

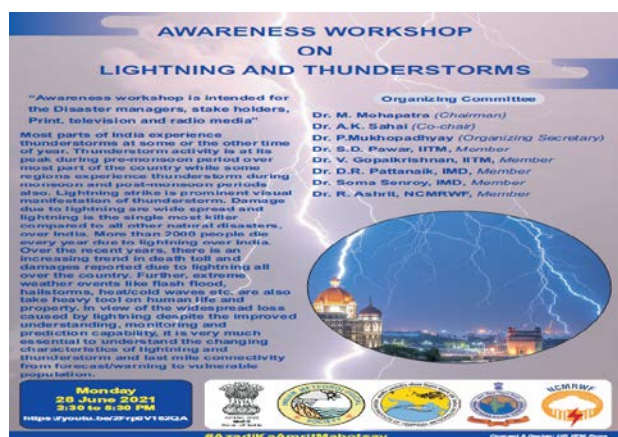
A Report from Indian Meteorological Society and its Local Chapters (April 2021 to September 2021)

1. Awareness Workshop on Lightning and Thunderstorms” on 28th June 2021

This awareness workshop was intended for the disaster managers, stake holders and media including the print, television and radio. Most parts of India experience thunderstorms at some or the other time of year. Thunderstorm activity is at its peak during pre-monsoon period over most part of the country while some regions experience thunderstorm during monsoon and post-monsoon periods also. Lightning strike is prominent visual manifestation of thunderstorm. Damage due to lightning are wide spread and it is the single most killer compared to all other natural disasters, over India with death of more than 2000 people every year. Over the recent years, there is an increasing trend in death toll and damages reported due to lightning all over the country. Further, extreme weather events like flash flood, hailstorms, heat/cold waves etc. are also take heavy toll on human life and property. In view of the widespread loss caused by lightning despite the improved understanding, monitoring and prediction capability, it is very much essential to understand the changing characteristics of lightning and thunderstorm and last mile connectivity from forecast/warning to vulnerable population. The workshop has been available on the Youtube link: <https://www.youtube.com/watch?v=2Frp0V162QA>. The following scientists were involved in organizing the event.



The half day workshop was inaugurated by Dr. M. Mohapatra DGM IMD in the gracious presence of officials from NDMA, SDMA and several other experts. The secretary, MoEs Dr. M. Rajeevan, could not attend due to his busy schedule.



Agenda for Awareness workshop on "Lightning and Thunderstorms"	
28 June 2021, Monday, 14:30-18:00 hrs	
1430-1440hr	Welcome address & Background of the Workshop: Dr. A. K. Sahai, Vice-President, Indian Meteorological Society
1440-1450	Guest of Honour: Address by Dr. M. Mohapatra, Director General, India Meteorological Department
1450-1500	Guest of Honour: Address by Secretary NDMA
1500-1515	Address by Chief Guest: Dr. M. Rajeevan, Secretary to Govt. of India, Ministry of Earth Sciences.
1515-1520	Vote of Thanks Dr. D. R. Pattanaik, Scientist F, IMD & Secretary, IMS
1520-1545	Lightning Monitoring by Lightning Sensors: Dr. S. D. Pawar, Scientist F, IITM, Pune
1545-1610	Lightning and Thunderstorm Forecasting and Early Warning: Dr. Soma Sen Roy, Scientist F, IMD, New Delhi
1610-1635	Film on Lightning and thunderstorms Dos and Don'ts by NDMA
1635-1700	Lightning Resilience India Campaign-Community Centric Outreach Programme by Col. (Retd) Sanjay Srivastava
1700-1730:	Open discussion/short presentation by SDMA: The discussion will be initiated by Sri P. N. Rai, Member, BSDMA
1730-1800:	Q&A Interaction by Media, stake holders. Initiated by Dr. P. Mukhopadhyay, IITM, Pune

2. Azadi ka Amrit Mahotsav Lecture Series

To commemorate the 75th anniversary of Independence of India, our country is currently celebrating Azadi ka Amrit Mahotsav. This celebration will continue till 15th August 2023 and it is an intensive countrywide campaign to visualise and inform citizens about the cultural, social, political and economic progress of our country during the past 75 years. Indian Meteorological Society (IMS) is also participating in this Mahotsav by showcasing its commitment to disseminate knowledge of meteorology and allied sciences and its application to various constructive human activities, such as, agriculture and land uses, irrigation and power development, navigation of sea and air, engineering and technology, medicine and public health etc., among the scientific workers, public and policy makers.

IMS is celebrating this Mahotsav by organising a series of popular lectures and discussions (From October 2021) to foster and encourage communication and exchange of knowledge, ideas, resources for adapting climate variability and change, climate risk management, disaster risk reduction, detection and attribution of extreme events, severe weather forecasting and improvement of prediction models for various application in climate-based services and support; and improvement of observations, data management and infrastructure during the last 75 years. This lecture series will provide an opportunity to know about the availability of data and products to scientists engaged in impact studies in various sectors viz., agriculture, human health, water availability and environmental sciences and those who are eager to use climate data in order to examine the present and future relationships of important parameters in their sectors with the climatic variables.

