

# Southern Ocean status Plans for IBCSO 2.0

*Second Seabed 2030 Arctic – Antarctic – North Pacific  
Mapping Meeting 2019*

*University of New Hampshire*

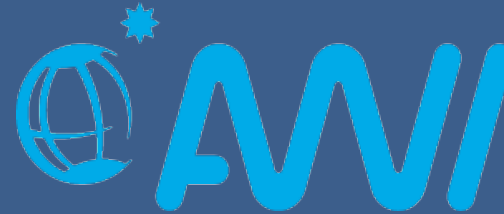
*9 – 10 Nov*

*Boris Dorschel, Laura Hehemann, Sacha Viquerat, Simon Dreutter*

# The team



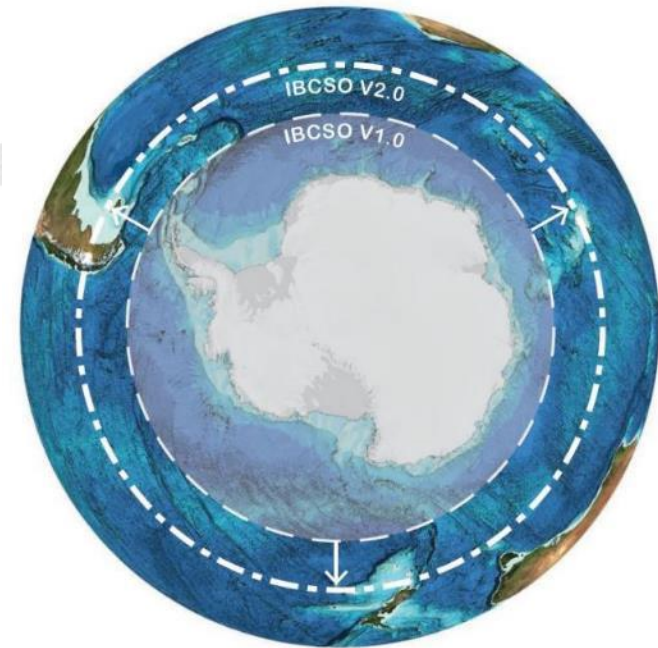
## Southern Ocean Regional Centre



# IBCSO 2.0



- Area south of 50°S  
2.5 seafloor times the area of IBCSO 1.0!
- Raster resolution of 500 m
- Grid provided by RDACC Southern Ocean to GDACC for annual updates of GEBCO grid
- IBCSO 2.0 grid published in an international, peer-reviewed journal



Background: GEBCO\_14  
(Weatherall et al., 2015)



# Data contributions



- Data submission for IBCSO 2.0 is almost closed
- 1200+ datasets merged into functioning grid
  - ~600 pre-2013 and ~600 post-2013 datasets
- Work on cleaning the grid is in progress
- New infrastructure implemented
  - Speed up processing
  - Streamline workflow

# Data contributions

1. British Antarctic Survey (BAS)
2. Polar Marine Geosurvey Expedition (PMGE)
3. Centre for Oceanographic and Hydrographic Research, Colombia (CIOH)
4. Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
5. National Institute of Polar Research (NiPR)
6. State Oceanic Administration (SOA)
7. Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)
8. Instituto Geológico y Minero de España (IGME)
9. National Centers for Environmental Information (NCEI)
10. L'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER)
11. Korean Polar Research Institute (KOPRI)

# Data contributions



12. National Institute of Water and Atmospheric (NIWA)
13. Stockholm University (SU)
14. Australian Antarctic Data Centre (AAD)
15. Australian Hydrographic Office (AHO)
16. Geoscience Australia (GA)
17. Australia's Marine National Facility (MNF)
18. University of Tasmania (UTAS)
19. All-Russia Research Institute of Geology and Mineral Resources of the World Ocean (VNIIOkeangeologia)
20. Electronic Nautical Charts (ENC) Chile & Argentina
21. Japan Oceanographic Data Center (JODC)
22. Alfred Wagner Institute (AWI)



