



**NATIONAL REPORT  
NATIONAL HYDROGRAPHIC OFFICE  
INDIA**

**NATIONAL REPORT TO 15<sup>TH</sup> CONFERENCE OF THE SOUTH AFRICAN AND ISLANDS HYDROGRAPHIC COMMISSION (SAIHC)**

**REPUBLIC OF INDIA- AUG 2018**

**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 45 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

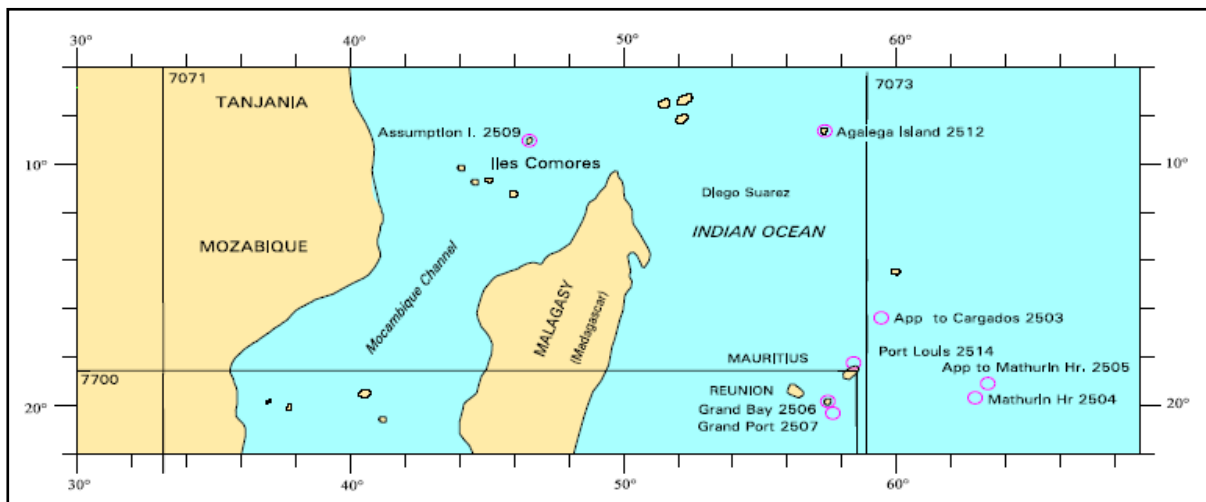
**3. New Charts & Updates**

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

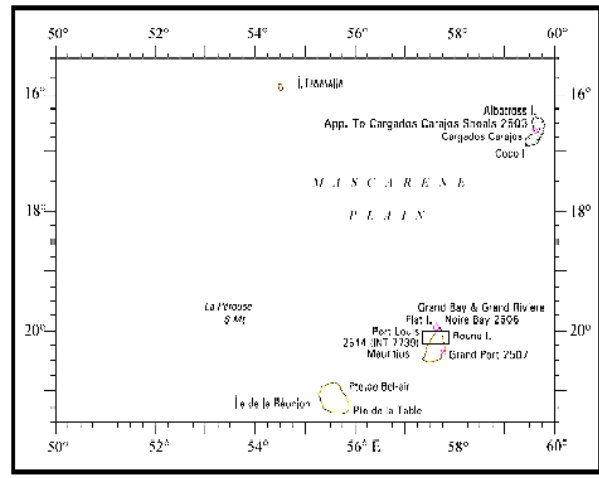
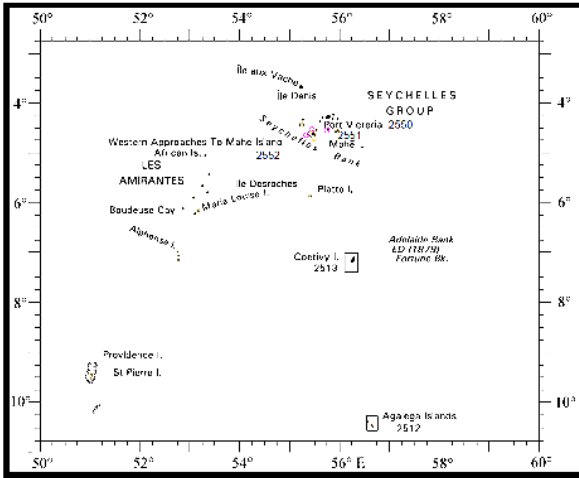
INT No.	Prod.	National No.	TITLE / TITRE	Scale / Echelle	
				1:	Lat
7739	IN	2514	Approaches to Port Louis Port Louis	37500 12 500	20°00'S
77391	IN	2503	Approaches to Cargados -	75 000	16°33'S
77392	IN	2504	Mathurin Harbour	12 500	
77393	IN	2505	Approaches to Mathurin Harbour	25 000	20°00.00'S
77394	IN	2506	Plan A – Grand Bay	25 000	20°00.00'S
			Plan B - Grande Riviere Noire	25 000	
77395	IN	2507	Grand Port	12 500	
77396	IN	2512	Agalega Islands	37 500	10°00.00'S
77397*	IN	2527	Mauritius	125000	

Note: \*: New INT no. 77397 has been assigned to IN2527 by the SAIHC vide letter FOF/HYD/R/320/19/1 dated 29Jan 2018, which replaces GB711 (INT7737) on publication.



