



# भारतीय नौसेना जलसर्वेक्षण विभाग

Indian Naval  
Hydrographic Department

वार्षिक विवरण २०२३-२४  
Annual Report 2023-24





# भारत सरकार के मुख्य जलसर्वेक्षक की वार्षिक रिपोर्ट

## REPORT OF THE CHIEF HYDROGRAPHER TO THE GOVERNMENT OF INDIA

### (01 JULY 2023 to 30 JUNE 2024)

यह रिपोर्ट राष्ट्रीय जल सर्वेक्षण कार्यालय, नौसेना सर्वेक्षण पोतों, राष्ट्रीय जल सर्वेक्षण संस्थान तथा अन्य सर्वेक्षण इकाइयों की गतिविधियों जैसे अंतराष्ट्रीय जल सर्वेक्षण सहयोग में योगदान, सामुद्रिक नक्शों का उत्पादन व प्रकाशन, मानव संसाधन विकास और भारतीय नौसेना जल सर्वेक्षण विभाग का आधुनिकरण तथा अन्य उपलब्धियों का वर्णन है।

This report gives an account of the activities and achievements of the National Hydrographic Office, Indian Naval Surveying Ships, National Institute of Hydrography and Survey Units with special emphasis on hydrographic survey operations, contribution towards foreign co-operation, production of Nautical Charts and Publications, Human Resource Development and modernisation of the Indian Naval Hydrographic Department.



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**Vice Admiral Lochan Singh Pathania**  
भारत सरकार के मुख्य जल सर्वेक्षक  
Chief Hydrographer to the Government of India  
01 जुलाई 24  
01 July 24



# मुख्य जल सर्वेक्षक की कलम से

## FROM CHIEF HYDROGRAPHER'S DESK

I have the honour to present to you this annual report, which serves as a testament to the exemplary accomplishments of the Indian Naval Hydrographic Department. As an organisation entrusted with the responsibility of ensuring the safety of navigation at sea, in accordance with the provisions of the International Convention for the Safety of Life at Sea (SOLAS), INHD's role assumes paramount importance in the context of the unprecedented expansion of India's maritime infrastructure, pursuant to the 'SAGARMALA' initiative and the Government of India's strategic vision for harnessing the potential of the Blue Economy.

Over the years, the field of hydrography has witnessed tremendous amount of advancement in technology, which in turn has revolutionised the way we conduct hydrographic surveys and analyse data. In 2024, the department has continued to embrace these technological advancements and implement cutting edge methods to enhance our capabilities and deliver reliable products and services.

It gives me immense pleasure to share with you all the department's concentrated efforts towards comprehensive survey and charting of Indian and Foreign waters and ports. In the year gone by, the zeal and proficiency of the surveyors in the field ensured completion of 45 surveys, which included 13 Navigation, 14 Defence, 06 Tidal, 11 Foreign Co-operation and 01 survey in Antarctica. The data received has been effectively utilised to update the database at the National Hydrographic Office, Dehradun after being subjected to stringent QC procedures. This period also saw the department release 31 Paper Charts and Electronic Navigation Charts (ENC).

We have also taken significant strides in enhancing our data management and dissemination system by collaborating with various stakeholders, we have developed user friendly platforms that provides easy access to hydrographic data, thereby ensuring its availability to a wider audience. Towards this, the organisation's initiative to design and develop India-WINS as one stop solution for the Mariners world over to access digital Geographical Information System (GIS) based catalogue of charts and navigation warnings in IOR covering an area of nearly 26 million sq. Km is worth mentioning. Additionally the new NUD web page of NHO being hosted in Indian Navy Unified domain has also been a key milestone. These initiatives have not only



facilitated effective planning and decision making but have also fostered collaboration and knowledge sharing among the maritime community.

Furthermore, the department has also been actively participating in International Hydrographic endeavours, fostering partnership and exchanging best practices with other nations. Few noteworthy achievements which I would like to highlight are Hydrographic assistance in the form of joint surveys undertaken by our ships in Mauritius and Myanmar waters, gifting of survey equipment, conducting professional training and award of Internationally recognized CAT A and CAT B certificates to 26 International trainees. Being an active member of the International Hydrographic Organisation (IHO), in as many as 17 working level committees, the department continues to play and maintain a significant presence.



The department generated total revenue of 71.14 Cr for the year 2023-24 through royalty and sales of nautical products. The revenue from sales of paper charts, ENCs and publications has seen a 6.37% growth in last year's sales during the period of 2022-23

First Survey Vessel Large (SVL), INS Sandhayak was commissioned on 03 Feb 24 at Visakhapatnam in presence of Hon'ble Raksha Mantri, Shri Rajnath Singh. This marked a significant step in advancing the potential of Indian Navy in the field of Hydrographic and Oceanographic operations. The ship is indigenously built in India and equipped with advance hydrographic suite that includes Autonomous Underwater Vehicle (AUV), Remotely Operated Vehicle (ROV), Multibeam Echosounder etc. This has significantly enhanced our capabilities in the field of hydrographic survey and maritime research.

During this period, INS Nirupak, after having provided stellar service to the IN both in India and overseas for nearly four decades, was decommissioned on 29 Jan 24. In a significant transition, INS Investigator has been converted from its role of a hydrographic survey ship to a Surveillance-cum-Logistic Support ship, marking a new chapter in its storied history. This strategic shift underscores the vessel's adaptability and versatility in meeting evolving operational requirements of the Indian Navy. With this transformation, INS Investigator continues to exemplify the Indian Navy's commitment to versatility, ensuring it remains a valuable asset in maintaining maritime security and readiness.

The department conducted Maritime Workshop at NHO on 20 Jun 24, Dehradun with participants from over 35 ports and harbours. The workshop was well appreciated by the entire maritime fraternity. The 31<sup>st</sup> Hydrographic Survey Committee (HSC) meeting chaired by JS (Ports) was also conducted at NHO coinciding with the World Hydrography Day on 21 Jun 24.

These accomplishments would not have been possible without the unwavering commitment and dedication of our team of hydrographers, cartographers and supporting staff including our OEMs. Their tireless efforts, expertise and

professionalism have been instrumental in achieving our goals and keeping us at the forefront.

We acknowledge the dynamic nature of the maritime sector, characterised by evolving challenges and opportunities. The converging factors of rapid coastal development, climate change, and emerging technologies necessitate our continuous adaptation and innovation. We reaffirm our dedication to maintaining a leadership position, leveraging cutting-edge technology and fostering collaborative relationships with our national and international counterparts to effectively address these complex challenges.

I am confident that the department possesses the necessary capabilities and resources to effectively address and overcome any challenges that may arise in the future. We shall continue to strive towards charting the waters and navigate towards ensuring safer waters, keeping pace with the increasing demand of rapidly transforming hydrographic environment and strive ahead to provide accurate bathymetry information and associated products to the mariners. We shall continue our efforts in reaching out to our maritime neighbours in keeping with the 'SAGAR' policy.

**Sam No Varuna  
Jai Hind**

**वाइस एडमिरल लोचन सिंह पठानिया**  
**Vice Admiral Lochan Singh Pathania**  
भारत सरकार के मुख्य जल सर्वेक्षक  
Chief Hydrographer to the Government of India

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# महत्त्वपूर्ण उपलब्धियाँ MILESTONES

**Foreign Cooperation.** In continuation of the cooperation being extended in the field of hydrography, *IN* survey ships were deployed to Mauritius and Myanmar during survey season 2023-24. A total of seven hydrographic surveys were undertaken by both ships.

**Workshop on Maritime Safety.** Maiden Workshop on Maritime Safety was conducted on 20 Jun 24 at National Hydrographic Office, Dehradun with Maritime Boards and all stake holders to discuss and deliberate navigational safety issues.

**Hydrographic Survey Committee.** The 31<sup>st</sup> Hydrographic Survey Committee (HSC) Meeting was held on 21 Jun 24 at National Hydrographic Office, Dehradun for the first time under the Chairmanship of Joint Secretary (Ports), Ministry of Ports, Shipping and Waterways.

## **Assumption of Office.**

- (a) Vice Admiral Adhir Arora, AVSM, NM superannuated on 01 Feb 24.
- (b) Vice Admiral Lochan Singh Pathania assumed office of Chief Hydrographer to the Government of India on 01 Feb 24.
- (c) Rear Admiral Peush Pawsey assumed office of Joint Chief Hydrographer on 01 Feb 24.

**Commissioning of INS Sandhayak.** INS Sandhayak, the first Survey Vessel Large

(SVLs), built at GRSE, Kolkata was commissioned on 03 Feb 24 at Visakhapatnam by Hon'ble Raksha Mantri Shri Rajnath Singh.

**Decommissioning of INS Nirupak.** INS Nirupak was decommissioned 29 Jan 24, at Naval Dockyard, Visakhapatnam, marking the conclusion of over 38 years of distinguished service to the nation.

## **Meetings.**

- (a) Chief Hydrographer and Cmde (H)-CB/Press attended Technical Working Group (TWG) Meeting with UKHO.
- (b) Joint Chief Hydrographer and Cmde (H)-Ops attended SAIHC 19<sup>th</sup> Meeting at Port Louis.
- (c) Commander Aer Kishore Padam Singh attended NIPWG 10<sup>th</sup> meeting at Monaco.
- (d) Cmde (H) CB/Press II and Capt (H)-CB attended 2<sup>nd</sup> JCM on hydrography with Maldives at Male.
- (e) Chief Hydrographer and Cmde (H)-Ops attended 1<sup>st</sup> JWG meeting on Hydrography with Vietnam held at Hai Phong City, Vietnam.
- (f) Three-member delegation led by Myanmar Chief Hydrographer visited NHO for 2<sup>nd</sup> Joint Committee Meeting on hydrographic cooperation.







# भा.नौ.पो. दर्शक INS DARSHAK THE GUIDE J-21 2001



**CAPT AJAY CHAUHAN**  
Commanding Officer



**Introduction.** Ship was operational throughout the period and completed nine Hydrographic Instructions including five Foreign Cooperation Surveys at Mauritius and one Tidal observation. Ship, on completion of Mauritius survey, handed over newly published chart of Mauritius to the President of Republic of Mauritius in the presence of High Commissioner of India and delegations from seven different countries including Japan, France, Australia, United States and United Kingdom. The ship was placed under drawdown phase from Apr 24 for Short Refit (SR)-24.

**Operational Tasking.** Ship during the period of report had also undertaken various operational tasking like towing of water barge, participation in Navy Week celebrations, Deck Landing Practice(DLPs)/ Deck Landing Qualification's (DLQs).

### **Inspection.**

- (a) Ship's Class Authority Inspection was undertaken by representatives of the Chief Hydrographer.
- (b) Rear Admiral R K Dhingra, VSM, Flag Officer Commanding Tamil Nadu and Puducherry Naval Area (FOTNA) inspected the ship in harbour and at sea during Annual Inspection.

### **Visits.**

- (a) Vice Admiral LS Pathania, Chief Hydrographer to the Government of India and Rear Admiral Peush Pawsey, Joint Chief Hydrographer.
- (b) Shri Ajay Bhatt, Raksha Rajya Mantri.
- (c) The Commanding Officer called on Her Excellency K. Nandini Singhla, High Commissioner of India at Mauritius and Mr. Anil Kumar Dip, CSK, PMSM, Commissioner of Police at Mauritius during ship's deployment.

### **Change of Command.**

- (a) Cdr Praveen Thomas assumed command from Capt Ajay Chauhan on 22 May 24.

**Miscellaneous.** Ship has been regularly undertaking get-togethers and various troop games as part of HR initiatives.





**CDR PRAVEEN THOMAS**  
Commanding Officer



# भा. नौ. पो. इन्वेस्टीगेटर INS INVESTIGATOR

J-15

THE LEGEND

1990



**Introduction.** Ship underwent extended AMP for major routines in propulsion and PGD system. Ship was also deployed for various operational tasking such as for surveillance and patrolling of coasts of Kerala and L&M Islands, logistics support to L&M Islands IDAS Probationers visit sortie, Deck Landing Practice for IAF Pilots etc. Ship completed 10 hydrographic surveys during the period of report including Hydrographic Survey for Tidal Data Collection at Kandla. Change of command took place on 23 May 23.

**Survey Commitments (Command Tasks).** Ship undertook and completed Hydrographic survey of Bitra Island and check survey of Cochin Shipyard Ltd. Jetty as part of operational tasking.

**Inspection.** Ship underwent COMSAT conducted by Indian Naval Workup Team (INWT).

### **Contribution towards Community Development.**

- (a) During ship's deployment at Bitra Island, a medical camp was set up by ship for free medical treatment and distribution of medicines to the residents of island.
- (b) Regular cleanship drive at sea and around Kochi harbour towards Swachh Bharat Mission and plantation drive were also undertaken.

### **Visits.**

- (a) Delegation from French Navy.
- (b) DSSC and IDAS officers for sea sortie.
- (c) Vice Admiral Lochan Singh Pathania, Chief Hydrographer to the Government of India.

**Miscellaneous.** Ship has been regularly undertaking get-togethers and various troop games as part of HR initiative.







# भा.नौ.पो. जमुना

## INS JAMUNA

PIONEERS IN SEA SURVEYING  
J-16 1991



CDR CYRIL I SPEECHLY  
Commanding Officer



**Introduction.** The Ship was operational during this period. The ship was allotted a total of eleven Hydrographic Instructions (HIs) for the survey season 2023-24. The ship completed three HIs and two HIs are being progressed.

**Operational Tasking.** The Ship was deployed for Search and Rescue operations off Kanayakumari wherein ship successfully located the sunken fishing boat.

**Inspection.** The Ship successfully underwent COMSAT-24

**Visit.** The Chief Hydrographer VAdm Adhir Arora, AVSM, NM visited the Ship as part of his farewell visit.

**Miscellaneous.** Ship has been regularly undertaking get-togethers and various troop games as part of HR initiative.







**CDR RAHUL BHATT**  
Commanding Officer



भा.नौ.पो. मकर  
**INS MAKAR**  
THE TRAIL BLAZER  
J-31 2012



**Introduction.** The ship was operational throughout the survey season. Ship undertook and completed four hydrographic surveys during this period.

**AUV Query Tool.** A prototype of AI tool for self-learning on AUV was developed in collaboration with WESEE. The Query tool is based on 'Prompt Engineering' and enables user to obtain details related to AUV in the form of a chat box.

**Command Tasking.** Ship undertook surveys off Karwar, Malwan and range clearance duties in addition to other operational taskings.

**Change of Command.** Commander Kishore Aer assumed command from Commander Rahul Bhatt on 26 Apr 24.

**Inspection.** Class Authority and Annual Inspections of the ship were undertaken in Mar 24.

#### **Innovation in Survey Operations.**

- (a) An in-house innovation was carried out for conduct of Side Scan Operations by the ship wherein remote control of SSS in Bridge has been provisioned. This innovation has enabled availability of real-time SSS picture to the command team and thus considerably reducing the communication between Bridge and Quarter deck.
- (b) **Seapath Heading.** Ship indigenously developed and proved successfully in a cost effective manner, an alternative for Gyro compass in case of any emergency. It has an accuracy of 0.075° with redundancy in display by configuring Seapath 200 system.

**Visits.** The following personnel visited ship.

- (a) Sri Naresh Salecha, Member – NCLAT and CFI, Addl Secy to the Government of India.
- (b) R Adm KM Ramakrishnan, VSM, Flag Officer Commanding Karnataka Naval Area.
- (c) Cmde Vishal Sharma, Cmde(H) CB & Press.
- (d) Cmde Ashish Goyal, NOIC(Ktk).
- (e) V Adm LS Pathania, Chief Hydrographer to the Government of India.
- (f) R Adm Peush Pawsey, Joint Chief Hydrographer.

#### **Miscellaneous.**

- a) **Visit of NCC Cadets.** An organised visit was conducted for NCC Cadets of 08 Kar Naval Unit onboard.
- (b) **College on Wheels.** The ship hosted over 1000 girls as part of PM Modi's 'College on Wheels' – a dedicated trip for young ladies pursuing higher education in various colleges of Jammu & Kashmir.





