Yanlan Liu
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Department of Geography
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APPOINTMENTS

University of California, Los Angeles, CA 2026-
Associate Professor, Department of Geography
The Ohio State University, Columbus, OH 2021-2025
Assistant Professor, School of Earth Sciences & of Environment and Natural Resources
Lawrence Berkeley National Laboratory, Berkeley, CA 2020-2021
Postdoctoral Scholar, Earth and Environmental Sciences Area
Stanford University, Stanford, CA 2019-2020
Postdoctoral Scholar, Department of Earth System Science

EDUCATION

Duke University, Durham, NC
Ph.D. in Environmental Science 2019
M.S. in Statistics 2019
Tsinghua University, Beijing, China
B.Eng. in Hydraulic Engineering 2014

RESEARCH INTERESTS

Ecohydrology, ecosystem resilience, global change ecology, drought, plant hydraulics, Arctic-boreal vegetation dynamics, postfire recovery, model-data integration, remote sensing, dynamic vegetation modeling

HONORS & AWARDS

Distinguished Graduate Faculty Teaching Award, The Ohio State University 2023
Outstanding student paper award, American Geophysical Union 2017
Excellent thesis award, Tsinghua University 2014
First class academic performance fellowship, Tsinghua University 2014

MENTORING

Honors and awards of mentees

Yue Zhang, Presidential Fellowship, OSU 2024
Zhaozhe Chen, Presidential Fellowship, OSU 2023

Mentees

Qian Zhao, Postdoc in Earth Sciences, OSU | Geography, UCLA 2023-
Ziyang Tan, Ph.D. student in Earth Sciences, OSU | Geography, UCLA 2024-
Yidong Tong, Ph.D. student in Earth Sciences, OSU | Geography, UCLA 2023-

Yue Zhang, Ph.D. student in Earth Sciences, OSU	2021-
Colette Brown, Ph.D. student in ERG, University of California, Berkely	2021-
Zhaozhe Chen, Ph.D. student in Earth Sciences, OSU	2022-2024
Shengxi Gui, Ph.D. student in Civil, Environmental & Geodetic Engineering, OSU	2022-2023
Yang Li, Ph.D. student in Environment and Natural Resources, OSU	2021-2023
Pushpendra Raghav, postdoc, University of Alabama	2024
Sam Gill, undergrad in Civil, Environmental & Geodetic Engineering, OSU	2024
Briana McNeal, undergrad in Earth Sciences, OSU	2023-2024
Claire Sneed, undergrad in Earth Sciences, OSU	2022-2024
Lauren McIntosh, undergrad in Earth Sciences, OSU	2022-2023
Jacob Bolton, undergrad in Earth Sciences, OSU	2021-2022
Yan Bai, visiting Ph.D. student in ESPM, University of California, Berkeley	2019-2020
Olivia Flournoy, undergrad in Geophysics, Stanford	2019-2020

TEACHING

GEOG 191 Environmental Statistics UCLA	2026
GEOG M206 Introduction to Biophysical Modeling UCLA	2026
EARTHSC 5656 Ecohydrology, OSU	2022, 2024
EARTHSC 5641 Geostatistics, OSU	2022, 2023, 2024
ENR 3240 Ecological Climatology, OSU	2023, 2025

AWARDED GRANTS

NASA Terrestrial Ecology Program (PI) 2022-2026
Characterizing Arctic-boreal vegetation resilience under climate change and disturbances

NASA Modeling, Analysis, and Prediction (Institutional PI) 2024-2026
Modeling the diversity of vegetation drought response with intermediate complexity

USGS Water Resources Research Act Program (Co-PI) 2024-2026
Enhancing water budget predictions through below-ground processes

DOE NGEE-Arctic Project Subaward (Institutional PI) 2022-2024
Predicting the impacts of vegetation demographics and fire on Arctic vegetation change

Ohio Department of Higher Education (PI) 2024-2026
Quantifying cropland water-carbon-nutrient coupling for climate-resilient production

Nationwide AgTech Innovation Hub (Co-PI) 2023-2024
Drought risk reduction through automated drainage water management

Data-intensive Climate Analytics Research Pilots, OSU (PI) 2023-2024
Interpretable data-driven prediction of droughts at a seasonal-to-subseasonal time scale

Sustainability Research Seed Grant, OSU (Co-PI) 2022-2023
Sustainable Adoption of climate-smart agroforestry in the Sahel

PUBLICATIONS (Citations = 2291, h-index = 17. See Google Scholar Page for updates)

Advised students/scholars are underscored; *denotes the corresponding author.

