

Transition to S-100 with CARIS

Content

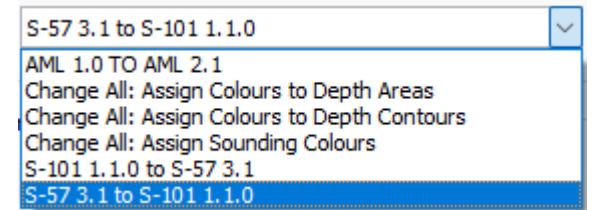
- Migration to S-100
- Key functionality
 - Mapping
 - Validation
- Other S-100 based product support
- Automated paper chart production
 - AutoChart

S-100 migration and production

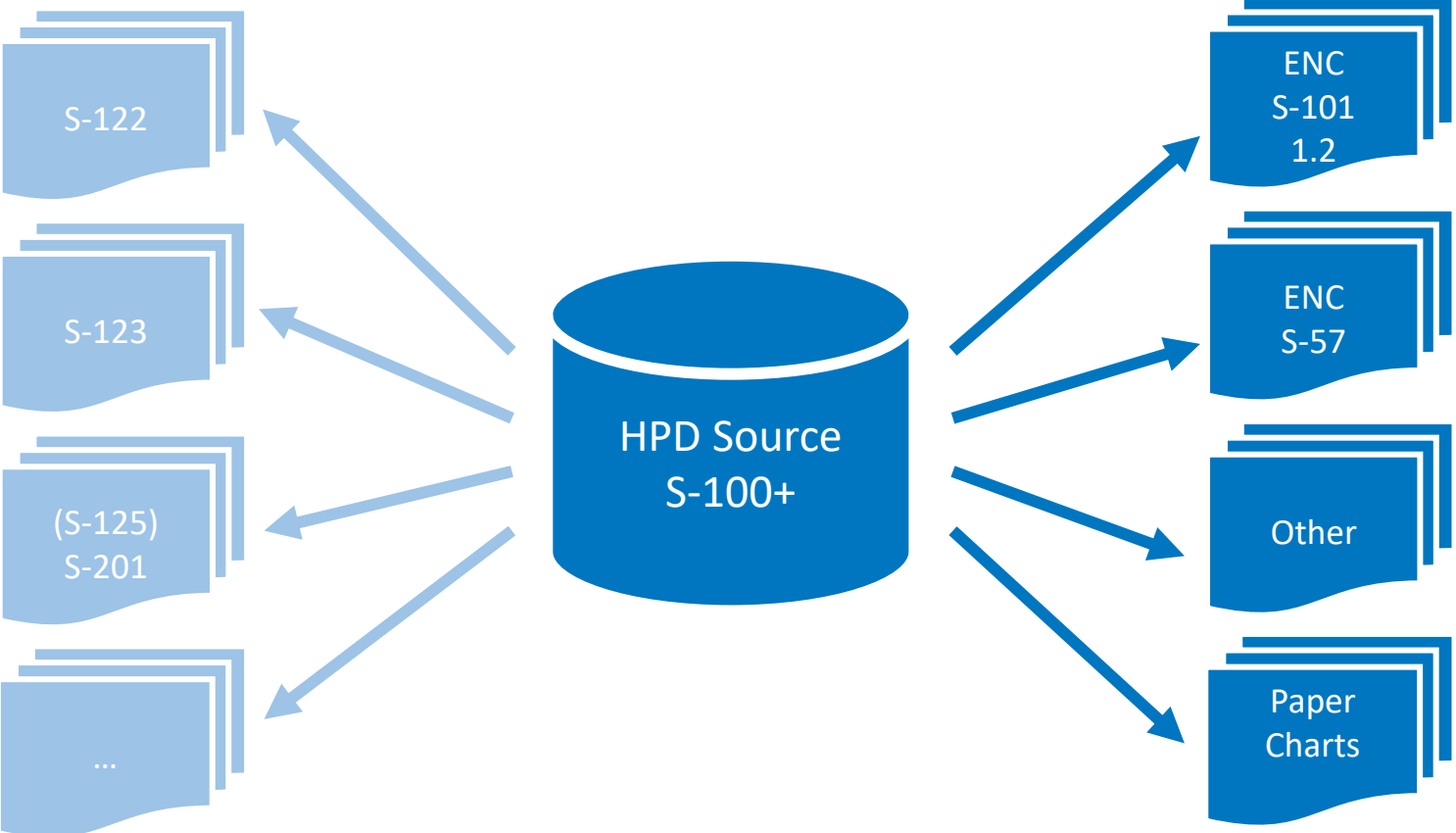
1. Create S-101 from existing data and products
 - Quick and easy using S-100 Composer or HPD
 - Good for testing and to get familiar with S-100/S-101
 - Also since S-101 specification still is under development



2. Migrate source database to S-100/S-101
 - Convert HPD Source database from S-57
 - Supporting existing products plus new S-100 products
 - Maintain history
 - S-57 features remain as historic data – with link from new S-100 features



Available Now – Multifuel production



Source data based on S-100 ed.5 (S-101 v2.0)

Supporting production of existing and new products

Migration steps

Step 0 - Current/old Situation – S-57 based

Step 1 - Add S-100 Feature Catalogue

HPD can now contain both S-57 and S-100 features

Step 2 - Migrate Source data from S-57+ to S-100+

Maintaining S-57 source as historical data

Step 3 - Add mapping/conversion for S-57 based products

Maintain/update existing S-57 based products

Including paper charts based on S-57

Step 4 - Add S-100 Product Definitions

HPD can now produce S-100 products (e.g. S-101)

