



### Description

This Teledyne CARIS online workshop looks at the new International Hydrographic Organization (IHO) S-100 Standard and the related S-101 Electronic Navigational Chart (ENC) Product Specification. S-101 is being developed to support the creation of next generation ENC products based on S-100. You can go through the materials at your own pace from your desktop, using your computer with internet access, and without having to travel to another location.

### Length

One day (complete at your own pace, times will vary).

### Audience

Anyone interested in learning about the new S-100 Standard and in finding answers to questions such as these:

- ✓ What is S-100 and why is it needed?
- ✓ What are the benefits of S-100?
- ✓ What is an S-101 ENC and how does it relate to S-100?
- ✓ What is the current status of S-100 and S-101?
- ✓ What is the impact of S-100/S-101 on ENC producers and users?
- ✓ What are some of the other planned S-100 based products?

### Topics

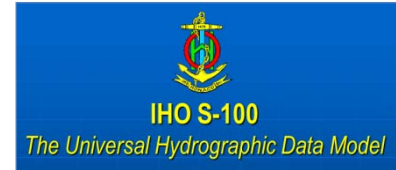
This workshop begins with a brief review of the IHO S-57 Standard, the current standard for Electronic Navigational Chart production. It considers the status of S-57 ENCs, some of its limitations, and how they relate to the new S-100 Standard.

Next, the workshop presents an overview of the new IHO S-100 Universal Hydrographic Data Model. It looks at the main purpose of S-100, what it contains, and it outlines of some keys terms and concepts.

After this, the new draft S-101 ENC Product Specification is considered including how it relates to S-100. The workshop looks at the S-101 Feature Catalogue and its contents including features, attributes, values, relationships and S-101 geometries. Background information about S-101 concepts, datasets and their usage is also reviewed. This is followed by an examination of the S-101 encoding guide that explains how to encode real world features in an S-101 product.

Finally, the workshop concludes with a quick look at some of the other planned or draft S-100 based products. This includes S-102 Bathymetric Surface raster products that can be used to provide additional depth information when navigating using new S-101 ENC products.

To help illustrate concepts outlined in the workshop, examples are presented showing how CARIS supports creating, editing and exporting S-100 products using the latest version of its widely adopted CARIS S-57 Composer desktop electronic chart production software.



**S-100 UNIVERSAL HYDROGRAPHIC DATA MODEL**  
**S-100 MODELE DE DONNEES HYDROGRAPHIQUES UNIVERSEL**

**Introduction**

S-100 came into force on 1 January 2010. S-100 is the document that explains how the ENC is used and extends the IHO 1983 series of general standards for hydrographic, maritime and related charts. S-100 extends the scope of the existing S-57 Hydrographic Transfer Standard. Unlike S-57, S-100 is intended to be used for the production of ENC products, as well as other related digital products required by the hydrographic, maritime and GIS communities.

S-100 provides the data framework for the development of the next generation of ENC products, as well as other related digital products required by the hydrographic, maritime and GIS communities.

**Contents**

Introduction to S-100 (video clip)  
 S-100 Edition 2 0 0

**Introduction**

La norme S-100 est entrée en vigueur le 1er janvier 2010. La S-100 est le document qui explique comment l'ENC est utilisé et étend la série de normes géopositionnelles IHO 1983 pour les applications hydrographiques, maritimes et connexes. Elle étend la portée de la norme S-57 actuelle pour le transfert des données hydrographiques. Contrairement à la S-57, la S-100 est une norme plus flexible et contient des dispositions pour l'utilisation de données de type électronique et interactives, de métadonnées embarquées et de multiples formats de codage. Elle permet également un régime de maintenance plus flexible et dynamique, via une base de données dédiées en ligne.

La S-100 fournit le cadre nécessaire au développement de la prochaine génération d'ENC, ainsi que d'autres produits numériques demandés par les communautés hydrographiques, maritimes et des SIG.

**Sommaire**

Introduction à la S-100 (clip vidéo)  
 S-100 édition 2 0 0 (version anglaise seulement)



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1.3 Future: (b) S-57 and the Future

The International Hydrographic Organization has been working for over a decade to replace S-57. Two new standards are being developed to address the limitations of S-57 where the Data Model and the Product Definition will now be defined separately.

- S-100 Universal Hydrographic Data Model (see Part 2 of this Workshop)
- S-101 ENC Product Specification (see Part 3 of this Workshop)

	Now	Future
Hydrographic Data Standard	S-57 Main Document	S-100
ENC Product Definition	S-57 Appendix B1	S-101

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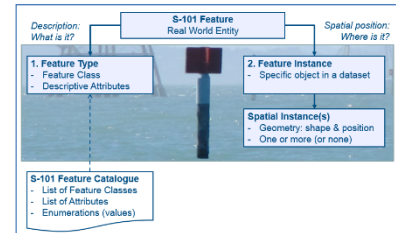


### Requirements

Participants must have access to the following items as these are not included with the workshop:

- ✓ High speed internet access
- ✓ An internet browser
- ✓ Acrobat PDF reader program

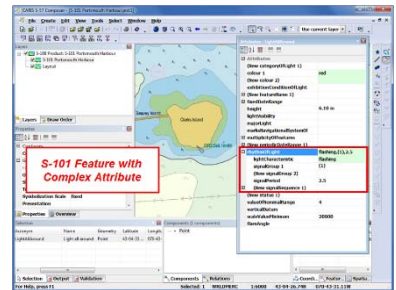
Note: the workshop includes screen captures showing how you can process S-100 products in the current version of *CARIS S-57 Composer* but this software is *not* required to complete the workshop.



### Materials

This online workshop uses different types of complementary materials:

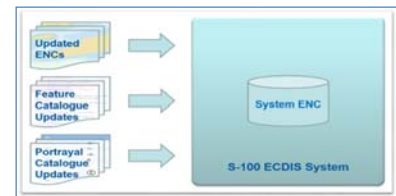
- ✓ Web pages with text and images, logically organized into different related sections
- ✓ Activities that include optional links to relevant websites to find out more information
- ✓ Related PDF format documents can be downloaded
- ✓ Screen captures showing sample S-100 products being created, viewed, edited, checked and exported using the *CARIS S-57 Composer* desktop software
- ✓ Automatic progress tracking where the materials can be reviewed in any order and reviewed again later as required



### Prerequisites

This is an introductory workshop and ideally all participants will have:

- ✓ Familiarity with operating Windows computers and software including an internet browser
  - ✓ A basic knowledge of electronic chart production, ENC concepts and the current IHO S-57 Standard
  - ✓ Some experience creating digital charts and/or ENCs
- No previous experience working with CARIS software is required.



### Contact us

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