2026

30. **Liu, Y.** (2026). Scaling plant hydraulic traits to predict ecosystem fluxes under drought. *New Phytologist* (in press).

29. Bai, Y., Hu, Y., **Liu, Y.**, Yu, K., Zhang, Y., & Zhang, B. (2026). Climate-driven hydraulic traits shift in natural and planted forests: patterns, drivers, and future acclimation. *Earth's Future*, 14, e2025EF006678.

2025

28. Bilir, T. E., Bloom, A. A., Konings, A. G., Liu, J., Parazoo, N. C., Quetin, G. R., Norton, A. J., Worden, M. A., Levine, P. A., Ma, S., Braghiere, R. K., Longo, M., Bowman, K., Saatchi, S., Schimel, D. S., Miller, C. E., O'Sullivan, M., Kang, Y., Pandey, S., Patton, Yang., Y., & **Liu, Y.** (2025). Satellite-constrained reanalysis reveals CO2 versus climate process compensation across the global land carbon sink. *AGU Advances*, 6, e2025AV001689.

27. Tan, X., Zhao, Q., **Liu, Y.**, & Zhang, X.* (2025). DroughtSet: Understanding Drought Through Spatial-Temporal Learning. In *Proceedings of the AAAI Conference on Artificial Intelligence* (Vol. 39, No. 27, pp. 28440-28448).

2024

26. Yang, L.*, Wulder, M. A., Zhu, Z., Verbesselt J., Masiliūnas, D., **Liu, Y.**, Bohrer, G., Cai, Y., Zhou, Y., Ding, Z., & Zhao, K. (2024). Detecting breakpoints in multispectral time series – a multivariate algorithm. *Remote Sensing of Environment*, 315, 114402.

25. Zhang, Y., Wang, J. A., Berner, L. T., Goetz, S. J., Zhao, K., & **Liu, Y.*** (2024). Warming and disturbances affect Arctic-boreal North America vegetation resilience. *Nature Ecology & Evolution*, 8, 2265.

24. **Liu, Y.***, Holm, J. A., Koven, C. D., Salmon, V. G., Rogers, A., & Torn, M. S. (2024). Large divergence of projected high latitude vegetation composition and productivity due to functional trait uncertainty. *Earth's Future*, 12(8), e2024EF004563.

23. Raghav, P., Kumar, M.*, & **Liu, Y.** (2024). Structural constraints in current stomatal conductance models preclude accurate prediction of evapotranspiration. *Water Resources Research*, 60(8), e2024WR037652.

22. Yang, Y.*, Guan, K. *, Peng, B., **Liu, Y.**, & Pan, M. (2024). Explicit consideration of plant xylem hydraulic transport improves the simulation of crop response to atmospheric dryness in the US Corn Belt. *Water Resources Research*, 60(6), e2023WR036468.

2023

21. Lei, H., Wang, X., & **Liu, Y.** (2023). Virtual special issue" Changes in hydrological processes and water resources in the context of climate change and carbon neutrality". *Journal of Hydrology*, 627, 130268.

20. Hu, T., Zhang, X., Bohrer, G., **Liu, Y.**, Zhou, Y., Martin, J., Li, Y. & Zhao, K.* (2023). Crop yield prediction via explainable AI and interpretable machine learning: Dangers of black box models for evaluating climate change impacts on crop yield. *Agricultural and Forest Meteorology*, 336, 109458.