Step 5 - Add more S-100 product definitions

HPD can now create and maintain more S-100 products

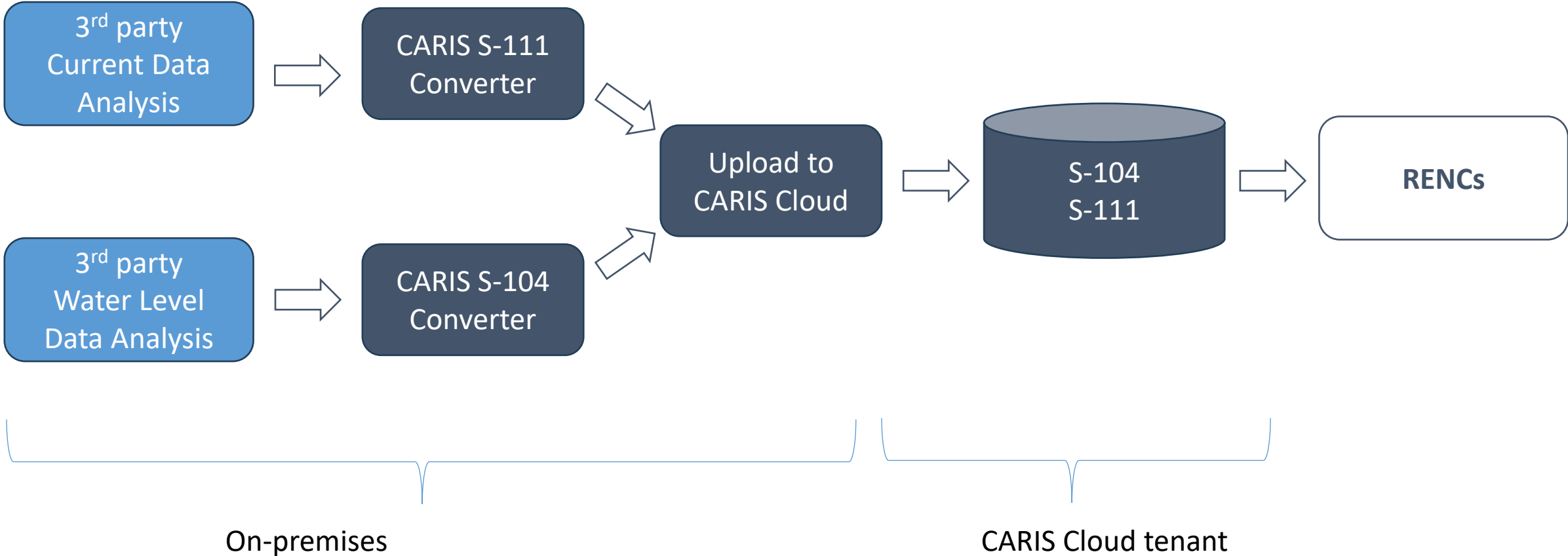
Gridded S-100 production tool

- CARIS BASE Editor / BDB Manager with S-100 module
 - Maintain gridded **S-100** products (S-102) encoded in hdf5 format
 - Include S-100 Exchange Set Editor to create & edit **S-100 exchange sets**
 - Process to export to S-102 v3.0
 - Open S-104 & S-111 coming soon

