

Ash plume from Shiveluch volcano

October 12 2012



Ash Plume from Shiveluch, acquired October 6, 2012. Credit: NASA

When NASA's [Terra](#) satellite passed over Russia's Kamchatka Peninsula at noon local time (00:00 Universal Time) on October 6, 2012, Shiveluch Volcano was quiet (top image). By the time NASA's [Aqua](#) satellite passed over the area two hours later (bottom image), the volcano

had erupted and sent a plume of ash over the Kamchatskiy Zaliv. The plume traveled about 90 kilometers (55 miles) toward the south-southeast, where a change in wind direction began pushing the plume toward the east.

On October 6, 2012, the Kamchatka Volcanic Emergency Response Team (KVERT) [reported](#) that the [ash plume](#) from Shiveluch reached an altitude of 3 kilometers (9,800 feet) above sea level, and had traveled some 220 kilometers (140 miles) from the volcano summit.



Acquired October 6, 2012. Credit: NASA

Shiveluch (also spelled Sheveluch) ranks among the biggest and most [active volcanoes](#) on the [Kamchatka Peninsula](#). Rising to 3,283 meters (10,771 feet) above sea level, Shiveluch is a stratovolcano composed of alternating layers of hardened lava, compacted ash, and rocks ejected by previous eruptions. The beige-colored expanse of rock on the volcano's southern slopes (visible in both images) is due to an [explosive eruption](#) that occurred in 1964. Part of Shiveluch's southern flank collapsed, and the light-colored rock is avalanche debris left by that event. [High-resolution imagery](#) of Shiveluch shows very little vegetation within that avalanche zone.



Activity at Shiveluch Volcano, acquired Aug. 3, 2011. Credit: NASA

On October 6, 2012, KVERT cited observations from the [Moderate Resolution Imaging Spectroradiometer](#) (MODIS) instruments on Terra

and Aqua in detecting the Shiveluch eruption. This was not the first time that MODIS observed a Shiveluch eruption shortly after it started. In 2007, MODIS captured an image [within minutes of the eruption's start](#), before winds could blow the ash away from the summit.

More information: Belousov, A.B. (1995) The Shiveluch volcanic eruption of 12 November 1964—explosive eruption provoked by failure of the edifice. *Journal of Volcanology and Geothermal Research*, 66, 357–365. [dx.doi.org/10.1016/0377-0273\(94\)00072-O](https://doi.org/10.1016/0377-0273(94)00072-O)

Global Volcanism Program. Shiveluch. Smithsonian. Accessed October 8, 2012. www.volcano.si.edu/world/volcano.cfm?vnum=1000-27=

Kamchatka Volcanic Emergency Response Team. (2012, October 6) Report of ash explosions or ash plumes. Accessed October 8, 2012. www.kscnet.ru/ivs/kvert/oper/20121006-0137%20UTC%20Sheveluch%20%281000-27%29.txt

Provided by NASA

Citation: Ash plume from Shiveluch volcano (2012, October 12) retrieved 25 April 2024 from <https://phys.org/news/2012-10-ash-plume-shiveluch-volcano.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.