

Ulegorsk earthquake on September 13, 2020 (Sakhalin Island): preconditions for the occurrence and results of observations in the epicentral zone

Elena P. Semenova*¹, Natalya V. Boginskaya², Dmitry V. Kostylev^{1,2}

¹Sakhalin Branch, Geophysical Survey, Russian Academy of Sciences, Yuzhno-Sakhalinsk, Russia

²Institute of Marine Geology and Geophysics, FEB RAS, Yuzhno-Sakhalinsk, Russia

*E-mail: semenova@seismo.sakhalin.ru

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Abstract. On September 13, 2020, an earthquake with a magnitude of $M_w = 4.8$ occurred in the Ulegorsk district of the Sakhalin region. Residents of the localities nearest to the epicenter felt it with a force of up to 5 points on the MSK-64 scale. A total of 62 aftershocks were recorded. The seismic process lasted for about two days, the major mass of aftershocks was registered during the first 7 hours. The epicenters of the registered earthquakes are confined to the system of the regional West Sakhalin fault. However, the fact of active mining of brown coal at the Solntsevskii quarry and massive blasting in the epicentral zone of the Ulegorsk earthquake does not exclude the relation between the seismic process and technogenic seismicity. The article presents the results of observations of the seismic process in the epicentral zone of the Ulegorsk earthquake in September 2020 and considers the probable causes of its occurrence.

Keywords:

seismic events, macroseismic manifestations, intensity, aftershocks, earthquake focal mechanism

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