

A Report from Indian Meteorological Society and its Local Chapters (October 2017 to March 2018)

1. World Meteorological Day 2018

The Indian Meteorological Society (IMS) and India Meteorological Department (IMD) jointly organised the World Meteorological Day (WMD)-2018 on 23rd March, 2018. On this occasion, a seminar was organised in Mahika Hall of the Ministry of Earth Sciences (MoES), Lodhi Road New Delhi on the theme of this year WM Day viz., “Weather Ready, Climate Smart”. Members of Indian IMS, Scientists from MoES, IMD, National Centre for Medium Range Weather Forecasting (NCMRWF), Indian Institute of Technology (IIT) Delhi and from many other organisations participated in this one day event.

Dr. M Rajeevan, Secretary, MoES, Chairman, Earth System Science Organisation was the Chief Guest on this occasion. Shri Kamal Kishore, Member, National Disaster Management Authority was the Guest of Honour on this occasion. AVM (Dr.) Ajit Tyagi, President, Indian Meteorological Society; Dr. K. J. Ramesh, Director General of Meteorology, IMD and Dr. Akhilesh Gupta Advisor, Department of Science and Technology, Prof S.K. Dube, Dr R.K. Datta, Dr H.N. Srivastava, Prof S.K. Dash, Dr E.N. Rajagopal and Shri R.C Bhatia were the other dignitaries present in the opening ceremony.

Dr Rajeevan, Secretary MoES and Shri Kamal Kishore, Member NDMA addressed the audience on the theme of WM Day and described the initiatives taken by MoES and NDMA to become Weather Ready and Climate Smart. Following documents were released on the this important event:

- i) Memoirs in the honour of Prof T.N. Krishnamurti.
- ii) Bulletin of IMS, VayuMandal
- iii) Weather Ready Guide
- iv) IMS Diamond Jubilee Directory



*VayuMandal being released by
Dr. M. Rajeevan, Secretary, MoES*

A Panel discussion was also held on the theme ‘Climate Smart’. It was moderated by Dr Akhilesh Gupta. The panel comprised of experts from Disaster Management, Water, Agriculture, Health, Energy sectors and IMD.





Top : Dr. Akhilesh Gupta, moderator of the Panel discussion addressing the members and the audience. Bottom – Panel members from left to right : Dr. S. D. Attri, Dr. Shibendu Ray, Dr. Avinash Tyagi, Shri Kamal Kishore, Dr. S. K. Singh and Dr. R. C. Dhiman.

2. Major Activities of IMS Ahmedabad Chapter

IMS Ahmedabad Chapter (IMSA) has organized three major activities during the period October 2017 to March 2018 and summary of these activities are given below:

2.1 INTROMET-2017

INTROMET-2017 was organized by IMSA and Space Applications Centre (SAC) at SAC, Ahmedabad from November 7-10, 2017. It was inaugurated in the august presence of the Chief Guest, Shri A. S. Kiran Kumar, Chairman, ISRO & Secretary, DOS, and the Guest of Honour, Dr. M. Rajeevan, Secretary, MoES. The inaugural function was attended by many of the distinguished invitees including Dr. K. J. Ramesh, DG, IMD, AVM Dr. Ajit Tyagi (IMS President), Shri O. P. N. Calla (Director, ICRS), Dr. George Joseph (Ex-Director, SAC) Dr. R. Krishnan (IITM) and Prof. Sulochna Gadgil (Emeritus Prof. IISc). INTROMET-2017 got its international flavour with the participation of about 25 foreign delegates including eminent meteorologist Prof. T. N. Krishnamurti, Dr. Ramesh R. Kakar (Program Scientist at NASA-HQ), Dr. Mark Bourassa, Dr. Ad Stofflen, Prof. Guosheng Liu, Dr. Upendra N Singh (NASA Technical Fellow), Dr. Z Haddad, Dr. Svetla Hristova Veleva and several other dignitaries. The symposium also attracted a huge gathering of over 500 national delegates coming from across the country. Members of the industry showed keen interests in utilizing the forum to their benefit.



