

Operative remote monitoring of Kamchatkan volcanoes using the information system VolSatView

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There are 30 active volcanoes in the Kamchatka, and several of them are continuously active. In 2014-2015, four of the Kamchatkan volcanoes (Sheveluch, Klyuchevskoy, Karymsky and Zhupanovsky) had strong and moderate explosive eruptions.

Strong explosive eruption of volcanoes is the most dangerous for aircraft because in a few hours or days in the atmosphere and the stratosphere can produce about several cubic kilometers of volcanic ash and aerosols. Ash plumes and the clouds, depending on the power of the eruption, the strength and wind speed, can travel thousands of kilometers from the volcano for several days, remaining hazardous to aircraft, as the melting temperature of small particles of ash below the operating temperature of jet engines.

Annual Kamchatkan strong explosive eruptions with ash emissions by 8-15 km above sea level represent a real threat to modern jet aviation. To reduce the risk of aircraft encounters with volcanic ash clouds in the North Pacific region, since 2002, KVERT IVS FEB RAS conduct a daily satellite monitoring of 30 Kamchatkan volcanoes and visual and video monitoring of Klyuchevskoy, Sheveluch, Bezymianny, Koryaksky, Avachinsky, Mutnovsky and Gorely volcanoes. KVERT analyses seismic data for 9 volcanoes (Klyuchevskoy, Sheveluch, Bezymianny, Tolbachik, Kizimen, Karymsky, Koryaksky, Avachinsky and Gorely) from the Kamchatkan Branch of Geophysical Survey RAS.

KVERT send Volcano Observatory Notice for Aviation (VONA) by email to Airport Meteorological Center (AMC) at Yelizovo Airport; and the Tokyo Volcanic Ash Advisory Centers (VAAC), the Anchorage VAAC, the Washington VAAC, the Montreal VAAC, and the Darwin VAAC; aviation services, and scientists located throughout the North Pacific region. VONA/KVERT Releases are posted on the web site: <http://www.kscnet.ru/ivs/kvert/> Since 2011, experts from IVS FEB RAS, Space Research Institute RAS, Computing Center FEB RAS and the Far Eastern Planeta Research Center have operated the information system "Monitoring of Volcanoes Activity in Kamchatka and the Kuriles" (VolSatView; <http://volcanoes.smislab.ru>) that uses all available satellite data (operative and long-term archive data), weather and on-ground observations, the results of computational modeling of ash clouds and plumes trajectories to ensure continues monitoring and study of volcanic activity in Kamchatka and the Kuriles.

<http://www.wmo.int/aemp/iwva-7>