Geophysical Research Abstracts
Vol. 17, EGU2015-2475-1, 2015
EGU General Assembly 2015

Year 2014 - the warmest year in the history of meteorological measurements in Slovakia

Oliver Bochníček, Pavel Fasko, Marek Švec, Peter Kajaba, and Pavel Šťastný
Slovak Hydrometeorological Institute, Bratislava, Slovakia (oliver.bochnicek@shmu.sk)

Europe with its temperature conditions in 2014 contributed to the fact that the global temperature of the Earth in 2014 was among the highest ever observed. Several of the air temperature characteristics that has been recorded in Slovakia, also represented some of the largest positive deviations within the entire area of Europe.

This was caused by only episodic incursions of cold air to the central Europe. The starting point leading to resulting conditions for this year was the extremely warm winter 2013/2014. Temperature records were registered on many stations in the beginning of spring (March), autumn was extremely warm as well and generally warm conditions were observed in the early winter 2014/2015.

The average annual air temperature was the highest in the history of meteorological measurements throughout the territory of Slovakia. Relatively smaller positive deviations from the previous temperature records were only in the area of southwestern Slovakia. However in the regions of north-eastern Slovakia the previous record average annual air temperatures were surpassed by almost 1.0 °C and at high mountain altitudes by more than plus 1.0 ° C. So in generally warm regions of southwestern Slovakia the air temperature during 2014 was on average just slightly higher than it was, for example, in previous exceptionally warm years of 2000, respectively 2007.

Large positive deviations of the average annual air temperature in the high mountain positions from existing temperature records from 2011 were caused by only sporadic flow of cold air into these areas throughout the year. A significant increase in the mean annual air temperature in northeastern Slovakia were subsequently caused by the generally stronger flow of warm air into the regions in the east of Central Europe and region of Eastern Europe during the spring and summer.

Analysis of the average annual air temperature in a historical context was supplemented by the analysis of other characteristics of air temperature. Temperature conditions in 2014 also influenced the precipitation characteristics and they had a remarkable impact on the characteristics of the snow cover as well.