Safe Waters

NEWSLETTER

On Maritime Safety and Security

BIANNUAL | Vol - 01 | JAN 2026

भारतीय तटरक्षक बल

वयम रक्षामः

NATIONAL MARITIME SEARCH AND RESCUE BOARD

A Publication of the Indian Coast Guard

From the Desk of the Chairperson
National Maritime Search & Rescue Board
& Director General Indian Coast Guard

Dear Readers,

At this august juncture in the unfolding chronicle of the twenty first century, the maritime realm stands in quiet transformation. Sea lanes grow ever more crowded, climate patterns shift with unsettling unpredictability, and technological advances recast the very art of navigation. The oceans, long highways of commerce. have also emerged as pivotal theatres of economic vitality and geopolitical exchange. In such a landscape, the duty to safeguard life at sea transcends borders and mandates. assuming renewed and solemn significance.

Though satellites, AIS, and beacon systems now carry distress signals across vast distances in moments, the success of Search and Rescue rests. ultimately, upon the harmony of technology with trained judgment. disciplined procedure., and swift resolve. 'Safe Waters' reflects upon this convergence, where innovation is guided by human commitment.

Bharat's maritime SAR framework continues to advance with purpose: strengthened Rescue Coordination Centres, modernised GMDSS systems, and sustained training have extended readiness across expansive waters. Experience affirms that speed, clarity, and seamless coordination remain decisive, while a growing reliance on data and outreach underscores a vital truth - prevention is as indispensable as response.

Recent operations, from the rescue of the United States flagged sailing vessel Sea Angel south of Campbell Bay to the medical evacuation from the Iranian flagged fishing vessel Al Owais far west of Minicoy, carried out in coordination with stakeholders, stand as quiet testament to both our reach and our resolve. Tragedies of drowning and persons overboard, compounded by fire, flooding, mechanical failure, and severe weather, remind us that -sea permits no complacency and vigilance must equal response. This resolve was also reaffirmed at the 23rd NMSARB meeting at Gandhinagar.

As Chairperson of the NMSAR Board, I am sanguine that sustained collaboration will further fortify **Bharat's** SAR capabilities through coordination, technological advancement, and robust safety protocols. **'Safe Waters'** serves as a reflective platform for these efforts. engaging with evolving challenges, technological progress and operational insights, while reaffirming an enduring commitment to ensuring that every distress call is answered with urgency and that the protection of life at sea remains the foremost priority."

VAYAM RAKSHAMAH
JAI HIND

(S Paramesh)
Director General, Indian Coast Guard
Chairperson
National Maritime Search & Rescue Board

Contents

Please send your queries, articles and feedbacks to :

'Safe Waters'

Secretary National Maritime Search and Rescue Coordinating Authority

Coast Guard Headquarters, National Stadium Complex

New Delhi - 110 001, India

Tel : 011-2338 3999, 23073995 Fax : 011-2338 3196

E-mail : nmsarb@indiancoastguard.nic.in

MARITIME SAR STATISTICS AND TREND ANALYSIS

LIVES SAVED (JUL-DEC 25)

Total Lives Saved	83
By ICG	04
By *IN*	02
By Merchant Vessel	04
By Fishing Boats	67
By Others (Tug / Marine Police)	06

MEDEVAC (JUL-DEC 25)

Total MEDEVAC	19
By ICG	12
By Others (vessel agent)	07

DROWNING ANALYSIS

	2024		2025	
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
Total	**21**	**19**	**18**	**25**
Lives Saved	02	Nil	Nil	Nil
Lives Lost	21	19	18	25

- Drowning cases increased in last six month
- Most cases reported at Tamil Nadu (15 out of 25)
- States/UT administration to institute safety measure

MOB ANALYSIS

	2024		2025	
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
Total	**22**	**30**	**17**	**32**
Lives Saved	01	03	Nil	02
Lives Lost	21	27	17	30

- MOB cases are on rise during last six months
- 26 out of 32 cases of MOB primarily from IFB
- Fishermen to ensure carriage of life saving equipment

FISHING BOAT INCIDENTS

	2024(Jan-Jun 25)		2025 (Jul-Dec 25)	
	Cases	Lives in Distress	Cases	Lives in Distress
Total	**06**	**39**	**13**	**114**
Capsized	05	32	11	91
Sinking/ Flooding	01	07	02	23
Stranded	13 IFB (102 Crew)		09 IFB (74 Crew)	

- Fishing boat incidents have increased in last six months
- Most of the cases attributable to poor seaworthiness
- 09 IFB reported stranded risking safety of 74 lives at risk though not escalated to distress

MARITIME SAR EVENTS

(01 Jul-31 Dec 25)

SAR Awards 2024-25

SAR awards have been instituted to acknowledge the contributions of all stakeholders involved in search and rescue operations, including merchant mariners, government vessels, shore units, and fishermen. The awards are presented annually at the National Maritime Search and Rescue (NMSAR) Board meetings. For the year 2024-25, SAR Awards were conferred upon deserving seafarers for saving valuable lives at sea under the following categories:-

Ser No	Category of Award a	Awardee b	Remarks c
1	SAR award for Merchant Vessel	MV HE Yuan Shun 89	Saved 04 lives from sunken IFB Kadal Thondaegan off Tuticorin
2	SAR award for Fisherman	IFB Kedarnath	Saved 09 lives from sunken IFB Vaibhav Laxmi off Mumbai
3	SAR award for Govt. owned SAR Unit	ICGS Rajveer	Saved 02 lives from a stranded US-flagged sailing yacht located 48 nm south of Indira Point, and rescued 08 fishermen from the stranded IFB Eesho off Mayabunder
4	SAR award for Ashore Unit	VTMS Mumbai & JNPA Mumbai	Significant contribution in saving 100 lives from sunken ferry boat Neel Kamal-I off Mumbai

SAR AWARD FOR GOVT. OWNED SAR UNIT - ICGS RAJVEER

SAR AWARD FOR ASHORE UNIT - VTMS MUMBAI & JNPA MUMBAI

SAR AWARD FOR FISHERMAN - IFB KEDARNATH

SAR AWARDS

23rd NMSAR Board Meeting

NMSAR Board meetings are held annually to review and address SAR policies and operational issues with the participation of all national SAR stakeholders. The 23rd NMSAR Board meeting was conducted at Gandhinagar on 10 Nov 25 under the chairpersonship of Director General Paramesh Sivamani, AVSM, PTM, TM, Chairperson, NMSAR Board, and was attended by 55 participants, including Board members, special invitees and representatives from Coastal States.

The meeting focused on strengthening inter-agency coordination and cooperation to reinforce the national SAR framework, with particular emphasis on the adoption of advanced technologies and modern communication systems to improve operational effectiveness and maritime safety. Key issues deliberated included delays in distress reporting, the increasing number of drowning and man-overboard incidents, seaworthiness concerns of MSV, fishermen safety, congestion on MMB Channel 16, and difficulties faced by SRU and helicopters in identifying IFB in distress.

INITIATIVES FOR STRENGTHENING SAR MECHANISM

Various SAR exercises and courses are organised by NMSAR Board members to enhance collaboration with national and international stakeholders, validate SAR procedures and enhance interoperability, as detailed below:-

Regional Search and Rescue Exercise

Regional Search and Rescue exercises are conducted regularly to assess the preparedness of local stakeholders in responding to distress alerts and validate SAR SOP.

Often Mass Rescue Operation (MRO) drill is exercised with emphasis on the role of state/ local administration in managing the injured and deceased and in establishing medical triage services

During the period Jul - Dec 25, three Regional SAREX were conducted one each at New Mangalore, Paradip and Sri Vijaya Puram.

Beacon Exercise

Beacon Exercises are conducted annually with the participation of agencies such as INMCC, ICG, IAF, *IN*, SCI, and various shipping and airline operators to validate the effectiveness of India's beacon-based SAR mechanism. The exercises demonstrate the end-to-end functioning of the satellite-based SAR system, strengthen RCC/MRCC coordination, validate beacon operations, and help identify and resolve operational and technical issues.

