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## IMD CELEBRATED 150<sup>TH</sup> YEAR OF ITS SERVICE TO THE NATION

IMD celebrated 150<sup>th</sup> year of its establishment and service to the nation on 15<sup>th</sup> January, 2024 at Vigyan Bhawan, New Delhi. **Hon'ble Vice President of India Shri Jagdeep Dhankar Ji** graced the occasion as Chief Guest. **Shri Kiren Rijiju Ji**, Honorable Union Cabinet Minister, Ministry of Earth Sciences (MoES) graced the occasion as Guest of Honour. **Dr. M. Ravichandran**, Secretary MoES presided over the function. Former Secretaries of Ministry of Earth Sciences, former Director Generals of India Meteorological Department (IMD), Heads of various sister organisations in MoES, Secretaries of various Ministries, Chief Secretaries & Resident Commissioners of various States and Union Territories, Heads of various disaster management agencies, Heads of various Universities and Institutions, employees of IMD, researchers & academicians and press & electronic media participated in the ceremony. **Hon'ble Vice President in his address appreciated IMD for its service to nation, in particular the accurate prediction of cyclones Amphan, Biparjoy and Mocha.**



**Hon'ble Vice President of India Shri Jagdeep Dhankar Ji, Shri Kiren Rijiju Ji, Honorable Union Cabinet Minister, MoES, Dr. M. Ravichandran, Secretary MoES, Dr. M. Mohapatra, DG IMD, Mrs Ranju Madan, DDG(A) IMD, during ceremonial lighting of lamp & release of "Souvenir on Evolution of IMD" by the dignitaries**

## THE MAIN ACTIVITIES OF THE PROGRAMME

**Appreciation by Hon'ble Prime Minister Shri Narendra Modi :** Hon'ble Prime Minister in his tweet appreciated the services of IMD for the nation since last 150 years. In his tweet, he also acknowledged that IMD has played a pivotal role in weather forecasting and research & development in the field of climate & weather services. IMD has played a significant role in improving our understanding towards disaster risk reduction and environment. He also shared the video released by IMD on this occasion on the evolution of IMD since 1875. The same is available at:  
<https://x.com/narendramodi/status/1746862479836348455?s=20>  
 During the inaugural ceremony following releases were made: Souvenir on Evolution of IMD, Documentary Film on Evolution of IMD, Indigenously developed Decision Support System (DSS), Panchayat Mausam Seva (PMS), IMD's Mobile App and National Framework for Climate Services.



**Hon'ble Prime Minister in his tweet appreciated the services of IMD for the nation since last 150 years**



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## Significant Events

### Celebration of the 150<sup>th</sup> foundation day of the India Meteorological Department (IMD) on 15<sup>th</sup> January, 2024 by Regional Offices

**RMC Guwahati** celebrated the 150<sup>th</sup> foundation day of the India Meteorological Department (IMD) on 15<sup>th</sup> January, 2024. The event at the RMC Guwahati featured an inaugural speech by Dr. Sanjay O'Neil Shaw Sc. 'F', who congratulated the official for completing 150 years of the IMD's successful Journey.



**RMC Guwahati celebrated the 150<sup>th</sup> foundation day**

The 150<sup>th</sup> year celebration of IMD at **Meteorological Centre Shillong** started with the formation of local organizing committee followed by meticulous preparation and planning of the activities. The objective was to create a memorable and impactful event that would honour IMD's remarkable journey.



**The 150<sup>th</sup> year celebration of IMD at Meteorological Centre, Shillong**

150 Years celebrations was held in **MC Itanagar office** seminar hall in the presence of invited guest Sh. Amul Putun, Principal, School of Banderdewa, and Arunachal Pradesh and other notable guests, school kids, and etc. A short tour to MC Itanagar surface observatory for the students, guests by staff of MC Itanagar and explained about the instrumentation. Key-note speech is given by the respected chief guest followed by senior staff speeches to address the inaugural ceremony. Head, MC Itanagar address the ceremony through online and given vote of thanks.



**150 Years celebrations was held in MC Itanagar office**

All the officials posted at **MC Kohima** as well as **AMS Dimapur** gathered and exchange greeting and speeches and also congratulated each other. People explained about the establishment and historical development of our esteemed organization. Selfie points were set up for the people regarding the celebrations, spreading awareness among school students, installing selfie cum awareness points near airport, distributing different memento to the employees serving at M C Kohima and AMS Dimapur, etc.



**150<sup>th</sup> years celebrations was held in MC Kohima**

**MO Tezpur** organised various programmes on 15<sup>th</sup> of January, 2024 on the occasion of Curtain Raiser event of celebrating 150 years of IMD's service to the nation. Besides as a part of post event activities, a workshop was also organised on 18<sup>th</sup> of January. **Sri Manoj Kumar Sarmah**, Asstt. Professor, Dept. of Physics, Darrang college, Tezpur was the honourable chief Guest of the meeting and he delivered a speech throwing lights on different weather and weather related activities, the science of meteorology etc.





MO Tezpur organised various programmes on 15<sup>th</sup> of January, 2024

AMS TEZU celebrated its Great event (150<sup>th</sup> year celebration) with great enthusiasm. An exhibition was organised at Surface Observatory by proper labelling in each surface instrument. The event not only commemorated the past but also looked forward to the future, emphasizing IMD's commitment the nation.



AMS TEZU celebrated its Great event (150<sup>th</sup> year celebration)

CRS Pune celebrated **National Science Day** on 28<sup>th</sup> February, 2024 by arranging a meteorological exhibition open to the public. The exhibition showcased various activities of IMD at Pune. **Shri K. S. Hosalikar**, Sc. 'G', CR&S, Pune inaugurated the exhibition. About 1290 visitors including students, scholars, journalist and general public attended the exhibition.

**India Meteorological Department celebrated World Meteorological Organisation (WMO) Day** on the theme of 'On the Frontline of Climate Actions' at Mahika Hall, Ministry of Earth Science on 22<sup>nd</sup> March, 2024. Hon'ble Minister of Earth Sciences and Food Processing Industries **Shri Kiren Rijiju Ji** graced the occasion as Chief Guest. Secretary MoES, **Dr. M. Ravichandran** chaired the programme. On this occasion **Dr. M. Mohapatra**, DG IMD, **Dr. M. Ravichandran**, Secretary MoES and **Shri Kiren Rijiju Ji** addressed the delegates. Following releases were made during the ceremony:

Release of Video film on the theme of WMO Day prepared by UNDP, WMO and IMD.

Release of Books/Reports published by IMD.

Prize distribution to winners of Extempore Speech, 150<sup>th</sup> Year Logo and various competitions organized by IMD for the students on the eve of WMO Day.

Certificate of Merit rewarded to IMD employees for their dedicated and outstanding services.

On 23<sup>rd</sup> March 2024, CR&S Pune celebrated **World Meteorological Day** by arranging a Meteorological exhibition. The exhibition on the theme 'At the Frontline Climate Action' showcasing the weather and climate services activities of CR&S Pune was inaugurated by the Dr. Anupam Kashyapi, LACD Head, CR&S. Live demonstration of meteorological and seismological instruments, 'Be a weather observer' segment for students to take their own weather observation, Mausam quiz corner and a short documentary film on 'Expedition to Antarctica' were shown in the exhibition. About 450 visitors including students, scientists, scholars, journalists visited the exhibition. All visitors marked their comments with great enthusiasm. A few photos of the event are given below.



Visitors including students, scientists, scholars, journalists visited at CR&S Pune the exhibition during World Meteorological Day, 2024.



Visitors including students, scientists, scholars, journalists visited at CR&S Pune the exhibition during World Meteorological Day, 2024

During the 150<sup>th</sup> years establishment of IMD, a science outreach program was conducted where the workings of the server, AWS station, radiation measurements, and calibration facilities were explained around 70 engineering students at CR&S, Pune.





**150 years IMD Celebration at INSAT AWS & Central Radiation Lab Pashan, SID CRS Pune**



**Prizes Winners School children of various competitions**

## Human Resource Development Activities

World Meteorological Day was celebrated on 22<sup>nd</sup> March, 2024 in New Delhi. Hon'ble Minister of Earth Sciences, **Shri Kiran Rijju** and **Dr. M. Ravichandran**, Secretary MoES graced the occasion. Certificates and Prizes to winners of various competitions like quiz, extempore conducted by IMD New Delhi for various school children and Certificate of Merit to IMD employees were distributed by Hon'ble Minister of Earth Sciences at the occasion.

### WORKSHOP

**Shri K. C. Saikrishnan**, Sc. 'G' and **Dr. A. K. Mitra**, Sc. 'F' (Project Director Cal/Val) participated in the Joint Cal/Val campaign of IMD in association with SAC Ahmedabad conducted at Bhuj during the period 17- 22 January, 2024.

