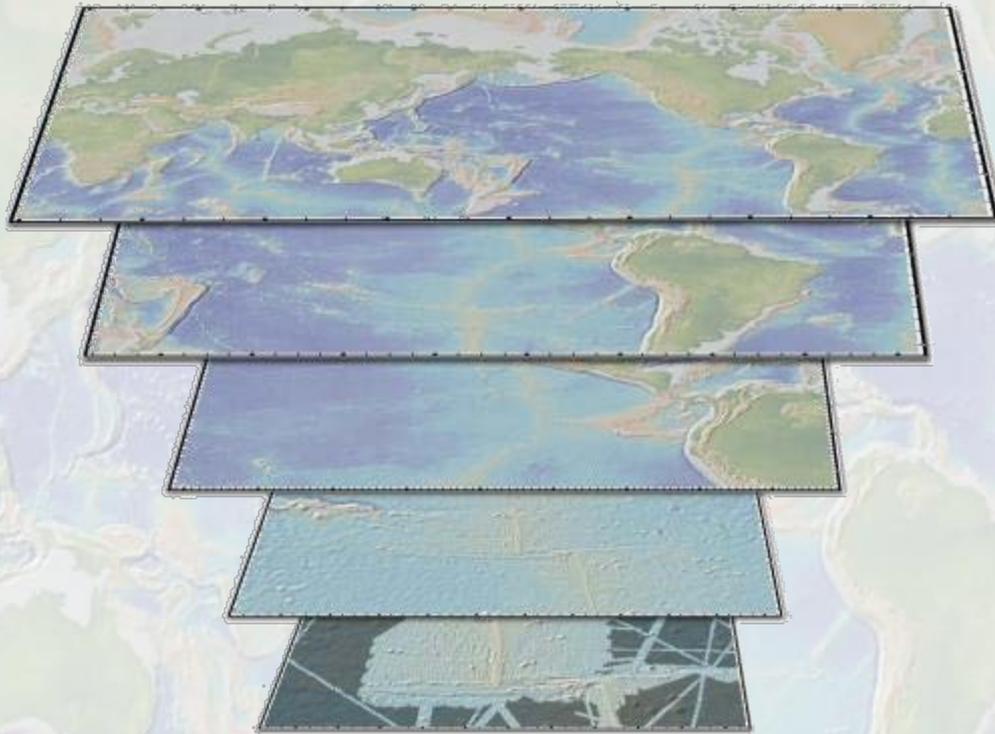


Global Multi-Resolution Topography (GMRT) Synthesis Update

Vicki Ferrini

GMRT Overview



Global coverage



100m swath data

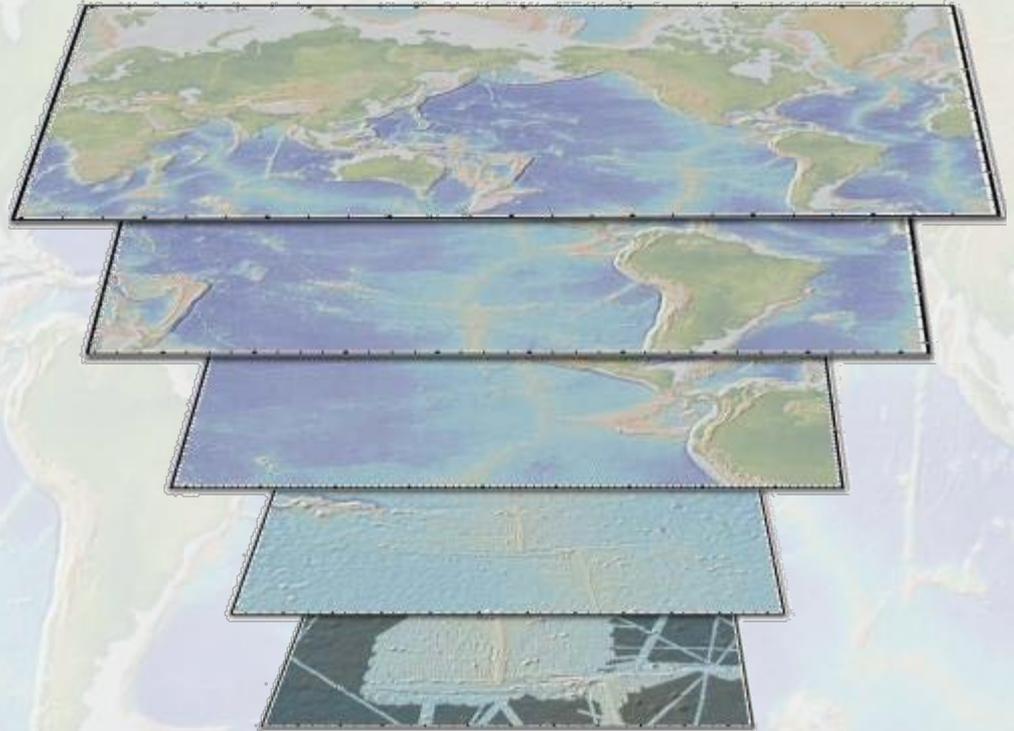
- User experiences seamless transition between resolutions based on chosen zoom level
- Access provided through multiple interfaces to images & grids
- Attribution to data contributors (CruiseID, Chief Sci, dates etc)
- Content continually expanding (2 scheduled releases/year)

GMRT Components

Global & Regional
Grids (≥ 500 m res.)
e.g. *GEBCO_08*, *IBCAO*

Contributed
Grids (< 500 m res.)

