

Berhanu G. Sinshaw
Environmental Systems Graduate Group
UCM Forest Ecohydrology & Watershed Systems (FEWS) Lab

About Me

Berhanu Sinshaw is a graduate student at the University of California, Merced, working in the UC Merced FEWS Lab. Passionate Hydrologist & Water Resource researcher dedicated to understanding, protecting, and sustainably managing our precious water resources. Utilizing advanced techniques to analyze complex water systems and contribute to innovative solutions for a water-secure future, my current research work focuses on assessing the effects of climate change and adaptation strategies on regional-scale surface water-groundwater interactions and budget.

Work Experience

- Fall 2022 – Present, Ph.D. Student, Environmental Systems, University of California Merced
- 14/10/2018 – 1/1/2020, Lecturer, School of Civil and Water Resources Engineering, University of Gondar
- 01/08/2017 – 16/10/2018, Graduate student, Engineering Hydrology, Bahir Dar University 03/07/2016 – 02/07/2017, Assistant Lecturer, School of Civil and Water Resources Engineering, University of Gondar
- 15/10/2015 – 03/07/2016, Assistant Lecturer, Dilla University

Education

- PhD (2022-2026), Environmental Systems, University of California, Merced
- PhD (2022) Coursework Completed: Water Resource Engineering, Bahir Dar University
- MSC (2018): Hydraulic and Water Resource Engineering, Bahir Dar University
- BSc (2014): Irrigation and Water Resources Management, Wollega University

Software Skills

SWAT+|ArcGIS|R|SQL|MODFLOW |HEC-HMS |gee

Recent Conference and workshops

- **Sinshaw, B.G.**, Vires, G., Khan, S., 2025. Modeling Surface Water - Groundwater Interactions in the Tulare Lake Basin, California, USA (Accepted for EGU 2025 oral presentation) (<https://meetingorganizer.copernicus.org/EGU25/EGU25-7287.html>)
- SWAT+ Advanced Workshop organized by Texas A &M University from January 21-24 2022(<https://swat.tamu.edu/workshops/swatplus-advanced/january-2025/>)
- 2024 SWAT Conference, Strasbourg, France (<https://swatconference.tamu.edu/#/get-certificates/783>)
- 2024 State of the Science of Land Repurposing Workshop co-sponsored by UC Merced's Secure Water Future and the California Institute for Water Resources from October 28-29th 2024 (<https://sites.google.com/view/science-land-repurposing>)
- 2023 Climate Adaptation Science Academy - Experiential Learning Expedition (CASA ELE) CA Secure Water Future (SWF), Utah (<https://securewaterfuture.net/education/climate-adaptation-science-academy>)
- MODFLOW and More 2024: “AI, Global Change, and the Future of Groundwater Modeling” organized by Princeton University from June 2-5, 2024 (<https://igwmc.princeton.edu/modflow/>)
- 3rd International Conference Linking Science & Policy: Toward Sustainable Groundwater In Agriculture, San Francisco, CA, June 18 - 20, 2024 (<https://ag-groundwater.org/>)

- 2nd State of the Tulare Basin Conference, The Tulare Basin Watershed Network (TBWN), in partnership with UC ANR and SWF Nov 15, 2023 (<https://happeningnext.com/event/state-of-the-basin-eid4so58tg1j71>)

