**TWCWG WORK PLAN 2023-2024**

# Objective

1. To monitor developments related to tidal and water level observation, analysis and prediction and other related information including vertical and horizontal datums;
2. 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;
3. To develop standards for the delivery and presentation of navigationally relevant current information; and
4. To provide technical advice and coordination on matters related to tides, water levels, currents and vertical datum.

# Tasks

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| A | Maintain the list of standard tidal constituents (IHO Task 2.8.4) |
| B | Compare the tidal predictions generated as a result of analysis of a common data set using different analysis software |
| D | Develop, maintain and extend a Product Specification for Surface Currents in ECDIS (S-111) (IHO Task 2.3.4) |
| E | Develop, maintain and extend a Product specification for Water Level Information in ECDIS (S-104) (IHO Task 2.3.4) |
| F | Liaise with S-100WG on water levels and currents themes relevant to ECDIS applications (IHO Task 2.3.5) |
| G | Liaise with industry experts on the development of Product Specifications for water levels and currents (IHO Task 2.5.1) |
| H | Prepare and maintain an inventory of water level gauges and current meters used by Member States and publish it on the IHO/TWCWG web site (IHO Task 2.8.5) |
| I | Review and maintain the Actual Tides and Currents On-Line links as published on the IHO TWCWG website (IHO Task 2.8.5) |
| J | Maintain and extend the relevant IHO standards, specifications and publications as required (IHO Tasks 2.8.4 and 2.1.8) |
| K | Conduct at least annual meetings of TWCWG and its sub-group(s) and project team(s) (IHO Tasks 2.1.2.7) |
| L | Develop and maintain material for course on Tides, Water Levels and Currents (IHO Task 3.3.9) |
| M | Review and maintain the List of Chart Datums (CD) in use by Member States (IHO Task 2.8.8) |

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| **Work item** | **Title** | **Priority**  H-high  M-medium  L-low | **Next milestone** | **Start Date** | **End Date** | **Status**  P-planned O-ongoing  C-completed  S-Superseded | **Contact Person(s)** | **Related Pubs / Standard** | **Remarks** |
| A.1 | Maintain the list of standard tidal constituents | M |  | - | Permanent | O | Chris Jones\*  All |  | Review current list of published tidal constituents |
| B.1 | Compare the tidal and tidal current predictions generated as a result of analysis of a common data set using different analysis software. | M |  | - | Permanent | O | Hilde Sande Borck \*  All |  | Select Common data set.  Analyse using different software.  Compute common set of predictions.  Compare results. |
| B.2 | Support and Contribute to the International Association for the Physical Sciences of the Oceans (IAPSO) Best Practice Study group on Tidal Analysis | M | As directed by IAPSO/TWCWG contact | 2023 | tbc | P | Hilde Sande Borck\*  Andreas Boesch  Zarina Jayaswal  Phil MacAulay  Peter Stone  Andrew Matthews (IAPSO/TWCWG Contact) |  | Engage with the Best Practice Study Group, co-ordinating tasks on behalf of TWCWG.  Report back to, and enlist support from, TWCWG. |
| D.1 | Develop and maintain a product specification for surface currents information in ECDIS  (S-111) | H | Issue Edition 1.0.0 | 2013 | ~~2017~~  ~~2018~~  2019 | ~~O~~ C | See report TWCWG4: List of involved and active members:  Greg Seroka\*  Thomas Hammarklint  Gwenaële Jan,  Phil MacAuley (Gilles Mercier & Maxime Carre)  Raphael Malyankar  Kwang nam HAN,  Ronald Kuilman | S-100  S-98  M-3 IHO Resolutions | Joint project team is established as required.  Liaise with S-100WG (see F.1)  Liaise with industry experts (see G.1)  Edition 1.2.0 (S-111) is aligned with S-100 Edition 5.0.0. |
| H | Issue  Edition 1.2.0 | 2021 | 2023 | C |
| H | Issue Edition 2.0.0 | 2023 | 2024 | P |
| E.1 | Develop and maintain a product specification for water levels information in ECDIS (S-104) | H | ~~Develop draft~~  ~~Product Specifications (S-104) for water level information for surface navigation in~~  ~~S-100~~ | 2009 | ~~2017~~  ~~2018~~  ~~2019~~  2020 | C | See report TWCWG4: List of involved and active members:  Zarina Jayaswal\*  Andreas Boesch  Thomas Hammarklint  Phil MacAuley  Gilles Mercier Maxime Carre  Raphael Malyankar  Kwang nam HAN,  Greg Seroka | S-100  S-98  M-3 IHO Resolutions | Joint project team is established as required.  Liaise with S-100WG (see F.1)  Liaise with industry experts (see G.1)  Edition 1.1.0 (S-104) is aligned with S-100 Edition 5.0.0. |
| H | Issue Edition 1.0.0 | 2019 | 2021 | C |
| H | Issue Edition 1.1.0 | 2021 | 2023 | C |
| H | Issue Edition 2.0.0 | 2023 | 2024 | P |
| F.1 | Liaise with S-100WG on water level and current  matters relevant to ECDIS applications | H |  | - | Permanent | O | Chris Jones  Zarina Jayaswal  Raphael Malyankar  Greg Seroka |  | Joint project team is established as required. |
| G.1 | Liaise with industry experts on the development of product specifications for  water levels and currents | H |  | - | Permanent | O | All |  |  |
| H.1 | Maintain an inventory of water level gauges and current meters used by Member States and publish it on the IHO/TWCWG web  site. | H |  | - | Permanent | O | All |  | Initial inventory from TWCWG members available on IHO web site. |
| I.1 | Review and maintain the Actual Tides and Currents On-Line links as published on the IHO/TWCWG  website | L |  | - | Permanent | O | All |  |  |
| J.1 | Maintain and extend the relevant IHO standards, specifications and publications | M |  | - | Permanent | O | Chris Jones\*  Ruth Farre  All | S-44  C-13  S-104  S-111 |  |
| J.2 | Maintain IHO resolutions & Charting Specifications | H |  | - | Permanent | O | Ruth Farre\*  All | IHO Resolutions in M-3 | Review the relevant Resolutions and Charting Specifications annually |
| L.1 | Develop and maintain material for CB course on Tides and Tide gauges | H |  | - | Permanent | O | Ruth Farre\*  Peter Stone Zarina Jayaswal Gwenaële Jan Cesar Borba |  | Adapt currently available course material to create a course suitable for delivery in support of CBSC requests |
| M.1 | Review and maintain the List of Chart Datums (CD) in use by Member States | L |  | - | Permanent | O | Chris Jones\*  Sam Harper  All |  | Maintain a reference list of vertical Chart Datums in use globally by Hydrographic Offices relating to their national charting / tidal & water level products and services. |

**Meetings (Task K)**

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| **Date** | **Location** | **Activity** |
| 25-29 April 2016 | Niterói, Brazil | TWCWG-1 |
| 8-12 May 2017 | Victoria, Canada | TWCWG-2 |
| 16-20 April 2018 | Viña del Mar, Chile | TWCWG-3 |
| 8-12 April 2019 | Busan, Republic of Korea | TWCWG-4 |
| 16-18 March 2021 | Remote VTC | TWCWG-5 |
| 5-7 April 2022 | Remote VTC | TWCWG-6 |
| 28 February – 2 March 2023 | Remote VTC | TWCWG-7 |
| 20-23 February 2024 (tbc) | Monaco, IHO | TWCWG-8 |
| 19-22 November 2024 (tbc) | tbc | TWCWG-9 |

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