



## **Effects of orography on spatial distribution of convective precipitation in Banská Bystrica district (Slovakia)**

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The research on spatial distribution of convective precipitation over complex terrain runs up against several issues because of dealing with the most dynamic processes in the mid-latitudes. Based on radar and rain gauge measurements, the submitted contribution applies an area estimation of precipitation to verify the dependence of spatial precipitation distribution on terrain characteristics (e.g. altitude) in Banská Bystrica district (Slovakia). Precipitation events are considered only if thunderstorms occurred in the warm part of years between 2005 and 2015. The events with maximum areal daily totals, determined by rain gauge data, are split into the four groups with respect to prevailing direction of storm motion during respective days. Two of the most significant events are selected for each quadrant (S, W, E, N) and compared with respect to their relation to the topography. The daily precipitation totals are reanalysed by the INCA model using operational parameters in 1 km spatial resolution. INCA combines data from two radars and 303 rain gauges merged into combined precipitation fields. The products are compared with basic morphometric characteristics of the topography using DEM with the same spatial resolution. GIS mapping software analyses the closest surroundings (20 x 20 km squares) of the rain gauge stations. Correlations between convective precipitation and terrain are presented for individual DEM features and their categories.