2022

19. Zhao, M.*, A, G., **Liu, Y.**, & Konings, A. G. (2022). Evapotranspiration frequently increases during droughts. *Nature Climate Change*, 12, 1024-1030.
18. Bai, Y., **Liu, Y.**, Kueppers, L. M., Li, E., Zhang, C., Yu, K., Yang, X., & Li, X.* (2022). Hydraulic sensitivity and stomatal regulation of two desert riparian species. *Journal of Geophysical Research: Biogeosciences*, 127(10), e2022JG006971.
17. Zhang, Y.*, Gentine, P., Luo, X., Lian, X., **Liu, Y.**, Zhou, S., Michalak, A. M., Sun, W., Fisher, J. B., Piao, S., & Keenan, T. F.* (2022). Increasing sensitivity of dryland vegetation greenness to precipitation due to rising atmospheric CO_2. *Nature communications*, 13(1), 4875.
16. **Liu, Y.***, Flournoy, O., Zhang, Q., Novick, K. A., Koster, R. D., & Konings, A. G. (2022). Canopy height and climate dryness parsimoniously explain spatial variation of unstressed stomatal conductance. *Geophysical Research Letters*, 49(15), e2022GL099339.
15. **Liu, Y.***, Riley, W. J., Keenan, T. F., Mekonnen, Z. A., Holm, J. A., Zhu, Q., & Torn, M. S. (2022). Dispersal and fire limit Arctic shrub expansion. *Nature Communications*, 13(1), 3843.
14. Li, Y., **Liu, Y.**, Bohrer, G., Cai, Y., Wilson, A., Hu, T., Wang, Z., & Zhao, K.* (2022). Impacts of forest loss on local climate across the conterminous United States: Evidence from satellite time-series observations. *Science of The Total Environment*, *802*, 149651.
13. Wu, D.*, Vargas, G.G., Powers, J.S., McDowell, N.G., Becknell, J.M., Pérez-Aviles, D., Medvigy, D., **Liu, Y.**, Katul, G.G., Calvo-Alvarado, J.C., Calvo-Obando, A., Sanchez-Azofeifa, A., & Xu, X. * (2022). Reduced ecosystem resilience quantifies fine-scale heterogeneity in tropical forest mortality responses to drought. *Global Change Biology*, 28, 2081– 2094

2021

12. Bai, Y., **Liu, Y.**, Kueppers, L. M., Feng, X., Yu, K., Yang, X., Li, X., & Huang, J.* (2021). The coupled effect of soil and atmospheric constraints on the vulnerability and water use of two desert riparian ecosystems. *Agricultural and Forest Meteorology*, 311, 108701.
11. Konings, A. G.*, Saatchi, S. S., Frankenberg, C., et al. [33 authors, incl. **Liu, Y.**] (2021). Detecting forest response to droughts with global observations of vegetation water content. *Global Change Biology*, 27, 6005– 6024.
10. **Liu, Y.***, Holtzman, N. M., & Konings, A. G. (2021). Global ecosystem-scale plant hydraulic traits retrieved using model–data fusion. *Hydrology and Earth System Sciences*, *25*(5), 2399-2417.
9. Mekonnen, Z. A.*, Riley, W. J., Berner, L. T., et al. [11 authors, incl. **Liu, Y.**] (2021). Arctic tundra shrubification: a review of mechanisms and impacts on ecosystem carbon balance. *Environmental Research Letters*, 16(5), 053001.

2020

8. **Liu, Y.***, Kumar, M., Katul, G. G., Feng, X., & Konings, A. G. (2020). Plant hydraulics accentuates the effect of atmospheric moisture stress on transpiration. *Nature Climate Change*, 10(7), 691-695.

7. Kulmatiski, A.*, Yu, K., Mackay, D. S., Holdrege, M. C., Staver, A. C., Parolari, A. J., **Liu, Y.**, Majumder, S., & Trugman, A. T. (2020). Forecasting semi-arid biome shifts in the Anthropocene. *New Phytologist*, 226(2), 351-361.

2019 and earlier

6. **Liu, Y.**, Kumar, M.*, Katul, G. G., & Porporato, A. (2019). Reduced resilience as an early warning signal of forest mortality. *Nature Climate Change*, 9(11), 880-885.
5. Mrad, A.*, Sevanto, S., Domec, J. C., **Liu, Y.**, Nakad, M., & Katul, G. G. (2019). A dynamic optimality principle for water use strategies explains isohydric to anisohydric plant responses to drought. *Frontiers in Forests and Global Change*, 49.
4. Wang, D., **Liu, Y.**, & Kumar, M.* (2018). Using nested discretization for a detailed yet computationally efficient simulation of local hydrology in a distributed hydrologic model. *Scientific Reports*, 8(1), 1-13.
3. **Liu, Y.**, Parolari, A. J., Kumar, M.*, Huang, C. W., Katul, G. G., & Porporato, A. (2017). Increasing atmospheric humidity and CO_2 concentration alleviate forest mortality risk. *Proceedings of the National Academy of Sciences*, 114(37), 9918-9923.
2. **Liu, Y.**, & Kumar, M.* (2016). Role of meteorological controls on interannual variations in wet-period characteristics of wetlands. *Water Resources Research*, 52(7), 5056-5074.
1. **Liu, Y.**, & Lei, H.* (2015). Responses of natural vegetation dynamics to climate drivers in China from 1982 to 2011. *Remote Sensing*, 7(8), 10243-10268.