# भा.नौ.पो. निरूपक INS NIRUPAK

ACCURACY INGENUITY ADAPTABILITY  
J-20 1985



**CDR VARUN GUPTA**  
Commanding Officer



**Introduction.** INS Nirupak was decommissioned 29 Jan 24, at Naval Dockyard, Visakhapatnam, marking the conclusion of over 38 years of distinguished service to the nation. Vice Admiral Adhir Arora, AVSM, NM, the Chief Hydrographer to the Government of India graced the occasion as the Chief Guest, adding to the solemnity of the event. Since her commissioning on 14 Aug 85 at Naval Dockyard Visakhapatnam, the ship has charted storied course, distinguished by the completion of over 200 hydrographic surveys, including in international waters. Additionally, she played an instrumental role in pivotal operations such as Op-Ghambir and Op-Pavan, while also contributing significantly to various joint surveillance tasks. Notably, the vessel also fulfilled her secondary role admirably, serving as a beacon of hope and healing in her capacity as a hospital ship. Throughout her illustrious commission, she has diligently executed various operational tasks with utmost dedication and precision. After the untimely demise of Cdr Sahil Sagoch, Cdr Varun Gupta assumed command of the ship on 10 Aug 23. She undertook extensive de-equipping and disposal of stores towards preparation for de-commissioning. The poignant sunset ceremony was attended by a gathering of esteemed guests, including previous Commanding Officers, veterans and serving personnel, whose indelible contributions have shaped the legacy of Nirupak.



**Conduct of Surveys.** Personnel were deployed as members of Detached Survey Team along with HSU (V) to undertake the Hydrographic Survey of Chilka Lake.

**Miscellaneous.** Various activities undertaken to bolster the morale and camaraderies among personnel included the following: -

- (a) **Sports and Troop Games.** A group of 04 personnel participated in cycling expedition and full marathon at Tawang, Arunachal Pradesh.
- (b) **Decommissioning Ceremony.** Ship was decommissioned on 29 Jan 24 at Visakhapatnam. The event was attended by erstwhile Commanding Officers, representatives from Command, Dockyard and other organisations of Visakhapatnam.







**CAPT RM THOMAS**  
Commanding Officer



# भा.नौ.पो. संधायक

## INS SANDHAYAK

VICTORY THROUGH EXCELLENCE  
J-18 2024



**Introduction.** INS Sandhayak (Yard 3025), the first Survey Vessel Large (SVL) ship, was commissioned into the Indian Navy in the presence of Raksha Mantri Shri Rajnath Singh at an impressive ceremony held at the Naval Dockyard, Visakhapatnam on 03 February, 2024. The primary role of the ship is to carry out full scale hydrographic surveys of ports, harbours, navigational channels/routes, coastal areas and deep seas, towards enabling safe marine navigation. In its secondary role, the ship will be capable of undertaking a range of naval operations. The keel was laid on 12 March, 2019 and the ship was launched on 05 December, 2021. It has undergone a comprehensive schedule of trials in harbour and at sea, leading up to commissioning. The ship has a displacement of 3,400 tons and an overall length of 110 meters with a beam of 16m. The ship is re-incarnated in its present avatar from erstwhile Sandhayak, which was decommissioned in 2021. Sandhayak is equipped with cutting-edge hydrographic tools, including Data Acquisition and Processing System, Autonomous Underwater Vehicle, Remotely Operated Vehicle, DGPS Long-range positioning systems, and Digital side-scan sonar. INS Sandhayak, which contains 80 per cent indigenous content, underscores the nation's growing maritime interests and capabilities.

**Command Tasks.** The Ship undertook hydrographic survey off Visakhapatnam in the month of Mar 24.

**Visit.** Hon'ble Raksha Mantri Shri Rajnath Singh visited the ship as Chief Guest for the commissioning ceremony along with Chief of the Naval Staff and other dignitaries.







# भा.नौ.पो. सर्वेक्षक

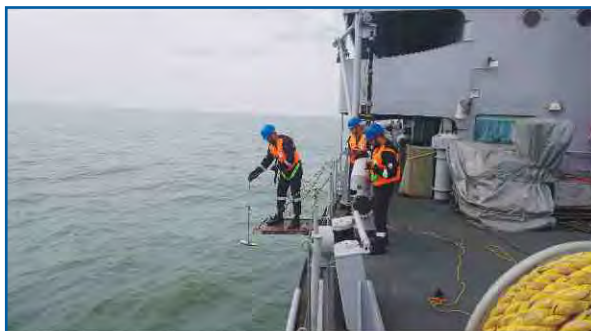
## INS SARVEKSHAK

PATHFINDER TO THE SEAFARER

J-22 2002



**CAPT TRIBHUVAN SINGH**  
Commanding Officer



**Introduction.** The ship was fully operational and completed nine Hydrographic Instructions including one Foreign Cooperation Survey at Myanmar. The ship undertook survey of newly inaugurated Chhara Port (Gujarat) towards publication of new navigation chart. Ship carried out survey off Sindhudurg for IN OPDEMO-23.

### **Operational Tasking.**

- (a) The ship successfully hosted Japanese warship JMSDF Makinami at Naval Base, Kochi.
- (b) The ship conducted on-job training for NIH under-trainees and sea familiarisation sorties for 237 Agniveers.
- (c) The ship was deployed for interception operations against narcotic contraband in Arabian Sea from 19 Nov 23 to 26 Nov 23.
- (d) Logistics support to Minicoy and Kavarati Islands.

**Inspection.** The Ship underwent COMSAT by Indian Naval Workup Team (INWT) in Mar 24

**Innovations in Survey Operations.** The ship undertook in-house design and fabrication of light weight foam fenders. These indigenously built cylindrical foam fenders are ultra-light weight, durable and easy to carry, which helps in avoiding damage to boats while securing alongside prior/post sounding operations. Additionally, ship also undertook following innovative measures that ultimately improved efficiency and execution of operations onboard: -

- (a) **Commercial Induction Cook Top.** The ship undertook replacement of 5KW galley range with 10 KW Commercial Induction Cook Top in Ship's Galley. This highly efficient cook top does not dissipate heat, customised as per marine standards and is controlled through main induction plate controls.
- (b) **Digital NBCD cum Incident Board.** The ship undertook installation of digital NBCD cum Incident Board in DCHQ. This incident board allows maintenance of record of hot works, fire & flood exercises, video recording facility and digital marking of exercise areas facility for incident narration keeping.
- (c) **Modular Store Keeping.** The ship undertook fabrication and installation of modular storage lockers. This enables efficient utilisation of space and orderly curation/ arrangement of engineering spares.

**Miscellaneous.** Ship has been regularly undertaking get-togethers and various troop games as part of HR initiative.



**CAPT MATHEWS G ABRAHAM**  
Commanding Officer



भा.नौ.पो. सतलज  
**INS SUTLEJ**  
EXCELLENCE IS TRADITION  
J-17 1993



**Introduction.** The Ship underwent Short Refit (SR)-23 followed by Operational Sea Training (OST)- 23 by Indian Naval Workup Team (INWT). Post completion of Operational Sea Training, Ship progressed and completed nine Hydrographic surveys including two tidal observations.

**Command Tasks.**

- (a) **Hydrographic Surveys.** Ship successfully undertook and completed two survey taskings at Kochi.
- (b) **Miscellaneous Tasking.** Ship participated in *IN OP Demo* and undertook maiden berthing trials at Adani Vizhinjam International Seaport. Ship undertook operational tasking of bathymetric survey of Hotel Brunton Boatyard and Grand Hyatt on 20 Oct 23 and sea familiarisation sortie with international cadets from INA, Ezhimala.

**Inspection.** Ship underwent COMSAT/ DCFF by Indian Naval Workup Team (INWT) and FOLSAT-23.

**Change of Command.** Captain Mathew G Abraham assumed command from Captain M Murlidhar on 12 Jul 23.

**Visits.**

- (a) Rear Admiral Subir Mukherjee, ASY, Kochi
- (b) Vice Admiral Adhir Arora, AVSM, NM Chief Hydrographer to Govt. of India.
- (c) Cmde Viju Samuel CSO (P&A), HQSNC and Capt Lovekesh Thakur NOIC Lakshadweep sailed onboard from Agatti Island and visited Minicoy and Kavaratti Island.

**Miscellaneous.** Ship has been regularly undertaking get- togethers and various troop games as part of HR initiative.



# राष्ट्रीय जल सर्वेक्षण संस्थान, गोवा

## NATIONAL INSTITUTE OF HYDROGRAPHY, GOA



CMDE SK NAIR  
Officer-in-Charge

**Introduction.** The Institute successfully conducted all scheduled courses as per Biennial Training Programme 2022-24. 104 Officers and 189 Sailors from India as well as from Friendly Foreign Countries (FFCs) have been trained during the period of report.

(a) **Inauguration of Sanshodhak Block.** The International trainee Officers' accommodation block 'Sanshodhak' was inaugurated in the presence of VAdm MA Hampiholi PVSM, AVSM, NM FOC-in-C (South) and VAdm Adhir Arora AVSM, NM Chief Hydrographer to the Government of India.

(b) **Annual Inspection.** RAdm Upal Kundu, Chief of Staff, HQSNC inspected the Institute on the occasion of Annual Inspection 2023-24.

(c) **Courses Conducted as per BTP 2022-24.** The Institute has conducted 14 scheduled courses from 01 Jul 23 to 30 Jun 24 as per Basic Training Programme 2022-24. Details of the same are tabulated below: -

### (i) Courses Conducted.

Ser.	Name of course	From	To
<b>Officers</b>			
(a)	Advance 'H' (83:112)	03 Jul 23	09 Sep 23
(b)	Long 'H' (83:045)	23 Jan 23	10 Feb 24
(c)	Long 'H' (83:045)	22 Jan 24	08 Feb 25
(d)	Basic 'H' (83:248)	26 Jun 23	09 Dec 23
(e)	Long ND (I) (83:061)	25 Sep 23	30 Sep 23
(f)	Long N (F) (83:065)	09 Oct 23	14 Oct 23
<b>Sailors</b>			
(a)	Agniveer HY(83:626)	29 May 23	19 Aug 23
(b)	ESEO (83:627)	05 Jun 23	08 Jul 23
(c)	LS 'Q' HY (83:628)	17 Jul 23	30 Sep 23
(d)	PO 'Q' HY (83:629)	04 Sep 23	20 Jan 24
(e)	PO 'Q' HY (83:633)	12 Feb 24	29 Jun 24

(f)	Agniveer HY(83:630)	04 Dec 23	24 Feb 24
(g)	Agniveer HY(83:634)	13 May 24	03 Aug 24
(h)	ESEO (83:635)	08 Apr 24	11 May 24

**Survey Undertaken.** The following courses (Officers and Sailors) have successfully completed practical survey as a part of their course curriculum towards the culmination of training at the Institute: -

Ser	Course	Duration (weeks)	From	To	Remarks
(a)	Long 'H' (83:045)	04	16 Oct 23	11 Nov 23	Complex Multidisciplinary Field Project
(b)	Basic 'H' (83:248)	04	13 Nov 23	09 Dec 23	Comprehensive Final Field Project
(c)	Agniveer HY(83:626)	2.5	31 Jul 23	12 Aug 23	Training Survey
(d)	LS 'Q' HY (83:632)	02	22 Mar 24	30 Mar 24	Training Survey
(e)	PO 'Q' HY (83:629)	03	01 Jan 24	13 Jan 24	Training Survey
(f)	Agniveer (HY) (83:630)	2.5	29 Jan 24	10 Feb 24	Training Survey

### Courses in Progress.

Ser.	Name of course	From	To	Strength
<b>Officers</b>				
(a)	Long 'H' (83:046)	22 Jan 24	08 Feb 25	06 + 10 (Intl)
<b>Sailors</b>				
(a)	LS 'Q' HY (83:632)	22 Jan 24	06 Apr 24	12 + 01 (Intl)
(b)	PO 'Q' HY (83:633)	12 Feb 24	29 Jun 24	21 + 08 (Intl)

**Operational Tasking.** NIH, in addition to training, also undertook various operational taskings involving Pre dredging survey of Approaches to IN jetty (Goa), height elevation measurement of 55 buildings in the approach path of INS Hansa runway, and determining visibility & range bearing land marks for Goa International Airport, Dabolim.





#### **Initiative/Achievements in Training.**

- The Syllabi of Basic and Advance Civilian Courses was revised and redesigned.
- The Certificates and Marksheetworks for all courses conducted from 2005 – 2023 have been successfully uploaded on Digi-Locker.
- Syllabus of PO 'Q' course has been revised.
- Affiliation with Goa University in PG certificate, PG Diploma & MSc (Hydrography) Programmes has been extended for three Academic Years.
- Post Registration with CUSAT for PO 'Q' (HY) Course and Pre-Registration for PO 'Q' (HY) for Diploma in Hydrographic Survey (DHS) has been completed.
- ESEO courses and PO 'Q' (HY) course valedictory functions were conducted on 11 May 24 and 29 Jun 24 respectively.

**Miscellaneous.** Institute has been regularly undertaking get-together and various troop games as part of HR initiative.



#### **Results of Courses.**

##### **Officer Courses.**

Ser	Course	Overall Grade
(i)	Long 'H'	Very Good
(ii)	Basic 'H'	Very Good

##### **Sailor Courses.**

Ser	Course	Overall Grade
(i)	PO 'Q' (HY)	Distinguished
(ii)	LS 'Q' (HY)	Above Average
(iii)	ESEOC	Good
(iv)	AVR (HY)	Average
(v)	PO 'Q' (HY)	Above Average
(vi)	LS 'Q' (HY)	Above Average
(vii)	AVR (HY)	High Average

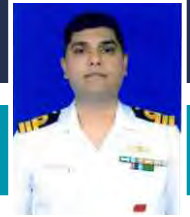
**Visits.** Following visited the Institute during the period of report:-

- VAdm MA Hampiholi PVSM, AVSM, NM, FOC-in-C (South).
- VAdm Adhir Arora AVSM, NM, Chief Hydrographer to the Govt. of India.
- RAdm Upal Kundu, Chief of Staff, HQSNC.
- VAdm LS Pathania, Chief Hydrographer to the Government of India.



# जल सर्वेक्षक इकाई, कारवार

## HYDROGRAPHIC SURVEY UNIT, KARWAR



**CDR K VICTOR PAUL**  
Officer-in-Charge



**Introduction.** The Hydrographic Survey Unit (Karwar) has fulfilled all the survey requirements as projected by HQKNA and as directed by National Hydrographic Office. The unit completed survey operations of Yamuna River, Delhi iaw the directives received. The team worked in co-ordination with DOH, NHO, Irrigation Department at Delhi and LG office. The unit completed Pre-dredging survey of Karwar Naval Harbour for maintenance dredging of Harbour. Water Level Meter (WLM) has been successfully installed at Karwar Naval Harbour.

**Inspection.** Annual Inspection and Class Authority Inspection of the unit have been conducted by HQKNA and NHO Dehradun respectively.

**Change of OIC.** Commander Deepender Sisodia handed over duties of OIC HSU(KAR) to Commander K Victor Paul in June 24.







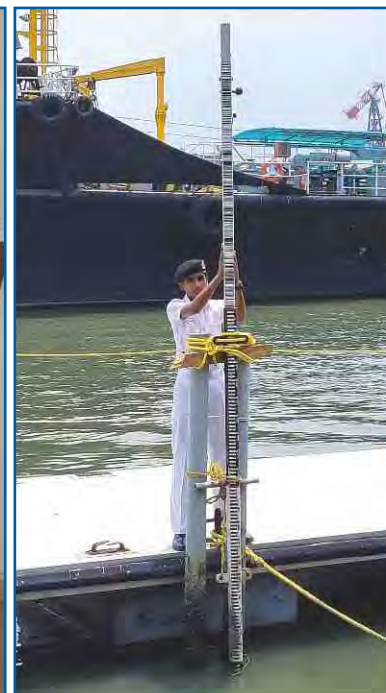
**CDR SK SAJAN**  
Officer-in-Charge

## राष्ट्रीय जल सर्वेक्षण इकाई, कोची HYDROGRAPHIC SURVEY UNIT, KOCHI

**Introduction.** The Hydrographic Survey Unit (Kochi) has successfully undertaken all the survey requirements projected by NHO/SNC. Major tasks carried out during the season include Pre/Post dredging Surveys of Naval channel, Side Scan Search off Bet Dwarka by a detached survey party and check survey of Kochi Naval Channel. In addition, Navigational surveys of Naval area and topographical surveys for ensuring flight safety were also undertaken as and when required.

