



GEBCO / Nippon Foundation Indian Ocean Bathymetric Compilation





Rochelle Wigley - Center for Coastal and Ocean Mapping/Joint Hydrographic Center

ABSTRACT

The aim of this multi-nation GEBCO / Nippon Foundation Indian Ocean Bathymetric Compilation (IOBC) project is to assemble, collate, archive and publish a grid and map of all publically-available bathymetric data from all sources within the Indian Ocean region. The project is being undertaken by a combination of Nippon Foundation GEBCO scholars and senior GEBCO members, and is guided by an Editorial Board, with operations directed by the project director, Dr Rochelle Wigley, located at the main project data center at the University of New Hampshire (UNH). Researchers and data specialists from various countries and institutions are also participating.

The first phase of this project was perceived to include two parts, namely the identification of major data sources and the need to identify and create a network of GEBCO scholars who wanted to be involved in this project. The 8th UNH class (2011-2012) worked on Phase 1 as part of their class projects (see included poster in Figure 1). This class project introduced the scholars to data sourcing concepts and they accessed major world data centers to identify, and in some cases, requested the relevant data. In addition, the GEBCO class laboratory visits at the end of the academic year were utilized by some of the scholars to identify and obtain relevant data, and to generate relevant regional bathymetric data compilations that will be utilized with the final IOBC grid.

FUTURE PLANS

➤ Hold an IOBC workshop in December 2012 at the Institute of Marine Sciences and Fisheries at the University of Chittagong, Bangladesh.

The objective of this workshop will be to define the work flow process for data pre-processing (cleaning) and the proposed grid development methodology for this project. This will facilitate different areas being worked on in a number of centers by different working groups, utilizing the same methodologies, to ensure a seamless match in the final grids.

- ➤ Build-up the Nippon Foundation training program GEBCO scholars network so that all relevant and interested individuals can be actively involved in this project.
- ➤ Continue to locate and collect datasets (see Figure 2) from all of the available sources taking advantage of the extensive and dynamic GEBCO networks.
- Create a database of all available single beam and multibeam datasets so that this database metadata can be actively searched by the GEBCO network to identify data sources that have already been identified and archived or to see if datasets still need to be obtained.
- ➤ Develop the existing IOBC webpage (see Figure 3) in order that all interested parties can follow the IOBC project progress.

Figure 1. Nippon Foundation Training program 8th GEBCO class poster for the Bathymetric Spatial Analysis course project.





GEBCO / Nippon Foundation Indian Ocean Bathymetric Compilation Project Phase I





Rochelle Wigley*, Norhizam Hassan, Mohammad Chowdhury, Thanh Nguyen, Saw Nu, Hiroki Minami, Prasadh Gunasinghage, and Dave Monahan

Objective

The major objective of the project is to produce a new bathymetric map and grid of the Indian Ocean (north of -60 degrees S) using data from all available sources, utilizing the contacts generated through GEBCO scholars' network to access data.

Why the Indian Ocean?

The Indian Ocean is a poorly explored ocean. It was the site of the 26 December 2004 tsunami and is vulnerable to natural disasters. Improved bathymetry can lead to better geohazard prediction and more accurate advanced warnings being issued to areas at risk. The Indian Ocean is also home to known deep-water mineral resources, including polymetallic nodules, massive sulphides and hydrothermal vent deposits.

A better understanding of the Indian Ocean is essential for future research, better prediction models and the sustainable management of all marine resources.

Phase I Products

The following objectives were set and successfully achieved:

- List of all bordering nations and the possible contacts and their proposed role in this mapping project.
- 2. Preparation of a detailed list with host organizations, contact information (including URL), data type, track chart or extent, year and research vessel for all known datasets pertaining to the project area (> 350 MBES surveys already from six data centers).
- Organization of a network of Nippon Foundation scholars, as well as volunteer organizations, in order to establish manpower working on the next phase of the project.