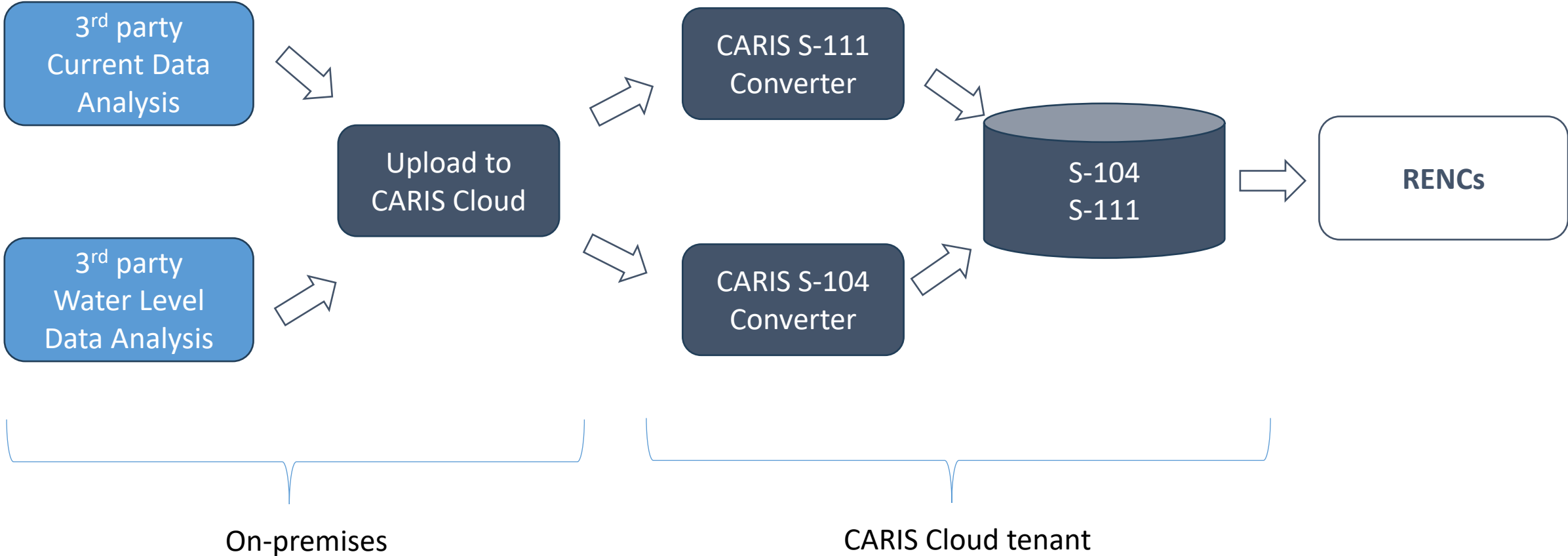


BASE Editor

S-104 & S-111 in CARIS Cloud



S-104 & S-111 in CARIS Cloud



S-104 & S-111

S-104 & S-111 Converter

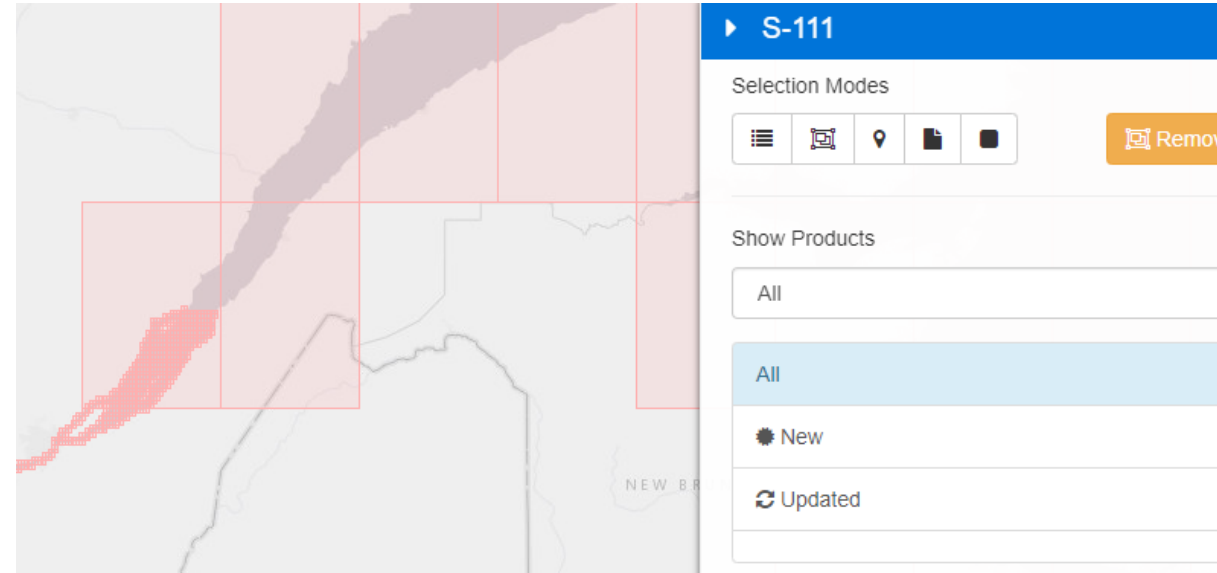
- COTS functionality to export to HDF5
- Tailored code to import Current and water level data
- On-premises or in CARIS Cloud tenant

Dissemination

- COTS function included in **CARIS Cloud Bathy Data Service**

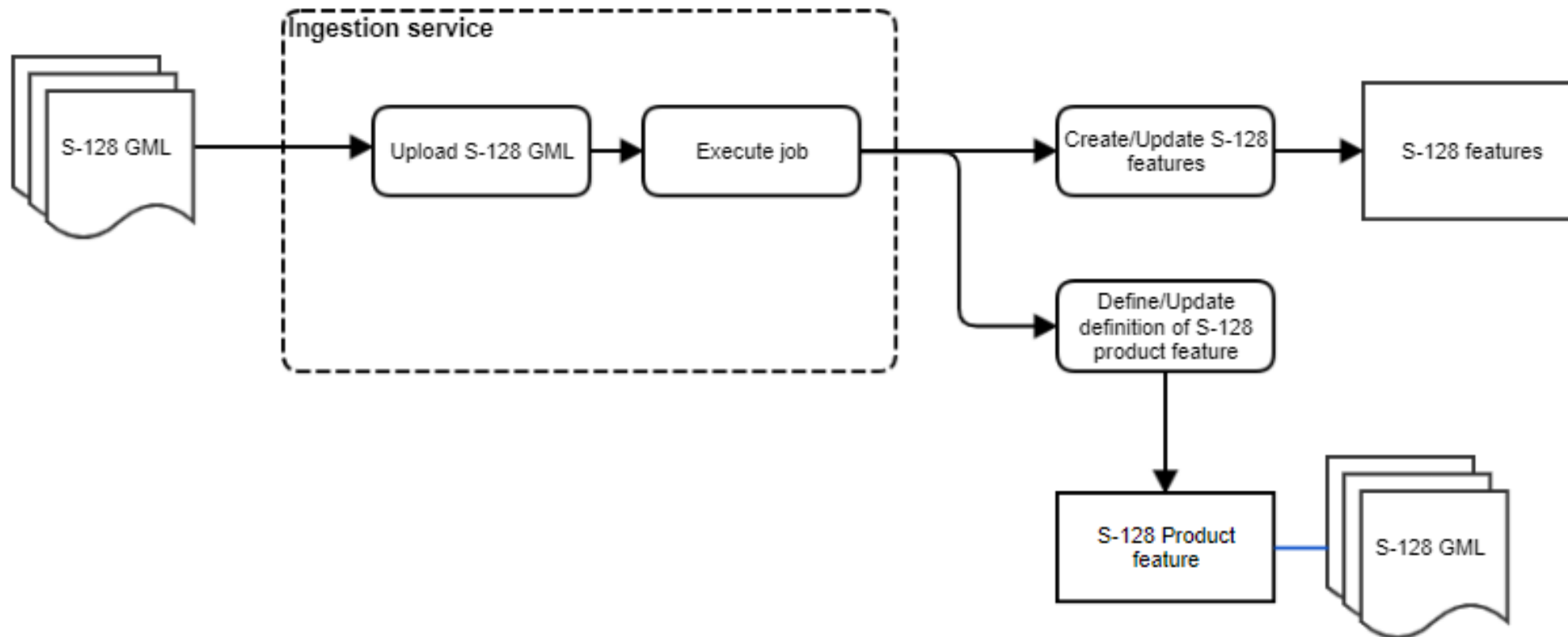
Viewer

- Desktop CARIS tools (EasyView, BASE Editor, HPD Editors)



