

A Report from Indian Meteorological Society and its Local Chapters (October 2018 to March 2019)

1. Brain Storming Workshop on “Climate Services: Stake Holder Perspectives” 22-23 March, 2019

Increasing scientific evidence confirms the fact that anthropogenic activities have lead to changes in global climate system which includes warmer temperatures, rising sea levels, and potentially more frequent and severe extreme weather events such as tropical storms, monsoonal heavy rainfall, flood, drought, etc. These pose significant risks to public safety and natural resources particularly for a country like India which has diverse climatic systems and economic strata of the people. Thus, there is an urgent need to enable better management of the risks arising out of climate variability and change by linking weather and climate services with the national development strategies.

Indian Meteorological Society (IMS) with joint support from the Ministry of Earth Sciences (MoES), Department of Science and Technology (DST) and India Meteorological Department (IMD) organised a two-day Brain Storming Workshop on “Climate Services Workshop: Stake Holder Perspectives” during 22-23 March, 2019. These two days happened to be the World Water Day and World Meteorological Day respectively. The five priority areas vulnerable to climate change were discussed during this meeting, those include: (i) Agriculture and Food Security, (ii) Disaster Risk Management, (iii) Energy Availability and Use, (iv) Human Health Impacts and (v) Water Availability and Use.

The meeting was inaugurated by the Secretary MoES, Dr. M. Rajeevan in the presence of President IMS, Prof. S. K. Dash; Director General IMD, Dr. K. J. Ramesh, Climate

Scientist Dr. Akhilesh Gupta and Secretary IMS Dr. D. R. Pattanaik. On this occasion, a booklet containing Discussion Papers on Climate Services and the current issue of VayuMandal Vol.44(2) was released.

In total, there were 7 technical sessions where invited experts brain stormed different issues of climate services. The first technical session was on the Overview of Global and Regional Frameworks for Climate Services which was followed by five sessions on the five priorities areas of Climate services as mentioned earlier. Another session was also arranged to discuss the role of NGOs for better climate services in the country. Finally, there was a panel discussion moderated by Prof. S. K. Dash. About 3-4 experts were invited to each session for their deliberations and follow up discussion. As 23rd March was the World Meteorological Day, a special talk on the Advancement and Immediate Priorities of the Earth System Modelling in India was also arranged. About 150 delegates including Fellows of IMS, senior scientists, experts, academicians, disaster managers, stake holders from all the sectors and representatives of some NGOs participated in this two-day workshop.



Lighting the lamp during the Inaugural Session of the workshop

2. IMS Lectures

2.1 Dr. Upendra Narayan Singh, NASA Technical Fellow was invited to deliver IMS Lecture on 8th February 2019 at 11:15 A.M. in the Mahika Hall, Prithvi Bhavan, Lodhi Road, New Delhi. His lecture was entitled “Active Optical Remote Sensing Sensors and Instrumentation for NASA’s Future Earth and Space Science Measurements/Missions”. His lecture was based on Active optical (Laser/Lidar) measurement techniques, which are critical for the future National Aeronautics and Space Administration (NASA) Earth, Planetary Science, Exploration, and Aeronautics measurements. The latest science decadal surveys recommend a number of missions requiring active optical systems to meet the science measurement objectives whereas the aeronautics community continues to use Laser/Lidar technologies to meet the aeronautics measurement objectives. His presentation provided an overview of NASA efforts in developing and maturing state-of-the-art advanced solid-state flight laser/lidar systems for airborne and space-borne remote sensing measurements. It also provided details of a strategic approach for active optical technologies and techniques to meet the NASA’s future Earth and Space Science measurements/missions needs and requirements for space-based applications.



