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Hon'ble Minister of State for Science & Technology and Earth Science Dr. Jitendra Singh inaugurated the Regional Meteorological Centre Jammu on 5th June. Dr. M. Mohapatra, DGM IMD also participated in the event.



Hon'ble Minister of State for Science & Technology and Earth Science Dr. Jitendra Singh inaugurated the Regional Meteorological Centre Jammu on 5th June. Dr. M. Mohapatra, DGM IMD also participated in the event.

The Jammu facility becomes the country's seventh Regional Meteorological Centre and will serve Jammu & Kashmir, Ladakh and Himachal Pradesh, providing specialised weather services, disaster warnings and climate support tailored to the Himalayan region.

Hon'ble Minister said the new centre would strengthen weather monitoring, forecasting and early-warning systems in a region characterised by diverse terrain ranging from plains to high-altitude mountains. It will provide district-level forecasts, mountain weather forecasts, tourist advisories, city-specific weather services and warnings for flash floods, cloudbursts, avalanches, heavy snowfall, thunderstorms and landslides. The services are expected to benefit pilgrims undertaking the Amarnath and Vaishno Devi yatras, farmers, transport operators, hydropower projects, disaster management agencies and security forces operating in difficult terrain.

Hon'ble Minister of State for Science & Technology and Earth Science Dr. Jitendra Singh and UP CM Yogi Adityanath jointly inaugurated new Regional Meteorological Centre at Lucknow on 8th June 2026. Dr. M. Mohapatra, DGM IMD also participated in the event.



Hon'ble Minister of State for Science & Technology and Earth Science Dr. Jitendra Singh inaugurated the Regional Meteorological Centre Lucknow on 8th June. Dr. M. Mohapatra, DGM IMD also participated in the event.

Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences, Dr. Jitendra Singh, inaugurated the new Regional Meteorological Centre (RMC) at Lucknow along with the Chief Minister of Uttar Pradesh, Shri Yogi Adityanath on 8th June 2026. On the occasion, the Minister said that

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India's meteorological infrastructure has witnessed unprecedented expansion over the last decade, enabling more accurate, location-specific and impact-based weather forecasting services across the country.

Hon'ble Minister highlighted the remarkable strengthening of meteorological infrastructure in Uttar Pradesh over the last decade. He informed that while the state had only one Doppler Weather Radar in 2014, now three are operational and several more are being commissioned. The State's Automatic Weather Stations increased from 59 to 107, Automatic Rain Gauges Stations from 132 to 140, and Lightning Sensors from 0 to 7. He further noted that aviation meteorological services are now being provided at eleven airports across Uttar Pradesh, reflecting the growing scale of aviation infrastructure in the state.

Significant Events

Dr. M Mohapatra, DG IMD and 3rd Vice President of WMO visited WMO, Geneva to participate in the 80th Session of the Executive Council (EC-80) at Geneva during 22 – 26 June, 2026. Key Areas of Indian Representation and Focus:

- **Leadership Role:** Participated in high-level executive decisions in an official capacity as both India's Permanent Representative and WMO Third Vice-President.
- **Global Strategy:** Contributed to shaping the upcoming WMO Strategic Plan for 2028–2031.
- **Technical Cooperation:** Helped advance discussions on strengthening scientific collaboration, AI integration in weather forecasting, and hydrometeorological services ahead of the 20th World Meteorological Congress.
- **Governance and Budget:** Engaged in reviewing financial performance and governance frameworks for the 193-member UN specialized agency



Dr. M Mohapatra, DG IMD and 3rd Vice President of WMO visited WMO, Geneva to participate in the 80th Session of the Executive Council (EC-80) at Geneva during 22 – 26 June, 2026.

World Environment Day Celebration Outreach

RMC Nagpur

On 5th June 2026, commemorating World Environment Day, Shri Gajendra Kumar, Sc-G & Head, Regional Meteorological Centre,

Nagpur, was invited by SCOPE Global Skills University to deliver a special lecture on environmental protection, climate change awareness, and sustainable development. The programme was organized by the India Meteorological Society (IMS) Bhopal Chapter in collaboration with SCOPE Global Skills University, Bhopal. During the interaction, he highlighted the importance of adopting responsible environmental practices and underscored the critical role of scientific and educational institutions in strengthening climate resilience. The session encouraged participants to contribute actively toward environmental conservation and sustainable growth.

MC Shillong

Shri Thangjalal Lhouvum, Sc-D, Head MC Shillong attended The World environment Day Celebration organised by Soil & Water Conservation Dept., Government of Meghalaya at Mawrah Village, Khatarshnong, which was graced by the Hon'ble Chief Minister, Shri. Conrad K. Sangma on the 5th of June 2026.



Shri Thangjalal Lhouvum, Sc-D, Head MC Shillong attended The World environment Day Celebration organised by Soil & Water Conservation Dept., Government of Meghalaya

SIMC Bengaluru participated in a two-day conclave on RISE (Research, Industry, Startup & Entrepreneurship) organized by CSIR at Bengaluru on 13th and 14th by holding an exhibition and showcased the principle, working and utilities of various instruments and activities of MC Bengaluru. The stall attracted people from various walks of life including few startups who evinced interest in indigenization and calibration of some of the instruments.



Meteorological centre, Bengaluru participated in 2 day RISE(Research, Industry, Startup and Entrepreneurship) conclave organized by CSIR on 13th and 14th June 2026 at Bengaluru

Shri. A Prasad, Scientist-D Participated in “**National conference on Next-Gen Farming: Artificial Intelligence, Automation and Digital Transformation**” jointly organized by Dr. S.V. Patil Foundation for Research, Training and Farmers welfare, Indian Society of Agricultural Information Technology (INSAIT) and University of Agricultural Sciences, Dharwad on 7th May.

He briefed the progress of ongoing X-band DWR installation and newly installed Agro AWS to the Chief Guest of the event Dr. Mrutyunjay Mohapatra, DGM, IMD.



National conference on Next-Gen Farming: Artificial Intelligence Automation and Digital Transformation on 7th may 2026 at University of Agricultural Sciences, Dharwad

Online Meeting on "Southwest Monsoon Status & Kharif Preparedness in Vidarbha during 2026"

An online meeting on "Southwest Monsoon Status & Kharif Preparedness in Vidarbha during 2026" was jointly organized by the Regional Meteorological Centre (RMC), IMD, Nagpur; Dr. Panjabrao Deshmukh Krishi Vidyapeeth (PDKV), Akola; and the Department of Agriculture, Government of Maharashtra on 24 June 2026.

SASCOF related activity

34th Session of South Asian Climate Outlook Forum and Climate Services User Forum (SASCOF-34 and CSUF) along with the Pre-COF Hands on Training workshop for ensuing summer monsoon Season (June to September 2026) conducted in collaboration with WMO, RIMES, UKMO and UNESCAP in Male, Maldives during 25-30 April 2026. Dr. Dr. O. P. Sreejith Scientist 'F', Dr. Sabeerali C.T. Scientist 'D' and Shri Sanjay Raskar Meteorologist 'A' from IMD Pune attended the forums.



34th Session of South Asian Climate Outlook Forum and Climate Services User Forum (SASCOF-34 and CSUF) along with the Pre-COF Hands on Training workshop

IMD issued 2nd stage Long Range Forecast for southwest monsoon season-2026 in hybrid mode under the chairmanship of Dr. M Ravichandran, Secretary MoES on 29th May, 2026. Detailed Press Release issued in this regard is available at [PRESS RELEASE](#)

Detailed press release is available at: [LRF Outlook for Second Half of SW Monsoon Season: 2010](#)

PRESS RELEASE
New Delhi, 29 May 2026

भारत सरकार
Government of India
पृथ्वी विज्ञान मंत्रालय (एम. ओ. ई. एस.)
Ministry of Earth Sciences (MoES)

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

Updated Long Range Forecast for the Southwest Monsoon Seasonal Rainfall during June–September, 2026 and Monthly Rainfall and Temperature Outlook for June 2026

Highlights

- Quantitatively, the southwest monsoon seasonal rainfall over the country as a whole is likely to be 90% of the Long Period Average (LPA) with a model error of $\pm 4\%$, indicating that below normal rainfall is most likely over the country as a whole during the monsoon season (June to September), 2026.
- The southwest monsoon seasonal (June to September, 2026) rainfall is most likely to be normal over Northeast India (94–106% of LPA) and below normal over Central & South Peninsular India (<94% of LPA) and Northwest India (<92% of LPA).
- The southwest monsoon seasonal rainfall over the Monsoon Core Zone (MCZ) consisting of most of the rainfed agriculture areas in the country is most likely to be below normal (<94% of LPA).
- During June to September 2026, below-normal seasonal rainfall is most likely over most parts of the country, except some areas over Northwest and northeast India, eastern parts of south peninsula and adjoining areas of east-central India and isolated pockets of East India, where normal to above normal rainfall is likely.
- The average rainfall for the country as a whole during June 2026 is most likely to be below normal (<92% of LPA).
- During June 2026, below normal monthly rainfall is very likely over most parts of the country, except over some parts of Northwest India, Northeast India and south Peninsula and isolated pockets of central India where normal to above normal rainfall is likely.
- In June 2026, above normal monthly maximum temperatures are likely over most parts of the country, except some parts of Central, Northwest and East India, where normal to below normal maximum temperatures are very likely. Above-normal monthly minimum temperatures are likely across most parts of the country, except some parts of Northwest, Central and adjoining south Peninsula India where, where normal to below-normal minimum temperatures are very likely.
- During June 2026, above normal heat wave days are expected over many parts of Uttar Pradesh, Haryana, Punjab, Bihar, Odisha, Chhattisgarh, Gujarat and Andhra Pradesh and isolated regions of Maharashtra, Telangana, Himachal Pradesh, and Tamil Nadu. However, below-normal heatwave days are likely over Rajasthan and Jharkhand.
- Currently, neutral El Niño-Southern Oscillation (ENSO) conditions are transitioning towards El Niño conditions over the equatorial Pacific region. The latest climate model forecasts indicate that the El Niño conditions are likely to develop during the southwest monsoon season.
- At present, neutral Indian Ocean Dipole (IOD) conditions are observed over the Indian Ocean. The latest MMCFs forecast indicates that neutral IOD conditions are likely to continue during the monsoon season.

IMD will issue the forecast for the July rainfall in the last week of June 2026.

Long Range Forecast for southwest monsoon season 2026

On 30.06.2026, a statue of **Ms. Anna Mani** (23 August 1918 – 16 August 2001), the renowned Indian physicist and meteorologist, was unveiled by Mrs. Ranju Madan, Scientist-G Head SID at the Surface Instrumentation Division (SID), CRS IMD Pune in the presence of all officials and staff members of IMD Pune.



Statue of Ms. Anna Mani was unveiled by Ranju madan Sc-G . Head SID, CRS IMD Pune

Memorandum of Understanding(MoU)

The India Meteorological Department (IMD) and Miranda House, University of Delhi, signed a Memorandum of Understanding (MoU) on 29 June 2026 to strengthen academic and scientific collaboration between the two institutions. The MoU is aimed at promoting cooperation in research, education, and capacity building in the fields of meteorology, climate science, and allied disciplines. The collaboration is expected to facilitate knowledge exchange, joint academic activities, and opportunities for students and researchers, thereby fostering scientific excellence and enhancing cooperation between academia and IMD.

