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# S-100 Organisation and Prospects for Production

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## Overview

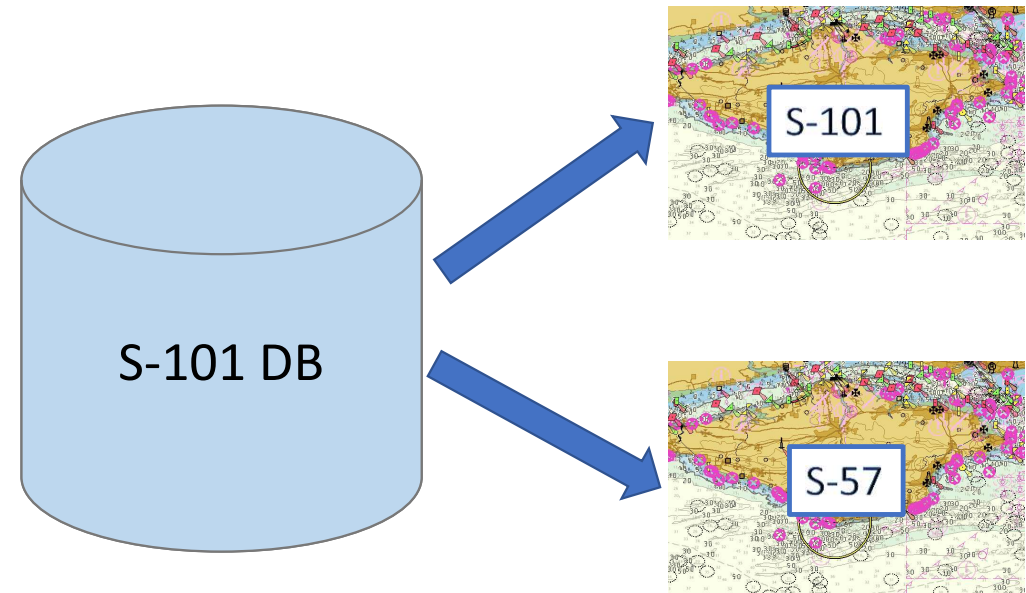
- › S-101 Production options
- › S-102
- › S-104 & S-III
- › Collaboration/Trials

## Potential S-101 Production Options Considered

- › Must be a database driven solution for UKHO
- › S-57 Database and produce S-101 and S-57, not viable due to the effort required converting to S-101 for every update
- › S-101 Database > S-101 Product, then convert this product back to S-57, this was tested and not viable for producing updates
- › S-101 Database and produce S-101 and S-57 products in parallel worked successfully in initial testing

