

मौसम विज्ञान विभाग समाचार IMD NEWS

INDIA METEOROLOGICAL DEPARTMENT
(Ministry of Earth Sciences)

Quarterly Newsletter

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Appreciation for Accurate Prediction of VSCS 'Hudhud'

Three Cyclonic disturbances formed over North Indian Ocean during the period October to December 2014 but only two systems intensified as Very Severe Cyclonic Storm. The Very Severe Cyclonic Storm 'HUDHUD' (07-14 October 2014) over bay of Bengal and Nilofar' over Arabian Sea (25-31 October).



Dr. L.S Rathore DG, IMD briefing honorable sri Narendra Modi The Prime Minister of India

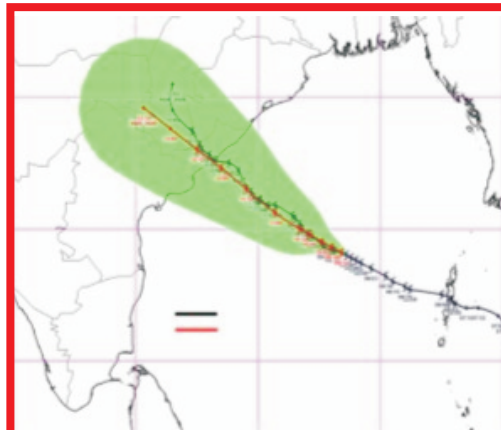
इस cyclone में technology का बहुत ही perfect उपयोग हुआ, पहले दिन से ही। इस cyclone में मौसम विभाग ने technology का बखूबी उपयोग किया और 6 तारीख से ही ये संकेत दिए गए थे। जो अनुमान थे, उतनी ही velocity रही। जो दिशा थी अनुमाननत, वही दिशा रही। जो अनुमाननत था, वही रहा। और एक प्रकार से इस संकट से बचने में ये technology का उपयोग भी काफी काम आया।

Very Severe Cyclonic Storm, 'Hudhud' (07-14 October)

The salient features of this system are:

- UDHUD is the first cyclone that crossed Visakhapatnam coast in the month of October, after 1985.
- At the time of landfall on 12th October, the estimated maximum sustained surface wind speed was about 100 Kt. and the estimated central pressure was 950 hPa with a pressure drop of 54 hPa at the centre compared to surroundings.
- It caused very heavy to extremely heavy rainfall over North Andhra Pradesh and South Odisha and strong gale winds leading to large scale structural damage over North Andhra Pradesh and adjoining districts of South Odisha and storm surge over North Andhra Pradesh.
- Maximum of storm surge of 1.4 meters above the astronomical tide has been reported at VisakhapatnamH

The operational landfall forecast error varied from 2 to 20 km for 12 to 72 hrs forecast. Considering the size of the eye of the cyclone as 40 km, the landfall error was negligible for all forecast time scales. The landfall time error was also very less varying from 1 to 4 hrs. An example of forecast & actual track showing accurate prediction of landfall point & time.



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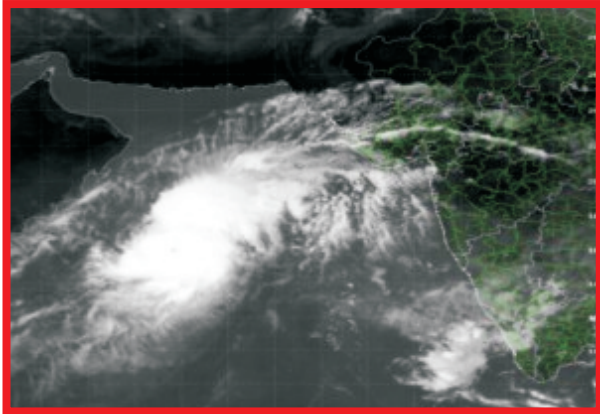
email : newsletter_imd@yahoo.com

edited by
U. P. Singh and Gopi Chand
compiled by
Staff of Editorial Office
designed by
Dinesh Khanna



Parliamentary Standing Committee of Ministry of Home affairs inter-alia on the rescue and relief operations in affected states of A.P. & Odisha categorically appreciated IMD for excellent forecast of Hudhud. As reported in print and electronic media and Govt. meetings, the cyclone warning services of the department were appreciated by Govt. of Odisha and Andhra Pradesh. Print and electronic media.

