



**NATIONAL REPORT
NATIONAL HYDROGRAPHIC OFFICE
INDIA**



**20TH MEETING OF THE NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION
(NIOHC-20)
Sri Lanka, 13–15 Jul 2021**

**NATIONAL REPORT TO REGIONAL HYDROGRAPHIC COMMISSION
REPUBLIC OF INDIA –JULY 2021**

1. **Hydrographic Office/ Service.**

1.1 The Indian National Hydrographic Office (INHO), located at Dehradun, is the sole national authority mandated with the responsibility of publication of nautical charts and other publications for navigation at sea. As part of its international responsibilities, the office provides coverage for Maritime Safety Information (MSI) in the region NAVAREA VIII comprising of Indian Ocean, Arabian Sea and Bay of Bengal. The department has a fleet of six modern ocean-going survey ships and one twin hulled catamaran survey vessel, fully equipped with latest hydrographic and oceanographic sensors. Four new large survey vessels with state of the art survey equipment are being built and very soon will join the fleet. These new vessels would be capable of surveying for prolonged duration and will have extended reach to support hydrographic cooperation in the region.

1.2 The National Institute of Hydrography (NIH), Goa, an integral part of the INHD, has the national responsibility for conduct of hydrographic training and functions under the overall professional supervision of the Chief Hydrographer to the Govt of India. The Institute conducts courses for hydrographic officers, technicians, civilians as well as personnel from the Indian Ocean littoral states. The Long 'H' (IHO recognised Cat 'A' course) and Basic 'H' (IHO recognised Cat 'B' course) courses are conducted by the Institute. The courses conducted along with duration are as follows: -

<u>Ser</u>	<u>Course</u>	<u>Duration</u>
(a)	<u>Long H Course</u> Cat 'A' course recognized by IHO and on completion eligible students are also awarded a MSc degree from Goa University, India.	43 Weeks
(b)	<u>Basic H Course</u> Cat 'B' course recognised by IHO	29 Weeks
(c)	<u>PO 'Q' SR</u> An advanced level course for sailors. On successful completion of PO 'Q' Course a Diploma in Hydrography is awarded from Cochin University of Science and Technology.	20 Weeks
(d)	<u>LS SR 'Q' Refresher</u> Amid-level sailor refresher course.	11 Weeks
(e)	<u>Basic 'Q'</u> An entry level sailor qualifying course.	16 Weeks
(f)	<u>ENC Production Workshop</u> Tailormade course based on requirement projected	2-3 Weeks
(g)	<u>Workshops Multibeam Surveys</u> Tailormade course based on requirement projected	1-2 Weeks
(h)	<u>Orientation course for Port Surveyors</u> Tailormade course based on requirement projected	3-4 Weeks

2. Surveys.

2.1 INHO has undertaken Hydrographic Surveys both at National and International levels. In the national front, various hydrographic surveys are being undertaken towards the updation of existing charts of the Indian coast and Island territories. An average of 45 navigation and defence surveys are conducted annually. Since last report, eight navigation surveys were undertaken in the countries of the Indian Ocean Region. In addition, the Department is engaged in undertaking deep sea surveys using Multibeam in Arabian Sea and Bay of Bengal to update charts/ ENCs with latest data.

2.2 **New Technologies.** The INHO is at the forefront of utilization of modern and high-end surveying equipment/ technologies. Two AUVs have been commissioned and are being deployed successfully onboard Catamaran hull survey vessel over the last three years. Technology absorption for data collection and processing has been done with skills developed internally by the Department.

2.3 **Processing System/Software.** The office is employing the latest software for data acquisition, quality control and chart production. A core team has been setup to monitor the progress on S100 product specifications and to execute the action plan for migration to S100 PS.

2.4 **Problems Encountered.** Nil.

