



मौसम विज्ञान विभाग समाचार

IMD NEWS

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(Ministry of Earth Sciences)

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Winter South Asian Climate Outlook Forum (WinSASCOF-1) and the Climate Services Users Forum for Agriculture (CSUF-Ag1)



Winter South Asian Climate Outlook Forum (WinSASCOF-1)



Climate Services Users Forum for Agriculture (CSUF-Ag1)

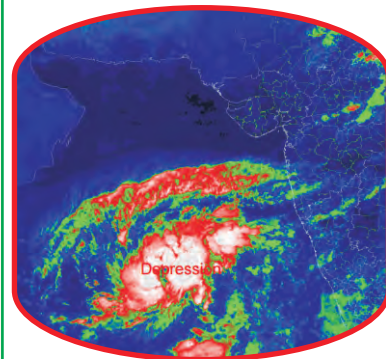
The inception sessions of Winter South Asian Climate Outlook Forum (WinSASCOF-1) and the Climate Services Users Forum for Agriculture (CSUF-Ag1) were held during 14 to 16 October, 2015 at Chennai hosted by Regional Meteorological Centre, Chennai. Govt. of Canada, World Meteorological Organization (WMO) and Regional Integrated Multi-Hazard Early Warning System for Africa and Asia, (RIMES) supported the event through funds available from the Government of Canada. The forum meeting was attended by several experts from India and various other countries of South Asia such as Afganistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Pakistan, Phillipines and Sri Lanka as well as from Australia and Korea. Dr. (Smt.) Santa Sheela Nair, I.A.S (Retd.), Vice Chairperson, Tamil Nadu State Planning Commission, Dr. Rupa Kumar Koli, Chief, WCAS, WMO, Dr. L. S. Rathore, Director General of Meteorology, Dr. M. Rajeevan, Director, IITM Pune, Mr. A. R. Subbiah, Director, RIMES, Dr. G. Srinivasan, Chief Scientist RIMES, Bangkok, Shri S. B. Thampi, DDGM, RMC Chennai, Dr. S. D. Attri, DDGM(O), IMD, Dr. Biswajit Mukhopadhyay, ADGM(R) Pune, Dr. S. R. Ramanan, Dr. S. Balachandran, Scientist 'E', IMD Chennai and Dr. D. Sivananda Pai, Scientist 'F' IMD Pune, were a few of the prominent participants in the above forum. In the meeting requirements for climate monitoring and seasonal forecast products have been reviewed and suggestions for regular conduct of winter SASCOF forums have been made. Climate Services User Forum for Agriculture was held on 16th October, 2015. The CSUF-Ag1 special session interfaced with users from the agriculture sector to interpret seasonal climate information and understand their specific needs with a view to further customize climate information.

Weather Services for Power Sector



Regional Meteorological Centre, Chennai conducted one day IMD Website familiarization workshop on 27th October, 2015 at RMC Chennai for 15 No. of Power System Operation Corporation Limited (POSOCO) officials from Southern Regional Load Dispatch Centre (SRLDC), Bangalore, in interpreting IMD web resources. The training concentrated on utility of weather information and forecast products in the IMD website and on their impact on the power systems load and generation management.

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India Meteorological Department,
Mausam Bhawan, Lodi Road,
New Delhi - 110 003

Tel. : 24651287

Telefax : 91-11-24699216 &

91-11- 24623220

email : newsletter_imd@yahoo.com

edited by

Dr. S. I. Laskar

compiled by

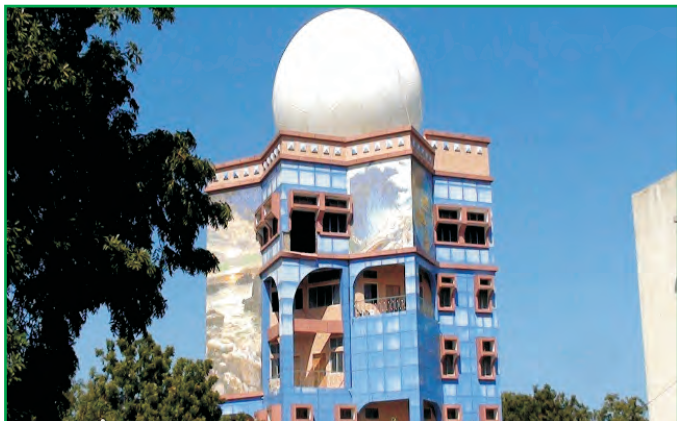
Staff of Editorial Office

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Dinesh Khanna

New Projects/schemes/programmes approved/initiated/completed

S-Band Doppler Weather Radar (Metstar Beijing) was installed and commissioned at Karaikal (Tamil Nadu) on 29th October, 2015.



Doppler weather radar at Karaikal

Dr. L. S. Rathore, Director General of Meteorology inaugurated the DWR Mumbai on 4th November, 2015 in the presence of Dr. Devendra Pradhan, DDGM (UI), Shri K. C. Sai Krishanan, Scientist 'F' and Shri K. S. Hosalikar, DDGM RMC Mumbai.



Inauguration of DWR Mumbai

Dr. P. K. Mishra, IAS, Addl. P.S. to Prime Minister inaugurated the DWR Paradip in the presence of Dr. L. S. Rathore, Director General of Meteorology and Dr. Devendra Pradhan, DDGM(UI) on 21st November, 2015. The S-Band DWR (Metstar Beijing) was installed and commissioned at Paradip (Odisha) on 19th November, 2015.



Inauguration of DWR Paradeep

Design Storm Studies for under-mentioned four projects, were completed (i) Gulf of Khambhat Development Project (Kalpasar Project), Gujarat- For Catchment area (23933 Sq. Km) of Sabarmati, Mahi and Dhadhar rivers within the system boundary and for entire catchment area (60387 Sq. Km) of Sabarmati, Mahi and Dhadhar river basins. Gulf of Khambhat Development Project (Kalpasar Project), Gujarat - For Catchment area (7626 sq. Km) within the system boundary of Saurashtra region. (ii) Panshet Pumped Storage Hydro Electric Project, Maharashtra (iii) Varandha Ghat Pumped Storage Hydro Electric Project, Maharashtra and (iv) Kolar Tank Project, Maharashtra.