Dr. Upendra N. Singh delivering IMS Lecture



IMS Honorary Fellowship 2018 awarded to Dr. Upendra Narayan Singh

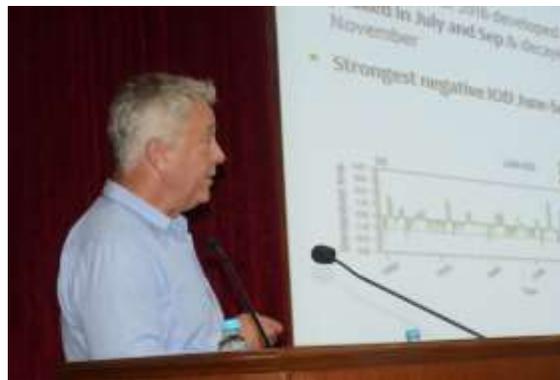


Dr. Upendra N. Singh honoured by a shawl and felicitated by IMS Memento by Secretary MoES Dr.M.Rajeevan and Prof.S.K.Dash



2.2 Dr. Harry H Hendon, from the Bureau of Meteorology, Melbourne, Australia was invited to deliver IMS Lecture on 8th February 2019 at 4 P.M. in Mahika Hall, Prithvi Bhavan, Lodhi Road. He delivered his lecture entitled “The

Role of the Tropical Indian Ocean and Polar Stratosphere for the Sharp Decline of Antarctic Sea-Ice in 2016". From his extensive research Dr.Hendon found that after exhibiting an upward trend since 1979, Antarctic Sea Ice Extent (SIE) has declined dramatically during Austral Spring 2016, reaching a record low anomaly by December 2016. He showed that a combination of lateral forcing from the tropical Indian Ocean and downward forcing from the Polar Stratospheric Vortex played primary roles for promoting unusual atmospheric circulation that acted to reduce SIE. The anomalous atmospheric circulation was initially driven during September and October by record strength tropical convection anomalies over the Indian and far western Pacific Oceans due to a record strength negative Indian Ocean Dipole. A zonal wave number 3 surface pressure pattern around Antarctica resulted, which acted to primarily reduce SIE in the Indian Ocean, Ross and Bellingshausen Sea sectors during September and October 2016. Subsequently, the Polar Stratospheric Vortex weakened dramatically beginning in October, resulting in record weakening of the circumpolar surface westerlies during November and December that acted to decrease SIE in the Indian Ocean and Pacific Ocean sectors. This sequential occurrence of record negative Indian Ocean Dipole followed by record weakening of the circumpolar westerlies is unprecedented at least since 1979. These processes appear to reflect highly unusual internal variability of the atmosphere-ocean, which was supported by the partial recovery of SIE during 2017. However, the long term warming of the tropical Indian Ocean, which may partly stem from anthropogenic forcing, may have contributed to the unusual strength of the negative IOD and associated tropical convective forcing of the high latitude circulation.



Dr. Harry H. Hendon delivering IMS Lecture



Dr. Harry H. Hendon honoured by Prof S K Dash, President, IMS in the presence of Secretary, IMS, Dr. D. R. Pattanaik

2.3 Dr. John McBride from the Bureau of Meteorology, Melbourne, Australia and University of Australia was invited to deliver his lecture on 6th March 2019 at 4 PM in the DGM Conference Room, Mausam Bhawan, Lodhi Road, New Delhi. He delivered his lecture entitled "Research on Regional Monsoons".



Dr. John McBride's IMS Lecture and his felicitation by Prof. S.K. Dash, President, IMS in the presence of Drs. Ajit Tyagi, D.R.Pattanaik and Dr.M. Mohapatra.

3. IMS Ahmedabad Chapter

3.1 Annual Monsoon Lecture 2018

Indian Meteorological Society Ahmedabad Chapter (IMSA) celebrated Annual Monsoon lecture 2018 by organizing a public lecture on "Performance of Indian Summer Monsoon 2018" at Space Applications Centre (SAC), Bopal Campus, Ahmedabad on October 23, 2018. Every year after the completion of Indian summer monsoon (June-September) season,

