

INTERNATIONAL HYDROGRAPHIC ORGANIZATION



MANUAL ON HYDROGRAPHY

Publication M-13

**1st Edition
May 2005**

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PREFACE

The IHO Manual on Hydrography general objective is to provide knowledge on the concepts involved in hydrography as well as guidance to plan and execute hydrographic surveys. The Manual is considered to be a professional guide for hydrographic surveyors and a tool for teachers and students involved in hydrographic courses or programs.

The preparation of this Manual started after the majority of IHO Member States (MS) responded in favour of proceeding with a project that could result in a Hydrographic Manual (1999). The IHB proposed then the establishment of a Working Group that met for the first time at the IHB premises, 20-22 June 2001, where the Table of Contents was agreed; Team Leaders were identified to deal with specific subjects, being responsible for the compilation of experts' contributions, and a work program was defined. In 2004 a second meeting took place to review the result obtained and decide on a draft version of the Manual. After collecting comments from MS, the final version was prepared and the IHO Manual on Hydrography was published.

The Manual is considered to be a worthy product that contributes to the mission of the IHO, whose objectives are:

- The co-ordination of the activities of national hydrographic offices;
- The greatest possible uniformity in nautical charts and documents;
- The adoption of reliable and efficient methods of carrying out and exploiting hydrographic surveys;
- The development of the sciences in the field of hydrography and the techniques employed in descriptive oceanography.

It has to be acknowledged that several Hydrographic Offices (HO) have made great efforts in preparing and keeping up to date their version of a Hydrographic Manual, almost since their establishment, but the resources, both, in time and manpower required for this activity have precluded several HOs from continuing this practice, thus agreeing in the need to co-operate and co-ordinate the efforts for the preparation of an IHO Hydrographic Manual. A Manual that could be useful to everybody, containing specific aspects on hydrography and other matter only in general terms, as they are much more thoroughly covered in existing textbooks which refer to them in considerably greater detail.

The content of this Manual is divided into seven chapters:

- Chapter 1 refers to the principles of hydrographic surveying, including its specifications;
- Chapter 2 refers to positioning;
- Chapter 3 refers to depth determination, including both the principles and techniques used;
- Chapter 4 provides information on sea floor classification and object detection;
- Chapter 5 refers in particular to water levels and flow;
- Chapter 6 is devoted to topographic surveying applied to hydrography;
- Chapter 7 provides, in a structured way, complete details on hydrographic practice;
- Annexes with Acronyms, Bibliography and other relevant information.

It is the IHB responsibility to keep this Manual up dated, following inputs from MS and other organisations who are encouraged to provide the IHB with relevant information in this regard. If needed, the IHB will request the advice of the FIG/IHO/ICA International Advisory Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers, on the best way to include new material and/or organise the relevant chapter(s).

The IHB will keep the digital version of this Manual on the IHO web page and will print hard copies on demand. With the assistance of readers and of Member States, the IHB will aim to maintain this publication on a regular basis..

The IHB is particularly grateful to Admiral Ritchie of the United Kingdom for his encouragement and support in writing the Introduction to this Manual.

The IHB would like to thank the following principal authors for their efforts in preparing the final text, whilst acknowledging that they were ably assisted by many others who remain unnamed:

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