



# मौसम विज्ञान विभाग समाचार

# IMD NEWS

INDIA METEOROLOGICAL DEPARTMENT  
(Ministry of Earth Sciences)

Quarterly Newsletter

In this issue

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## FOUNDATION DAY CELEBRATION



INSAT 3D dedicated to Nation

The 139<sup>th</sup> Foundation day of India Meteorological Department was celebrated on 15<sup>th</sup> January, 2014 at H. Q., New Delhi. The Department celebrates its Foundation Day on 15<sup>th</sup> January to commemorate the assumption of Mr. H. F. Blanford as Imperial Meteorological Reporter on 15<sup>th</sup> January, 1875. This day is celebrated with a view to highlight the achievements of the department and to promote awareness about new initiatives taken and also to focus on the future plans for improving the weather and climate services of the department.

On this occasion Dr. Shailesh Nayak, Secretary, MoES welcomed the Hon'ble Minister

Shri S. Jaipal Reddy, who dedicated the "INSAT 3D Meteorological Data Processing System to the Nation". The Minister felicitated Eminent Scientist Dr. Ajit Tyagi, former Director General of IMD and gave awards to best employees, best officers of IMD and to school children for various competitions organized on this occasion. A website, India weather was also launched on this occasion. Shri Reddy complemented the accurate forecast for southwest monsoon 2013 and the Phailin Cyclone which helped in saving of several lives in the coastal regions. He also expressed hope that Integrated Himalayan Meteorology Programme will plug the data gaps in mountain regions and improve weather forecasting and services.



Dr. L. S. Rathore, DG, IMD addressing during Foundation day

Many publications including three books, Monitoring and Prediction of Tropical Cyclones in the Indian Ocean and Climate Change and Cyclone Warning in India. Standard Operation Procedure and Nibandh Sagar were also released by the Hon'ble Minister on this occasion. "Climate of Northeastern States" comprising of Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura along with CDs was also released.

Dr. L. S. Rathore, Director General, IMD told that in the last few years, IMD has received worldwide appreciation from various stake holders, Meteorological agencies, disaster managers, user organizations, media and public at large for improvement in services, outreach, delivery system and high accuracy of weather forecast and warnings with a lead time of 2-3 days. Tourist forecast for 87 and Public Weather Forecast for 220 cities for 5 days in advance and nowcast for 125 locations has been introduced. Special Forecast for Amarnath ji Yatra, Char Dham Yatra, Kumbh Mela, Sports events and Mountaineering expeditions was provided. Accurate prediction of tropical cyclones like Mahasen, Phailin, Helen, Lehar and Madi with reduction in landfall forecast error less than 50 km was achieved. Dissemination of Agromet advisories to 47 lakh farmers, Cyclone Warnings and Amarnath Yatra forecast through SMS and IVR technology was done.

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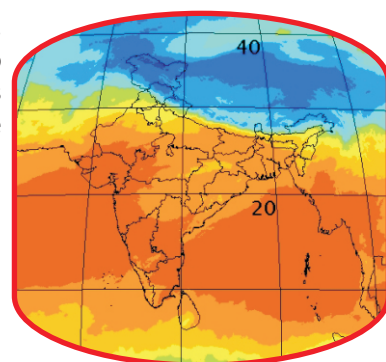
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## AWARDS &amp; HONOUR

## Best Employee Award



Shri Kuldeep Srivastav receiving Citation

During IMD foundation day 14 Officers and Staff were awarded IMD Best Employee Award. These are S/Shri Kuldeep Srivastav, Sunit Das, Ujjawal Das, Monica Sharma, N. Ramdoss, M. K. Majumdar, Kewal Singh, Utpal Kalita, Anthony Nongrum, G. M. Pala, Ajay Bhat, Ramesh Kumar Manjhi, S. K. Mohanty and Umesh Chandra.

Cyclone Warning Division received 'Achievers Award' for accuracy of prediction cyclone Phailin on the occasion of IMD Foundation Day held on 15<sup>th</sup> Jan, 2014.

**Dr. A. K. Shukla**, Scientist 'F' was facilitated as a member of NDMA Experts Committee for preparation of Probabilistic Seismic Hazard Maps (PSHMA's) of India, by Bureau of Indian Standards (BIS), New Delhi in a meeting held on 28<sup>th</sup> January, 2014 at Southern Regional Office, CIT Campus, Chennai.

