

THE NIPPON FOUNDATION - GEBCO

SEABED
2030

Nippon Foundation – GEBCO Seabed 2030 and the International Bathymetric Chart of the Southern Ocean

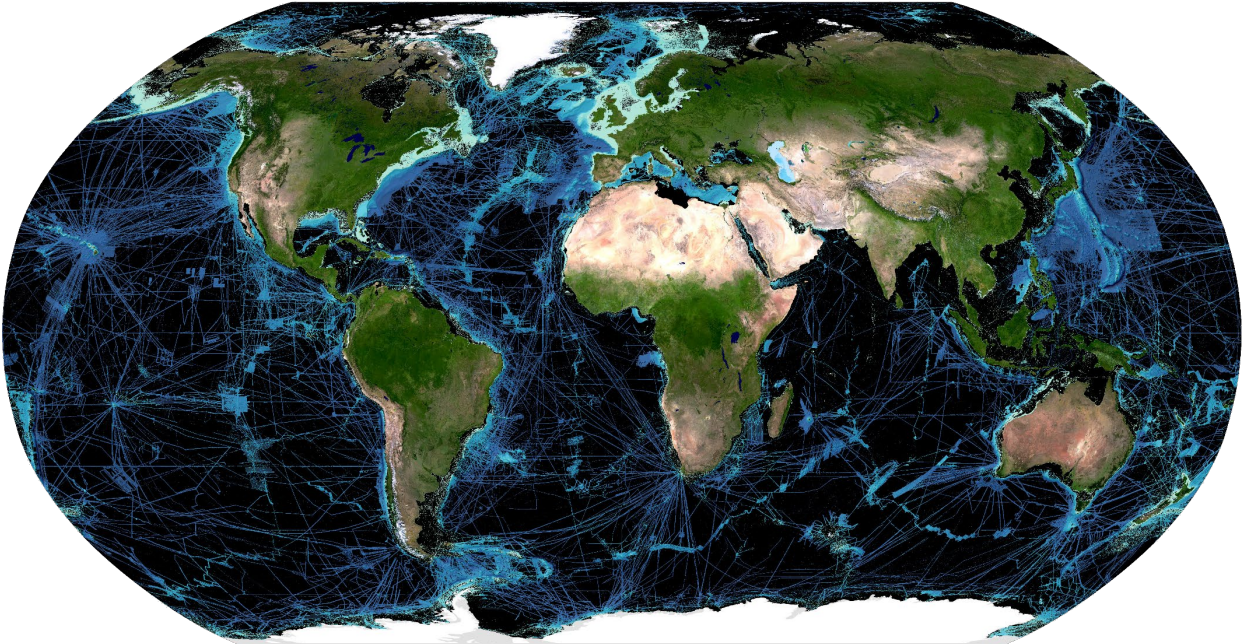
Natalie Cornish
on behalf of IBCSO



Outline

1. Global seabed mapping/ initiatives
2. Regional initiatives
(IBCSO/ Southern Ocean)
3. Getting involved





© Pauline Weatherall (Seabed 2030 Global Center, 2024)