The India Meteorological Department (IMD) signed a Memorandum of Understanding (MoU) with the National Highways Authority of India (NHAI) at the NHAI Headquarters, New Delhi, on 8 April 2026 to strengthen cooperation in leveraging advanced weather intelligence for National Highway development and road safety. The MoU was signed in the presence of **Shri Santosh Kumar Yadav**, Chairman, NHAI, and **Dr. Mrutyunjay Mohapatra**, Director General of Meteorology, IMD. The collaboration aims to enable weather-informed planning and operations across the National Highway network by integrating real-time weather monitoring, impact-based forecasts, and early warning systems into highway management. The partnership is expected to enhance the safety of commuters, improve the protection and resilience of highway assets, and support efficient decision-making for the planning, construction, operation, and maintenance of National Highways under varying weather conditions.

Foreign Deputation

S. No	Name	Event and place of visit	From	To	Funding by
1	Dr Akhil Raj, Sc D Shri Rakesh, Sc D	Factory Acceptance Test (FAT) Korea	06.04.2026	10.04.2026	GoI
2	Dr V K Soni	2026 GAW Symposium (in Geneva)	13.04.2026	17.04.2026	WMO

3	Dr. Satyaban Bishoyi Ratna, Sc E, CRS Pune	Joint Conference of the 13 th International Conference on Tropical Marine Environmental Changes (MEC) & 6th CLIVAR Climate Dynamics Panel (CDP) Annual Workshop on "Abrupt changes and tipping points" – Joint MEC & CLIVAR CDP Workshop Guangzhou, China	13.04.2026	16.04.2026	CLIVAR
4	Dr Anoop Kumar Mishra, Sc D	ICAO APAC Workshop 20 April & Asia and Pacific (APAC) 24th Meeting of the Met Information Exchange Working Group (MET/IE WG/24 Nadi, Fiji	20.04.2026	24.04.2026	GoI
5	Dr Ramesh Ragala, Sc E	RES Astana Kazakhstan	22.04.2026	24.04.2026	GoI
6	Dr. O. P. Sreeith, Sc-F, Dr. Sabeerali, C. T. Sc-D Sh.Sanjay Raskar, Met-A	SASCOF 34 Male, Maldives	25.04.2026	30.04.2026	GoI
7	Dr SomaSenRoy, Sc G	Meeting of the Expert Team on Multi-Hazard Early Warning and Service Delivery Technical Guidance (ET-WSG) Geneva, Switzerland	25.04.2026	30.04.2026	WMO
8	Dr M. Mohapatra, DGM	EC 80 Geneva	22.06.2026	26.06.2026	GoI

Human Resource Development Activities

Important Meetings/Conferences/Broadcast

Dr. M. Mohapatra, DG IMD participated in the inaugural ceremony of "Sadhana Sapath" under the Chairmanship of **Dr. P.K.Mishra**, Principal Secretary to the Prime Minister at Dr. Ambedkar International Centre Delhi on 2nd April, 2026.

Dr. Sheshakumar Goroshi, Scientist-E and Head AASD, participated and delivered a presentation on "Advances in Advancing Agrometeorological Services for Sustainable and Resilient Farming" in a meeting held on 2nd April 2026 in New Delhi, focusing on next-generation irrigation and planting date advisory systems for Indian agricultural landscapes.

Dr. M. Mohapatra, DG IMD chaired the meeting with Shri Rishikumar, Co-Founder & Director, Yuva Unstoppable NGOs regarding discussion on creating awareness among the general public about the Do's and Don'ts during thunderstorm season on 6th April.

Dr. M. Mohapatra, DG IMD participated in the meeting under the chairmanship of Secretary (A&FW) to discuss on Bharat VISTAAR – current status & Roadmap ahead on 6th April.

Dr. O.P. Sreejith Scientist 'F' participated in the meeting on ENSO indices arranged by World Meteorological Organization (WMO) online mode on 8th April 2026.

Dr. A.K. Mitra, Sc-F attended CGMS 54 Working Group Meetings (WGI, WGII, WGIII, WGIV and SWCG) in online mode and delivered presentation during on behalf of IMD. The WG

meetings took place at EUMETSAT's Headquarters, Darmstadt, Germany held during 13th to 17th April 2026.

Dr. Jaya Dhami Parihar, attended Virtual Press Conference on “Long Range Forecast of Southwest Monsoon 2026” addressed by **Dr. M. Ravichandran**, Secretary, MoES, in the presence of **Dr. M. Mohapatra**, DGM, IMD organised at Mahika Hall, Ministry of Earth Sciences, New Delhi on 13.04.2026.

Dr. M. Mohapatra, DG IMD participated in the Systematic Observations and Forecasting Facilities (SOFF) Peer Advisors community representatives and leadership group meeting virtually on 14th and 15th April.

Dr. Ashutosh Misra, Scientist E attended meeting regarding Pradhanmantri Fasal Bima Yojna (PMFBY) implementation for Kharif 2024–2025 in Parbhani, Latur, and Dharashiv districts, chaired by the Agriculture Secretary, Govt. of Maharashtra, and organized by Agriculture Commissionerate, Pune on 14.04.2026.

Dr. Satyaban B Ratna, Scientist-E, attended the First RA II Expert Team on Climate Services (ET-CS) Meeting organized by the World Meteorological Organization (WMO) on 15 April 2026.

Dr. Ashutosh Misra, Scientist E attended meeting with the officials of NITI Aayog regarding the activities of CR&S, IMD Pune, and the future vision and mission of the office during their visit to CR&S office on 16.04.2026.

Dr. M. Mohapatra, DG IMD made a presentation on the “Southwest monsoon and EL-Nino conditions of 2026” in a meeting under the Chairmanship of the Hon’ble Minister of Agriculture & Farmers Welfare on 18th April.

Shri K.C. Sai Krishnan, Scientist 'G' and Head, CR&S, Pune, **Dr. Satyaban B Ratna**, Scientist-E attended the inauguration programme of the National Workshop on Weather, Climate and Environment in School Education (WISE-2026) at Savitribai Phule on 22 April 2026.

Dr. R.K. Giri, Sc-F & Head, Satmet and **Dr. A.K. Mitra**, Sc-F attended the 25th PMAC meeting held in online mode on 23rd April 2026. As Project Director for the Augmentation & Sustenance of the Satellite Meteorological Network, **Dr. R. K. Giri** presented the Satmet Division’s current status, key achievements, and future roadmap under Mission Mausam.

Dr. A.K. Mitra, Sc-F attended a meeting under the Chairmanship of the Home Secretary to deliberate on the Report of the Joint Working Group on “Space-Based Disaster Management Requirements in India” held on 23rd April 2026 at Kartavya Bhavan-3, Janpath Road, New Delhi.

Dr. Ashutosh Kumar Misra, Scientist E attended a meeting with the participants of National Workshop on “Weather, Climate and Environment in School Education (WISE-2026)” organised by South Asian Meteorological Association (SAMA) and Savitribai Phule Pune University during the visit of delegates to the CR&S, IMD, Pune on 23.04.2026.

Shri. K. C. Sai Krishnan Scientist ‘G’, **Dr. O. P. Sreejith** Scientist ‘F’ **Smt. Arti Bandgar** Scientist ‘D’ attended the “Meeting to discuss measures for addressing the impacts of the El

Niño phenomenon.” under the chairmanship of Hon’ble Chief Minister of Maharashtra on 24th April 2026 in Mumbai.

Shri K.C. Sai Krishnan, Scientist 'G' and Head, CR&S, Pune, attended the X-band radar inauguration programme at Mahabaleshwar on 24 April 2026.

A meeting of the Flood Control and District Disaster Management Authority was held on 24 April 2026 under the chairmanship of the Hon’ble District Collector and Chairman, District Disaster Management Authority, Pune. The meeting focused on preparedness measures to mitigate the potential flood risk in 2026, review of structural audits of bridges, and planning of emergency response actions.” **Dr. Medha Khole Scientist ‘F’, Smt. Arti Bandagar Scientist ‘D’, Dr. Rohini P., Scientist ‘D’ attended the meeting.**

Dr. M. Mohapatra, DG IMD participated in the Indian Ecological Society National Conference on Sustainable and Climate Resilient Agroecosystems: Innovations and Policy Framework at Main Campus, Sher-e-Kashmir University of Agricultural Science & Technology of Jammu (SKUAST-Jammu), Chatha, UT-J&K as the Guest of Honour on 28th April.

Dr. Kuldeep Srivastava, Scientist-F & Head (Information System and Services Division) have attended the 4th Edition of the Indian Defspace Symposium (IDS), 2026 organised by India Space Association (ISpA) at Manekshaw centre, New Delhi from 23 April 2026 to 24 April 2026.

Dr. A.K. Mitra, Sc-F attended JWG meeting under the Chairmanship of the Advisor (Mitigation) on “Space-Based Disaster Management Requirements in India” held on 27th April 2026 at Operations Room NDMA, New Delhi.

Dr. Kuldeep Srivastava, Scientist-F & Head (Information System and Services Division) have attended the National Deliberative Summit held at Bhubaneswar, Odisha from 29 April 2026 to 30 April 2026.

Dr. O.P. Sreejith Scientist ‘F’ delivered a presentation on current operational procedure for seasonal forecasting in Workshop on the Operationalization of Objective Seasonal Forecasts and Sectoral Products on Sub-Regional Scales, from 27 April to 1 May 2026 held at Casablanca, Morocco hybrid mode.

Dr. Ashutosh Misra, Scientist E attended meeting with officials from NDRF, Pune Office, regarding the Monsoon Forecast 2026 and disaster planning during their visit to the CR&S office on 28.04.2026.

Dr. A.K. Mitra, Sc-F attended meeting under the Chairmanship of Member and HoD, NDMA on “Space-Based Disaster Management Requirements in India” held on 29th April 2026 at NDMA Bhawan, New Delhi.

Dr. Mrutyunjay Mohapatra, DGM IMD participated and made a presentation on “Forecast of Southwest Monsoon 2026 and IMD’s Mission Mausam” in the Annual Conference of Relief Commissioners/Secretaries (Disaster Management) and State Disaster Response Force of States/UTs to review the status of preparedness for Southwest Monsoon 2026 at NIDM Campus, Rohini on 2nd May, 2026.

Dr. O. P. Sreejith, Scientist 'F' attended the State level Stakeholder Dialogue on Seasonal Forecast Preparedness & Planning for Kerala jointly organized by ICCS, IMD and India Meteorological society on 21 May 2026 at Thiruvananthapuram and gave presentation "Seasonal and Extended Range Forecast for 2026 SW Monsoon".

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the Joint meeting of Secretary (Power) and Secretary (MoES) to discuss Renewable Energy Forecasting on 5th May, 2026.