Very Severe Cyclonic Storm , 'Nilofar'



Satellite Imagery of VSCS 'Nilofar'

The salient features of VSCS 'Nilofar' over Arabian Sea (25-31 October) are as follows:

- The track of the system was unique, as it initially moved northwestward on the day of formation and then re-curved northeastwards.
- The estimated maximum sustained surface wind speed was about 110 kt (205 kmph).
- The estimated central pressure was 950 hPa with a pressure drop of 56 hPa at the centre compared to surroundings.
- The genesis, track and intensification/weakening were predicted by IMD with reasonable accuracy five days in advance.

NEW-SMS ALERTS SERVICES

One of the important initiatives towards the above outcome has been dissemination of Cyclone Alerts/ Warnings through SMS to Disaster Managers, Fishermen and farmers in the affected areas. To further enhance this initiative, India Meteorological Department has taken the leverage of Digital India Programme to utilise "Mobile Seva" of Department of Electronics and Information Technology, Ministry of Communication and Information Technology, Govt. of India for SMS based Cyclone Alerts/ Warnings for wide range of Users', including Disaster Managers, targeted users and general public. A provision is being made for issue of SMS alerts to General Public who would be required to register in India Meteorological Department website (www.rsmcnewdelhi@imd.gov.in) for this purpose.

Dr. Harsh Vardhan, Hon'ble Union Minister for Ministry of Science & Technology and Ministry of Earth Sciences in the presence of Dr. Shailesh Nayak, Secretary, Ministry of Earth Sciences and Chairman, ESSO and Dr. L. S. Rathore, Director General of Meteorology has dedicated 'SMS based Cyclone Alert/Warning System' to the nation, on the occasion of 'Good Governance Day', the 25th December.



Inauguration of SMS based Cyclone Alert/Warning System

SMS to fishermen through Indian National Centre for Ocean Information Services network has been introduction. Dr. Harsh Vardhan, Hon. Minister of Ministry of Science & Technology and Ministry of Earth Sciences dedicated the SMS alert services for cyclones to the nation on the occasion of Good Governance Day, the 25th December 2014.

FOREIGN ASSIGNMENTS

Dr. M. Mohapatra, Sc-E & Head RSMC, New Delhi went on ex-India deputation to Muscat, Oman to deliver lectures on Tropical Cyclone Forecasting in WMO/Oman international workshop on Dvorak technique and tropical cyclone forecasting during 28th September to 2nd October, 2014.

Smt. Suman Goyal, Sc-E (Synop) was deputed to Chiang Mai, Thailand to participate in a two days meeting on discussing a cooperation mechanism for coastal multi-hazard EW information Sharing and technical transferring between the Panel on Tropical Cyclone (PTC) and the Typhoon Committee (TC) held during 09-10th October, 2014.

Dr. Someshwar Das, Scientist 'G' was on foreign deputation to Thimpu (Bhutan) to attend the 7th Meeting of International Programme Committee (IPC) during 27-30 October.



Shri Anand Sharma, Scientist-E, M.C. Dehra Dun participated as a panelist and delivered a talk on Challenges in Predicting Disaster Events in the Himalayas and also participated in other sessions at the International workshop on Mountain people adapting to change at Kathmandu, Nepal from 9-13 November.

Dr. L. S. Rathore, DGM, attended Second Session of the Intergovernmental Board on Climate Services at WMO, Geneva during 10-14 November.

Dr. Sunil Peshin, Scientist 'F', was on foreign deputation to Moscow, Russia for participating in joint collaboration work on Ozone Theme during 12-18 November, 2014.

Dr. L. S. Rathore, DGM, Dr. S. D. Attri, Sc.E, Dr. N. Chattopadhyay, Sc.E, attended the 6th Session of Regional Conference on Management of National Meteorological Hydrological Services in Regional Association-II (Asia) at Doha, Qatar, from 2-4 December.

Dr. M. Mohapatra, Scientist-E & Head, RSMC, New Delhi participated in 8th International Workshop on Tropical Cyclones and third International Workshop on Tropical Cyclone Landfall Process during 2-10 December organised by WMO and Korea Meteorological Administration at Jeju, Korea. He acted as a member of International Organizing Committee (IOC), chaired a technical session, was leader of discussion group in IWTC.