Section 1: Global Mapping Initiatives



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

Mission: 100% coverage

Flagship Program

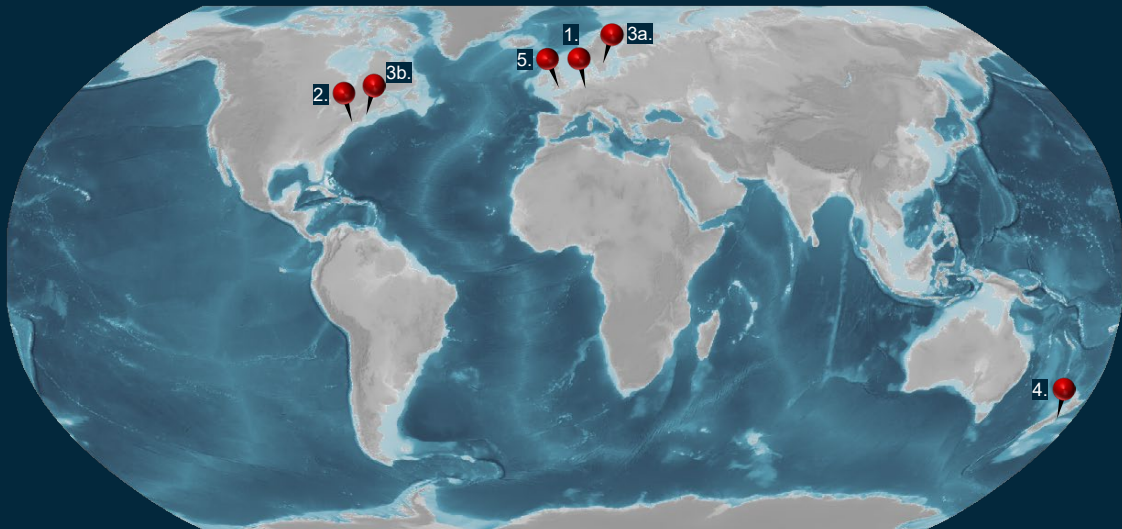


~26%



6%

Seabed2030: Four regional and one global center



1. SOUTHERN
OCEAN
REGIONAL
CENTER

Alfred Wegener
Institut for Polar
and Marine
Science (AWI)

2. ATLANTIC &
INDIAN OCEANS
REGIONAL
CENTER

Lamont-
Doherty Earth
Observatory
(LDEO)

3. ARCTIC & NORTH
PACIFIC OCEAN
REGIONAL
CENTER

Stockholm
University
(SU) &
UNH CCOM

4. SOUTH &
WEST PACIFIC
OCEAN
REGIONAL
CENTER

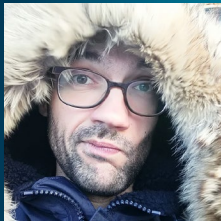
National
Institute of
Water & Atm.
Research
(NIWA)

5. GLOBAL
CENTER
British Oceanogr.
Data Centre
(BODC)

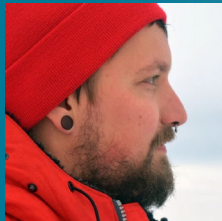
Southern Ocean Regional Center (a.k.a IBCSO)



