# Collection, Management and Distribution of Scientific Data and Sea Ice Data from Antarctica



## Stein Tronstad Norwegian Polar Institute

Background image: Sebastian Gerland, NPI

#### Norwegian Polar Data Centre Z OPSK-POLARINS NPDC **Datasets** 2 Q marine Quick filters: Data released Only metadata Data release date not set N-ICE2015 ship-based conductivity-temperature-depth (CTD) data Data released: Oct 1, 2016 . Metadata Updated Jun 14, 2016 **Dataset catalogue** Data released: Jan 8, 2008 . Metadata Updated May 26, 2016 N-ICE2015 total attenuation and absorption profiles from water column with AC-9. Data released: Jul 1, 2017 . Metadata Updated May 26, 2016 N-ICE2015 surface and under-ice spectral shortwave radiation data (v1.4) Data released: Apr 7, 2016 . Metadata Updated May 2, 2016 N-ICE2015 colored dissolved organic matter absorption spectra Data released: Jul 1, 2017 . Metadata Updated Apr 26, 2016 Sea Ice Macrofauna 1947-2012 Data released: Apr 25, 2014 . Metadata Updated Apr 14, 2016 **Physical Oceanography Data** Data released: Aug 25, 2014 . Metadata Updated Apr 6, 2016 https://data.npolar.no/

N ICE2015 ourfood motoorology v1

# **Data Publishing**



#### Datasets



# Lingered iceberg along Dronning Maud Land coast from August 2012 to August 2014

NPDC

## César Deschamps-Berger, Kenichi Matsuoka, Geir Moholdt, Max König

## https://data.npolar.no/dataset/143e7651-0750-4842-ba8b-ec70d407d52f

#### Use the following string to cite the dataset

C Deschamps-Berger, K Matsuoka, G Moholdt, M König (2017). Lingered iceberg along Dronning Maud Land coast from August 2012 to August 2014. Norwegian Polar Institute https://data.npolar.no/dataset/143e7651-0750-4842-ba8b-ec70d407d52f

#### Abstract

This dataset provides the positions of icebergs in August 2012, August 2013 and August 2014 along the Dronning Maud Land coast.

It also provides positions of lingered icebergs over five periods:

- 1. August 2012 to October 2012 (2 months)
- 2. August 2013 to October 2013 (2 months)
- 3. August 2012 to August 2013 (1 year)
- 4. August 2013 to August 2014 (1 year)
- 5. August 2012 to August 2014 (2 years)

These icebergs were identified by a human operator using Radarsat2's ScanSAR Narrow images. Data are provided in point shapefile format. The attribute for each point are the bed elevation (meters above sea level) at the point position according to IBCSO bathymetry dataset (Arndt et al., 2013; "ibcso\_b") and the method used to determine the elevation ("ibcso\_s"). If the first digit of "ibcso\_s" is a 2, "ibcso\_b" was acquired using multi-beam sonar, if the first digit is a 3 data were acquired using single-beam sonar, and if the first digit is a 6, data were interpolated. Each file is named after the date at which the iceberg were tracked. For example, icebergs lingered between August 2012 and October 2012 are stored in SIB\_8\_12-10\_12\_IBCSO.shp. Icebergs found in August 2012 are stored in SIB\_8\_12\_IBCSO.shp.

# SCAGI



The Scientific Committee on Antarctic Research



Standing Committee on Antarctic Geographic Information:

- Composite Gazetteer of Antarctica (CGA) <u>https://data.aad.gov.au/aadc/gaz/scar/</u>
- Antarctic Digital Database (ADD) <u>http://www.add.scar.org/</u>
- SCAR Map Catalogue (MapCat) <u>https://data.aad.gov.au/aadc/mapcat/</u>
  - http://www.scar.org/scagi/scagi-links

# SCADM



The Scientific Committee on Antarctic Research



» Provide data access through the ADMS » NADCs, Antarctic Master Directory » Promote a distributed, interoperable network of accredited polar data centres » ICSU World Data System » Data publication » Online data, persistent and unique identifiers, open licences, citation





SCADM Website

## Biosphere ecological dynamics,

ecosystems...







Cryosphere frozen ground, glaciers/ice sheets ....



Human Dimensions boundaries, economic resources...





Spectral/Engineering gamma ray, infrared wavelengths ...



Sun-Earth Interactions ionosphere/magnetosphere dynamics, solar activity ...