The 27th Beacon Exercise was conducted from 19-21 Aug 25, during which 62 beacons from various agencies were tested and the overall effectiveness of the beacon and SAR framework was evaluated. Details of the beacons transmitted during the exercise are as follows:-

Ser No	Agency	Tx Beacons	Rx Beacons	Beacons Non-Detected
	a	b	c	d
1	ICG	15	15	–
2	IAF	31	18	13
3	*IN*	14	11	03
4	SCI	02	02	–
	Total	**62**	**46**	**16**

Out of the 62 beacons, 16 were not detected during the exercise. The concerned agencies are regularly being impressed upon to ascertain reasons for non-activation and to replace, rather than repair, defective beacons.

23rd M-SAR Refresher Course for MRCC/ RCC Operators

The M-SAR Refresher Course is conducted to train MRCC and RCC operators in various aspects of GMDSS and SAR operations, with the objective of enhancing operator skill sets and strengthening synergy among the ICG, AAI, and INMCC. The 23rd M-SAR Refresher Course for personnel from the ICG and AAI was held at MRCC Chennai from 16-18 Dec 25, during which 23 officers and personnel were trained. The course covered key SAR concepts and procedures, with particular emphasis on inter-agency coordination and cooperation.

Maritime SAR Workshops

Maritime SAR Workshops for one/ two days duration are conducted in Coastal States and Union Territories to enhance safety awareness among fishermen and strengthen the Maritime SAR framework through active participation of fishing associations, local authorities and other resource agencies. During Jul-Dec 25, five M-SAR workshops were conducted.

The details are as follows:-

Ser No	Date a	Place b
1	13-14 Aug 25	Sri Vijaya Puram
2	14 Aug 25	Puducherry
3	15 Sep 25	Tuticorin
4	26 Sep 25	Okha
5	28 Nov 25	Kavaratti

SAR Communication Exercises

In addition to national SAR initiatives, regular SAR Communication Exercises (SARCOMEX) are conducted to strengthen coordination with international partners as part of global SAR responsibilities. These exercises reinforce operational linkages and provide MRCC operators with opportunities to coordinate effectively with other MRCC and RCC. During Jul-Dec 2025, a total of 12 SARCOMEX were conducted.

Ser No	Agencies Participated in SARCOMEX a	Date b
1	MRCC Mumbai - RCC Muscat	10 Jul 25
2	MRCC Sri Vijaya Puram - MRCC Putrajaya	24 Jul 25
3	MRCC Chennai - MRCC Ankara	06 Aug 25
4	MRCC Mumbai - MRCC Mauritius	25 Aug 25
5	MRCC Chennai - RMRCC Mombasa	02 Sep 25
6	MRCC Sri Vijaya Puram - MRCC Vietnam	17 Sep 25
7	MRCC Mumbai - RMRCC Lagos	13 Oct 25
8	MRCC Chennai - RCC Jeju	15 Oct 25
9	MRCC Sri Vijaya Puram - MRCC Hiroshima	27 Oct 25
10	MRCC Chennai - JRCC Madagascar	10 Nov 25
11	MRCC Sri Vijaya Puram - MRCC Dar Es Salaam	13 Nov 25
12	MRCC Sri Vijaya Puram - MRCC Singapore	18 Dec 25

MARITIME SAR BULLETIN

(01 Jul - 31 Dec 25)

SEARCH AND RESCUE COORDINATION

Stranded - Sailing Yacht Sea Angel

Date/ Time	Location	Vessel Name/ Flag/ Crew/ Nationality	Distress	SAR Coordinator
10 Jul 25/ 1157 Hr	48 nm south of Indira Point, A&N Islands	Sailing Yacht Sea Angel/ USA/ 02/ USA & Turkish	Stranded in adverse weather	MRCC Sri Vijaya Puram

Incident – Sailing yacht Sea Angel stranded view damaged to main sail due to rough sea conditions and entangled sail ropes in the propeller led to engine failure.

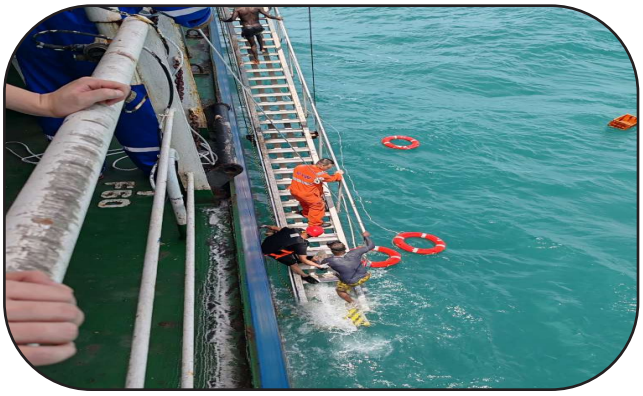
Assistance Rendered – ICGS Rajveer was deployed and safely towed the distressed yacht to Campbell Bay harbour at 0800 Hr on 11 Jul 25.

Flooding & Capsizing - IFB Kadal Thondaegan

Date/ Time	Location	Vessel Name/ Flag/ Crew/ Nationality	Distress	SAR Coordinator
13 Jul 25/ 1135 Hr	07 nm south of Tuticorin	IFB Kadal Thondaegan/ Reg.- Tamil Nadu/ 04/ Indian	Flooding & capsizing	ICGS Abhiraj

Incident – IFB Kadal Thondaegan capsized due to flooding.

Assistance Rendered – MV HE Yuan Shun 89 (Flag – Panama) rescued all 04 fishermen and transferred to ICGS Abhiraj for onward passage to Tuticorin harbour at 1623 Hr on 13 Jul 25.



Rescue of Afloat Person off Nagapattinam

Date/ Time	Location	Distress	SAR Coordinator
31 Aug 25/ 1230 Hr	02 nm south-east of Nagapattinam	01 person afloat at sea	ICGS Rani Durgavati

Incident – 50-year-old fisherman sighted afloat at sea.

Assistance Rendered – ICGS Rani Durgavati recovered the survivor, administered first aid and handed over to CSG Nagapattinam at 1430 Hr on 31 Aug 25.

Man Overboard - IFB Manik Prasad

Date/ Time	Location	Vessel Name/ Flag/ Crew/ Nationality	Distress	SAR Coordinator
03 Oct 25/ 1356 Hr	06 nm south of Jafrabad, Gujarat	IFB Manik Prasad/ Reg.- Gujarat / 01/ Indian	One fisherman overboard	MRSC Pipavav

Incident – 22-year-old fisherman overboard from IFB Manik Prasad.

Assistance Rendered – MV Al Hadbaa (Flag-Jordon), anchored in the vicinity, rescued missing fisherman at 1407 Hr on 03 Oct 25.

MEDICAL EVACUATION (MEDEVAC)

(01 Jul - 31 Dec 25)

MEDEVAC Ex - MV Haje Nafela

Date/ Time	Location	Vessel Name/ Flag	Injury/Assistance Required	SAR Coordinator
15 Sep 25/ 2105 Hr	202 nm southeast of Chennai	MV Haje Nafela/ Belize	One crew sustained head injury/ MEDEVAC	MRCC Chennai

Incident – 20-year-old Syrian crew onboard MV Haje Nafela sustained head injury.

Assistance Rendered – ICGS C-440 evacuated the patient at 1045 Hr on 16 Sep 25 and entered Chennai for further medical management.

MEDEVAC Ex - Iranian Fishing Vessel Al-Owais

Date/ Time	Location	Vessel Name/ Flag	Injury/Assistance Required	SAR Coordinator
26 Oct 25/ 1230 Hr	615 nm west of Minicoy	FV Al-Owais/ Iran	One crew sustained deep lacerations to the right ear and both eyes/ MEDEVAC	MRCC Mumbai

Incident – 39-year-old Iranian crew sustained deep lacerations to the right ear and both eyes due to explosion in the generator.

Assistance Rendered – MT STI Grace evacuated the patient PM 27 Oct 25 and transferred him to ICGS Sachet for medical care. An Indian Navy helicopter later airlifted the patient and landed at Goa at 1152 Hr on 30 Oct 25 for further medical management.

MEDEVAC Ex - MV Konstantinos II

Date/ Time	Location	Vessel Name/ Flag	Injury/Assistance Required	SAR Coordinator
06 Nov 25/ 0800 Hr	120 nm northeast of Chennai	MV Konstantinos II/ Liberia	One crew suffered from severe lower right abdominal pain/ MEDEVAC	MRCC Chennai

Incident – 35-year-old Filipino crew onboard MV Konstantinos II suffered from severe lower right abdominal pain.

