INTERNATIONAL HYDROGRAPHIC ORGANIZATION

ABOUT US

The International Hydrographic Organization (IHO) is an intergovernmental consultative and technical organization that was established in 1921 to support safety of navigation and the protection of the marine environment. The IHO enjoys observer status at the United Nations (UN) and is recognized as the competent international authority regarding hydrography and nautical charting.

The object of the Organization is to:

Promote the use of hydrography for the safety of navigation and all other marine purposes and to raise global awareness of the Importance of hydrography;

Improve global coverage, availability and quality of hydrographic data, information, products and services and to facilitate access to such data, information, products and services;

Improve global hydrographic capability, capacity, training, science and techniques;

Establish and enhance the development of international standards for hydrographic data, information, products, services and techniques and to achieve the greatest possible uniformity in the use of these standards;

Provide authoritative and timely guidance on all hydrographic matters to States and international organizations;

Facilitate coordination of hydrographic activities among its Member States; and

Enhance cooperation on hydrographic activities among States on a regional basis.

MEMBER STATES

The IHO is made up of countries that have acceded to the Convention on the IHO. Each Member State is usually represented by its national Hydrographer or equivalent national authority.

IHO HEADQUARTERS

The Secretariat of the IHO is based in Monaco and is headed by a Secretary-General assisted by two Directors. They are elected by the IHO Member States at ordinary sessions of the Assembly.

INTERNATIONAL OBLIGATIONS

UN Assembly Resolution 53/32 invites maritime countries to provide hydrographic services. Regulation 9 of Chapter V of the International Convention for the Safety of Life at Sea (SOLAS) goes further and actually places an obligation on States to ensure the provision of hydrographic services. A country's national hydrographic service is usually provided through its hydrographic office.

WHAT IS HYDROGRAPHY ?

Hydrography is the science of measuring and depicting the information necessary to describe the nature and configuration of the seabed, its geographical relationship to the adjacent land masses, and the characteristics and the dynamics of the sea. This includes bathymetry (vertical measurement of depth), geodesy and geophysics, and also the measurement of the horizontal and vertical movement of the water column (tidal streams, currents and tidal heights), studies of waves and swell and certain other physical parameters of sea water and the composition of the sea floor.
A principal outcome of hydrography is the publication of nautical charts as well as thematic maps of the sea floor.

4b quai Antoine 1er, B.P. 445 - 98011 MONACO Cedex - PRINCIPAUTE DE MONACO

Telephone : (+377) 93 10 81 00
Telefax : (+377) 93 10 81 40

E-mail : info@iho.int
Web : http://www.iho.int

BENEFITS OF HYDROGRAPHY

Hydrography, nautical cartography, aids to navigation and the promulgation of Maritime Safety Information (MSI) are key factors for maritime safety and for the protection of the marine environment. They are also essential elements in the development of a nation's infrastructure, involving not only ports and maritime transportation but also the exploitation of marine resources and the protection of the marine ecology.
Every maritime country is responsible for charting its maritime areas as well as for the circulation of the relevant nautical information. Many States do not yet have the appropriate structures and organizations required to handle this task. One purpose of the IHO is to bring together and enhance these individual national efforts in order to provide an effective worldwide navigation service, recognizing that the conservation and the sustainable use of the oceans (including shipping and trade) are international activities.

HYDROGRAPHIC SURVEYS

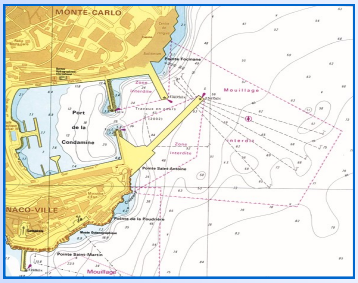
The IHO Member States have a fleet of about 400 hydrographic survey vessels, with additional hydrographic launches, plus aircraft and helicopters.

Hydrographic vessel in Port Hercule Monaco

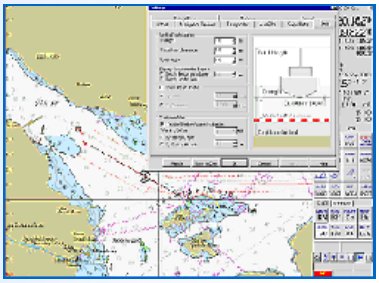
Surveys encompass coastal topography, bathymetry (soundings) and oceanographic measurements (tides, currents, waves). Soundings are collected mainly using single and multibeam echo sounders. In clear, coastal waters, hydrographic airborne laser sounding and satellite imagery can be used. Data from surveys is nowadays in digital form. This allows data bases to be created, capable of feeding not only navigational chart data bases but also a number of customized Geographic Information Systems (GIS). The IHO has produced international standards for digital hydrographic data and for the conduct of hydrographic surveys.