**Dr. S. I. Laskar**, Sc. 'E' attended the WMO Regional Workshop on 'Implementation of Competencies in Climate Services' in Manama, Bahrain during 21-25 January, 2024.



**Prizes winners School children of various competitions**



**Dr. S. I. Laskar, Sc. 'E' attended the WMO Regional Workshop Manama, Bahrain**



**On occasion of World Meteorological Day at CR&S, Pune**

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the Ocean Decadal Workshop organised by Indian National Centre for Ocean Information Services (INCOIS) at Hyderabad during 2<sup>nd</sup> - 3<sup>rd</sup> February, 2024. He also participated in the 25<sup>th</sup> Foundation Day Ceremony of INCOIS at Hyderabad on 3<sup>rd</sup> February, 2024. **Dr. O. P. Sreejit**, Sc. 'F', **Dr. P. L. N. Murty**, Sc. 'E' and **Mrs. Monica Sharma**, Sc. 'D' also participated in the above event from IMD.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated and presented "Weather Services and Effectiveness of Heat Wave Warnings" during the National Workshop on Heat Wave 2024 at Vigyan Bhavan, New Delhi on 13<sup>th</sup> February, 2024 organised by NDMA.



**Smt. Arti B Bandgar**, Sc. 'D', attended the workshop on vector borne diseases for field workers arranged by **Pune Knowledge Cluster** at Purandar Panchayat Samiti on 15<sup>th</sup> February, 2023 and delivered a talk on Importance of Disease Data Analysis and use of disease data in understanding disease spread and prediction (special focus on Dengue and Chikungunya).

**Shri Raja Acharya**, Met-B, participated in the WMO Virtual Workshop on, "**Standardization of First-mile Data Collection from Automatic Observing stations and platforms**" held on 19-20<sup>th</sup> February, 2024 and Virtual Workshop on "**Resilience to Natural Hazards through AI Solutions**" held on 13 March, 2024, in Maryland, United States organised by ITU/WMO/UNEP and NASA.

**Dr. Kripan Ghosh**, Sc. 'F', participated in two-days Bilateral International Workshop, on invitation, on "**Climate Smart Farming Resilient Technologies and Practices in Japan and Opportunities for Indian Farmers and Agri-Tech Start-up Entrepreneurs**" at IIT, Kharagpur jointly organised by IIT, Kharagpur, ICRIASAT, Hyderabad and University of Toyama, Japan from 6-7 March, 2024. During the workshop, he also delivered a lecture on "**Agromet advisory services in India for management of risks in Agriculture**" on 6<sup>th</sup> March, 2024. He also acted as the Chairman of Evaluation Committee for the scientific research papers presented in the Workshop as well as one of the panellists in concluding session.

**Dr. (Ms.) Madhulatha Akkiseti**, Sc. 'D', participated in virtual workshop on "**Thunderstorm Monitoring and Forecasting workshop**" on dated 06-09 March, 2024 and presented on "**Hydrometeorological Hazards-Effect of Land surface processes Diagnostic products to further improve Tx forecast**".

The officer and staff of MC Shillong **Shri Thangjalal Lhouvum**, Sc. 'D', **Shri T.T. Haokip**, SA, **Shri T. Ngaihte**, SA, **Shri N. Warbah**, SA and **Smt. Rosie L**, SA, attended the training workshop on "Thunderstorm Monitoring and Forecasting" organized from 06-09 March 2024, through online mode by Nowcast Division, NWFC.

**Dr. Kripan Ghosh**, Sc. 'F', delivered a Key note address on "**Agricultural Services during monsoon 2023**" at IITM, Pune during Annual Monsoon Workshop (AMW-2023) organized by Indian Meteorological Society, Pune Chapter (IMSP) in association with IITM and IMD, Pune on 18<sup>th</sup> March, 2024.

**B. Sudarsan Patro**, Sc. 'D', gave online presentation on "**Different Methods for Imputing Missing Rainfall Data Utilizing Automatic Weather Station Data**", in Two Day National Seminar On Data-Driven Predictive Analytics & Modelling-2024 (DDPAM-

2024) from 19-20 March, 2024, organised by Sambalpur University.

## MEETINGS / CONFERENCES

**Dr. Mrutyunjay Mohapatra**, DG IMD and **Dr. R. K. Jenamani**, Sc. 'G' participated in the meeting at Election Commission of India on 5<sup>th</sup> January, 2024 regarding weather updates during forthcoming elections.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the Meeting of Sub-Committee of National Executive Committee (SC-NEC) to consider the NDMA's proposal on "**National Lightning Safety Education and Awareness Programme (NLSEAP)**" on 18<sup>th</sup> January, 2024.

**Shri Raja Acharya**, Met-B, participated virtually in the webinar "**Advances in propulsion system for launch vehicle, satellite and landing missions**" held on 20<sup>th</sup> January, 2024 organized by the Astronautical Society of India, Department of Space Govt of India.

**Dr. Ashok Kumar Das**, Sc. 'F' attended a 6<sup>th</sup> Project Monitoring Committee meeting of Early warning system for Flood prediction in the river basins of India organized by C-DAC Pune on date: 21<sup>st</sup> January, 2024.

**Shri K. C. Saikrishnan**, Sc. 'G' and **Dr. A. K. Mitra**, Sc. 'F' attended the Pre-Shipment Review of INSAT-3DS on 22<sup>nd</sup> January, 2024 at Bengaluru.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the Eighty Second Session of the WMO Bureau {BUR-82} regarding familiarization on the terms of reference and associated tasks on 24<sup>th</sup> and 25<sup>th</sup> January, 2024.

**Officers from NRSC, ISRO, DoS, NIDM and NDMA visited IMD** for a familiarisation meeting on WEB-DCRA & DSS tool for cyclone risk mitigation and response planning on 29<sup>th</sup> January, 2024. DG IMD, Dr. Mrutyunjay Mohapatra chaired the meeting. **Dr. Ananda Kumar Das**, Sc. 'F' made the presentation on Cyclone Warning Services and Web DCRA tool.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the meeting of Joint Collaborative Board (JCB) of World Meteorological Organisation (WMO) and Intergovernmental Oceanographic Commission (IOC) Co-Chairs on 30<sup>th</sup> January, 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the 15<sup>th</sup> Session of the Consultative Meeting on High level Policy on Satellite Matters at Geneva during 6-7 February, 2024 and made a presentation on India's role in satellite applications for

weather monitoring and forecasting during the meeting. WMO Secretary General had sent congratulatory video message to Dr. M. Mohapatra, DG IMD which was screened during the 150<sup>th</sup> Year of Foundation of IMD.



**Dr. Mrutyunjay Mohapatra, DG IMD participated in the 15<sup>th</sup> Session of the Consultative Meeting**

**Dr. A. K. Mitra**, Sc. 'F' attended INSAT-3D, 3DR Task Team meeting to discuss ground segment interface between MCF and SAC on 12<sup>th</sup> February, 2024.

**Dr. Kripan Ghosh**, Head, Agrimet Division and **Dr. Ashutosh Kumar Misra**, Sc. 'D' attended the online meeting **"to determine the technical and economic parameters of various measures for soil and water conservation"** organised by Agriculture Commissioner Office, Govt. of Maharashtra on 15<sup>th</sup> February, 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated along with Mr. K. S. Hosalikar, Sc. 'G' in the webinar on GBON National Contribution Plan in the context of Systematic Observations Forecasting (SOFF) on 16<sup>th</sup> February, 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the launch of GSLV-F14/INSAT-3DS spacecraft from Satish Dhawan Space Centre, Sriharikota on 17<sup>th</sup> February, 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD delivered special address on **"IMD Works towards national development using Geospatial technologies"** during the India Geospatial Leadership Summit 2024 on the theme "Geospatial Technologies Accelerating National Development" organized by Association of Geospatial Industries (AGI India) on 20<sup>th</sup> February, 2024.

The 16<sup>th</sup> review meeting of the **Project Monitoring & Advisory Committee (PMAC)** was held through VC on 20<sup>th</sup> February, 2024 to monitor the progress of activities under ACROSS-IMD for the quarter October-December, 2023 and to suggest suitable remedial measures for successful implementation of the activities.

**Dr. Satyaban B. Ratna**, Sc. 'E' as a member of the CLIVAR/GEWEX Monsoon Panel, attended an online meeting

with the members of WG-AMM (Working Group on American Monsoons) on 20<sup>th</sup> February, 2024.

**Dr. Kuldeep Srivastava**, Sc. 'F' attended fifth meeting of the Expert Team on Radio Frequency Coordination (ET-RFC) held in Port of Spain, Trinidad and Tobago, Caribbean Telecommunications Union (CTU), from 20-22 February, 2024 in virtual mode.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the Panel discussion/interactive session with members of SPSTI, Chandigarh, Chapters of NASI, INSA, INYAS on the theme **"Global Warming"** through online mode on 24<sup>th</sup> February, 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the Opening Meeting of the International Maritime Organization (IMO) Members State Audit of India in the office of Director General of Shipping Mumbai on 26<sup>th</sup> February, 2024. The meeting was chaired by Secretary, Shipping.

