



Hazard and Risk of Glacial Lake Outburst Floods in the Nepal Himalayas

David Rounce and Daene McKinney

The University of Texas at Austin, United States (david.rounce@utexas.edu)

As the climate changes and glaciers continue to melt, the number of glacial lakes and the size of these lakes is rapidly increasing. These glacial lakes are contained by terminal moraines composed of debris, soil, and sometimes ice, which are susceptible to fail catastrophically and cause a glacial lake outburst flood (GLOF). Understanding the hazard and risk associated with these lakes is important for downstream communities and other stakeholders, e.g., hydroelectric companies. Unfortunately, existing methods that are used to assess GLOF hazards yield conflicting classifications, which leads to confusion amongst the stakeholders who these studies are meant to assist. This study assesses existing methods on potentially dangerous glacial lakes in Nepal and uses these methods to develop an objective and holistic risk & action framework that may be used to assist and prioritize risk-mitigation actions.