

Name and full correspondence address**Dr. Aditya Kumar Dubey**

Scientist

CSIR-National Institute of Science Communication and Policy Research

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Research specialization

- Temperature and Precipitation Extremes
- Climate Change Impacts
- High-resolution regional earth system modeling
- Climate and Sustainability Policy
- Climate Dynamics
- S2S prediction
- Urban Heat

Fellowship Awarded

- Indian Institute of Science Education and Research Bhopal, Government of India, Institute fellowship for conducting Ph.D.
- Qualified Graduate Aptitude Test (GATE) 2015 with AIR-33.

Academic Qualifications

Name & Address of University/Institute	Period		Degree/Position	Total Period
	From	To		
CSIR-National Institute of Science Communication and Policy Research	27-06-2025	Present	Scientist	
University of Maryland	01-12-2022	21-06-2025	Postdoctoral Associate	~2.6 Years
Indian Institute of Science Education and Research (IISER) Bhopal, India	03-03-2022	15-11-2022	Project Associate-1	~ 8 months

Indian Institute of Science Education and Research (IISER) Bhopal, India	01-01-2016	December 28, 2021	Ph.D. (Earth and Environmental Sciences)	~6 Years
Banaras Hindu University (BHU), Varanasi, India	01-08-2013	31-05-2015	Master of Sciences (Environmental Science)	~2 Years
Banaras Hindu University (BHU), Varanasi, India	01-08-2010	31-05-2013	Bachelor of Science (Chemistry Hons.)	~3 Years

Professional Training

Organization	Period		Details of Training
	From	To	
International Centre for Theoretical Physics, Italy and Indian Institute for Tropical Meteorology, Pune, India	18-07-2016	29-07-2016	Advanced School on Earth System Modelling & Workshop on Climate Change and Regional Impacts over South Asia
World Meteorological Organization (WMO) and Indian Institute for Tropical Meteorology, Pune, India	03-10-2016	07-10-2016	WMO workshop on Enhancing Climate Indices for Sector-Specific Applications in the South Asia Region
International Centre for Theoretical Physics, Italy and Indian Institute Technology, New Delhi, India	05-12-2016	16-12-2016	Workshop on Climate Impacts on Health in Asia
Maulana Azad National Institute of Technology (MANIT) Bhopal, India	05-02-2018	09-02-2018	Short Term Training Program on Soft Computing and Machine Learning
International Centre for Theoretical Physics, Italy	28-05-2018	08-06-2018	Ninth ICTP workshop on the theory and use of regional climate models
India-UK Water Centre and IISER Bhopal, India	28-02-2019	02-03-2019	User Engagement Initiative 2: Water resource management & supply in central India
India-UK Water Centre and IISER Bhopal, India	03-03-2019	04-03-2019	The third India-UK Water Centre Grassroots Field Exposure Session (GFES), focusing on the management and supply of water resources in Central India
Centre for Continuing Education & Super Computer Education and Research Centre, Indian Institute of Science (IISc), Bangalore, India	13-09-2019	14-09-2019	Introduction to High Performance Computing

Membership

- AMS- Annual Membership of American Meteorological Society
- AGU - Annual membership of American Geophysical Union
- IMS - Life membership of India Meteorological Society
- SAMA – Life membership of South Asian Meteorological Association
- SYAHI – Member of Society of Young Agriculture and Hydrology Scholars of India

Awards and Honours

Received the best Ph.D. thesis award during the ninth convocation for excellence in the Department of Earth and Environmental Sciences, IISER Bhopal.

