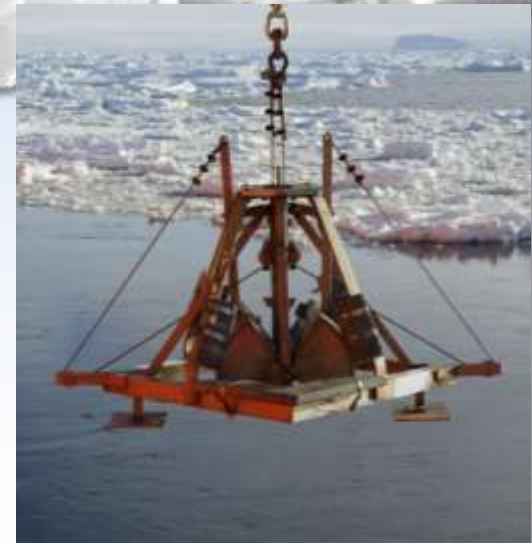


Metadata and Data Curation

Requirements and lessons learned from
operations of Data Services for Antarctic
Science



- Metadata essential for all aspects of data curation
- Many kinds of metadata: Administrative (provenance, credit), descriptive (supports discovery and identification), technical, structural and preservation metadata (DCC – UK)
- Metadata needs of data creators can be very different from those of data curators and re-users
- Define metadata in relation to it's intended use (e.g. for searching, display, science re-use, long term preservation etc).

MetaData requirements from Science User Perspective

- Primary desired search capability
 - Map based & data type (&temporal)
- Want to find all data types in search area
 - multidisciplinary research
- Want to identify only data of interest
- Documentation of data quality
- Primary publications for further information
- Enough metadata to track provenance and ensure credit

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Antarctic Data Services:

1. Antarctic and Southern Ocean Data Portal

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

2. USAP Data Coordination Center

<http://www.usap-data.org/>

3. SESAR sample catalog



Marine Geoscience Data System

[★ Home](#)
[About](#)
[Tools & Services](#)
[Data Portals](#)
[Partners](#)
[Contribute Data](#)
[Education](#)
[Search for Data](#)

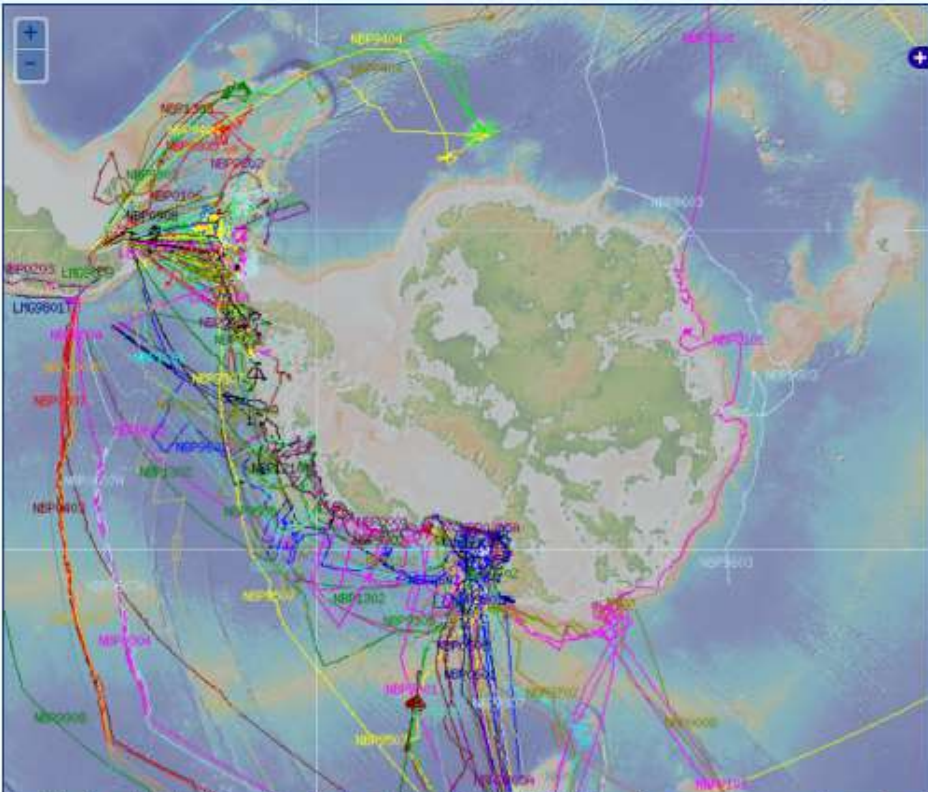
Antarctic & Southern Ocean Data Portal

Portal Links

- [Portal Home »](#)
- [What's New](#)
- [Project Documents](#)
- [Related Links](#)
- [MediaBank](#)
- [Google Earth files](#)
- [Contributors](#)
- [GeoMapApp](#)
- [Virtual Ocean](#)
- [EarthObserver](#)
- [Find Data](#)
- [References Database](#)