IMS-AC organizes a popular lecture by inviting an eminent scientist involved in monsoon forecasting from India Meteorological Department (IMD). This year IMSA has organized a popular talk on the topic "Indian Summer Monsoon Rainfall (ISMR) and associated features during southwest monsoon season-2018" on October 23, 2018 at SAC Bopal Campus, Ahmedabad. The lecture was attended by around 80 students, research trainee and scientists of SAC and Physical Research Laboratory (PRL) Ahmedabad along with members of IMSA. On this occasion Secretary, IMSA, Dr. Sanjib K. Deb welcomed all members who have assembled for the function. The Chairman, IMSA, Dr. C. M. Kishtawal introduced the speaker of the event, Dr. Arvind K. Srivastava, Additional Director General of Meteorology (ADGM-Research), Pune. His areas of research revolve around climate change and climate variability, forcing affecting monsoon performance with special emphasis on the extra-tropical monsoon relationship. During his lecture, Dr. Srivastava explained various features of monsoon viz. forecasting aspect, onset and advance, rainfall variability, associated circulation features, tracks of lows and depression systems, withdrawal of monsoon and recent changes in some rain bearing circulation features on climate scale. He also explained the performances of monsoon 2018 forecast from IMD in different regional scales. The lecture was very interesting and informative. During question hours, he interacted with the audience and explained the complex phenomena in very simple ways. During this event, the prize distribution of IMSA photography contest 2018 on the theme "Monsoon Through Camera" were also made to the winners.

Annual Monsoon Lecture 2018 by Dr Arvind K. Srivastava and Glimpses of the program Monsoon Lecture 2018 are presented in the next page.



Some glimpses of Educational Excursion tour organized by IMSA on March 26, 2019.

3.2 Educational Excursion

One-day environmental educational excursion to the Statue of Unity (SoU), Sardar Sarovar Dam, Kevadia was jointly organised by Indian Meteorological Society Ahmedabad Chapter (IMSA), Indian Society of Remote Sensing- Ahmedabad Chapter (ISRS-AC), Indian Society of Geomatics –Ahmedabad Chapter (ISG-AC), and Indian National Cartographic Association– Gujarat Branch (INCA-GB) for its members on March 16, 2019.

In total, 168 members (including family members) from all the four societies participated. There was also an educational lecture session on “NAVIC and its applications” which was delivered by Shri C. Patnaik. Dr. A.S. Arya delivered a talk on “Sardar Sarovar Dam and its Environment”. SoU Museum and Viewing Gallery was visited followed by Visits to Valley of Flower, View Point Dam Site using

SoU buses. There was an evening laser show at the SoU which was admired by everyone. The educational excursion was highly appreciated by all the members.

3.3 World Meteorological Day 2019

The theme of WM Say for the year 2019 is “The Sun, the Earth and the Weather”. World Meteorological Day program was organised by IMS Ahmedabad chapter (IMSA) at Vikram Sarabhai Space Exhibition (VSSE), Space Applications Centre (SAC), Ahmedabad on March 23, 2019 by organizing a quiz competition among college student and a public lecture on “Earth, Sun and Weather” by Dr. Anurag Kandya, Asst. Professor from Pandit Dindyal Petroleum University (PDPU). The lecture was attended by around 80 students from different colleges across Ahmedabad, research trainee and scientists of SAC and Physical

Research Laboratory (PRL) Ahmedabad along with members of IMSA.

On this occasion Secretary, IMSA, Dr. Sanjib K Deb welcomed all members who have assembled for the function and introduced the speaker of the event. The Chairman, IMSA, Dr C. M. Kishtawal briefed the audience about IMS and why different chapters of this society organized different functions, workshops, lectures for celebrating this day. Dr. Mehul Pandya and his team have conducted the Met-Quiz competition among students. Finally, Dr. Abhisek Chakraborty gave the vote of thanks. Few glimpses of this event are presented in the following photographs.



3.4 International Ozone Day 2018*

IMSA celebrated International Ozone Day 2018 by organizing a public lecture on “OZONE: Past, Present and Future” at Space Applications Centre, Bopal Campus, Ahmedabad on September 14, 2018 although it is known that every year International Ozone Day is celebrated on September 16 worldwide under the guidance of UN Environment. The theme for the year

2018 is “Keep Cool and Carry On”. The lecture was attended by around 80 students, research trainee and scientists of SAC and Physical Research Laboratory (PRL) Ahmedabad along with members of IMSA. On this occasion Secretary, IMSA, Dr. Sanjib K Deb welcomed all members who have assembled for the function and introduced the speaker of the event, Prof. S. Ramachandran from Physical Research Laboratory (PRL), Ahmedabad.