**Shri A. K. Jaswal**, Scientist 'E' is conferred upon 26<sup>th</sup> Biennial MAUSAM Award on the occasion the IMD foundation day for his research paper entitled "Changes in Total Cloud Cover over India based upon 1961-2007 Surface Observations" published in quarterly journal of MAUSAM, Vol. 61, No. 4.

**Dr. D. S. Pai**, Scientist 'E' was awarded Indian Meteorological Society award on Weather and Climate Services for the paper entitled, "District-wise Drought Climatology of the Southwest Monsoon Season over India based on Standardized Precipitation Index (SPI)".

**Dr. S. C. Sahu**, Scientist 'E', M. C. Bhubaneswar, conferred upon the best Meteorological Centre Award 2013 on the occasion of IMD foundation day 2014.

**Dr. Somenath Dutta**, DDGM (Training) was felicitated by IMS biennial award for best published paper on monsoon studies (formerly Dr. B. N. Desai award) for the paper entitled "A dynamical comparison between two recent drought southwest monsoon season 2002 and 2009 over India" by Dr. Somenath Dutta et al., in INTROMET 2014 held at SRM University Chennai.

## Exhibitions

(a) RMC Kolkata participated in "ACHARYA SATANDRANATH BASU SAMARAK BIJNAN 'O' PRAJUKTI MELA-2014" during 29 January 2014 to 2 February 2014 at Heudya park Kolkata sponsored by MoES.



The pavilion of MoES has been judged as best among all the pavilion in the exhibition. Dr. R. K. Dutta, Sri Soumitra Ghosh and Sri T. K. Dutta from IMD participated in the exhibition.

(b) **Shri K. G. Kanade**, S.A. and Shri S. Y. Waghmare, S.A. participated in 'Krishi Vasant 2014 - A National Agriculture Fair cum Exhibition' held at Central Institute of Cotton Research (CICR), Nagpur during 9-13 February. More than one lakh farmers visited the IMD's stall.

## EVENTS

## World Meteorological Day



School children at Ahmedabad, Meteorological Office



Dr. (Fr.) Stephen Mavelly inaugurating the WM Day function at Guwahati

World Meteorological Day 2014 was celebrated at H.Q. New Delhi as well as all other offices of IMD. The main theme of WM day this year was "WEATHER AND CLIMATE : ENGAGING YOUTH". Exhibitions were organized in various offices, sub-offices of IMD. Observatories were kept open for general public, media & school children. On this occasion an exhibition was organized at R.M.C. Guwahati office which was inaugurated by Dr. (Fr.) Stephen Mavelly, SDB, Vice Chancellor, Don Bosco University, Guwahati. Lectures for public awareness were arranged at many sub offices.

### National Science Day

The National Science Day was celebrated at H.Q. New Delhi and other offices of IMD on 28<sup>th</sup> February. Many visitors visited at these offices to aware with functioning of the department. The functioning of DWR Chennai were explained to the visitors on that day.

### LECTURES

**Dr. G. Krishnakumar**, Scientist 'E' delivered a lecture on "Climate Data Management" at Lokmanya Medical Research Centre, Pune on 2<sup>nd</sup> January 2014.

**Shri S. B. Thampi**, Scientist 'E' DWR Chennai delivered a lecture on "Radar Tracking of Cyclones - 2013" in the seminar 'Monsoon 2013' arranged under the joint auspices of RMC Chennai & IMS Chennai Chapter on 8 January, 2014.

**Shri B. Mukhopadhyay**, DDGM(C) delivered inaugural lecture on, "Climate Variability and Human Adaptation" in Geophest 2014 (Inter-collegiate and inter university event) organized by S. P. College held at Pune on 15 January, 2014.

**Dr. A. K. Shukla**, Scientist 'F' delivered a lecture on "Earthquake shaking amplification through Patna soil cover" in a workshop on "Earthquake Resistant Construction of RCC Multistoried Buildings in Patna" organized by Bihar State Disaster Management Authority during 16-17 January, 2014.

**Dr. S. C. Sahu**, Director-in-Charge, M.C. Bhubaneswar, delivered lecture on "Flood forecasting and warning network" at Gopabandhu Academy, Bhubaneswar sponsored by Odisha State Disaster Management Authority, Govt. of Odisha during five day training course on "Flood Disaster Management" on 27 January, 2014.