3. IMS Ahmedabad (IMSA) Chapter

Indian Meteorological Society Ahmedabad chapter (IMSA) is one of the active chapters of IMS dedicated in spreading awareness of meteorology and allied subjects in different parts of the society. Although IMSA activities in the last and this year were severely affected by the Covid-19 pandemic, a

good number of events were organized with the help of digital platforms. All the events were highly successful and it was possible because of the active support and well wishes of our members.

3.1 IMSA organized an online talk on “Oceans, Life, Blue Economy and Sustainable Living” by Cmde. S. M. Urooj Athar, Principal Director II, Directorate of Naval Oceanology and Meteorology, Naval HQ to celebrate the World Oceans Day on June 08, 2021.

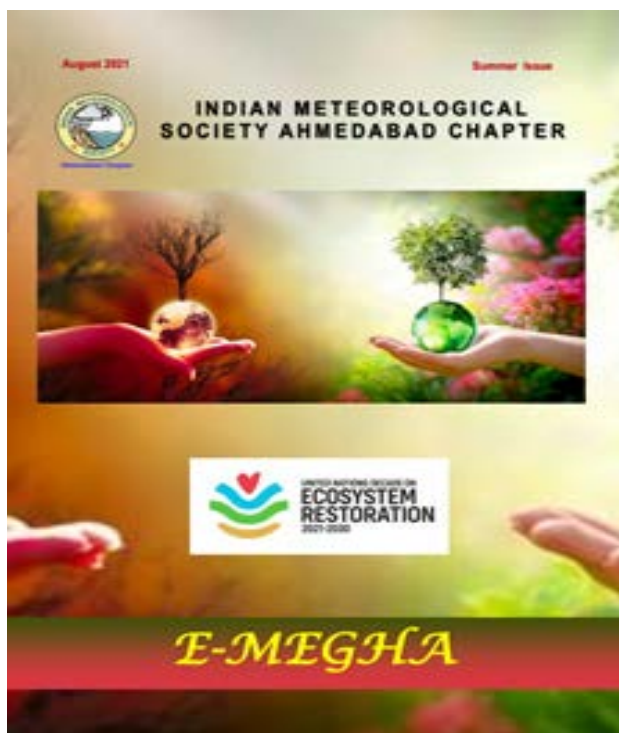
3.2 Annual General Body Meeting (AGBM) of the chapter was held on July 22, 2021. Apart from discussions on the regular agenda (e.g., presentation of the activity report, annual balance sheet etc.), a technical panel discussion on “Observations requirements for the study of Cyclones” was also organized.

3.3 Following the chapter’s tradition, the World Ozone Day was celebrated on September 16, 2021. On that occasion, an invited online talk on “Elevated aerosols over South Asia: Direct and Indirect Radiative Effects” by Dr. S. Suresh Babu, Head, Aerosols, Trace gases and Radiative Forcing (ATRF) Branch, Space Physics Laboratory, Thiruvananthapuram was held.



Offering memento to Dr. S. Suresh Babu on the occasion of World Ozone Day 2021.

3.4 The Summer Issues of society newsletter E-Megha has been published in August 2021 (available online at: <http://imsa.net.in/emegha.php>).



Summer Issue of IMSA's newsletter E-Megha.

4. IMS Dehradun (IMSD) Chapter

4.1 World Ozone Day (September 16, 2021)

World Ozone Day was observed on 16 September every year to spread awareness among people about the depletion of Ozone Layer and search possible solutions to preserve it. To commemorate this occasion, IMS-Dehradun Chapter in collaboration with Indian Institute of Remote Sensing, Dehradun organized an online popular talk. The popular talk was delivered by Dr. Amit Kumar Patra, Director NARL, Gandaki, Andhra Pradesh through IIRS YouTube channel on September 16, 2021 on "Living with and without Ozone and Aerosol", which was well received.

4.2 Awareness and Knowledge Imparting Workshop on Ozone (September 29, 2021)

An awareness and knowledge workshop for college students has been organized to impart knowledge about weather and climate, its monitoring, prediction and role of ozone in climate and weather conditions in collaboration with Uttarakhand University, Dehradun on September 29, 2021. Sh. Bikarm Singh, Chairman, IMS-DC has delivered lecture on Weather and Climate: Monitoring and Prediction and Ms. Pooja Jindal, Scientist, IIRS on

Ozone and its importance. Lectures were followed by a live quiz on Ozone which has been attended enthusiastically by all students.

5. IMS Guwahati (IMSG) Chapter

A special Webinar was delivered by Dr. Purnima Devi Barman entitled "Conservation through Community Movement, Habitat Restoration and Environment Education" on 11.06.2021 at 1200 Noon.



