



THAILAND

NATIONAL REPORT

23rd MEETING OF THE NORTH INDIAN OCEAN
HYDROGRAPHIC COMMISSION (NIOHC23)

CHIANGMAI, THAILAND

21st – 23rd May 2024

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1. Hydrographic Office / Service

Established in 1921, Hydrographic Department, Royal Thai Navy or “HDRTN” is Thailand national hydrographic office whose mission is to carry out the function of organization covering hydrographic and oceanographic surveys, tidal gauge installation and tidal prediction, aids to navigation installation and maintenance, produce nautical charts and publications, issue Notice to Mariner, standard time keeping, marine meteorological forecasting and other activities for safety of navigation to support both public and military need in Thai waters within the Gulf of Thailand and the Andaman Sea. The present Director General is Vice Admiral Komsan Klinsukon, who has held this position since 1st October 2023 up until now.



Figure.1 The Organizational Structure of HDRTN

2. Surveys

2.1 Hydrographic Survey Activities

HDRTN conducted 6 hydrographic surveys since last year. The results of such hydrographic surveys were utilized for production of nautical charts and other charts required by Royal Thai Navy and maritime community.

Type of survey	FY 2023
Harbor Survey	2
Approach Survey	3
Coastal Survey	-
General Survey	1
Total	6



To meet IHO standard S-44, HDRTN has been strengthening the hydrographic infrastructure, pushing forward the generalization and application of new technologies and equipment. To improve the capability and quality of Thai's hydrography, HDRTN currently possesses a series of modern equipment, such as multi-beam echo-sounders, side-scan sonar, high accuracy GPS/DGPS and UAV with 1 multipurpose vessel for hydrographic surveying "HTMS.Pharuehatsabodi", 1 offshore hydrographic survey vessel "HTMS.Chantara", 5 coastal survey boats namely Loma1 – 3 and Dao Talay1 – 2 equipped with modern survey instruments on board and make great progress in the function exploration and technical application of advanced equipment. Additionally, A new Hydrographic operation ship is being built and plan to be commissioned in the end of 2025

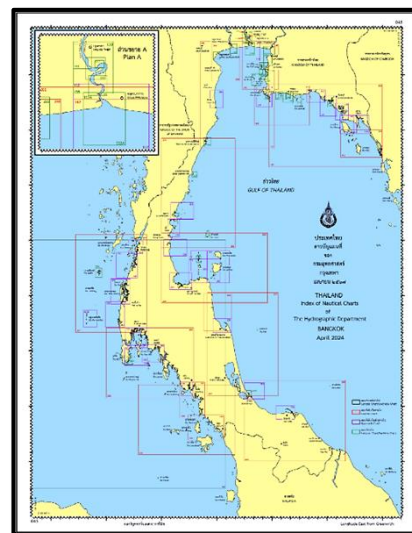
3. New Charts and Updates

The production of nautical charts and Electronic Navigation Charts (ENCs) are progressing well with the improvement of new software and hardware capabilities. The results of those mentioned surveys in 2021-2022 were then implemented to produce Thai nautical charts and other related charts in Thai waters.

3.1 *Paper Charts*

HDRTN has produced totally 81 paper charts (large, medium, small scales) covering Thai waters.

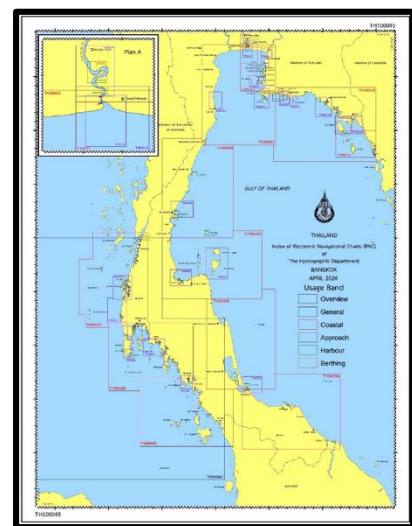
- Offshore passage/Small scale: 2 paper charts (out of 4 planned charts) = 50%
- Coastal passage/Medium scale: 16 paper charts (out of 16 planned charts) = 100%
- Approaches & Ports/Large Scale: 63 paper Charts (out of 63 planned charts) = 100%



3.2 *Electronic Navigation Chart (ENC)*

HDRTN have currently planned the ENC covering Thai waters by 56 ENC Cells in different navigational purpose bands. Including 1 Overview, 1 General, 11 Coastal, 24 Approach, 17 Harbour and 2 Berthing cells.