**Operational Tasking.** As part of operational tasking, unit also undertook and completed ten survey taskings which primarily included check survey, height survey etc.

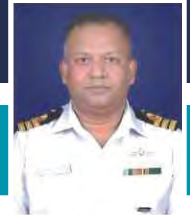
**Tailpiece.** Commander Chittaranjan Kumar Singh (06898-A) has assumed the duties of Deputy OIC on 01 Jun 24.





# राष्ट्रीय जल सर्वेक्षण इकाई, मुम्बई

## HYDROGRAPHIC SURVEY UNIT, MUMBAI



**CDR S SENAPATI**  
Officer-in-Charge



**Introduction.** Hydrographic Survey Unit (Mumbai) has provided all Hydrographic support to Command and has fulfilled all operational tasking. The unit is continuously endeavouring to improve the infrastructure whilst keeping up with emerging technologies through training and innovation.

**Survey undertaken.** The unit is undertaking regular Hydrographic Survey at Naval Tidal Basin and Naval sites for safe navigation of Ships, Submarines and Yard crafts.

**Operational Tasking.** Unit have undertaken 15 surveys including survey at Porbander, Okha, Mumbai and various other locations as part of operational taskings.

**Inspection.** The unit was inspected by RAdm Kunal Rajkumar, Chief Staff Officer (Operations) in Sep 23.







**CDR PK GURUNG**  
Officer-in-Charge

# जल सर्वेक्षक इकाई, पोर्ट ब्लेयर

## HYDROGRAPHIC SURVEY UNIT, PORT BLAIR



**Introduction.** Hydrographic Survey Unit (Port Blair) is responsible for conduct of all field Hydrographic tasks in and around Port Blair and in the sea areas of Andaman & Nicobar Islands. The unit advises Command on Hydrographic aspects of Naval Operations, establish a network of Geodetic Stations, establish vertical datum in the area and assist in SAR operations.

**Survey Undertaken.** Check Survey of Shaheed Dweep jetty.

**Operational Tasking.** Unit has carried out 11 operational taskings during the period of report. The taskings involved undertaking Geodetic surveys at various locations, assistance to beaching operations, check survey at various locations etc.

**Annual Inspection.** The unit was inspected by Commodore Prashant Handu, NM, NAVCC, in Dec 23.

**Miscellaneous.** Unit has been regularly undertaking get-together and various troop games as part of HR initiative.





# जल सर्वेक्षक इकाई, विशाखापत्तनम

## HYDROGRAPHIC SURVEY UNIT, VISHAKHAPATNAM



CMDE A MURALIDHAR  
Officer-in-Charge

**Introduction.** The Hydrographic Survey Unit (Visakhapatnam) has been established to meet the survey requirements of Eastern Naval Command. The unit is responsible for conduct of Hydrographic surveys in and around Visakhapatnam Naval harbour. The unit has completed the entire tasks assigned by NHO and Command. The unit is also continuing with round the clock tidal data collection. Unit's SMB is operational and being judiciously utilised for the conduct of bathymetric survey for ensuring navigational safety in the channel.

**Conduct of Survey.** Unit have progressed and completed two hydrographic surveys at Chilka and Visakhapatnam.

**Inspection.** The unit was inspected by Rear Admiral Shantanu Jha, NM, Chief Staff Officer (Operation) in Apr 24.

**Operational Tasking.** Unit have undertaken 20 surveys involving site elevation survey, fixing of various landmarks, height measurement survey and check surveys.

### **Visits.**

- (a) Commodore TK Suresh (Retd).
- (b) Vice Admiral Lochan Singh Pathania, Chief Hydrographer to the Govt of India.
- (c) Rear Admiral Peush Pawsey, Joint Chief Hydrographer.

### **Innovation in Survey Operations.**

- (a) Pre-Dredging and Post-Dredging survey of N1-N3 jetty carried out by using floating transducer case prepared by this unit with Deso 30 Echosounder.

- (b) Unmanned Survey Motorboat (Remote boat) trial was carried out as per directive of DOH.

**Miscellaneous.** Unit has been regularly undertaking get-together and various troop games as part of HR initiative.





**CAPT M SOMASEKHAR**  
Officer-in-Charge

# नौसेना नक्शा आगार, मुम्बई NAVAL CHART DEPOT, MUMBAI

**Introduction.** Naval Chart Depot handled all the demands of Charts and Publication for Naval Ships and Chart vendors during the period of report. The Maritime Safety Information section ensured transmission of all safety information pertaining to Navarea VIII region on all modes of transmission as per SOLAS Regulations.

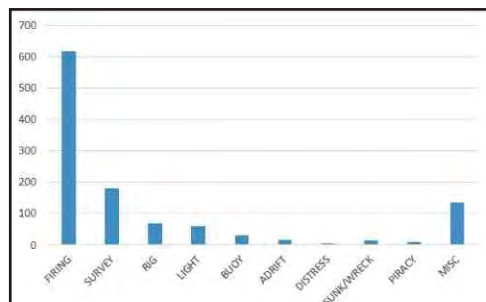
## Indian Chart Section.

Issue/Sale	Number of Charts	Number of Publications
Naval Units	4220	199
Chart Agents	1458	50

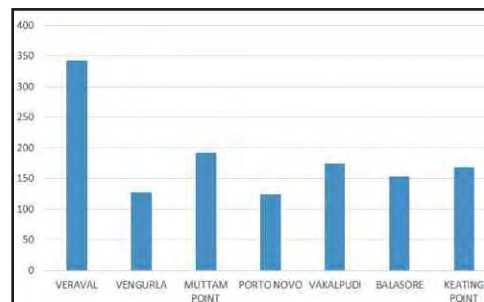
**BA Chart section.** The depot processed demands of AVCS permits for 64 IN ships proceeding on OSD and supplied the requisite permits through National Hydrographic Office within the stipulated time. Additionally, a total of 1060 BA charts and 93 publications were also issued to IN Ships on OSD during the period.

**Navigational Warning Messages.** A total of 823 Navigational warning and 839 NAVTEX messages were promulgated on IMARSAT, IRIDIUM, Safety Net and COMNETCEN (MB) for Naval vessels. The breakdown of warnings issued is shown in the graph below:-

**NAVAREA VIII MSGs ISSUED FROM  
01 JUL 23 TO 30 JUN 24**



**NAVTEX MSGs ISSUED FROM  
01 JUL 23 TO 30 JUN 24**



## Inspections.

- Units Annual Inspection was undertaken by Chief Staff Officer (Ops) in Sep 24.
- 12 Standing Naval Inspection Team inspections carried out by unit staff.

## Visit.

- RAdm Kunal Singh Rajkumar, CSO (Ops), HQWNC.
- VAdm Lochan Singh Pathania, Chief Hydrographer to Govt. of India .





# नौसेना नक्शा आगार, विशाखापत्तनम

## NAVAL CHART DEPOT, VISAKHAPATNAM

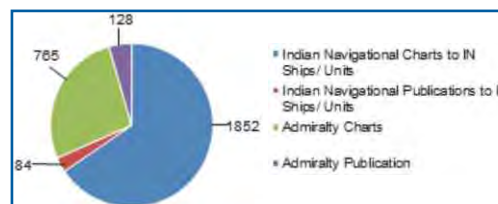


CDR KAMAL ASHRAF  
Officer-in-Charge

**Introduction.** Naval Chart Depot is handling an independent BA Section and a Print-on-Demand Section in addition to I/V section. NCD (V) strives to be a centre of excellence with respect to issuance of charts, Publications and ENC's to the units of Eastern Naval Command and nominated Chart agents by National Hydrographic Office. It played a key role in meeting the urgent operational demands of Charts and Publication at ENC. The endeavour of the organisation is to facilitate and provide up-to-date charts, publications and ENC's and achieve 100% compliance with respect to meeting user demand.

**Issue of Charts and Publications.** Details of charts and publications issued to ships and establishments are as follows:-

Sl. No	Chart and Publication	Issues for 22-23	Issues for 23-24
(a)	Indian Navigational Charts	2318	1852
(b)	Indian Navigational Publication	117	84
(c)	Foreign Charts	1152	765
(d)	Foreign Publication	207	128



### Sale of Indian Charts and Publications.

**To Chart Agents.** During the period of report, this depot has registered sale of Indian charts and publications to the chart agents worth Rs. 18,17,760.00 (Rupees Eighteen Lakhs Seventeen Thousand Seven Hundred and Sixty only).

### Visit.

- (a) VAdm LS Pathania, Chief Hydrographer to the Govt. of India.
- (b) RAdm Peush Pawsey, Joint Chief Hydrographer.

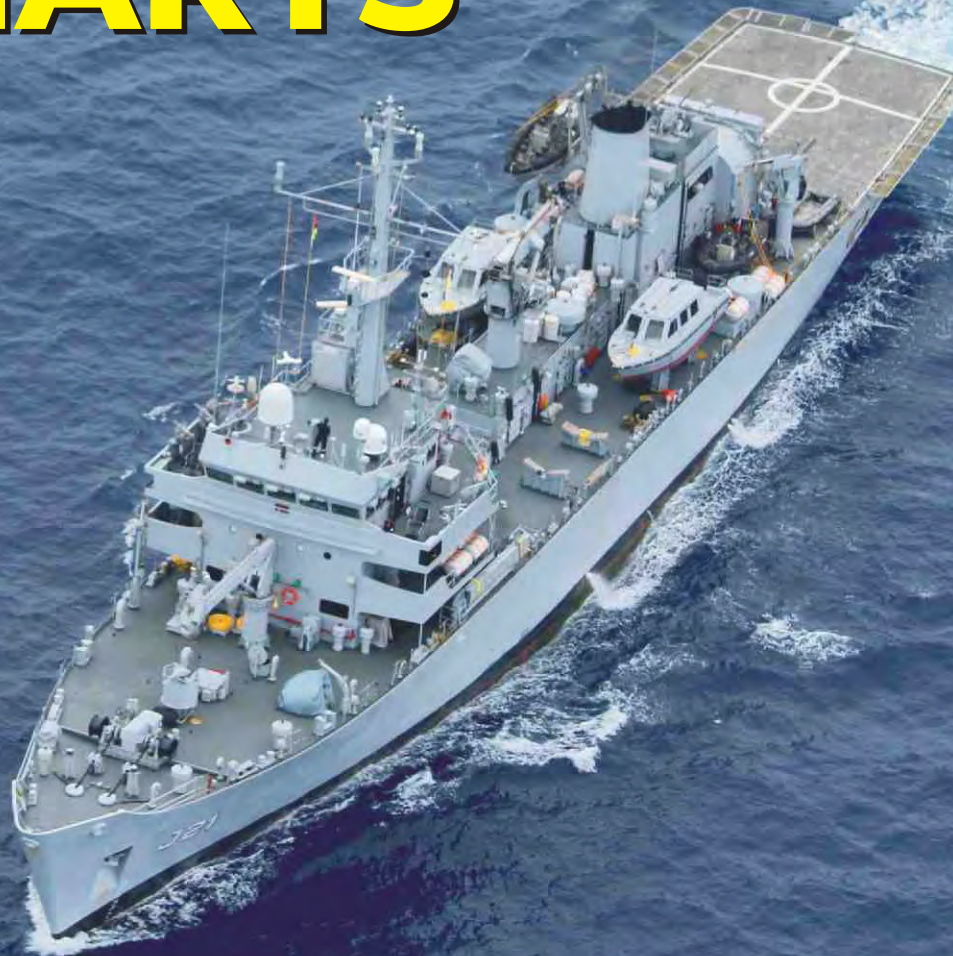
### Involvement of Unit in other activity.

- (a) NSPC Inspection of various Ports on Eastern coast.
- (b) Naval Security Clearance of various on Eastern coast.





