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# Extreme precipitation characteristics over Eurasian continent: uncertainties of estimation and climate variability

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Eurasian continent is characterized by strong changes in extreme precipitation over the last few decades. Using long-term time series of observations at the rain gauges we analyse trends and variability in different characteristics of extreme precipitation. Three major groups of extreme precipitation metrics are in focus: absolute extremes, relative extremeness, and precipitation timing, i.e. the duration of the wet period and its impact on the magnitudes of extremes. Over most of European Eurasia absolute extremes exhibit growing tendency during the last several decades with the magnitudes from 2 to 4% per decade. In the Western and central Europe this tendency is primarily associated with the change in the shape of probability distribution of extreme precipitation during the cold season, while in summer there is a clear indication of the decreasing of the intensity of absolute precipitation extremes. Relative extremeness (i.e. the fraction of seasonal total during the most wet days) also shows a clear seasonality in linear trends with increasing intensity during cold season and the downward tendency in the relative extremeness during warm season. Analysis of the duration of the Eurasian wet spells shows that during the last 60 years wet periods have become longer over most of Europe by about 15–20%. The lengthening of wet periods was not caused by an increase of the total number of wet days. Becoming longer, wet periods in Europe are now characterized by more abundant precipitation. Heavy precipitation events during the last two decades have become much more frequently associated with longer wet spells and intensified in comparison with 1950s and 1960s.