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Observed trends of climate extremes and climate change scenarios for Armenia region

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Key words: historical time series, climate variability, climate extreme indices, PRECIS, climate change projections. Climate variability has been studied over Armenia region, based on the analysis of historical long time series of air temperature and total precipitation from around 40 meteorological stations operated in the country. Several climate extreme indices, i.e. summer days (annual count of days with daily maximum temperature higher than 25 deg.C), tropical nights (annual count of days with daily minimum temperature higher than 20 deg.C), consecutive dry days (maximum number of days with P<1mm), have been analyzed and changes have been estimated across the country. The results showed that number of summer days, tropical nights and consecutive dry days has significantly increased during last 60-70 years. Climate change scenarios for Armenia have been developed for the period of 2071-2100, based on the PRECIS outcomes under the SRES A2 emission scenario. The results indicate that by the end of century climate of Armenia may become more arid, leading to more frequent and severe droughts. Agroclimatic zones will shift vertically by around 200m. The outcomes of the study are of great importance for the government authorities and decision makers in Armenia, as being incorporated in the Second National Communication of Armenia will serve as a basis for development of adaptation strategies.