# S-104 Update

IHO TWCWG 4

# S-100 6th Test Strategy meeting held Sept 18

- Requested change to name of “gridded hydroid” as there are company names using this and there are many different vertical datums and differences between datums that could be used by an HO for tidal reductions for charts.
- Suggestion from NOAA was “Datum separation”
  - difference) product (“hydroid”), which provides the separation between two vertical datum fields, such as a tidal/chart datum and a defined ellipsoid. Information defining the specific datums is contained in the metadata. The purpose of this data type is to support hydrographic surveying

# S-100 6th Test Strategy – tidal zones

- They still see a need for tidal zones " areas of infleunce" for AIS messaging to support real time application of tidal values to depth values.
- Options
  - 1) simple boundary limiting to ENC Nav purpose 5 and 6 scale charts
  - 2) Co-tidal lines  (height and time differences to a single station)
  - 3) how to handle multiple stations that occur on a single ENC?
  - Defining **Areas of influence product**– a set of polygons that describe specific geographic areas where the water level, which varies in time, is essentially spatially uniform.

# Definitions - water level trend

- Change of water level at a given time, such as ‘increasing’, ’decreasing’, or ‘steady’.
- When the average change of the water level over a one hour period is greater than or equal to 0.20 m it is considered “increasing”. When it is less than or equal to -0.2 m, it is “decreasing”. When it is between 0.2 and -0.2., it is “steady”.
- In areas of small water level range, e.g. Baltic Sea, use of “not available” is optional.
- Is the 0.20 m value appropriate for all areas, including areas of large water level range?

# Definitions - new

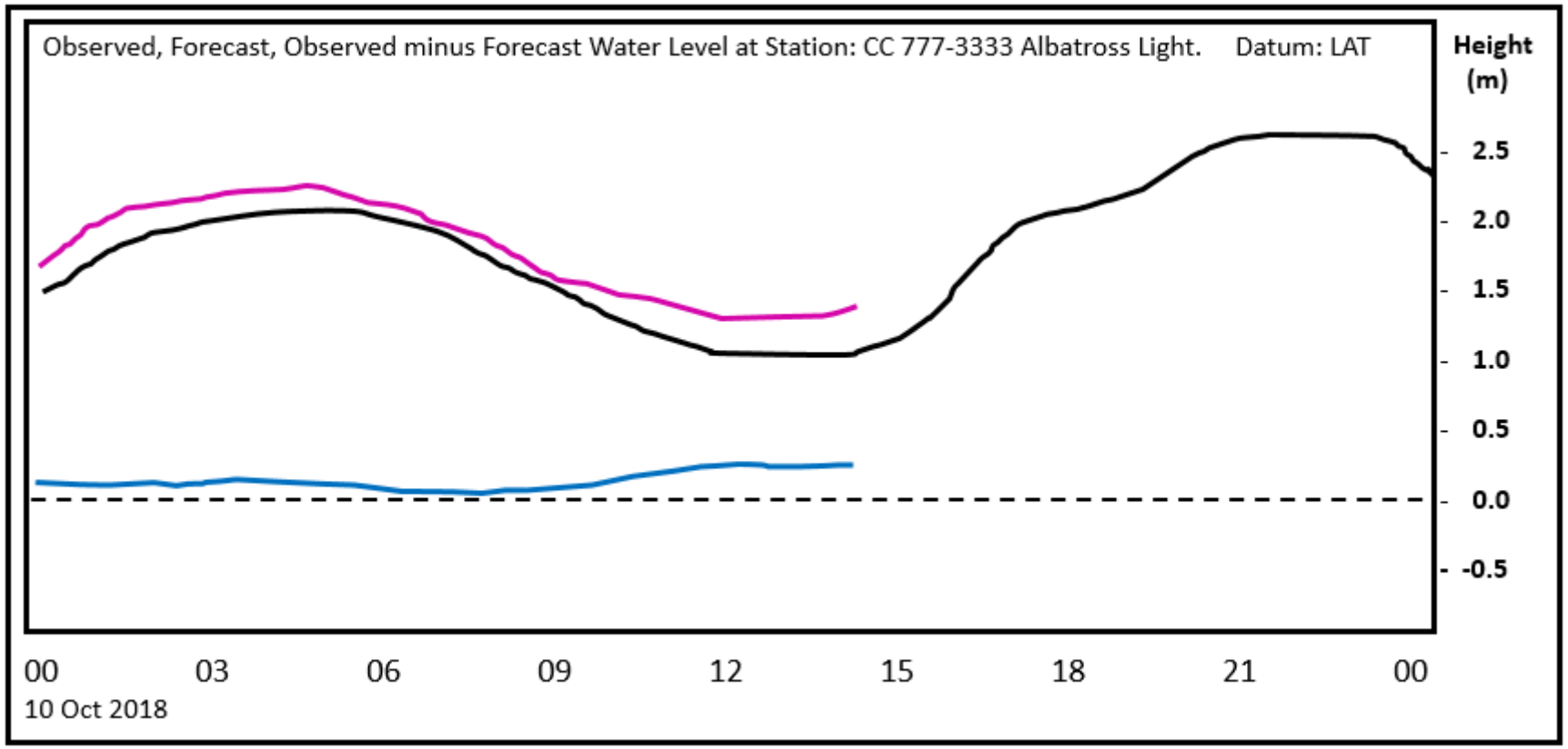
- Is “Water Level Height”, and “Datum Difference Value” needed?

