

## Assessment of Extreme Precipitation Current and Future Distribution Patterns over Georgia

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This paper is the attempt to model the occurrence of daily precipitation extremes and estimate the return period and tendency of changes of extreme events using 25 stations quality checked and homogenous observation time-series throughout the Georgia. Applying the extreme value theory (EVA), a stationary and non-stationary generalized extreme value (GEV) distribution were fitted to blocks of annual maxima and m-yr return values were calculated for the past (1956–1985, 1986–2015) and future (2020–2051, 2070–2099) periods. Different goodness-of-fit tests were evaluated. Forecasted data were obtained from 20 km resolution regional climate model RegCM4 simulation (scenario IPCC RCP 4.5) and bias corrected against observation gridded and point ones. Climate patterns and current and future differences based for four 30-years periods have been mapped for each obtained parameter. Results proved the general regularities of distribution of percentile based extreme precipitation indices (R95p, R99p) as well revealed shiftings in behavior of average characteristics.