3. New Charts & Updates.

3.1 **ENCs.** The Hydrographic Production database (HPD) is being seamlessly populated from usage band 6 upwards. NHO has reviewed the CATZOC classification and categorized all surveys appropriately. So far, 343 ENCs and equivalent paper charts aligning with the order of survey as per S-44(sixth edition) have been published through HPD with another 50 under various stages of production. The breakdown of the ENCs released with their respective usage band is tabulated below: -

<u>Category</u>	<u>Usage Band</u>	<u>No of ENCs</u>
Overview	1	6
General	2	34
Coastal	3	41
Approach	4	50
Harbour	5	123
Berthing	6	84
Total		343

3.2 **Foreign Water Charts and ENCs.** INHO has so far, published 40 ENCs and equivalent paper charts of foreign waters. New charts of Mauritius, Kenya, and Tanzania would be added based on latest *IN* surveys.

3.3 **INT Charts.** India has the responsibility to produce 80 INT charts, of which all 80 INT charts and ENCs have been produced.

4. **New Publications and Updates.**

4.1 Summary of charts/ publications printed since last report as follows: -

<u>Ser</u>	<u>Description</u>	<u>No</u>
(a)	New Charts	10
(b)	New Editions	26
(c)	Reprints	72
(d)	Publications	02
(e)	New ENC's	29
(f)	New Edition ENC's	40

4.2 **Paper Chart Distribution.** The paper charts and associated publications are made available through chart agents. The latest list of chart agents is available on the NHO website, these paper charts are updated by fortnightly Notice to Mariners, which are available on the NHO website www.hydrobharat.gov.in NHO has incorporated a *digital chart catalogue* in the web page to enable the mariners to easily identify the required charts.

4.3 **ENC Distribution.** Indian ENCs are distributed worldwide through UKHO, M/s Primer and Norwegian Hydrographic Service. INHO also provides ENCs in S-63 format to the Indian Navy and other national agencies.

4.4 **Problems Encountered.** Nil.

5. **Marine Safety Information.**

5.1 **Existing Infrastructure for Marine Safety Information Transmission.** Navigational Warnings for NAVAREA-VIII are issued by the Chief Hydrographer to the Government of India. All the updated warnings including Notices to Mariners are available on the INHO website www.hydrobharat.gov.in. A total number of 798 NAVAREA messages under the following types were promulgated in the year 2020. Country wise list of NAVAREA request received from the Coastal States in the region is as follows: -

<u>Country</u>	<u>Number of Messages</u>	<u>Topics/ Subject of Messages</u>
Bangladesh	16	Firing Exercise, Aid to Navigation
Kenya	Nil	-
Maldives	01	Aid to Navigation
Mauritius	10	Aid to Navigation
Myanmar	22	Firing Exercise, Survey, Aid to Navigation
Seychelles	Nil	-
Reunion Island	02	Firing Exercise, Aid to Navigation
Somalia	01	--
Sri Lanka	16	Firing Exercise, Aid to Navigation
Tanzania	Nil	-

5.2 **Problems Encountered.**

- (a) Follow up reports for NAVAREA cancellation not received.

5.3 **Existing NAVTEX Coverage.** The status of NAVTEX existing is as follows: -

<u>Ser</u>	<u>Station with B1 Character</u>	<u>Status</u>
(a)	Veraval (India) (H)	Non-Operational
(b)	Vengrula (India) (J)	Non-Operational
(c)	Muttam Point (India) (L)	Non-Operational
(d)	Porto Novo (India) (O)	Operational
(e)	Vakalpudi (India) (Q)	Operational
(f)	Balasure (India) (S)	Non-Operational
(g)	Keating Point (India) (V)	Non-Operational
(h)	Cassis (Mauritius) (C)	Operational
(i)	Mahe (Seychelles) (T)	Operational
	Mahe (Seychelles) (M)	

5.4 **Training.** National Institute of Hydrography, Goa has adopted S-5A and S-5B versions of the syllabus for CAT 'A' and CAT 'B' courses as promulgated by IHO and implemented the same for the ongoing programmes. The long Hydrography and basic Hydrography courses have been recognized as CAT 'A' and CAT 'B' respectively on 27 Mar 20 at IHO / IBSC during 43rd IBSC meeting for a period of six years. India proposes to conduct MSI training courses for Member States through IHO capacity building programs.

6. **C-55 (UpdatedTable).** The updated C- 55 table is placed at Annexure A to the National Report.