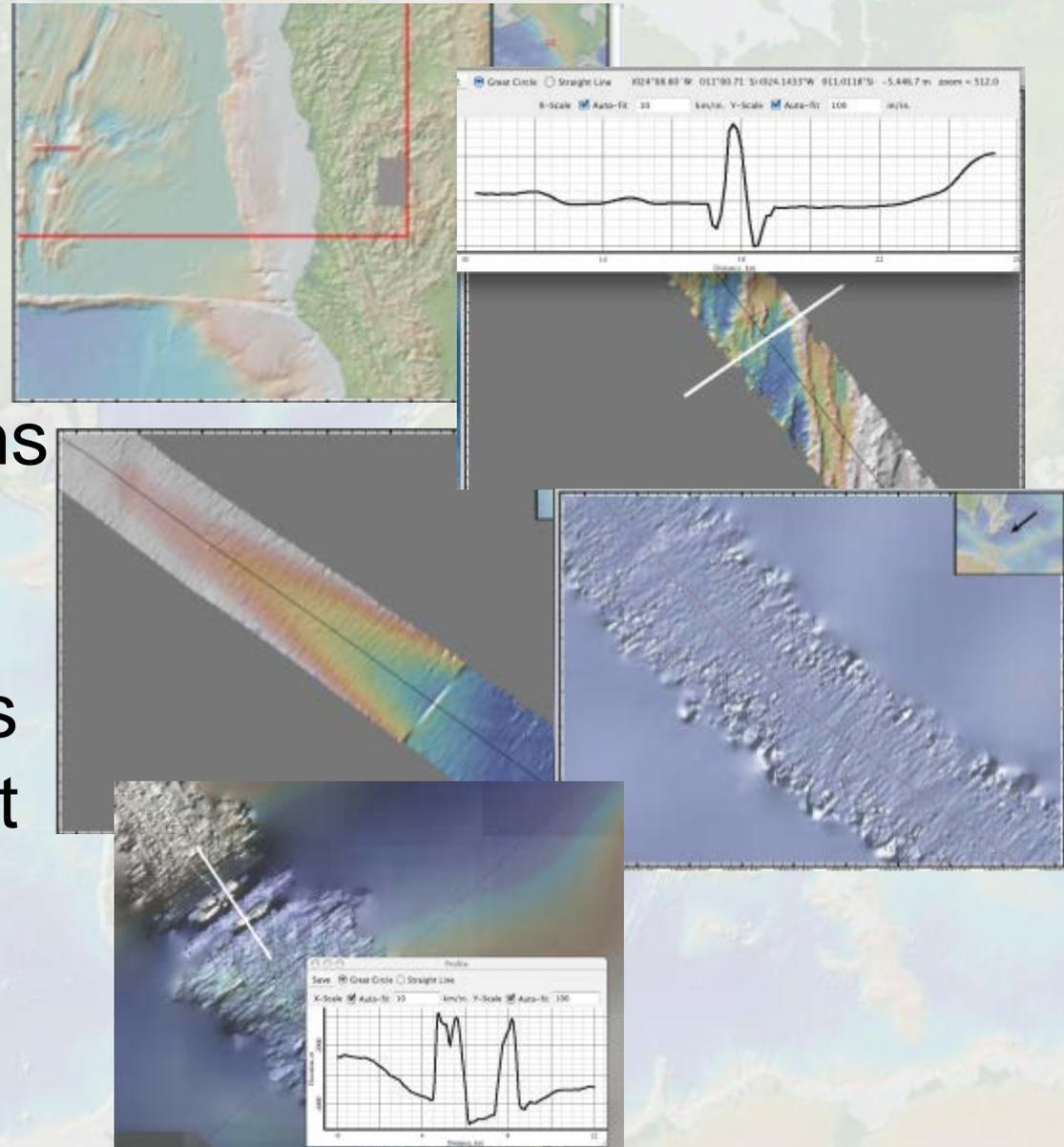
LDEO 100-m
compilation* (ping
files in public domain)



*LDEO team performs QC of ping files

GMRT: Multibeam Data QC

- Bad navigation
- Noisy outer beams
- Attitude problems
- Bad soundings
- Instrument problems
- Bad weather
- Sound velocity
- Slow speed in turns
- Quality assessment for grid weighting and resolution



Attribution to original data sources

The screenshot shows the GeoMapApp 2.6.0 interface. The main window displays a world map with a grid overlay. A dialog box titled "Elevation Data Sources" is open, showing a list of data sources categorized into "Base Map", "High Res Land", "Cruises", and "Grids". The "Base Map" section includes "Smith & Sandwell (Marine)", "GTOPO30 (Land)", "BEDMAP (Antarctic)", and "IBCAO (Arctic)". The "High Res Land" section includes "SRTM". The "Cruises" section lists five cruises with US flags: "981107RR", "A112-24", "A114-02", "A118-21", and "A118-22". The "Grids" section lists five grids with flags: "Bouvet_Ligi" (Italy), "EPR_Macdonald" (USA), "EPR_Tighe" (USA), "EPR_Wilcock" (USA), and "Galapagos" (USA). The dialog box also features buttons for "Get More Info", "Show Location", and "Zoom/Focus". The map shows a network of blue lines representing cruise tracks. The interface includes a menu bar with "File", "Basemaps", "Portals", "Datasets", "Focus Sites", "Overlays", "Bookmarks", "Education", and "Help". A toolbar with various icons is located below the menu bar. The map has a coordinate grid with latitude from 60°N to 60°S and longitude from 135°E to 90°E. A status bar at the bottom shows "Elevation Data Sources" with an information icon and flags for the USA, Italy, UK, France, and Japan.

