The International Hydrographic Organization
- Activities & Capacity Building
- Vice Admiral Alexandros Maratos
  President of the IHB

Overview
1. The IHO.
2. International Resolutions
3. IHO Standards
4. Uses of Hydrographic Data
5. Capacity Building

INTERNATIONAL HYDROGRAPHIC BUREAU
1908 International Congress of Navigation, St Petersburg
1912 International Maritime Conference, St Petersburg
1919 International Hydrographic Conference, London
1921 The IHB was established by 24 nations and tasked to support Safety of Navigation and the Protection of the Marine Environment.

At the invitation of HSH Prince Albert I°, a noted marine scientist, it was headquartered in Monaco where it remains today.

INTERNATIONAL HYDROGRAPHIC ORGANIZATION
1970 – An International Convention changed the name and legal status.

The IHO comprises an International Hydrographic Conference and the International Hydrographic Bureau

INTERNATIONAL HYDROGRAPHIC BUREAU

IHO MEMBER STATES
April 2005

The map shows the distribution of IHO member states around the world.
**IHO MEMBER STATES**

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<th>April 2005</th>
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<tr>
<td>ALGERIA</td>
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<td>FINLAND</td>
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**IHO - Objectives**

- The Objectives of the IHO are to:
  - Co-ordinate the activities of national hydrographic offices
  - Maximise uniformity of nautical charts and documents
  - Adopt reliable and efficient methods of carrying out and exploiting hydrographic surveys
  - Develop the science of hydrography and techniques used in descriptive oceanography

**IHO – Strategic Issues**

- The Strategic Issues Approved at the 2000 Extraordinary Conference were:
  - Transition to the digital era.
  - Achievement of an adequate global hydrographic data coverage.
  - Responding to the external environment.
  - Achievement of adequate funding.
  - Capacity building.
  - Providing services other than for navigation.

**COOPERATION AND COORDINATION**

**An International Organization with a strong Regional Focus**

15 Regional Hydrographic Commissions
Hydrographic Committee on Antarctica

**COORDINATION**

The IHO has 17 Committees, Working Groups and Advisory Boards, (5 of which include other International Organizations)

These are tasked to examine important issues and provide guidance and direction for the benefit of all Member States.
An SPWG has been reviewing the structure and processes of the IHO. Its report was considered at an:

Extraordinary International Hydrographic Conference

**International Conventions and Resolutions**

- Safety of Life at Sea (SOLAS) – A revised Chapter V entered into force in July 2002.
- IMO Assembly Resolution 958(23) was adopted in December 2003
- UN General Assembly Resolution A/53/32 adopted in 1998
- UN General Assembly Resolution A/58/240 adopted in 2003

**SOLAS - Chapter V - Regulation 9 Hydrographic Services**

Contracting Governments are required to:

- Conduct hydrographic surveys.
- Issue and maintain official charts and publications.
- Provide data management services to support these services.
- Ensure the greatest uniformity possible taking into account, whenever possible, the relevant resolutions and recommendations of the IHO.
- Co-ordinate activities to the greatest possible degree.

**SOLAS - Chapter V - Regulation 2 Definitions**

_Nautical chart or nautical publication_ is a special-purpose map or book, or a specially compiled database from which such a map or book is derived, that is issued officially by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution and is designed to meet the requirements of marine navigation.

* Refer to appropriate resolutions and recommendations of the International Hydrographic Organization concerning the authority and responsibilities of coastal States in the provision of charting in accordance with Regulation 9.

**IMO Resolution A.958(23) Provision of Hydrographic Services**

INVITES Governments, in addition to their existing obligations under SOLAS regulation V/9, to:

(a) Promote through their national maritime administrations, the use of Electronic Chart Display and Information Systems (ECDIS) together with the use and further production of official Electronic Charts (ENCs);
(b) co-operate, as appropriate, in the collection and dissemination of hydrographic data with other Governments having little or no hydrographic capability;

(c) promote support for Governments which may request technical assistance in hydrographic matters, in consultation with, and with the assistance of, the Organization and the International Hydrographic Organization;

(d) establish hydrographic offices where they do not exist, in consultation with the IHO;

FURTHER INVITES Governments which are not members of IHO to consider joining that organization;

Invites States to cooperate in carrying out hydrographic surveys and in providing nautical services for the purpose of ensuring safe navigation as well as to ensure the greatest uniformity in charts and nautical publications and to coordinate their activities so that hydrography and nautical information is made available on a worldwide scale.

