

Climate Change and Public Health: What does climate change mean for the people of Mongolia?

June 20 - July 7, 2022



Course Instructors:

- Prof. Cathy Whitlock, Institute on Ecosystems, Montana State University, whitlock@montana.edu
- Susan Higgins, MS, Center for American Indian and Rural Health Equity, susan.higgins@montana.edu
- PLUS invited medical and climate science instructor experts

Course Overview:

Warmer temperatures are bringing more fires, droughts, and extreme weather events to regions around the world, including Mongolia, and these changes are threatening water supplies, natural resources, and the people who depend upon them. Participants in this course will have the opportunity to spend time in the field with experts in climate science, public health, and natural resource management and examine firsthand the connections between climate change, the environment and human health in one of the most wild and scenic places on Earth. Together, we'll witness some of changes underway in a range of settings from Mongolia's arid lands to its forested mountains. We'll also meet with healthcare practitioners to gain insight about the climate-related health challenges facing local and urban communities.

As a group we'll ponder some of these questions:

- What are the global and local trends in climate with regard to extreme heat, extreme cold, drought, flooding, fires and smoke?
- How has climate change affected natural resources, water and food security, and human health globally and in Mongolia?
- How are vulnerable populations affected and responding to climate change and how is indigenous knowledge offering unique perspectives for resilience?
- What are the demographic and socioeconomic trends in Mongolia and current trends in health status/services?
- What actions can health agencies, rural clinics, and health certification programs take to respond and adapt to climate change, and what messages will be most effective for clinics and communities, community planning, monitoring, policy change, and personal action?

This course is a great fit for those interested in climate science, environmental studies, global

health, public health, medicine, health disparity research, ecotourism, community engagement, communications, journalism, and policy development. All are welcome all as we assess together our collective global climate future.

Anticipated Course Activities:

- Day 1-4: Course and Program orientation in Ulaanbaatar. Gain an introduction to Mongolian culture and language, history and contemporary issues. Meet course faculty and participants, begin course sessions with a few agency meetings and review of air quality issues, and engage in team building through visits to some of the local sites as time allows (e.g., Gandan Monastery, markets, museums).
- Day 5-7: Drive to Erdenet to attend public health briefings. During our travel route, we'll observe how Mongolia's ecosystem has shifted in semi-desert; and how these shifts can and do impact human health. Night at a ger camp.
- Day 8: Drive to Erdenbulgan. Arrive at Upper Uur Camp. Travel to Khovsgol Province and Eg-Uur Valley via Moron, the city center of the Khovsgol Province. A visit to a few clinics in Moron.
- Day 9-13: Class sessions in the forest-steppe of the Eg-Uur Valley and visits to local towns (soums) and river camps.
- Day 14-16: Drive to and stay in Karakorum. [Tour of the Erdene Zuu monastery, visits with local officials etc] Possible drive to Elsen tsarkhai and Erdene Khamba on way back to UB
- Day 17 return to UB in afternoon after monastery visit/hike
- Day 18: Conclusion in Ulaanbaatar

About the Instructors:

Both instructors are co-authors of the recent publication: Adams A, Byron R, Maxwell B, Higgins S, Eggers M, Byron L, Whitlock C. 2021. **Climate change and human health in Montana: a special report of the Montana Climate Assessment.** Bozeman MT: Montana State University, Institute on Ecosystems, Center for American Indian and Rural Health Equity. 216 p. [https:// doi.org/10.15788/c2h22021](https://doi.org/10.15788/c2h22021).



Dr. Cathy Whitlock is a Regents Professor Emerita in Earth Sciences at Montana State University and a Fellow of the Montana Institute on Ecosystems. She is lead author of the 2017 Montana Climate Assessment, and co-lead of the 2021 Greater Yellowstone Climate Assessment. Cathy is nationally and internationally recognized for her scholarly contributions and leadership activities in the field of past climate and environmental change. She has published over 200 scientific papers on the ecological history of Yellowstone and similar regions around the world. Cathy is a Fellow of the Geological Society of America and the American Association for the Advancement of Science, and in 2018, she became the first person from a Montana university to be elected to the National Academy of Sciences.



Susan Higgins, MS, engages in water resources planning, landscape collaboratives and drought resiliency. She has consulted with the Center for Large Landscape Conservation, The Tributary Fund and The Taimen Fund, where she facilitated research activities, leadership exchanges and species and drought resiliency planning in Mongolia, Bhutan and Montana, all with an emphasis on developing best practices for scientists working with faith and indigenous communities. Prior, she directed research communications and water education at the Montana State University Water Center. Susan now works to connect health science researchers with rural and Native Montana communities for the Center for American Indian and Rural Health Equity.

Other Instructors TBA: We are in the process of identifying a Mongolian public health professional to join in field instruction, and are working to bring along an American physician, and a Native American professional in Montana who has developed climate and health adaptation plans for his tribes. We are also setting up meetings with representatives of Mongolia's Ministry of Health; the Mongolian National Emergency Management Agency; Ministry of Environment and Tourism; Information and Research Institute of Meteorology, Hydrology and Environment; and other key partners like the Ministry of Food, Agriculture and Light Industry.