**Dr. A. K. Mitra**, Sc. 'F', attended Meeting to discuss the weather modules incorporation on Continuously Operating Reference Stations (CORS) under the Chairmanship of the Joint Secretary, Ministry of Panchayati Raj and provided the input regarding GNSS system of IMD on 27<sup>th</sup> February, 2024.

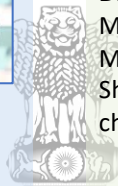
**Dr. Mrutyunjay Mohapatra**, DG IMD Co-Chaired with Dr. T Srinivas, Director INCOIS the Joint Collaborative Board (JCB) of Intergovernmental Oceanographic Commission (IOC) & World Meteorological Organisation (WMO) the Meeting of JCB (online) during 27<sup>th</sup> - 29<sup>th</sup> February, 2024.

**Dr. Madhulatha Akkiseti**, Sc. 'D', attended the 2<sup>nd</sup> Meeting of the Committee for joint flood management study in wake of the extensive floods in the state of Himachal Pradesh, Punjab and Uttarakhand in 2023 on 29<sup>th</sup> February, 2024 at Committee Room, CWC, 2<sup>nd</sup> Floor, Sewa Bhawan, R. K. Puram, New Delhi.

**Dr. M. Mohapatra**, DG IMD alongwith Dr. D. R. Pattanaik, Sc. 'F' and Mrs. Monica Sharma, Sc. 'D' participated in the First Meeting of High Level Committee (HLC) Committee to implement recommendations made by HLC in the aftermath of cyclone 'Tauktae' on 4<sup>th</sup> March, 2024.

**Dr. A. K. Mitra**, Sc. 'F', attended the follow-up meeting on 6<sup>th</sup> March, 2024 regarding ICAO's proposal for cost recovery mechanism for Space Weather Information Services and contributed for suggestions in the field of Civil Aviation.

**Dr. Ashutosh Misra**, Sc. 'D', **Dr. Jaya Dhami Parihar**, Sc. 'D' and **Dr. Asha Latwal**, Sc. 'C' attended online meeting to discuss the plan of the start-up project focusing on **"Solar and AIoT powered precision farming by combining meteorology and data science to develop customized weather services for farmers and agronomists"** under the chairmanship of Head, AASD, IMD, New Delhi with Mr Sisir Chandra, CEO, Navariti Innovation Pvt. Ltd. and Scientists from AASD, New Delhi on 8<sup>th</sup> March, 2024.





**Dr. A. K. Mitra**, Sc. 'F', attended the GSICS EP Annual meeting online. Global Space-based Inter-Calibration System (GSICS) annual meeting took place during 11-15 March, 2024 at EUMETSAT HQ in Darmstadt, Germany. He represented IMD's agency report on CALVAL. The GSICS meeting serves as a platform for coordinating the development of inter-calibration algorithms and exploring other pertinent calibration-related topics.

**Dr. Kripan Ghosh**, Sc. 'F' and **Dr. Ashutosh Kumar Misra**, Sc. 'D' attended online meeting regarding "**Integration of IMD Weather Forecast and Agromet Advisories with state portal and AI Chatbot**" with the officials from Stat Agriculture Department, Govt. of Uttar Pradesh, MC Lucknow and AASD, New Delhi on 12<sup>th</sup> March, 2024.

**Dr. Kripan Ghosh**, Sc. 'F', attended "**Annual Monsoon Review (AMR)-Annual Cyclone Review (ACR)-2024**" meeting at RMC Guwahati from 12-13 March, 2024 and presented on "**Meteorological Services to Farmers and related sectors : IBF, outreach and way forward**" on 12 March, 2024.

**Dr. O. P. Sreejith**, Sc. 'F', **Dr. Satyaban B. Ratna**, Sc. 'E', **Smt. Arti Bandgar**, Sc. 'D', **Dr. Sabeerali**, Sc. 'C' and **Dr. Rohini P.**, Sc. 'C', attended the SASCOF-28 planning meeting (online) with UKMO and RIMES on 12<sup>th</sup> March, 2024.

**Shri K. S. Hosalikar**, Sc. 'G', **Dr. O. P. Sreejith**, Sc. 'F', **Dr. Satyaban B. Ratna**, Sc. 'E', attended the "**WMO and Met Office Workshop for learning and sharing between RCOFs: Decision-maker engagement**" meeting (Online) on 13<sup>th</sup> March, 2024.

**Dr. M. Mohapatra**, DG IMD Chaired the Annual Cyclone Review and Annual Monsoon Review Meeting 2024 organised by IMD during 12-13 March, 2024 at Guwahati. **Shri S. C. Bhan**, Sc. 'G', **Shri S. K. Manik**, Sc. 'D' and **Dr. Madhulatha Akkiseti**, Sc. 'D' attended ACR & AMR Meeting on 12-13 March, 2024 and given presentation on Hydromet Services during 2023 and recent advancement & planning for the year 2024.

**Dr. M Mohapatra**, DG IMD made a presentation on "**Update of India Meteorological Department functions and Weather Forecasting**" at PM Office on 15<sup>th</sup> March, 2024.

**Dr. M. Mohapatra**, DG IMD participated in the Second Meeting of the BIMSTEC Expert Group on Disaster Management Cooperation (EG-DMCF) under the Chairmanship of **Shri Kamal Kishore**, Member & HoD NDMA, to discuss upon the inputs received from participating organizations and finalise the DRR Plan of Action and other related issues on 18<sup>th</sup> March, 2024.

**Dr. M. Mohapatra**, DG IMD had a meeting with **Mr. Ellie Chang**, Asstt. Director of Taiwan Economic and Cultural Center (TECC) in INDIA, to discuss the possible partnership between Central Weather Administration (CWA) of Taiwan and IMD on 19<sup>th</sup> March, 2024.

**Dr. A. K. Mitra**, Sc. 'F', attended WMO-DBNet coordination group meeting during 19-22 March, 2024 at Melbourne, Australia and presented IMDs overall activities regarding Polar

Microwave, Data Reception and current data flow from NRSC Hyderabad and other centers.

**Dr. M. Mohapatra**, DG IMD had a meeting with **Ms. Alexandra Llovaikaya**, Head of International Cooperation, Talent and Success educational Foundation, 'Sirius' Science & Technology University, Russia through VC on 20<sup>th</sup> March, 2024.

**Shri K. S. Hosalikar**, Sc. 'G', **Dr. O. P. Sreejith**, Sc. 'F', **Dr. Satyaban B. Ratna**, Sc. 'E', attended the WHO/WMO project on health impacts of ENSO - Introductory meeting with RCC Pune (online), 21<sup>st</sup> March, 2024.

**Dr. M. Mohapatra**, DG IMD and **Dr. D. R. Pattanaik**, Sc. 'F' participated in the Financial Sector Assessment Program (FSAP) Exercise - Meeting on Climate Modelling and data at Ministry of Finance on 22<sup>nd</sup> March, 2024.

**Dr. R. K. Giri**, Sc. 'F' participated in the 4<sup>th</sup> TCC Virtual Update Meeting through VC on 22<sup>nd</sup> March, 2024.

**Dr. Sankar Nath**, Sc. 'F' participated in the Thematic Information Session - WISEastern hemisphere through zoom on 26-27 March, 2024.

**Dr. M. Mohapatra**, DG IMD participated in the meeting under Chairmanship of Principal Secretary to PM on preparedness on Glacial Lake Outburst Flood (GLOF) hazard in the Himalayas at PM Office on 26<sup>th</sup> March, 2024.

**Dr. R. K. Giri**, Sc. 'F', IMD participated in the meeting of the EC Task Force on the Comprehensive Review of the WMO Regional Mechanisms and approaches through VC on 26<sup>th</sup> March, 2024.

**Dr. Satyaban B. Ratna**, Sc. 'E', attended the CLIVAR Climate Dynamic Panel (CDP) 1<sup>st</sup> Meeting of 2024 on 26<sup>th</sup> March, 2024.

**Dr. Sankar Nath**, Sc. 'F', IMD participated in the Thematic Information Session - WIGOS - network - eastern hemisphere through zoom on 27<sup>th</sup> March, 2024.

**Dr. M. Mohapatra**, DG IMD, **Mr. S. C. Bhan**, Sc. 'G' and **Dr. Shesha Kumar**, Sc. 'E' participated in the meeting under the Chairmanship of Secretary, DA&FW to discuss about the improvement in outreach to farmers for Agro Advisories on 27<sup>th</sup> March, 2024.

## Conferences

**Dr. Satyaban B. Ratna**, Sc. 'E', attended IITM CCCR server TEC meeting by video Conference on 8<sup>th</sup> January, 2024.

