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Representation of extreme precipitation events in Nepal in CMIP5 models

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Nepal is highly vulnerable to of extreme climate events due in part to its mountainous terrain and lack of infrastructure. Climate change is projected to increase the frequency and magnitude of extreme temperature and precipitation events worldwide, with particularly severe impacts likely in Nepal. In this study we analyze the performance of general circulation models from the Coupled Model Intercomparison Project Phase 5 (CMIP5) at simulating temperature and precipitation in Nepal relative to the NCEP Reanalysis II and observational data, and we project how extreme events may change during the 21st century. We analyze the uncertainty in our projections, and compare the current generation of models in CMIP5 to prior results in this region using older climate models. Finally, we consider the impact of our projections on Nepal's society and economy.