Dr. Purnima Devi Barman

Dr. Purnima Devi Barman popularly known as 'Hargila baido' among communities is a conservation biologist with the NGO, 'Aaranyak', in Assam. Purnima is the recipient of Whitley Award 2017/Green Oscar 2017 for her crusading conservation movement to protect the highly endangered Greater Adjutant Stork. This was conferred by Her Royal Highness Princess Anne in London at Royal Geographical Society on 18th May 2017. She has also been conferred with 'Nail Shakti Puraskar' by The Hon'ble President of India which is the highest civilian award for Indian women. She has represented India in several international conferences related to environment issues. She is the honorary Director of WiNN (Women in Nature Work) India.

6. IMS Jodhpur (IMSJ) Chapter

Following four Webinars were delivered by Prof. OPN Calla, Chairman, IMS Jodhpur.

6.1 Applications of Microwaves and Contribution of ICRS on 24th June 2021 (Number of Participants: 42)

6.2 Biomedical Applications of Microwaves on 31st July 2021. (Number of Participants: 38)

6.3 India in Space on 12th August 2021. (Number of Participants: 38)

6.4 Microwave Remote Sensing of Planets on 18th September 2021. (Number of Participants: 28)

7. IMS Kolkata (IMSK) Chapter

A Webinar on “Radar Signature of Severe Weather events” delivered by Mr. Swarup Kumar Chakravorty, Retired Met-B dated: September 12, 2021, 04:00 PM TO 05:30 PM.

8. IMS Noida (IMSNo) Chapter

8.1 A web based talk entitled “Weather Visualization in NVIDIA Omniverse” by Dr. Manish Modani and Dr. Peter Messmer from NVIDIA Group, India was conducted on 31st May 2021.

Visualization has a long tradition in weather modeling and forecast, both for model development, data product generation and dissemination to general public. The tools are often rooted in 2D visualization which was adequate for many daily use cases. The inherent 3D structure of the atmosphere can benefit from full 3D visualization to give a comprehensive picture of the atmospheric processes and associated phenomena. And especially for outreach purposes, a more photorealistic representation would make the data more intuitively understandable by the target audience. Unfortunately, the size and volumetric nature of the data often made full 3D visualization prohibitively expensive. In addition, modern day atmospheric forecast products are often a fusion of many different data sources and model output, demanding visualization tools capable of dealing with complex workflows and heterogeneous data sources. NVIDIA Omniverse was developed to address not only the need of complex visualization scenarios, but also support complex, collaborative workflows as encountered in media/entertainment all the way to scientific visualization. In this talk, the speakers introduced the key concepts of NVIDIA Omniverse and how it can be used for scientific visualization in the weather and climate space.

8.2 A Webinar on “Microsoft Azure Solution on HPC” by Mr. Sachin Nagpal and Mr. Sumit Banerjee from Microsoft Azure Group, India was jointly organized by NCMRWF and IMS, Noida Chapter on 31st July 2021 through Microsoft Team Link. They delivered Webinar on “Azure solution stack on High Performance computing offerings on compute, GPU Storage (PFS) Networking”. In addition, Mr. Sachin Nagpal delivered talks on “Partner ecosystem and its solutions on Azure platform” and “Reference architecture on Azure and how it scales with different industry benchmarks”.

9. IMS Pune (IMSP) Chapter

9.1 IMSP has organized a 3-day Journalists e-workshop on “Recent Advancement in Meteorology and Climate Services” during 17-19 June 2021.

9.2 IMSP published two recent online issues of Bulletin of IMSP (Apr-Jun 2021 Vol 20 (4-6), and Jul-Sep 2021 Vol 20 (7-9). Compilation and Editing by Mr. Somnath Mahapatra and Dr. J. R. Kulkarni, (<https://www.imdpune.gov.in/Links/imsp/index.htm> 1). IMSP thank all authors of the articles published with BIMSP.

9.3 IMSP has organized Azadi ka Amrit Mahotsav lecture on 'Predicting Onset and Withdrawal of Indian Summer Monsoon: Recent Advance and Extension' by Prof. Elena Surovyatkina, Group Leader of Monsoon Research at the Potsdam Institute for Climate Impact Research, Germany (17-18 hrs IST, 24 Sep 2021).

9.4 IMSP locally hosted the Indian Meteorological Society (IMS) and India Meteorological Department jointly celebrating the Azadi ka Amrit Mahotsav by organizing IMS-IMD lectures series' first talk by Dr. Ranjan Ratnakar Kelkar on 'Progress of Meteorological Services after Independence' at IITM on 15-17 hrs IST on 18 Oct 2021.

9.5 In addition to maintaining the “IMS Pune Chapter” WhatsApp group, IMSP has started a WhatsApp group for Journalist for scientific discussions related to Earth Sciences, communication, and latest information for the IMSP

Executive council members and Journalists. Mr. Sikandar Jamadar, NEC Member, has been coordinating and administering both the WhatsApp groups and Dr. J. R. Kulkarni has been educating, explaining on the Q&A online. Mr. K.S. Hosalikar, CR&S, IMD, Pune, Mr. Sikandar Jamadar are actively participating in this group.

9.6 Induction of 12 new IMS life member done till this time.

9.7 IMSP felicitated Prof. Ravi Nanjundiah, Director IITM on his superannuation on 30 Oct 2021.

9.8 GBM of IMSP was organised on 16 Nov 2021.