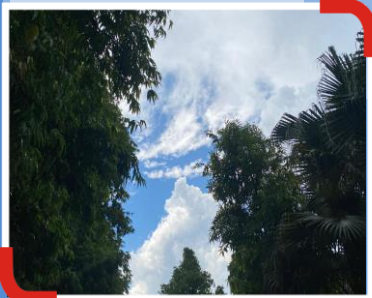




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NATIONAL AWARDS FOR e-GOVERNANCE 2025 FOR THE "MULTI-HAZARD EARLY WARNING DECISION SUPPORT SYSTEM" (DSS)

Dr. Jitendra Singh, Hon'ble Union Minister of State (Independent Charge) of the Ministry of Science and Technology and Ministry of Earth Sciences, presented the National Award for e-Governance for 2025 to **Dr. M. Mohapatra**, Director General of the India Meteorological Department (IMD), and the **DSS Team including Mr. Anshul Chauhan**, Scientist-C, **Mrs. Suman Gurjar**, Scientist-D, **Dr. M.T. Bushair**, Scientist-D. They were recognized for their project, the "Multi-Hazard Early Warning Decision Support System" (DSS) on 21st September, 2025 in a national conference organised by DARPG at Visakhapatnam.



Hon'ble Union Minister Dr. Jitendra Singh, conferring the National Award on Dr. M. Mohapatra, DG IMD and DSS Team including Mr. Anshul Chauhan, Scientist-C, Mrs Suman Gurjar, Scientist-D and Dr. M.T. Bushair, Scientist-D.

BRAINSTORMING AND STRATEGY WORKSHOP ON DEVELOPING WEATHER-DRIVEN ADVISORIES FOR HORTICULTURE, LIVESTOCK, POULTRY, AND INLAND FISHERIES SECTORS

India Meteorological Department (IMD) and ICAR–National Institute of Veterinary Epidemiology and Disease Informatics (ICAR–NIVEDI) signed a Memorandum of Understanding (MoU) at the Ministry of Earth Sciences, New Delhi, during the Brainstorming and Strategy Workshop on Developing Weather-Driven Advisories for Horticulture, Livestock, Poultry, and Inland Fisheries Sectors held on 16 September, 2025 at Ministry of Earth Sciences, New Delhi.

The agreement marks a major step in integrating IMD's climate data into ICAR–NIVEDI's forecasting system (NADRES), aimed at improving the accuracy of livestock disease predictions and enhancing the granularity of advisories from district to block level. This will help in better prediction, prevention & management of livestock diseases, ultimately supporting farmers' income and resilience.



MoU Between IMD and ICAR-NIVEDI at the MoES, New Delhi during the Brainstorming and Strategy Workshop

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Significant Events

Dr. M. Mohapatra, DG IMD participated as Guest of Honour during the International Conclave on "Climate Change and Global Warming" organized by Siksha 'O' Anusandhan, Deemed to be University at Bhubaneswar on 10th July, 2025.



Dr. M. Mohapatra, DG IMD during the International Conclave on "Climate Change and Global Warming"

Awareness Program cum Demonstration on Disaster Management



Dr. M. Mohapatra, DG IMD during Awareness Program cum Demonstration on Disaster Management

The India Meteorological Department (IMD) organized an Awareness Program cum Demonstration on Disaster Management by the National Disaster Response Force (NDRF) on 11th September, 2025 at Mahika Hall, MoES, New Delhi. The NDRF team, consisting of 14 members and led by **Dr. Abhishek Pandey**, CMO and **Shri Pramod Kumar**, INSPR (GD) conducted an informative session on disaster management. The program was graced by **Dr. M. Mohapatra**, Director General of Meteorology; **Shri D. Senthil Pandiyan**, (Joint Secretary, MoES); **Dr. Sivananda Damodara Pai**, Scientist-G; **Shri. Santosh Kumar S**, DDG(A); **Dr. S.I. Laskar**, Scientist-F (Head, DMD(IMD)) and other officials from IMD, MoES and NCS.

The session focused on strengthening disaster preparedness and response capacity through live demonstrations and interactive learning. Key topics covered included:

Hazard, Risk & Vulnerability, First Aid & Pre-Hospital Treatment, Basic Life Support (BLS), Cardiopulmonary Resuscitation (CPR), Managing FBAO in adults and children (Heimlich Maneuver), Evacuation drills during Earthquake, Flood & Fire emergencies.



Disaster preparedness and response capacity through live demonstrations and interactive learning

On 27 September 2025, the Hon'ble Union Minister of State for Law & Justice, Independent Charge, **Shri Arjun Ram Meghwal**, visited the **Meteorological Centre, Jaipur**, where he toured various sections and held a meeting with senior scientists and officers. During his visit, inspected the DWR and discussed the radar's pivotal role in providing early warning services; Stressed the importance of promoting research to mitigate climate change impacts, particularly in the Thar Desert region; Planted trees within the office premises as a gesture of environmental commitment and to uplift departmental morale. During the meeting, **Sh. Radheshyam Sharma**, Head MC, Jaipur, discussed on meteorological services provided by MC Jaipur for Rajasthan, affecting the Thar Desert region — such as storms, heat waves, cold waves, heavy rainfall, and lightning.



Hon'ble Union Minister of State for Law & Justice, Independent Charge, Shri Arjun Ram Meghwal, visited the Meteorological Centre, Jaipur

Memorandum of Understanding (MoU)

A **Memorandum of Understanding (MoU)** has been signed between **India Meteorological Department (IMD)** and **Kal. io Fed India Private Limited (Kal. io)** on 29th July, 2025. **Dr. R.K. Jenamani** (Scientist-G, IMD) and **Dr. Ravinder Pal Singh** (Chief Executive Officer, Kal. io) signed the MoU on behalf of the two organizations. **Dr. M. Ravichandran** (Secretary, MoES) and **Dr. M. Mohapatra** (DGM, IMD) and officials from Kal. io and IMD were also present at this occasion. The MoU with Kal. io aims to support & guide in designing, developing, provisioning & deploying state-of-art technologies, products & solutions such as weather monitoring systems, AI/ML based forecasting algorithms, operational weather intelligence software's, data assimilation technologies and Low Earth Orbit (LEO) satellite data/ atmospheric profiles. This partnership will enhance collaborative research, case studies, technical publications, and project documentation for academic and operational references.



MoU between IMD and Kal. io Fed India Private Limited (Kal. io)

IMD signed a Memorandum of CSIR-National Aerospace Laboratories (CSIR-NAL) on 7th August, 2025. The MoU is an addendum to a previous agreement. This collaboration aims to enhance India's weather observation and forecasting capabilities through instrument innovation, algorithm development, and the operational deployment of systems like the Drishti Transmissometer for airports.



DG IMD and Director CSIR-NAL signing the MoU

IMD signed an MOU with Central Water Commission on 14th August, 2025 with an objective to improve data exchange and scientific research between the organisations to strengthen early warning systems for riverine and flash floods.



IMD signed an MOU with Central Water Commission on 14th August, 2025

Shri Rahul Saxena, Scientist - G & Head Hydro Meteorology Division attended the Signing of MOU between IMDR and CWC on 14th August, 2025.

IMD signed a memorandum of understanding (MoU) with the Integrated Finance Corporation India Ltd. (IFCI) for enhanced cooperation and collaboration between the two agencies on 10th September, 2025.



MoU between IMD and IFCI

Dr. M. Mohapatra, DGM IMD signed an MoU with Chaudhary Charan Singh University, Meerut for enhanced cooperation in research and development activities on 11th September, 2025.



MoU between IMD and Chaudhary Charan Singh University

An MoU was signed between IMD and Asoka University, Sonipat, Haryana on 13th September for joint research and development on weather and climate. Dr. M. Mohapatra, DGM IMD participated as the Chief Guest in the workshop on AI/ML Methods in Weather and climate Modelling and delivered a lecture at Ashoka University, Sonipat, Haryana on 13th September, 2025.



MoU between IMD and Asoka University

A Memorandum of Understanding (MoU) was signed on September 26, 2025, between the India Meteorological Department (IMD) and CSIR-Advanced Materials and Processes Research Institute (AMPRI), Bhopal. The MoU aims to foster collaborative research in meteorology, climate science, atmospheric physics, hydrology, and environmental sustainability, thereby advancing scientific understanding in these critical areas. IMD and CSIR-AMPRI will jointly promote problem-driven collaborations, while also working to strengthen academic and technical capacity in meteorological and climate sciences.



MOU between IMD and CSIR-Advanced Materials and Processes Research Institute (AMPRI), Bhopal

The India Meteorological Department (IMD) signed Memoranda of Understanding (MoUs) with the following ICAR institutes on 16th September, 2025. The collaboration aims to develop tailored, sector-specific weather advisories for horticulture, dairy, livestock, poultry, and inland fisheries-bringing weather services closer to farmers' needs.

- ICAR-Indian Institute of Horticultural Research (IIHR), Karnataka, India
- ICAR-Central Institute of Freshwater Aquaculture (CIFA), Odisha, India
- ICAR-National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), Karnataka, India
- ICAR-Directorate of Poultry Research (DPR), Telangana, India
- ICAR-National Dairy Research Institute (NDRI), Haryana, India



India Meteorological Department (IMD) signed Memoranda of Understanding (MoUs) with the ICAR Institutes



India Meteorological Department (IMD) signed Memoranda of Understanding (MoUs) with the ICAR Institutes

Human Resource Development Activities

WORKSHOPS

Dr. Somenath Dutta, Scientist-G & Head, RMC Kolkata, attended a technical workshop and delivered a talk on "IMD's impact-based rainfall forecasts, and its future advancements in India" organised by Geological Survey of India at Dharitri Building Campus, GN-40, Sector V, Salt Lake, Kolkata, on 18th July, 2025.

Dr. Kripan Ghosh, Scientist-F, participated in a workshop on "Utilization of Remote Sensing and Weather Information for Agromet Advisories" at IIT, Bombay on 19th August, 2025.