Boris Dorschel



Sacha Viquerat



Simon Dreutter



Yvonne Schulze-Tenberge



Fynn Warne



Natalie Cornish



Tea Isler



Patrick Schwarzbach



Miao Fan



Laura Höppner

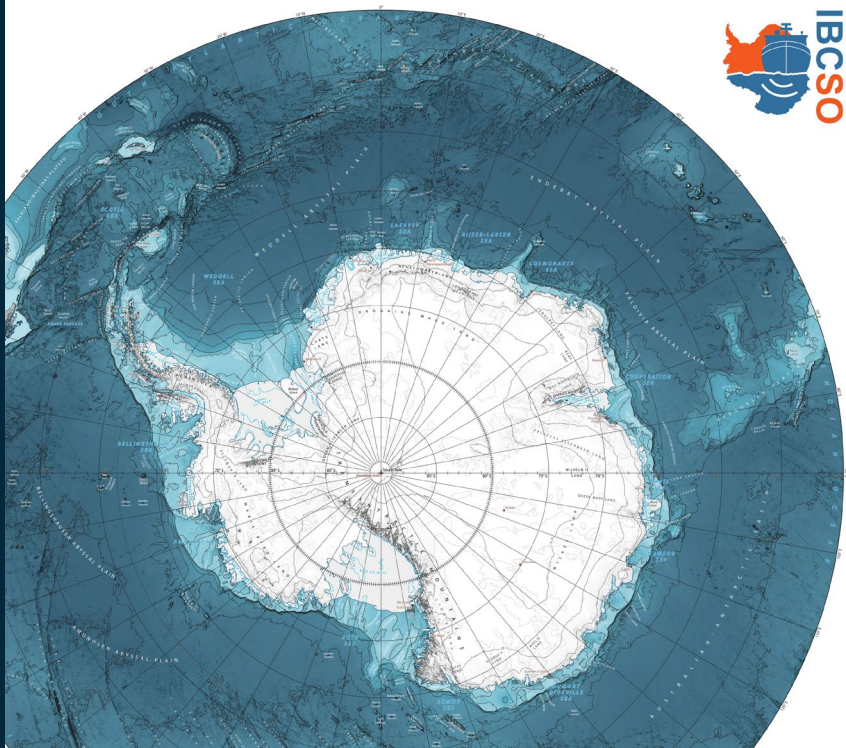
Contributing organizations*

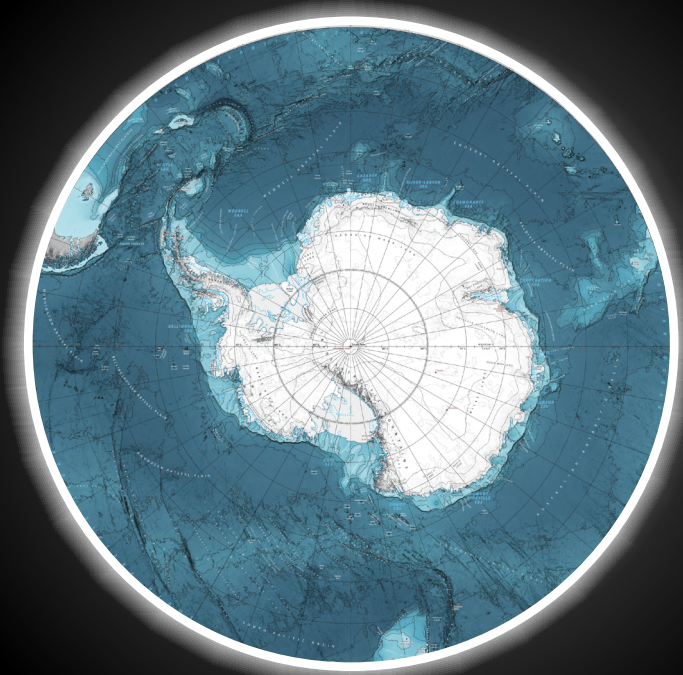
Alfred Wegener Institute for Polar and Marine Research
 All Russian Research Institute of Geology and Mineral Resources of the World Ocean
 Andalusian Earth Sciences Institute
 Antarctic Climate and Ecosystems Cooperative Research Centre
 Argentine Naval Hydrographic Service
 Argentine Navy
 Atmosphere and Ocean Research Institute, The University of Tokyo
 Australian Antarctic Data Centre
 Australian Geological Survey Organisation
 Australian Hydrographic Service
 British Antarctic Survey
 British Geological Survey
 British Oceanographic Data Centre
 Bureau of Mineral Resources, Geology and Geophysics
 California Institute of Technology
 Carnegie Museum of Natural History
 Center for Oceanographic and Hydrographic Research
 Commonwealth Scientific and Industrial Research Organisation
 Defense Mapping Agency
 Department of Scientific and Industrial Research
 Directorate of Hydrography and Navigation
 Duke University
 Earth and Space Research
 Federal Institute for Geosciences and Natural Resources
 Federal Maritime and Hydrographic Agency of Germany
 Finnish Institute of Marine Research
 French Research Institute for Exploitation of the Sea
 General Bathymetric Chart of the Oceans
 Geological and Mining Institute of Spain
 GEOMAR Helmholtz Centre for Ocean Research Kiel
 Geoscience Australia
 GNS Science
 Hamilton College
 Hydrographic and Oceanographic Service of the Chilean Navy
 Institute of Earth Physics of Paris
 Institute of Marine Science
 Italian Navy Hydrographic Office

