

Competency of Hydrographic Services

The International Hydrographic Organization (IHO) is an intergovernmental consultative and technical organisation that was established in 1921 to support safety of navigation and the protection of the marine environment. Over the years, there have always been reviews of the existing IHO Standards as available at website 1.

S-5 was developed to cater for competence of hydrographic surveyors, tagged 'Standards of Competence for Hydrographic Surveyors' by FIG/IHO/ICA so that individual surveyors can be trained, assessed and qualified based on an internationally accepted programme. This document has undergone several review/editions. In the fifth edition, the necessary requirements for hydrographic surveyors from government and industry, provision of basic subjects for all hydrographic surveyors and the choice of any of the three specialisation areas in Nautical Charting Surveys, Surveys for Coastal Zone Management, or Industrial Offshore Surveys, were highlighted.

In the sixth edition, the following reviews were undertaken: harmonisation of syllabus topics and programme, as well as the new trend in technological challenges.

In the seventh edition, distinctions were made between academic/full recognition, as well as the survey techniques relating to GPS, multi-beam sonar systems and the ECDIS. In the eighth edition, the syllabus was restructured into two: Minimum Standards and Optional Units. While the ninth edition further identified the requirements in the three levels of specialisation, the present tenth edition reviews the name of the Board's to be 'FIG/IHO/ICA International Board' on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers, makes changes to Section 3 'Submission of Courses' and introduces Appendix V 'Annual Assessment Report'.

The development of S-8, Standards of Competence for Nautical Cartographers was initiated in 2000 by FIG/IHO. The ICA was invited to join the committee in 2001 and based on the joint efforts by the FIG/IHO/ICA, the first edition of this standard, focusing on nautical charting cartography, was later published. At present, the 2nd edition published in 2007 is in place for use by the hydrographic communities and is believed to have incorporated the various comments received after the first edition was published, particularly in areas of other marine cartography.

The development of S-44, IHO Standards for Hydrographic Surveys, was started by IHO in 1957 with the goal of improving navigational safety. The first publication was in January 1968 and it has since undergone reviews/editions many times before the release of the current fifth edition dated February 2008.

In order to cater for the new trend in geospatial information systems, digital data services, products, advanced 3D techniques, dynamic data acquisitions in (x,y,z,t) and web-based applications and systems developments, the new edition of yet another IHO standard in place is the S-100, edition 1.0.0. (Universal Hydrographic Data Model) to cater for contemporary hydrographic geospatial data standards.

The overall view of these changes, among others, is to ensure that the hydrographic communities are well abreast of the technological challenges in hydrographic surveys. Based on this general overview, the need therefore is to ensure an overall competency of all hydrographic service providers so that the required goal of the exercises will not be futile.

These standards must be taken into consideration for all hydrographic activities. This therefore calls for continuous training of the hydrographic surveyors vis-à-vis the different training institutions and industries. Others such as the software developers for hydrographic industries must also ensure that the contents of these standards (where applicable) are built into their software development with customisation capabilities for application developments.

IHO must also continuously strive towards further technological enhancements with the Open Geospatial Consortium (OGC), the International Organization for Standard (ISO) and the training institutions.