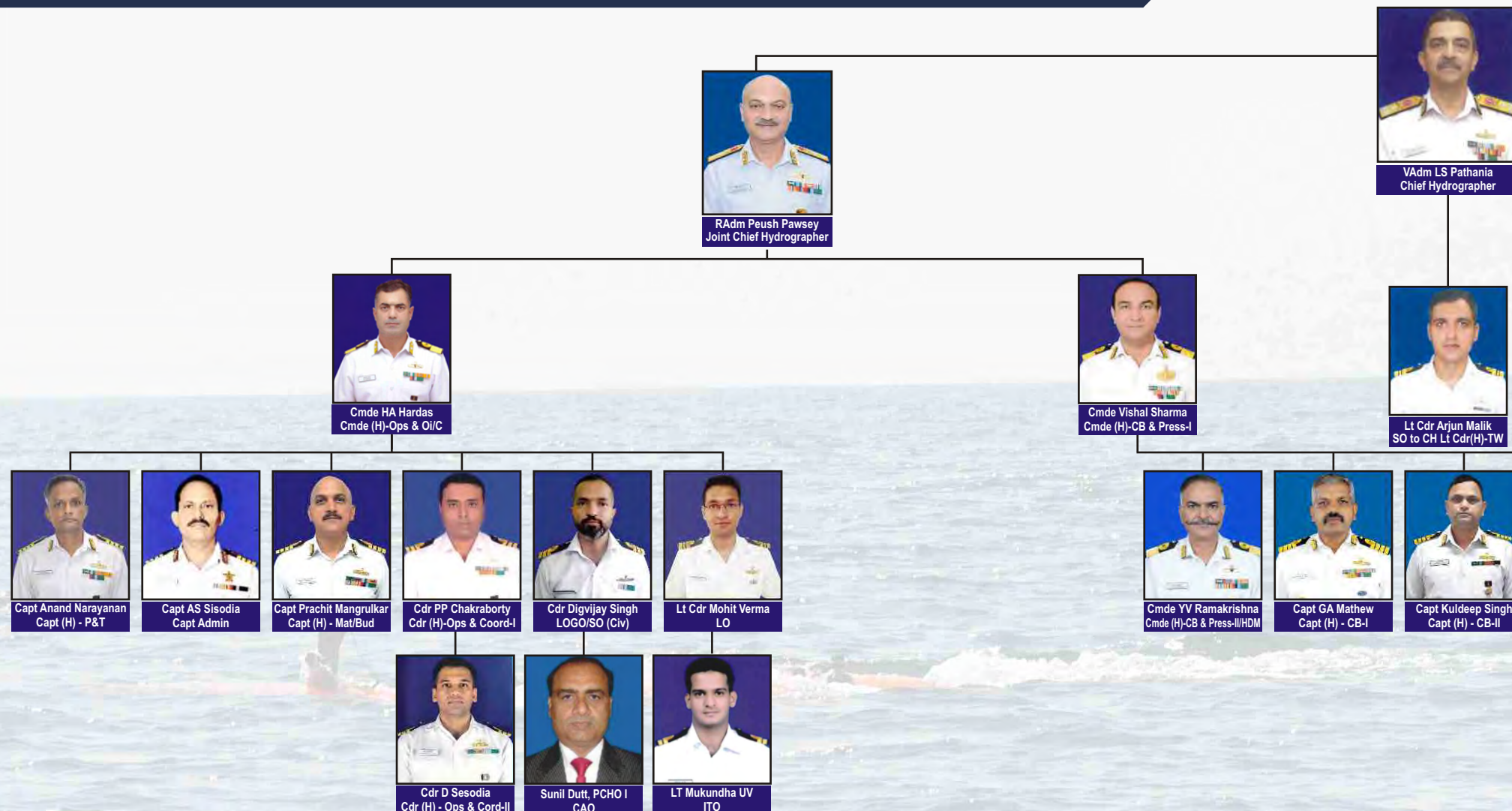
# ORGANISATIONAL CHARTS





# मुख्य जल सर्वेक्षक की संगठनात्मक संरचना

## ORGANISATIONAL STRUCTURE OF CHIEF HYDROGRAPHER





Cmde Rajesh Bargoti  
Cmde (H) DOH



Cmde RB Menon  
Cmde (H) - II



Capt Pradeep Singh  
Capt (H) - PP



Capt Rahul Bhatt  
Capt (H) IA/Ops



Lt Cdr Rishabh Rawat  
Cdr (H) - Mat



Capt Amit Pant  
Capt (H) - IA



Cdr Harshvardhan  
Cdr (H) - S&D/Press

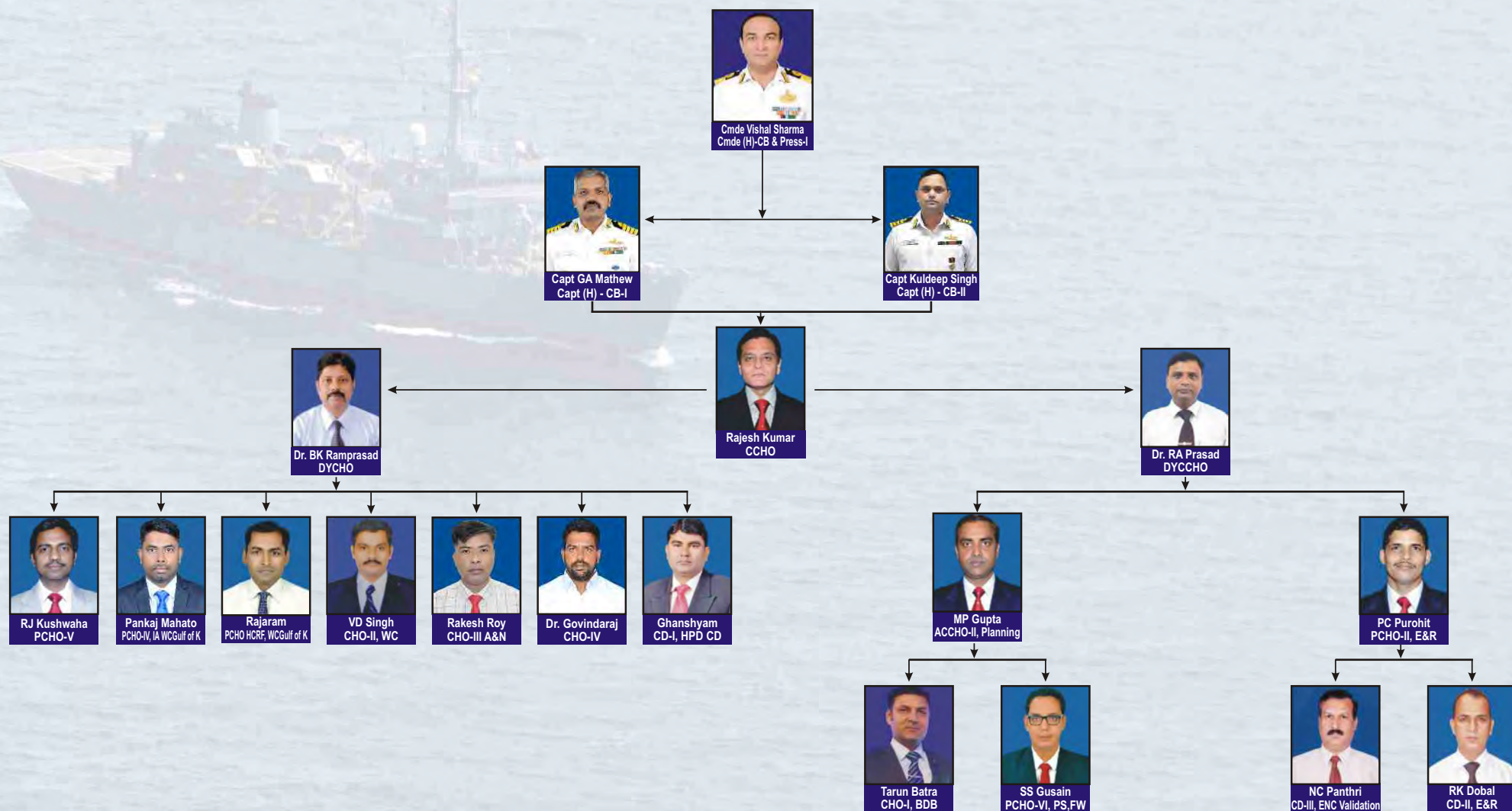


Lt Cdr Pratap P Singh  
Lt Cdr (H) - MSIS



# चार्ट शाखा की संगठनात्मक संरचना

## ORGANISATIONAL STRUCTURE OF CHART BRANCH





**CAPT KULDEEP SINGH**  
CAPT(H)-CB-II

## चार्ट शाखा CHART BRANCH

**Role and Responsibilities.** Chart Branch plays a vital role in chart production in accordance with stipulated international standards and procedures. The Department is continuously striving hard to meet the ever growing demands of charts and its allied products to the mariners. The induction of HPD has ensured simultaneous production of paper charts and ENC's and has resulted in release of 650+ products from HPD. The products generated from HPD are consistent and coherent in data across all verticals. The office is producing new charts and ENC's along with maintaining existing products. The production timelines have been considerably reduced and able to meet the growing demand with short period. This office is the largest repository of Bathymetric data in India and is stakeholder in various National and International bodies. With the production of navigational products for mariners, this office is also producing nautical products like HDENC, Additional Military Layer (AML) and Confidential Charts for Indian Armed forces/Indian Navy (IN) use only. This office promulgated Temporary and Preliminary Notices to Mariners for navigational significant information by ENC update to provide the ECDIS user with updated information. The department also deals with International Hydrographic Organisation (IHO) matters including coordination of INT Charts in Area 'J' under North Indian Ocean Hydrographic Commission (NIOHC). The office is providing professional inputs and making correspondence with IHO on charting matters and is an active member in various working group/Committees/Regional Hydrographic Commissions like - HSSC, ABLOS, HSWG, NIPWG, NCWG, TWCWG, ENCWG, DQWG, HDWG, S-100WG, NIOHC & NICCWG.

**Paper Charts.** Production of paper charts has been the backbone of NHO. During the year, 18 New Charts and 14 New Edition paper charts were produced. Regular updation of paper charts database has led to the production of 27 reprints during the last one year.

**Electronic Navigation Charts (ENCs).** The office is well poised to play a leading role as ENC producer in the region as per IHO specification. Till date, 357 ENC cells have been released in the market and efforts are underway for improving the larger ENC coverage including 43 international cells. During last year, 11 new ENC cells and 34 new edition ENC cells were produced and released in the market. With IHO and IMO striving hard for noticeable requirement of ENC's worldwide, this Office is well equipped with latest technologies to meet the future challenges. Additionally, the ENC cells released into the market are being regularly updated fortnightly.

**International Charting Scheme.** In its constant endeavour for regional cooperation, India has played a crucial role in this region for providing better coverage. Accordingly,

international series charts on various scales were planned and till date INHD has produced 96 INT charts.

**Foreign Charts.** As part of International Hydrographic Cooperation, NHO has bilateral arrangements with Myanmar, Mauritius, Maldives, Vietnam and Mozambique to produce INT Charts in their waters. A total of 42 foreign water Charts have been produced till date.

**ENC Workshop for Foreign Officer Trainees.** ENC Production Course empowers the trainees on the theory and concepts of Charts/ ENC production 'from review of data to release of products'. ENC Production Course for officers from Myanmar & Mauritius was conducted from 15 Apr – 11 May 24. Four Foreign trainees were trained on ENC/ Paper Chart production in 2024.

**S-57 Cartography Course for Sailors.** S-57 Cartography Course for Sailors were conducted from 18 Sep – 30 Sep 23 at NHO. The sailors were imparted training on various hydrographic and cartographic aspects and standards promulgated by IHO and Standard practices for creation and production of world class Navigational Charts and ENC's. A total of 14 Sailors from Survey ships/units were trained in the workshop.

**Finalisation of Coastline of India.** This office is one of largest repositories of Geospatial data and thus a key member in CPDAC (Coastal Protection Development Advisory Committee). A board was constituted by MHA to finalise the Coastline of India. The NHO along with Survey of India carried out the calculation which has been accepted by all stakeholders and forwarded to MHA for promulgation.

**Reconciliation of Number of Offshore Islands/Islets of India.** Border Management division of MHA constituted a board for collating information on all offshore islands for reconciliation of number of Islands of India. The NHO along with Survey of India carried out the calculation which has been accepted by all stakeholders and forwarded to MHA for promulgation.

**Yamuna River Chart.** A hydrographic survey was carried out by a detached survey team of INHD to check the feasibility of navigation in the River. Based on the survey, a chart was prepared and forwarded to the secretariat of Lt. Governor of Delhi.

**Release of Bilingual Chart.** The bilingual (Hindi and English) Chart 4012 of Port Blair Inner Harbour (द्विभाषीय नौसंचालन मानचित्र : ४०१२ – पोर्ट ब्लेयर भीतरी बंदरगाह) was released by Hon'ble Governor of Uttarakhand Lt Gen Gurmit Singh, PVSM, UYSM, AVSM, VSM (Retd) on 04 Dec 23 as part of Navy Day-2023 celebrations.





**CMDE YV RAMAKRISHNA**  
Cmde (H) –CB/Press-II/HDM

**Introduction.** The Hydrographic Data Management (HDM) Section of National Hydrographic Office promulgates policy directives and Standard Operating Procedures for conduct of field surveys. These policy directives are aligned with International Hydrographic Organisation's promulgated standards and specifications. This section examines the field data collected by IN Surveying Ship and Units adhering to stringent QC checks for data acceptance and charting action. Over the years, the procedures for data collection and review have been streamlined. Additionally, data from other sources is also received at this section. Further, this section regularly provides inputs to various sections of NHO, NHQ, other maritime organisations and scientific institutions as part of planning inputs for informed decisions.

**Unified Storage Device.** The voluminous data being collected year on year by IN Surveying Ships and Units is about 4-5 TB. Therefore, to augment the data archival and retrieval, an Unified Storage Device (USD) has been installed and augmented with memory storage of 240 TB. To safeguard the invaluable data, adhering to extant IT policies, a Near Disaster Recover System has been established for real time replication of the data from USD. Additionally, efforts are underway to establish a Far Disaster Recover System.

**Data Review.** The field data is an essential ingredient in Chart/ENC making process. Therefore, persistent and conscious efforts are put in for reviewing the data as per the priority accorded for Chart production. Thus, the survey data of foreign ports, critical defence surveys, navigational surveys and newly established ports were reviewed in a timely manner. The QC cleared data has been gainfully utilised to release Charts and ENCs as a service to mariners and national development.

**Tidal Predictions (INP 12).** Considering the ever increasing demand of marine traffic, maritime operations 24X7 all around the year and rapid development of Captive Jetties, Non Major Ports along the vast Indian coast, Tide Predictions for Non major Ports are being computed and compiled by HDM Section as a service to maritime community. The initial start was humble with Tide Predictions of 40 Non major ports. Over the decades, the data has been populated with support of various maritime stakeholders and for the year 2024, Tide Predictions for 93 Non major ports have been compiled. The observed tide data received from various maritime stakeholders is subjected to scrutiny. Only consistent data is accepted for analysis and computation of harmonic analysis and predictions. Dedicated software has been installed for Tide Predictions and efforts are underway to upgrade the software. To refine the predictions for the year 2025, various port authorities have been requested to provide observed tide data. This office is

receiving encouraging responses and the predictions for the year 2025 are being refined.

**Original Document Section Database (ODS).** The Original Document Section (ODS) is the repository of all original documents which include manuscripts and hard copies of vintage data. The inventory list of this invaluable data is being updated regularly in a phased manner. These measures have ensured ready access to vintage data and records.

**Bathy Database (BDB).** On completion of review and QC checks, the bathymetry data is archived in BDB. This bathy data is utilised by Hydrographic Production Database for making products. The procedures set up are well streamlined and data of latest surveys has been populated.

**Ancillary Database Management System (ADMS).** As part of hydrographic surveys, bathymetry and additional data are recorded in the field. In order to augment the chart making process, ADMS system was commissioned. This system is being utilised for archiving ancillary data for retrieval on query. The ancillary data substantiates hydrographic data and aids in preparing valuable notes for future reference and sailing directions. ADMS system is being populated progressively. The ADMS system data provides for easy retrieval for further data analysis.

**Training.** Regular training is being imparted to Officers and Crew from IN Survey Ships and Units with practical hands-on process of data review. Additionally, this year training was conducted for Long H Officers, international participants from Myanmar and Mauritius officers on QC of hydrographic data.

**Form Based Report of Survey (RoS).** An initiative was taken to standardise the existing data compilation and data rendering procedures. Accordingly, to minimise typing effort, translational and typographical errors, a Form based RoS module was developed in-house to obviate inconsistencies. The software is being utilised by ships and units to input relevant data, avoid duplication and render an objective report of survey. The software also offers adequate flexibility to input comments and remarks to describe relevant information. It is aimed to enhance digital records with objective assessments and value addition.

**Hydro Data Analytics.** A project initiative for digitising and retrieving old manuscripts in consultation with WESEE is under progress. WESEE team demonstrated the tool and detailed deliberations were undertaken. The tool was deployed on a standalone computer system for trial purpose and is in development stage.



**CAPT AMIT PANT**  
Capt (H)-IA

# अंतराष्ट्रीय प्रसंग INTERNATIONAL AFFAIRS

The National Hydrographic Department over the years has established itself as the leading hydrographic office in the Indian Ocean Region (IOR). This is evident by the increased bilateral and multilateral engagement of the INHD. The department has carried out a wide spectrum of activities under its foreign cooperation initiatives including signing of MoU's/IA's with Friendly Foreign Countries (FFCs), foreign cooperation surveys, conduct of customised training courses, participation at International Level meetings etc in order to strengthen our ties in the region and worldwide.

## REPRESENTATION IN INTERNATIONAL FORA.

Ser	IHO Meeting	Venue	date	Participated by
(a)	South African and Islands Hydrographic Commission (SAIHC)	Port Louis, Mauritius	28-31 Aug 23	RAdm LS Pathania JCH and Cmde HA Hardas, Cmde(H)- O&A
(b)	Nautical Information Provision Working Group (NIPWG)	Monaco	12-15 Sep 23	Cdr Aer Kishore Padam Singh, DOH.
(c)	ENC Standards Maintenance Working Group (ENCWG)	Lombok, Indonesia	25-29 Sep 23	Mr CM Doss, PCHO
(d)	Hydrographic Survey Working Group (HSWG)	VTC	26 Feb-01 Mar 24	Cmde Vishal Sharma, Cmde(H)-CB/Press
(e)	Data Quality Working Group (DQWG)	VTC	25-26 March 24	Mr. PC Purohit, PCHO
(f)	Crowd-Sourced Bathymetry Working Group (CSBWG)	VTC	23-26 Apr 24	Cmde YV Ramakrishna, Cmde (H)-CB/Press
(g)	International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)	Hamburg, Germany	19-23 Apr 24	Cmde J Gurumani
(h)	North Indian Ocean Hydrographic Commission (NIOHC)	Chiang Mai, Thailand	21-23 May 24	VAdm LS Pathania, CH and Capt Amit Pant, Capt(H) –IA
(i)	Hydrographic Services and Standards Committee (HSSC).	Tokyo, Japan	28-31 May 24	Cmde SK Nair, Oi/C NIH
(j)	GEBCO Sub-Committee on Undersea Features Names (SCUFN)	Jehu Island, Korea	24-28 Jun 24	Capt Pardeep Singh, DOH.

## FOREIGN COOPERATION IN THE FIELD OF HYDROGRAPHY.



Ser	IHO Meeting	Venue	date	Participated by
(a)	India-UK	Taunton, UK	05-07 Jul 2023	VAdm Adir Arora CH and Cmde Peush Pawsey, Cmde(H)-CB-Press
(b)	India-Mauritius	Port Louis Mauritius	12-14 Jul 2023	RAdm LS Pathania, JCH and Cmde YV Ramakrishna, Cmde(H) -IA
(c)	India-Myanmar.	NHO, Dehradun	11-16 Sep 23	Myanmar Chief Hydrographer
(d)	India- Maldives	Male, Maldives	28 Mar 24	Cmde YV Ramakrishna and Capt Pradeep Singh
(e)	India-Viet Nam	Hai Phong, Vietnam	07-09 May 24	VAdm LS Pathania, CH and Cmde HA Hardas, Cmde(H) - Ops





**CAPT PRACHITMANGRULKAR**  
Capt(H)-Mat



The Material Section endeavours to facilitate equipment support 24/7 for all the ships/ units by efficiently monitoring repairs and maintenance. Foreign surveys, Antarctica expedition and all hydrographic surveys by ships were carried out successfully without any equipment downtime.

