

ANUP UPADHYAYA

PhD Candidate

Centre for Ocean, River, Atmosphere and Land Sciences (CORAL)

Indian Institute of Technology Kharagpur

West Bengal - 721302, India

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PhD Candidate with over 6 years of experience in statistical analysis, climate research, extreme events, geo-spatial modeling and machine learning. Skilled in Python, R, and GIS tools, with a proven track record of publishing policy-relevant environmental studies in high-impact journals.

EDUCATION

Indian Institute of Technology Kharagpur

Ph.D. in Changing Climate and Extreme Events

Kharagpur, West Bengal

July 2019 to Present

University of Mysore

M.Sc. in Applied Geology (CGPA: 8.62, Gold Medallist)

Thesis: Estimation of seasonal snow cover from a Himalayan glacierized basin using remote sensing and GIS techniques

Mysore, Karnataka

2017 to 2019

Birla Institute of Technology Mesra

M.Sc. in Geoinformatics (CGPA: 8.64)

Thesis: Mapping lithology & detection of surface and near subsurface geological structures using microwave and optical datasets

Ranchi, Jharkhand

2012 to 2014

University of Delhi

B.Sc. Hons. in Geology (Percentage: 64.28)

South Campus, Delhi

2009 to 2012

WORK EXPERIENCE

Consultant

Ministry of Environment, Forest and Climate Change (MoEFCC), New Delhi

June, 2025 to September, 2025

- Analyze global indices such as: Environmental Performance Index & Climate Change Performance Index
- Review technical documents, including UN reports, and provide statistical inputs

PhD Research Fellow

Indian Institute of Technology Kharagpur, West Bengal

July, 2019 to Present

- Conduct statistical analysis of climate datasets to study extreme events (heatwaves, rainfall), Glacial Lake Outburst Floods (GLOFs) and landslide susceptibility in the Northwest Himalayas of India
- Integrate reanalyzed climate data into technical reports and peer-reviewed publications

Junior Research Fellow (JRF)

G.B. Pant National Institute of Himalayan Environment Almora, Uttarakhand

December 2014 to July 2015 (7 Months)

- Analyzed and modeled forest cover using remote sensing and GIS for Manas Biosphere Reserve, Assam

SKILLS

- Statistical Tools: Python, R (statistical modeling, machine learning and data analysis)
- Geospatial Analysis: ArcGIS, QGIS, SNAP, Google Earth Engine
- Communication: Strong written and verbal skills in English (publications, conference presentations)

PUBLICATIONS

- [1] **Anup Upadhyaya** and Abhishek K. Rai (2026) Record Breaking Heatwave of 2022 over the Northwest Himalayas of India: Drivers and Implications. *Natural Hazards*. <https://doi.org/10.1007/s11069-026-08056-2>
- [2] **Anup Upadhyaya** and Abhishek K. Rai (2025) Glacial Lake Outburst Floods (GLOFs) Susceptibility in the Northwest Himalayas using AHP-TOPSIS and AHP-COPRAS. *Environmental Science and Pollution Research*. <https://doi.org/10.1007/s11356-025-36346-y>
- [3] **Anup Upadhyaya**, Abhishek K. Rai, Priyankar Kumar (2024), Variability, Trends and Return Periods of Extreme Rainfall Events (EREs) over the North-Western Indian Himalayan Region (NW-IHR). *Pure and Applied Geophysics*. <https://doi.org/10.1007/s00024-024-03542-9>
- [4] Priyankar Kumar, Arun Chakraborty, Sakshi Sharma, Mohd Sayeed Ul Hasan, & **Anup Upadhyaya**. (2024). Study of Cold Wave and Cold Stress in the Four Metropolitan Cities of India for the Period 1985–2020. *Journal of Atmospheric Science Research*, 7(2), 83–113. <https://doi.org/10.30564/jasr.v7i2.6268>
- [5] **Anup Upadhyaya**, Abhishek K. Rai, Priyankar Kumar (2022), Anomalous rainfall trends in the North-Western Indian Himalayan Region (NW-IHR). *Theoretical and Applied Climatology*. <https://doi.org/10.1007/s00704-022-04280-5>
- [6] Priyankar Kumar, Abhishek K. Rai, **Anup Upadhyaya**, Arun Chakraborty (2021), Analysis of Heat Stress and Heat wave in the four Metropolitan Cities of India in recent period. *Science of the Total Environment*, 818, 151788. <https://doi.org/10.1016/j.scitotenv.2021.151788>

CONFERENCES AND WORKSHOPS

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| Record Breaking Heatwave of 2022 over the Northwest Himalayas of India, AGU Annual Meeting | Washington, USA
December 9 to 13, 2024 |
| Identification of Potentially Dangerous Glacial Lakes in the Northwest Himalayas (EGU24-15032), EGU Copernicus Meetings | Vienna, Austria
April 14 to 19, 2024 |
| A Brainstorming Workshop on Technology Vision 2047 & Climate Change | IIT Kharagpur
June 1 to 2, 2023 |
| Paper presentation on “Changing Patterns of Extreme Rainfall Events in the Northwest Himalayas”, Biodiversity and Climate Change (BDCC) | IIT Kharagpur
February 16 to 19, 2023 |

ACADEMIC ACHIEVEMENTS

- Best Oral presentation award, Research Scholar Day at CORAL January 12, 2024, IIT Kharagpur
- Qualified GATE 2019: AIR 430; Score: 487
- Gold Medal, M.Sc. Applied Geology, University of Mysore (2019)
- Cleared KSET (Karnataka State Eligibility Test) 2018 for Lectureship

REFERENCES

Dr. Abhishek K. Rai

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Indian Institute of Technology Kharagpur
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Dr. Pranab Deb

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