

Cartography Out of Sight (of Land)



New uses of the seas have shifted the focus and objectives of hydrographic products from navigation safety to a wider variety of deliverables, motivated by emergent fields like energy production (wind farms, marine turbines), marine environment understanding and protection (habitat mapping, coastal erosion monitoring, coral-reef mapping) and remote sensing bathymetry (using bathymetric Lidar, AUVs, satellite data).

Field operations are now conducted at a wide variety of scales, from detailed port infrastructure inspection survey to regional satellite bathymetry, and these data variants impact on nautical cartographic production and products. Methodologies, equipment and software are becoming more sophisticated and automated. Marine geospatial data management systems, based on multi-sensor raw datasets, are beginning to reshape

perceptions of best practices for nautical cartographers.

Demand for both qualified hydrographic surveyors and nautical cartographers is increasing. Many hydrographic contracts now demand evidence of formal and appropriate hydrographic and/or cartographic qualifications as a consideration in the evaluation of tender responses. This is accompanied by demands from the personnel themselves for study and continuing professional development opportunities.

As technologies change, so too must the way nautical cartographers are educated in order to meet the practice and product requirements of modern hydrographic offices as well as the needs of industry. Furthermore, contemporary educational developments such as blended, direct and distance learning initiatives delivered in a modular fashion are increasing the diversity in education and training.

These changes in nautical cartography mean the continuing revision of accepted international standards in educating people in this field, and it is here that the ICA voice should be heard. Since 2001, ICA has contributed to the overall body which addresses all these concerns. The International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) is charged with accrediting the status of courses which seek professional recognition of their students in hydrographic surveying and nautical cartography. The Board comprises 10 members representing its three constituent organisations: the International Federation of Surveyors (FIG) (4 members); International Hydrographic Organisation (IHO) (4); and ICA (2). Its Secretariat is provided by the International Hydrographic Bureau of the IHO. The Board meets annually and is charged with maintaining both the S-5 (Hydrographic Surveying) and S-8 (Nautical Cartography) standards and considering course curricula submissions. Up to now, 60 programmes in Hydrographic Surveying and/or Nautical Cartography have been recognised.

The S-8 Standard recognises two levels of cartographic competence: Category A courses which offer a broad and comprehensive knowledge in all aspects of the theory and practice of a field, and Category B programmes which provide the practical comprehension, along with the essential theoretical background, necessary for individuals to carry out the various nautical cartographic tasks. From now on, the Board has decided to strengthen the programme reviews as a process for evaluating and continuously enhancing the quality and currency of the programmes. The evaluation will be conducted through a self-assessment, followed by an on-site consultation by members of the Board. Such on-site visits will raise the profile of both hydrography and nautical cartography, nationally and regionally. The ICA's involvement in these significant developments is critical, especially through the contribution of skills, knowledge, methods and research to the nautical geospatial domains.

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