Selected Publications

1. **Sinshaw, B.G.**, Vires, G., Khan, S., 2025. Modeling Surface Water - Groundwater Interactions in the Tulare Lake Basin, California, USA (Manuscript preparation)
2. **Sinshaw, B.G.**, Vires, G., Khan, S., 2025. A Systematic Review on Global Managed Aquifer Recharge: Techniques, Impacts, and Future Implications (ready for submission to Environmental Reviews)
3. Kassie, G.G., Atanaw, S.B., **Sinshaw, B.G.**, Ayele, G.T., Kessie, K.G. and Kidie, W.D., 2024. Evapotranspiration Dynamics in the Ribb Watershed Upper Blue Nile, Ethiopia.
4. Kindie, A.T., Enku, T., Moges, M.A., **Sinshaw, B.G.** and Atinkut, H.B., 2019. Spatial analysis of groundwater potential using GIS-based multi criteria decision analysis method in Lake Tana Basin, Ethiopia. In *Advances of Science and Technology: 6th EAI International Conference, ICAST 2018, Bahir Dar, Ethiopia, October 5-7, 2018, Proceedings 6* (pp. 439-456). Springer International Publishing.
5. **Sinshaw, B.G.**, Moges, M.A., Tilahun, S.A., Dokou, Z., Moges, S., Anagnostou, E., Eshete, D.G., Kindie, A.T., Bekele, E., Asese, M. and Getie, W.A., 2020. Integration of SWAT and remote sensing techniques to simulate soil moisture in data scarce micro-watersheds: a case of Awramba micro-watershed in the Upper Blue Nile Basin, Ethiopia. In *Advances of Science and Technology: 7th EAI International Conference, ICAST 2019, Bahir Dar, Ethiopia, August 2-4, 2019, Proceedings 7* (pp. 294-314). Springer International Publishing.
5. **Sinshaw, B.G.**, Belete, A.M., Tefera, A.K., Dessie, A.B., Bizuneh, B.B., Alem, H.T., Atanaw, S.B., Eshete, D.G., Wubetu, T.G., Atinkut, H.B. and Moges, M.A., 2021. Prioritization of potential soil erosion susceptibility region using fuzzy logic and analytical hierarchy process, upper Blue Nile Basin, Ethiopia. *Water-Energy Nexus*, 4, pp.10-24.
6. **Sinshaw, B.G.**, Belete, A.M., Mekonen, B.M., Wubetu, T.G., Anley, T.L., Alamneh, W.D., Atinkut, H.B., Gelaye, A.A., Bilkew, T., Tefera, A.K. and Dessie, A.B., 2021. Watershed-based soil erosion and sediment yield modeling in the Rib watershed of the Upper Blue Nile Basin, Ethiopia. *Energy Nexus*, 3, p.100023.
7. Rigler, G., Dokou, Z., Khadim, F.K., **Sinshaw, B.G.**, Eshete, D.G., Aseres, M., Amara, W., Zhou, W., Wang, X., Moges, M. and Azage, M., 2022. Citizen science and the sustainable development goals: Building social and technical capacity through data collection in the Upper Blue Nile Basin, Ethiopia. *Sustainability*, 14(6), p.3647.
8. Beyene, A.M., Abate, M., **Sinshaw, B.G.**, Belete, A.M. and Chekole, B.Z., 2023. Anthropogenic amplification of geomorphic processes on fluvial channel morphology, case study in Gilgel Abay river mouth; lake Tana Sub Basin, Ethiopia. *Heliyon*, 9(4).
9. Alemu, G.T., Ayalew, M.M., **Sinshaw, B.G.**, Bihonegn, B.G. and Tareke, K.A., 2023. Evaluation of semi-distributed hydrological models performance in borkena watershed; Upper Awash Basin, Ethiopia. *Heliyon*, 9(7).

Awards

- **Environmental systems Graduate group 2024 Summer Fellowship Award**
- **Chancellor's Fellowship for Inclusive Excellence Award, University of California Merced**

Projects

1. Secure Water Future (Ongoing)

2. PIRE: Water and Food Security (completed)

Volunteer and Membership

1. Environmental systems seminar helper, University of California, Merced, Fall (2022)
2. Mountain Hydrology Research Group meeting organizer, University of California, starting from spring 2023
3. AGU (since 2022) & EGU (since 2024)

Reference

- Prof. Safeeq Khan (Associate Professor of Hydrology), Civil & Environmental Engineering, University of California, Merced. email: msafeeq@ucmerced.edu