

## Editorial

This edition provides a collection of interesting articles that hopefully will challenge our concepts of data management and the potential use of S-100 to provide useful data modelling and applications to improve ECDIS.

The first article addresses the fundamental issues of map projections used in ECDIS and e-nav applications. This paper identifies some interesting and surprising technical issues with the projection of ENC data in ECDIS. What follows is a comprehensive study of projections and their characteristics to determine optimal portrayal depending upon key parameters such as scale, coverage, location and usage.

The second paper describes the new S-102 Bathymetric Product Specification. In the early days of S-57 development (when it was considered a data exchange format), the data structure for handling large volumes of soundings was identified as not being suitable. At that time, large volumes of soundings from the early multibeam systems were predominantly in the realm of the oceanographers and had not yet become mainstream technology for hydrographic surveys. With the widespread adoption of multibeam technology for hydrographic surveys, the development and adoption of S-102 is crucial to the delivery, management and dissemination of this data for many applications. This includes the provision of high density bathymetry data in port areas and critical navigation scenarios. Combined with tidal, meteorological and oceanographic data, high quality, dense bathymetric data can provide enhanced navigation and under-keel clearance capabilities. I am excited by the work undertaken by the Canadian team. This development continues a long history of cooperative relationships that the HO's have with private industry to provide true innovation.

Our third paper explores the opportunities that S-100 provides to enable the development of marine sites for pollution monitoring. The identification and management of Potentially Polluting Marine Sites (PPMS) are important for monitoring and maintenance of our fragile marine environment. This paper provides excellent insights into how S-100 can be used to develop the necessary data models and tools to build complex geospatial hydrographic management systems – a very important paper for users who need to become more familiar with the capabilities of S-100.

The final paper is a discussion on Marine Research activities such as military surveys, operational oceanography, marine archaeology, remote sensing, etc. in respect to the complex Law of the Sea Conventions. The authors identify several issues relating to legislation, technology, financing, that should be considered to develop a consistent and enforceable ocean policies to support these activities.

On behalf of the Editorial Board, I hope that this edition is of interest to you. Thank you to the authors for their contributions and to my colleagues who provided peer reviews for the Articles in this edition.

Ian W. Halls  
Editor

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