List Data by Ship

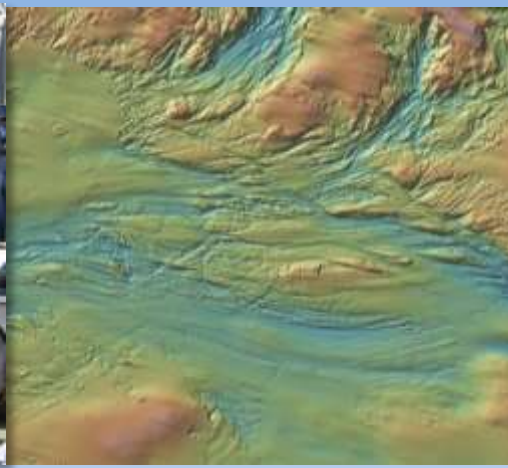
Select a Ship...



The Antarctic and Southern Ocean Data Portal, part of the US Antarctic Data Consortium [g](#), provides access to geoscience

- Documentation registration and preservation of all USAP marine data
- Search and Download
- Investigator Support
- Data Analysis & Visualization





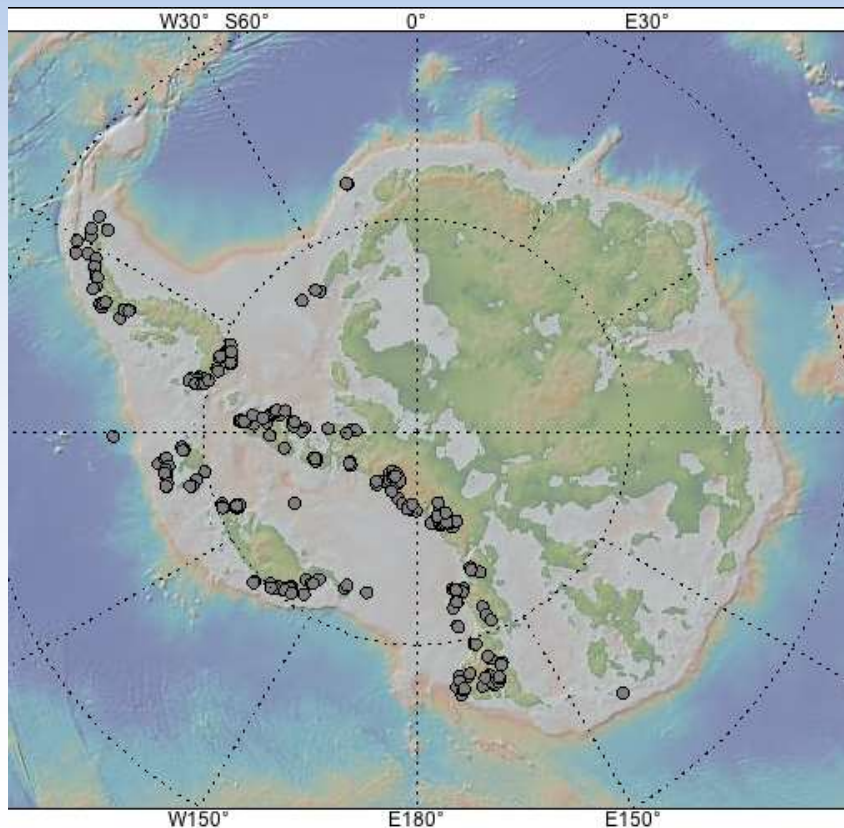
- Diverse marine data types: Bathymetry, Multi-channel Seismic, ADCP, CTD, Salinity, Side-scan, Imagery, Turbidity...
- Field and Derived data (layer thickness, geologic interps, microseism catalogs...)
- Multiple File Formats: NetCDF, SEG-Y/SEG-D, MB, JPEG/GIFF, ASCII (many)



