Programme

India Mangrove Conclave 2024

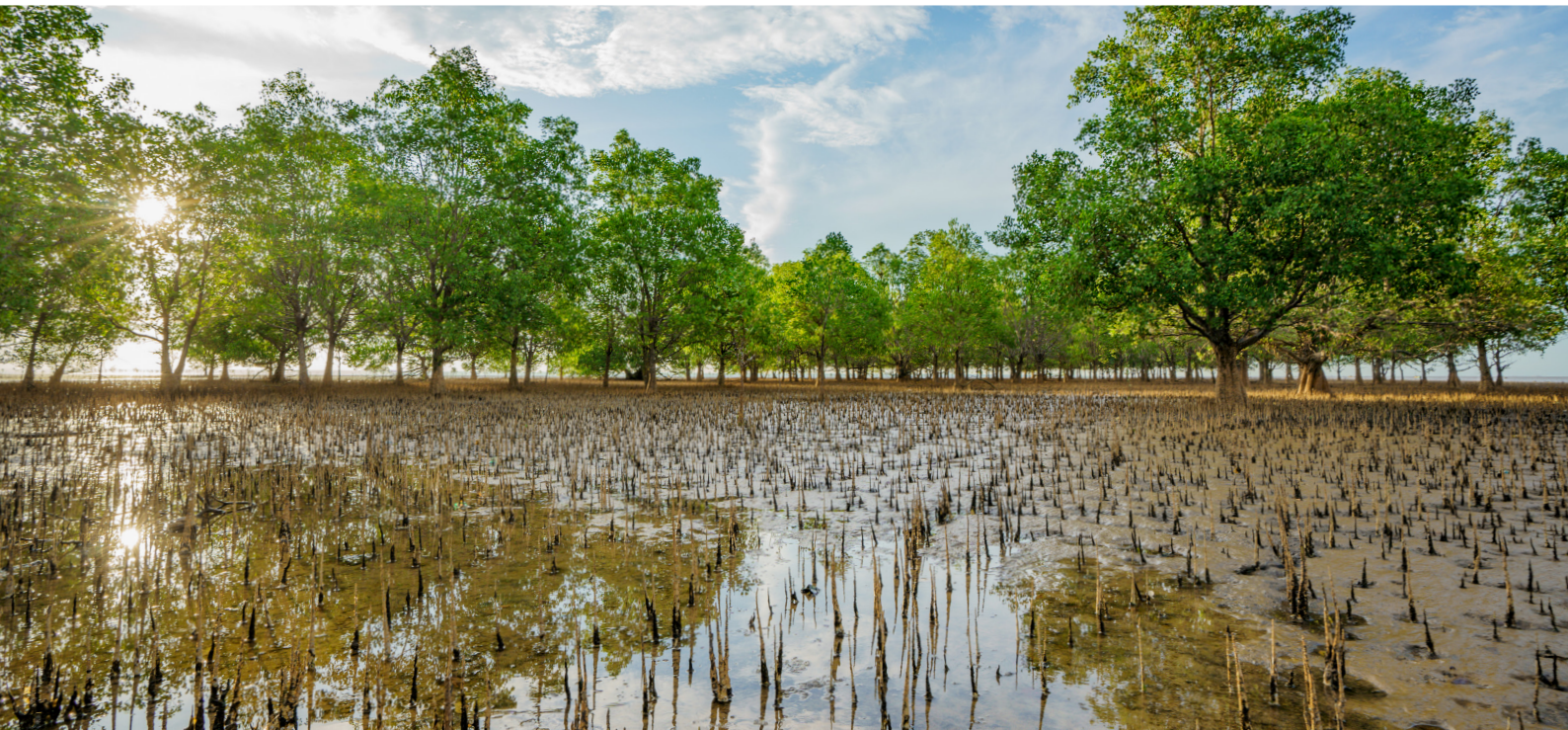
Mangrove ecosystems of India: Science, policy and practice for sustainable management