Referring to 81 of paper charts number The remaining unissued 27 ENC cells, mostly small and medium scales including inset plan, are needed to be re-surveyed due to out of date data and non-WGS84 framework.



3.3 INT Charts

HDRTN has planned INT charts under the coordination of Area coordinator “J”.

Item	Thai Chart No.	INT Chart No.	Chart Name

4. New Publications and Updates

HDRTN has been producing and updating a number of publications, including

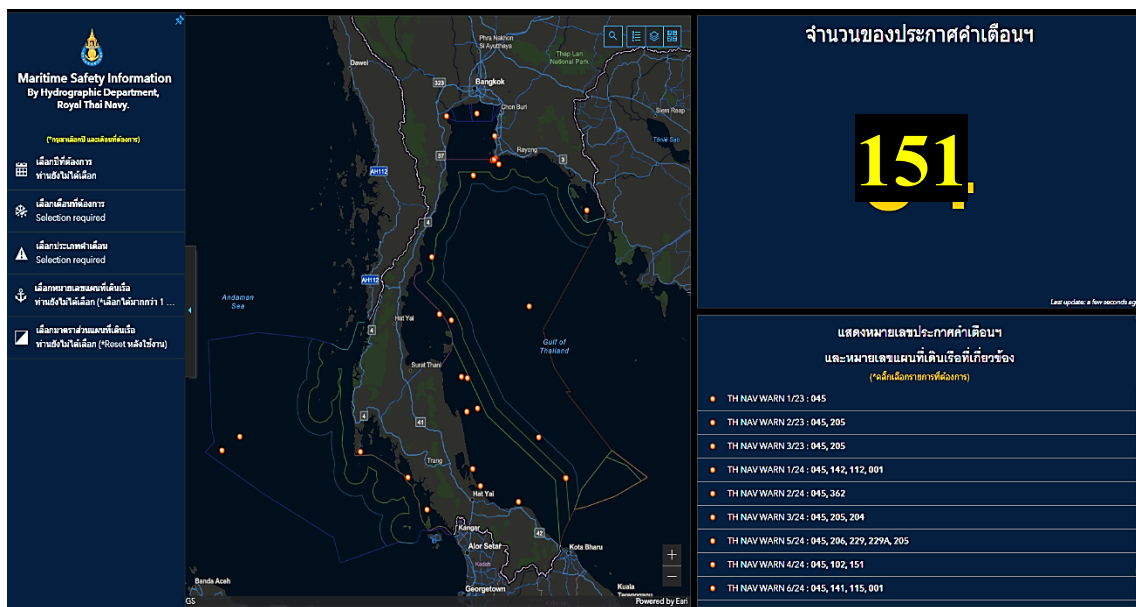
- Tide table in Thai Water A.D.2023
- Sunrise-Sunset and Moonrise-Moonset Thailand A.D.2023



5. Maritime Safety Information (MSI)

In 2023, HDRTN issued 10 NTMs and 151 MSIs both in Thai and English Languages. They were distributed through the Navy Radio stations run

by Royal Thai Navy and Bangkok Radio coast stations run by National Telecom (NT) (Public) Co. Ltd. Notices to Mariners and marine weather forecast were broadcasted by those two organizations but NT additionally provides 4 coastal stations to service telecommunication between ship to shore and among ships via VHF, MF and HF bands. Such information is mostly concerned with nautical charts update, safety of navigation, maritime distress monitoring, natural disaster warning and other information necessary to mariners.



6. C-55 (See Annex A.)

6.1 Status of Hydrographic survey of all navigable waters, including internal waters, out of the limits of the EEZ

Survey coverage, where:

A = percentage which is adequately surveyed.

B = percentage which requires re-survey at larger scale or to modern standards.

C = percentage which has never been systematically surveyed.

	A	B	C
Depth < 200 m	69	31	0
Depth > 200 m	40	60	0

6.2 Status of Nautical Charting Information

Coverage of charts published by HDRTN, where:

A = percentage covered by INT series, or a paper chart series meeting the standards in S-4.

B = percentage covered by Raster Navigational Charts (RNCs) meeting the standards in S-61.

C = percentage covered by ENC's meeting the standards in S-57.