Dr. S. Balachandran, Sc-E participated in the 8th International workshop on Tropical cyclones (ITWC-VIII) held at Jeju, South Korea, during 2-6 December 2014. He also served as member of ITWC- VIII working group on "Prediction Tropical Cyclones Beyond Synoptic Scales".

Dr. A. K. Srivastava, Scientist 'E' was deputed to attend the meeting of UNESCAP as a National Expert from India for the implementation of ESCAP resolution 70/1, on the theme, "Increasing economic co-operation to address shared vulnerabilities, risks and challenges" at Bangkok during 10-11 December 2014.

WORKSHOPS

Annual Flood Met. Officer's Meet

Two days Workshop on 'Annual Flood Met. Officer's Meet-2014 and interaction with user agencies' was held during 20 & 21 November, 2014 by MC Ahmedabad. at Entrepreneurship Development Institute (EDI), Gandhinagar This workshop was inaugurated by Dr. P. K. Pal, SAC, ISRO, Ahmedabad in the August presence of Dr. L. S. Rathore, DGM, IMD. Dr. (Mrs) Surinder Kaur, DDGM (H) & Dr. A. K. Das, Sc. 'D' from HydrometISG, INCOIS, Hyderabad; Dr. S.C.Sahu, SC. E, Dir. MC Bhubanashwar; Dr. S. R. Ramanan, SC.E, Dir. ACWC, Chennai; Dr. P. C. S. Rao, SC.D, Dir. O/o DDGM



Workshop on Flood Met. Officer's Meet

(WF), and Smt Sunitha Devi, S. SC. D, Dir. O/o DDGM (WF), Pune participated in the workshop and made presentations. Representatives from Indian Navy, Indian Coast Guard and other organizations participated in the workshop Division, New Delhi has also participated in the Annual Flood Meet.

Marine Weather Forecasting Services'



A one day Workshop on 'Marine Weather Forecasting Services', was organized by O/o DDGM (WF), Pune on 12/12/2014 at MTI, Pashan, Pune. Shri B. Mukhopadhyay, ADGM (R), Pune, Dr. Medha Khole, DDGM(WF), Pune; Dr. T.M.Balakrishnan Nair, Head

Workshop on Nowcasting



Training Workshop was organised on 22 and 23 December, 2014. Around 50 delegates including Incharges of Meteorological centres and senior forecasters from Regional Meteorological centres participated in the workshop. The Objectives of the training was building of human resource at outstations. This was a training of Trainers The operational forecasters keep on changing in outstations and therefore this training capacitated the In charges for training the forecasters in their region. To meet the increase in demand of Nowcast by various stakeholders the improvement in skill score was discussed.

Skills to be improved using WDSS-II and TITAN softwares. Nowcast should have higher accuracy as compared to other forecasts therefore FAR to be reduced to less than 0.2 and POD more than 0.8.

Application of Satellite information in Agromet Advisory Service

Agricultural Meteorology Division, IMD, Pune organized a two day workshop on use of "Application of Satellite information in operational Agromet Advisory Service" at Meteorological Training Institute, Pune during 16-17 December, 2014 inviting the members, co-ordinators of Working The objective of the workshop was to prepare the terms of reference along with the time bound implementation plan amongst the members of the working groups.

MEETING

Users Meet for INSAT-3D DRT

Sat. Met. Division, IMD, New Delhi has organized the 9th meeting of INSAT-3D DRT User's meet on 10-10-2014 in conference Hall, New Delhi under the chairmanship of DGM in which participants from ISRO, CWC, Andhra Pradesh Govt., DDGM (SI), Pune, SASE Chandigarh presented their presentation.

Users Meet for Fishermen



D. Pradhan, DDGM, RMC Kolkata, Dr G C Debnath, Sc E & Director, ACWC Kolkata, attended the users meet with fishermen at Digha on 12th December 2014 with active support from Fisheries Department, Govt. of WB to reduce vulnerability of the fishermen. Dr. G. C. Debnath, Sc. E delivered lecture and participated in the interactive session with the fishermen.

SAARC Working Group Meeting

The Second Meeting of SAARC Working Group on Monsoon was co-hosted by the India Meteorological Department and Meteorological Research Centre (SMRC) Dhaka and SAAR Countries which was held at at Shivaji Nagar, Pune from 09 to 10 December. This meeting was followed by a Seminar on "Monsoon and its prediction in all time scales over SAARC Region" during 11-12 December 2014", held at the WMO Regional Training Centre Pashan, Pune, from 11 to 12 December 2014.