**Dr. D. Pradhan**, DDGM delivered a lecture at Administrative Training Institute, Government of West Bengal, Kolkata on 27 January, 2014 on "Climate Change, A Global Issue & Role of IMD in Hazard Mitigation & Risk management"

**Dr. R. S. Dattatrayam**, Scientist 'F', Dr. A. K Shukla, Scientist 'F', Dr. Rajesh Prakash, Scientist 'E', Dr. Sumer Chopra, Scientist 'E', MoES, Shri Dal Singh, Scientist 'E' and Shri Ajay Verma, Scientific Assistant attended the Indian Science Congress during 3-7 February, 2014 at Jammu. Dr. Dattatrayam made a presentation on "Real time seismic monitoring in India" and Dr. A. K. Shukla made a presentation on "Seismic Microzonation studies in India."

**Dr. M. Mohapatra**, Scientist 'E' delivered an invited presentation in investment on Disaster Risk Reduction; strengthening the regional mechanism for early warning system on 21 February, 2014 in the Regional Consultation Workshop for South Asia on developing a regional road map for Disaster Risk Reduction beyond 2015 (post hygo framework for action) organised by SAARC Disaster Management Centre (SDMC) at New Delhi.

**Dr. M. Mohapatra**, Scientist 'E' participated in Indian Science Congress held during 4-6 February, 2014 and delivered a popular lecture on cyclone forecasting in the public outreach programme of Ministry of Earth Sciences. There was also poster presentation on cyclone weather forecasting in IMD.

**Shri Satish Bhatia**, Scientist 'F' and Dr. M. Mohapatra, Scientist 'E' along with other officials of DDGM (UI) visited the Defence EXPO at Pragati Maidan on 7 February, 2014. Where Textron India made a presentation on aero sonde capability for unmanned arial vehicle for cyclone monitoring.

**Shri A. K. Sharma**, Scientist 'E', M. C. Dehradun was invited to delivered a talk on Application of Technology in Weather / Climate monitoring and forecasting at the consultative workshop on technology needs assessment for biodiversity conervation, organized by Wild life Institute of India, Ministry of Environment and Forest, Govt. of India, Dehradun on 18 February, 2014.

**Dr. D. Pradhan**, DDGM attended two days seminar (DMTCAS) from 22-23 February, 2014 at Institute of Engineering & Technology Suri, Birbhum to deliver the lecture on DWR – "A remote sensing device used in the predication of severe weather events".

**Shri Surender Paul**, Scientist 'E' attended one day workshop to celebrate 25 years of success of IRS series for Natural Resource Management at Punjab Remote Sensing Centre PAU Campus Ludhiana Punjab on 28 February, 2014.

**Dr. P. C. S. Rao**, Scientist 'D' delivered a lecture on "SW Monsoon 2013, an overview" in the workshop of IMSP on 26<sup>th</sup> March, 2014 at IITM, Pashan, Pune.

**Dr. Jayanta Sarkar**, Scientist 'E' M.C. Ahmedabad, as a resource person, delivered a lecture on "Early Warning System and Dissemination" at a Training Programme organized by Gujarat Institute of Disaster Management, Gandhinagar on "Disaster Management: Basic Concepts" on 26 March, 2014.

**Shri Suresh Ram**, Scientist 'D' participated in the sixth International Verification Methods Workshop organized co jointly by WMO, IMD and NCRWF and gave an oral presentation on "Verification of Aviation Forecasts in India Meteorological Department".

### WORKSHOPS

**Dr. H. S. Mandal**, Scientist 'D' participated in the 50<sup>th</sup> Annual Convention on "Sustainability of Earth System- The Future Challenges" held at NGRI Hyderabad during 08-12 January, 2014 and delivered a lecture on the Topic entitled "Seismic Behavior of the Sub-surface Geomorphic Features over the Central Part of India".

**Dr. R. S. Dattatrayam**, Scientist 'F' and Shri G. Suresh, Scientist 'E' attended the 2<sup>nd</sup> Indo-Norwegian Workshop on Geo-hazards during 13 -14 February, 2014 held at Ministry of Earth Sciences, Prithvi Bhawan, New Delhi. Shri G Suresh, Scientist 'E' made a presentation on "Delineation of Lithospheric velocity structure of central Deccan Volcanic Province (DVP)".



**Dr. N. Chattopadhyay**, DDGM (Agrimet) participated in the State Level Consultation cum Workshop on Climate Change Adaptation organized by Watershed Organisation Trust (WOTR), Pune at Sun N Sand Hotel, Bund Garden Road, Pune on 7 March, 2014.

