



# International Conference on Climate Change and Agroecosystem: Threats, Opportunities and Solutions (INAGMET-2024)

8<sup>th</sup> – 10<sup>th</sup> February 2024

**VENUE:** Swatantrata Bhavan, Banaras Hindu University

**Jointly Organized by**

Association of Agrometeorologists  
Banaras Hindu University  
India Meteorological Department  
South Asian Forum on Agricultural Meteorology

*Hosted by*

AAM Varanasi Chapter &  
DST - Mahamana Centre of Excellence in Climate Change Research  
Institute of Environment and Sustainable Development  
&  
Department of Geophysics, Institute of Science  
Banaras Hindu University, Varanasi - 221005 - India

**Convener**

Rajesh K Mall  
AAM Varanasi Chapter

**Organizing Secretaries**

P C Abhilash, P K Srivastava, Vishal Prasad  
AAM Varanasi Chapter

K K Singh  
President, AAM

S B Yadav  
Secretary, AAM

R S Singh  
Chairman, AAM Varanasi Chapter

**Email:** [inagmet2024bhu@gmail.com](mailto:inagmet2024bhu@gmail.com)

**Link:** [https://bhu.ac.in/Site/EventDetails/1\\_2\\_16\\_Main-Site?Upcoming&4657](https://bhu.ac.in/Site/EventDetails/1_2_16_Main-Site?Upcoming&4657)

## 1. Background

Risks and uncertainties in agricultural production system due to increasing climatic variability and weather extremes have become the prime cause of global food insecurity. Climate change that is being experienced in the early twenty-first century is intimately entwined with the agriculture production and functioning of the biosphere. Climate change is impacting ecosystems through changes in mean conditions and in climate variability, coupled with changes in atmospheric carbon dioxide concentrations. Understanding how climate change will affect agroecosystems and the ecosystem services they provide is a significant global challenge. Investigating this topic requires a holistic approach that can capture the complexity of agroecosystems and assess impacts on the physical, biological, and socio-economic aspects of the system. There is a need to understand the agroecological dynamics of these climate impacts, to identify hotspots of vulnerability and resilience and to identify management interventions that may assist in the mitigation of, and adaptation to climate change at agroecosystem based solutions. The mechanisms, potential and limits of such nature-based solutions to climate change need to be explored and quantified.

Considering the urgent need of sharing the climate change & agroecosystem knowledge among researchers, policy makers, industry and farmers to learn from each other, identify the technologies/practices and develop a roadmap for solutions, the Association of Agrometeorologists (AAM) is organizing an International Conference on 'Climate change and Agro-ecosystems: Threats, Opportunities and Solutions (INCCAGE-2024) at BHU, Varanasi (India) during 8-10 February, 2024. The conference is organized with support from India Meteorological Department (IMD), Indian Council of Agriculture Research, Ministry of Earth Science and Department of Science and Technology (DST). It aims to bring together the global experience on the advances in weather and climate predictions; understanding the impacts of climate change and variability on agriculture; sharing and cataloguing the experiences of global meteorological and agricultural communities on effective interventions and promising technologies for adaptation and mitigation; and identifying areas for future research and collaboration as per the requirements of farming community. It explores novel perspectives on how agroecosystems respond to climate change, how agroecosystem resilience can be enhanced and how agroecosystems can assist in addressing the challenge of a changing climate. We will identify some priorities for academic research and practical implementation, in order to maximize the potential for maintaining a diverse, resilient and well-functioning biosphere under the challenging conditions of the twenty-first century.

## 2. Cordial Invitation

Considering and realizing that INAGMET is an international event which provides a platform for interactions among the professionals, scientists, policy makers and other social groups to share knowledge and experience on various aspects related to thrust areas of agrometeorology, we consider it our privilege and honour to invite you to INAGMET-2024 at Varanasi, India.

