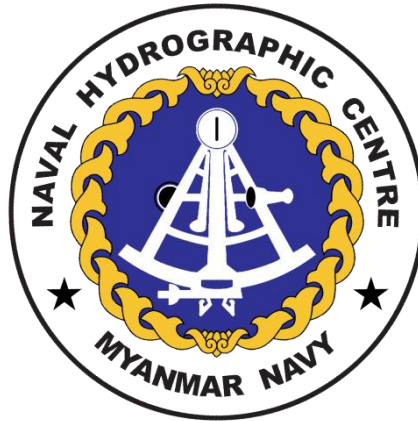


Myanmar Naval Hydrographic Centre-MNHC



**MYANMAR
NATIONAL REPORT**

TO

**NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION
(NIOHC-23) MEETING**

21st-23rd May 2024, Chiang Mai, Thailand

NATIONAL REPORT TO REGIONAL HYDROGRAPHIC COMMISSION

THE REPUBLIC OF THE UNION OF MYANMAR (NIOHC-23)

1. Hydrographic Office / Service

1.1 Myanmar Naval Hydrographic Centre-MNHC was founded since 1952 has been conducting hydrographic surveys and producing nautical charts. MNHC is the only one authorized government organization which has solely responsibility of producing charts in the country though it is established under Myanmar Navy. MNHC is working together with International Hydrographic Community now days and other local government organizations such as Myanmar Port Authority, Myanmar Oil and Gas Enterprise-MOGE, Department of Marine Administration-DMA and Directorate of Myanmar Inland Waterway, etc.

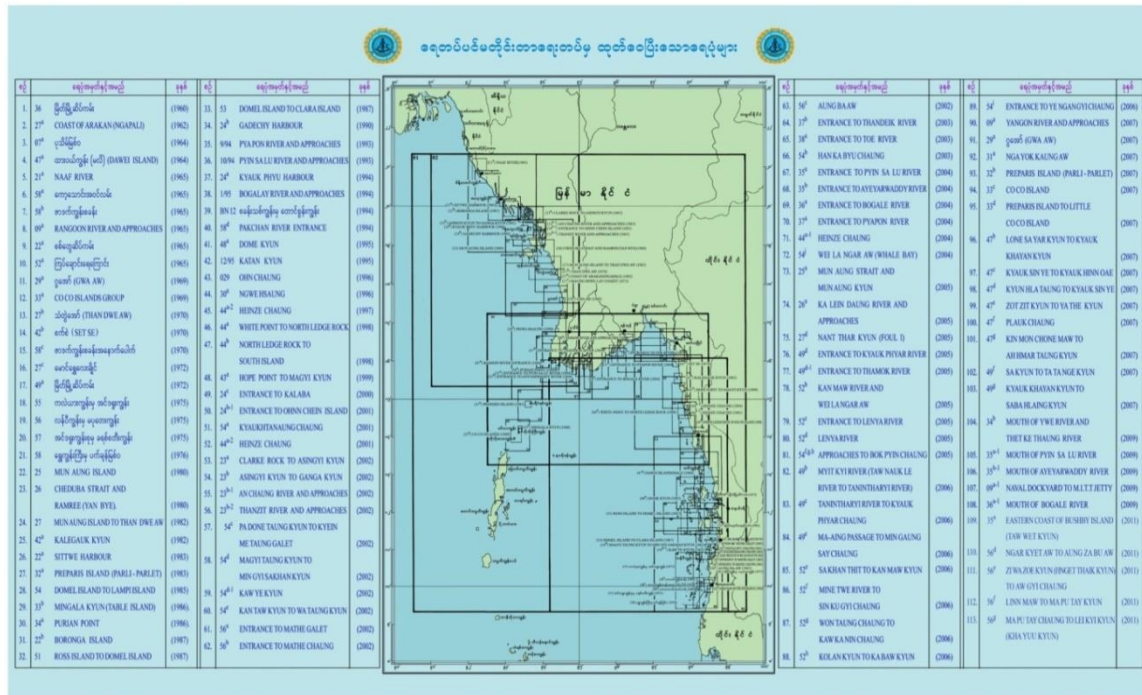
1.2 MNHC is also responsible for Maritime Safety Information-MSI in the working network of neighboring navies, NAV AREA Coordinator and Foreign HOs as a Maritime Safety Information Division is organized under its control.



2. Surveys

2.1 MNHC is focusing on National Shipping Volumes at Major and Minor Ports and producing the nautical charts in accordance with IHO standards. MNHC also aims to participating in International Hydrographic Events and Hydrographic Communities at different levels.

