



Seismicity NGV during two major fissure Tolbachik eruptions as a source of information on the structure of volcanic feeding magma system

Lidiya Slavina (1), Dmitry Likhodeev (1), and Sergey Senyukov (2)

(1) IPE RAS, (2) KB GS RAS

Studying of the nature, the mechanism and communication of a volcanism and seismicity is one of the main tasks of basic scientific researches of the Russian Academy of Sciences on Kamchatka. Outstanding object of such researches is the huge Northern Group of Volcanoes (NGV) on Kamchatka. In the southern part of NGV there were two consecutive outstanding basalt eruptions: LTFE, 1975-1976, and FTE, 2012-2013. Data of detailed seismological researches show properties, development and the mechanism of activity of these eruptions and all NGV. The main source of magmas of volcanoes of NGV is the intermediate magmatic chamber being at a depth of 25-30 km under the Klyuchevsky volcano. From it movement of magmas in the bottom layers of crust on distances to 50 km to other volcanoes of NGV is possible. The subsequent lifting of magmas to active volcanoes of NGV happens in the top layers of crust in connection with their eruptions. This part of magmatic feeding systems of volcanoes is allocated on the presented vertical cuts.

Eruptions of the Klyuchevsky volcano stopped during LTFE and renewed after it in 1977-1978. Emergence of strong eruptions of the Klyuchevsky volcano can be presently a sign of end of FTE. At researches of these two outstanding eruptions the major data on communication of seismic and volcanic processes, and also the mechanism of volcanic activity of NGV are received.