2.2 Educational Excursion trip to Mundra port

IMSA and Indian Society of Geomatics-Ahmedabad Chapter (ISG-AC) jointly organized a 2-days Environmental Educational Excursion trip to Mundra Port during February 03-04, 2018 for its members and their families. During this trip members have got a chance to visit the guided tour of Adani Ports and SEZ area, different plants of Adani Walmart Ltd



and Adani Power Ltd. This trip was well appreciated by members and supported by M/s Adani Foundation. It was truly an unforgettable experience for members to visit various parts of Mundra Port and many technological details about various aspects of ship unloading, cargo handling, coal transport, thermal power generation, edible oil packaging etc.

2.3 World Meteorological Day celebration

IMSA and Department of Civil Engineering, Pandit Deendayal Petroleum University (PDPU), Gandhinagar have jointly celebrated WMD-2018 on March 23, 2018 at PDPU Gandhinagar on the theme "Weather Ready & Climate Smart" for the students, staffs and faculty. During this events Met-QUIZ competition was conducted among PDPU



students and followed by WMD Lecture delivered by Dr C. M. Kishtawal on the theme Weather Ready & Climate Smart. At the close of the event different prizes were awarded to the students who performed well in the QUIZ competition.

3. IMS Bhubaneswar Chapter

Odisha has always been vulnerable to extreme weather events and natural hazards and this has become a matter of rising concern in the global climate change scenario. In this regard, the National Symposium on Tropical Meteorology: Climate Change and Coastal Vulnerability organized during 18th-21st December 2016 at Bhubaneswar was a milestone. Considering the growing importance of environment and climate issues for ensuring the sustainable development of the coastal state of Odisha and based on the recommendations of TROPMET 2016 the Siksha O Anusandhan (Deemed to be University) has established a multidisciplinary "Centre for Environment and Climate (CEC)" at its Campus 1 in Bhubaneswar. Respecting the objectives of Indian Meteorological Society and recommendations of TROPMET 2016, the IMS Bhubaneswar Chapter has provided full collaboration and support in the development of such a centre of SOA (deemed to be University) during the year 2017-18. So the year has been an eventful year for IMS Bhubaneswar chapter.

Based on the consent of SOA authorities and subsequent resolution in General Body meeting of IMS Bhubaneswar (on 07th March 2018), the IMS Bhubaneswar has been allocated office space and seminar hall on complementary basis within the Campus of "Centre for Environment & Climate", FET (ITER), SOA, Bhubaneswar. This will enable the IMS Bhubaneswar chapter to avail

enhanced infrastructural and resource support for carrying out its activities for achievement of its objectives. The 23rd March 2018 (i.e. the "World Meteorological Day") was selected to inaugurate the IMS Bhubaneswar Chapter office at SOA campus. In order to celebrate the occasion in its best way, a workshop (1st in its series) titled "Regional Environment and Climate in Odisha (RECO 2018)" has been organized jointly by CEC and IMS Bhubaneswar on 23rd – 24th March 2018. The theme of the workshop is "Lightning, Thunderstorm and Heatwave".

Dr. Saurav Garg, IAS Principal Secretary, Agriculture & FE, Govt. of Odisha was the Chief Guest in the inaugural function. Sh. Bishnupada Sethi, IAS, Special Relief Commissioner, Govt. of Odisha and Dr. M. Mohapatra, Addl. Director General of Meteorology, IMD, MoES, Govt. of India (nominated by DGM Dr. K. J. Ramesh) became the Guest of Honour. The inaugural session was presided by Dr. Amit Benerjee, Vice Chancellor of SOA. The other dignitaries on the dais were Prof. U. C. Mohanty, Dr. S. C. Sahu, Dr. P. K. Nanda (Dean-Research, SOA) and Dr. P. K. Sahu (Dean-FET, SOA). The inauguration on 23rd March 2018 was followed by two technical sessions with invited lead talks by eminent experts of India like Prof. U. C. Mohanty (IIT-Bhubaneswar), Dr. M. Mohapatra (IMD-NewDelhi), Dr. S. D. Pawar (IITM-Pune), Dr. S. C. Sahu, Dr. R. K. Jenamani (IMD), Dr. D. R. Pattnaik (IMD), Dr. D. Swain (IIT-Bhubaneswar) and Dr. N. D. Mohanty (ORSAC).

