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# मौसम विज्ञान विभाग समाचार IMD NEWS

INDIA METEOROLOGICAL DEPARTMENT  
(Ministry of Earth Sciences)

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## Important Events / Activities

### India Meteorological Department Foundation Day, 2017



Lightening of Lamp and Release of Books during IMD Foundation day, 2017

India Meteorological Department (IMD) celebrated **142<sup>nd</sup> Foundation Day, 2017** at National Cooperative Union of India (NCUI) Auditorium, 3 Siri Fort Institutional Area, August Kranti Marg, New Delhi on 15<sup>th</sup> January, 2017. **Dr. S. Christopher, Chairman DRDO and Secretary Department of Defence R & D** was the **Chief Guest** of the function and **Dr. M. Rajeevan, Secretary, Ministry of Earth Sciences** presided over the function. **Dr. K. J. Ramesh, Director General of Meteorology, IMD** welcomed the chief guest and addressed the gathering about the achievements of IMD during the previous year. The Chief Guest addressed the audience about the weather services of IMD and also highlighted how the services provided by IMD are useful to DRDO in many respects.

**Dr. L. S. Rathore, Former DGM, IMD** was felicitated by the Chief Guest on this occasion. **Shri A. K. Sharma, Met. 'B'** was also felicitated by the Chief Guest for winning a Gold Medal in Benchpress Championship held at Tashkent Uzbekistan during 14-20 October, 2016.



Felicitation of Dr. L. S. Rathore Former DGM, IMD



Felicitation of Shri A. K. Sharma, Met. 'B'

RMC New Delhi, MC Srinagar, MOs: Lucknow, Chitradurga, Baroda, Jalpaigudi, Dhubri and Indore, RS/RW Aminidevi and AMFU Tirupati were awarded as best RMC, best MC, Best MOs, best RS/RW and best AMFU respectively.

Chief Guest released the new addition of Mausam Manjusha (Hindi Patrika) and Met. Monograph entitled "Assessment of total Columnar Ozone over Indian Stations" by Siddhartha Singh, Vijay Kumar Soni, R. K. Giri, Priyanka Sinha and S. K. Peshin EMRC New Delhi.

On this occasion the prizes were distributed to the winners of an Art and Debate Competition, which was conducted by IMD among the School Children as a part of the IMD Foundation Day celebration.



## Important Events

IMD issued “**Seasonal temperature and heat wave outlook for the season March-May, 2017**”. A Press Release in this regard was issued on 3<sup>rd</sup> March, 2017.

A task team has been constituted jointly by ISRO and MoES under the chairmanship of **Dr. M. Mohapatra, Scientist ‘G’** suggest the meteorological pay loads for 4<sup>th</sup> generation INSAT series of satellites.

Initiation of establishment of “**200 District Agromet Field Units**” by 2017-18 under the first phase of 660 DAMU establishments throughout the country by AASD New Delhi. No. of registered farmers getting benefits from AAS services enhanced by 20 lakh.

**Dr. A. K. Sahai, Scientist ‘G’** assumed charge on 1<sup>st</sup> January, 2017 as Head, Office of Climate Research & Services, IMD Pune after superannuation of Shri B. Mukhopadhyay, Scientist ‘G’ & ADGM(R) on 31<sup>st</sup> December, 2016.

### Science Exhibition - 2017



Science Day at GMRT, Khodad, Junnar

**Shri A. K. Dhotre, Met. ‘B’** and **Shri Anil Patinge, Met ‘B’** participated in the Science Exhibition - 2017 on the occasion of “Science Day” at Giant Metre wave Radio Telescope, National Centre for Radio Astrophysics, Khodad, Near Narayangaon, Taluka-Junnar, Distt.- Pune during 28<sup>th</sup> February and 1<sup>st</sup> March, 2017.

**The National Science Day** was celebrated on 28<sup>th</sup> February, 2017. On this occasion an exhibition was arranged in the main building. **Dr. A. K. Sahai, Head CR&S** inaugurated the exhibition. It was well attended by large number of students, scientists, journalist and general public.

### Basantotsav-2017 on 4-5 March, 2017 at Rajbhavan Uttarakhand



Hon'ble Governor, Uttarakhand, Dr. K. K. Paul at MC Dehradun

**Honourable Governor, Uttarakhand, Dr. K. K. Paul** (centre) inspecting stall of M. C. Dehradun at Rajbhavan, Dehradun. **Shri Bikram Singh, Director, MC Dehradun** (rightmost) briefed him about Weather instruments and services provided by IMD.

## World Meteorological Day, 2017

**World Meteorological Day** was celebrated on 23<sup>rd</sup> March, 2017 on the theme “**Understanding Clouds**” at IMD HQ and most of its sub-offices all over India. On this occasion, exhibitions were arranged in different offices of IMD highlighting the theme of World Meteorological Day. Special lectures/talks/media coverage/interviews were also organised during this occasion. **Dr. R. R. Kelkar, Former DGM** delivered a talk “**Poetry of Clouds**” on this occasion at IMD HQ, New Delhi.

**World Meteorological Day** was celebrated in IMD Office premises, Shivajinagar, Pune on 23<sup>rd</sup> March, 2017. On this occasion, an exhibition was arranged in the main building of IMD, Pune. It was well attended by large number of students, scientists, journalist and general public.



Shri S. B. Thampi, DDGM, delivering the welcome address

RMC Chennai and its sub offices celebrated WM day on the theme “**Understanding Clouds**” on 23<sup>rd</sup> March, 2017 with scientific temper and gaiety. There was an open house at RMC Chennai and nearly 270 students from different educational discipline attended the “open house” and exhibition. **Shri S. Bagulayan Thampi, DDGM, RMC Chennai** welcomed the gathering and introduced the theme of WM Day-2017. Then Chief Guest **Dr. (Smt) Thara. V. Prabakaran, Project Director, IITM, Pune** delivered lecture on the topic “**Understanding Monsoon cloud Process**”. **Prof. Balaji Narasimhan, IIT Chennai** was the Guest of Honour and he delivered a key note address on “**Potential of Doppler Weather Radar for extreme flood Modeling with special reference to Chennai floods 2015**”. **AVM S. Lakshmi Narayanan, Meteorologist (Retd)** gave a special talk on “**Unlearning as a first step to learning**”.

**AIR Chennai** broadcasted a talk by **Dr. S. Balachandran, Sc. ‘F’** in Tamil on the theme of World Meteorological Day-2017 “**Understanding Clouds**” on 23<sup>rd</sup> March, 2017.

**W M day 2017** was celebrated at MC Bhubaneswar on 23<sup>rd</sup> March, 2017. About 400 students from different schools and colleges and general public visited the MC on WM Day.