2.2 MNHC is also to conduct hydrographic surveys at National Waters in accordance with MNHC's own chart scheming.



2.3 Upon MNHC coastal chart scheming, the following coastal and river channel areas have also been surveyed by survey ship during (2022-2023) Survey Season-

- (a) Approaches to Dawei Deep Sea Port (Southern Coast of Myanmar) (India Joint Survey)
- (b) Heinze Island (Southern Coast of Myanmar) (India Joint Survey)
- (c) Dawei Deep Sea Port Project Area (Southern Coast of Myanmar) (India Joint Survey)
- (d) Maungmagan Passage (Southern Coast of Myanmar)
- (e) Approaches to Mawlamyine River
- (f) Mouth of Mawlamyine River

2.4 **Technologies used in Surveys:** Coastal area was surveyed by UMS-Innya and UMS-Innlay with Kongsberg Multi-beam System and Geoswath Plus Shallow Water Multi-beam System and Bathy-500 MF Single-beam ES.

2.5 **Data Logging Systems:** The following software were used for data logging-

- (a) Hypack Data Acquisition Software
- (b) Kongsberg SIS Software

2.6 **Data Processing Software:** The following software is used to process the logged data by both Multi-beam and Single-beam echo-sounder-

- (a) Caris HIPs & SIPs Software

2.7 **Cartographic Software:** The following software are used for cartographic works-

- (a) Caris S-57 Composer Software
- (b) Caris LOTS Software
- (c) Caris GIS Software
- (d) Dkart Office Software
- (e) Dkart Publisher Software

2.8 **Problem Encountered:**

- (a) MNHC has been putting its utmost efforts into all reasonable and possible means to promote its professional skill for hydrographic surveys and chart production since 2000. The manual chart compilation has been successfully changed to digital chart compilation, leading the ENC production role according to IHO standards. After passing almost one decade, MNHC has reached the proper level of sufficient knowledge of ENC production.
- (b) But the wide sea area remains un-surveyed as a big challenge. To conduct the hydrographic survey in the entire water to promote the safety of Navigation matters, MNHC has been upgrading its acoustic systems from 2014 to 2015. MNHC procured Kongsberg multibeam systems, EM 2040C and Geoswath Plus, upon the official end-user recognition in the respective years 2014 and 2015. The systems were installed onboard survey ships UMS Innya and UMS 115, respectively. Those were the well efforts which brought MNHC forward to promoting its capability to implement IHO's requirements.
- (c) After using the multibeam system for years, now the system had get failure in 2019. MNHC tried to contact OEM for providing technical support to repair the system but the request was rejected by OEM several times because of COVID-19 pandemic and other matters.
- (d) As described, the systems were not in function since end of 2019 which was four years after installation and it cannot use up to now for five years.
- (e) So, MNHC would like to request NIOHC chair, members and industries to consider to take necessary action to provide technical assistant from OEM for repairing Multibeam System.

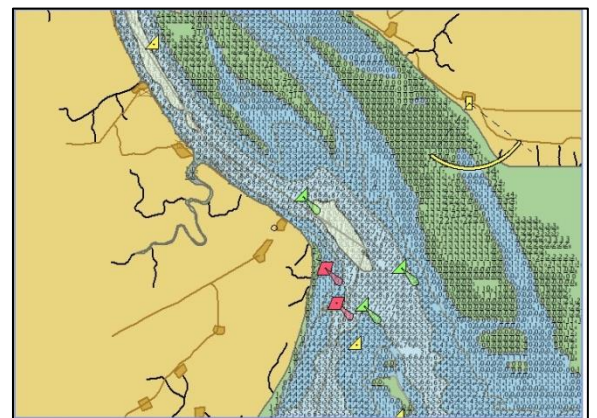
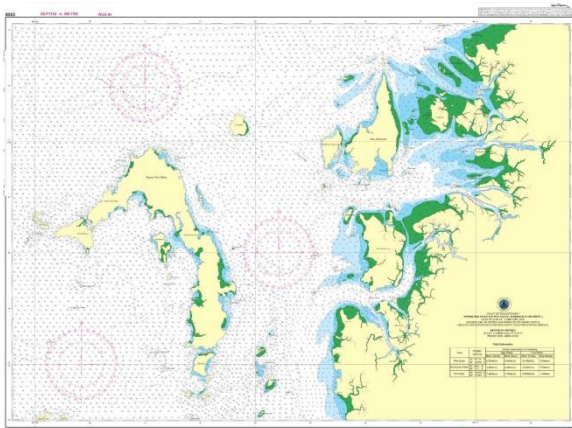
2.9 MNHC has focused and covered hydrographic surveys at the water area of the national needs as well as those for the navigational safety priority. MNHC have moved on with its efforts to evaluate its existing institutional capacity, technical equipment and

