute high-resolution regional maps on a regional (4) and global basis
- Distribution through GEBCO

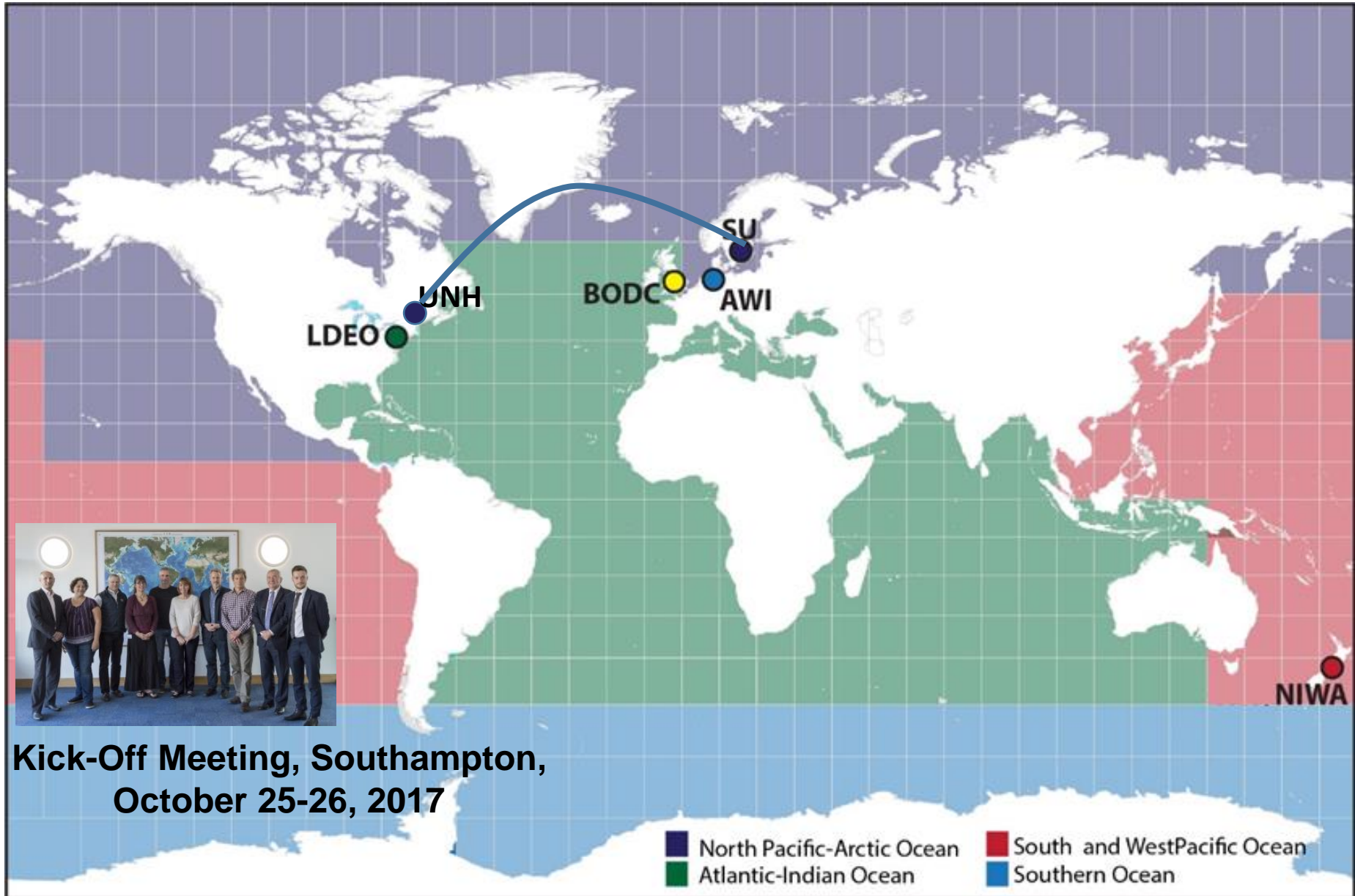
WHAT:



MAP THE GAPS: - Finding and filling data gaps

- Identifying, prioritizing and coordinating efforts to map areas where no data is available.
- Facilitate the coordination of national and international collaborative mapping missions (industry, academia, government, private sector)
- Promote technological innovation and crowd-sourcing

HOW: Regional Data Assembly and Coordination Center (RDACC) Global Data Assembly and Coordination Center (GDACC)



Concepts behind GDACC and RDACCs

The role of the Regional Data Assembly and Coordination Centres



Business plan: Each RDACC is comprised of committed Seabed 2030 personnel that are responsible for championing and coordinating mapping activities within their prescribed oceanic region as well as for bathymetric data assembly, integration and synthesis.