S-128 Catalogue of Products in CARIS Cloud

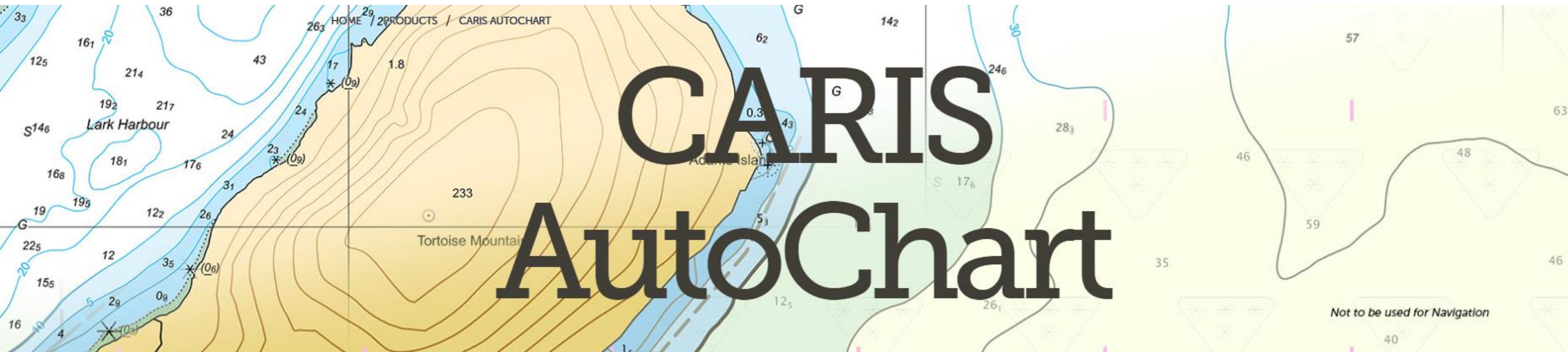
- In development: Functionality to import S-128 products in a CARIS Cloud tenant
 - Extract ElectronicProduct, PhysicalProduct, S100Service



S-128 in HPD & S-100 Composer

The screenshot displays the CARIS ENC and Vector software interface. The main window shows a map of Halifax Harbour with a cyan selection box over the water area. The interface includes a menu bar (File, Create, Edit, View, Projects, Tools, Select, Certify, Window, Help), a toolbar, and a layers panel on the left. The layers panel shows two layers: 'tile.openstreetmap.org' and 'S-128v2.0.0 CA57006'. The 'Object Catalogue Browser' is open, showing a list of object acronyms and a description for 'CatalogueSectionHeader'. The 'Attributes - ElectronicProduct' panel is also open, displaying various metadata fields such as 'S100_Encoding Format', 'Issue Date', 'Type Of Product Format', and 'Product Specification'. The 'Components' table at the bottom shows the following data:

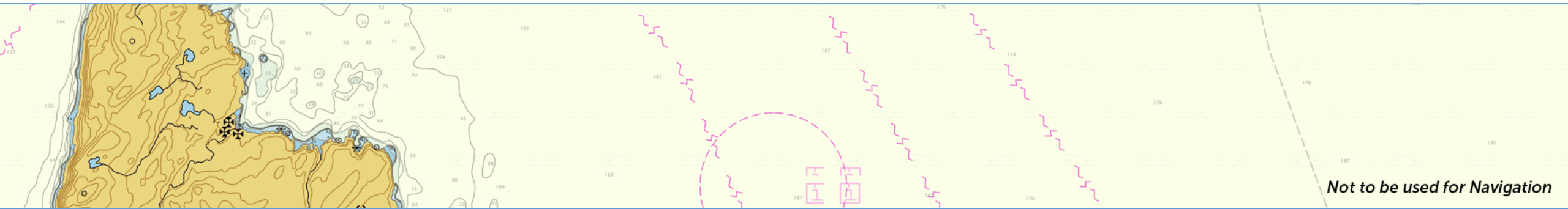
Object Type	Dataset ...	S100_En...	Issue Date	Issue Ti...	Type Of ...	Product...	Approxi...	Compil...	Distribu...
graphic	CAS76002	ISO/IEC ...	2021-11-08		ISO/IEC ...			5000	production