Ms. Suman Gurjar, Scientist-D attended Workshop for Technical Committee Members on XMLisation of Standards and Online Standards Development held on 25 August, 2025 at NITS, Noida.

Dr. O. P. Sreejith, Scientist- F attended WMO Workshop on Advancing Regional Climate Centre Products and Services to Meet Evolving Needs of Members (online) during 25-29 August, 2025 and gave presentation on "Overview of RCC Activities for South Asia Strengths & Good practices" on 26th August, 2025.

Dr. Rizwan Ahmed, Scientist-D, AMO Nagpur, attended a One-Day Workshop on "Importance of Climate Literacy" as Guest of

Honour on 16th September 2025 at SSM College, Nagpur, organized by FERCC New Delhi and IMS Chapter, Nagpur.

Smt. Samanti Sarkar, Scientist-F, along with **Dr. Gayatri Vani Kanchibhotla**, Scientist-C attended the Table Top Exercise (TTEX) organized by State Disaster Management Authority (SDMA) on Flood Disasters in Chhattisgarh On 23rd September, 2025. The event entailed a holistic presentation by Dr. Gayatri Vani Kanchibhotla, Scientist-C, in front of SDMA officials, officials from other state departments and district collectors on meteorological services being provided by IMD for flood preparedness in the state and sharing of valuable inputs by which other stakeholders could benefit from the assistance of IMD in the field of disaster management.

A Farmers Awareness Program, in collaboration with Agromet Field Unit (AMFU) Ambikapur was organized in online mode on 20th August, 2025 to disseminate and spread awareness towards the services being offered by IMD to the farmer communities in Manendragarh-Chirmiri-Bharatpur, Koriya, Surajpur, Jashpur and Surguja districts. The Workshop was attended by more than 50 individual farmers in the presence of **Smt. Samanti Sarkar**, Head, MC Raipur. The workshop was conducted by **Dr. Gayatri Vani Kanchibhotla**, Scientist-C and **Sh. Yogesh Janghel**, J.R.F. The event involved a doubt clearing session, in which queries of farmers were addressed by the officials of MC Raipur.

MEETINGS

Lt. Gen. Yogendra Dimri, Vice Chairperson of the UP State Disaster Management Authority, Lucknow, had a meeting with **Shri K. C. Sai Krishnan**, Scientist G & Head, CR&S Pune, on 4th July, 2025 to discuss matters culminating in the release of the climate statement for UP 2024."

Shri Parmod Kumar, Scientist-D chaired the first meeting of the committee formed for development of IMD PRONATTI - a package of promotion and confirmation through METNET on 9th July, 2025. In the meeting discussion was held to create a workflow and SOP.

Dr. Kripan Ghosh, Scientist F & Head Agrimet Division, **Dr. Ashutosh Misra**, Scientist-D and **Dr. Asha Latwal**, Scientist-C attended Meeting with Lieutenant General Shri Yogendra Dimri (Retd.), Vice Chairperson, Uttar Pradesh State Disaster Management Authority (UPSDMA) at CR&S, IMD, Pune on 4th July, 2025 and Online meeting to discuss "Integration of IMD Services (Weather forecast and Agrometeorological Advisory Services) with State Government website / web portal / mobile apps" under the chairmanship of Director, Agriculture & Farmers' Welfare Department, Government of Mizoram with senior officials from Directorate of Agriculture & Farmers' Welfare, Government of Mizoram, ICAR-Mizoram Centre, Kolasib and IMD, New Delhi on 10th July, 2025.

Dr. Satyaban B Ratna, Scientist-E, as a member of the CLIVAR CDP, participated in (Online) the CD Dr. Satyaban B Ratna, Scientist-E, attended the first meeting of the WMO Task Team on National Framework for Climate Services (TT-NFCS) organized by WMO on 9 July, 2025.

Dr. O. P. Sreejith Scientist-F attended "International Conclave on "Climate Change and Global Warming – Problems & Prospects," organized by Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar on 10–11 July 2025 and gave presentation on "Climate change observation and climate service over Indian Region".

Shri Rahul Saxena, Scientist 'G' & Head Hydro Meteorology Division attended the WMO- PMC Meet in view of releasing of US AID Funds to WMO for GFFGS and EWS-F on 16 July, 2025.

Sri K.N. Mohan, Scientist-G, **Dr. Sanjay O'Neill Shaw**, Scientist-F, **Shri Sunit Das**, Scientist-F & **Shri C. Amarnath**, Scientist-D attended a meeting called by Dr. Himanta Biswa Sarma, Chief Minister of Assam on 17 July, 2025 to discuss about deficient rainfall in Assam. The meeting was also attended by Sri Ravi Kota, IAS, Chief Secretary, Assam, Smt Aruna Rajoria, IAS, Commissioner & Secretary to the Govt. of Assam & other senior officials of Dept. of Agriculture and Horticulture, Govt of Assam.

Dr. M. Mohapatra, DGM IMD participated in the 5th Scientific Steering Committee (SSC) meeting of Monsoon Mission-III at IITM Pune online during 21st – 22nd July, 2025.

Dr. M. Mohapatra, DG IMD met the representatives of National Thermal Power Corporation (NTPC) to discuss customized weather forecast for NTPC on 23rd July, 2025.

Dr. Satyaban B Ratna, Scientist-E, attended the VC Meeting on Data Sharing with PM Gatishakti on 23 July, 2025 and Online meeting with Christ University (Lavasa Pune) to discuss the internship aspects of their students, on 24th July, 2025.

Dr. M. Mohapatra, DGM IMD participated in the review meeting for the Mitigation Project on Lightning Safety (MPLS) under the Chairmanship of Union Home Secretary at Common Central Secretariat III Conference Hall on 24th July.

Dr. Sabeerali C. T, Scientist-D, attended the Assam State Monsoon/Climate Forum 2.0 meeting held at Guwahati, ASSAM on 31st July 2025 and presented review of climate during 2024 and seasonal climate outlook for 2025.

The officials from the **Central Water and Power Research Station (CWPRS)**, Khadakwasla, Pune, had a meeting with **Shri K.C. Sai Krishnan**, Scientist G & Head, CR&S, Pune, **Dr. O. P. Sreejith**, Scientist F, **Dr. Satyaban Bishoyi Ratna**, Scientist-E and **Smt. Arti Bandgar**, Scientist -D and other IMD scientists on 1st August 2025 to discuss collaboration with IMD for research and development activities in the concerned sectors.

Dr. M. Mohapatra, DG IMD participated in the inaugural Session of the DBCP-INCOIS Training Workshop on Ocean Observations for Operational Services in the Indian Ocean on 5th August.

Dr. M. Mohapatra, DG IMD participated in the 4th Consultative Meeting on "Ease of Doing Research & Development (R & D) under the Chairmanship of **Dr. V. K. Saraswat**, Hon'ble Member, Niti Aayog on 6th August, 2025. He also chaired a Technical

Session on “Strengthening R & D Ecosystems – Funding, Infrastructure and Regulatory Framework” during the meeting.

A team of disaster management officers from the Govt. of Tamil Nadu visited IMD on 8th August, 2025 to discuss about various issues w.r.t. data sharing and access to APIs of various severe weather phenomena.

Dr. M. Mohapatra, DG IMD participated in the Review Meeting on Mitigation Project on Lightning Safety (MPLS) under the Chairmanship of Union Home Secretary on 18th August, 2025.

Dr. M. Mohapatra, DGM IMD participated in the Inaugural Session of the National Meet 2025 (NM2.0): Leveraging Space Technology and Applications for Viksit Bharat 2047 at Bharat Mandapam.

Dr. M. Mohapatra, DGM IMD participated in the National workshop “Enhancing Coastal Risk Resilience” and presented an Invited Talk on Emerging Cyclone trends during 1st Technical Session on 22nd August.

Dr. M. Mohapatra, DG IMD attended Inspection Committee meeting of Parliamentary Committee for implementation of Hindi language at Meteorological Centre, Gangtok, Siliguri on 25th August and Flood Meteorological Office (FMO), Asansol at Kolkata on 28th August. Dr. Mohapatra also visited FMO Jalpaiguri on 25th August, 2025.

Dr. M. Mohapatra, DG IMD and **Dr. Soma Senroy**, Scientist-G attended the meeting of Parliament Assurance Committee at Bhubaneswar on 30th August, 2025.

Dr. M. Mohapatra, DGM IMD participated in the meeting of the National Executive Committee (NEC) to review the restoration of services/infrastructure and relief measures in the flood affected regions of the Union Territory of Jammu & Kashmir on 3rd September, 2025.

Dr. M. Mohapatra, DGM IMD participated in the meeting at PM Office for discussion on increase in the frequency of disasters in hilly areas, under the Chairmanship of **Sh. Tarun Kapoor**, Advisor to Hon'ble Prime Minister on 6th September, 2025.

Dr. M. Mohapatra, DGM IMD chaired the meeting with **CMDE Mr. Abhinav Bharve**, DNOM, Indian Navy and his team on 12th September, 2025 during their visit to IMD, to enhance further collaboration between the two agencies w.r.t. integration of various guidance products in the Panorama DSS developed by Indian Navy.

On 26th August, 2025, a hybrid review meeting was chaired by **Smt. Ranju Madan**, Scientist-G and Head, Surface Instrument Division, CRS IMD Pune. The meeting brought together officials from IMD, CSIR institutes, defence organisations, DGCA, and industry representatives, with active participation from BIS. Discussions focused on the standardisation of meteorological instruments, followed by a visit to the CRS IMD Surface Instrumentation Division labs at Shivajinagar, Pune.



Participants of hybrid review meeting at Surface Instrument Division, CRS Pune.

Dr. Satyaban Bishoyi Ratna, Scientist - E, as a CLIVAR member, attended the "Pan-CLIVAR Meeting 2025 & CLIVAR Symposium: Bridging Science and Society in Southeast Asia and Beyond" at Bali, Indonesia, during 22-26 September, 2025.

CONFERENCE

Dr. Ashok Kumar Das, Sc-F & Head, Met Centre Ahmedabad attended the ‘One-day Brainstorming Session’ to discuss the current gaps and requirements of future satellite sensors, data and applications, to cater to India’s future research and operational requirements held on 4th July 2025 at SAC, ISRO Ahmedabad.