Human Resource Development Activities (Conferences/seminars/Symposia/Trainings/Higher Qualification acquired/ Workshops etc.)

Conferences

International conference on "Atmospheric Chemistry and Agricultural Meteorology" was organized during 2 to 4 November, 2015 in order to study the possible impacts of atmospheric constituents and particulate matter on agriculture and also to prepare possible mitigation strategies. Experts in the fields of Atmospheric Chemistry and Agricultural Meteorology from Geneva, Canada, Chile, Italy, Germany, Paraguay, Vietnam, Uzbekistan, Indonesia, Kenya and India participated in the conference.



Dr. L.S. Rathore at International conference on "Atmospheric Chemistry and Agricultural Meteorology"

International conference/workshop/meetings were held at Ramee Grand Hotel, Pune, Maharashtra during 2nd to 10th November, 2015 organised by the Agricultural Meteorology Division, IMD, Pune and the World Meteorological Organization (WMO). Around 30 national and international delegates attended the meeting.

Shri B. Mukhopadhyay, LACD, ADGM(R) attended the Bombay Chamber's 10th Biennial Flagship Conference Agricorp 2015 as the Chairperson and Panel Member for Session "Emerging Technologies for Value Addition and risk Mitigation" at Mumbai on 3rd November, 2015.

Dr. A. C. Lyngdoh, Scientist 'D' and Shri M. Wankhar, Asstt. Met.-II attended the Global Conference on Disaster Reduction in NE region towards disaster resilience from 23 to 24 November, 2015 held at State Convention Centre, Shillong organized by NDMA, New Delhi and NEC Shillong.

One day conference on Global warming, sea level rise and livelihood adaptation strategy along East Coast of India was organized jointly by Department of Civil Engineering FET, Siksha "O" Anusandhan University, Bhubaneswar and Department of Geography , KPU, Vancouver, Canada in collaboration with FESR and India Meteorological Society (IMS) Bhubaneswar chapter on 27th December, 2015.

Lectures

Dr. N. Chattopadhyay, Scientist 'F' and Shri R. Balasubramanian, Scientist 'D' delivered lectures on "Agromet Advisory Service under GKMS in the Country" on 1st October, 2015 and "Use of Crop Simulation Model for Crop Yield Forecast" on 13th October, 2015 respectively at Centre of Advanced Faculty Training (CAFT), College of Agriculture, Pune.

Shri Anand Kumar Sharma, Scientist 'F' delivered an invited lecture (eminent faculty) on 15th October, 2015 on the topic of Landslide Mitigation at Uttarakhand Academy of Administration, Nainital organized by National Institute of Disaster Management.

Dr. (Smt.) Surinder Kaur, Scientist 'F' delivered a lecture on "Design Storm Analysis Techniques and case studies" on 17th November, 2015 in the training programme on "Hydrological Aspects in Project Planning and preparation of Detailed Project Report", organized by Central Water Commission at Sewa Bhawan, R. K. Puram, New Delhi.

Dr. P. Guhathakurta, Scientist 'E' delivered a lecture on, "Impact of Climate Change on existing WR Projects" at Central Water Commission, National Water Academy, Khadakwasala, Pune on 19th November, 2015.

Dr. M. Mohapatra, Scientist 'F' delivered an invited talk on Tropical Cyclone Warning and its Communication by India Meteorological Department on 21st November, 2015 in the Second World Disaster Congress organised at Visakhapatnam.

Dr. G. Krishnakumar, Scientist 'E' delivered a lecture on 'Climate Data Management & National Policy on Data' organized by Lokmanya Medical Research Centre, Pune on 15th December, 2015.

Dr. Jayanta Sarkar, Scientist 'E' delivered a lecture on "Climate change in India Perspective" in the seminar organized by Department of Science, School of Technology, Pandit Deendayal Petroleum University (PDU) in association with Gujarat Energy Research and Management Institute (GERMI) on 23rd December, 2015 at Pandit Deendayal Petroleum University, Gandhinagar.

Dr. S. C. Sahu, Scientist 'F' delivered a lecture on "Relevance of Disaster forecasting for Relief, Reconstruction and Rehabilitation of Disaster affected areas" at Gopabandhu Academy of Administration, Bhubaneswar on 28th December, 2015.

Dr. Somenath Dutta, Scientist 'F' was on tour to Centre for Atmospheric Science, K. L. University, Vaddeswaram, Andhra Pradesh to deliver lectures on "Atmospheric waves, atmospheric energetic, instabilities" during 28 to 31 December, 2015.

Workshops

Shri R. Balasubramanian, Scientist 'D', Shri S. S. Mairal, Asstt. Met. - II and Shri V. A. Desai, S.A. attended a workshop for sharing the experience of KVKs to explore the possibility of upscaling the NABARD Project at KVK Baramati on 7th October, 2015.

Dr. S. L. Singh, Scientist 'E', Shri Sankar Nath, Scientist 'D' and Shri Dinesh Kumar, AM-II attended a "Workshop for Data Contributors of Open Data Government (ODG) Platform India" held on 8th October, 2015 at India International Centre, New Delhi.

Dr. L. S. Rathore, Director General of Meteorology, Shri S. C. Bhan, Scientist 'F' and Dr. P. Nandankar attended a Workshop on Heat Action Plan 2016 on 8th October, 2015 organized by Nagpur Municipal Corporation & Public Health Department, Government of Maharashtra at Nagpur. Shri S. C. Bhan made a presentation on "Heat Wave Early Warning System and Forecasting in India" during the workshop.



Workshop on Heat Action Plan 2016

Shri Dinesh Kumar, AM-II and Shri Trilok Singh, AM-II attended one day workshop program on "Auditing & Testing of Active Directory & Domain Controller Environment" held at CERT-In, New Delhi on 16th October, 2015.

Smt. Samanti Sarkar, Scientist 'D' and Shri Ravinder Singh, SA attended one day workshop program on "Cyber Crisis Management Plan, Compliance & Auditing" held at CERT-In, New Delhi on 26th October, 2015.

