

Paper for consideration by Council

Avoid any ambiguity for S-100 based products that do contribute to navigation, by clearly distinguishing them from products using the same data format with a content for other purposes

Submitted by:	France
Executive Summary:	<p>Under the WEND-100 principles, the IHO develops and disseminates <i>S-1xx products</i> (or S-100 based products) to meet the needs of navigation and in particular of safety of navigation, in accordance with SOLAS and IMO requirements.</p> <p>While IHO encourages the use of <i>S-1xx product</i> formats, naming <i>S-1xx products</i>, products that would not meet the same requirements would introduce confusion for mariners and other users of hydrographic data.</p> <p>As a consequence, products using the <i>S-1xx product</i> formats but designed for other purpose than navigation should take a different name to avoid any confusion.</p>
Related Documents:	<ul style="list-style-type: none">a) SOLAS Conventionb) IHO S-32 Publication – Definition of Hydrographyc) IHO Strategic Plan 2021-2026d) IHO Resolution 1/2021 – Principles of the WEND for the S-1xx products (WEND-100)

Introduction / Background

IMO has approved the S-100 Universal Hydrographic Data Model¹ as the base line data model for e-navigation.

The IHO has approved Resolution 1/2021 which establishes the WEND-100 principles for the availability of up-to-date *S-1xx products* (S-100 based products) through integrated dissemination services, for navigation and in particular safety of navigation, in compliance with SOLAS and other IMO requirements.

Nevertheless, hydrographic data are useful for a broad spectrum of sea-related activities, well beyond the needs of navigation. Indeed, the development of the use of hydrographic data is one goal (Goal 2) of the IHO Strategic Plan 2021-2026.

In order to encourage this, Resolution 1/2021 on the WEND-100 principles states that the same *S-1xx products* developed to meet the requirements of safe navigation should be available to users other than mariners.

Analysis/Discussion

In order to contribute to the goal of extending the use of hydrographic data above safe navigation, HSSC and IRCC working groups, such as the S100WG and WENDWG, have considered the development of *S-1xx products*.

The example of the last S-102 product specification (PS) development tends to show that it is not suitable to cover the spectrum of various uses (navigation systems, data exchange and scientific purposes) in a single PS. As a consequence, the new edition 2.1.0 of the S-102 is dedicated to navigation only. The S-102 (2.1.0) could be used for data exchange outside navigation but the content may not be suitable for certain uses.

¹ S-100 – IHO *Universal Hydrographic Data Model* comprises a set of related parts that give the user the appropriate tools and framework to develop and maintain hydrographic related data, products and registers. These standards specify, for hydrographic and related information, methods and tools for data management, processing, analyzing, accessing, presenting and transferring such data in digital/electronic form between different users, systems and locations.

For example, since hydrodynamic modeling for sea level, current, wave, storm surge, and tsunami forecasting requires bathymetric models it would be natural that corresponding digital terrain models (DTM) be based on the S-102 data format. Still those DTM will be very different from the S-102 product to be used for safety of navigation. Indeed, while the S-102 for safety of navigation has to take care of shoals and is intentionally biased, a DTM for hydrodynamic has to ensure conservation of volumes and a better depiction of morphology.

The availability with a same naming of S-102 products for navigation, not to be used for hydrodynamic modeling, and S-102 products for hydrodynamic modeling, not to be used for navigation safety, would be confusing.

This extends to all *S-1xx products*. Having a *S-1xx product* denomination for products that are elaborated differently and are not released according to WEND-100 principles is a source of considerable confusion for all users of hydrographic data.

This is fully compliant with the *S-1xx product* specification which defines the characteristics of S-1xx data products as including: **data content** and structure, reference system, data quality aspects, data capture, maintenance, delivery and metadata.

Recommendation

The term S-1xx should unambiguously refer to the entire product specification (format and content) that meets the requirements of safe navigation and the WEND-100 principles, not just the product data format.

It should be recalled/established that the *S-1xx product* specifications relate to the content and format of the data, not just the format.

Products that do not meet the *S-1xx product* specifications or WEND-100 principles and use the S-1xx data format may be developed, but they should not be named *S-1xx products* and their names should not include reference to S-1xx terms.

This recommendation would in no way undermine Goal 2 of the 2021-2026 strategic plan. On the contrary, it would clarify for mariners and other users of hydrographic data the purposes of *S-1xx products* and other products designed by Hydrographic Offices for purposes other than safe navigation.

Action Required of Council

The Council is invited to:

- a. discuss this paper
- b. endorse the recommendation
- c. take any necessary action