Data Holdings: 270,000 files, 2.8 TB, history of R/V *Palmer* and *Gould* expeditions

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Sample-Based Services SESAR, PetDB, SedDB



IGSN: ECS00000A



IGSN: ECS00000A
Sample Name: HLY0805-DR1-001
Other Name(s):
Sample Type: Individual Sample
Parent IGSN: ECS000001

Description

Material: Not Provided
Classification: Not Provided
Field Name: Not Provided
Description: interbedded sandstone/mudstone (light ochre layer, volcanic sand, manganese crust)
Age (min): Not Provided
Age (max): Not Provided
Collection Method: Dredging
Collection Method Description: Not Provided
Size: 15 x 9 x 3 cm
Geological Age: Not Provided
Geological Unit: Not Provided
Comment: Not Provided
Purpose: Not Provided

Geolocation

Latitude: 81.4148
Longitude: -151.9654
Elevation: -3266
Nav Type: Not Provided
Physiographic Feature: Not Provided
Name Of Physiographic Feature: Not Provided
Location Description: Not Provided
Locality: Not Provided
Locality Description: Not Provided
Country: Not Provided
State/Province: Not Provided
County: Not Provided
City: Not Provided

Collection

Field Program/Cruise: HLY0805
Platform Type: Ship
Platform Name: USCCC HEALY
Platform Description: Not Provided
Launch Type: Not Provided
Launch Platform Name: Not Provided
Launch ID: Not Provided



US Antarctic Program Data Coordination Center



Welcome to the U.S. Antarctic Program Data Coordination Center

The Center's mission is to assist scientists in finding Antarctic scientific data of interest and submitting data for long-term preservation in accordance with their obligations under the National Science Foundation (NSF) Division of Polar Programs (PLR) Data Policy. The USAP-DCC is part of the [U.S. Antarctic Data Consortium](#)

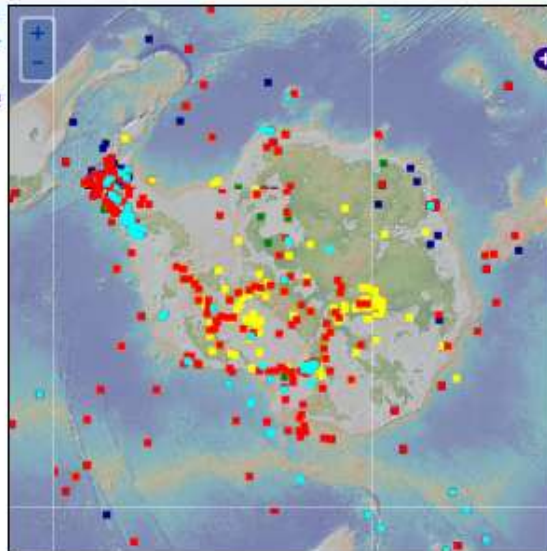
RECENT NEWS

12/2012 - Launched interactive USAP map for exploring data.
10/2012 - LDEO now a branch of the [Antarctic Seismic Data Library System](#).
07/2012 - Created and launched the U.S. Antarctic Data Consortium [webpage](#).
07/2012 - Presented results at the SCAR [SC-ADM](#) meeting of Antarctic data managers (Portland).

RECENT DATA

(2013-09-03) [11-42083](#) Kyle, Philip
(2013-08-28) [08-36773](#) and [04-42769](#) Amsler, Charles;
McClintock, James
(2013-07-09) [10-43669](#) Yuan, Xiaojun
(2013-05-06) [08-39053](#) Ackley, Stephen