**World Meteorological Day** on 23<sup>rd</sup> March, 2017 at Meteorological Centre, Dehradun



**Shri Bikram Singh, Director** and other officers showing various weather instruments and answering the queries of students and visitors on WM Day on the theme "Understanding Clouds" at Meteorological Centre Dehradun.

**Dr. Manorama Mohanty, Sc. 'D'** participated as a member of Experts Panel during open House discussion program of WM Day celebration at Gujarat Science City, Ahmedabad on 23<sup>rd</sup> March, 2017 organized jointly by IMSA and Gujarat Science City.

**W M Day** was celebrated by observing open house on 23<sup>rd</sup> March, 2017. About 55 students along with 3 faculty members from Hindustan University, Padur, Kelambakkam, Chennai, 8 officers and staff of Finance Department, Chennai Port Trust and a few general public visited DWR and were explained about activities of DWR, principles and working of DWR and utilities of Radar images.

### Important Policy Decisions Taken

**Agromet Advisory Service Division, New Delhi** submitted EFC document for the period 2017-2023 to Plan Division for approval and fund allocation.

To increase **outreach of Agro-advisories** to village level through involvement of State Agriculture Department, AASD officials will coordinate with their respective state Officials in order to improve the services and increase outreach and dissemination.

**Delegation of enhanced Financial Powers** to Heads of RMCs, MCs and CDR/DWRs etc. & stand-alone Offices headed by Group A' Offices and Remote Offices in India Meteorological Department is available on Metnet under General circular issued by DGM Planning New Delhi on 30<sup>th</sup> March, 2017.

### New Projects / Schemes / Programmes Approved / Initiated / Completed

Best track parameters of **cyclonic disturbances during 2016** have been finalised by an expert committee, chaired by Dr. M. Mohapatra, Scientist 'G', IMD and the same have been approved by Director General of Meteorology for archival in historical data base and other use.

Total **196 Digital Station Barometers** were supplied to various RMC's and 186 were installed till date by CRS, Pune.

## Human Resource Development Activities

### Conferences

**श्री कुलदीप श्रीवास्तव, वै. 'डी'** ने 19 जनवरी 2017 को लीला कंवेशन होटल, दिल्ली में "GIS - Enabling Transformation" विषय पर "ESRI India User Conference-2017 " में भाग लिया।

**Dr. M. Mohapatra, Scientist 'G'** participated as Panellist in the discussion on "Climate Change: Adaptations & Mitigation" in the 8<sup>th</sup> Indian Youth Science Congress organised by M. S. Swaminathan Research Foundation on 16<sup>th</sup> February, 2017 at Mumbai.

**Dr. S. D. Attri, Scientist 'F'**, AASD participated and addressed as Chief Guest on the Valedictory Function of International Conference on "Emerging Areas in Environmental Science and Engineering" organized by GJU Hisar during 16-18 February, 2017.

**Shri A. K. Baxla, Scientist 'E'** has attended 6<sup>th</sup> International Communication and Information Technology Conference (CICON)-2016-17, titled "Emerging Trends in Science, Technology, Engineering and Management: Research and Development" with the theme "Doubling Farmers' income by 2022 - Smart Farming and Smart Village" organized by Shobhit University Meerut on 17<sup>th</sup> February, 2017.

**Shri Rahul Saxena, Scientist 'E'** participated in the workshop at The Energy and Resources Institute (TERI) organised an International Conference on Urban Geo Informatics (ICUG) at TERI University, New Delhi on 22-23 February, 2017.

**Dr. M. Mohapatra, Scientist 'G'** participated as Chief Speaker in the Valedictory function of 9<sup>th</sup> National Seminar on "Water Resources Management in the context of Climate Change for growing India" jointly organised by SCET and OUAT at Bhubaneswar during 27 February - 1 March, 2017. Dr. S. C. Sahu, Scientist 'F', also participated in the seminar as Chairman on 27-28 February, 2017.

### Trainings

Thirteen Students (CSSTEAP) from seven countries of the **Asia-Pacific region**, who are undergoing training on 'Satellite Meteorology and Global climate' of SATMET-9 course at Space Applications centre (ISRO), Ahmedabad, visited DWR Chennai, along with the course director, as part of their South India study tour on 27<sup>th</sup> January and were explained about the functions of DWR and utility of its products.

**Shri S. B. Thampi, DDGM & First Appellate Authority** and Ms. B. Amudha, Sc. D' & Central Public Information Officer participated in the 42<sup>nd</sup> Training Programme on the Right to Information Act 2005 conducted by Institute of Public Administration held at Bengaluru during 3-4 February, 2017.





**Dr. K. K. Singh, Sc. 'F'** attended inaugural event of training on "New-Dimensions in Agrometeorology for improvement of Agromet Advisories: Capacity building" to the AMFU scientists organized at Rajasthan Agricultural Research Institute, Jaipur during 6-15 February, 2017 and also delivered a talk on Strengthening outreach of Agro Advisory Services to farmers.

An on-site training programme for **Aviation Weather Forecasters** was conducted at Meteorological Office, Indira Gandhi International Airport on 8<sup>th</sup> February, 2017. The experts from satellite, Radar, environment meteorology, numerical wx prediction modeling & forecasting divisions of IMD, New Delhi participated and presented lectures in the training programme.

Training programme in operation and maintenance of **Airport Meteorological Instruments (AMI)** was conducted at E Lab from 20<sup>th</sup> to 24<sup>th</sup> February, 2017.

**डा. एस. एल. सिंह, वैज्ञानिक-एफ** ने CDAC मुंबई में 24 फरवरी, 2017 को मोबाईल सेवा सर्विसेस ट्रेनिंग में भाग लिया।

**Shri R. Balsubramanian, Scientist 'D'** and Shri A. K. Dhotre, Met 'B' attended the training on 'The procedure of dealing online RTI requests and appeals' imparted by the DoPT official at O/o Director General of Meteorology, Mausam Bhavan, New Delhi on 10<sup>th</sup> March, 2017.

## WORKSHOPS

**Dr. K. K Singh, Sc. 'F'** and Shri A. K. Baxla, Scientist 'E' attended and gave presentation on "Latest Technology development in use of Agromet model & Implementation status of Agromet component of FASAL Scheme" in the National Workshop on Improvement of Agricultural Statistics during 4-5 January, 2017 at NASC Complex, New Delhi.

**Shri Anand Sharma, Scientist 'F'** was one of the panellist in the National Biodiversity conference organised by Wild Life Institute of India at Dehradun on 14<sup>th</sup> February, 2017 and spoke about climate variability / change and agro ecosystem in relation to Biodiversity Conservation.

**Dr. Kamaljit Ray, Scientist 'F'**, Shri Anand Sharma, Scientist 'F' and Dr. Ranjit Singh, Scientist 'F' Regional Coordinators provided inputs from IMD for the training workshop on Drought Manual 2016 organized on 16<sup>th</sup> February, 2017 in MNCFC, Pusa Campus, New Delhi-110012.

