



NATIONAL REPORT OF TÜRKİYE BASWG-17, 26-27 March 2024

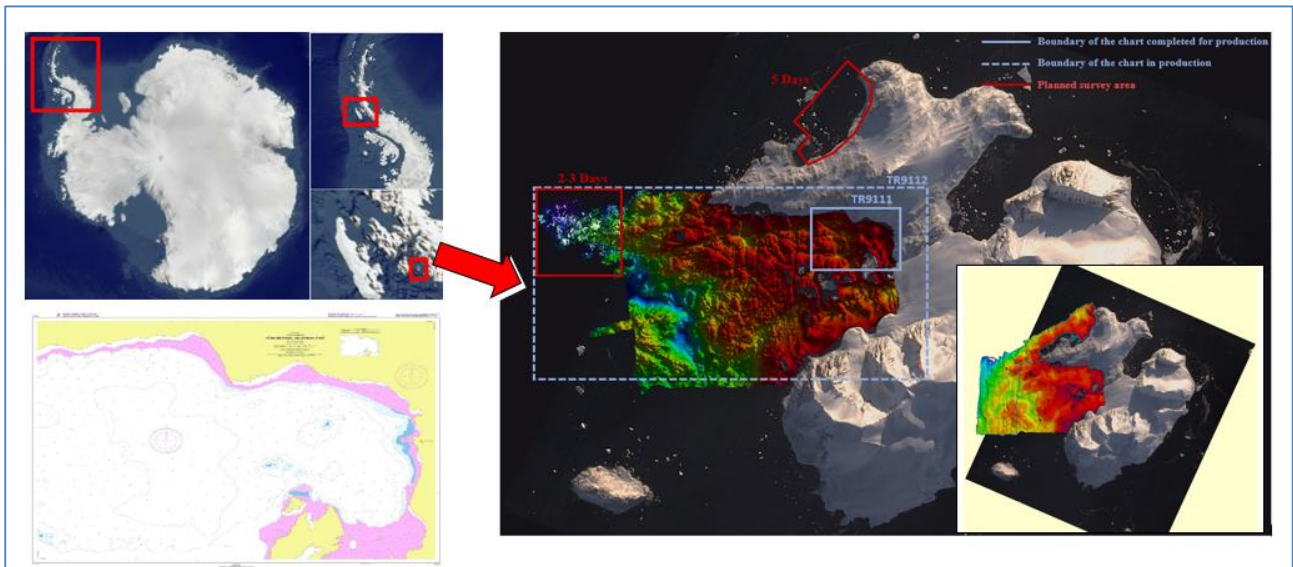
Hydrographic Office / Service

1. The first official Turkish Hydrographic Organization was established in 1909 under the name of Maritime Surveying and Navigation Office. The mission of the office originally was to organize and perpetuate lighthouses, publish notices to mariners and to provide the navigation instruments to the navy.
2. In 1956, the office moved to its present location Çubuklu, and in addition to the current equipment, modern electronic, oceanographic, geophysical and lithographic tools have been acquired.
3. The name of the department was changed in 1972 to the Turkish Navy-Office of Navigation, Hydrography and Oceanography (TN-ONHO) so as to signify three main functions.
4. Principle functions of the TN-ONHO are:
 - *Hydrographic Surveys*
 - *Paper Charts and Electronic Navigation Charts*
 - *Nautical Publications*
 - *Weekly NtM Bulletin*
 - *Navigational Warnings*
 - *Operational Support for Navy*
(*physical, chemical, geological, biological*) and *geophysical surveys and studies*)
 - *Supply of Charts and Nautical Publications*
5. TN-ONHO is the only national authority in Türkiye on hydrographic and nautical charting issues. Depth information is important for understanding the climate change and dynamics of the oceans. There is an increasing demand for bathymetric data for operational oceanography and safety of navigation since only a large portion of the (75%) of the ocean floor is unmapped so far. That percent limits our understanding and predicting of the marine ecosystem. That is why as one of the oldest hydrographic offices, we try to do our best to use our expertise and resources to reach the Decade aims. We hope that “Ocean Decade will achieve the aim of mapping 100% of the ocean floor” by 2030.
6. Hydrographic surveys aim to collect depth data for not only producing navigational charts but also operational oceanography. Up-to-date maps also make contributions to increase commerce of harbors, have a significant impact on understanding coastal zone management, marine hazards & coastal vulnerabilities. It can be used for fisheries activities and protecting marine environment. Bathymetric data with operational oceanography facilities our life and help us to mitigate damage from marine hazards and develop better coastal zone management systems.
7. Türkiye became the new member of Hydrographic Commission on Antarctica (HCA) on 04 May 2023. Türkiye keeps contributing the safety of navigation within and outside of national jurisdiction waters.
8. Captain Hakan KUŞLAROĞLU has been serving as the Director of TN-ONHO since August 18th, 2016.