Dr. Manorama Mohanty, Scientist-F, MC Bhubaneswar, attended a seminar on World Nature Conservation Day 2025 on 26 July, 2025, hosted by Science for Common People Society (SCOPE) in collaboration with India Meteorological Society – Bhubaneswar Chapter and Trident Academy of Technology at Trident Academy of Technology and delivered a lecture on ‘The Role of Weather Awareness in Mitigating Extreme Climate Events’.

A Brainstorming Committee meet on Desert Meteorology & Climate Change at Central University of Rajasthan was held on 20th August 2025 at Central University of Rajasthan, Kishangarh, Ajmer under the chairmanship of **Dr. L. S Rathore**, EX-DGM IMD.

Prof. Anand Bhalerao, Vice-Chancellor, Central University of Rajasthan, Ajmer, **Dr. D. S. Pai**, Scientist-G, IMD New Delhi, **Sh. Radheshyam Sharma**, Head MC Jaipur, **Dr. Swagata Payra**, Prof, BIT Mesra, **Sh. Nitin**, Lt. Col., South West Command, Indian Army, **Sh. Himanshu Sharma**, Scientist-D, MC Jaipur and senior officers and faculties were participated.



A Brainstorming Committee meet on Desert Meteorology & Climate Change at Central University of Rajasthan

Dr. M. Mohapatra, DG IMD participated in the Inaugural Session of the Science Conclave on “Science & Technology Frontiers for Swarnandhra and Viksit Bharat – 2047 at Andhra University and delivered the Padma Bhushan Dr. P.Koteswaram Memorial Lecture during the event on 5th September, 2024.

Dr. M. Mohapatra, DG IMD participated and presented on Agrometeorological Advisory Services in the National Conference on Agriculture for Rabi Campaign 2025 at Bharat Ratna C Subramaniam Auditorium (NASC) Complex, Pusa, New Delhi on 15th September, 2025.

Dr. M. Mohapatra, DG IMD participated in the Advisory Committee Meeting of the Fourth National Conference on Polar Sciences (NCPS-2025) at National Centre for Polar & Ocean Research (NCPOR), Goa on 16th September, 2025.



The Fourth National Conference on Polar Sciences (NCPS-2025)

Dr. M. Mohapatra, DG IMD participated in the National Conference on Agriculture for Rabi Campaign 2025 at Bharat Ratna C Subramaniam Auditorium (NASC) Complex, Pusa, New Delhi on 16th September, 2025 and delivered the talk on Agrometeorological Advisory Services.

Dr. M. Mohapatra, DG IMD participated online as the Chief Guest during the Valedictory Session on Vaksana 2025, 6th International Conference on Climate Smart Agriculture Impact and Adoption Strategies organised by Shri Vaishnav Institute of Agriculture, Shri Vishnav Vidyapeeth Vishwavidyalaya, Indore on 19th September.

Dr. M. Mohapatra, DG IMD participated as the Guest of Honour in the National Conference on Climate Change and Horticulture: Impacts, Adaptation and Mitigation Strategies” organized by Sri Konda Laxman Telangana Horticultural University at University Campus, Mulugu, Siddipet District, Telangana on 18th September, 2025.

Dr. Kripan Ghosh, Scientist -F, attended National Conference on “Climate Change and Horticulture: Impacts, Adaptation and Mitigation Strategies” at University Campus, Sri Konda Laxman

Telangana Horticultural University (SKLTGHU), Siddipet, Telangana during 18th - 19th September 2025.

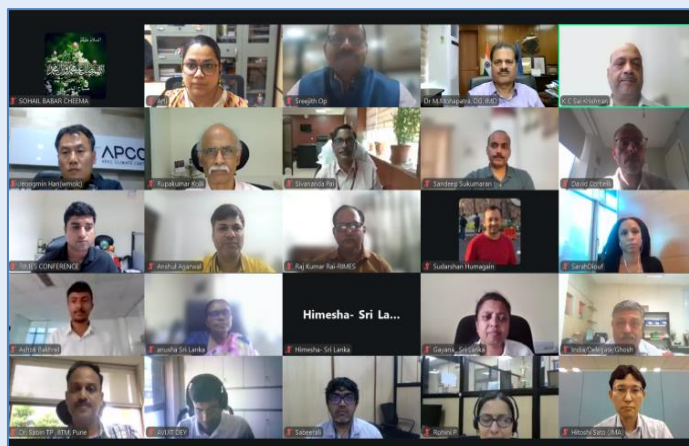
On **29 September 2025**, a Brainstorming Committee Meeting on Desert Meteorology & Climate Change was jointly organized by the Meteorological Centre, Jaipur, and Bikaner Technical University, Bikaner, at Swami Keshwanand Rajasthan Agricultural University, Bikaner. The meeting was chaired by **Dr. L. S. Rathore** (Ex-DGM, IMD), and had prominent participants including Professor Akhil Ranjan Garg (VC, BTU & SKRAU, Bikaner), **Dr. D. S. Pai** (Scientist-G, IMD, New Delhi), **Shri Radheshyam Sharma** (Head, Meteorological Centre, Jaipur), **Dr. O. P. Yadav** (Ex-Director, CAZRI), along with other committee officers and domain experts from various institutions.



Brainstorming Committee Meeting on Desert Meteorology & Climate Change was jointly organized by the Meteorological Centre, Jaipur, and Bikaner Technical University, Bikaner,

32nd Session of South Asian Climate Outlook Forum (SASCOF-32) and Climate Services User Forum (CSUF) held online during 25th September & 3rd October 2025.

32nd Session of South Asian Climate Outlook Forum and Climate Services User Forum (SASCOF-32 and CSUF) for ensuing OND Season (October to December 2025) took place online through video conferencing on 25th September and 3rd October 2025. The SASCOF-32 session was hosted by Regional Climate Centre (RCC), India Meteorological Department (IMD), Pune and the session organized IMD, Pune in collaboration with World Meteorological Organization (WMO), UK Met. Office (UKMO) Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES), Bangkok and **The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)**. Experts from National Meteorological and Hydrological Service (NMHS) from nine south Asian countries, Japan Meteorological Agency (JMA), WMO Lead centre of Multi Model Ensemble, Korea Meteorological administration, South Korea, National Atmospheric and Oceanic Administration (NOAA), USA, UK Met office, UK and other experts from various research institutes participated in the Forum discussed outlook for rainfall and temperature during upcoming Oct-Dec season 2025 and summarized that the rainfall during coming winter season is likely to be normal to above normal. All the participants discussed their views on the current climate factors as well as regional climate outlook over South Asia for the upcoming winter season 2025 (October to December).



Session of South Asian Climate Outlook Forum (SASCOF-32)

Shri K. C. Sai Krishnan, Scientist-G and Head, CR&S, Pune, attended a video conference (VC) meeting between IMD Pune and Bharat Electronics Limited (BEL) on September 29, 2025, regarding the Pune Radar installation. The purpose of the meeting was to review the current status of the radar project and to discuss upcoming technical and civil works.

TRAININGS

IMD organised 21st WMO's TC Forecasters Training 2023 during 14-25 July, 2025: Regional Specialised Meteorological Centre (RSMC), New Delhi, IMD organised 21st WMO's TC Forecasters Training 2023 during 14-25 July, 2025 in hybrid mode. IMD has been regularly organizing this training since 2005. This year there were 8 international participants from Thailand, Myanmar, Sri Lanka, Saudi Arabia and Qatar and 35 national participants from various sub-offices of IMD. The training aimed at building capacity of the TC forecasters in the region by understanding the latest developments in observations, monitoring, modeling, prediction and early warning services of TCs over the Bay of Bengal (BoB) and the Arabian Sea (AS) and carrying out the case studies as practical examples in these aspects. The training included resource persons from IMD, UN-ESCAP, RSMC Tokyo and National Centre for Medium Range Weather Forecasting (NCMRWF). Dr. Mohapatra, Director General of Meteorology, IMD and 3rd Vice President of WMO also took lectures on practical aspects of monitoring & prediction and management of cyclones with disaster managers. In his inaugural address on 14th July, Dr. Mohapatra, DGM IMD highlighted various advancements in the early warning system of TCs adopted by IMD that has enabled disaster managers and general public to minimise the loss of lives due to cyclones to double digit in recent years not only in India but also in 13 PTC member countries. He expressed IMD's continued commitment to support member countries in developing their own Decision Support Systems (DSS) to enhance region-specific forecasting and disaster management capabilities. He also underscored the importance of capacity building, collaborative research and development, and one-to-one interaction among member countries to strengthen regional preparedness and resilience, especially in the context of a changing climate. On 25th July, an assessment test was conducted and successful participants were given certificates.



IMD organised 21st WMO's TC Forecasters Training 2023 during 14-25 July, 2025 at New Delhi

A five-day online short-term refresher course on the RADAR organized by ICITC, is concluded on 25th July, 2025. The training is being delivered to 137 IMD trainees, including one international participant.

An online training session on **DAK/Receipts for the newly created eOffice CRU** users was conducted on 4th August, 2025.

A Short-Term Refresher Course was conducted from 18.08.2025 to 22nd August, 2025 (1500 – 1800 Hrs IST), wherein 82 participants were nominated from all IMD offices under RMCs/MCs. The course was delivered by eight faculty members, and on the concluding day, a Questionnaire was attempted by the participants.

A Short Term Refresher Course on "NETWORKING" was conducted during 22nd August, 2025 to 26th September, 2025, wherein 84 participants were nominated from all IMD offices under RMCs/MCs including one Foreign participant from Cameroon. The course was delivered by Five faculty members (**Dr.SankarNath**, Scientist-F; **Mr. Amul Batra**, Scientist -E; **Mr. Dinesh Kumar**, Met-B; **Mr.Ashish Kumar**, Scientist -D; **Sh. Arka Deb Banerjee**, Scientist -D) and on the concluding day, a Questionnaire was attempted by the participants.

