# Uncertainty from climate forcing of glacier projection for High Mountain Asia

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Current model-based projections in glacier runoff are affected by considerable uncertainties. One of the largest uncertainties originates from climate forcing especially precipitation data. Underestimation of input precipitation data due to poor gauge network in mountainous regions is serious problem. Climate model driven information on climate change is also needed for future projection of glacier but often deemed unreliable. Those hamper effort to simulate the glacier runoff peak timing and magnitude. This research aims at an assessment of the major uncertainties from climate forcing in the modeling of future glacier runoff.

The glacier runoffs were calculated by a glacier model (HYOGA2) forced by two precipitation data and observed temperature data over historical period. Future glacier runoff was projected forced by eight climate models under the RCP4.5 and RCP8.5. The glacier model was calibrated using two precipitation date-sets. Bias correction of climate models were also done by comparing against two precipitation data-sets. The uncertainty of glacier runoff projection from input precipitation datasets and climate model spread will be discussed.

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