CARIS AutoChart

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CARIS AutoChart

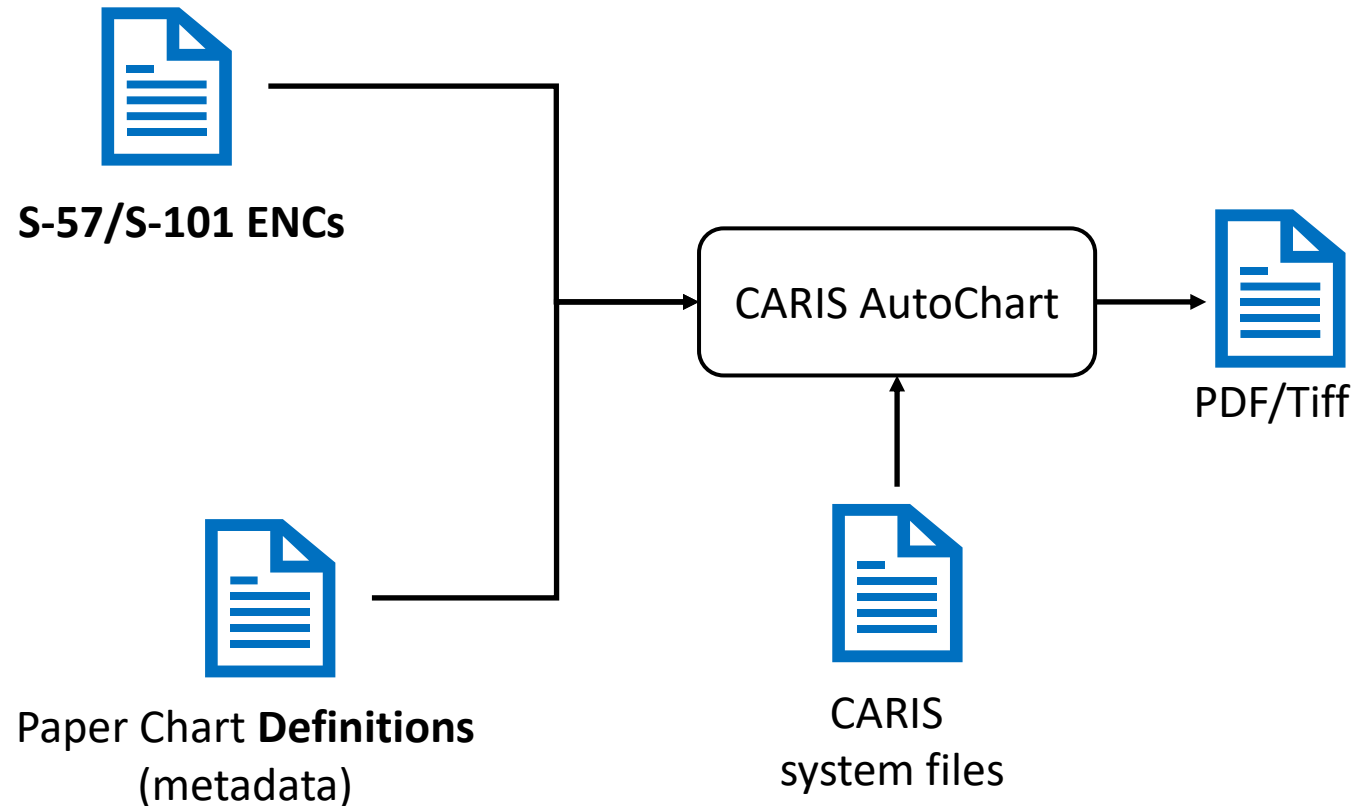


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- Automate and streamline the nautical paper chart production workflow
 - Reduce Nautical Paper Chart Production Turnaround Time
 - Free up resources
 - Maintain Your Paper Chart Look and Feel

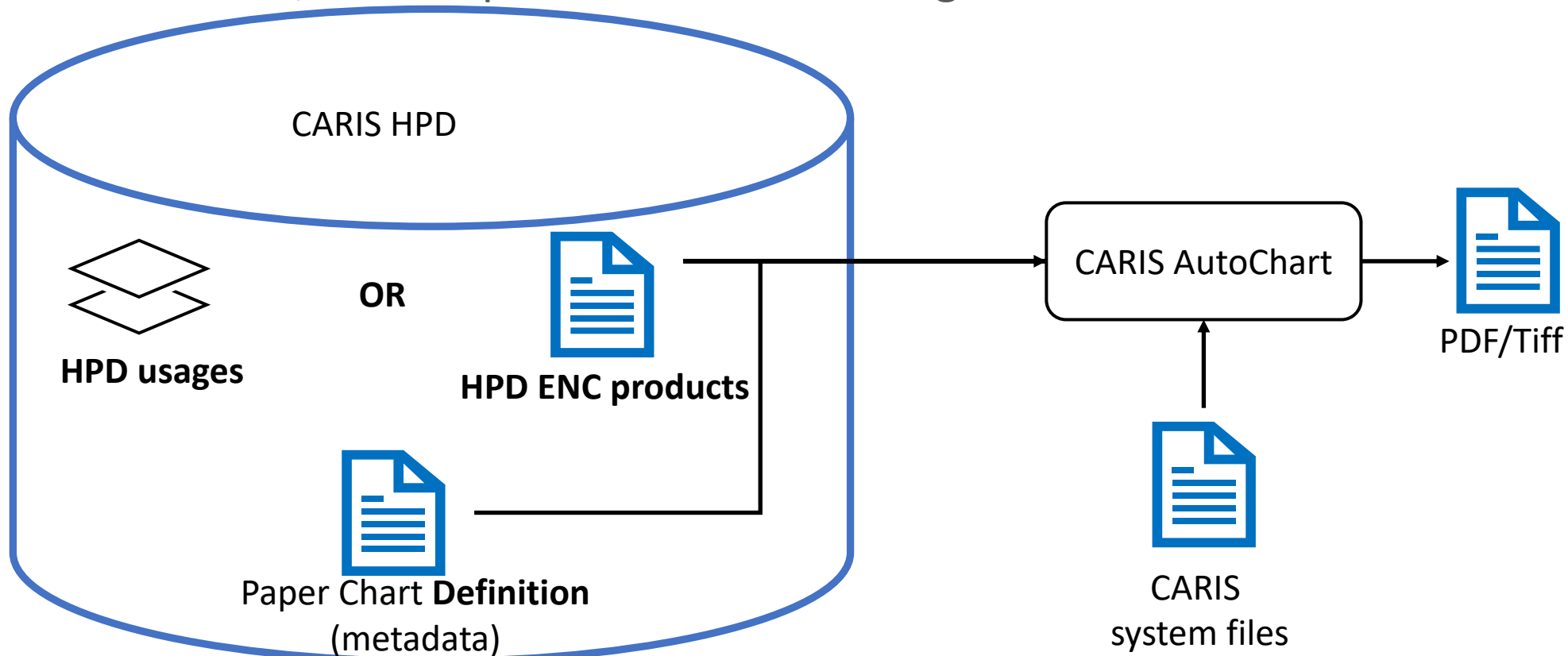
What is CARIS Automated Chart Production?