**Shri M. K. Bhatnagar**, Scientist 'F' and DDGM (Aviation Services) represented IMD in the 6<sup>th</sup> National Maritime Search and Rescue (SAR) Workshop and Exercise conducted by Indian Coast Guard during 19-20 March 2014 in Mumbai.

**Dr. S. C. Sahu**, Director-in-Charge, M.C. Bhubaneswar, Participated at CIBA-stakeholders workshop on "Climate change impact on Fisheries and aquaculture in Odisha – Adaptation and mitigation for resilience at Bhubaneswar on 22<sup>nd</sup> March 2014.

**Dr. D. S. Pai**, Scientist 'E' and Dr. D. R. Pattanaik, Director attended the "National Workshop on Monsoon-2013" organized by Indian Meteorological Society Pune Chapter (IMSP) at IITM, Pune on 26<sup>th</sup> March.

**Dr. S. D. Attri**, DDGM (O) attended and inaugurated the National Seminar as Chief Guest on "Urbanization and Environmental Change In India-Problems and Challenges" held during 29-30 March, 2014 at Meerut College, Meerut.

### Sixth Fog Workshop

IMD and DIAL have jointly organized Sixth one day annual Fog Workshop for the winter 2013-2014 with theme as "Fog Monitoring and Forecasting Services" on 16 Jan, 2014 at IGI Airport, Auditorium Udan Bhavan, IGI Airport, New Delhi. Objective of this Workshop was to further improve fog services of IGI Airport and other airports through intensive discussion between forecaster, observer and researcher and promote its effective use through a close co-ordination and discussion with various stake holders and users communities and fog researcher. There were detail interact on various new technology/tools available in India for better monitoring and forecasting of Fog.

### Workshop on Communication of Agromet Advisories



Agrimet Division, IMD, Pune organised National Level Media Workshop on "Communication of Agromet Advisories to the User Communities" at Meteorological Training Institute, IMD, Pashan, Pune on 28 March, 2014. High level dignitaries namely Dr. L. S. Rathore, DGM, IMD, New Delhi, Shri Ashish Bhatnagar, Deputy Director General (Engg.), All India Radio, Pune, Dr. Swati Sardesai, NIC, Pune, Prof. M.C. Varshneya, Ex-Vice chancellor, AAU, Anand and Scientists from different organisations participated in the workshop. The basic purpose of this workshop was to make media personnel aware about weather processes and usefulness of weather information for the purpose of agriculture, educate them about various terminologies, concepts and definitions.

### INTROMET 2014



The Indian Meteorological Society has organized an International Symposium on Tropical Meteorology, INTROMET – 2014, on Monsoons – Observations, Prediction and Sustainability (MOPS) during 21-24 February, 2014 to assimilate the present as well as the evolving concepts related to Indian and other monsoons of the world. It has provided a unique opportunity for the operational meteorologists, researchers, planners, hydrologists, agriculturists, disaster managers and instrumentation scientists to exchange their views on the Indian monsoons and their related aspects with monsoons elsewhere. The symposium focused on the following sub - themes of monsoons viz. Observing systems and techniques, Monsoon prediction, and Teleconnections, Aerosols, Clouds and Regional climate forcing, Ocean - Land - atmosphere coupling extreme events Climate, Agriculture and Water resources etc. Many scientists of IMD participated in this Seminar and presented their papers.

### Workshop on Applications of Satellite Information in GKMS



Participants in Gramin Krishi Mausam Seva" Workshop

Agrimet Division, IMD, Pune organised workshop on "Applications of satellite information in Gramin Krishi Mausam Seva" at Meteorological Training Institute, IMD, Pashan, Pune on 27 March, 2014. High level dignitaries namely Dr. L. S. Rathore, DGM, IMD, New Delhi, Dr. V.K. Dadhwal, Director, NRSC, Hyderabad, Dr. B. N. Goswami, Director, IITM and Scientists from different organisations participated in the workshop. The basic purpose of this workshop was to build mechanism of use of satellite information in operational Agromet Advisory Services not only from the Indian satellites but also the other satellites available from other parts of the world.

