

## Riasad Bin Mahbub

Senior Graduate Research Assistant,  
University of Arkansas  
Fayetteville, AR 72701,  
United States of America



[Google Scholar](#)



[GitHub](#)



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### **Education**

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#### **University of Arkansas**

PhD. Candidate, Environmental Dynamics 2021-2025

MS, Environmental Dynamics 2021-2023

#### **North South University, Dhaka, Bangladesh**

BS in Environmental Science 2015-2018

### **Employment**

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#### **Senior Graduate Assistant, University of Arkansas** 2021-2025

- Researched satellite and geospatial analysis of rice photosynthesis, greenhouse gas measurements, and rice growing season prediction using machine learning.
- Performed fieldwork including calibration of meteorological sensors, installation of Campbell Scientific dataloggers, and led sensor deployment trips.
- Processed and submitted 14 site-years of greenhouse gas flux data from rice fields following standardized protocols used in a continental research network (AmeriFlux).

#### **Research Assistant, North South University, Dhaka, Bangladesh** 2017-2020

- Researched land use change, forest area modeling using satellite images and machine learning
- Trained students in R programming language and GIS analysis, including ArcGIS ModelBuilder, mapping, and data processing.

#### **Program Associate, Save Our Sea** 2016-2017

- Arranged workshops, field trips, and meetings, and researched sea turtle nesting patterns, beach profiles, and land cover.

#### **Intern, Cooperation for Resource Efficiency** 2018-2019

- Supported research on industrial symbiotic networks and air pollution hotspot through mapping and satellite data extraction.

### **Interests**

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- Spatial data • GIS • Systems thinking • Statistical analysis • Environmental data science
- Machine learning • Data visualization • Ecosystem modeling • Scientific communication

### **Technical Skills**

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- Python • R • ArcGIS • SPSS • Microsoft Office • Google Earth Engine • QGIS

## Membership

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- Member, FLUXNET-Early Career Scientist Network 2018- Present
- Member, American Geophysical Union student membership 1 Jan 2022 - 31 Dec 2023

## Peer Review

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- Review activity for Field crops research (Elsevier, IF: 5.6). ISSN: [0378-4290](https://doi.org/10.1016/j.agrformet.2025.110583)
- Grant Proposal Reviewer, Research Council, University of Arkansas 2021 – 2023

## Workshop Attendance

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- High Performance Computing Workshop, Arkansas High Performance Computing Center, University of Arkansas 2024
- Linking Optical and Energy Fluxes Workshop, FLUXNET Coordination Project, Boulder, Colorado 2023
- Big Teaching Assistantship Workshop, College of Engineering, University of Arkansas 2023
- Eddy Covariance Training at LI-COR Biosciences, Lincoln, Nebraska 2022

## Publications in Peer Reviewed Journals

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**Mahbub, R. B.**, Reba, M., Runkle, B. R., (2025). Magnitude, Drivers, and Patterns of Gross Primary Productivity of Rice in Arkansas Using a Calibrated Vegetation Photosynthesis Model. *Agriculture and Forest Meteorology*. <https://doi.org/10.1016/j.agrformet.2025.110583>. (IF: 5.6) (ELSEVIER)

Ahmed, N., **Mahbub, R. B.**, & Rahman, R. M. (2020). Learning to extract buildings from ultra-high-resolution drone images and noisy labels. *International Journal of Remote Sensing*, 41(21), 8216-8237 <https://doi.org/10.1080/01431161.2020.1763496> (IF: 3.151) (Taylor & Francis)

**Mahbub, R. B.**, Ahmed, N., & Yeasmin, F. (2020). Towards reducing the data gap in the conservation efforts for sea turtles in Bangladesh. *Regional Studies in Marine Science*, 35, <https://doi.org/10.1016/j.rsma.2020.101151> (IF: 2.166) (ELSEVIER)

Ahmed, N., **Mahbub, R. B.**, Hossain, M. M., & Sujaudhin, M. (2019). Modelling spatio-temporal changes of forest cover in the northeastern region of Bangladesh: context of traditional and co-management paradigms. *Journal of Tropical Forest Science*, 32(1) <https://doi.org/10.26525/jtfs32.1.42> (IF: 0.77) (JSTOR)

**Mahbub, R. B.**, Ahmed, N., Rahman, S., Hossain, M. M., & Sujaudhin, M. (2019). Human appropriation of net primary production in Bangladesh, 1700–2100. *Land Use Policy*, 87, 104067. <https://doi.org/10.1016/j.landusepol.2019.104067> (IF: 6.189) (ELSEVIER)

## Manuscripts under Review

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Carroll, S. R. Moreno-Garcia, B., **Mahbub, R. B.**, Reba, M., & Runkle, B. Runkle. Fish cultivation in fallow season rice fields: effects on CH<sub>4</sub> emissions (2025). Submitted to *Agriculture and Forest Meteorology*

## Conferences and Talks

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**Mahbub, R. B.**, Reba, M. L., Tang, R., & Runkle, B. R. K. (2024). Inferring spatial information of rice growing season length and gross primary productivity from space and site-scale instruments. ASABE State Section Meeting, Fayetteville, Arkansas.

**Mahbub, R. B.**, Reba, M., Runkle, B. R., (December 2022). The potential of in-situ phenology data to estimate satellite driven gross primary productivity of rice in Arkansas, American Geophysical Union, Chicago Convention Center, Chicago, IL, United States.

**Mahbub, R. B.**, Reba, M., Runkle, B. R., (September 2022). " Evaluating the potential of in-situ phenology data on improving the estimation of satellite driven gross primary productivity of rice in Arkansas," AmeriFlux Annual Meeting, virtual poster session.

**Mahbub, R. B.**, Reba, M., Runkle, B. R., (January 2022) Arkansas Soil and Water Education Conference, "Estimating the gross primary productivity of rice in Arkansas using satellite-driven biogeochemical model." Fayetteville, AR, United States.

Invited Speaker to share TA experience: Big TA Training Workshop (2024, University of Arkansas, Fayetteville, AR, United States)

## Funding, Proposals, and Awards

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- Doctoral Academic Fellow
  - Amount: \$48000
  - Funding agency: Graduate School and International Education, University of Arkansas
- Graduate Student Travel Grant Application for Linking Optical and Energy Fluxes Workshop, Boulder, Colorado, 2023
  - Amount: \$1100
  - Funding agency: Graduate School and International Education, University of Arkansas
- Proposal submitted: Determining the drivers and magnitude of methane emissions of the fallow season of rice in Arkansas, Spring 2023 [Declined]
  - Amount: \$1100
  - Funding agency: Graduate Professional Student Congress
- Graduate Student Travel Grant Application for American geophysical conference, 2022
  - Amount: \$1100
  - Funding agency: Graduate School and International Education, University of Arkansas
- Graduate Student Travel Grant Application for Eddy Covariance Training at LI-COR Biosciences, Lincoln, Nebraska, 2022
  - Amount: \$1100
  - Funding agency: Graduate School and International Education, University of Arkansas
- Graduate Student Award [2nd Author of the poster] in Arkansas Soil and Water Education Conference and Irrigation EXPO, 2024
  - Amount: \$200
- National Science Foundation style proposal written for PhD comprehensive exam: Predicting spatial information of rice growing season length and gross primary productivity from space and site-scale instruments ([accessible link](#))