



MBSHC

MARITIME
HYDROGRAPHIC
DIRECTORATE
OF ROMANIA



ROMANIA

NATIONAL REPORT TO MBSHC24

Made by:

CHIEF OF THE MARITIME HYDROGRAPHIC DIRECTORATE

Captain (N) Lucian GRIGORESCU



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Constanta, Romania, 2 – 4 July 2024

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In 2023 we performed the specific measurements for expanding and updating the database managed by the "Romanian Mine Warfare Data Center" in order to increase the safety of navigation in the Romanian territorial waters.

In 2023 we have performed the following surveys:

- Topographic survey of the entire Romanian coastline (yearly activity). During this activity we verify the erosion process and the effects of sediments from Danube River and also the activities done in order to preserve the beaches
- Hydrographic and oceanographic surveys for military purposes;
- Shoreline surveys for military exercises;
- Hydrographic surveys, in order to update the national database in the following areas:
 - Constanta Harbor ; Romanian EEZ;Mangalia Harbor; Midia Harbor approach; Tulcea Harbor.



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IHO

International
Hydrographic
Organization

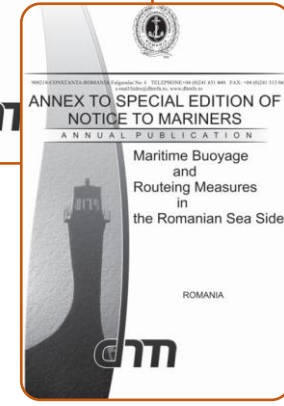
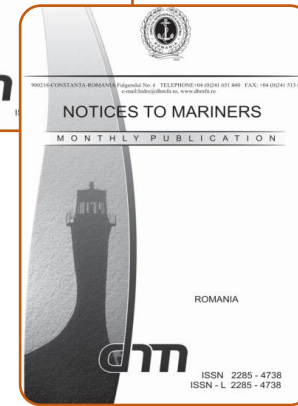
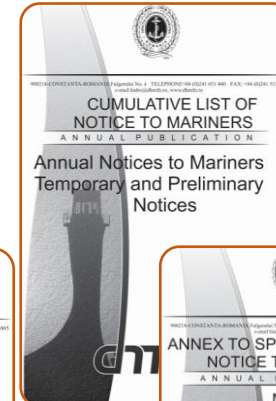
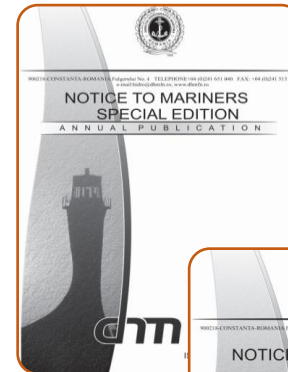
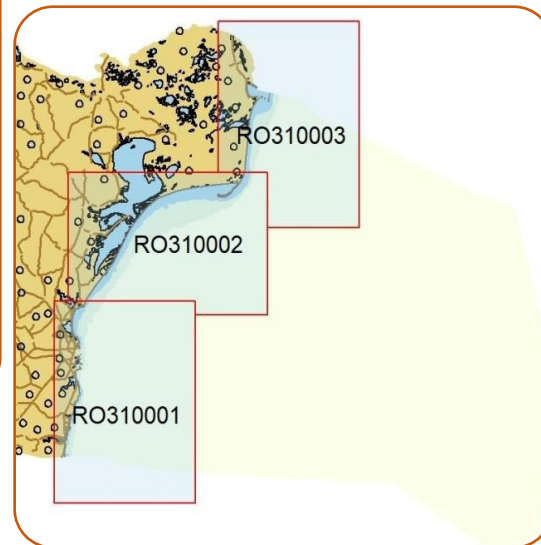
Charts & Nautical Publications

ROMANIAN MARITIME HYDROGRAPHIC DIRECTORATE



We have a 22 ENC cells portfolio. From 1st March 2022 to 31st January of 2024, MHD has produced: 56 updates, 29 new editions for the cells available. Since June 2022 we have sent to distribution, 3 new ENC cells, band 3 as follows: RO310001, RO310002, RO310003.

Notification of the failure of lighthouses or buoys, notification of temporarily prohibited areas and all changes affecting charts in Marmara and Black Sea area are provided, monthly, to users of the marine environment through Notices to Mariners, in Romanian and English languages.