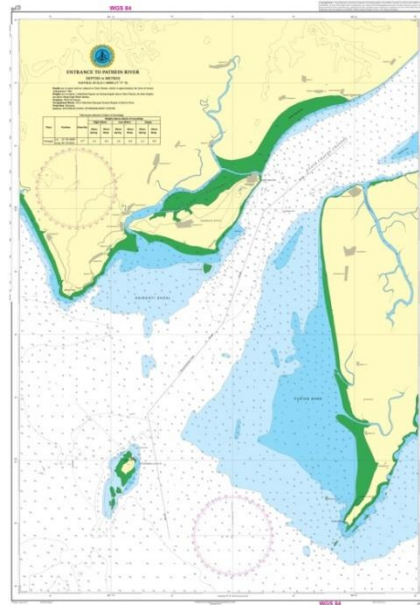
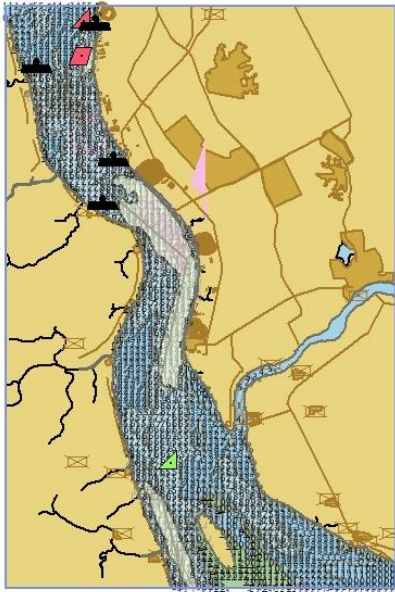
personnel proficiency for the collection of hydrographic data and also for quality product production which are sufficient to meet international standards.

3. Chart Production

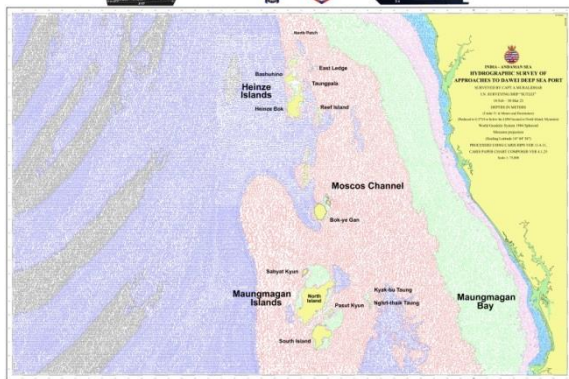
3.1 **Paper Chart:** MNHC has produced 140 nautical paper charts but some of them are not in commercial used before. Now MNHC is more focusing on safety of navigation purposes not only for navy ships also for commercial uses. MNHC is categorizing nautical paper charts into two groups- Military Purposes and Commercial Uses, then those appear as commercial usage nautical paper charts will be distributed to various uses of mariners. In 2020, 2021, 2022 and 2023 MNHC has conducted hydrographic surveys in Southern Coast, Yangon River, Patheingyi River and Mawlamyine River produced the following charts -

- (a) Chart No. 3401(Scale 1:40000) Approaches To Maw Tone Gyi Harbour, Southern Coast of Myanmar.
- (b) Chart No. 308 (Scale 1:100000) Approaches To Kyauk Hta Naung Harbour Southern Coast of Myanmar.
- (c) Chart No. 2402 (Scale 1:25000) Yangon River
- (d) Chart No. 2403 (Scale 1:25000) Yangon River
- (e) Chart No. 07^a (Scale 1:40000) Entrance To Patheingyi River
- (f) Chart No. 3402 (Scale 1:75000) Approaches to Dawei Deep Sea Port, Southern Coast of Myanmar (India Joint Survey)
- (g) Chart No. 3403 (Scale 1:35000) Heinze Island, Southern Coast of Myanmar (India Joint Survey)
- (h) Chart No. 3404 (Scale 1:35000) Dawei Deep Sea Port Project Area, Southern Coast of Myanmar (India Joint Survey)
- (i) Chart No. 3405 (Scale 1:40000) Maungmagan Passage, Southern Coast of Myanmar
- (j) Chart No. 3310 (Scale 1:100000) Approaches Mawlamyine
- (k) Chart No. 3461 (Scale 1:60000) Approaches Mawlamyine River