**Dr. Satyaban B. Ratna**, Sc. 'E' attended a video Conference with the Government of Arunachal Pradesh on 9<sup>th</sup> January, 2024 for a proposal to organize a stakeholder consultation workshop for northeast India.

**Dr. O. P. Sreejith**, Sc. 'F' attended "**Indian Ocean Regional Decade Conference 2024**" from 1<sup>st</sup> to 3<sup>rd</sup> February, 2024 at INCOIS, Hyderabad.

**B. Sudarsan Patro**, Sc. 'D', gave a presentation on, "**Daily Rainfall Prediction Using Long Short-Term Memory Algorithm**", in International Conference on Climate Change and Agroecosystem : Threats, Opportunities and Solutions (INAGMET-2024) from 8-10 February 2024, Jointly organized by Association of Agrometeorologists Banaras Hindu University and India Meteorological Department South Asian Forum on Agricultural Meteorology.

**Dr. Satyaban B. Ratna**, Sc. 'E', attended the webinar "**Forecasting Monsoon Onset and Withdrawal under Climate Change: Indian Perspective**" on 14<sup>th</sup> February, 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD participated in the Conference on Disaster Resilience - 2024 - Uniting Disaster Mitigation Stakeholders at Tamarind Hall, India Habitat Centre, Lodi Road, New Delhi on 15<sup>th</sup> February, 2024.

**B. Sudarsan Patro**, Sc. 'D', gave a presentation on "**Daily Rainfall Prediction Using Recurrent Neural Network**", in International Conference On Industrial Engineering & Analytics Theme : "**Data to Decisions**" (ICONIEA-2024) from 16-18 February, 2024, organised by IIT Kharagpur.

**Dr. Kuldeep Srivastava**, Sc. 'F' attended India Geospatial Leadership Summit 2024 (IGLS 2024) on 20<sup>th</sup> February, 2024 in virtual mode at India International Centre, New Delhi on the theme Geospatial Technologies Accelerating National Development.

**Shri S. K. Manik**, Sc. 'D' participated in the conference "**Recent Advances in Public Procurement**" on 4<sup>th</sup> March, 2024 at Scope Convention Centre, SCOPE Complex, Lodi Road, New Delhi.

**Dr. Satyaban B. Ratna**, Sc. 'E', attended the Joint WCRP/WWRP Webinar Series : African Monsoon on 6<sup>th</sup> March, 2024.

## TRAININGS

**On job training (OJT)** in Sat. Met. Division was provided during 17-19 January, 2023 to 22 trainees of Advance Training Course in MI & IS, Batch No. 13 and Direct Recruited Scientist Course (Instrumentation), Batch No. 2.

**Dr. Kuldeep Srivastava**, Sc. 'F' attended 42<sup>nd</sup> Chief Information Security Officers (CISO) deep-dive training. This training was under Cyber Surkashit Bharat and held in physical mode from 5<sup>th</sup> to 9<sup>th</sup> February, 2024 at the Indian Institute of Public Administration, New Delhi.

**Dr. Kuldeep Srivastava**, Sc. 'F' attended training Workshop on Radio Frequency Matters on 19 & 23 February, 2024 in virtual mode which was held in Port of Spain.

ISSD organized training for Unified mobile app from 13 December, 2023 - 12 January, 2024 in which representative of Ms RV solutions along with nominated persons from divisions like NWP, UAID, CWC, CAMD are attending Unified Mobile App meeting for module learning.

**Shri Sunny Chug**, Sc. 'D' delivered lectures during month of December, January & February, 2024 to Direct Scientist Batch at ICITC and AMTC batch at ICITC related to Communication systems, Networking, WMO GTS procedures, security systems, etc.

**Shri Sunny Chug**, Sc. 'D' delivered lectures of FTC batch running at MTI during February, 2024 related to WMO RTH System.

## LECTURES/ TALK/ WEBINAR

**Shri Ramashray Yadav**, Sc. 'D' delivered online lecture to GIDM trainees on 1<sup>st</sup> January, 2024 regarding "**Early Warning System: Services of IMD in India**".

**Dr. Ashok Kumar Das**, Sc. 'F', delivered an online lecture on topic "**Quantitative Precipitation forecast and Quantitative Precipitation Forecast**" to the FTC trainees batch no. FTC-197 on 17<sup>th</sup> January, 2024.

**Dr. Mrutyunjay Mohapatra**, DG, IMD, participated as Guest of Honour in the Agri Vision 2024 during 19<sup>th</sup> - 20<sup>th</sup> January, 2023 and delivered a Plenary lecture during the event.



**Dr. Mrutyunjay Mohapatra, DG IMD, during Agri Vision 2024**

**Dr. A. K. Mitra**, Sc. 'F', delivered the Online lecture on 22<sup>nd</sup> January, 2024 on the topic of IMD data product - Significant & Utilization by IMD.

**Dr. Ashok Kumar Das**, Sc. 'F', delivered an online lecture on 22<sup>nd</sup> January, 2024 to the officers & Staff of CWC (HQ) and field officers regarding "**Data Products given in IMD Website (Central & Regional Met Centers) those are relevant/connected to Rainfall Prediction**".

**Dr. Ashok Kumar Das**, Sc. 'F', delivered an online lecture on 24<sup>th</sup> January, 2024 to the GIDM (Gujarat Institute of Disaster Management) trainees regarding "**Hydro Meteorological services of IMD in India/Gujarat**".

**Dr. O. P. Sreejith**, Sc. 'F' has conducted an online lecture on "El Nino Oscillation (ENSO) and Indian Ocean Dipole (IOD) and its connection with Monsoon during "**online lecture for two days on the topic of IMD data product - Significant & Utilization**" on 23<sup>rd</sup> January, 2024.



**Dr. Ashutosh Kumar Misra**, Sc. 'D' delivered lectures on "IMD services for the farming community" to the undergraduate students and faculty members of University of Agriculture Sciences, Raichur, Karnataka on 24<sup>th</sup> January, 2024 and College of Agriculture, Bhimarayangudi, Karnataka on 30<sup>th</sup> Jan, 2024.

**Dr. Satyaban B. Ratna**, Sc. 'E', delivered lectures for ICAR-Winter School on "Application of Weather Information for Climate Resilient Farming" at CRIDA, Hyderabad, on 1<sup>st</sup> February, 2024.

**Dr. Kripan Ghosh**, Sc. 'F', Dr. Ashutosh Kumar Misra, Sc. 'D', Dr. Jaya Dhami Parihar, Sc. 'D' and Dr. Asha Latwal, Sc. 'C', attended online lecture on "Bracing for the Climate Change: Recent Methodologies for Climate Response" by Dr. D. S. Pai, Sc. 'G', IMD, New Delhi on 28<sup>th</sup> February, 2024.

**Dr. Ashutosh Kumar Misra**, Sc. 'D' and Dr. Jaya Dhami Parihar Sc. 'D' delivered lectures on "IMD services for the farming community" to the undergraduate students and faculty members of University of Agricultural Sciences, Dharwad on 12-13, 19-20 and 26-27 March, 2024.

**Dr. Kripan Ghosh**, Sc. 'F', delivered a lecture on "Agromet Advisory Services" through virtual mode in the training programme on "Effective utilization of various APIs and websites of IMD" organised by Reliance Foundation, Mumbai on 21<sup>st</sup> March, 2024.

## Talk

**Dr. O. P. Sreejith**, Sc. 'F', has delivered a guest talk on "Observational Aspects of Climate Change in India during Wildlife Science & Ornithology" for M.Sc. credit course as a part of Climate Change Ecology on 18<sup>th</sup> January 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD, participated as the Guest of Honour and delivered invited talk during the Rotary International District Conference "ODYSSEY" at Bhubaneswar on 20<sup>th</sup> January, 2024.

**Dr. Soma Sen Roy**, Sc. 'F' participated and presented a talk on Weather and Climate Services of IMD in the roundtable conference of Young Specialists of Hydrometeorological Services of the Shanghai Cooperation Organisation (SCO) Countries through VC.

**Shri C. S. Patil**, Sc. 'E', delivered a talk on "climate change" in a National seminar on Artificial Intelligence (AI) and climate, Role of AI for smart sustainable future during 19-20, January, 2024 at Christ deemed to be university, Bengaluru.

## PANEL DISCUSSION/ INTERVIEW

**Shri Ramashray Yadav**, Sc. 'D' attended an interview as a Panel member for recruitment of observer for DAMU at Gujarat Vidhyapeeth Ahmedabad on 3<sup>rd</sup> January, 2024.

## FOREIGN DEPUTATION

**Dr. S. I. Laskar**, Sc. 'E', was on deputation 21-25 January, 2024 for WMO Course on Implementation of Competencies in Climate Services, in Manama, Bahrain.

**Ms. Ranju Madan**, Sc. 'G', Shri Anshul Chauhan, Sc. 'C', Shri Kapil Dev Meena, CAFAT were on deputation during 02-09 February, 2024 to Japan, conduct FAT (Factory Acceptance Test) for procurement of GPS Radiosondes along with compatible ground receiving systems for operation of GUAN stations of IMD.

