



Heat waves and warm periods in Slovakia

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The scenarios of climate change caused by human activity show that frequency of occurrence and extent of heat waves in the interior of Europe is increasing. Among the most exposed regions in this regard should be the area of southeastern and eastern Austria and south-western Slovakia. The relatively faster increase in the number of heat waves in this area is related also to potential desertification in this region just east of the Alps, since during summer, weather fronts advancing from the west are consequently losing their original features and moderating influence. Summer weather patterns for this area should in the future more closely remind climate typical for some inland areas of southwestern, southern and southeastern Europe. A certain shift of climate zones from south to north should thus modify future climate and Slovakia. Despite the complex natural conditions the existing trends derived from results of meteorological measurements and observations are clear and they confirm warming of climate in this region. Observations and measurements in the recent years of the 21st century confirm, that heat waves are no longer rare phenomenon during summer, but are systematically appearing even in colder regions of northern Slovakia. What is very remarkable and will be necessary to pay more attention to, is the fact that these heat waves are expanding into previously unaffected areas, associated with the lack of rainfall and drought, on larger regional scale. In this study heat wave periods and individual heat events and days are statistically identified in the time series characteristics of air temperature at selected meteorological stations for the period from the mid-20th century until 2015, in case of available historical data even for longer period.