

**NSHC Tidal Working Group  
Work Plan and Actions  
7 February 2024**

**Approved by the NSHC 37<sup>th</sup> Conference, 8-10 April 2024**

**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 22/02               | 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 <b>approximately</b> 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<br>Feb 2025 | 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              | 2024-04-10<br>Approved at NSHC37 |
| 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<br>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. <a href="https://iho-ohi.github.io/S100Resources">https://iho-ohi.github.io/S100Resources</a> | All | TWG27<br>Feb 2025 | WP 24/01                         |