Shri R. R. Mali, DDGM (SI), was on tour to Kolkata during 5 to 7 November, 2015 to participate in the joint workshop cum meeting for eastern region of POSOCO.



Workshop on GCREAM

One day Workshop on Global Centres of Research and Excellence in Agrometeorology (GCREAM) was organized by Agromet Division, Pune on 5th November, 2015 to discuss various issues to create and develop knowledge in Agricultural Meteorology and Agricultural Technology & Management areas including promoting research and application in Operational Agrometeorology and catering to the capacity building needs of the Agrometeorological Advisory Services. Experts from Chile, Canada, WMO, Geneva, alongwith participants from India Meteorological Department participated in this workshop.

Shri S. C. Bhan, Scientist 'F' participated in the Joint Regional Workshop of Eastern Region with POSOCO on 6th November, 2015 at Kolkata to augment the support between IMD and POSOCO.

Dr. P.C.S. Rao, Sc. 'E' participated in the 2nd Hailstorm Task force meeting at ICAR-NRCG, Pune on 21st November, 2015 to discuss about the concept proposal on 'Impact of hailstorms on agriculture in India and developing adaptation strategies'.

Shri R. D. Sharma, AM-II and **Shri M. C. Papnai**, SA attended one day "Sensitization workshop on Aadhaar" held at Jeevan Bharti Building, UIDAI HQ, New Delhi on 2nd December, 2015.

Shri Anand Kumar Sharma, Scientist "F" was coordinator of IMD Fog brain storming Workshop organized from 14 to 15 December, 2015 at New Delhi.

A Workshop on Gramin Krishi Mausam Sewa (GKMS) and ARM on FASAL was organized at CPRI Shimla on 15 to 16 December, 2015 by CGRT CSKHPKV, Palampur and MC Shimla. **Shri Manmohan Singh**, Scientist 'E' gave the overall view of GKMS and services of IMD for the state of HP.



Workshop on Gramin Krishi Mausam Sewa on 15th December and 6th RRM, FASAL project, on 16th December 2015 at CPRI, Shimla organised by CGRT CSKHPKV, Palampur and MC, Shimla

Dr. M. Mohapatra, Scientist 'F' delivered a plenary talk on "Role of Remote Sensing in Early Warning Services for Management of Cyclones over North Indian Ocean" on 17th December, 2015 in the International Society for Photogrammetry and Remote Sensing (ISPRS) Working Group VIII/1 on Disaster and Risk Reduction Mission workshop on 'Geospatial Technology for Disaster Risk Reduction' at Jaipur.

Dr. M. Mohapatra, Scientist 'F' delivered lectures on tropical cyclone in a training programme for Junior Research Fellows organised by IITM, Pune on 22 & 23 December, 2015.

Shri S. B. Thampi, Scientist 'F' participated in the SERB School on "Computational Meteorology" sponsored by Science and Engineering Research Board (SERB), Government of India and organised by the Koneru Lakshmaiah University, Vaddeswaram, Guntur District, A.P. and delivered lectures on "Observations and assimilation, Conventional surface and upper air observations, Radar data and analysis, quality control, field experiments" during 29th December, 2015 to 1st January, 2016.

Trainings

Dr. A. C. Lyngdoh, Scientist 'D' attended Induction Training Programme of Assistant District Project Officers (ADPOs) held from 7 to 16 October, 2015 in State Emergency Operation Centre, Shillong, as resource person.

Shri S. Sudevan, Scientist 'D' arranged a training session on "Climate change forecasting & assessing the consequences of Climate change" on 13th October, 2015 and "Early warning services in disaster alert standard operational procedures" on 24th November, 2015 for the Agricultural officers, Veterinary Surgeons, Dairy Extension Officers & Fisheries Officers of State Agriculture Management & Extension Training Institute (SAMETI), Department of Agriculture, Govt. of Kerala, Thiruvananthapuram.

Dr. Ashok Kumar Das, Scientist 'D' attended a short term Training course on 'Flood Forecasting and Warning' conducted by IIT Roorkee during 26th October, 2015 to 1st November, 2015 at IIT, Roorkee jointly organised by IIT Roorkee and ICID, New Delhi sponsored by WMO, Geneva.

Shri Sankar Nath, Scientist 'D' and **Shri Dinesh Kumar**, AM-II attended one day training on "Digital Signature Awareness Program" held at C-DAC, Noida on 27th November, 2015.

Dr. Geeta Agnihotri, Scientist 'E' attended Special training on "atmospheric remote sensing and advanced signal/image processing" conducted by Karnataka Remote Sensing Applications Centre on 3rd December, 2015.

Shri D. K. Malik, Scientist 'E', **Shri N. Nigam**, Scientist 'E' & **Dr. S. I. Laskar**, Scientist 'D' attended Operational Training on CPGRAMS on 29th December, 2015 in the Department of Administrative Reforms & Public Grievances, Sardar Patel Bhawan, Sansad Marg, New Delhi.

Awards and Recognitions



Dr. (Mrs.) Surinder Kaur, receiving the award

Dr. (Mrs.) Surinder Kaur, Scientist 'F' received an award on behalf of IMD, for exemplary work done by Hydromet Division using GIS for Rainfall monitoring, Hydromet forecasting & Hydromet Design. The award (Trophy) has been given by ESRI India Ltd.

ISO certification



Officials of MC Goa receiving ISO certification

The training, internal auditing and management review meeting (MRM) for ISO certification was conducted for the

officials of MC Goa during the period from 28th September, 2015 to 8th October, 2015. After successful completion of training, 19 officials of MC Goa successfully passed the exam conducted for internal auditing for ISO certification as per IRCA guidelines. After external auditing by ISO certification body, Meteorological Centre, Panaji, Goa and Port Meteorological Office, Mormugao, Goa obtained ISO 9001:2008 certification for implementing Quality Management System(QMS) on 25th November, 2015.

Dr. M. Mohapatra, Scientist 'F' has been nominated as Focal Point for the WMO SWFDP - Bay of Bengal project.

Career Advancement

Training was imparted in Surface Instruments to trainees from six RMCs in two batches during 26 to 30 October, 2015 and 23 to 27 November, 2015 at DDGM(SI), Pune.