- Automated production of paper charts
 - Several possible **Inputs**: **S-57/S-101 ENC**s, HPD Source or HPD Products
 - PDF/TIFF output disseminated using CARIS Cloud Chart Data Service



What is CARIS Automated Chart Production?

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From ENC data to IHO S-4 standard paper chart

Sequence of **mapping rules**

- Filter features not desired in the paper chart
- Add attribute information used by the symbolization
 - Extract information from collection attributes
 - Indicate an obstruction point is inside an obstruction area
 - Etc

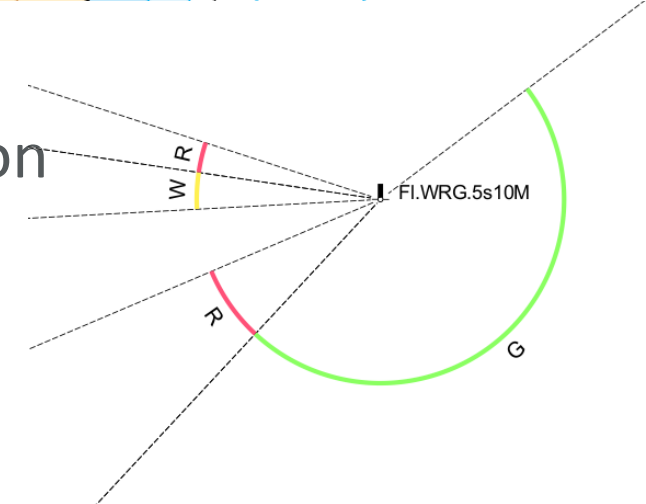
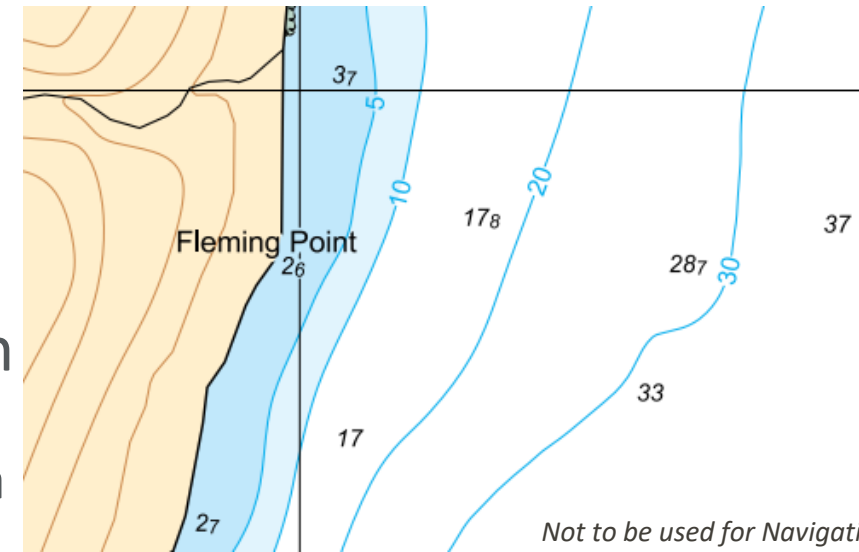
Annotation

- Create placeholder or text features for the symbolization
 - Depth contour labels, light characteristics, ...

Symbolization library

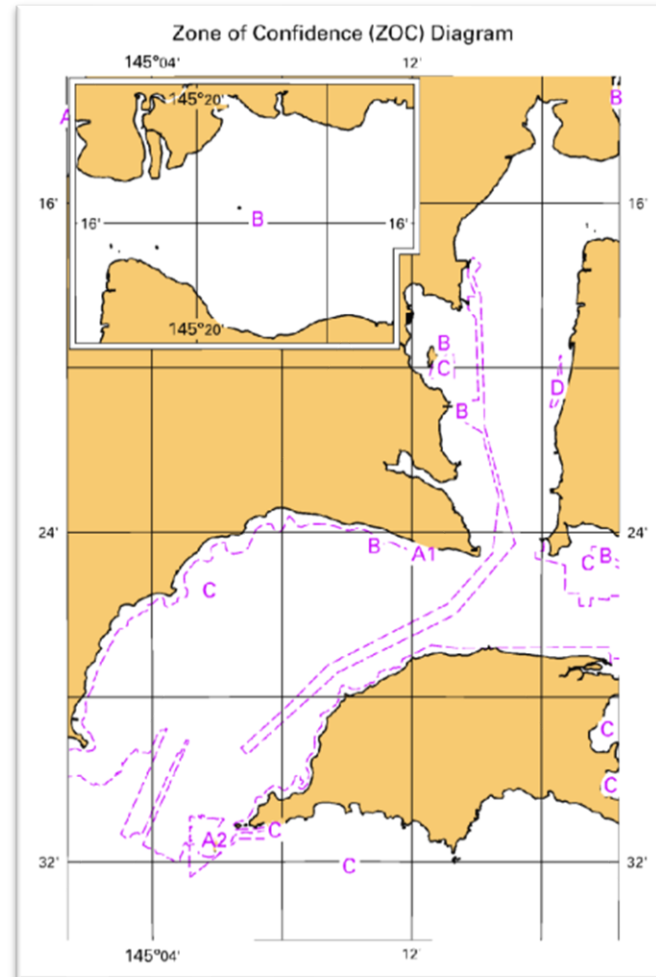
- Rules to symbolize S-57 data according to IHO S-4
 - S-52 based rules and CARIS dynamic cartography rules