16-17 December 2024 | NCCR, Chennai, India

Inauguration

16.12.2024, Monday

08:30-09:30	**Registration**
09:30-09:32	Invocation
09:32-09:35	Lighting of Lamp
09:35-09:40	Welcome address **Dr. M. V. Ramana Murthy**, *Director, National Centre for Coastal Research (NCCR)*
09:40-09:45	An Introduction to IMC-2024 **Dr. Rupesh Bhomia**, *CIFOR-ICRAF*
09:45-09:50	Inaugural address (recorded) **Dr. Éliane Ubalijoro**, *CEO, CIFOR-ICRAF*
09:50-09:55	Address **Prof. Balaji Ramakrishnan**, *Director, National Institute of Ocean Technology*
09:55-10.05	Address by the Guest of Honor **Dr. K. Ravichandran**, *Director, IIFM*
10:05-10:10	Felicitation
10:10-10:20	Chief Guest Address **Dr. Soumya Swaminathan**, *Chairperson, MSSRF, Chennai*
10:20-10:25	Vote of Thanks **Dr. U.S. Panda**, *Scientist-F, NCCR*
10:25-10:28	National Anthem
	Group Photo
	High Tea



Day 1: 16.12.2024, Monday | Mangrove Ecosystems: Scientific Research and Best Practices

	Plenary Talks
11.05-11.25	**Mangrove research: Advances and gaps in Indian settings** Dr. V. Selvam, *SPEED*
11.25-11.45	**Status of mangrove ecosystems: intersectionality of science with management** Dr Shanti Priya Pandey, *APCCF, Andhra Pradesh Forest Department*
11.45-12.05	**Geospatial technology for mangrove monitoring and decision support** Dr Sudhakar Reddy, National Remote Sensing Centre (NRSC)
12.05-12.20	**Open Discussion / Q & A**
12.20-13.20	**Panel Discussion** **Challenges in management, success stories, cooperation and collaboration** Panelists: 1. Dr. Gnanappazham L., Professor, IIST, Thiruvananthapuram 2. Dr. Shanti Priya Pandey I.F.S., APCCF, Andhra Pradesh Forest Dept. 3. Mr. Meerasa S, Mangrove Foundation of India 4. Dr. Varghese Paul , USAID – India Moderator: Mr. Ravi Pratap Singh, *Executive Officer, Ecosys Development Foundation, New Delhi*
	Lunch
	Parallel Session
14.20-15.20	**Climate Change & Coastal Resilience** 4 Presentations [10 mins talk & 5 mins discussion] Session Chairs: 1. Dr. P. Raghavan, *Sci-C, MoEF & CC* 2. Dr. Anirban Guha, *Ramalingaswami Faculty Fellow, IISER-Thiruvananthapuram*
14.20-15.20	**Coastal Biogeochemistry** 4 Presentations [10 mins talk & 5 mins discussion] Session Chairs: 1. Dr. Punyasloke Bhadury, *IISER-Kolkata* 2. Dr. Sahadev Sharma, *USFS*
14.20-15.20	**Ecosystem Sustainability** 4 Presentations [10 mins talk & 5 mins discussion] Session Chairs: 1. Dr. Dharmendra Shah, *M.S University of Baroda* 2. Dr. Rani Varghese, *KUFOS, Kochi*
14.20-15.20	**Restoration & Conservation** 4 Presentations [10 mins talk & 5 mins discussion] Session Chairs: 1. Dr. Krishna Ray, Associate Professor, *West Bengal State University* 2. Dr. Nehru Prabhakaran, *Scientist-D, WII, Dehradun*
15.20-15.50	**Poster Session with Tea**
15.50-16.50	**Breakout Group Activity** Understanding complexities, identifying challenges and opportunities for effective mangrove management and conservation in India Moderators: Saumya Jain, Adrija Chaudhuri and Nithin Vemula, *Socratus Foundation*
16.50-17.20	**Reporting back from Breakout Activity & Sharing summary**
17.20-17.30	**Concluding Remarks: Day 1** Dr. S. R. Marigoudar, Sci-E, NCCR
	Networking Social

