

**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 Level and S-111 Surface Currents	Coordinate the implementation of S-104 Water Level and S-111 Surface Currents and report on the progress to NSICCWG. 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

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

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

AP 26/01	Provide links to S-104 and S-111 test datasets	Link to existing IHO website, which already coordinates this. https://iho-ohi.github.io/S100Resources	All	TWG27 Feb 2025	WP 24/01
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