Welcomes the work of the International Hydrographic Organization and its fourteen regional hydrographic commissions and encourages increased membership of the organization, noting the capacity of the organization to provide technical assistance, facilitate training and identify potential funding sources for the development or improvement of hydrographic services.

Invites the International Hydrographic Organization and the International Maritime Organization to continue their coordinated efforts, to jointly adopt measures with a view to encouraging greater international cooperation and coordination for the transition to electronic nautical charts and to increase the coverage of hydrographic information on a global basis, especially in the areas of international navigation and ports where there are vulnerable or protected marine areas;
Example of an ECDIS display covering the LILLA VARTAN waterway close to STOCKHOLM.

Wessel position is displayed automatically.

Advanced information about navigational features can be called up from the navigation database.
Tidal information, important when approaching port or shallow water, can be displayed.

A record of the vessel’s progress (logbook) is automatically recorded by ECDIS and can be displayed at any time during the passage.

If the display becomes too cluttered certain less significant features can be suppressed.

The display scale can be changed.

Special colours have been developed for night use.

M/V Rocknes
Uses of Hydrographic Data

- Safety of navigation
- Ocean Modelling
- Coastal and deep water circulation
- Coastal Zone Management and Engineering
- Environmental protection
- Fisheries
- Offshore windfarms
- Oil and Gas exploration
- International boundaries
- Pipeline and cable laying
- National security
- Tsunami warning systems

HYDROGRAPHY - DEFINITION

That branch of applied sciences which deals with the measurement and description of the features of the sea and coastal areas for the primary purpose of navigation and all other marine purposes and activities including (inter alia) offshore activities, research, protection of the environment and prediction services.

The Growing Requirement to Provide Modern Hydrographic Services

The US Capitol Building & Grand Princess to scale.

The Growing Need for Modern Hydrography in Remote Areas

The Potential Outcome of Poor Hydrography & Cartography
Inland waters are just as vulnerable!

TO BE AVOIDED!

**Capacity Building**

1. Introduction
2. Definition
3. Strategy
4. Work Programme
5. Fund
6. Projects

**IHO Capacity Building**

- IHO Capacity Building Committee formed in 2003 to take forward work formerly performed by TACC.

**CAPACITY BUILDING**

*Definition:*
With respect to the IHO, “Capacity Building” is defined as the process by which the organization assesses and assists in sustainable development and improvement of the states, to meet the objectives of the IHO and the hydrography, cartography and maritime safety obligations and recommendations described in UNCLOS, SOLAS V and other international instruments.

**IHO CB Strategy**

- Implements a logical process with 4 steps: AWARENESS ASSESSMENT ANALYSIS ACTION
PHASES OF DEVELOPMENT OF HYDROGRAPHIC CAPABILITIES

**Phase One**
- Collection and circulation of nautical information, necessary to maintain existing charts and publications up to date

**Phase Two**
- Creation of a surveying capability to conduct:
  - Coastal projects
  - Off-shore projects

**Phase Three**
- Production of charts and publications independently

IHO CB Strategy

- **Principles**
  - Individual national needs for infrastructure should be assessed firmly against the 3 phases of development.
  - Skill and technology transfers.
  - Capacity building projects should be coordinated regionally.
  - States with developing hydrographic services must embrace and support the concept of capacity building.
  - The focus should be on achieving enduring output.

- **Goals**
  - Short term
    - Raise awareness of the importance of hydrography
    - Priorities for CB action to the UN, FA, NG
    - IHO Capacity Building Fund
  - Long Term
    - To enable all coastal states to achieve phase 1 of development and to develop a national plan to put in place appropriate elements of phases 2 and 3.

IHO CB Fund

- The CB Fund will be used to provide:
  - Technical assistance
  - Training and education
  - Financial assistance for participation in IHO events
  - Start up funding for hydrographic elements of projects
- The CB Fund will consist of:
  - An annual contribution from the IHO budget as approved by Member States
  - Donations

Capacity Building Projects

- MEH in the Malacca Straits
- MEDA Project 7 (IHO, IMO, IMA)
- Western African Assistance Team (IHO, IMO, IMA, USA and IHO)
- EUROMEDIS
- COCATRAM (Central American Commission for Maritime Transport (IHO, INA))
- Lake Victoria Project (IHO, IMO, IALA, EAC)
- Black Sea Project
- Western Indian Ocean Marine Highway Project (Kenya, Mozambique, South Africa, Tanzania, Somalia, Madagascar, Comoros, Mauritius, Seychelles, La Reunion)
- GEBCO-NIPPON Foundation
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