PRESENTATIONS

First-author oral presentations

41. Scaling plant hydraulic traits to predict ecosystem fluxes under drought (**invited**), February 2026, Biology Colloquium at **Harvey Mudd College**, Claremont, CA.
40. Scaling plant hydraulic traits to predict ecosystem fluxes under drought (**invited**), January 2026, FraLab Seminar at **California Institute of Technology**, Pasadena, CA.
39. Scaling plant hydraulic traits to predict ecosystem fluxes under drought (**invited**), December 2025, **American Geophysical Union Annual Fall Meeting**, New Orleans, LA.
38. Warming and disturbances affect Arctic-boreal vegetation resilience across northwestern North America (**invited**), August 2025, **Ecological Society of America Annual Meeting**, Baltimore, MD.
37. Scale matters: ecosystem-effective hydraulic traits across spatial scales **(invited planetary**), June 2025, **Network-enabled understanding of plant hydraulics in a changing world**, Bloomington, IN.
36. Understanding plant responses to drought through model-data integration (**invited**), June 2025, **New Advances in Land Carbon Cycle Modeling** training course (remote).
35. Characterizing Arctic-boreal vegetation resilience under climate change and disturbances (**invited)**, May 2025, **NASA Arctic-Boreal Vulnerability Experiment Science Team Meeting**, Fairbanks, AK.
34. Impacts of vertical canopy structure on ecosystem-scale evapotranspiration, April 2025, 3rd Annual **Dynamic Vegetation Modeling and Observations Conference**, Woods Hole, MA.
33. Impacts of spatial scale on ecosystem-effective hydraulic traits (**invited**), December 2024, **American Geophysical Union Fall Meeting**, Washington, DC.

32. Large divergence of projected high latitude vegetation composition and productivity due to functional trait uncertainty, December 2024, **American Geophysical Union Fall Meeting**, Washington, DC.
31. Impacts of spatial scale on ecosystem-effective hydraulic traits (**invited**), October 2024, **Aspen Global Change Institute workshop**: Future terrestrial water availability: towards an integrated perspective on water, plants, and climate. Aspen, CO.
30. Vegetation dynamics in fast warming northern high latitudes (**invited**), September 2024, Department of Forestry and Wildlife Ecology, **University of Wisconsin-Madison**, Madison, WI.
29. Characterizing Arctic-boreal vegetation resilience under climate change and disturbances (**invited**), May 2024, **NASA Arctic-Boreal Vulnerability Experiment Science Team Meeting**, Boulder, CO.
28. Identifying soil and atmospheric moisture thresholds of evapotranspiration reduction across CONUS, December 2023, **American Geophysical Union Fall Meeting**, San Francisco, CA.
27. Vegetation dynamics in fast warming northern high latitudes (**invited**), November 2023, **Environmental Research 2023** Virtual Event Series (remote).
26. Vegetation dynamics in fast warming northern high latitudes (**invited**), October 2023, Department of Environmental Sciences, **University of Virginia**, Charlottesville, VA.
25. Vegetation dynamics in fast warming northern high latitudes (**invited**), October 2023, Department of Earth Sciences, **Indiana University-Perdue University Indianapolis**, Indianapolis, IN.
24. Vegetation dynamics in fast warming northern high latitudes (**invited**), April 2023, Department of Evolution, Ecology and Organismal Biology, **The Ohio State University**, Columbus, OH.
23. Large divergence of projected Arctic plant composition and productivity due to functional trait uncertainty, March 2023, **1st Eastern Regional Dynamic Global Vegetation Modeling Conference**, Woods Hole, MA.
22. Characterizing Arctic-boreal vegetation resilience under climate change and disturbances, January 2023, **NASA Arctic-Boreal Vulnerability Experiment Science Team Meeting**, San Diego, CA.
21. Large divergence of projected Arctic plant composition and productivity due to functional trait uncertainty, December 2022, **American Geophysical Union Fall Meeting**, Chicago, IL.
20. Plant-atmosphere connections from landscapes to whole Earth (**invited**), June 2022, **Gordon Research Conference on Multiscale Plant Vascular Biology**, Newry, ME.
19. Dispersal and fire limit Arctic shrub expansion, May 2022, **NASA Arctic-Boreal Vulnerability Experiment Science Team Meeting**, Fairbanks, AK.
18. Large uncertainty of plant traits in projected Arctic vegetation shift, February 2022, **Annual Next-Generation Ecosystem Experiments Arctic All Hands Meeting** (remote).
17. Plant water use, resilience, and shift in response to warming and droughts (**invited**), December 2021, Department of Hydraulic Engineering, **Tsinghua University** (remote).
16. Plant hydraulic response to water stress and global retrieval of hydraulic traits (**invited**), March 2021, Carbon and Ecosystems Group, **Jet Propulsion Laboratory** (remote).