GeoMapApp 2.6.0

File Basemaps Portals Datasets Focus Sites Overlays Bookmarks Education Help

Elevation Data Sources

Base Map

- Smith & Sandwell (Marine)
- GTOPO30 (Land)
- BEDMAP (Antarctic)
- IBCAO (Arctic)

High Res Land

- SRTM

For Selection

- Get More Info
- Show Location
- Zoom/Focus

Cruises

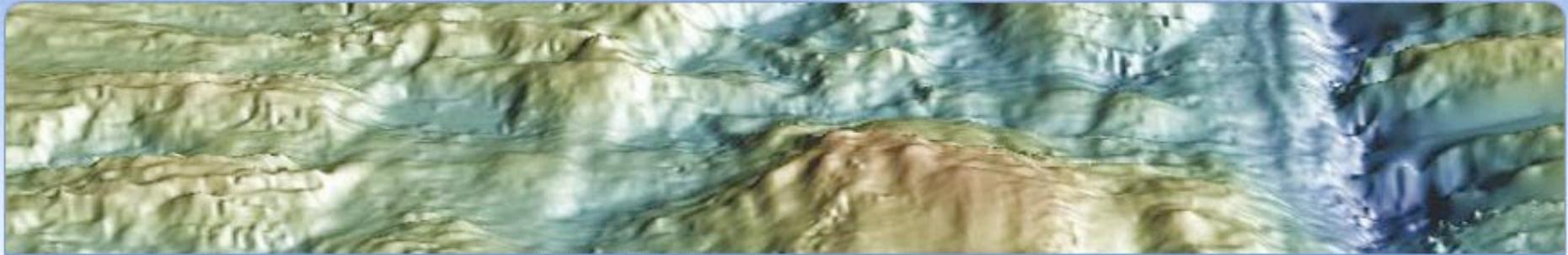
- 981107RR
- A112-24
- A114-02
- A118-21
- A118-22

Grids

- Bouvet_Ligi
- EPR_Macdonald
- EPR_Tighe
- EPR_Wilcock
- Galapagos

Elevation Data Sources

Attribution to original data sources



GMRT Contributors

Portal Links

- [Portal Home](#)
- [What's New](#)
- [Project Documents](#)
- [Related Links](#)
- [Contributors »](#)
- [Media Bank](#)
- [Tutorials](#)
- [GeoMapApp](#)
- [Virtual Ocean](#)

Access GMRT

- [Create Map/Grid](#)
- [Download for GoogleEarth](#)

Multibeam Swath Surveys

Contributed Grids

Cruise	Contributor	Cruise	Contributor
981107RR	David Checkley	A112-24	Richard Hey
A114-02	Robert Pockalny	A118-21	Stephen Hammond
A118-22	Jody Deming	A118-41	Paul Johnson
AMLR90T	William Turnbull	AMLR92T	Frederick Jones
AMLR94	Thomas Ruszala	AMLR95	Thomas Ruszala
ARIA01WT	Thomas Shipley	ARIA02WT	Peter Lonsdale
ARIA03WT	Thomas Shipley	AT01-03	Peter Lemmond
AT03-46	Stephen Craig Cary	AVON01MV	Peter Lonsdale
AVON02MV	Hubertus Staudigel	AVON03MV	Stanley Hart

Access to original data files

The image shows a screenshot of the GeoMapApp 2.6.0 interface. The main map displays bathymetry data with a grid overlay. A sidebar on the right contains a search box and a dropdown menu for 'Multibeam Bathymetry Sw...'. Below the map, there is a navigation bar for the 'MARINE GEOSCIENCE DATA SYSTEM' with links for Home, About, Tools & Services, Data Portals, Partners, Contribute Data, and Education. The main content area displays 'Field: Marine EW9903' and a table of data files. A red circle highlights the file '9903hs.d093.gz' in the file list. The bottom of the screen shows 'Elevation Data Sources' with a search bar and a USA flag icon.

