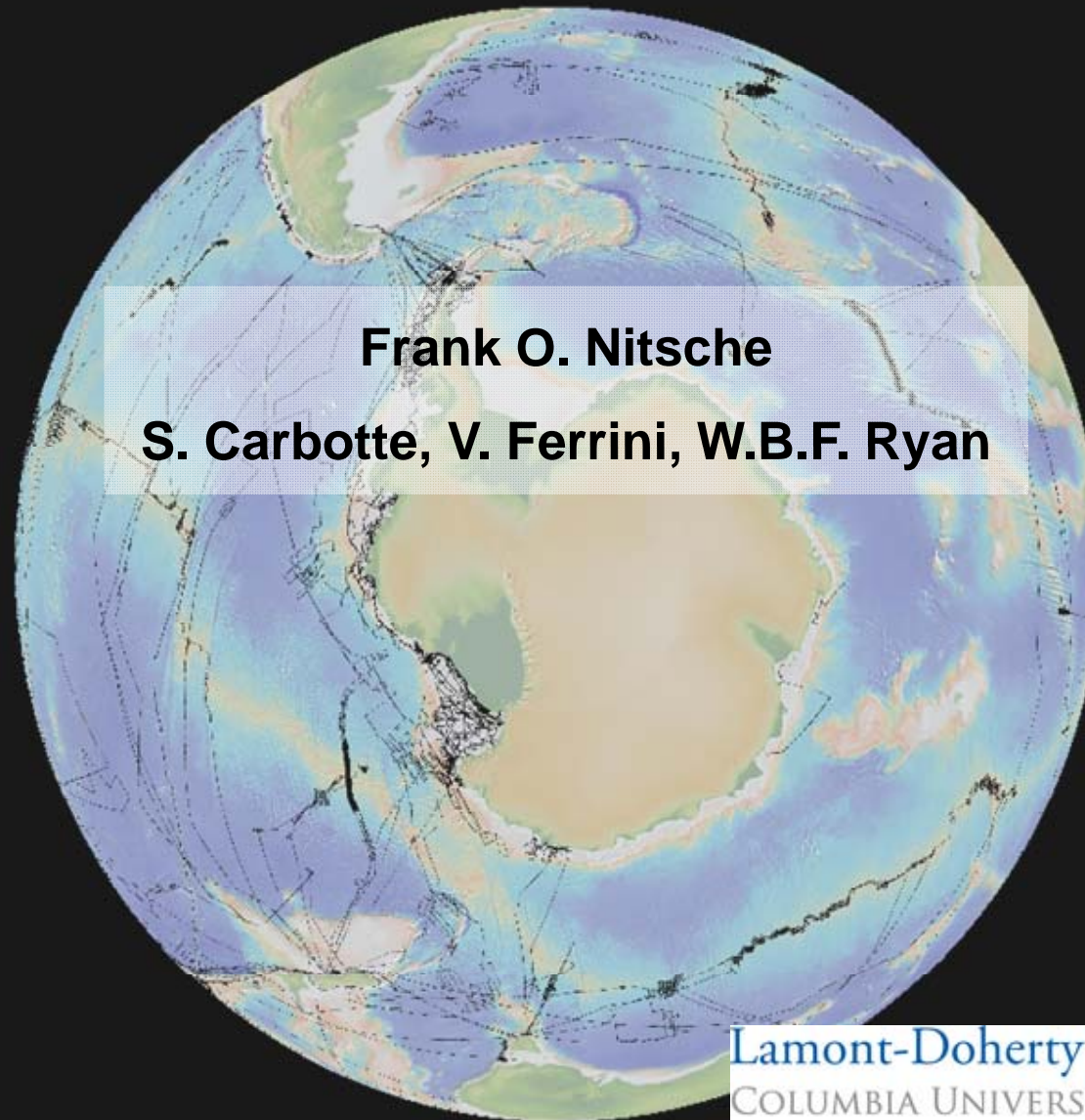


The Antarctic and Southern Ocean Data Synthesis and its use for bathymetric compilations



Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Antarctic and Southern Ocean Data Synthesis

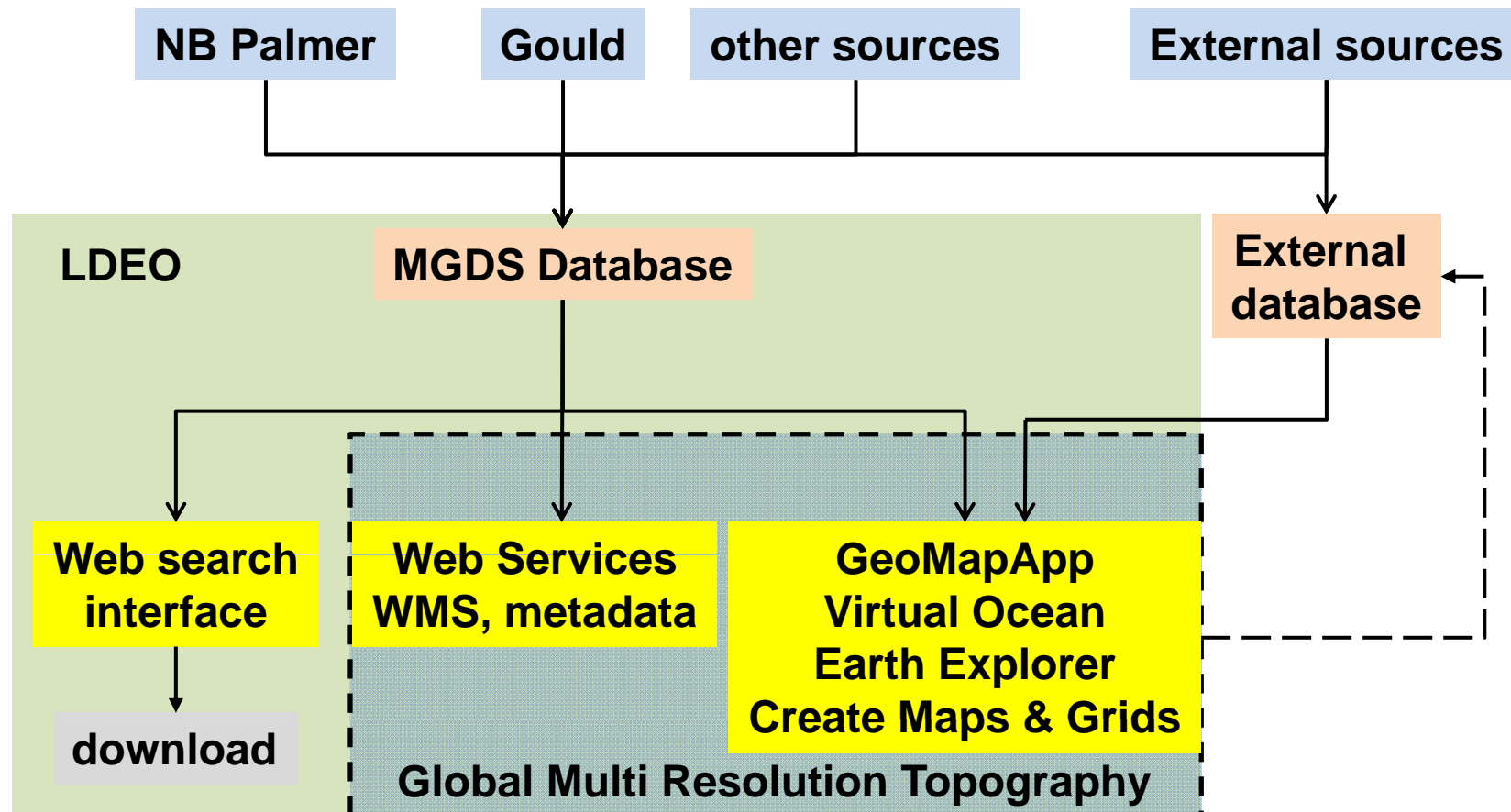
- Part of Marine Geoscience Data System
- Funded by NSF
- Operated by Lamont-Doherty
- Primary site for data from *NB Palmer* and *L Gould* data
- Cooperation with NGDC (Boulder) for long-term archive of MB data



The screenshot shows the homepage of the Marine Geoscience Data System. At the top, there is a blue header with the logo and text "MARINE GEOSCIENCE DATA SYSTEM" on the left, and a "Search for Data" button on the right. Below the header is a large, colorful bathymetric map of the ocean floor. Underneath the map is a navigation menu with links: Home, About, Tools & Services, Data Portals, Partners, and Contribute Data. Below the navigation menu are three main content boxes. The first box is titled "Data Portals" and features a circular icon with a globe and a blue wave. The second box is titled "Search for Data" and features a magnifying glass over a globe, with the text "330,544 Files Available from 2,041 Expeditions/Compilations" below it. The third box is titled "Tools & Services" and features an icon of a blue toolbox with a wrench and a mouse.

