

Detection of decadal trends in precipitation across the Tibetan Plateau

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Abstract The Tibetan Plateau has one of the most complex climates in the world. Analysis of the climate in this region is important for understanding climate change worldwide. In this study, the long-term trend of precipitation on the Tibetan Plateau is detected for the period from 1961 to 2001. Precipitation is analysed on monthly and annual time scales using data collected from the National Meteorological Center, China Meteorological Administration. Nonlinear slopes are estimated and analysed to investigate the spatial and temporal trends of climate variability on the Tibetan Plateau using the Mann-Kendall method. Spatial analysis of precipitation variability across the Tibetan Plateau is performed. It shows that the precipitation in the Tibetan Plateau has increased at most regions of the study area over the past several decades, especially in the eastern and central parts of the Tibetan Region, while the western Tibetan Region exhibited a decreased trend over the same period.

Key words climate change; precipitation; Tibetan Plateau; trend