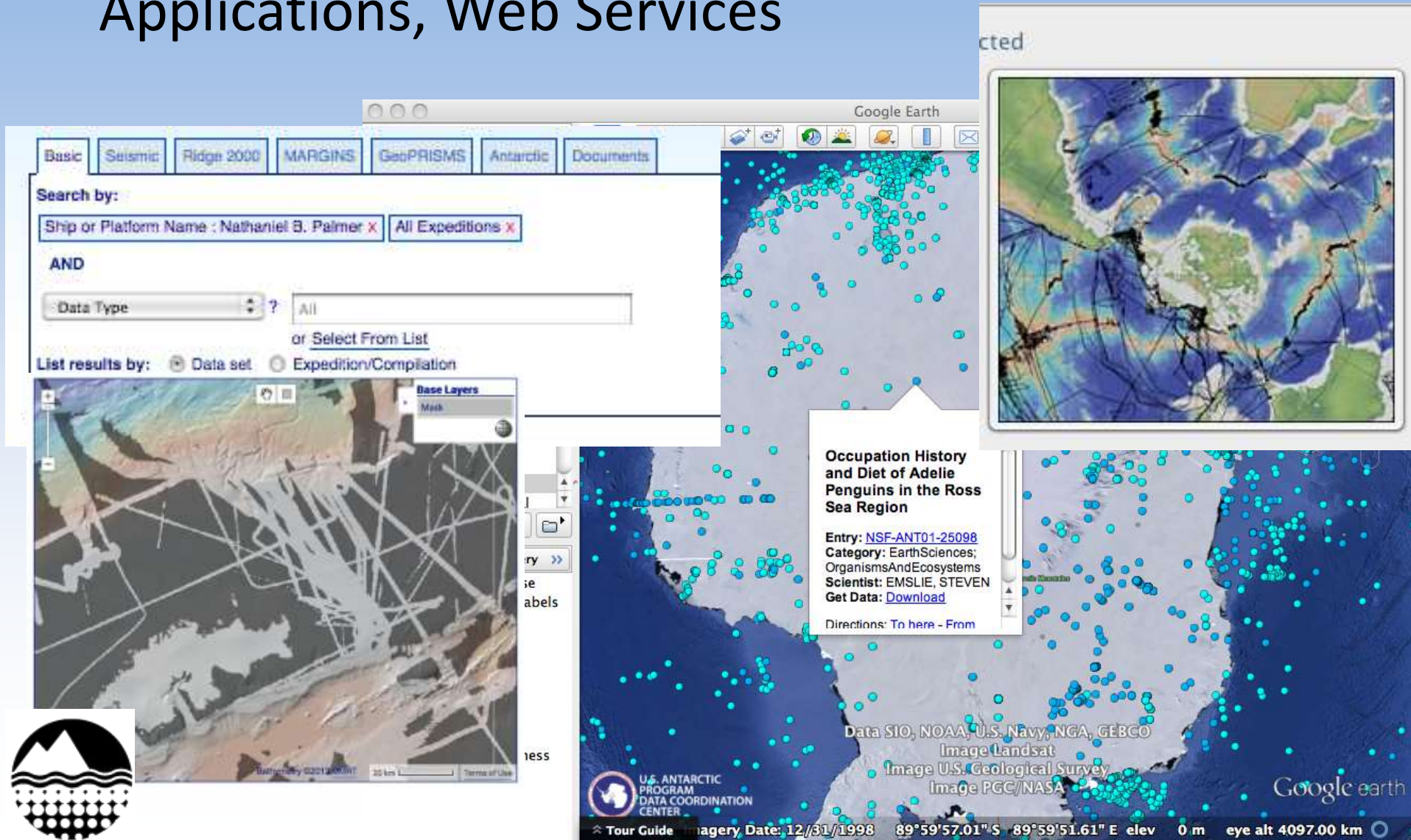
Use the interactive map at right or the [Search](#) page to find and download specific data sets.



- All NSF funded research documented within GCMD/AMD
- Signatories of Antarctic treaty submit
- USAP-DCC Assists ANT investigators with NSF data obligations, DIF creation & data submission
- Tools for data discovery and access including web services



- Metadata supports diverse Data Access options: Search Portal, Client Viz and Analysis Applications, Web Services



- Metadata supports data publication, domain science re-use, education, data preservation

Metadata Search beta

DataCite

bathymetry

Search

Filter

allocator

datacentre

prefix

resourceType

contributor

creator

publicationYear

publisher

language

No active filters. Use the sidebar to filter search results

487 documents found in 37ms

Page 1 of 49

[Multibeam bathymetry compilation of the](#)

[doi:10.1594/IEDA/100069](#) Dataset

Weinrebe, Wilhelm • Ranero, Cesar

title: Multibeam bathymetry compilation of the Ce

subject: Bathymetry

[Multibeam Bathymetry of Izu-Bonin Maria](#)

[version 1.0]

[doi:10.1594/IEDA/100070](#) Dataset

Gardner, James

title: Multibeam Bathymetry of Izu-Bonin Marianas

subject: Bathymetry

[Bathymetry data from around Deception I](#)

