The VolSatView for Satellite Monitoring and Kamchatkan Volcanoes Study

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Abstract Text:


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Annually, from 3 to 6 Kamchatkan volcanoes produce eruptions, during which the explosions eject ash to 10-15 km a.s.l., and ash clouds spread thousands of kilometers from volcanoes. Strenuous volcanic activity could cause ash falls in towns and settlements, destruction of forests and communications. Ash clouds and plumes pose a serious threat to the modern jet aviation. Scientists of KVERT have conduct daily monitoring of Kamchatka volcanoes since 1993, to mitigate volcanic hazards to airline operations and population. Since 2014, satellite monitoring of volcanoes is carried out by KVERT scientists using the VolSatView (http://volcanoes.smiseb.ru) IS. The VolSatView (Remote monitoring of active volcanoes of Kamchatka and the Kuril Islands) was created in 2011 by scientists from Space Research Institute (SRI) of Russian Academy of Sciences (RAS), Institute of Volcanology and Seismology of Far East Branch (FEB) RAS, Computing Center of FEB RAS and Far East Planeta Center of Space Hydrometeorology Research, and the IS continues to developing. The system utilize all the available satellite data, weather and video observations to ensure continuous monitoring and study of volcanic activity in Kamchatka. Architecture of the VolSatView IS was developed for the work with distributed information resources and computation systems that are used for the acquisition, processing, storage, analysis, and visualization of various instrumental and scientific data. This work was supported by the Russian Science Foundation, project No. 16-17-00042.

Plain-Language Summary:

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