## 6<sup>th</sup> WMO International Verification Methods Workshop



The 6<sup>th</sup> International Verification Methods Workshop was held in New Delhi, India, from 13-19 March, 2014 and was jointly organized by WMO, NCMRWF and IMD. This International Workshop was attended by about 120 experts from 25 countries and leading Institutes from India. The Workshop was inaugurated by Dr. Shailesh Nayak, Secretary, MoES with address from Dr. L. S. Rathore, DGM, IMD, Dr. Swati Basu, Director (NCMRWF), E. Ebert, Chair- Scientific Programme Committee and welcome by Dr. S.D. Attri, DDGM (O). The goal of the workshop was to promote recent advances in the theory and practice of verification of weather and climate forecasts worldwide. The participants were from operational, research and forecast user communities to discuss methods for more effectively measuring and conveying the accuracy and utility of forecasts and warnings. The workshop was divided in two sessions a tutorial session (March 13-15) and scientific program (March 17-19). The scientific program covered keynote addresses as well as contributed talks and posters on new verification techniques and issues related to the practice of forecast verification.



on “cyclone warning services during 2013 and future plan”. The meetings reviewed the activities of the department during the past year and future plans to improve the weather services provided to various users.

**Shri N. T. Niyas**, Scientist 'C and **Shri A.U. Ramesan**, Asstt. Meteorologist Attended the meeting of the core Group Committee held on 8 January 2014 on forecast of weather and crop prospects in the coming days convened by Principal Secretary, Planning & Economic Affairs during the agricultural year 2013-14 at Govt. Secretariat, Thiruvananthapuram.

**Shri R. Balasubramanian**, Scientist 'C', **Shri. L. G. Shripad**, A.M. I and **Shri A.P. John**, A.M. II attended Regional Review Meeting for West Region under FASAL project at Vasant Rao Naik Marathwada Krishi Vidyapeeth, Parbhani during 11-12 February, 2014.

**Dr. N. Chattopadhyay**, DDGM (Agrimet) and **Smt. S. V. Chandras**, S. A. attended the quarterly review meeting organized by National Bank for Agriculture and Rural Development (NABARD), Pune on 28 February, 2014.

**Shri S. Sudevan**, Scientist 'D' attended the consultation meeting on 19 March on the findings of early Warning System (EWS) for Thiuruvananthapuram city (GOI-UNDP-Climate Risk Management Project).

**Dr. M. Mohapatra**, Scientist 'E', **Shri B. P. Yadav**, Scientist 'E' **Shri B. K. Bandyopadhyay**, Scientist 'F' and **Dr. L. S. Rathore**, DGM, participated in a brainstorming meeting on cyclone 'Phailin' conducted by MOES under chairmanship of Cabinet Secretary, Government of India on 7-8 March, 2014.

## FOREIGN ASSIGNMENT

**Dr. M. Mohapatra**, Scientist 'E' was on tour to Dhaka, Bangladesh to attend the 41<sup>st</sup> Session of WMO/ESCAP Panel on Tropical Cyclones during the period 2- 6 March, 2014.

**Smt. Neetha K. Gopal**, Scientist 'D' was on tour to Beijing, China, during 17-19 March, 2014 represented India in the 12<sup>th</sup> Meeting of Asia/Pacific ROBEX Working Group (ROBEX WG/12) organized by International Civil Aviation Organization, Asia Pacific Regional Office held at Asia and Pacific Regional Sub-Office.

**Shri A. K. Mitra**, Scientist 'D' participated in the ITSC-19 Conference and RARS meeting in South Korea from 23 March to 3 April, 2014.

## MEETING

### Users' Meet on “Disaster Management”



Users' meet on “Disaster Management with particular reference to cyclone” was conducted for one day at RMC Kolkata on 14 March, 2014. Dr. L. S. Rathore, Director General of Meteorology graced the seminar in presence of **Shri I. Pandey**, IAS, Principal Secretary, Govt. of West Bengal as Chief Guest and **Shri S. Palodhi**, ADG, PIB as Guest of Honour. About 45 representatives from various organizations attended the meet.

### Cyclone Review Meeting

The Annual Cyclone Review (ACR) and Annual Monsoon Review (AMR) meetings were held at Rajendra Chola Hall, Sagar Sangamam Complex, National Institute of Ocean Technology, Chennai during 22–23 January, 2014. **Dr. M. Mohapatra**, Head, RSMC participated in the meeting and gave a presentation

Shri B. Mukhopadhyay, DDGM(C) was on ex-India deputation to Korea Meteorological Administration, Seoul, South Korea to attend the 26<sup>th</sup> Session of WMO EC Panel on Education and Training, from 24-28 March, 2014.