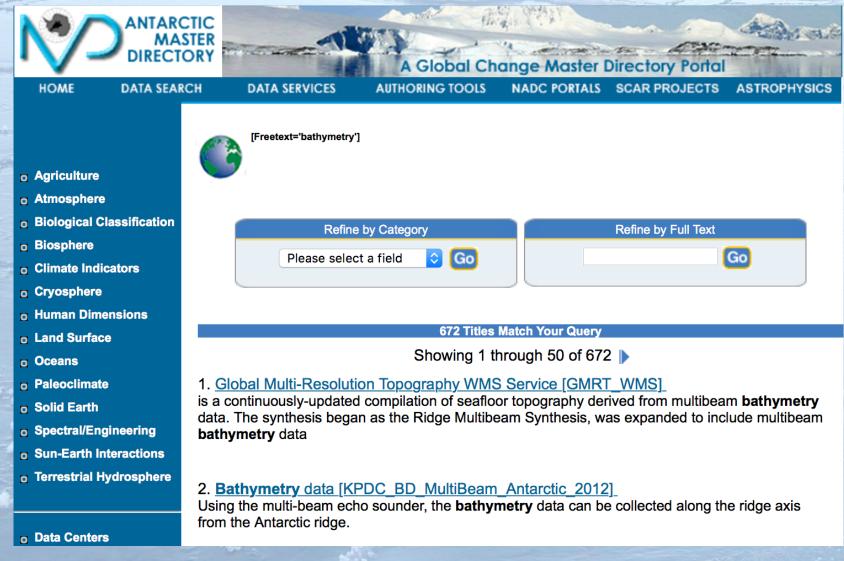
**Terrestrial Hydrosphere** glaciers/ice sheets, ground water ....



Data Centers - Locations -Instruments/Sensors -Platforms/Sources - Projects

# AMD: "Bathymetry"





# **GCMD** Portals



and stores and		"St. POLARINST"
Global Ch Master Dir Discover Earth Science Da	Did you find what you were looking for? Yes	Q O
🕷 HOME 🛛 😂 DATA	SETS ≓ SERVICES/TOOLS 😤 COLLABORATE  ◎ PORTALS	🕑 FAQ 👫 SITEMAP 💬 CONTACT US
docBUILDER Portals	GCMD Portal Collaborations What are GCMD Portals?	
CEOS IDN		
INTEROP Forum	Atreseterie Opieger Date Conter (ASDO)	- 0050 Data 0ata
Keywords	<ul> <li><u>Atmospheric Science Data Center (ASDC)</u></li> <li><u>Earth Observing System Data and Information System (EOSDIS)</u></li> </ul>	GSFC Data Sets     GSFC Data Services
Other Collaborations	<ul> <li>Earth Observing System Clearinghouse (ECHO)</li> </ul>	LANCE Near Real Time Data Products
Collaborate Through Web Services	Goddard Earth Sciences Data and Information Services Center (GESDISC)	Physical Oceanography DAAC (PODAAC)
Metadata Standards	Goddard Space Flight Center (GSFC) Code 610 Earth Science Data Sets	Socioeconomic Data and Applications Center (SEDAC)
How to Collaborate	Atmosphere	See Cryosphere
	Climate Variability and Predictability World Climate Research (CLIVAR)	Antarctic Master Directory (AMD)
	Global Climate Observing System (GCOS)	<ul> <li><u>Antarctic Biodiversity Information Facility (ANTABIF)</u></li> <li>Arctic Data Sets</li> </ul>
	<ul> <li><u>National Climatic Data Center (NCDC)</u></li> <li><u>Tropical Cyclones</u></li> </ul>	<ul> <li>Arctic Data Sets</li> <li>International Polar Year (IPY)</li> </ul>
	<ul> <li><u>Surface-Ocean Lower-Atmosphere Study (SOLAS)</u></li> </ul>	<ul> <li>National Snow and Ice Data Center (NSIDC)</li> </ul>
	Land Surface	S Models
	International Development Office of Sustainable Development	Earth Science Models
	Global Observation for Forest and Land Cover Dynamics (GOFC)	Met Office Hadley Centre
	Global Terrestrial Observing System (GTOS)	Model Output     NOAA Operational Medel Archive and Distribution System

United States Department of Agriculture (USDA)

NOAA Operational Model Archive and Distribution System (NOMADS)

# **GCMD** Portals



AC)



Portals

docBUILDER

CEOS IDN

INTEROP Forum Keywords

Reywords

Other Collaboratio

Collaborate Throu Web Services Metadata Standar

How to Collabora

Global Ocean Ecosystems Dynamics Project (GLOBEC)

