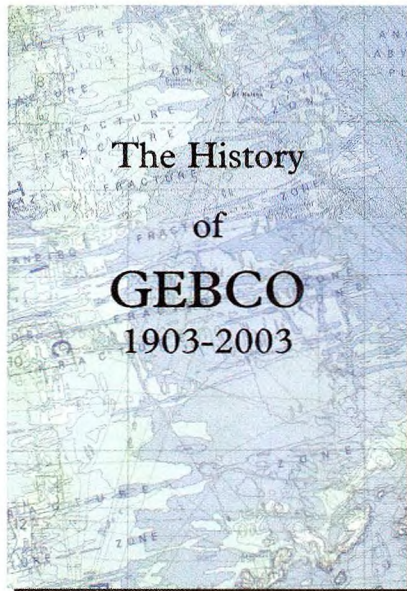


The History of GEBCO, 1903-2003

By Desmond Scott, March 2003, 140 pages, ISBN: 90-806205-4-8, published by GITC bv, The Netherlands

Written to commemorate the Centenary of the General Bathymetric Chart of the Oceans (GEBCO), *The History of GEBCO* transcends its title: in describing the past one hundred years of often fitful progress in constructing maps of the world's ocean floors, Lead Editor Desmond Scott and his co-authors have also encapsulated the history of deep sea mapping in its progression from lead line surveys that produced little more than handfuls of discrete and manually-recorded soundings, to continuous acoustic observations that now create enormous volumes of digital data.

In Chapter One, Rear Admiral Stephen Ritchie provides an overview of the techniques and instruments that built a legacy of deep ocean soundings prior to the beginning of the Twentieth Century. Chapter Two by historian Jacqueline Carpine-Lancre recites the scientific and administrative gatherings, the personalities involved, and their interactions both positive and negative, that led to the First and Second GEBCO Series of world charts. These charts, alas, were not commercial successes, in part because they tended to be obsolete when published, in part because they did not satisfy the needs of scientists. In 1920, with sales falling short of expectations, the printer asked to be relieved of the remaining stocks of both Series; they were sent to the Musée Océanographique in Monaco, to be ignominiously cut up into index cards.



Chapter Three by Adam Kerr describes a period lasting a little over forty years, beginning in 1928 when the International Hydrographic Bureau (IHB) assumed a leading role in the production of charts for the Third and Fourth GEBCO Series. These were difficult years, as the Bureau struggled to cope with funding shortages, advances in technology, growing accumulations of soundings, and a major war. Conceived in 1929, the Third Series was only completed in 1969, while the Fourth Series, which had been initiated in 1965, was terminated in 1969 after only six of its twenty-four sheets had been printed. Nevertheless, the dismal record of this period did serve a useful purpose by motivating the establishment of a

Working Group that recommended actions aimed at developing a better organisational structure and at producing charts that satisfied the needs of marine scientists. Chapters Four and Five, prepared respectively by an anonymous author and by Sir Anthony Laughton, outline the ensuing administrative developments that would place GEBCO on a more stable footing and give it a clearer sense of purpose.

In Chapter Six, Desmond Scott describes how this organisational overhaul, accompanied by new technical specifications, paved the way in 1973 for the efficient production of charts in the Fifth GEBCO Series that portrayed bathymetry in a way that would be more useful to marine scientists. Unlike the preceding three Series which had long or unfinished gestations, the Fifth Series was completed within less than a decade. Moreover, the new Series clearly appealed to a wide audience: by the end of 2002, nearly 55,000 individual sheets had been distributed worldwide, along with almost one thousand boxed sets that contained all eighteen sheets of the Series, plus a world map. This was also the period when GEBCO began the transition from hand-contoured paper maps to purely numerical descriptions of the seabed through the digitisation of isobaths. This work began in the early 1980s and took nearly a decade to complete. Around the same time, the IHO Data Centre for Digital Bathymetry (DCDB) was established as the official repository for digital data to be used in the development of GEBCO products.

Chapter Seven by Robert Fisher discusses the standardisation of nomenclature, and the naming of undersea features. A standard nomenclature helps minimise confusion in the classification of seabed features by providing criteria that are based on a similarity of physical characteristics. This is to help distinguish one cartographer's canyon from another's valley. Similarly, the selection and approval of names for seabed features require care to avoid duplication and/or ambiguity in their designations. For instance, it is hardly helpful if the same seamount is named Smith in one context, Smythe in another, and Jones in a third. In the GEBCO domain, these matters are handled by the Sub-Committee on Undersea Feature Names (SCUFN), which reviews proposed names prior to their inclusion in the GEBCO Gazetteer of Undersea Feature Names. As a result of this activity, GEBCO is now recognised as the foremost international authority in seabed feature names.

In Chapter Eight, Meirion Jones details how contour

lines in the Fifth Series were digitised and used in the development of the GEBCO Digital Atlas (GDA), which was first published in 1994 and updated in 1997. Bundled with software tools for search, retrieval, and visualisation, the GDA marked a significant improvement in the accessibility of depth information as portrayed by GEBCO. Shortly after its appearance, a task group was assembled to construct a global bathymetric grid that defined depths everywhere at one-minute intervals and which conformed in most regions to the latest set of GEBCO isobaths. Completed in 2002, the new product forms the nucleus of the Centenary Edition of the GDA, which was released as a companion piece to the GEBCO history book. Thus GEBCO completed its first century with a compendium of past accomplishments, and with a new instrument that will provide a foundation for future achievements.

The book is not lavishly illustrated, although its A4 format does allow the inclusion of several suitably-sized graphics, such as a sampling of old maps that portray what was known about the sea floor in the 19th Century. These are complemented by a series of chartlets that have been extracted from successive GEBCO Series and the Centenary GDA in three selected geographic regions, to illustrate the evolution of bathymetric knowledge over time, as well as refinements in the cartographer's art.

One of the more notable aspects of *The History of GEBCO* is the degree to which the whole enterprise has relied on the efforts and contributions of a relatively small community of international enthusiasts, who have laboured on in the belief that a better knowledge of the sea floor will benefit the inhabitants of this planet. In spite of their efforts, the state of ocean mapping in many parts of the world still verges on the rudimentary, and the coherent rendering of deep-sea bathymetry is all too often treated as a footnote in the annals of Big Science. To put this situation into perspective, we need only consider the accomplishments of interplanetary explorers and mapmakers, barely half a century into the Space Age. As the international ocean mapping enterprise sails on into its second century, it is to be hoped that practitioners of the future will be able to celebrate the full achievement of GEBCO's objectives by the time of its Bicentenary.

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