Day 2: 17.12.2024, Tuesday | Mangroves for Adaptation, Biodiversity and Human Well-being	
09.30-09.35	**Recap of Day 1 and opening remarks** Dr. Sanitha K. Sivadas, *Scientist-E, NCCR*
09.35-09.50	**Technical keynote** **Mangrove for climate action, biodiversity and sustainability: Adaptation & nature-based solutions** Dr. Kathiresan, Retd. *Professor, Annamalai University*
	Plenary Talks
09.50-10.10	**Leveraging institutional setup for collaborative and holistic management** Mr. Jagdish S Bakan I.F.S., *Wildlife Warden, Gulf of Mannar Marine National Park and Biosphere Reserve*
	Tea
10.30-10.50	**Evolving Strategies in Mangrove Restoration in Gujarat: A New Era of Coastal Conservation** Dr. G A Thivakaran, *Ecology Consultant, Chola MS Risk Services*
10.50-11.10	**Ecosystem Services and livelihood options through responsible eco-tourism** Mr. Nahar Muhammed, *IITTM, Bhuwaneshwar*
11.10-12.10	**Panel Discussion** **Mangroves for adaptation, biodiversity and human well-being** Panelists: 1. Mr. Subhash Chandra, *CEO, National Authority (CAMPA)* 2. Dr. S. T. Balasubramanian, *former VC, Chettinad University* 3. Dr. Bijoy Nandan, *Dean, CUSAT & former VC, Kannur University* 4. Ms. Anuja Shukla, *World Bank, New Delhi* 5. Dr. P. Thamizoli, *Social Anthropologist* Moderator: Dr. Rupesh Bhomia, *Scientist, CIFOR-ICRAF*
12.10-12.30	**Open Discussion / Q&A**
	Lunch
13.30-15.00	**Idea Exchange and Reflection session** Speakers: 1. Dr. Punyasloke Bhadury, *IISER, Kolkata* 2. Dr Anirban Guha, *IISER-Thiruvananthpuram* 3. Dr. Nehru Prabhakaran, *WII, Dehradun* 4. Dr. Harendra Kharkwal, *Scientist-E, MoEF & CC* 5. Dr. Uma Sankar Panda, *Scientist-F, NCCR* 6. Administrators & Officers from Forest Departments Moderator: Dr. Sanitha K. Sivadas, *Scientist-E, NCCR*
	Tea/Coffee
15.20-16.20	**Convening of the Conclave: Unlearning and New Learnings** Deliberations for impactful and effective best practices for mangrove management and coastal sustainability in India. Moderators: Saumya Jain, Adrija Chaudhuri and Nithin Vemula, Socratus Foundation
	Closing Ceremony
16.30-16.45	**A Conceptual Roadmap – *Chief Guest* :**Mr. Subhash Chandra, *CEO, National CAMPA*
16.45-16.55	Input from participants
16.55-17.00	Vote of Thanks - **Dr. *Tune* Usha, *Scientist* G, NCCR**