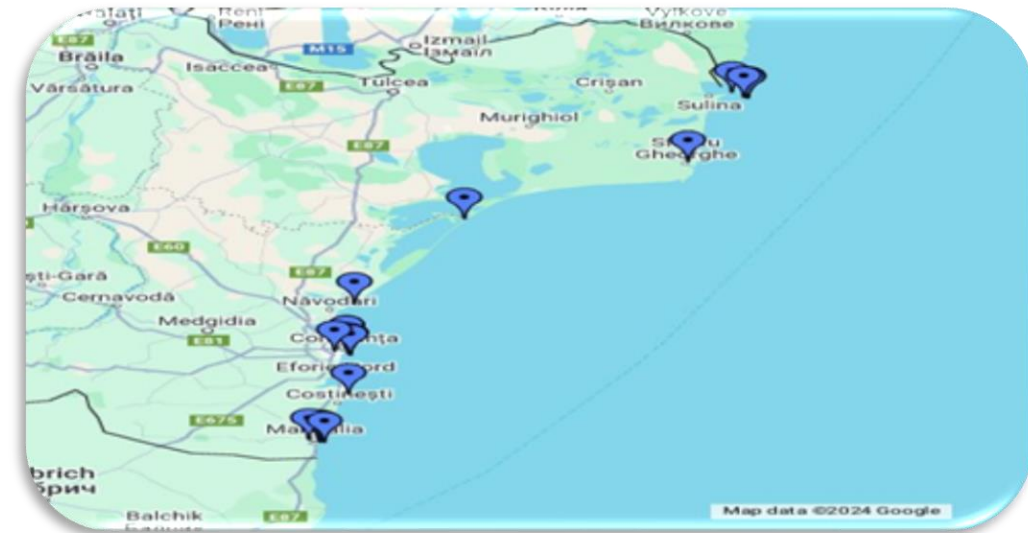


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Maritime safety Information (MSI) & Safety of navigation through maritime signalling

Maritime Hydrographic Directorate is the national coordinator for navigational warnings. MHD promulgates navigational warnings and is cooperating with NAVAREA III coordinator on behalf of Romania. Navigational warnings issued by Maritime Hydrographic Directorate are available on MHD website, on Safety Net for the information that is considered necessary by the NAVAREA coordinator, according to IMO Resolution A.706(17), and on NAVTEX with support from Bulgarian Varna Radio NAVTEX Station.

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The navigation providing to the Romanian seaside is performed by 7 landing lights located in: Mangalia, Tuzla, Constanta, Midia, Gura Portiței, Sf. Gheorge, Sulina

We have 1 radiophare in Constanta, 3 entering lights in Mangalia, Constanta and Midia, 3 groups of entering lights in Mangalia, Constanta and Midia, 4 fog signals in Mangalia, Tuzla, Constanta and Sulina.

Capacity building & Oceanographic activities

One nautical cartographer attended the CAT B cartography training course organized within the GEOMAC (Geospatial Marine Analysis and Cartography) Project between 7th February – 27th May 2022 at UKHO headquarter in Taunton, UK.

One cartographer attended in person the MBSHC CB Workshop on Cartographic Data Management organized by ESRI, in December 2022, in Istanbul, Turkey.

Four cartographers attended online the CB Cartographic Data Management workshop organized by Teledyne CARIS on 20th December 2022.

One person attended in person MBSHC CB Workshop on MSDI Development & Implementation, in December 2022, in Istanbul, Turkey.

One nautical cartographer attended the CAT B cartography training course organized within the GEOMAC (Geospatial Marine Analysis and Cartography) Project between 17th July – 15th December 2023 at UKHO headquarter in Taunton, UK.

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Oceanographic activities

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❑ Tide gauge network:

4 water level monitoring systems in Constanta, Midia, Sulina and Mangalia

❑ Equipment:

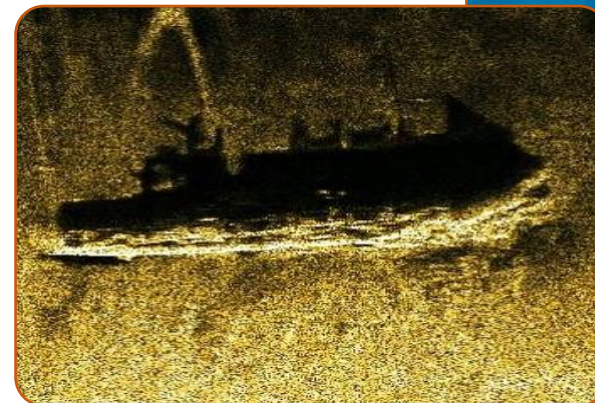
Pressure gauge Valeport tide master

❑ Oceanographic measurements:

Oceanographic measurements were performed for: Midia, Mangalia, coastal route Constanta – Mangalia and the mouth of Danube at the Black Sea (Sulina and Sf. Gheorghe).