## 3. Broad Themes of the Conference

- I. Climate change: Science, historical trends and projections.
- II. Monsoon Variability and Predictability
- III. Climate Variability and Change : Impacts and interventions
- IV. Mitigation and adaptation: Agroecosystem / agro-climate based approach
- V. Tools: Crop weather Modeling, Artificial Intelligence/Machine Learning, GIS, Spatial technology etc.
- VI. Food and Water security
- VII. Risk transfer : Crop Insurance
- VIII. Economics : Post-harvest management and agricultural marketing
- IX. Industry Interface for Expanding Agrometeorological Services
- X. Interventions for Livestock, Poultry and Fisheries management
- XI. Sustainable development: Agroecosystem / agro-climate based approach
- XII. Emerging issues: Various facet of Energy etc.

The technical sessions will comprise of keynote addresses, plenary talks, lead talks, oral scientific presentations, panel discussions and poster sessions. The keynote addresses, plenary and lead talks will be by invitation.

#### 4. Patrons

Shri Manoj Ahuja, Secretary, MoAg & FW  
Dr H. Pathak, Secretary, DARE & DG, ICAR  
Dr M. Ravichandran, Secretary, MoES  
Dr Abhay Karandikar, Secretary, DST  
Shri Pankaj Kumar, Secretary, MoWR, RD&GR

Dr Akhilesh Gupta, Secretary, SERB  
Prof. Sudhir K. Jain, VC, BHU  
Dr S. Somnath, Secretary, DoS and Chairman, ISRO  
Ms Leena Nandan, Secretary, MoEF & CC  
Dr Rajesh K. Gokhale, Secretary, Dept. Of Biotechnology

#### 5. International Advisory Committee (IAC)

**Chair:** Dr L.S. Rathore, World Bank

Dr Roger Stone, VP-SC, WMO

Dr David Bergvinson, DG, ICRISAT

Prof R Sukumar, Vice Chair, IPCC

Dr Orivaldo Brunini, Brazil

Dr K. J. Ramesh, New Delhi

Dr Jim Salinger, New Zealand

Prof D. Han, Univ. of Bristol, UK

Prof Arun K. Joshi, CIMMYT

Dr Alexander Kleshchenko, Russia

Dr Richard Allen, Univ. of Idaho

Dr Neale Christopher, Univ. of Nebraska

Dr D. R. Singh, VC, BAU

Prof B.V. RamanaRao, Fellow-AAM

Dr S. Venkataraman, Fellow-AAM

Prof A. Challinor, Univ. of Leeds, UK.

