

NSHC37_C3_TWG_Presentation-SE

37th NSHC Meeting

8-10 April 2024

Malmö, Sweden

Thomas Hammarklint



NSHC Tidal Working Group (TWG)

“To provide technical advice and promote co-ordination on tidal issues especially within the North Sea Hydrographic Commission (NSHC)”



Photo: Tidal Working Group 26th meeting, 6-7 February 2024, Göteborg, Sweden

<https://www.bshc.pro/working-groups/twg>

Objectives

1. Status of the TWG work
2. TWG List of Members
3. Amendments to the TWG Terms of Reference
4. Amendments to the TWG Work Plan and List of Actions
5. Answers to NSHC37 - Actions from NSHC36 to TWG
6. Actions requested from the NSHC37 Conference

1. Status of TWG work: Meetings / Implementation status

[NSHC37-C3 TWG Report-SE](#)

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

Thomas's term as Chair will end in April 2024. On behalf of NSHC and according to the NSHC35 Action 15/2022 D.4.2 to TWG on a permanent TWG Chair, the working group has explored whether anyone would be willing to take over as permanent TWG Chair (about a five-year term). Andreas Boesch kindly volunteered himself for the position of permanent Chair (about a five-year term), which the TWG unanimously accepted. This has to be approved by the NSHC.

The communication within the TWG has been done mainly by e-mail correspondence. The last meeting (TWG26) were held on 6-7 February 2024 in Göteborg, Sweden. 9 delegates attended the meeting. The meeting took place in [Simulator Centre](#) and was highly appreciated. The main objectives of the meetings were to update the [TORs](#), [Work Plan and List of Actions](#) and coordinate our work.

The next work group meeting ([TWG27](#)) is planned to be held as a face-to-face meeting (UK, location TBC); 4-5 February 2025.

The [TWG Website](#) have been updated with a lot of new information.

2. TWG List of Members

Members of TWG:

Belgium	Mr Johan Verstraeten
Denmark	Mr Nicki Riber Andreasen
Denmark	Mr Kristian Villadsen Kristmar
France	Mr Gaël Andre
Germany	Mr Andreas Boesch (proposed new permanent Chair)
Iceland	Mr Árni Þór Vésteinsson
Ireland	Mr Sean Cullen
Netherlands	Mr Ronald Kuilman
Norway	Mr Aksel Voldsund
Sweden	Mr Thomas Hammarklint (outgoing Chair)
United Kingdom	Mr Chris Jones

3. Amendments to the TWG Terms of Reference



NSHC Tidal Working Group

NSHC Tidal Working Group Terms of Reference 7 February 2024

To be approved by the NSHC 37th Conference, 8-10 April 2024
Amendments marked in red

As proposed by TWG26 (7 February 2024)

1. Objective

To provide technical advice and promote co-ordination on tidal issues especially within the North Sea Hydrographic Commission (NSHC).

2. Authority

The Tidal Working Group (TWG) is a subsidiary of the NSHC and its work plan is subject to NSHC approval. Subject to approval by NSHC the TWG is especially involved with the regional interpretation and implementation of tidal issues as identified by Tidal, Water Level and Current Working Group (TWCWG).

3. Procedures

a. The TWG should:

1. work according to the agreed NSHC work plan
2. monitor and report the progress of the work plan
3. propose new work plan items for consideration by the NSHC.

To support the identification of new work plan items deemed relevant for the NSHC, the TWG should:

4. liaise with relevant Hydrographic Services and Standards Committee (HSSC) working groups, such as TWCWG.
5. Exchange views and experiences concerning tidal issues like unifying vertical datum, analysis, modelling and related issues like sea level rise and surge.
6. Coordinate the implementation of the IHO S-100 products S-104 Water Level Information and S-111 Surface Currents.

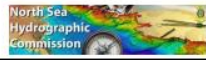
b. The TWG will conduct its business mainly by correspondence. Meetings and workshops should be scheduled as deemed necessary for the accomplishment of the work plan.

4. Composition and Chair

1. The TWG shall comprise representatives of the NSHC Member State and expert contributors if applicable.
2. Decisions should generally be made by consensus, if a majority is required each Member State has one vote.
3. External contributors can contribute to the work plan but are not entitled to vote.
4. The Chair will be nominated by the TWG and approved by the NSHC Conference.
5. The Chair should monitor and report on the work plan to the NSHC.