**Ms. Mamta Yadav, Scientist 'B'**, Shri Shashikant, Scientist 'B' and Shri A. K. Majhi, Scientist 'B' Participated in 9<sup>th</sup> National Seminar on "Water Resource Management in context of climate change for growing India" at OUAT Bhubaneswar organized by CAET (Trust) on 27-28 February, 2017.

**Dr. S. D. Attri, Scientist 'F'** and Dr. Ranjeet Singh, Scientist 'F' attended Workshop on "Pilot studies on use of technology for crop insurance" organized by Ministry of Agriculture at NASC, Complex, New Delhi on 28<sup>th</sup> February, 2017.

**Dr. V. K. Soni, Scientist 'E'** participated in the workshop on 'Raising Risk Awareness' organised by The Energy and Resources Institute (TERI) on 28<sup>th</sup> February, 2017 at India Habitat Centre, New Delhi.

## Workshop on Pre-monsoon Convective Wx Systems



Discussion during workshop

A training workshop on "Pre-monsoon convective weather systems" for thunderstorm nowcast was organised for the forecasters of IMD at New Delhi during 1-4 March, 2017. In this workshop Dr. M. Mohapatra, Sc. 'G', Dr. Sati Devi, Sc. 'F', Shri Charan Singh, Sc. 'E', Dr. D. R. Pattanaik, Sc. 'E', Dr. Soma Sen Roy, Sc. 'E', Dr. S. D. Kotal, Sc. 'E', Dr. A. K. Das, Sc. 'D', Dr. V. R. Durai, Sc. 'D' etc. delivered lectures and conducted practicals to the trainees. Shri Bikram Sen, Met. 'A' and Shri Pradeep Sharma, Met. 'A' also participated in the said workshop.

**Shri. P. Gururaghavendiran, Meteorologist 'A'** attended the National Workshop on Doppler Weather Radar (NWDWR) held at RMC, New Delhi during the period on 9-10 March, 2017 and presented a paper titled "DWR Chennai Operational Methodology for better tracking of severe weather with special reference to Cyclone Vardah".

**Dr. D. R. Pattanaik, Scientist 'E'** participated in the Annual Monsoon-2016 workshop organised by India Meteorological Society, IMS Pune Chapter on 15<sup>th</sup> March, 2017 at IITM, Pune. During the event Dr. Pattanaik delivered an invited talk on "New Operational Extended Range Forecast System of IMD and its Application in Different Sectors".



Dr. D. R. Pattanaik, Scientist 'E' delivering talk at IITM

**Dr. K. K. Singh, Scientist 'F'** Head AASD, Dr. S. D. Attri Scientist 'F' and Shri A. K. Baxla Scientist 'E' participated in National Workshop on Doubling Farmer's Income through Scaling-up" organised by ICRISAT during 15-16 March, 2017 at VIF, New Delhi. Dr. S. D. Attri delivered lead talk on "Role of Agromet Advisory Services in Managing Risk under Changing Climate" on this occasion.



**Dr. S. D. Attri, at ICRISAT Workshop, New Delhi,**

### Workshop on Heat Wave Forecasts for State Level Preparedness

Workshop on **Heat Wave Forecasts** for State Level Preparedness held on 28-29 March 2017, at New Delhi Jointly organised by India Meteorological Department and Indian Meteorological Society. The workshop was inaugurated by lightening a lamp by Dr M. Rajeevan, Secretary, MoES, Dr. K. J. Ramesh, Director General, IMD, Dr Akhilesh Gupta, Adviser, DST and AVM (Dr) Ajit Tyagi, President, IMS. The workshop was attended by the forecasters/researchers from Ministry of Earth Sciences (MoES), disaster management agencies from various states, National Disaster Management Agency (NDMA), concerned senior officers of state level and NGOs.



**Discussion during the workshop**

Special invitee Prof. Dev Niyogi, Purdue University, USA also attended the meeting. In his opening remarks, DGM explained the difficulties of prediction of heavy rainfall and emphasized about the needs of multi-organizational collaboration for prediction of heavy rainfall.



**Dr. K. J. Ramesh, DG, IMD and other during the workshop**



**The Inauguration of the workshop on Heat Wave Forecast**

After the inaugural session the technical session was conducted under the chairmanship of Prof. U. C. Mohanty. Dr. M. Mohapatra, Sc. 'G' outlined the scope of discussion and expected outcome of the meeting. Participants from the research organization presented their R&D activities. Prof. Niyogi also presented the R&D activities of Prof. Subimal Ghosh (IIT Bombay). After the presentation a detailed discussion was carried out under the chairmanship of Director General of Meteorology & sixteen recommendations were made and also circulated to all the participants.



**Group photograph of dignitaries participated in the Workshop**

### “Workshop on Heavy rainfall prediction and its impact assessment”

A national workshop inaugurated by Dr. K. J. Ramesh, Director General of Meteorology was held on 31<sup>st</sup> March, 2017 at IMD to discuss the R&D activity on heavy rainfall prediction and its impact assessment. Representatives from IITM, IMD, NCMRWF, IIT Bhubaneswar, IIT Madras, Andhra University, Amity Centre for Atmospheric & Science Technology, Centre for Development of Advanced Computing, Pashan, Pune and Space Applications Center, Ahmadabad attended the meeting.

### Lectures

**Dr. S. C. Sahu, Scientist 'F',** M.C. Bhubaneswar delivered lecture on Understanding Heat Island Effect and urban agriculture and Global warming vs Heat Island Effect at MI & WU, Barmunda, Bhubaneswar on 3<sup>rd</sup> January, 2017.

**Dr. K. K. Singh, Scientist 'F'** and Mrs Priyanka Singh, Sc. 'B' attended and delivered lecture in the training on “Climate Resilient Technologies for sustainable agriculture production under Rain-fed situation” organized by Directorate of Extension RVSKVV, Gwalior on 12-14 January, 2017 at College of Agriculture, Indore.

**Shri N. P. Kulkarni, Scientist 'B',** visited AMFU Kolhapur and acted as member of selection board for selection of Technical Officer under GKMS on 30<sup>th</sup> January, 2017 and delivered lecture on climate change and impact on agriculture in Farmers' Awareness Programme at AMFU, Kolhapur on 31<sup>st</sup> January, 2017



**Dr. M. Mohapatra, Scientist 'G'** participated as an invited speaker in the 3- day residential training programme on Global Warming, Climate Change and Disaster Management - Future Perspective organised by the School of Public Health, PGIMER, Chandigarh in collaboration with Punjab University, Chandigarh. He delivered a lecture on Early Warning Systems and Weather Extremes on 23<sup>rd</sup> February, 2017. He was also the Guest of Honour in the Valedictory Session of the Training programme conducted in the evening of 23<sup>rd</sup> February, 2017.

