



Seismicity, heat flow and tectonics of the West Arctic Basin

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We can clarify the structure of the West Arctic Basin using analysis of the seismic activity for 2011-2015, the distribution of heat flow values and information about the neotectonic processes of this region. The information about the latest seismicity shows the activation of the manifestation process of tectonic activity of the Arctic Basin caused by rifting, active stretching of the lithosphere blocks and volcanic activity. The most seismic active regions are: areas of the Mid-Arctic Ridge, transition zone continent-ocean and sides of the grabens. The weak seismic activities of the Barents-Kara shelf can be explained by ultra-slow speeds of the processes occurring in the lithosphere. Higher values of heat flow in the North- and South-Barents Basins and in the South-Kara Basin, where the hydrocarbon deposits were allocated, are consistent with the decrease of the lithosphere in this area. Thus, the new seismic data provide an unique information about geodynamic processes of the West Arctic Basin.