Sri Faiz Ahmed Kidwai, NRAA, New Delhi

Dr Raymond Motha, USA

Dr Anupam Kumar, Singapore

Prof Dev Niyogi, USA

Dr P. K. Aggarwal, CCAFS

Dr S.A. Saseendran, USA

Dr G. Srinivasan, RIMES, Bangkok

Dr T. Biswas, CSIRO, Australia

Prof. N. Tripathi, AIT, Thailand

Dr Mukul, Bangladesh

Dr Mangala Rai, Former DG, ICAR

Dr S. S. Hundal, Fellow-AAM

Prof J.S. Singh, BHU

Dr Ramakrishna Nemani, NASA, USA

Dr V. K. Dadhwal, Director, IIST

Dr M. C. Varshney, Former VC, AAU

Dr N. Chattopadhyay, SAFOAM

Prof U. C. Mohanty, IIT-Bhubaneswar

Dr Y.S. Ramakrishnan, Member, Fellow-AAM

Dr V. Geethalakshmi, VC, TNAU

Prof Madhoolika Aggarwal, BHU

Dr A. R. Subbiah, Bangkok

Prof J. Shukla, George Meson University, USA

Dr Ch. Srinivasa Rao, Director, NAARM

Dr N. Kalra, Canada

Dr M.V.K. Sivakumar, WMO

Dr Rupa Kumar Kolli, WMO

Dr Shyam Khadka, FAO

Dr A. K. Sikka, IWMI

Dr A. M. Shekh, Fellow-AAM

Mr Robert Stefanski, WMO

Mr Giriraj Amarnath, IWMI, Colombo

Dr S. Subramanian, UniSC, Australia

Dr Kamlesh Lulla, USA

**Convener:** Dr K. K. Singh, President, AAM

#### 6. National Organizing Committee (NOC)

**Chair :** Dr M. Mohapatra, DG, IMD

**Co-Chairs :** Prof A. S. Raghubanshi, Director, IESD-BHU

Prof R. S. Singh, Chairman, AAM Varanasi chapter

Dr S. C. Bhan, IMD, New Delhi

**Members:**

Dr B. Krishna, Director, IITM, Pune

Dr Ravinder Maini, Scientific Secretary, COI

Dr S D Attri, Member, CAQM, MOEFCC

Dr S K Chaudhary, DDG-NRM, ICAR

Dr Sammi Reddy, Director, NIASM

Prof A P Dimri, Director, IIG, Mumbai

Prof Sunil K Singh, Director, NIO, Goa

Prof. B. Mohan Kumar, KAU, Thrissur.