MASTER TRAINING/ KARMYOGI COACH(MT/KC) TRAINING PROGRAM, 15-17 SEPTEMBER 2025

Under the Mission Karmayogi initiative, the India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) organized a three-day Master Trainer/Karmayogi Coach (MT/KC) Training Program for officials from 15–17 September, 2025. The program marks a significant step towards realizing the vision of *Viksit Bharat*.

The inaugural session was graced by **Dr. M. Ravichandran, Secretary, MoES**, **Dr. M. Mohapatra**, Director General of Meteorology, IMD, and **Dr. D. S. Pai**, Program Head. The training was led by two Lead Trainers — **Dr. A. K. Mitra**, Scientist-F, IMD, and **Dr. Pramit D. Burman**, Scientist-D, IITM — and attended by 35 participants from various MoES institutions.

This initiative aims to empower government officials with the spirit of service and leadership, transforming them into Karmayogi Coaches who will in turn train others, thereby enhancing public service delivery across the nation.



Master Trainer Karmayogi Coach Training Program

1-Day Rashtriya Karmayogi Training Program by the Master Trainers at RMC Kolkata on 25th September, 2025

On 5th May, 2025 with the initiation of an intensive 5-day Lead Trainer (LT) training program. These LTs have trained the Master Trainers (MTs)/Karmayogi Coaches (KCs). The trained Master Trainers/Karmayogi Coaches (MTs/KCs) are now entrusted with the responsibility of conducting the 1-day **Rashtriya Karmayogi** training at their respective institutes/centres. **Shri Sunny Chug**, Scientist-D, and **Shri Trideep Biswas**, Met.-A, are among the designated Master Trainers. The objective of this initiative is to reawaken the spirit of SevaBhaav—a deep commitment to selfless public service—in the professional conduct and responsibilities of the employees. By embedding this core value into day-to-day functioning, the program aims to bring about a transformational shift in the delivery of public service.



1-Day Rashtriya Karmayogi Training Program by the Master Trainers at RMC Kolkata on 25th September, 2025



1-Day Rashtriya Karmayogi Training Program by the Master Trainers at RMC Kolkata on 25th September, 2025

AWS & Radiation Lab, SID Pashan, conducted a training Program on meteorological instrument familiarisation for officials of the Central Water Commission On 25 August, 2025.

Mr. Prashant Bansal, Scientist-D, **Shri Himanshu Gupta**, SA, **Shri Pankaj Jhaharia**, SA, **ISSD** attended Onsite Training on Cybersecurity in Rashtriya Raksha University, Gandhinagar from 25th August 2025 to 1st Sept 2025.

Official from CRS IMD Pune participated in the 3-day Master Trainer Karmayogi Coach capacity-building training Program held at IITM Pune from 1st to 3rd September 2025.



Master Trainer Karmayogi Coach capacity-building training Program held at IITM Pune

AWS & Radiation Lab, SID Pashan, conducted an Instrument Familiarization Training Program for the 45th Indian Scientific Expedition to Antarctica, including IMD Maitri-Bharati expedition members On 4th September, 2025.



Members of the 45th Indian Scientific Expedition to Antarctica, including IMD Maitri-Bharati expedition

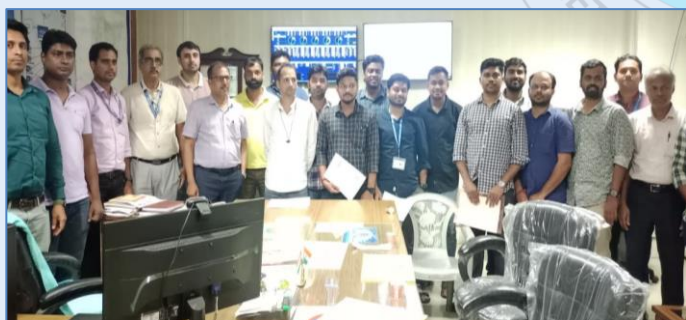
WMO Information System (WIS) 2.0 Training Workshop in Guangzhou (China) from 15 to 19 September 2025 (05 Days) was attended by **Dr. Sankar Nath**, Scientist-F and **Shri Trilok Singh**, Met. B from ISSD, IMD, New Delhi.

Training Program on Aviation Meteorological Instruments: A Technical Deep Dive organized by MWO Kolkata

A comprehensive training program on Airport Meteorological Instruments (AMI) and aviation weather reporting was successfully conducted by Meteorological Watch Office, Kolkata at PBO Building, Dum Dum from 17-09-2025 to 19-09-2025. Designed to enhance operational proficiency and technical expertise, the program brought together 16 meteorological professionals from two (02) Aerodrome Meteorological Offices (AMOs) & eleven (11) Aeronautical Meteorological Stations (AMSS) which are under administrative control of RMC Kolkata for an intensive blend of theoretical instruction and hands-on experience.

A highlight of the program was the in-depth focus on METAR/SPECI reporting standards. **Shri Chiranjit Chakraborty, met. a** presented a live demo of the newly developed MDSS system that presently collecting meteorological data from various stations of all over the India. **Shri Indranil Talukdar, met. A** conducted a critical session addressing common reporting errors, emphasizing alignment with ICAO Annex 3 and WMO protocols. This reinforced the importance of accuracy and consistency in aviation meteorological observations.

Participants also engaged in practical runway visits, calibrating and testing key sensors such as wind speed & direction, temperature, dew point, pressure, and visibility/RVR instruments. These field exercises provided valuable exposure to real-time diagnostics and reinforced classroom learning.



Training Program on Aviation Meteorological Instruments: A Technical Deep Dive organized by MWO Kolkata

LECTURES

Shri B. Sudarsan Patro, Scientist-D, was invited to deliver a talk at COEP Technological University, Pune, on the topic "5G Applications in the Meteorological Domain" on 1st July 2025 from 10:00 AM to 5:00 PM. He was accompanied by Shri Divyesh Deshpande (JRF) and Shri Aman (S.A.) for sessions on AWS equipment familiarisation, instrumentation, and conducting a science outreach Program.

Dr. Satyaban B Ratna, Scientist-E, delivered a lecture on "Hazard and Vulnerability Atlas of IMD" at the RSMC 21st Tropical Cyclone Forecasters Training on 14th July, 2025.

Dr. Rizwan Ahmed, Scientist-D, AMO Nagpur delivered a lecture on "Satellite Applications in Weather and Climate" at RMC Nagpur on 28 July, 2025 for senior officers from the Central Water Commission and the India Meteorological Department, Nagpur.

Dr. M. Mohapatra, DGM IMD delivered online the guest lecture on Geo-spatial applications in weather and climate services in the National Seminar on Geospatial Technologies for environmental issues organized at Andhra University. On 20th September, 2025.

Shri Ranjan Phukan, Scientist-D delivered an online lecture on 30 August 2025 in the Refresher Programme on Application of AI in Science, Technology, Engineering, Mathematics and Business (STEMB), organised by Assam University, Silchar and UGC-MMTTC, on the topic "Weather and Climate Services: Opportunities with AI/ML".

Dr. Sudeep Kumar B.L. & Dr. S.D. Sanap participated in the meeting with CWPRS (Central Water and Power Research Station) on 1st August and delivered a lecture on overview of CR & S, Pune, to faculty and students of Christ University, Bengaluru on 30th August, 2025.

TALK

Dr. Ananya Karmakar, Scientist -C, delivered a talk entitled "Climate Application on different sectors in India Meteorological Department" in International Citizen Science Conclave on 5th July, 2025 by Pune Knowledge Cluster.

Ms. Neha Rani, Scientific Assistant, delivered a research talk on 4 July, 2025 as part of the RiSE@CRS activities. The talk was based on the recently published research paper titled "Asymmetrical Impact of El Niño to La Niña Transition in the Tropical Pacific Basin on Hot Extremes over India" authored by Lekshmi, S., Rani, N., Chattopadhyay, R., Ratna, S. B., and Pai, D. S., and published in Atmosphere-Ocean, 63(3), 201–222 (2025). <https://doi.org/10.1080/07055900.2025.2513307>.

Dr. M. Mohapatra, DG IMD presented a talk on the award-winning e-Governance initiative, entitled Multi-Hazard Early Warning System which got national award for the year 2025 under the category of "Excellence in Central Level Initiative in Government Process Re-engineering by use of technology for Digital Transformation" in the inaugural webinar of the NeGW 2025-26 series organized by Department of Administrative Reforms and Public Grievances, New Delhi on 22nd July, 2025.

Dr. M. Mohapatra, DG IMD delivered an invited talk on "Climate Change and You" at the National Communications Academy - Finance, Delhi on 22nd July, 2025.

Dr. Rizwan Ahmed, Scientist-D, AMO Nagpur, delivered an invited talk on 16 September 2025, titled "Assessment of the Impact of Climate Change on the Characteristics of Land-Falling Tropical Cyclones over the North Indian Ocean (NIO)" at a One-Day Workshop on "Importance of Climate Literacy" held at SSM

College, Nagpur. The workshop was organized by FERCC New Delhi and the IMS Chapter, Nagpur, and focused on enhancing climate literacy and understanding the impacts of climate change on extreme weather events.



Dr. Rizwan Ahmed, Scientist-D, at One-Day Workshop on "Importance of Climate Literacy"

Shri B. Sudarsan Patro, Scientist-D, was invited to deliver an expert talk on "Impact of Forest Conservation on Biodiversity and Climate Resilience" during Van Mahotsav Week at DAV Public School, PPL Township, Paradeep, on 4th July 2025 at 11:30 AM.



Shri B. Sudarsan Patro, Scientist-D at DAV Public School deliver a talk

Dr. Kripan Ghosh, Scientist F & Head Agrimet Division, **Dr. Ashutosh Misra**, Scientist - D and **Dr. Asha Latwal**, Scientist- C attended an online talk on "Control of Single Use Plastic" delivered by **Dr. V. K. Soni**, Scientist-F as part of "Swachhata Pakhwada-2025" on 11th July, 2025.