A training on Instruments and Communication & Information System for Met Gr-II (Semester – II, Batch 21) comprising of 13 Met-II trainees was conducted from 26th October to 28th November 2015 at DDGM(SI) Pune.

An AWS/ARG training program was conducted in AWS Laboratory, Pashan, Pune for staff/officers posted under RMC Guwahati, during the period 30th November to 4th December, 2015 and for staff/officers of MC Jaipur from 24 to 29 November, 2015.

Advance training course in Meteorological Instruments and Information System for first batch of eleven officers was completed on 18th December, 2015 at Information, Communication and Instrumentation Training Centre (ICITC), New Delhi.

Infrastructure Development and Installation

Diffuse Radiation assembly and GPRS modem was installed at Karaikal during 2015.

Drishti System was installed and commissioned at Delhi and Amritsar in October 2015 and Lucknow Airport during November 2015.

Sixty three (63) nos. of Digital Station Barometers installed at observatories during the period October-December 2015 : RMC Mumbai - 01, RMC Nagpur- 6, RMC New Delhi 14, RMC Chennai-19, RMC Kolkata-11, RMC Guwahati-12.

Inter - Agency Meetings

Regional Coordination Committee Meeting



Regional Coordination Committee Meeting was held at RMC Chennai. Officers-In-charge of Meteorological Centres, CWC Visakhapatnam and DWRs of the region attended the meeting.

Shri Anand Kumar Sharma, Scientist 'F' attended "Climate Resilience and Heat Health" meeting on 7th October 2015 at O/o DGM, New Delhi.

Dr. N. Chattopadhyay, Scientist 'F' attended the meeting of CAgM Implementation / Coordination Team from 7 to 9 October, 2015 in Bucharest, Romania organized jointly by World Meteorological Organization (WMO) and National Meteorological Administration, Romania.



CAgM Implementation/ Coordination Team

Dr. (Mrs) S. Kaur, Scientist 'F', **Dr. A. K. Das**, Scientist 'D' and **Shri M. K. Purohit**, AM-I attended a technical meeting on "Improved forecasting for flood & water management purposes" from 13 to 14 October, 2015 in New Delhi. This meeting was jointly organized by CWC and Australia's Bureau of Meteorology High Commission, New Delhi.

Dr. G. Krishnakumar, Scientist 'E' was on ex-India deputation to Santiago de Chile, South America, as an expert of DARE (ET-DARE) to participate in the meeting of CCL ET-DARE from 14 to 16 October, 2015.

Shri Anand Kumar Sharma, Scientist 'F' attended UNDO organized National advisory meeting regarding "Guidance note on Assessment of early Warning System in the urban areas" on 16th October, 2015 at New Delhi.

Shri Anjit Anjan, Scientist 'D' was on tour to Davos, Switzerland to attend the International Psychrometer Comparison- XII, at World Radiation Center during the period 28th September to 16th October, 2015.

Dr. Jayanta Sarkar, Scientist 'E' attended a meeting with Ahmedabad Municipal Corporation Commissioner regarding establishment of Air Quality Monitoring system (SAFAR) at Ahmedabad on 16th October, 2015.

Dr. S. Bandyopadhyay, Scientist 'E', was on tour to Thimpu, Bhutan to attend the National Stakeholder Consultation on Climate Services First National Climate Outlook Forum (NCOF-1) during the period 19-21 October, 2015.

Shri S. M. Metri, Scientist 'D' attended a meeting of State Level Co-ordination Committee on Crop Insurance (SLCCCI) to discuss the areas and crops to be notified for Rabi and Summer 2015-16 under National Agricultural Insurance Scheme and Weather Based Crop Insurance Scheme under the Chairmanship of Additional Chief Secretary and Development Commissioner at Samrudhi Video Conference Hall, Seshadri Road, Bangalore on 21st October, 2015.

Dr. L. S. Rathore, Director General of Meteorology was on tour to Geneva, Switzerland to attend the 3rd meeting of Intergovernmental Board on Services Management Committee (IBCS-MC/3) during the period 26 to 28 October, 2015.

Dr. S. C. Sahu, Scientist 'F' attended a meeting under Presidentship of hon'ble Chief Minister of Odisha on the occasion of Odisha Disaster Preparedness Day and National Day for Disaster Reduction at Rabindra mandap, Bhubaneswar on 29th October, 2015.

Shri Amitabh Kukreti, Assistant Meteorologist Gr.-I, was on tour to Hohenpeissenberg/Zugspitze, Germany to attend the "29th Session of the Global Atmospheric Watch Training and Education Centre (GAWTEC) Training Course" during the period 1 to 14 November, 2015.

Dr. S. Balachandran, Scientist 'E' participated in WMO Eighth Tropical cyclone RSMCs/TCWCs Technical Coordination Meeting (TCM-08) at Miami, Florida, USA during 2 to 6 November, 2015. He made presentation on recent activities and future plans of RSMC, New Delhi.

Meeting of CAgM Expert Team on Agrometeorological Products during 6 to 7 November, 2015 was arranged in order to prepare road map for various agromet products in Operational Agrometeorological Services in crop sector, livestock, fisheries, water resources, forestry, early warning systems pests/diseases for plants and animals.

Participants from Australia, Côte d'Ivoire, British Caribbean Territories, Ecuador, Italy, Tunisia, USA, Chile, Geneva attended this meeting.



CAgM Expert Team on Agromet. Products

Meeting of the RA II Expert Group on "Agrometeorology (EG-AgM) – Strengthening of Agrometeorological activities in RA II" during 9 to 10 November 2015 was organized to enrich operational and R & D activities in RA II Region such as to identify training needs of the agrometeorological experts/staff, review monitoring and forecasting of soil moisture conditions and their use in assessing crop water requirements, monitoring and preparedness strategies for drought including drought indices and early warning systems and the extent of their implementation, evaluation for the operational use of seasonal to inter-annual climate forecasts applications, socio-economic impact of agro-meteorological information, livestock management, forestry and fisheries sectors. WMO experts, Co-coordinators and theme leaders including participants from India were present in this meeting



RA II CAgM Expert Team on Agromet

Dr. M. Mohapatra, Scientist 'F' participated as a guest of honour in the 'Face to Face with Scientists' programme in National Children Science Congress on 28th December, 2015 organised by National Council for Science and Technology under DST, Govt. of India at Chandigarh University.

