



Postdoc Position in climate-hydrological modeling and irrigation-groundwater interactions

Apply here: <https://careers.msu.edu/en-us/job/508460/research-associatefixed-term>

A postdoctoral research associate position is available in the Department of Civil and Environmental Engineering (<https://www.egr.msu.edu/cee/>) at Michigan State University (MSU). The new hire will work on an NSF-funded project on the role of groundwater and irrigation within the Earth system from global to local scales, also considering the social dimensions affecting the interactions between climate hydrology, irrigation, and groundwater. The research associate will be a key member of the project, and work with a trans-disciplinary team including Dr. Yadu Pokhrel from CEE department and Dr. Daniel Kramer from James Madison College at MSU and international consortium team members from France, Japan, and Taiwan. The research associate will have opportunities to closely interact with wide range of stakeholders and collaborators toward developing sustainable solutions for irrigation and groundwater use.

The research associate will particularly coordinate research activities and handle large datasets from multi-scale climate and hydrological modeling and socio-economic survey and analysis. The tasks will include high-resolution hydrological modeling using the Community Land Model version 5 (CLM5) from at multiple scales. There will be a close coordination with the social science team to utilize socio-economic data in driving the model and using outcomes to understand social dimensions of irrigation and groundwater use, and their role in the Earth system. Other tasks include dialogue and coordination with relevant stakeholders toward developing model outcomes useful for the stakeholders.

Required Degree: PhD in Civil and Environmental Engineering or a closely related field.

Minimum Requirements

- A PhD degree in Civil & Environmental Engineering or a closely related field.
- Experience in executing numerical experiments using large-scale land surface model, preferably CLM5 (a recent publication to demonstrate this is a plus).
- Ability to handle and process large data on future climate and hydrologic projections.
- Strong written and verbal communication skills.

Desired Qualifications

- Excellent programming skills in Fortran and Python and good command in using Linux and parallel computing using high performance computing systems, and ability to develop new codes and integrate those into the existing modeling systems.
- Strong interest in working with a trans-disciplinary team to address socio-economic issues, and to interact with relevant stakeholders.