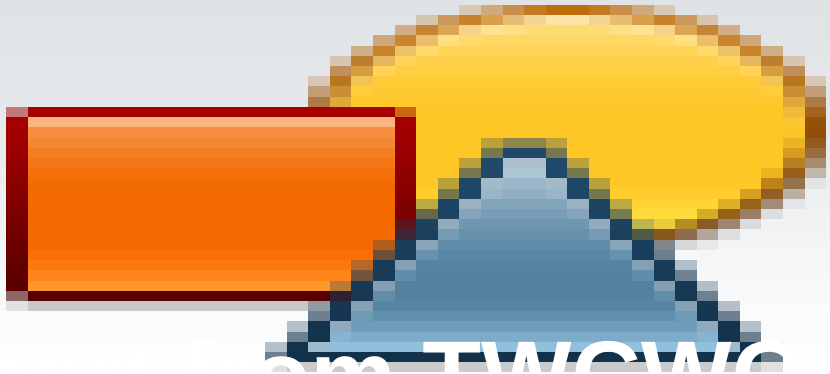


TWCWG objectives

- To monitor developments related to tidal, water level and current observation, analysis, prediction, vertical and horizontal datums;
- To develop and maintain the relevant IHO standards, specifications and publications for which it is responsible in liaison with the relevant IHO bodies and non-IHO entities;
- To develop standards for the delivery and presentation of navigationally relevant surface current/water level information;
- To provide technical advice and coordination on matters related to tides, water levels, currents and vertical datums.

4th meeting of the Tides, Water Level and Currents Working Group (TWCWG)
Busan, Republic of Korea – 8-10 April 2019

Tasks related to S-100

- To develop, maintain and extend a Product Specification for dynamic surface currents in ECDIS (S-111) *(IHO Task 2.3.4)*

- To develop, maintain and extend a Product specification for dynamic water level in ECDIS (S-104) *(IHO Task 2.3.4)*

- To liaise with S-100WG on water level and current matters relevant to ECDIS applications *(IHO Task 2.3.5)*

Progress in 2019

- **S-111 :**

- Edition 1.0 published in decembre 2018, TWCWG now working on edition 1.0.1

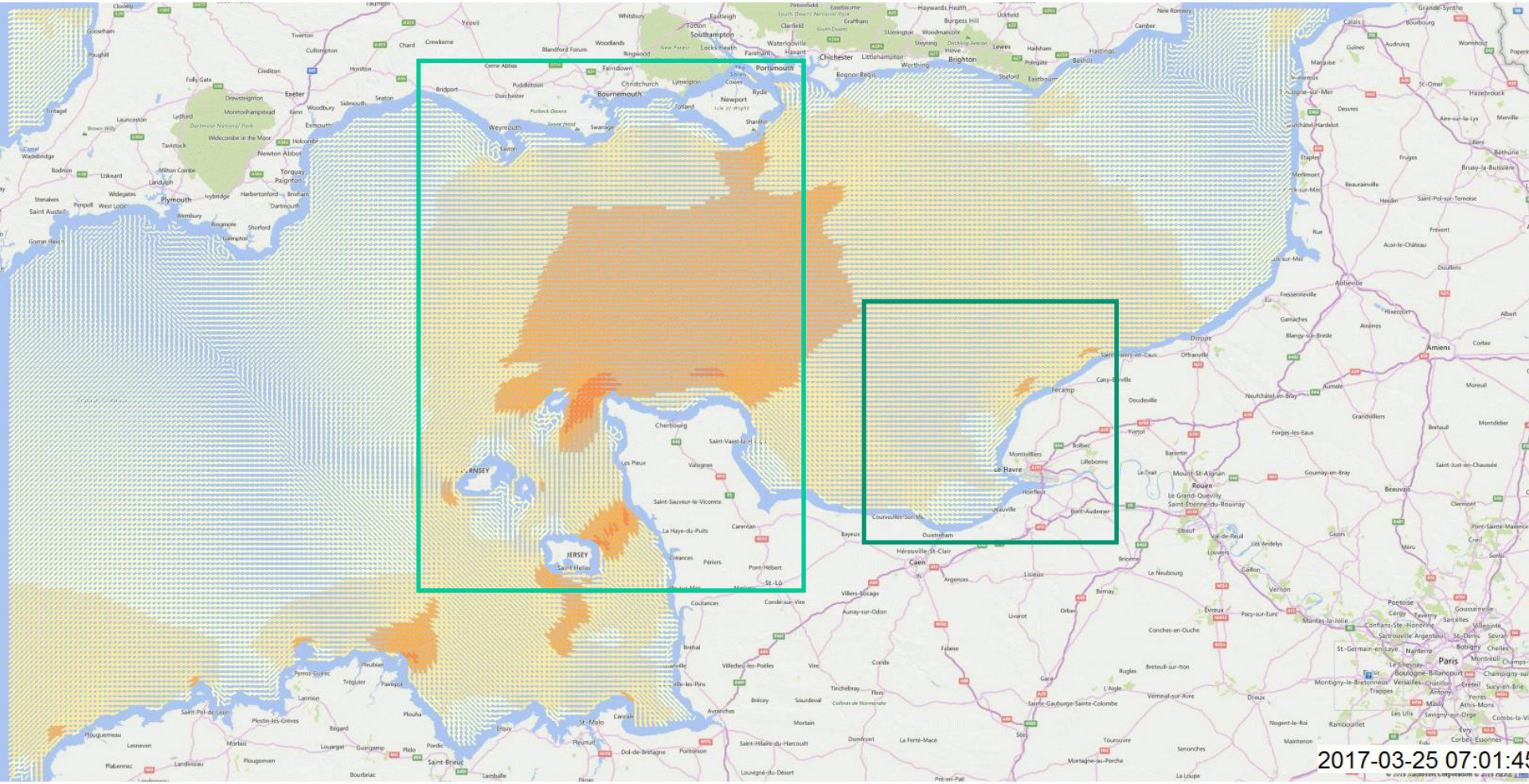
- In 2020 : Development of test case specification

