

INDIAN NAVAL HYDROGRAPHIC DEPARTMENT

Mapping the Oceans

With long experience in the production of navigational charts, nautical publications and electronic charts, today the Indian Naval Hydrographic Department (NHD) is well equipped to meet national and international requirements and naval defence needs. The author opens the door on these activities.<P>

National Hydrographic Office NHO is the authority responsible for Electronic Navigational Charts (ENC), charts and other nautical publications in India, and as part of its international interests also provides coverage of marine-safety information in the Indian Ocean, Arabian Sea and Bay of Bengal. Nautical/navigational products are made available to mariners through the depots in Mumbai and Visakhapatnam. The increasing use of paper and ENC products and services proves the relevance of NHO.

Fleet

The official vector format standard adopted by the International Hydrographic Organisation (IHO) is S-57; this organisation co-ordinates the activities of national hydrographic offices, promotes standards and provides advice for developing countries in the fields of hydrographic survey and production of nautical charts and publications. S-63 is an IHO data protection scheme describing the recommended standard for the protection of ENC information. NHO has eight ocean-going survey ships, each equipped with four survey motor boats, rubber inflatable boats for shallow-water sounding, and one indigenously made helicopter for aerial photography. The onboard survey equipment comprises a long list, see Table 1. Six more, modern survey vessels with catamaran hulls and advanced hydrographic package are likely to be inducted between 2008 to 2010. The department has also acquired state-of-the-art survey and cartographic equipment to meet rising demands of mariners for both paper charts and ENCs. India has been one of the few countries to complete ENC in S-57 for the whole coast of India, and 230 of these ENCs are available commercially in S-63 format.

Important School

The internationally recognised National Hydrographic School (NHS) at Goa is ISO-9001 certified and responsible for hydrographic training in India; it functions under the supervision of the Chief Hydrographer to the Govt. of India. The courses, conducted for Hydrographic Officers, technicians, and civilians and personnel from the Indian Ocean littoral states, are recognised and accredited by the IHO/FIG/ICA International Advisory Board on Standards of Competence for Hydrographic Surveyors, Edition 9. Syllabi are constantly reviewed to keep abreast of International Standards. NHS has been classified as the Regional Hydrographic Training Centre for Africa, Persian Gulf and South East Asian region, and has already trained 350 people. The training facilities include a survey motor boat for field training, equipped with hydrographic devices as a ship in operation (Table 1). Trainees on the long Hydrographic course are attached to universities and research institutes. The course results in Masters degree in Hydrographic Sciences (MHS) awarded by Goa University. At NHO Dehradun cartographic training for civilians is carried out based on user requirements.

Major Activities

International co-operation has continually resulted in high-quality surveys and tsunami-relief operations in the Indian Ocean Region. NHO has participated in GPS network creation in Andaman, post-tsunami relief operations, bathymetry data collection for demarcation of the Indian continental shelf, GPS measurements in Antarctica, Coastal Zone Regulations in India, Sethusamudram Channel Project, and provided assistance for Survey of India. NHO has been using high-resolution satellite imagery, geospatial and GIS technologies to monitor coastal zones in India, including wrecks examination. NHO is in the process of implementing a dedicated production database of bathymetry data and automation of ENC production directly from the field database, thereby enhancing the chart update process.

Concluding Remarks

Over the years, economic pressure has resulted in the deployment of deep-draught vessels, while the margin of safety for under-keel allowance is continually being reduced. This has placed high demands on accurate and up-to-date hydrographic information. NHO promulgates round-the-clock navigational warnings through Global Maritime Distress and Safety Services (GMDSS), a communication service co-ordinated worldwide for distress alerting and dissemination of maritime safety information.

Information Box: Naval Hydrographic Office

The Hydrographic Department of the Indian Navy originates in the charting activities of the British East India Company, formed in 1599. Way back in the seventeenth century, the Company carried out an ambitious charting programme stretching from the Red Sea, around the Indian subcontinent and through to the China Sea. On the dissolution of the East India Company in 1874 the Indian Marine Survey department was established, becoming part of the Royal Indian Marine in 1882. After independence in 1947 the department continued from Bombay, under the Surveyor-in-Charge of Marine Survey of India. In 1954 the Marine Survey Office was shifted to Dehradun and renamed the Naval Hydrographic Office, and in 1997 the title "Naval" was changed to "National" in recognition of its national stature and increasingly international role. Rear Admiral B.R. Rao, Chief Hydrographer to the Government of India, currently heads the NHO.