Assistance Rendered – ICGS C-440 evacuated the patient at 1430 Hr on 06 Nov 25 and shifted to Isabel Hospital, Chennai for further medical management.

MEDEVAC Ex - IFB Maheshwari Sagar

Date/ Time	Location	IFB Name/ Registration	Injury/Assistance Required	SAR Coordinator
07 Nov 25/ 0830 Hr	27 nm off Shiyal Bet, Gujarat	IFB Maheshwari Sagar/ Gujarat	One fisherman sustained a severe leg injury/ MEDEVAC	MRSC Pipavav

Incident – 45-year-old fisherman onboard IFB Maheshwari Sagar sustained a severe leg injury.

Assistance Rendered – ICGS C-409 evacuated the patient at 0950 Hr on 07 Nov 25 and shifted to tertiary care orthopedic centre, Rajula for further medical management.

MEDEVAC Ex - IFB Ambaji

Date/ Time	Location	IFB Name/ Registration	Injury/Assistance Required	SAR Coordinator
11 Nov 25/ 1330 Hr	37 nm south of Shiyal Bet, Gujarat	IFB Ambaji/ Gujarat	One fisherman sustained right foot fracture along with a right eye injury/ MEDEVAC	MRSC Pipavav

Incident – 20-year-old fisherman onboard IFB Ambaji sustained right foot fracture along with a right eye injury.

Assistance Rendered – ICGS C-419 evacuated the patient at 1545 Hr on 11 Nov 25 and shifted to tertiary care orthopedic centre, Rajula for further medical management.

MEDEVAC Ex - IFB Akbari Kasti

Date/ Time	Location	IFB Name/ Registration	Injury/Assistance Required	SAR Coordinator
23 Nov 25/ 1305 Hr	32 nm southeast of Pipavav, Gujarat	IFB Akbari Kasti/ Gujarat	One fisherman sustained a severe right leg injury/ MEDEVAC	MRSC Pipavav

Incident – 30-year-old fisherman onboard IFB Akbari Kasti sustained a severe right leg injury.

Assistance Rendered – ICGS C-409 evacuated the patient at 1445 Hr on 23 Nov 25 and shifted to Hanumant Hospital, Pipavav for further medical management.

MEDEVAC Ex - IFB Rameshwar

Date/ Time	Location	IFB Name/ Registration	Injury/Assistance Required	SAR Coordinator
24 Nov 25/ 1130 Hr	52 nm west of Porbandar, Gujarat	IFB Rameshwar/ Gujarat	One fisherman sustained a severe lateral abdominal injury/ MEDEVAC	MRSC Porbandar

Incident – 52-year-old fisherman onboard IFB Rameshwar sustained a severe lateral abdominal injury.

Assistance Rendered – ICGS C-445 evacuated the patient at 1350 Hr on 24 Nov 25 and shifted to Government Hospital, Porbandar for further medical management.

MEDEVAC Ex - IFB Jay Shri Krishna

Date/ Time	Location	IFB Name/ Registration	Injury/Assistance Required	SAR Coordinator
28 Nov 25/ 1830 Hr	47 nm southwest of Diu	IFB Jay Shri Krishna/ Gujarat	One fisherman suffered severe seizures/ MEDEVAC	MRSC Veraval

Incident – 44-year-old fisherman onboard IFB Jay Shri Krishna suffered severe seizures.

Assistance Rendered – ICGS C-153 evacuated the patient at 0100 Hr on 29 Nov 25 and shifted to Lifecare Hospital, Kodinar for further medical management.

MEDEVAC Ex - IMV Interasia Amplify

Date/ Time	Location	Vessel Name/ Flag	Injury/Assistance Required	SAR Coordinator
13 Dec 25/ 1410 Hr	40 nm Southwest of Amplify/ Malta	MV Interasia	One crew suffered a severe brain stroke/ MEDEVAC	MRCC Mumbai

Incident – 62-year-old Ukrainian crew MV Interasia Amplify suffered a severe brain stroke.

Assistance Rendered – ICGS C-420 evacuated the patient at 1830 Hr on 13 Dec 25 and shifted to Manipal Hospital, Goa for further medical management.

MEDEVAC Ex - IFB Har Jayavanti

Date/ Time	Location	IFB Name/ Registration	Injury/Assistance Required	SAR Coordinator
25 Dec 25/ 1330 Hr	35 nm east of Shiyal Bet, Gujarat	IFB Har Jayavanti, Gujarat	One fisherman sustained a fracture to his left foot along with deep incision cuts on his right leg/ MEDEVAC	MRSC Pipavav

Incident – 30-year-old fisherman onboard IFB Har Jayavanti sustained a fracture to his left foot along with deep incision cuts on his right leg.

Assistance Rendered – ICGS C-419 evacuated the patient at 1345 Hr on 25 Dec 25 and shifted to Samarpan Hospital, Rajula for further medical management.

ARTICLES

INNOVATIONS REVOLUTIONISING SEARCH AND RESCUE AT SEA

Abstract. *SAR at sea has improved significantly in recent years through the adoption of advanced technologies that enhance detection speed, search accuracy, coordination and responder safety. The article highlights how innovations such as unmanned aerial and underwater systems, artificial intelligence, satellite-based surveillance, autonomous platforms, integrated communications and wearable biometrics are enabling rapid situational awareness and data-driven search planning, while also outlining current challenges and the future direction toward fully integrated, technology-enabled SAR ecosystems.*

1. **Introduction.** Maritime Search and Rescue (SAR) operations are undergoing a fundamental transformation. Advances in unmanned systems, artificial intelligence, satellite surveillance and autonomous platforms have reshaped how maritime emergencies are detected, analysed and responded to. Long-standing challenges such as vast search areas, extreme weather, delayed response times and risks to rescue personnel are increasingly being mitigated through technology-enabled solutions. Contemporary SAR frameworks now prioritise speed, precision and responder safety by integrating real-time data, automated detection and remote deployment capabilities. These developments have significantly improved survival outcomes, enhanced operational efficiency and reduced environmental impact, marking a decisive shift in the conduct of maritime rescue missions.

2. **Rapid Response through Unmanned Aerial Systems.** Unmanned aerial systems (UAS) have become a critical asset in modern maritime SAR. Their ability to launch rapidly and reach incident locations within minutes enables early situational assessment, often well before surface vessels or manned aircraft arrive. Equipped with thermal sensors, high-definition cameras and real-time data links, drones can accurately detect survivors, floating debris and capsized vessels, even in low-visibility or adverse weather conditions. Artificial intelligence-enabled image recognition further enhances detection by distinguishing human forms against complex sea states. Hybrid air-water drones extend operational capability by combining aerial mobility with waterborne buoyancy support. Long-endurance platforms now permit persistent surveillance over wide maritime areas, significantly reducing search durations and limiting human exposure to risk. These systems are complemented by remotely controlled, self propelled lifebuoys with GPS tracking, enabling precise delivery of flotation assistance in strong currents and poor visibility. Operational trials across multiple maritime regions have demonstrated substantial reductions in response times, particularly during night and adverse weather operations.

3. **Artificial Intelligence in SAR Planning and Execution.** Artificial intelligence has emerged as a core enabler of efficient SAR operations. By analysing large data sets, including meteorological inputs, ocean currents, vessel traffic patterns and satellite imagery, AI systems can predict drift trajectories and dynamically refine search areas. This capability allows SAR assets to be deployed with greater accuracy and efficiency, reducing resource expenditure and search uncertainty. Machine-learning algorithms automate image and signal analysis, accelerating target identification from aerial and satellite feeds. Predictive analytics further enhance operational readiness by forecasting maintenance needs and

improving asset availability. Secure digital frameworks support inter-agency coordination by ensuring integrity and traceability of distress alerts and response actions. While challenges remain in bandwidth availability and legacy system integration, operational trials have demonstrated reduced false alerts and improved decision-making timelines. AI-assisted language processing also supports interpretation of multilingual distress communications, a key requirement in international maritime environments.

4. **Satellite and Communication Advances.** Satellite-based systems continue to form the backbone of global maritime SAR coverage. Modern satellite constellations enable faster detection and more accurate localisation of emergency beacon transmissions, significantly improving response timelines compared to earlier generations. These capabilities are fully integrated into international SAR architectures, ensuring continuous monitoring across remote oceanic regions. Enhanced satellite imagery, combined with data fusion and drift modelling tools, supports improved situational awareness and more precise allocation of rescue assets. Secure and encrypted communication networks facilitate real-time information exchange between national and international agencies, enabling effective coordination during complex, multi-jurisdictional operations. Parallel advancements in training and certification ensure that personnel operating satellite-linked and unmanned systems maintain high levels of technical proficiency and operational safety.

