

Ajoy Karmakar

 Webpage |  ajoy.envs@gmail.com |  ajoykarmakar

About Me

Motivated budding researcher with a strong interest in Earth systems, ecology, and remote sensing, seeking opportunities to expand expertise and contribute to sustainable environmental solutions.

Specialization

Carbon Flux, Forest Ecology, Remote Sensing

Research Interest

Application : Green House Gas Flux, Carbon Dynamics, Climate Change, Forest Fire

Technology : Remote Sensing, Earth System Modeling Techniques, Geospatial Analysis

Education

2023–2025	Master of Technology in Remote Sensing & GIS	Indian Institute of Remote Sensing, India Forestry & Ecology Department <i>Advisors: Dr. Taiabanganba Watham</i>
2021–2023	Master of Science in Environmental Science	Sidho Kanho Birsha University, WB, India <i>Advisors: Dr. Tarakeshwar Senapati</i>
2018–2021	Bachelor of Science in Zoology Programme	Bankura Sammilani College, WB, India <i>Advisors: Dr. Surajit Majumder</i>

Experience

Jul, 2025 – Till Date	G.B. Pant National Institute of Himalayan Environment Junior Reserch Fellow Ladakh Regional Center
June,2024 – June,2025	Indian Institute of Remote Sensing(IIRS), ISRO, India Post Graduate Reseracher Forestry & Ecology Department
Apr, 2023 – June,2023	Research Intern CSIR - Central Mechanical Engineering Research Institute, India Environmental Engineering Group

Current Project

- **Carbon Budget and Eco-hydrological Dynamics of Selected Himalayan High-altitude Grasslands and Their Carrying Capacity** (July, 2025 – Ongoing*)

Related to: G.B. Pant National Institute of Himalayan Environment

PI & Advisor: Dr. Sandipan Mukherjee (Scientist - E & Head Ladakh Regional Center)

Responsibilities: Maintaining flux tower instruments; Processing and analyzing tower-based carbon and hydrological flux data; Conducting field campaigns.

Techniques: Eddy Covariance, Field Instrumentation

Skills

Programming:	Python, R
Remote Sensing & GIS:	ERDAS Imagine, ENVI, SNAP, 3D Forest, ArcGIS, QGIS
Data Analysis:	Statistics, Machine Learning, Data Visualization
Software & Tools:	GEE (Python & JS), Linux (Ubuntu), CDO, GrADS, LaTeX, MS Office
Others:	Flux Tower Maintenance & Data Handling, Sap-Flow Meter, Open-Top Chamber

Publication

- Mahanty, S., Saha, D., **Karmakar, A.**, Mandal, S., Mandal, R. K., Bhutia, D. D., & Majumder, S. (2024). Assessing the waterbodies through water quality index and zooplankton diversity for environmental sustainability of Bankura, West Bengal, India. *Agricultural and Biological Research (AGBIR)*, 40(2), 1021–1029.

Presentations

- **Karmakar, A.**, Lohani, P., Gupta, A. K., & Mukherjee, S. (2025, November 18–20). *Carbon and water use efficiencies of an alpine grassland of central Himalaya during growing season* [Conference presentation]. International Symposium on Tropical Meteorology (INTROMET 2025), Indian Institute of Tropical Meteorology, Pune, India.
- **Karmakar, A.**, & Watham, T. (2025). *Fire-induced carbon flux changes in North-Western Himalaya* [Poster presentation]. IIRS-Academia Meet 2025, Indian Institute of Remote Sensing, Dehradun, India.
- Mahanty, S., Saha, D., **Karmakar, A.**, Sow, R., & Majumder, S. (2023). *Recent trend on co-association of physico-chemical parameters with the microorganisms diversity and bloom formation in freshwater waterbodies: A study from Bankura, West Bengal, India* [Conference presentation]. International Seminar on Recent Developmental Trends in Biological Research, Acharya Prafulla Chandra College, West Bengal, India.

Professional Experience

- **Project Intern** (Feb 2025 – Apr 2025)
Equatior Geo Pvt. Ltd., India
Project: The Race to Net Zero
Contributed with Remote Sensing and GIS in project activities.
Techniques: Google Earth Engine, Carbon & Other GHGs
- **RS-GIS Intern** (Oct 2023 – Dec 2023)
Stand For Forests Foundation, India
Contributed with RS & GIS in various projects.

Achievements

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