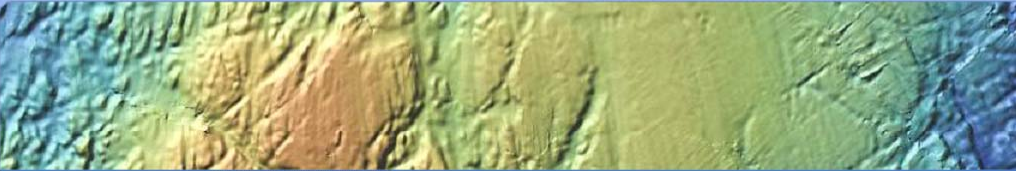
<http://www.marine-geo.org/>

Antarctic and Southern Ocean Data Synthesis



Marine Geoscience Data System - Search

MARINE GEOSCIENCE DATA SYSTEM Search for Data



★ Home About Tools & Services Data Portals Partners Contribute Data Education

Basic **Field Program** Sample Data Seismic Data Advanced Ridge 2000 MARGINS

MGDS Field Program Search

Data Search Options

Search by Device/Data Type:
All Device and Data Types

File Format^(?) :
(Any)

Search by Citation^(?) :
(Any)

Location Search Options

Search By:
World

Field Program Search Options

Field Program Name:
NBP0702
(e.g. cruise id, flight name, etc)

Platform Name:
(All)

Start Date:
1950 - 01 - 01
(yyyy-mm-dd)

End Date:
2020 - 12 - 31
(yyyy-mm-dd)

Scientist/Participant Search Options

Personnel Type:
Investigator/Lead

Investigator/Lead:
(All)

Personnel Institution^(?) :
(All)

Funding Initiative^(?) :
(All)

[Search](#) [Reset](#)

Data are not to be used for Navigation

Marine Geoscience Data System - Search

MARINE GEOSCIENCE DATA SYSTEM [Search for Data](#)



★ Home About Tools & Services Data Portals Partners Contribute Data Education

Field:Marine NBPO702



[View in Enlarged Map](#)

Main Locale: [AmundsenSea](#)

<u>Lead Scientist</u>	<u>Role</u>	<u>Institution</u>	<u>Award</u>
Jacobs, Stan	Scientist:Chief	LDEO	NotProvided

▶ **Scientific References**

[Click on title above to view information on references](#)

Expedition Metadata

▶ **Program Summary Information**

[Click on title above to view general metadata](#)

▶ **Personnel**

[Click on title above to view personnel listing](#)

▶ **Instruments**

[Click on title above to view instruments](#)

▶ **Related Documents**

[Click on title above to view related documents](#)

Data Inventory

▼ **Sensor Data**

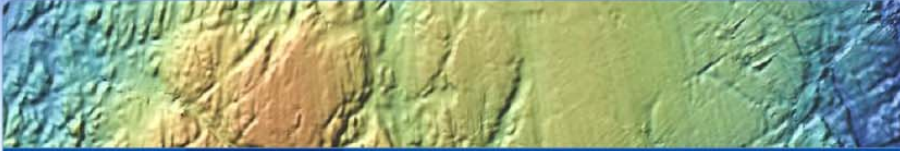
▶ **Derived Data at MGDS**

[Click on title above to show/hide digital derived data sets](#)

<u>Data Set</u>	<u>Device Information</u>	<u>Event Information</u>	<u>Investigator</u>	<u>References</u>
Bathymetry	R/V Nathaniel B. Palmer [Ⓞ] Sonar:Multibeam(Simrad [Ⓞ] EM120)	NotApplicable	Nitsche, F.	NotProvided

Marine Geoscience Data System - Download

MARINE GEOSCIENCE DATA SYSTEM
Search for Data



Home
About
Tools & Services
Data Portals
Partners
Contribute Data
Education

NBPO702 MGDS Data Files

We strive to ensure that the information presented on these pages is as accurate as has been provided to us by PIs. This information is not intended for navigation purposes. Please read the [terms of use](#) before using this data.

Scientist(s): Nitsche, Frank

Data Type(s): Backscatter:Acoustic, Sidescan, Bathymetry:Swath

Instrument: R/V Nathaniel B. Palmer [Ⓜ]

Sonar:Multibeam(Simrad [Ⓜ]_EM120)

Quality: 2

Number of Files: 1054

References: NotProvided

► Related Data Sets

[Click on title above to view related data](#)

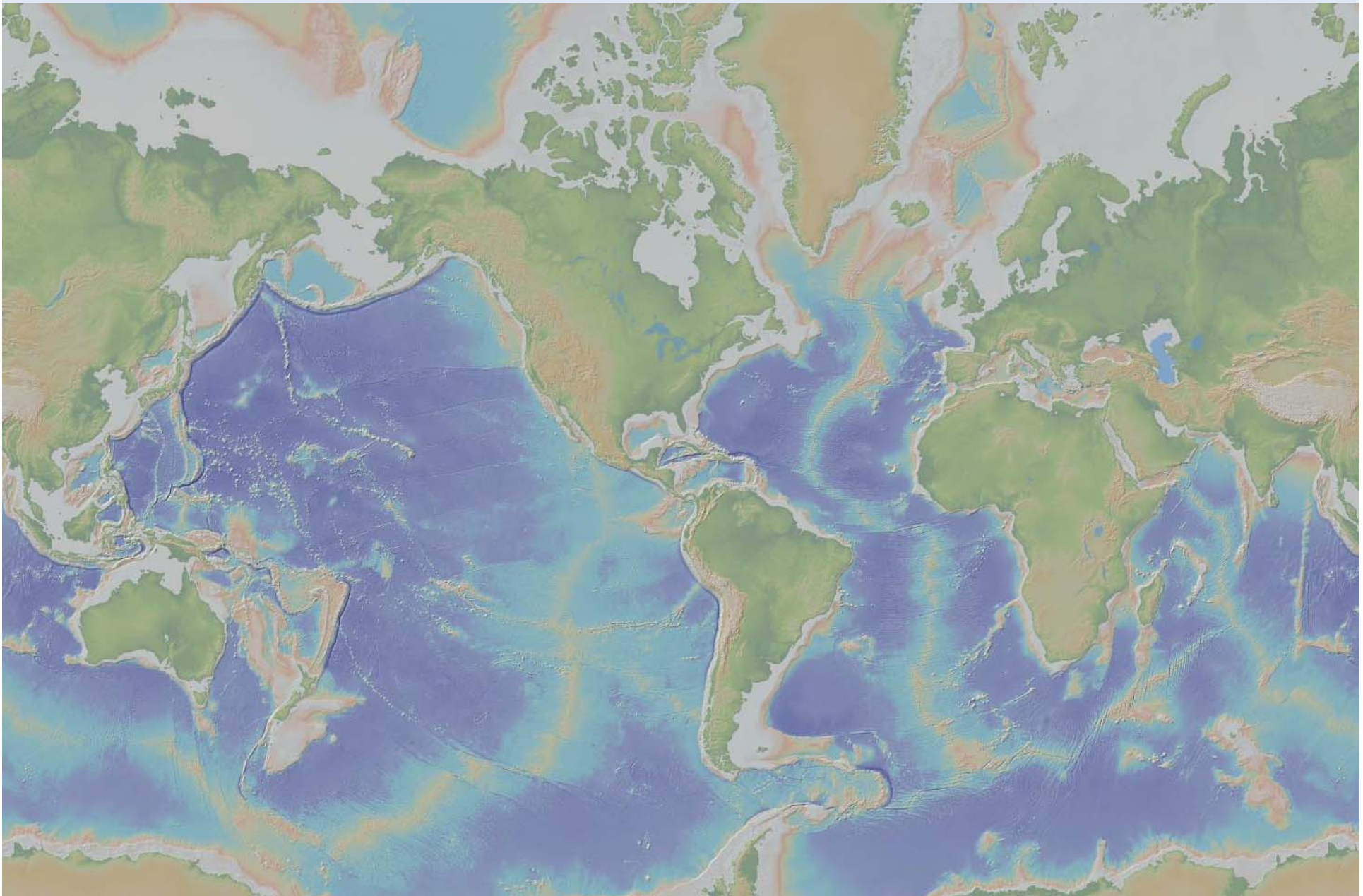
Download Options:

