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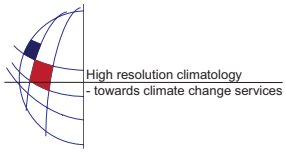

The Influence of Dominant Global Climate Phenomena ENSO, NAO, and AO on Climate in Serbia

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The relationship between El Niño and temperatures in Serbia has been proved. Certain correlation among the average monthly temperatures in Serbia and in Niño 3,4 region, with three months delay, has been found. The fractal analysis of these temperature series was performed via R/S statistic indicating fractal and multifractal (MF) nature of processes.

The calculation of cross-correlation coefficients between NAO index and precipitation, temperature, and pressure data in Serbia has proved considerable NAO influence on Serbia region, especially during winter. The following correlation values were obtained between NAO Index and: pressure 0.60, temperature 0,64, both for Belgrade, while for Niksic negative cross-correlation was obtained for precipitation –0,53. The fractal and multifractal analyses of pressure data series on a number of stations in a wide region from Azores to Iceland and Serbia were done. The obtained results showed that each station in the region has characteristic multifractal spectra of pressure data. The teleconnection with NAO has been also proved by the comparisons of EOF analysis of pressure field in Serbia with the EOF for the north Atlantic domain.

The analyses of NAO influence based on daily precipitation data on stations in Serbia and NAO daily index plus AO daily index were prepared, too. These results suggest that AO influence in Serbia is more prominent than the one obtained for NAO.