



THIS CIRCULAR LETTER REQUIRES YOU TO VOTE

IHO File No. S1/1001

**CIRCULAR LETTER 14/2026
04 March 2026**

GUIDELINES ON THE IMPLEMENTATION OF THE REVISED WEND-100 PRINCIPLES

CALL FOR APPROVAL

References:

- A. 9th IHO Council Meeting – [Decision C9/25](#);
- B. [IRCC Report](#) to IHO Council ([C9-04.2A](#)) - Guidelines on the implementation of WEND-100 principles (Annex B);
- C. IHO Resolution 01/2021– *Principles of the WEND for S-1XX Products (WEND-100)* - sections 2.3 to 2.4;
- D. IHO Convention as amended – Article IX Section f.

Dear Hydrographer,

1. In October 2025, the Council endorsed (References A and B) the updated version of the guidelines on the implementation of the revised WEND-100 principles submitted by the IRCC Chair (Reference B). The Council consequently tasked the IHO Secretariat to initiate the approval process for these revised guidelines, outlined in the IHO resolution 01/2021.
2. The endorsed version of the guidelines is now submitted for approval as per reference D. Member States are invited to cast their vote **no later than 10 April 2026** using any of the following methods:
 - the IHO Online Form accessible through the following link (**recommended**):
https://IHO.formstack.com/forms/web_form_cl_14_2026
 - the IHO Voting Form (see Annex B), to be sent back by email (cl-lc@iho.int).

Yours sincerely,

Dr Mathias JONAS
Secretary-General

- Annexes: A) IHO Voting Form,
B) Revised guidelines for the implementation of the WEND-100 Principles (as endorsed by Council)

**GUIDELINES ON THE IMPLEMENTATION OF THE REVISED WEND-100 PRINCIPLES
CALL FOR APPROVAL**

--

VOTING FORM

to be returned to the IHO Secretariat **no later than 10 April 2026**

E-mail: cl-lc@iho.int

**Member
State:**

Contact:

E-mail:

1-Do you approve the revised guidelines for the implementation of the WEND-100 Principles, as endorsed by the IHO Council during C-9?

YES

NO

Please provide any comments in the section below.



GUIDELINES ON THE IMPLEMENTATION OF THE WEND-100 PRINCIPLES

As endorsed by Council at its 9th meeting (October 2025).

1. Introduction

1.1. The framework for the WEND-100 Principles is provided by the IHO resolution 1/2021: “Principles of the WEND for S-1XX products (WEND-100 Principles)”. These ‘Guidelines on the implementation of the WEND-100 Principles’ aim to detail the applicability of WEND-100 Principles for the official nautical and hydrographic S-100 based products (S-1XX products)” further. They are iterative in nature and may evolve over time.

1.2. The Roadmap for the S-100 Implementation Decade (2020-2030)¹ indicates that S-102 (Bathymetric Surface), S-104 (Water Level Information for Surface Navigation), S-111 (Surface Currents), S-124 (Navigational Warnings), S-128 (Catalogue of Nautical Products) and S-129 (Under Keel Clearance Management) products will be ready for implementation and dissemination concurrent with S-101 ENC or soon after. Therefore, these Guidelines address these Phase 1 S-1XX products first.

1.3. Within the context of these Guidelines on implementation of the WEND-100 Principles, it is important to distinguish between S-1XX products and data sets in S-1XX format.

- a) A S-1XX product is an official nautical and hydrographic S-100 based product issued by or on the authority of a Member State meeting SOLAS V Regulation 2 (Definitions) and Regulation 9 (Hydrographic services)² and delivered through integrated dissemination services to end-users. These S-1XX products are made available on a worldwide basis to meet the carriage requirements as described in SOLAS V Regulation 19 as it evolves under IMO regulations³. Production and dissemination of these products are governed by the WEND-100 Principles.
- b) S-1XX data sets may be used for the development of products for non-SOLAS navigation⁴ or other maritime purposes. These data sets may be managed according to the UN-GGIM Integrated Geospatial Information Framework (IGIF) or other appropriate frameworks. It is up to each Member State to define the frameworks and regulations for the management of these data sets and the uses concerned.

The figure in Annex A illustrates this schematically, whilst quoting the overarching article 1.1 of the WEND-100 Principles.

1.4. These Guidelines will focus on the official S-1XX products for use under SOLAS V, in particular ECDIS, and on how the WEND-100 Principles apply in this use case.

¹ These guidelines are included in paragraph 7 of the Roadmap for the S-100 implementation decade as a deliverable.

² Regulation 2, article .2 and Regulation 9 articles 2.2 and 2.4 in particular.