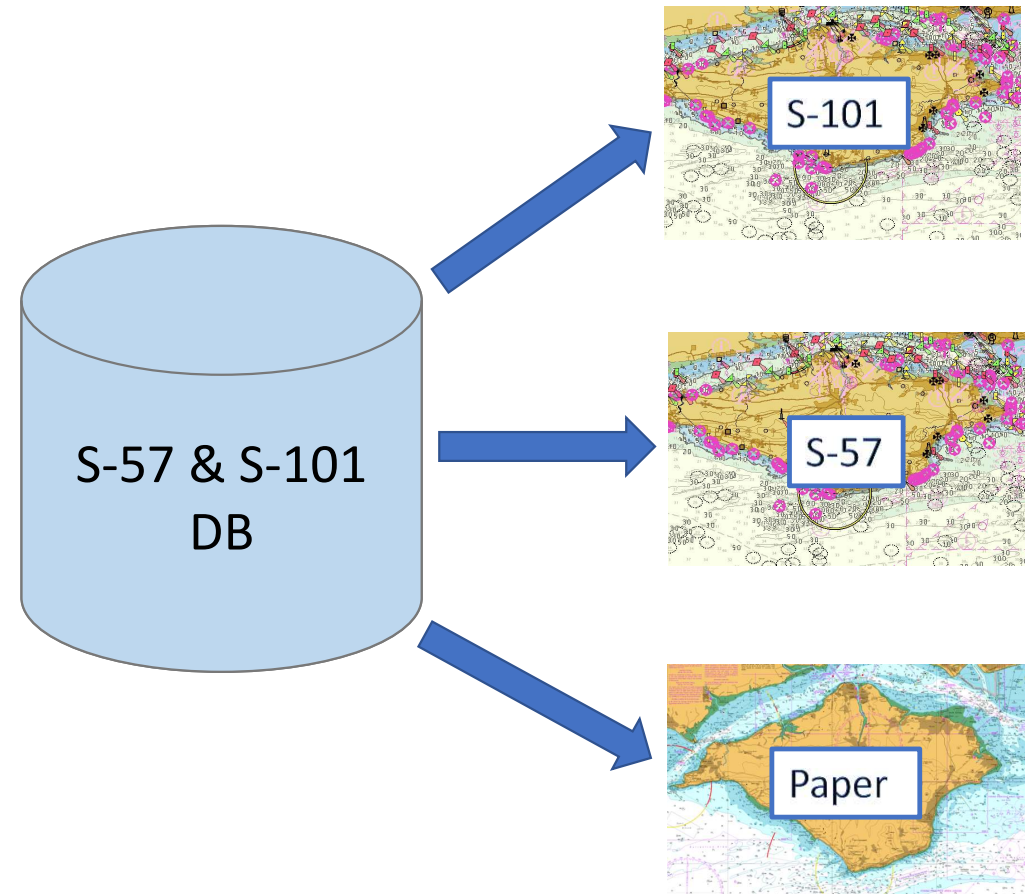
## Parallel Process – New Schema (already tested)

- › S-101 test data added to a new Schema with an S-101 data model
- › Using Product Editor created S-101 product from this Schema
- › Then using Product Editor created a S-57 product from the S-101 Schema



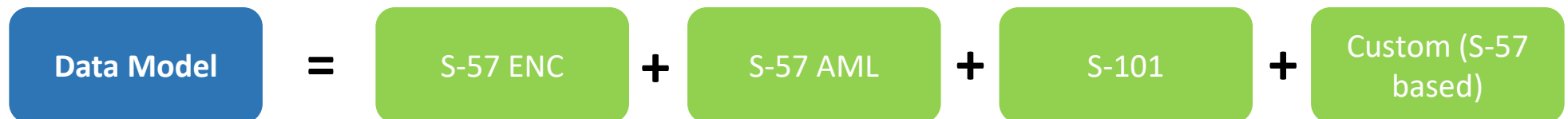
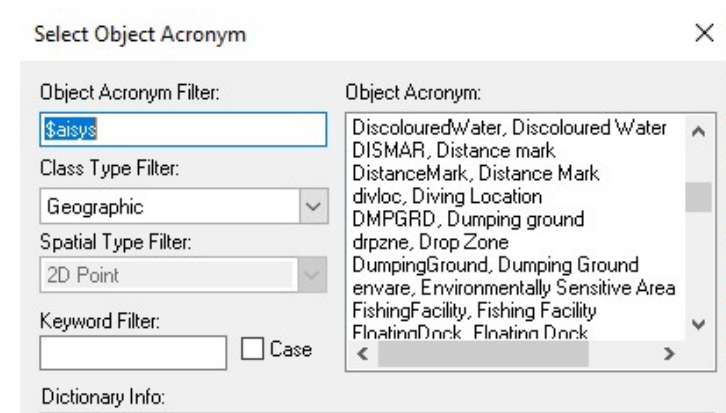
## Parallel Process – Existing Schema (about to commence testing)

- › S-57 data converted to S-101 within the existing Schema
- › Using Product Editor create S-101 products from this Schema
- › Existing S-57 products and paper chart updated for changes from S-101 data