Shri B. K. Bandyopadhyay, Scientist-F & DDGM (S) participated in the Round Table Asia Europe meeting (ASEM)/East Asia Summit (EAS) organised by NIDM at New Delhi on 4-5 December, 2014. He delivered a presentation on 'Early warning System for Cyclone'.

Shri S. C. Sahu, Sc.E Director-in-Charge, M.C. Bhubaneswar, attended a meeting with Hon'ble Chief Minister of Odisha & Chief Secretary, Govt of Odisha on 08th October, for briefing about the "VSCS HUDHUD" its intensification and its movement.

Mr. B. K. Bandyopadhyay, DDGM and Dr M Mohapatra, participated in Parliamentary committee meeting on 11 November and made a presentation on Hudhud. The Parliamentary Committee appreciated and congratulated IMD for excellent forecast on Hudhud.

Dr. Medha Khole, Sc.'E', DDGM(WF) and Sci. 'E' and Smt. Sunita Devi, S., Sci. 'D' attended a Sub-Committee meeting of AMR-2014 on 'Revision of Terms & Terminologies in Weather Forecast & Warnings', under the chairmanship of Dr. M. Rajeevan, Sc.'G', Adviser MOES. held at Pune on 26 December 2014.

Shri A. K. Sharma, Sc-F and Shri Virendra Singh, Sc-E attended the meeting of the working groups on "Application of Satellite Information in operational Agromet Advisory Services during 16-17 December, at Pune. Shri A. K. Sharma, Sc-F chaired this meeting.

Shri S. Bagulayan Thampi, DDGM, RMC Chennai participated in the 8th Annual Review Meeting of Gramin Krishi Mausam Sewa held at Birsa Agricultural University, Kanke, Ranchi, Jharkhand during 10-12 November.

LECTURE

Dr. N. Puviarasan, Sc-D delivered lecture on Remote Sensing in Meteorology during 10-11 October at Coimbatore.

Shri Virendra Singh, Sc-E delivered a talk in International Symposium on "New Dimensions in Agro Meteorology for sustainable agriculture" at G. B. Pant University of Agriculture & technology, Pant Nagar, during 16-18th October.

Dr. S. C. Sahu, Scientist-E M. C. Bhubaneswar, delivered lecture on "Flood Forecasting and Warning System" at Gapabandhu Academy of Administration, Bhubaneswar on 30 October.

Dr. R. Suresh, Sc-E, AMO Chennai delivered a lecture on "Disaster Management and Mitigation Programme" at University of Madras on 17 November conducted by the Dept. of Geography for University/College Teachers of Tamil Nadu and Andhra Pradesh.

Dr. M. Mohapatra, Scientist-E delivered a lecture on cyclone forecasting and warning services in a training programme on Ocean state forecasting organised on 27th November by INCOIS, Hyderabad for the trainees and operators.

Shri P. S. Biju, Director delivered the key note address on the valedictory function of seminar on Probability and Queueing theory at AVC College of engineering, Mayiladuthurai, Nagapatinam, Tamilnadu on 10th December 2014.

Dr. S. Balachandran, Sc-E participated and made presentation on "Climate change perspective of North Indian ocean Tropical cyclone activity" in workshop on "Climate Change and Coastal Vulnerability" conducted by Department of Science and technology at Anna university on 17th December.

Shri B. Puttanna, Director-in-charge gave a talk on "Climate Change and Extreme Weather Events" in the two days workshop on "Climate Change" to Group A and B level Officers at Administrative Training Institute, Mysore, on 26th December 2014.

Dr. D. Pradhan, DDGM, RMC Kolkata, attended International conference on 28th December 2014 at NIT Durgapore regarding Decision Support Systems for Early Warning and Mitigation of Disaster (DSSEEMD). He also delivered an invited talk on DWR utilization in the prediction of severe weather events and Disaster Management.

VISITORS

Dr. Murty of IM Systems Group (IMSG), a contracting company for NOAA satellite research and applications (STAR) center in Maryland, USA, visited AMO Chennai on 20th October, 2014 and had discussions with Dr. R. Suresh, Director-in-charge on possibility of collaboration to improve utilities of aviation weather services.