Gulf of Maine Monitoring Programs (GOMMP)

Gulf of Maine Ocean Data Partnership (GoMODP)

Global Ocean Observing System (GOOS)

Integrated Marine Biogeochemistry and Ecosystem Research (IMBER)

Massachusetts Ocean Data Inventory

Ocean Biogeographic Information System (OBIS)

Rosenstiel School of Marine and Atmospheric Science (RSMAS)

Southern Ocean Observing System (SOOS)

Surface-Ocean Lower-Atmosphere Study (SOLAS)

International Development Office of Sustainable Development

Global Observation for Forest and Land Cover Dynamics (GOFC)

Global Terrestrial Observing System (GTOS)

Dilited States Department of Agriculture (USDA)

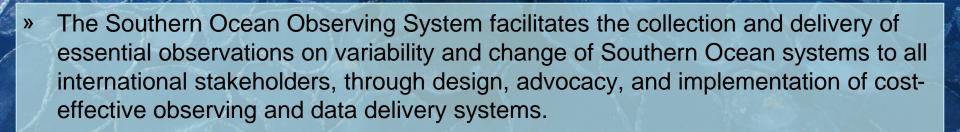
Earth Science Models

Met Office Hadley Centre

Model Output

NOAA Operational Model Archive and Distribution System NOMADS)

## Southern Ocean Observing System



## **SOOS Objectives**



- 1) Facilitate the design of a comprehensive and multi-disciplinary observing system for the Southern Ocean
- Unify and enhance current observation efforts and leverage further resources across disciplines, and between nations and programmes
- Facilitate linking of sustained long-term observations to provide a system of enhanced data discovery and delivery, utilising existing data centres and programmatic efforts combined with, as needed, purpose-built data management and storage systems
- 4) Provide services to communicate, coordinate, advocate and facilitate SOOS objectives and activities



## Where to look for Southern Ocean data



- » IBCSO and GEBCO host most hydrographic data for the Southern Ocean, but useful data may also be hiding in several other repositories <u>www.soos.aq/data/data-links</u>
- » GCMD is useful for metadata but not all repositories (yet!) publish their metadata to the GCMD, so you may have to search repositories individually.

gcmd.nasa.gov/portals/soos gcmd.nasa.gov/KeywordSearch/H ome.do?Portal=amd&MetadataTy pe=0



ORK PRIORITIES

VITIES RESOUR

## Data Providers

Southern Ocean research data are hosted in a wide range of repositories across the globe. Follow the links belor to discover key data sources.

Physical and Chemical Oceanographic Repositories

**Biological and Ecological Repositories** 





# Linked Resources





#### SOUTHERN OCEAN OBSERVING SYSTEM



**ABOUT US** 

 $\hat{}$ 

NETWORK **SOOS Community** 

PRIORITIES The Need

ACTIVITIES Implementation

RESOURCES SOOS Products

Tube

## **Data Providers**

SOOS

Southern Ocean research data are hosted in a wide range of repositories across the globe. Follow the links below to discover key data sources.

Physical and Chemical Oceanographic Repositories

#### **Biological and Ecological Repositories**





Ice and Cryosphere Data Repositories

Satellite Data Repositories



## DATA

Overview

Data Committee DMSC Minutes

#### Southern Ocean Data Providers

DATA

Observations

**Physical Sciences** 

**Biology and Ecology** 

Ice and Cryosphere

Satellite Data

Multi-disciplinary Data

Other Data Repositories

How To Share Data

Metadata Portal

Data Policy

Data Sharing FAQ

## QUICK LINKS

## **Southern Ocean Field Projects Database**

- » SOOS is leading the development of a field projects database for the Southern Ocean
- The database aims to encourage collaborations by prompting conversations among researchers and cruise planners before they get on ships
- It will include
  - Publicly-editable transects for planned cruises
  - Project-level information about the research programs on each cruise
  - Interim database available for testing by the community later this year.
    - » http://www.soos.aq/activities/task-team/field-projects-database