³ For instance, S-1XX products are intended to support the future Electronic Navigation Data Service (ENDS) in accordance with the DRAFT AMENDMENT PROPOSAL OF THE REVISED PERFORMANCE STANDARDS FOR ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS) (resolution MSC.232(82)).

⁴ At their discretion, Member States can disseminate their S-1XX products or the data within them also for navigational purposes outside the remit of SOLAS V and use the same integrated dissemination services for this (see ANNEX A).

2. S-101 ENC products

2.1. S-101 ENC products are a replacement for S-57 ENC products, which are subject to the full WEND Principles. Therefore, production and dissemination of S-101 ENCs are subject to the full WEND-100 Principles⁵.

2.2. There are, fundamentally two types of layers in ECDIS: S-101 ENCs and S-100 products other than S-101. An S-101 ENC is the base layer to any extra layers that are optionally switched on (and within the display scale boundaries).

3. S-102 Bathymetry, S-104 Water Level and S-111 Surface Currents products

3.1. S-102, S-104 and S-111 products contain information that is in nature also available in concurrent S-101 ENCs in ECDIS. However, many S-102, S-104 and S-111 products will provide information at greater level of detail than S-101 ENCs and their coverage is expected to focus on areas where this information is most valuable to users.

3.2. The S-98 standard provides a normative requirement for S-100 ECDIS behaviour. This requires detailed interoperability between S-101 ENCs and the information contained in S-102, S-104 and S-111. ECDIS functionality includes user definable safety contours and adjustment of the water levels depicted on the ECDIS.

3.3. S-98 deals with the interoperability of a 'chained' navigation package consisting of S-101, S-102, S-104 and S-111 products when displayed in an ECDIS. S-98 will address various 'interoperability levels' between different S-1XX products, and its intended use is for ECDIS. As such, S-98 is complementary to (and should be seen to implement) the WEND-100 Principles, not be a substitute for them.

3.4. For the SOLAS V use case, in particular ECDIS, therefore, the full extent of the WEND-100 Principles should be applied to the production and the dissemination of S-102, S-104 and S-111 products as they do to S-101 ENCs, with the exception that producing authorities will determine where S-102, S-104 and S-111 product coverage is required.

3.5. In order to ensure consistency between the products, the S-102, S-104 and S-111 products should be produced and disseminated by or on behalf of the same producer State/authority as the S-101 ENC they are combined with.

3.6. However, at small S-101 ENC scales for oceanic use (scale that corresponds roughly to $\leq 1:350.000$), overlapping or concurrent data for S-111 products do not necessarily impede safe navigation in ECDIS. Members States will authorize the overlaps at small scales on a regional basis through Regional Hydrographic Commissions (RHCs). In this case, the end user has the flexibility to choose between the various oceanographic S-111 products that may exist for voyage optimization.

⁵ IHO Resolution 1/2021 Principles of the WEND for S-1XX Products (WEND-100 Principles) section 2.2

4. S-124 Navigation Warnings product

4.1. There is a comprehensive set of arrangements in place for the dissemination of Maritime Safety Information. The IHO S-53 Manual on MSI is a joint IHO/IMO/WMO publication and will need updating to accommodate S-124 products depending on developments around their production and dissemination. Moreover, the WEND-100 Principles themselves refer to SOLAS V Regulation 9 and specifically to Maritime Service 11 (Nautical charts service) and Maritime Service 12 (nautical publications service), and not to Maritime Service 5 (MSI service), which may include navigational warnings such as S-124 products.

4.2. Therefore, no specific guidelines on how the WEND-100 Principles apply to S-124 products as SOLAS V carriage requirement arrangements are needed at this time.

5. S-128 Catalogue of Nautical Products product

5.1. S-128 products provide product meta information of the S-1XX products intended to meet SOLAS V carriage requirements for safe navigation such as the availability of nautical products, coverage, issue date, status and producing agency. S-128 products allow management to ensure up-to-date content of S-1XX products and supports Port State Control.

5.2. Producing States of the S-1XX products are responsible for the production and dissemination of the corresponding S-128 products, either directly or by another organization on their behalf. In all cases, the integrity of the S-128 information should be ensured through the IHO Data Protection Scheme (S-100 part 15).

5.3. No additional guidelines on how the WEND-100 Principles apply to S-128 products are identified at this time.

6. S-129 Under Keel Clearance Management service

6.1. Dynamic Under Keel Clearance Management (UKCM) systems that deliver S-129 data service are operated by Member States or a range of organizations designated by Member States, such as port authorities. S-129 UKCM information may be exchanged directly between UKCM system operators and vessels, or through a service provider.

6.2. No specific guidelines on how the WEND-100 Principles apply to S-129 products are identified at this time.

Annex A: to the Guidelines on the implementation of the WEND-100 Principles.