	A (%PaperCharts)	B (% RNC)	C (% ENC)
Offshore passage/Small scale	100	-	100
Landfall and Coastal passage/Medium scale	100	-	100
Approaches & Ports/Large Scale	100	-	100

Note: - Paper Charts

HDRTN Paper charts showing depth in meters covered 100%

- Already produced 81 paper charts
- Offshore passage/Small scale: 2 paper charts
- Landfall and Coastal passage/Medium scale: 16 paper charts
- Approaches & Ports/Large Scale: 63 paper charts
- Paper charts referenced to a satellite datum (WGS84) covered 68%
- 55 Charts referenced to WGS84 datum.
- 26 Charts referenced to Indian 1975 datum.

- ENC's

HDRTN has already produced 56 ENC's

- Offshore passage/Small scale: 2 ENC's
- Landfall and Coastal passage/Medium scale: 11 ENC's
- Approaches & Ports/Large Scale: 43 ENC's

6.3 Status of Maritime Safety Information

6.3.1 Navigational Information

SERVICE	Yes	No	Partial	Notes
Local warnings	/			Issued by HDRTN and Marine Department Coordinated with NT (public) Co,Ltd.
Coastal warnings	/			
Navarea warning NAVAREA	/			By NAVAREA XI
Information on ports and harbours	/			By Port Authority and Marine Department

6.3.2 GMDSS Implementation

SERVICE	Yes	No	Partial	Notes (run by)
Master Plan	/			Under proceeding by Marine Department
A1 Area1	/			National Telecom (Public) Co. Ltd.
A2 Area2	/			
A3 Area3	/			
NAVTEX	/			
Safety NET	/			

7.Capacity Building Program

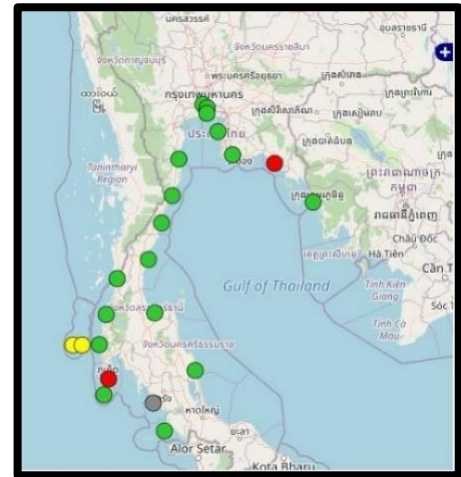
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8. Oceanographic Activities

8.1 *Tide Prediction*

The HDRTN Sea Level Monitoring Array currently consists of 29 permanent gauges monitoring sea level around the Thai Coastline, including the Chao-Phraya River. The locations of the gauges are shown in Figure. Near real time data are published and can be located on the website at:

<http://www.hydro.navy.mi.th/index1.php>



8.2 *Sea Level determination*

Supporting sea level data to Permanent Service for Mean Sea Level (PSMSL) and University of Hawaii Sea Level Center (UHSLC).

8.3 *Tide gauge programme*

The HDRTN provides tide table on 29 sites around the Thai waters. Using harmonic constants derived from one year's observations of tide gauges from HDRTN, Port Authority of Thailand, and Marine Department for the tide prediction. The predictions are published and can be located on the website at:

<https://www.hydro.navy.mi.th/tidetables.html>

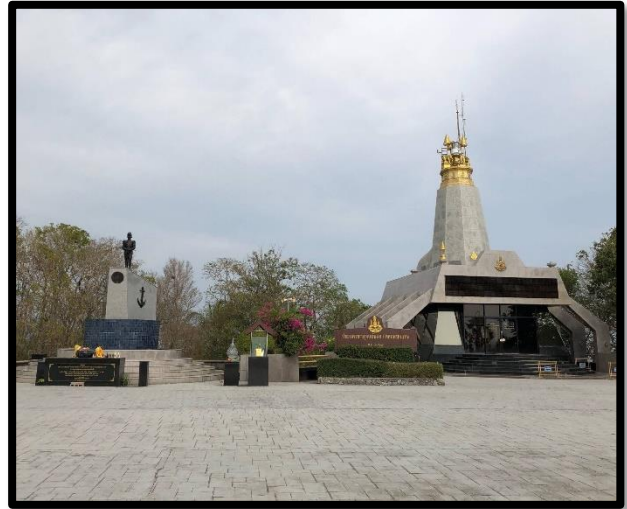


9. Other Activities

9.1 Aids to Navigation Activities

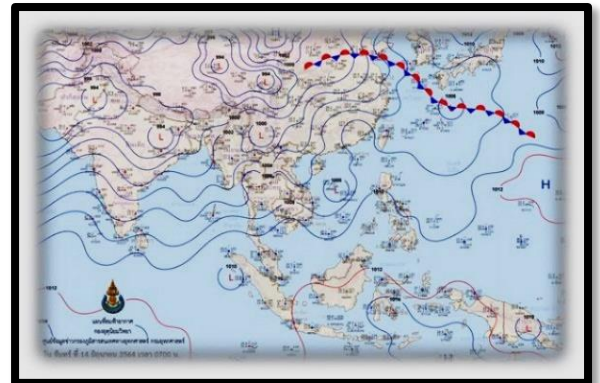
9.1.1 Maintenance of Aids to Navigation along The Gulf of Thailand and Andaman sea including 9 lighthouses, 78 beacons, 6 leading lights, 101 buoys.