# New Infrastructure



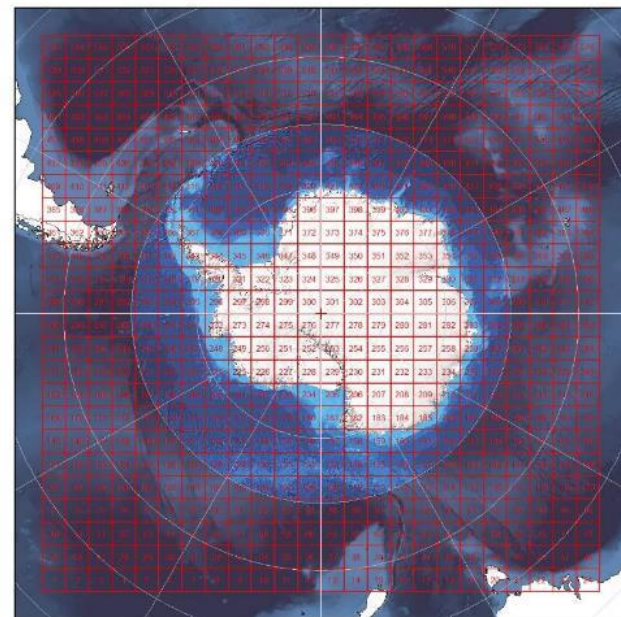
A. Homogenization

B. Tiling

C. Block median

D. *Gridding*

E. *Automated reporting*



**New Data Wizard**

data selection  
description  
PS30

Choose New Data...

Select new xyz data

Organize + New folder

File name: 201003\_02\_w1.bat

**data parsing**

Please right-click on the column header and select the X, Y and Z column in the data.

X Column: 21 Y Column: 20 Z Column: 22  Z is negative

	17	18	19	Y	X	Z
"T_020"	0	"T20"	-59.68530273	-28.38531685	0	0
"T_020"	0	"T20"	-59.68439404	-28.38750267	0.159	0
"T_020"	0	"T20"	-59.68378448	-28.39005661	0.159	0
"T_020"	0	"T20"	-59.68264008	-28.39532089	0.162	0
"T_020"	0	"T20"	-59.68200302	-28.3979969	0.166	0
"T_020"	0	"T20"	-59.68128586	-28.401474	0.211	0
"T_020"	0	"T20"	-59.68072891	-28.4043026	0.171	0
"T_020"	0	"T20"	-59.68017197	-28.40714073	0.171	0
"T_020"	0	"T20"	-59.67961502	-28.41002464	0.174	0
"T_020"	0	"T20"	-59.67900848	-28.41294289	0.177	0
"T_020"	0	"T20"	-59.67832184	-28.41587639	0.182	0

< Back Next > Cancel

**New Data Wizard**

data parsing

Please provide the spatial projection of the source data (EPSG Code preferred). The map on the right hand side will show you a preview of the transformed data set.

