

## **FREQUENT BASALTIC PLINIAN ERUPTIONS IN THE HISTORY OF CHIKURACHKI VOLCANO, KURILE ISLANDS, RUSSIA**

Marina Belousova (1), Alexander Belousov (1,2)

(1) - Institute of Volcanic Geology and Geochemistry, Petropavlovsk-Kamchatsky, Russia; belousov@mail.ru. (2) - GEOMAR, Kiel, Germany.

Chikurachki is a young, active, basaltic (50-53% SiO<sub>2</sub>) stratovolcano 1815 m high in the southern part of Paramushir island (northern Kuriles). Historical eruptions occurred in 1853-1859, 1958, 1961, 1964, 1973 and 1986. Most of the eruptions had weak strombolian and/or vulcanian character, but the strongest 1853 and 1986 eruptions were of plinian type. We have reconstructed parameters of the plinian eruptions from their fallout deposits. Proximal deposit of each eruption composes thick, non-graded layer of coarse (Md=1-(-3.5phi)), well-sorted (1-2phi) basaltic scoria. The 1853 deposit (minimum volume 0.07 km<sup>3</sup>) covers strongly elongated elliptical area with the axis towards NE. Extrapolated maximum thickness in the source 4.2 m; thickness half-distance 2.1 km. Extrapolated maximum size of clasts in the source 55 cm; maximum clast size half-distance 1.6 km. Calculated parameters of the 1853 eruption: maximum height of eruption column 14 km; wind speed 40 m/s; discharge rate 2.9x10<sup>6</sup> kg/s; duration 7 hours. The 1986 deposit (minimum volume 0.1 km<sup>3</sup>) covers strongly elongated elliptical area with axis towards SE. Extrapolated maximum thickness in the source 5.2 m; thickness half-distance 2.2 km. Extrapolated maximum size of clasts in the source 8.4 cm; maximum clast size half-distance 4.6 km. Calculated parameters of the 1986 eruption: maximum height of eruption column 12 km; wind speed 25 m/s; discharge rate 2.5x10<sup>6</sup> kg/s; duration 11 hours. Calculated parameters of the 1986 eruption are in agreement with observational data (SEAN 1986). Sections around the volcano display multiple thick layers of coarse scoria analogues to the deposits of 1853 and 1986 eruptions. This is the evidence that plinian basaltic eruptions were common in the history of Chikurachki volcano. Frequency of these eruptions is estimated as one in 100–200 years. The eruptions pose a serious hazard for aviation traffic, which is very intensive in this region.