9.1.2 Installation of Automatic Identification System (AIS) into Aids to Navigation along the Gulf of Thailand and Andaman sea including 8 Base Stations, and 32 AtoN station.



9.2 Marine Meteorological Activities

HDRTN do all marine meteorological processes, weather observation, weather chart, marine time weather prediction and marine severe weather warning in responsibility areas for establish information and serve directly to the Royal Thai Navy and mariners parallel with Thai meteorological Department.



9.3 Standard Time Keeping Activity

One of the task of HDRTN is standard time keeping for the nation with cesium clocks including national standard time, international time telling service and time transfer In cooperation with The National Institute of Metrology Thailand (NIMT)



9.4 International Activities

HDRTN participated in the international activities as follows:
OCTOBER 2023 - Attended 7th IHO Council Conference, Monaco
NOVEMBER 2023 - Attended Conference on the Draft General
Regulations and Financial Regulations,IALA Japan
MARCH 2024 - Attended 10th EAHC SC 10 Conference, Indonesia
- Attended 15th MSDIWG Meeting, Indonesia

10. Conclusion

Since established in 1921, HDRTN has been engaged in carrying out hydrographic/oceanographic surveys and observations. The outcome of these surveys and observations has been made beneficially available to mariners, military, private sectors and governments for safety of navigation and sustainable development of the country.

In recent years, HDRTN has contributed such a great effort to increase the safety of navigation, to prevent marine disasters and to protect marine environment through its activities and making full use of the forefront technology. It has an intention to promote cooperation with other hydrographic officers not only on a regional basis but also on a global level.

ANNEX A.

Input to the IHO Publication P-5 (Yearbook)

Country: Thailand
Organization: Hydrographic Department Royal Thai Navy

(Please provide the information in English)

Contact information	
-National Hydrographer or equivalent	Post: Director General, Hydrographic Department, Royal Thai Navy. Name: VAdm. Komsan Klinsukon Postal address: 222 Rimthangrotfaikao Rd, Bangna-Tai, Bangna, Bangkok, THAILAND 10260. Tel: +662-475-2251 Fax: +662-475-7001 Email: hydrotechhdrtn@gmail.com
-Head of the Hydrographic Office (if different from the person indicated above)	Post: Name: Postal address: Tel: Fax: Email:
-Other point(s) of contact	Cdr.Intira Netmukda
-Web site	http://www.hydro.navy.mi.th
Country information	
-Declared National Tonnage	Tonnage: 3846758 tons (ACL 08/2019)
-National day	5 December
-Date of establishment and Relevant National Legislation	16/01/1922
-Date first joined IHO	21/06/1921 (as Siam)
-Date ratification Convention	13/03/1972

-Remarks on membership				
Agency information/ Information sur l'agence/ Información sobre la agencia				
-Top level parent organisation	The Royal Thai Navy.			
-Principal functions of the organisation or the department	To collect, evaluate, compile, produce and distribute hydrographic and oceanographic information including nautical chart, sailing direction and aids to navigation.			
-Total number of staff employed	App 500			
-Number of INT charts published	4			
-Total number of paper charts published	81			
-Number of ENC cells published	56			
-Type of publications produced	Tide Table in Thai Waters (annually) List of Lights and Bouys in Thai Waters. Sun & Moon rise-set Table.			
-Detail of surveying vessels/ aircraft	-Name	-Displacement	-Date Launched	-Number of crew
	H.T.M.S. CHANTARA	966	1961	50
	H.T.M.S SUK	1526	1982	45
	H.T.M.S SURIYA	960	1979	54
	H.T.M.S PHARUEHATSABODI	1773	2008	52

Input to the IHO Publication C-55 (Status of Hydrographic Surveying and Charting Worldwide)

Country: THAILAND

(Please provide the information in English)