Japan Agency for Marine-Earth Science and Technology
 Japan Coast Guard, Hydrographic and Oceanographic Department
 Japan Oceanographic Data Centre
 Japanese Antarctic Research Expedition
 Kiel University
 Korea Polar Research Institute
 Laboratory of Marine Physics and Chemistry, Pierre and Marie Curie University
 Lamont-Doherty Earth Observatory
 Land Information New Zealand
 Lockheed Martin (United States)
 Marine Geoscience Data System
 Marine National Facility
 MARUM - Center for Marine Environmental Sciences, University of Bremen
 National Centers for Environmental Information
 National Geospatial-Intelligence Agency
 National Institute of Oceanography and Experimental Geophysics
 National Institute of Polar Research
 National Institute of Water and Atmospheric Research
 National Oceanic and Atmospheric Administration
 National Oceanography Centre
 National Science Foundation
 Natural Environment Research Council
 Naval Hydrographic and Oceanographic Service
 Norwegian Polar Institute
 Ocean Drilling Program, Texas A&M University
 Oceanographic Centre of Canary Islands
 Olex AS
 Oregon State University
 Polar Marine Geosurvey Expedition
 Raytheon Polar Services Company
 Research on Ocean-Atmosphere Variability and Ecosystem Response in the Ross Sea
 Rice University
 Rolling Deck to Repository
 Royal Institute and Observatory of the Spanish Navy
 Royal New Zealand Navy

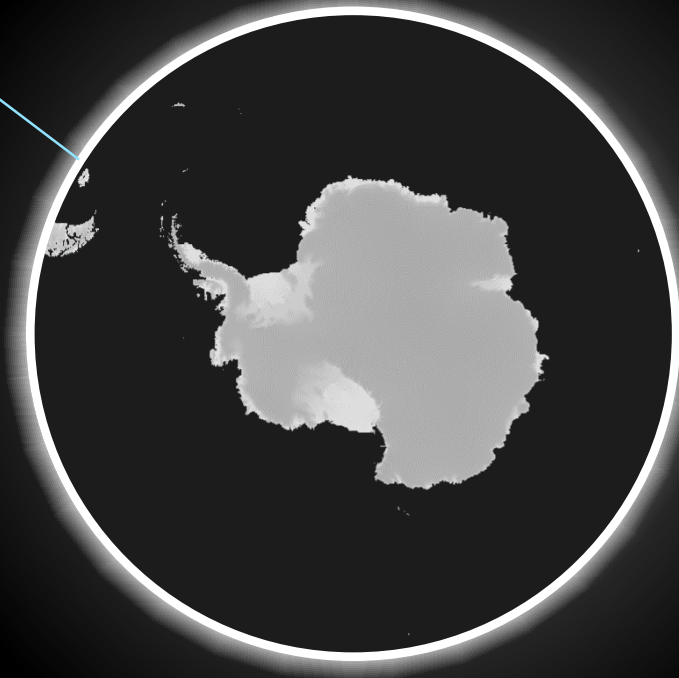
Russian Academy of Sciences
 Scripps Institution of Oceanography
 South African Navy Hydrographic Office
 Southampton Oceanography Centre
 Southern African Data Centre for Oceanography
 Spanish National Research Council
 State Institution National Antarctic Scientific Center
 State Oceanic Administration
 Stockholm University
 Swansea University
 Swiss Polar Institute
 Texas A&M University
 The Open University
 The University of Texas System
 Ukraine Antarctic Expedition
 United Kingdom Hydrographic Office
 United States Antarctic Program
 United States Geological Survey
 United States Naval Research Laboratory
 University of Alabama
 University of Alaska Fairbanks
 University of California System
 University of Cambridge
 University of East Anglia
 University of Georgia
 University of Hawaii System
 University of Rhode Island
 University of Tasmania
 University of Tennessee System
 University of Texas Institute for Geophysics
 University of the Witwatersrand
 University of Tokyo
 University of Washington
 V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry
 Woods Hole Oceanographic Institution
 World Ocean Circulation Experiment