**Dr. M. Mohapatra**, DG IMD was on deputation during 06-07 February, 2024 to participate 15<sup>th</sup> session of the Consultative Meeting on High-level Policy on Satellite Matters (CM-15) in Geneva.

**Dr. S. N. Dutta**, Sc. 'G', Dr. B. Geetha, Sc. 'D', Dr. Bushair MT, Sc. 'C', was on deputation during 06-09 February, 2024 to participate 4<sup>th</sup> South Asia Hydromet Forum (SAHF-IV) in Colombo, Sri Lanka.

**Shri S. P. Singh**, Sc. 'D' was on deputation during 27 February to 01 March, 2024 to participate 56<sup>th</sup> ESCAP/WMO Typhoon Committee Session, Kuala Lumpur, Malaysia.

**Dr. D. S. Pai**, Sc. 'G', Dr. Soma Sen Roy, Sc. 'F' and Shri A. D. Tathe, Sc. 'E' were on deputation to participate 3<sup>rd</sup> (SERCOM-3) and the Gender Conference, Bali, Indonesia during 4-9 March, 2024.

Shri Gajendra Kumar, Sc. 'F' was on deputation to participate ICAO Asia and Pacific (APAC), 22<sup>nd</sup> Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/22) during 18-21 March, 2024.

**Dr. Ashim Kumar Mitra**, Sc. 'F' was on deputation to participate 7<sup>th</sup> meeting of (DBNet) to be hosted in Melbourne, Australia during 19-21 March, 2024.

**Mr. Sunit Das**, Sc. 'F' was on deputation 25-29 March, 2024 for conducting training on Meteorological satellite Data Analysis and Dr. H. R. Biswas, Sc. 'F' was on deputation 22-26 March, 2024 for conducting training on Short-range weather forecasting (intermediate to advanced operational meteorology) at NCHM, Bhutan.

## MoU

**Dr. M. Mohapatra**, DG IMD signed a Memorandum of Understanding with the Government of Uttar Pradesh on 8<sup>th</sup> March, 2024 for enhancement of observational network in Uttar Pradesh.

**Dr. Mrutyunjay Mohapatra**, DG IMD made a Courtesy Call on RBI Governor Shri Shaktikanta Das during the signing in ceremony of the Memorandum of Understanding between IMD and RBI to share weather and climate information with RBI to enhance cooperation between the two agencies w.r.t. to planning of various economic activities in the country. An MoU between RBI and IMD was signed on 14<sup>th</sup> March, 2024.





An MoU between RBI and IMD was signed on 14<sup>th</sup> March, 2024



Dr. Mrutyunjay Mohapatra, DG IMD conferred the Honorary Degree of Science (D.Sc.)

### ACHIEVEMENTS / APPRECIATIONS / AWARDS RECEIVED

#### Appreciations

Hon'ble Governor of Madhya Pradesh and Chancellor of Maharaja Chhatrasal Bundelkhand University conferred the Honorary Degree of Science (D.Sc.) upon **Dr. Mrutyunjay Mohapatra**, DG IMD during it's Convocation Ceremony at Chhatarpur, Madhya Pradesh on 14<sup>th</sup> February, 2024.

Chief Secretary, Sikkim **Shri V. B. Pathak**, IAS visited IMD HQ on 16<sup>th</sup> February, 2024 and presented an appreciation letter to **Dr. Mrutyunjay Mohapatra**, DG IMD and his team including the team at Meteorological Centre Gangtok for their exemplary services especially during Sikkim Floods recently in 2023.



Dr. Mrutyunjay Mohapatra, DG IMD conferred the Honorary Degree of Science (D.Sc.)



Chief Secretary, Sikkim **Sh. V B Pathak**, IAS visited IMD HQ on 16<sup>th</sup> February, 2024 and presented an appreciation letter to **Dr. Mrutyunjay Mohapatra**, DG IMD

Hon'ble President of India **Mrs. Draupadi Murmu** conferred the Honorary Degree of Science upon **Dr. Mrutyunjay Mohapatra**, DG IMD for his exemplary dedication, profound expertise and unparalleled contribution to the field of Meteorology during 53<sup>rd</sup> Convocation Ceremony of Utkal University in the presence of Governor of Odisha, Hon'ble Minister of higher education, Odisha and Vice Chancellor, Utkal University on 29<sup>th</sup> February, 2024.



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**Hon'ble President of India Mrs. Draupadi Murmu conferred the Honorary Degree of Science upon Dr. Mrutyunjay Mohapatra, DG IMD during 53<sup>rd</sup> Convocation Ceremony of Utkal University**

### Awards

#### Best Employees Awards on the occasion of WMO Day-2024

s. No.	Name of the officials & designation	Office/Division/Place of posting
1.	Sh. T. Arulalan, Sc -C	NWP, DGM Office, New Delhi
2.	Ms. Suman Gujar, Sc-D	ISSD, DGM, Office, New Delhi
3.	Sh. Anshul Chauhan, Sc- C	UAID, DGM, Office
4.	Sh. Krishna Mishra, Sc - C	NWFC, DGM Office, New Delhi
5.	Sh. M.T. Bushair, Sc - C	NWP, DGM Office, New Delhi
6.	Sh. Rama Naik D, Met-B	AMS Bajpe, Met. Office, Mangaluru
7.	Sh. V.P. Devesia, Met - A	AMS, Kozhikode
8.	Sh. R.K. Mohapatra, Met -B	M.C. Bhubneshwar
9.	Ms. Renu Verma, Met- B	DGM(AASD)
10.	Ms. Yashika Garg, Met- A	DGM(Hydrology)
11.	Ms. Rhythm Naswa, Met- A	DGM(UAID)
12.	Sh. A.P. Vijayan, AO-III	RMC Chennai
13.	Sh. H.W. Joshi, AO-II	DGM, New Delhi
14.	Sh Amit Kumar Gupta, SA	MC Raipur
15.	Sh. P. Kartik, SA	M.C. Thiruvanthapuram
16.	Ms. Kusum LATA, SA	DGM(NWFC)
17.	Ms. Neeru Barak, SA	DGM(CWD)
18.	Sh.Rahul Bhurwan,SA	DGM(ESTT.)
19.	Ms. Divya Kumari, SA	DGM(ISSD)
20.	Sh P Ali Sheik Kadar, Asstt.	RMC Chennai
21.	Sh. P.K. Verma, Asstt.	DGM(B&P)
22.	Ms. Rajni Sharma, Asstt.	DGM(Bills)
23.	Sh Bagesh Kumar, UDC	MC Patna
24.	Sh. Dhandhapani, MO-I	RMC Chennai
25.	Ms. Esha Chandra, UDC	DGM(Medical Bill)
26.	Ms Laxmi Dubey, UDC	DGM(Estt.)
27.	Sh Sharif Khan, MTS	MC Bhopal
28.	Sh. Kanak Chander Das, MTS	RMC, Guwahati
29.	Sh. Chandrashekar N, MTS	AMS Bajpe

#### Best RMC/MC/MO/ AMO/AMS/DWR Awardson the occasion of WMO Day-2024

1.	Best RMC/MC	M.C. Patna
2.	Best AMO/MWO/AMS	AMO Kolkata
3.	Best M.O	M.O. Nalliya and M.O. Bapatala
4.	Best DWR	DWR Nagpur

### Research & Publications

**Twenty five (25)** research articles have been published in **MAUSAM** (Vol. 75, No. 1), January, 2024 issue.

Following are the research articles published in Mausam and other extra departmental journals which are authored by IMD officials:

**Nilesh Wagh and Pulak Guhathakurta**, 2024, "Homogenizing Monthly Rainfall and Temperature Data Series in Maharashtra & Goa", *MAUSAM*, **75**, 1, 17-34. <https://doi.org/10.54302/mausam.v75i1.5886>.

**Nishtha Sehgal, Tanvi Malhan, R. K. Giri, Ramashray Yadav, Yogesh Kumar and Laxmi Pathak**, 2024, "An analysis of fog events in respect of winter season 2021-2022 using model reanalysis & INSAT-3D/3DR satellite data", *MAUSAM*, **75**, 1, 61-72. <https://doi.org/10.54302/mausam.v75i1.5916>.

**Geeta Agnihotri and M. Rajavel**, 2024, "Development of Synoptic Analogue Model for Quantitative Precipitation Forecast over Cauvery and East flowing river basin, India", *MAUSAM*, **75**, 1, 89-100. <https://doi.org/10.54302/mausam.v75i1.5099>.

**Neeti Singh, C. S. Tomar, Gajendra Kumar, Arun S. H., Dinesh Kumar Sankhala, Sumant Kumar Diwakar and Sebin John**, 2024, "Temporal variations of Rainfall over Konkan & Goaduring 1901-2020", *MAUSAM*, **75**, 1, 101-108, <https://doi.org/10.54302/mausam.v75i1.803>.