Papers published

1. P. Gupta, **A. K. Dubey**, R. Bhatla, S. Payra, S. Payra (2025) Heatwaves Over the Indian Subcontinent: Mechanisms, Variability and Sources. *Earth Systems and Environment*. <https://doi.org/10.1007/s41748-025-00669-0>
2. A. S. Dinesh, A. K. Mishra, **A. K. Dubey**, S. Kumari, A. Anand (2023) Comparative changes in seasonal marine heatwaves and cold spells over the Tropical Indian Ocean during recent decades and disentangling the drivers of highly intense events. *International Journal of Climatology*. 10.1002/joc.8272
3. A. M. Khandare, **A. K. Dubey**, P. Kumar, A. K. Mishra (2022) Projection of the Indian Summer Monsoon Onset using a regionally coupled atmosphere-ocean model. *Theoretical and Applied Climatology*. 150, 1187–1199. <https://doi.org/10.1007/s00704-022-04222-1>
4. A. K. Mishra, **A. K. Dubey**, A. S. Dinesh (2022) Diagnosing whether the increasing resolution of regional climate model does inevitably capable of adding value: Investigation for Indian summer monsoon. *Climate Dynamics*. <https://doi.org/10.1007/s00382-022-06424-9>
5. P. Lal, **A. K. Dubey**, A. Kumar, P. Kumar C. S. Dwivedi (2022) Measuring the Control of Landscape Modifications on Surface Temperature in India. *Geocarto International*. <https://doi.org/10.1080/10106049.2022.2102224>
6. M. S. Sharawardi, P. Kumar, **A. K. Dubey**, A. Kumari (2022) Understanding Drought Dynamics and Variability over India in Recent Decades. *Quarterly Journal of the Royal Meteorological Society*. <https://doi.org/10.1002/qj.4345>
7. P. Kumar, S. Mallick, A. K. Mishra, **A. K. Dubey**, G. Tiwari, D. V. Sein, W. D. C. Narvaez, D. Jacob (2022) Regional earth system model for CORDEX-South Asia: A comparative assessment of RESM and ESM over the tropical Indian Ocean. *International Journal of Climatology*. <https://doi.org/10.1002/joc.7806>
8. **A. K. Dubey** and P. Kumar (2022) Future Projections of Heatwave Characteristics and Dynamics over India using a High-Resolution Regional Earth System Model. *Climate Dynamics*. <https://doi.org/10.1007/s00382-022-06309-x>
9. A. K. Mishra, P. Kumar, **A. K. Dubey**, S. K. Jha, D. V. Sein, W. Cabos (2022) Demonstrating the asymmetry of the Indian Ocean Dipole response in the Regional Earth System model of CORDEX-SA. *Atmospheric Research*. <https://doi.org/10.1016/j.atmosres.2022.106182>

10. A. K. Mishra, **A. K. Dubey**, S. Das (2022) Identifying the changes in winter monsoon characteristics over the Indian subcontinent due to Arabian Sea warming. *Atmospheric Research*. <https://doi.org/10.1016/j.atmosres.2022.106162>
11. A. Javed, P. Kumar, K. I. Hodges, D. V. Sein, **A. K. Dubey**, G. Tiwari (2022) Does the recent revival of Western Disturbances govern the Karakoram Anomaly? *Journal of Climate*. <https://doi.org/10.1175/JCLI-D-21-0129.1>
12. A. K. Mishra, P. Kumar, **A. K. Dubey**, G. Tiwari, D. V. Sein (2022) Impact of air-sea coupling on the simulation of Indian summer monsoon using a high-resolution Regional Earth System Model over CORDEX-SA. *Climate Dynamics*. <https://doi.org/10.1007/s00382-022-06249-6>
13. P. Kumar, A. K. Mishra, **A. K. Dubey**, A. Javed, M. S. Saharwardi, A. Kumari, D. Sachan, W. Cabos, D. Jacob and D. V. Sein (2022) Regional Earth System Modelling Framework for CORDEX-SA: An integrated model assessment for Indian summer monsoon rainfall. *Climate Dynamics*. <https://doi.org/10.1007/s00382-022-06217-0>
14. **A. K. Dubey**, P. Lal, P. Kumar, A. Kumar, A. Y. Dvornikov (2021). Present and future projections of heatwave hazard-risk over India: A regional earth system model assessment. *Environmental Research*. Academic Press, 201: 111573. <https://doi.org/10.1016/j.envres.2021.111573>.
15. **A. K. Dubey** and P. Kumar (2021) Predictive relationships between winter climate and hot season temperatures over India. *International Journal of Climatology*, 1– 18. <https://doi.org/10.1002/joc.7174>
16. **A. K. Dubey**, P. Kumar, M. S. Sharawardi, A. Javed (2021) Understanding the hot season dynamics and variability across India. *Weather and Climate Extremes*, 100317, <https://doi.org/10.1016/j.wace.2021.100317>
17. A. Kumari, P. Kumar, **A. K. Dubey**, A. K. Mishra, M. S. Saharwardi (2021) Dynamical and Thermodynamical Aspect of Precipitation Events over India. *International Journal of Climatology*. <https://doi.org/10.1002/joc.7409>
18. A. K. Mishra, and **A. K. Dubey** (2021) Sensitivity of convective parameterization schemes in regional climate model: precipitation extremes over India. *Theoretical and Applied Climatology*. <https://doi.org/10.1007/s00704-021-03714-w>
19. A. K. Mishra, P. Kumar, **A. K. Dubey**, A. Javed, M. S. Saharwardi, D. V. Sein, S. Martyanov, D. Jacob (2021) Impact of horizontal resolution on monsoon precipitation for CORDEX-South Asia: A regional earth system model assessment. *Atmospheric Research*, 105681, ISSN 0169-8095, <https://doi.org/10.1016/j.atmosres.2021.105681>.
20. P. Kumar, S. Sharawardi, A. Banerjee, F. Azam, **A. K. Dubey**, R. Murtugudde (2019) Snowfall Variability dictates Glacier Mass-balance variability in Himalayan Karakoram, *Scientific Reports* 9, 18192. <https://doi.org/10.1038/s41598-019-54553-9>
21. P. Lal, **A. K. Dubey**, A. Kumar, P. Kumar, C. S. Dwivedi (2019) SAR – OPTICAL REMOTE SENSING BASED FOREST COVER AND GREENNESS ESTIMATION OVER INDIA, *ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci.*, IV-5/W2, 49–56, <https://doi.org/10.5194/isprs-annals-IV-5-W2-49-2019>