Annual Review Meeting



Dr. K. K. Singh, Head, Agromet, IMD, inaugurating the 9th Annual Review Meeting

IMD in collaboration with University of Agricultural Sciences (UAS), Dharwad, Karnataka organized 9th Annual Review Meeting (ARM) of "Gramin Krishi Mausam Seva" project during 23-25 Nov. 2015 and 6th Annual Review Meeting (ARM) on FASAL during 25 – 26th November 2015 at UAS, Dharwad. A number of high level dignitaries like Dr. D. P. Biradar Honorable Vice Chancellor, UAS, Dharwad, Dr. B. S. Janagoudar, Director of Research, UAS Dharwad, Dr. V. U. M. Rao, Project Co-ordinator, AICRPAM, CRIDA, Hyderabad, Dr. K. K. Singh, Scientist 'F', Shri Anand Kumar Sharma, Scientist 'F' and Dr. N. Chattopadhyay, Scientist 'F', Scientists from other institutes, Principal Nodal Officers, Nodal Officers and Technical Officers of Agrometeorological Field Units (AMFUs), NGOs and private firms especially engaged in the dissemination of Agromet Advisories participated in the meeting.

Dr. S. L. Singh, Scientist 'E' was on tour to Tokyo, Japan to attend the Meeting of the Regional Association-II (Asia) Expert Group on WMO Information system (WIS) during the period 25-27 November, 2015.



Dr. P.C.S. Rao, Scientist 'E' participated in a meeting at YASHDA on 26th November, 2015, organized by Centre for Disaster Management regarding the implementation of warning system for lightning in Maharashtra.

Dr. D. Pradhan, Scientist 'G' had a meeting with Shri Rajit Punhani, JS (J&K), MHA on 2nd December, 2015 at North Block (MHA), New Delhi regarding installation of C-Band DWR at Srinagar.

Dr. P. C. S. Rao, Scientist 'E' made a presentation on IMD's role in Marine Activities during a meeting on 10th December in view of visit of Dr. Urep Haryoko, BKMG Indonesia, Chief of working Group of INDARE (Indian Ocean Data Rescue) Project of WMO.

Shri A. K. Sharma, Scientist 'F', Smt. Suman Goyal, Scientist 'E' and Dr. A. K. Mitra, Scientist 'D' attended first ESSO MoES – IMD fog brain storming meeting on “Understanding process of fog formation and its use in forecasting for 2015-2016” at MoES conference Hall on 14-15 December, 2015.

Dr. S. L. Singh, Scientist 'E' (ISSD) attended the 6th Technical Advisory Committee (TAC) meeting on “Establishment of National NAVTEX network” with Director General of Lighthouses & Lightships (DGLL) on 16th December, 2015 at Deep Bhawan, Noida.

Dr. M. Mohapatra, Scientist 'F' and Dr. S. L. Singh Scientist 'E' participated in the 6th meeting of Technical Advisory committee (TAC) meeting on establishment of National NAVTEX network on 16th December, 2015 in the office of the Director General of Light House and Light Ships (DGLL).

Shri Anand Kumar Sharma, Scientist 'F' attended INSA meeting regarding Extreme Meteorological Events on 31st December, 2015 at School of Environmental Sciences, Jawahar Lal Nehru University New Delhi.

Visitors

Visit of US Ambassador



Mr. Richard Verma, United States ambassador to India and Dr. Samantha Power, U.S. Permanent Representative to the United Nations visited Air Quality Monitoring facility in India Meteorological Department, New Delhi on 19th November, 2015.

Fifteen students from IIT Bhubaneswar visited AWS Laboratory, Pashan, and they were explained all the features of AWS.

Research and Publications

Climate Diagnostics Bulletin of India from September to November 2015 and Monsoon season (June – September) 2015 have been published.

Drought Outlook Maps for the month of October to December, Weekly aridity reports and maps for the month of October to December were prepared and uploaded on IMD Pune website. Biweekly Aridity anomaly reports and maps for the month of October to December have been issued by ADGM(R) office, Pune.

ENSO bulletin and Seasonal Climate Outlook for South Asia were issued. It is available on official website of IMD Pune i.e. www.imdpune.gov.in under Long Range Forecast / Products (Quick Link : / Clim_Pred_LRF_New / Products.html).

A paper entitled, “**Dynamical features of incessant heavy rainfall event of June 2013 over Uttarakhand, India**” – by Manish R. Ranalkar, Hemantkumar S. Chaudhari, Anupam Hazra, G. K. Sawaisarje, S. Pokhrel, published in Natural Hazards, DOI 10.1007/s11069-015-2040-z.

A research paper entitled “**Predicting future changes in temperature and precipitation in arid climate of Kutch, Gujarat: analyses based on LARS-WG model**” by Dr. Jayanta Sarkar, J.R.Chicholikar & Sh.L.S.Rathore published in Current Science, Vol.109, No.11, 10th December 2015

A research paper entitled “**Performance Study Of Drishti Transmissometer at CAT III B Airport**” by K. N. Mohan, A. Arul Paligan, G. Sivakumar, R. Krishnamurthy, V. Shubha, Uday Shinde, R. R. Mali and M. K. Bhatnagar published in Mausam, 66(4), 2015, 713-718.

A research paper entitled “**Lichen as a Bio-Indicator Tool for Assessment of Climate and Air Pollution Vulnerability: Review**” by Kuldeep Srivastava and Prodyut Bhattacharya published in International Research Journal of Environment Sciences, 4(12), 2015, 107-117.

A research paper entitled “**Seasonal prediction of tropical cyclone activity over the North Indian Ocean using the neural network model**” by S. Nath, S. D. Kotal, P. K. Kundu published in Atmosfera 28(4), 2015, 271-281.