**Pravat Rabi Naskar and Dushmanta Ranjan Pattanaik**, 2024, "Variations in intensity of Bay of Bengal tropical cyclones with surface latent heat flux and other parameters", *MAUSAM*, **75**, 1, 131-138. <https://doi.org/10.54302/mausam.v75i1.765>.

**Priyanka Singh, R. K. Mall, K. K. Singh and A. K. Das**, 2024, "Verification of WRF Model Forecasts and their use for Agriculture Decision support in Bihar, India", *MAUSAM*, **75**, 1, 197-204. <https://doi.org/10.54302/mausam.v75i1.6037>.

**Anoop Kumar Mishra, Mohammad Suhail Meer and Vanganuru Nagaraju**, 2024, "Exploring extreme flood events of a western state of India during monsoon season of 2019 from space", *MAUSAM*, **75**, 1, 245-248, <https://doi.org/10.54302/mausam.v75i1.3568>.

**Sunny Chug, Sankar Nath**, 2024, "Recent advances in Social weather, Common Alert protocol and Dissemination services through APIs in India Meteorological Department", *MAUSAM*, **75**, 1, 283-294. <https://doi.org/10.54302/mausam.v75i1.6146>.



## Research papers published in other extra departmental journals

**D.R. Pattanaik, A. Alone, 2024**, "District Level Extended Range Forecast of Monsoon Rainfall Over India: Prospects and Limitations" *Pure And Applied Geophysics*, **181**, 1, <http://dx.doi.org/10.1007/s00024-023-03417-5>

Vishwakarma, Vijay; Pattnaik, Sandeep; **Baisya, Himadri**, "Decadal variability of precipitation and moisture source attribution over India" *International Journal Of Climatology*, **44**,2, <http://dx.doi.org/10.1002/joc.8352>

**Ranalkar, MR; Giri, RK; Ray, K**, "Climatological features of rapidly intensifying tropical cyclones in the North Indian Ocean" *International Journal Of Climatology*, **44**, 4, <http://dx.doi.org/10.1002/joc.8379>.

**Anup, N., Rohith, B., Vijith, V., Rose, L., Sreeraj, P., Sabu, A., Krishnamohan, K.S, Sudeepkumar, B.L., Sunil, A.S., Sunil, P.S., (2024)**, " Volcanic eruption triggers a rare meteotsunami in the Indian Ocean", *Geophysical Research Letters*, **51**, e2023GL108036. <https://doi.org/10.1029/2023GL108036>.

## OTHER PUBLICATIONS

A Technical report titled ' Verification of River Sub-Basin-Wise Quantitative Precipitation Forecast during SW Monsoon 2023' is published by **Dr. MadhuLatha Akkiseti**, Sc. 'D' and several authors of Hydromet division and MC's, RMC's of IMD with reference to Met. Monograph number - MoES/ IMD/ H.S/ Basin Hydrology/ 01(2024)/16. (Refer Fig. below). Also, validity of QPF increased from 5 days to 7 days.

The image shows the cover of a technical report from the India Meteorological Department (IMD). At the top left, there is a logo for the 150th anniversary of the Ministry of Earth Sciences. The title in Hindi is 'नदी उपबेसिन मात्रात्मक वर्षा पूर्वानुमान दक्षिण पश्चिमी मानसून 2023 का सत्यापन' and in English is 'VERIFICATION OF RIVER SUB-BASIN-WISE QUANTITATIVE PRECIPITATION FORECAST DURING SW MONSOON 2023'. The authors listed are S. C. Bhan, Ashok Kr. Das, A. Madhulatha, S. K. Manik, Charu, M. C. Papnai, Dhara Singh, Rajesh Maurya, A. Sravani, Dwaraka Nath Maji, H. R. Biswas, K. R. Beena, Kuldeep Srivastava, Manorama Mohanty, Mohammed Danish, P. S. Kannan, Rajavel Manickam, Ranendra Sarkar, Ravindra Kumar, Sonam Lotus, Sourish Bondyopadhyay, Sunit Das. The report number is MoES/IMD/H.S/Basin Hydrology/01(2024)/16. The address at the bottom is Hydromet Division, India Meteorological Department, Lodi Road, New Delhi- 110003.

**Dr. S. I. Laskar, Sc. 'E'** "Study of thermodynamic indices in association with pre-monsoon thunderstorms/Nor'westers over Northeast India during 2014-2018" published in 'International Journal of Scientific and Research Publications, Volume 14, Issue1 publication under ISSN2250-3153, January 2024.

## OUTREACH AND MEDIA INTERACTION

Unified Mobile App & Decision support system (DSS) was launched on 15<sup>th</sup> January, 2024 by Honourable Vice President of India, **Shri Jagdeep Dhankhar** in Inaugural function of IMD 150<sup>th</sup> foundation Day celebration.

**Introductory Video for MAUSAM** mobile app & theme song of IMD was released on 15<sup>th</sup> January 2024 in Inaugural function of IMD 150<sup>th</sup> foundation Day celebration.

**A facility for sending E-Mail** on 1<sup>st</sup> and 15<sup>th</sup> date of every month to the pensioners and soon-to-be retiring employees under Anubhav Outreach Campaign, 2024 created on METNET.

**Online Applications Forms made LIVE in METNET** for all IMD employees w.e.f. 17<sup>th</sup> January, 2024 with initially three forms listed below: a. Permission of Higher Education b. Intimation of purchasing of Immovable property c. Intimation of purchasing of movable property.

IMD organized Press Conference on 1<sup>st</sup> January, 2024 regarding monthly outlook of temperature and rainfall for the month of January, 2024. **Dr. Mrutyunjay Mohapatra**, DG IMD briefed the Press. The detailed of Press Release issued in this regard is available at link: [https://internal.imd.gov.in/press\\_release/20240131\\_pr\\_2788.pdf](https://internal.imd.gov.in/press_release/20240131_pr_2788.pdf).

Impact based forecast (IBF) for Agriculture in the month of January-2024, 671 district level AAS bulletins, 2969 Block level AAS bulletins issued and 0.367 million Meghdoot mobile apps for AAS downloaded. Agromet Advisories Disseminated through WhatsApp groups to 2,76,26, 903 framers and Agromet advisories disseminated through State Govt. mobile Apps 15.6 million farmers.

**Impact based forecast (IBF)** for Agriculture in the month of Feburary-2024, 652 district level AAS bulletins, 2635 Block level AAS bulletins issued and 368000 Meghdoot mobile apps for AAS downloaded. Agromet Advisories Disseminated through WhatsApp groups to 17,74,702 framers in 1,36,321 villages in 4023 blocks and Agromet advisories disseminated through State Govt. mobile Apps 15.6 million farmers. 23 Farmers' Awareness Programme (FAPs) conducted under GKMS.

**Impact based forecast (IBF)** for Agriculture in the month of March-2024, 649 district level AAS bulletins, and 371.8k Meghdoot mobile apps for AAS downloaded. Agromet Advisories Disseminated through WhatsApp groups to 1803795 farmers in 137904 villages in 4023 blocks and Agromet advisories disseminated through State Govt. mobile Apps 15.6 million farmers.



India Meteorological Department organized Press Conference on Monthly Outlook for Temperature and Rainfall on 1<sup>st</sup> March, 2024. **Dr. M Mohapatra**, DG IMD made a presentation during the Press Conference.

## Infrastructure Development & Installations

**Third Generation Meteorological Satellite INSAT-3DS** for meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning successfully launched on 17<sup>th</sup> February, 2024. This significant achievement marks a substantial advancement in India's meteorological observation capabilities. The deployment of INSAT-3DS heralds a new era in meteorological data acquisition and analysis. Various departments under the Ministry of Earth Sciences, including the India Meteorological Department (IMD) and the National Centre for Medium-Range Weather Forecasting (NCMRWF), will harness the satellite's data to provide enhanced weather forecasts and vital meteorological services.

IMD has installed and commissioned H-AWOS at 11 heliports, which were inaugurated by **Shri Kiren Rijju**, Hon'ble Union Minister of Earth Sciences on 25<sup>th</sup> February, 2024 at Itanagar Arunachal Pradesh.

**Shri Kiran Rijju**, Hon'ble Minister, MoES presided the Foundation Stone Laying and Bhumi Pujan Ceremony of Meteorological Observatory, Gangasagarat Sagar Island, Rudranagar, South 24, Parganas District, West Bengal on 28<sup>th</sup> February, 2024.

**X-Band Doppler Weather Radar (DWR)** at Lansdowne inaugurated by **Shri Kiran Rijju**, the Hon'ble Minister, MoES on February, 2024.

