Seismicity of New Tolbachik Fissure Eruption

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The Great Tolbachik Fissure Eruption (GTFE) took place in the southwestern sector of Plosky Tolbachik Volcano in 1975–76. Earthquake swarm before this eruption was strong, 200 events were located with local magnitude from 3.0 to 5.0 in 10 days. Kamchatkan Branch of Geophysical Survey RAS began a real–time seismic monitoring of Plosky Tolbachik Volcano in November 1996. In contrast to the previous eruption precursor seismicity before current eruption was relatively weak. All earthquakes had local magnitude less than 2.5. The frequency of events per day began to increase gradually in September, 2012. Earthquake number increased rapidly on November 26, 2012. Earthquake hypocenters were generally only to depths of 10 km, and most were initially located below the main summit of Plosky Tolbachik, before migrating to the southern flank and the present main eruptive vent. New major Tolbachik Fissure Eruption began at 05 hours 15 minutes UTC on November 27, 2012 with shallow seismic events with local magnitude 4.0 and strong continuous spasmodic volcanic tremor. New fissure is located between Northern Vent of GTFE and the crater of Plosky Tolbachik. Current powerful explosive–effusive eruption is continuing to present time and is accompanied by strong volcanic tremor.