**Shri Bikram Singh, Scientist 'E', MC, Dehra Dun** was invited to deliver a lecture on 'Thunderstorms & its Socio Economic Impacts' at IIRS, Dehradun by Indian Meteorological Society (I.M.S.) and welcomed by President, IMS on 27<sup>th</sup> March, 2017.



Lecture on 'Thunderstorms & its Socio Economic Impacts'

**Shri Rohit Thapliyal, Scientist 'B', MC, Dehra Dun** delivering a lecture to 35 students of B. A. Final Year Geography and the faculty members of Government P.G. College, Uttarkashi who visited Met. Centre Dehradun on 31<sup>st</sup> March, 2017. **Shri Bikram Singh, Director, MC Dehradun** also interacted and answered the queries of students.



Lecture and interaction session at MC Dehradun

## Awards & Recognitions

RMC Chennai represented MoES for the **104<sup>th</sup> Indian Science Congress held at SV University Tirupathi** during 3-7<sup>th</sup> January and **Shri P. S.Biju, Sc. 'D'** received the Best Informative Stall



Shri. P. S. Biju, Sc. 'D' receiving the Best Informative Stall award

award from honourable Governor of Maharashtra -Tamil Nadu in presence of Union Minister of MoES on the valedictory function.

**Special Weather forecast** for legislative assembly elections and counting held in Uttarakhand was issued to district authorities which was duly recognized and appreciated by District authorities.

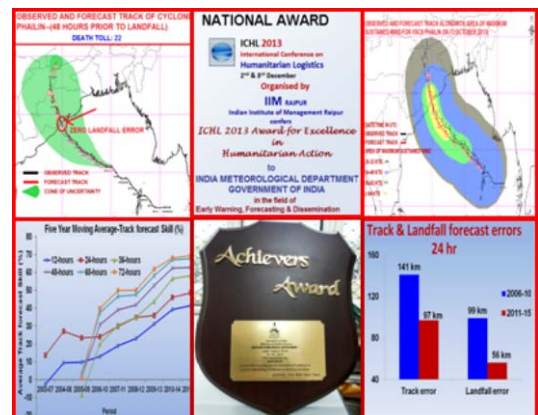
**The President, 104<sup>th</sup> Indian Science Congress** appreciated cyclone warning services of IMD "Among our many-sided advances in meteorology, important outcomes during the recent cyclones in Odisha, Andhra Pradesh and Tamilnadu, when we received accurate forecasts of landfall points that were more accurate than the forecasts of international agencies.

**104<sup>th</sup> INDIAN SCIENCE CONGRESS**  
SCIENCE & TECHNOLOGY FOR NATIONAL DEVELOPMENT  
3-7 JANUARY 2017  
SRI VENKATESWARA UNIVERSITY, Tirupati  
JANUARY 3, 2017

*Excerpt of Presidential Address*

Among our many-sided advances in meteorology, important outcomes during the recent cyclones in Odisha, Andhra Pradesh and Tamilnadu, when we received accurate forecasts of landfall points that were more accurate than the forecasts of international agencies are notable.

Documentary film showcasing Early Warning System of Cyclones highlighting accurate predictions of VSCS Phailin (2013) and VSCS Hudhud (2014) was telecast on the occasion of 142<sup>nd</sup> Foundation Day ceremony of IMD on 15<sup>th</sup> January. The documentary film was telecast by DD India and Lok Sabha TV on 23<sup>rd</sup> March-the WMO Day with repeat telecast by DD India on 24<sup>th</sup> March, 2017. The film has been uploaded on YouTube: <https://www.youtube.com/watch?v=30DXUlcYims&feature=youtu.be>



Rajya Sabha TV telecast an episode of "Eureka in conversation with Dr. M. Mohapatra, Scientist-G (Services)" highlighting achievements of IMD in early warning system of cyclones on 28<sup>th</sup> January with repeat telecast on 29<sup>th</sup> January and 2<sup>nd</sup> February. The same is available on YouTube at <https://www.youtube.com/watch?v=WOBjsw2YTNg>

Eureka in conversation with Dr. M. Mohapatra, Scientist-G (Services) & Head Regional Specialised Meteorological Centre-New Delhi



Vigyan Prasar under its India Science News and Feature Services published a feature entitled "Cyclone Man of India: Dr. M. Mohapatra". The article is available at [http://www.vigyanprasar.gov.in/whats\\_new/isn/Dr-Mrutyunjay-Mohapatra.pdf](http://www.vigyanprasar.gov.in/whats_new/isn/Dr-Mrutyunjay-Mohapatra.pdf)

The **Parliamentary Standing Committee** on Science and Technology and Earth Sciences in its 294<sup>th</sup> Report appreciated the cyclone warning services of IMD. The excerpt of the report appreciating the cyclone warning is given below:

**"The track record of the Ministry has been above par in the case of cyclone predictions which has been seen in the case of Hudhud and Vardah."** The committee also appreciated the achievements of Ministry in the area of accuracy in weather forecasting.

**डा. एस. एल. सिंह, वैज्ञानिक-एफ** को 23 मार्च, 2017 "WMO दिवस" के अवसर पर 2012-2016 की अवधि के दौरान (1) थीम लीडर के रूप में प्रारंभिक चेतावनी प्रणालियों सहित WIS-GTS संचालन में (WIS-GTS operations including Early Warning Systems as a theme leader, RA II of WMO) तथा (2) संचार बुनियादी ढांचा और आरएमटीएन स्थिति का उन्नयन डब्ल्यूएमओ के आरए II में (Communication infrastructure and RMTN status up gradation in RA II of WMO) की उत्कृष्ट सेवाओं के विषय में दो प्रमाण पत्र प्रदान किये गये।

### Infrastructure Development & Installations

Two new Agrometeorological Observatories were installed at AMFU Kalimpong and AFMU Majhian in West Bengal during March, 2017.

भारत संचार निगम लिमिटेड, नई दिल्ली के माध्यम से मौजूदा एमपीएलएस-वीपीएन लिंक को एमपीएलएस-एमएनएस लिंक पर 51 विभिन्न स्टेशनों पर 1 mbps से 10 mbps तक की डाटा ट्रांसफर रेट के लिये अपग्रेड किया गया।

57 लिंक में से 51 लिंक को अपग्रेड कर दिया गया है।

10 नये स्थानों पर डेस्कटाप वीडियो कांफ्रेंसिंग सुविधा की शुरुवात की गयी।

4 नये DTH कनेक्शन मुख्यालय में लगाए गए।

मुख्यालय में नये टेलीफोन एक्स्चेंज की स्थापना के लिये RFP अनुमोदित हो गई है।

### Inter-Agency Meetings

**Dr. S. D. Attri, Scientist 'F'**, visited Ahmedabad (Gujarat) to discuss with Principle Secretary, other senior officer of Agriculture Department, Government of Gujarat and officials of Meteorological Centre Ahmedabad regarding augmentation of Agromet Advisory to block level, improvement in observation and forecast increase in number of farmers for SMS dissemination during 23-24 January, 2017.

