Ajoy Karmakar

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Education

Indian Institute of Remote Sensing, India **Aug 2023–June 2025**
Master of Technology in Remote Sensing & GIS
Specialization: Forest Resources and Ecosystem Analysis
Dissertation: Impact of Fire on Carbon Flux in North Western Himalaya
Advisor: Dr. Taiabanganba Watham

Sidho-Kanho-Birsha University, WB, India **Aug 2021–June 2023**
Master of Science in Environmental Science
Specialization: Environmental Monitoring (Remote Sensing)
Dissertation: Assessing the Anthropogenic and Climate Change Drivers in Shaping Landscape
Advisor: Dr. Tarakeshwar Senapati

Bankura Sammilani College, WB, India **Aug 2018– July 2021**
Bachelor of Science in Zoology Programme

Research Interests

Measurements and modeling of Carbon and Hydrological Flux:
Tower mounted eddy covariance, time-frequency analysis of land-atmosphere interactions
Climate Change
Remote Sensing

Reserach Experience

Junior Research Fellow July 2025–present
G. B. Pant National Institute of Himalayan Environment, India
Project: Carbon Budget and Eco-hydrological Dynamics of Selected Himalayan High-altitude Grasslands and Their Carrying Capacity
PI & Advisor: Dr. Sandipan Mukherjee
Conducting field campaigns, analyzing flux tower eddy covariance data, and contributing to land-atmosphere coupling research
- Maintaing Flux Tower
- Flux Tower Data Analysis

Post Graduate Researcher July 2024–June 2025
Indian Institute of Remote Sensing, India
Field visits, eddy covariance flux tower data collection, flux data analysis, performing numerical modeling in fire–carbon flux research over the northwestern Himalaya

Research Intern April 2023– June 2023
CSIR - Central Mechanical Engineering Research Institute, India
Conducted plastic pyrolysis and gas chromatography to enhance carbon recovery.

Skills

Programming : Python, Bash, Julia
Models : CESM-CLM, CliMA Land, LUE
Remote Sensing & GIS: ERDAS Imagine, ENVI, 3D Forest, SNAP, ArcGIS, QGIS
Software and Tools : GEE (Python & JS), Linux, GrADS, CDO, LaTeX, MS Office
Others : Flux Tower Maintenance & Data Handling, Sap Flow Meter

Publications

Assessing the waterbodies through water quality index and zooplankton diversity for environmental sustainability of Bankura, West Bengal, India. 2024
Mahanty S, Saha D, **Karmakar A**, et al. AGBIR. 2024;40(2):1021-1029.

Professional Experience

Project Intern Feb 2025– April, 2025
Equatior Geo PVt. Ltd., India
Projects: the Race to Net Zero
Contributed with Remote Sensing and GIS with the related project
- Google Earth Engine
- Carbon & Other GHGs

RS-GIS Intern Oct 2023– Dec 2023
Stand For Forests Foundation, India
Contributed with RS & GIS in Various Project

Achievements

Qualified Graduate Aptitude Test in Engineering (GATE) 2024 & 2025
Subject: Geomatics Engineering (GE)