Prof. Ramachandran’s current research projects address aerosol composition, aerosol-cloud interactions, and the role of black carbon aerosol in climate. Prof. Ramachandran explained various aspects of ozone layer, ultraviolet rays, importance of ozone to the life on our planet, good ozone vs. bad ozone, the Antarctic Ozone hole, our responsibilities toward protection of the environment etc. He also explained the future projection of ozone layer from different model simulation results. It was a very interesting and informative presentation. During question hours he interacted with the audience and explained the complex physical processes in very simple ways. Many students also asked a number of questions which were answered by him. Glimpses of the International Ozone Day 2018 lecture are presented in the following photographs.



Prof. S. Ramachandran from Physical Research Laboratory (PRL), Ahmedabad, delivering Lecture on International Ozone Day 2018.

*(*The above report could not be published in the last issue of VayuMandal.)*

4. IMS Cochin Chapter

4.1 Kerala Floods 2018: Facts and Reality

IMS Cochin Chapter, the Department of Atmospheric Sciences, Cochin University of Science and Technology (CUSAT) and All Kerala United Fish Workers Forum jointly conducted a one day state level seminar on Kerala Floods 2018. Chairman, IMS Cochin Chapter, Dr. Bindu welcomed the gathering. The Program was inaugurated by Dr. A. Gopala Krishnan, Director, Central Marine Fisheries Research Institute (CMFRI), Kochi. Dr. J. Latha, Vice-Chancellor, CUSAT presided over the event. Keynote talk was delivered by Dr. Joy Elamon, Director, Kerala Institute of Local Administration (KILA). Shri. Charlse George, President All Kerala United Fish Workers Forum presented the concept note. Dr. S. Abhilash, Secretary, IMS Cochin Chapter Proposed Vote of Thanks. There were Invited Talks by experts such as Dr. S. Abhilash; Dr. M. G. Manoj, Research Scientist, Radar Centre, CUSAT; Ignasius Kunjumon, Head, Department of Atmospheric Sciences, CUSAT; Shri. K. K. Karuppan Kutty, Former Chief Engineer, KSEB, Dr. George Abe, Principal Scientist, Centre for Water Resource and Development (CWRDM); Dr. V. S. Vijayan, Former Chairman, Kerala Bio

diversity Board and Member, Gadgil Committee; Dr. K. G. Thara, Former Head, Kerala Disaster Management Authority (KSDMA) and Dr. Abul Samad, Principal Scientist, CMFRI followed by Public discussion moderated by Dr. M. K. Prasad, Former President, Kerala Shastra Sahitya Parishad (KSSP).

Experts from different fields, media persons, stake holders and general public presented their views. About 120 participants were actively involved in the discussion. The discussion and presentations in the seminar on Kerala Floods 2018: Facts and Reality was well appreciated by the general Public and Media. There was also good media coverage of the event. The outcome and recommendations from the invited talks and discussions were consolidated and sent to various government departments and research institutions for better informed decision making under changing climate.

4.2 PINNACLE-2019

Symposium on “Physics-Dynamics Interactions in Climate”(PINNACLE-2019) was held during 21-22 February 2019 jointly organised by IMS Cochin Chapter and Department of Atmospheric Sciences, CUSAT. There were 9 invited talks by reputed Climate Scientists from India.





Glimpses of seminars organized by IMS Cochin Chapter.

5. IMS Chennai Chapter

In the Monsoons-2018 event organised by IMS Chennai Chapter on 25.02.2019, the resource persons consisted of Dr. S. Balachandran, Sc-F and Head, RMC Chennai; Dr. N. Puviarasan, Sc-E, RWFC;

Shri. B.Arul Malar Kannan, Sc-E, DWR Chennai and Shri. R.Bibraj, Sc-B, DWR VSK. Speakers were invited from IMD who delivered lectures on relevant topics. 15 Students of M.Sc. Physics from The New College, Royapettah attended. Participation Certificates were also provided to the students.

Meeting of the Local Chapter Council was held on 12.03.2019 and the

Newsletter “Breeze” of IMS Chennai Chapter Vol.17-2 & 18-1 was circulated to members on 20.10.2018.