Dr D. Rajireddy, PJTSAU, Hyderabad

Dr U. S. Gautam, DDG-AE, New Delhi

Dr VUM Rao, FAAM, Hyderabad

Dr C. S. Murthy, MNCFC, New Delhi

Dr M Hanumanthappa, VC UAS Raichur

Dr Anupam Mishra, VC, CAU, Imphal

Dr R P Singh, Director, IIRS, Dehradun

Prof Vimal Mishra, IIT-Gandhinagar

Dr K.C. Naik, Chairman, CGWB, New Delhi

Dr T. K. Behara, Director IIVR, Varanasi

Dr Sudhanshu Singh, Director, IIRRI, Varanasi

Dr A Babu, Director, TRC, Jorhat

Dr GGSN Rao, FAAM, Hyderabad

Dr M N Thimmegowda, UAS Bengaluru

Dr Anita Gupta, DST, New Delhi

Ms Upma Srivastava, AS, DAC & FW

Prof R K Singh, GBPUAT, Pantnagar

Dr BI Karande, AAM, Anand

Dr M L Khichar, CCSHAU, Hisar

Dr Gautam Saha, AAM, Mohanpur

Dr S. Panneerselvam, AAM Coimbatore

Dr H.S. Shivaramu, AAM

Dr Prasant Neog, AAM, Sonitpur

Dr Pragyan Kumari, AAM, Ranchi

Dr B. Ajith Kumar, KAU, Thrissur

Dr Ajit Singh Nain, Pantnagar

Dr Arya K Mohapatra, Bhubaneshwar

Dr Surendra Singh, Hassar

Dr B. K. Singh, Noida

Dr Akshara Kaginalkar, C - DAC

Dr Shibendu Bandyopadhyay, UBKV

Dr S. N. Pandey, Kanpur

Dr Ravi Patil, Dharwad

Dr H. K. Rai, Jabalpur

Mr Hari Shankar, IIRS, ISRO

Dr Rani Saxena, Jaipur

Dr A K Singh, Director, IARI

Dr Rajbir Singh, ADG-NRM, ICAR

Dr V K Singh, Director, CRIDA, Hyderabad

Dr R N Sahoo, IARI, New Delhi

Dr Kriapn Ghosh, IMD Pune

Prof. R.K. Koli, Former VC, CUP, Chandigarh

Dr K Rupakumar, President, IMS, New Delhi

Dr V. Usha Rani, DG, MANAGE, Hyderabad

Dr Kamaljit Ray, Advisor, MOES

Prof S V S Raju, Director, IAS-BHU

Dr A. P. Pandey, VC, RPCAU, Pusa

Prof V. M. Tiwari, NGRI, Hyderabad

Dr V. S. Prasad, Director, NCMRWF, NOIDA

Shri Gopal Iyengar, Advisor, MoES, New Delhi

Dr Kalachand Sain, Director, WIHG, Dehradun

Dr G.S. Jha, Chairman, CWC, New Delhi

Dr Anil K Gupta, NIDM, New Delhi

Dr Gourang Kar, CRIJAF, Kolkata

Dr Tana Tage, Director, CESHs, Itanagar

Dr S K Bal, CRIDA, Hyderabad

Dr Nisha Mendiratta, AAM, New Delhi

Dr Vyas Pandey, AAM, Anand

Dr Jagvir Singh, AAM New Delhi

Dr S Sandhu, AAM, Ludhiana

Dr N Subash, AAM, Delhi

Dr S. R. Mishra, AAM Ayodhya

Dr J. D. Jadhav, Solapur, Maharashtra

Dr K.K. Dakhore, AAM, Parbhani

Dr H. M. Meena, AAM Jodhpur

Dr Anil Kumar, AAM, Hisar

Dr Rehana H. Kanth, AAM Srinagar

Dr S. K. Bhardwaj, Solan

Dr G. K. Das, Raipur

Dr V. Mehra, Allahabad

Dr R. Balasubramanian, IMD Bhopal

Dr Sanjay Sharma, Gwalior

Dr Prathima, Tirupati

Dr Mahendra Singh, Jammu

Dr R. S. Rana, Palampur

Dr Vimal Bhattacharya, SAC, ISRO

Prof Sunil Nautiyal, GBPNIHE, Almora

**Conveners:** Prof R. K. Mall, AAM Varanasi Chapter  
Dr S. B. Yadav, Secretary, AAM, Anand

## 7. Local Organizing Committee (LOC)

**Chair:** Prof R. S. Singh, Chairman, AAM Varanasi Chapter

**Co-Chairs:** Prof R. K. Mall, AAM Varanasi Chapter  
Prof R. Bhatla, AAM Varanasi Chapter

### Members:

Prof G. S. Singh, IESD, BHU

Prof A. K. Nema, IAS, BHU

Prof R. Chand, IAS, BHU

Prof Rakesh Singh, IAS, BHU

Prof A. D. Singh, ISc, BHU

Prof V. K. Mishra, IESD, BHU

Dr Sunita Verma, IESD, BHU

Dr J. P. Verma, IESD, BHU

Dr P.C. Abhilash, IESD, BHU

Dr S. Srivastava, IESD, BHU

Dr Kripa Ram, IESD, BHU

Dr N. Rai, ICAR-IIVR, Varanasi

Dr D. P. Singh, ICAR-IIVR, Varanasi

Dr R.S. Meena, IAS, BHU

Mr Shiv Mangal Singh, GKMS - BHU

Prof Kavita Shah, IESD, BHU

Prof V. K. Mishra, IAS, BHU

Prof G. P. Singh, ISc, BHU

Prof R. M. Singh, IAS, BHU

Prof Abhay K. Singh, ISc, BHU

Prof Manoj K. Srivastava, ISc, BHU

Prof Uma Shankar, ISc, BHU

Prof Birinchi K. Sarma, IAS, BHU

Dr Birendra Pratap, ISc, BHU

Dr Sandeep Arora, ISc, BHU

Dr P. K. Srivastava, IESD, BHU

Dr R. K. Dubey, ICAR-IIVR, Varanasi

Dr Anupam Priyadarshi, ISc, BHU

Mr A. K. Pandey, ISc, BHU

Dr B. Mandal, ISc, BHU

**Conveners:** Dr Rajeev P Singh, IESD, BHU

Dr T. Banerjee, IESD, BHU

Dr Vishal Prasad, IESD, BHU

## 8. Scientific Programme & Session Coordination Committee

**Chair:** Prof V. Geethalakshmi, TNAU

**Co-Chair:** Prof R. K. Mall, BHU

### **Members:**

Dr G. Srinivasan, RIMES, Bangkok

Dr Ch. Srinivas Rao, NAARM, Hyderabad

Dr A. Arunachalam, ICAR-CAFRI, Jhansi

Dr Vyas Pandey, AAU, Anand

Dr Nisha Mendiratta, DST, New Delhi

Prof Rajeev Bhatla, BHU

Dr C. S. Murthy, MNCFC, New Delhi

Dr N.R. Patel, IIRS, Dehradun

Dr Kripan Ghosh, IMD

Dr Hare Krishna, ICAR-IIVR, Varanasi

Dr J. B. Singh, Jhansi

Dr Anup Das, ICAR, Patna

Dr U.P.S. Bhadauria, Gwalior

Prof V. K. Mishra, BHU

Dr Swagata Payra, BITS-Mishra

Dr Gourang Kar, Kolkata

Dr Prashant Neog, Jorhat

Dr Ranjay K. Singh, ICAR, New Delhi

Dr Soora Naresh Kumar, IARI

Dr S. C. Bhan, IMD

Dr Abdus Sattar, Pusa

Dr S. K. Bal, CRIDA, Hyderabad