15. Plant hydraulic response to water stresses and the ecohydrological impacts (**invited**), March 2021, Department of Civil and Environmental Engineering, **University of Pittsburgh** (remote).
14. Impact of seed dispersal and fire on Arctic shrub expansion, January 2021, **Annual Next-Generation Ecosystem Experiments Arctic All Hands Meeting** (remote).
13. Global ecosystem-scale plant hydraulic traits retrieved using model-data fusion, December 2020, **American Geophysical Union Fall Meeting** (remote).
12. Plant water use, resilience and mortality under climate variations and change (**invited**), October 2020, **GeoInsider webinar series** (remote).
11. Forest water use, resilience, and mortality under climate variations and change (**invited**), June 2020, **Beijing Normal University** (remote).
10. Forest water use, resilience, and mortality under climate variations and change (**invited**), March 2020, **Lawrence Berkeley National Laboratory** (remote).
9. Understanding the mechanisms of forest resilience and mortality under drought (**invited**), March 2020, **Pacific Northwest National Laboratory**, Richland, WA.
8. Plant response to current and future water stress (**invited**), March 2020, School of Earth Sciences, **The Ohio State University,** Columbus, OH.
7. Forest response to current and future water stresses, January 2020, Joint Hydrology Group Seminar Series, **Stanford University**, Stanford, CA.
6. Plant hydraulics enhances atmospheric moisture stress on transpiration but mutes soil moisture stress (**highlighted**), December 2019, **American Geophysical Union Fall Meeting**, San Francisco, CA.
5. Plant hydraulics enhances atmospheric moisture stress on transpiration, October 2019, **Keck Institute for Space Studies workshop,** Pasadena, CA.
4. Forest mortality risk under climate changes and variability (**invited**), May 2019, **Duke Kunshan University Scholarly Presentations**, Durham, NC.
3. Influence of plant hydraulics on evapotranspiration across climate and land cover types, December 2018, **American Geophysical Union Fall Meeting**, Washington, DC.
2. Reduced resilience as an early warning signal of forest mortality (**invited**), August 2018, **Ecological Society of America Annual Meeting**, New Orleans, LA.
1. Impact of long-term climate change on forest mortality risk (**invited**), July 2017, **Tsinghua University**, Beijing, China.

First author poster presentations

9. Large fire and postfire drought limit long term recovery of forest spatial structure, April 2024, 2nd Annual **Eastern Regional Dynamic Global Modeling Conference**, Woods Hole, MA.
8. Predicting the Impacts of Climate Change and Fire on Arctic Vegetation: FATES Modeling and Remote Sensing, May 2023, **DOE Environmental System Science (ESS) Program annual Principal Investigators Meeting**, Bethesda, MD.
7. Warming and Disturbances Threaten Arctic-Boreal Vegetation Resilience, May 2023, **NASA Carbon Cycle & Ecosystems Joint Science Workshop**, Maryland, MD.
6. Evidence for the importance of dispersal and fire on Arctic shrub expansion, December 2021, **American Geophysical Union Fall Meeting** (remote).

5. Detection of early warning signals of forest mortality in California, December 2017, **American Geophysical Union Fall Meeting**, New Orleans, LA.
4. Influence of individual and combined climate change on forest mortality risk, May 2017, **Calhoun Critical Zone Observatory All Hands Meeting**, Calhoun, SC.
3. Increasing atmospheric humidity and CO_2 concentration alleviate forest mortality risk, December 2016, **American Geophysical Union Fall Meeting**, San Francisco, CA.
2. Role of meteorological controls in interannual variations in wet-period characteristics of wetlands, March 2016, **North Carolina Wetland Symposium**, Durham, NC
1. Role of meteorological controls in interannual variations in wet-period characteristics of wetlands, December 2015, **American Geophysical Union Fall Meeting**, San Francisco, CA.