Papers under review/submitted/preparation

22. M. Tewari, F. Salamanca, **A. K. Dubey**, L. A. Treinish, P. Ray (2025) Projected surge in social vulnerability and cooling energy demand over Greater Houston region. (*To be Submitted*)
23. M. Tewari, et. al. (2025) Comparative Analysis of Machine Learning Models for Stock Price Forecasting. (*Ready for Submission*)

24. M. Tewari, **A. K. Dubey**, M. Murukesh, T. Singh et al. (2025) Exploring potential of machine learning models in improving seasonal prediction of harmful algal blooms at Lake Erie. (*Ready for Submission*)
25. **A. K. Dubey**, S. Shin, G. Li, S. Chao, and X. Z. Liang (2025) A comprehensive assessment of NOAA CFSv2 and CWRF dynamically downscaled operational seasonal forecast over United States. (*Under preparation*)

Climate Models used/working

- Regional Atmospheric Model: REMO, REMO_{glacier}, RegCM-4, WRF
- Regional Earth System Model: ROM, ICON (beginner), CWRF

Computational Skills & Software

- Good computing skills
- Working experience on HPC systems
- Language known FORTRAN, Python, Shell Scripts, Working experience on Linux and Windows environments
- NCL, CDO, NCO, R

Extra-Curricular Activities

- Local organizing committee member in Indian Academy of Sciences “82nd Meeting” held at IISER Bhopal.
- Local organizing committee member in DST-FIST Earth and Atmospheric Sciences committee meeting held at IISER Bhopal from 13-14 October 2017.
- Local organizing committee member in INDIA-UK Water Centre GFES and UEI workshop held at IISER Bhopal from February 24 – March 2, 2019.
- Worked as a teaching assistant (TA) for seven semesters at IISER Bhopal.

Talk/Paper Presented in Conferences

1. **A. K. Dubey**, S. Shin, G. Li, S. Chao, and X. Z. Liang (2024) Assessing the Sensitivity of CWRF Parametrization Physics in Downscaling the NOAA CFSv2 Seasonal Forecast over the CONUS held December 9 - 13, 2024, American Geophysical Union (AGU) Fall Meeting, Washington D.C., USA.
2. S. Shin, **A. K. Dubey**, S. Chao, G. Li, and X. Z. Liang (2024) Enhancing U.S. Seasonal Climate Forecasts with CWRF Downscaling and Lateral Bias Correction held December 9 - 13, 2024, American Geophysical Union (AGU) Fall Meeting, Washington D.C., USA.
3. G. Li, **A. K. Dubey**, S. Shin, S. Chao, and X. Z. Liang (2024) Enhancing Seasonal Forecasts of Spring Temperature in the Western U.S. Through the Bridging of Climate Indices held December 9 - 13, 2024, American Geophysical Union (AGU) Fall Meeting, Washington D.C., USA.