4. Amendments to the TWG Work Plan and List of Actions



NSHC Tidal Working Group

NSHC Tidal Working Group Work Plan and Actions 7 February 2024

To be approved by the NSHC 37th Conference, 8-10 April 2024
Amendments marked in red

Work Plan

Item Number (TWG/Item)	Objective (Why/Priority)	Task Description (What/How)	HO Involved	Status
WP 16/04	Enable GNSS-based tidal reduction and the connection with the vertical datum on land	Follow developments on geoid, MSL and LAT computations for the North Sea area	All	Permanent, see also WP18/01
WP 18/01	Improve North Sea wide realization of reference surfaces	Explain and reduce differences in reference surfaces at the international boundaries	All	Permanent
WP 18/02	Improve methodologies for ERS	Exchange between HO's on operational methodologies for ellipsoidal referenced surveying for GNSS based surveys	All	Permanent
WP 22/01	Ensure common European LAT surface adoption	Follow the developments of European initiatives on new LAT surfaces	All	Permanent
WP 24/01	Regional cooperation and coordination of the implementation of S-104 (Water Levels) and S-111 (Surface Currents)	Make available S-104 and / or S-111 test datasets which could be compared at national boundaries in the North Sea region, investigate and collaborate on resolving any differences.	All	Permanent
WP 24/02	Data Rescue and Data Archaeology	Exchange between HO's on details and methods used in the rescue of national / international archive tidal & water level datasets, for the purposes of climate change studies, tsunami research and any such activity requiring access to these important assets	All	Permanent



NSHC Tidal Working Group

List of Actions

Item Number (TWG/Item)	Objective (Why/Priority)	Task Description (What/How)	HO Involved	Status	Corresponding Work Plan Item
AP 18/01	Explain differences in realizations of LAT	Exchange on bilateral basis between involved HO's to investigate further the origin of observed differences at the boundaries between national reference surfaces	All	Permanent	WP 18/01
AP 19/03	Make an overview over existing separation and hydrodynamic models, including metadata	Each member state sends the information to UKHO	All, UK	Done	WP 18/01
AP 22/01	Investigate the differences in national LAT reference surfaces at all borders.	Each member state should supply information on how their LAT surface was built to NL who will analyze this information and compare the surfaces	NL, All	Done	WP 18/01
AP 22/02	Investigate the differences in national LAT reference surfaces at all borders.	Each member state should supply all LAT updates to NL who will update the LAT differences matrix accordingly	NL, All	Periodical	WP 18/01
AP 22/03	Investigate the differences in national LAT reference surfaces at all borders.	Make error estimates in LAT surfaces	All	Permanent	WP 18/01
AP 22/05	Ensure common European LAT surface adoption.	Follow the developments of European initiatives e.g. EMODnet on new LAT	All	Permanent	WP 22/01
AP 23/02	Investigate all LAT differences at the borders and overlapping parts of surfaces using the redefined norm.	Investigate the differences at all MS borders (and overlapping parts of surfaces) between national LAT reference surfaces	All	Permanent	WP 22/01



NSHC Tidal Working Group

AP 24/01	UK and FR to supply 'CD to Ellipsoid' separation values along their common boundary to NL to investigate if this improves the result in any way	Charted depths in this region are reduced to 'CD', which is approximately LAT. Therefore it is important to ensure the correct surfaces are being compared with each other, then used in the 1% norm calculation (or other suitable method as decided by TWG)	FR, UK, NL	TWG27 Feb 2025	WP 18/01
AP 24/02	NL to provide the TWG with the sources of the maritime boundaries that were used for the analysis of the LAT differences	Provide the TWG with a list of the sources to the relevant treaties and lists of coordinates that were used for the analysis (including the coordinate reference system)	NL	Done	WP 18/01
AP 24/03	Total Vertical Uncertainty (TVU) norm for comparing differences in LAT surfaces at the national boundaries	Propose suitable refinement (and explanation of the reasons) to the newly proposed norm connected to S-44 by the next meeting (TWG25). "Which percentage of the total vertical uncertainty (TVU), as defined in S-44 can be allocated by the LAT models?" Member states send their suggested values to NL.	DK, DE, NL All	Done	WP 18/01
AP 24/04	Elect a permanent Chair of NSHC TWG	As directed by NSHC, the Chair should expect to be in place for a 5-year minimum term	All	Done	n/a
AP 25/01	Investigate LAT differences at overlapping parts of surfaces.	Each member state should supply LAT surfaces for an as large as possible area of the North Sea to NL who will compare the surfaces	All	TWG27 Feb 2025	WP 18/01

5. Answer to NSHC37 – one action from NSHC36 to TWG

I. NSHC36 Action 6/2023 C.4 to TWG:

TWG to report to NSICCWG on the progress of S-104 and S-111 implementation.

Background:

The Commission (at NSHC35) has decided to task the TWG with S-104 and S-111 implementation coordination, and to report to North Sea International Chart Coordination Working Group (NSICCWG) on the progress (the NSICCWG has been task with the overall S-100 implementation coordination in general under NSHC). The task has been included in the [TWG TORs](#) and were approved at [NSHC36](#).

TWG answer to NSHC37:

TWG has reported about the [implementation status of S-104 and S-111](#) to the Chair of the NSICCWG.

Implementation status of S-104/S-111

Implementation status of S-104 and S-111

Background

The North Sea Hydrographic Commission (NSHC) has decided to task the Tidal Working Group (TWG) to coordinate the implementation of S-104 and S-111 and to report to the North Sea International Charting Co-ordination Working Group (NSICCWG) on the progress (Decision 6/2023 C.2 from NSHC36).