TOOLS & DATASETS DEVELOPED (open source on GitHub and ORNL DAAC)

Annual Arctic-boreal vegetation resilience 2024
Estimates of vegetation resilience using a Bayesian dynamic linear model and MODIS EVI during 2000-2019 across the Northwestern North America Arctic boreal regions.

Large-scale seed dispersal in land surface model 2023
A new version of ELM-FATES accounting for seed dispersal that allows simulating large-scale vegetation distribution change under future climate.

Global ecosystem-scale plant hydraulic traits 2021
Global maps of plant hydraulic traits retrieved from microwave remote sensing for improved modeling of plant response to water stress.

Model-data fusion for parameter retrieval 2018
A tool to estimate model parameters from observation using Markov chain Monte Carlo, demonstrated using a plant hydraulic model.

Bayesian dynamic linear model 2017
A state-based time series model for prediction and inference on time-varying states, applied to estimate time-varying forest resilience.

Soil-plant-atmosphere continuum model 2016
A physically based ecohydrological model that simulates plant hydraulic states and biosphere-atmosphere water/carbon fluxes.

Bayesian regression and variable selection model 2015
A Bayesian linear model that estimates the relative contributions and uncertainties of independent variables.

SELECTED MEDIA COVERAGE

- Declines in plant resilience threaten carbon storage in the Arctic, 2024, Science Daily.
- Declines in plant resilience threaten carbon storage in the Arctic, 2024, Phys.org.
- Arctic shrub expansion limited by seed dispersal and wildfire, 2022, Science Daily.
- Arctic shrubs spreading slower despite climate change, 2022, Polar Journal.
- Focus collection on forest carbon, 2021, Nature Climate Change.
- Study shows dry air drives overlooked changes in how plants drink and breathe, 2020, Phys.org.
- Scientists may now be able to predict forest die-off up to 19 months in advance, 2019, NOVA.

- Foretelling forest death from above, 2019, EOS.
- Researchers develop tool to diagnose dying forests, 2019, SciGlow.
- How forests balance the books in a changing climate, 2017, Ars Technica.

PROFESSIONAL AFFILIATIONS

- NASA Arctic-Boreal Vulnerability Experiment
- AmeriFlux
- American Geophysical Union
- Ecological Society of America

PROFESSIONAL SERVICES

Conferences

- Session convener for Biogeosciences Session: Advances in Understanding Water-Energy-Carbon Interactions, American Geophysical Union Fall Meeting, 2021, 2022, 2023, 2024, 2025.
- Session convener for Biogeosciences Session: Advances in Understanding Vegetation Shifts in the Arctic, American Geophysical Union Fall Meeting, 2021.

Departmental

- Department of Geography, UCLA, Colloquium Committee, 2026.
- OSU School of Earth Sciences, Communication Committee, 2021-2025.
- OSU School of Earth Sciences, Departmental Seminar Series Coordinator, 2024.
- OSU School of Environment and Natural Resources, Stream Ecology Faculty Search Committee, 2023-2024.
- OSU Byrd Polar & Climate Research Center, Postdoctoral Fellowship Selection Committee, 2023.

Editorial

- Editorial Advisory Board, Global Change Biology, 2026-present.
- Associate Editor of Journal of Hydrology, 2025-present.
- Guest Editor for the Special Issue in Journal of Hydrology: Changes in hydrological processes and water resources in the context of climate change and carbon neutrality, 2022.

Review work

- **Proposal panels**
  NSF, Directorate for Biological Sciences, 2025.
  NASA, Earth Science Division, 2024, 2025.
  DOE, Office of Biological and Environmental Research, 2022, 2023, 2024.
  Swiss NSF, Mathematics, Physical and Engineering Sciences Division, 2023.
  USDA, National Institute of Food and Agriculture, 2022.
- **Journals**
  Reviewed 52 journal articles as of February 2026 in Science, Nature Climate Change, Nature Ecology & Evolution, Nature Geosciences, Nature Communications, Nature Reviews Earth & Environment, Proceedings of the National Academy of Sciences, New Phytologist, Journal of Advances in Modeling Earth Systems, Remote Sensing of Environment, Science of the

Total Environment, Journal of Hydrology, Geophysical Research Letters, Water Resources Research, Journal of Geophysical Research, Earth's Future, Agricultural and Forest Meteorology, Hydrology and Earth System Sciences.