The future of glaciers in High Mountain Asia

David Rounce and Regine Hock

University of Alaska Fairbanks, Alaska, United States (drounce@alaska.edu)

Glaciers in High Mountain Asia are an important fresh water resource to the more than 1 billion people living downstream. Therefore determining how these glaciers will respond to climate change could have major societal implications. One of the major challenges associated with modeling the evolution of these glaciers is a general lack of meteorological and mass balance data in the region. This study showcases the results of a new open-source glacier evolution model that seeks to improve forecasts of glacier evolution. The model is calibrated with high-resolution geodetic balances and other new data sets, which significantly improves future projections and enables the effects of debris cover to be accounted for.