Dr. Yinka R. Adebaya, Chief, Education & Fellowships Division, Development & Regional Activities Department, WMO, Geneva, Switzerland visited Surface Instruments Division during 24th to 28th November 2014 for supervision and inspection of facilities provided by IMD during the WMO Training held between 3rd and 28th November 2014.

Dr. Ajit Tyagi, Koteswaram Professor in MOES visited M C Bhubaneswar on 18th December, 2014 and he had a meeting with Dr. Taradutt, Additional Chief Secretary Govt. of Odisha regarding preparation of heat action plan of Bhubaneswar and its implementation in coming summer.



Shri N. Chandrababu Naidu, Chief Minister of Andhra Pradesh visited Kailasagiri, Doppler Weather Radar Station, Visakhapatnam on 16th October. He witnessed the destruction that took place in the office premises. Shri S. Venkateswarlu, Sc. E and Shri K. Ramachandra Rao, Director briefed him about direction of wind before and after the eye, 3-D View of the cyclone and various terms used in describing cyclone in weather reports.

17 Students from the Asia-Pacific region countries, 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 3 Staff members, as part of their South India study tour on 27th and were explained about the functions of DWR and utility of its products.

TRAINING

Instrument Maintenance and Calibration Training



World Meteorological Organization sponsored Training Course on "Instrument Maintenance and Calibration" was held from 3rd November to 28th November 2014 at Surface Instruments Division, Pune and Central Training Institute, Pashan, Pune. Twenty four delegates from different regions of the World Meteorological Organisation and three IMD officials participated in the training programme. The training was inaugurated by Dr. L. S. Rathore, Director General of Meteorology. Total 27 participants including 3 participants from IMD attended the course.

Academic Activities

First batch of Intermediate Met training course started at RMC Kolkata from 7th October 2014 comprising of 17 candidates. The DDGM RMC Kolkata inaugurated the training on 08th October 2014.

AWS/ARG maintenance training was arranged at RMC Kolkata through AWS/ARG of DDGM(S) from 5th to 6th December 2014 for 9 trainees from M.O's in Odisha.

Four officials from MC Bangalore attended Hand Held Data Loggers Training from 7 October 2014 to 20 October 2014 held at RMC Chennai.

University of Madras organised UGC sponsored Refresher Course for the faculties of different colleges on 'Disaster Management and Mitigation Programme' at RMC Chennai on 19 November 2014.

S/Shri Y. K. Narasimha Murthy, AM I, Chandregowdar, AM II, B. L. Shivaprakash, S.A. and Smt. C. A. Kameshwary, SA participated in Karnataka Rajya Vigyan Parishath (KRVP) science event held at SJBIT, BGS Health and Education City, Bangalore from 27th to 29th December 2014.

PUBLICATIONS

Krishna K. Osuri, U. C. Mohanty, A. Routray, M. Mohapatra, Dev Niyogi Real-Time Track Prediction of Tropical Cyclones over the North Indian Ocean Using the ARW Model", Journal of Applied Meteorology and Climatology.

M. Mohapatra, Cyclone hazard proneness of districts of India, Journal of Earth System Sciences (JESS).

M Mohapatra, DP Nayak, Monica Sharma, RP Sharma, BK Bandyopadhyay Evaluation of landfall forecast over North Indian Ocean issued by India Meteorological Department", Journal of Earth System Sciences (JESS).

M. Mohapatra and Manish Ranalkar, Utility of automatic weather station (AWS) data for monitoring and prediction of cyclonic disturbances during monsoon season, 2013" IMD Met. Monograph, Synoptic Meteorology No. 1/2014, 161-172. IMD, Pune.

Shri Virendra Singh, Sc-E presented a paper in International Symposium on "New Dimensions in Agro Meteorology for sustainable agriculture" at G. B. Pant University of Agriculture & technology, Pant Nagar, during 16-18th October, 2014.

Fifteen research contributions were published in quarterly research journal 'MAUSAM' Vol. 65 No. 4, October 2014.

Indian Astronomical Ephemeris year 2015.

Rashtriya Panchang of 1936 SE (2014-15 AD) fourteen languages.

Sunrise-Sunset and Moonrise-Moonset tables for 2015.