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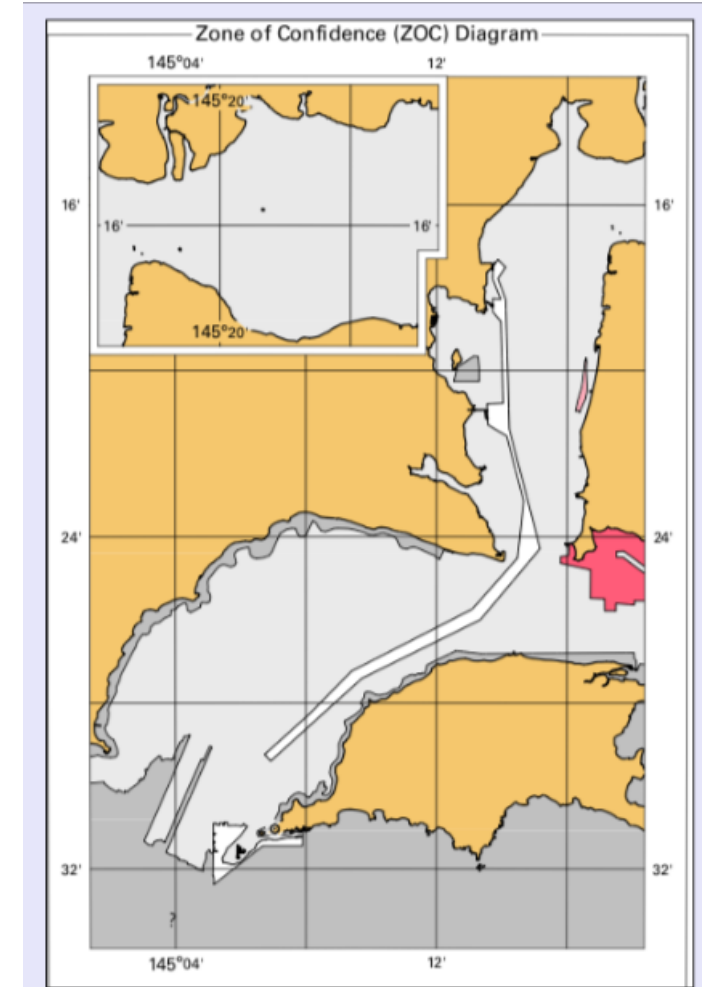


Automated ZOC diagrams Creation

- ZOC diagram position specified in chart definition
- Customizable ZOC diagram configuration files
 - Feature catalogue, annotation, symbolization library, colours, marginalia style, border styles
- CARIS AutoChart generates automatically the ZOC diagram