On 24th March 2018, a "Students Poster Presentation Competition" was organized with theme "Innovative Scientific and Technological Interventions for Mitigation of Lightning/Heatwave Vulnerability in Odisha". This session was followed by Inauguration of IMS Bhubaneswar Office by Dr. AVM Ajit Tyagi, Contemporary President of IMS and Prod. D. Acharya, Advisor, SOA at CEC building in Campus 1, FET (ITER), SOA, Bhubaneswar. Subsequently, the panel discussion continued chaired by Prof. (AVM) Ajit Tyagi, President of IMS, Dr. S. D. Pawar, IITM-Pune, Dr. (Mrs.) Kamaljit Ray of MoES and Prof. Damodar Acharya of SOA. The Panelists included experts from IMS, IMD, OSDMA, Health Department of Govt. of

Odisha, Geography Dept. of Utkal University, Odisha Environmental Society etc. The session Chair persons were felicitated by Dr. M. K. Mallick, Director of SOA and the vote of thanks was offered by Prof. Manas Ranjan Das.



Guests on Dais and Welcome Address by Dr. P. K. Nanda During RECO 2018



Chapter meeting after inauguration of IMS Bhubaneswar Office & Seminar Hall at CEC Building of SOA. Dignitaries present are Dr. M. K. Mallick, Dr. Ajit Tyagi, Prof. D. Acharya, Prof. U. C. Mohanty, Dr. (Mrs) Kamaljit Ray, Dr. D. R. Pattanaik and other IMS Members

The Newly elected IMS National Council President for 2018-2020, Prof. S. K. Dash visited the new office of IMS Bhubaneswar and its seminar hall at SOA campus on 4th May 2018. During his visit there was discussion on the future course of the chapter and he suggested for more activities focused on regional weather.



During visit of President IMS, Prof. S. K. Dash to new secretariat of IMS Bhubaneswar Ch. at SOA on 04th May, from Left-Prof. M. R. Das, Prof. G. K. Panda, Prof. S. K. Dash, Prof. U. C. Mohanty, Dr. Sarat Chandra Sahu (Chairman of State Ch.) and Dr. Nihar Ranjan Das (Secretary of State Ch.)

4. IMS Chandigarh Chapter

IMS Chandigarh organised WMD day on 23rd March 2018 by inviting students from school and medical professional from PGI, Chandigarh to one-day workshop on "Weather-Ready, Climate-Smart". Invited lectures were arranged to sensitize students and medical professionals about this year's WMO theme. The main speakers were Shri Ashwagosha Ganju, Chairman IMS Chandigarh and Former Director of SASE, Dr Ravindra Khaiwal, PGI Chandigarh and Sh. Surender Paul Director, IMD Chandigarh. Three Students from Post Graduate Government College Sector-42, Chandigarh also presented their points of view on the theme.



Anemometer and Sunshine Recorder



Students in MC Chandigarh

Besides the above event, the Chapter members delivered lectures from time to time at various scientific institutions, schools and prominent public places. Different schools in the Tri-City were invited to IMD, Chandigarh to explain the functioning of IMD and importance of weather as part of outreach programme. Steps have been taken to popularize weather and climate science in this part of the country.



Visit of Students to IMD Chandigarh

5. WMD at Regional Meteorological Centre, Guwahati

WMD was celebrated on 23rd March 2018 at Regional Meteorological Centre Guwahati by IMS Guwahati Chapter and India Meteorological Department in association with . The Day commemorates the entry into force, on that date in 1950, of the convention creating the WMO. It showcases the essential contribution of National Meteorological and Hydrological Services to the safety and well being of society. The themes chosen for WMD reflect topical weather, climate or water-related issues. The theme for this year's World Meteorological Day is "Weather-ready, climate-smart".