Dr Surender Singh, CCSHAU

Dr Rajeev Chaturvedi, BITS-Goa

Prof. Chandra Nayak, UoM, Mysore

Dr Rajesh Kumar, Kishangarh

Dr V. K. Sehgal, IARI

Prof Suneet Diwedi, Prayagraj

Mr Shiv Mangal Singh, GKMS - BHU

Dr Amitava Rakshit, IAS, BHU

**Conveners:** Dr P.C. Abhilash, BHU

Dr P. K. Srivastava, BHU

## 9. About AAM (<http://agrimetassociation.org>)

The Association of Agrometeorologists (AAM) came into existence on March 22, 1999 at Anand, Gujarat, India under society registration act (Registration no. Guj/1514/Kheda dated 22/3/1999). It was formed by the scientists working in the fields related to Agrometeorology in different parts of the country for mutual exchange of views and experiences and research results through the medium of a publication in the form of a journal. Presently, the life membership of the Association is more than 1900. The association has been able to reach not only to meteorological & agrometeorological communities but also amongst a wide spectrum of scientists and planners of allied fields such as agronomy, soil science, horticulture, entomology, plant pathology, agricultural engineering, plant physiology, ecology, agricultural statistics, environmental sciences, plant breeding, animal sciences etc., across the globe.

## 10. About BHU (<https://www.bhu.ac.in>)

Banaras Hindu University is an internationally reputed temple of learning, situated in the holy city of Varanasi. This Creative and innovative university was founded by the great nationalist leader, Pandit Madan Mohan Malviya, in 1916 with cooperation of great personalities like Dr Annie Besant. Banaras Hindu University was created under the Parliamentary legislation (B.H.U. Act 1915). It has developed into the greatest center of learning in India.

## 11. About IMD (<https://mausam.imd.gov.in>)

India Meteorological Department (IMD), is the National Meteorological Service of the country and the Principal Government Agency in all matters relating to meteorology and allied subjects and provides weather and climate services to the public and specialized sectors. From a modest beginning in 1875, it has continuously ventured into new areas of application and service, and steadily built upon its infrastructure using contemporary technology in its history of 143 years. IMD operates through its Headquarter at New Delhi.

## 12. About SAFOAM (<https://safoam.org.in>)

South Asian Forum on Agricultural Meteorology (SAFOAM) was launched on 9th February, 2021 to strengthen regional cooperation in agrometeorological advisory services of the member countries in South Asia namely, Afghanistan, Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, Maldives and Pakistan. SAFOAM helps in free exchange of ideas by sharing of knowledge on different aspects of agrometeorology respecting the administrative set up within the respective government in member countries. One of the important tasks of this forum is to generate products for entire South Asia and place in seamless digital platform to prepare agromet advisories.

## 13. Call for Extended Abstracts / Papers

The scientific studies for contributory and poster presentation on any of the themes listed above are invited for the conference. Poster size should not exceed 4' x 3', oriented vertically. Extended abstract should be typed in MS Word (times new roman size 12) not exceeding 500 words excluding the title, affiliation etc. The extended abstracts will be published as part of Symposium Abstract Proceedings. The extended abstract must be submitted online to the Convener 'INAGMET-2024' through conference website latest by 31 October, 2023. After Double-blind peer reviewed full length symposium papers will be published in Special issue of Journal of Agrometeorology. Further details are available on conference website and AAM website (<http://agrimetassociation.org>). Email: [inagmet2024bhu@gmail.com](mailto:inagmet2024bhu@gmail.com)

## 14. Important Dates:

31<sup>st</sup> October, 2023

15<sup>th</sup> November, 2023

21<sup>st</sup> December, 2023

10<sup>th</sup> March, 2024

Submission of Extended Abstract

Communication of accepted abstract

Registration (without late fee)

Submission of full length paper

## 15. Registration QR code for online payment

Participants are requested to register themselves for participation in the conference on or before 21/12/2023. Thereafter, a late fee of Rs.1000.00 for Indian nationals and US\$ 30.00 for foreign nationals will be charged. The registration fee may be paid by Cash/Demand Draft/Pay Order in favour of 'Association of Agrometeorologist- Varanasi Chapter.

