

NSHC Tidal Working Group (TWG)

TWG Report to the NSHC 36th Conference

The [TWG Terms of Reference](#) requests the TWG to report annually to the NSHC.

1. Status of Work of CDWG since NSHC 36th Conference

Since the [NSHC 35nd Conference \(5-6 April 2022\)](#), *Mr Thomas Hammarklint* has acted as a Chair.

TWG has supported the ... of the ..., reviewed the progress of ..., promoted development of a ..., and cooperated with relevant international bodies.

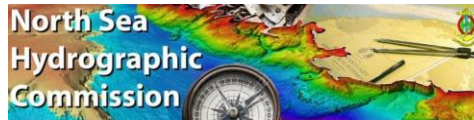
The communication within the TWG has been done mainly by e-mail correspondence. Two online meetings have been organized; TWG24 27 September 2022 [[TWG24 Minutes](#)] and TWG25 7 February 2023 [[TWG25 Minutes](#)]. The next work group meeting ([TWG26](#)) is planned to be held as a physical meeting; 7-8 February 2024 in Göteborg, Sweden.

The main objectives of the meetings were to review and update the [Terms of Reference](#), [Work Plan and List of Actions](#) and coordinate the work within the working group. A 'provisional' [TWG Website](#) have been established and maintained. The TWG highlight the need for a new, official NSHC website, as the nshc.pro website is longer active.

All the NSHC member countries have nominated members to the working group, however not all have been active or participated at the meetings.

Members of TWG:	Belgium	Mr Johan Verstraeten
	Denmark	Mr Nicki Riber Andreasen
	France	Mrs Gwénaële Jan
	France	Mr Gael Andre
	Germany	Mr Andreas Boesch
	Iceland	Mr Árni Þór Vésteinsson
	Ireland	Mr Sean Cullen
	Netherlands	Mr Ronald Kuilman
	Norway	Mr Aksel Voldsund
	Sweden	Mr Thomas Hammarklint (Chair)
	United Kingdom	Mr Chris Jones
	United Kingdom	Mr Colin Sheperd

An updated [List of Members](#) and other documents can be found at the [TWG Website](#).



2. TWG 24th meeting 27 September 2022 (VTC)

[Minutes](#) from the meeting. One of the most important items in the meeting was to start-up the work again after the pandemic, review the [Work Plan and List of Actions](#), propose amendments in the [Terms of Reference](#) and give answers to NSHC36 on the actions given at NSHC35.

3. TWG 25th meeting 7 February 2023 (VTC)

[Minutes](#) from the meeting. One of the most important items in the meeting was to review the [Work Plan and List of Actions](#), propose amendments in the [Terms of Reference](#) and give answers to NSHC36 on the actions given at NSHC35.

4. Future Work of the TWG

TWG will continue to coordinate and follow up the progress of the [Work Plan and List of Actions](#) and following the [Terms of Reference](#), for the years 2023 and onwards. Continue communication with relevant organisations and inform users by giving presentations and participating in relevant conferences.

To activate all the member states to send representatives to the TWG meetings. The next work group meeting ([TWG26](#)) is planned to be held as a physical meeting; 7-8 February 2024 in Göteborg, Sweden.

5. Answers to NSHC36 – several Actions from NSHC35 to TWG

No/year Agenda item	Subject	Action	Who	When	Status
15/2022 D.4.2	TWG	Permanent chair for TWG to be chosen per correspondence. SE (Thomas Hammarklint) serves as Chair until permanent chair elected.	Chair	NSHC36	Ongoing
8/2021 B.10	Risk Assessment	Need of a well-founded clarification for the use of 1% of LAT as the norm;	TWG	NSHC35	Ongoing. Passed on to NSHC36
6/2016 B.5	Vertical reference (LAT) comparison	Continue to investigate and reduce the differences between the LAT along boundaries in accordance with the action items of TWG WP 18/1. Publication of those differences is paused until the outcomes of the investigations are available.	Chair TWG	NSHC 34	Different approach on this matter has been endorsed. AP maintains OPEN until the Tidal WG closes this AP.

I. NSHC35 Action 15/2022 D.4.2 to TWG:

Permanent chair for TWG to be chosen per correspondence. SE (Thomas Hammarklint) serves as Chair until a permanent Chair has been elected.

TWG answer to NSHC36:

TWG supports that Thomas Hammarklint serves as interim Chair until [NSHC37 \(2024\)](#) and will nominate a candidate to take over as permanent Chair, who later will be approved by the NSHC37 Conference.

TWG proposes the following amendment to the [TWG Terms of Reference](#):

~~The Chair and secretarial support will be from the Member State hosting the meeting.~~

'The Chair will be nominated by the TWG and approved by the NSHC Conference'.



II. NSHC35 Action 8/2021 B.10 to TWG:

Need of a well-founded clarification for the use of 1% of LAT as the norm.

Background:

This means that the LAT difference at the boundaries should not exceed 1% of the water depth. The NSHC tasked the TWG to link the norm to something practically. The people that actual use the LAT difference in their daily work want to know if the LAT difference between the countries is small enough so that they don't introduce significant errors in the surveying work.

TWG answer to NSHC36:

TWG has come up with a proposal for a refinement of the norm (TWG AP 24/03) and introduced the Total Vertical Uncertainty (TVU) as the new norm connected to S-44 for comparing differences in LAT surfaces at the national boundaries. Also, to which percentage of the TVU can be allocated by the LAT models has been investigated. Member states send their suggested values to NL. In general, most countries agreed with the proposed TVU norm, but would also like to continue to investigate the LAT differences between the countries (TWG WP 18/1).

- 1) Proposed norm: LAT difference $= < \text{Total Vertical Uncertainty (TVU)}$
 $= < \frac{1}{2} \text{ Total Vertical Uncertainty}$

Does the ($\frac{1}{2}$) TVU norm meets the expectations of the TWG?

- 2) 10 of 12 boundaries à Difference in LAT height is always smaller than 50% of Max TVU value S44 Order 1a.
- 3) The ($\frac{1}{2}$) TVU norm accepted more LAT differences at shallow water

III. NSHC35 Action 6/2016 B.5 to TWG:

Continue to investigate and reduce the differences between the LAT along boundaries in accordance with the action items of TWG WP 18/1. Publication of those differences is paused until the outcomes of the investigations are available.

TWG answer to NSHC36:

Different approach on this matter has been endorsed. AP maintains OPEN until the TWG closes this AP.

IV. NSHC35 Action to TWG:

TWG tasked to work specifically with S-104 and S-111 implementation coordination.

TWG answer to NSHC36:

Ongoing. The work has been postponed due to the pandemic, but is now a prioritized task within the TWG. TWG proposes the following amendment/addition to the [TWG Terms of Reference](#):
'Coordinate the implementation of the IHO S-100 products S-104 Water Level Information and S-111 Surface Currents'.



6. Actions for the NSHC 36th Conference

The NSHC 36th Conference is requested to:

1. note this report
2. endorse the answers from the TWG on the NSHC35 Actions
3. give further guidance to TWG, as seen appropriate