## HUMAN RESOURCE & INFRASTRUCTURE DEVELOPMENT

### Training course on Agrometeorological Advisories



Training course on 'Application of Weather Based Agrometeorological Advisories' for Telefarm Advisors of Kisan Call Centre, Pune was organised during 12-15 March, in order to communicate weather and agromet advisories to the farmers of Maharashtra through Kisan Call Centres. 37 participants from Kisan Call Centre, Pune, Maharashtra participated in the training.

### Training Programme on Tropical Cyclone



Participant of training Program on TCMF & WS

A two week training programme on Tropical Cyclone Monitoring, Forecasting and Warning Services was conducted during 17-28 February, 2014 at RSMC, New Delhi. Dr. L. S. Rathore, DG, IMD inaugurated the training programme on 17 Feb. The cyclone forecasters from Myanmar, Thailand, Sri Lanka and also from ACWC & CWC of IMD participated in the training.

### Inauguration of Surface Observatory

Surface Meteorological Observatory at Kempa Gowda International Airport (KIAL) Bangalore was inaugurated by Shri M. M. Muthu, General Manager, AAI in the presence of Shri B. Puttanna, Director-In-Charge, Shri L. Ramesh Babu, Director and 35 Senior Managers of KIAL and other Airlines, AAI on 1 January, 2014.

### Observatory at Bharati Station, Antarctica

Shri V. T. Shinde and Shri Mahender Spakale of IMD participated in summer 34<sup>th</sup> Indian Scientific Expedition to Antarctica and successfully installed the meteorological observatory at Bharati Station. The meteorological observatory was inaugurated by Shri Yunus, the leader and station commander of Bharati.

A workshop for imparting training to the personnel posted at PTOs was conducted from 7-9 January, 2014 at M.C. Ahmedabad.

### Inter Ministerial Cultural Programme



Cultural team alongwith DG, IMD

The Cultural wing of IMD Recreation Club, New Delhi has participated in Inter Ministry Music, Dance and short play competition 2013-14 held from 18-21 February, 2014 at CSOI Vinay Marg, New Delhi. During this Inter Ministerial Cultural Programme. The IMD cultural team achieved total 7 prizes for direction, script writing, best acting, folk and solo dance etc. 21 officials of IMD who participated in this inter ministry cultural programme.

### 13<sup>th</sup> All India Annual Sports Meet

The 13<sup>th</sup> All India Annual Sports Meet 2013-14 was organized under the chairmanship of Dr. L.R. Meena, Sc. 'F' & President IMD Recreation Club, New Delhi to promote the spirit of competition, harmony and brotherhood among the participants. It was hosted by Recreation Club, Pune at Shivchhatrapati Sports Complex, Balewadi, Pune during 21 - 24 March, 2014. The officer & staff of IMD and other Earth System Science Organization presented their skills in various Sports events, i.e., cricket, Volley Ball/ Shooting Ball, Carrom, Chess, Table Tennis, etc. Dr. L. S. Rathore, DG, IMD inaugurated the Sports meet on 21<sup>st</sup> March in the presence of Chief Guest Mr. Mc. Mary Kom, the five time world Boxing champion and only Indian boxer who has won Bronze Medal in summer Olympic, 2012.



Dr. L. S. Rathore, DG, IMD & Arvind Singh, Hon. Sec.

Shri R. R. Mali, Scientist 'E' and President, Recreation Club, Pune presented the prizes to the winners and runners-up of different sports events including team trophies during closing ceremony held at office Compound Shivaji Nagar, Pune.

## MISCELLANEOUS

## Publications



During this quarter 12 Research papers have been published in quarterly research journal 'MAUSAM' Vol. No. 65, No. 1 (Jan 2014).

A paper entitled "Movement of Low Pressure systems over Eastern Antarctic region and their influence on the Rainfall over India during Southwest Monsoon by P. Chandrashekhara Rao and M. M. Bongale was published in Vayumandal, Vol. 38, No. 1-4, January – December, 2012.

Climate Diagnostics Bulletin of India (CDBI) for November, December 2013 & January 2014 and Post Monsoon (October–December) 2013 were brought out.

Observational Organisation booklet-2014 was published. "Climate of Northeastern States" comprising of Assam, Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura alongwith CDs was published.

## Video Conferencing

A video conferencing was held on 12 March, 2014 under the Chairmanship of Secretary, MoES, DGM, IMD and Dr. M. Rajeevan, Advisor & Scientist 'G' and concerned officers from Pune were present. The discussion was on 'CLIMATE DATA CENTRE' plan project and its progress.