Dr. Kripan Ghosh, Scientist - F & Head Agrimet Division, **Dr. Ashutosh Misra**, Scientist -D, **Dr. Jaya Dhami Parihar**, Scientist-D and **Dr. Asha Latwal**, Scientist - C attended an online talk on "Benchmarking and Deploying AI-driven Forecasts of Regional-scale Indian Monsoon Onset" delivered by **Prof. William R. Boos**, University of California, Berkeley, United States and **Prof. Pedram Hassanzadeh**, University of Chicago, Illinois, United States on 6th August, 2025.

AWARENESS PROGRAM

IMD organised Plantation Drive at IMD HQ Complex under the leadership of Dr. M. Mohapatra, DGM, IMD on 7th July, 2025.



Plantation Drive at IMD HQ Complex

Dr. M. Mohapatra, DGM IMD addressed IMD officials on single use plastics under Swachhata Pakhwara on 11th July, 2025.

Dr. M. Mohapatra, DGM, IMD participated as the Chief Guest during the online Valedictory Session of the Course "Spatial Analytical Tools for Advanced Academic" organized by Dr. Rashmi Singh, Miranda House, University of Delhi on 18th July, 2025.

Shri K.C. Sai Krishnan, Scientist- G and Head, Climate Research & Services (CR&S), Pune, inaugurated an inter-office 'Self-Composed Hindi Poetry Recitation Competition' organized on 29th July, 2025 under the aegis of the Town Official Language Implementation Committee (Office-2), Maharashtra, Pune. The event was held at the Office of the Head, Climate Research & Services.

Human Chain formation pledging to propagate cleanliness: On the occasion of Swachhata Hi Sewa 2025 Campaign, a swachhata pledge was taken by the officials of MC Raipur under the leadership of Smt. Samanti Sarkar, Head, MC Raipur followed by the formation of a human chain signifying togetherness in propagating the message of cleanliness.



Human Chain formation pledging to propagate cleanliness MC Raipur

AWS & Radiation Lab, **SID Pashan** observed Swachhata Pakhwada from 1st to 15th July, 2025 with a series of activities including cleaning drives for Met. Instruments, Calibration Laboratory, training programs, office, PC, store, and lab cleaning, as well as plantation drives.



Swachhata Pakhwada at AWS & Radiation Lab, SID Pashan



Plantation drives at, SID Pashan

ACHIEVEMENTS/AWARDS

The project/initiative **"Multi-Hazard Early Warning Decision Support System"** of the India Meteorological Department (IMD) has been conferred the Silver Award under the category "Government Process Re-engineering by Use of Technology for Digital Transformation" as part of the National Awards for e-Governance Scheme 2024–2025. Team members **Dr. M. Mohapatra**, DGM IMD, **Ms. Suman Gurjar**, Scientist-D, **Mr. Anshul Chauhan**, Scientist-C, **Dr. Bushair, M.T.** received certificate for the project.



"Multi-Hazard Early Warning Decision Support System" of the India Meteorological Department (IMD) has been conferred the Silver Award

AMO Nagpur Achieves Prestigious ISO 9001:2015 Certification: On 4 August, 2025, the Aerodrome Meteorological Office (AMO), Nagpur, became **the first among 18 AMOs under the India Meteorological Department** to receive the **ISO 9001:2015 Quality Management Certification**. This certification places AMO Nagpur at the forefront of aviation meteorological services in India, reinforcing its commitment to global standards of quality, consistency and service excellence.



AMO, RMC Nagpur, Achieve Prestigious ISO 9001:2015 Quality Management System Certification

Research & Publications

Twenty (20) research articles have been published in *Mausam* (Vol. 76, No.3), July, 2025 issue.

Research papers by IMD officials published in *Mausam*

Prakash, Satya; Giri, R. K.; Bhan, S. C., 2025, "On the increasing length of the southwest monsoon season over India", *Mausam*, **76**, 3, 745-754, DOI10.54302/mausam.v76i3.6526.

Das, Prasanta; Dutta, Somenath, 2025, "Dynamics of Orographic Rainfall for mountain corner over north-east India", *Mausam*, **76**, 3, 934-941, DOI10.54302/mausam.v76i3.6220.

Shankar, Anand; Anand, Abhishek Kumar, Ashish; Singh, S. P., 2025, "Mapping the lightning hotspot: A reducing deaths in Jharkhand, India, using spatiotemporal and statistical insights", *Mausam*, **76**, 3, 778-795, DOI10.54302/mausam.v76i3.6763.

Sandeep, A.; Arun, V. H.; Laskar, S. I.; Das, Sunit, 2025, "Assessment of heavy rainfall cases during the monsoon 2022 over Arunachal Pradesh", *Mausam*, **76**, 3, 733-744, DOI10.54302/mausam.v76i3.6441.

Kant, Shashi; Ahmed, Rizwan; Kumar, Sunil, 2025, "Heavy rainfall events over Rajasthan and Madhya Pradesh during 1st week of August 2021: a meteorological case study", *Mausam*, **76**, 3, 922-933, DOI10.54302/mausam.v76i3.6127.

Kumar, Amit; Mohapatra, Mrutyunjay; Chauhan, Anshul; Kumar, Gajendra, 2025, "Assessment of Radar-Derived Wind

Profiles in Comparison with Radiosonde Wind Observations Over Delhi, India”, *Journal of the Indian Society of Remote Sensing*, DOI: 10.1007/s12524-025-02292-y.

Research papers by IMD officials published in Extra Departmental (National/ International) Journals

G. CH. Satyanarayana, Sambasivarao Velivelli, A. Dharma Raju, C. V. Naidu, Ch. L. Prasanna, 2025, “**Spatial Variations of Northeast Monsoon Rainfall over South Peninsular India**”, *Mausam*, 76, 3, 887-902, DOI: <https://doi.org/10.54302/mausam.v76i3.6264>.

Guhan, V.; Raju, A. Dharma; Sravani, A.; Ratna, K. Naga, 2025, “**Unravelling rainfall trends: A comprehensive study of urban recipitation using innovative statistical and machine learning techniques in major cities of India**”, *Journal of Earth System Science*, 134, 3, DOI10.1007/s12040-025-02614-1.

Ravindren, Shambu; Nair, Sushma; Roy, Soma Sen, 2025, “**Hailstorm climatology over Maharashtra with associated impacts and risk assessment**”, *Natural Hazards*, DOI10.1007/s11069-025-07672-8.

Sawaisarje, Gaurishankar K.; Singh, Gauravendra P.; Chaudhari, Hemantkumar S.; Ranalkar, Manish R.; Das, Sunit, 2025, “**Improving thunderstorm and lightning prediction using a novel hybrid index and machine learning techniques: a case study in Northeast India**”, *Meteorology and Atmospheric Physics*, 137, 4, DOI10.1007/s00703-025-01080-0.

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Chakraborty, Sankhasubhra; Goswami, Nikita; Pattnaik, Sandeep; Kannan, B. A. M., 2025, “**Analyzing the complexity of tropical cyclone landfall dynamics through the integration of radar data**”, *Dynamics of Atmospheres and Oceans*, 111, DOI10.1016/j.dynatmoce.2025.101575.

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Shankar, Anand; Sahana, Bikash Chandra; Kumar, Ashish; Anand, Abhishek, 2025, “**Evaluating wind persistence and nowcasting of wind in aviation services: Harnessing deep learning for enhanced terminal aerodrome forecast**”, *Theoretical and Applied Climatology*, 156, 9, DOI10.1007/s00704-025-05698-3.

Bhatla, R.; Maurya, Archana; Verma, Aashna; Mall, R. K.; Bist, Sanjay, 2025, “**The dynamical influence of energy fluxes in modulating variability of the Indian summer monsoon**”, *Journal of Atmospheric and Solar-Terrestrial Physics*, 274, DOI10.1016/j.jastp.2025.106568.

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hailstorms in 2022 and 2023”, *Quarterly Journal of The Royal Meteorological Society*, DOI10.1002/qj.70022.

Shankar, Anand; Kumar, Ashish; Sharma, Manu Raj, 2025, “**From lightning flash to impact: mapping lightning hotspots, strike intensity, and casualty risks in the State of Bihar, India**”, *Theoretical and Applied Climatology*, 156, 8, DOI10.1007/s00704-025-05651-4.

Mishra, Anoop Kumar; Chhari, Abhishek; Kumar, Gajendra; Shukla, Bipasha Paul; Singh, Randhir; Thapliyal, Pradeep Kumar; Adhikary, Sourav; Shukla, Krishna Kumar, 2025, “**Next-gen storm nowcasting: harnessing satellite-based radar reflectivity over India**”, *Theoretical and Applied Climatology*, 156, 8, DOI10.1007/s00704-025-05650-5.

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Other Publications

An extended abstract titled "Optimizing Flight Safety and Economy with Deep Learning-Based Take-Off Data Predictions", authored by Anand Shankar, Scientist-D, has been published in the Proceedings of the 2024 WMO Aeronautical Meteorology Scientific Conference (AeroMetSci-2024), issued as AeM Series No.10.

Infrastructure Development & Installations

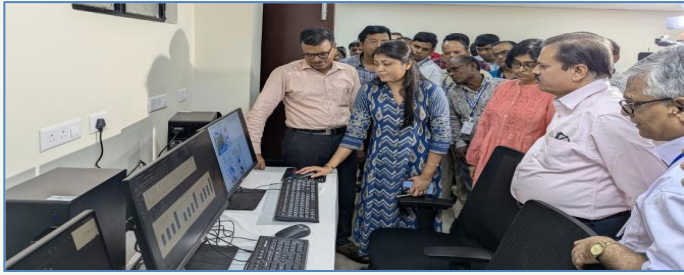
Regional Severe Local Storm Laboratory

An advanced level Computer Workstation based Research Laboratory named "Regional Severe Local Storm Laboratory" has been inaugurated dated 28.08.2025 by Dr. Mrutyunjay Mohapatra, DGM in presence of Dr. Somenath Dutta, Scientist-G & Head, RMC Kolkata, Dr. H.R. Biswas, Scientist-F & Head, RWFC Kolkata, along with other officers at RMC Kolkata. The lab is equipped with one high power Workstation computer along with five high specification computers and conferencing facility, along with provision for additional 18 high specification computers and digital display systems.