## www.soos.aq

# » www.soos.aq » Pip Bricher data@soos.aq











A Special Research Initiative of the Australian Research Council

















# Sea Ice Data

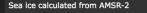




Antarctic sea ice concentration browser

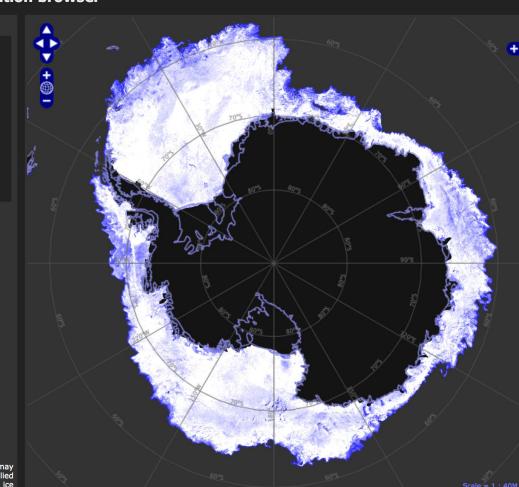


Start/Stop Animation



Data source: University of Bremen

An area of no data (shown as a dark grey colour) may be apparent along coastlines. This land-mask is applied as part of the data processing to avoid erroneous ice concentration values along coasts. See here for further



# Sea Ice Data: polarview.aq

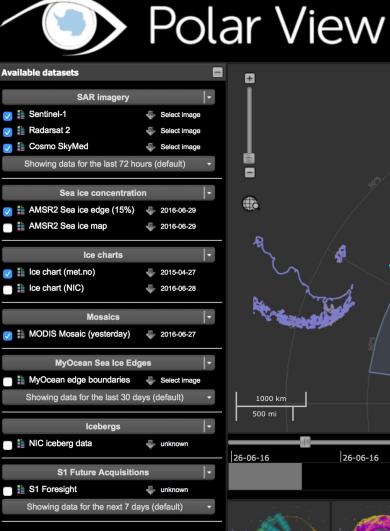
@PolarViewStatus

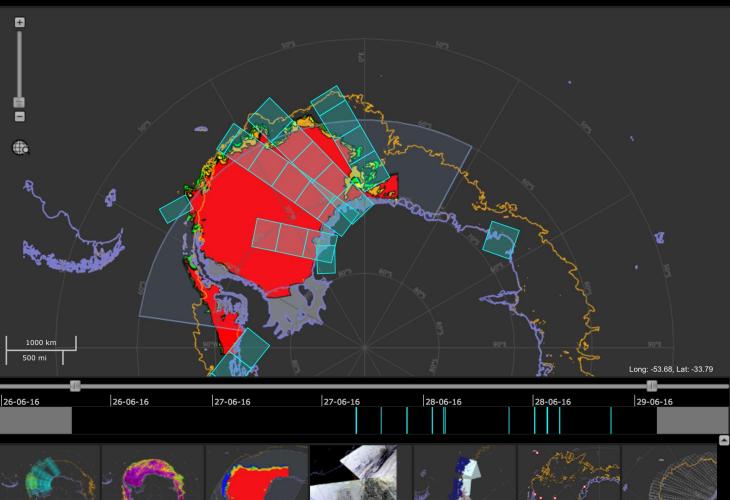


Sentinel1A imagery is still unavailable. Investigations are progressingPosted on 21 Jun

but further tests are needed before operations can be resumed.

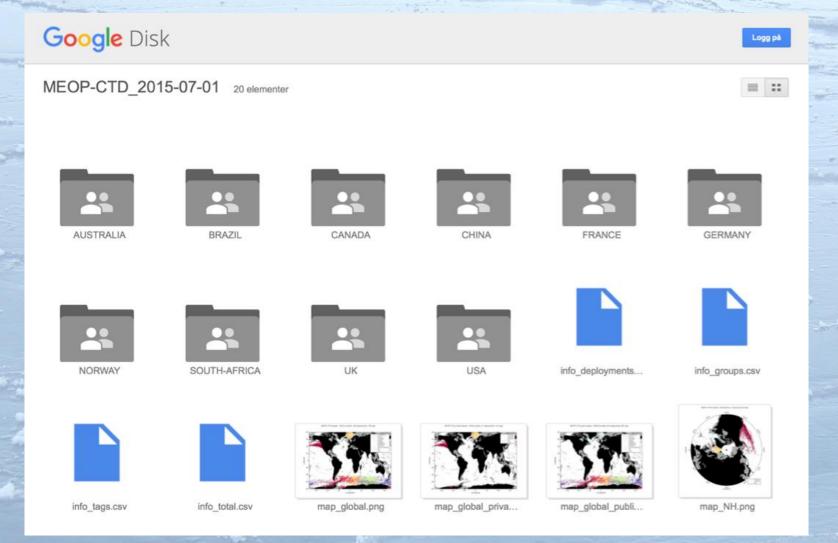
Click for more information .





# Data Archaeology





# Data Deluge