A research paper entitled “**Diagnosis and Numerical Simulation of Western Disturbance and Associated Unusual Rainfall Over India During the Month of March, 2015**” by S. I. Laskar, S. D. Kotal, S. C. Bhan and B.A.M. Kannan published in International Journal of Earth and Atmospheric Science. October-December, 2015, Vol. 2, Issue 4.

Media Interaction

Ms. P. S. Kulkarni, S.A. delivered a talk on All India Radio-Pune on "Impact of monsoon on agriculture and services of IMD in Maharashtra". The talk was broadcasted on 28th October, 2015.

Shri S. M. Metri, Scientist 'D' attended Mass Media Co-Ordination Committee meeting at Doordarshan Kendra on 9th October, 2015, 6th November and 6th December, 2015.

Dr. S. C. Sahu, M. C. Bhubaneswar Participated in a discussion on 1999 super cyclone in Doordarshan Kendra Bhubaneswar on 28th October, 2015.

Shri S. Bagulayan Thampi, Scientist 'F' participated in a chat program on 'North-East Monsoon' telecast by Doordarshan television, Chennai on 13th November, 2015.

Shri Anand Kumar Sharma, Scientist 'F' participated in 45 minute live debate on NDTV, on the topic of Air Pollution on 6th December 2015.

Dr. S. Balachandran, Scientist 'E' delivered a talk on heavy rain during NE Monsoon 2015 was broadcasted in All India Radio, Chennai on 8th Dec. 2015.

Shri S. Bagulayan Thampi, Scientist 'F' participated in the live phone-in programme on current weather at Doordharshan Kendra, Chennai on 08th Dec. 2015.

National/International Collaboration

MoU with KVK Baramati : MoU has been signed with KVK Baramati for dissemination of agromet advisories to the farmers and organisation of capacity building programmes for the farmers in the country.

Dr. S. D. Attri, Scientist 'F' participated in the inaugural session of KRUSHIK 2015: Live Demonstration & Agri Expo organised at KVK Baramati. Dist. Pune. Shri R. B. Karkhele, AM-II and Shri M.M. Choudhari, SA from Agrimet Division, IMD, Pune also participated in "KRUSHIK 2015-demo and Agri Expo" during 6-8 November 2015 and demonstrated Meteorological instruments and activities of Agrimet Division regarding Agromet Advisory Services to the farmers.

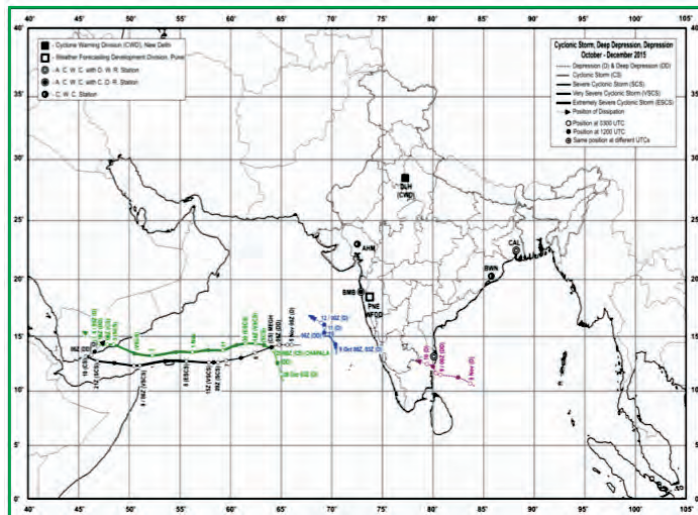


Dr. Attri participating in the inaugural session of KRUSHIK

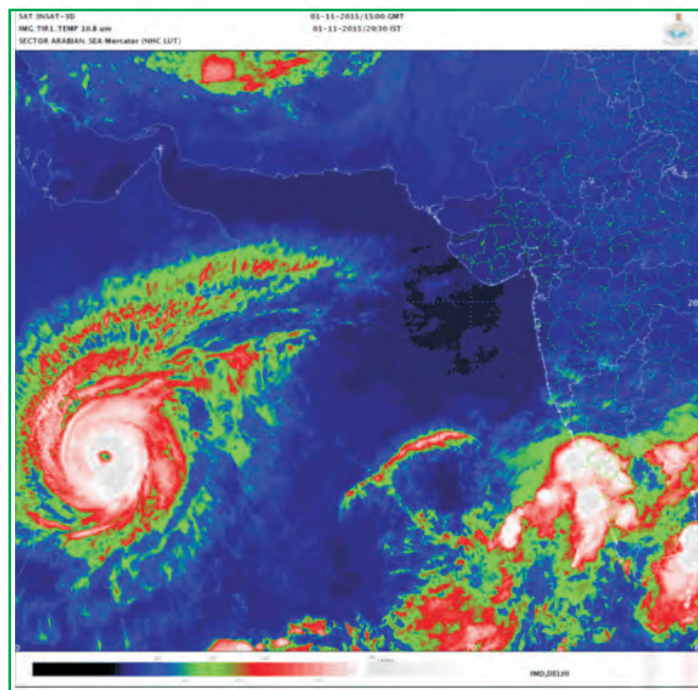
Weather Summary

Cyclonic disturbances during Oct – Dec 2015

4 cyclonic disturbances developed over north Indian Ocean (NIO) including 2 deep depression (DD) and 2 extremely severe cyclonic storms (ESCS). Among these one deep depression & two extremely severe cyclonic storms (ESCS) formed over Arabian Sea and one deep depression over Bay of Bengal. The tracks of cyclonic disturbances over NIO during same period are shown in the following figure :