5. **Underwater and Cross-Domain Autonomy.** Technological progress has also strengthened subsurface SAR capabilities through autonomous underwater vehicles (AUV). These platforms conduct high-resolution seabed mapping, wreckage identification and underwater searches with minimal human intervention, significantly reducing search durations and operational risk. When integrated with long-endurance aerial systems, AUVs enable coordinated surface-to-subsurface SAR missions, expanding operational reach and effectiveness. Modular platform architectures allow flexible integration of sensors, propulsion systems and AI modules, ensuring adaptability across diverse mission profiles. Increasing adoption of environmentally sustainable propulsion technologies further contributes to reduced emissions and improved operational sustainability.

6. **Integrated Communications and SAR Systems.** Effective SAR operations rely on resilient communication architectures that connect responders, unmanned platforms and coordination centres. High-bandwidth data links support continuous transmission of video, sensor data and positional information, enabling timely and informed decision-making. Integrated SAR management systems consolidate multi-source inputs into a common operational picture, improving coordination and reducing response latency. Augmented reality applications are gradually being introduced to assist responders by overlaying navigational cues, hazard indicators and survivor locations, enhancing situational awareness during high-stress rescue scenarios.

7. **Biometric and Environmental Monitoring.** Wearable technologies represent a major advancement in personal survival and post-incident detection at sea. Modern life vests and protective equipment increasingly incorporate embedded antennas, GPS modules and electronic textiles capable of transmitting location and physiological data. These systems support satellite-based detection while enabling continuous monitoring of vital parameters such as body temperature, heart rate and exposure duration. Real-time biometric data allows SAR authorities to prioritise rescues based on medical urgency, particularly in cases involving hypothermia, exhaustion or prolonged exposure, thereby improving survival outcomes.

8. **Market Trends and Challenges.** The global maritime SAR equipment sector continues to expand, driven by increasing maritime traffic, heightened safety regulations and the growing adoption of autonomous technologies. While established maritime nations remain at the forefront of implementation, emerging coastal economies are rapidly enhancing their SAR capabilities. Challenges persist in areas such as cybersecurity, regulatory approval for autonomous operations and infrastructure costs. However, demonstrable gains in efficiency, safety and response effectiveness underscore strong returns on investment, supporting sustained adoption across governmental and volunteer rescue organisations.

9. **Future Outlook.** The future of maritime SAR lies in fully integrated, technology-enabled ecosystems. The convergence of unmanned aerial systems, satellites, artificial intelligence, underwater autonomy and wearable technologies promises near real-time detection, decision-making and response. Emerging hybrid and cross-domain rescue platforms indicate expanding capabilities beyond traditional maritime contexts. Continued progress will depend on standardisation, interoperability, training and certification, alongside the development of cost-effective solutions to ensure equitable global safety coverage.

10. **Conclusion.** Maritime search and rescue has always depended on human skill, courage and decisive leadership. Today, these qualities are reinforced by advanced technological systems that enhance reach, accuracy and safety. From rapid-deployment drones and satellite surveillance to intelligent analytics and biometric monitoring, each innovation strengthens the resilience and effectiveness of SAR operations. As these technologies continue to mature and integrate, the core mission remains unchanged: saving lives at sea. The innovations outlined above ensure that SAR organisations are better equipped than ever to fulfil this responsibility in an increasingly complex maritime environment.

CG RHQ(W)

EVOLUTION CONCEPT OF REMOTE CONTROLLED SELF- PROPELLED LIFEBUOY (RCSPLB) FOR SEARCH AND RESCUE

Abstract. *Emerging rescue technologies such as the Remote-Controlled Self-Propelled Lifebuoy (RCSPLB) have revolutionised maritime SAR by significantly improving response speed, operational reach and survivor support compared with traditional lifebuoys, particularly in rough weather and in areas where ships are constrained by draught or access limitations. The article outlines the concept, purpose and evolution of the RCSPLB and describes its operational applications, system configuration and key design and performance features—such as self-righting capability, sea-state operability, night-visibility aids and portability-demonstrating how this innovation enhances SAR effectiveness, safety and operational flexibility.*

1. **Introduction.** The Remote-Controlled Self-Propelled Lifebuoy (RCSPLB) is a remotely operated aquatic rescue device that revolutionises water rescue operations by rapidly delivering buoyancy and mobility to a person in distress, overcoming the limitations of traditional ‘Ring on a String’ Buoys. These

battery-powered devices use propellers to provide speed and manoeuvrability and are controlled by an operator using a remote control.

2. **Purpose.** The Self-Propelled Lifebuoy is envisaged for use onboard ships, helicopters, small vessels, including boats and from ashore. It shall be utilised for the following applications:-

2.1 Life-saving at sea.

2.2 Disaster relief operations.

2.3 Recovery of personnel from inaccessible water locations.

3. **System Configuration.** The system consists of the following two components:-

3.1 **Waterborne Component.** The lifebuoy unit, which is launched into the water from a ship, helicopter or shore.

3.2 **Ship-based Component.** The remote-control system, which is retained onboard for controlling and guiding the lifebuoy.

4. **Regulation/ Standards.** The Self-Propelled Lifebuoy is intended for maritime use and is designed to withstand harsh marine environments, including high humidity and sea-spray conditions.

5. **Operation and Functionality.**

5.1 Capable of being remotely operated by a single person.

5.2 Can be launched and operated from ships, boats, helicopters and ashore.

5.3 Possesses high sea-keeping capability in terms of stability.

5.4 Equipped with self-righting capability when launched from a height of up to 30 feet.

5.5 Features a hydrodynamically designed body.

5.6 Fitted with visual aids (blinking lights on port and starboard sides) for night operations.

5.7 Watertight integrity as per IP-67 standards.

5.8 Capable of day and night operations.

5.9 Embedded grab handles provided for survivor support.

6. Technical Parameters.

6.1 **Mode of Operation.** Battery operated and remote controlled.

6.2 **Seaworthiness.** Role-worthy up to Sea State 4 and operable up to Sea State 5.

6.3 **Endurance.** Minimum 30 minutes at 15 km/hr and minimum 40 minutes at economical speed (without external load).

6.4 **Speed.** Maximum speed not less than 15 km/hr (without external load).

6.5 **Flotation Capacity.** At least 200 kg (up to 03 adults).

6.6 **Carrying Capacity.** Not less than 100 kg (01 adult).

6.7 **Service Life/ Operation Cycle.** Minimum 500 full charge cycles.

6.8 **General Power Requirement.** 220/230 V.

6.9 **Floating weight capacity.** Not less than 200 kg with minimum speed.

6.10 **Weight with Battery.** Less than 30 kg.

6.11 **Type of Propulsion.** Electrical.

6.12 **Type of Propeller/ Rudder.** Water Jet/ open ducted.

7. System Features/ Standard Conditions.

7.1 **Portability.** The lifebuoy is designed for easy storage and handling. It can be carried and operated by a single person, with a maximum weight not exceeding 20 kgs.

7.2 **Operating Temperature.** Safe operation is ensured within a temperature range of –10°C to +55°C and relative humidity up to 99%.

8. Build Parameters/ Design.

8.1 **Remote Control.** The remote control is designed for single-person operation and shall be stowed along with the lifebuoy.

8.2 **Stowage.** The lifebuoy shall be stowed onboard a ship in a location that allows quick and easy deployment.

8.3 **Strobe Light.** The Self-Propelled Lifebuoy system can be fitted with flashing strobe lights on either side to aid identification during night operations.

