



Upon the role of Kelvin waves in formation of blocking events over the Eastern Europe

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In case when the Azores high expands along the western coast of Europe towards the Norwegian Sea, the northern part of Kelvin wave is able to separate from the main body. After that, it can merge into the composition of inertial Rossby waves and become stationary over the Eastern Europe, being responsible for the blocking of the zonal flow. The aim of this investigation is to develop the theoretical scheme of the wave process which leads to such blocking over the Eastern Europe. The research includes the following steps. 1) Modelling of typical Kelvin wave with its amplitude definition. 2) Investigation of conditions when the unstable component of Kelvin wave detaches with the subsequent merge into inertial Rossby wave series. 3) Modelling the conditions for the stable blocking formation. The model is based on the wave mechanics theory from Kelvin waves to Rossby soliton wave with accounting the energy balance.