Parallel Sessions | Time:14:20-15:20				
Theme	**No**	**Title**	**Presenting Author**	**Institute**
Climate Change & Coastal Resilience	1	Perspectives of establishing a cyclone ecology research in a mangrove estuary of India	Sourav Paul	Estuarine and Coastal Studies Foundation
	2	Methane water-to-air flux and carbon storage potential in restored mangroves: insights for climate resilience and adaptation	Regina Hershey N	Cochin University of Science and Technology
	3	Loss and gains: two decades of post-tsunami mangrove and carbon stock recovery in the Nicobar islands, India	Thirumurugan Vedagiri	Madras Christian College, Chennai/ WII
	4	Stable isotopes of carbon and nitrogen in surface sediments of mangrove creeks and Kakinada bay ecosystem (Andhra Pradesh, India)	Appala Naidu S	National Centre for Coastal Research
Coastal Biogeochemistry	1	Environmental and physiological drivers of evapotranspiration of a tropical mangrove in India	Pramit Deb Burman	Indian Institute of Tropical Meteorology
	2	Patterns of carbonate chemistry from a mangrove dominated coastal ecosystem influenced by environmental perturbations	Nirupama Saini	Indian Institute of Science Education and Research Kolkata
	3	Tracking role of nitrate on sedimentary carbon storage of Indian Sundarbans- an insight from lipid biomarkers	Arindam Roy	Indian Institute of Science Education and Research Kolkata
	4	Dynamics and interaction of dimethyl sulfide (DMS) and methane in Coringa mangrove	Damodara Rao Valavala	National Centre for Coastal Research
Ecosystem Sustainability	1	Isolation and identification of Nitrilase and Laccase producing halophilic bacteria from mangrove ecosystem	Anjali Balakrishnan	Central University of Kerala
	2	Catenella sp., A red alga as an indicator of mangrove ecosystem's vulnerability: A preliminary study from Indian Sundarbans	Anjali Ghosh	West Bengal State University
	3	Understanding sustainability aspects of mangrove ecotourism project Songaon Maharashtra	Manasi Dichwalkar	Forest Research Institute Dehradun
	4	Aquatic food systems for human and planetary health: food security, livelihoods and mangrove conservation in the Indian Sundarbans	Richard Nyiawung	University of Waterloo
Restoration & Conservation	1	Community perception survey on mangrove ecosystems and best practices for sustainable management in Pulicat and Pichavaram	Arunvel M	Institute for Ocean Management, Anna University, Chennai
	2	Native biodiversity restoration in degraded mangrove habitats: experimented in Indian Sundarbans on a pilot scale	Chayan Kumar Giri	West Bengal State University
	3	Communities for mangrove conservation - a case study from Kannur, Kerala	B C Choudhury	Wildlife Trust of India
	4	Relevance of community perceptions in mapping cultural ecosystem services: lessons from bio-cultural landscape of Bhitarkanika wildlife sanctuary, Odisha	Rupali Nayal	CSIR-NEERI

Introduction

Mangrove ecosystems play an important role in coastal protection, sustainable livelihoods and biodiversity conservation. These unique ecosystems are vulnerable to climate change and it negatively impacts vulnerable coastal communities. Understanding the interconnectedness of these unique socioecological systems would aid in management and protection for sustaining biodiversity that depend on these ecosystems.

A greater understanding of mangrove ecosystem services, carbon sequestration benefits, biodiversity conservation and enhanced resilience is essential for India's coastal sustainability, including the well-being of vulnerable communities. Equally important is the availability of sound scientific information for planning and implementing successful mangrove restoration. Adopting scientific methodologies and monitoring techniques using advanced technical tools can inform and improve management of mangrove ecosystems. Setting up regular mangrove monitoring efforts will allow relevant stakeholders and managers to keep a check on the overall ecological health and to take appropriate action when problems arise.

The vision for this India Mangrove Conclave (IMC) is to make mangrove science, research and best practices readily available and accessible to managers and other stakeholders to ensure sustainability and resilience of these ecosystems for the benefit of society.

This conference will convene voices and perspectives from different stakeholders connected to India's mangrove ecosystems. It will provide a platform for exchange of knowledge in discussing challenges and drivers of mangrove loss in India and best practices on mangrove conservation; examining how scientific research can be applied to improve mangrove ecosystem functions and enhance benefits for local communities. By highlighting mangrove research in India, this conference aims to catalyse multi-institutional collaboration to enhance mangrove research and promote practices leading to improved coastal ecosystem sustainability. This gathering will foster linkages between India's scientific research community, practitioners, managers and coastal communities, as well as coastal industry and tourism sectors, including government and non-government entities. The conference will strive to develop an outline for a broad roadmap for integrated and holistic sustainability of Indian mangrove ecosystems based on scientific evidence and best practices.

Goal and objectives

The conference goal is to convene researchers, practitioners and stakeholders from the country's mangrove ecosystems for a knowledge exchange to identify opportunities in improving these ecosystems sustainably. Sessions will broadly cover topics around livelihoods, biodiversity conservation, climate mitigation, vulnerability and adaptation, and ecological restoration in the context of mangroves. The objectives of these sessions will be to:

- Develop an outline to produce a practical guide that empowers mangrove managers to utilize the latest scientific research and best practices for enhancing coastal resilience and improved management;
- Facilitate discussions and knowledge exchange to encourage novel strategic esearch collaborations on mangroves as nature-based climate solutions;
- Reach a consensus to develop/constitute a National Mangrove Centre to act as a repository of available knowledge, scientific and practical understanding of the country's various mangrove ecosystems, and for providing needed advice/guidance to tackle issues related to better management of mangroves across the country.

