

World Oceans Day 2026- Webinar Report

Held on: 08 June 2026

Introduction:

The Maritime Research Center (MRC), in collaboration with Nirdhwani Technology Pvt. Ltd., organised a special webinar on the occasion of World Oceans Day 2026 titled ***"Reimagine Beyond the World We Know: A New Perspective Based on the Underwater Domain Awareness (UDA) Framework."*** The webinar brought together experts, researchers, industry professionals, and students to discuss emerging opportunities and challenges in the underwater and maritime domain through the lens of UDA.

The webinar commenced with an overview of MRC's evolving vision for the underwater domain and the need for a more integrated and data-driven approach to ocean management. Our Founder and Director, Dr (Cdr) Arnab Das, kickstarted the webinar with his opening address, where he explained the tropical challenges of littoral waters and how our work on UDA and the [UDA Framework](#) has evolved over the past couple of years. Later, in his presentation, our Deputy Director, Shridhar Prabhuraman, presented MRC's vision for 2029, highlighting the transition from isolated, static datasets to a modelling- and simulation-based Marine Spatial Planning (MSP) Framework. He emphasised that such an approach would enable informed decision-making and facilitate the sustainable utilisation of ocean resources while balancing environmental, economic, and security priorities. A significant milestone during the webinar was the formal launch of the UDA International Journal, a dedicated platform to promote scientific discourse and multidisciplinary research in UDA. The journal seeks to provide researchers, practitioners, and policymakers with a forum to share innovative ideas and evidence-based perspectives on emerging underwater and maritime challenges.

A major segment of the webinar was devoted to research presentations by student interns from premier Indian Institutes of Technology (IITs). The presentations reflected the growing interest among young researchers in addressing complex underwater and maritime challenges through interdisciplinary approaches. The webinar also featured observations and feedback from a distinguished panel of experts. The discussions through the webinar reinforced the growing relevance of the UDA Framework as a unifying approach that connects strategic security, blue economy, environmental sustainability, and technological innovation. Overall, the event demonstrated the valuable contributions of young researchers to advancing interdisciplinary solutions in the underwater and maritime domains.

Objectives of the webinar:

The webinar aimed to:

- Promote awareness of the UDA Framework
- Explore the role of MSP in sustainable ocean governance
- Showcase ongoing student-led research addressing key underwater and maritime challenges.

- Encourage collaboration among academia, industry, policymakers and researchers
- Mark World Oceans Day 2026 through meaningful dialogue on ocean sustainability

Students' Research Presentations:

Marine Spatial Planning and Environmental Modelling: The first thematic group focused on MSP and environmental intelligence. These presentations highlighted the growing role of predictive analytical, acoustic technologies, and environmental modelling in strengthening UDA. Presentations covered:

- Riverine Flood Risk Management
- Coral Reef Bleaching Risk Modelling
- Passive Sonar Detectors and Classification
- Wind and Rain-driven Ambient Noise Layer Modelling

Sediment Management: The second group explored sediment-related challenges in riverine and marine ecosystems. The presentations highlighted the importance of sediment management for ecosystem health, navigation, and infrastructure planning. Presenters discussed sediment transport modelling in the Brahmaputra River, acoustic techniques for assessing marine sediment-bearing pressure, and satellite-based approaches for monitoring suspended sediment concentrations in reservoirs.

Biofouling Management: The third thematic group focused on Biofouling Management and Operational Efficiency. Research presentations examined the use of artificial intelligence for fleet optimisation and investigated biofilm maturation and the succession of marine fouling. These studies underscored the operational, economic, and environmental implications of biofouling and the need for innovative management strategies.

Fisheries and Aquaculture: The last thematic group concentrated on Fisheries and Aquaculture applications. Students presented work on detecting small artisanal fishing fleets and using satellite imagery to map fish farms. These projects illustrated how emerging technologies can contribute to more effective fisheries monitoring, improved resource management, and enhanced support for coastal livelihoods.

Expert Observations and Feedback:

The webinar featured remarks from distinguished experts representing maritime security, academia, publishing, industry, and diplomacy. Among them was Vice Admiral G. Ashok Kumar, who emphasised the strategic importance of UDA for maritime security and India's broader maritime aspirations. Representatives from academia, publishing, industry, and diplomacy further enriched the discussion, including Swati Meherishi, Tomonari Akamatsu, Rakesh Kumar, and Ambassador Anup Kumar Mudgal. Their remarks collectively highlighted the need for stronger collaboration between research institutions, industry stakeholders, government agencies, and international partners to address evolving underwater and maritime challenges. The experts commended the quality of the student research and encouraged greater engagement between academia, industry and government institutions.