CG RHQ(W)

COSPAS-SARSAT MEOSAR: REVOLUTIONISING GLOBAL SEARCH AND RESCUE

Abstract. *The introduction of the MEOSAR system has transformed global Search and Rescue by replacing legacy satellite arrangements with a multi-constellation network that uses medium Earth orbit satellites from GPS, Galileo and GLONASS to deliver continuous worldwide coverage and near-instant detection and localisation of 406 MHz distress alerts. The article describes MEOSAR's working principle, beacon categories, and registration framework and highlights key capabilities such as enhanced position accuracy and the Galileo Return Link Service, which confirms alert receipt to survivors.*

1. **Introduction.** The COSPAS–SARSAT programme is one of the most successful humanitarian space-based initiatives in the world. This international satellite-aided SAR system operates through cooperation among 45 member nations and provides critical emergency detection and localisation services free of charge to users. The programme's evolution from the Low Earth Orbit SAR (LEOSAR) system to the Medium Earth Orbit SAR (MEOSAR) architecture represents a paradigm shift in global emergency response. MEOSAR enables faster, more accurate and near-instantaneous detection of distress signals worldwide. With Full Operational Capability (FOC) expected shortly, MEOSAR is fundamentally transforming the detection and rescue of maritime vessels, aircraft and individuals in distress. India is emerging as an important contributor within this modernised global SAR ecosystem.

2. **MEOSAR System Architecture and Working Principle.** MEOSAR marks a significant technological advancement over its LEOSAR predecessor by leveraging a constellation of approximately 72 medium Earth orbit satellites hosted across three global navigation satellite systems: the United States' GPS, Europe's Galileo and Russia's GLONASS. Unlike LEOSAR, which relied on a limited number of low Earth orbit satellites and required favourable orbital geometry for detection, MEOSAR provides continuous global coverage with multiple satellites simultaneously viewing any distress event. When a 406 MHz distress beacon transmits its encoded signal, it is received by several MEOSAR satellites and relayed to the ground on 1544.1 MHz. These signals are processed at MEOSAR Local User Terminals (MEOLUT). Location determination is achieved using two complementary techniques: Time of Arrival (TOA), which measures the precise time the signal reaches each satellite, and Frequency of Arrival (FOA), which measures the Doppler shift caused by satellite motion. Using precise satellite ephemeris data and trilateration algorithms, MEOLUT can determine beacon locations using as few as three satellite measurements. This approach enables position accuracy of approximately five kilometres within ten minutes, representing a substantial improvement over LEOSAR's sequential, multi-pass detection process. Critically, MEOSAR can derive a location from a single 0.5-second beacon burst, significantly accelerating alert generation and rescue response timelines.

3. **Beacon Types and Registration.** COSPAS–SARSAT distress beacons operate on the internationally allocated 406.025 MHz frequency, with an additional channel at 406.076 MHz approved for use from Jan 2025. Each beacon transmits a unique 15-character hexadecimal identifier that enables rapid identification of the distress source. Three primary beacon types support different operational environments. Emergency Position-Indicating Radio Beacons (EPIRB) are designed for maritime use and automatically activate when vessels submerge. Personal Locator Beacons (PLB) are intended for individual users such as mariners, aviators and outdoor enthusiasts. Emergency Locator Transmitters (ELT), including advanced ELT(DT) models, support aviation safety by enabling both post-accident localisation and in-flight distress tracking. Proper beacon registration ensures that alert data is quickly correlated with vessel, aircraft or user information, improving response efficiency.

4. **Return Link service.** The Return Link Service is a unique capability enabled through the Galileo constellation's contribution to the MEOSAR system. This feature allows rescue authorities to transmit a confirmation signal back to compatible distress beacons, informing users that their emergency alert has been received and their location forwarded for response. The confirmation is typically indicated by a flashing blue light or an on-screen message on the beacon. This two-way communication significantly reassures survivors, reduces uncertainty and discourages unnecessary or risky actions while awaiting rescue.

5. **Conclusion.** COSPAS–SARSAT MEOSAR represents a generational leap in humanitarian satellite technology. The transition from LEOSAR's orbit-dependent and time-delayed architecture to MEOSAR's constellation-based, near-instantaneous detection model has fundamentally improved global SAR effectiveness. As MEOSAR approaches full operational capability shortly, it is set to become the cornerstone of global search and rescue, ensuring faster detection, improved accuracy and enhanced survival prospects across the maritime domain.

CG RHQ(E)

SEARCH AND RESCUE (SAR) IN NIGHT OPERATIONS: CHALLENGES, EVOLUTION AND THE ENHANCED IAMSAR 2025 FRAMEWORK

Abstract. *Maritime SAR operations at night present unique challenges, as darkness, environmental illusions, navigation risks, and crew fatigue reduce detection capability and increase operational hazards. The article describes how the enhanced IAMSAR 2025 framework establishes a standardised, technology-enabled approach to night SAR operations by covering search planning, sensor-driven detection, modified search patterns, and human-factor considerations, while incorporating operational lessons and modern sensors to enhance safety, coordination, and mission success.*

1. **Introduction.** Search and Rescue operations at sea are inherently complex; however, night operations represent one of the most demanding environments in maritime emergency response.

Darkness fundamentally affects detection, navigation, coordination and human performance. Historically, night SAR relied heavily on experience, improvisation and limited procedural guidance. Recognising these challenges, the 2025 edition of the IAMSAR Manual introduces enhanced guidance for night search operations through the inclusion of Appendix W in Volume II (Mission Coordination). Adopted in December 2024 and applicable from 1 January 2026, these amendments represent a significant shift toward standardised, evidence-based night SAR doctrine, incorporating modern technology, operational lessons and human-factors research.

2. **Nature of Maritime Night SAR Operations.** Night SAR involves the detection and rescue of persons, vessels or aircraft in distress during hours of darkness, often compounded by adverse weather, high sea states and crew fatigue. Unlike daytime operations, visual cues are severely degraded or misleading, and the margin for error is significantly reduced. Key characteristics of night SAR include:-

2.1 Severely reduced visual detection capability.

2.2 Increased reliance on electronic and sensor-based systems.

2.3 Elevated risk to rescuers, especially aircraft crews and small rescue craft.

2.4 Higher likelihood of misidentifying lights, reflections and background illumination.

2.5 Night operations are not simply 'day operations without light'; but a distinct operational environment requiring different planning assumptions, tactics and decision-making frameworks.

3. **Challenges Unique to Night SAR.**

3.1 **Reduced Detection Capability.** Human visual performance deteriorates sharply at night. Survivors in the water, small craft or debris fields are extremely difficult to detect without electronic aids. Even when lights or flares are present, accurate range estimation and target confirmation remain challenging.

3.2 **Environmental Illusions.** Moonlight reflections, bioluminescence, offshore installations, fishing vessel lights and coastal illumination frequently generate false positives. These distractions can divert search assets and significantly reduce operational efficiency.

3.3 **Navigation and Safety Risks.** Night operations involving low-level aircraft flight, helicopter hoisting or close-quarters maneuvering by rescue boats carry a substantially higher accident risk. Spatial disorientation and reduced situational awareness remain persistent hazards.

3.4 **Human Factors and Fatigue.** Night SAR often follows extended duty periods. Fatigue degrades visual scanning, decision-making accuracy and communication clarity, directly impacting Probability of Detection (POD) and Probability of Success (POS).

4. **Evolution of Night SAR Guidance.** Earlier editions of the IAMSAR Manual acknowledged the difficulties of night SAR but addressed them only indirectly across multiple sections. This fragmented approach resulted in inconsistent planning assumptions, variable training standards and an over-reliance on visual search methods ill-suited for night conditions. The 2025 IAMSAR Manual addresses

this shortcoming by introducing Appendix W, which provides a dedicated and structured framework for night SAR mission coordination.

5. **Enhanced Guidance Under IAMSAR 2025 (Volume II – Appendix W).** Appendix W consolidates operational experience and best practices into a coherent night SAR doctrine, focusing on five key areas:-

5.1 **Night Search Planning.** Search Mission Coordinators (SMC) are required to explicitly adjust POD and POS values for night conditions. Planning must account for moon phase, cloud cover, sea state and background lighting, while prioritising datum accuracy and drift modelling over broad visual sweeps. This reinforces the principle that accurate initial position information is critical to night SAR success.

5.2 **Detection Methods and Sensor Integration.** The guidance emphasises a transition from visual to sensor-driven search strategies, including infrared and thermal imaging, night vision goggles, radar optimised for small targets, AIS-SART, Radar-SART and EPIRB cueing. It also addresses sensor limitations, such as thermal crossover and sea clutter, ensuring informed and realistic use of technology.

