

Impact of Climate Change on the Hydrology of Beas River Basin

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The continuously rising of surface temperature is having a huge impact on the hydrological system and thus on the water resources, this leads to the reassessment of the water resources potential resulting from climate change impact. The important parameters that are ruling the climate are temperature, runoff and precipitation. Thus there is a need for modern and updated analysis that can sort out the impact of climate change on various aspect of water resources. The study focuses on determining climate change impact on hydrological processes in the Beas River Basin through statistical analysis for historical and future climate change and various models including General Circulation models (GCM) for simulating the response of climate variables, statistical downscaling technique for modelling the hydrological variables and model for assessment of climate change impact. Statistical analysis has been done using Mann-Kendall test and Sen's Slope estimator and downscaled models has been used to predict future prediction from 2018-2099. Artificial neural network (ANN) and multiple linear regression have been also used in this study to predict modelled data.

Keywords : *Temperature; Regimes; Reassessment; Models; Statistical Analysis; GCM; Downscaling*