7. **Capacity Building.**

7.1 India is providing hydrographic assistance to maritime nations of the region. This includes joint hydrographic surveys with onboard training, structured training at NIH and specialized courses for Multibeam and ENC production training at NHO.

7.2 **Foreign Cooperation.** INHD has carried out hydrographic surveys in Maldives, Mauritius, Kenya, Tanzania, Myanmar, Sri Lanka and Seychelles over the last few years as per the request received from respective Governments. India has been very actively following up hydrographic cooperation activities with members of the region and supporting capacity building efforts. Hydrographic cooperation with the following countries has been progressed in the recent past:-

7.2.1 **India-Maldives.** INS Darshak was deployed to Maldives from 27 Jan 21 to 18 Mar 21 to undertake the joint Hydrographic survey.



7.2.2 **India-Mauritius.** INS Sarvekshak was deployed to undertake survey off Port Louis from 10 Mar 21 to 22 Apr 21 to undertake the joint Hydrographic survey.



7.2.3 **HSU (Mauritius).** Based on the MoU between India and Mauritius (since 2005), an Indian Naval Hydrographic Team has been deputed at Mauritius since 31 Oct 13. The unit has actively contributed in developing the capacity of host nation in terms of surveying and nautical charting and is providing active support to various department and ministries.

7.2.4 **Antarctica Survey Programme.** India is a member of the Hydrographic Committee on Antarctica (HCA). As long term scientific objective, a hydrographic scientific team is deputed in the summer expedition every year under the aegis of National Centre for Antarctica and Ocean research (NCAOR) for carrying out surveys at Antarctica.



8. The Indian Naval Hydrographic department has trained 795 foreign nationals of IOR in various programmes. The details of International trainees trained by the Indian Naval Hydrographic Department in 2020-21 is tabulated below: -

<u>Ser</u>	<u>Course</u>	<u>Foreign Trainees</u>	<u>Countries</u>
(a)	Long 'H' (CAT 'A')	09	02 each from Bangladesh and Sri Lanka. 01 each from Indonesia, Myanmar, Nigeria, Tanzania and Vietnam.
(b)	Leading 'Q'	04	02- Sri Lanka and 01 each from Maldives and Philippines
(c)	Basic 'Q'	01	Bangladesh

9. **Oceanographic Activities**. The Indian Naval Survey Ships are equipped with oceanographic equipments and are capable of collecting geophysical and oceanographic data. The data is collected while undertaking hydrographic surveys. Apart from this the department provides assistance to various governmental organizations for collection of the oceanographic data.

10. **Miscellaneous**.

9.1 **World Hydrographic Day Celebrations**. The World Hydrographic Day was celebrated in India at NHO Dehradun, National Institute of Hydrography (NIH), Goa and onboard Ships at Visakhapatnam, Kochi, Port Blair and Karwar. Keeping in view the theme "Hydrography-enabling autonomous technologies" Workshops, lectures, demonstrations and visits by undergraduate and senior school students were organised.

Annexure1 (refers to Para 5 of National Report)

**IHO SPECIAL PUBLICATIONC-55
“STATUS OF HYDROGRAPHIC SURVEYING AND NAUTICAL CHARTING WORLD-WIDE”**

C-55 Summary for:				Comments on Charts:
Country:	INDIA			
Country ISO Code:	IN			
Country Sub Code:				
INT Region:	J			
Country/Depend:				
Last updated:	01/07/2021			
Provided by:	INDIA			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	Comments on Surveys:
INT	100	100	100	
RNC	0	0	0	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			95	
Status of surveys	Adequate (%)	Resurvey (%)	Nosurvey (%)	
0-200m	100	0	0	
>200m	92	8	0	

MSI	Y/N	Comments on MSI:
Local warning	YES	Via NAVAREA VIII (INHO, INDIA is the Coordinator for NAVAREA VIII). Changes to ports and harbours passed to charting authority.
Coastal warning	YES	
Nav warning	YES	
Port warning	YES	
GMDSS	Y/N	Comments on GMDSS:
Master Plan	YES	
Area A1	YES	
Area A2	YES	
Area A3	YES	
NAVTEX	YES	
Safety Net	YES	