

# PhD Opportunities

## New Natures and Mountain Landscapes, University of Victoria



The [Mountain Legacy Project](http://mountainlegacy.ca) (MLP; [mountainlegacy.ca](http://mountainlegacy.ca)), based at the School of Environmental Studies at the University of Victoria, Canada, invites applications for one or two PhD positions on our “New Natures and Mountain Landscapes” project starting in 2018.

The MLP is working with the world’s largest collection of comparative (before and after) mountain photographs—120,000 historical images taken throughout the Western Canadian mountains in the early 1900s, and 7,000+ repeat images gathered through intensive fieldwork over the last two decades—and used them to examine social and ecological change across the region. Our research has shown that the degree of change in these landscapes over the past century is staggering. Multiple social and ecological factors have intersected to radically and quickly transform these landscapes into what have become known as “new natures”—ecosystems and landscapes that depart significantly from historical patterns and processes. As new natures become increasingly widespread, environmental scholars, policy specialists, and land managers face complicated decisions and difficult trade-offs when they study and plan for possible interventions, including restoration. Processes such as fire, flooding, pathogens, species invasions and range shifts, and shifting human uses open up implications for long-term responsibilities and actions.



This image pair is typical of our collection, showing in this case the image taken from Wilcox Ridge No. 1 survey station by Arthur Wheeler in 1918 as part of the Interprovincial Boundary Survey between British Columbia and Alberta. The repeat image taken by Mountain Legacy Project field teams in 2011 shows dramatic recession in the Athabasca glacier, one of the most visited and iconic in the Columbia Icefield of the Canadian Rockies. The historic images are comprehensive, systematic, and high resolution, making them a significant research resource. <http://explore.mountainlegacy.ca/stations/289>

Our new phase of research will focus on the drivers and patterns of rapid change and explore models to guide decisions about human action in response to new natures. We are looking for PhD students to join the team and lead our efforts to:

- (1) map new natures in mountain landscapes, using our extensive image collection to identify and map regions along the Eastern Slope of the Rocky Mountains in Alberta where ecological change appears to be outside an expected historical range of variability
- (2) pioneer innovative decision models for appropriate human intervention in these new natures, building on strategic foresight tools and working with a wide network of actors involved in decision-making in the Eastern Slopes of Alberta to consider a range of possible, probable, or desirable futures

Prospective students should hold a Master’s degree in a relevant field (environmental studies, ecology, geography, forestry, etc) with experience in restoration, historical ecology, landscape ecology, conservation decision-making, or relevant social sciences. Good writing skills, and strong experience with analytical, problem-solving, lateral-thinking, interdisciplinary research are required. Experience with computationally demanding problems, software development, programming, or GIS are assets, as is previous experience working with local communities.

Direct funding for PhD students would be \$21,000/year for up to three years, with possibilities for teaching assistantships and additional grant support. Of course, we welcome students who have secured external funding already, in which case our grant funds can provide a combination of top-ups, field/equipment funding, and research assistance. We will also welcome master’s students to the research team, but funding is more likely to come from other sources.

You will be based in UVic’s School of Environmental Studies, under the supervision of [Dr. Eric Higgs](#) with potential co-supervision by [Dr. Jeanine Rhemtulla](#) or [Dr. Tara Martin](#) at the University of British Columbia in Vancouver, who are co-investigators on the project. There is a January 15, 2018 admissions deadline at UVic for a May or September (preferred) 2018 program, and it is important to establish a strong thematic and intellectual fit with research program and the School of Environmental Studies *well in advance*. If interested, please email [eric.higgs@uvic.ca](mailto:eric.higgs@uvic.ca) with the subject line “New Natures and Mountain Landscapes PhD enquiry” *no later than October 31, 2017*. Please provide: (1) a description of your background; research interests and fit; (2) your CV; and (3) unofficial transcript(s) of previous degrees (please bundle these together as a single PDF file).