Indian Meteorological Society, Chennai Chapter
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EDITORIAL BOARD

Editor : Dr. B. Amudha
 Members : Dr. N. Jayanthi, Dr. Y.E.A. Raj and Dr. B. Geetha

6. IMS Guwahati Chapter

World Meteorological Day (WMD) was celebrated at the Regional Meteorological Centre Guwahati jointly by IMD and IMS, Guwahati Chapter. The theme for this year's World Meteorological Day was 'The Sun, The Earth and The Weather'. An exhibition was organized showcasing models, posters and various meteorological instruments.

This created awareness amongst students and common people about Meteorology and services being provided by the IMD to various users. Meteorological Observatory was kept open. Visitors were explained about the importance of various meteorological parameters and were shown modern weather observing equipments. They were briefed about taking meteorological observations, their processing and dissemination of products to different users and to the general public. The program started 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.) Anil Goswami, Ex. Principal, Cotton College, Guwahati. Dr. Sanjay O'Neill Shaw, Deputy Director General of Meteorology, RMC Guwahati welcomed all the guests. In his introductory speech, he explained about the theme of WMD. The Sun is the source of energy which drives the weather, ocean currents and hydrological cycle and above all, life on the earth. But human activities disturbed entire ecosystem. Now there is an urgent need to save our earth for which everybody should contribute by doing good green deeds. (Dr.) Anil Goswami, Ex. Principal, Cotton College, Guwahati, in his lecture quoted that this year's theme has wide implication associated with estimation and controlling climatic parameters of our home planet. Thus, it is intimately involved with our day-to-day life and comfort and preparation for adverse circumstances. Sri Sunit Das, Scientist-

E described about the importance of weather forecasts in different fields. He explained about various types of customised weather forecasts for various users.

The programme was well anchored by Sri Suruj Gogoi, S.A. Sri N.C. Bhuyan, Met-B highlighted about the contributions of Dr. Anil Goswami in the advancement of science & technology and various other fields. Vote of Thanks was given by Sri Atul Singh, Scientist-B.



Facilitation of Dr. Anil Goswami



Sri Sunit Das, Scientist-E, Prof. (Dr.) Anil Goswami, Ex. Principal, Cotton College, Guwahati, Dr. Sanjay O'Neill Shaw, DDGM, RMC Guwahati and Sri Suruj Gogoi, S.A.



Sri N.C. Bhuyan, Meteorologist-B



Sri Atul Singh, Scientist-B giving Vote of Thanks



Dr. Sanjay O'Neill Shaw interacting with media persons

7. IMS Nagpur Chapter

IMS Nagpur Chapter has started a project for Dissemination and Outreach of Meteorology among the school students and teachers entitled “Mausam Vigyan School Dwaar”. Under this activity a programme was conducted at Bhavans Vidya Mandir School, Trimurti Naga Nagpur. On the occasion Shri J.R.Prasad, DDGM, Dr. R.S.Akre, Secretary IMS, Nagpur Chapter, school teachers and IMS members participated in the event. The lectures on the topics El-Nino, Western Disturbances and demonstration of IMD Websites were conducted and weather charts were handed to school free of cost.



Under the same project “Mausam Vigyan School Dwaar”, another program was conducted in the school called Narayanan Vidyalaya, Wardha Road, Nagpur. In this programme, Meteorological instruments such as ORG, measuring jar, PBO observations and IMD websites were explained to Class IX students and weather chart also given to the school.



World Meteorological Day-2019 celebrated in collaboration with RMC, Nagpur

An exhibition was arranged in RMC Nagpur for the students and general public. On the occasion a speech competition was organized for the students of Class IX on the theme “The Sun, The Earth and The Weather”.



The winner students of competition, examiners and IMS executive committee members

8. IMS Pune Chapter

(i) IMS, Pune Chapter (IMSP) reactivated publishing the Pune Chapter’s Newsletter in the form of “Bulletin of IMSP” (BIMSP) on monthly basis. Monthly issues of BIMSP had been prepared and uploaded on IMSP website <http://www.imdpune.gov.in/Links/imsp/>.