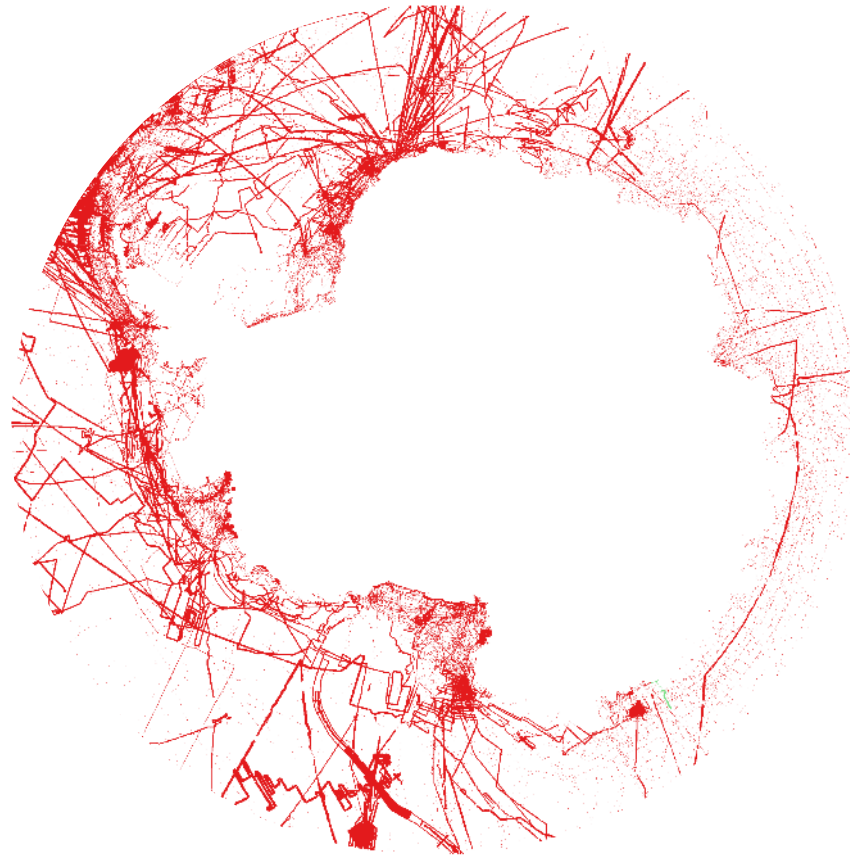
	X	Y
1	-28.38531685	-59.68530273
2	-28.38750267	-59.68439404
3	-28.39005661	-59.68378448
4	-28.39270401	-59.68264008
5	-28.39532089	-59.68200302
6	-28.3979969	-59.68128586
7	-28.401474	-59.68072891
8	-28.4043026	-59.68017197
9	-28.40714073	-59.67961502
10	-28.41002464	-59.67900848
11	-28.41294289	-59.67832184
12	-28.41587639	-59.67761502