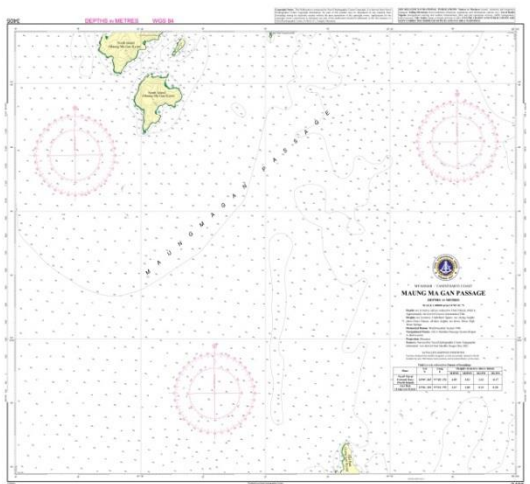
INDIA - MYANMAR
JOINT HYDROGRAPHIC SURVEY
APPROACHES TO DAWEI DEEP SEA PORT

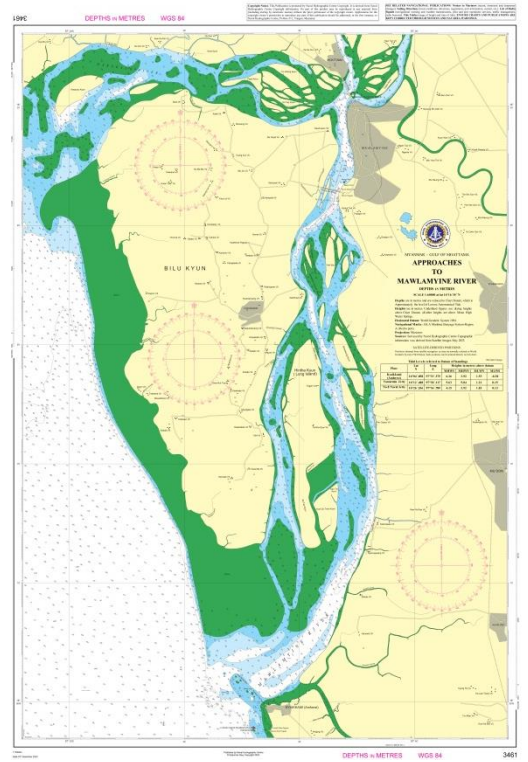


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JOINT HYDROGRAPHIC SURVEY
HYDROGRAPHIC SURVEY OF HEINZE ISLAND



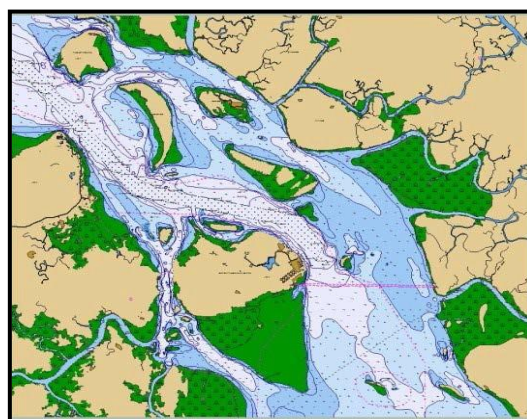
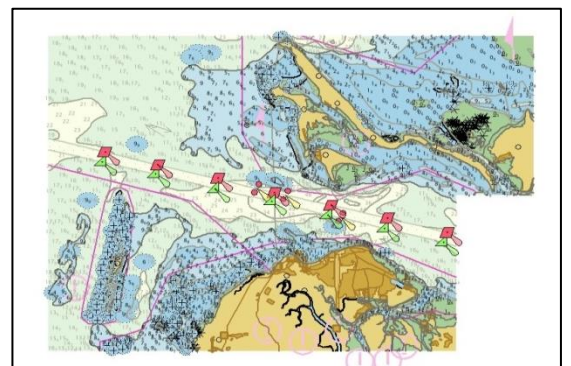
INDIA - MYANMAR
JOINT HYDROGRAPHIC SURVEY
DAWEI DEEP SEA PORT PROJECT AREA





3.2 **ENCs:** The following 4 MM ENC cells for commercial use till 2020 and MNHC is putting more effort to accelerate ENC production to cover more Myanmar waters-

- (a) MM4009A0
- (b) MM4009A1
- (c) MM40024A
- (d) MM40024B



3.3 **ENC Distribution:** MNHC has distributed its ENCs to mariners through UKHO as VAR according to the agreement signed on 21, Feb 2013, at Yangon. The agreement was 5 years tenure and expired on 20 Feb: 2018. MNHC need to discuss for distribution of MN ENCs.