(ii) IMSP always encourages its Life members and research students to apply for IMS awards. During TROPMET-2018 at Varanasi, Prof. Ravi Shankar Nanjundiah (honourable Director, IITM) was conferred the “Fellowship of Indian Meteorological Society” on 24th October 2018, in recognition of his outstanding contributions to teaching and research in Monsoon and its Variability using Climate Models and extensive work on different aspects Indian Summer Monsoon prediction. Dr. Gayatri Kulkarni of IITM also received the “IMS Young Scientist Award” for the best paper published on Tropical Meteorology.

(iii) IMSP arranged an One Day Scientific Visit to Supe, Nagar Road on 6th October 2018, for witnessing the Wind Mill & Farm of Suzlon Ltd. and the conversion process of Wind Energy into Electrical Energy, after taking necessary permissions from Suzlon Ltd. About 45 persons enthusiastically participated in this scientific visit and the event was highly successful. Dr. J. R. Kulkarni and Mr. S. M. Jamadar took lead role in coordinating this visit and they were supported by Mr. S. Jose and Mr. S. Mahapatra.

(iv) IMSP organized a scientific trip to CWPRS, Khadakwasala, Panshet and Varasgaon dams on 20th December 2018 and the trip was very successful. Total count of participants was 43, out of which 32 were non-IMSP members. Arranging trips to meteorological important sites is one of the ways of inviting the common people to join IMSP. With this point of view, the trip was successful as we were able to take meteorological science to non-IMSP members. Many of the IMSP members told that they have not seen these places. So it was an educative experience to them also. Dr. J. R. Kulkarni and Mr. S. M. Jamadar contributed significantly for organization of this trip.

(v) IMSP in association with IMD, Pune organized an informative scientific lecture by eminent scientist Prof. Jere Lipps (from University of California, Berkeley, USA) on 16th January 2019 at IMD Pune. His lecture was entitled "Climate Crisis: Impact on India" and it was attended by about 80 persons.

(vi) IMSP has been organizing special lecture series in the name of "Prof. P.R. Pisharoty Distinguished lecture series" by eminent scientists every year, in association with IITM, IMD, Pune. This year, IMSP organized the special lecture (in this lecture series), delivered by renowned scientist Dr. Harry Hendon (Senior Principal research Scientist and Climate

Processes Team Leader, Bureau of Meteorology, Melbourne, Australia) on 6th February, 2019 at IITM Pune. His lecture was entitled "Role of The Tropical Indian Ocean for promoting record low Sea Ice Extent in Antarctica in 2016" and was attended by about 300 persons (scientists, researchers & students). During this IMSP event, Dr. Harry Hendon was felicitated by honourable Director IITM.

(vii) In association with IITM, IMS Pune Chapter organized 2 special lectures by Dr. Dim Coumou and Dr. Reik Donner, both from Potsdam Institute for Climate Impact Research (PIK), Potsdam Germany, at Meghdoot Auditorium of IITM Pune on 11th March 2019. Title of the lectures were "Does Arctic Amplification affect weather and extremes in lower latitudes?" (Speaker : Dr. Dim Coumou) and "Complex systems perspectives on teleconnectivity and extreme events in tropical climate variability" (Speaker : Dr. Reik Donner). The lectures were attended by about 250 persons.

(viii) IMSP organised Annual Monsoon workshop (AMW-2018) and Prof. D. R. Sikka memorial National Symposium, which were held at Meghdoot Complex of Indian Institute of Tropical Meteorology (IITM), Pune during 28-30 March 2019. The event was sponsored by IITM, MoES, INCOIS, NCPOR, IMS NC, IMD, ICRISAT, CRAY Supercomputers, SGS, etc. and was attended by more than 300 participants (from different parts of the country) and several organizers & volunteers.

Inauguration function was held on 28th March during 10.00 to 10.30 am and was attended by several dignitaries, members of IMS and participants from various parts of the country. Prof. Nitin Karmalkar, Vice Chancellor of Savitribai Phule Pune Univeristy (SPPU) was the Chief Guest. Prof. Ravi Nanjundiah, Director

IITM, and Shri Suhas Divase, IAS, Commissioner of Agriculture, Government of Maharashtra (GoM) were Guests of Honour. The event Annual Monsoon workshop (AMW-2018) comprised of 2 Scientific sessions, followed by Panel discussions on 28th March 2019, mainly to discuss about observed features & predictions of monsoon (SW and NE) and Agricultural, Hydrological, Computational, Observational & Oceanic aspects during 2018. During the workshop, 14 scientific lectures were delivered.