Key observations from the expert interventions included:

- The strategic significance of UDA
- The need for interdisciplinary collaboration to address underwater and maritime challenges
- The importance of integrating scientific research into policymaking
- Opportunities to leverage emerging technologies to support the blue economy.
- The role of young researchers in advancing innovative underwater and maritime solutions.

Key Takeaways and Conclusion:

World Oceans Day 2026 successfully brought together diverse stakeholders to exchange ideas and perspectives on the future of the underwater and maritime domains. Through expert discussions, the launch of the UDA International Journal, and the presentation of innovative student research, the event reinforced the importance of UDA as a framework for sustainable, secure and inclusive ocean governance. MRC remains committed to fostering research, dialogue, and capacity-building initiatives that advance underwater knowledge and the responsible stewardship of ocean resources. The webinar highlighted several important themes:

- UDA serves as a unifying framework connecting maritime security, blue economy, environmental sustainability, and Technological innovations.
- MSP will play a crucial role in future ocean governance.
- Emerging technologies such as AI, satellite remote sensing, and acoustic monitoring are transforming underwater and maritime research.
- Student-led research can contribute meaningfully to addressing real-world underwater challenges
- Collaborative and interdisciplinary approaches are essential for achieving sustainable ocean management.

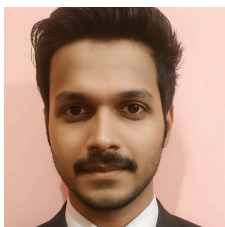
You can view the full webinar through the following link- [Here](#).

Videos of our Speakers and Presenters

Please find below the video presentations/keynote addresses by our speaker

Speaker	Image	Video Link
Dr. (Cdr) Arnab Das, Founder and Director, MRC		Link here
Mr Shridhar Prabhuraman, Deputy Director, MRC		Link here
Mr Rakesh Kumar, General Manager, Bharat Electronics Limited		Link here
Professor Tomonari Akamatsu, Senior Researcher (Professor), Research Organisation for Nano & Life Innovation, Waseda University, Japan		Link here
Ms Swati Meherishi, Editorial Director, Asia Pacific Engineering and Applied Sciences Books Program at Springer Nature		Link here

Speaker	Image	Video Link
Vice Admiral G Ashok Kumar PVSM, AVSM, VSM (Retd), Former Vice Chief of Staff of the Indian Navy and Former National Maritime Security Coordinator		Link here
Ambassador Anup Kumar Mudgal (Rtd), Former Indian Diplomat, MRC Strategic Advisor		Link here
Presentations by IIT Interns		
Dev Raj Karan Singh from IIT Madras Presentation on “Riverine Flood Module for Tropical Major Basins.”		Link here
Mahaswi Ganipisetty from IIT Bombay Presentation on “Coral Reef Bleaching Risk Modelling for Arabian Sea and Bay of Bengal.”		Link here
Premkumar Narayan Tambekar from IIT Delhi Presentation on “Passive Sonar Detection and Classification System.”		Link here

Speaker	Image	Video Link
Ashish Kumar Jha from IIT Kanpur Presentation on “Passive Sonar Deployment Toolkit.”		Link here
Pranav Ashok Mahitkar from IIT Madras Presentation on “Wind- and Rain-Driven Ambient Noise Layer for the IOR.”		Link here
Disha Gugale from IIT Bombay Presentation on “Machine Learning-Based Sediment Transport Modelling in Freshwater Systems.”		Link here
Sagar Yadav from IIT Delhi Presentation on “Determination of Sediment Bearing Pressure Using Acoustic and Sediment Data.”		Link here
Aryan Singh from IIT Delhi Presentation on “Satellite-Based Determination of Sediment Concentration in Ujjani Reservoir.”		Link here
Varun Malviya from IIT Kanpur Presentation on “Biofouling Environment Characterisation and Maintenance Gap Analysis for Strategic Maritime Infrastructure in the Andaman and Nicobar Islands.”		Link here

Speaker	Image	Video Link
Lovina Goyal from IIT Kanpur Presentation on “Monsoon-Driven Biofouling Succession - A Theoretical Analysis Using Parametric Seasonal Forcing of MRC ODE Framework.”		Link here
Shivam Gawande from IIT Bombay Presentation on “Detection and Characterisation of Small Artisanal Fishing Fleets in the Indian EEZ Beyond AIS.”		Link here
Shiwang Gupta from IIT Delhi Presentation on “In-Situ Subsurface Ocean Observation Gaps in Rapid Cyclone Intensification Forecasting for the Bay of Bengal.”		Link here

Image Gallery

