COAST TO COAST

ROGER LONGHORN LOOKS AT HOW THE GSDI HAS BEEN WORKING WITH OTHER BODIES TO IMPROVE THE INTEGRATION OF MARINE AND LAND-BASED INFORMATION

Developing spatial data infrastructure (SDI) for the coastal and marine communities – marine/coastal SDI – still has a long way to go at national, regional (trans-national) and global levels. Primarily land-focused, SDIs now have a long history of national development by national mapping and cadastral agencies – more than 20 years in many cases – and at the regional level, too, in the case of Europe's Infrastructure for Spatial Information in the European Community (INSPIRE) initiative. However, because those who drove development of SDIs in the past seldom included members of the marine community, the information needs of marine/coastal SDI stakeholders have not been well served in many cases, where data harmonisation and services interoperability were concerned.

Hydrography has been included in the 'framework' or 'reference' data for most national SDI specifications, from the earliest days. However, even this term did not always relate to off-shore hydrography of the sort that is in the remit of national hydrographic offices, which was typically maintained to support safe navigation at sea or in coastal and harbour regions. For years, the frustrating experiences of those charged with integrated coastal zone management (ICZM) highlighted the need for better and easier integration of land-based and at least near-shore marine information than is possible even today. National studies and pan-European programmes focusing on marine spatial planning, marine economic development, biodiversity, marine/coastal environmental monitoring, and related themes of importance and value to society have helped bring greater attention to the needs of coastal and marine stakeholder communities. With more than 40% of the world's population living within 100km of a coastline, those whose lives could be affected by decisions impacting on coastal and marine development represent a significant portion of humanity!

In our GSDI World Conferences, papers and presentations have been appearing for a number of years either directly or indirectly related to coastal and marine SDI issues: for example, in marshland and wetland management, earth observation, remote sensing development, near-shore aquaculture, and disaster management and mitigation. All GSDI conference proceedings are open access and can be found at the conference websites dating back to the very first conference held in Bonn, Germany, in 1996 (see www.gsdi.org/gsdiConferences).

Related standards

Typical of such papers is 'Marine Spatial Data Infrastructure: Hydrographic workflows and related standards' presented by Andrew Hoggarth and Julien Barbeau of CARIS at the GSDI 10 World Conference held in Trinidad and Tobago in 2008. At that same conference, several papers focusing on management of marine and coastal resources were

also presented, such as 'Development of a marine park management system for Buccoo Reef utilizing GIS and remote sensing' by Sue-Ann Ramnarine *et al.* Regional marine SDI was the focus of papers such as 'Developing a coastal and marine environment framework for the East Asian seas region' by Chandrasekar Jayaraj *et al*, 'Successful SDIs: Does the marine geo-sector provide a much-needed beacon?' by Frederika Welle Donker and 'Development of Marine SDI in Japan' by Masanori Muto *et al.*

Integrating land and sea data was the focus of several papers at the GSDI 13 World Conference in Quebec in 2012, such as 'Spatially enabled land-marine interface: Towards a seamless platform' by Sheelan Vaez and GSDI past-president Abbas Rajabifard. David Harper also presented 'GeoConnections: Canada's Arctic SDI with Marine Cadastre Initiative' and Christian Rüh *et al* presented 'A framework for evaluation of marine spatial data infrastructures to assist the development of the marine spatial data infrastructure in Germany (MDI-DE)' that is still very relevant today. In all, five marine SDI papers were presented at the 2012 conference, and we expect far more to appear at the GSDI 15 World Conference to be held in Taiwan, given its extensive coastal realm.

We try also to capture relevant published literature in the GIKnet Spatial Documents Depot (www.giknet.org) for knowledge development and to aid in capacity building initiatives, such as Marine/Coastal SDI training workshops. GSDI also now participates in the International Hydrographic Organisation's Marine SDI Working Group (MSDIWG) as an external advisory body and will continue to contribute to the work of the MSDIWG in 2015-2016. We hope that such work will help the different marine communities to understand the challenges of adopting marine information standards that enable development of innovative and interoperable information services to benefit researchers, government agencies, businesses and citizens. An equally important objective is to make the non-marine stakeholder communities and near-coast data holders understand the need for closer harmonisation of metadata, data and services interoperability with the marine community, to benefit all.

Marine SDI serves a wide range of stakeholders

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Roger Longhorn is secretary-general of the GSDI Association, expert contributor to the IHO MSDI WG and former editor of GeoConnexion International