## Radio Talk

Mrs. P. S. Kulkarni, S.A. delivered a radio talk on Preview of 'National Level Media Workshop on Communication of Agromet Advisories to the User Communities' and it was broadcasted in All India Radio on 26<sup>th</sup> March 2014.

Dr. L. S. Rathore, DGM, IMD, New Delhi gave an interview in All India Radio, Pune on 28 March 2014 on activities of IMD with special reference to Agromet Advisory Services in India.

NOAA/METOP data in the BUFR format from Chennai Direct Broadcast receiving system have been started to put in RARS WMO group in GTS format.

## DGM Visited Space Centre, Sriharikota



Dr. L. S. Rathore, DG, IMD & Dr. M. Y. S. Prasad at Sriharikota

Dr. L. S. Rathore, Director General of Meteorology and Dr. Y.E.A. Raj visited Satish Dhawan space centre, SHAR, Sriharikota, Andhra Pradesh on 24 January, 2014 and had meeting with Dr. M. Y. S. Prasad, Director Satish Dhawan, Space Centre. Dr. Rathore visited rocket launch site at SHAR and inspected DWR Sriharikota.

## Visits of Secretary, MoES

Secretary, MoES visited RMC, Mumbai and released a documents pertaining to Automatic Weather Operating System and automated software in the presence of DGM and ADGM (R) on 10<sup>th</sup> February. Shri B. Mukhopadhyay, Scientist 'F', DDGM (C) and Dr. G. Krishnakumar, Scientist 'E' also participated in this programme.

## राजभाषा हिन्दी संबंधित गतिविधियाँ

मौसम प्रशिक्षण कार्यक्रम में दिनांक 17 जनवरी 2014 तथा 6 फरवरी 2014 इंटरमीडिएट प्रशिक्षण और एलीमेंट्री प्रशिक्षण के प्रशिक्षणार्थियों को वरिष्ठ हिन्दी अधिकारी सुश्री रेवा शर्मा ने राजभाषा हिन्दी विषय पर व्याख्यान दिया और हिन्दी अधिकारी सरिता जोशी ने कम्प्यूटर और हिन्दी सुविधाएँ व उपयोग विषय पर प्रेजेंटेशन दिया और कम्प्यूटर पर यूनिकोड में कार्य करना सिखाया। मौसम कार्यालय सफदरजंग द्वारा 28 मार्च 2014 को आयोजित हिन्दी कार्यशाला में वरिष्ठ हिन्दी अधिकारी सुश्री रेवा शर्मा, हिन्दी अधिकारी सरिता जोशी और कनिष्ठ अनुवादक श्री बीरेन्द्र कुमार ने व्याख्यान/प्रेजेंटेशन दिए। राजभाषा विभाग, गृह मंत्रालय के तहत केन्द्रीय हिन्दी प्रशिक्षण संस्थान में आयोजित हिन्दी में कम्प्यूटर प्रशिक्षण के दिनांक 3 मार्च 2014 से 7 मार्च 2014 तक के लिए प्रशिक्षण प्राप्त किया।

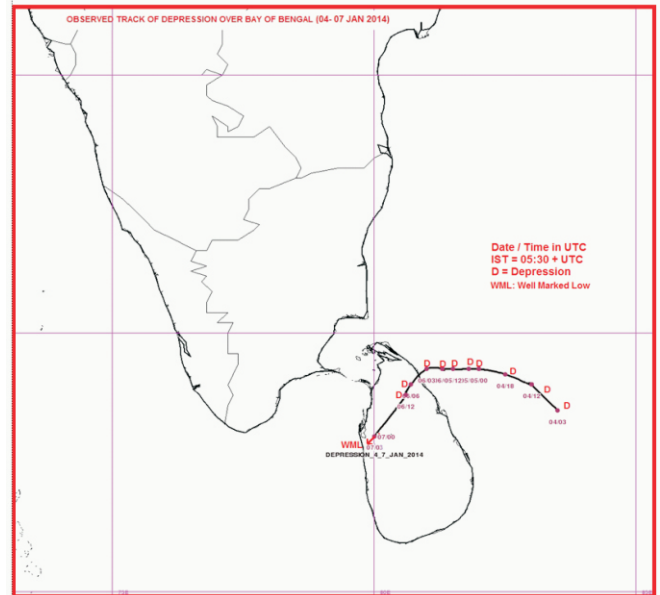
**Significant Weather**

The period January to February over India consists of winter season (January-February) and Pre-monsoon season (March). The significant weather events during this period are described below.

