

**INTERNATIONAL HYDROGRAPHIC  
ORGANIZATION**



**ORGANISATION HYDROGRAPHIQUE  
INTERNATIONALE**

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**CIRCULAR LETTER 14/2007  
2 February 2007**

### **REQUEST FOR SHALLOW WATER BATHYMETRIC DATA**

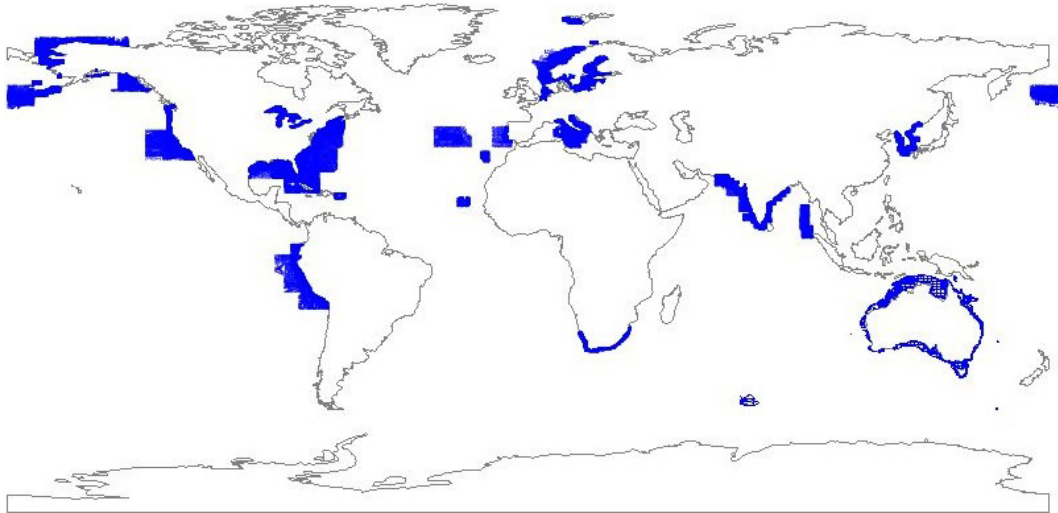
Reference: CL36/2006 dated 28 March

Dear Hydrographer,

1 The Reference (CL 36/2006) provided a brief description of the IHO/IOC initiative to improve GEBCO bathymetry with particular emphasis on shallow water areas. It was issued in response to discussions that took place during the 21st IHO-IOC GEBCO meeting (Aguascalientes, MEXICO, 2005) in which concern was expressed that the existing IHO-IOC GEBCO grid did not adequately represent the sea floor topography in shallow water areas, and needed to be improved in order to respond to the needs of user communities (e.g. marine geologists and ecologists, and modelers of tides and tsunamis).

2 It was noted that collectively IHO Member States hold vast amounts of shallow water bathymetry that could make a significant improvement to the IHO/IOC GEBCO grid which is freely available from the GEBCO web site. As the GEBCO grid provides global coverage, it was decided that the relatively sparse bathymetry from hydrographic products such as ENCs and digital chart databases would adequately suit the GEBCO requirement. Furthermore it was noted that these data are mostly consistent in structure and content (e.g. projection and density) and are in a digital format, thus enabling them to be readily integrated with the existing GEBCO source data.

3 The Reference was accompanied by a CD ROM containing a software application that facilitated the extraction of sounding, coastline, contour and metadata features. Member States were invited to extract these features from their ENC files (usage bands 2 and 3 only), and to send the extracted features to the IHB for incorporation into the GEBCO grid. The following Member States provided significant amounts of data covering their coastal zones: Australia, Ecuador, Finland, India, Italy, the Rep. of Korea, Latvia, Netherlands, Norway, Peru, Poland, Portugal, South Africa, Sweden and the USA. The data coverage is indicated in Figure 1 below.



*Figure 1 Extent of SWB data provided by IHO Member States*

4 In order to gain a better understanding of how these data can be integrated with the existing GEBCO deep water bathymetry, test grids have been produced for sample areas using the data provided by India, Australia and the Rep of Korea. Graphics showing how these data are able to make significant improvements to the GEBCO grid in the Gulf of Khambhat (India) are included in Annex A. A more detailed description and additional high resolution graphics (that include Australian and Rep. of Korean coastal areas), have been included at the following URL:

[http://www.iho.int/MISC/GEBCO/GEBCO\\_SWB\\_Main.htm](http://www.iho.int/MISC/GEBCO/GEBCO_SWB_Main.htm)

Figures 2A and 2B below show the differences between the existing GEBCO deep water track line data and the ENC data provided by India. Figures 3A and 3B show the improvements to the GEBCO grid (especially in shallow water areas) after inclusion of the ENC data.

5 It can be concluded from the test grids, that the shallow water data provided by IHO Member States will make a substantial improvement to GEBCO bathymetry and will contribute to ensuring that the next GEBCO grid will be an authoritative global ocean dataset. It will also significantly improve the grids suitability for use by scientific (and other) communities, especially those interested in the juxtaposing deep ocean bathymetry and offshore zones. The goal of the GEBCO grid is to provide accurate, continuous world wide bathymetric coverage of the oceans at a relatively coarse resolution. The data provided by Member States adequately supports this goal, however it should be noted that it is not intended to be a substitute for high resolution (or large scale) national bathymetric datasets and maps.