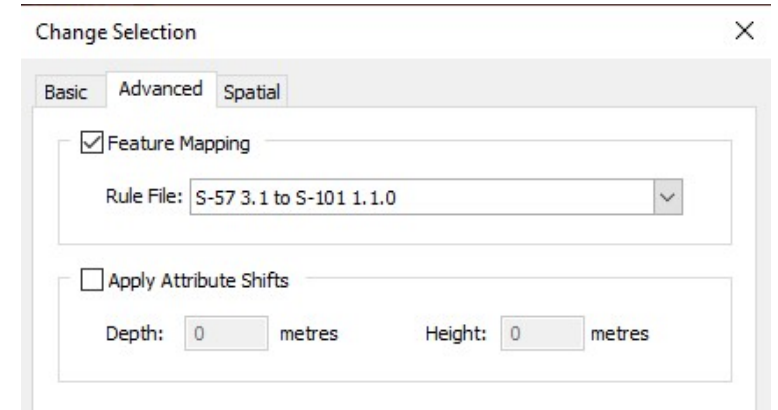
## Combined Schema in Source Editor

- › Using a copy of our live data on a test environment
- › The S-101 Catalogue has been added to the existing Schema



## Converting the data

An area of data is selected and using the Change Selection function, converted to S-101, applying the mapping file



The screenshot shows a software dialog box titled "Change Selection" with a close button (X) in the top right corner. The dialog has three tabs: "Basic", "Advanced", and "Spatial", with "Spatial" currently selected. Under the "Spatial" tab, there are two main sections. The first section, "Feature Mapping", is checked and contains a "Rule File:" dropdown menu with the text "S-57 3.1 to S-101 1.1.0". The second section, "Apply Attribute Shifts", is unchecked and contains two input fields: "Depth:" with a value of "0" and "metres", and "Height:" with a value of "0" and "metres".

## Convert an area at a time

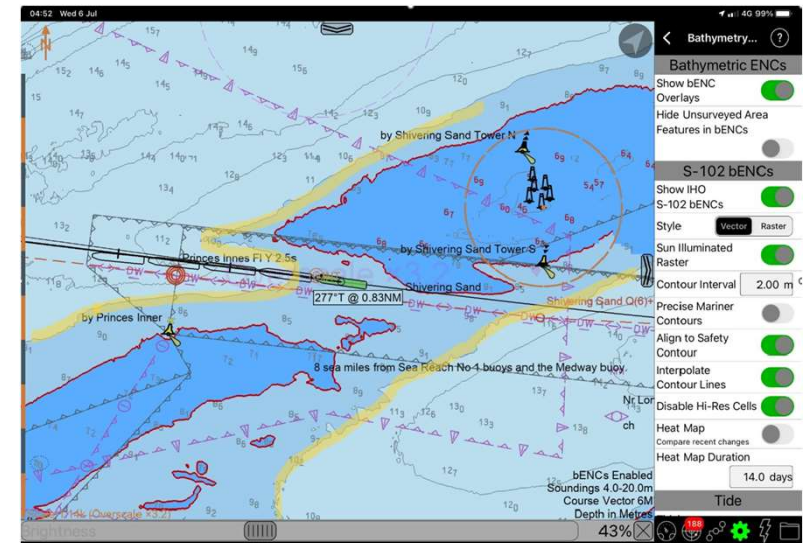
S-101	S-101	S-101
S-101	S-101	S-101





## S-102 Bathymetric Surface

- › The images here have been taken directly from the Pilots PPU transiting the Thames.
- › The yellow highlight shows the standard S-57 ENC contours on the ECIDS. With these standard contours the vessel would normally have to cross the safety contour on entry, triggering alarms etc.
- › The red line show the revised safety contour using the S-102 data. The channel has now opened up allowing a safe route through.