On this occasion, an exhibition was organized showcasing posters, models and various meteorological instruments to create awareness about Meteorology and the various distinct and unique services being provided by the IMD. Meteorological Observatory was kept open for public viewing. Visitors were explained about the importance of various meteorological parameters and were familiarised with the modern state-of-the-art weather observing equipments available in the campus. They were also apprised how various types of meteorological observations are taken, how they are processed using sophisticated tools for products generated and dissemination of these products to various specific users and to the general public at large. Painting, quiz and easy competitions for school and college students were also organized.

The awareness program started around 1100 hrs under the Chairmanship of Dr. Sanjay O'Neill Shaw, Deputy Director General of Meteorology, RMC Guwahati and President IMS, Guwahati Chapter. The Chief Guest of the programme was Prof. (Dr.) Sushanta Kumar Dutta, Principal, Girijananda Chowdhury Institute of Management and Technology (GIMT), Guwahati and Prof. (Dr.) Hari Prasad Sarma (Rector, Gauhati University), Deptt. of Environmental Science, Gauhati University, Guwahati was the guest of honour of the function.

The theme of WMD was introduced by Dr. Sanjay O'Neill Shaw, Deputy Director

General of Meteorology, RMC Guwahati in his introductory speech.

In his key note address, Prof. (Dr.) Sushanta Kumar Dutta, Principal, GIMT, Guwahati emphasized on importance of weather observation and forecasting.

In his speech, Prof. (Dr.) Hari Prasad Sarma (Rector, Gauhati University) addressed the issues related to early warning systems and other disaster risk reduction measures for boosting the resilience of communities on both climate change mitigation and adaptation. On this occasion, Dr. K.J. Ramesh, Director General of Meteorology conveyed his message 'IMD continues to break barriers of service delivery of accurate and timely forecasts for all types of severe weather phenomena all over India. Through building such public safety services to the nation, IMD desires to contribute towards building a society fully resilient to extremes of weather, climate and associated impacts on water resources, agriculture and public health'.

The program ended conveying vote of thanks to the invitees and guests.



6. WMD by IMS Patna at Met Centre Patna

WMD was jointly celebrated by IMS Patna and IMD Patna at Met Centre, Anishabad, Patna on 23rd March, 2018 under the theme of Weather Ready, Climate Smart. The function started with the inaugural speech by Dr. T. N. Jha, President, IMS Patna. He also presented a talk on cyclonic disturbances by using Dvorak technique and T Number. Dr. B. Chakarborty, Head, NIH Patna presented a paper on modelling of urban hydrology specific to Patna which may be used by Govt of Bihar. The lecture was very interesting and students asked several questions. The next lecture was delivered by Dr. Pradhan Parth Sarthi, Secretary, IMS Patna. Dr. Pradhan presented a paper on meteorological drought conditions over eastern Gangetic plain of India which was very relevant to Bihar. The paper described intensity and frequency of droughts over the region. The Director, Met Centre Patna briefed about weather services by IMD for various purposes which is being used by different departments of government of Bihar. Dr. Anand Shankar, Scientist, Met Centre Patna discussed his research paper focus on variation of surface temperature over Bihar. The Met Centre Scientists Mr. Sandeep Kumar, Mr. Sanjay Kumar, Mr. Gupta and other interacted during presentation. Dr. Dinesh Kumar Thakur, Teacher of DPS Patna discussed with scientists on upper level easterly and lower level westerly jet during summer monsoon season and enhanced his knowledge on the subject.

In the next session, there were three presentations by Ph. D. students of Central University of South Bihar, Patna. Dr. Praveen Kumar briefly spoke about climate change impact on Malaria Transmission and Japanese Encephalitis over Bihar. He was asked several questions since it is new research topic over this region. The second presentation was by Ph. D student Mr. Archisman Barat on Surface Urban Heat Island over different cities of Bihar using satellite data for longer time period. The third presentation was by Ph. D student Mr. Ashutosh Kumar Sinha who presented a paper on cyclonic disturbances over the Bay of Bengal and showed initial results of frequency and intensity.

