Results of fundamental and applied seismological research in the Magadan region in 2016–2020

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Abstract The results of fundamental and applied research, carried out by Magadan Branch of GS RAS during 2016-2020 in Magadan and Chukotka regions are presenting. Estimation of Seismic hazard of Russia's Northeast (Magadan region) and seismic hazard maps for recurrence periods of 500, 1000 and 5000 years in scale close to that of detailed seismic zoning (DSZ) were made in cooperation with Institute of the Earth's Physics RAS. In course of this work the estimation of initial seismic intensity and parameters of possible ground shaking in areas of critical facilities of Magadan region were made. For all of them a seismic micro zonation was carried out with methods of direct earthquake registration and comparing acoustic impedance. As result, a seismic amplification and intensity of seismic impact on the soils under main critical facilities were obtaining. The research results are shown on detailed seismic zoning maps that are basic for building projects of objects above.

Keywords seismic hazard, seismic activity, source zones, seismic shake parameters, detailed seismic zoning, seismic microzoning, seismic profiling.

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