EPSG: 4326 data is WGS84 in DMS

Preview Data on Map Zoom to data Zoom to world auto-update map

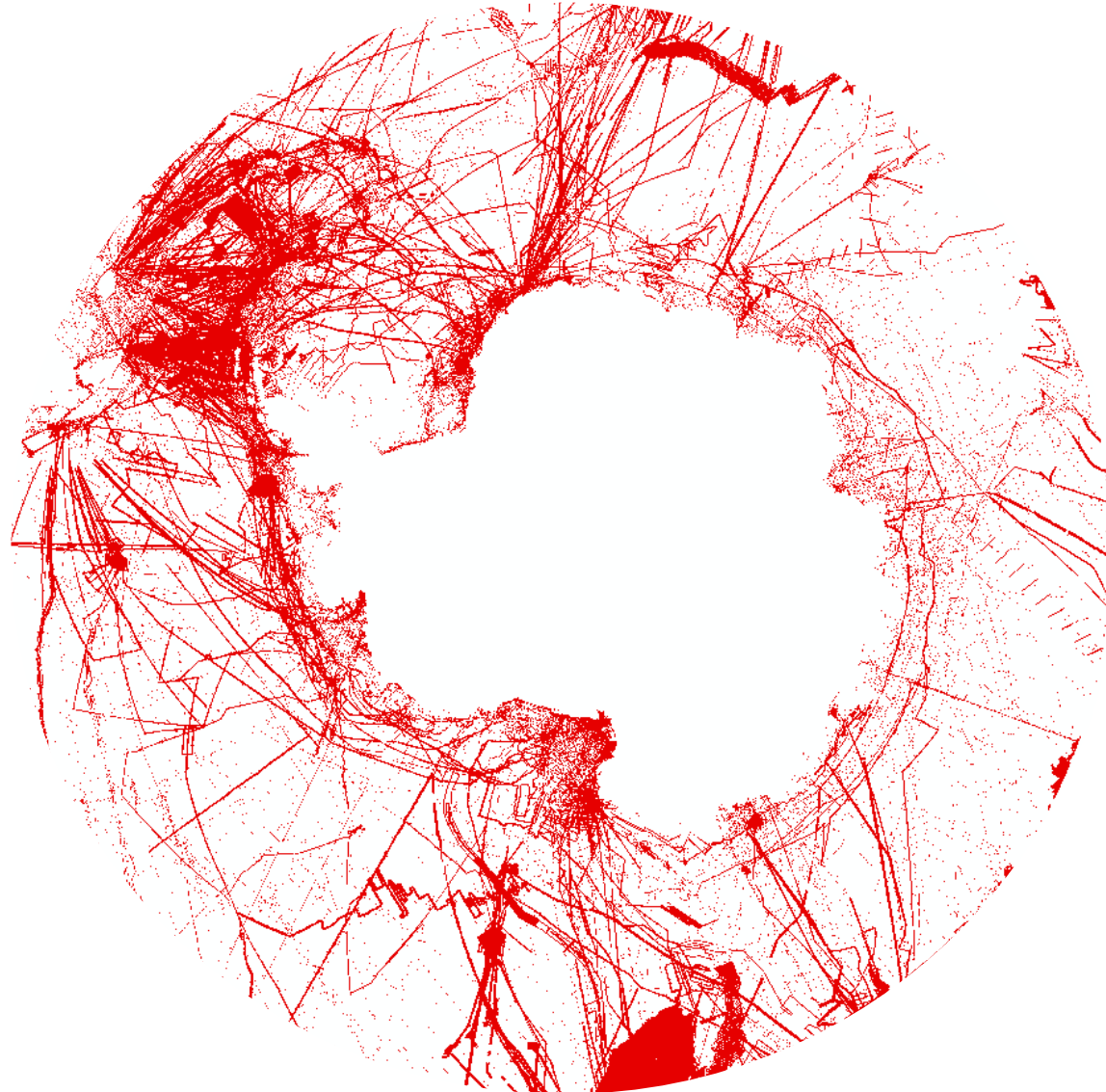
< Back Next > Cancel

# IBCSO v1 Bathymetry Coverage





# IBCSO 2.0 Bathymetry Coverage



# Metadata



Concept/RoughName	Example	Definition	Type
dataset			
dataset			
dataset			
dataset			
dataset			
contrib_format	.dat	Format of the dataset that was contributed (grid, shapefile, ascii file)	
contributor			
contributor			
contributor			
contributor			
contributor			
contrib_type	?	passively harvested data	controlled (or boot)
contrib_date	2012	Date (year) of contribution, year when the data was contributed	
source_id	AWI	Who acquired the data (organization)	
source_date	1985	Year when data were acquired	
source_device	Elac Seabeam	What was used to acquire the data	
source			
source			
source			
source			
source			
source			
source			
source			
source			
source			
source_URL	<a href="https://doi.pangaea.de/10.1594/PANGAEA.867230">https://doi.pangaea.de/10.1594/PANGAEA.867230</a>	Specific URL from which data were downloaded from or could be downloaded from.	
source_sector	?	?	
source_DOI	<a href="https://doi.pangaea.de/10.1594/PANGAEA.867230">https://doi.pangaea.de/10.1594/PANGAEA.867230</a>	DOI for source data	
cruise_report	<a href="http://hdl.handle.net/100">http://hdl.handle.net/100</a>		
compilation			
compilation			
compilation			
compilation			
compilation			
compilation			

by us

Minimum requirement

by us

Information on data contributor, e.g. portal

by you

Source metadata, e.g. vessel, acquisition system, etc. (can be blank, but best if not!)

by you

Compilation metadata. (can be blank, but best if not!)

# Recent/planned mapping activities



- German institutes
  - Antarctic: Larsen C and Weddell Sea (Jan 2019)
  - RV Polarstern MOSAiC Expedition (2019/20) in the Arctic => no Antarctic Expedition
  - RV Sonne Jan - Mar 2020 sub-antarctic waters
  - Probably RV Merian activities in sub-antarctic waters
- Others?