Making of: The International Bathymetric Chart of the Southern Ocean



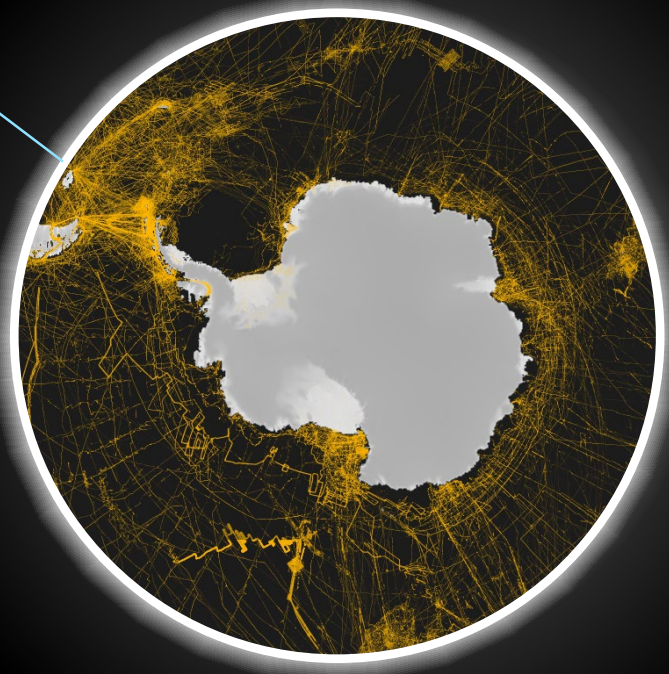


50°South



50°South

1.5%
Singlebeam+



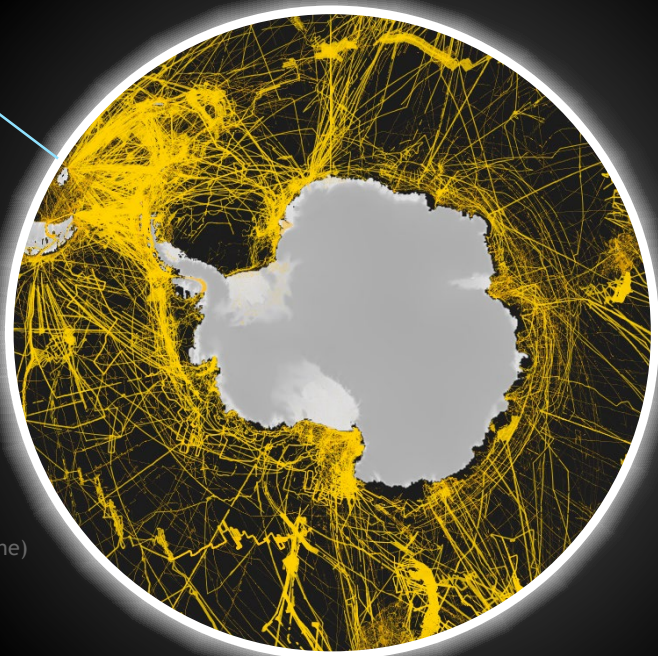
50°South

~25% TOTAL

1.5%
Singlebeam+

23.2%
Multibeam

75% MODELED
(e.g. SRTM15+, Bedmachine)



50°South

~25% TOTAL

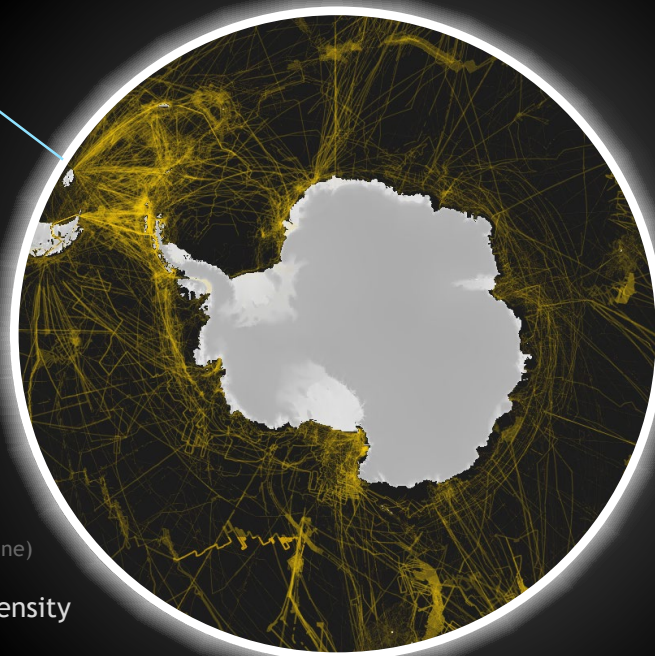
1.5%
Singlebeam+

23.2%
Multibeam

75% MODELED

(e.g. SRTM15+, Bedmachine)