C-55 Summary for:				Comments on Charts:
Country:	THAILAND			
Country IsoCode:	TH			
Country SubCode:				
INT Region:	K, J			
Country/Dependent:	C			
Last updated:	01/3/2023			
Provided by:	HDRTN.			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	Comments on Surveys:
INT	100	100	100	
RNC	-	-	-	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum(%)			68	
Status of surveys	Adequate(%)	Resurvey(%)	No survey(%)	
0-200m	69	31	0	
> 200m	40	60	0	

MSI	Y/N	Comments on MSI:
Local warning	YES	Issued by HDRTN and Marine Department Coordinated with NT (public) Co.,Ltd.
Coastal warning	YES	
Nav warning	YES	By NAVAREA XI

Port warning	YES	By Port Authority and Marine Department
GMDSS	Y/N	Comments on GMDSS:
Master Plan	YES	Under proceeding by Marine Department
Area A1	YES	National Telecom (Public) Co. Ltd.
Area A2	YES	National Telecom (Public) Co. Ltd.
Area A3	YES	National Telecom (Public) Co. Ltd.
NAVTEX	YES	National Telecom (Public) Co. Ltd.
SafetyNet	YES	National Telecom (Public) Co. Ltd.

National MSI Self-Assessment

Country: THAILAND
 Organization: HYDROGRAPHIC DEPARTMENT
,ROYAL THAI NAVY.

(Please provide the information in English)

1. Maritime area

Thailand has long coastlines with the Andaman Sea and Strait of Malacca to the west and the Gulf of Thailand to the east, extended to its EEZ where the areas meet maritime boundaries with neighbouring countries. Thailand's western sea territory stretches from the west coast of southern Thailand in the Andaman Sea and the Strait of Malacca. It shares treaty-defined maritime boundaries with Myanmar, the Andaman with India, Indonesia and Malaysia.

2. Operational Points of Contact for the National Coordinator

INSTITUTION	TELEPHONE	FACSIMILE	EMAIL
Office of the Search and Rescue Commission, Ministry of Transport 71 Ngarm-Duplee, Rama IV Road, Tung Mahamek, Sathorn District, Bangkok 10120, Thailand (Mr. Phitak Rerngphitak)	+66 22855-450	+66 22873186	bkkrc@yaho.co m bkkrc@mot.go.t h

Vessel Traffic Control and Maritime Security Office, Marine Department, Sriracha, Chonburi 20230. Thailand (Mr. Thanatip Jantarapakdee)	+66 38495161-2 +66 908926336	+66 38495163	srirachavts@hotmail.com srirachavts@gmail.com thanatipj@hotmail.com
Air Navigation Services Standards, Civil Aviation Authority of Thailand (Ms. Chalintra Thanakankorn)	+66 25688825	-	chalintra.t@caat.or.th

3. GMDSS Master Plan

GMDSS Master Plan Up to date in IMO GISIS Database in June 2021

Equipment Type for Ports and Local Area	Software Version		Date of Up-date

[Detail the number of warnings identified as immediate priority (requiring transmission within 30 minutes) and the average elapsed time for passing to NAVAREA coordinator, as reported to the last RHC meeting]:

Year Y-2		Year Y-1		Year Y	
Total	Average elapsed time	Total	Average elapsed time	Total	Average elapsed time
xx	xx.x Mins	xx	xx.x Mins	xx	xx.x Mins

4. NAVTEX Coverage:

Area	NAVTEX Coast Station	Position of Antenna	Range (NM)	B1 Character	Transmission Time (UTC)	Language	Status of Implementation
11	Bangkok Radio	13 01 .47 N. 100 01.20 E	400	F	005 0 045 0 085 0 125 0 165 0 205 0	English	Operational
11	Bangkok Radio	09 18 54.8 N. 099 42 15.7 E.	400	G	010 0 050 0 090 0 130 0 170 0 210 0	English	Operational

5. Operational Issues:

[New infrastructure in accordance with GMDSS Master Plan; Problems encountered?]

6. Contingency Planning

Thailand has the Emergency response plan Such as Search and Rescue Plan , Oil Spill Response Plan , Other Emergency situation (Collision , Grounding , Fire on Board)

7. Capacity Building

*Require : Exchange experience and best practice, training program with neighboring country
e.g. Malaysia Singapore, Indonesia, or other country.*

8. National Maritime Website
 - www.md.go.th
 - www.navy.co.th
 - www.cattelcom.com

9. Recommendations

Set up a sharing experience on the MSI implementation with neighboring countries.

10. Summary

[Please provide a short summary of this paper which will be included in the final report of the meeting.]