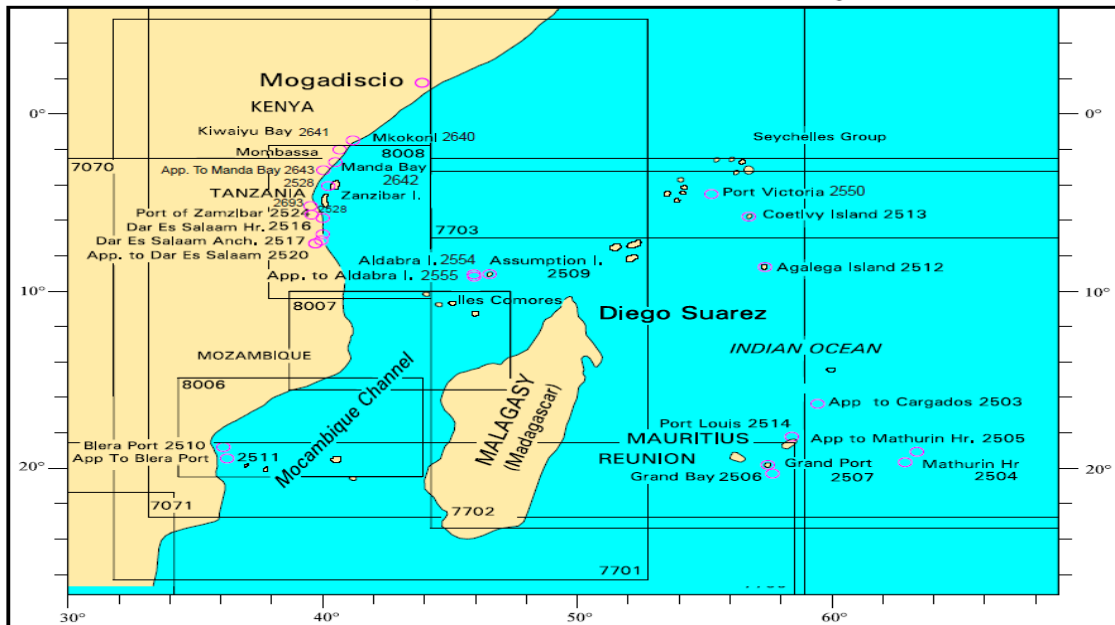
**3.2 National Series Charts and ENC's in Area H.** INHD has so far, published 26 ENC's and equivalent paper charts of Area H in National Series for Mauritius, Seychelles, Kenya, Tanzania, and Mozambique. The details of charts for these nations are as follows:

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	50000	30-Jun-2016	Yes
	Mkoani Hr.	25000		Yes
2693	Tanga Port	15000	30-Nov-2017	Yes
MOZAMBIQUE				
2510	Beira Port	15000	15-Feb-2013	Yes
	Pungoe Wharf	7500		Yes
2511	Approaches to Beira Port	20000	15-Feb-2013	Yes

KENYA, TANZANIA AND MOZAMBIQUE



3.3 **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:

<b>Mauritius</b>			
<b>SI No.</b>	<b>Proposed Chart</b>	<b>Scale</b>	<b>Remarks</b>
1	Mauritius	1:125,000	Proposed
2	Gabriel and Round Island	1:50,000	Under Production
3	Point Sud Ouest (Le Morne)	1:10,000	Proposed
4	Approaches to Grand Port	1:30,000	Under Production
<b>Tanzania</b>			
5	Western Approaches to Pemba Bay	1:50,000	Under Production

#### 4. **New publications and updates**

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

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](http://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.

4.4 **Problems Encountered.** Host nations be encouraged to accord Producer Nation status to country undertaking surveys in their waters. This will ensure that mariners have the latest charts. In the absence of the same, mariners continue to use the existing charts of area with vintage data.