The proposed laboratory is aimed at improvising the accuracy of weather forecasting, especially for severe local thunderstorms / lightning in a precise manner, machine learning / deep learning for more accurate forecast in spatial and temporal scale, meso-scale NWP modelling to simulate various atmospheric condition, model-generated new products, large data processing and associated research. The lab would not only empower researchers and students with the tools and experience to understand and work in the field of meteorology, but also contribute to the development of meteorological expertise in Eastern India where extreme weather events such as severe local thunderstorms, cyclones, and heavy rainfall are very common.



"Regional Severe Local Storm Laboratory" has been inaugurated dated 28.08.2025 by Dr. Mrutyunjay Mohapatra, DGM



"Regional Severe Local Storm Laboratory" has been inaugurated dated 28.08.2025 by Dr. Mrutyunjay Mohapatra, DGM

Meteorological Data Submission System (MDSS) and Message Handling & Switching System (MHSS)

On approval of DGM, implementation (Phase 1) of the newly developed Meteorological Data Submission System (MDSS) and Message Handling & Switching System (MHSS) that is designed and developed by the officials of Automation Unit, MWO Kolkata under the guidance of **Dr. G.K. Das**, Sc-F & Head, AMO Kolkata and **Shri Sunny Chug**, Sc-D, has been started. The Meteorological Data Submission System (MDSS) has been developed and designed by **Shri Chiranjit Chakraborty**, Met-A. The Message Handling & Switching System (MHSS) has been developed and designed by **Shri Rajdip Saha**, SA, and the Documentation, necessary checking and preparation of SOP for using MDSS have been done by **Shri Sourav Pan**, SA.

A patent application (Patent Application no 202521022824) for the in house developed Rain gauge was submitted in March 2025. **Dr. Shijo Zacharia**, **Shri. K. S. Hosalikar**, **Dr. M. Mohapatra**, **Shri. Manish R Ranalkar**, **Shri. Anjith Anjan**, **Shri. U K Shende**, **Shri. K. N. Mohan** are the inventors. It is installed at CAgMO Surface Observatory on experimental basis and interfaced with host computer in the observatory on 27 September, 2025.



In house developed Rain gauge installed at CAgMO Surface Observatory on experimental basis

A novel barometric pressure sensor is designed and developed at IMD Pune. An in-principle approval received to process the patent application for the developed product. **Dr. Shijo Zacharia**, **Shri. K. C. Sai Krishnan** and **Ms. Ranju Madan** are the inventors. The evaluation of the product is progressing at SID, IMD Pune.

A novel Air Temperature sensor is designed and developed at IMD Pune. An in-principle approval received to process the patent application for the product. **Dr. Shijo Zacharia**, **Shri. K. C. Sai Krishnan**, **Ms. Ranju Madan** and **Shri. Anjith Anjan** are the inventors. The evaluation of the product is progressing at SID, IMD Pune.

Replacement of Mercury barometers at Surface Observatories was initiated. A prototype system was designed and undergoing filed experiment at CAgMO Surface Observatory from 29 September 2025. The system generates Synop in auto and manual modes.

Completed installation of Two DCWIS and five RVR systems at Navi Mumbai airport in September 2025.



Installation of Two DCWIS and five RVR systems at Navi Mumbai airport

MEDIA INTERACTION

Updated Long-Range Forecast for Southwest Monsoon Rainfall 2025

Media Interactions

India Meteorological Department (IMD) organised a Press Conference on Monthly Outlook for Rainfall and Temperature during September 2025.

DG IMD addressed the forecasters and media online. The press release issued in this regard is available on https://internal.imd.gov.in/press_release/20250831_pr_4_263.pdf. The highlights of Press release issued in this regard are presented below:

(a) **Rainfall over India** – Monthly average rainfall over the country as a whole in September 2025 is most likely to be above normal (>109% of the Long Period Average (LPA). Geographically, most parts of the country are likely to receive normal to above-normal rainfall. However, some parts of Northeast and East India, many areas of extreme South Peninsular India and some parts of northernmost India, are likely to receive below-normal rainfall.

(b) **Surface Air Temperature over India** – During September 2025, monthly average maximum temperatures are expected to

remain normal to below normal in many regions of west-central, northwest and south India. It is likely to be above normal over many parts of east-central, east and northeast India and some parts of northwest India and western coastal region. In September 2025, the monthly average minimum temperatures are expected to be normal to above normal over most parts of the country. However, below-normal minimum temperatures are likely over some parts of northwest India and southern peninsular India.

(c) **Sea Surface Temperature (SST)** - Currently, neutral El Niño–Southern Oscillation (ENSO) conditions are prevailing over the equatorial Pacific region. Forecasts from the Monsoon Mission Climate Forecast System (MMCFS), along with other climate models, suggest that these neutral conditions are likely to persist till the end of the monsoon season. At present, neutral Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean. Forecasts from the MMCFS and other climate models indicate that weak negative IOD conditions are likely to develop towards the end of the monsoon season, persisting for a brief period.

IMD organised Press Conference on Long Range Forecast of Rainfall during Post-Monsoon Season 2025 and Rainfall and Temperature during October 2025.

Dr. M. Mohapatra, DGM IMD addressed the media virtually on 30th September, 2025.

(a) Seasonal rainfall during October to December (OND) over South Peninsular India consisting of five meteorological subdivisions (Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Kerala & Mahe, and South Interior Karnataka) is most likely to be above normal (>112% of Long Period Average (LPA)). Most parts of the country are expected to receive normal to above-normal rainfall, except many parts of Northwest India and some parts of extreme south peninsular India and northeast India, where rainfall is likely to be below-normal.

(b) Monthly rainfall over the country as a whole during October 2025 is likely to be above normal >115% of LPA. In October 2025, most parts of the country are expected to receive normal to above-normal rainfall. However, some areas in Northwest India and extreme south peninsular India and isolated pockets in the Northeast India, may experience below-normal rainfall.

(c) In October, normal to below-normal maximum temperatures are likely over most parts of the country except northeast and adjoining east India, western Himalayan states and Saurashtra & Kutch where above normal maximum temperatures are expected. There is high probability of above normal maximum temperature over northeast India. Above-normal minimum temperatures are likely over most parts of the country with high probability over east, northeast and east central India.

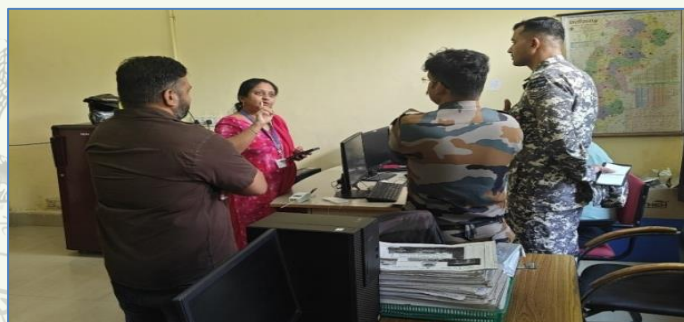
(d) Currently, sea surface temperatures over the equatorial Pacific are near average, indicating neutral El Niño–Southern Oscillation (ENSO) conditions. Forecasts from the Monsoon Mission Coupled Forecast System (MMCFS) and other climate models suggest an increased likelihood of La Niña conditions developing during the post-monsoon season.

(e) At present, weak negative Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean. The latest

forecast from MMCFS and the global climate models indicates that the negative IOD conditions are likely to continue during post-monsoon season.

VISITORS

The **officers of Indian Air Force** assigned with **Anti Naxal Task Force** in Chhattisgarh State visited the Meteorological Centre, Raipur on 17 July 2025 and were briefed on the state weather forecasting services and observational facilities by the officials of MC Raipur. The officers were provided with valuable insights into various weather phenomena and were explained by the officials about the methodologies and processes involved in state-level weather forecasting which may result to be helpful in their line of profession.



The officers of Indian Air Force visited MC Raipur

115 students along with 4 faculty members from **Anand Niketan School, Ahmedabad** visited M.C. Ahmedabad for educational purpose on 22nd & 23rd July, 2025.



Students from Anand Niketan School, Ahmedabad

20 students along with 2 faculty members from **GEMS Genesis International School, Ahmedabad** visited M.C. Ahmedabad for educational purpose on 5th August, 2025.



Students from GEMS Genesis International School, Ahmedabad

Students from the department. of Civil Engineering, **Girijananda University, Guwahati** visited Regional Meteorological Centre, Guwahati on 4th September, 2025.



Students from the department. of Civil Engineering, Girijananda University, Guwahati

Medical students from Sri Balaji Institute of Medical Sciences visited the Meteorological Centre, Raipur on 9 September, 2025. During their visit, they were given an overview of the Centre's operations and were introduced to a range of meteorological instruments used in weather observations and data collection. The students also gained valuable insights into various weather phenomena and were explained by the officers about the methodologies and processes involved in state-level weather forecasting.



Medical students from Sri Balaji Institute of Medical Sciences visited the Meteorological Centre, Raipur

Science outreach Program was conducted at AWS & Radiation Lab, IMD's Pashancampu for 76 Civil Engineering students and professors from PCCOE, Pune, **On 12 September, 2025**. The visit included the AWS & Radiation Lab, offering exposure to meteorological instruments, polar observations, and IMD's role in national weather services. Students were sensitised to sustainable development and SDGs, while also receiving guidance on career opportunities in Weather & Climate Science.



Science outreach Program was conducted at AWS & Radiation Lab, IMD's Pashancampu for 76 Civil Engineering students and professors from PCCOE, Pune, On 12 September, 2025,

15 students along with 2 faculty members from Anand Agriculture University visited M.C. Ahmedabad for educational purpose on 19th September, 2025.



Students from Anand Agriculture University

WEATHER INFORMATION

Significant weather and associated weathers systems during July, 2025.