**श्री कुलदीप श्रीवास्तव, वै. डी** ने 24 जनवरी 2017 को "Climate change and Disaster Management" विषय पर Geospatial World Forum 2017 द्वारा आयोजित संगोष्ठी में भाग लिया।

**Dr. Jayanta Sarkar, Sc. 'F'** and Hindi Officer had attended the 69th half yearly meeting of Town Raj Bhasha Implementation Committee at ONGC, Chandkheda, Ahmedabad on 24<sup>th</sup> January, 2017.

**The Annual Cyclone Review and Annual Monsoon Review (ACR and AMR) Meetings** were held during 19-20 January, 2017 at Nagpur. Scientists from IMD, Ministry of Earth Sciences (MoES), Indian Institute of Tropical Meteorology (IITM) Pune, National Centre for Medium Range Weather Forecasting (NCMRWF), Indian National Centre for Ocean Information Services (INCOIS) and National Institute of Ocean Technology (NIOT) participated in the meeting for planning operational services strategy improvements for 2017-18.

**Dr. Kamaljit Ray, Scientist 'F'** attended a meeting under the chairmanship of Dr. Ashish Kumar Bhutani, Joint Secretary, MOAg & FW to discuss the issues related to implementation of Restructured Weather Based Crop Insurance Scheme (RWBCIS) in Telangana on 19<sup>th</sup> January, 2017 at Krishi Bhavan, New Delhi.

**Dr. S. C. Sahu, Sc. 'F'**, Participated in International Cargo inauguration meeting of AAI under Shri A. P. Padhi, Chief Secretary Govt. of Odisha on 27<sup>th</sup> January, 2017.

**Dr. K. K. Singh, Scientist 'F'**, Shri S. C. Bhan, Scientist 'F' and Dr. Nagrale from MC Jaipur, IMD attended the meeting with Director of Agriculture, Govt. of Rajasthan regarding Strengthening of Agro Advisory Services on 7<sup>th</sup> February, 2017.



**Dr. Kamaljit Ray, Scientist 'F'**, Regional Coordinator, Dr. Y. K. Reddy, Director M.C.Hyderabad and Dr. Balasuramanium, Sc. 'D', Pune attended the State level stakeholders meeting for the state of Telangana on Agromet advisory services held at Seminar Hall-1, University Auditorium, Professor Jayashankar Telangana State Agricultural University, Rajendranagar, Hyderabad on 8<sup>th</sup> February, 2017 to discuss on creation of State level Consortium on Agromet Advisory Services involving institutes of State Agricultural University, State Department of Agriculture, KVK, ATMA, NGO, Panchayat and other Stake holders. Dr. M. Jagan Mohan, IAS, Commissioner, Dept. of Agriculture, Government of Telangana was the chief Guest of the meet.



**Dr. Kamaljit Ray attending the Stakeholders meeting, Hyderabad**

**Dr. N. Chattopadhyay, Scientist 'F'** attended the meeting of Selection Committee for the teachers posts in the discipline of Agricultural Meteorology held at Anand Agricultural University (AAU), Anand on 8<sup>th</sup> February, 2017 and also attended the XIII Agricultural Science Congress at University of Agricultural Sciences (UAS), Bengaluru on 21<sup>st</sup> February, 2017 and delivered a lecture on 'Combating Effect of Climate Change and Climate Variability on Indian Agriculture through Smart Weather Forecasting and ICT Applications'



**Dr. N. Chattopadhyay, Scientist 'F' during the meeting**

**Dr. M. Mohapatra, Scientist 'G'** participated as member in the 11<sup>th</sup> Meeting of Technical Advisory Committee constituted by Director General of Lighthouse and Light Ships (DGLL) held in February, 2017 at NOIDA, Uttar Pradesh. All the Area Cyclone Warning Centres (ACWCs) and Cyclone Warning Centres (CWCs) of IMD were provided the procedure to upload the coastal weather bulletins on real time in the uploading system of DGLL through remote log in.

**Shri R. Balasubramanian, Scientist 'D'** participated in Stakeholders Meeting under Gramin Krishi Mausam Sewa (GKMS) scheme held at Agro Climate Research centre (ACRC), Rajendranagar, Hyderabad on 8<sup>th</sup> February, 2017 and made presentation on "Establishment of District Agromet Units (DAMUs) and Block level forecast based advisory" in the meeting and also attended Stakeholders Meeting under Gramin Krishi Mausam Sewa (GKMS) scheme held on 27<sup>th</sup> February, 2017 at G. H. Shankara Reddy Seminar hall, Institute of Frontier Technology, Regional Agricultural Research Station (RARS), ANARAV, Tirupati.

**Dr. Jayanta Sarkar, Sc. 'F'** has attended a meeting held on 9<sup>th</sup> February, 2017 at Gandhinagar chaired by Principal Secretary, Agriculture Department, Govt. of Gujarat for discussion about timely sowing of crop in the state.

**Dr. S. D. Attri, Scientist F**, visited Mumbai to discuss with Principal Secretary and other senior officers of Agriculture Department, Government of Maharashtra and officials of Regional Meteorological Centre, Mumbai, Agrimet Pune and Commissioner, Agriculture Pune regarding augmentation of Agromet advisory to block level, improvement in observations & forecast, increase in numbers of farmers for SMS dissemination etc. during 12-15 February, 2017.

**Shri Anand Sharma, Scientist 'F'**, Shri Bikram Singh, Scientist 'E' and Shri Rohit Thapliyal, Scientist 'B' attended a meeting with Additional Secretary, Government of Uttarakhand regarding Block level agriculture forecast and sharing the farmer data base of Uttarakhand on 14<sup>th</sup> February, 2017.

**Dr. K. K. Singh, Scientist 'F'**, attended a meeting on 15<sup>th</sup> February, 2017 at Patna called for "Improving the outreach of Agro Meteorological Advisories to farmers in Bihar" between the IMD officials, Director of Agriculture, Govt. of Bihar and other state agriculture officers from Bihar.



**Meeting with officers of Bihar AMFU & Met centre, Patna**

**Shri Anand Sharma, Scientist 'F'**, attended and participated in the Wheat Procurement meeting held at Krishi Bhavan on 15<sup>th</sup> February, 2017 and provided inputs. The meeting was chaired by Shri Utpal Kumar Singh, Additional Secretary, Ministry of Agriculture and Farmers Welfare.