- Assemble a regional database of cleaned bathymetric data and production of a regional bathymetric grid for the Nippon Foundation – GEBCO – Seabed 2030 global grid
- Responsible for adopting a coherent and consistent approach (and tools) for gridding the regional compilations that will be ingested into the global product.
- It is not the responsibility of an RDACC to function as a permanent archive/repository or distributor for the gathered bathymetric data used to produce a regional grid.
- Responsible for establishing and chairing Regional Mapping Committees
- Responsible for identifying existing available data, existing not available data, and data gaps
- Responsible for identifying opportunities for data collection and facilitating mapping coordination
- Responsible coordination/engagement with existing mapping projects and stakeholders
- Curate Metadata and ensure that it meets the requirements developed by Seabed 2030 team, to meet international standards AND to meet the use requirements for data integration and gap analysis.
- Develop and advance jointly with GDACC data assembly and compilation tools.

Concepts behind GDACC and RDACCs



The role of the Global Data Assembly and Coordination Centre

Business plan: The output from the RDACCs will be provided to a Global Data Assembly and Coordination Center (GDACC), which will be responsible for producing centralized GEBCO products and centralized data management for non-regionally sourced data, for example bathymetric data provided by industry working on global scales. Distribution of the final bathymetric products to end users will fall under the GDACC's responsibility.

- Responsible for delivering the Seabed 2030-GEBCO products through the internet
- Responsible for hosting and maintaining the Seabed 2030/GEBCO web site including sub-pages for the RDACCs.
- Responsible for responding to user enquires regarding the Seabed 2030/GEBCO web sites
- Act as a conduit for outreach and communication that spans the entire Seabed 2030 project
- Responsible for archiving and making available central Seabed 2030 documents
- Responsible for providing email communication for each RDACC (providing specific email for each RDACC: arctic-pacific@seabed2030.org)
- Host the web front end for displaying existing, integrated and planned data coverage
- Develop and advance jointly with RDACCs data assembly and compilation tools.

Conclusion from kick-off meeting



Seabed 2030 relation to NCEI (NGDC):

RDACC encourage that multibeam data are archived at the IHO Data Centre for Digital Bathymetry (DCDB)

The RDACCs will use the IHO DCDB as one of the key repositories for bathymetric data.

First year milestones:

- 1. Publication of scientific article about the motivation for and structure of Seabed 2030**
- 2. Fully develop Seabed 2030 Strategy**
- 3. Release of the first Grid**
Target release date: December 1, 2018

Release of the first Grid

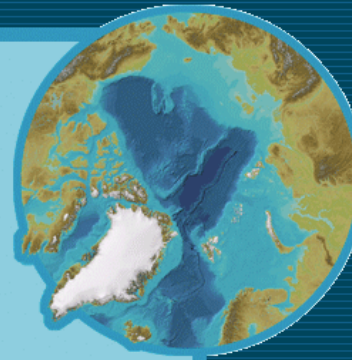


- **Nippon Foundation –GEBCO –Seabed 2030 Grid**
 - GEBCO_2018_15sec
 - GEBCO_2018_30sec
 - GEBCO_2018_1deg

- **Target release date: December 1, 2018**



**Galway Accord
ASMIWG/AORA**



IBCAO Version 3.0

created June 8, 2012

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IBCAO Version 3.0 represents the largest improvement since 1999 taking advantage of new data sets collected by the circum-Arctic nations, opportunistic data collected from fishing vessels, data acquired from US Navy submarines and from research ships of various nations. Built using an improved gridding algorithm, this new grid is on a 500 meter spacing, revealing much greater details of the Arctic seafloor than IBCAO Version 1.0 (2.5 km) and Version 2.0 (2.0 km). The area covered by multibeam surveys has increased from ~6 % in Version 2.0 to ~11% in Version 3.0. The compilation of IBCAO Version 3.0 is described in a Geophysical Research Letter article available for download below.

Please acknowledge the following citation when using the IBCAO grids and maps:

*Jakobsson, M., L. A. Mayer, B. Coakley, J. A. Dowdeswell, S. Forbes, B. Fridman, H. Hodnesdal, R. Noormets, R. Pedersen, M. Rebesco, H.-W. Schenke, Y. Zarayskaya A, D. Accettella, A. Armstrong, R. M. Anderson, P. Bienhoff, A. Camerlenghi, I. Church, M. Edwards, J. V. Gardner, J. K. Hall, B. Hell, O. B. Hestvik, Y. Kristoffersen, C. Marcussen, R. Mohammad, D. Mosher, S. V. Nghiem, M. T. Pedrosa, P. G. Travaglini, and P. Weatherall, The International Bathymetric Chart of the Arctic Ocean (IBCAO) Version 3.0, Geophysical Research Letters, doi: [10.1029/2012GL052219](https://doi.org/10.1029/2012GL052219).
[Auxiliary Material]*

For a listing of data types, please see the [IBCAO_V3_README.txt](#) file.

IBCAO editorial board will
become the NF/GEBCO 2030
Regional Mapping Committee

The next version of IBCAO
will be released with the new
NF/GEBCO 2030 global grid
~1 Dec 2018