Geophysical Research Abstracts
Vol. 18, EGU2016-13630, 2016
EGU General Assembly 2016

The KISS Project - Exploring the magmatic system beneath Kamchatka's volcanoes

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In a joint initiative of GFZ with Russian (IPGG, IVS, KGBS) and a French partner (IPGP) a temporary seismological network has been installed around the Klyuchevskoy volcanic group in Central Kamchatka. The Klyuchevskoy volcanic group is an ensemble of 13 stratovolcanoes with very different compositions and eruption styles in a $\sim$70km diameter area which produced at least 30 VEI$\geq$2 episodes during the last 15 years. Latest activity of the highest volcano Klyuchevskoy (4754 m) was in spring 2015. The group is located right on the triple junction between Asian, Pacifc and North American plates where the Hawaiian-Emperor seamount chain separates the Aleutian and the Kuril-Kamchatka trenches. The complex setting presumably leads to processes like increased melting at slab edges and/or accelerated mantle flow which affect the volcanism and might be responsible for the unparalleled concentration of volcanic activity in the Klyuchevskoy group.
Due to the difficult field conditions and special permitting regulations seismological investigations have been rare in Kamchatka. In this consortium we build strongly on the experience of the Kamchatkan partners for permitting and logistics. Installation was done to about 50% by helicopter. Funding was provided via a grant from the Russian Science Foundation (grant 14-47-00002) to the IVS/KBGS/IPGG, the GFZ, and the IPGP. 60 of the stations were provided by the GFZ instrument pool GIPP. Including the permanent stations operated by KGBS and temporary stations provided by the partners, the network consist of 98 stations and will record earthquakes volcanic signals and the ambient field over one year in an area of approximately 150 by 150km.