

Photos of the eruption plume taken on September 1st 2014

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TF-SIF an airplane from the Icelandic Coast Guard flew over the volcano and nearby areas in the north of Vatnajökull on September 1st from kl. 13:45 to 16:30.

Despite relatively cloudy conditions, the visibility was acceptable, especially at low altitude. This document discusses several photos taken of the volcanic plume, but does not discuss the lava field, nor potential interactions between the lava and nearby river systems.



The first pictures shows an overview of the volcanic plume and surrounding

clouds. The view is towards the north. The plume was rising about 4 km above the ground level, but strong winds blew it towards ENE. The plume feeds into a cloud that could be traced for several tens of kilometers. West of the plume a cloud layer with a sharp cloud bottom can be seen extending towards the east, and east of the plume this cloud appears darker than west of it.

A dust storm, generated by the strong winds can be seen close to ground level. This dust storm made it more difficult to discern if the eruption was producing ash. Close inspection revealed that little ash seemed to be generated, but due to the sandstorm the possibility of some resuspended ash (from eruptions past) mixing in with the eruption plume cannot be discarded. (Photo: Halldór Björnsson)



The next picture shows the eruption cloud from the top. The view is towards the west, towards the eruption. The eruption cloud has a different appearance than the ambient clouds which makes it easily discernible. (Photo: Halldór Björnsson)



The plume rises from the vent but eventually reaches a level of neutral buoyancy and forms a white wrinkled eruption cloud. Near this level a dark shadow can be seen. In eruptions plumes such dark spots are often a sign of ash, but they can also be simply regular shadows. A detailed inspection revealed no ash falling from the cloud at this level. (Photo: Emmanuel Pagneux)



The fourth photo shows a part of the plume from the side. The view is towards the north and the plane is flying towards west, south of the plume. The plume can be seen as a white cloud rising past a darker cloud in the background. This cloud is not connected to the plume, but a gap can be seen between the dust lofted in the sandstorm and the cloud bottom. (Photo: Halldór Björnsson)



The fifth photo shows the lower part of the plume and also shows how the strong winds are lofting dust up towards the cloud levels. Note that the figure clearly shows that the airblown particles are not falling from the cloud, since their orientation is in the direction of the wind, not against it. (Photo: Halldór Björnsson)



The sixth photo shows the plume is rising from the sandstorm. It is possible that some fine dust is mixed into the plume at this level and then lofted by the rising plume into the eruption cloud. However, the white color of the plume and the cloud that it feeds into, and the lack of fallout implies that this only occurs at a limited rate, if at all. (Photo: Pálmi Erlendsson)



The seventh photo shows that the plume rises evenly from although an occasional turret rises faster than the background. (Photo: Halldór Björnsson)



Finally, there is a photo of the erupting fissure, where the plume originates. The active part of the fissure is a few hundred meters long, but a small crater is also active in the lower part of the image. (Photo: Halldór Björnsson)