Dr. Mrutyunjay Mohapatra, DG IMD participated as a Lead Speaker in the National Conference on "Next-Gen Farming: Artificial Intelligence, Automation and Digital Transformation" on 7th May, 2026 at University of Agricultural Sciences, Dharwad

Dr. Ashutosh Misra, Scientist E attended online meeting on "Kharif Season 2026-Contingency Crop Planning" under the chairmanship of Commissioner (Agriculture) with senior officials from ICAR-CRIDA Hyderabad, Maharashtra State Government, State Agricultural Universities and ICAR institutes etc. on 08.05.2026.

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the meeting chaired by Hon'ble Home Minister to review the preparations for floods and heat waves in the country for the year 2026 at New Delhi on 10th May, 2026 and made a presentation on heat wave and long range forecast of southwest monsoon rainfall during 2026

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the Valedictory Programme of the Training on Agrometeorology for South Asia Region organized by the South Asian Forum for Agricultural Meteorology (SAFOAM) and World Meteorological Organization (WMO) on 10th May through VC.

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the National Panel discussion on "Heat Crisis in India: Challenges & Preparedness" organized by Goldcollar Talks on 11th May.

Shri Satyendra Kumar Met-A, attended the TOLIC workshop at Assam Rifles Shillong on 12.05.2026.

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the Panel Discussion on High-Level Dialogue: Heat Risk to Resilience: Policy, People and Solutions under India Heat Summit 2026: Rising Temperature Shared Solutions at India Habitat Centre, New Delhi on 13th May, 2026.

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the meeting under the Chairmanship of Addl. Secretary (DM) to discuss on "Space-based Disaster Management Requirements in India" at Conference Hall No. 34000-B, 4th Floor, Kartavya Bhavan, 3, Janpath Road, New Delhi on 13th May.

A delegation of six experts from Malawi, Africa visited IMD and met **Dr. Mrutyunjay Mohapatra**, DGM IMD to enhance collaboration between the two agencies on 13th May, 2026.

Dr. Rizwan Ahmed, Scientist-D, and **Shri R. B. Chinchghare**, Met-B, attended the AAI Nagpur Safety Meeting regarding operational and aviation safety-related matters held on 13/05/2026.

Dr. Mrutyunjay Mohapatra, DGM IMD in the AI Transformation Conclave 2026 as a Key Speaker organized by

GovConnect in collaboration with the Department of Administrative Reforms & Public Service Management and State Transformation Commission (STC), Government of Uttar Pradesh at Lucknow on 15th May.

Shri. Sai Krishnan K. C. Scientist G and **Dr. O. P. Sreejith**, Scientist F attended the inaugural function of the Incubation Centre for Startups in Weather & Climate on 15th May 2026 at IITM Pune.

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the meeting with National Disaster Management Authority and Central Water Commission regarding forthcoming BRICS Meeting on 21st May, 2026.

Shri. Sai Krishnan K. C. Scientist. 'G' and **Smt. Arti Bandgar**, Scientist. 'D' attended the "State-level Pre-Kharif Season Review Meeting – 2026," under the chairmanship of the Hon'ble Chief Minister, on May 21, 2026 at Mumbai.

Dr. Mrutyunjay Mohapatra, DGM IMD participated as an esteemed resource person for a group of about 60 young IAS officers for discussion and group activity on cyclone and share invaluable insights drawn from years of experience on cyclone disaster risk reduction and management and other important niche areas at NIDM Campus, Rohini on 23rd May, 2026.

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the Study Visit of the Committee on Government Assurances, Rajya Sabha to Shillong on 25th May, 2026 to examine assurance given in the Rajya Sabha during reply to USQ 1154 dated 01.08.2024 regarding "Installation of Doppler Weather Radar Network" during 24th-25th May, 2026.

भारत मौसम विज्ञान विभाग (मुख्यालय) नई दिल्ली की राजभाषा कार्यान्वयन समिति की 172^{वीं} तिमाही बैठक महानिदेशक महोदय की अध्यक्षता में दिनांक 26.05.2026 को आयोजित की गई। सभी प्रादेशिक मौसम केंद्रों के प्रमुखों तथा उपकार्यालय के प्रमुखों ने ई- माध्यम से भाग लिया। मुख्यालय की राजभाषा कार्यान्वयन समिति के सदस्यों ने भौतिक रूप से बैठक में भाग लिया।

Maj. Gen (Retd.) Praveen Mathur from Directorate General of Hydrocarbon (DGH) visited IMD and met **Dr. Mrutyunjay Mohapatra**, DGM IMD regarding matter of mutual coordination and official importance on 27th May, 2026.

Dr. Mrutyunjay Mohapatra, DGM IMD participated as Panelist in the programme "Aapda Ka Samna" focusing on "Heatwave" at DD News Studio, Doordarshan Bhawan, New Delhi on 27th May.

Dr. Balasubramanian, Scientist-F, and **Dr. Praveen Kumar**, Scientist-C, RMC Nagpur, attended the first meeting of the Flood Crisis Management Team (FCMT) for the Monsoon-2026 season, organized by the Central Water Commission (CWC), Nagpur on 27 May 2026.

Dr. Mrutyunjay Mohapatra, DGM IMD participated in the National Conference on Agriculture for Kharif campaign 2026 at NASC Complex, Pusa, New Delhi on 28th and 29th May, 2026 and made a presentation on long range forecast of monsoon rainfall during 2026.

Dr. D R Patannaik, Sc-G and **Sh. Anshul Chauhan**, Sc-D has participated in the second BRICS DRR Group meeting held at Taj Puri spa and Resort dated on 03-05 June, 2026.

Dr. M. Mohapatra participated in the discussion on the proposal on Cosmic ray speciation detector and the input of the primary data for the modeling for Weather and Earthquake Early Warning system improvement” during 9th Annual Lightning Conference on 11th June.

Dr. M Mohapatra participated in the Session 2 of the WMO AI Governance Consultation Meeting through VC on 11th June.

Shri Vikrant Nimesh, Met-A attended the Meeting of State Level Coordination Committee on Crop Insurance Scheme (SLCCCI) for PMFBY in the Secretary's Chamber Room No. 104, Additional Building, Meghalaya (Civil) Secretariat on 12.06.2026.

Dr. M Mohapatra, DGM IMD participated in the preparatory meeting at Srinagar ahead of **Shri Amarnathji Yatra** to be convened by Ministry of Home Affairs on 20th June.

Shri Thangjalal Lhouvum, Sc-D, Head MC Shillong and **Shri Shubham Srivastava**, SA attended the Inter-Media Publicity Coordination Committee (IMPCC) Meeting on for the month of June, 2026 at **Akashvani (All India Radio), Lachauimiere, Shillong** on 24.06.2026.

Dr. M. Mohapatra, DG IMD chaired the meeting of the Selection Committee for the 30th Professor Dr. Vilho Vaisala Award for an outstanding research paper on Instruments and Methods of Observation and 11th Professor Vilho Vaisala Award for the development and implementation of Instruments and Methods of Observation in developing countries on 23rd June.

Shri Thangjalal Lhouvum, Sc-D, Head MC Shillong attended the online VC meeting for DWR Tura and Shillong site meeting with Radarlab and RMC Guwahati on 29.06.2026.

India Meteorological Department organised Annual Cyclone Review & Monsoon Review (ACR/AMR)-2026 meeting virtually during 7th -9th April to assess the accuracy of forecasts & developments in weather forecasting services and develop strategies for future improvements.

India Meteorological Department organised Pre-Cyclone Exercise Meeting on 10th April under the Chairmanship of **Dr. M. Mohapatra**, DG IMD to apprise the disaster managers and stakeholders about the new initiatives in cyclone warning and marine weather services, achievements during last year and to collect feedback from the disaster managers for further improvement in services. There were about 150 participants including various national and state level disaster managers and stakeholders.

TRAININGS

प्रशिक्षण अनुभाग द्वारा दी जा रही आई. एम. टी. सी. प्रशिक्षण में दिनांक 02.04.2026 को श्री सचिन कादयान, कनिष्ठ अनुवाद अधिकारी द्वारा नोटिंग एवं ड्राफ्टिंग पर एक व्याख्यान दिया गया।

A four-week summer placement course has been organised by Agrimet Division, IMD, Pune, from 6th to 30th April 2026. B.Tech (Agricultural Engineering) students from various universities of Maharashtra have participated in the said course. Scientists of the division delivered lectures on the following topics during the course: 57 Students and 2 faculty members from SDGI Global University, Ghaziabad visited Sat. Met. Division on 8th April 2026 for educational visit.

The WMO-recognized Meteorological Training Institute (MTI), IMD Pune, in collaboration with the AWS Laboratory, Surface Instrumentation Division (SID), CRS, IMD Pune, and the Department of Agriculture, Government of Maharashtra, conducted a three-day Customized AWS Training Programme during 22–24 June 2026 for Technical Consultants under the MahaVedh Project. The programme focused on capacity building in the operation and maintenance of remote Automatic Weather Stations to ensure the generation of high-quality meteorological data for weather monitoring and agricultural decision-making.



WMO-recognized Meteorological Training Institute (MTI), IMD Pune, in collaboration with the AWS Laboratory, Surface Instrumentation Division (SID), CRS, IMD Pune, and the Department of Agriculture, Government of Maharashtra

Dr. Iyyapan M, Scientist-D has attended a training programme on “Cybersecurity and Privacy for Government Personnel” from 15th to 17th April 2026, organized by NeGD in collaboration with the Administrative Staff College of India (ASCI) in Hyderabad.

Sh. Parmod Kumar Sc. D has attended CERT-In online training program on "Cyber Resilience for supply chain ecosystem" on 09.04.2026.

मुख्यालय द्वारा दिनांक 18.06.2026 को हिंदी कार्यशाला का आयोजन किया गया। जिसमें दिल्ली सहित विभिन्न उपकार्यालयों के लगभग 180 कर्मिकों ने भाग लिया। हिंदी कार्यशाला का शुभारंभ महानिदेशक महोदय डॉ. मृत्युंजय महापात्र के संबोधन से हुआ। कार्यशाला में मौसम मंजूषा 41^{वें} का विमोचन भी किया गया। श्री कुलदीप श्रीवास्तव, वैज्ञानिक-‘एफ’, श्री इंदुशेखर शर्मा, उपनिदेशक (रा.भा.), श्री गौरव ललानिया, कनिष्ठ अनुवाद तथा श्रीमती गुंजन त्यागी, कनिष्ठ अनुवाद अधिकारी ने व्याख्यान दिए।



महानिदेशक महोदय की अध्यक्षता में एक कार्यशाला का आयोजन किया गया। इस कार्यशाला के दौरान ‘मौसम-मंजूषा’ के नवीन संस्करण का विमोचन किया गया।



महानिदेशक महोदय की अध्यक्षता में एक कार्यशाला का आयोजन किया गया। इस कार्यशाला के दौरान 'मौसम-मंजूषा' के नवीन संस्करण का विमोचन किया गया।

Sh. Parmod Kumar, Sc D attended training on "Cyber Security and Privacy for Government Personnel" from 17.06.2026 to 19.06.2026 at ASCI Hyderabad.