- **S104 :**

- Edition 1.0 scheduled for May 2020 (meeting of TWCWG5)

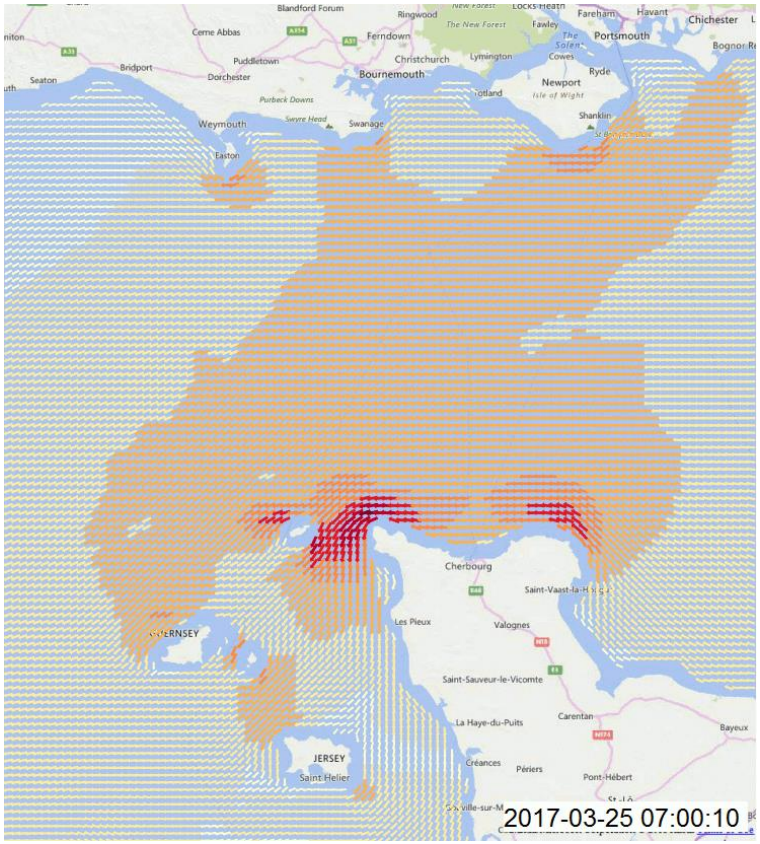
- S-111 and S104 data used succesfully during S100 test done by South korea:
  - Data set created for S-100
  - Go/No Go areas with data from S-102 (bathymetry) and S-104 (tide)