[doi:10.1594/IEDA/100250](#) Dataset

Barclay, Andrew • Wilcock, William

title: Bathymetry data from around Deception Isla

subject: Bathymetry

[Bathymetry data \(4m resolution\) of the Lu](#)

[version 1.0]

[doi:10.1594/IEDA/100259](#) Dataset

Humphris, Susan • Fornari, Daniel

title: Bathymetry data (4m resolution) of the Lucky

subject: Bathymetry

[Bathymetry data \(4m resolution\) of the Lucky](#)

subject: Bathymetry

[Options](#) | [Advanced Search](#)

MARINE GEOSCIENCE DATA SYSTEM

Search for DMM



Home About Tools & Services Data Portals Partners Contribute Data Education

Field: Marine EW9903

View in Enlarged Map

NOAA > IEDAS > MGS > MGS > Multibeam Bathymetry

Click to Enable Map Client

NOAA NATIONAL GEOPHYSICAL DATA CENTER

Multibeam Bathymetric Data

EW9903 Data File List

These data are not to be used for navigation.

Downloads may take a long time, depending on file size and data transfer rates.

[Download All Files](#) <---Click here to package and download all files listed below

File Name (click to view/download)	File Size	Description
Multibeam Files ---- MBSystem Cruise Summary		
Version 1 Full Resolution----		
9903hs.d069.mb21.gz	7.5 MB	Raw Hydrosweep
9903hs.d070.mb21.gz	4.5 MB	Raw Hydrosweep
9903hs.d071.mb21.gz	3.3 MB	Raw Hydrosweep
9903hs.d072.mb21.gz	3.2 MB	Raw Hydrosweep
9903hs.d073.mb21.gz	3.2 MB	Raw Hydrosweep
9903hs.d074.mb21.gz	3.2 MB	Raw Hydrosweep
9903hs.d075.mb21.gz	3.1 MB	Raw Hydrosweep
9903hs.d076.mb21.gz	3.1 MB	Raw Hydrosweep
9903hs.d077.mb21.gz	3.2 MB	Raw Hydrosweep
9903hs.d078.mb21.gz	3.0 MB	Raw Hydrosweep
9903hs.d079.mb21.gz	2.2 MB	Raw Hydrosweep
9903hs.d080.mb21.gz	3.2 MB	Raw Hydrosweep
9903hs.d081.mb21.gz	0.5 MB	Raw Hydrosweep
9903hs.d082.mb21.gz	2.0 MB	Raw Hydrosweep
9903hs.d083.mb21.gz	3.2 MB	Raw Hydrosweep
9903hs.d084.mb21.gz	2.7 MB	Raw Hydrosweep
9903hs.d085.mb21.gz	0.1 MB	Raw Hydrosweep
9903hs.d086.mb21.gz	2.0 MB	Raw Hydrosweep
9903hs.d087.mb21.gz	3.2 MB	Raw Hydrosweep
9903hs.d088.mb21.gz	9.0 MB	Raw Hydrosweep



Lessons Learned – Metadata

- Data contribution from scientists with comprehensive metadata for full range of needs is challenging
- Standards do not exist for many data types- disciplinary data centers must be involved in developing standards
- New requirements arise from different stakeholders (e.g. NSF, CI community)
- Active use of repository is essential for quality of metadata

Lessons Learned – Metadata

- Work directly with instrument/facilities operators where ever possible/applicable- PIs are busy!
- Harvest existing resources for metadata where possible
- **Need tools for metadata collection in the field**
- **Annotation tools needed for scientists to add to and correct metadata**

Lessons Learned - Operating Principles

CI enables research and is rapidly evolving

- Existence of disciplinary and backbone databases are essential to take advantage of these developments
- Data holdings need to be accessible via programmatic interfaces
- Data systems need to adapt/evolve - must be agile (difficult given funding structures)

Lessons Learned - Operating Principles

Incentives for scientists to contribute are essential

- Funding agency sticks –not so effective
- Attribution is essential
- **CI tools needed to improve scientists ability to visualize and analyze their own data and other multi-disciplinary data (beyond discovery)**
- **Data Publication** – attribution and credit

Lessons Learned – Operating Principles

To build a system that will be used requires close interaction with Science Users (data creators and consumers)

- Custom interfaces for user communities may be needed
- Quality of system depends on usage (errors and weakness revealed through use)
- Value of system increases with longevity and growth in data holdings - requires contribution and engagement of user community and sustained funding commitments.