LECTURES/TALK

On 08 April 2026 **Shri Anjit Anjan**, Scientist-F, SID, CRS, IMD Pune, was invited as the Chief Guest at Kendriya Vidyalaya, Ganeshkhind Road, Pune, for a student motivation programme. He delivered an inspiring lecture on IMD's weather forecasting systems, weather prediction models, observation networks, data processing, and dissemination of weather information, emphasizing the importance of meteorological services in public safety, disaster risk reduction, agriculture, aviation, and national development.

Dr. Satyaban B Ratna, Scientist-E, delivered a talk on "Non-Stationary Teleconnections Between Tropical Ocean SSTs and South Asian Summer Monsoon Rainfall" at the 13th MEC and 6th CLIVAR CDP Annual workshop on Abrupt changes and tipping points in Guangzhou, China, during 13-16 April 2026.

Dr. Satyaban B Ratna, Scientist-E, delivered a talk on "Climate Services, Community Awareness, and the Role of Teachers" at the Training on Weather, Environment and Climate in School Education (WISE) for School Teachers at SPPU, Pune on 25 April 2026.

On 25 April 2026 **Dr. B. Sudarsan Patro**, Scientist-E, SID, CRS, IMD Pune, conducted a science outreach programme and delivered an invited lecture on "IMD Modelling, Weather Forecasting, and Data Dissemination" at Keystone School of Engineering Pune. The

lecture highlighted IMD's weather forecasting systems, weather prediction models, observation networks, data processing, and dissemination of weather services for public safety, disaster risk reduction, agriculture, aviation, and other stakeholders.

Dr. O.P. Sreejith Scientist 'F' delivered a lecture during the 1st WISE-2026 National Training Workshop in arranged by SAMA and SPPU on 27th April 2026 at CRS, IMD, Pune.

Dr. M. Mohapatra delivered an Invited Talk during Meghayan-26 organised by the Indian Navy to commemorate WMO Day at INS Hansa, Goa on 30th April.

Dr. Satyaban B Ratna, Scientist-E, delivered a talk on "IMD Products for Flood Forecasting" at the Training Program on "Conventional Flood Forecasting" at NWA, Pune, on 30 April 2026.

Dr. Ashutosh Kumar Misra, Scientist E and **Dr. Jaya Dharmi Parihar**, Scientist D delivered lectures as a guest faculty on various topics of the 'Agricultural Meteorology' course for M.Sc. (Atmospheric Science) and M.Tech. (Atmospheric Science) programs at Savitribai Phule Pune University during the month of April.

Dr. O. P. Sreejith, Scientist 'F' delivered a lecture (online) "Long Range forecasting of ISMR: Present modalities & challenges" to Advanced Training for Meteorological Officers (ATMOS), AFAC Coimbatore 26 May 2026

Dr. B. Sudarsan Patro, Scientist-E, SID, CRS, IMD Pune, delivered an invited online lecture and conducted a hands-on training session on "Weather Data Processing and Model Training Using Python" during the training programme "Empowering Science and Data Analysis Using Python," organized by the Indian Institute of Geomagnetism (IIG), Magnetic Observatory, Alibag, Navi Mumbai on 29 May 2026.

Shri Thangjalal Lhouvum, Sc-D, Head MC Shillong attended the Advanced Security Liaison Meeting for the visit of the Hon'ble Union Home Minister to Shillong on the 4th June, 2026 with **Shri Satyendra Kumar**, Met-A at Main Secretariat Conference Room chaired by the Chief Secretary, Meghalaya.

Dr. Satyaban B Ratna, Scientist E, was invited by the Gujarat Institute of Desert Ecology, Bhuj, to deliver a talk (online) titled The Ocean's Role in Shaping Climate Variability and Marine Biodiversity on the occasion of World Ocean Day on 8 June 2026.

Smt Arti Bandgar, Sc 'D', has delivered talk "Long Range Forecasting of SWM during 2026 in Maharashtra" in Local language Marathi in a Farmers Awareness Program, Southwest monsoon status & Kharif preparedness in Vidarbha during 2026 jointly organized by Regional Meteorological Centre (RMC), IMD, Nagpur Dr. Panjabrao Deshmukh Krishi Vidyapeeth (PDKV), Akola, Department of Agriculture, Govt. of Maharashtra.

Dr. O.P. Sreejith Scientist 'F' delivered talk on "El Niño and Its Impact on the Indian Monsoon" during a One-Day Workshop to celebrate the World Environment Day, on the theme "A Global Call for Climate Action", in association with Pune Municipal

Corporation, Maharashtra Krishna Valley Development Corporation, and the Indian Water Works Association (Pune Centre) On 7th June 2026, at Pune Local Centre of “The Institution of Engineers (India).

Smt. Arti Bandgar, Scientist. ‘D’ delivered lecture on “The SASCOF Outlook for Rainfall and Temperature for the 2026 Southwest Monsoon season in the Twenty second session of the Forum on Regional Climate Monitoring, assessment and Prediction for Asia (FOCRAII).

Dr. O.P. Sreejith Scientist ‘F’ has delivered a talk on SW monsoon 2026 for Andhra Pradesh in stakeholders meet in collaboration with NIDM South Campus Vijayawada on 2nd June 2026.

Dr. Kuldeep Srivastava, Scientist-F & Head (Information System and Services Division) have delivered a lecture on Promotion of the use of Hindi in e-Office in Hindi workshop conducted on 18.06.2026.

Dr. Asha Latwal, Scientist D delivered an online lecture on “Agromet Products: Concept, Demonstration and utilization in Agromet advisory Services” during Three-Day Comprehensive Hands-on Training Programme (during 23-25 June 2026) on “Agromet Advisory Services under GKMS” organised by AASD, IMD, New Delhi in collaboration with SVPUA&T, Meerut, Uttar Pradesh on 24.06.2026.

Shri Thangjalal Lhouvum, Sc-D, Head MC Shillong and Shri Donald M Dkhar, SA attended the MBMA Workshop on Geo-Spatial Applications of Climate Change Impacts and Resilience on 25.06.2026. Shri Thangjalal Lhouvum, Sc-D was Co-Chair of the technical session.

Awareness Program/Achievement

During the quarter 14 Farmers awareness programme (FAP) was organized across the country.



Awareness programme (FAP) was organized across the country

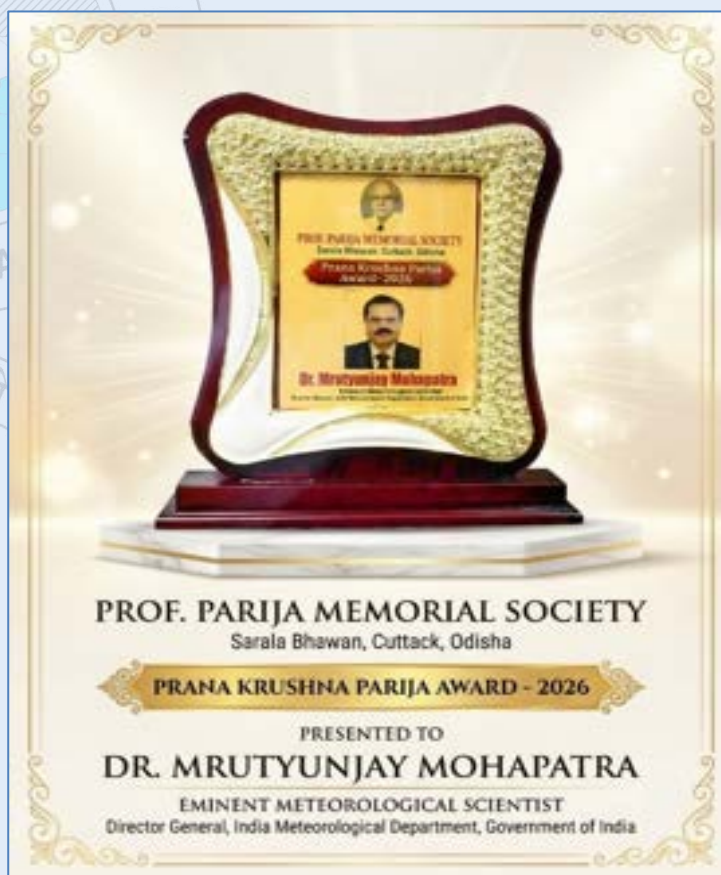
SIMC, Bengaluru represented MoES in a three-day exhibition on the theme “2nd Vision Karnataka” at Belagavi from 23rd to 25th and bagged “Best Participation” award from Hon. MP, Sh. Jagadeesh Shettar.



SIMC, Bengaluru represented MoES in a three-day exhibition on the theme 2nd Vision Karnataka

Awards

Dr. M. Mohapatra, DGM IMD was honoured with ‘Prana Krushna Parija Award - 2026’ for his life time contribution to meteorological science at Cuttack, Odisha on 5th June, 2026.



Dr. M. Mohapatra, DGM IMD was honoured with ‘Prana Krushna Parija Award - 2026’ for his life time contribution to meteorological science at Cuttack, Odisha on 5th June, 2026.

राजभाषायी निरीक्षण

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा दिनांक 21.04.2026 को गोवा में मौसम कार्यालय-गोवा का राजभाषाई निरीक्षण किया गया। इस निरीक्षण में मुख्यालय की ओर से भी राहुल सक्सेना, वैज्ञानिक-‘जी’ ने भाग लिया साथ ही राजभाषा अनुभाग से श्री सचिन कादयान, कनिष्ठ अनुवाद अधिकारी ने भी भाग लिया। निरीक्षण सफल रहा।



माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा दिनांक 21.04.2026 को गोवा में मौसम कार्यालय-गोवा का राजभाषाई निरीक्षण किया गया।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा मौसम कार्यालय- जलपाईगुड़ी का दिनांक 19.05.2026 को गंगटोक में निरीक्षण किया गया। निरीक्षण के दौरान मुख्यालय से डॉ. विजय सोनी, वैज्ञानिक ‘जी’ और श्रीमती अंजना मन्हास, प्रशासनिक अधिकारी-11/ राजभाषा संपर्क अधिकारी उपस्थित रही। सुश्री गुंजन त्यागी, कनिष्ठ अनुवाद अधिकारी सहयोग के लिए उपस्थित रहीं। निरीक्षण सफल एवं संतोषजनक रहा।



माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा मौसम कार्यालय- जलपाईगुड़ी का दिनांक 19.05.2026 को गंगटोक में निरीक्षण किया गया।

दिनांक 18.05.2026 को मौसम केंद्र- गंगटोक का हिंदी संपर्क अधिकारी श्रीमती अंजना मन्हास, प्रशासनिक अधिकारी-11 के द्वारा राजभाषायी निरीक्षण किया गया।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा दिनांक 23.06.2026 को नैनीताल में मौसम कार्यालय-देहरादून का राजभाषाई निरीक्षण किया गया। इस निरीक्षण में मुख्यालय की ओर से भी राहुल सक्सेना, वैज्ञानिक-‘जी’ ने भाग लिया साथ ही राजभाषा अनुभाग से श्री इंदु शेखर शर्मा, उपनिदेशक (रा.भा.) एवं श्री गौरव ललानिया, कनिष्ठ अनुवाद अधिकारी ने भी भाग लिया। निरीक्षण सफल एवं संतोषजनक रहा।



माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा दिनांक 23.06.2026 को नैनीताल में मौसम कार्यालय-देहरादून का राजभाषाई निरीक्षण किया गया।

