



NATIONAL REPORT

NATIONAL HYDROGRAPHIC OFFICE

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**NATIONAL REPORT TO 16TH CONFERENCE OF THE SOUTH AFRICAN AND ISLANDS
HYDROGRAPHIC COMMISSION (SAIHC)**

REPUBLIC OF INDIA - SEP 2019

1. Hydrographic Office / Service.

1.1 The Indian Naval Hydrographic Department (INHD), with the National Hydrographic Office 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 department 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 seven modern ocean-going survey ships and one twin hulled catamaran survey vessel, fully equipped with latest hydrographic and oceanographic sensors.

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 littorals including Area H nations. The Long 'H' (IHO recognised Cat 'A' course) and Basic 'H' (IHO recognised Cat 'B' course) courses are conducted by the Institute.

2. Surveys.

2.1 Indian Naval Hydrographic Department (INHD) 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 41 navigation and defence surveys are conducted annually. In the year gone by, five navigation surveys were undertaken in the countries of the Area 'H'.

2.2 **New Technologies.** The Indian Naval Hydrographic Department (INHD) 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 Department is employing the latest software for data acquisition, quality control and chart production.

2.4 **Problems Encountered.** Nil

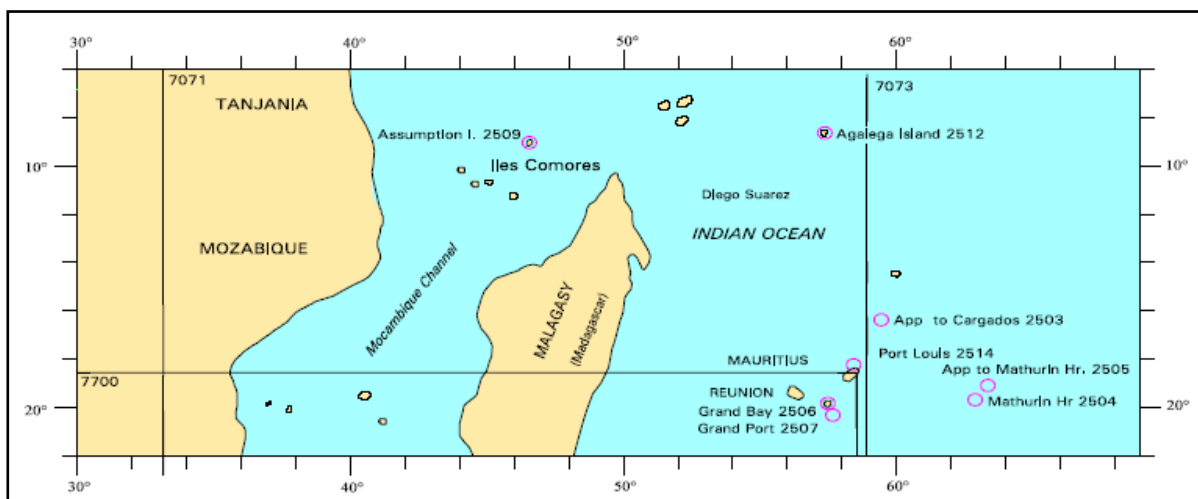
3. New Charts & Updates.

3.1 **ENCs.** The HPD database is being seamlessly populated from usage band 6 upwards. NHO has reviewed the CATZOC classification and categorized all

surveys appropriately. Currently the thrust is to populate the database in usage bands 4 and 3 with most of the ENC's in 5 and 6 having been completed. So far, 26 ENC's and equivalent paper charts have been published for Area H. This includes INT charts produced by the INHO, India in Area H.