GeoMapApp 2.6.0

File Basemaps Portals Datasets Focus Sites Overlays Bookmarks Education Help

Multibeam Bathymetry Sw...
Close
Detach Table
 View All Expeditions
EW9903

MARINE GEOSCIENCE DATA SYSTEM

Home About Tools & Services Data Portals Partners Contribute Data Education

Field: Marine EW9903

View in Enlarged Map

Lead Scientists	Role	Institution	Award
Harding, Alistair	Scientist:Chief	SIO	OCE98-12612
		UCSB	OCE98-11948

NOAA NATIONAL GEOPHYSICAL DATA CENTER

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 speed. [Download All Files](#) | [Click here to package and download all files](#)

File Name (click to view/download)	File Size
Multibeam Files --- MBSYSTEM Cruise Summary	
Version 1 Full Resolution ----	
9903hs.d069.mb21.gz	7.5 MB
9903hs.d070.mb21.gz	4.5 MB
9903hs.d071.mb21.gz	3.3 MB
9903hs.d072.mb21.gz	3.3 MB
9903hs.d073.mb21.gz	3.2 MB
9903hs.d074.mb21.gz	3.2 MB
9903hs.d075.mb21.gz	3.1 MB
9903hs.d076.mb21.gz	3.1 MB
9903hs.d077.mb21.gz	3.2 MB
9903hs.d078.mb21.gz	3.0 MB
9903hs.d079.mb21.gz	2.2 MB
9903hs.d080.mb21.gz	3.2 MB
9903hs.d081.mb21.gz	0.5 MB
9903hs.d082.mb21.gz	2.0 MB
9903hs.d083.mb21.gz	3.2 MB

MARINE GEOSCIENCE DATA SYSTEM

Home About Tools & Services Data Portals Partners Contribute Data Education

MGDS - Data Download

Program: EW9903
Data Type(s): Bathymetry-Swath

You may browse freely, but you may not circulate or publish materials you obtained from this site if you do not accept the terms of our data use policy. You are encouraged to provide adequate citation to the contributing scientist(s) and MGDS (www.marine-geo.org).

Users are strongly encouraged to contact the original investigators responsible for data made available on this site. Where appropriate, researchers are also encouraged to consider collaboration and/or co-authorship with original investigators.

This information is not intended for navigation purposes.

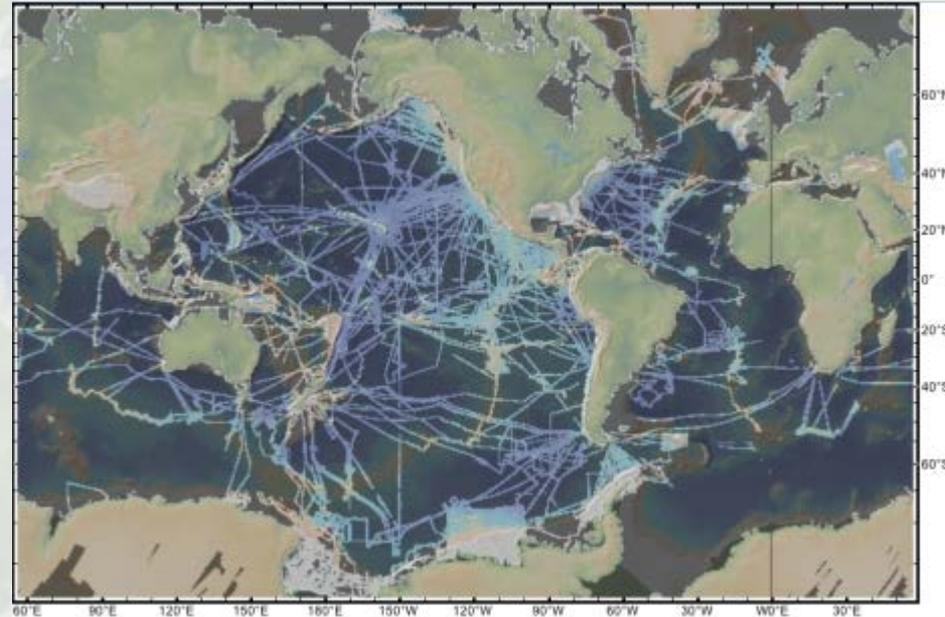
Selecting the Accept button below indicates that you have agreed to our terms of use. Data download will begin upon clicking the Accept button.

cruiase: EW9903, file: 9903hs.d093.gz

Elevation Data Sources

GMRT History

- **1992** – Ridge Multibeam Synthesis Project
- **2003** – Compilation expanded to include US-funded data from Southern Ocean
- **2004 – present** -- Expanded to include public domain data from throughout global oceans
- **2010** – complete rebuild of tiles & creation of discrete backend components
- **2010 – present** – ongoing growth of compilation by > 60 cruises/yr
- **2010** – presentation of GEBCO 100 concept



GMRTv2.3 ~650 cruises (Oct 2012)