### **CAMC and Repair Case Concluded.**

All major survey equipment; namely Geodetic GPS sets, MBES, SBES Motion Sensors, CTD System, Current meters ADLS and Side Scan Sonars are maintained through CAMC. Efforts are underway for timely renewal of CAMC so as to ensure optimal availability of equipment. The following CAMC cases have been concluded in 2023-24:-

- |                             |                                     |
|-----------------------------|-------------------------------------|
| (a) Geodetic GPS            | (b) Motion Sensors                  |
| (c) Side Scan Sonar         | (d) Ship and Boat Multibeam Systems |
| (e) Sound Velocity Profiler |                                     |

Breakdown repair cases for equipment which are not under CAMC are initiated as and when required.

### **CAMC and Repair cases in progress.**

The following CAMC cases are in progress and at various stages:-

- |                    |   |
|--------------------|---|
| (a) DGPS receiver. | (b) Current meter.                        |
| (c) CTD.           | (d) Automatic Data Logging System (ADLS). |

### **Future Plans for Procurement.**

The procurement of following hydrographic equipment has been initiated:-

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| (a) Motion sensors.                 | (b) Shallow water MBES.          |
| (c) Side Scan Sonar                 | (d) Current Meters               |
| (e) Single Beam Echo sounders       | (f) DGPS                         |
| (g) Geodetic GPS                    | (h) Portable Echo sounders       |
| (j) CTD                             | (k) Deep Water Multibeam systems |
| (l) Shallow Water Multibeam systems |                                  |

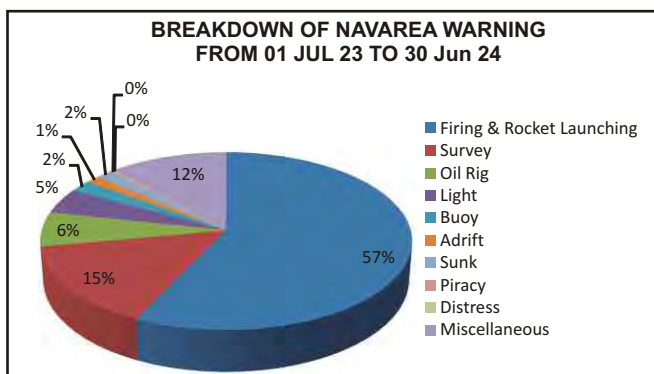


**LT CDR PRATAP SINGH**  
Lt Cdr(H)-MSIS

# समुद्री सुरक्षा सूचना सेवाएँ MARITIME SAFETY INFORMATION SERVICES

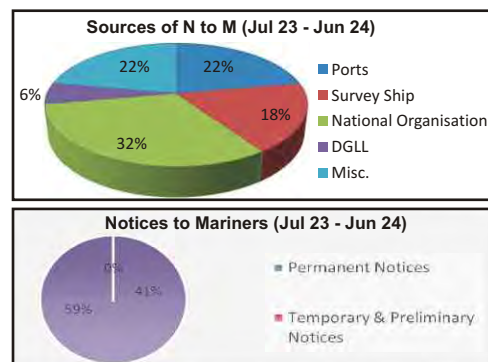
Maritime Safety Information Services (MSIS) section is responsible for promulgation of critical information on navigational safety to Mariners through Notices to Mariners (N to M) and NAVAREA Warnings. During this period, 127 N to M have been promulgated out of which 52 are permanent and 75 are temporary & preliminary notices. A total of 1133 NAVAREA warnings were also promulgated. Breakdown of NAVAREA warnings from 01 Jul 23 to 30 Jun 24 is as follows:-

Type of NAVAREA	Numbers
Firing & Rocket launching	617
Survey	181
Oil Rig	68
Light	58
Buoy	30
Adrift	17
Sunk	15
Piracy	08
Distress	03
Miscellaneous	136
<b>Total</b>	<b>1133</b>



## India-WINS.

India-WINS is one-stop solution for the Mariners world over to access digital Geographical Information System (GIS) based catalogue of charts and navigation warnings in IOR covering an area of nearly 26 million sq. Km. With launch of India-WINS module, the usage of website [www.hydrobharat.gov.in](http://www.hydrobharat.gov.in) by the users has increased manifold. As on date, the visitor count has already crossed over 3.5 Million.



## प्रकाशन PUBLICATION

The primary role of this section is to publish Nautical Publications, revised editions and periodically updating all the Indian Nautical Publications. Data for these publications are collected from various sources like Port authorities, Report of Surveys and Hydrographic Notes and interaction with other Hydrographic Offices.

**Compendium of Sailing Directions for Foreign Ports.** The first edition of this publication is available for *IN* ships for reference. This publication contains information of ports/approaches in the region of Mauritius, Seychelles, Kenya, Tanzania and

Mozambique covered by Indian Charts/ ENC's.

**Upcoming Publications.** The following New Editions are under preparation for publication for this year:-

Ser.	Publication
(a)	Indian List of Radio Signals Vol 1 -INP 31(1)
(b)	Indian List of Radio Signals Vol2- INP 31(2)
(c)	Indian Notices to Mariners Special Edition - 2024





**CDR PP CHAKRABORTY**  
Cdr (H) - Operations

The Operations Section is the nodal section which plans and allocates survey tasks to the ships and units. The section monitors the progress of surveys and professional guidance is rendered to ships and units as required. In addition, the Section plays a key role in coordinating and interacting with various national agencies. Further, the section is providing professional advice to NHQ on hydrographic aspects and manages the corporate affairs.

### Important Activities.

(a) **International Hydrographic Co-operation.** In furtherance to International Hydrographic Co-operation with littoral nations in the Indian Ocean Region, the sections has undertaken Seven International cooperation hydrographic surveys in Mauritius and Myanmar during the period of report.

(b) **Antarctica Survey Programme.** India is a member of International Hydrographic Organisation - Hydrographic Committee on Antarctica (IHO-HCA). Lt Cdr Rishabh Rawat and Manjeet PO (HY), from the Department participated in the XLIII Antarctica Expedition from 16 Dec 23 to 19 Mar 24. Charts of the area around Indian stations are being planned for co-production with Australia.

(c) **Annual Hydrographic Conference (AHC).** Annual Hydrographic Conference-23 was held at NHO on 19-21 Jul 23 for reviewing survey season 2022-23. Discussions were held on professional issues pertaining to the conduct of hydrographic surveys and training related issues. The hydrographic surveys for the forthcoming survey season 2023-24 were also discussed.

(d) **31<sup>st</sup> Hydrographic Survey Committee (HSC).** For the first time, 31<sup>st</sup> Hydrographic Survey Committee meeting this year was undertaken at NHO, Dehradun on 21 June 24 coinciding with World Hydrography Day under the chairmanship of JS (Ports), Ministry of Ports, Shipping and Waterways. Representatives from Maritime Boards, Ports, DG Shipping, DGLL etc participated. During the meeting, hydrographic requirements of ports and other agencies were discussed. This initiative to conduct the meeting at NHO was well appreciated by all participants as it provided a first-hand insight of NHO in addition to having fruitful and meaningful bilateral discussions and deliberations on the sidelines of the meeting.

(e) **IMSAS Audit.** Maiden IMO Member State Audit Scheme (IMSAS) Audit of India by IMO Auditors was undertaken from 26 Feb – 04 Mar 24. NHO performance and compliance iro assigned mandate, responsibilities and monitoring mechanism were scrutinised and evaluated by the IMO designated auditors as part of this audit. Operation section was the nominated section on behalf of INHD for planning, coordination and execution of the audit. There were “Nil” findings and observation iro INHD in the final report, also auditors positively acknowledged our compliance, adherence and internal quality standards process being adopted.

(f) **Maritime Workshop.** Department this year conducted Maiden Maritime Workshop at NHO on 20 June 24, which saw active participation from Maritime Community including Maritime Boards, Ports, DG Shipping, DGLL, IN and ICG. Theme of the workshop was ‘Hydrographic Information - Enhancing Safety, Efficiency and Sustainability in Marine Activities’ Accordingly, presentations by NHO, IFC-IOR, DNOM, ICG and DG Shipping on workshop theme were given. The workshop showed an enthusiastic and whole-hearted participation by delegates. During workshop, productive exchange of ideas towards enhancing mariner’s safety was undertaken along with ensuring better coordination, enhancing jointness among all stake holders through collaboration and networking were discussed and way ahead formulated towards futuristic approach.

(g) **Navigational Safety of Port Committee (NSPC) Inspection.** Chief Hydrographer is a member of the Navigational Safety of Ports Committee (NSPC) for undertaking inspection of the all new ports on navigational safety aspects. Operation section facilitated and ensured smooth conduct of 15 NSPC inspections of various ports across nation.





**CDR PP CHAKRABORTY**  
Cdr (H) - Operations

## संचालन - श्रेणी प्राधिकरण निरीक्षण OPERATIONS - CLASS AUTHORITY INSPECTION

**Class Authority Inspection.** The Chief Hydrographer is designated as the Class Authority for Survey Ships and Units. In order to streamline and closely monitor the survey activities, the ships and units of the Department are inspected regularly by a senior officer from the Hydrographic cadre. The inspection consists of two phases, first being in harbour and second phase at sea. During the inspection, various procedures and methodology of survey planning, execution, data compilation and crew efficiency are assessed.

The details of Class Authority Inspection under taken during period of report are as follows:

Ser	Ship&Unit	Inspected By	Date
(a)	INS Darshak	Cmde HA Hardas, Cmde (H)-Ops, Cdr PP Chakraborty, Cdr(H)-Ops I	14 - 15 Nov 23
(b)	INS Makar	Cmde Vishal Sharma, Cmde (H)-CB/Press, Cdr PP Chakraborty, Cdr(H)-Ops I	19 - 20 Mar 24
(c)	HSU (Karwar)	Cmde Vishal Sharma, Cmde (H)-CB/Press, Cdr PP Chakraborty, Cdr(H)-Ops I	20 - 21 Mar 24





# संचालन - सर्वेक्षण कार्य

## OPERATIONS - SURVEY TASK



**CDR DEEPENDRA SESODIA**  
Cdr(H)-Operations & Coord-II

**Hydrographic Surveys.** During the year 2023-24, the Department has completed 72 Hydrographic Surveys, which include Navigational, defence, tidal and International co-operation surveys. The breakdown of various survey activities are as follows: -

Ser	Type of surveys	Remarks
(a)	Navigation	Thirty one (31)
(b)	Defence	Twenty five (25)
(c)	Tidal	Six (06)
(d)	Foreign cooperation	Seven (07)
(e)	Contract surveys	Two (02)
(f)	Antarctica	One (01)

**Miscellaneous tasking.** The section, in addition, also planned and coordinated hydrographic survey tasking of Yamuna river.





**CAPT ANAND NARAYANAN**  
Capt (H)-P&T

## कार्मिक और प्रशिक्षण PERSONNEL & TRAINING

**HR initiative.** The department took broad steps during the period towards Human Resource Development:-

- Manage the human resources of the Hydrographic Cadre to achieve efficient and effective manning of all survey ships and units.
- Develop resources of the Indian Naval Hydrographic Cadre to keep them abreast of the rapidly advancing technology and latest International standards in Hydrographic surveying techniques / procedures.
- Maintain the current International / National status of the Chief Hydrographer as Regional Authority for Hydrographic Training in the North Indian Ocean Region / National authority for Hydrographic training for personnel from Indian Govt. organisations / agencies.
- Provide advice to NHQ/HQSNCR on ways to standardise Hydrographic training and update hydrographic syllabus as per IHO/FIG/ICA standards of competence.

**Policy Guidelines.** Revised policy guidelines for station tenure of HY sailors posted at DOH, NHO and NIH Goa have been issued.

**ENC & Chart Production Workshop.** The National Hydrographic office conducted ENC & Chart Production Workshop for personnel from Myanmar & Mauritius. Four officers have been completed the course conducted from 15 Apr – 11 May 24.

**Attachment of Advance 'H' and Long 'H' at NHO.** The attachments of Advance 'H' and Long 'H' course were conducted at NHO, Dehradun from 28 Aug to 09 Sep 23 and 04 to 16 Sep 23 respectively. Visits to various institutes in Dehradun like SOI, IIRS and Wadia Institute of Himalayan Geology were conducted for the officers during the attachment.

**Unit-cum-Workforce Sanction.** GoI sanction for Unit cum Workforce of four Survey Vessel (Large) has been accorded.

**Nirdeshak Cell.** Cell for the second Survey Vessel (Large), Nirdeshak (Yard 3026) has been established at Visakhapatnam. Positioning of Hydro personnel for Nirdeshak cell is being progressed.

**Role Conversion.** The role conversion of INS Investigator to 'Surveillance cum Logistics Ship' has been completed. All Hydro personnel from ship are being transferred out.

**Induction of Agniveers.** The first batch of Agniveer (Hydro) comprising of 35 Agniveers has been positioned on board ships and units on completion of professional training at NIH and NESS duties.





# विक्रय एवं वितरण

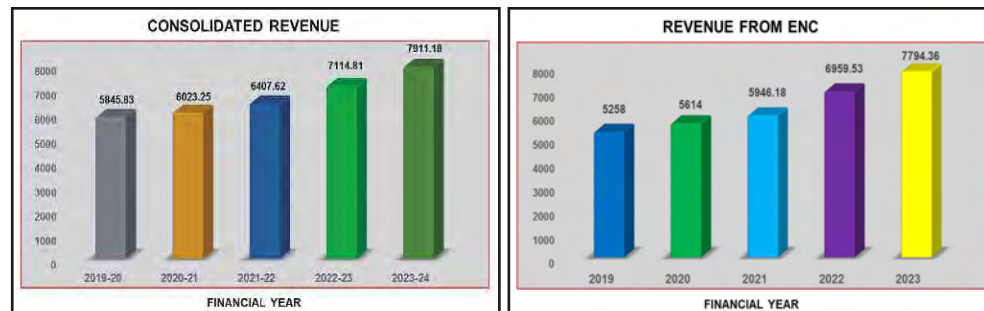
## SALES & DISTRIBUTION



**CDR HARSHVARDHAN SAVARNA**  
Cdr (H)-S&D/PRESS

The revenue from sales of charts, ENC's and publications has seen a 10.59% growth during the period of 2023-24 which in the preceding year was 6%. It has been the endeavour of this Section to make the various products of the department widely available through the network of Naval Chart Depots, Charts Agents and as well as Value Added Resellers. Section has taken suitable measures to ensure proactive and prompt response to meet national requirements. The modern approaches has also resulted in better co-ordination between NHO, NCDs, paper and digital chart agents to improve the sales.

**Sale of Charts, Publications & ENC's.** The section has been providing uninterrupted & updated supply of ENC's to *IN* ships units and ICG besides Merchant Mariners through its Value Added Resellers (VARs). The comparative year wise breakdown of sales of charts, publications and ENC's for the last five years are as follows:-



### Achievements during the Year.

- Renewal /Hiring of chartered accountant for filling of GST return i.r.o. NCDs.
- Availability of regular ENC updates for all ships.
- Set up a dedicated ENC's Encryption & Distribution cell.
- Issuance on Policy letter for Class Authority Inspection of NCDs.
- Commissioning and exploitation of navigator/Fleet manager system for real time provisioning of foreign ENC's.
- Introduction of unique QR code (UQR) on Nautical Paper Chart.

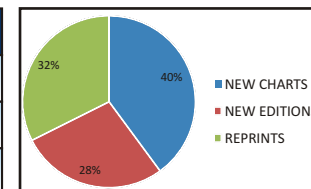
## मुद्रणालय

## PRINTING PRESS



**Charts and Publications.** The details of charts printed during the year 01 Jul 23 to 30 Jun 24 is as shown below:-

DESCRIPTION	COPIES
New Charts	5200
New Editions	3600
Reprints	4220



## **Superannuation of VAdm Adhir Arora, AVSM, NM.**

Au Revoir VAdm Adhir Arora, AVSM, NM, Chief Hydrographer to the GoI, on his superannuation after 38.5 years of distinguished service. The Flag Officer is an alumnus of NDA, DSSC & NWC. His exceptional leadership during the Tsunami in Sri Lanka earned him the prestigious Nau Sena Medal and his outstanding service was recognised with the AtiVishist Seva Medal.