दिनांक 18.06.2026 को राजभाषा अनुभाग द्वारा प्रादेशिक मौसम विज्ञान केंद्र- नई दिल्ली का राजभाषाई निरीक्षण किया गया।

दिनांक 09.04.2026 की संसदीय राजभाषा समिति की भौतिक एवं साक्ष्य समिति द्वारा गोवा में पी. बी.ओ. रत्नागिरी का निरीक्षण किया गया। निरीक्षण सफल एवं संतोषजनक रहा। मुख्यालय से भी सचिन कादयान, कनिष्ठ अनुवाद अधिकारी सहायता के लिए निरीक्षण के दौरान उपस्थित रहे।

दिनांक 21.04.2026 को डॉ. डी. आर. पटनायक, वैज्ञानिक ‘जी’ की अध्यक्षता में मुख्यालय में पुस्तकालय सलाहकार समिति की बैठक आयोजित हुई जिसमें श्रीमती अंजना मन्हास, प्रशासनिक अधिकारी ने भाग लिया।

कार्यान्वयन

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा दिनांक 22.04.2025 को मौसम कार्यालय संताकूज- मुंबई के निरीक्षण से संबंधित ‘आश्वासन’ और ‘ध्यान देने योग्य बातें’ की अनुवर्ती कार्रवाई की रिपोर्ट दिनांक 10.04.2026 को पृथ्वी विज्ञान मंत्रालय को आगे की कार्रवाई के लिए प्रेषित की गई।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा बाढ़ मौसम कार्यालय- जलपाईगुड़ी का दिनांक 19.05.2026 को किए गए निरीक्षण का कार्यवृत्त तैयार किया गया और संबंधित कार्यालयों और अनुभागों को मेल के माध्यम से भेजा गया।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा दिनांक 24.04.2025 को मौसम कार्यालय- सोलापुर के निरीक्षण से संबंधित ‘आश्वासन’ और ‘ध्यान देने योग्य बातें’ की अनुवर्ती कार्रवाई की रिपोर्ट

दिनांक 10.04.2026 को पृथ्वी विज्ञान मंत्रालय को आगे की कार्रवाई के लिए प्रेषित की गई।

मुख्यालय की 31 मार्च 2026 को समाप्त तिमाही की राजभाषा हिंदी के प्रगामी प्रयोग से संबंधित तिमाही प्रगति रिपोर्ट दिनांक 28.04.2026 को राजभाषा विभाग गृह मंत्रालय के वेबसाइट पर अपलोड की गई और इसकी प्रति पृथ्वी विज्ञान मंत्रालय को उपलब्ध कराई गई।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा बाढ़ मौसम कार्यालय- जलपाईगुड़ी के निरीक्षण से संबंधित निरीक्षण प्रश्नावली को भरकर समिति सचिवालय में दिनांक 04.05.2026 को हाथों-हाथ जमा करवाया गया और इसकी दो प्रतियाँ पृथ्वी विज्ञान मंत्रालय को भी उपलब्ध कराई गई।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा दिनांक 20.11.2024 को प्रादेशिक मौसम केंद्र- गुवाहाटी के निरीक्षण के दौरान प्राप्त 'आश्वासन' और 'ध्यान देने योग्य बातें' पर की गई अनुवर्ती कार्रवाई की रिपोर्ट दिनांक 26.05.2026 को पृथ्वी विज्ञान मंत्रालय को प्रेषित की गई।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा बाढ़ मौसम कार्यालय- जलपाईगुड़ी का दिनांक 12.05.2025 को किए गए निरीक्षण का कार्यवृत्त तैयार किया गया और संबंधित कार्यालयों और अनुभागों को मेल के माध्यम से भेजा गया।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा मौसम केंद्र- शिलांग का दिनांक 28.06.2026 को दिए गए निरीक्षण में प्राप्त 'ध्यान देने योग्य बातें' और 'आश्वासन' के मदों पर की गई अनुवर्ती कार्रवाई की रिपोर्ट दिनांक 30.06.2025 को पृथ्वी विज्ञान मंत्रालय को प्रेषित की गई।

माननीय संसदीय राजभाषा समिति की दूसरी उपसमिति द्वारा मौसम केंद्र- अगरताला का दिनांक 26.06.2025 को किए गए निरीक्षण में प्राप्त 'ध्यान देने योग्य बातें' और 'आश्वासन' की मदों पर की गई अनुवर्ती कार्रवाई की रिपोर्ट दिनांक 30.06.2026 को पृथ्वी विज्ञान मंत्रालय को प्रेषित की गई।

Research & Publications

Annual Climate summary 2025 published and uploaded on the website. Published State of Climate in Asia 2025 (pub no. WMO-No. 1397) **Sreejith OP**, Sc.-F (co-lead author, IMD (India Meteorological Department)), Peiqun Ahang (co-lead author, China Meteorological Administration (CMA)).

Nineteen (19) research articles have been published in Mausam Vol. 77 No. 2 (2026):

Research papers by IMD officials published in Mausam

Bharwani Hemlata; Saxena Rahul; Kumari Maya; Mohapatra M. "Evaluating the performance of the Flash Flood Guidance System: A Case study from Himachal Pradesh, India" MAUSAM 77 2 <http://dx.doi.org/10.54302/mausam.v77i2.7366>

Rajavel M. "Development of synoptic analogue model for quantitative precipitation forecast in the sub-basins of river Krishna" MAUSAM 77 2 <http://dx.doi.org/10.54302/mausam.v77i2.6571>

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

Dharavath, Nagaraju; Goroshi Sheshakumar "Decoding vegetation resilience: NDVI trends and climate impacts in Indian agriculture" (vol 198, 37, 2026) ENVIRONMENTAL MONITORING AND ASSESSMENT 198 6 <http://dx.doi.org/10.1007/s10661-026-15432-9>

Ballav Srabanti; Mishra Anoop Kumar; Kumar Gajendra; Adhikary Sourav "Three Decades of Winter Fog Variability at Delhi IGI Airport: Trends, Persistence, and Environmental Drivers Using Sen's Slope and Transition Probability Analysis" PURE AND APPLIED GEOPHYSICS <http://dx.doi.org/10.1007/s00024-026-04006-y>

Shankar Anand "Unravelling the interplay of space, time, and weather in dengue outbreaks: An insight from Bihar, India" JOURNAL OF VECTOR BORNE DISEASES 63 2 http://dx.doi.org/10.4103/jvbd.jvbd_114_25

Mishra Anoop Kumar "Capturing intense rainfall bursts: a remote sensing perspective on temporal and spatial resolution effects" REMOTE SENSING LETTERS 17 4 <http://dx.doi.org/10.1080/2150704X.2026.2644230>

Shukla Krishna Kumar; Mishra Anoop Kumar; Kumar Gajendra; Sahu Dipak Kumar; Bhute Shubhangi; Adhikary Sourav "Atmospheric drivers of the 26 May 2025 heavy rainfall event over mumbai: insights from observations and reanalysis" NATURAL HAZARDS 122 9 <http://dx.doi.org/10.1007/s11069-026-08118-5>

Rohini P.; Rajeevan M.; Sabeerali C. T.; Sreejith O. P. "Long-Term Trends of Heat Stress Over the Coastal Regions of India" INTERNATIONAL JOURNAL OF CLIMATOLOGY 46 6 <http://dx.doi.org/10.1002/joc.70307>

Prabhu Pallavi; Dutta Somenath; Boragapu Raja; Saroja Pushpa; Mahato Somnath "A Study on the Dynamical Aspects of Movement and Intensification of Intense Cyclonic Vortex: A Case Study of Cyclone" MOCHA PURE AND APPLIED GEOPHYSICS <http://dx.doi.org/10.1007/s00024-026-03974-5>

Tiwari Arpit; Nanjundan Preethi; Kumar, Ravi Ranjan; Ratna Satyaban Bishoyi "Transition in Köppen Climate Zones and Its Impacts on Hydroclimatic Extremes Across India" INTERNATIONAL JOURNAL OF CLIMATOLOGY 46 8 <http://dx.doi.org/10.1002/joc.70381>

Velusamy Guhan; Akasapu Dharma Raju; Kopparthi Nagaratna; Goroshi Sheshakumar "A multi-metric diagnostic framework for district-level climate risk advisory in maize cultivation: A Telangana case study" THEORETICAL AND APPLIED CLIMATOLOGY 157 6 <http://dx.doi.org/10.1007/s00704-026-06301-z>

Velusamy Guhan; Goroshi Sheshakumar; Akasapu Dharma Raju; Kopparthi Nagaratna "Decomposing rainfall dynamics across Indian metros: Bayesian trends, spectral cycles, and climatic coherence" ACTA GEOPHYSICA 74 4 <http://dx.doi.org/10.1007/s11600-026-01926-0>

Velusamy Guhan; **Akasapu Dharma Raju; Kopparthi Nagaratna** "Novel quantitative framework for evaluating hybrid models in urban air quality prediction: a case study of Hyderabad" METEOROLOGY AND ATMOSPHERIC PHYSICS 138 4 <http://dx.doi.org/10.1007/s00703-026-01167-2>

Velusamy Guhan; **Goroshi Sheshakumar; Akasapu Dharma Raju; Kopparthi Nagaratna** "District-Level Climate Variability, Yield Resilience, and Risk Categorization of Sugarcane in Semi-Arid Telangana" INTERNATIONAL JOURNAL OF CLIMATOLOGY <http://dx.doi.org/10.1002/joc.70448>

Sandeep A.; Saif Rizwan; Das Sunit; Mohan K. N. "Heavy rainfall verification over Arunachal Pradesh during the Indian Summer Monsoon: a diagnostic study" JOURNAL OF EARTH SYSTEM SCIENCE 135 2 <http://dx.doi.org/10.1007/s12040-026-02796-2>

Yadav Jaya; Tiwari Kailash Chandra; **Mitra Ashim Kumar** "Comparative assessment of knowledge-based and machine learning models using Brihat Samhita insights for monsoon rainfall forecasting" JOURNAL OF EARTH SYSTEM SCIENCE 135 3 <http://dx.doi.org/10.1007/s12040-026-02864-7>

Jha Dinkar; Gautam Anupam; **Kant Shashi** "Rainfall analysis in Delhi NCR using stochastic modelling technique: Markov chains" JOURNAL OF EARTH SYSTEM SCIENCE 135 2 <http://dx.doi.org/10.1007/s12040-026-02826-z>

Ijas I. S.; Karrevula Narayana Reddy; **Ratna Satyaban Bishoyi; Dubey Saket; Samyuktha Paleru** "Urbanization-induced changes in rainfall and drought patterns: a study across six Indian states with mega-cities" JOURNAL OF HYDROLOGY 669 <http://dx.doi.org/10.1016/j.jhydrol.2026.135077>

Sambyal Shiwalika; Shastri Sourabh; Taloor Ajay Kumar; **Kumar Amit; Mansotra Vibhakar** "Statistical and machine learning-based bias-correction of ERA5 forcing data: Implications for Himalayan glacier melt modeling" PHYSICS AND CHEMISTRY OF THE EARTH 143 <http://dx.doi.org/10.1016/j.pce.2026.104387>

