Yanmei Tian

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EDUCATION

University at Buffalo Buffalo, USA
PhD in Earth Sciences (GPA: 4.0/4.0) Sept. 2025 - Present
- ***Courses:*** Environmental Remote Sensing, Intro to Computational Earth Science, Advanced Remote Sensing, etc.

Beijing Normal University Beijing, CHN
M.S. in Global Environment Change (GPA: 3.5/4.0) Sept. 2022 - Jun. 2025
- ***Courses:*** Physics of Glaciers, Cryosphere Science, Earth System Science, Earth System Modeling, Remote Sensing of the Cryosphere, Geographical Analysis, etc.
- ***Thesis:*** Idealized Experiments on Ice-Shelf Calving.

Anhui University Hefei, CHN
B.S. in Geographic Information Science (GPA: 3.51/5.0) Sept. 2018 - Jun. 2022
- ***Courses:*** Remote Sensing Techniques, Spatial Database, GIS Spatial Analysis, Cartography, Earth System Science, 3D Geological Modeling, Radar Interferometry and Surveying, etc.
- ***Thesis:*** Research on Dynamic Simulation of Qiangtang No.1 Glacier in Tibetan Plateau based on Multi-source Remote Sensing Data.

RESEARCH INTERESTS

Ice-Sheet Modeling; Ice-Ocean Interactions; Remote Sensing Techniques; Global Climate Change.

PUBLICATIONS

- Reese, R., Jourdain, N. C., Asay-Davis, X. S., Burgard, C., Lambert, E., Nakayama, Y., Holland, P. R., Naughten, K. A., Timmermann, R., Dutrieux, P., Zhou, S., Talebigheshlaghi, G., and **Tian, Y**.: A protocol for calibrating basal melt rates in the ISMIP7 Antarctic ice sheet projections, EGUsphere [preprint], https://doi.org/10.5194/egusphere-2026-5337, 2026.

- Jordan, J. R., Pattyn, F., Abele, D., Albrecht, T., Alvarez-Solas, J., Barnes, J. M., Berends, T., Bernales, J. A., Blasco, J., Cheng, G., Choi, Y., Cornford, S. L., Garcia-Molina, C., Gillet-Chaulet, F., Gudmundsson, G. H., Humbert, A., Leguy, G. R., Lipscomb, W. H., Montoya, M., Moreno-Parada, D., Morlighem, M., Pelle, T., Robinson, A., Rückamp, M., Seroussi, H., **Tian, Y**., Wagner, L., van de Wal, R. S. W., Zhao, L., and Zwinger, T.: The implementation and effectiveness of Calving Algorithms in numerical ice models (CalvingMIP), EGUsphere [preprint], https://doi.org/10.5194/egusphere-2026-1962, 2026.

RESEARCH EXPERIENCE

Greenland-AMOC Interaction
Doctoral Researcher Mar. 2026 - Present
- Investigate two-way interactions between Greenland Ice Sheet mass loss and the Atlantic Meridional Overturning Circulation (AMOC), including freshwater impacts on ocean circulation and feedbacks on Greenland's climate and ice-sheet evolution.
- Use ISSM alongside GISS climate model outputs to examine ice-sheet responses and freshwater fluxes under future climate scenarios.

ISMIP7 Greenland Projections
Project Contributor Apr. 2026 - Present
- Use ISSM with atmospheric and oceanic forcing from CMIP models to project Greenland Ice Sheet evolution and its contribution to sea-level rise within the ISMIP7 framework.

CalvingMIP (Calving Model Intercomparison Project)
Project Contributor Sept. 2023 - Present
- Contributing member in CalvingMIP, an EU-funded PROTECT initiative aimed at enhancing ice sheet calving models and evaluating calving algorithms across the cryosphere modeling community to improve sea level rise (SLR) projections.
- Implemented a level-set method in Elmer/Ice to simulate calving-front evolution in the Circular and Thule experiments of CalvingMIP Phase 1.

Dynamic Simulation of Qiangtang No.1 Glacier on the Tibetan Plateau based on Multi-source Remote Sensing Data
Undergraduate Researcher Sept. 2021 – Jul. 2022
- Applied Kriging interpolation to field-measured data and corrected deviations in DEM data, producing a high-resolution digital elevation model (DEM) for the glacier.
- Simulated the glacier's stress and thermal fields using the Elmer/Ice ice flow model, integrating ITS_LIVE remote sensing data for velocity field correlation.

Geological Hazard Survey Project in Huangshan City
Co-investigator Mar. 2022 - Jun. 2022
- Conducted supervised classification based on pixel information to identify land use types, water systems and hazard-prone areas in Huangshan City, Anhui.
- Performed field surveys to validate remote sensing classification results, ensuring accuracy in identifying geological hazards.

Long-term Monitoring of Water Distribution in Anhui Province based on Deep Learning and Remote Sensing Data
Principal Investigator Jun. 2020 - Jun. 2021
- Integrated multi-source remote sensing data (LANDSAT and MODIS) with the ESTARFM fusion model for continuous water monitoring.
- Extracted water bodies using traditional NDWI index and DeepLabv3 deep learning techniques, evaluating and comparing the accuracy of both methods; DeepLabv3 achieved 89% accuracy in water body extraction.

CONFERENCES & WORKSHOPS

2026 International Glaciology Summer School in Alaska Alaska, USA
- Summer School Participant Jun. 2026
- Title: Evaluating the Coupled Dynamics of Greenland Ice Sheet Mass Loss and AMOC Sensitivity under the CMIP6 Future Projections

53rd International Arctic Workshop & Northeast Glaciology Meeting Buffalo, USA
- Poster Presentation Mar. 2026
- Title: Evaluating the Coupled Dynamics of Greenland Ice Sheet Mass Loss and AMOC Sensitivity under the CMIP6 Future Projections

The 10th Youth Geoscience Forum Hefei, CHN
- Oral Presentation May. 2025
- Title: Phase I Study of the Ice Shelf Calving Model Intercomparison Project (CalvingMIP)

The 3rd National Cryosphere Science Conference Lingshui, CHN
- Participant Mar. 2025

The 9th Youth Geoscience Forum Xiamen, CHN
- Participant May. 2024

LEADERSHIP EXPERIENCE

IARPC Collaborations Mentorship Program online
Mentor & Mentee Sept. 2026 - Present

iFLYTEK Hefei, CHN
Data Engineer, AI Resources Department Apr. 2022 - Jul. 2022
- Annotated weather and date-related text data for machine learning applications, leveraging NLP techniques to parse and classify temporal and meteorological information.
- Enhanced data labeling and preprocessing efficiency by utilizing Python and advanced text processing libraries, contributing to improved model training data quality.

GIS Club of Anhui University Hefei, CHN
Vice President Oct. 2020 - Oct. 2021
- Organized and mobilized club members for national and provincial GIS competitions, fostering participation and competitive excellence.
- Led academic seminars and delivered popular science lectures, engaging and educating members in GIS concepts and applications.

SKILLS

- ***Programming:*** Python (scientific computing, data analysis), MATLAB (modeling and simulation), Fortran (high-performance computing).
- ***Ice-sheet Models:*** Elmer/Ice, ISSM
- ***Methods:*** ice-sheet modeling, spatial data analysis, remote sensing image processing, GIS.
- ***Language:*** Chinese, English

HONORS & AWARDS

- Scholarship of Graduate Students (2023)
- The 9th Challenge Cup, Anhui Province (Second Prize, 2021)
- GIS Skills Competition of College Students, Anhui Province (Third Prize & Best Defense Prize, 2021)
- National Study Scholarship (2020)