



THAILAND

NATIONAL REPORT

18th NORTH INDIAN OCEAN HYDROGRAPHIC
COMMISSION (NIOHC) CONFERENCE

Goa, India

9th – 12th April 2018

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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 prediction, aids to navigation maintenance, marine environment, nautical charts and publications, standard time keeping, marine meteorological forecasting and other activities for safety of navigation to support both public and military needs in the Gulf of Thailand and the Andaman Sea. The present Director General is Vice Admiral Winai Maneeprag, who has held this position since 1st October 2017 up until now.



Figure.1 The Organizational Structure of HDRTN

2. Surveys

2.1 *Hydrographic Survey Activities*

HDRTN had conducted 4 hydrographic surveys during last fiscal year. The results of such hydrographic surveys have been utilized for production of nautical charts and other charts required by Royal Thai Navy and maritime community.

Type of survey	FY 2017
Harbor Survey	-
Approach Survey	3
Coastal Survey	1
General Survey	-
Total	4



To meet IHO S-44 standard, HDRTN has been strengthening the hydrographic infrastructure construction, pushing forward the generalization and application of new technology and equipment, and improving the capability and quality of hydrography. Currently, HDRTN possesses a series of modern equipment such as multibeam echo sounders, side scan sonar, high accuracy DGNS, etc.

3. New Charts and Updates

The production of nautical charts and Electronic Navigational Charts (ENCs) are progressing well with the improvement of modern software and hardware capabilities. The results of those mentioned surveys in 2016-2017 were then implemented to produce Thai nautical charts and other related charts in Thai waters. Nautical charts produced in 2017 are shown as follows:

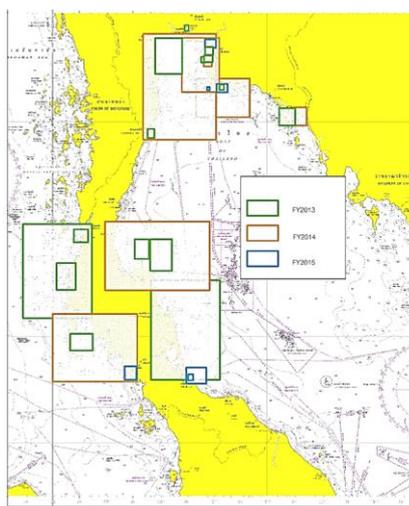
Type of Production	FY 2017
New Edition	3
Total	3

3.1 Paper Charts

HDRTN has produced totally 80 paper charts (large, medium, small scales) covering Thai waters. The followings are the charts produced in 2017.

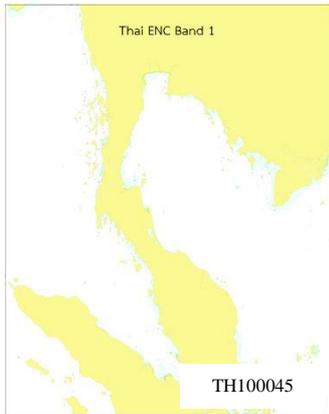
Produced 3 New Edition Charts

Thai Chart Number	INT Chart	Title	Scale	Datum
120	-	Chong Ko Chang	45 000	WGS84
142	-	Paknam Chao Phraya to Ko Rin	90 000	WGS84
246	-	Hua Hin	40 000	WGS84

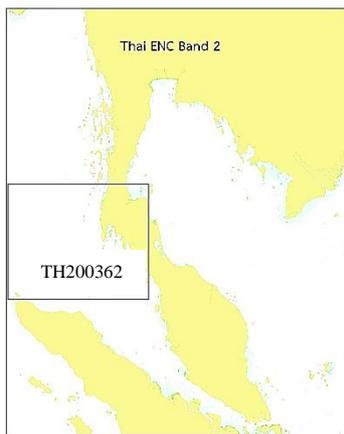


Fiscal Year	New edition
FY 2013	15
FY 2014	6
FY 2015	6
FY 2016	4
FY 2017	3
Total	34

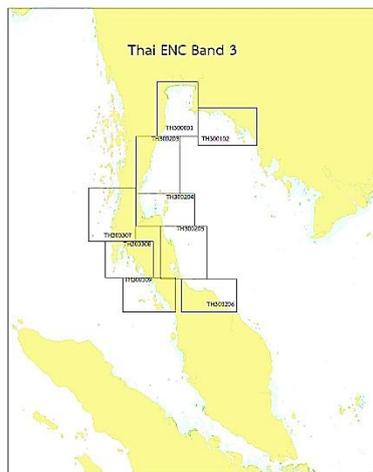
TH Paper charts produced in 2017



TH Overview Usage Band Coverage



TH General Usage Band Coverage



- TH300001
- TH300102
- TH300203
- TH300204
- TH300205
- TH300206
- TH300307
- TH300308
- TH300309

TH Coastal Usage Band Coverage

3.3 INT Charts

Earlier, HDRTN has proposed 4 paper charts to be recognized as INT charts under the coordination of Area “J” Coordinator. On 26 Nov 2015, Coordinator J cancelled the 4 Thai INT charts, and informs coordinator “K” to consider for allocation of new INT numbers in area “K”