Files 1 to 50 of 1054 displayed ▶ ◀

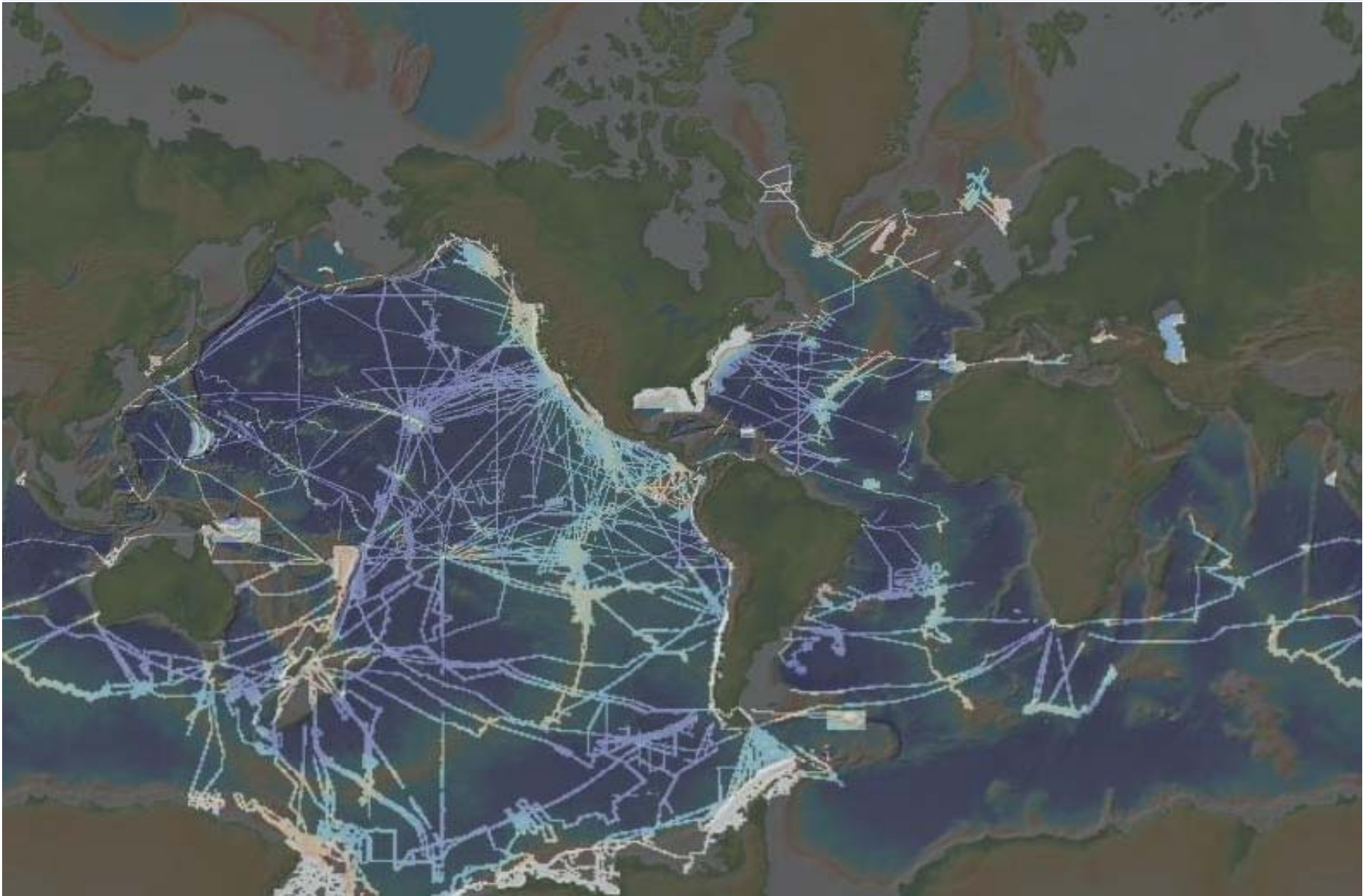
Select/Deselect All

Select	File Name	File Size	File Format	Locale	Start Date	Stop Date	Start Longitude	Start Latitude	Start Elevation	Stop Longitude	Stop Latitude	Stop Elevation	Nav_Type [Ⓜ]	
<input type="checkbox"/>	0001_20070203_044818p.mb57	23.1MB	MBSystem [Ⓜ]	AmundsenSea	2007-02-03 04:46:20	2007-02-03 05:46:18	165.3655	-77.1001	0	165.2875	-78.9469	0	GPS	<input type="button" value="Additional Details"/>
<input type="checkbox"/>	0002_20070203_054818p.mb57	16.3MB	MBSystem [Ⓜ]	AmundsenSea	2007-02-03 05:46:21	2007-02-03 06:24:27	165.2874	-78.9468	0	165.1858	-78.8566	0	GPS	<input type="button" value="Additional Details"/>
<input type="checkbox"/>	0003_20070203_062441p.mb57	23.6MB	MBSystem [Ⓜ]	AmundsenSea	2007-02-03 06:24:42	2007-02-03 07:24:39	165.1858	-78.8561	0	165.1607	-78.7509	0	GPS	<input type="button" value="Additional Details"/>
<input type="checkbox"/>	0004_20070203_072441p.mb57	24.5MB	MBSystem [Ⓜ]	AmundsenSea	2007-02-03 07:24:43	2007-02-03 08:24:38	165.1607	-78.7508	0	165.1134	-78.631	0	GPS	<input type="button" value="Additional Details"/>
<input type="checkbox"/>	0005_20070203_082441p.mb57	22.2MB	MBSystem [Ⓜ]	AmundsenSea	2007-02-03 08:24:42	2007-02-03 09:24:42	165.1136	-78.6309	0	165.0518	-78.4668	0	GPS	<input type="button" value="Additional Details"/>
					2007-02-03	2007-02-03								<input type="button" value="Additional Details"/>

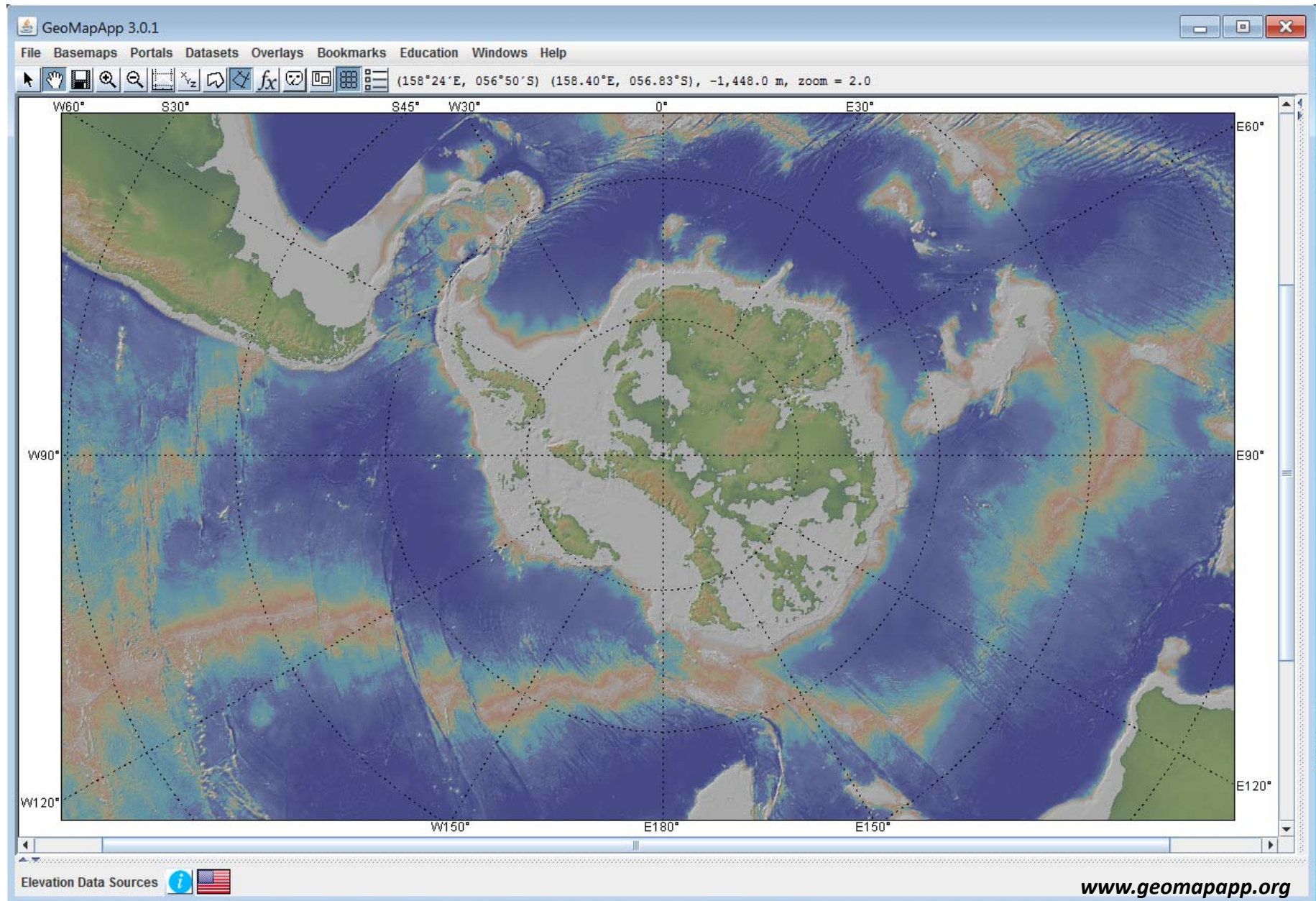
Global Multi-Resolution Topography - GMRT



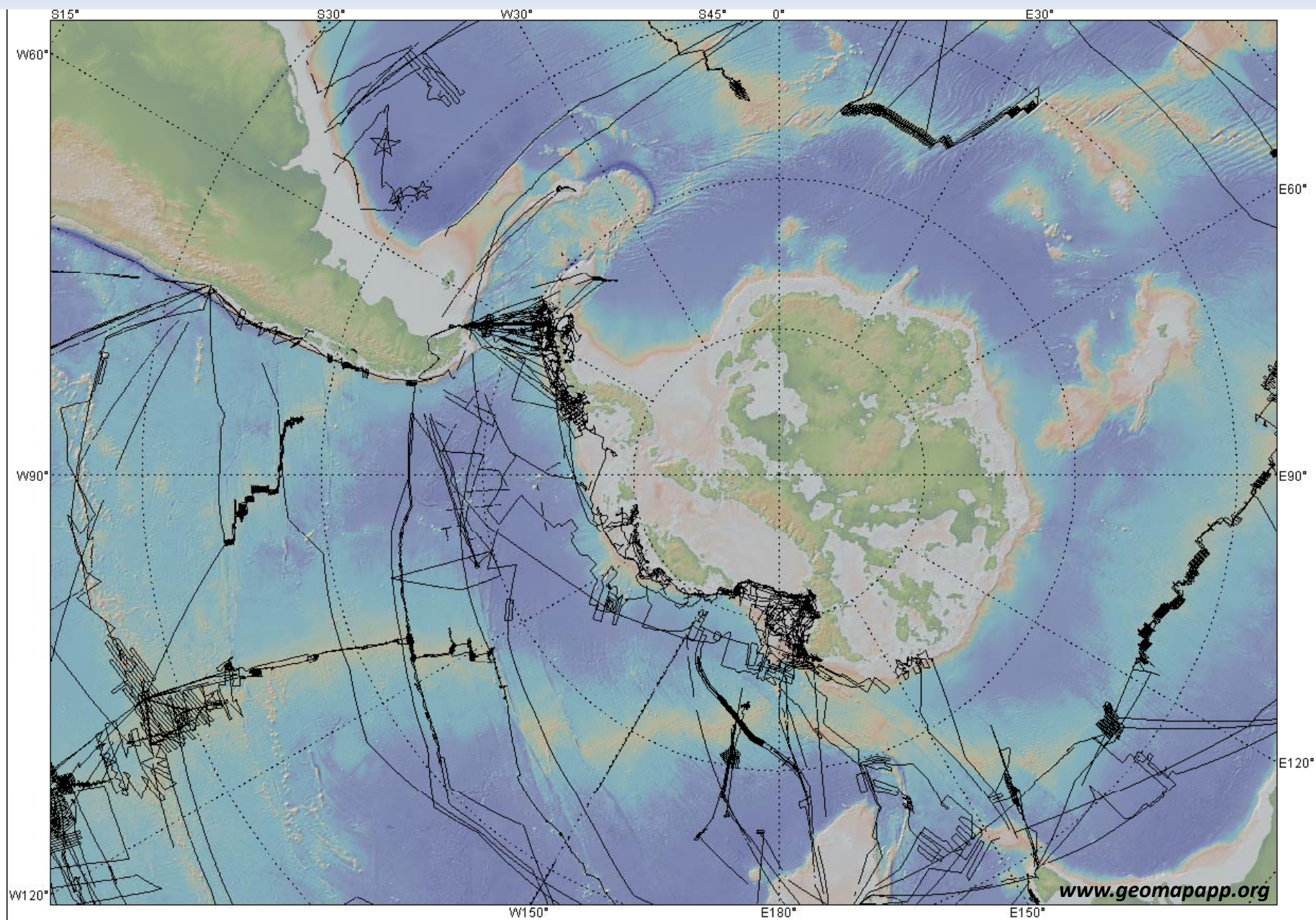
Global Multi-Resolution Topography - GMRT



GeoMapApp



GeoMapApp – Multibeam Holding



GeoMapApp – Multibeam data download

GeoMapApp 3.0.1

File Basemaps Portals Datasets Overlays Bookmarks Education Windows Help

W60° S45° S60° 0° E30° E60°

W90° E90°

W120° W150° E180° E150°

Multibeam Bathymetry Swat...