Neha; **Dwivedi Sanjeev;** Kumar V.; Guria Rajkumar; Mishra Manoranjan; Srivastava S. K. "Integrated spatio-temporal analysis of historical and future projections precipitation variability alongside agricultural production trends in the North Western Himalayan Region" THEORETICAL AND APPLIED CLIMATOLOGY 157 6 <http://dx.doi.org/10.1007/s00704-026-06326-4>

Sharma M.; Mohapatra M.; Suneetha P. "Characteristics of lifetime maximum intensity of tropical cyclones over the North Indian ocean" THEORETICAL AND APPLIED CLIMATOLOGY 157 7 <http://dx.doi.org/10.1007/s00704-026-06345-1>

Jena Chinmay; Soni Vijay Kumar; Kumar Anikender; Bist Sanjay; Taneja Kanika; Tiwari Arpit; **Das Ananda Kumar; Pattanaik D. R.;** Ghude Sachin D.; Uppstu Andreas; Kouznetsov Rostislav; Hyvarinen Antti; Pai D. S.; **Mohapatra Mrutyunjay;** Rajeevan M. "Evaluations of PM2.5 forecast during Winter 2020 over India using WRF-SILAM model" ATMOSPHERIC

ENVIRONMENT

372

<http://dx.doi.org/10.1016/j.atmosenv.2026.121877>

Rakshit Gargi; Jana Soumyajyoti; Majumder Suryasnata; Pal Jayanti; **Mitra Ashim Kumar; Giri Ram Kumar** "Multiplatform observations and WRF-Based diagnosis of an extreme pre-monsoon convective outbreak over the Delhi National Capital Region, India" JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS 282 <http://dx.doi.org/10.1016/j.jastp.2026.106800>

Chakraborty Sankhasubhra; Pattnaik Sandeep; **Kannan B. A. M.** "Influence of inner-core dynamics regulating the intensity decay of landfalling tropical cyclones over the eastern coast of India" QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY 152 777 <http://dx.doi.org/10.1002/qj.70160>

Anand Vrinda; Ghude Sachin D.; Panicker Abhilash S.; Govardhan Gaurav; Jat, Rajmal; Maji Sujit; Rathod Aditi; Shinde Rajanikant; Kori Pramod; **Soni V. K.;** Rao Molla Nageswar; Mukherjee Arkabane; Khamgaonkar Kalyani; Pakkattil Anoop; Varghese Anu; Yadav Prafull P.; Roy Chaitri; Wagh Sandeep; Kadam Vikram "Advancing MoES Air Quality Monitoring and Forecasting in Indian Cities: Insights from SAFAR and MAPAN, toward MAPAN-II, with Focus on the Himalayas and Oceanic Outflows" BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY 107 5 <http://dx.doi.org/10.1175/BAMS-D-24-0220.s1>

Amere Anand Babu; Savita Abhishek; Dash Mihir Kumar; **Chakravorty Soumi** "Multidecadal variability of subsurface heat content in the southwestern Indian Ocean and its implications" CLIMATE DYNAMICS 64 6 <http://dx.doi.org/10.1007/s00382-026-08237-6>

Bin Yousuf Junaid; **Sudeepkumar B. L.;** Bhagwat S. H.; Varikoden Hamza "Spatiotemporal characteristics of lightning and prediction based on suitable thermodynamic indices over India" WEATHER <http://dx.doi.org/10.1002/wea.70093>

Rajewar Shubham K.; Asoka Akarsh; Krishnan K. C. Sai; **Puviarasan N.;** Purohit Ritesh; Bhu Harsh; Gahalaut Vineet K. "Groundwater depletion in North West India and its response on crustal deformation" NEAR SURFACE GEOPHYSICS 24 2 <http://dx.doi.org/10.1002/nsg.70036>

Mondal Moutusi; Dutta Debipriya; **Mahato Somnath** "Microwave Imaging: Using Gauss Newton Krylov Method for Breast Cancer Detection Purpose" NATIONAL ACADEMY SCIENCE LETTERS-INDIA <http://dx.doi.org/10.1007/s40009-026-02213-8>

Mahato Somnath; Manandhar Dinesh; Pillai Aishrya S.; Goswami Mrinal; Bose Anindya "First Report on MADOCA Precise Point Positioning (PPP) Performance Evaluation from India" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES INDIA SECTION A-PHYSICAL SCIENCES <http://dx.doi.org/10.1007/s40010-026-01050-0>

Mahapatra Debasish; Panda S. K.; **Banik Trisanu;** Banerjee, Bijit Kumar "Performance assessment of WRF-ELEC and lightning potential index for improved forecasting in Odisha, India"

NATURAL HAZARDS 122 9 <http://dx.doi.org/10.1007/s11069-026-08116-7>

Saini Rohtash; Attada Raju; Hale Nikhil; Kumar Prashant; **Srivastava Akhil**; Yesubabu, V. "Cloud microphysics sensitivity and predictability of a multi-day extreme rainfall event over the Indian Himalayas in convective-permitting simulations" METEOROLOGY AND ATMOSPHERIC PHYSICS 138 4 <http://dx.doi.org/10.1007/s00703-026-01169-0>

Velusamy Guhan; **Goroshi Sheshakumar**; Akasapu Dharma Raju; **Kopparthi Nagaratna**; Almazroui Mansour; Elhag Mohamed "Stochastic Risk Assessment of Cotton Pest Outbreaks in Tropical India: Entropy, Gini Coefficients, and Machine Learning for Sustainable Agroecosystem Management" SUSTAINABILITY 18 11 <http://dx.doi.org/10.3390/su18115673>

Infrastructure Development & Installations

VISITORS

Educational Visit by 45 Students from Raisoni College to the Regional Meteorological Centre (RMC), Nagpur.



Students & faculty from Raisoni College, Nagpur, visited RMC Nagpur on 7th May 2026

A team of post graduate Doctors pursuing Community Medicine from St. John's medical college & Hospital, Bengaluru visited MC Bengaluru on 15th and were briefed on the mandate of MC Bengaluru.



A Team of Doctors pursuing Community Medicine from St. John's medical college

Dr. N. Sudha Murthy, member of Rajya Sabha visited MC Bengaluru on 24th June 2026 to familiarize with onset, advancement and withdrawal process of South West Monsoon. Shri. A Prasad, Scientist-D explained her the same in detail.



Visit of Dr. N. Sudhamurthy, Mp, Rajyasabha to MC Bengaluru

A five member Team from DDK Shillong (Laitkor) accompanied by Ms. Evallisa Lyngdoh, Programme Executive, DDK Meghalaya on 17.06.2026 .



A five member team from DDK Shilong

Shri Gajendra Kumar, Scientist-G & Head, Regional Meteorological Centre, Nagpur actively engaged with students, professionals, researchers, and stakeholders to promote awareness regarding meteorology, weather forecasting and the role of IMD in weather monitoring and public services.

WEATHER INFORMATION

Significant Weather

April 2026

Western Disturbances: During the month, 7 Western Disturbances (WDs) (2nd-7th; 6th-8th; 10th-12th; 16th-18th; 18th-20th; 24th-28th; 27th-29th April) impacted Western Himalayan Region and Northeast India. Out of these 3 WDs impacted adjoining plains of India during 2nd to 8th & 27th to 29th April causing thunder rain/showers, gusty/squally winds and lightning in the plains of Northwest & adjoining Central and East India.

Thunderstorm: Large-scale thunderstorm activity occurred in many parts of the country, mainly during 1-12 April due to favorable troughs and upper air cyclonic circulations.

Heat Wave conditions: WDs and thunderstorm activities kept maximum temperatures in check during the first half of the month and subsequently, maximum temperatures increased across the country, leading to heat wave conditions. Heat wave days (1 to 5) were mainly observed over northern and north western India (Fig 1).

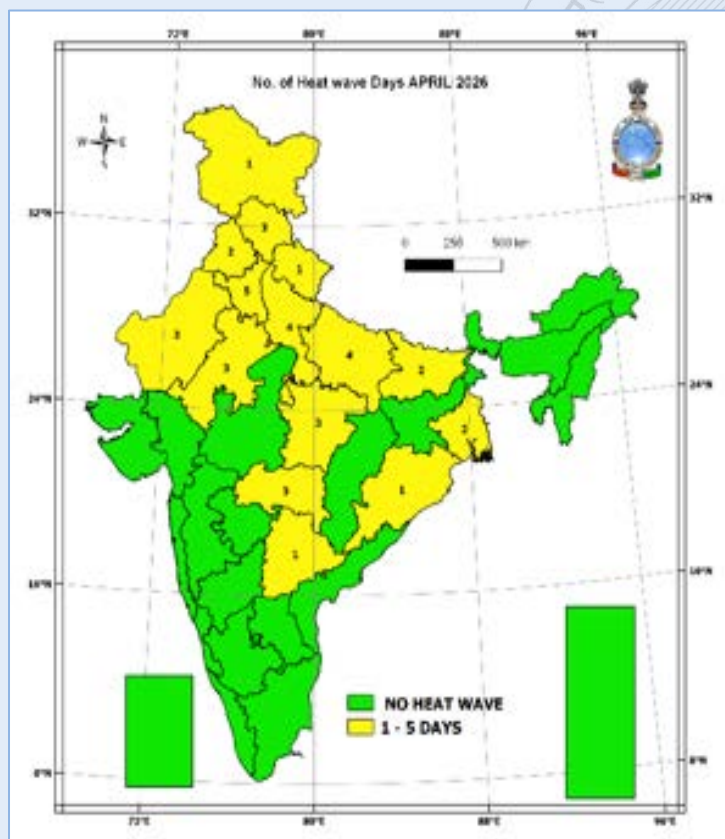


Fig. 1. Sub-division wise number of Heat Wave days in the month of April 2026

Average Temperature during April-2026

The average maximum, average minimum and mean temperature for the country as a whole during April-2026 were 35.13 °C,

22.07 °C and 28.60 °C respectively, against the normal of 35.02 °C, 21.57 °C and 28.29 °C based on data of 1991-2020. Thus, the average minimum and mean temperature were above normal with departure from normal of 0.50 °C and 0.31 °C respectively and average maximum temperature was near normal with departure from normal of 0.11 °C for the country as a whole.

The highest maximum temperature of 47.6 °C had been recorded at Banda (East Uttar Pradesh) on 27th April, 2026 and the lowest minimum temperature of 12.0 °C had been recorded at Banda (East Uttar Pradesh) on 09th April & Nazimabad (West Uttar Pradesh) on 10th April 2026 over the plains of the country during the month.

Rainfall during April-2026

The The rainfall for the country as a whole, for the month has been recorded as 35.0 mm which is -11% departure from its Long Period Average (LPA) of 39.3 mm. In all, category wise, 11 Met sub-divisions in LARGE EXCESS, 04 Met sub-divisions in EXCESS, 09 Met sub-divisions in NORMAL, 07 Met sub-divisions in DEFICIENT, 05 Met sub-divisions in LARGE DEFICIENT and none of any Met sub-divisions in "NO RAIN" category of rainfall (Fig-2/ Table- 2).