GEBCO 100: *Concept*

Regional & Global
Grids (> 500 m res.)
e.g. *GEBCO_08*

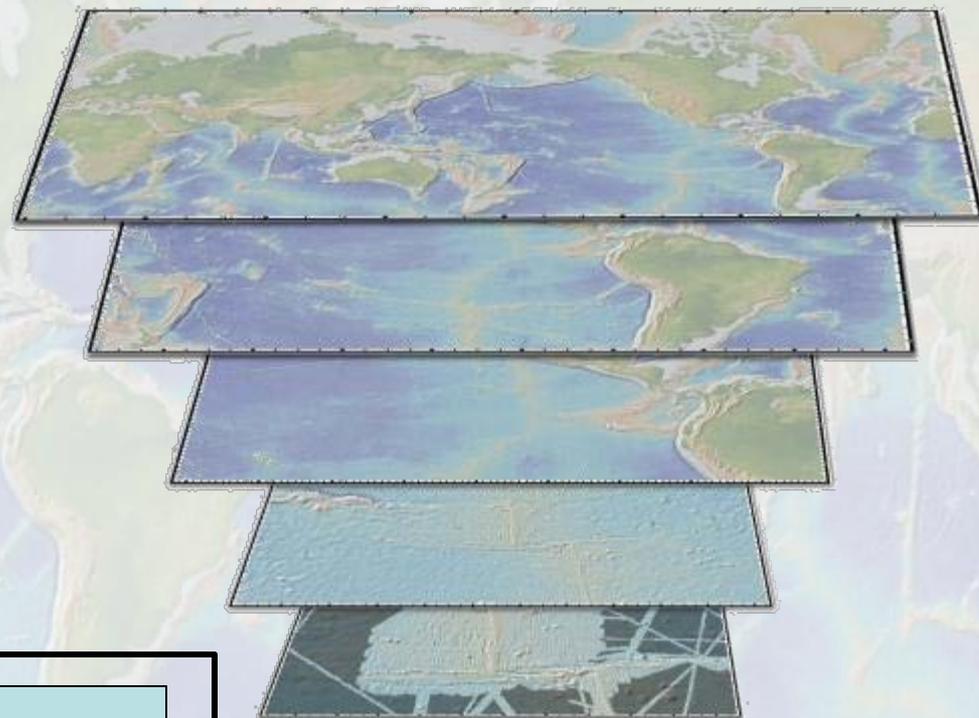
Contributed
Grids (< 500 m res.)

LDEO 100-m
compilation

+

100-m
contributed
grids

= GEBCO-100



GEBCO 100: *Progress*

- **2011** -- GEBCO Data Flow Meeting
- **2011** -- 400 m export of LDEO 100-m synthesis
 - Provided to BODC for inclusion in GEBCO_08
 - Provided for GEBCO Data Store
 - Attribution kml (ship-track, cruise ID, Chief sci., etc)
- **2012** – Prototype GEBCO100 webpage developed following 2011 meeting



NEW!

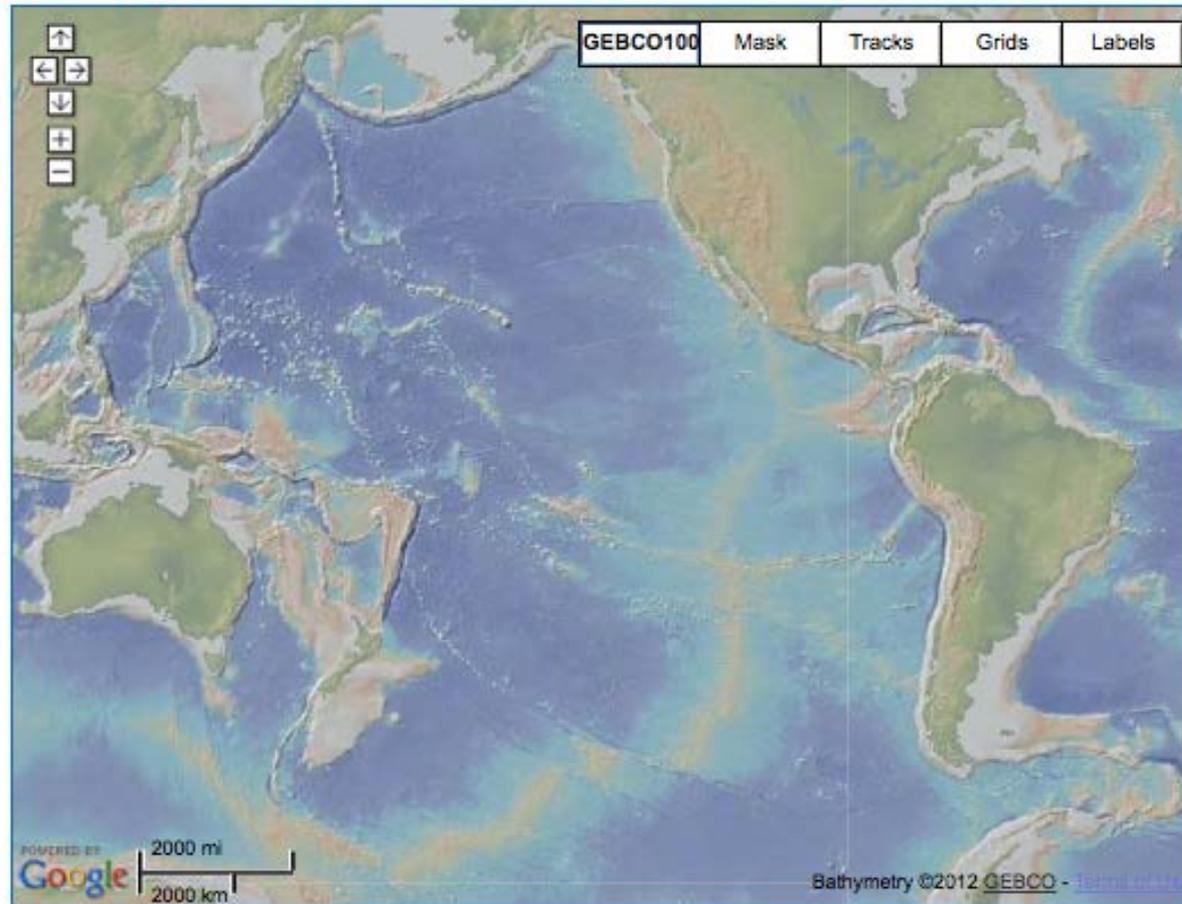
Welcome to the GEBCO/Nippon Foundation students – class of 2012/2013

