Evaluating Dynamically and Statistically Downscaled Climate Model for Rainfall Extreme: A Case from Karnali Basin in Western Nepal

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It is well agreed that the climatic extremes events are increasing in last few decades and many scenarios have predicted that those events will increase also in future. There are is an agreement among the climate models on the future increase in temperature, however in case of rainfall, there is a high uncertainty. The global climate models are downscaled either by using the local topography (dynamic) or by establishing a relationship of local weather with the large scale atmospheric phenomenon (statistical). In this paper we attempt to analyze the rainfall extreme events with the dynamically downscaled regional climate models and GCM informed statistically downscaled models for a data scare region of Nepal-Karnali basin. We tested the performances of CORDEX South Asia data and downscaled at the station scale using the SDSM 5.2 (Decision Centric) by providing the GCM informed climate scenarios.

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