Variable data density



50°South

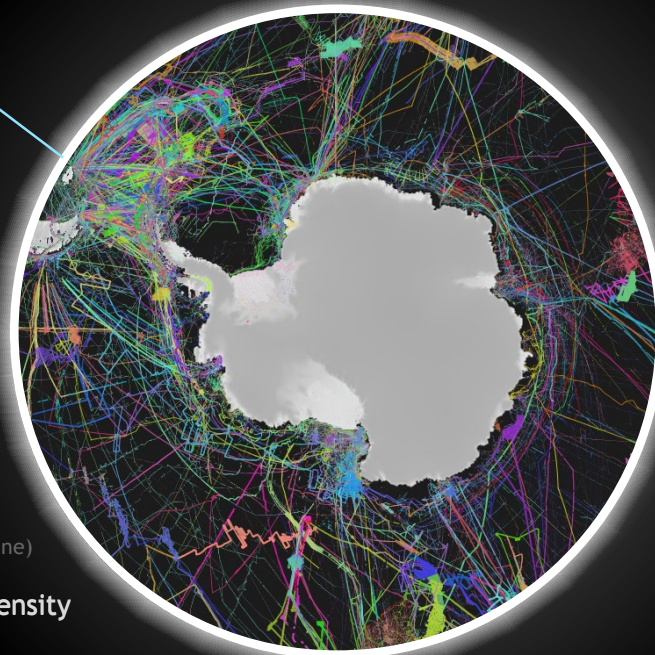
~25% TOTAL

1.5%
Singlebeam+

23.2%
Multibeam

75% MODELED
(e.g. SRTM15+, Bedmachine)

Variable data density



CONTRIBUTIONS

- 109 ORGANISATIONS
- 25 COUNTRIES
- 129 VESSELS/
PLATFORMS

50°South

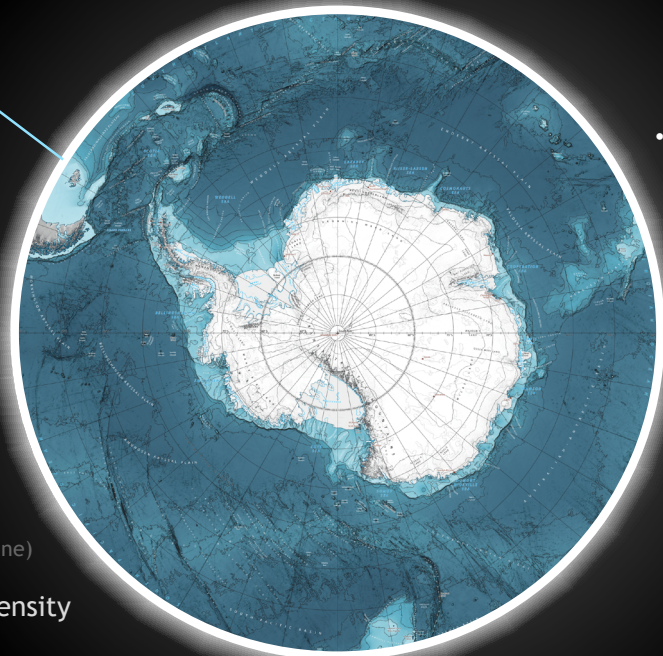
~25% TOTAL

1.5%
Singlebeam+

23.2%
Multibeam

75% MODELED
(e.g. SRTM15+, Bedmachine)

Variable data density



CONTRIBUTIONS

- 109 ORGANISATIONS
- 25 COUNTRIES
- 129 VESSELS/
PLATFORMS



So how
do we tie
everything
together?

...

