



Geography Department Speaker Series

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Ohio State University

Engaging uncommon commonalities and divergent hydroclimate realities-
A geographic perspective from Peru & Ohio



Friday,
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3pm

ZOOM

Link provided in
Email
Announcement



www.geography.rutgers.edu

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Institute of Earth, Ocean
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Modern climate change has a common global forcing, but divergent local expressions and impacts. As the unintended State Climatologist of Ohio, I purpose to engage this in service, teaching and research across gradients of perception and lived experience in Ohio. Additionally, I have conducted interdisciplinary research for over twenty years in the glacierized Cordilleras Blanca and Central of Peru, where ongoing hydroclimatic change and dramatic glacier mass loss have transformed downstream hydrology and challenge future development. In this talk, I will synthesize my collaborative approach to research in proglacial Andean valleys proximate to growing water demand from urban sectors, agriculture, hydroelectric generation, and mining. We have aspired to be transdisciplinary, coupling multi-scalar observations of glacier volume change, hydrology, meteorology, water quality, and land use with socioeconomic perceptions of and responses to environmental change. We have demonstrated the utility of mixed methodologies of physical and social sciences in international partnership. Future social, economic and demographic changes are likely to have equal influence on glacier water resources; natural water-rock interactions but predominantly human use pose threats to water quality. I advocate for open data exchange and educational capacity building in maintaining networked measurements to inform adaptation strategies and evaluating risks for all end users. Similar data stewardship could improve outcomes in Ohio, although re-engaging in polite dialogue might be the greater priority in fulfilling the land-grant mission to educate citizens.

Dr. Mark is a Professor in the Department of Geography, where he teaches classes on climate change and physical geography. As PI at the Byrd Polar and Climate Research Center, he leads the Glacier Environmental Change research group that is student-centered and broadly interested in the extent, drivers and impacts of climate and environmental changes over time, featuring internationally collaborative projects funded by NSF, NASA, Nat Geo, Fulbright, and WNP, among other sources. He is also the acting State Climatologist, directing the State Climate Office of Ohio (climate.osu.edu). He has a Bachelor's in History from Brown University, a Master's in Geography from Ohio State, and a PhD in Earth Sciences from Syracuse University. Before coming to OSU in 2004, he was employed as a postdoctoral researcher at the Max Planck Institute of Biogeochemistry in Jena, Germany, while living in Scotland.