Close

Detach Table

View All Expeditions

NBP0702

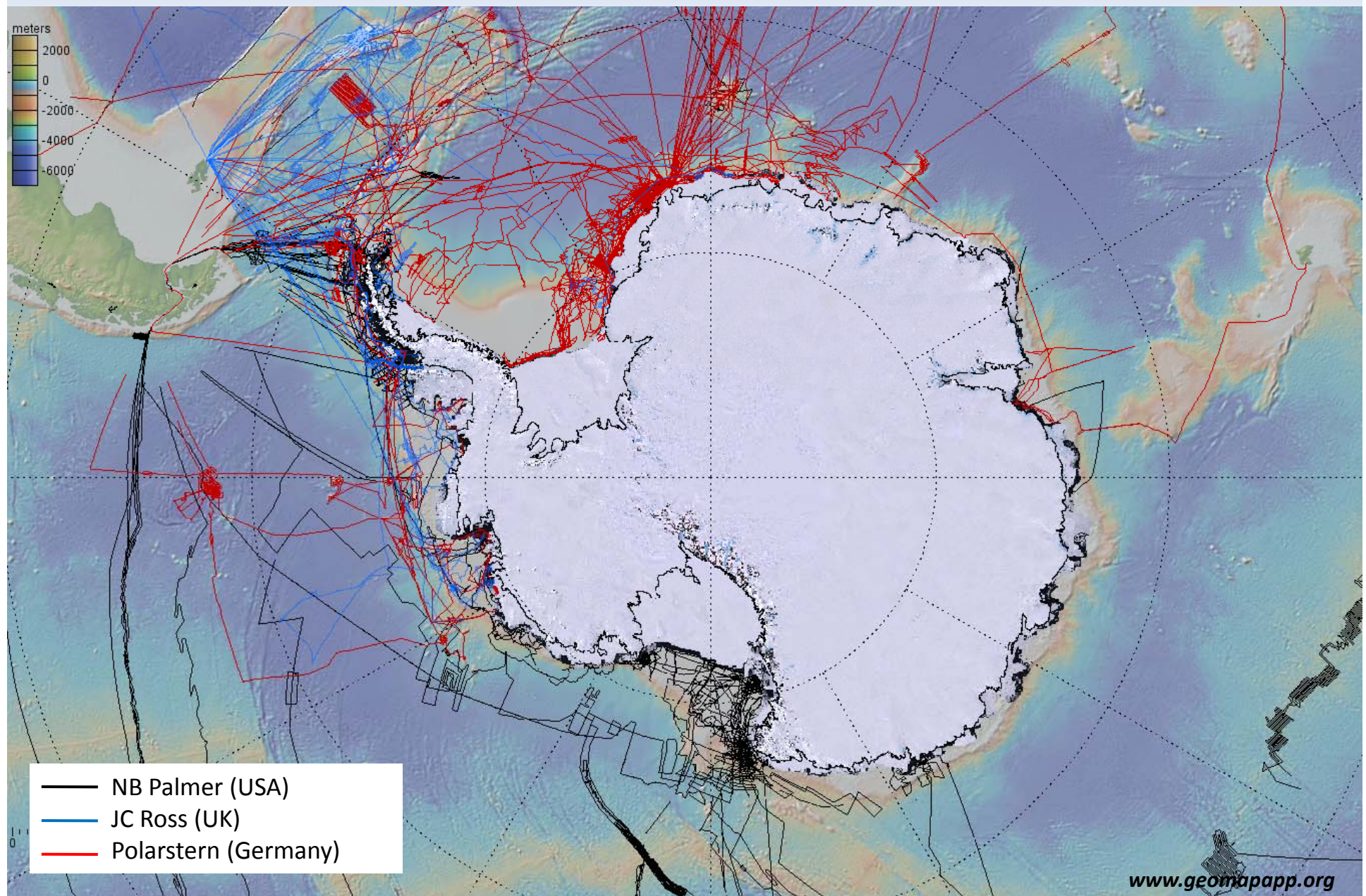
Cruise Info

cruise: NBP0702, file: 1005_20070320_184455p.mb57.gz

Elevation Data Sources

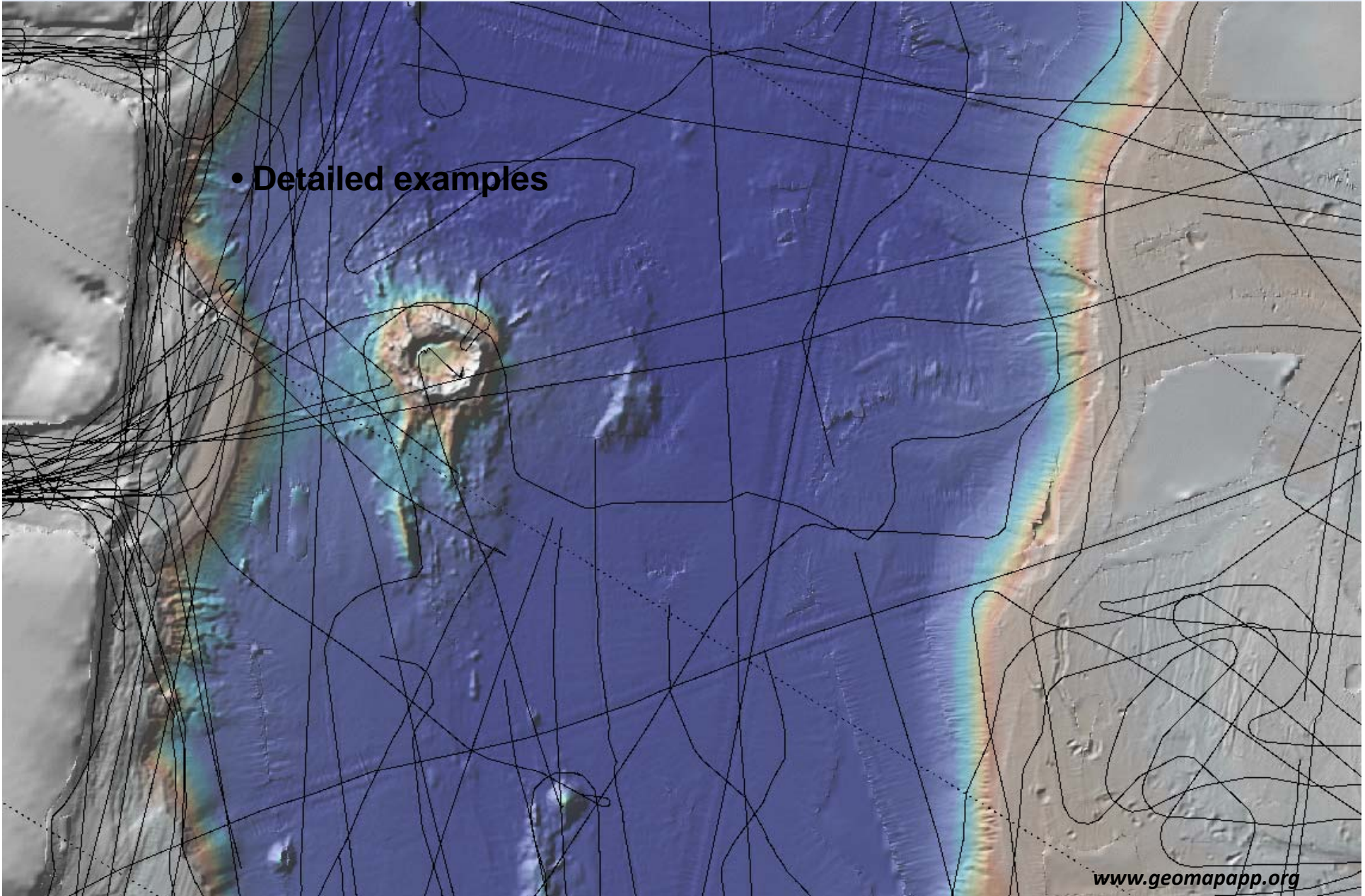
Download selected ping file

GeoMapApp – external multibeam track data

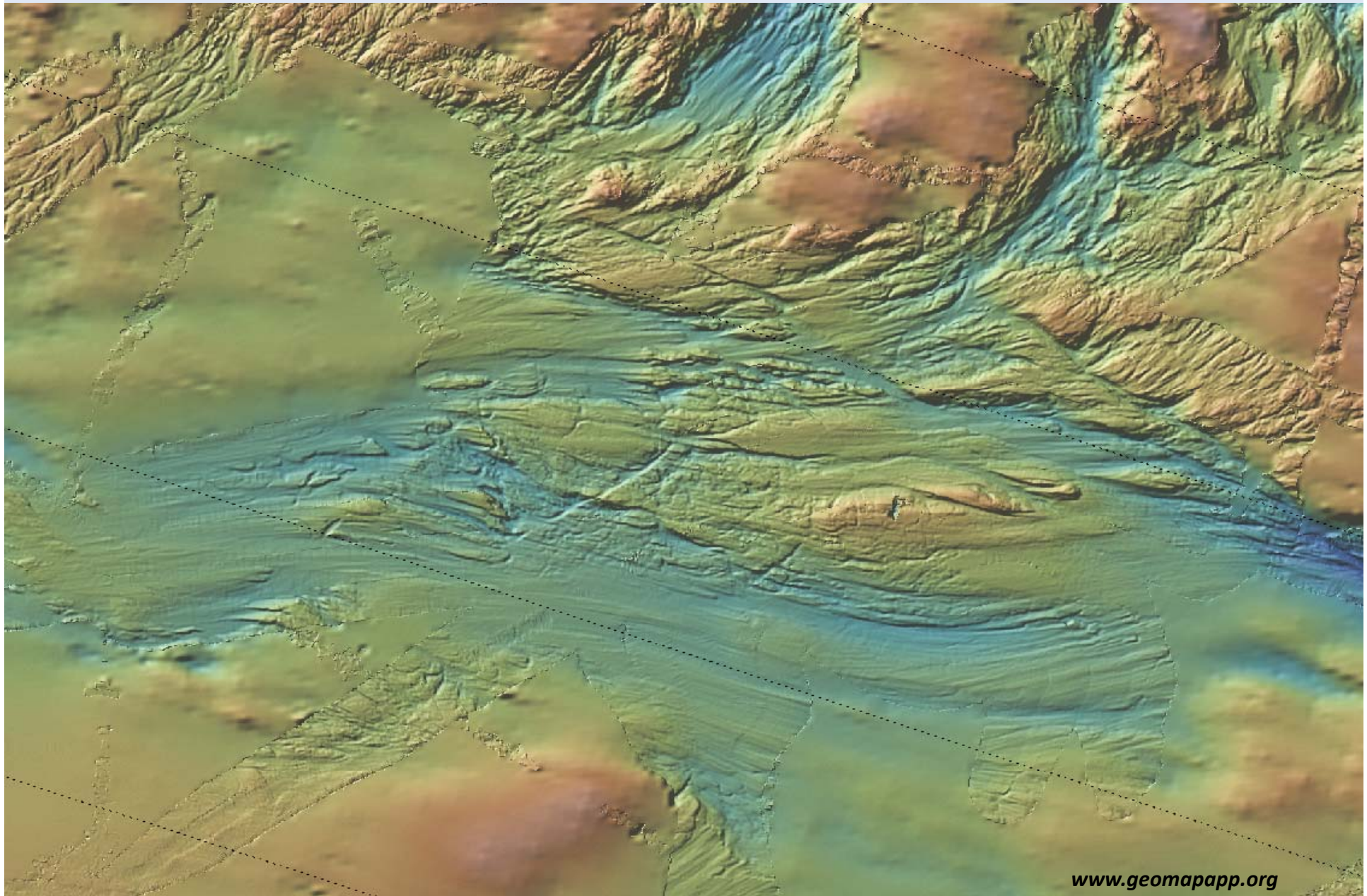


GeoMapApp – Bransfield Strait

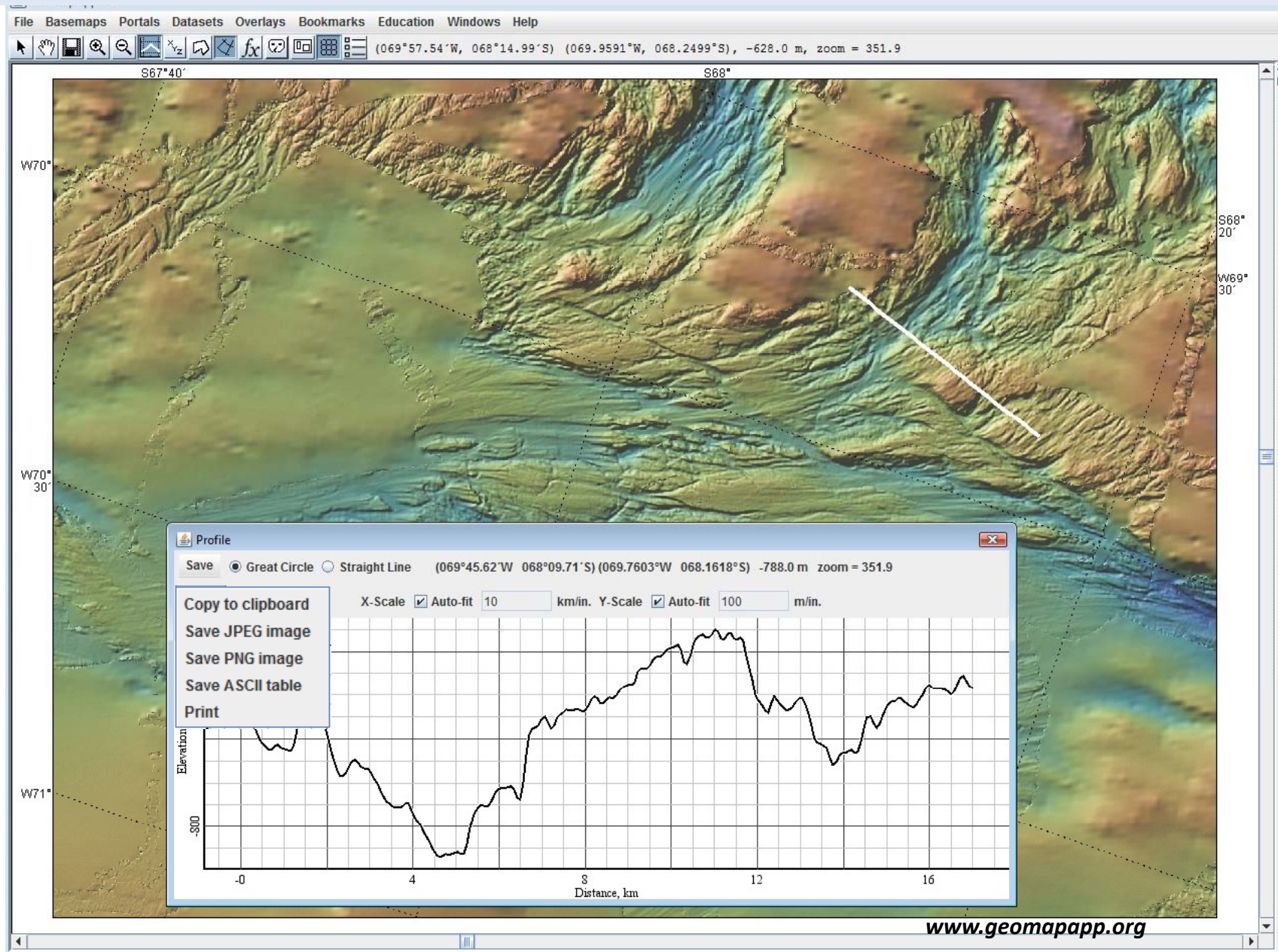
- Detailed examples



GeoMapApp – Detail



GeoMapApp – Profiling Tool



Global Multi-Resolution Topography - Attribution

GeoMapApp 3.0.1

File Basemaps Portals Datasets Focus Sites Overlays Bookmarks Education Windows Help

Discovery Metadata System

Home About BAS BAS Research About Antarctica Living & Working Images

[www.antarctica.ac.uk | dms](http://www.antarctica.ac.uk/dms)

Metadata

Brief Record Full Record Request Data

South Georgia Bathymetric Dataset grid
GB/NERC/BAS/AEDC/00323

Summary

Abstract:
Bathymetric grid at 150m resolution of the area surrounding South Georgia. Projected in LCC co-ordinates saved in esri grid format. Continuous dataset constructed from a variety of sources.

Keywords:
bathymetry

Basic Information

Creation Date: 2008-04-28
Originating Center: BAS/PDC
Dataset Progress: Complete
Dataset Language: N/A
ISO Topic Categories:

- Oceans

Parameters:

- Oceans > Aquatic Sciences > Fisheries
- Oceans > Bathymetry/Seafloor Topography
- Oceans > Bathymetry/Seafloor Topography > Bathymetry

Personnel:

Name	Data Manager
Role(s)	Technical Contact
Email	aedk@bas.ac.uk
Phone	01223 221760
Address	British Antarctic Survey High Cross, Madingley Road Cambridge Cambridgeshire CB3 0ET United Kingdom
Name	Peter T Fretwell
Role(s)	Metadata Author

Parent Dataset: N/A

Elevation Data Sources

Base Map

Smith & Sandwell (Marine)

ASTER (Land)

BEDMAP (Antarctic)

IBCAO (Arctic)

High Res Land

NED (US)

