

Postdoctoral Associate, Earth Sciences (Geology)
University at Buffalo, The State University of New York

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Posted Feb. 5, 2025, set to expire Aug. 4, 2025

Job Title	Postdoctoral Associate, Earth Sciences (Geology)
Department	Geology
Institution	University at Buffalo, The State University of New York Buffalo, New York
Date Posted	Feb. 5, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Geology/Geosciences - General Earth Sciences
Job Website	https://www.ubjobs.buffalo.edu/postings/55694

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Job Description

As a **Postdoctoral Associate** in the [Department of Earth Sciences](#), this position will support an investigation entitled “Toward ice sheet surface data assimilation: Employing satellite observation and machine learning to improve model representation of ice sheet surface melt”. The candidate will work under the direction of Prof Nowicki and in collaboration with multiple UB faculty and students as well as our external collaborators located at NASA Goddard Space Flight Center and NASA Jet Propulsion Laboratory. The work consists of contributing to the development of a machine learning algorithm to improve the modeled surface meltwater in the Goddard Earth Observing (GEOS) model. Advocating and adapting the model based on collaborator feedback is key to the success of the effort, so the postdoctoral associate will be in communication with team member and will be required to present the project at workshop and conferences as well as in publications.

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Duties will include but are not limited to:

- Helping develop a novel approach to produce surface meltwater over the Greenland ice sheet, which requires state of the art research. Identify prognostic meltwater error sources by training a machine learning algorithm on Greenland satellite - model surface melt differences and characterize what atmospheric forcings are most strongly associated with meltwater production biases using GEOS.
- Generate a machine learning-developed meltwater production bias dataset (1980-2025). Collecting and preparation of dataset (observational or models) or parameterization to be included in GEOS. This requires identifying suitable dataset/parameterizations from literature reviews, accessing datasets from data archive and observation servers, or developing novel analysis methods. Creating scripts for analysis and post-processing to create datasets or tools for use by GEOS. (35%).
- Presenting material and approach to the team. This requires participating in the scientific discussions of the project, presentation at team meetings, workshop and conference meetings but also follow up with team members via email/phone/zoom calls (15%).
- Presenting finding to the broader community at conferences, workshops and via publications. This requires writing and verbal skills, as well as developing and maintaining collaborations and networks (15%).

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- Being a part of the [University at Buffalo community](#).

As an Equal Opportunity / Affirmative Action employer, the Research Foundation will not discriminate in its employment practices due to an applicant's race, color, religion, sex, sexual orientation, gender identity, national origin and veteran or disability status.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

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Contact

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