Scan me!



scientific data

Explore content ▾ About the journal ▾ Publish with us ▾

nature > scientific data > data descriptors > article

Data Descriptor | [Open access](#) | Published: 07 June 2022

The International Bathymetric Chart of the Southern Ocean Version 2

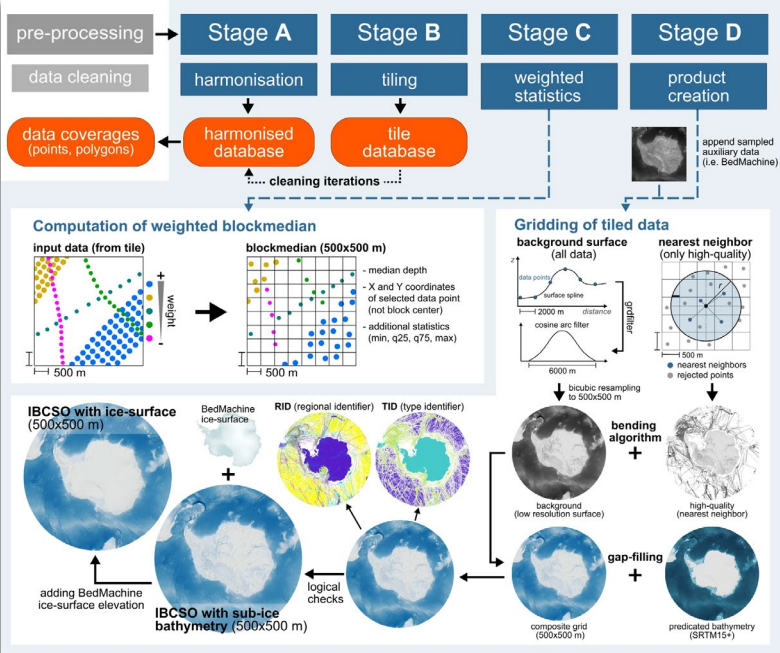
[Boris Dorschel](#) , [Laura Hehemann](#), [Sacha Viquerat](#), [Fynn Warmke](#), [Simon Dreutler](#), [Yvonne Schulze Tenberge](#), [Daniela Accettella](#), [Lu An](#), [Felipe Barrios](#), [Evgenia Bazhenova](#), [Jenny Black](#), [Fernando Bohoyo](#), [Craig Davey](#), [Laura De Santis](#), [Carlota Escutia Dotti](#), [Alice C. Fremand](#), [Peter T. Fretwell](#), [Jenny A. Gales](#), [Jinyao Gao](#), [Luca Gasperini](#), [Jamin S. Greenbaum](#), [Jennifer Henderson Jencks](#), [Kelly Hogan](#), [Jong Kuk Hong](#), ... [Jan Erik Arndt](#)  [Show authors](#)

Scientific Data **9**, Article number: 275 (2022) | [Cite this article](#)

21k Accesses | 46 Citations | 462 Altmetric | [Metrics](#)

Abstract

The Southern Ocean surrounding Antarctica is a region that is key to a range of climatic and oceanographic processes with worldwide effects, and is characterised by high biological productivity and biodiversity. Since 2013, the International Bathymetric Chart of the Southern Ocean (IBCSO) has represented the most comprehensive compilation of bathymetry for the Southern Ocean south of 60°S. Recently, the IBCSO Project has combined its efforts with the Nippon Foundation – GEBCO Seabed 2030 Project supporting the goal of mapping the world's oceans by 2030. New datasets initiated a second version of IBCSO (IBCSO v2). This version



<https://doi.org/10.1038/s41597-022-01366-7>



Common misconceptions

- “My dataset is ancient/ the wrong format”
- “Not with *this* data quality...”
- “I don’t have time to process it”
- “It’s way too big to send”
- “This contains sensitive information”
- “It’s under moratorium/ other licenses”

Write us an e-mail. We’ll find solutions!

How can you contribute data?

1

GEBCO Submission Form

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

gdacc@seabed2030.org

2

IHO DCDB

<https://www.ncei.noaa.gov/iho-data-centre-digital-bathymetry>

bathydata@iho.int

3

IBCSO E-Mail

<https://ibcso.org/contribute/>

ibcso@awi.de

natalie.cornish@awi.de

THE NIPPON FOUNDATION- GEBCO

SEABED
2030

Thank you for listening!



IBCSO website

GEBCO Submission Form

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

gdacc@seabed2030.org

IHO DCDB

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

bathydata@iho.int

IBCSO

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

ibcso@awi.de / natalie.cornish@awi.de