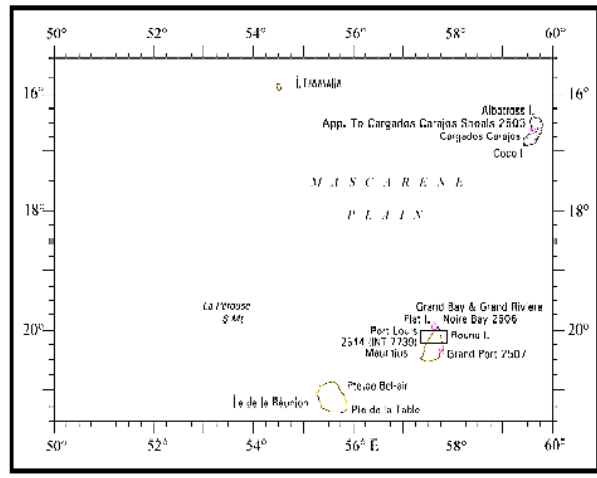
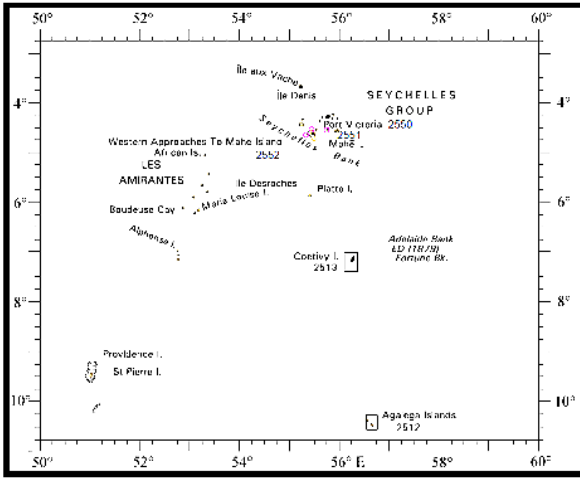
3.2 **INT charts.** The details of the INT charts produced by the INHO, India in Area H is as tabulated below: -

INT No.	Prod.	National No.	TITLE / TITRE	Scale / Echelle		
				1:	Lat	ENC
7739	IN	2514	Approaches to Port Louis Port Louis	37500 12 500	20°00'S	Yes
77391	IN	2503	Approaches to Cargados	75 000	16°33'S	Yes
77392	IN	2504	Mathurin Harbour	12 500		Yes
77393	IN	2505	Approaches to Mathurin Harbour	25 000	20°00.00'S	Yes
77394	IN	2506	Plan A – Grand Bay	25 000	20°00.00'S	Yes
			Plan B - Grande Riviere Noire Bay	25 000		
77395	IN	2507	Grand Port	12 500		Yes
77396	IN	2512	Agalega Islands	37 500	10°00.00'S	Yes



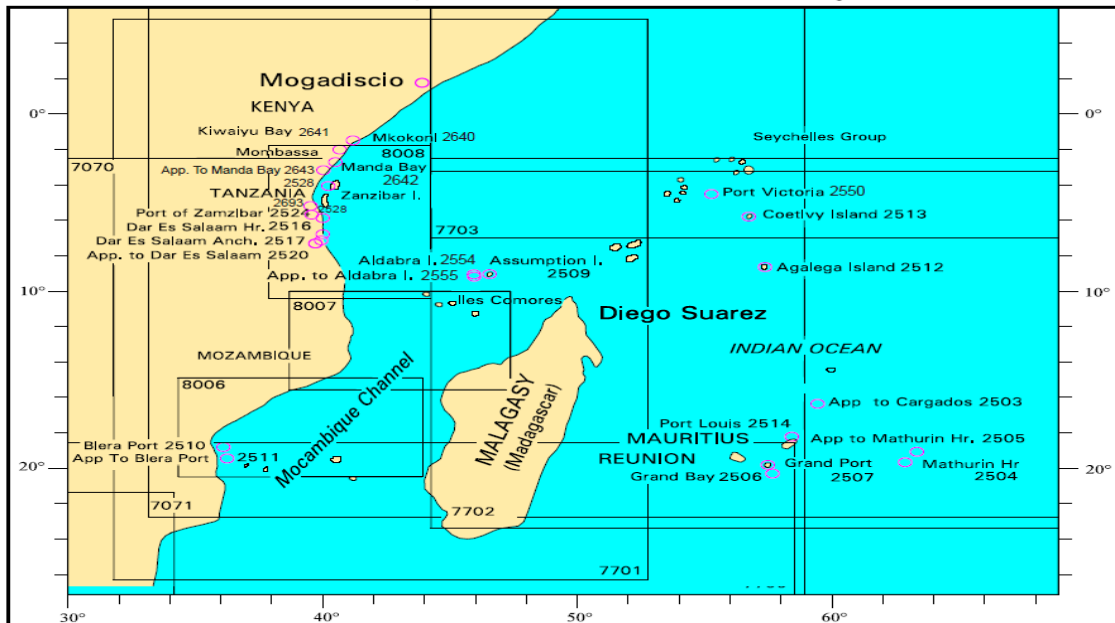
3.3 **National Series Charts and ENC's in Area H.** INHD has so far, published 27 ENC's and equivalent paper charts of Area H in National Series for Mauritius, Seychelles, Kenya, Tanzania, and Mozambique. The details of charts for these nations are as follows:

SEYCHELLES				
National No.	Title	Scale	Publication date	ENC Released
2552	Western Approaches To Mahe Island	37500	30 Nov 2017	No
2509	Assumption Island	25000	15-May-2014	Yes
2513	Coetivy Island	37500	15-Nov-2013	Yes
2550	Port Victoria	7500	31-Mar-2017	Yes
2551	App. To Port Victoria	35000	30-Nov-2017	Yes
2554	Aldabra Island	15000	15-Jun-2017	Yes
2555	Approaches to Aldabra Island	37500	15-Jun-2017	Yes



KENYA				
National No.	Title	Scale	Publication date	ENC Released
2642	Manda Bay	25000	31-Mar-2017	Yes
2641	Kiwaiyu Bay	25000	31-Mar-2017	Yes
2640	Mkokoni	25000	31-Mar-2017	Yes
2643	App. To Manda Bay	37500	31-Mar-2017	Yes
TANZANIA				
2516	Dar Es Salaam Harbour	7500	31-Aug-2014	Yes
2517	Dar Es Salaam Anchorage	15000	31-Oct-2014	Yes
2520	Approaches to Dar Es Salaam	30000	15-Jan-2015	Yes
2524	Port of Zanzibar	20000	15-Jan-2015	Yes
2528	Appr. To Mkoani Hr Mkoani Hr.	50000	30-Jun-2016	Yes
		25000		Yes
2693	Tanga Port	15000	30-Nov-2017	Yes
MOZAMBIQUE				
2510	Beira Port Pundoe Wharf	15000	15-Feb-2013	Yes
		7500		Yes
2511	Approaches to Beira Port	20000	15-Feb-2013	Yes
MAURITIUS				
2529	Northern Islets of Mauritius	50000	31-Dec-2018	Yes

KENYA, TANZANIA AND MOZAMBIQUE



3.4 **New/ Proposed Charts and ENC's in Area H.** New charts of Mauritius and Tanzania would be added to the catalogue based on latest IN surveys. Besides, INHD is assisting Mauritius to expand their catalogue from 7 to 14 charts as per National Charting scheme. The details of new/proposed charts are as follows:

Mauritius			
SI No.	Proposed Chart	Scale	Remarks
1	Mauritius	1:125,000	To be published
2	Point Sud Ouest (Le Morne)	1:10,000	Proposed
3	Approaches to Grand Port	1:30,000	Under Production
Tanzania			
4	Western Approaches to Pemba Bay	1:50,000	Under Production

3.5 **New Surveys.** The surveys in Mauritius and Seychelles are planned for this year and survey ship will be deputed for a period of 70 days.

4. **New Publications and Updates.**

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

SI No.	Chart No.	Chart Title
1	2514	Approaches to Port Louis
2	2529	Northern Islets of Mauritius

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 ENC's are distributed worldwide through UKHO, M/s CMAP and Norwegian Hydrographic Service. INHD also provides ENC's in S-63 format to the Indian Navy and other national agencies.

5. **Marine Safety Information.**

5.1. **Existing Infrastructure for Marine Safety Information Transmission.** All Radio Navigational Warnings for NAVAREA-VIII are issued by the Chief Hydrographer to the Government of India. The Naval Chart Depot at Mumbai coordinates the broadcast of all Navigational Warnings. Reports/ Information may be directly sent to Naval Chart Depot with a copy marked to National Hydrographic Office, Dehradun. The schedule of transmission of Navigational Warnings through Safety Net is as follows: -

(a) **Scheduled Broadcast of NAVAREA Warnings**

(i) NAVAREA VIII Warnings are broadcasted at 1000 and 2200 UTC. Urgent warnings are broadcasted as occasion demands.

(ii) Coastal warnings for Reunion are broadcasted at 0040 and 1240 UTC.

(iii) Coastal warnings for Mayotte are broadcasted at 0330 and 1530 UTC.

(b) Scheduled Broadcast of Meteorological Warnings

(i) METAREA VIII (North) Warnings are broadcasted at 0900 and 1800 UTC.

(ii) METAREA VIII (South) Warnings are broadcasted at 0130 and 1330 UTC (for Mauritius/ Reunion and South of Equator). Tropical Cyclone Warnings prepared and issued by Reunion at 0000, 0600, 1200 and 1800 UTC.

(iii) Tropical Cyclone Warnings for Australia, if any are prepared and issued by Australia as unscheduled broadcasts for area South of Equator and East of 90°.