**Dr. Mrutyunjay Mohapatra**, DG IMD had a meeting with **Dr. Mrudula G.**, Senior Principal Scientist, Centre for electromagnetics, CSIR, NAL, Bangalore on 15<sup>th</sup> February, 2024 regarding joint R&D activities related to aviation weather forecasting. Mr. Gajendra Kumar, Head, Central Aviation Meteorology Division also participated in the meeting.

During the Quarter January-March, 2024, 21 new stations were added in Rainfall Network.

## SERVICES

Hon'ble Minister of Earth Sciences inaugurated the Doppler Weather Radar at Lansdowne, Uttarakhand on 23<sup>rd</sup> February, 2024 in the presence of **Dr. M. Mohapatra**, DG IMD, Hon' ble MP and former Chief Minister of Uttarakhand, **Shri Tirath Singh Rawat** and **Mr. Ranjit Sinha**, Secretary, Disaster Management, Uttarakhand.

IMD Visitor Management System (IMD VMS) started in DGM office with effect from 20<sup>th</sup> February, 2024 for issuing Gate Pass to the visitor at New Delhi office after capturing his/her photograph with other details.

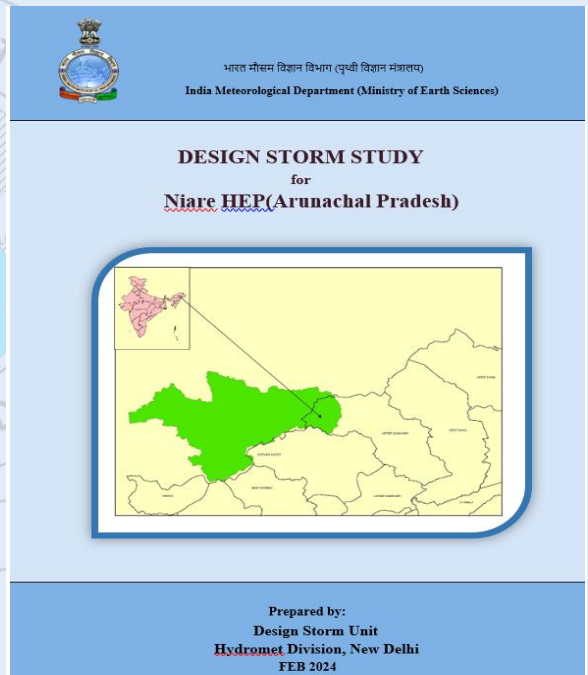
Online Applications Forms made LIVE in METNET for all IMD employees w.e.f. 17<sup>th</sup> January, 2024 with initially three forms listed below: a. Permission of Higher Education b. Intimation of purchasing of Immovable property c. Intimation of purchasing of movable property.

Two Modules created for Ex-IMD employees 1) Getting feedback and 2) Confirmation of participation in Inaugural function of IMD 150<sup>th</sup> foundation Day celebration.

Online Applications Forms made LIVE in METNET for all IMD employees are as follows:

- Application for Change of Home Town - w.e.f. 09.02.2024.
- Application for issue of NOC for obtaining passport to visit foreign countries - w.e.f. 09.02.2024
- NPS Form 1 – Option to avail benefits in case of death or discharge on invalidation or disability of Govt. Servant / subscriber during service - w.e.f. 22.02.2024
- NPS Form 2 – Form for Details of Family w.e.f. 22.02.2024

**Detailed Project Report of Niare Hydro Electric Project, Arunachal Pradesh** has been completed and values sent to the concerned Project Authority.



**Design Storm Study for Niare Hydro Electric Project, Arunachal Pradesh**

**Design storm Studies for the two projects Poshir Project and Shilar Medium Irrigating Project** in Maharashtra have been completed and values sent to the concerned Project Authority.

## VISITORS

On 15<sup>th</sup> January, 2024, INSAT AWS & Central Radiation Lab organized a science outreach program at St. Joseph High School, Pashan. Approximately 700 students and faculty members attended the event, where **Shri B. Sudarsan Patro**, Sc. 'D', and



**Dr. Somnath Mohoto**, Project Scientist, elucidated IMD's 150-year legacy of weather services to the nation. They explained the instruments used, including surface, AWS, radiation, aviation, radar, satellite, and state-of-the-art techniques and models for forecasting services.

**The Students from NID (National Institute of Design)** visited the M.C. Ahmedabad on date : 21<sup>st</sup> January, 2024 to discuss regarding Heat Wave readiness & mitigation.

**Shri Manoj Kumar**, Deputy Commandant at BSF Shillong visited MC Shillong on 5<sup>th</sup> February, 2024 for AWS cooperation and data sharing request.

**Shri Pynshainam Mylliem**, Consultant NPCCHH Meghalaya visited on 6<sup>th</sup> February, 2024.

**Shri Hubert Syngkon**, Sr. Lecturer at Shillong Polytechnic visited MC Shillong with his family on 8<sup>th</sup> February, 2024 for weather discussion.

**About 408 visitors** including students of Amity Institute Noida, FTC Batch, IMT Trainees, Delhi University, PM Shri K. V. Tagore Gardern School, DPS International School Gurugram, Indian Institute of Science Education and Research (IISER) visited the Central Hydromet Observatory from 1<sup>st</sup> January, 2024 to 31<sup>st</sup> March, 2024.



**Trainees of FTC Batch at New Delhi**



**Students of Delhi University**



**IMT Trainees at New Delhi**

**American India Foundation Trust organized a Advance Weather Balloon Launch Event** on 29-30 January, 2024 with the help of M.C. Ahmedabad for 100 students of various Govt. Schools of Ahmedabad.



**American India Foundation Trust organized a Advance Weather Balloon Launch Event**

**60 Students from PDEU** visited M.C. Ahmedabad on 2nd February, 2024 organized by Centre for Environment Education.

**The 140 Students** from LD College of Engineering visited M.C. Ahmedabad on 13-14 March, 2024 for acquiring knowledge on functioning of Meteorology.

On March 14, 2024, a group of fifteen **Indian Air Force trainees** visited the INSAT AWS & Radiation Lab at CR&S Pune, where the lab team conducted science outreach training activities. The program included comprehensive theoretical and practical sessions covering AWS, radiation, wind tunnel, and calibration facilities.



**Indian Air Force trainees visited the INSAT AWS & Radiation Lab at CR&S, Pune**



On 23<sup>rd</sup> March, 2024, CR&S Pune celebrated World Meteorological Day by arranging a Meteorological exhibition. The exhibition on the theme '**At the Frontline Climate Action**' showcasing the weather and climate services activities of CR&S Pune was inaugurated by the Dr. Anupam Kashyapi, LACD Head, CR&S. Live demonstration of meteorological and seismological instruments, 'Be a weather observer' segment for students to take their own weather observation, Mausam quiz corner, and a short documentary film on 'Expedition to Antarctica' were shown in the exhibition. About **450** visitors including students, scientists, scholars, journalists visited the exhibition. All visitors marked their comments with great enthusiasm. A few photos of the event are given below.



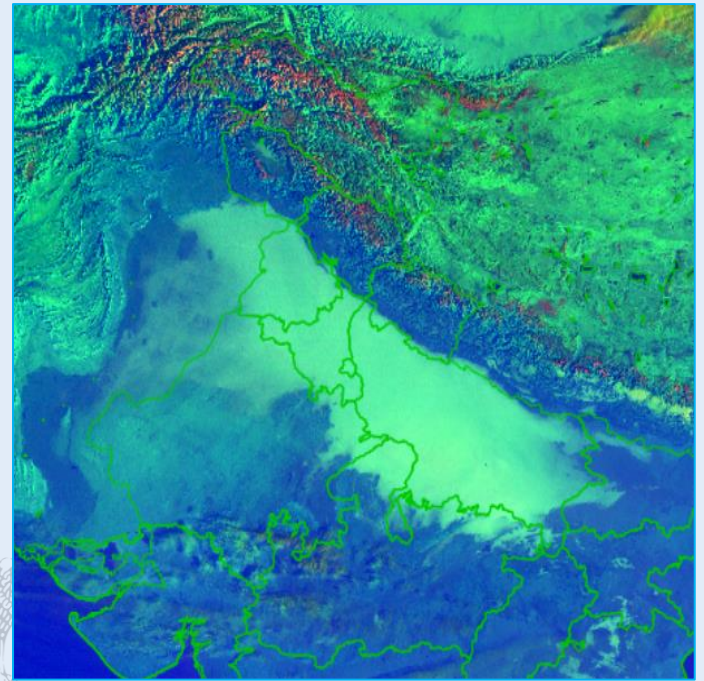
About 450 visitors including students, scientists, scholars, journalists visited the exhibition at CR&S Pune

## WEATHER INFORMATION

### January

**Western Disturbances (WDs):** A total of 4 numbers of WDs (3-8 Jan, 7-11 Jan, 25-27 Jan and 29-31 Jan) moved across extreme northern parts of India. But, all were remained north of 30deg N except the last WD of 29-31 January, 2024. This WD of 29-31 January was active one and with support of its induced cyclonic circulation, both caused the Season's 1st wet spell in January, 2024 during the period 29-31 January, with light to moderate rain/Snow observed over Kashmir and adjoining Western Himalayan region and light to moderate rain and thunderstorms and hailstorm observed over adjoining plains of northwest India during the same period.