The fee can also be credited by ONLINE transfer in favour of "Association of Agrometeorologist - Anand", Central Bank of India Account # 5387929252, Central Bank of India, Lanka, Varanasi - 221005. IFSC code is 'CBIN0280196'. SWIFT code is 'CBININBBXXX'.

AAM Members	Rs.6,000/-
Non Members	Rs.7,500/-
Research Fellows	Rs.3,500/-
PG Student with Bonafide certificate	Rs.2,500/-
Industry Presentation & Exhibition	Rs.15,000/-
Foreign Nationals	US\$ 200
Accompanying persons (India)	Rs.5,000/-
Accompanying persons (Foreigners)	US\$ 100

SPONSORSHIP	Platinum INR 500,000/-
	Golden INR 300,000/-
	Silver INR 200,000/-
	Bronze INR 100,000/-

### QR code for online payment



**Link for online registration:**  
<https://forms.gle/bSwGtPFPvvySMsVxH8>

## 16. Industry Presentation & Exhibition

Special sessions are being organized to provide a platform for industry/entrepreneurs to showcase their activities/initiatives/products. A presentation slot of 20 minutes duration will be available for interested industry/entrepreneurs. Provision is also being made for vendors/ industries to exhibit their products and services as well. For detailed information contact: **N Subash**, Contact: +91 8272045060, Email: nsubashpdfsr@gmail.com, **R S Singh**, Contact: +91 9451939225, Email: ravisingh@bhu.ac.in, **R K Mall**, Contact: +91 8765447799, Email: rkmal@bhu.ac.in, **K S Hosalikar**, Contact: +91 9167331299, Email: ks\_hosalikar@yahoo.co.in

## 17. How to reach Varanasi / <https://goo.gl/maps/KHzN4VnQreZjfPXh9>

Airport at Varanasi, LBSI Airport connects Varanasi to the major cities in India. The venue of the conference is about 22 km from LBSI Airport. The railway network connects Varanasi to all major and minor destinations in India. Three important Railway Stations in the city are Varanasi Railway Station, Banaras Railway Station, and Deen Dayal Upadhyay Railway Station. The venue of the conference is about 10 km from Varanasi Railway Station, 05 km from Banaras Railway Station, and 12 km from Deen Dayal Upadhyay Railway Station. Varanasi is well connected, by a network of roads with all the major cities in India. Both the govt. & private transport providers provide frequent bus services. One can also get government as well as private taxis here. The weather in Varanasi during the second fortnight of February is generally pleasant with average maximum and minimum temperatures around 24°C & 11°C, respectively. The average rainfall for the month is 20.0 mm. Delegates are advised to bring warm clothes.

## 18. Pre-conference training at BHU, Varanasi

A pre-conference training has been arranged to provide scholars and young scientists with valuable knowledge in the following area of data collection using modern types of equipment viz. IOT sensors and UAV, its analysis and use on 7th February 2024.

## 19. Accommodations

A range of competitively priced options will be secured for the INAGMET-2024, comprising of luxury hotels, budget hotels, and limited Govt Guest House accommodation. Additional information will be made available on the conference website.

**Likely Sponsors:** Government of India: DST, MoES, IMD, MoAgFW, MoEFCC, Ministry of Jal Shakti, MORD, MOPR, MeitY, ICAR, SERB, DBT, DSIR, CSIR, ISRO, IITM, NABARD, NAFED.

**Likely Co-Sponsors:** WMO, FAO, World Bank, TCS, Infosys, L&T, Reliance Foundation, Geo Communication Services, GIZ, ADB, SDC, British Council, US Embassy, German Embassy, Royal Norwegian Embassy, IUSSTF, Aerable, BKC Weather Sys, WRMS, Skymet Weather, HDFC Ergo, Microsoft, IRICBS, SCOR.