4. New Publication and Update

4.1 **Publications:** As its responsibility and function, MNHC has been producing Notice to Mariner Year Book, inland water directory in local language and annual tide table for Myanmar Major and Minor Ports in country wide.



5. Maritime Safety Information

5.1 As MSI concerns, MNHC is working together with International Hydrographic Community nowadays and other local government organizations such as Myanmar Port Authority-MPA, Myanmar Oil and Gas Enterprise-MOGE, Ministry of Transportation and Communication-MOTC, Department of Marine Administration-DMA and Directorate of Myanmar Inland Waterway, Department of Fisheries, etc.

5.2 MNHC shares the maritime safety information in the form of Notices to Mariners (NM) which are later promulgated on NAV AREA WARNING issued by Coordinators and also this information is given to other Foreign HOs. Total 31-NMs (Firing Exercise, Survey and Aid to Navigation) were promulgated in 2022 and so far 16-NMs (Survey and Aid to Navigation) have been promulgated in this year 2023. The mail address, office@mnhc-mn.com is the contact point for MNHC's Maritime Safety Information concerns.

5.3 **Existing infrastructure for Transmission:** MNHC is also working together with Maritime Rescue Coordinating Centre-MRCC which is operating under Myanmar Navy. MRCC is also one of the focal point for Maritime Safety Information which is in the network of Regional Navies' MSI concerns. MRCC has been installed NAVTEX receiver and GMDSS equipment with VHF, MHF and HF. AIS with GMDSS systems are monitoring the

regional seas and the information is shared between Regional Navies. The following contact points are to be contactable-

Telephone: +953131642/651

Fax: +951202417

Email: mrcc.yangon@mptmail.com.mm

6. C-55

6.1 Status of Hydrographic Surveying:

A= Percentage which is adequately surveyed.

B= Percentage which requires resurvey at larger scale or modern standards.

C= Percentage which has never been systematically surveyed.

	A	B	C
Depth < 200 m	80 %	10 %	10 %
Depth > 200 m	30 %	60 %	10 %

6.2 Status of Nautical Charting

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.

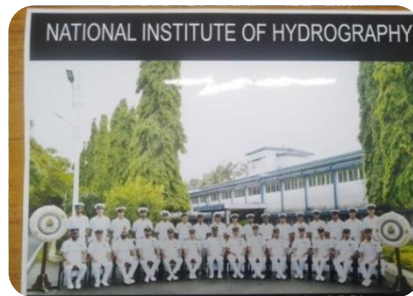
C= Percentage covered by Electronic navigational Charts (ENCs), meeting the standards in S-57.

	A (INT)	B (RNC)	C (ENC)
Offshore Passage/ Small Scale	80 %	-	20 %
Landfall and Coastal	60 %	-	30 %
Approaches and Ports/ Large Scale	100 %	-	30 %

7. Capacity Building

7.1 Local Training: Annual Hydrographic Trainings at basic level for Myanmar Naval Officers and Sailors are run at Naval Training Command, Thanlyin, Myanmar as local training courses.

7.2 **Aboard Training:** In 2022, seven sailors had also completed Survey Recorder Course and 2023, three sailors had also completed Survey Recorder Course in India.



7.3 **Aboard Cooperation:** MNHC has carried out Joint Hydrographic Survey with INHO in the recent past in accord with the two Governments. Between Nov; 2021-to Jan; 2022 and Feb; to Mar; 2023 third and fourth hydrography joint surveys were conducted in southern part of Myanmar Waters.

7.4 **Training Requirement:** MNHC still requires more Cartographic training and ENC production, distribution trainings or workshops.

8. Oceanographic Activities

8.1 MNHC representatives participated onboard in research program by Chinese RV Xing Yang Hong 06 for the activities of climate change, chemical properties of sea water and marine ecosystem survey in Myanmar water in 2020.



9. Other Activities

9.1 Aids to navigation activities: MNHC involves and cooperates with MPA in the maintenance activities of aids to navigation.

9.2 Meteorological activities: MNHC collects meteorological data from navy ships along the coast and then shares to Department of Meteorology and Hydrology for future weather predictions.

10. Conclusion

10.1 In every survey year, MNHC have focused and conducted hydrographic surveys at the important major ports, updated nautical charts. ENC production progress has also been positively and moved forward to a proper stage. MNHC is now upgrading its capability to meet the IHO standard technical requirements and to support country and worldwide safety of navigation requirement.

MNHC CONTACT LIST

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