



Spatial and temporal variability of isobaric surfaces height over Central Europe

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The study is devoted to two main issues. The first is determination of mutual relationships between selected isobaric surfaces. The second is detection of their highest and lowest heights. Both of them are closely connected to the air temperature near the ground, therefore could be significant for research in synoptic climatology. The objective is to research of the spatial and temporal variability of the main characteristics over Central Europe in the period of 50-years (1961-2010).

Gridded data with spatial resolution of $2,5^{\circ} \times 2,5^{\circ}$ from the NCEP/NCAR Reanalysis were used as the basic research material. Geopotential height data for 1000, 850, 700, 500 hPa from 12 UTC for entire period were the basis for all calculations. Research area covers Central Europe ($5^{\circ}E - 30^{\circ}E$ and $45^{\circ}N - 60^{\circ}N$). Moreover, sea level pressure (SLP) data in the same spatial and temporal resolution were used as the background of main research. The extreme heights of isobaric levels were determined by 5th and 95th percentile.

Detailed analysis of the spatial and temporal variability of the issues has been performed. Temporal analyses contain different time slices including long term variability. The variability of mutual relationship between selected isobaric levels was the highest in NW and the lowest in SE sectors of the domain. Localisation of areas of minimum and maximum geopotential height was differentiated depending on the selected isobaric level. The long-term variability of geopotential heights of selected isobaric levels was higher for their minima than averages or maxima.