For Selection

Get More Info Show

Cruises

- AMLK94
- AMLR95
- EW9101
- MRTN06WT
- MRTN07WT
- NBP0001
- NBP0002
- NBP0003

70°W 65°W 60°W 55°W 50°W 45°W 40°W 35°W 30°W 25°W 70°S

Elevation Data Sources

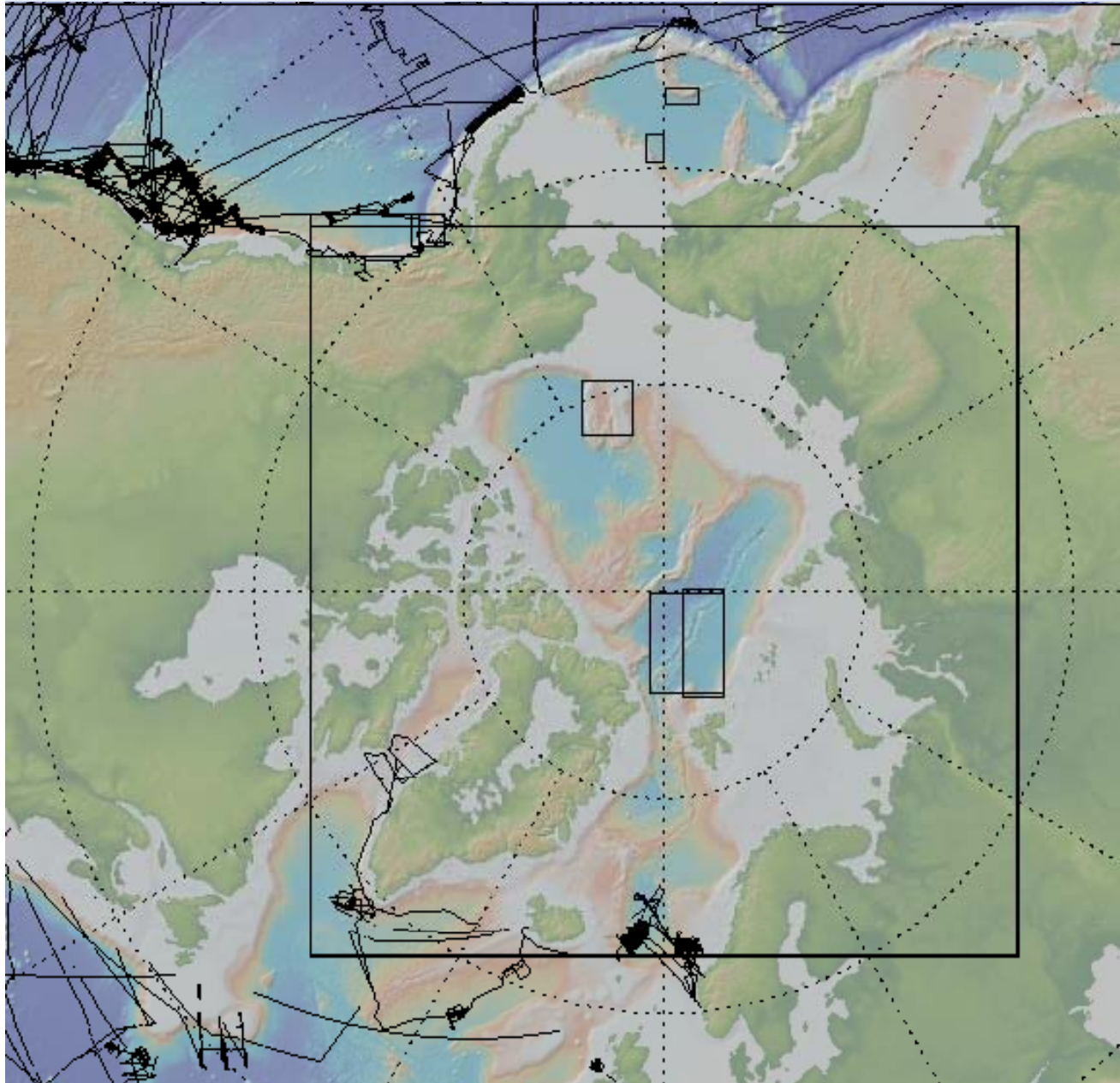
Contact us

Top

Contact Us



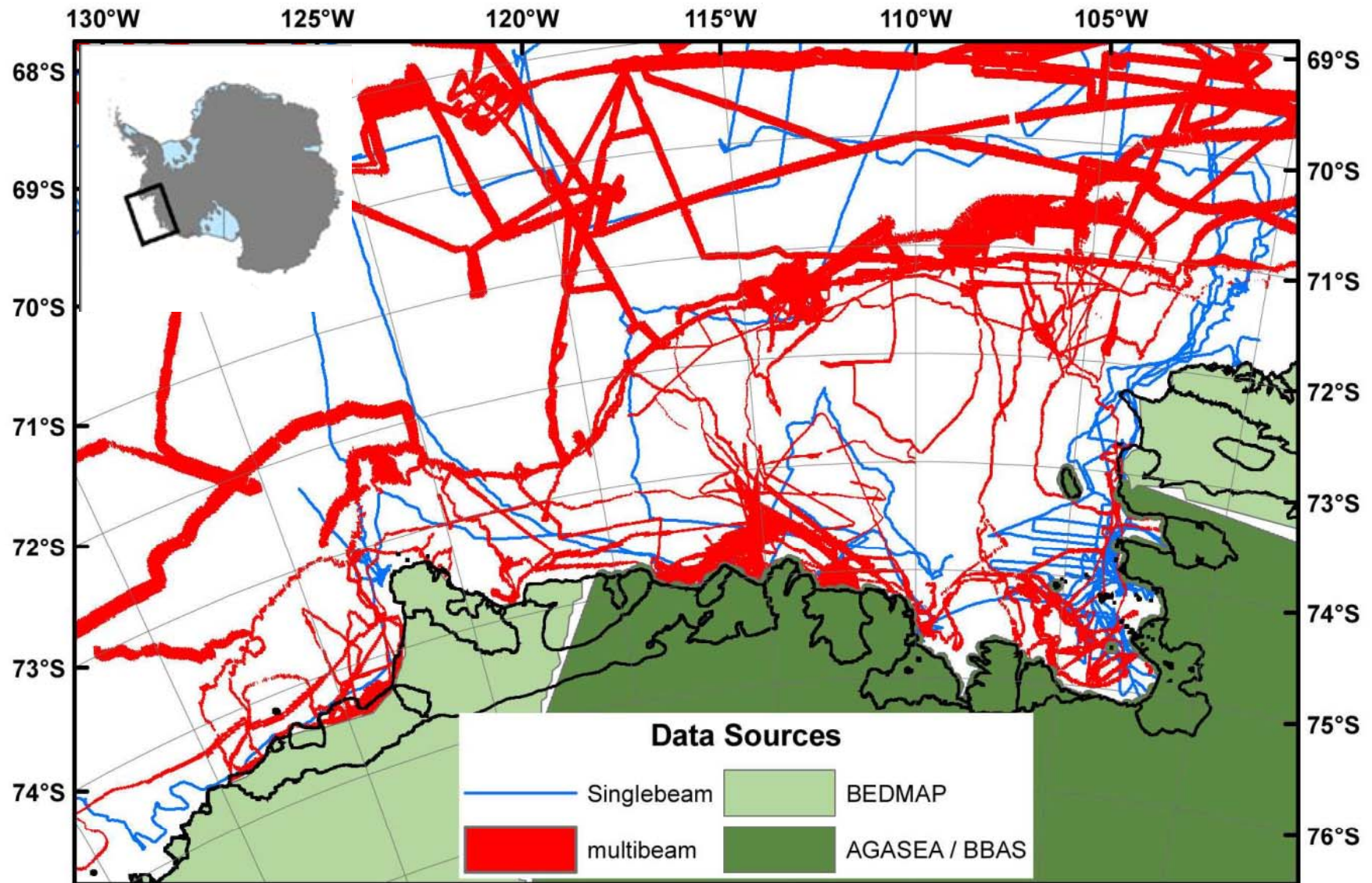
GeoMapApp – Arctic Data



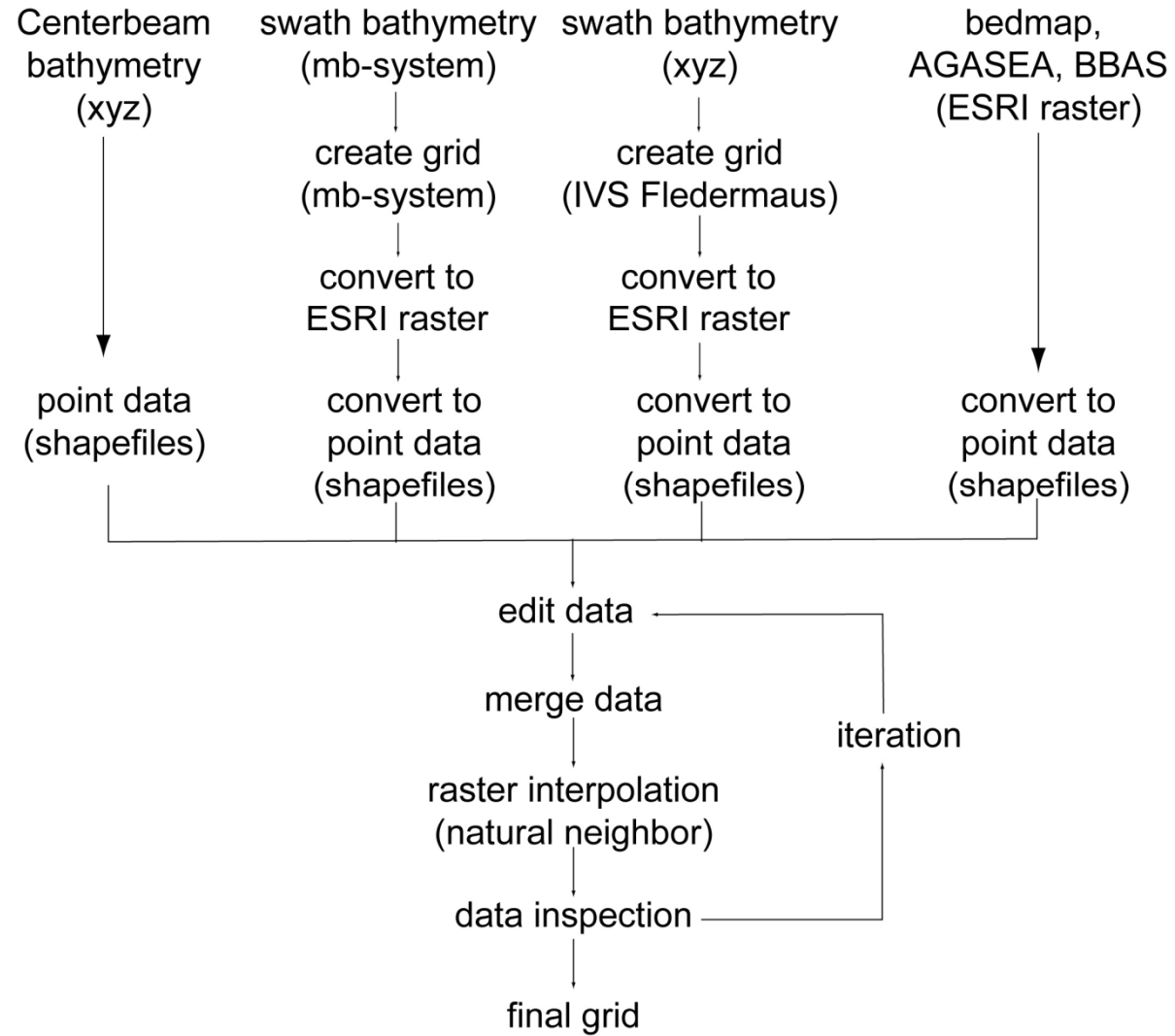
**Integrating Arctic data
mainly from Healy**