Observed track of the cyclone disturbances during October - December

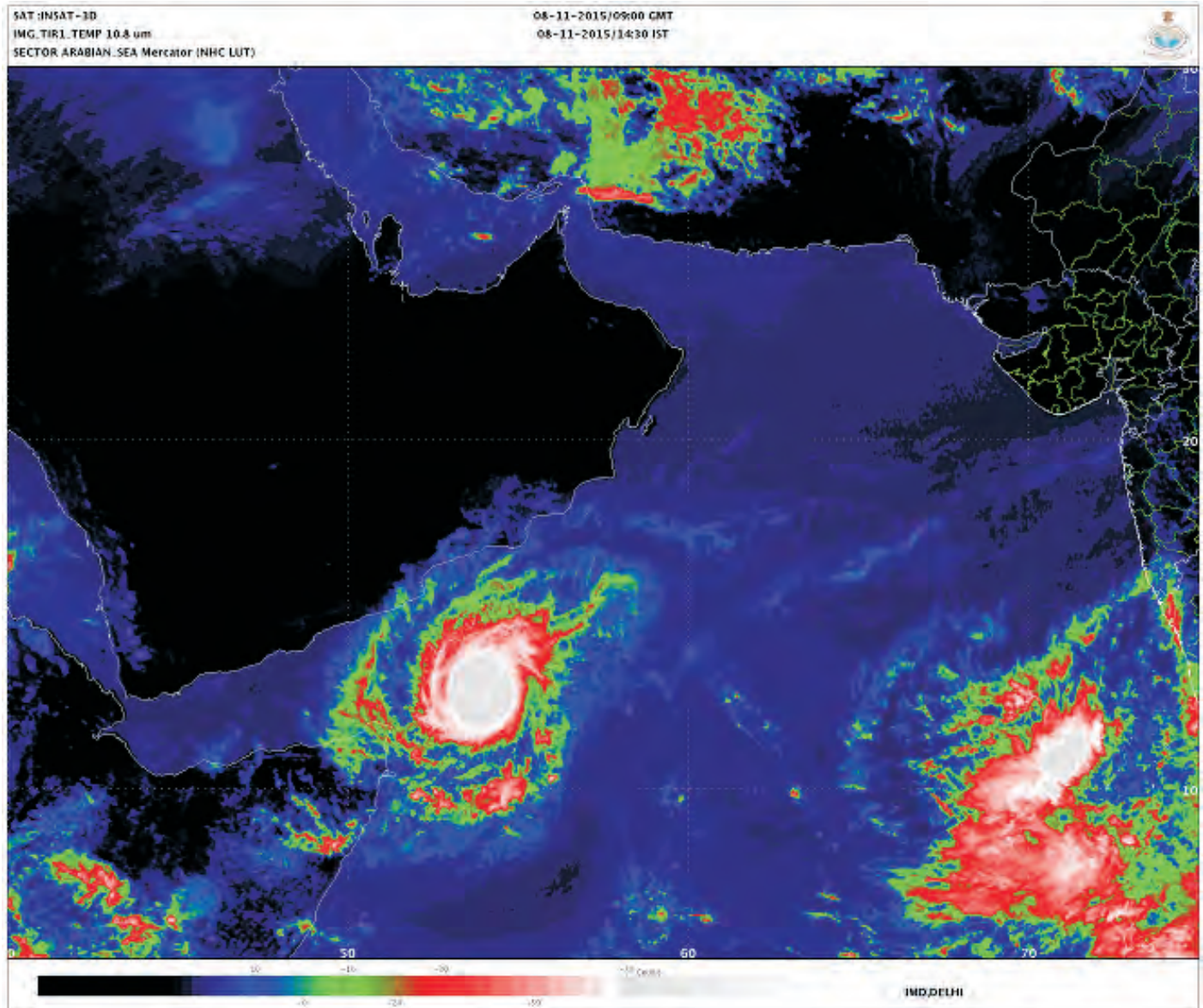


INSAT 3D Satellite imagery of ESCS Chapala at 1500 UTC of 01 November 2015

Salient features - ESCS Chapala is the first severe cyclone to cross Yemen coast after the severe cyclonic storm of May

1960. (i) it had the maximum intensity of 115 kts (215 kmph) and crossed Yemen coast with a speed of 65 knots (120 kmph), (ii) The system had the longest track length (2250 km) after Very Severe Cyclonic Storm(VSCS) Phet in 2010. (iii) The Accumulated Cyclone Energy (ACE) was about 18.29×10^4 knot² which is also the maximum over Arabian Sea(AS) after VSCS Phet in 2010. (iv) The Power Dissipation Index was 17.92×10^6 knot³ which is the maximum over AS after VSCS Phet in 2010. (v) The system rapidly intensified from 29 to 30 October, when the speed increased from 35 kts at 0000 UTC of 29th October to 90 kts at 0900 UTC of 30th Oct.(55 kts in 24 hours) and (vi) The ESCS Chapala had a life period of 7 days, which is above normal.

ESCS -Megh 5-10 November



INSAT 3D Satellite imagery of ESCS Megh at 0900 UTC of 08 November 2015

Salient Features – (i) ESCS Chapala and ESCS Megh were the first ESCSs crossing Yemen coast in the satellite era. ESCS Megh was unique in the sense that it occurred just after a week of formation of ESCS, Chapala over Arabian Sea. Unlike Chapala, ESCS Megh was a small core system with a pin hole eye, (ii) Megh maintained the intensity of ESCS for 18 hours unlike Chapala which maintained the intensity of ESCS for 78 hours. The peak intensity in Megh was 95 knots for a period of 3 hours against 115 knots for a period of 15 hours in case of Chapala, (iii) Lowest estimated central pressure (ECP) was 964 hPa with a pressure drop of 44 hPa unlike Chapala where it was 940 hPa with a pressure drop of 66 hPa, (iv) Like Chapala ESCS Megh also experienced rapid intensification on 0000 UTC of 7th November when its Maximum Sustained Wind speed(MSW) increased from 45 knots to 85 knots at 0000 UTC of 8th November (rise in wind speed 40 knots in 24 hours). During same period the ECP fell from 994 hPa to 974 hPa (v) ESCS Megh experienced rapid weakening over Gulf of Aden from 1800 UTC of 9th November (MSW 65 knots) to 0600 UTC of 10th November (MSW 35 knots), i.e. Megh experienced a fall in MSW by 30 knots in 12 hours and (vi) The system had the longest track length after VSCS Phet in 2010, as it travelled a distance of about 2307 km during its life period.