5.3 **Aircraft and Surface Unit Coordination.** Appendix W highlights the importance of safe altitudes, speeds and search profiles for aircraft, controlled use of searchlights to prevent NVG degradation, clear handover procedures between air and surface units, and conservative maneuvering by rescue boats. These measures reduce the risk of secondary accidents during rescue phases.

5.4 **Search Pattern Adaptation.** Traditional search patterns are adapted for night conditions through wider track spacing, increased use of creeping line and sector searches, and greater reliance on electronic fixes rather than visual references. The emphasis shifts from maximum coverage to optimised detection probability.

5.5 **Human Factors and Crew Resource Management.** For the first time, night SAR guidance explicitly addresses fatigue management, task rotation, reduced lookout effectiveness during prolonged night duty, structured communication protocols and disciplined reporting of uncertainty. This recognises human performance as a critical determinant of night SAR outcomes.

6. **Conclusion.** Search and Rescue operations at night represent one of the highest-risk and highest-stakes activities in maritime safety. The introduction of Appendix W in the 2025 IAMSAR Manual marks a pivotal development by formally recognising night SAR as a distinct operational domain rather than a variation of daytime search. By integrating advanced technology, refined planning assumptions, coordinated tactics and human-factors awareness, the enhanced guidance provides a clear and standardised framework that improves safety for both survivors and rescuers.

CG RHQ(A&N)

HARNESSING FASTER AND ADVANCED SEARCH TECHNOLOGY: A NEW ERA FOR SAR MISSION COORDINATORS

Abstract. *Advanced search technologies are ushering in a new era for SAR Mission Coordinators (SMC) by transforming SAR mission planning, coordination, and execution into a data-driven and technology-enabled process. The article highlights the expanding role of satellite-based detection systems, AI-supported planning tools such as SAROPS, machine-learning-based detection, and real-time command platforms in improving detection speed and optimising resource use and emphasizes that the successful SAR outcomes increasingly depend on the SMC's ability to integrate these technologies with sound operational judgment to maximise the probability of success.*

1. **Introduction.** In modern SAR operations, time is often the decisive factor between survival and loss. For SMC, the ability to exploit faster and more advanced search technologies has fundamentally transformed the planning, execution and resolution of SAR missions. As maritime and aeronautical operating environments become increasingly complex, SMC now rely on sophisticated systems to enhance speed, accuracy and probability of detection. This article examines key technological advancements that are reshaping SAR operations and redefining the role of the SMC.

2. **Satellite-Based Detection and Tracking.**

2.1 **COSPAS-SARSAT System.** The COSPAS–SARSAT system remains a cornerstone of global SAR capability. It detects distress alerts from Emergency Position-Indicating Radio Beacons (EPIRB), Personal Locator Beacons (PLB) and aircraft Emergency Locator Transmitters (ELT). The introduction of the Medium Earth Orbit Search and Rescue (MEOSAR) constellation has significantly improved detection speed and localisation accuracy, often enabling beacon positions to be established within minutes.

2.2 **Automatic Identification System (AIS) and Satellite AIS.** The Automatic Identification System provides real-time vessel tracking and identification data. Satellite AIS extends this capability beyond terrestrial coverage, enabling continuous monitoring of ship movements across vast oceanic regions. For SMC, AIS data supports incident reconstruction, traffic analysis and identification of vessels that may provide immediate assistance.

3. **Unmanned Aerial Systems (UAS) and Drones.** Unmanned Aerial Systems (UAS) have become integral to modern SAR missions. High-endurance drones equipped with thermal sensors, optical zoom cameras and real-time video transmission enable rapid assessment of search areas. They can be deployed quickly, operate in adverse weather and access hazardous or confined terrain. Smaller platforms, such as quadcopters, are particularly effective for close-range searches over cliffs, forests or rough seas, significantly reducing risk to rescue personnel.

4. **AI-Powered Search Planning and Detection.**

4.1 **Search and Rescue Optimal Planning System (SAROPS).** SAROPS, developed by the United States Coast Guard, employs drift modelling, probability density mapping and asset allocation algorithms to optimise search planning. By integrating weather data, ocean currents,

beacon information and asset availability, the system provides SMC with recommended search patterns that maximise probability of success.

4.2 **Machine Learning for Target Detection.** Advanced machine learning algorithms now enable real-time analysis of aerial and satellite imagery. These systems can automatically identify survivors, debris or life rafts, significantly reducing visual search workload and accelerating detection in large or complex search areas.

5. **Real-Time Data Integration and Communication.**

5.1 **Marine Traffic Integration.** Access to live vessel movement data allows SMC to backtrack potential collision points, reconstruct last-known positions and analyse likely drift scenarios. This capability improves initial search area definition and asset deployment decisions.

5.2 **Rescue Coordination and Command Software.** Rescue coordination systems enable real-time information sharing between Maritime Rescue Coordination Centres (MRCC), surface units, aviation assets and international partners. These platforms support unified command, reduce communication delays and improve synchronisation during multi-agency operations.

6. **Smart Beacons and Wearable Technologies.** Next-generation distress beacons and wearable devices provide enhanced situational awareness. Modern PLB can transmit precise GPS positions, limited text messages and, in some cases, survivor condition data through integrated sensors. Wearable technology for mariners and aviators can relay biometric information such as heart rate and body temperature, enabling SMC to prioritise rescues based on medical urgency.

7. **Autonomous Surface and Underwater Vehicles.** Autonomous Surface Vessels (ASV) and Autonomous Underwater Vehicles (AUV) extend SAR capability into areas that are difficult or unsafe for crewed platforms. Equipped with sonar, optical sensors and advanced navigation systems, these vehicles are particularly valuable for locating submerged wreckage or objects in aviation and maritime SAR missions, while minimising risk to personnel.

8. **Advanced Imaging and Sensor Technologies.** High-resolution imaging systems, including multispectral sensors, thermal imagers and LiDAR, enhance detection across diverse environments. These technologies enable identification of subtle surface anomalies and improve night-time and low-visibility search effectiveness, expanding the operational window for SAR missions.

9. **Integration with Global Maritime Safety Systems.** SAR systems are increasingly integrated with the Global Maritime Distress and Safety System (GMDSS) and e-navigation platforms. This integration ensures early receipt of distress alerts, continuous updates and seamless data flow between vessels, coordination centres and rescue assets.

10. **Conclusion.** The role of the Search Mission Coordinator has evolved from manual plotting and reactive tasking to data-driven, technology-enabled operational command. Advanced search technologies have reduced response times, expanded coverage and significantly improved detection accuracy. As these systems continue to mature, the effectiveness of SAR operations will increasingly depend on the SMC's ability to integrate technology, data and human judgment.

CG RHQ(W)

MARITIME SAR CALENDAR ACTIVITIES - 2026

Date	Event	State/ Venue
26 Feb 26	M-SAR Workshop	New Mangalore
Early Mar 26	Regional SAREX	Porbandar
17-18 Mar 26	M-SAR Workshop	Haldia
25 Mar 26		Kochi
01-02 Apr 26		Chennai
22 Apr 26	Regional SAREX	Kakinada
27-28 Apr 26	M-SAR Workshop	Diglipur
May 26		Goa
21-22 May 26		Campbell Bay
10 Jun 26		Visakhapatnam
16-18 Jun 26	24th M-SAR Refresher Course	CATC Prayagraj

IMO FORTHCOMING MEETINGS - 2026

Date	Meeting
09-13 Feb 26	Sub-Committee on Pollution Prevention and Response (PPR) – 13th Session
23-27 Feb 26	Sub-Committee on Human element, Training and Watchkeeping (HTW – 12th session
02-06 Mar 26	2nd Meeting of the Intersessional Working Group on the Comprehensive Review of the STCW Convention and Code
02-06 Mar 26	49th Session of the London Convention Scientific Group and the 20th Session of the London Protocol Scientific Group
09-13 Mar 26	Sub-Committee on Ship Systems and Equipment (SSE) – 12th Session
16-19 Mar 26	44th Meeting of the Editorial and Technical (E&T) Group
16-19 Mar 26	IMSO AC 52
23-27 Mar 26	Facilitation Committee – 50th Session
30 Mar-02 Apr 26	14th Meeting of the Expert Group on Data Harmonization
13-17 Apr 26	Legal Committee – 113th Session
20-24 Apr 26	21st Meeting of the Intersessional Working Group on Reduction of GHG Emissions from Ships
27 Apr-01 May 26	Marine Environment Protection Committee (MEPC) – 84th Session
04-08 May 26	IOPC Funds
13-22 May 26	Maritime Safety Committee (MSC) – 111th Session
08-12 Jun 26	Technical Cooperation Committee (TC) – 76th Session
15-19 Jun 26	5th Meeting of the Intersessional Working Group on Relations with Non-Governmental Organizations