# Changes recommended by NOAA

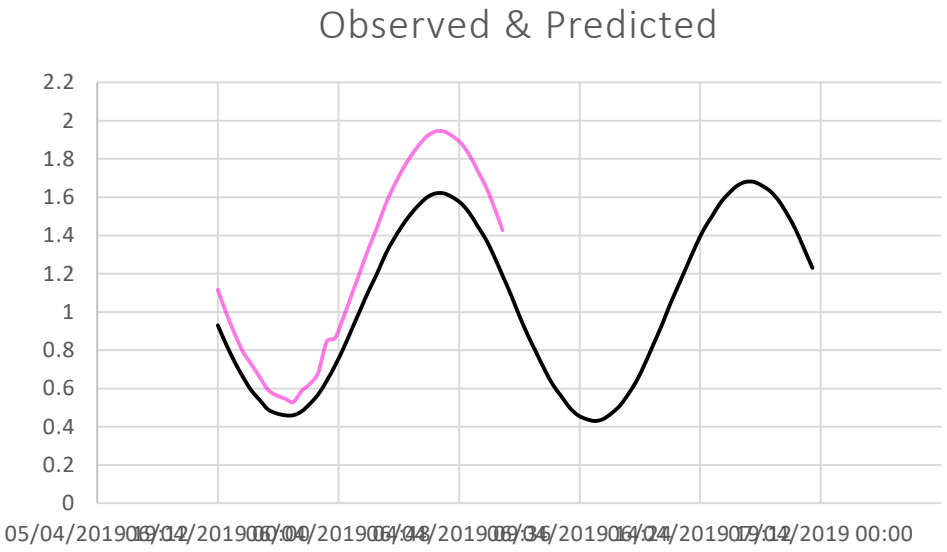
- Completeness - A time series is complete when there is a value or a null indicator at every time in the series.

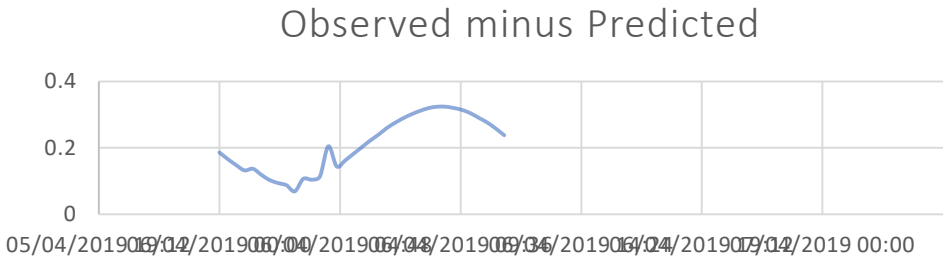
- Have removed – treatment of null values … Colours for graphic plot – is there a requirement to have on a graphic plot at the same time Predicted and forecast?

Observed – magenta , Black Predicted or forecast, blue – observed minus predicted or forecast