#### 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. Apart from this, information received directly at the office is also communicated to Naval Chart Depot for transmission. The Navigational Warnings are forwarded to the Land Earth Station (LES) located at Pune, for onward dissemination to mariner, which can be received through INMARSAT 'C' terminals. The schedule of transmission of Navigational and Met warnings through Safety Net is as follows:-

(a) **Navigational Warnings** LES Pune - at 1000 and 2200 UTC

(b) **Meteorological Warnings**

- (i) LES Pune - 0900 & 1800 UTC for area N of Equator.
- (ii) Aussaguel - 0130, 1330 UTC (for Mauritius/Reunion and South of Equator). Tropical Cyclone warnings prepared and issued by Reunion - 000, 0600, 1200, 1800 UTC.
- (iii) Australia - Tropical cyclone warnings, if any are prepared and issued by Australia as unscheduled broadcasts for area South of Equator and East of 90° via Burum.

5.2. Further, all the updated warnings including Notices to Mariners are available on the INHO website [www.hydrobharat.gov.in](http://www.hydrobharat.gov.in).

5.3. **NAVAREA Warnings.**

- (a) A total number of 947 NAVAREA messages under the following types were promulgated in the year 2017:-

Type of NAVAREA	Nos
Nav aids	237
Seismic/Survey	103
Rig	68
Firing	265
Man Overboard	11
Miscellaneous	263
Total	947

- (b) Country wise list of NAVAREA request received from the Area H States in the region is as follows:-

<b><u>Country</u></b>	<b><u>Number of Messages</u></b>	<b><u>Topics/ Subject of Messages</u></b>
Kenya	01	Aid to Navigation
Mauritius	04	Aid to Navigation
Seychelles	01	Aid to Navigation
Reunion Island	13	Firing Exercise, Aid to Navigation
Tanzania	01	Aid to Navigation

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 the Area H. This includes joint hydrographic surveys with onboard training, structured training at

NIH and specialized courses for Multibeam and ENC production at NHO. The scheduled training program for current year includes 06 weeks (29 Oct- 08 Dec) ENC workshop for Mauritius Hydrographic Service personnel.

**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. Avenues for cooperation are also being explored with other members of the Area H. Hydrographic cooperation with the following countries has been progressed in the recent past:-

**7.2.1 India -Tanzania.** The MoU on co-operation in the field of Hydrography was signed between the Governments of Republic India and the United Republic of Tanzania on 19 Jun 15. In accordance with MoU, 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. The 10<sup>th</sup> Indo-Mauritian Joint Committee Meeting on Hydrography was held at New Delhi from 20 to 21 Mar 17 in continuation of the bilateral cooperation between the GOI and GOM, as envisaged in the Memorandum of Understanding on Hydrography. A survey ship was also deployed to Mauritius from 30 Dec 17 to 04 Feb 18 for conduct of survey of Approaches to Grand Port. Seven INT charts of Mauritius have been published till date and one is planned, which will be published shortly.

**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 07 charts have 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 37<sup>th</sup> Indian Antarctic expedition. India is committed to fulfilling the survey and charting requirements in Antarctica.



8. The Long Hydrography CAT ‘A’ and Basic Hydrography CAT ‘B’ programme conducted at National Institute of Hydrography, Goa were recertified by IBSC upto 2019. 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 programme. The Indian Naval Hydrographic department has trained 691 foreign nationals of IOR in various programme. The details of International trainees trained by the INHD in 2017-18 are tabulated below:-

<b><u>Sl</u></b>	<b><u>Course</u></b>	<b><u>Foreign Trainees</u></b>	<b><u>Countries</u></b>
(a)	Long ‘H’ (CAT ‘A’)	09	02 each from Nigeria and Sri Lanka. 01 each from Bangladesh, Indonesia, Philippines, Thailand and Vietnam.
(b)	Basic ‘H’ (CAT ‘B’)	10	03- Sri Lanka and 01 each from Kazakhstan, Kenya, Nigeria, Micronesia, Myanmar, Philippines and Vietnam
(c)	PO ‘Q’	07	02- Sri Lanka and 01 each from Bangladesh, Cameroon, Maldives, Mauritius and South Africa
(d)	Leading ‘Q’	03	03- Sri Lanka
(e)	Basic ‘Q’	04	01- Fiji, 01 Maldives, 02- Sri Lanka
(f)	ENC Prod. Workshop	07	04- Sri Lanka, 03- Myanmar



## 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.



9.2 **10<sup>th</sup> IRCC and 16<sup>th</sup> CBSC.** 10<sup>th</sup> meeting of the IHO INTER-REGIONAL COORDINATING COMMITTEE (IHO-IRCC) was hosted by INHD at Goa from 4-6 June 2018. INHD also hosted 16<sup>TH</sup> meeting of IHO CAPACITY BUILDING SUB-COMMITTEE (IHO-CBSC) from 31 May- 01 Jun 2018 at Goa, India.