6 Member States that have not yet provided shallow water bathymetry from their ENC or digital product databases (as described in the Reference), are invited to do so. Data contributions will be welcome at any time; however, data received by the end of June will be included in the GEBCO 2007 meeting report. Data should be forwarded to the IHB (for the attention of Tony PHARAOH) via email attachment (pad@ihb.mc) or on CD ROM. Additional copies of the CD ROM containing the ENC extracting application are available from the IHB on request.

On behalf of the Directing Committee  
Yours sincerely,

Captain Hugo GORZIGLIA  
Director

Annex A:

**Gulf of Khambhat (India)**

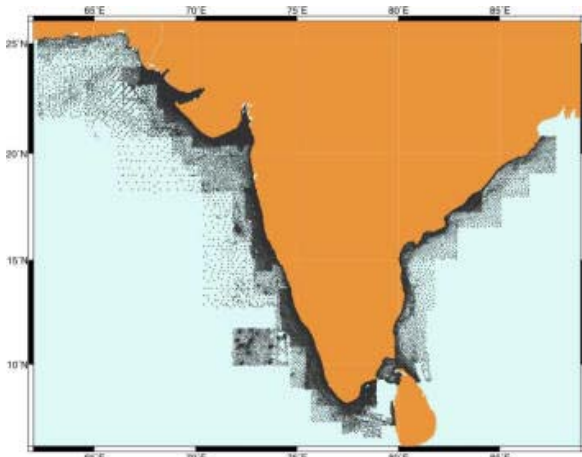


Figure 2A. Shallow water bathymetry from ENCs provided by the National Hydrographic Office of India

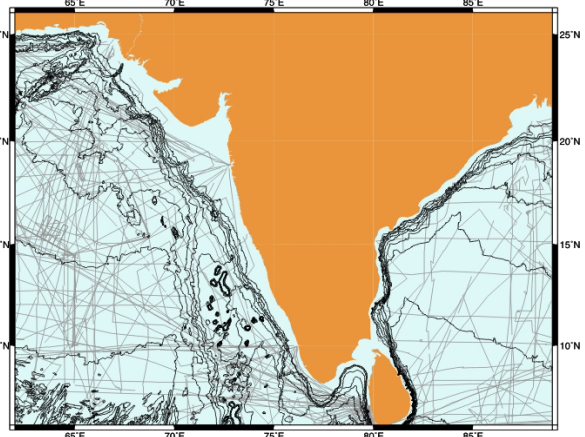
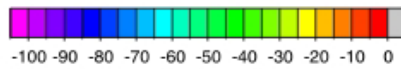
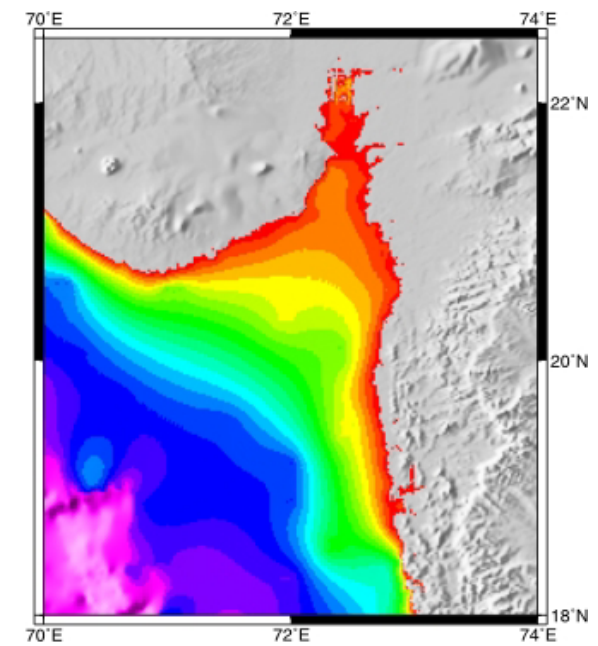
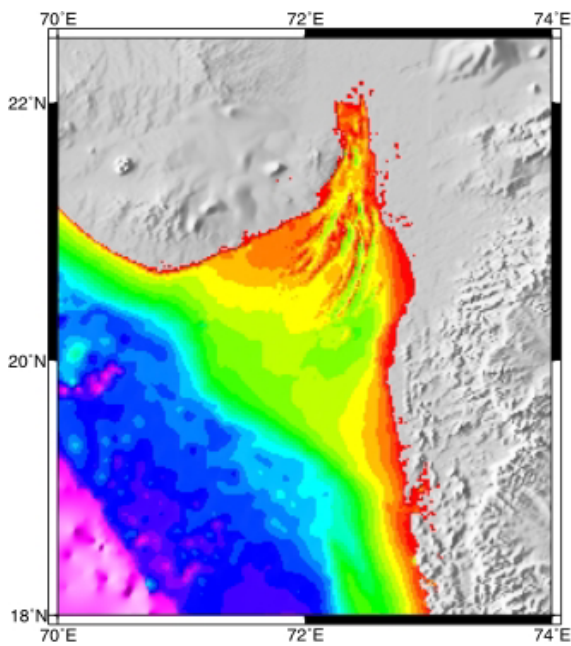


Figure 2B. Existing GEBCO contours and track line bathymetry.



Depth (m)

Figure 3A - Grid produced using GEBCO bathymetry, ENC shallow water data (shown above) and GLOBE 1 minute grid for land elevations.

Figure 3B - Grid produced using GEBCO bathymetry and GLOBE 1 minute grid for land elevations.