A total of six number of Low Pressure Systems (LPS) were formed in the month with total duration of 28 number of low pressure system days. Out of these 6LPSs, four LPSs became Depression and 3 were formed over land while one was formed over North Bay of Bengal. Also, a total of 3 number LPSs had longer westward movements and reached upto Rajasthan from Gangetic West Bengal/North Bay of Bengal, causing frequent heavy to very heavy rainfall with extremely heavy rainfall on some days across central India. In most dates of July 2026, monsoon trough was south of its normal or along normal positions. Western Disturbance (WD) activities were weaker than normal with total of five WDs moved across northwest of India (11-13,13-18,18-20,23-28 and 28-31 July) and most were moved across extreme north of India without much impacts. The unique feature of July 2025 was "due to regular formation, movement of Monsoon disturbances from eastern India to Rajasthan, excess to Large-Excess rainfall were observed during almost all weeks in July across most parts of central India except during 17-23 July, 2025 when Rajasthan received excess rainfall.

Significant weather and associated weather systems during August, 2025.

During 1st half of August, 2025, Prolonged Week Monsoon prevailed over India as Monsoon trough was north of the normal position with eastern end at the foot hills of Himalayas while during 2nd half monsoon, monsoon was active to vigorous during most of the dates, over central and Northwest India as monsoon trough was south of the normal position or along normal position. During 1st half the Aug 2025, no Low pressure System, formed for almost 2-weeks in the Indian region. But, this period was having active Western Disturbances (28July-5 Aug, 5-10 Aug, 13-14 Aug) across north India and local Cyclonic Circulations which, caused longer wet spell with heavy to very heavy rains in Western Himalayan states and adjoining plains including Punjab, Haryana, Uttar Pradesh and Delhi. This wet spell caused Flash flood and a major landslide over Daharli (Uttarkashi) on 5th Aug and major riverine floods in Ganges severely impacted Uttar Pradesh and Bihar during 2nd week of Aug 2025 which severely disrupting daily life. Thereafter, a rapid revival of Monsoon was observed from 14 Aug and it continued till end of Aug when a total of four low pressure systems formed. In

August 2025, four low-pressure systems developed—slightly below the climatological normal of 5.38. These included one depression over the Bay of Bengal that formed during 18–19 August, a well-marked low-pressure area from 26–29 August, and two low-pressure areas that developed during 13–17 August and 22–25 August. The total number of low-pressure system (LPS) days was 15, compared to the normal of approximately 16.3 days. The track of the depression is shown in Fig. 1. Also, during 2nd half of Aug 2025, Northwest India and Western Himalayan Region was severely impacted by slow movement of two successive very active Western Disturbances (18-22 Aug and 24-31 Aug) with second Western Disturbance vertically extended often from lower troposphere to middle and upper tropospheric levels over north Pakistan and Jammu and Kashmir and Punjab areas, which interacted with remnant of monsoonal Low Pressure System which moved from South Eastern Madhya Pradesh to south Punjab during 21-27 Aug accompanied with very high moisture incursion from both Bay of Bengal and Arabian Sea over the region. Daily rainfall data shows, these weather systems and their interaction caused extremely and exceptionally heavy rainfall events of 21-27 Aug over NWI and WHR with Jammu & Kashmir during 23- 27th August. Ever highest rainfall also recorded, over Jammu region [Udhampur IAF – 63 cm, Jammu – 38 cm] on 27th Aug. It caused Flash floods and landslides over the hilly region in Katra and severe riverine flooding over Jammu, Punjab and parts of Rajasthan along with flash floods in some areas of this region.



Fig 1: Observed track of the depression formed during August 2025

Rainfall

The monthly rainfall for July 2025

Rainfall over the country as a whole for the month of July 2025 was 294.1 mm which is 5% more than its Long Period Average (LPA) of 280.5 mm. The rainfall statistics for the month of July, 2025 for 4 homogeneous regions and the country as a whole is given in Table 1.

Table 1: The monthly rainfall for July 2025

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	%Departure from LPA
East & northeast India	312.3	424.1	-26%
Northwest India	237.4	209.7	13%
Central India	391.8	321.3	22%
South Peninsula	200.4	204.5	-2%
Country as a whole	294.1	280.5	5%

In terms of Met. Sub-division-wise categorized rainfall, out of 36 Met. Sub-divisions, 03 in Large Excess (LE), 07 in Excess (E), 18 in Normal (N), 08 in Deficient (D) and 0 in Large Deficient (LD) and 0 in No Rain category of rainfall (Fig.1).

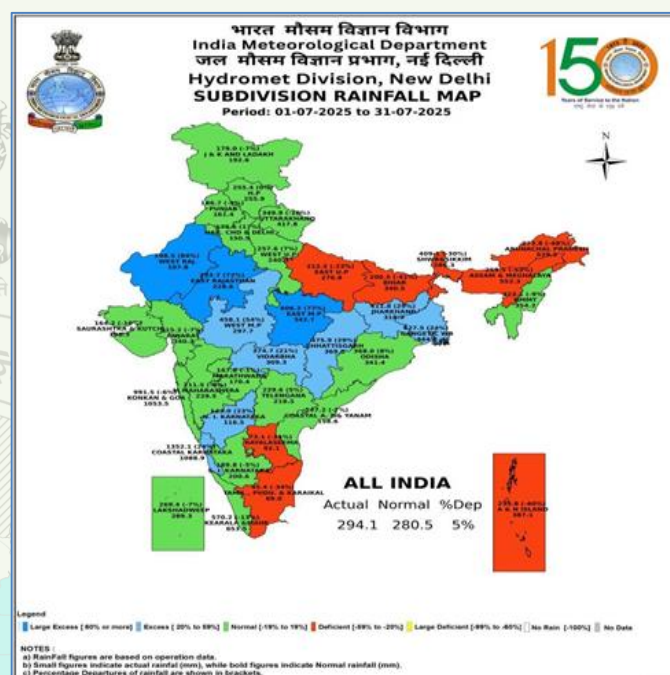


Fig.1. Sub-division-wise categorized rainfall July, 2025

Heavy Rainfall Events: The locations of heavy/very heavy rainfall events occurred in July, 2025 are given in the Fig.2.

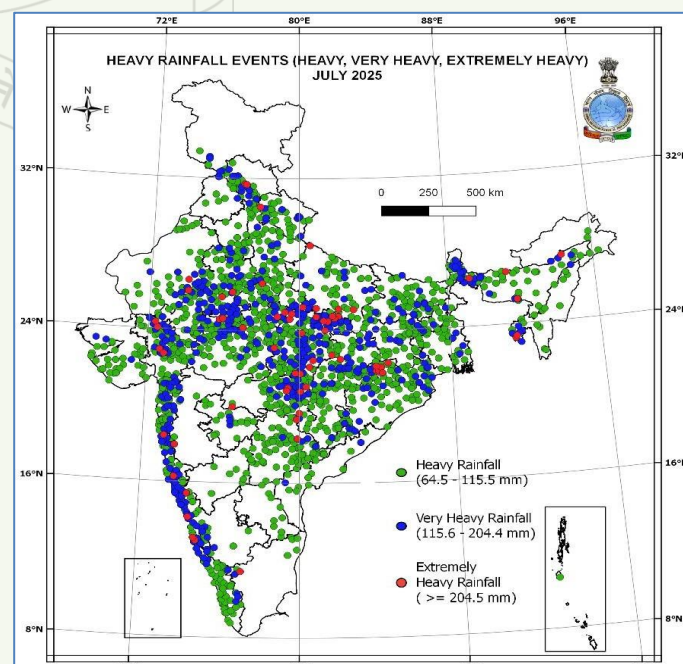


Fig. 2: The location of occurrences of heavy, very heavy rainfall events in the month of July 2025.

In July 2025, Extremely Heavy Rainfall events (>204.4 mm) were observed over several regions, including Assam & Meghalaya, Chhattisgarh, Coastal Karnataka, Madhya Pradesh, Rajasthan, Gujarat Region, East Uttar Pradesh, Himachal Pradesh, Konkan & Goa, Madhya Maharashtra, Vidarbha, Nagaland, Manipur, Mizoram & Tripura, Odisha, Sub-Himalayan West Bengal & Sikkim, Tamil Nadu, Puducherry & Karaikal, Uttarakhand, and Telangana.

Very Heavy Rainfall (115.6–204.4 mm) occurred in Arunachal Pradesh, Bihar, Coastal Andhra Pradesh & Yanam, Gangetic West Bengal, Haryana, Chandigarh & Delhi, Jammu & Kashmir & Ladakh, Jharkhand, Kerala & Mahe, Marathwada, Punjab, South Interior Karnataka, Saurashtra & Kutch, and West Uttar Pradesh.

Heavy Rainfall events (64.5–115.5 mm) were reported across almost all meteorological subdivisions.

Rainfall statistics for the month of August-2025

The rainfall for the country as a whole, for the month has been recorded as 268.1 mm which is 5% departure from its Long Period Average (LPA) of 254.9 mm. In all, category wise, 07 Met sub-divisions in LARGE EXCESS, 07 Met sub-divisions in EXCESS, 17 Met sub-divisions in NORMAL, 05 Met sub-divisions in DEFICIENT and none of any Met sub-divisions in LARGE DEFICIENT, "NO RAIN" category of rainfall.

