

**Eighth Meeting of the Inter-Regional Coordination Committee
Abu Dhabi, UAE, 26-28 May 2016**

Information Paper for Consideration by the IRCC8 Meeting

Scanning and Archiving the Five GEBCO Map Editions.

Submitted by:	IHB
Executive Summary:	Since the 1 st Edition of the General Bathymetric Charts of the Ocean (GEBCO) were first produced in 1903, four subsequent editions were published. Paper copies the five GEBCO editions have been stored in the IHB archives (Monaco). The IHB have undertaken an internal project to scan these charts so that they can be digitally archived, and also made available for public download.
Related Documents:	B-1 General Bathymetric Chart of the Oceans, B-7 GEBCO Guidelines, B-8 Gazetteer of Geographical Names of Undersea Features, B-9 GEBCO Digital Atlas, B-10 The History of GEBCO.
Related Projects:	GEBCO Technical Sub-Committee on Ocean Mapping (TSCOM) and Sub-Committee on Regional Undersea Mapping (SCRUM)

Introduction

Since its inception in 1903, the GEBCO project has produced five series of world bathymetric charts that show the progression of ocean mapping over the past century. Copies of most of these ocean chart have been stored in the map archive at the IHB. Many of these documents should be of significant interest to hydrographers, ocean scientist, cartographers and other mapping communities. Some of the older charts may also be quite rare.

IRCC7 paper 11D recommended that these charts should be digitally scanned. Decision 41 of the meeting noted that: *"... affordable methods to produce geo-referenced raster copies of the repository of GEBCO ocean maps and plotting sheets that are held at the IHB should be further identified and, if appropriate, the relevant specifications should be developed"*

This paper reports on the current status of scanning the five series of GEBCO paper charts. Figure 1 below provides an index of sheet layout and numbers for editions 1 to 4. A different layout and numbering system was adopted for the 5th edition.

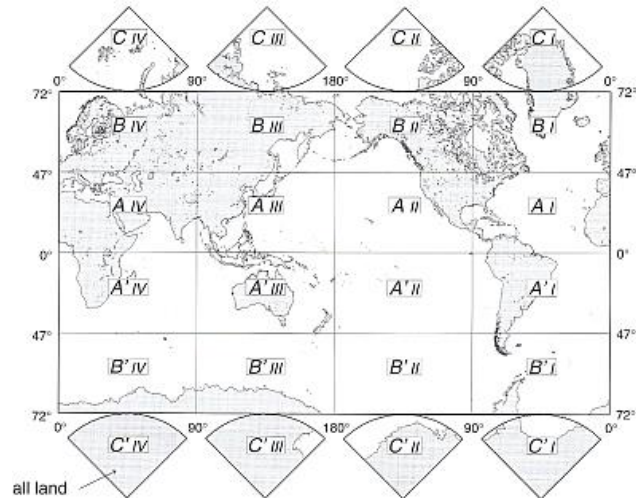


Figure 1

First Edition GEBCO Sheets (1903).

Background: Work began on the first edition in June 1903. A team of seven draftsmen completed this edition in just 7 months. This series comprises 16 Mercator sheets and 8 polar sheets

Status: With the exception of sheet A I covering the North Atlantic, all of Mercator and polar sheets have been digitised. (Sheet A I is missing from the IHB archive). Some sheets required digital editing to remove tear marks and other major blemishes.



Figure 2

Second Edition GEBCO Sheets (1912 - 1930).

Background: The first sheets were published in 1912 however the last sheet did not appear until 1930, due to the outbreak of World War I.

Status: Copies of all sixteen Mercator and eight polar sheets have been digitised. Some of the sheets required digital enhancement to remove tear marks and other major blemishes.

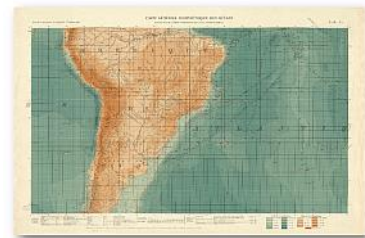
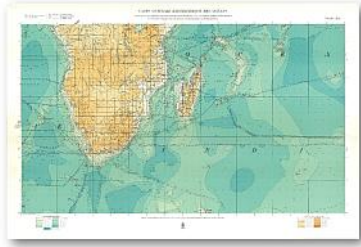


Figure 3

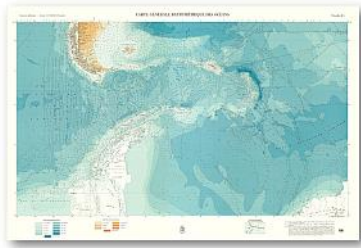
Third Edition GEBCO Sheets (1932 to 1966).

Background: Following the death of Prince Albert in 1922, his scientific team was disbanded and the Government of Monaco invited the International Hydrographic Bureau (IHB) to take over the production of the GEBCO charts. Work commenced on the 3rd edition in 1932, but its progress was very slow. Production was spread over a period of 34 years and only 21 sheets were actually published.

<p>Status: Fourteen of the Mercator sheets have been digitised. (Sheets BI and BII are missing from the IHB archives, however SHOM were able to find and provide a scanned copy of sheet BI and a non-standard sheet of the south west African coast. The assistance provided by SHOM is greatly appreciated.</p>	
	<p>Figure 4</p>

Fourth Edition GEBCO Sheets (1958 to 1973).

Background: Production of the fourth edition was started in 1958 before the third edition had actually been completed. Following the publication of two sheets in 1958 and 1961, an agreement was made between the IHB and the French Institut géographique national (IGN) regarding the production of the additional sheets.

<p>Status: Only Mercator sheets AI, A'I, BI, B'I, BIV, B'IV and polar sheets CI and C'I have been digitised. All other sheets are missing from the IHB archives.</p>	
	<p>Figure 5</p>

Fifth Edition GEBCO Sheets (1972 to 1984).

Production of the 5th series was supervised by a Joint Intergovernmental Oceanographic Commission (IOC) / International Hydrographic Organization (IHO) - GEBCO Guiding Committee. An important innovation of the fifth edition was the inclusion of sounding control on the face of each sheet. Discrete soundings appear as grey dots and echo-sounding tracks as grey lines in the background.

Status: All sixteen Mercator and the two polar sheet have been scanned. The IHB wished to thank the Hydrographic and Oceanographic Department of Japan, for scanning the large format polar sheets.

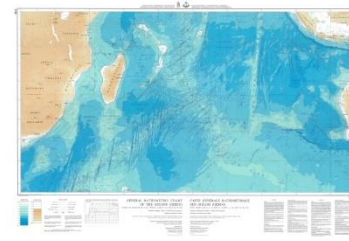


Figure 6

Conclusion

A web site (<http://www.iho-wms.net/gebco>) has been set up to providing an index of all scanned sheets. The full resolution scanned sheets will be made available for download from this site. The typical characteristics of the scanned sheet are;

Format: GIF and Tiff

Resolution: 300 x 300 dpi

Approximate scanned image size: 13300 x 8500 pixels

Approximate file size: about 400 Mb

Recommendation

The IRCC are invited to:

- a) **take note** of the current status of digitising the GEBCO chart series, and
- b) **request Member States** to provide scanned version of any of the missing sheets, that that they may have in their archives, to the IHB for inclusion in the online digital archive.