The whole programme was supported by a local NGO "Gangya" and they have shown interest for more active participation in future. The vote of thanks was given by Mr. Sandeep Kumar, Joint Secretary, IMS Patna.



7. Activities of IMS Pune Chapter

7.1 Lectures

IMS Pune Chapter organized eight scientific and informative talks on various subjects viz. meteorology, health sciences, seismology and economics for students and general public during Nov 2017 to March 2018.

i) Scientific talk by Dr. Nitin Karamalkar, Vice Chancellor of S.P. Pune University was arranged at IMD, Shvajanagar campus, Pune on "Seismic activity of Koyana-Warna in Maharashtra" on 21st Nov. 2017. There was overwhelming response from audience of IMD scientists, IMSP members and students 200 in

total.



ii) A scientific talk for general public by Prof. Adam H. Sobel, Professor of Applied Physics and Applied Mathematics and of Earth and Environmental Sciences, Department of Applied Physics and Applied Mathematics, Department of Earth and Environmental Sciences Lamont-Doherty Earth Observatory Columbia University, New York, USA. Was organised at Medhdoot Auditorium, IITM Pune on 7th December, 2017 on "A new tropical cyclone hazard model and application to Mumbai". More than 250 persons were present.



iii) IMSP arranged prestigious "Prof. P.R. Pisharoty Distinguished Lecture" by an eminent scientist Prof. Christian Jakob, Professor of Climate Modelling at Monash University, Melbourne, Australia on "The integration of tropical convection with the

large scale atmosphere - new insights and modelling approaches" at 4.00 p.m on 14th December, 2017 in Meghdoot Auditorium of IITM. This distinguished lecture was arranged with active support of Director, IITM, Pune and it received overwhelming response of 400+ audience including IMD, IITM, CDAC scientists, faculty members and students from various colleges and Pune University departments, journalists and general public.



iv)IMSP arranged a scientific talk for general public by eminent scientist from Germany Prof. Elena Surovyatkina Professor at the Potsdam Institute for Climate Impact Research, Germany, and a Leading Researcher at Space Research Institute of Russian Academy of Sciences, Moscow, Russia, on 12th January, 2018 at IITM Pune on "Predicting onset and withdrawal of Indian Summer Monsoon: observational evidence for results of Tipping elements approach", which received overwhelming response of 300+ IMSP members, students and general public. Also IMS Pune Chapter arranged visit of Prof. Elena to IMD Pune offices.

v)An informative IMSP lecture was arranged at IMD Pune on "Cancer: Causes, Precautions and general awareness" by a leading surgeon in Oncology in Maharashtra Dr. Snita Sinukumar, Oncology Surgery Deptt., Jehangir Hospital Pune on 24th January, 2018 at Weather Section Hall at IMD, Shivajinagar, Pune. The lecture was very informative and a matter of concern for everyone so it received overwhelming response from all IMD officials, IMSP Members, journalists and general public About 200+ audience attended the lecture.



vi)IMSP arranged an informative lecture on economics subject for the first time in the history of IMS to aware "financial literacy" By Shri. Sudhakar Kulkarni, Executive Committee Member, Cost Accountants of India, Maharashtra region on 2nd February, 2018 at IMD Pune. More than 300+ IMSP members, IMD officials and general public attended the lecture.



vii)IMSP arranged an informative lecture in the health science by renowned doctor in Pune Dr. Avinash Bhondawe, Ex-President Indian Medical Association, Pune on "Healty challenges after 40" to benefit all IMSP members on 14th February, 2018 at IMD Pune which received overwhelming response from all the members of IMS Pune and IMD officials 250+ in total.



viii)IMSP arranged a special lecture for Journalists, Press and Media persons by Dr. Jeevanprakash Kulkarni Meteorologist, Ex- Team Expert, Weather Modification Research, WMO Retd. Scientist IITM, Pune on "Recent Hailstorms over Vidarbha, Marathawada and parts of Madhya Pradesh: Mechanism, Forecasts, Measurements and Mitigation" on 20th January, 2018. More than 50 journalists and press and media reporters attended and covered the lecture. Members of IMSP, IITM and IMD were also present in this lecture.