Surveys:

1. Hydrographic/Oceanographic surveys made:

| Year | # of Surveys |
|------|--------------|
| 2022 | 386 Days |
| 2023 | 405 Days |
| 2024 | 80 Days |



Hydrographic data collected in Lystad Bay/Horseshoe Island, Antarctica

2. New technologies and /or equipment:

- 2 Portable MBESs
- 1 Portable PH & O₂ Measurement Device
- 2 Research vessels
- 4 Catamaran Survey Boat (all equipped with MBE Systems)



New catamaran type semi-autonomous survey boats

Nautical Charts & updates:

1. ENCs: 277 ENCs are produced by Türkiye.

| Usage Band | No of ENCs |
|------------|------------|
| 1 | 2 |
| 2 | 14 |
| 3 | 35 |
| 4 | 71 |
| 5 | 114 |
| 6 | 41 |
| Total | 277 |

2. ENC distribution method: Turkish ENCs are being distributed through IC-ENC.

3. Paper Charts:

- a. New Charts (since the last meeting)

| Chart No. | Scale | Issue Date |
|-----------|-------|------------|
| 9111 | 2,000 | 22/12/2022 |

- b. New Edition Charts (since the last meeting)

| Chart No. | Scale | New Edition Date |
|-----------|-------------|------------------|
| TR335 | 100,000 | 20/02/2021 |
| TR181 | 100,000 | 22/01/2022 |
| TR20A | 750,000 | 23/12/2023 |
| TR313 | 100,000 | 14/10/2023 |
| TR 18 | 300,000 | 01/07/2023 |
| TR 22A | 300,000 | 18/03/2023 |
| TR 3403 | 10,000 | 02/09/2023 |
| TR 293 | 100,000 | 02/09/2023 |
| TR 2150 | 7,500 | 26/08/2023 |
| TR1421 | Plans Chart | 14/10/2023 |
| TR 333 | 100,000 | 30/09/2023 |
| TR 12 | 300,000 | 07/10/2023 |
| TR 13 | 300,000 | 07/10/2023 |
| TR16 | 400,000 | 30/12/2023 |
| TR23 | 300,000 | 09/12/2023 |
| TR2923 | 50,000 | 23/12/2023 |
| TR3113 | 25,000 | 23/12/2023 |
| TR2 | 4,250,000 | 03/02/2024 |
| TR30 | 1,102,000 | 03/02/2024 |

4. S-100 Products

S-100 Roadmap has been prepared for the products under the responsibility of TN-ONHO. It is a living document and encompasses timelines for all processes and needs for training & softwares regarding S-100 implementation plan. We plan to get started with producing and distributing S-101 products of large-scale INT nautical charts (especially harbours) on 01 January 2026. For other S-100 products, our plan is to finalize the needed processes no later than 2029.

Publications:

1. New publications:

| # | Type | Title |
|---|------|---|
| 1 | NP | Catalogue of Charts and Nautical Publications |
| 2 | NP | List of Lights and Flag Signals |
| 3 | NP | Annual Notice to Mariners |
| 4 | NP | Symbols and Abbreviations used on Nautical Paper Charts (INT 1) |

2. Updated publications:

| # | Type | Title |
|---|------|----------------------------------|
| 1 | NP | Port Regulations |
| 2 | NP | Turkish Straits Navigation Guide |

MSI:

1. Türkiye, with its four NAVTEX stations (İstanbul, Samsun, İzmir and Antalya) has been a reliable provider of Maritime Safety Information (MSI) since 1985. HF NBDP system has been used in Istanbul NAVTEX station in order to increase its coverage area. Modernization of NAVTEX stations and MF systems were accomplished in 2004, rendering these infrastructures capable for remote control from Istanbul Control Centre.

2. MSI Services are provided on 7/24 basis. NAVTEX Stations are transmitting MSI warnings both in English and Turkish on 518 KHz and 490 KHz/4209,5 KHz respectively. Other communication systems (VHF, MF and HF) are also available to promulgate MSI warnings if needed. Turkish Coastal Radio Stations broadcast instant warnings and 24-72 hours weather forecasts both in written and verbal on VHF, MF and HF bands.

3. Türkiye has also fully implemented the distress and safety communication requirements of the GMDSS by establishing VHF-DSC system in 1995 and MF-HF-DSC system in 2004 and making possible HF-DSC ship-to-shore tests on 4,6,8,12,16 MHz bands for vessels on long range. Furthermore, modernization projects of these systems have also been accomplished. The establishment of AIS Base stations along the entire Turkish coastline constitutes another major asset for ensuring maritime safety in surrounding seas.