Prof. D. R. Sikka memorial National Symposium on “Role of weather and climate observations and forecasting on increasing Agriculture productivity and Risk Management” was conducted in the memory of eminent Meteorologist Prof. D. R. Sikka. It was held at IITM Pune during 29-30 March 2019. This was a great effort of bringing together scientists from Weather/Climate and Agriculture background on the same platform. The national symposium comprised of a “Prof. Sikka memorial session” followed by 6 scientific sessions during 29-30 March 2019. The themes of the six scientific sessions of the symposium were (i) Monsoon variability (Intra-seasonal & inter-annual) and their impacts on agriculture, (ii) Impact of weather / climate extremes on agriculture, (iii) Agricultural and hydrological modelling for assessment & risk management of crop yields, (iv) Impact of Climate variability & change on agriculture & hydrology, (v) Atmosphere-Ocean observations & modelling and their use in agriculture and (vi) Case studies on agriculture, forest degradation, hydrology, etc., using remote sensing & satellite data.

In total, 104 abstracts were received for the National symposium, which were divided into above 6 themes and then classified into oral and poster presentations. 29 abstracts were selected for oral presentations theme-wise (~5 in each theme) during 6 scientific sessions of the

symposium during 29-30 March 2019 and rest (75 abstracts) were put for posters theme-wise. The posters on the above 6 themes were displayed during morning & afternoon tea breaks of the 3 days (28-30 March 2019). There were prizes for oral & poster presentations, selected by the judges. In addition to oral presentations by the participants, there were key note lectures and invited talks by 13 expert delegates from renowned organizations.

All the abstracts have been compiled as proceedings of the event and have been included in the Bulletin of IMSP (BIMSP) March 2019 issue (Volume-18, No. 3, March 2019), and have been made available on IMSP website <http://www.imdpune.gov.in/Links/imsp/index.html>. Some photographs and presentations were also uploaded. The presentations and lectures on first two days were recorded and uploaded on “IMSP you tube channel” for wider reach of IMSP activities.



9. IMS Varanasi Chapter

TROPMET 2018: October 24-27

IMS has been annually organizing its National Symposia on Tropical Meteorology known as TROPMET in its different local chapters across the country since 1992. In 2018, the event was held in the Banaras Hindu University (BHU), Varanasi during 24 to 27 October jointly by the IMS Varanasi Chapter and BHU.

Various government organizations such as the Ministry of Earth Sciences (MoES), IMD, the Department of Science and Technology (DST), Oil and Natural Gas Commission (ONGC) and several other public sector agencies and banks such as Bank of India supported this annual event of IMS.

The theme of TROPMET 2018 was “Understanding Weather and Climate Variability: Research for Society”. Considering the importance of R&D in providing better weather forecasting and climate services to the user communities, the theme of this year’s TROPMET was aptly chosen. With improvements in the accuracy of observational tools, data assimilation techniques in numerical models, physical parameterization schemes in numerical models and above all availability of high computing systems, both the research community and operational weather forecasters have shown significant progress in their activities. Such overall progress has been benefitting the society in several different ways.

TROPMET 2018 was inaugurated by Dr. K. J. Ramesh, Director General of Meteorology. Prof. N. P. Singh, Head Department of Geophysics, BHU who is also the Chairman of the Local Organising Committee (LoC) welcomed the participants and the invited guests. Dr. D. R. Pattanaik, Secretary, IMS & Coordinator of TROPMET 2018 gave the overview of the symposium. Prof. S. K. Dash, President, IMS

and the Chairman of the National Organising Committee delivered the presidential address on this occasion. Prof. Naveen Kumar, Director, Institute of Science, BHU also addressed the audience in the inaugural function. Finally, the formal Vote of Thanks was given by Prof. R. Bhatla, Department of Geophysics & Convener, LoC.

Prof. S. K. Dash, President IMS; Dr. K. J. Ramesh, Director General, IMD & Dr. D. R. Pattanaik, Secretary IMS delivering speeches in the inaugural function.

