



13th Meeting of the Hydrographic Services and Standards Committee

Report of the TWCWG

Agenda Item HSSC13-05.7A

HSSC-13, IHO Secretariat, Monaco + VTC, May 2021



IHO MISSION

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- 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

Chair:	Gwenaële Jan, (Shom, France)	New Chair:	Christopher Jones (UKHO, GB)
Vice-Chair:	Peter Stone (NOAA, USA)	New Vice-Chair:	Ruth Farre (SAN, South Africa)
Secretary:	David Wyatt, IHO	New Secretary:	To be nominated
Expert Contributor: Organisations:	CCOM-UNH, SPAWAR Atlantic, C-Map, IOC-GLOSS		

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TWCWG TIDE WATER LEVEL AND CURRENT WG

2021 Objective concern: Compatibility, consistency with the S-100WG guidance, HSSC WGs

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Ongoing consensus

- 1. Consensus for not including NRT Portrayal in ed 1.0.0

Choice & tasks to be done now by TWCWG

- Send ed.1.0.0 S-104 PS to HSSC, Member States
- Ed.1.1.1 S-111 PS(TWCWG review: end of May 2021): preparing ed.2.0.0 for submission to HSSC, Member States

HSSC11



HSSC12



HSSC13



S-104 ed. 1.0.0 (S-100 Ed.4.0.0)

S-111 Ed 2.0.0 be compliant with S-100 Edition 5.0.0

✓ Ed.0.0.7 (2018)

S-104

✓ Ed.1.0.1 (2018.12)

S-111

Portrayal harmonization

Use cases (S-104, 1 S-111)

S-104 Target Ed. 1.0.0

Datum separation: not included in S-104 Ed 1.0.0, included in Ed 2.0.0. Visual diagrams to explain concept will be done and shared within TWCWG.

Uncertainty: Delay methods and the possible inclusion of uncertainty as Feature Attribute until Ed 2.0.0. Should be progressed and resolved well before Ed 2.0.0 is submitted. (see also 2020 exchanges on decision and debates regarding to uncertainties)

Acronym and definition

- DCEG: Data Classification and Encoding Guide.
- F&A: Features and Attributes into IHO GI Registry.
- Trend definition : "the tendency of water level to change in a particular direction" .



S-111

Non-uniform time interval data: include support in S-111 as in S-104

Have S-111 Ed 2.0.0 be compliant with S-100 Edition 5.0.0

File name 4-character producer code: use 4-character instead of 2-character codes, but need to coordinate when S-100 allows for 4-character codes in Producer Code Register (in S-100 Ed 5.0.0?)

Group_F (including fillValue): after S-100 WG discussion, S-111 and S-104 should conform. Require fillValue, code, [uom.name](#), etc. to be certain values in Group_F for consistency across all S-111 products

S-104

Real-time AIS use case: use cases were provided (+ 1 on AIS use case (S-104 project team), will be sent to S-100/IIC for S-100 real-time data development

Portrayal: leave in PS with note that no XML portrayal catalogue is provided in Ed 1.0.0 and implementation not expected for Ed 1.0.0.

Have S-104 compliant with S-100 Ed 4.0.0, and efforts were made to accommodate known Ed 5.0.0 draft at time of publication

File name 4-character producer code: same as for S-111 above

Group_F (including fillValue): same as for S-111 above

Water level trend threshold: more discussion needed offline to determine optimal place for this metadata variable in HDF5 file



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PROGRESS IN S-111 PS: RECENT TIMELINE

In memory of Kurt Hess

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- Dec 2018: **Ed 1.0.0** distributed by IHO
 - Under review by OEMs, software developers, test bed creators
- Apr 2019: TWCWG4
- Jun 2019: **Ed 1.0.1** accepted
- Sep 2019: attended 7th S-100 Test Strategy Meeting (Monaco)
- Dec 2019: **Ed 1.0.2** finalized
- Sep 2020: **Ed 1.1.0** finalized
- Mar 2021: attended 8th S-100 Test Strategy Meeting (VTC)
- **Ed 1.1.1** ready for TWCWG5 (End of March 2021). End of review : end of May 2021)

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- **Capacity building :**
 - Translation Portugal to be finalized
 - Proposal on the Development of Chinese Version of Tides and Water Level Course Submitted by China Maritime Safety Administration (China MSA)
 - Feasibility agreement from Chinese MS TWCWG during TWCWG5
- **Continue joint meeting IOC-GLOSS / IHO TWCWG**
 - IOC-GLOSS plans to organize meeting in 2023. According to HSSC12 agreement for a futur joint meeting IHO-TWCWG and IOC-GLOSS, the plan is to organize a co-meeting in 2023.
- **TWCWG review recommended for August 2021 (DQWG presentation at TWCWG5)**
 - Vertical and horizontal datums: “The IHO Resolution on Datums and Benchmarks, Resolution 3/1919, as amended, resolves practices which, where applicable, should be followed in the determination of these vertical datum connections. This essential resolution 3/1919, as amended, is available in the IHO Publication M-3”

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Tidal Predictions comparison action:

- Better way of comparing
 - Define scope or parameters to compare
 - Enter key input to common document/report?
 - Should be easy to include more results
- Similar approach for tidal streams/current
- Additional analysis and collaboration is ongoing

IHO resolutions : TWCWG has discussed and approved all of the amendments for submission to HSSC.

https://iho.int/uploads/user/Services%20and%20Standards/TWCWG/TWCWG5/TWCWG5_2021_6.1_EN_IHO_Resolutions_draft_amendments_v1.0-Track_Change.pdf

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ACTIONS REQUESTED FROM HSSC13

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1. To consider the progress done on S-111 (ed.1.1.1, march2021)
2. To consider aligning the publication of S-111 Edition 2.0.0 to S-100 edition 5.0.0.
3. To consider the possibility for TWCWG to submit S-104 ed.1.0.0, by correspondence (2021)
4. To consider aligning the publication of S-104 Edition 1.0.0 to S-100 edition 4.0.0. <= >
S-104 as a part of the S-100 Implementation Plan
5. To consider the IHO resolutions update (June 2021)
6. To note the TWCWG report
7. To reappoint the TWCWG to continue its work under its current Terms of Reference (Annex C)
8. To endorse the draft Work Plan at Annex B of the report to HSSC-13.

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Thank you



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Thank you

Thanks to the IHO for providing a working matrix in the international context of knowledge, sharing and prefiguring fields for the future of hydrography.

Thank you to all the Tide Water level and Current Working Group (TWCWG)

I've been honored chairing TWCWG for 7 years of cooperation

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