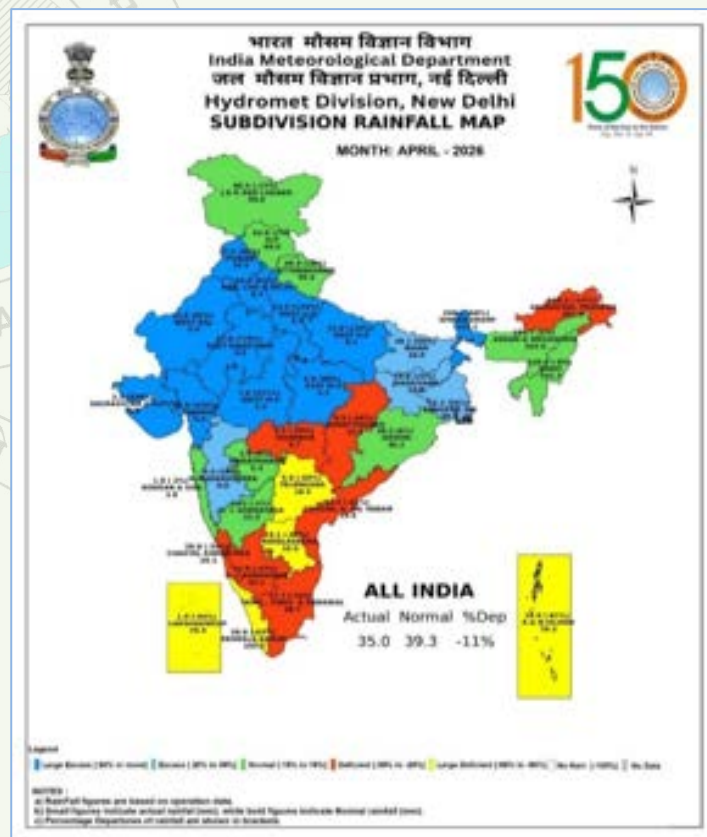


Fig. 2. Subdivision-wise rainfall distribution for April 2026

The All India rainfall for April 2026 is 40th lowest since 1901 and 10th lowest since 2001.

The rainfall statistics for the month of April- 2026 for 4 homogeneous regions and the country as a whole (Table-1)

TABLE 1

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
East & northeast India	110.1	123.5	-11%
Northwest India	34.3	31.9	7%
Central India	10.8	9.2	17%
South Peninsula	16.6	33.9	-51%
Country as a whole	35.0	39.3	-11%

LPA:-Long period average

MAY 2026

Southwest Monsoon: Southwest monsoon advanced into some parts of southeast Arabian Sea, southwest and southeast Bay of Bengal, many parts of Andaman Sea, entire Nicobar Islands and some parts of Andaman Islands including Sri Vijaya Puram on 16th May 2026. It further advanced into some more parts of southeast Arabian Sea, some parts of Comorin area, some more parts of southwest and southeast Bay of Bengal, most parts of Andaman Sea, entire Andaman & Nicobar Islands and some parts of east central Bay of Bengal on 18th May 2026. It further advanced into some parts of southwest Arabian Sea, some more parts of southeast Arabian Sea, Comorin area, southwest, southeast & eastcentral Bay of Bengal and most parts of Andaman Sea on 23rd May. It further advanced into some more parts of southwest & southeast Arabian Sea, some parts of Lakshadweep area, some more parts of southwest, southeast and eastcentral Bay of Bengal, remaining parts of Andaman Sea and some parts of westcentral Bay of Bengal on 27th May. The southwest monsoon further advanced into some more parts of southwest & southeast Arabian Sea, Lakshadweep Islands, Comorin area, southwest, southeast, westcentral and eastcentral Bay of Bengal, and some parts of northeast Bay of Bengal on 30th May 2026.

Western Disturbances: During the month, 7 Western Disturbances (WDs) (1-12th; 10th-14th; 15th-16th; 15th-17th; 17th-21th; 20th-26th; 28th May onwards) impacted Western Himalayan Region and Northeast India.

Low pressure area: One well marked low pressure area formed during 11 to 16 May over Bay of Bengal.

Heat Wave: Heat wave days of 1 – 5 days were observed over some parts of northern and eastern sub-divisions. Heat wave days of 6 – 10 days were observed over East and West Uttar Pradesh, Haryana, Chandigarh and Delhi, East and West Madhya Pradesh and Chhattisgarh. Vidarbha experienced 11 heat wave days during the month (Fig. 1).

Average Temperature during May-2026

All India average temperature during May 2026 was 30.50°C near normal by 0.11°C. The normal temperature is 30.38°C.

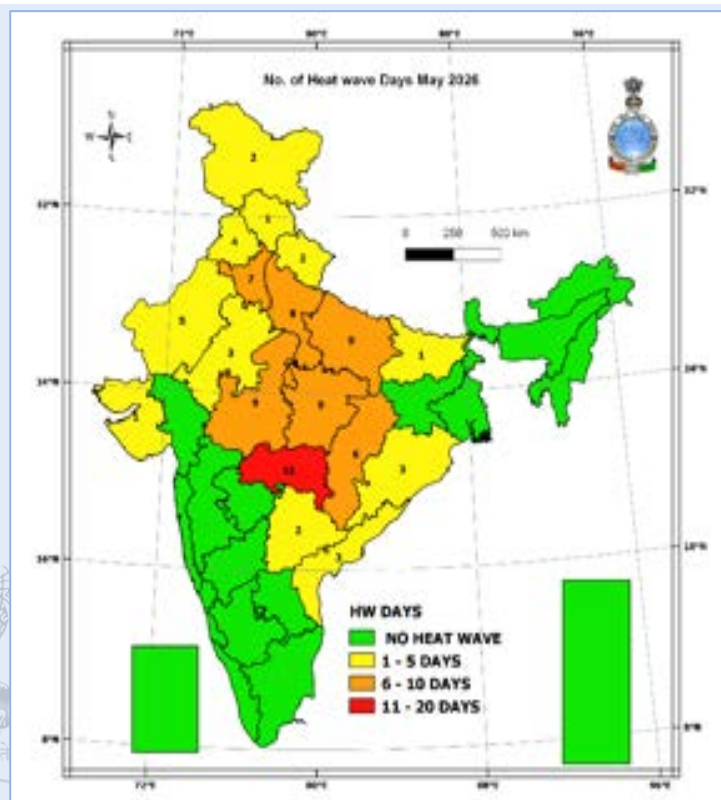


Fig. 3. Sub-division wise number of Heat Wave days in the month of May2026

The average maximum, average minimum and mean temperature for the country as a whole during May 2026 were 36.52°C, 24.34°C and 30.43°C respectively, against the normal of 36.60°C, 24.17°C and 30.38°C based on data of 1991-2020. Thus, the average maximum and mean temperature were below/near normal with departure from normal of -0.08°C and +0.05°C respectively, while average minimum temperature was above normal with departure from normal of +0.17°C for the country as a whole.

The highest maximum temperature of 48.3°C had been recorded at Barmer (West Rajasthan) on 12th May, 2026 and the lowest minimum temperature of 14.5°C had been recorded at Haflong (Assam) on 03rd May over the plains of the country during the month.

Rainfall during May-2026

The rainfall for the country as a whole, for the month has been recorded as 63.4 mm which is +3% departure from its Long Period Average (LPA) of 61.4 mm. In all, category wise, 08 Met sub-divisions in LARGE EXCESS, 08 Met sub-divisions in EXCESS, 10 Met sub-divisions in NORMAL, 07 Met sub-divisions in DEFICIENT, 03 Met sub-divisions in LARGE DEFICIENT and none of any Met sub-divisions in "NO RAIN" category of rainfall. (Fig-2/ Table-2).

The all-India rainfall for the month was 48th highest rainfall since 1901 and the 13th highest since 2001.

The rainfall for the country as a whole, for the period for 01-03-2026 to 31-05-2026 has been recorded as 131.3 mm which is +01% departure from its Long Period Average (LPA) of 130.6 mm. In all, category wise, 08 Met sub-divisions in

LARGE EXCESS, 07 Met sub-divisions in EXCESS, 13 Met sub-divisions in NORMAL, 07 Met sub-divisions in DEFICIENT, 01 Met sub-divisions in LARGE DEFICIENT and none of any Met sub-divisions in “NO RAIN” category of rainfall.(Fig-3, Table-3)

The rainfall statistics for the month of May- 2026 for 4 homogeneous regions and the country as a whole (Table-2)

TABLE 2

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
East & northeast India	171.7	189.9	-10%
Northwest India	37.0	34.6	7%
Central India	23.3	19.0	23%
South Peninsula	85.3	71.8	19%
Country as a whole	63.3	61.4	3%



Fig. 4. Subdivision-wise rainfall distribution for May 2026

June 2026

Southwest Monsoon: The Monsoon set in over Kerala on 04th June 2026, with a delay of 3 days relative to the climatological normal onset date of 01st June. Southwest Monsoon further advanced gradually into entire south, east and northeast India and many parts of central India and some parts of Northwest India by

30th June, 2026. Fig. 1 shows isochrones of advance of southwest monsoon during June 2026.

Western Disturbances: During June 2026, four Western Disturbances (WDs) affected the Western Himalayan Region and Northeast India. These systems were active during 3–7 June, 10–14 June, 15–18 June, and 18–30 June.

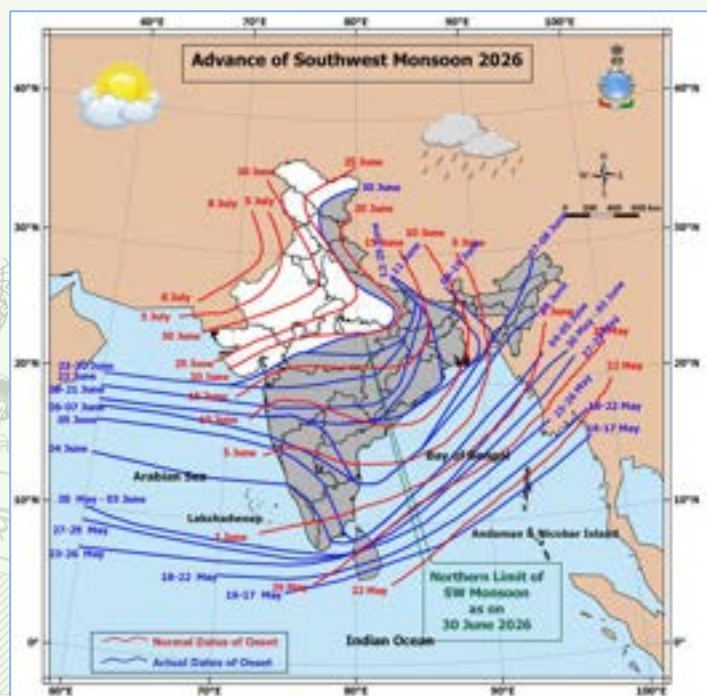


Fig. 3. Isochrones of the advance of southwest monsoon during the month of June 2026

Low pressure area: Climatologically, June witnesses an average of three low-pressure systems (LPSs), accounting for approximately 11 LPS days. However, no low-pressure area formed during June 2026, marking a significant departure from the climatological average and large deficiency in the monthly rainfall value.

