

About possible displacement of subtropical anticyclones on in a direction of mid latitudes and southern regions of Ukraine at the subsequent global warming

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Some features of formation of a modern zone of subtropical anticyclones (a zone of deserts) are analyzed. The hypothesis concerning possible displacement of northern periphery of a zone of subtropical cyclones in a direction of moderate latitudes under influence of the subsequent global warming is discussed. It is proved that a displacement of northern periphery of a belt of subtropical anticyclones on southeast regions of Ukraine is possible if global warming will exceed $\sim 2-30$ in comparison with a modern level of global temperature. It will conduct to essential displacement of natural zones and as a result development of process of desertification of southern and southeast regions of Ukraine in near future.

For an estimation of possible displacement of natural zones in territory of Ukraine for various levels of global warming have been used: a) climate paleoreconstruction of warm epoch of the past (an optimum of Holocene – 5-6 thousand years ago and Miculino – 123-125 thousand years ago). The semi-empirical models of transformation of physiographical natural zones of a planet, in general, and Ukraine in particular under influence of global warming are generalized. The results of these models with the paleoreconstructions of warm epochs of the past are compared. The analysis of basic parameters that characterizes possible transformation of natural zones under influence of changes of a climate – an aridity index is carried out. A new equation for an assessment of this index is considered here. The analytic scenarios of possible displacement of natural zones in territory of Ukraine under influence of the further global warming are worked out.