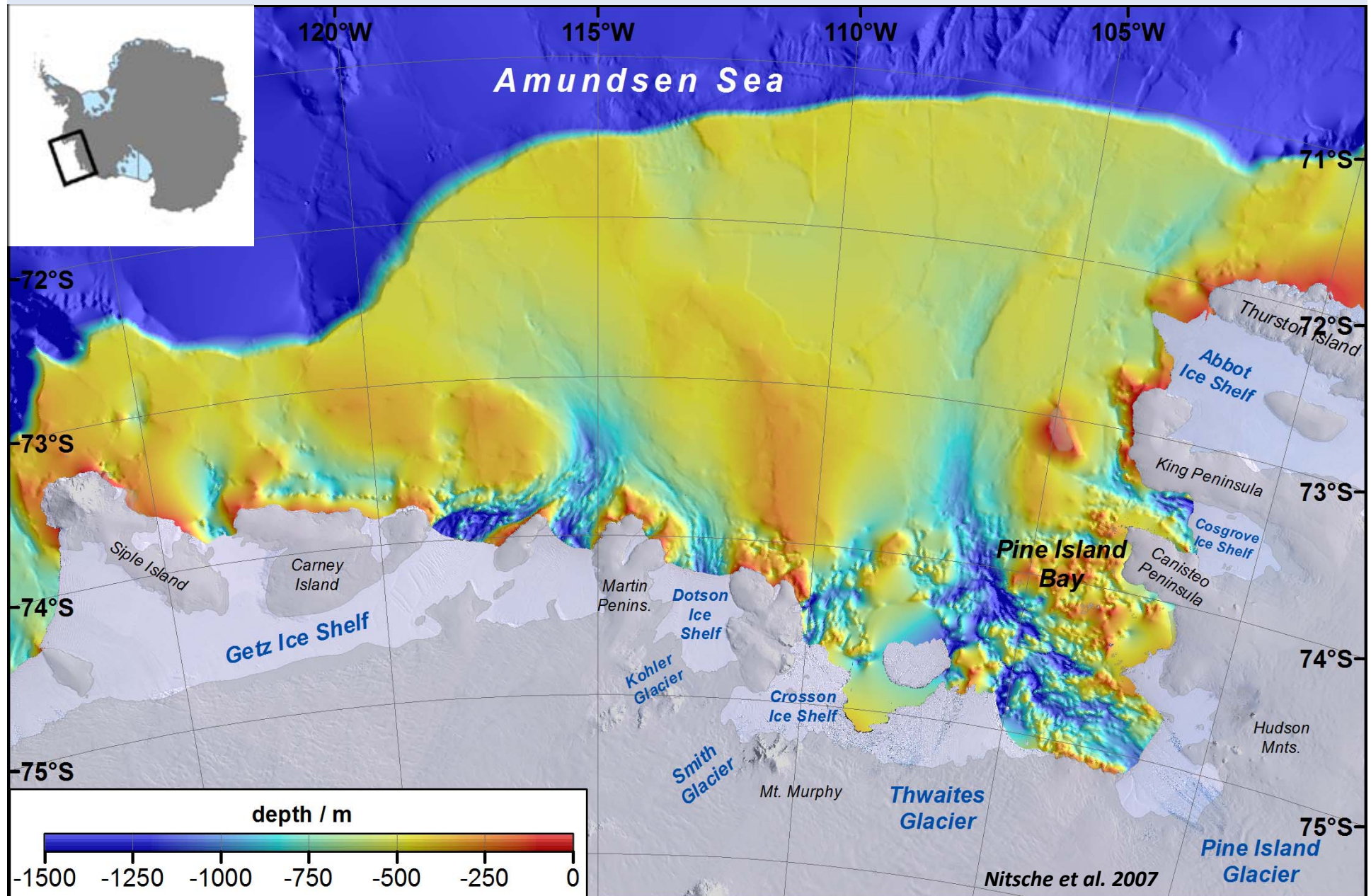
Amundsen Sea Compilation



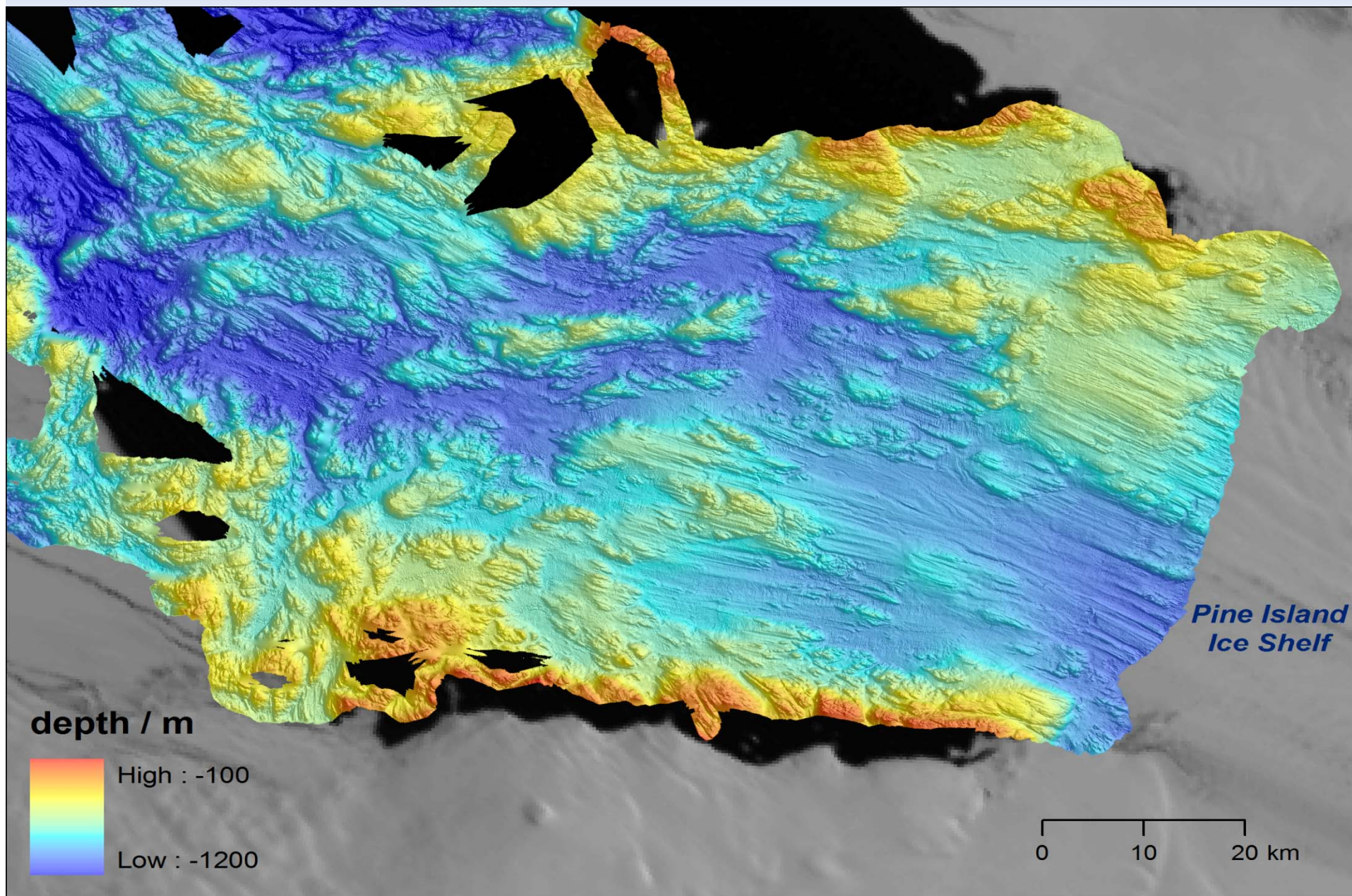
Amundsen Sea Compilation



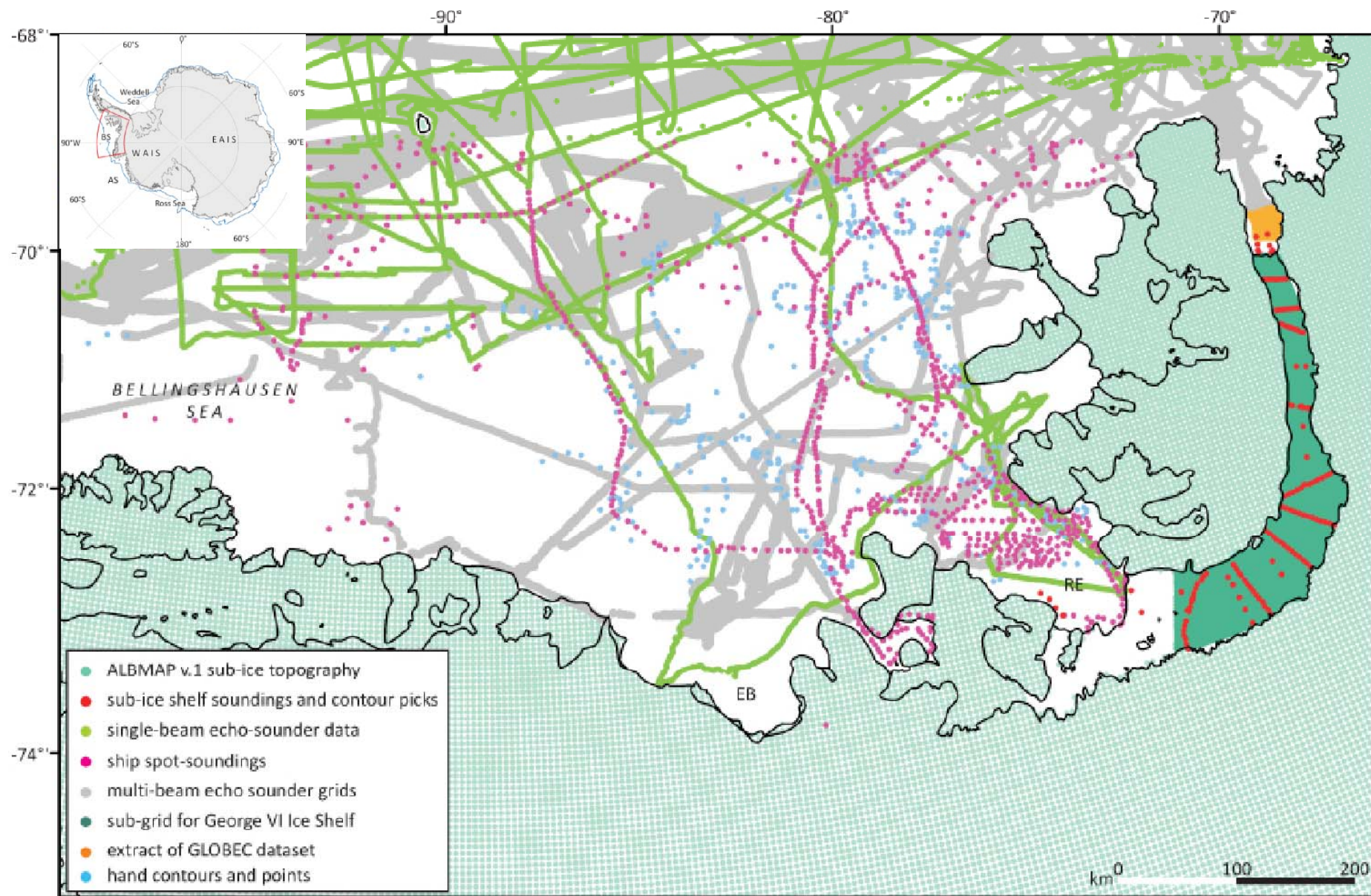
Amundsen Sea Compilation



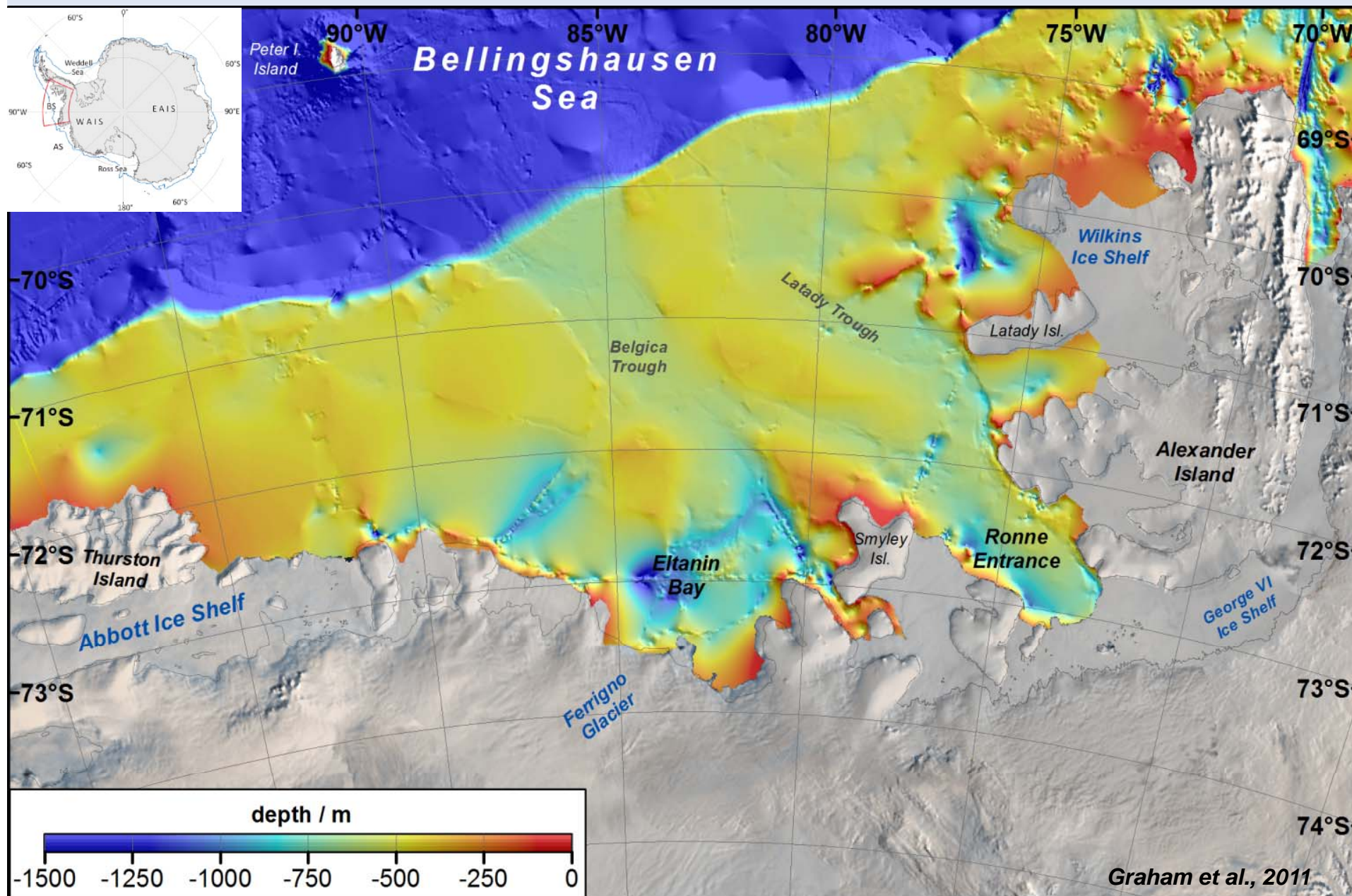
Amundsen Sea Compilation



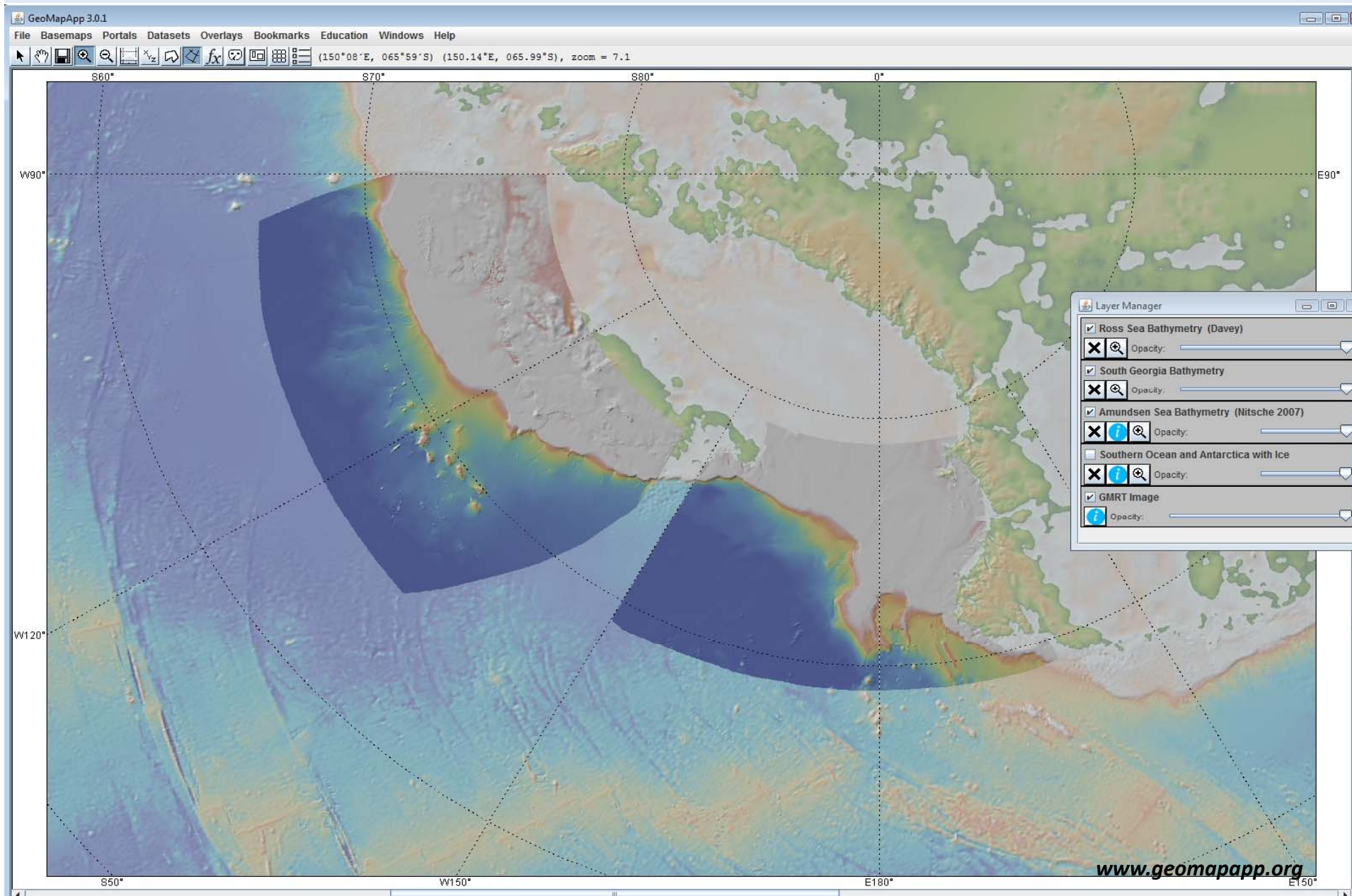
Bellinghshausen Sea Compilation - Sources



Bellingshausen Sea Compilation



Integration into GeoMapApp



Summary

- **Data portal for (US) Marine Antarctic data**
<http://www.marine-geo.org/>
- **Easy data access through search interface and GeoMapApp**
- **Access to data at various resolutions**
- **Attribute system to acknowledge and link to data source**
- **Regional compilations provide insights into ice flow pattern**
=> important for oceanographic and glacial models