DG SHIPPING CIRCULAR/ MERCHANT SHIPPING NOTICE

1. DG Shipping Circular No. 01 of 2026 : Advisory to Indian Seafarers and Shipping Stakeholders in view of MEAAdvisory on Iran
   20260115073517203512 2DGSCircular01of2026_AdvisorytoIndianSeafarersandShippingStakeholdersinviewoftheMEAAdvisoryonIran.pdf

2. DG Shipping Circular No. 60 of 2025 : Promulgation of Safety Video Series by DG Shipping – Highly recommended for all the Seafarers and Trainees
   https://dgshipping.gov.in/writereaddata/ShippingNotices/20251223014838055220 9DGSCircularNo60of2025dated22122025.pdf

3. DG Shipping Circular No. 58 of 2025 : Advisory and instructions on Safe Voyage Planning for General Cargo Ships Operating between Mainland and A&N islands and within the A&N islands in Monsoon and Rough Weather Conditions
   https://dgshipping.gov.in/writereaddata/ShippingNotices/20251217100221377472 9DGSCircular.pdf

4. DG Shipping Circular No. 57 of 2025 : Addendum 2 to the DGS Circular 03 of 2023 dated 13.01.2023 with regards to uploading the mandatory documents relating to "Total number of persons for which lifesaving appliances are provided"
   https://dgshipping.gov.in/writereaddata/ShippingNotices/20251212052504819357 4DGSCircular57of2025(1).pdf

5. DG Shipping Orders No. 10 of 2025 : Adoption and Enforcement of "Seafarers' Code of Conduct - Compliance & Enforcement Manual"
   dgshipping.gov.in/writereaddata/ShippingNotices/20251106042609600031 4DGSOrder10of2025.pdf

6. Merchant Shipping Notice No. 02 of 2026 : Implementation of SOLAS Regulation II-1/3-13 – Lifting Appliances and Anchor Handling Winches on Board Indian-Flag Vessels
   https://dgshipping.gov.in/writereaddata/ShippingNotices/20260122053103917163 5MSNotice02of2026onLiftingAppliances21012026.pdf

7. Merchant Shipping Notice No. 11 of 2025 : Deployment of Tugs having Sea-going capabilities for Emergency Response at Indian Ports
   https://dgshipping.gov.in/writereaddata/ShippingNotices/20251013020049757296 5MSNoticeNo11of2025regarding-DeploymentofTugshavingSeagoingcapabilitiesforEmergencyResponseatIndianPorts.pdf

8. Merchant Shipping Notice No. 08 of 2025 : Guidelines for approval of LSA Service Stations for servicing of Inflatable Life Saving Appliances i.e. Inflatable Life Raft, Inflatable Rescue Boat, Inflatable Life Jacket and Immersion Suits & Procedure for approval of Competent Persons for servicing of such LSA
   https://dgshipping.gov.in/writereaddata/ShippingNotices/20250912041812358966 6MSNOTICE08OF2025.pdf

SAR POINT OF CONTACTS (SPOC)

Unit (MRCC/MRSC)	Telephone +91	Fax +91	Others/Ship Earth Stations (SES)
ARABIAN SEA/ INDIAN OCEAN			
MRCC Mumbai	22- 24388065 22-24316558 22- 24383592 MSAR Call 1554 (Toll free)	22- 24316558	AFTN VABBYXYC Inmarsat-C : 441907210 FBB : 773933144 (V)/ 783250888 (F) E-mail: mrcc-west@indiancoastguard.nic.in mrcc.mumbai@gmail.com
MRSC Jakhau	2831- 286302 MSAR Call 1554 (Toll free)	2831- 286432 2831-286304	Inmarsat-C : 441900444 FBB : 773238483 (V)/ 783250469 (F) E-mail: mrsc-jakhau@indiancoastguard.nic.in cgs-jkh@indiancoastguard.nic.in
MRSC Mundra	2838- 271403 MSAR Call 1554 (Toll free)	2838- 271404	Inmarsat-C : 441901016 FBB : 773233855 (V)/ 783247419 (F) E-mail: mrsc-mundra@indiancoastguard.nic.in cgs-mdr@indiancoastguard.nic.in
MRSC Vadinar	2833- 256560 MSAR Call 1554 (Toll free)	2833- 256560	Inmarsat-C : 441900448 FBB : 773256407 (V)/ 783235175 (F) E-mail: cgs-vdr@indiancoastguard.nic.in mrsc-vadinar@indiancoastguard.nic.in
MRSC Okha	2892-262261 MSAR Call 1554 (Toll free)	2892- 263421 2892-262092	Inmarsat-C : 441923271 FBB : 773933048 (V)/ 783246654 (F) E-mail:dhq15@indiancoastguard.nic.in mrsc-okha@indiancoastguard.nic.in
MRSC Porbandar	286- 2242451 MSAR Call 1554 (Toll free)	286-2210559	Inmarsat-C: 441908210 FBB : 773230687 (V)/ 783247400 (F) E-mail: dhq1@indiancoastguard.nic.in mrsc-dhq1@indiancoastguard.nic.in
MRSC Veraval	2876- 241352 MSAR Call 1554 (Toll free)	2876- 241353	Inmarsat-C : 441912210 FBB : 773234250 (V)/ 783260081 (F) E-mail: mrsc-veraval@indiancoastguard.nic.in cgs-vrl@indiancoastguard.nic.in
MRSC Pipavav	2794- 221554 2794- 221605 MSAR Call 1554 (Toll free)	2794- 221600	FBB : 773234086 (V)/ 783250475 (F) E-mail: mrsc-pipavav@indiancoastguard.nic.in cgs-ppv@indiancoastguard.nic.in

Unit (MRCC/MRSC)	Telephone +91	Fax +91	Others/Ship Earth Stations (SES)
MRSC Dahanu	2528- 250004 2528- 250003 MSAR Call 1554 (Toll free)	2528- 250003	Inmarsat-C : 441901019 FBB : 773150134 (V)/ 783247354 (F) E-mail: mrsc-dahanu@indiancoastguard.nic.in cgs-dah@indiancoastguard.nic.in
MRSC Murud Janjira	2144- 274421 MSAR Call 1554 (Toll free)	2144- 274420	FBB : 773232293 (V)/ 783247368 (F) E-mail: mrsc-mjr@indiancoastguard.nic.in cgs-mjr@indiancoastguard.nic.in
MRSC Ratnagiri	2352- 299230 MSAR Call 1554 (Toll free)	2352- 299231	FBB : 773154330 (V)/ 783247386 (F) E-mail: mrsc-ratnagiri@indiancoastguard.nic.in cgs-rtn@indiancoastguard.nic.in
MRSC Karwar	8382- 263100 8382- 263210 MSAR Call 1554 (Toll free)	8382-	Inmarsat-C : 441925162 Inmarsat Fleet : 773234367 (V) E-mail: mrsc-karwar@indiancoastguard.nic.in cgs-kwr@indiancoastguard.nic.in
MRSC Goa	832-2950274 832-2950275 MSAR Call 1554 (Toll free)	832-2950277	Inmarsat-C : 441907410 FBB : 773152783 (V)/ 783251153 (Fax) E mail:dhq11@indiancoastguard.nic.in mrsc-goa@indiancoastguard.nic.in
MRSC New Mangalore	824- 2405278 MSAR Call 1554 (Toll free)	824- 2405267	Inmarsat-C : 441908310 FBB : 773213830 (V)/ 783238659 (Fax) E-mail: dhq3@indiancoastguard.nic.in mrsc-newmangalore@indiancoastguard.nic.in
MRSC Kochi	484-2218969 484 - 2217164 MSAR Call 1554 (Toll free)	484 - 2217164	Inmarsat-C : 441907310 FBB : 773231290 (V)/ 783260080 (F) E-mail: dhq4@indiancoastguard.nic.in mrsc-kochi@indiancoastguard.nic.in
MRSC Beypore	495-2417995 MSAR Call 1554 (Toll free)	495 - 2417994	FBB : 773934466 (V)/ 783247381 (F) E-mail: cgs-bpe@indiancoastguard.nic.in mrsc-beypore@indiancoastguard.nic.in
MRSC Vizhinjam	471-2481855 471-2481788 MSAR Call 1554 (Toll free)	471 - 2486484	Inmarsat-C : 441900449 FBB : 773157027 (V)/ 783247417 (F) E-mail: cgs-vzm@indiancoastguard.nic.in mrsc-vizhinjam@indiancoastguard.nic.in
MRSC Minicoy	4892- 222477 MSAR Call 1554 (Toll free)	4892- 223232	FBB : 773157566 (V)/ 783259023 (F) E-mail: mrsc-minicoy@indiancoastguard.nic.in cgs-mcy@indiancoastguard.nic.in