VIGILANCE AWARENESS WEEK



Essay competition at kol RMC kolkatta Seminar hall

The Vigilance Awareness Week was observed this year from October 27, 2014 to November 01, 2014 and this years theme was Combating Corruption Technology as an enabler. It is believed that efficiency and objectivity in governance hold the key to eradication of corruption from public life and for this purpose it has to be ensured that transparent, fool proof systems and procedures are put in place which provide for appropriate accountability at every level of hierarchy in public administration. Pledge in connection with observing "Vigilance Awareness week" on 27 October, and an Essay Competition was organized in Hindi/ English on the topic "Combating Corruption Technology as an Enabler" on 30 October, 2014.

SWACHH BHARAT ABHIYAN



Swachh Bharat Abhiyan at RMC KOLKATA

A pledge was undertaken on 2nd October, 2014. on Swachh Bharat Mission to mark the 150th Birth Anniversary of Mahatma Gandhi at H.Q. New Delhi and all other sub offices of the department most of the officers and staff members voluntarily carried out cleaning of their office premises from inside and outside.

A pledge was undertaken on 31st October 2014 at 1100 hrs. IST on the occasion of Rashtriya Ekta Diwas.

Weather support to SHAR for launch of rocket

For launch of for PSLV-C26 and LVM3-X mission, un-interrupted supply of DWR products and WRF based forecast on upper air winds over Sriharikota were provided for Met. briefing for rocket launch.

AWARDS AND HONOUR

Dr. M. Mohapatra nominated as a Member of expert committee constituted by Ministry of Home Affairs (MHA), Govt. of India for preparation of Blue Book on lessons learnt on management of cyclones.

Met Exhibition



Shri Anand Sharma, SC E, M.C, Dehra Dun felicitated by Honorable Shri Aziz Qureshi, Governor of Uttarakhand at the Northern India International Trade Fair for participating as a representative of, Ministry of Earth Sciences and for providing correct weather forecast for 14 October with an advice to cover the exposed materials as rain is expected.

Dr. Siddhartha Singh, Director /Sc. 'D' attended the "District and State level meetings of Science Congress on Weather and Climate as a Judge on 09th and 15th November, 2014

IGNITE14 National Award



The sons of an employee of this office Shri Sanjai Saxena Officer in-Charge of A.M.S. Pantnagar, have been honoured IGNITE14 National Award by Hon. Ex President Dr. A. P. J. Abdul Kalam at IIM Ahmedabad on 19th Nov 2014 conducted by N.I.F. for their innovation "Life saving device for young Swimmers". Both the students of Campus school are siblings and their innovation was among 22 selected innovations for this award from Over 27000 submissions of students from 359 districts Both also got the patent papers from Dr. Kalam with their awards.



The Met Watch Office (MWO) Chennai was awarded ISO 9001:2008 (QMS) certification by International Benchmarking & Certifications, Noida under the aegis of American International Accreditation Organization - Bureau of Accredited Registrars (AIAO-BAR), Los Gatos, California w.e.f 9th December 2014.

The Surface Instruments division of the IMD acquired ISO 9001:2008 certification for the process of manufacturing, testing, calibration and supply of meteorological Instruments.

METEOROLOGICAL EXHIBITION

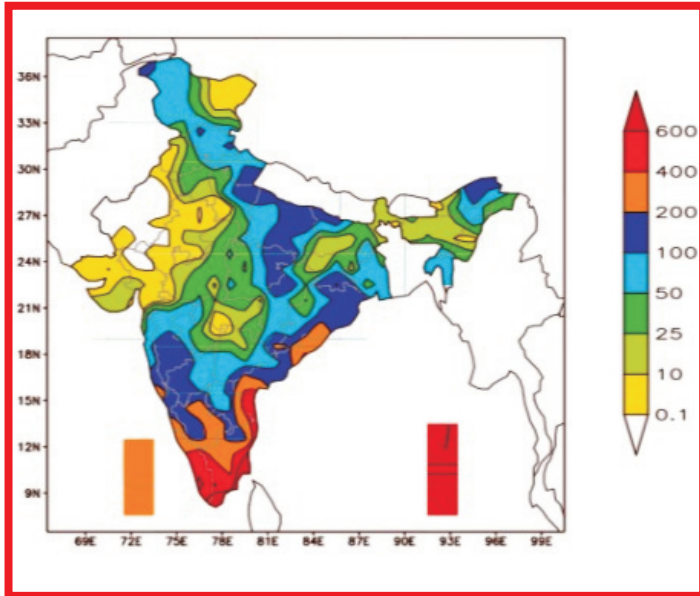


Administrator of Lakshadweep following the pilot balloon by THEODILITE

Minicoy Observatory took part in the 3rd National Minicoy Festival 2014 held at Minicoy during 27-28 December 2014 inaugurated by the Administrator of Lakshadweep along with Honourable Member of Parliament and other dignitaries. Meteorological Exhibits were arranged and the functions of IMD narrated to the public. Mass media gave wide coverage on IMD stall.