NAUTICAL CHARTS

Nautical charts have been in use, in one form or another, for over 400 years. For nearly a century the IHO has worked towards achieving maximum standardization in the specifications, symbols, style and formats used for nautical charts and related publications. Modern day mariners of the world are able to use, with confidence, charts compiled in both paper and digital form by any Member State of the IHO.
Highly significant milestones were achieved in the standardization of paper nautical charts by the adoption of the "Chart Specifications of the IHO" in 1982 and with the approval by the IMO in 1997 of the Performance Standards for Electronic Chart Display and Information Systems (ECDIS).



Example of a modern nautical chart


An ECDIS display

The principal chart data used in ECDIS is an electronic navigational chart (ENC) which is produced by IHO Member States using the IHO Digital Data Transfer Standard S-57. A new Standard (S-100) is being developed to address the requirements of e-navigation.

The idea of a common, worldwide paper chart series (INT Charts) that is produced to a single set of agreed specifications, was introduced in 1971. Under this arrangement, one nation (the producer nation) produces a chart of one of their areas and other nations wishing to cover the same area may print their charts from reproduction material supplied by the producer nation.

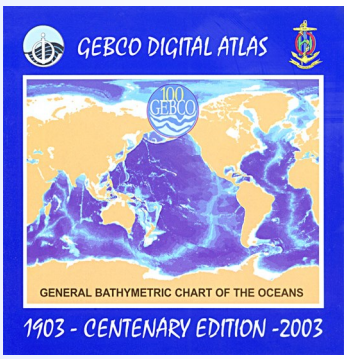
MARITIME SAFETY INFORMATION (MSI)

MSI is the provision of navigation and meteorological warnings and other urgent safety-related messages, The dissemination of MSI is achieved through an internationally coordinated service - the World-Wide Navigational Warning Service (WWNWS). The WWNWS was jointly created by the IMO and the IHO for the promulgation of coordinated NAVAREA, Navtex and coastal warnings of relevant MSI. The IHO WWNWS Sub-Committee develops policy and guidelines on behalf of the IMO to ensure that the service is fit for purpose.

GEBCO

The IHO contributes jointly with the Intergovernmental Oceanographic Commission (IOC), to the ocean bathymetric mapping project initiated by Monaco's Prince Albert I in 1903 and known as the General Bathymetric Chart of the Oceans (GEBCO).

This cooperation results in the production of the most authoritative, publicly-available bathymetry data sets for the world's oceans. To better accomplish this task, an IHO Data Centre for Digital Bathymetry (DCDB) operating at the US National Centers for Environmental Information (NCEI) in Boulder, Colorado, USA, was created in 1990.



The latest product is the GEBCO 30 arc-second global grid of depths, GEBCO_2014 Grid, published in 2014.

EDUCATION AND TRAINING

In cooperation with the Fédération Internationale des Géomètres (FIG), and the International Cartographic Association (ICA), a comprehensive set of Standards of Competence for hydrographic surveyors and nautical cartographers has been drawn up, together with appropriate syllabi for the guidance of universities and teaching establishments throughout the world, A joint FIG/IHO/ICA International Board supervises the application of these standards with a view to ensuring internationally recognized qualifications in the hydrographic professions. The Board reviews the training syllabi of educational institutions worldwide and awards international certificates of recognition to those courses that meet the required minimum standards.

TECHNICAL COOPERATION AND CAPACITY BUILDING

The IHO, as the recognized competent international authority on all matters associated with hydrography and nautical charting, acts as a coordinating body for the promotion of projects aimed at establishing or strengthening the hydrographic capabilities of developing countries. In support of such activity, the IHO programme provides free advisory visits to any developing country (both IHO Member States and others) on request. The Organization encourages the formation of bilateral, multilateral and multinational agreements between nations and international organizations for technical cooperation in hydrographic projects, including the provision of vessels, equipment, joint hydrographic surveys, training and supervisory expertise. The IHO Secretariat also maintains close contact with international funding agencies.

PUBLICATIONS AND STANDARDS

The IHO Secretariat maintains a series of publications and international standards on hydrography and marine cartography that are available from the IHO Web site, mostly free of charge.