Unit (MRCC/MRSC)	Telephone +91	Fax +91	Others/Ship Earth Stations (SES)
MRSC Androth	4893- 232645 4893- 232224 MSAR Call 1554 (Toll free)	4893- 232645	FBB : 773234264 (V)/ 783258536 (F) E-mail: mrsc-androth@indiancoastguard.nic.in cgs-adr@indiancoastguard.nic.in
MRSC Kavaratti	4896- 263491 4896- 263497 MSAR Call 1554 (Toll free)	4896- 263497	Inmarsat-C : 441900453 FBB : 773213243 (V)/ 783231888 (F) E-mail: mrsc-kavaratti@indiancoastguard.nic.in dhq12@indiancoastguard.nic.in

BAY OF BENGAL

Unit (MRCC/MRSC)	Telephone +91	Fax +91	Others/Ship Earth Stations (SES)
MRCC Chennai	44- 25395018 44- 29550140 MSAR Call 1554 (Toll free)	44- 23460405	AFTN VOMMYXCG Inmarsat-C : 441922669 FBB : 773154749 (V)/783246626 (Fax) E-mail: mrcc-east@indiancoastguard.nic.in mrccchennai@gmail.com
MRSC Frazerganj	8373099183 MSAR Call 1554 (Toll free)	--	FBB : 773256470 (V)/ 783238690 (F) E-mail: mrsc-fzr@indiancoastguard.nic.in cgs-fzr@indiancoastguard.nic.in
MRSC Haldia	3224- 267755 3224- 263407 MSAR Call 1554 (Toll free)	3224- 264541 3224- 263407	FBB : 773158596 (V)/ 783246662 (F) Inmarsat-C: 441907110 E-mail: dhq8@indiancoastguard.nic.in mrsc-haldia@indiancoastguard.nic.in
MRSC Paradip	6722- 223359 MSAR Call 1554 (Toll free)	6722-222279 6722-221540	Inmarsat-C : 441907710 FBB : 773213679 (V)/ 783232805 (F) E-mail: dhq7@indiancoastguard.nic.in mrsc-paradip@indiancoastguard.nic.in
MRSC Gopalpur	6811-295513 MSAR Call 1554 (Toll free)	6811-295513	Inmarsat-C : 441912310 FBB : 773231449 (V)/ 783250486 (F) E-mail:mrsc-gopalpur@indiancoastguard.nic.in g-pur@indiancoastguard.nic.in

Unit (MRCC/MRSC)	Telephone +91	Fax +91	Others/Ship Earth Stations (SES)
MRSC Vishakha-patnam	891-2745806 MSAR Call 1554 (Toll free)	891-2957005 891-2741130	Inmarsat-C : 441907010 FBB : 773152755 (V)/ 783247392 (F) E-mail: ops-dhq6@indiancoastguard.nic.in
MRSC Kakinada	884- 2342175 884- 2340541 MSAR Call 1554 (Toll free)	884- 2342171	Inmarsat-C : 441913210 FBB : 773933153 (V)/ 783247357 (F) E-mail: mrsc-kakinada@indiancoastguard.nic.in cgs-knd@indiancoastguard.nic.in
MRSC Nizampatnam	8648- 257357 MSAR Call 1554 (Toll free)	8648- 294257	Inmarsat-C : 441925034 FBB : 773152364 (V)/ 783247434 (F) E-mail: mrsc-npatnam@indiancoastguard.nic.in cgs-nzm@indiancoastguard.nic.in
MRSC Krishnapatnam	861- 2377730 9381731267 MSAR Call 1554 (Toll free)	861- 2377740	Inmarsat-C : 441925069 FBB : 773256779 (V)/ 783236677 (F) E-mail: mrsc-kpatnam@indiancoastguard.nic.in cgs-kpm@indiancoastguard.nic.in
MRSC Puducherry	413- 2257957 MSAR Call 1554 (Toll free)	413- 2257956	Inmarsat-C : 441901355 FBB : 773157742 (V)/ 783246643 (F) E-mail:mrsc-puducherry@indiancoastguard.nic.in cgs-pon@indiancoastguard.nic.in
MRSC Karaikal	4368- 299150 4368-238400 MSAR Call 1554 (Toll free)	4368- 238101	Inmarsat-C : 441925046 FBB : 773909956 (V)/ 783258537 (F) E-mail: mrsc-karaikal@indiancoastguard.nic.in cgs-kkl@indiancoastguard.nic.in
MRSC Tuticorin	461-2352046 MSAR Call 1554 (Toll free)	461- 2353503	Inmarsat-C : 441928126 FBB : 773235345 (V)/ 783247418 (F) E-mail: cgs-tut@indiancoastguard.nic.in mrsc-tuticorin@indiancoastguard.nic.in
MRSC Mandapam	4573- 241634 4573- 242020 MSAR Call 1554 (Toll free)	4573- 241142	Inmarsat-C : 441907810 FBB : 773213566(V)/783234581 (F), 783233059 (Data) E-mail: cgs-mdp@indiancoastguard.nic.in mrsc-mandapam@indiancoastguard.nic.in

ANDAMAN & NICOBAR SEAS

Unit (MRCC/MRSC)	Telephone +91	Fax +91	Others/Ship Earth Stations (SES)
MRCC Sri Vijaya Puram	3192- 245530 3192-246081 MSAR Call 1554 (Toll free)	3192- 242948	AFTN VOPBYXCG Inmarsat-C : 441922666 E-mail: mrcc-ptb@indiancoastguard.nic.in mrccptb@gmail.com
MRSC Campbell Bay	3193- 264666 3193- 264235 MSAR Call 1554 (Toll free)	3193- 264215	Inmarsat Fleet : 773156289 (V)/ 783251174 (F) E-mail: dhq10@indiancoastguard.nic.in mrsc-cbay@indiancoastguard.nic.ins
MRSC Hutbay	3192- 211480 MSAR Call 1554 (Toll free)	3192- 211480	E-mail: mrsc-hutbay@indiancoastguard.nic.in FBB : 773237872 (V)/783246664 (F) cgs-htb@indiancoastguard.nic.in mrsc-hutbay@indiancoastguard.nic.in
MRSC Kamorta	3192- 263053 MSAR Call 1554 (Toll free)	3192- 263030	Inmarsat Fleet : 773234415 (V)/ 783258543 (F) E-mail: mrsc-kamorta@indiancoastguard.nic.in cgs-kmt@indiancoastguard.nic.in
MRSC Mayabundar	3192- 276449 MSAR Call 1554 (Toll free)	3192- 276449	Inmarsat-C : 441912810 FBB : 773156771 (V)/ 783247444 (F) E-mail: mrsc-mbunder@indiancoastguard.nic.in myb@indiancoastguard.nic.in
MRSC Diglipur	3192- 272315 MSAR Call 1554 (Toll free)	3192- 272345	Inmarsat-C : 441908110 FBB : 773235147 (V)/ 783246663 (F) E-mail:dhq9@indiancoastguard.nic.in mrsc-diglipur@indiancoastguard.nic.in

Safe Waters

An Indian Coast Guard Publication

Coast Guard Headquarters
Search and Rescue Secretariat
National Stadium Complex
New Delhi - 110 001, INDIA

Tel : +91 11-2338 4934, 2338 3999
Fax : +91 11-2338 3196
E-mail : nmsarb@indiancoastguard.nic.in
dte-ops@indiancoastguard.nic.in
www.indiancoastguard.gov.in

For Search and Rescue Incident

CALL **1554**

AT SEA : INMARSAT 'C' Code 43 (TOLL FREE)