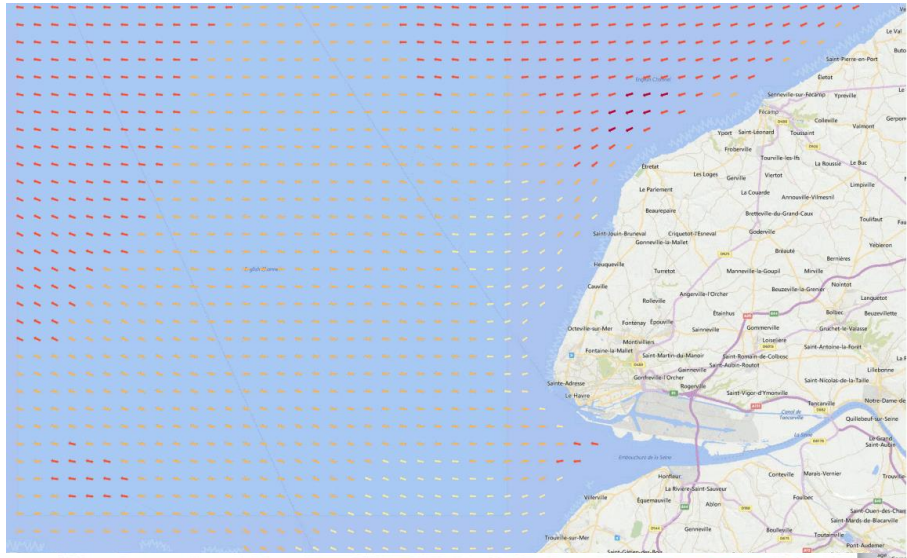
Application HDF5 surface current following S-111 standard

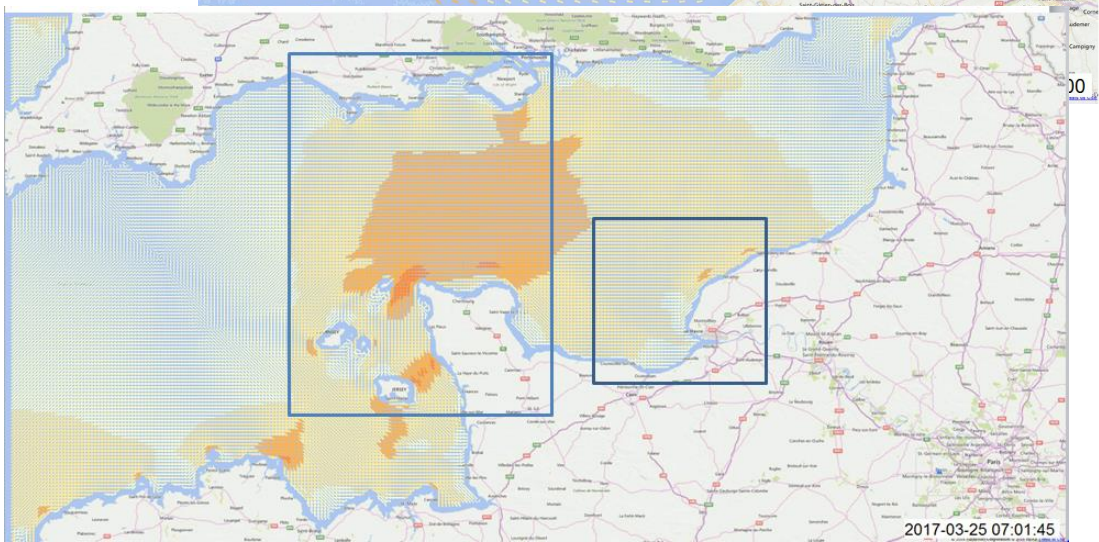


Application :HDF5 surface current with S-111 standard

Zoom







Uncertainty Parameters in S-111:

GENERAL:S100
- horizontalPositionUncertainty
- verticalUncertainty
- timeUncertainty

SURFACE CURRENTS:S-111
- surfaceCurrentSpeedUncertainty
- surfaceCurrentDirectionUncertaint

Table 6.1 – Data types and accuracy factors

Type of Data	Factors Influencing Accuracy
Observed Current	Accuracy of the sensors Processing techniques
Predicted/forecast Current	Quality of input data Timeliness of input data Mathematical modelling techniques Accuracy of harmonic constants
Horizontal Position	Accuracy of geolocation techniques Model grid accuracy
Vertical Position	Accuracy of vertical datum
Time stamp	Sensor accuracy Data time tagging accuracy

Data quality measures for the entire data set are described in clause 10.2.3. These includ *horizontalPositionUncertainty*, *verticalUncertainty*, and *timeUncertainty*. The additional data quali measures *surfaceCurrentSpeedUncertainty* and *surfaceCurrentDirectionUncertainty* are described clause 10.2.4.

Next steps

- Developers need to provide QA/QC and uncertainty data (see S111, Annex D)
- Instruction to be added to portrayal Catalog
- S104 : 1st edition for may 2020 (meeting of TWCWG XXX)
- defining, selecting and prioritizing uses cases S-104 and S-111
- Consider how water level and current product will be used by mariners in ECDIS in order to fit the end user need

Interactions with DQWG

- 2018 : TWCWG asked for a review of S-111 and S-104

- DQWG Paper (a shared interest between chart producer and user)to be reviewed by TCWCWG (ongoing)

- Test case paper to be send to DQWG for review (after TWCWG5 meeting)