- \* During the season, maximum temperature was below normal by over 5 °C at many stations over the plains of northern and adjoining central India. Cold day conditions also prevailed over the plains of northern India almost throughout January. In addition, severe cold wave/cold wave conditions prevailed over the northern and northwestern parts of the country during the first week of January and again over the northern/northwestern, central and eastern parts of the country during second and third week of February. The Cold wave conditions continue prevailed over plains of northwest, central and east India in different spells during the winter season and continued till 1<sup>st</sup> week of March.
- \* Heat wave condition prevailed over West Bengal, Odisha and Jharkhand on 30<sup>th</sup> and 31<sup>st</sup> March.
- \* Thunderstorm activity prevailed over most part of the country during the month of March A thunder squall occurred over kolkatta on 26<sup>th</sup> March and over Delhi (Safdarjung ) on 23 March. As usual north east India remained in grip of thunder activities followed by hailstorm during March.
- \* The country as a whole received 46.2 mm rainfall against the normal of 40.9 mm. The seasonal rainfall was 13% above normal. The seasonal rainfall during winter season 2014 is shown below.

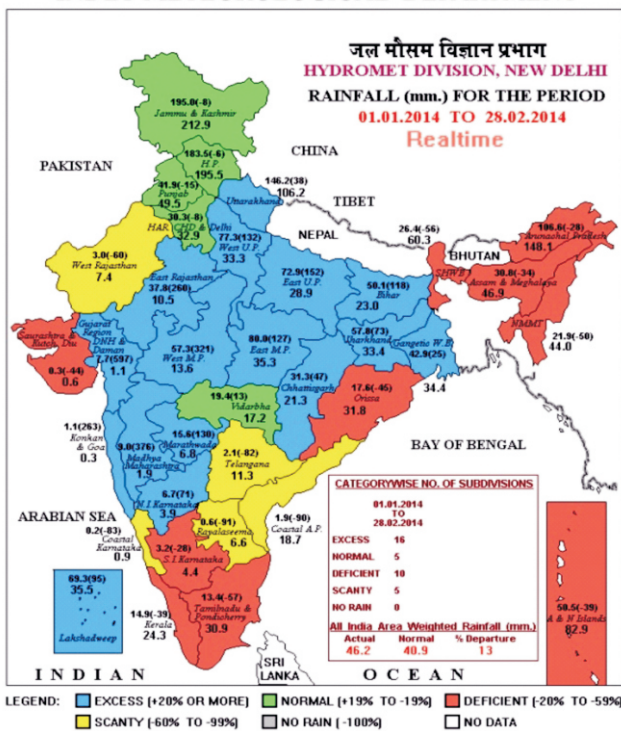
**Cyclonic Disturbances**

A depression formed over the southwest Bay of Bengal on 4<sup>th</sup> January, 2014. It moved west-north-westwards initially and then westwards and crossed Sri Lanka coast near lat. 9.2 °N long. 80.8° E between 0500 UTC and 0600 UTC of 06th January, 2014. It then moved southwestwards across Sri Lanka and weakened gradually into a well marked low pressure area over Sri Lanka and adjoining Gulf of Mannar at 0300 UTC of 07 January, 2014.



**Rainfall during Winter Season (January-February)**

**भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT**



Rainfall activity over the country as a whole was slightly above normal during the season. It was near normal (102% of LPA) during January and above normal (123% of LPA) during February. Central and northern/northeastern region of the country and parts of north peninsular India in general received excess/normal rainfall and parts of South Peninsula and extreme northeast India received deficient/scanty rainfall. During the season, out of 36 meteorological subdivisions, 16 received excess rainfall, 5 received normal rainfall, 10 received deficient rainfall and remaining 5 subdivisions received scanty rainfall.

**Verification of North-East Monsoon – 2013**

The verification of 2013 North-East monsoon (October-December, 2013) forecast for South Peninsula and Tamilnadu was prepared. The summary of the verification report is given below:

The realized NE monsoon rainfall (Oct-Dec) over South Peninsula was 86% of its long period average (LPA). IMD's qualitative forecast for NE Monsoon was most likely to be normal (89-111% of long period average). The forecast for Tamilnadu was most likely to be above normal (>112% of LPA) and realized rainfall was 67% of its long period average (LPA). Thus the forecasts were underestimate to the actual values.

