

World Hydrography Day: Human Resources

On 21st June every year the International Hydrographic Organization (IHO, Monaco) and its Member States'™ Hydrographic Offices (HOs) celebrate World Hydrography Day. World Hydrography Day is an opportunity to increase overall public awareness of the vital role that hydrography plays in everyone's™ lives.

This year's World Hydrography Day, which is also the 90th anniversary of the establishment of the IHO, focuses on the importance of people in hydrography. For World Hydrography Day 2011, with its theme: Human Resources – The important element to the success of hydrography the IHO seeks to increase public awareness of the indispensable service that the world's hydrographers render to safety at sea, protection of the marine environment and all other seaborne activity, publicise the role of hydrographers and thereby attract additional personnel to follow the profession, emphasise the role played by the IHO in ensuring appropriate hydrographic standards are achieved, and congratulate all hydrographers on the outstanding work that they do in support of safe and efficient operations and activities at sea.

However mankind has thoroughly mapped the surfaces of the Moon and Mars with a height measurement taken every few metres, there are many parts of the World's oceans and coastlines, where there are no surveys at all or the depth is known maybe only every few kilometres. Dangerous rocks, shoals and other obstructions still remain undetected – until that first ship goes there.... There is therefore much work left to be done by the world's limited number of hydrographers – both to collect the missing data and also to alert all those that use the sea where there is no reliable data at present.

Against this backdrop, on 21st June 1921, with Prince Albert 1st of Monaco an ardent supporter, the International Hydrographic Organization (IHO) was established to help make navigation safer throughout the world by increasing hydrographic knowledge for all its purposes and by making improvements in the world's nautical charts. The IHO is now the inter-governmental consultative and technical organisation that is the recognised competent international authority regarding hydrography and nautical charting services.

There is very little activity that can take place in, on, or under the sea without vital information being collected by a hydrographic surveyor. Navigation, oil, gas and mineral resource exploration and recovery, dredging, coastal works, bridge and port construction, submarine telephone cables and pipelines, environmental monitoring, aquaculture and oceanographic research are all crucially dependant on the hydrographic surveyor for accurate, reliable information. Once collected, the information must be analysed and presented in various forms. For the production of official nautical charts and publications by national hydrographic offices around the world, the roles of the nautical cartographer and the hydrographic information specialists are vital.

Most hydrographers in government employment are usually part of the national hydrographic service that provides official charts, nautical publications and other safety of navigation services. The systematic collection of hydrographic data began centuries ago on coastal voyages using a sounding lead and line and position fixing by means of sextants and compasses. Modern charts and the standards against which the data is collected now conform to the standards established by the IHO, ensuring high quality and ease of use. Today's hydrographic surveyors use state-of-the-art technology including sonar and echo sounders together with high accuracy positioning systems. The latest underwater acoustic techniques can provide precise relative positioning of both surface and subsea sensors over kilometric distances. High-resolution two and three-dimensional images are usually created from the data and are essential for assessing surveys of the seafloor, whether it is to make a nautical chart or for other maritime activities. Swath echo-sounding technology allows coverage of large areas of the oceans from a single ship in a fraction of the time previously taken. Airborne data gathering has also become more commonplace with the use of colour lasers and remote sensing of the seabed.

Ashore, nautical cartographers and other hydrographic information specialists use ever more sophisticated computer-based systems to analyse and present the data and information to an increasing variety of users, ranging from the production of traditional nautical charts and publications to studying the feasibility for offshore installations or minerals exploration. All those efforts will be honoured during World Hydrography Day.

