

PLANT AND WILDLIFE SCIENCES  
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## **M.S. and Ph.D. opportunities in ecohydrology, ecosystem ecology, and expert assessment in Arctic and agricultural landscapes**

Two graduate student positions are available in the laboratory of Dr. Ben Abbott at Brigham Young University. Students will work in an interdisciplinary and international team to develop a project in one of three areas:

1. ***Permafrost climate feedback: using stream networks as multi-scale sensors of landscape nutrient and permafrost dynamics***

This project combines high-frequency carbon and nitrogen data with occasional, spatially extensive hydrochemistry throughout Arctic stream networks to identify the location and seasonal stability of nutrient sources and sinks in landscapes undergoing permafrost degradation. It involves fieldwork at Toolik Field Station and synthesis of circumpolar data.

2. ***Freshwater landscapes in the Anthropocene: quantifying catchment resilience to anthropogenic disturbance and nutrient loading***

This project addresses the global eutrophication crisis with new ecohydrological tools including biogeochemical tracers and spatiotemporal analyses. Fieldwork occurs in France and the Intermountain West in catchments with mixed agricultural and urban land use. The student will also facilitate synthesis activities with a large group of ecohydrologists from Europe, Australia, Asia, Africa, and the Americas.

3. ***Combining expert opinions to inform policy: assessing risk of tipping points in subsea permafrost, global wildfire, and cyanobacterial blooms***

This project uses expert assessment methods to quantify uncertainty and identify research priorities for urgent environmental issues. The student will work with an international team to develop and administer a series of quantitative surveys on response of subsea permafrost and global wildfire to climate change, and possible shifts in the frequency and severity of harmful algal blooms.

Applicants should have a B.S. in environmental science, ecology, or a related field, though excellent candidates from any field (including but not limited to humanities, social science, sustainability, and computer science) may be considered. Expected start date is May-September of 2018. Prospective applicants should contact Dr. Abbott ([benabbott@byu.edu](mailto:benabbott@byu.edu)) by December 30<sup>th</sup> with a CV and Cover letter describing research interests and experience.

Sincerely,

A handwritten signature in black ink that reads "B. Abbott".

Ben W. Abbott  
Assistant professor of Ecosystem Ecology  
Department of Plant and Wildlife Sciences  
Brigham Young University