**Shri K. Santosh, Sc. 'E'** coordinated and organized stakeholders meeting at AMFU TNAU, Coimbatore on 15<sup>th</sup> February, 2017 and at AMFU Vellannikara, KAU, Thrissur on 16<sup>th</sup> February, 2017.

**Shri S. C. Bhan, Scientist 'F'** attended inaugural event of Stakeholders Meet under GKMS on 20<sup>th</sup> February, 2017 at IARI, Delhi.

**Dr. K. J. Ramesh, DGM, IMD** and Dr. M Mohapatra, Scientist G held a meeting with Secretary, Defence Research and Development (DRDO), Ministry of Defence on 21<sup>st</sup> February, 2017 for joint collaborative campaign for observations from the field of cyclonic disturbances over the North Indian Ocean using the Unmanned Aerial Vehicle (UAV) available with DRDO.

**डा. एस. एल. सिंह, वैज्ञानिक-एफ** ने 23 फरवरी, 2017 को National Navtex Centre, Mumbai में आयोजित 12 वीं TAC (Technical Advisory Committee) की मीटिंग में भाग लिया।

**Dr. Kamaljit Ray**, Regional Coordinator, Dr. Y. K. Reddy, Director M.C. Hyderabad and Dr. Balasuramaniam, Sc. 'D', Pune attended the State level stakeholders meeting for the state of Andhra Pradesh on Agromet advisory services held at G.H. Sankara Reddi Conference Hall, IFT on 27<sup>th</sup> February, 2017. The Chief Guest was Dr. K. Dhananjaya Reddy, IAS, Commissioner of Agriculture, Department of Agriculture, and Govt. of Andhra Pradesh. The agenda of the meet was generation of quality of agromet advisories for crops, livestock, fisheries, poultry, high value crops, horticultural crops and as per the user requirement, development of tools and mobile Apps for agromet advisories, strengthening of dissemination of agromet advisories through multipurpose channels, registration of farmers for receiving agromet advisories, ground observation of pest and diseases, soil moisture etc, organization of awareness programme, preparation of block level agromet advisories, popularization of Agromet Advisory, development of feedback mechanism & issuance of advisories for new sectors like horticulture, fisheries, poultry & livestock.

**Shri Anand Sharma, Scientist 'F'**, attended and participated in the Crisis Management Plan (Drought) meeting held at Krishi Bhavan on 28<sup>th</sup> February, 2017 and provided inputs for the plan. The meeting was chaired by Shri Utpal Kumar Singh, Additional Secretary, Ministry of Agriculture and Farmers Welfare.

**Dr. K. K. Singh, Scientist 'F'**, attended a meeting on 28<sup>th</sup> February, 2017 at Raipur called for "Improving the outreach of Agro Meteorological Advisories to farmers in Chattisgarh", between the IMD officials, Director of Agriculture, Govt. of Chattisgarh and other state agriculture officers from Chattisgarh.

**Dr. M. Mohapatra, Scientist 'G'** participated in the 2<sup>nd</sup> Meeting of MoES-ISRO sub-committee on Atmospheric Applications & Research at Space Application Centre, Ahmedabad on 10<sup>th</sup> March, 2017.

**Dr. K. J. Ramesh, DG, IMD and Shri K. N. Mohan, Head MTI** and officers of NAL had a meeting with Director National Aerospace Laboratories for further deployment of Aviation weather observing systems and new Drishti Transmissometers, from 10<sup>th</sup> to 12<sup>th</sup> March at Bengaluru.

**Shri Anand Sharma, Scientist 'F'**, attended a meeting with Additional Chief Secretary (Agriculture) Shri Ranbir Singh, Government of Uttarakhand, regarding nomination of Nodal Officer for GKMS project by the state government and for providing data base of farmers for dissemination of Weather based agro advisories through SMS on 14<sup>th</sup> March, 2017. Director agriculture, Director, Met Centre DehraDun, Head AMFU, Roorkee and other officers also participated in the meeting.

**Shri Anand Sharma, Scientist 'F'** attended meeting with Commissioner Shri P. K. Jain, Government of Jammu and Kashmir in Srinagar regarding data base of farmers for dissemination of Weather based agro advisories through SMS on 23<sup>rd</sup> March, 2017.

**Dr. K. K. Singh, Scientist 'F'** attended meeting with Financial Commissioner Shri P. K. Jain, Government of Jammu and Kashmir at New Delhi regarding AWS requirement for crop insurance on 24<sup>th</sup> March, 2017.

**Dr. K. J. Ramesh, DGM, IMD** attended 64<sup>th</sup> Meeting of Governing Body of National Water Development Agency (NWDA) on 27<sup>th</sup> March, 2017 in Vigyan Bhawan, New Delhi.

### Research & Publications

A. P. Dimri, A. Chevuturi, D. Niyogi, R.J. Thayyen, Kamaljit. Ray, S.N. Tripathi, A. K Pandey, U.C Mohanty, 2017 "Cloudburst in Indian Himalayas: A review" Earth-Science Reviews, 168, 1-23.

An abstract on "Weather parameter based logistic model for forest fire forecasting" by Priyanka Singh, R. Blasubramaniam and Nahush Prakash Kulkarni published in Souvenir of First Asian Conference on Water and Land Management for Food and Livelihood Security organized at IGKV, Raipur during 20-22 January

Paper entitled "Agromet Advisory Services for enhanced decision making and risk management at Farm level-Weather smart farming" by K. K. Singh, A. K. Baxla, Priyanka Singh and Anil Soni communicated to publish under the proceedings of 6th International Communication and Information Technology Conference (CICON) - 2016-17, titled "Emerging Trends in Science, Technology, Engineering and Management: Research and Development" with the theme: "Doubling Farmers' income by 2022 - Smart Farming and Smart Village" organized by Shobhit University Meerut on 17<sup>th</sup> February, 2017.