4. TN-ONHO has been national coordinator for navigational warnings since 23 June 2010. Number of Coastal and NAVAREA Warnings disseminated last three years by TN-ONHO listed below:

| Year | # of NAVTEX Warnings in Blacksea | # of NAVAREA-III Warnings in Blacksea |
|------|----------------------------------|---------------------------------------|
| 2022 | 397 | 112 |
| 2023 | 443 | 11 |
| 2024 | 65 | 4 |

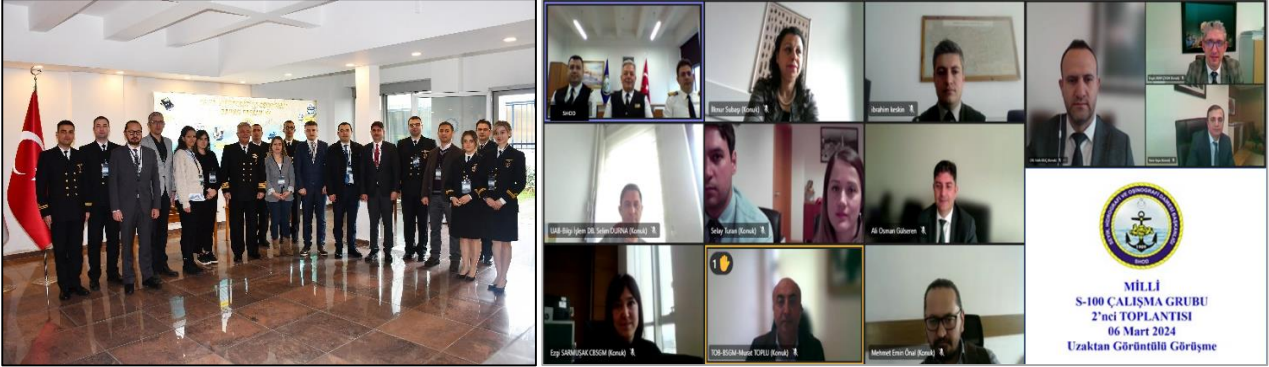
Capacity Building:

1. CAT-B Hydrographic Course of TN-ONHO was recognized by FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) in 2018, for the second time and for another 6 years, following its initial recognition in 2011. Since last meeting three iterations of the course has been completed.
2. Türkiye had meetings on hydrographic matters with Azerbaijan, Bangladesh, Lebanon, Italy and United Kingdom.
3. Cartographic Data Management & Marine Spatial Data Infrastructure Trainings were carried out with participation from the countries of Bulgaria, Romania, Ukraine, Georgia, Lebanon, Malta, Türkiye, Montenegro, Albania, Spain, Italy (total 11 trainees) on 05-09 December 2022.



Cartographic Data Management & Marine Spatial Data Infrastructure

4. National S-100 Working Group Meetings (1-2) have been conducted with the participation from relevant ministries and institutions on 22 November 2023 and 06 March 2024.



National S-100 WG Meetings (1-2)

Oceanographic activities:

General:

1. Ocean is crucial for our life and future. Climate change, marine pollution are the greatest challenges of our time. Türkiye greatly accepts the importance of the Ocean Decade and its vision to achieve the Science We Need for the Ocean We Want. As of Türkiye, we are open to any regional or global cooperation.
2. Türkiye is surrounded by three major seas. Türkiye has always actively participated in the work of different international organizations competent in this field and continues to assist the IOC and IHO in the realization of its high-level objectives. National Decade Committee is one of the key elements for Ocean Decade. That is why Türkiye has established National Decade Committee in the first half of 2021.

3. In accordance with our national regulations, every May or June, we have to organize a national meeting to discuss marine research activities and every December, we have a meeting for coordination of scientific marine research cruise plans.

4. The national board meeting is named as “national meeting on Planning and Coordination Board of the Navigation, Hydrography and Oceanography Services “. We have totally 40 members from different ministries, institutions and universities. In our Board meeting, it was agreed to take the advantage of every opportunity as conferences, events, meetings to introduce and explain the importance of the Ocean Decade all around Türkiye. Conference on Türkiye’s Contributions to UN Decade of Ocean Science with participation more than 200 attendees could be given as an example.

