



Modelling of climate changes for Eurasian regions and their relationship to the circulation processes in the North Atlantic

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Analysis of regional climate change for the Eurasia and their relationship to the circulation processes in the North Atlantic was performed using the results of simulations with global climate models. Estimates of the relationship of regional climate characteristics of Eurasia with the Atlantic thermohaline circulation (THC) were carried out based on the results of simulations with the global coupled atmosphere-ocean general circulation model ECHAM5/MPI-OM without external forcing (control experiment) for the 500 years. Correlations between annual mean Atlantic THC index and surface air temperature, sea level pressure, precipitation has been computed for different seasons. The strongest correlations are found for boreal winter season. It was also found significant link between Atlantic THC and intensity of the Icelandic minimum, which has a significant effect on the weather conditions on the European regions. The analysis of relationship between climate anomalies on the European territory and the variations of sea surface temperature in the North Atlantic was carried out using the NCEP/NCAR reanalysis data. In general, model simulations are consistent with the NCEP/NCAR reanalysis.