## **Assumption of Duties as Chief Hydrographer – VAdm LS Pathania.**

VAdm Lochan Singh Pathania assumed charge as the Chief Hydrographer to the GoI on 01 Feb 24. He was previously the Joint Chief Hydrographer at NHO, Dehradun. Commissioned on 01 July 1990, he is an alumnus of Naval Academy, DSSC & College of Defence Management. The Flag Officer has commanded Indian Navy ships INS Sandhayak & INS Darshak. He was also the Principal Director at Dte of Hydrography & Dy President of NSB, Vizag. He holds a Masters degree in Defence Studies & Management Studies.

## **Assumption of Duties as Joint Chief Hydrographer – RAdm Peush Pawsey.**

RAdm Peush Pawsey assumed duties as the Joint Chief Hydrographer at NHO



VAdm Adhir Arora, AVSM, NM



VAdm LS Pathania



RAdm Peush Pawsey



Station Run - Flagged off

Dehradun on 01 Feb 24. Commissioned in Jan 1992, he is an alumnus of NDA, DSSC & NWC. He has commanded Indian Navy ships INS Investigator, INS Darshak & INS Sarvekshak.

## **Station Run.**

A station run was held on 17 Feb 24 for all service & civilian staff. VAdm LS Pathania, the Chief Hydrographer flagged off the event and also took part in the run. He felicitated the winners of various age categories & addressed the runners.

## **Interaction of Veterans with Chief of Personnel.**

Chief of Personnel VAdm Krishna Swaminathan, AVSM, VSM visited NHO Dehradun on 17 Feb 24 & interacted with NFDnC officers. He apprised the naval veteran community about the recent initiatives and ongoing activities of



Interaction of Veterans with Chief of Personnel





Navy Welfare & Wellness Association (NWWA) Diwas

Indian Navy. The Flag Officer provided comprehensive insights into the numerous welfare schemes implemented for veterans.

#### **NWWA Diwas 2024.**

Navy Welfare & Wellness Association (NWWA) Dehradun, organised a picnic for all the ladies to Forest Research Institute (FRI) on 12 Feb 24 to mark the celebration of NWWA DIWAS. Mrs Anuradha Pawsey, Vice President, NWWA Dehradun & the ladies of NHO Dehradun visited the museum & spent quality time with each other. Events like this encourage integration among members & strengthen teamwork & also rejuvenates everyone's spirit. It was a full day event & all the ladies had a good bonding time with everyone.

#### **Visit of Chief of Personnel.**

VAdm Krishna Swaminathan, AVSM, VSM, Chief of Personnel, Indian Navy visited



Visit of Chief of Personnel



IMO Member State Audit Scheme (IMSAS) Audit

NHO Dehradun. He was briefed on the ongoing activities & recent initiatives of the department. He reviewed the chart/ENC production infrastructure including Marine Digital Production Centre & Dhruv Museum. The Flag Officer interacted with officers, sailors & civilian staff of NHO Dehradun & apprised them about the latest HR initiatives of Indian Navy. He appreciated the efforts of NHO towards nation building & high standards of charting & maritime safety services.

#### **IMO Member State Audit Scheme (IMSAS) Audit.**

An IMSAS audit team visited NHO Dehradun from 28 to 29 Feb as part of ongoing maiden IMO audit of India. The audit team was given an insight into functioning of the office, various aspects covering publication of nautical products. The team was also apprised about the hydrographic services and navigational warnings apart from initiatives and best practices undertaken by the department.

#### **Aabhar Ceremony.**

A gratitude dinner 'Aabhar Ceremony' was conducted on 29 Feb 24 at NHO Dehradun to bid farewell to SK Dogra, CPOLOG (F&A). His valuable contribution to the nation and Indian Navy was acknowledged during the ceremony. Ladies also participated in the solemn ceremony.



Aabhar Ceremony





JCH call on Governor, UK



CH call on Governor, Uttarakhand

#### **Joint Chief Hydrographer call on Governor, Uttarakhand.**

RAdm Peush Pawsey, Joint Chief Hydrographer called on Lt Gen Gurmit Singh, PVSM, UYSM, AVSM, VSM (Retd), Hon'ble Governor of Uttarakhand at Raj Bhavan on 08 Mar 24. The Governor was briefed on the initiatives of NHO Dehradun towards production of nautical charts, publications and promulgation of maritime safety information.

#### **Chief Hydrographer call on Governor, Uttarakhand.**

VAdm Lochan Singh Pathania, Chief Hydrographer to the GOI called on Lt Gen Gurmit Singh, PVSM, UYSM, AVSM, VSM (Retd), Hon'ble Governor of Uttarakhand at Raj Bhavan on 22 Mar 24. The Governor was apprised on various activities being undertaken by INHD, both at national and international levels, and its significant role in nation building



Visit of Chief of Naval Staff



Handing Over of Chhara Port Chart

#### **Visit of Chief of the Naval Staff.**

Adm R Hari Kumar, PVSM, AVSM, VSM, ADC, CNS paid a farewell visit to NHO Dehradun with Mrs Kala Hari Kumar, President, NWWA Dehradun. He was apprised on the initiatives & achievements of INHD during presentation. CNS commended and appreciated the invaluable role played by INHD. CNS also engaged with all the service and civilian personnel of the office during high tea. He interacted with veterans of the Navy Foundation Dehradun Chapter along with the ladies over lunch.

#### **Handing Over of Chhara Port Chart.**

A new Navigation chart based on recent survey of Chhara (Gujarat) by INS Sarvekshak was handed over to reps of M/s Simar Port Pvt Ltd during a meeting held at NHO Dehradun. The availability of this chart will expedite operationalisation of port and underlines INHD's commitment towards navigation safety and maritime growth in the region.

#### **Visit of Mrs Kala Hari Kumar, President, NWWA.**

Mrs Kala Hari Kumar, President NWWA paid a farewell visit to NHO Dehradun on 21 Apr 24. She interacted with the veteran spouses & committee members of NWWA (Dehradun). She was apprised about the



Visit of Mrs Kala Hari Kumar, President, NWWA





activities conducted by them & appreciated their teamwork & indomitable spirit.

#### **Visit of General Officer Commanding, UK Sub Area.**

Maj Gen R Prem Raj, SM, VSM, GOC UK Sub Area paid a visit to NHO Dehradun on 08 May 24. The General Officer was given an insight into INHD via presentation followed by walk-around of the unit. He held interaction with the Joint Chief Hydrographer & Officers of the unit.

#### **Cycling Expedition.**

A Cycling Expedition was organised for the service personnel & Defence Civilians of NHO Dehradun on 10 May 24. The event was flagged off by the Joint Chief Hydrographer & participants cycled for 70 km in hilly picturesque terrain around Dehradun.

#### **Trekking Expedition.**



A Trekking Expedition to Bhadraj Peak, the highest in Mussoorie region at 7,217 ft, was organized for service personnel and Defence Civilians of NHO Dehradun on 23 May 24. Flagged off by the Joint Chief Hydrographer, participants trekked 22 km in the hilly terrain of Mussoorie

#### **Health Talk by Maj Ankit, MH Dehradun.**

A health talk by Maj Ankit Dangi, Graded Specialist Psychiatry, MH Dehradun, was held at NHO Dehradun as part of 'Year of Naval Civilians' on 09 May 24. All Defence Civilians were briefed on building positive mental health & stress management.

#### **NHO Day 2024.**

Celebrating the 70<sup>th</sup> anniversary of NHO Dehradun, 'NHO Day' was held on 05 June 2024. The event featured vibrant cultural programs by staff, children of service personnel & Defence Civilians.

#### **World Environment Day – NWWA (NR).**

Committed to a cleaner & greener future, NWWA(NR) organised a tree plantation drive on 05 Jun 24 on the account of World Environment Day. Mrs Chanda Pathania, President NWWA (Dehradun), along with NWWA committee members & station ladies, planted saplings in the campus.

#### **World Environment Day 2024.**

In observance of World Environment Day & reinforcing Indian Navy's dedication to a Greener Future, a tree plantation event was organised at NHO Dehradun on 05 Jun 24. Saplings were planted to enhance green cover and promote environmental sustainability.





### **Maritime Workshop 2024.**

On the occasion of World Hydrography Day, a workshop on 'Hydrographic Information-Enhancing Safety, Efficiency & Sustainability in Marine Activities' was conducted on 20 Jun 24 at NHO Dehradun. Stakeholders from Ministry of Shipping, NHO Dehradun, DGLL, Indian Coast Guard, Information

Fusion Centre, Ministry of Shipping & Dte of Naval Oceanology & Meteorology made presentations on safety, operational efficiency & sustainability for creating cohesive environment for mariners in the Indian Ocean Region.

### **Yoga Day 2024.**

As part of 10<sup>th</sup> International Day of Yoga, a combined Yoga session was organised at NHO Dehradun on 21 Jun 24 in coordination with The Isha Foundation. NHO family came together in celebrating the journey of wellbeing & pledged to make yoga a part of their everyday lives.

### **31<sup>st</sup> HSC Meeting 2024.**

31<sup>st</sup> Hydrographic Survey Committee Meeting chaired by JS (Ports) was held at NHO Dehradun for the first time on 21 Jun 24. Deliberations on critical maritime issues of hydrographic surveys of ports & harbours for ensuring navigational safety at sea were held. Contributions of INHD for providing accurate and updated nautical information was applauded.



### **Navy Day 2023.**

Navy Week 23 celebrations culminated with 'At Home' function at NHO, on 04 Dec 23. The Hon'ble Governor of Uttarakhand, Lt Gen Gurmit Singh, PVSM, UYSM, AVSM, VSM (Retd) was the Chief Guest for the function & released a bilingual navigational chart.

### **Anubhavi.**

NWWA (NR) at Dehradun hosted the Annual Anubhavi lunch on 4<sup>th</sup> November 2023, at the NHO Mess. This event saw the coming together of over 45 Anubhavis. The theme was 'The Festival of Life'. Fun filled games saw enthusiastic participation by Anubhavis. They also shared anecdotes and inspiring thoughts with the younger ladies. A thoughtfully curated programme was presented under the guidance of Mrs Tanvi Arora, President NWWA (Dehradun). It was enjoyed by all and strengthened the bond between the Anubhavis and NWWA ladies.

### **Dehradun Navy Half Marathon - 2023.**

As part of Navy Day - 2023 celebrations, the National Hydrographic Office organised 'Dehradun Navy Half Marathon-2023' (DNHM-23) on 22 Oct 23. DNHM-23 saw enthusiastic participation from about 1100 spirited runners comprising of armed forces personnel which included large number of veterans and their family members, children studying in Military Schools, Sainik Schools, similar Schools/ Institutes/ Academies of Dehradun area and civilians from all walks of life. The Half Marathon was flagged off by Vice Admiral Adhir Arora, AVSM, NM the Chief Hydrographer to the Govt of India while the 10 Km race was flagged off by Mr Ashok Kumar, DGP Uttarakhand. The 5 km fun run was flagged off by Rear Admiral LS Pathania, the Joint Chief Hydrographer.





# सम्मान एवं पुरस्कार

## HONOURS AND AWARDS

The following Officers were commended by President:-

SI	Name, Rank, P.No	Awarded with	Occasion
(a)	Cmde Ayyanar Muralidhar, 04050-B	NM (DD)	26 Jan 24

The following Officers / sailors were commended by CNS:-

SI	Name, Rank, P.No	Awarded with	Occasion
(a)	Cdr PP Chakraborty, 04927-Y	CNS	15 Aug 23
(b)	Cdr Shakeel Ahmed, 04991-T	CNS	On-the-spot
(c)	Cdr Parikshit Kumar Shahrawat, 06051-A	CNS	On-the-spot
(d)	Cdr MR Maradana, 06403-A	CNS	On-the-spot
(e)	Lt Cdr PK Muthu Kumar, 07196-B	CNS	04 Dec 23
(f)	Sanjit Kumar, MCPO II (HY), 133077-T	CNS	04 Dec 23
(g)	Ravindra K Chaunsali, PO(HY), 227167-R	CNS	04 Dec 23
(h)	Nilamadhab Pal, PO(HY), 230234-K	CNS	04 Dec 23
(j)	Ashutosh Patel, PO(HY), 230577-R	CNS	04 Dec 23
(k)	Adeep Kumar, LS(HY), 23300-Y	CNS	04 Dec 23
(l)	Sunil Dutt, PCHO	CNS	On-the-spot
(m)	Hemant Kumar, Senior Draughtsman	CNS	On-the-spot



The following Officers/ sailors were commended by C-in-C/ VCNS:-

SI	Name, Rank, P.No	Awarded with	Occasion
(a)	PK Verma, PO(HY), 220148-N	C-in-C West	On-the-spot
(b)	Ranjan Kumar, PO(HY), 224957-T	C-in-C East	15 Aug 23
(c)	Pramod Kumawat, PO(HY), 225838-W	C-in-C South	04 Dec 23
(d)	Satvir, PO(HY), 226041-F	C-in-C East	04 Dec 23
(e)	Vikas Yadav, PO(HY), 226990-N	C-in-C East	15 Aug 23
(f)	Pawan Kumar, LS(HY), 244836-Y	C-in-C South	15 Aug 23
(g)	Arun Kumar, SEAI (HY), 244873-F	C-in-C South	15 Aug 23
(h)	Ravi Jangid, LS(HY), 243170-K	VCNS	15 Aug 23
(j)	Shivasheesh Shukla, LS(HY), 249346-Y	C-in-C South	04 Dec 23
(k)	Shri Vijay Deep Singh, CHO	C-in-C West	On-the-spot
(l)	Shri Vijay Baboo, Senior Draughtsman	C-in-C West	On-the-spot

# २०२२-२३ अवधि के लिए सर्वश्रेष्ठ जल सर्वेक्षण पोत BEST SURVEY SHIP FOR SURVEY SEASON 2022-23

## 'Admiral Jal Cursetji' - Best Survey Ship Rolling Trophy.

A Rolling Trophy has been instituted in the memory of Admiral Jal Cursetji, PVSM, ADC (Retd), former CNS, to be awarded annually to the best Survey ship of the season. The aim of the trophy is to encourage professionalism in optimisation of surveying resources, effective execution of survey tasks for meeting the specified standards and for achieving excellence in the quality of survey data rendered, whilst at the same time kindling the competitive spirit amongst the surveying ships. The trophy is presented by the Flag Officer Commanding-in-Chief in whose Command the survey ship is based, in the presence of the Chief Hydrographer.

FROM

NHQ



TO

405 IG

**ADMIRAL JAL CURSETJI ROLLING TROPHY FOR BEST SURVEY SHIP AWARDED TO SUTLEJ FOR SURVEY SEASON 2022-23.**

BT



211205/SEP



## INS SUTLEJ

During the survey season 2022-23, the ship was allotted fourteen Hydrographic Instructions. The ship, in addition to the allotted Hydrographic Instructions, also contributed to various requirements projected by the Command. The ship undertook arduous surveys and collected data with precision. The quality of the data rendered was of very high standard. The ship's company has shown exemplary professionalism, dedication and application in completing all the tasks allotted to the ship. The ship was commanded by Capt A Muralidhar during the period.