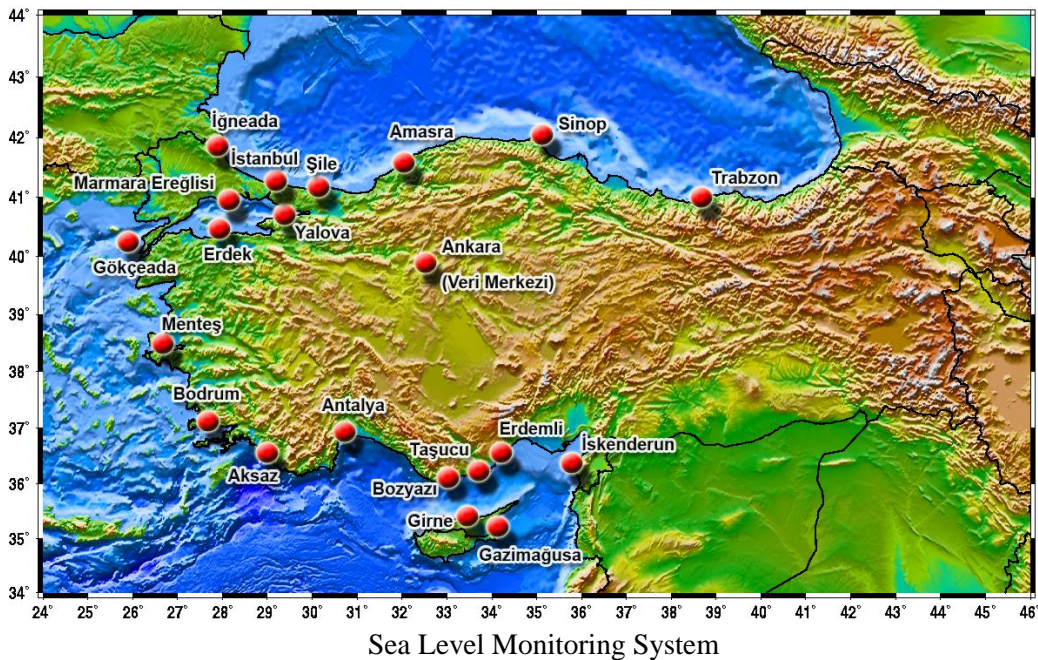
5. Currently TN-ONHO has an active oceanographic branch that can conduct oceanographic, geological and geophysical surveys. Collected data is processed and used for navigational, scientific and operational purpose. TN-ONHO has a geology lab, as well, to analyze the sediment samples with respect to distinct particle size. TN-ONHO also provides operational environmental support to the Navy in the framework of METOC Support and by means of meteorological/oceanographic prediction models and with the support of real-time measurements.



Conference on Türkiye’s Contributions to UN Decade of Ocean Science (26 September 2023)

Tide gauge network:

There are 20 tide gauges operated by General Directorate of Mapping. The locations of the gauges are given below.



Other activities:

1. Participation in within the IHO: TN-ONHO has participated in the following IHO events:

- IHO Assembly
- IRCC Meetings
- CBSC Meetings
- MBSHC Meetings
- WENDWG Meetings

2. Meteorological data collection: TN-ONHO has meteo stations on her survey ships and collects basic meteorological parameters. Meteorological atlases of the seas around Türkiye have been published. As the data sets get bigger the atlases are renewed with latest statistical analysis.

3. Geospatial studies: Chart Display and Information System (CAS DENIZ) has been established in March 2015. CAS DENIZ is a “google earth” like GIS displaying charts, vector Layers, navigational warnings and other geospatial data on a 3D globe.

4. Disaster prevention: Tsunami Warning Systems are essential components of coastal community. We are honoured to host one of the Tsunami Service Providers, the Regional Earthquake and Tsunami Monitoring Centre which is called Boğaziçi University-Kandilli Observatory and Earthquake Research Institute since 2012. It serves regionally in accordance with the IOC High Level Objective “Effective early warning systems and preparedness for tsunamis and other ocean-related hazards. 2022 marks the **10th anniversary** of the operational Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and connected seas (NEAMTWS). KOERI organized a workshop, and we conducted a Tsunami Exercise on the 4th & 5th November 2022 World Tsunami Warning Awareness Day to celebrate its first decade as a candidate Tsunami Service Provider. Lastly, National Tsunami Ready Board was established on 29 March 2023 and those efforts are compatible with the goal of “a safe ocean”.



World Tsunami Warning Awareness Day (5 November 2022)

5. Environmental protection: Ministry of Environment, Urbanization and Climate Change has implemented “Integrated Marine Pollution Monitoring Programme”. Basically, the aim of the national marine monitoring program is to assess chemical and ecological status of our seas. The program is executed with the national budget and serves the Decade aim of “ a clean ocean”. In accordance with our national board decision, in 2023, we celebrate the week of 5th June (Türkiye

Environment Week) with the theme of «Clean Ocean Clean Planet». We organize many activities (cleaning shores, diving, training, bicycle tour etc.) all around Türkiye in that week to raise the awareness on environmental protection.



National Marine Monitoring and Evaluation Symposium -III (2022)

6. IC-ENC: Deputy Director of TN-ONHO Captain Burak Inan was elected as the IC-ENC Chair, with Michael Andrew, Pia Dahl Hojgaard and Leendert Dorst as IC-ENC Vice Chairs on 31 Aug 2023.



IC-ENC Steering Committee Meeting (31 August 2023)