IBCAO version 3 now available

Congratulations to the newly-appointed IHB Directors

GEBCO 100

GEBCO 100 is a prototype effort to create a new GEBCO product at 100-m resolution. Data currently displayed in the map include data from the LDEO 100-m synthesis effort as well as several contributed grids provided by international colleagues. Use the map to explore data sources and contributors. Please [contact us](#) with comments or suggestions.





NEW!

Welcome to the **GEBCO/Nippon Foundation students** — class of **2012/2013**

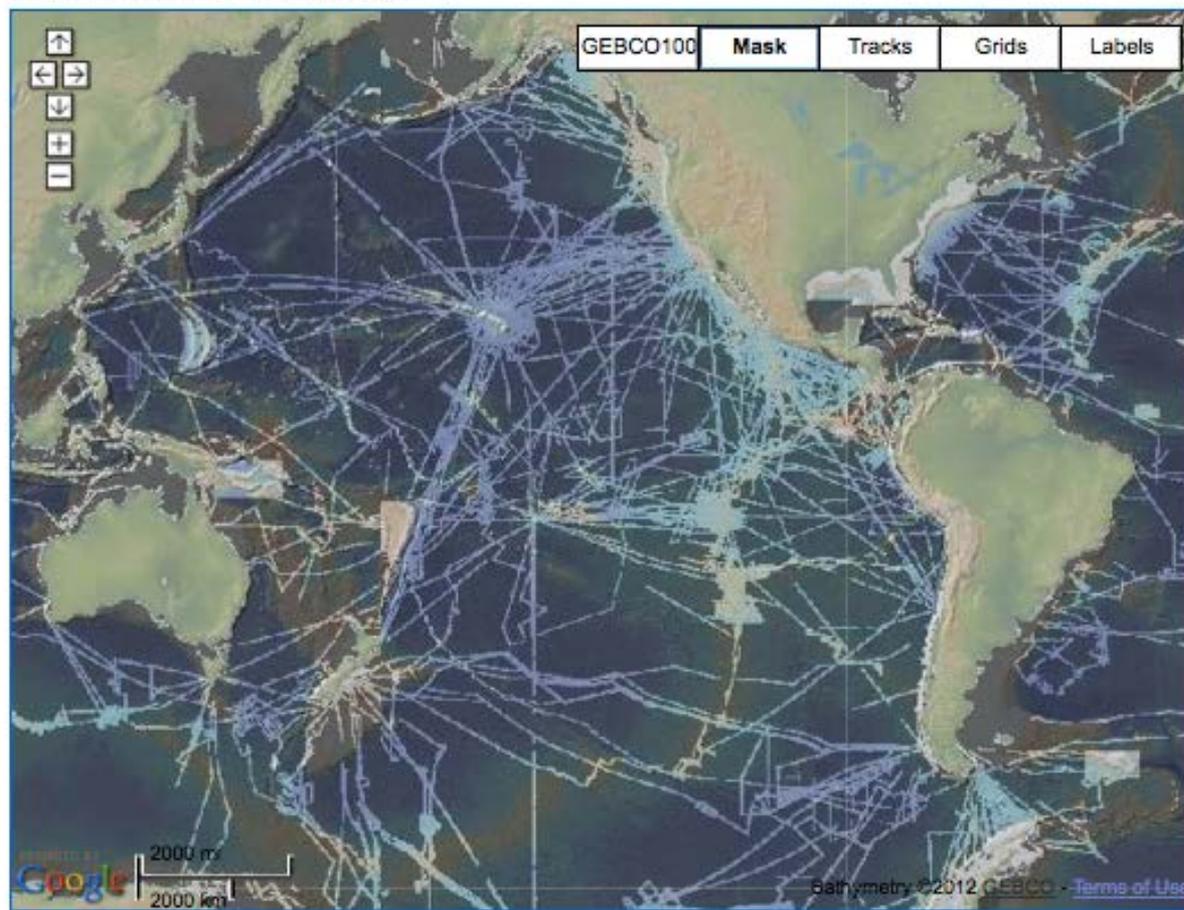
IBCAO version 3 now available

Congratulations to the newly-appointed **IHB Directors**

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NEW!