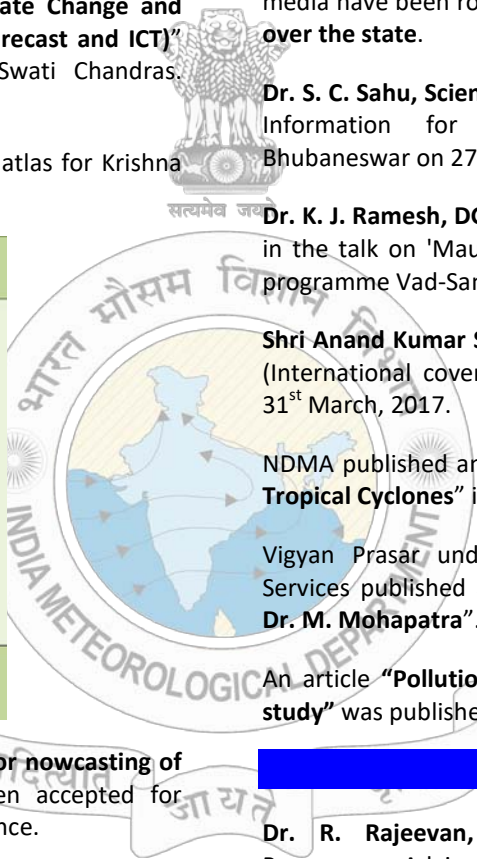
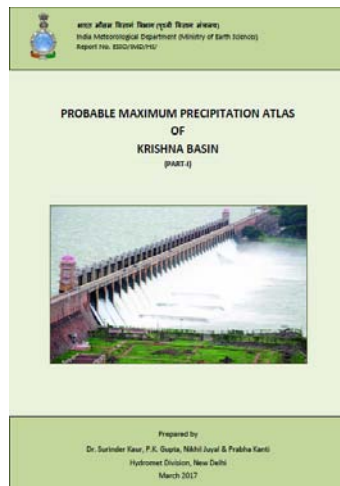


Anil Kumar Singh, A. S. Jarsotia, A. K. Taloor, B. S. Kotlia, V. Kumar, S. Roy, P. K. C. Ray, K. K. Singh & A. K. Singh, 2017 **“Estimation of quantitative measures of total water storage variation from GRACE and GLADS-NOAH satellite using geospatial technology”** Quaternary, Journal of International Union For Quaternary Research.

Chapter entitled **“An Overview of Agricultural Drought in India”** by N. Chattopadhyay, Pulak Guhathakurta and L. S. Rathore published in the book ‘Droughts and The Way Forward Page No. 26- 37

Published book entitled **“Combating of Climate Change and Variability on Agriculture (Smart Weather forecast and ICT)”** by L. S Rathore, N. Chattopadhyay and Swati Chandras. LAMBERT Academic Publishing, Germany.

The **probable Maximum Precipitation (PMP)** atlas for Krishna Basin has been prepared.



The documentary film on **“Early Warning System of Tropical Cyclones over north Indian Ocean”** was telecast by DD India and Lok Sabha TV on 23<sup>rd</sup> March-the WMO Day with repeat telecast by DD India on 24<sup>th</sup> March, 2017.

Doordarshan Ahmedabad telecasted a programme of **Dr. Jayanta Sarkar, Sc. ‘F’** on environment on 25-26 March, 2017 on the event of WMO day celebration 2017 .

TV programme was recorded by Door Darshan Ahmedabad team and it was telecasted in its programme **“Paryavarn Darshan”** on 25 and 26 March, 2017. Electronic and print media have been routinely briefed regarding **weather scenario over the state.**

**Dr. S. C. Sahu, Scientist ‘F’** delivered lecture on “Meteorological Information for Timely Awareness “Prasar Bharati, Bhubaneswar on 27<sup>th</sup> March, 2017.

**Dr. K. J. Ramesh, DGM, and Dr. K. K. Singh, Sc. ‘F’**, participated in the talk on 'Mausam Vigyan and Kisan' in Hindi under the programme Vad-Samvad of DD-Kisan on 29<sup>th</sup> March, 2017.

**Shri Anand Kumar Sharma, Scientist F** was interview by WION (International coverage) TV on “Weather and Agriculture” on 31<sup>st</sup> March, 2017.

NDMA published an interview entitled **“Dr. M. Mohapatra on Tropical Cyclones”** in their quarterly magazine Samvad.

Vigyan Prasar under its India Science News and Feature Services published a feature entitled **“Cyclone Man of India: Dr. M. Mohapatra”**.

An article **“Pollution turning country’s rainfall acidic, shows study”** was published in Times of India.

A paper entitled **“Satellite based technique for nowcasting of thunderstorm over Indian region”** has been accepted for publication in the Journal of Earth System Science.

Paper entitled **“Annual and decadal variation in chemical composition of rain water at all the ten GAW stations of India”** by Dr. V. Vizaya Bhaskar was published J. Atmos Chem.

Vol. 68 No.1 issue of MAUSAM (January, 2017) has been published and 18 Papers were published.

## Media Interaction

**Dr. S. D. Attri, Scientist ‘F’** participated in one-hour programme on “Climate Change and agriculture” at DD Kisan, New Delhi on 11<sup>th</sup> March, 2017

**Dr. S. C. Sahu, Scientist ‘F’**, M. C. Bhubaneswar Record lecture on World Meteorological day was broadcasted by All India Radio, Cuttack at 7:25am on 23<sup>rd</sup> March, 2017 and telecasted by Prasar Bharati, Doordarshan, Bhubaneswar at 4:30pm and 11:00pm on 23<sup>rd</sup> March, 2017.

## Visitors

**Dr. R. Rajeevan, Secretary MoES**, Dr. Gopal Iyenger, Programme Advisor and Dr. K. J. Ramesh, DGM to discuss about the present and future activities under GKMS scheme of the division on 12<sup>th</sup> January, 2017 at AASD New Delhi.

**Shri Anil Patinge, Met. - ‘B’** and Shri M. A. Pachankar, SA participated and explained various activities of Agrimet Division to the visitors in the Krushik, India’s biggest ‘Live Demo and Agri. Expo’ held at KVK, Baramati during 19-22 January, 2017



Krushik at KVK, Baramati

22 students from **GMERS Medical college, Sola, Ahmedabad** visited Met centre Ahmedabad on 2<sup>nd</sup> February, 2017 and briefed them about the briefing procedure and taking surface and u/a observation.

**Team from UK Meteorological Office headed by its Chief Executive Officer** visited India Meteorological Department (IMD) on 7<sup>th</sup> February. Dr. M. Mohapatra, Scientist 'G' made a presentation on Activities of India Meteorological Department (Present and immediate future).

**Dr. Zaid S. Hadpad**, Asstt. Section Manager Group Supervisor Jet Propulsion Lab, California Institute of Technology, NASA visited IMD office on 15<sup>th</sup> February, 2017.



**Dr. K. J. Ramesh, DGM with delegation of UK**

**A delegation of UK Ocean experts** visited IMD and held meeting with Dr. K. J. Ramesh, DGM and Dr. M Mohapatra, Scientist 'G' on 20<sup>th</sup> February, 2017 to build cooperation between IMD and UK Met. Office.

55 students (App.) from **Anand Niketan School** visited Met. Centre, Ahmadabad on 29<sup>th</sup> March, 2017. They visited observatory upper air section and were familiarized with the procedure of weather forecasting

26 students and 13 teachers visited **IMD Bhubaneswar** from Society for Geoscientists and Allied Technologies on 7<sup>th</sup> January, 2017.