❑ Problems encountered:

Lack of training courses for the oceanography personnel



UNDERSEA AWARENESS

- Taking into consideration the new threats that are emerging in the Black Sea, Maritime Hydrographic Directorate (MHD) is developing a subsurface surveillance capability oriented in monitoring the oceanographic parameters in AOR, undersea awareness and detecting and identifying threats to critical infrastructure.

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UNCLASSIFIED//FOUO/REL TO USA, ROU
Romania Undersea Awareness OV-1
 (FY18-FY21 Projects)

Maritime Hydrographic Directorate (MHD) ①
 Facilities in Constanta

Branch of the ROU Navy responsible for collection and processing of oceanographic, meteorological and hydrographic data. The MHD is developing an ocean modeling capability to produce ASW ready products for the ROU Navy Fleet. Analysis and exploitation work performed in cooperation with the ROU Navy ASW Data Center.

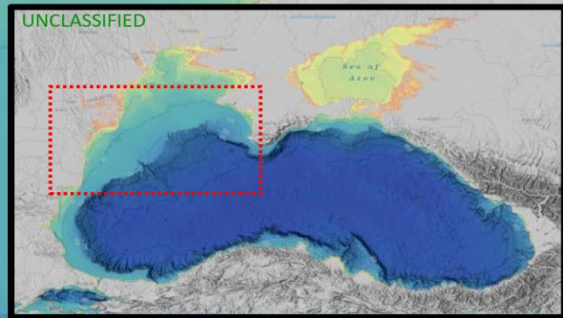
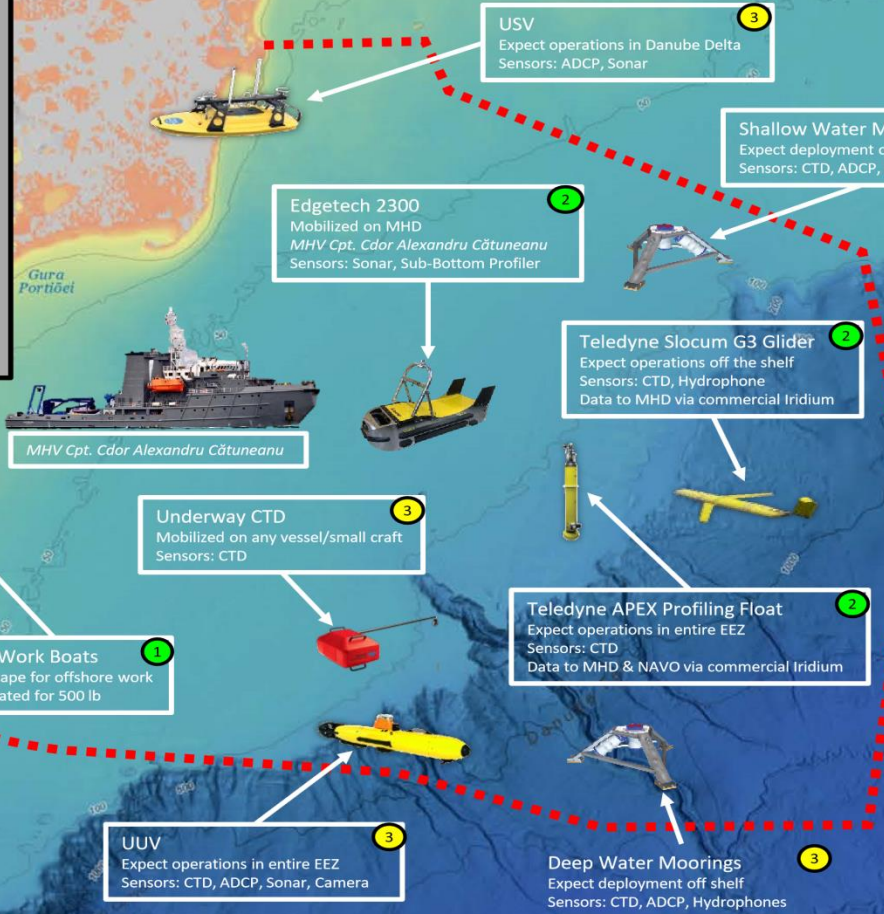
Maritime Hydrographic Vessel (MHV)
 MHV Cpt. Cdor Alexandru Cătuneanu (65m)

Work Boats
 Cpt. Cdor. A. Cătuneanu 1 (7m)
 Cpt. Cdor. A. Cătuneanu 2 (11m)
 2x Small Open Cabin Boats (< 5.5m)

Collected environmental data will be shared with CNMOC and NAVO for additional processing.