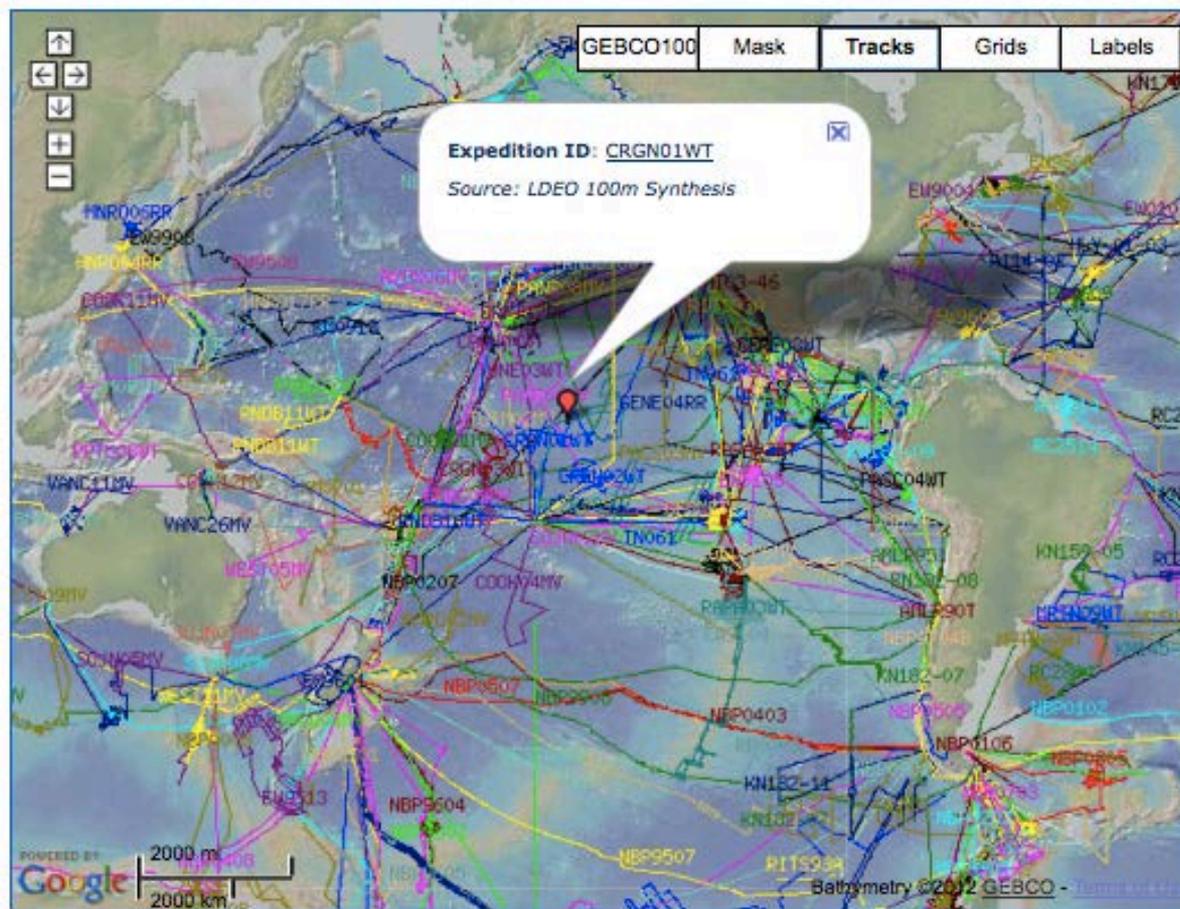
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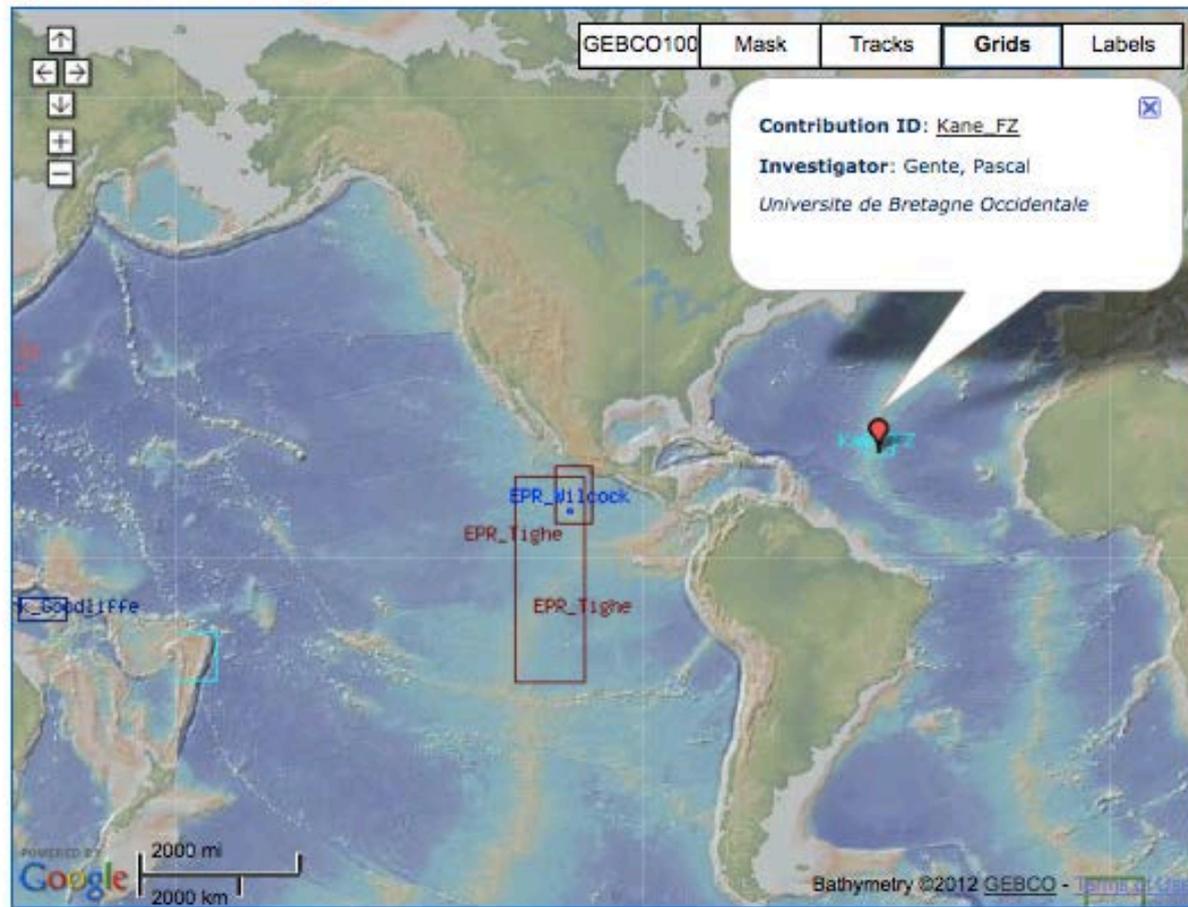
IBCAO version 3 now available