138 students and 6 teachers from **St. Xavier's High School, Satya Nagar, Bhubaneswar** visited IMD Bhubaneswar on 12<sup>th</sup> January, 2017.

**National / International Collaboration**

The Collaboration between **"IMD and Finish Meteorological Institute (FMI)"** on DMPS project is agreed further extended for next five years.

**Agromet Advisory Services Division** is under the process of **Automation of Agromet Advisory and development of decision support system** with the collaboration with RIMES (Regional Integrated Multi Hazard Early Warning System for Africa & Asia) and Watershed Organization Trust (WOTR).

**Dr K. J. Ramesh, DG, IMD**, was on foreign deputation to Abu Dhabi, United Arab Emirates to attend Sixteenth Session of Regional Association-II of WMO during 12-16 February, 2017.

**Dr. R. K. Giri, Sc. 'E'**, was on foreign deputation to Abu Dhabi, United Arab Emirates to attend Seventh Regional Conference on Management of Meteorological and Hydrological Services in Regional Association-II (RECO-7) during 10-11 February 2017 & Sixteenth session of Regional Association-II during 12-16 February 2017.

**Dr. N. Chattopadhyay, Scientist 'F'** attended the Expert Team Meeting of Commission for Agricultural Meteorology(CAgM), World Meteorological Organization, Geneva viz, ET 1.1-'Expert Team on Live stock, Poultry and Inland Fisheries : Agromet Services and Products' and ET 1.2-'Expert Team on crops: Agromet Services, and Products' during 15 to 17 March, 2017 in Pousada Candongas da Serra, Tiradentes, Brazil.



**CAgM Meeting at Tiradentes, Brazil**

**Shri S. B. Thampi, Scientist 'F'** was on foreign deputation to Neuss, Germany during 15-17 March, 2017 for Factory Acceptance Test (FAT) of C-Band Doppler Weather Radar (DWR) being purchase by IITM, MoES.

**Dr. R. Suresh, Scientist 'F'**, was on foreign deputation to Bangkok, Thailand during 20-22 March, 2017 to participate in the Fifteenth meeting of the Asia/Pacific Meteorological Information Exchange Working Group (MET/IE WG/15).

**Dr. Ashim Kumar Mitra, Sc. 'D'** was on foreign deputation to Madison (U.S.A.) during 20-24 March, 2017 to attend joint meeting on Research & Data Working Group on Global Space based inter-Calibration System (GSICS).

**Dr. M. Mohapatra, Scientist 'G'** was on foreign deputation to Ushuaia, Argentina during 21-24 March, 2017 to participate in the 7<sup>th</sup> Session of the Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS-7).

**Dr. D. S. Pai, Scientist 'F'** was on foreign deputation to Nanjing, China during 21-24 March, 2017 to participate in WMO's International Workshop on Climate Services Information System (CSIS) Operations and Co-ordination.



**Dr. Sunil Kumar Peshin, Scientist 'G'** was on foreign deputation to Geneva(Switzerland) during 28-30 March, 2017 to participate in the 10th meeting of the Ozone Research Managers of the Parties of the Vienna Convention (10 ORM) .

### Miscellaneous

Design storm studies in respect of **twenty two (22) Hydraulic projects** have been completed during the period Jan-Mar, 2017. Out of these 22 projects, Design Estimates for 9 sub-catchments of Kuri-Gongri Hydro Electric Project in Bhutan have also been supplied.

A revenue of **Rs.7,13,115/-** has been deposited in IMD A/C for supply of design storm values.

In all, 2 Met subdivisions remained in Large Excess category, 3 Met subdivisions in Excess, 5 Met subdivisions in Normal, 8 met subdivisions in Deficient, 12 met subdivisions in Large Deficient and 6 Met sub divisions remained in No Rain category of rainfall.

## WEATHER SUMMARY

### January, 2017

Cold wave conditions were rather moderate during the month. Severe cold wave conditions prevailed only for a shorter duration over parts of northwest and adjoining central India from 10<sup>th</sup> -15<sup>th</sup> of the month.

Maximum temperature was above normal over most parts of the country except for some parts of northern/northwestern region and some isolated places.

Minimum temperature was also above normal over most parts of the country except for some parts of central and northeastern region.

Some stations like **Agartala AP, Dibrugarh AP, Purnea, Harnai, Panjim, Karwar and Mangalore AP** recorded **highest maximum temperature** for the month during the last ten days. Rainfall activity over the country as a whole was above normal.

### February, 2017

The mean temperature for the month this year was above normal by about 1.3 °C thus making it the fourth warmest February month since 1901.

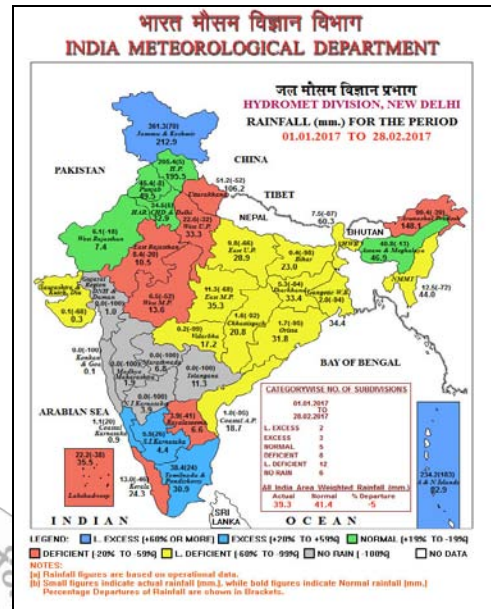
Cold wave conditions prevailed only at isolated places for a day or two over central parts of the country during last week of the month.

Shallow to moderate or dense to very dense foggy conditions prevailed at few places over the plains of north India and eastern parts of the country during first three weeks of the month.

Rainfall activity over the country as a whole was very subdued.

### Real time rainfall statistics for the Winter season

The rainfall for the country as a whole for the period of 1<sup>st</sup> January, 2017 to 28-2-2017 has been recorded as 39.3 mm, i.e., 95% of its Long Period Average (LPA) of 41.4 mm.



### March, 2017

Northern, northwestern and central, parts of the country were abnormally warmer during the last week of the month.

Heat wave conditions developed over parts of northwest India viz. over west Rajasthan and west Madhya Pradesh on 26<sup>th</sup> March, 2017. The conditions became severe subsequently.

Rainfall activity over the country as a whole was normal.

**Sub-basin-wise Quantitative Precipitation Estimate** for Day-1, Day-2, Day-3, using WRF ARW (9 km x 9 km) based on 0000 UTC and 1200 UTC, MME (0.25°x 0.25°) based on 0000 UTC and Day1 to Day7 using GFS (0.25°x 0.25°) based on 0000 UTC run by IMD are computed and uploaded on IMD website operationally.