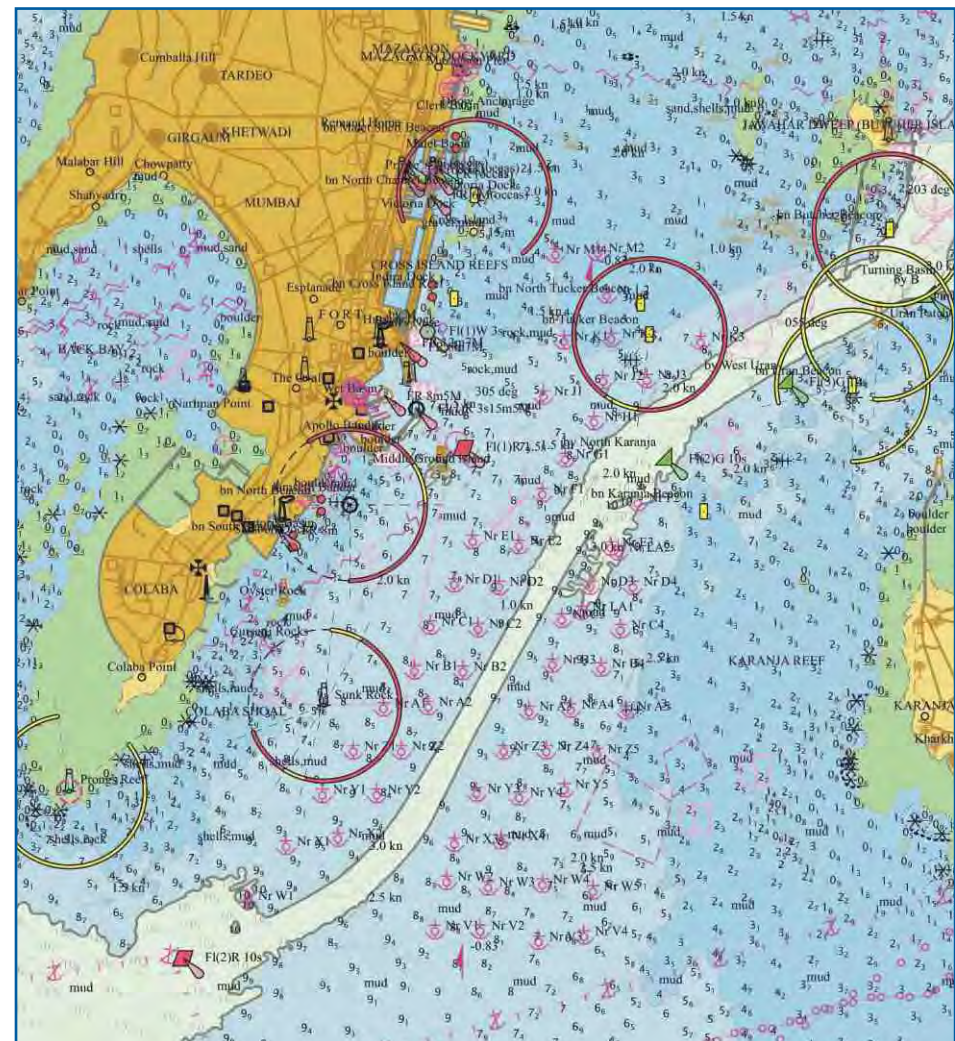


# कागज़ीय मानचित्र PAPER CHART

List of New Charts and New Edition Charts published during the period are as follows:

Ser	Chart No.	Title
New Chart		
1.	4164	Tarasa Dwip
2.	2529	Northern Iselets of Mauritius
3.	2530	Approaches to Grand Port
4.	2531	Rodrigues Island
5.	2055	Mul Dwarka Port
6.	401	Preparls Island to Landfall Island Mingalakyun (Table Is.) And Marshall Channel
7.	5014	Red Sea to Andaman Sea
8.	5015	Arabian Sea to South China Sea
9.	2083	Approaches to Sikha
10.	2052	Chhara Port
11.	2127	Udangudi Port

Ser	Chart No.	Title
New Edition		
1.	2527	Mauritius
2.	317	Palk Bay Western Portion
3.	2512	Agalega Island
4.	262	Kanyakumari to Pamban
5.	291	Gwader to Dwarka



# इलेक्ट्रॉनिक नौसंचालन मानचित्र ELECTRONIC NAVIGATIONAL CHART

New Edition Electronic Navigational Charts released during the period are as follows:

Ser	ENC No.	Title
01	IN62002T	Ports of New Mangalore and Mangalore
02	IN3211SD	Satpati to Dighi Harbour
03	IN3212AA	Murud - Janjira Hr. to Ratnagiri
04	IN2255AB	Approaches to Mumbai
05	IN121MTB	Muscat to Mumbai
06	IN3404EB	Elphinstone Hr. to Port Blair
07	IN3403TE	Stewart Sound to Elphinstone Hr.
08	IN52530A	Approaches To Grand Port
09	IN54001H	Eliphstone Hr. and Rangat Bay
10	IN44014A	Rangat Bay to Diligent Strait
11	IN54134S	Stewart Sound
12	IN44255S	Approaches To Steward Sound\
13	IN42029O	Approaches To Kochi
14	IN52512I	Agalega Islands
15	IN2255AB	Approaches to Mumbai
16	IN52012I	Alleppey Anchorage, Vizhinjam Anchorage
17	IN3206VH	Veraval to Diu head
18	IN52552W	Western Approaches to Mahe Island
19	IN2256AA	Dighi (Murud-Janjira) Hr. to Malvan
20	IN62059B	Kandla - Sogal Channel, Kandla creek

Ser	ENC No.	Title
21	IN17706C	Bay of Bengal
22	IN3212AA	Murud - Janjira Hr. to Ratnagiri
23	IN2260AA	Kochi to Thiruvananthapuram
24	IN52011G	Approaches To Jaigarh & Angre Ports
25	IN62105A	Jaigarh and Angre Port
26	IN44253A	App to Port Blair
27	IN52552W	Western Approaches to Mahe Island
28	IN32527M	Mauritius
29	IN42531R	Rodrigues island

New Edition Electronic Navigational Charts released during the period are as follows:

Ser	ENC No.	Title
01	IN3317AA	Palk Bay Western Portion
02	IN64164P	Teresa Jetty
03	IN54164A	Teresa Island
04	IN62055A	Muldwarka Port
05	IN3401AA	Preparls Island to Landfall Island Mingalakyun (Table Is.) And Marshall Channel
06	IN52052A	Chhara Port
07	IN2262AB	Kanyakumari to Pamban
08	IN2291AA	Gwadar to Dwarka
09	IN52083A	Approaches to Sikha
10	IN52127A	Udangudi Port (Minor)



# जल सर्वेक्षक HYDROGRAPHERS



SI	Name	Rank
1	Lochan Singh Pathania	VAdm
2	Peush Pawsey	RAdm
3	Rajesh Bargoti	Cmde
4	Sajeev K Nair	Cmde
5	Harshawardhan Arvind Hardas	Cmde
6	Satish Shivaji Bhosle	Cmde
7	Janakiraman Gurumani	Cmde
8	A Muralidhar	Cmde
9	Renny Markose Thomas	Cmde

SI	Name	Rank
10	Vishal Sharma	Cmde
11	Ramkumar Bhaskaran Menon	Cmde
12	Yellepeddy Venkata Ramakrishna	Cmde
13	Mathew G Abraham	Capt
14	Tribhuvan Singh	Capt
15	Ajay Chauhan	Capt
16	Nattuva Dheeraj	Capt
17	Kuldeep Singh	Capt
18	Samir Shrikant Gokhale	Capt

SI	Name	Rank
19	Pradeep Singh	Capt
20	BK Prasanna	Capt(TS)
21	Manamparambil Somasekhar	Capt(TS)
22	Anand Narayanan	Capt(TS)
23	Amit Pant	Capt(TS)
24	Prachit Mangrulkar	Cdr
25	Satyabrata Senapati	Cdr
26	SK Sajjan	Cdr
27	Partha P Chakraborty	Cdr

SI	Name	Rank
28	Shakeel Ahmed	Cdr
29	Kamal Ashraf	Cdr
30	Rahul Bhatt	Cdr
31	Chiriyankandath Praveen Thomas	Cdr
32	Kunduparambil Victor Paul	Cdr
33	Cyril Ignatius Speechly	Cdr
34	Ratheesh Ramachandran	Cdr
35	Parikshit Kumar Shahrawat	Cdr
36	Aer Kishore Padam Singh	Cdr
37	Deependra Sesodia	Cdr
38	Varun Gupta	Cdr
39	Amit Kumar Padha	Cdr
40	Madhusudana Rao Maradana	Cdr
41	Ankush Sachdeva	Cdr
42	Devender Singh	Cdr
43	Harshvardhan Savarna	Cdr
44	Urvish Kukreja	Cdr
45	Praben Kumar Gurung	Cdr
46	Chittaranjan Kumar Singh	Cdr
47	Linga Karteek Reddy	Cdr
48	P Kartik Muthukumar	Lt Cdr
49	Ashish Kumar	Lt Cdr
50	Pukhrambam Pratap Singh	Lt Cdr
51	Mridul Kishore Sharma	Lt Cdr
52	Yash Bhardwaj	Lt Cdr

SI	Name	Rank
53	Arjun Malik	Lt Cdr
54	Joash Lopez	Lt Cdr
55	Rishabh Rawat	Lt Cdr
56	Shaik Rafi	Lt Cdr
57	Denish Ganesan	Lt Cdr
58	Shreekant S	Lt Cdr
59	Varun Jai	Lt Cdr
60	Kumar Shaswat	Lt Cdr
61	Bipin Bhatt	Lt Cdr
62	Tarun Katiyar	Lt Cdr
63	Yerra Rohit Goud	Lt Cdr
64	Avishekh Yadav	Lt Cdr
65	Shuli Pfoseo	Lt Cdr
66	Loghanathan Vedhachalam	Lt Cdr
67	Deepak Bisht	Lt Cdr
68	Aniket Upadhyay	Lt Cdr
69	Shreyas Rana	Lt Cdr
70	Rohin Sodhi	Lt Cdr
71	Abhishek Chatak	Lt Cdr
72	Vinay Sharma	Lt Cdr
73	Umair Naeem Siddiqui	Lt Cdr
74	Bhaskar Chakraborty	Lt Cdr
75	Shibin Babu	Lt Cdr
76	Abhishake Sharma	Lt Cdr
77	Manjot Singh Gill	Lt Cdr

SI	Name	Rank
78	Shivang Raina	Lt Cdr
79	Franklin Anto Jose	Lt Cdr
80	Manreep Singh Oberoi	Lt Cdr
81	Anand Sangayya Charantimath	Lt Cdr
82	Vyas Chaudhari	Lt Cdr
83	Vishrut Singh Rawal	Lt Cdr
84	S Aditya	Lt Cdr
85	Rakesh Samal	Lt Cdr
86	Aalampreet Singh Mamik	Lt Cdr
87	Nitin Yadav	Lt Cdr
88	Shubham Vishnu Harne	Lt Cdr
89	Anil Vishnoi	Lt Cdr
90	Yogesh Bhatt	Lt Cdr
91	Devesh Avural Devrani	Lt Cdr
92	Vikrant Singh Thakur	Lt Cdr
93	Shaswat Nayak	Lt
94	Kaustubh S Jadoun	Lt
95	Ashish Kumar Yadav	Lt
96	C Pradeep	Lt
97	Victor Manjila	Lt
98	Satyam Tiwari	Lt
99	Aman Sharma	Lt
100	Dipak V Patil	Lt



# नाविक (हाइड्रो)

## SAILORS (HYDRO)

SI	Name
<b>Master Chief Petty Officer</b>	
1	Rajeev K Singh
2	Rizwanullah Ansari
3	Sanjit Kumar
4	Rakesh Kumar Yadav
5	Subodh Kumar Gupta
6	Pramod Yadav
7	Arun K N Nair
<b>Chief Petty Officer</b>	
8	PV Rao
<b>Petty Officer &amp; Below</b>	
9	Mahesh Singh Rana
10	Shiv Kumar
11	Shivender Singh
12	Darshan Kumar
13	Manaram Buriya
14	Mahipal Yadav
15	Girish Kumar Verma
16	Pavitter Singh
17	Harpreet Singh
18	Mahesh Kumar
19	Paramjeet Singh
20	Suraj Singh Bisht
21	Nitish Kumar Singh
22	Ishwar Singh
23	Sandeep
24	Monu
25	Praveen Kumar
26	Vishal Sharma
27	G Ramakrishna
28	Ranajit Behera
29	Bikash Chandra Samal

SI	Name
30	Subrat Kumar Biswal
31	Nihar Ranjan Panda
32	Ranjit Singh
33	Nikhil Yesudas
34	Krishna Kumar N
35	Kamlesh K Singh
36	Harish
37	Chittaranjan Sahu
38	Rajesh Kumar
39	Soumya Ranjan Sasmal
40	Janesh TB
41	Vinay K Mahato
42	Vikash Kumar
43	Niranjan Kumar
44	Ranjan Kumar
45	Krishan K Sharma
46	Arun Kumar
47	Satyanarayan Swamy
48	Asim Abdullah
49	Anil Kumar
50	Suraj Kumar
51	Deepak Kumar
52	Amit Kumar Mishra
53	Jerripothula Eswara Rao
54	Alok Singh
55	Vivek Kumar
56	Parikshit Tripathi
57	Aanand Tewari
58	Manish Kumar Yadav
59	Vikash Kumar
60	Pawan Kumar
61	Ravinder

SI	Name
62	Pardeep Kumar
63	Pramod Kumawat
64	Sunil Lakshakar
65	Ramesh Das
66	Satvir
67	Vikas Kumar Shukla
68	Krishan Gopal
69	Gaurav Tiwari
70	Bharat Kumar Singh Rajput
71	Lalhmingliana Hmar
72	Vanlalchhanchhuaha
73	Kaushal Pratap
74	Rishikesh Porte
75	Jawarkar Govinda Jaganna
76	Laxmikanta Sahoo
77	Pratyushman Rout
78	Biswajit Nayak
79	Dipti Ranjan Moharana
80	Bhukya Ranjith Kumar
81	Alok Kumar Barik
82	Shashikant
83	Vijender Kumar
84	Vikas Yadav
85	Ankit Kumar
86	Ravindra Kumar Chaunsali
87	Surjeet Singh
88	Jagadish Dehury
89	Sibananda Behra
90	Dharamvir Singh
91	Gunadhar Chowdhury
92	Vidyanand Mandal
93	Rana Subish Singh

SI	Name
94	Ananta Pradhan
95	Pankaj Rana
96	Rakesh Kumar Shaw
97	Vineet Kumar
98	Rakesh Kumar Lenka
99	Srinivasan V
100	Prashant Singh
101	Biltu Chel
102	Monu Kumar
103	Amit
104	Manjeet
105	Balraj Choudhary
106	Manjit Kumar
107	Dinesh Kumar Prajapat
108	Indrajeet Kumar Mehta
109	Shinde Premjit Ratnasinha
110	Gurvinder Singh
111	Navjot Singh
112	Vikender
113	Suman Sedai
114	Harender
115	Sachin
116	Nitesh Sharma
117	Sonu Kumar
118	Sandeep
119	Dilip Kumar Gupta
120	Nilmadhab Pal
121	Bimal Kumar Panda
122	Avinash Kumar Bharti
123	Rajeev Ranjan Akela
124	Kapil Dev
125	Bhoop Singh