5.2. All the updated warnings including Notices to Mariners are available on the INHO website www.hydrobharat.gov.in

5.3. NAVAREA Warnings.

(a) A total no 896 NAVAREA messages were promulgated in the year of 2018. The country wise list of NAVAREA request received from the Coastal States in the region is as follows: -

<u>Type of NAVAREA</u>	<u>Nos</u>
Nav aids	258
Seismic/survey	97
Rig	62
Firing	203
Man overboard	06
Miscellaneous	270

(b) The 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>
Kenya	02	Survey, Aid to Navigation
Mauritius	05	Aid to Navigation
Seychelles	02	Aid to Navigation
Reunion Island	09	Firing Exercise, Aid to Navigation
Somalia	Nil	--
Tanzania	01	Aid to Navigation

5.4. **Problems Encountered.** Late receipt of NAVAREA Warnings request. Many requests are received after the commencement of the operation.

6. **C-55.** INHD is assisting countries within Area H to update C-55, where the INHD is the primary charting agency.

7. Capacity Building.

7.1 India is providing hydrographic assistance to maritime nations of Area 'H'. This includes joint hydrographic surveys with onboard training, structured training at NIH and specialised courses for ENC production at the National Hydrographic Office. Personnel from Mauritius will undergo the ENC production workshop from Oct 19.

7.2 Foreign Cooperation. INHD has carried out hydrographic surveys in Tanzania, Mauritius, Kenya, Mozambique and Seychelles over the last few years as per the request received from respective Governments. Hydrographic cooperation with the following countries has been progressed in the recent past: -

7.2.1 India-Tanzania. A survey ship was deployed from 06 Nov - 25 Dec 17 for surveys at Pemba Island. Six charts of Tanzania have been published till date.

7.2.2 India-Mauritius. INHD has completed 26 hydrographic surveys in the last ten years and 07 navigational charts have been published. A Hydrographic Survey Unit is being maintained in Mauritius, since Oct 2013, for undertaking local hydrographic survey and to assist in setting up Hydrographic Infrastructure in Mauritius. A survey ship was also deployed to Mauritius from 02 Dec 18 to 01 Mar 19 for conduct of survey of Approaches to Mathurin and Rodrigues Islands. Seven INT charts of Mauritius have been published till date and one is planned, which will be published shortly.



HANDING OVER OF CHART AT MAURITIUS

7.2.3 India-Kenya. Total 04 charts have been published for Kenya as part of International cooperation surveys.

7.2.4 India-Mozambique. Total 02 charts have been published for Mozambique as part of International cooperation surveys.

7.2.5 India-Seychelles. Total 07charts has been published for Seychelles as part of International cooperation surveys.

7.2.6 Antarctica Survey Programme. India is a member of the Hydrographic Committee on Antarctica. A delegation from INHD participated in the 38th Indian Antarctic expedition. India is committed to fulfilling the survey and charting requirements in Antarctica.



8. Training.

8.1 The Long Hydrography CAT 'A' and Basic Hydrography CAT 'B' programmes conducted at National Institute of Hydrography, Goa are certified by IHO/FIG/ICA Board on Standards of Competence. The Institute 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 recertification for both Cat 'A' and Cat 'B' course is scheduled in Mar 2020. The Indian Naval Hydrographic department has till date trained 752 foreign nationals of Indian Ocean Region in various programmes. The details of International trainees trained by the Indian Naval Hydrographic Department in 2018-19 is tabulated below:-

<u>Sl</u>	<u>Course</u>	<u>Foreign Trainees</u>	<u>Countries</u>
(a)	Long 'H' (CAT 'A')	08	Two from Bangladesh and one each from Nigeria, Sri Lanka, Indonesia, Myanmar, Philippines and Vietnam.
(b)	Basic 'H' (CAT 'B')	10	Two each from Sri Lanka and Kazakhstan and one each from Nigeria, Thailand, Myanmar, Morocco, Philippines and Vietnam
(c)	PO 'Q'	04	One each from Bangladesh, Myanmar, Mauritius and Sri Lanka
(d)	Leading 'Q'	06	Five from Sri Lanka and one from Myanmar
(e)	Basic 'Q'	11	Four from Sri Lanka, one each from Mauritius and Maldives, two from Cameroon and three from Myanmar
(f)	ENC Production Workshop	08	Four from Myanmar, two each from Mauritius and Sri Lanka

8.2 **MSI Training.** Phase I Skill course under the IHO CB plan was conducted at National Institute of Hydrography, Goa from 28 Jan 19 to 01 Feb 19. Participants from Iran, Mauritius, Myanmar, Oman, Seychelles, Sri Lanka, and Somalia participated in the course. Two trainers from UKHO and one from INHD conducted the classes.



9. 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 'Bathymetry- the foundation for Sustainable Seas, Oceans and Waterways' Workshops, lectures, demonstrations and visits by undergraduate and senior school students were organised.

