

ИССЛЕДОВАНИЕ АКТИВНОСТИ  
**INVESTIGATION OF MALY SEMYACHIK VOLCANO (KAMCHATKA) ACTIVITY  
USING MORPHODYNAMIC DATA FROM THE TROITSKY CRATER**

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The paper presents the results from investigation of the Troitsky Crater (Maly Semyachik Volcano) based on photogrammetric processing and interpretation of data from aerial imagery since 1946 and 1950. This is the first investigation that covers almost the whole 70-years-period of the scientific observation of the crater. The authors used all available data from aerial survey and previous investigations, which resulted in rather detailed morphodynamic analysis. We have obtained the precise morphometrical characteristics of the crater and revealed new parameters of the crater lake. Over the period 1950–2012 the water level of the lake increased by 53.7 m. The processing of the most detailed aerial images allowed estimating the volume of scree material from the crater's inner walls. Over the period 1968–2012 the volume of scree material comprised up to 17 percent of the lake's increasing volume. The investigation revealed a possible correlation between the activity of Maly Semyachik and Karymsky volcanoes.

*Keywords: crater lake, photogrammetry, morphometry, morphodynamics analysis, activity correlation.*