**Fog:** Large-scale dense fog/low cloud cover was prevailed during almost all dates in the month during 1-31 January, 2024 across many parts of Indo-Gangetic plains. In terms of the day to day, it was also observed for longer duration during night-morning hours. However, from night of 31<sup>st</sup> January, 2024, this large-scale fog/low cloud cover was lifted from many areas across the region, due to impact of the active WD which impacted the region and caused stronger winds at surface across the region from the afternoon of 31<sup>st</sup> January, 2024.



Prolonged persistent IGP Fog/Low clouds Covers was seen in most days during 25 December 2023 to 31 January 2024 (above shows INSAT 3D fog/low clouds coverage across IGP region of 28 Dec and 29 Jan, at 0830 hrs IST)

### Average Temperature during January-2024

The mean temperature for the month of January-2024 for the country as a whole was 20.12 °C which was above normal by +0.48 °C. The normal temperature for the month is 19.64 °C.

The highest maximum temperature of 37.6 °C had been recorded at Punalur (Kerala & Mahe) on 30<sup>th</sup> January, 2024 and the lowest minimum temperature of -0.5 °C had been recorded at Sikar (East Rajasthan) 11<sup>th</sup> January, 2024 over the plains of the country during the month.

### February

#### Significant Weather Features

**Western Disturbances (WDs) :** A total of 8 number of WDs (30 Jan-2 Feb, 3-8 Feb, 12-19 Feb, 18-22 Feb, 22-24 Feb, 23-27 Feb, 26-28 Feb and 28 Feb-1 March, 2024) caused Rain/snow over western Himalayan states (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand) for 1-3 days. Out of these 8 WDs, 6 WDs were actively caused rain/TS and hail storm over plains of north and central India.

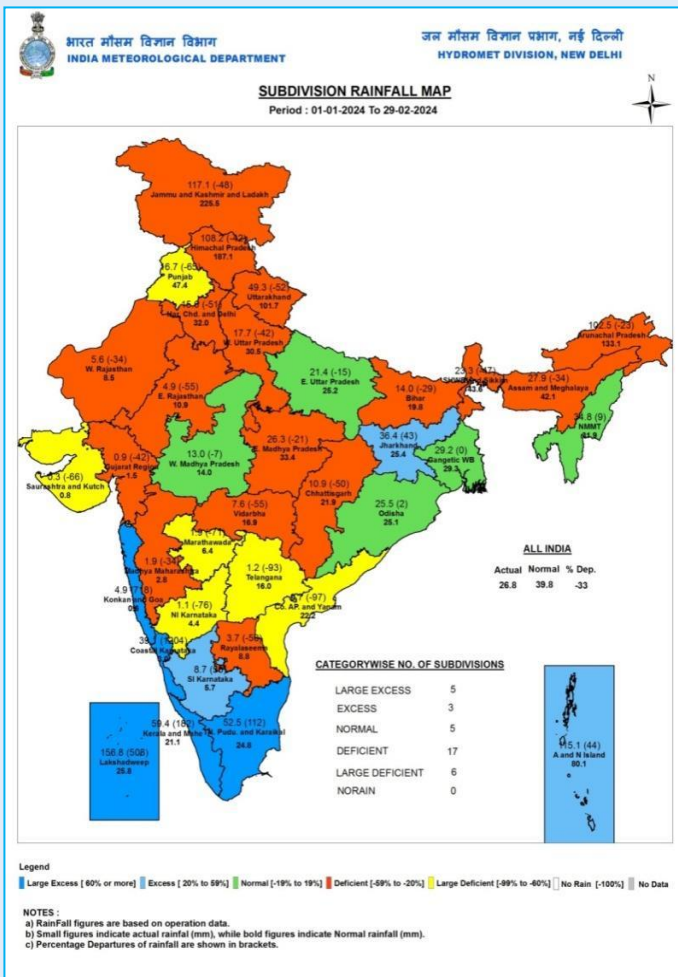
**A North-South Trough in easterlies** at lower levels over central India with wind incursion from anti-cyclonic circulation over Bay of Bengal observed in most dates during 2nd half of Feb 2024 which caused rainfall and thunderstorms with isolated hailstorm over central India and eastern parts of India in many days.

**Trough in westerly:** Due to the trough in westerly and support from lower level winds with moisture incursions from north Bay of Bengal, Heavy rainfall/Snowfall was recorded at isolated places over Higher ridges of Sikkim on 22 Feb and Arunachal Pradesh on 22<sup>nd</sup> & 24<sup>th</sup>; Heavy rainfall over Assam & Tripura on 23<sup>rd</sup> Feb, 2024.



The rainfall for the country as a whole, for the month of February-2024 has been recorded as 19.7 mm which is 87% of its Long Period Average (LPA) of 22.7 mm. Category wise, 01 Met sub-divisions in LARGE EXCESS, 03 Met sub-divisions in EXCESS, 12 Met sub-divisions in NORMAL, 07 in DEFICIENT, 07 in LARGE DEFICIENT and 06 Met sub-divisions in "NO RAIN" category of rainfall.

The rainfall statistics of winter season -2024. The rainfall for the country as a whole, for the winter season -2024 has been recorded as 26.8 mm which is 67% of its Long Period Average (LPA) of 39.8 mm. In all, category wise, 05 Met Sub-divisions in LARGE EXCESS, 03 Met sub-divisions in EXCESS, 05 Met sub-divisions in NORMAL, 17 in DEFICIENT, 06 in LARGE DEFICIENT and no any Met sub-divisions in NO RAIN category of rainfall.



Subdivisional rainfall map for the period 01-01-2024 to 29-02-2024

**March**

**Average Temperature during March-2024 :** The mean temperature for the month of March-2024 for the country as a whole was 24.92 °C which was above normal by 0.21 °C. The normal temperature for the month is 24.71 °C.

The highest maximum temperature of 42.8 °C had been recorded at Akola (Vidarbha) on 27<sup>th</sup> March, 2024 and the lowest minimum temperature of 5.0 °C had been recorded at Pilani (East Rajasthan) on 4<sup>th</sup> March, 2024 and at Karnal (Haryana) on 6<sup>th</sup> March, 2024 over the plains of the country during the month.

**Summary of state of climate during the period January to March 2024:**

In the month of January, over the country the mean temperature was 18.37 °C with an anomaly of 0.34 °C. Over South Peninsular India the mean temperature was highest (25.32 °C with an anomaly of 1.0 °C) and minimum temperature was the 2<sup>nd</sup> highest (20.15 °C with an anomaly of 1.74 °C) since 1901. Over Central India the minimum temperature was the 3<sup>rd</sup> highest (14.19 °C with an anomaly of 1.67 °C) since 1901. During January 2024, rainfall realized over the country as a whole was 42% of its LPA. Rainfall realized over homogeneous regions of central India, south peninsular India, northwest India, and east & northeast India was 72%, 233%, 9% and 33% of its LPA respectively.

In the month of February, over the country the mean temperature was 21.10 °C with an anomaly of 0.4 °C and the minimum temperature was the 2<sup>nd</sup> highest (14.61 °C with an anomaly of 0.79 °C) since 1901. Over South Peninsular India the mean temperature was highest (27.13 °C with an anomaly of 1.20 °C) since 1901. Over South Peninsular India both maximum and minimum temperatures were highest (33.09 °C with an anomaly of 0.97 °C, 21.17 °C with an anomaly of 1.43 °C respectively) since 1901. Over Central India the minimum temperature was the highest (16.62 °C with an anomaly of 1.63 °C) since 1901. During February 2024, rainfall realized over the country as a whole was 87% of its LPA. Rainfall over homogeneous regions of northeast India, northwest India, central India and south peninsular India, was 113 %, 87%, 82% and 9%, of its LPA respectively.

During the month of March, over the country the mean temperature was 24.92 °C with an anomaly of 0.22 °C. Over South Peninsular India during March, the maximum temperature was the 3<sup>rd</sup> highest (35.28 °C with an anomaly of 0.68 °C) after the years 2016(35.68 °C), 2010(35.36 °C) since 1901. The minimum temperature was the 2<sup>nd</sup> highest (23.33 °C with an anomaly of 1.05 °C) after the year 2016(23.61 °C) since 1901. The mean temperature was the 2<sup>nd</sup> highest (29.31 °C with an anomaly of 0.87 °C) after the year 2016(29.65 °C) since 1901. During March 2024, rainfall realized over the country as a whole was 95% of its Long Period Average (LPA) value. The rainfall realized during the month was 204% of its LPA over central India, 96% of its LPA over northwest India, 88 % of its LPA over east & northeast India and 21% of its LPA over south peninsular India.