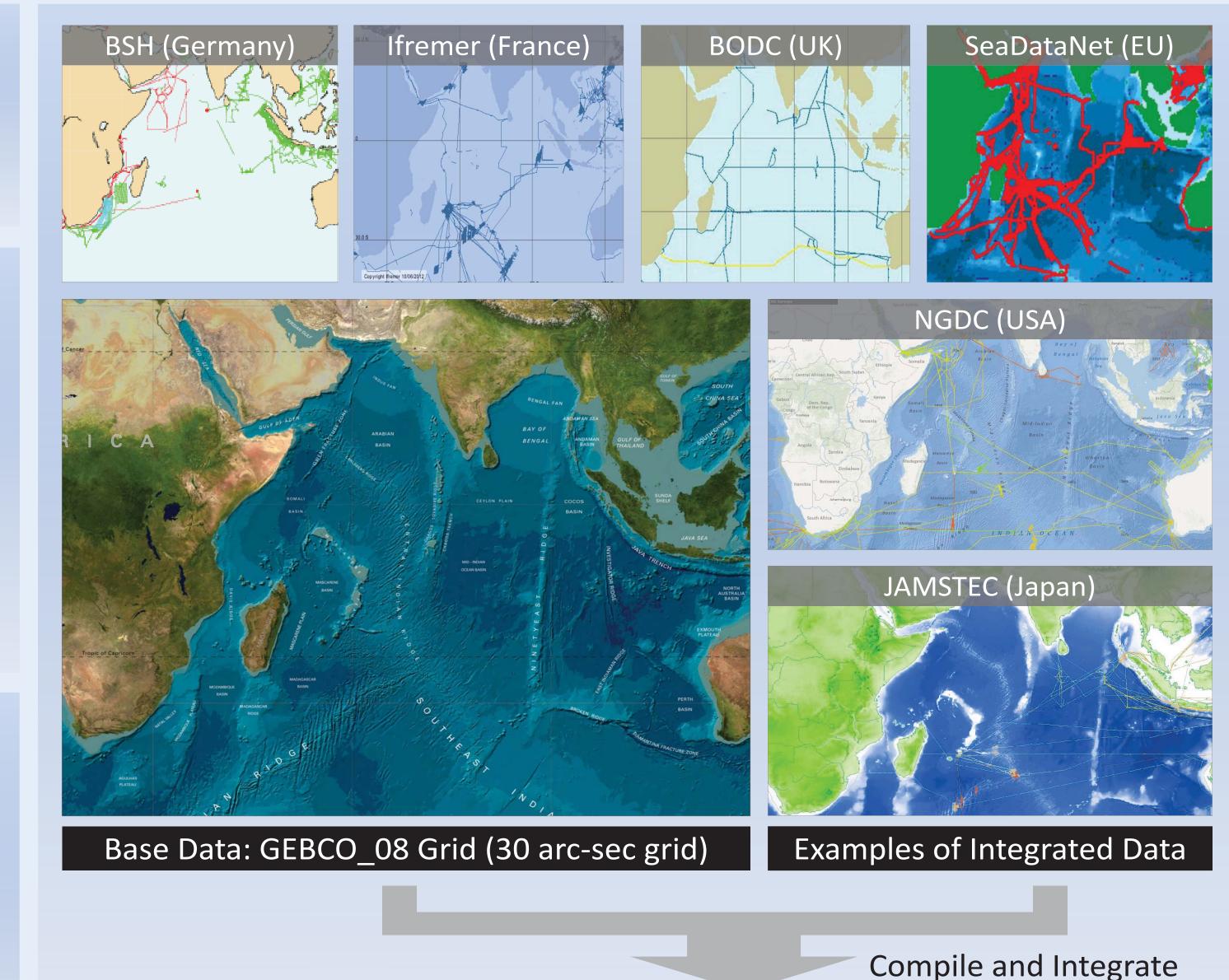
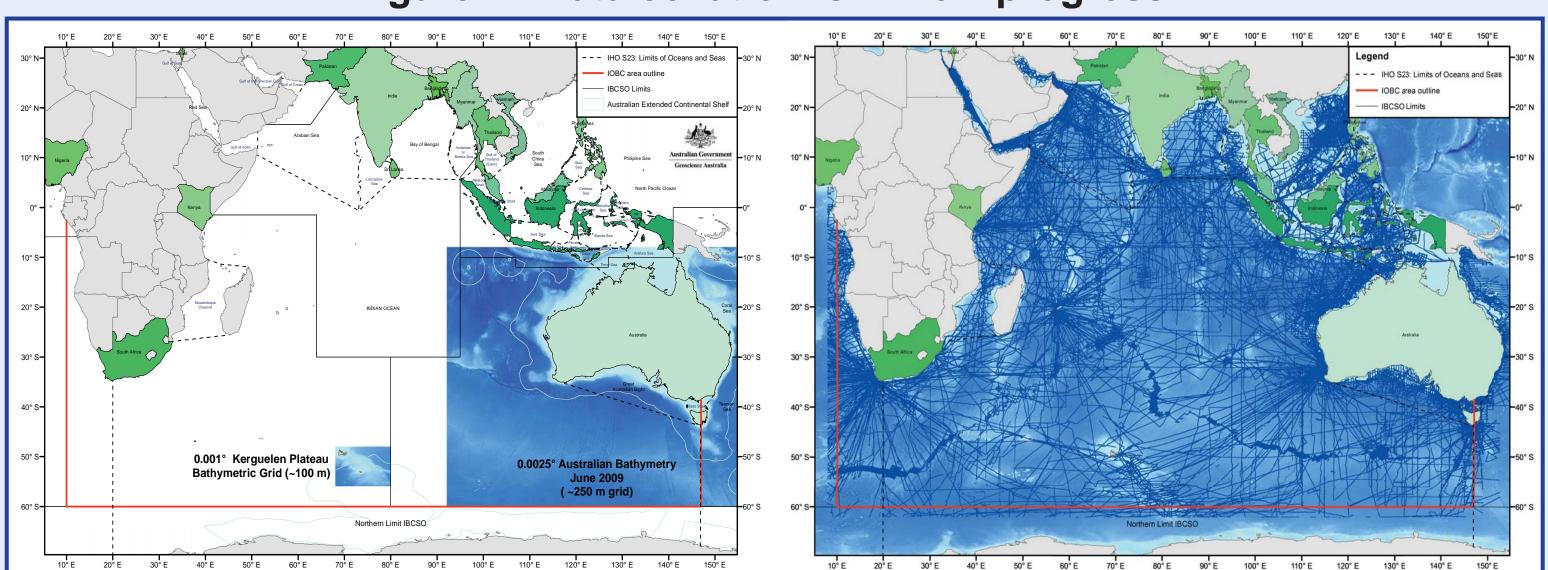