SI	Name	SI	Name	SI	Name	SI	Name
126	Sandeep Kumar	165	Amolak Singh	204	Satnam Singh	243	Sukhwinder Singh
127	Gopal Dudi	166	Sudipta Sahu	205	Dharampal	244	Vivek Puri
128	Om Prakash	167	Kuldeep Singh	206	Mukesh Kumar	245	Kalicharan Kushwah
129	Trilok Yadav	168	Shamsher Singh	207	Kc Lallianpuia	246	Devender Pal
130	Ashutosh Patel	169	Deepak	208	Gopal Tomar	247	Balwant
131	Ananda Ram	170	Satyajit Sahoo	209	Saurabh Gupta	248	Sombir
132	Sukh Veer Singh	171	Sameer Dattatray Kamble	210	Mukul Kumar Sharma	249	Vikram Singh Parmar
133	Shivam Singh	172	Raju Karmakar	211	Gurjeet Singh	250	Pulaboina Sudhakar
134	Manendra Singh	173	Manoj Kumar	212	Aman Kumar Verma	251	Yogendra Singh Yadav
135	Vikram Singh	174	Vikash Kumar	213	Harprit Singh	252	Mangi Lal
136	Aditya Bhagat	175	Balwan	214	K Vanarajan	253	Om Prakash Pilania
137	Nitin Sharma	176	Hanuman Tholiya	215	Anil Kumar Yadav	254	Deepak Jangir
138	Sandeep Kumar	177	Sumit Narayan	216	Vikram Singh	255	Shakti Singh Shekhawat
139	Ashwani Kumar	178	Aditya Pratap	217	Gagan Behera	256	Rahul Singh
140	Brajesh Kumar	179	Manish Kumar	218	Sidhartha Sankar Jena	257	Rinku
141	Nikhil Singh Rajput	180	Mukesh Yadav	219	Haresha Kumar Jeda	258	Harish Chander
142	Mayank Sah	181	Sourav Kumar	220	Kuldeep Singh	259	Shivam Jaryal
143	Vikas Tiwari	182	Amit Kumar	221	Deepak Yadav	260	Hardeep Singh Jasrotia
144	Mukesh Saini	183	Pankaj Sharma	222	Himanshu Kumar Upadhyay	261	Vinod Bhandari
145	Sunil Kumar Sharma	184	Ram Bilash	223	Vikas Awasthi	262	Vivek Kumar
146	Leishemba Mangang	185	Sandeep Kumar Vishwakarma	224	Shivam Kumar	263	Manjesh Kumar
147	Ankush Kumar Verma	186	Zahid Husain	225	Biswanath Nahak	264	Satish Patil
148	Niraj Kumar Pande	187	Navpreet Singh	226	Nem Singh	265	Sagolsem Ramesh Meitei
149	Shubham Awasthi	188	Manish Kumar Swami	227	Ravi Prakash	266	Harendra Singh
150	Dharminder Singh	189	Manoj Kumar Giri	228	Pramod Kumar	267	Shekhawat Nirmal
151	Hemant Singh Papola	190	Gaurav Mishra	229	Tara Chand Saini	268	Abhishek Kumar
152	Abhishek Kumar Sharma	191	Sandesh N Waghmare	230	Manepalli Manohar	269	Pintu Kumar
153	Raman Kumar	192	Janki Raman	231	Vikram Saini	270	Shiv Kumar
154	Shyam Saritendra	193	Ajay Kumar	232	Nalla Pradeep	271	Mohit Kumar
155	Mukesh Kumar Tetarwal	194	Ajay Kumar	233	Prahlad Ram	272	Sunil Kumar
156	Adeep Kumar	195	Naresh Singh Chauhan	234	Tanuj Kumar	273	Yashvant Kumar
157	Nitendra Sherawat	196	Omprakash	235	Shailesh Kumar Dixit	274	Mind Nikhil Hanmant
158	Lokendra Singh Rathore	197	Vikash Kumar	236	Mukesh Kumar Pathak	275	Kottana Yernaaidu
159	Shubham Singh	198	Jitendra Saini	237	Vijay Kumar R	276	Polaki Harish
160	Vaibhav Kumar Singh	199	Pawan Singh Shekhawat	238	Anish Kumar	277	Dheeru
161	Mayur Joshi	200	Pulari Jagadeesh	239	Siddula Ravi	278	Vijay Singh
162	Suryakant Thapliyal	201	Narendra Singh	240	Shukadev Jena	279	Amit Kumar
163	Sanjay Singh Gusain	202	Rakesh Singh	241	Ravi Kumar Yadav	280	Arun Kumar
164	Suman Kumar	203	Diptiranjan Sahoo	242	Devender Kumar Rawat	281	Rabindra Nath Pradhan



SI	Name
282	Amit
283	Suraj Kumar Bhuyan
284	Sonu Kumar
285	Santosh Kumar Sahu
286	Jai Prakash Gupta
287	Vikash Kumar
288	Vishwajeet Tripathi
289	Manish Kumar Patel
290	Balram Singh
291	Kenheia Lal
292	Kirti Vardhan
293	Vivek Kumar Baranwal
294	Kakuturi Sunil Kumar
295	Ungati Ramakrishna
296	Vavilapalli Manmadha Rao
297	Dileep Kumar
298	Devendra Singh
299	Satyam Pandey
300	Ravi Jangid
301	Yogesh Kumar Yadav
302	Vinay Kumar
303	Vikash
304	Aneesh Katoch
305	Amit Bhatt
306	Maneesh Kumar
307	Saurabh Patel
308	Abhishek Singh Chandel
309	Prashant Shandilya
310	Mohit
311	Jada Krishna Raja
312	Manish Kumar Sah
313	Rohit
314	Vikram Singh
315	Akshay D Yadav
316	Shubham Virdia
317	Soumya Ranjan Rout
318	Inderjeet
319	Diwakar Kumar
320	Nitin

SI	Name
321	Ankit Kumar Yadav
322	Karan Prajapati
323	Anshul Rana
324	Kartik Sambyal
325	Pawan Kumar
326	Arun Kumar
327	Shubham Sharma
328	Sumit Sharma
329	Abdul Wadood Umar
330	Ashish Singh Rawat
331	Avinash Chaudhary
332	Anikit Kumar Yadav
333	Bhagirath Lukha
334	Om Singh
335	Ankit Kumar
336	Himanshu
337	Sukhdev Singh
338	Sanjeev Kumar
339	Sonu
340	Yogesh Kumar
341	Vijayan A
342	Abhishek Maru
343	Indrajeet Singh Pal
344	Somanath Sahoo
345	Abhishek Bisht
346	Jitendra Babu
347	Varun Jyoti
348	Sandeep Kumar
349	Rajkumar
350	Bhuvnesh Kumar
351	Vijay Kumar
352	Naveen Godara
353	Jadhav Rushikesh Arjun
354	Vikas Kumar Yadav
355	Tarunjeet Singh
356	Ganesh Chaudhry
357	Ankit Yadav
358	Jaisingh
359	Sanjay Sharma

SI	Name
360	Viswajeet Shukla
361	Okesh Rawat
362	Vikash Pandey
363	Saurabh Kumar Singh
364	Rahul Jangir
365	Soumya Ranjan Singh
366	Shivasheesh Shukla
367	Vighnesh Kamalakar Bhandari
368	Avinash Avhad Dilip
369	Nayakodi S Tukaram
370	Rakesh Kumar
371	Vikas Chand
372	Rohit Soam
373	S.p Siddhartha Biswal
374	Srimanta Nahak
375	Tarachand
376	Karthik Yadav
377	Ravinder Singh
378	Bhaskar Mondal
379	Ankush Raj
380	Ankit
381	Anirudh
382	Omprakash
383	Ranjeet Kumar
384	Ravish Pandey
385	Hemant Kumar
386	Nitesh Balyan
387	Ankit
388	Abhishekh Kumar Maurya
389	Penumajji Hareesh
390	Abhishek Kumar
391	Byreddy Manoj Reddy
392	Shivam
393	Gajendra Singh Rathore
394	Shokey
395	Ashish
396	Hemant Kumar
397	Shani Sharma
398	Manish Kumar

SI	Name
399	Manjit Kumar Mishra
400	Aman Shaw
401	Sh Reddy
402	Mara Shetti Pydiraju
403	Vineet Tiwari
404	Nresh Kumar
405	Parva Balakrishna Reddy
406	Nagulapalli Naresh Kumar
407	Avinash Thakur
408	Hariram
409	Sonu Jaglan
410	Devendra Singh
411	Praveen Shukla
412	Bharat Baban Ghule
413	Sumit Kumar
414	Parsuram Bhanwaria
415	Shreyam Sharma
416	Ashutosh Pratap Singh
417	Ashish Kaushik
418	Haripal Singh
419	Kulvant Kumar
420	Arvind Kumar
421	Ram Bhajan Gurjar
422	Ashish Kumar Lamba
423	Naveen Kumar
424	Devendra Kumar
425	Pankaj
426	Abhishek Yadav
427	Himanshu Shekhar
428	Vishal Sharma
429	Pranab Baishya
430	Narendra K Saran
431	Anil Kumar
432	Amit Rana
433	Ashish Kumar Yadav
434	Mohit Sharma
435	Arun Nath
436	Prashant Kumar
437	Anoop

SI	Name
438	Jaspreet Singh
439	Vijay Singh
440	Ankit Nehra
441	Rahul
442	Deepak Singh
443	Mahesh Kumar
444	Sagar
445	Ladu Ram Saini
446	Daksh Mehta
447	Sagar Mathur
448	Mohit
449	Jasbir Singh
450	Sunil
451	Vijay Kumar
452	Sandeep Kumar
453	Sujit Kumar
454	Maneesh Kumar
455	Brijesh Gupta
456	Jay Kadam
457	Praveen Kumar
458	Mahesh Jhinjha
459	Mustak Ali
460	Manish Khoja
461	Sanket Lambore
462	Yogesh Kumar
463	Puti Manikanta
464	Aryan Kumar
465	Atul Singh
466	Sudhir Kakasaheb Kolekar
467	Shijil Benoy
468	Tribhuwan Singh Dhami
469	Yogesh Awasthi
470	Pawan Kumar
471	Vipin Kumar
472	Azeem Ahmed
473	Kanchu Balarangaiah
474	Manjeet Kumar Monu
475	Killi Ram Dinesh
476	Satya Prakash

SI	Name
477	Tushar Kanti Das
478	Gajendra Singh
479	Sarwagya Pandey
480	Jayjeet Kumar Gupta
481	Abhishek Sujit Vibute
482	Jay Kumar Sharma
483	Amit Kumar
484	Vivek Kumar
485	Sangam
486	Jeetendra Pathak
487	Shivam Chauhan
488	Mukul Tomar
489	Varinder Singh
490	Rishabh Aharma
491	Jitendra Prasad
492	Jayant Kumar
493	Karubhuktha Sai Kiran
494	Prajwal Sanjay Duduskar
495	Gourav Sharma
496	Ritik Kalia
497	Hrithik Sharma
498	Aiman Bharaj
499	Dara Singh
500	Md Afzal Hussain
501	Adarsha Kumar
502	Gaurav Kumar Dagur
503	Banka Ram
504	Pranav Kumbhar
505	Khedkar Deepak Mahadev
506	Aakash A
507	Satyanarayana Landa
508	Manash Pratim Das
509	Kunal Chaudhary
510	Rohit Gupta
511	Parth Chavan
512	Ginna Dhamodhar
513	Parmeshwar
514	Mahendra Singh
515	Adapa Vevendra

SI	Name
516	Pilla Ramesh
517	Abhishek
518	Balram Bunkar
519	Sai Madhu Bukkuri
520	Sudip Modal
521	Dilip Kumar
522	Harshit Chauhan
523	Ritik Yadav
524	Sippy Singh
525	Pradeep Kumar
526	Bendi Dhilleswara Rao
527	Bhupendra Dewangan
528	Praveen Muddada
529	Sheelam Pranay
530	Vilasagaram Shashank
531	Abhay Dwivedi
532	Niranjan Kumar
533	Prashant Singh
534	Ajay Balyan
535	Vipul Jadaun
536	Suresh Ashok Avakkanavar
537	Chidananda H Bevinahalli
538	Basavakiran Vithal Pyati
539	Darshan Bisanakoppa
540	Mahesh Nayamagoud
541	Aditya Salunke
542	Vipul Patil
543	Yaku Moodu
544	Sateesh Karaka
545	Attiliy Prem Kumar
546	Aakash P
547	Manja Janardhan
548	Jayasurya M
549	Chavan Harilal
550	Abinesh M
551	Neelappa Iholi
552	Sanku Pal
553	Saibal Mandal
554	Arun L

SI	Name
555	Vivek Kumar Sahu
556	Pogiri Jagadeesh
557	Yashodeep Yuvaraj Mane
558	Koduru Kumar Swamy
559	Gajjala Arun Goud
560	Palagani Kumar Raju
561	Naiki Naveen
562	Maddila Mohan
563	Dayanand Ekanath Gavali
564	Yogesh Kumar
565	Maddila Ganeswara Rao
566	Shivananad Shrimant Mudalagi
567	Baman Amar Singh
568	Nayan Yadoba Motar
569	Kurmapu Suneel
570	Ganesh A
571	Karri Manmadha Rao
572	Suvadra Pradhan
573	Km Radha Mishra
574	Ritu Bind
575	Nikki Pandey
576	Swarup Kumar Dash
577	Amit Kumar
578	Aayush Kumar Singh
579	Anjali Adhikrao Patil
580	Abhishek Shivaji Jadhav
581	Sayali Santosh Wangade
582	Abhishek Balasaheb Bhise
583	Arjun Bijukumar
584	Yuvraj Singh Gurjar
585	Rahul Baburao Kadam
586	Alok Kumar
587	Mo Junaid
588	Priya Upadhyay
589	Rishi Sharma
590	Vikas Yadav
591	Anjali Singh
592	Supriya
593	Ritika Singh



# अलविदा अधिकारी एवं नाविक

## ADIEU OFFICERS & SAILORS

The following personnel of the department have retired after rendering meritorious and distinguished service to the Navy. This Department wishes them a highly successful and satisfying second innings and urges them to keep in touch with the hydrographic fraternity.



VADM ADHIR ARORA  
AVSM, NM



CAPT(TS) A G MERWADE



CDR K K KULKARNI



LT CDR ABHISHEK SHARMA



LT CDR VARUN SONI



LT CDR ABHISEK C DEO



LT CDR T P JOSEPH



LT CDR SHULI PFOSEO



ASHWANI KUMAR  
PO (HY)



AMIT SHARMA  
PO (HY)



BRIJ BHUSHAN PANDEY  
PO (HY)



NAGESH PRATAP SINGH  
PO (HY)



SUJEET KUMAR  
PO (HY)



VIKAS DHIMAN  
PO (HY)



DEBAKANTA PARIDA  
PO (HY)



ARVIND KUMAR  
PO (HY)



PRADEEP  
PO (HY)



MANJEET  
PO (HY)



KISHOR KALA  
PO (HY)



PAVANESH KUMAR VERMA  
PO (HY)



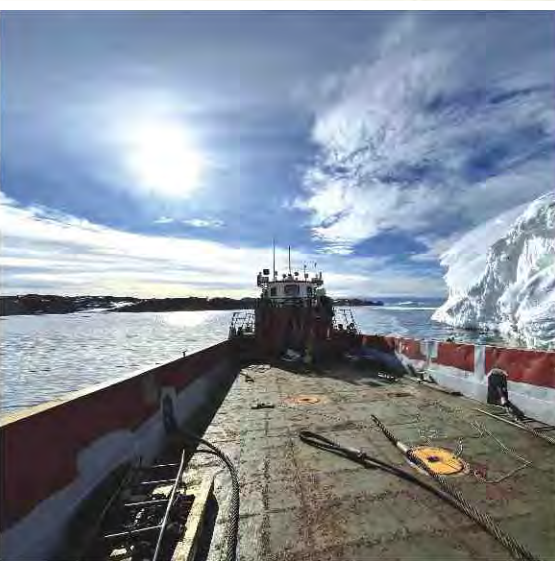
HAFIJUL GAIN  
PO (HY)



**GLIMPSES**



## Signing Meeting Minute



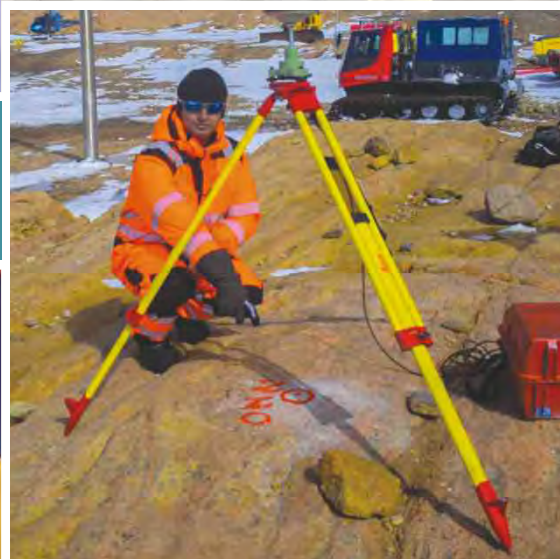
## विदेशी FOREIGN







# सहयोग COOPERATION



Visit of Indian Ambassador onboard INS Sarvekshak







## जहाजों की SHIP'S







## गतिविधियाँ ACTIVITIES







## विश्व जल सर्वेक्षण दिवस एवं अन्तर्राष्ट्रीय योग दिवस WORLD HYDROGRAPHY DAY AND INTERNATIONAL YOGA DAY







## दौरे VISITS







# एन.एच.ओ. गतिविधियाँ NHO ACTIVITIES











## **NATIONAL HYDROGRAPHIC OFFICE**

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