Conference themes

- **Day 1. Mangrove ecosystems: Scientific research and best practices**
  - Mangrove research advances and gaps in the Indian setting
  - Mangrove extent change and risks to existing mangroves including efforts to address it
  - Innovative in-situ and remote sensing monitoring for decision support
  - Traditional knowledge and community-based conservation

- **Day 2. Mangroves for adaptation, biodiversity and human well-being**
  - Biodiversity and ecosystem services of mangroves
  - Sustainable coastal management and ecosystem-based adaptation
  - Nature-based solutions for coastal resilience
  - Mangrove restoration and potential for climate mitigation and adaptation
  - Leveraging institutional setups for collaborative and holistic management
  - Information and knowledge management for greater effectiveness and impacts

Programme

The two-day conference will include technical presentations on mangrove research and advancements, as well as selective case studies exhibiting best practices from the field to foster discussions and facilitate conversations for improved mangrove management in the country. Participants (invitees) will be a diverse group representing Government institutions, researchers and civil society organizations, and senior members from the mangrove forest divisions of the country, along with members actively involved in livelihoods, biodiversity conservation and tourism activities in coastal settings.

Event

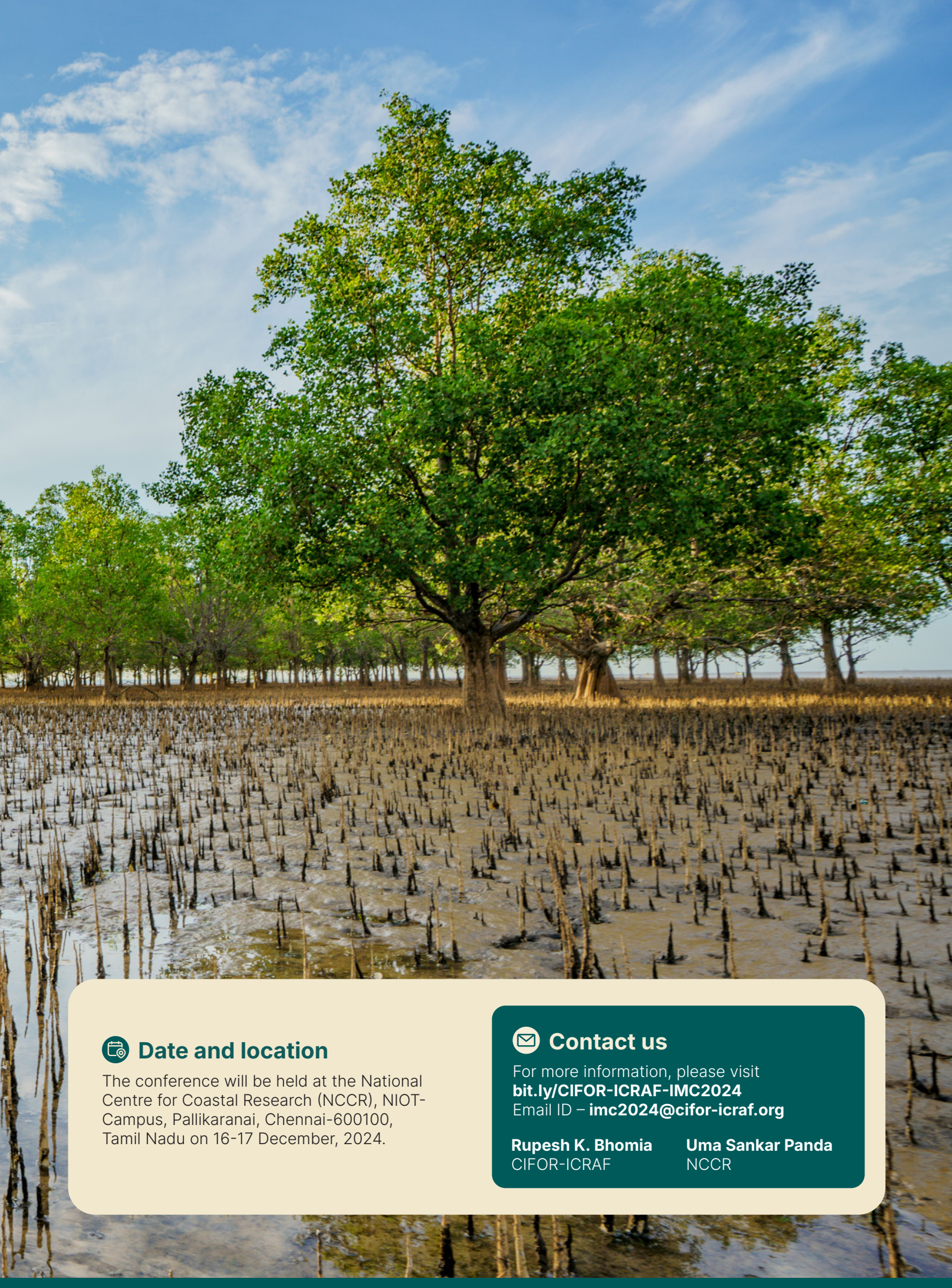
- **Day 1.** The first half of the day will include a keynote address and presentations from mangrove researchers and practitioners The second half will consist of early career researcher presentations (parallel sessions) followed by facilitated panel and group discussions to identify critical priorities/gaps.
- **Day 2.** The first half of the day will have technical sessions highlighting conservation and management practices, and identifying opportunities for increasing capacity and technical expertise. The second half will be facilitated panel and group discussions for developing a roadmap for practitioners to implement best practices in mangrove management.