TROPMET 2018 was based on the following eight sub-themes:

- Observations in Climate Variability and Changes.
- Weather/Climate Modelling at Regional & Global Scales.
- Impact of Climate Variability/Change on Agriculture, Water, and Energy & Health sectors.
- Weather and Climatic Extreme Events.
- Weather Forecasting Services at Different Time Scales.
- Aerosols, Atmospheric Chemistry and Weather/Climate.
- Seismological Research for Society.
- Socio-Economic Impacts of Climate Variability and Change.

About 300 registered participants from about 25 organisations from India and abroad took part in this symposium. More than 500 contributory papers were received for oral as well as posters presentations in 27 different technical sessions. There were 12 invited talks by distinguished senior scientists and domain experts spread across 4 Plenary Sessions, one at the beginning of each day. Each technical session had a Lead Talk to start with. In order to encourage young researchers carrying out their Ph. D. in different organisations in the field of Atmospheric and

Oceanic Sciences, a special Pre-Ph. D. session was held where 56 students presented their latest important results.

The current Bulletin of the Indian Met Society named VayuMandal Vol.44(1) was released in the inaugural function. A book containing the abstracts of all the papers was also released. Further, the souvenir of the conference was released.

During the inaugural function of TROPMET 2018, the following eminent scientists were presented with IMS Honorary Fellowships and IMS Fellowships.

- Er. Avinash Chand Tyagi (IMS Honorary Fellowship)
- Dr. Upendra Narayan Singh (IMS Honorary Fellowship in absentia)
- Prof. B. Padmanabha Murty (IMS Fellowship in absentia)
- Prof. Ravi Shankar Nanjundiah (IMS Fellowship)

IMS young scientist award for the year 2017 was awarded to Dr.(Ms) Gayatri Kulkarni, IITM, Pune for being the first author of the research paper entitled “Aerosol–Cloud Interaction in Deep Convective Clouds over the Indian Peninsula Using Spectral (Bin) Microphysics” published in the Journal of Atmospheric Sciences (2017) Vol. No. 74, Page No. 3145-3166.

In addition to the inauguration and the follow up paper presentations in 31 different technical sessions, three more important meetings were held; (1) the Annual General Body (AGB) meeting of IMS to discuss its normal administrative and financial activities, (2) a special meeting of the distinguished Fellows of

IMS, National Council Members and the Chairmen and Secretaries of the Local Chapters to discuss ways to make IMS more effective and vibrant and (3) Valedictory Panel Discussion on the theme ‘Vision of Indian Meteorology’.

Left: Dr. S. K. Dash discussing in the GB meeting. Middle: Release of Vayu Mandal, the Bulletin of IMS Right: Dr. Akhilesh Gupta giving the Valedictory lecture on ‘Vision of Indian Meteorology in 2030’.

Following are the salient features of the discussions held during TROPMET 2018 at several stages. In order to have increasing participation of the youth in IMS activities, it is decided to institute Student Ambassadors in Local Chapters as well as at the National level to assist various events. With a view to encourage early career scientists in research, IMS will award Associated Fellowships in addition to its existing Fellowships. IMS will make efforts to sign MoUs with other similar societies and interact with Met Societies of the neighboring countries. Where necessary, IMS will encourage and assist in forming Met Societies in the nearby countries where none exists at present. IMS will enhance its involvement with IFMS activities and will contribute to international cause to the fullest extent.



Offering of flowers by Dr. K.J. Ramesh, DGM to Mahamana Pandit Madan Mohan Malviya



Offering of flowers by guests to Mahamana Pandit Madan Mohan Malviya



IMS President delivering Inaugural speech to the participants



Offering of flowers by Prof. S. K. Dash, President, IMS to Mahamana Pandit Madan Mohan Malviya



Dr.K.J.Ramesh delivering Inaugural speeches to the participants.



Offering of flowers by Dr. D. R. Pattanaik, Secretary, IMS to Mahamana Pandit Madan Mohan Malviya



Secretary, IMS delivering Inaugural speeches to the participants.



Honorary Fellowship presentation to Er. Avinash Chand Tyagi



Fellowship presentation to Prof. Ravi Nanjundiah

TROPMET 2018 Photo Gallery