Table 2: The monthly rainfall for August 2025

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
East & northeast India	302.3	332.0	-9%
Northwest India	265.0	197.1	34%
Central India	265.0	308.8	-14%
South Peninsula	250.6	190.7	31%
Country as a whole	268.1	254.9	5%

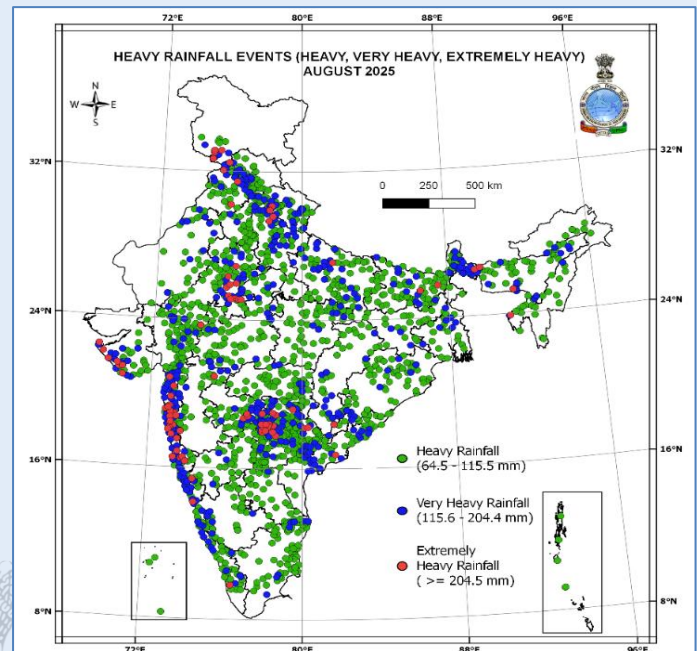


Fig.4: The location of occurrences of heavy, very heavy rainfall events in the month of August, 2025

Heavy Rainfall Events: The locations of heavy/very heavy rainfall events occurred in this month are given in the Figure 4. Major extremely heavy and exceptionally heavy rainfall spells during August, 2025

West coast mainly Konkan, Madhya Maharashtra including Mumbai and parts of South Gujarat received extreme heavy rain spell during 15-20 Aug, Coastal Karnataka on 15-20, August, Gujarat 19-21, August, 2025.

Very heavy to extremely heavy rainfall spell over East Rajasthan during 22nd - 24th August, Punjab and Haryana on 23-26th August; Jammu & Kashmir during 23-27th August. It caused landslides over the hilly region in Katra and severe flooding over Jammu, Punjab and parts of Rajasthan along with flash floods in some areas of this region; Exceptionally heavy rainfall recorded Konkan (Matheran (dist. Raigad) – 44 cm) & Ghat areas of Madhya Maharashtra (Tamini (Pune) – 57 cm; Lonavala ARG (dist. Pune) – 43 cm; Mahabaleshwar (distt. Satara) – 30 cm) on 20th August, East Rajasthan [Nainwa (distt. Bundi) 50 cm, Patan (distt. Bundi) 31 cm] on 23rd Aug; Jammu region [Udhampur IAF – 63 cm, Jammu – 38 cm] on 27th Aug, Telangana (Kamareddy-41 cm) on 28th August, 2025.

End of SW Monsoon Report

The forecast for monsoon onset over Kerala for this year was correct, which is the nineteenth consecutive correct forecast for this event except the year 2015 since the commencement of this forecast in 2005. The Forecast date of onset of monsoon over Kerala was 27th May with a model error of ± 4 days and realized date of onset of monsoon over Kerala was 24th May, 2025.

The first stage forecast for the season (June-September) rainfall over the country as a whole issued in April was 105% of LPA with a model error of $\pm 5\%$ of LPA and the update forecast issued in

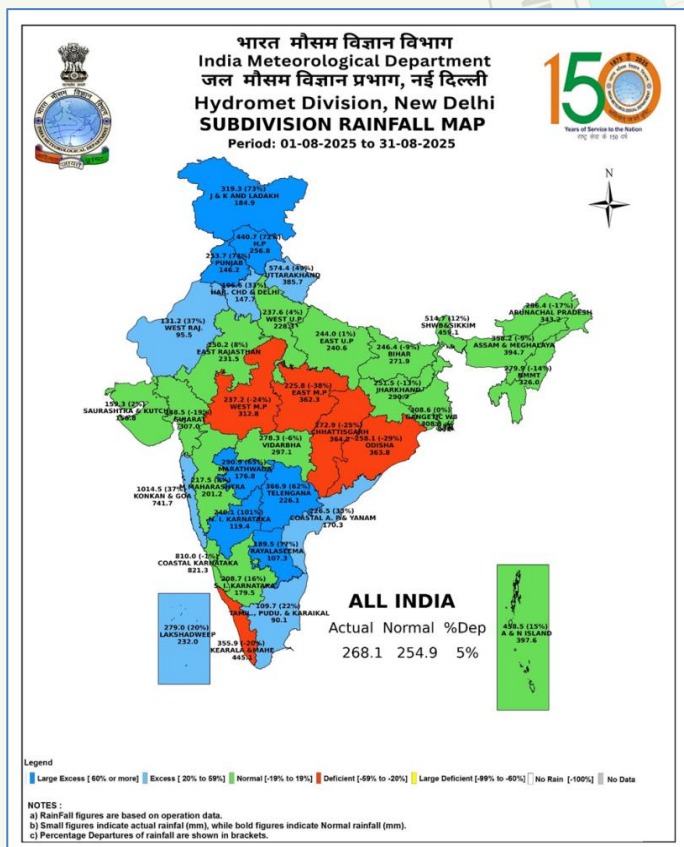


Fig.3. Sub-division-wise categorized rainfall August, 2025

the end of May 2025 was 106% of LPA with a model error of $\pm 4\%$ of LPA. The actual season rainfall for the country as a whole was 108 % of LPA. Thus, the seasonal rainfall forecast for the country as a whole was correct.

Considering the four broad geographical regions of India, the forecasts issued on 27th May, the southwest monsoon seasonal (June to September 2025) rainfall is most likely to be above-normal over Central India and South Peninsular India (>106% of LPA), above normal over Northwest India (>108% of LPA) and below normal over Northeast India (<94% of LPA). The southwest monsoon seasonal rainfall over the monsoon core zone consisting of most of the rainfed agriculture areas in the country was most likely to be above Normal (>106% of LPA). The actual rainfall over Northwest India, Central India, Northeast India, South Peninsula and Monsoon Core Zone were 27%, 15%, -20%, 10% and 22% of the LPA, respectively. The seasonal forecast issued for homogeneous regions during the season was within the range of the forecast except the Northwest India. All the monthly outlooks were within the forecast limit, except the July. The forecast for the second half of the monsoon season (August –September) for the country as a whole also was in the forecast limit.

Summary of state of Climate during the period July to September 2025 is as follows:

During July 2025, rainfall realized over the country as a whole was 105% of its LPA. The realized rainfall for July this year was 122% of its LPA over central India, 113% of its LPA over northwest India, 98% of its LPA over the south peninsula and 74% of its LPA over east & northeast India. Rainfall over East & Northeast India (312.3 mm) was 7th lowest since 1901 and 4th lowest since 2001.

In July 2025, the mean temperature over the country was 27.93 °C with an anomaly of -0.01 °C, the 35th highest since 1901. The maximum temperature was the 54th highest (31.50 °C with an anomaly of -0.29 °C) and the minimum temperature was the 9th highest (24.36 °C with an anomaly of 0.26 °C) since 1901. Among the four homogeneous regions, over East & Northeast India, the maximum temperature was the 4th highest (32.28 °C with an anomaly of 1.33 °C), and the minimum temperature was the 5th highest (24.979 °C with an anomaly of 0.59 °C) since 1901. The mean temperature was the fourth highest (28.63 °C with an anomaly of 0.96 °C) since 1901.

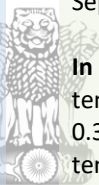
During August 2025, rainfall realized over the country as a whole was 105% of its LPA. The realized rainfall for August 2025 this year was 134% of its LPA over northwest India, 131% of its LPA over south peninsula, 91% of its LPA over east & northeast India and 86% of its LPA over central India. Rainfall over the homogeneous region of Northwest India (265.0 mm) was the 13th highest since 1901 and the highest since 2001. Rainfall over the homogeneous region of south peninsular India (250.6 mm) was the 8th highest since 1901 and 3rd highest since 2001.

In August 2025, the mean temperature over the country was 27.51 °C with an anomaly of 0.16 °C, the 15th highest since

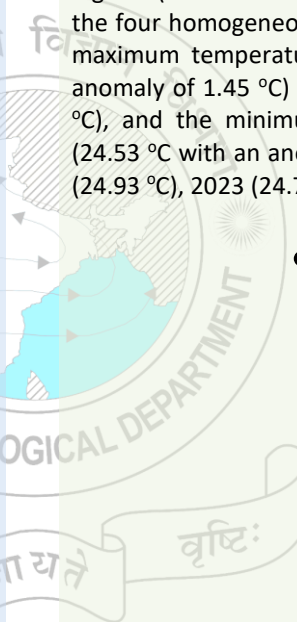
1901. The maximum temperature was the 22nd highest (31.07 °C with an anomaly of 0.06 °C) and the minimum temperature was the 7th highest (23.94 °C with an anomaly of 0.27 °C) since 1901. Among the four homogeneous regions, over Central India the minimum temperature was the 5th highest (24.07 °C with an anomaly of 0.36 °C) after the years 2024 (24.26 °C), 2009 (24.21 °C), 1998 (24.18 °C) and 1958 (24.10 °C) and over Northwest India, it was the 8th highest (23.822 °C with an anomaly of 0.459 °C) since 1901.

During September 2025, rainfall realized over the country as a whole was 117% of its LPA. The realized rainfall for September 2025 this year was 145% of its LPA over central India, 131% of its LPA over northwest India, 114% of its LPA over south peninsula and 71% of its LPA over east & northeast India. (till 29th September).

In September 2025, over the country as a whole, the mean temperature was the 8th highest (27.49 °C with an anomaly of 0.37 °C) since 1901. Over the country the maximum temperature was 31.54 °C with an anomaly of 0.11 °C (24th highest since 1901), and minimum temperature was the 5th highest (23.44 °C with an anomaly of 0.64 °C) since 1901. Among the four homogeneous regions, over East & Northeast India the maximum temperature was the 3rd highest (32.17 °C with an anomaly of 1.45 °C) after the year 2024 (32.59 °C), 2023 (32.47 °C), and the minimum temperature was also the 3rd highest (24.53 °C with an anomaly of 0.83 °C) after the year's year 2024 (24.93 °C), 2023 (24.72 °C) since 1901.



सत्यमेव जयते



वृष्टिः

आयते



भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

पृथ्वी विज्ञान मंत्रालय, भारत सरकार
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