

The topic of this work is the methodological assessment of spatial variability in precipitation anomalies in central Europe using the tools of geographic information systems (GIS). Various on-line data sources for studied area are presented and compared each other in terms of their spatial information. For a model analysis for the period 1950 - 2006 was chosen dataset Ensembles Gridded observational dataset (E-Obs) in the spatial resolution of approximately 25 x 25 km. This data set is stored in a multidimensional raster format NetCDF, which is in the work presented in detail. This way of storing data for geographical analysis are supported by desktop GIS software - ESRI ArcGIS, and to work with NetCDF data E-Obs in it's module ArcMap is developed a set of separate functions (toolbox). With the use of these instruments was from E-Obs dataset extracted several time series, related to the reference subareas. For precipitation's anomalies are considered in these series events indicated the extreme daily precipitation total, or long-term number of consecutive days with continuous rainfall, or long-term period without rainfall. According to intensities or length of precipitation totals and affected areas are selected most extreme episodes, which are modeled in GIS. It is presented the spatial evaluation methodology of anomalies. For demonstrating rainfall localization is the Principal component analyses used. For studied territory are at the end of the work analyzed the changes in spatial variability of precipitation totals during the anomalous period in first and in second half of the reporting period. Location of each anomaly is also compared with the wider geographical context and historical records of floods.