Conclusion

Some of the main outcomes:

1. **The progress done on S111, S104 S112 during the break out session groups.** Among them :

    a. Table to specify parameters that will describe current and water level products have been updated with visible progress.

    b. The breakouts results restitution session will allow to continue in similar templates as they can be between surface current and water level S-1xx PS. This will benefit the readability of the product specification.

    c. No doubt that the contribution of Eiving Mong helped us to formalize the first written specifications (Water level spec).

    d. Ed Weaver presented a tool for generation and dataset validation, using CVS environment. Tools that could help also the PS. Validation part of the tool, => If numerous are consistent with specification.

    e. Possible change of the name of S112 and S104. S104 from “Tidal height product specification” to “Water level product specification for surface navigation” or “Water level including tide, product specification” S112: rename from “Meteorological and Hydrographic Data AIS Application-Specific Message Dynamic Water Level Data Product Specification” to “Dynamic Water Level data transfer Specification”.

    f. There is an ongoing work on S111 on what the user is allowed to change on ECDIS. (On going action in S100 WG).

    g. In the Brazilian talk from Cesar, we’ve seen a good synthesis of how a color rules are used to identify critical navigation area. From that, discussions result to the fact that to figure the go / no go area, red color is not correct (magenta should be better). If applied to night red won’t fit. See Japan presentation on the size of HDF5 file on current in function of several parameters and Japanese presentation on portrayal: bringing a possible solution to specify products.

    h. I keep in mind the basecamp idea: free license: useful for our group. Basecamp.com. to test dev. On PS.

Water level is now replacing the group activity focused up to now on tide. You’ll notice that all the actions in IHO list have a tidal purpose. Water came from, (1) first, a change in the name of or group in order to take into account of areas where tidal are not driven the circulation. (2) In a second time, water level has been added in the framework of PS due to the fact that if you add current to tide PS, water level takes a logical share overall. But, for S100 WG on water level, the first expectation, where we are expected first, is to specify tidal PS. So if we’ve to progress step by step, I would recommend starting with the specification for tide amplitude.

Discussions on Determining ellipsoidal height of MSL at the coast, geodetic chart datum, and how Hydro center uses it, highlighted similarities in the operational use of sounding results, the tide gauges rules in the official national products and the future with the new CD surfaces.

Australia, Europe, Norway, USA.

This discussions focusing on the use and the way reference surfaces MSL, CD, etc., are computed should be an item in the next agenda. It allows sharing the knowledge on critical points that are key points in the quality and availability of the water level products.

2. **National presentation on current and tide deliveries and forecast**

With Norway, results were presented on the topic of sea level rise and expressed the possibility to participate actively to the task: The study of long term data sets for the determination of global sea level rise. {H.1}. an action has been taken and Norway will take an active part in action.

Germany, Canada, Norway, France, presented an overview of the forecast service: How products are portrayed and delivered.

3. **Capacity Building**

It remains an important task of the IHO and the Tides and Water Level course is much in demand with its development into a more in depth content. TWCWG needs to develop a frame of experienced instructors to spread the load and ensure a consistent level of content delivery

Review contents tides water levels and currents workshop training material. Feedback highlighted that there is an interest in learning how to use lesson. The goal is to improve theory and practical work on it. There is a capacity building budget to do this. If someone wants to make some inputs, please, send it to Ruth before End of June.

4. **Resolutions review+ resolution 3/1919: explanation, feedback from HSSC and decision.**

3/1919 TWCWGs' agreement.

5. **Context**

For what we've seen, it is fruitful to make groups to work around a table on a specific item, task; and fruitful crossing views on the results of the 2 groups.

It is a first for the group both in terms of work organization, adaptation to the extension of the task set by the HSSC: to tide water level, learn more about the value added by the group on current. Several technical and scientific communities meet here.

Big changes are that we have to adapt our regular activities for new and also open the field of the discussions and expertise. On this point, thank you all for bringing your expertise as modelers, hydrographers, expertise from industry. The actions are refined and progress.

It is a pleasure to see the Japanese delegation to participate and the interest of Russia for IHO items treated in TWCWG.

I would like to thank all of you, and Louis Maltais, Vice Chair, for mutual work and constructive interaction, during our first meeting, in practice. I would like to thank on behalf the group, the Directorate of Hydrography and Navigation of the Brazilian Navy for hosting this meeting of the International Hydrographic Organization's Tides Water level and Currents Working Group here in Rio.

Gwenaële Jan

SHOM

Chair of TWSCWG

Lien http

Common dataset:
https://www.iho.int/mtg_docs/com_wg/IHOTC/IHOTC_Misc/Tidal_Data_Sets/Tidal_Data_Sets.htm

Inventory of National Tide Gauges and Current Meters

https://www.iho.int/mtg_docs/com_wg/IHOTC/IHOTC_Misc/TideGaugeInventory.pdf