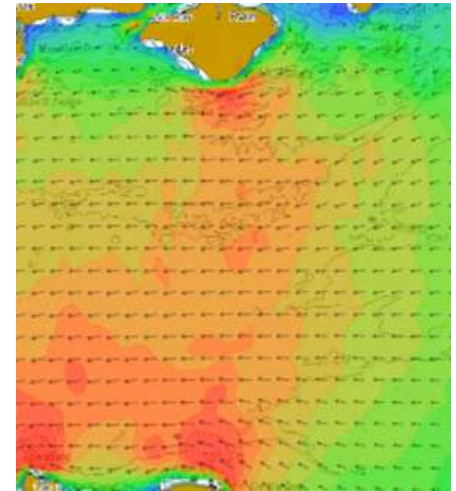
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## S-102 Plans

- › Support the uptake of S-102 with key UK ports
- › Update existing S-102 coverage up to v2.1
- › Review and update port boundary limits and key S-102 cells needed by the port
- › Run a manual update service for key ports requesting operational use of S-102, such as PLA
- › Develop a more automated process which would run on a push/pull service which would process a survey once verified in the database

## S-104 and S-III progress

- › User research with mariners and pilots to understand how tidal information is used in passage planning and port entry/exit
- › Integrated the Met office model to help us produce a coastal model with S-III surface currents.
- › Purchased tidal forecasting models from 3<sup>rd</sup> party suppliers for the Southampton and Portsmouth area to support the SHOM sea trial, and then a separate one for London to support the next PLA sea trial
- › Trial S-104 and S-III data sent to OEMs for SHOM and PLA sea trial