Status of implementation

During our last working group meeting in Göteborg on 6-7 February 2024, several Member States reported on the ongoing national work to implement these two products ([TWG26 Minutes](#) is available at [TWG Website](#)). The current works in the MS cover aspects such as

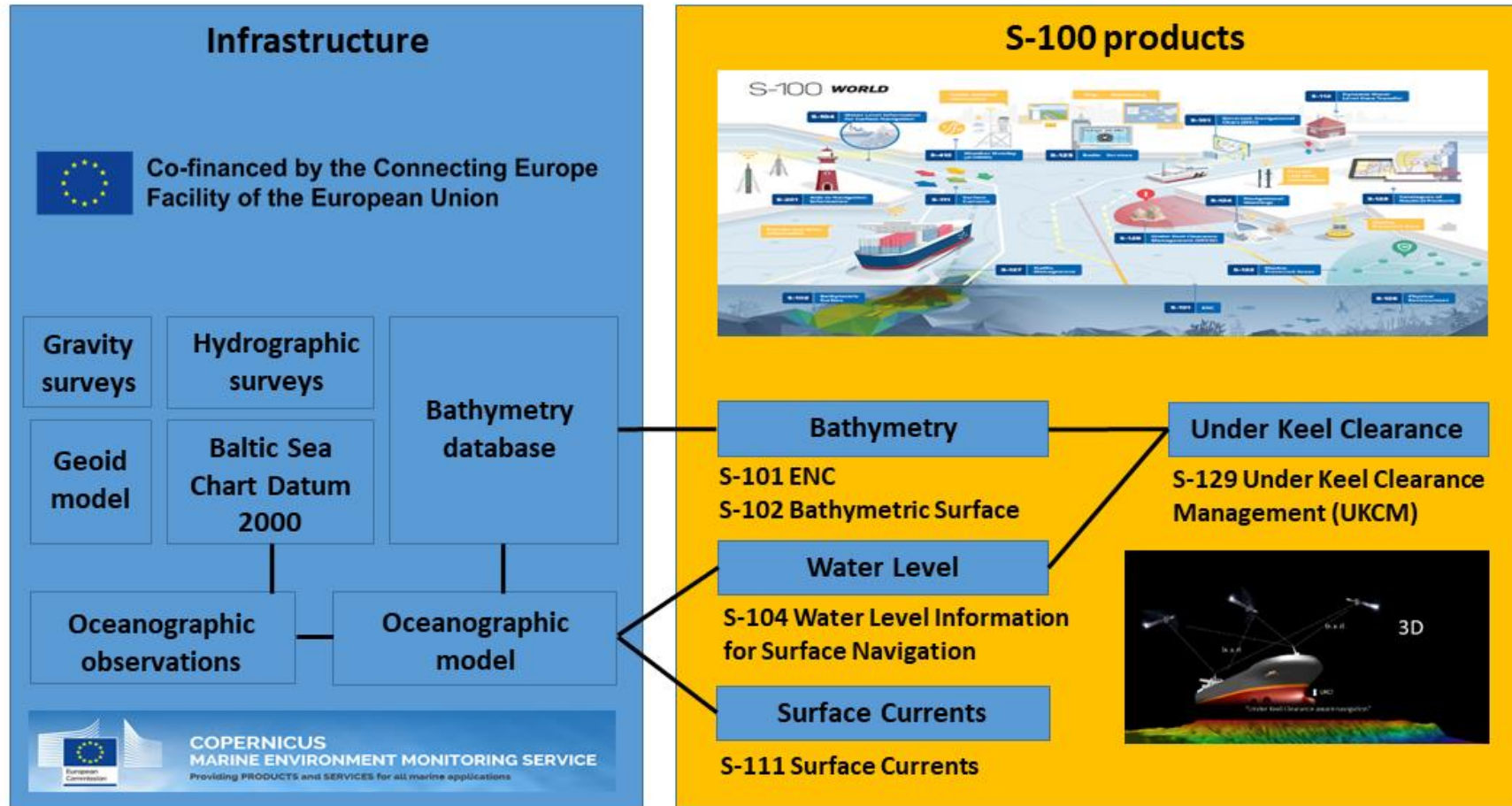
- a) establishing national S-100 working groups
- b) developing production roadmaps/timelines or
- c) producing test data sets.

The regional cooperation, coordination and harmonization of implementation were also discussed. First ideas for cooperation include the comparisons of national products at the maritime boundaries and the exchange of software.

The test datasets for S-104 and S-111 will be made available for cross-national comparisons in order to explore and collaborate on how to reduce any differences. The TWG's [TORs](#), [Work Plan and List of Actions](#) have recently been updated to cover these tasks, to be approved at [NSHC37](#).

Dynamic S-100 products (S-104, S-111 and S-129)

Real Time Hydrographic and Environmental Information Service



6. Actions requested from NSHC 37th Conference

1. note this report
2. endorse the answer given from the TWG on the NSHC36 Action
3. endorse amendments in the [Terms of Reference](#), [Work Plan and List of Actions](#)
4. approve the proposed permanent TWG Chair
5. give further guidance to TWG, as seen appropriate

Thanks!



Thomas Hammarklint

Swedish Maritime Administration (SMA)

Thomas.Hammarklint@sjofartsverket.se