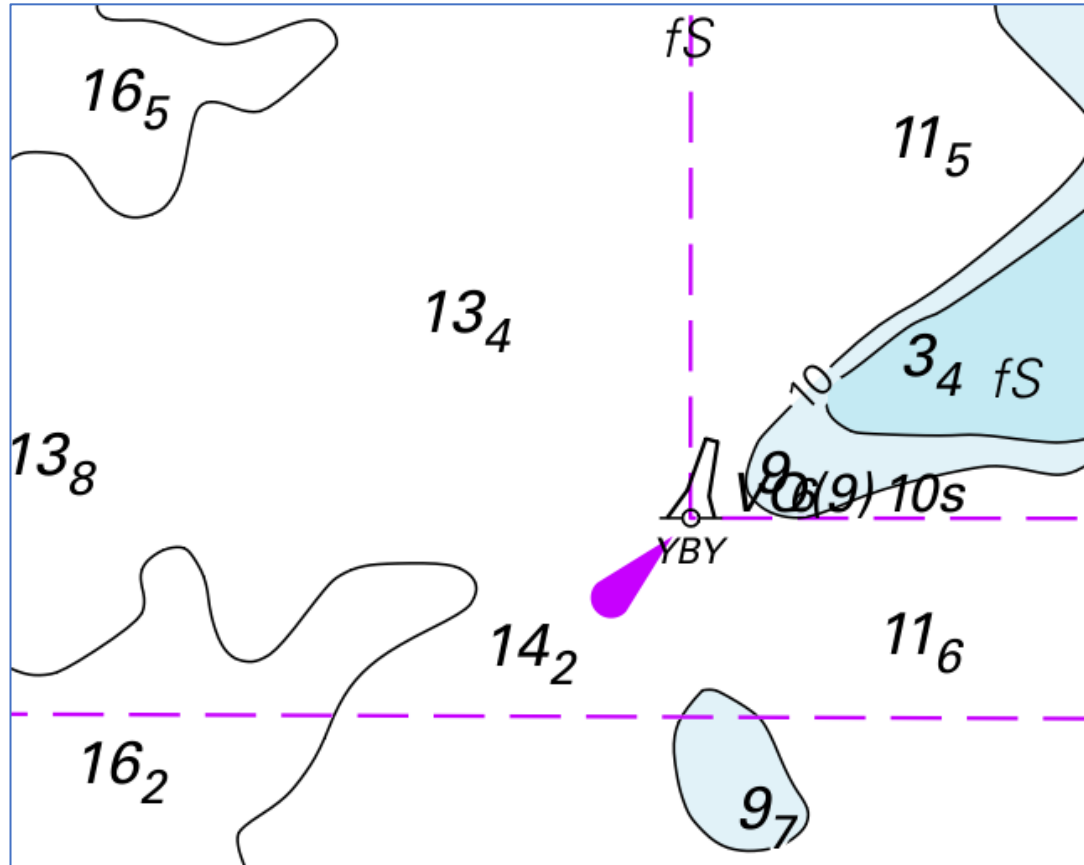
ZOC diagram with labels



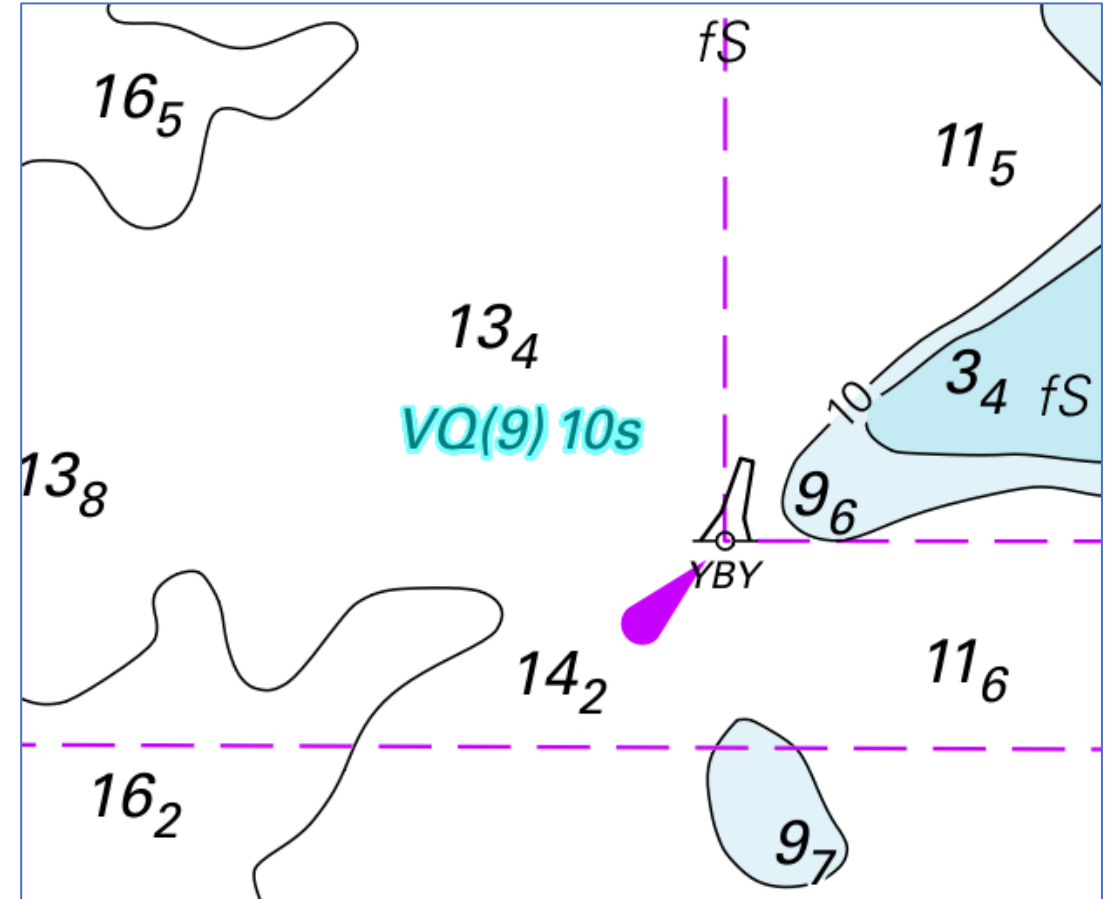
ZOC diagram with colours

Label placement - example

Before



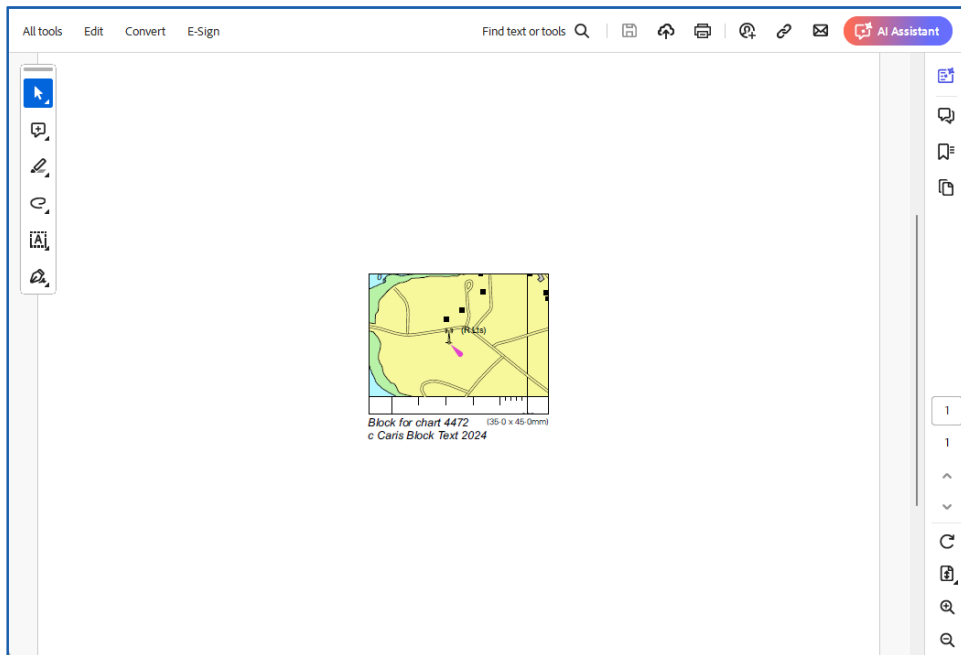
After



- Available in the fully automated CARIS AutoChart workflow
- Also available as an AutoChart command line process to execute independently on usages or products

AutoChart – User Interface: Export Updates

- Results – Block Corrections are created for the charts in PDF format



- Note
 - If no changes are detected no new block will be created
 - If there are too many changes and their extent will not fit on the block correction (A4 page layout), no block will be created – instead, use the new updated full chart that is created too

Thank you!

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