



Indian Climate-2025

19th November 2025; 16:30-18:30hrs; Venue 7, IITM

The Indian climate system exhibits complex interactions across temporal and spatial scales — from diurnal to decadal variations and from local air-quality episodes to basin-scale climate anomalies. In the face of rapid environmental and societal changes, improving our understanding of these interconnected processes is critical for advancing weather and climate prediction, disaster preparedness, and climate resilience.

The Early Career Researcher (ECR) Session at INTROMET-2025 aims to bring together young scientists and early-career professionals working on various aspects of the Indian climate system. The session will foster interdisciplinary dialogue, highlight recent advancements, and promote collaboration between observational, modeling, and theoretical studies.

Objectives

To record ECRs' views on emerging scientific understanding of the Indian climate system at different time scales.

- To highlight ECR-led research on extreme events and variability during 2025.
- To explore linkages between climate variability, weather extremes, air quality, and long-term climate change.
- To promote collaboration among early-career researchers across institutions and disciplines.



<https://forms.office.com/r/ncyCdd1wnd>



First 50 registrations receive an exclusive giveaway from the ECR Hub!

Session Structure

The session will be organized into seven breakout groups, each focusing on a key component of the Indian climate system during 2025. Each group will have a coordinator responsible for organizing the respective team, moderating the discussion, and later leading a section in a **Journal article** to be published.

Duration: 2 hours

Short plenary introduction → Parallel breakout discussions → Concluding plenary synthesis

Format: In-person session for *pre-registered participants*

Breakout Groups

Heat/Cold Waves - (Focus: Changing characteristics, drivers, and impacts of temperature extremes over India.)

Marine Heat Waves - (Focus: Occurrence, mechanisms, and implications of marine heat waves in the Indian Ocean and adjoining seas.)

LPS to Cyclones: Synoptic Variability including Extreme Events - (Focus: Synoptic-scale systems, their evolution, and contribution to monsoon variability and extreme rainfall.)

Sub-seasonal Variability including Onset - (Focus: Sub-seasonal oscillations, onset mechanisms, prediction challenges, and impacts on agriculture and hydrology.)

Seasonal Variability: ENSO, IOD, Monsoon - (Focus: Seasonal picture of Indian monsoon-2025 and its teleconnections with global climate modes.)

Atmospheric Chemistry - (Focus: Statistics of air pollution/air-stagnation days during 2025, feedback with climate variability)

Possible Linkages to Climate Change - (Focus: Attribution of recent extremes to climate change, regional projections, and adaptation implications.)

Land Atmosphere Interactions and Hydromet Extremes - (Focus: Hydrometeorological aspects and regional variations)

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