Forecast demonstration Project (FDP) on landfalling cyclones over the Bay of Bengal

Forecast demonstration Project on landfalling cyclones over Bay of Bengal and Arabian Sea is being conducted every year since 2008 from 15 October to 30 November. It is being conducted in collaboration with sister scientific organisation of Ministry of Earth Sciences like NCMRWF and INCOIS; academic institutions like IIT Delhi and Bhubaneswar; and other organisations of Govt. of India such as Indian Air Force, Indian Navy and ISRO. As in the previous years, during 2015 also, from 15 October onwards, every day, a detailed national bulletin was prepared indicating diagnostic features of atmosphere, ocean and environmental conditions along with the numerical weather prediction model guidance to assess and predict the possible cyclogenesis, its further intensification and movement over the Bay of Bengal and Arabian Sea.

Real time rainfall statistics



The rainfall for the country as a whole for the post monsoon season has been recorded as 97.8 mm against the normal rainfall for the season as 127.2 mm (departure -23%). In all, 5 met subdivision recorded Excess, 5 Normal, 8 Deficient and 18 Scanty rainfall. Sub basinwise Quantitative Precipitation Estimate for Day-1, Day-2, Day-3, Day-4, Day-5, Day-6, Day-7 using NWP model, IMD GFS model (0.25x0.25), has been made operational for river basin areas on the IMD's website www.imd.gov.in in graphical as well as tabular form w.e.f. 29th June, 2015 in addition to existing products for flood prone river basins under 10 Flood Meteorological Offices, Met Centre Srinagar, Damodar Valley Corporation & Bhakra Beas Management Board.

Highlights of SW Monsoon 2015

The season (June-September) rainfall over the country as a whole was 86% of its long period average (LPA). Thus years 2014 & 2015 was the fourth case of two consecutive all India deficient monsoon years during the last 115 years. Seasonal rainfall was 83% of its LPA over Northwest India, 84% of its LPA over Central India, 85% of its LPA over south Peninsula and 92% of its LPA over Northeast (NE) India. Out of the total 36 meteorological subdivisions, 18 subdivisions constituting 55% of the total area of the country received normal season rainfall and 17 subdivisions (39% of the total area of the country) received deficient rainfall. One subdivision (West Rajasthan) constituting 6% of the total area of the country received excess rainfall. Monthly rainfall over the country as a whole was 116% of LPA in June, 84% of LPA in July, 78% of LPA in August, and 76% of LPA in September. Monsoon current advanced over the Andaman Sea 4 days earlier than its normal date of 20th May. However, it set in over Kerala on 5th June, 4 days later than its normal date of 1st June and covered the entire country by 26th June, nearly 20 days earlier than its normal date of 15th July. Withdrawal of monsoon from west Rajasthan commenced on 4th September against its normal date of 1st September. During the season, 2 Cyclonic Storms ('Ashobaa' and 'Kemon'), 6 monsoon depressions and 3 monsoon low pressure areas were formed as against the normal of 6 monsoon depressions and 6 monsoon low pressure areas per season. The monsoon onset over Kerala for this year was on 5th June against the forecast of 30th May ± 4 days.

All the operational forecasts for the 2015 southwest monsoon season rainfall over the country as a whole and that over 4 broad geographical regions were within the limits of forecast issued in June and accurate. The forecasts for the rainfall for the second half of the monsoon season and that for the July over the country as a whole were also within the forecast limits. However, the forecast for the August rainfall was slightly below the lower forecast limit. Consensus Statement on the Forecast for the 2015 Northeast Monsoon Season (October – December) Rainfall and Temperature over South Asia has been released on 16th October 2015.

Forecast of the winter season (Dec 2015 – Feb 2016)

Rainfall forecasted to be above normal during the Winter Season (December 2015 to February 2016) over southern parts of South Asia including Sri Lanka Maldives and neighboring Lakshadweep Island region. Below normal precipitation was forecasted over the northernmost part of south Asia. Other areas of the region forecasted to receive normal precipitation. During the season, normal to above normal temperatures was forecasted over most parts of the region. This consensus forecast outlook for the 2015/2016 winter season precipitation and temperature over South Asia have been developed through an expert assessment of the prevailing global climate conditions and forecasts from different climate models from around the world. There was uncertainty about the impacts of El Niño on the seasonal precipitation and temperature patterns of the region. It was also recognized that other regional and global factors could also affect the precipitation and temperature patterns over the region.

Crop Yield Forecast

Developed crop yield forecast for (i) Cotton at planting stage (F1) and at mid-season stage (F2 for kharif 2015 for 8 states (Gujarat, Haryana, Karnataka, Maharashtra, Madhya Pradesh, Punjab, Rajasthan and Telangana) were submitted to Mahalanobis National Crop Forecast Centre (MNCFC) on 30th October 2015. (ii) Sugarcane for 5 states (Maharashtra, Gujarat, Madhya Pradesh, Karnataka and Haryana) at mid-season stage (F2) for kharif 2015 for submission to Mahalanobis National Crop Forecast Centre (MNCFC) (iii) Rapeseed and mustard for Gujarat, Haryana, Madhya Pradesh, Rajasthan and Uttar Pradesh at planting stage (F1) and (iv) Samba rice for the state of Tamilnadu at pre-harvest stage (F3) for submission to Mahalanobis National Crop Forecast Centre (MNCFC), Department of Agriculture & Cooperation (DAC), Ministry of Agriculture, New Delhi.

Miscellaneous

Hindi Divas 2015 was celebrated by MC Goa on 12th October 2015 and the prizes of the competitions conducted during Hindi Pakhwada were distributed in the function. Smt. V. K. Mini, Scientist 'D' and Director, MC Goa presided over the function and Kum. Reva Sharma, Senior Hindi Officer, O/o DGM New Delhi was the Chief Guest and Smt. Sarita Joshi, Hindi Officer was the Special Guest for the function.

Hindi Divas celebration at MC Goa

Vigilance awareness week was observed from 26th to 31st October, 2015 at CSO Shillong. An essay competition on the topic "Preventive vigilance as a tool of good governance" was held among the officials.

Team from AWS Pune briefing visitors

A team from Automatic Weather Station (AWS) Pune went on tour to Rajkot for Rashtriya Katha Shibir to exhibit our AWS and brief visitors about AWS, during 23rd December 2015 to 3rd January 2016.

