

14th October 2025

2nd Webinar on Climate Risk

Institute of Actuaries of India is pleased to announce the **2nd webinar on Climate Risk** organized by the **Working Group on Climate Risk & Sustainable Finance**.

Event Details:

Date: 31st October 2025, Friday

Time: 3:00 pm to 4:30 pm, IST

Format: Online via Microsoft Teams

Topic: India's Climate Risks: Monsoon Shifts, ENSO, and State-Level Extremes

Abstract: India's climate risks are intensifying due to shifting monsoon patterns and teleconnections like ENSO and IOD, amplifying heatwaves, droughts, floods, and cyclones. Historical trends indicate a ~1-5% decline in annual precipitation over recent decades, while future projections under high-emission scenarios show increased monsoon intensity, more heavy rainfall events, and heightened extremes. ENSO's warming suppresses monsoon rainfall, worsening droughts, while positive IOD phases drive erratic flooding in regions like Assam, Bihar, and Kerala. Up to 85% of districts are considered flood-prone in some states while up to 87% of districts are at drought risk with up to 40% of districts facing alternating drought-flood trends. Landcover changes, including urbanization and deforestation, further exacerbate these extremes.

This session will introduce the participants to factors underlying Indian monsoon, India's climate trends and climate related risks including introduction to India's Drought Atlas and Flood Affected Area Atlas. It will also touch upon the need for early warning systems and localized resilience strategies to address impacts on agriculture, water, and health.

Speaker: Dr. Anil Kumar Singh (Remote Sensing and Climate data Scientist)

Dr. Anil Kumar Singh is a distinguished Climate and Agritech Consultant with over 13 years of experience harnessing satellite data, GIS, and climate modeling to address climate change vulnerabilities and disaster risks in agriculture and beyond. Holding a PhD in Earth & Planetary Science from the University of Allahabad (2020) with a focus on Climate Risk and Agriculture, an MTech in Remote Sensing & GIS from SHUATS (2012), and a PG Diploma from ISRO's IIRS (2013), Dr. Singh excels in translating complex datasets into actionable strategies for resilience.

In his current freelance role (July 2023–present), he develops AI/ML models for flood detection, locust swarm prediction, and parametric insurance against extreme weather, using CHC-CMIP6 projections to map farm operations under climate-induced discomfort. He integrates meteorological variables like rainfall, temperature, and cyclones into risk frameworks for energy firms and Indian states, conducting geospatial assessments to mitigate operational and socio-economic vulnerabilities. Previously, as Remote Sensing Scientist at AiDash (USA, 2021–2023), he led wildfire modeling and land cover monitoring for transmission line risks using satellite and weather data. At the India Meteorological Department (2014–2019), he refined satellite algorithms for crop health, soil moisture, and advanced weather forecasting to support agricultural planning and early warnings.

His consultancy for the Asian Development Bank evaluated climate impacts on rice seasons across Asia under SSP scenarios, while projects with Plutas.AI and BISA focused on extreme temperature/rainfall thresholds and human discomfort mapping. Certified in AI for Disaster Management, Remote Sensing for Hydro-Meteorological Disasters, and Climate Geospatial Analysis (Python/Xarray), Dr. Singh's expertise spans hydrological modeling, drought/wildfire monitoring, and carbon sequestration via satellite imagery.

A prolific researcher with publications on satellite agrometeorology, Dr. Singh advocates for early warning systems to safeguard livelihoods amid escalating extremes.



Institute of Actuaries of India

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Program Schedule:

Sr. No	Sessions	Speaker	Time
1	Welcome Address	Ms. Saigeeta Bhargava , Chairperson, Working Group on Climate Risk & Sustainable Finance, IAI	3:00 pm to 3:05 pm
2	India's Climate Risks: Monsoon Shifts, ENSO, and State-Level Extremes	Moderator: Mr. Piyush Jain , Member, Working Group on Climate Risk & Sustainable Finance, IAI Speaker: Dr. Anil Kumar Singh , Remote Sensing and Climate data Scientist	3:05 pm to 4:25 pm
3	Closing Remarks	Mr. Piyush Jain , Member, Working Group on Climate Risk & Sustainable Finance, IAI	4:25 pm to 4:30 pm

Target Audience - Students, Associates, Fellows & Non-members working in Insurance, Banking & Climate Change domains.

Registration fees excluding GST (INR)

IAI Students & Associates	IAI Affiliates & Fellows	Non-Members
500	750	750

Registration link: <https://bit.ly/3R84faU>

CPD Credit: as per APS9 (Version 4): 1.5 hrs (Technical – Any one practice Area)

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