4. **A. K. Dubey**, S. Shin, G. Li, S. Chao, and X. Z. Liang (2024) Seasonal Variations in Forecast Skill of NOAA CFSv2 Operational and CWRf downscaled Predictions over the CONUS held September 4 - 6, 2024, NOAA's Subseasonal and Seasonal Applications Workshop, College Park, Maryland, USA.
5. S. Shin, **A. K. Dubey**, G. Li, S. Chao, and X. Z. Liang (2024) Improving U.S. Seasonal Climate Forecasts with CWRf Downscaling and Lateral Bias Correction held September 4 - 6, 2024, NOAA's Subseasonal and Seasonal Applications Workshop, College Park, Maryland, USA.
6. G. Li, S. Shin, **A. K. Dubey**, S. Chao, and X. Z. Liang (2024) Evaluating Bias-Correction Methods for Improved Enhancing Summer Extreme Precipitation Predictions in the U.S. Corn Belt Using CWRf held September 4 - 6, 2024, NOAA's Subseasonal and Seasonal Applications Workshop, College Park, Maryland, USA.
7. **A. K. Dubey**, S. Shin, S. Chao, G. Li, and X. Z. Liang (2024) Assessing the performance of operational CFSv2 & CWRf downscaled seasonal ensemble predictions over CONUS held January 28 - February 1, 2024, 104th AMS Annual Meeting, Baltimore, Maryland, USA.
8. **A. K. Dubey**, S. Shin, S. Chao, G. Li, and X. Z. Liang (2023) Evaluation of operational CFSv2 ensemble seasonal forecasts and comparison with CWRf downscaling predictions for spring season over the United States held August 22 - August 24, 2023, 9th NOAA Ensemble Users Workshop, NOAA Center for Weather and Climate Prediction, College Park, Maryland, USA.
9. A. K. Mishra, P. Kumar, **A. K. Dubey**, G. Tiwari, A.S. Dinesh, D. V. Sein (2021) Investigating the Anomalous Response During Indian Ocean Dipole Events Using Regional Earth System Model for Cordex-SA. Asia Oceania Geosciences Society (AOGS:2021).
10. A. Kumari, P. Kumar, **A. K. Dubey**, A. K. Mishra, D. V. Sein (2021) Visualizing Precipitation Extremes Over India by the End of the Century: A Global and Regional Model Perspective. Asia Oceania Geosciences Society (AOGS:2021).
11. M. S. Saharwardi, **A. K. Dubey**, P. Kumar and D. V. Sein (2021) Drought dynamics and variability over Bundelkhand region of central India: Past, Present and Future held 19–30 April, 2021, EGU General Assembly, EGU21-15248. <https://doi.org/10.5194/egusphere-egu21-15248>
12. P. Kumar, A. K. Mishra, **A. K. Dubey**, M. S. Saharwardi and D. V. Sein (2021) Impact of Horizontal Resolution on Indian Summer Monsoon in coupled Atmosphere-Ocean Regional Model over CORDEX-SA held 19–30 April 2021, EGU General Assembly, EGU21-15990, <https://doi.org/10.5194/egusphere-egu21-15990>
13. S. K. Dubey, P. Kumar, D. Sharma, **A. K. Dubey**, and M. S. Saharwardi (2020) Climate Change Impact on Water Yield and Water Security in the Semi-arid Region of Rajasthan, India, held 4–8 May 2020, EGU General Assembly, EGU2020-12868. <https://doi.org/10.5194/egusphere-egu2020-12868>
14. **A. K. Dubey**, A. Javed, A. Kumari, and P. Kumar (2019) Predicting seasonal temperature over India using advance data science techniques, The Fourth Paradigm: From Data to Discovery conference, held 27-30 January 2020 at Indian Institute of Science Education and Research Bhopal, Bhopal, India.
15. **A. K. Dubey**, P. Kumar (2019) Heatwave and global circulation patterns teleconnections over India held 09-13 December, 2019, American Geophysical Union (AGU) Fall Meeting, San Francisco, USA. <https://ui.adsabs.harvard.edu/abs/2019AGUFMGC53C..03D/abstract>
16. **A. K. Dubey**, P. Kumar and M. S. Saharwardi (2019) Heatwave Characteristics and trend in Homogeneous regions of India. Sixth International Conference on Climate Services, held 11-13 February 2020 at Indian Institute of Tropical Meteorology, Pune, India

17. **A. K. Dubey**, P. Kumar (2018) Efficiency of Regional Climate Model REMO in Simulating Heatwave over India: A comparison with observations. Tropmet-2018 held 24-27 October, 2018 at BHU, Varanasi, India. (Talk and Poster) (Received Ph.D. poster award and a cash prize of ₹3000)

Invited Talks

- Delivered one-hour talk and hands on session on “Weather and Climate Data Analysis using Python” in an International virtual seminar series 2024 – 2025’ Programme organized by Department of Geology, Arya Vidyapeeth College, Guwahati, India, on February 24, 2024.
- Delivered a two-hour talk on the topic “Heatwave and Climate Change” in an international virtual workshop on Recent Developments in Earth Sciences organized by the Department of Geology, Arya Vidyapeeth College, Guwahati, India, during November 1-8, 2021.
- Delivered a two-hour talk and hands-on session on the topic “NetCDF and Hydro climatology” in Python Workshop organized by the Society of Young Agriculture and Hydrology Scholars of India (SYAHI) on July 18, 2021.

Paper Reviewed

- Earth Systems and Environment
- Urban Climate
- Climate Risk Management
- Theoretical and Applied Climatology
- Climate Dynamics
- The Lancet Regional Health
- MDPI Atmosphere
- MDPI Meteorology
- MDPI Climate
- MDPI International Journal of Environmental Research and Public Health
- Aerosol Science and Engineering

Personal Dossier

Date of Birth: 22nd September 1991
Father’s Name: Late Madhusudhan Divedi
Gender: Male
Marital Status: Married
Linguistic Abilities: English and Hindi

References

Dr. Pankaj Kumar (PhD supervisor)

Associate Professor

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Prof. Xin-Zhong Liang**Professor**

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Declaration

I declare that the foregoing information is correct and complete to the best of my knowledge and belief, and nothing has been concealed/distorted.

Place: New Delhi

Date: 20-08-2025



Aditya Kumar Dubey