# HCA 16 / ATCM XLII



- 16<sup>th</sup> Conference of the IHO Hydrographic Commission on Antarctica (HCA)
- HCA Seminar at the XLII Antarctic Treaty Consultative Meeting, Prague



WP 61

**Hydrographic Surveying of Antarctic Waters**  
Working Paper submitted by Norway, Italy, New Zealand, and the United States

IHO Seminar

- International Symposium on Antarctic Earth Sciences (ISAES) 22–26 July 2019
  - Host: SCAR, Organizers: Korea Polar Research Institute (KOPRI)
- IBCSO 2.0 side meeting held





# SCAR Open Science Conference 2020



**SCAR 2020**  
Antarctic Science - Global Connections

**COMNAP**  
Council of Managers of National Antarctic Programs

**INTERNATIONAL SCIENCE ORGANISING COMMITTEE ON ANTARCTIC RESEARCH**  
**SCAR**  
SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

**31 JULY - 11 AUGUST 2020**  
Hobart · Tasmania · Australia

**COMNAP Symposium** · 2 August 2020  
**SCAR Open Science Conference** · 3-7 August 2020  
**COMNAP XXXII Annual General Meeting** · 3-6 August 2020  
**SCAR XXXVI Delegates Meeting** · 10-11 August 2020

**SECOND PRE-CONFERENCE CIRCULAR**

**SCAR OPEN SCIENCE CONFERENCE: ANTARCTIC SCIENCE - GLOBAL CONNECTIONS**

The Australian Academy of Science, the Australian Antarctic Division and the State Government of Tasmania welcomes SCAR COMNAP 2020 participants to Hobart in July-August 2020.

**SCAR OPEN SCIENCE CONFERENCE PARALLEL SESSIONS**  
Call for abstracts

The OSC will feature a full program of parallel sessions drawn up by the International Science Organising Committee (full member list available [here](#)). Abstract submissions for oral and poster presentations can be made from 31 October 2019 through the conference website - [scarcomnap2020.org](http://scarcomnap2020.org). A complete list of conference session themes is also available on the website along with instructions on how to submit abstracts. Abstract submission closes on 28 February 2020.

**Panel discussions and workshops**

In addition a number of invited panel discussions and workshops will take place as part of the parallel session program. These will include workshops on Antarctic data and on the Argo network, as well as panel discussions on inclusive collaborations and on the similarities between the deep ocean and outer space. Further details are provided on the conference website.

**SCAR OPEN SCIENCE CONFERENCE PLENARIES AND MINI-SYMPOSIA**

Plenary sessions and mini-symposia will feature leading experts from across the natural and social sciences. The morning plenary sessions will be open to both SCAR and COMNAP attendees and will be followed by a topic-specific mini-symposium each day. The schedule is as follows:

**Day One:** Opening Plenary; Dr Valerie Masson-Delmotte, Senior Scientist, Laboratoire des Sciences du Climat et de l'Environnement, Université Paris Saclay, France; co-chair of IPCC WG1

**Mini-Symposium 1:** Outcomes of SCAR's Scientific Research Programs

**Day Two:** The David Walton Antarctic Science Lecture, sponsored by the journal Antarctic Science; Dr Nerilie Abram, Associate Professor and Australian Research Council Future Fellow, Research School of Earth Sciences and ARC Centre of Excellence for Climate Extremes, the Australian National University, Australia

**Mini-Symposium 2:** Emerging conservation challenges for Antarctica and the Southern Ocean (joint SCAR/COMNAP symposium)

**Day Three:** The Weyprecht Lecture, Dr Juliana Vianna, Associate Professor, Ecosystem and Environment Department, Global Change Center, Pontificia Universidad Católica de Chile (Catholic University of Chile)

**Mini-Symposium 3:** Antarctica in a warming world; regional changes, global consequences and future commitments

**Day Four:** Antarctic Futures, Dr Daniela Liggett, Senior Lecturer, Gateway Antarctica, University of Canterbury, New Zealand

**Mini-Symposium 4:** Ocean-cryosphere processes, marine ecosystem change and future conservation and management

Australian Government  
Department of the Environment and Energy  
Australian Antarctic Division

AUSTRALIAN ANTARCTIC PROGRAM

supported by  
Tasmanian Government

National Committee for Antarctic Research  
A COMMITTEE OF THE AUSTRALIAN ACADEMY OF SCIENCE

## Side meeting of the IBCSO Expert Group

Portsmouth