Heat Wave conditions: East Uttar Pradesh experienced 14 days of heatwave during the month. 1 to 5 days of heatwave were observed over Coastal Andhra Pradesh, Odisha, West Uttar Pradesh and Haryana, while 6 to 10 days of heatwave were observed over Telangana and Vidarbha (Fig. 2).

Average Temperature during June-2026

All India average temperature during June-2026 was 30.32°C which is above normal by 0.69°C. The normal temperature is 29.63°C.

Rainfall during June-2026

The rainfall for the country as a whole, for the month has been recorded as 99.5 mm which is -40% departure from its Long Period Average (LPA) of 165.3 mm. In all, category wise, 02 Met sub-divisions in EXCESS, 07 Met sub-divisions in NORMAL, 24 Met sub-divisions in DEFICIENT, 03 Met sub-divisions in LARGE DEFICIENT and none of any Met sub-divisions in LARGE EXCESS and “NO RAIN” category of rainfall (Fig-2/ Table- 2).

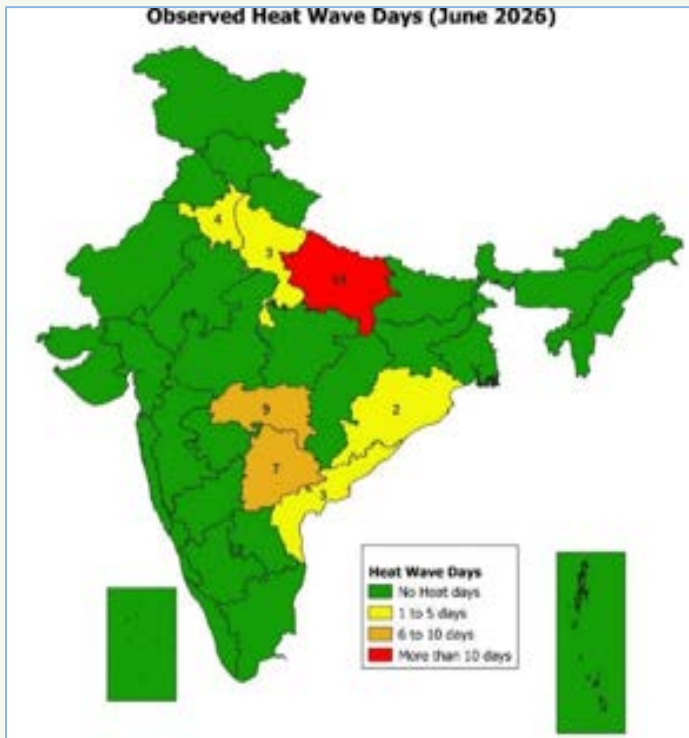


Fig. 4. Sub-division wise number of Heat Wave days in the month of June-2026



Fig. 5. Subdivision-wise rainfall distribution for June – 2026

The country as a whole received 99.5 mm of rainfall during June 2026, which was 40% below the Long Period Average (LPA) of 165.3 mm. The all-India rainfall during June 2026 was the fifth-lowest June rainfall since 1901.

The rainfall statistics for the month of June- 2026 for 4 homogeneous regions and the country as a whole (Table-3)

TABLE 3

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
East & northeast	197.5	328.4	-40%
Northwest	53.7	78.1	-31%
Central	84.4	170.3	-50%
South	117.4	161	-27%
Country as a whole	99.5	165.3	-40%

Summary of Seasonal climate outlook for South Asia using April 1c (May – July 2026)

The probability forecast for precipitations indicate an enhanced probability of below-normal precipitation over most parts of South Asia during both MJJ and JJA seasons. However, some regions over the northwest, extreme north, northeast, and southeast parts of South Asia are likely to experience above-normal precipitation (Fig. 6)

Temperature probability forecast indicate an enhanced probability of above-normal temperature over most parts of South Asia during both MJJ and JJA seasons. However, some regions over the northwest, extreme north and northeast of South Asia are likely to experience below-normal temperature (Fig. 7)

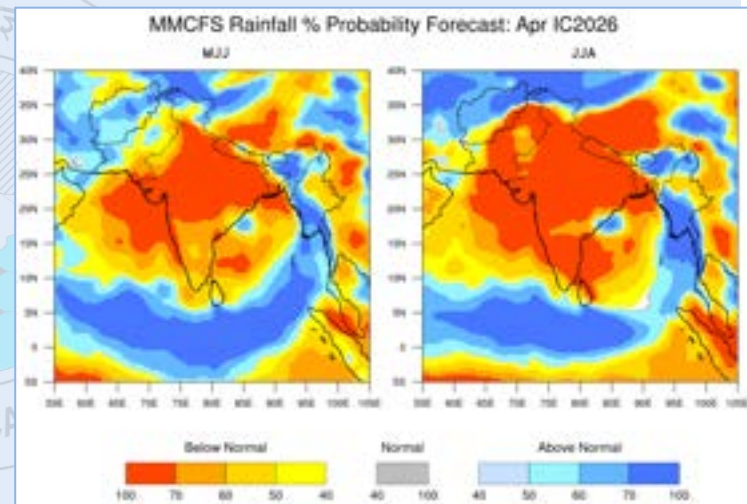


Fig. 6. Seasonal probability (%) forecasts of precipitation for (a) MJJ 2026 (left) and (b) JJA 2026 (right) based on initial conditions of April 2026

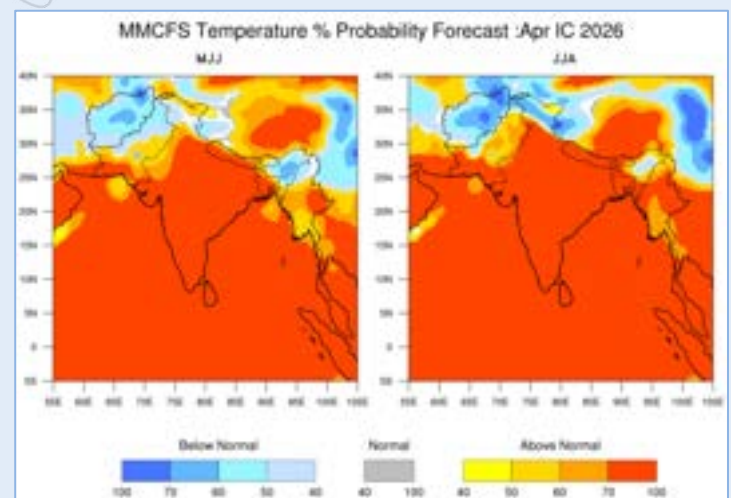


Fig. 7. Seasonal probability (%) forecasts of temperature for (a) MJJ 2026 (left) and (b) JJA 2026 (right) based on initial conditions of April 2026

Summary of Seasonal climate outlook for South Asia using May IC (June – August 2026)

The probability forecast for precipitation indicate an enhanced probability of below-normal precipitation over most parts of South Asia during both JJA and JAS seasons. However, some regions over the extreme northwest, northeast and southeast parts of South Asia are likely to experience above-normal precipitation (Fig. 8).

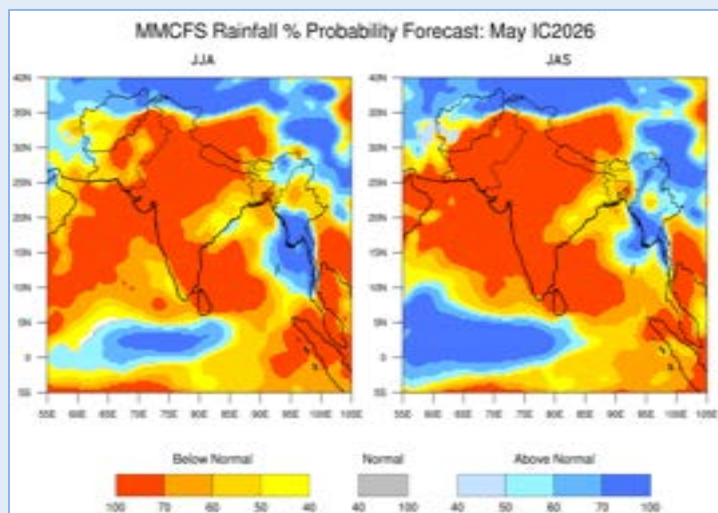


Fig. 8. Seasonal probability (%) forecasts of precipitation for (a) JJA 2026 (left) and (b) JAS 2026 (right) based on initial conditions of May 2026

Temperature probability forecast indicate an enhanced probability of above-normal temperature over most parts of South Asia during both JJA and JAS seasons. However, some regions over the northwest and extreme north of South Asia are likely to experience below-normal temperature (Fig. 9).

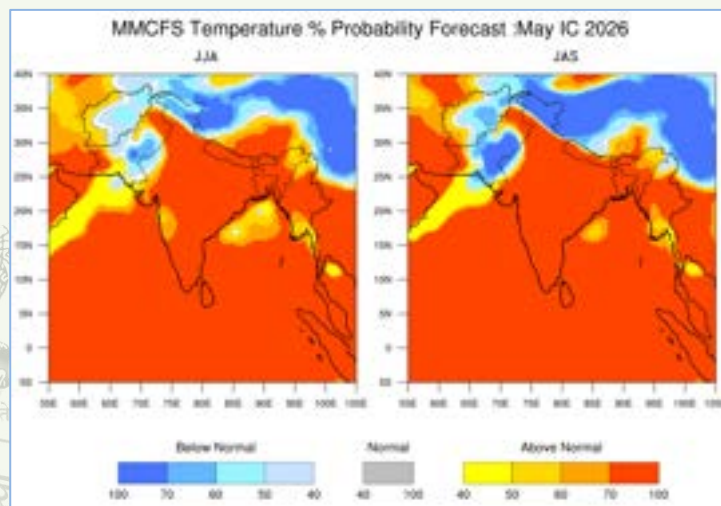
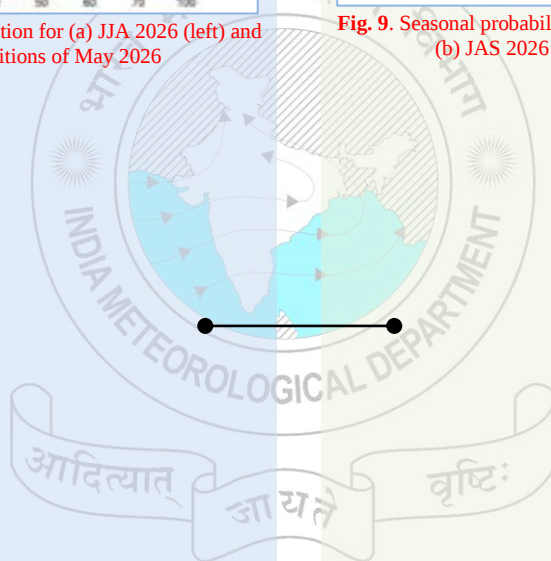


Fig. 9. Seasonal probability (%) forecasts of temperature for (a) JJA 2026 (left) and (b) JAS 2026 (right) based on initial conditions of May 2026





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