Conference Organizers

CIFOR-ICRAF
The Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF) (https://www.cifor-icraf.org/, is a globally recognized research organization dedicated to addressing complex environmental and development challenges. CIFOR-ICRAF works across Asia, Africa, and Latin America, conducting cutting-edge research to inform policies, practices, and investments that benefit people and the planet. It bridges science and action by collaborating with governments, communities, and international organizations to develop evidence-based solutions that balance environmental conservation with socio-economic development. With an extensive network of field sites and partnerships, CIFOR-ICRAF generates robust data, tools, and insights that guide sustainable practices and policies. The organization also prioritizes capacity building, empowering local communities and stakeholders with knowledge and resources to implement sustainable solutions.

NCCR
The National Centre for Coastal Research (NCCR) (https://www.nccr.gov.in/) is an attached office under Ministry of Earth Sciences (MoES), India. Established to advance scientific understanding of coastal processes, NCCR focuses on sustainable coastal management and the conservation of marine ecosystems. Key areas of research include coastal erosion, marine pollution, climate change impacts, and the restoration of critical ecosystems like mangroves and coral reefs. NCCR also monitors India's coastal zones to address challenges such as sea-level rise, storm surges, and coastal flooding, providing valuable data for disaster risk reduction. The center plays a vital role in developing and implementing scientific tools and models to support policy-making and coastal planning. It collaborates with national and international organizations, fostering interdisciplinary research and capacity-building initiatives.

USFS
The United States Forest Service (USFS) (https://www.fs.usda.gov/) is a federal agency with a vision for an equitable and climate-smart food and agriculture economy that protects and improves health, nutrition and quality of life; yields healthy land, forests and clean water; and feeds the world. As a leader in agricultural and environmental research, USDA leverages scientific expertise and policy development to promote conservation and sustainable practices.



Date and location

The conference will be held at the National Centre for Coastal Research (NCCR), NIOT-Campus, Pallikaranai, Chennai-600100, Tamil Nadu on 16-17 December, 2024.

Contact us

For more information, please visit
bit.ly/CIFOR-ICRAF-IMC2024
Email ID – **imc2024@cifor-icraf.org**

Rupesh K. Bhomia
CIFOR-ICRAF

Uma Sankar Panda
NCCR