REGIONAL HYDROGRAPHIC COMMISSIONS

The IHO has encouraged the establishment of Regional Hydrographic Commissions (RHCs) to coordinate hydrographic activity and cooperation at the regional level.

The RHCs are made up predominantly of IHO Member States with interests in a particular region, together with non-Member States from the same region. RHCs work in close harmony with the Organization to help further its ideals and programme. RHCs meet a regular intervals to discuss such things as mutual hydrographic documents and chart production problems, plan joint survey operations, and resolve schemes for medium and large scale International Chart coverage and ENC coverage in their regions.

Regional cooperation builds on liaison with relevant regional organizations such as the European Commission (EC), the Organisation of Eastern Caribbean States (OECS), the Pacific Community (SPC) and the Maritime Organization of Western and Central Africa (MOWCA).

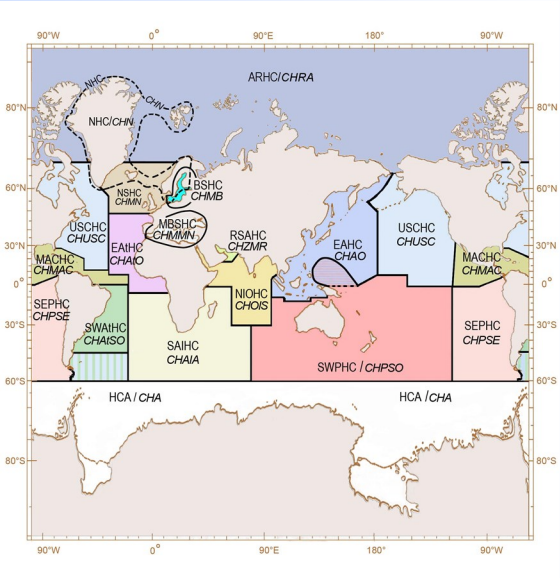


Diagram showing Regional Hydrographic Commissions

LIAISON

The IHO cooperates closely with a number of international organizations, including the specialized agencies of the United Nations, in various maritime affairs concerning charting and other related activities. Officers from the IHO Secretariat represent the Organization at the meetings of bodies such as the International Maritime Organization (IMO), the Intergovernmental Oceanographic Commission of UNESCO (IOC), the Group on Earth Observations (GEO), the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), the Fédération Internationale des Géomètres (FIG), the International Cartographic Association (ICA), the International Organization for Standardization (ISO), the Open Geospatial Consortium (OGC) and the Comité International Radio-Maritime (CIRM).

For more details about the
INTERNATIONAL HYDROGRAPHIC ORGANIZATION
we invite you to visit us at **www.iho.int**
or to contact us directly

INTERNATIONAL HYDROGRAPHIC ORGANIZATION
4b quai Antoine 1er, B.P. 445
98011 Monaco Cedex
Phone: (377) 93.10.81.00
Fax: (377) 93.10.81.40
Email: info@iho.int
Website: www.iho.int

IHO MEMBER STATES

(June 2018)

Algeria
Argentina
Australia
Bahrain
Bangladesh
Belgium
Brazil
Brunei Darussalam
Bulgaria
Cameroon
Canada
Chile
China
Colombia
Croatia
Cuba
Cyprus
Democratic People ' s Republic of Korea
Democratic Republic of the Congo
Denmark
Dominican Republic
Ecuador
Egypt
Estonia
Fiji
Finland
France
Georgia
Germany
Greece
Guatemala
Iceland
India
Indonesia
Iran (Islamic Republic of)
Ireland
Italy
Jamaica
Japan
Kuwait
Latvia
Malaysia
Malta
Mauritius
Mexico
Monaco
Montenegro
Morocco
Mozambique
Myanmar
Netherlands
New Zealand
Nigeria
Norway
Oman
Pakistan
Papua New Guinea
Peru
Philippines
Poland
Portugal
Qatar
Republic of Korea
Romania
Russian Federation
Saudi Arabia
Seychelles
Serbia
Singapore
Slovenia
South Africa
Spain
Sri Lanka
Suriname
Sweden
Syrian Arab Republic
Thailand
Tonga
Trinidad and Tobago
Tunisia
Turkey
Ukraine
United Arab Emirates
United Kingdom of Great Britain
and Northern Ireland
United States of America
Uruguay
Vanuatu
Venezuela (Bolivarian Republic of)
Viet Nam