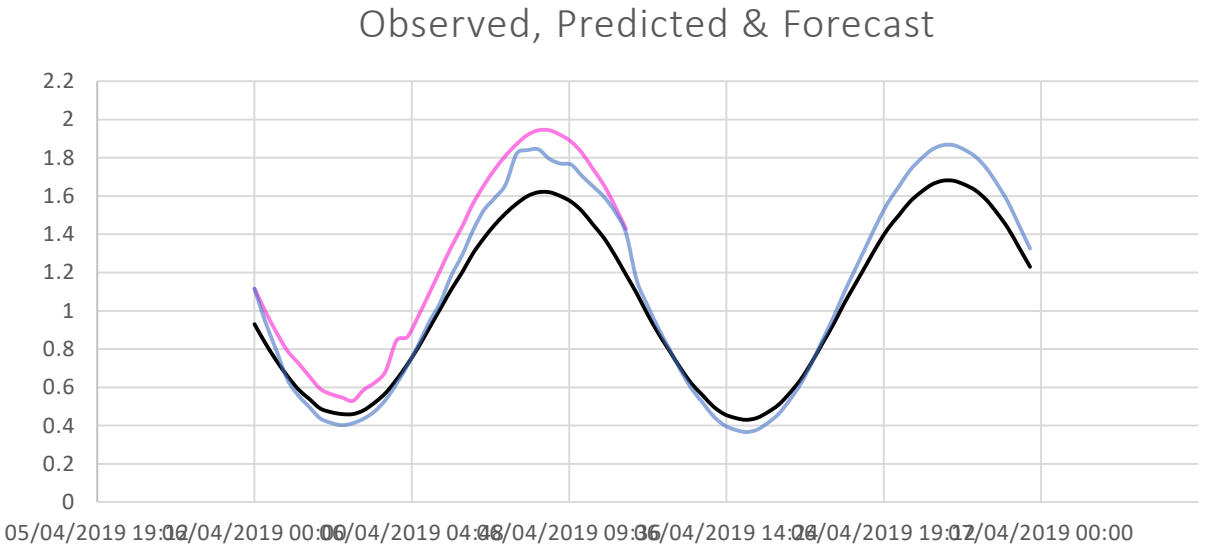


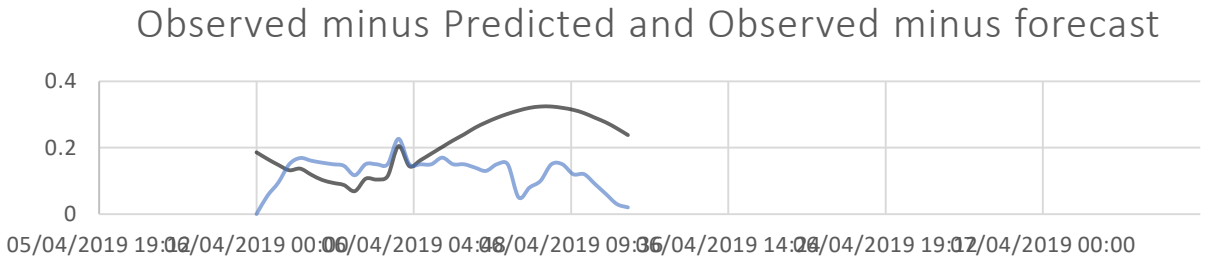
## Option: A



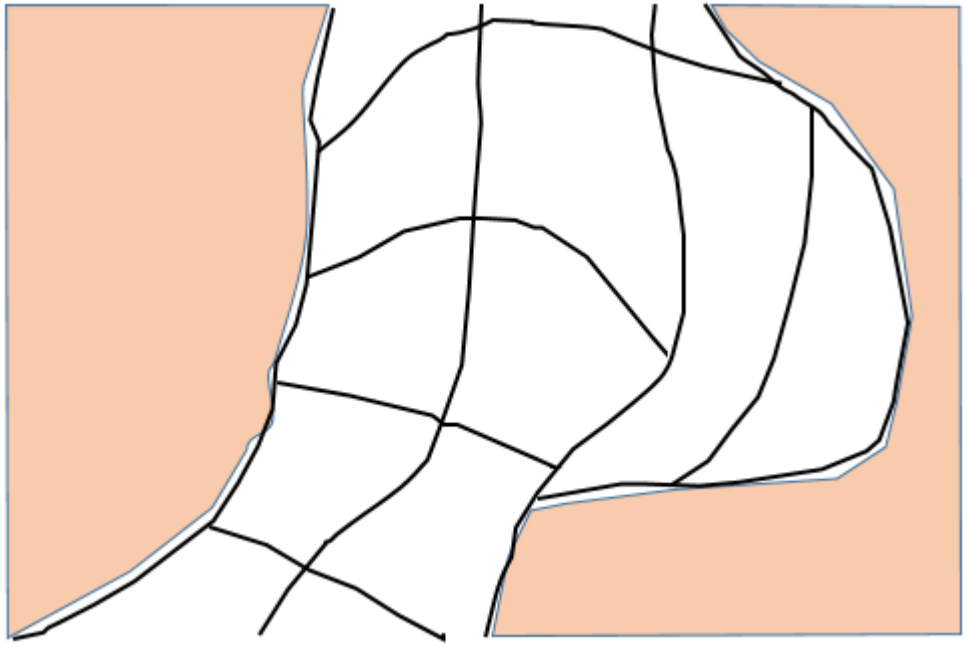

## Option: B



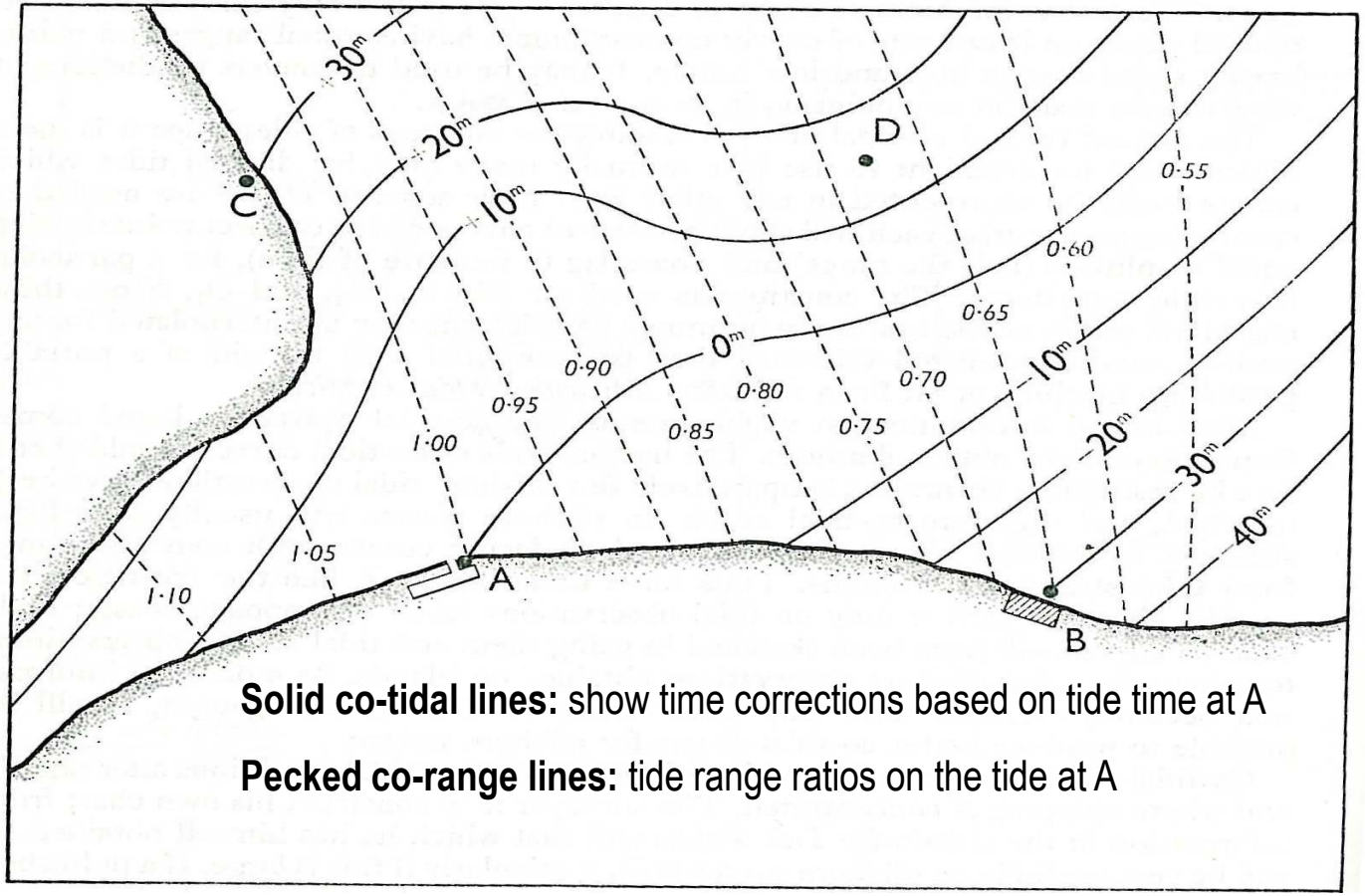



# NOAA suggestion– tidal zones

**Display of Areas of Influence**
This section is about showing how far “real-time” observations define an area where the water level is assumed to be constant. The areas are intended to be displayed as a layer over a background nautical chart, and only for a short duration as needed. The water level in each area is distributed in an AIS message, with the area identified by a series of longitude-latitude pairs, and the area itself is distributed as a GML file. Portrayal of this data layer will not be required. A typical display of the areas of influence is shown in Figure 9.4.
These areas can be used where gridded data is not available, and may to be used by other S-100 specifications that require water level measurements. An example is S-129, where the tidal model used to produce an ENC is required for UKC.



# Co-tidal lines – into a single polygon layer



# Questions that remain unanswered

- Is there a need to portray of  gridded water level data
- Resolve tidal zones for AIS messages
- How to deal with real-time observations under maintenance
- Unique name – S-100 WG raised if this should be  in-line with Maritime Resource Name concept – Currently we define it at 12.4 as being published Port Name in tide tables and the unique identifier as the - port number as given in Tide Tables