Item	Thai Chart No.	INT Chart No.	Chart Name
1.	308	7448	Phuket to Kantang
2.	335	7449	Phuket Harbour
3.	335A	7450	Ao Man and Approaches
4.	362	7033	Satun to Ranong

4. New Publications and Updates

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

- The Electronic Navigational Chart’s Handbook 2014
- List of Lights and Buoys in Thai Water 2013
- Tide table in Thai Water A.D.2018
- Sunrise-Sunset and Moonrise-Moonset Thailand A.D.2018
- English – Thai Hydrographic Dictionary, 2017



5. Maritime Safety Information (MSI)



In 2017, HDRTN issued 55 navigational warnings 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 CAT Telecom (Public) Co. Ltd. Notices to Mariners and marine weather forecast were issued by such two organizations but the latter one provides 4 coastal stations to additionally service tele-communication

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.

Previously, HDRTN had disseminated navigational warning messages by mean of Temporary Notices to Mariners. After the completion of MSI Course in Oman, Thai participant delivered knowledge to Navigational information services division’ staffs. From March 2016, 85 navigational warnings have been issued for safety of navigation within Thai waters.

6. C-55

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	65	35	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 M-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 (% Paper Charts)	B (% RNC)	C (% ENC)
Offshore passage/Small scale	40	-	40
Landfall and Coastal passage/Medium scale	100	-	81
Approaches & Ports/Large Scale	100	-	100

Note: - Paper Charts

- HDRTN has already produced 80 paper charts (out of 83 planned charts)

- Offshore passage/Small scale: 2 paper charts (out of 5 planned charts) = 40%

- Landfall and Coastal passage/Medium scale: 20 paper charts (out of 20 planned charts) = 100%

- Approaches & Ports/Large Scale: 58 paper charts (out of 58 planned charts) = 100%

- ENC's

- HDRTN has already produced 39 ENC's (out of 44 planned ENC's)

- Offshore passage/Small scale: 2 ENC's (out of 5 planned ENC's) = 40%

- Landfall and Coastal passage/Medium scale: 9 ENC's (out of 11 planned ENC's) = 81%

- Approaches & Ports/Large Scale: 28 ENC's (out of 28 planned ENC's) = 100%

6.3 Status of Maritime Safety Information

6.3.1 Navigational Information

SERVICE	Yes	No	Partial	Notes
Local warnings	/			Issued by HDRTN Coordinated with CAT Telecom 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			/	
A2 Area2		/		
A3 Area3		/		
NAVTEX	/			CAT Telecom Co. Ltd.
Safety NET	/			

7. Capacity Building Program

In 2017

- 1 officer to attend Master's Degree in Oceanography in UK
- 1 officer to attend Master's Degree in Meteorology in UK
- 1 officer to attend IHO CAT A Hydrography in India
- 1 officer to attend IHO CAT B Cartography at UKHO
- 1 officer to attend EAHC Training For Trainer, Hydro CAT C, in South Korea.

8. Oceanographic Activities

8.1 *Tide Prediction*

The HDRTN provides tide table on 29 sites along Chao-Phraya River, Gulf of Thailand and the Andaman Sea. The tide prediction uses raw data from HDRTN, Port Authority of Thailand, and Marine Department tide gauge networks.

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), Japan Coast Guard and National Oceanic and Atmospheric Administration (NOAA).

8.3 *Tide Gauge Programme*

Two tide gauges have been upgraded along the Chao-Phraya River. In Andaman Sea, six radar tide gauges are already installed and two acoustic tide gauges was changed to radar tide gauges in 2014. Tide gauge in Gulf of Thailand are seven radar tide gauges, one acoustic tide gauge and two buoy tide gauges.

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, 79 beacons, 6 leading lights, 77 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 39 A to N station.

9.2 Marine Meteorological Activities

In cooperation with meteorological authorities, HDRTN has established a couple of automatic weather stations along Thailand coast for the observation of air temperature, relative humidity, air pressure, wind, precipitation rainfall, and visibility. The action maximally realized the integration of resources and sharing of information, and serve directly to the mariners.



9.3 Standard Time Keeping Activity

One of the tasks of HDRTN is standard time keeping for the nation with cesium clocks including national standard time, international time telling service and time transfer. All time transfers can be traced back to international time standard provided by Bureau International des Poids et Mesures (BIPM).

9.4 International Activities

HDRTN participated in the international activities as follows:

- Feb 2017 - Attended EAHC 4th Steering Committee Meeting, Japan
- Attended EAHC Training and Research Development Committee Board of Directors Meeting, Japan
- April 2017 - Attended 1ST Session of the IHO Assembly, Monaco
- June 2017 - Attended Intergovernmental Oceanographic Commission Assembly, France
- July 2017 - Attended International Cartographic Conference, USA
- February 2018 - Attended EAHC Steering Committee, China

10. Conclusions

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 to make both safer navigation and sustainable country development.

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.