Figure 2. Data collation is in now progress



Bathymetric grids from Geoscience Australia - collected by Saw Nu Thanda Thein during her year-end laboratory visit.

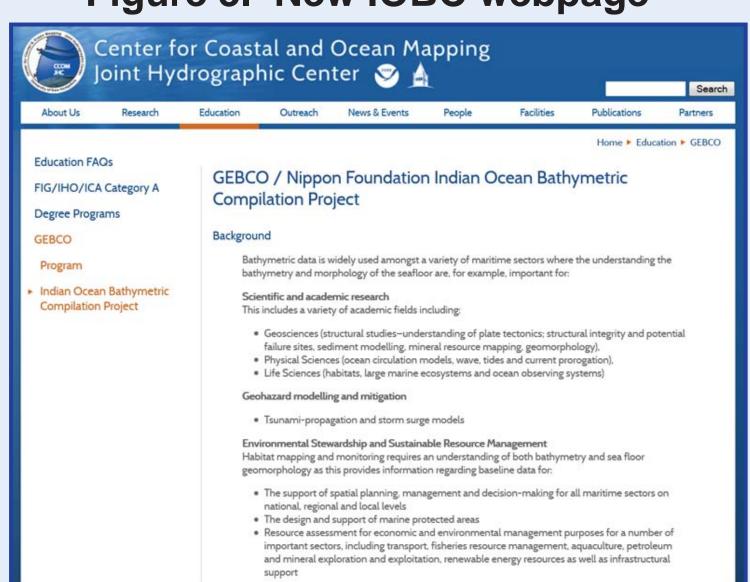
Single beam data available from the NGDC's GEOphysical DAta System (GEODAS) database.

Figure 3. New IOBC webpage

New Indian Ocean Bathymetric Map

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*Corresponding Author: rochelle@ccom.unh.edu



http://ccom.unh.edu/indian-ocean-bathymetric-compilation-project