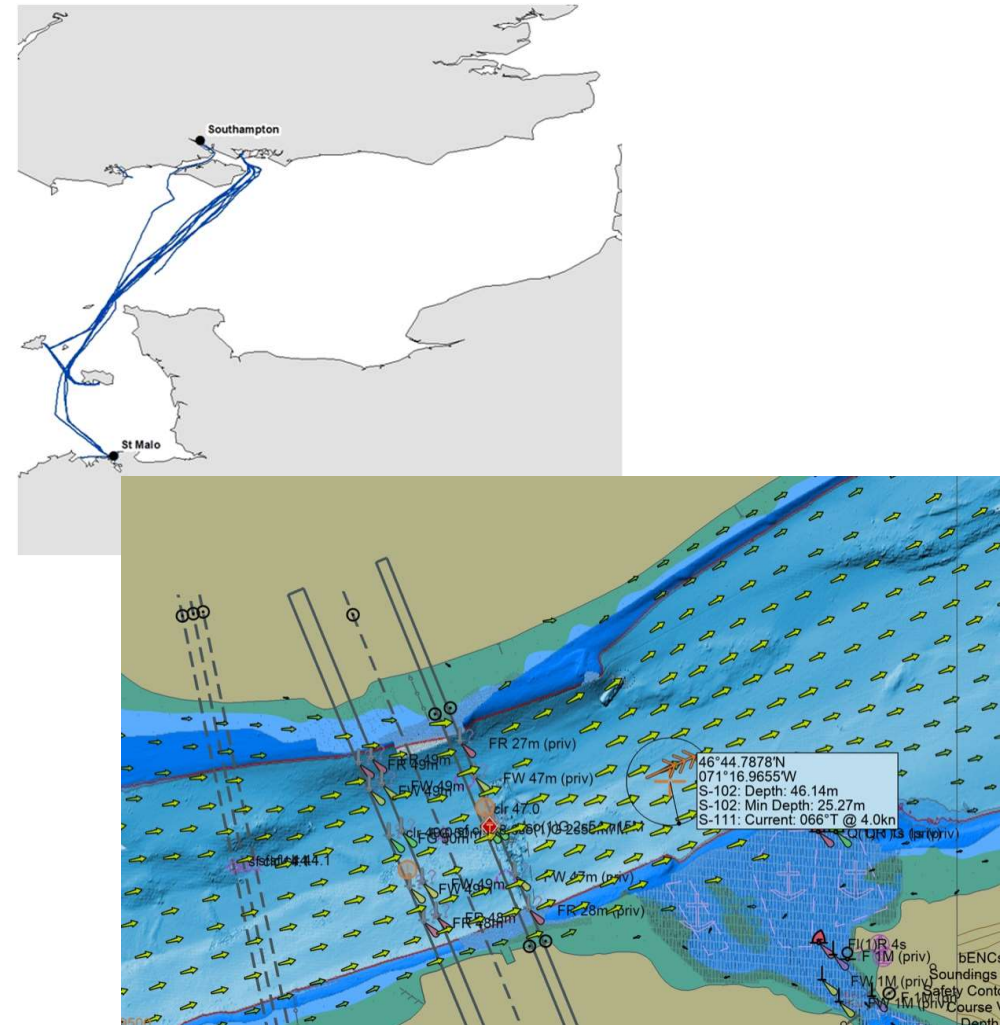


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# UKHO SHOM S-100 ECDIS Project

Project aim is to gather evidence for S-100 ECDIS risk assessment. Building the safety case to support IMO approval of the S-100 ECDIS.

- › Data Production
- › Distribution
- › Display

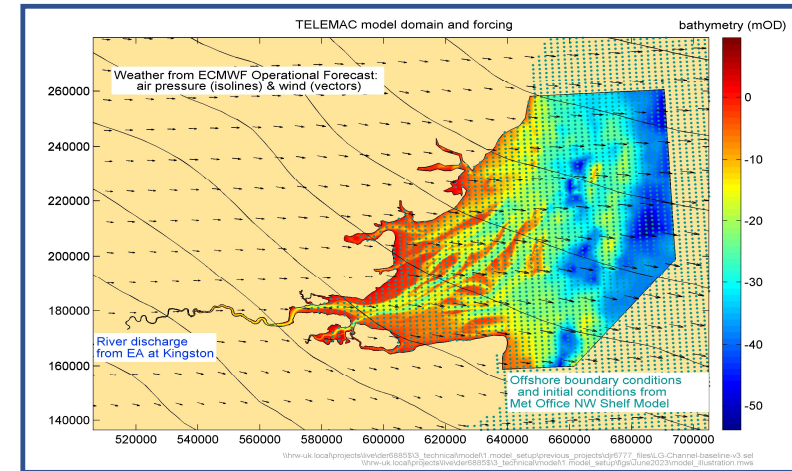




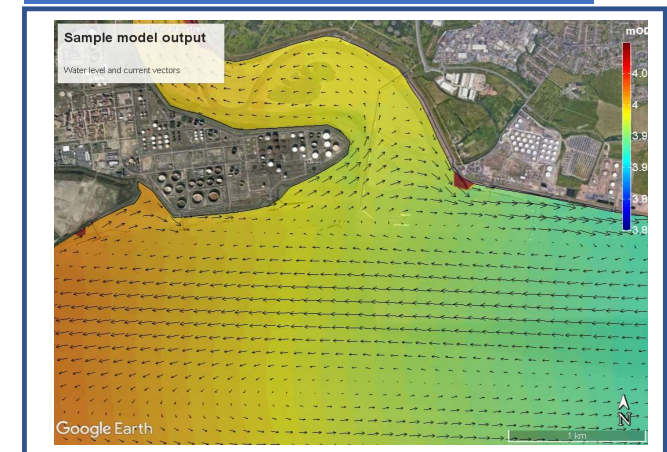
## PLA S-100 Sea Trials

- › The second sea trial will further explore the usage of S-100 and how it provides operational value to pilots, and onshore planning over a longer duration with a regular update service.
- › As well S-102 Bathymetric Surfaces that were tested in the prior sea trial, this one will also layer S-101 ENC's, S-104 Water Heights and S-III Surface Currents.
- › During the sea trial PLA and the UKHO plan to validate the accuracy of the surface current forecast model by conducting live observations in two critical areas.

### Forecast Model



### Surface Current Velocity & Water level





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# Thank you