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NEW

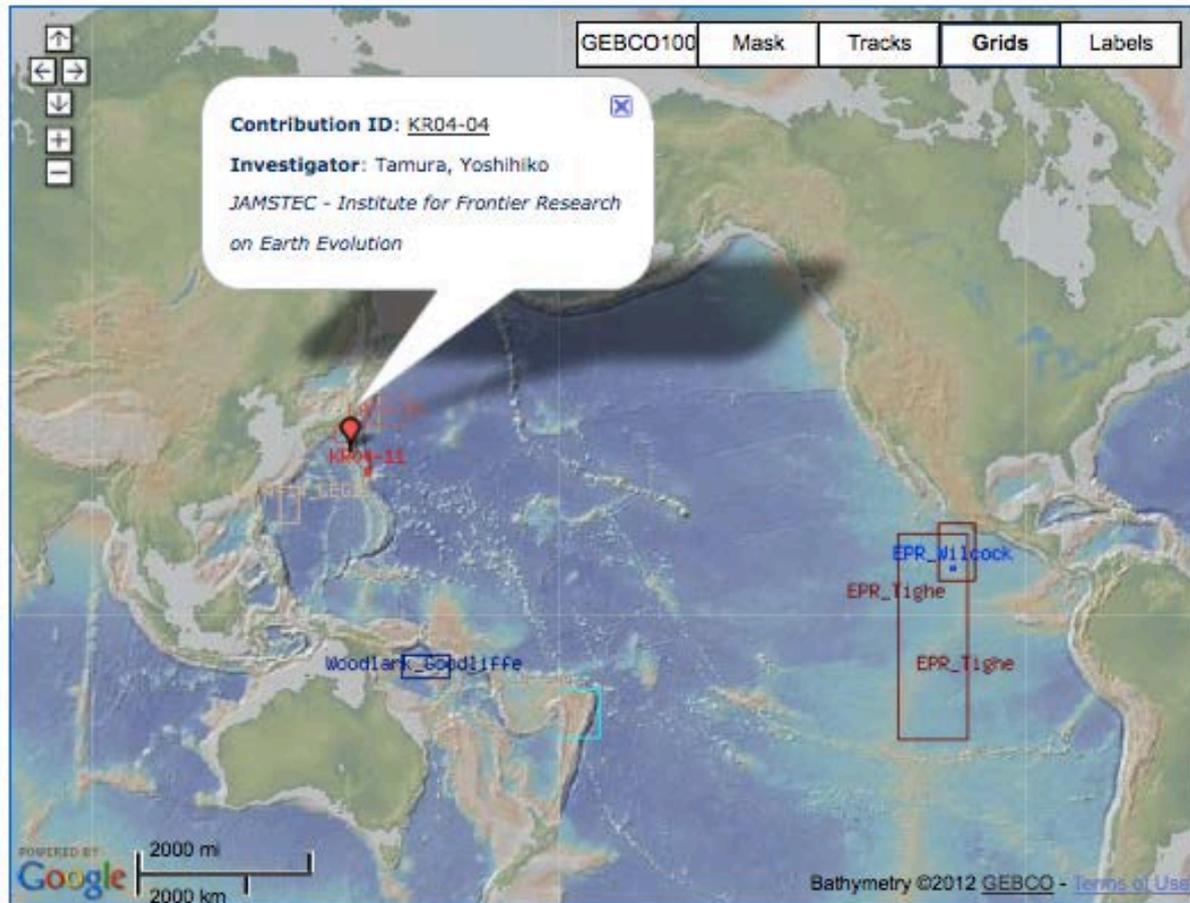
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Next Steps...

- LDEO 100m Compilation
 - Ongoing growth of compilation
 - *US Academic fleet MB data delivered routinely to NGDC (via Rolling Deck to Repository)*
 - Enhanced metadata
 - QC reports summarizing work performed
- GEBCO 100 Concept
 - Further develop GEBCO100 Prototype Web Page
 - Develop data sharing/licensing agreements & protocols
 - Continue workflow development for contributing new data