

SURFACE STRAINS NEAR THE NORTH VENT OF THE 1975-1976 GREATE FISSURE TOLBACHIK ERUPTION

M.A. Maguskin¹, N.N Titkov², Yu.V. Demianchuk¹

¹Institute of Volcanology and Seismology, Far Eastern Branch of RAS, Petropavlovsk-Kamchatsky, 683006 Russia

²Kamchatka Branch of Geophysical Service RAS, Petropavlovsk Kamchatsky, 683006 Russia

The article presents data on horizontal and vertical surface deformations obtained during geodetic measurements in 1976-2011 around the North Vent of the 1975-1976 Greate Fissure Tolbachik Eruption. Instrumental measurements of the relative vertical deformations show lowerings to 233 cm associated with the surface deflection due to formation of cinder cones and thick deposits of fresh lavas. The decrease of baselines suggests horizontal compressive strains caused by stress relief, arisen during the eruption, and volume reduction of cooling-down near-surface basalt dykes.

Keywords: measurements, benchmarks, movements, surface, eruption.