ASW Data Center ①
 Facilities in Constanta

Branch of the ROU Navy responsible for exploitation of environmental data for ASW.



Exclusive Economic Zone (EEZ)
 Area:
 Max Depth: ~1,800m
 Percent Area on Shelf: ~66%
 Percent Area off Shelf: ~33%
 Distance from Constanta to Shelf: ~100nm

ROU Undersea Awareness Plan		
Authority	Project Name(s)	Equipment
① FY18 FMF	CNMOC/NAVO Support ASW Training NUWC Support Teledyne Support CMRE Cruise	Primarily Support Services
	Naval Infantry	(2x) 11m Work Boats for MHD
② FY19 S.333	ASW Phase 1	(8x) Teledyne APEX Profiling Floats (8x) Teledyne Slocum G3 Gliders (1x) Edgetech 2300
③ FY21 S.333	ASW Phase 3	(2x) USV (expect Teledyne Z-Boat) (2x) UUV (expect Teledyne Gavia) (8x) Moorings (trade study in progress) (3x) Underway CTD (expect Teledyne rapidCAST)
Funding Status: Approved Proposal Submitted		



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In order to unify all the geospatial information required for the support of Naval Operations in the AOR, the MHD also provides specialized GIS services in the form of special custom digital or analog, thematic or tactical maps. Based on NATO standards or on specifications of military entities, the GIS personnel collects, analyzes, processes and delivers custom Military Geospatial Information that contains topographic, hydrographic, METOC, MCM, NCAGS and other required type of specific data, all connected and integrated in order to provide the most user friendly and optimal interaction and usefulness in support of planning and execution of Navy missions.



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Research-Development and Innovation activities

Recent activities of the RD&I Center include:

- ❑ four national research projects in the Sectoral Research and Development Plan under Ministry of Defence;
- ❑ international “RIPTIDE” project, European Space Agency - a first phase in developing a resilient PNT solution dedicated to the particularities of the Black Sea and Danube Lower Basin region;
- ❑ international “QUIETSEAS” project - *Assisting (sub) regional cooperation for the practical implementation of the MSFD second cycle by providing methods and tools for D11 (underwater noise)*, European Commission – DG Environment Nr. 110661/2020/839603/SUB/ENV.C.2. (<https://dhmfn.ro/en/quietseas.shtml>);

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Research-Development and Innovation activities

- winning by competition within the call HORIZON-CL4-2023-SPACE-01
Topic: HORIZON-CL4-2023-SPACE-01-34 - FOCCUS project no. 101133911 -
Forecasting and observing the open-to-coastal ocean for Copernicus users, with a
duration of 36 months (starting date 1 January 2024);
- 1 ISI paper as co-author: Elena Stancu, Gianina Chiroasca, Maria Emanuela
Mihailov, Alecsandru Vladimir Chiroasca, 2023. Neutron field exposure estimation
using passive cr-39 detectors within a water tank using a moderated PuBe neutron
source, Romanian Journal of Physics, vol. 68, no. 5-6, art. no. 302;
- and 1 Open-access academic quarterly, nationally acknowledged by
CNATDCU, indexed in CEEOL, EBSCO, Index Copernicus, ProQuest, WorldCat
and ROAD international database: Climate change and security: the case for Black
Sea, authors: Maria – Emanuela MIHAILOV, Lucian GRIGORESCU and Romel
PERA, Strategic Impact nr. 3/2023, Eds. “Carol I” National Defence University
Publishing House Bucharest, Romania

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CONCLUSIONS

- ❑ The cooperation with Hydrographic Services and national research institutes regarding the hydrographic activity, education and information exchange represent key points in improving the quality of hydrographic products and services in the near future in Romania. Maritime Hydrographic Directorate will continue to strengthen the cooperation in the field of hydrography and cartography with similar organizations within and outside the Black Sea.
- ❑ The cooperation in the field of hydrography, marine cartography and oceanography conducted to good results on the coverage of the responsibility areas, reducing the financial and human effort involved in such activities.



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THANK YOU FOR YOUR ATTENTION

Constanta, Romania, 2 – 4 July 2024

MARITIME HYDROGRAPHIC DIRECTORATE OF ROMANIA
No.1 Fulgerului Street, Constanta, 900218, Romania
TEL/FAX: + 40 241 513 065
TEL: + 40 241 651 040
E-mail: hidro@dhmf.ro
Web: www.dhmf.ro