NORTH EAST MONSOON

During all three months of the season, rainfall activity over the country was subdued. Rainfall realized for the country as a whole was 75%, 49% and 64% of LPA during October, November and December months respectively. Except for some subdivisions of Peninsula, central & northern region and the Islands, most parts of the country received deficient/scanty rainfall. During the season, out of 36 meteorological subdivisions, 2 subdivisions received excess rainfall, 10 received normal rainfall, 13 received deficient rainfall and remaining 11 sub-divisions received scanty rainfall.



Seasonal Rainfall (mm)

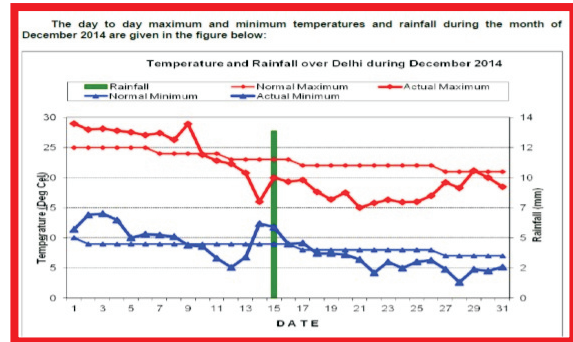
Cumulative rainfall departure was negative for all the weeks of the season. At the end of the post-monsoon season 2014, the rainfall for the country as a whole was 67 % of its LPA value. Rainfall over the south peninsula this year (292.5mm) was the third lowest since 2001 after the year 2004 (275.2mm) and 2013 (285.0mm).

The rainfall for the season was below normal over all the homogeneous regions. It was 85 % of LPA over the south Peninsula, 72 % of LPA over the Central India, 61% of LPA over the northwest India and only 31 % of LPA over the East & Northeast India.

Weather over Delhi during December 2014

Temperatures and Rainfall

The maximum temperature was largely below normal on 14, markedly below normal on 19 to 26, appreciably below normal on 15, 16, 18, 28 & 31, markedly above normal on 09, appreciably above normal on 01 to 05 & 07 and remained nearly normal during the remaining days of the month. The minimum temperature was appreciably below normal on 12, 22, 24, 28 & 30, markedly above normal on 02 & 03, appreciably above normal on 04, 14 & 15 and remained nearly normal during the remaining days of the month. The highest maximum temperature of 29.0°C was recorded on 1st December 2014 and the lowest minimum temperature of 2.6°C was recorded on 28 December 2014 whereas, the all time record for highest maximum and lowest minimum temperatures for the month are 29.5°C recorded on 6th December 2011 and 1.1°C recorded on 26th December 1945 respectively. The mean maximum and minimum temperatures during the month were 21.3°C and 8.1° C against their normal values of 22.9°C and 8.4°C respectively.



This month experienced above normal Rainfall activity. Rainfall was experienced on 01 days with total rainfall of 13.3 mm against normal of 9.0 mm with 0.9 rainy days. The all time record of monthly rainfall during December is 134.4 mm in 1884.

INSTALLATIONS

Solar Tracker V-SOL-2A2P



The state of art Solar Tracker V-SOL-2A2P, an all-weather positioning platform with integrated GPS receiver, which is fully automatic, has been installed at MC Panaji, Goa for sun tracking of Pyrheliometer on 29th October 2014.

New office building



FMO Jalpaiguri has been shifted to new office building at SJDA Complex Phase-II, near Gosola More, Jalpaiguri on 23th October 2014.

Installation Update December 2014

- AWS--Target 675 , Installed 675,
- Automatic Rain Gauge - Target 1350, Installed 1244
- GPS Sonde - Target 16 , Commissioned 16
- DWR - Target 15 , Commissioned 15
- Ozone Instrument Target 17, Commissioned 15