7.2 Scientific visits

IMS Pune Chapter arranged five special scientific visits for students of Pune Municipal corporation schools to Surface observatory of IMD at Agriculture College and various laboratories of IMD at Shivajinagar in June, July, August, Sept. and Oct. 2017. IMSP arranged a Special visit of 120 geography students (graduate and post graduate level) of Spicer Advent University, Pune to various divisions/labs of IITM and IMD was arranged on 18th August, 2017. Another special visit of Civil Engineering students (65) of PCMC College of Engineering was also arranged in 20th September 2017 to various division/labs and seismological and surface observatory.

7.3 National Science Day and WMD Celebrations

IMS Pune assisted in arrangements of celebrations of National Science Day (NSD) on 28th Feb., 2018 and also WMD on 23rd March, 2018.

All the EC members took lead role in arrangements of NSD and WMD at IITM and IMD Pune offices. IMS Pune arranged the WMD 2018 with the active financial support of IMS National Council, New Delhi.

The scientific lectures on "Climate Smart, Weather Ready" theme were arranged at IITM and IMD campus and also a special exhibition was arranged at both the organizations. More than 2000 students, teachers and general public attended.



IITM and IMD Foundation Day Program

The EC members of IMS Pune Chapter took a leading role in organizing the IITM's foundation day and IMD's foundation day celebrations at Pune. A special exhibition was coordinated by Mr. Sikandar Jamadar, Treasurer, IMSP on the occasion of IMD foundation day at IMD Pune offices. An interaction with media and Press was also arranged by Mr. Sikandar Jamadar for IMD, IITM and IMSP events.

7.4 Special innovative program

IMS Pune arranged an innovative program of "Free Maruti Car Checkup" camp at IMD Pune Campus to benefit all officers and staff members of IMD Pune, information on new cars, Free Car Valuation, sale of old and new cars etc. by Chowgule Industries Limited, a leading dealers in Maruti-Suzuki Cars in Pune on 14th February, 2017 at IMD Campus. More than 100 members benefited from this program. The new variant of "SWIFT" Car was launched at 10.30 a.m. by Dr. P. K. Nandankar, Sc. F and Life Member of IMS Pune.

7.5 Annual Monsoon-2017 workshop

IMS Pune has been organizing National Workshops on Monsoon of proceeding years since 1994. For last few years SW and NE monsoons have been included in this workshop. This year the one day workshop was organized at Meghdoot Auditorium of IITM on 27th March, 2018. Dr. Somak Ray Chaudhry, Director, IUCCA, Pune graced the inaugural function as the Chief Guest. There were 12 invited presentations from eminent scientist in IMD, IITM, NCMRWF and ISRO were presented. Total 30 poster presentations by students in IMD, IITM and University of Pune were also displayed and six students. Six students were awarded with Cash prizes for best poster presentations. A record of 370 registrations were made for the workshop. The workshop was supported actively by Director, IITM Pune.



8. IMS Raipur Activities

General body meeting of IMS Raipur Chapter has been conducted on 21st December 2017. Annual action plan of Chapter for year 2018-19 was also prepared.

WMO day was celebrated on 23rd March 2018 in Meteorological Centre, Raipur. Lectures on "Weather-Ready Climate Smart" by Dr. Prakash Khare, President IMS Raipur, "Water conservation for Agriculture" by Dr. G. K. Das, Secretary, IMS, "Water resources-use and conservation" by Shri Jayant Das, Joint Secretary, IMS and "Efficient use of water by growing improved rice varieties" by Shri J.L. Chaudhary, Council Member were delivered. Several persons attended the WMD celebration.



