

Eruption in Eyjafjallajökull

Status Report: 18:00 GMT, 29 April 2010

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Compiled by: *MJR / HB / MTG / SSJ / GS / BO*

Based on: IMO seismic monitoring; IES-IMO GPS monitoring; IMO river gauges; web cameras of the eruption site from Vodafone, Mila, and Múlakot; IMO weather radar measurements; information from the local police; and aerial observations from a scientific flight with the Icelandic Coastguard (observation plane TF-SIF).

Eruption plume:

Height (a.s.l.): Not visible above clouds at 3.6–5.1 km (12–17,000 ft), but most likely below 3.6 km (12,000 ft). Before the overflight this morning, the eruption plume was not seen on radar images from Keflavík, nor on satellite images.

Heading: West and possibly southwest from the eruption site, but probably remaining close to Eyjafjallajökull due to light winds.

Colour: Cloud-cover obscured direct observations.

Tephra fallout: Light, fine-grained ash-fall reported in the morning during rain at Ásólfsskáli, located 10.5 km south-west of the eruption site. Similar conditions also reported from a farm 12 km south-southwest of the eruption site at 15:00 GMT.

Lightning: Four lightning strikes detected over the summit of Eyjafjallajökull between 19:47 and 20:03 GMT on 28 April.

Noises: Booming sounds were reported yesterday evening, and again this morning, from Selsund, located ~40 km north-northwest of the eruption site.

Additional note: 16:13 GMT: A sulphur smell was detected at 3 km a.s.l. (10,000 ft) by pilots on a passenger flight 50–60 nautical miles east of Keflavík Airport.

Meltwater: Web-camera views show continued discharge of water from Gígjökull due to lava-ice interactions. On 28 April, the discharge of Markarfljót was measured twice at the old bridge, ~18 km downstream from Gígjökull. The flood that began at Gígjökull at ~11:30 GMT yesterday reached a peak discharge of $250 \text{ m}^3 \text{ s}^{-1}$ two hours later at the bridge. Both yesterday and today, mean discharge from Gígjökull was $130\text{--}150 \text{ m}^3 \text{ s}^{-1}$, which is higher than in previous days. The electrical conductivity of Krossá and Steinhóltsá remains high (see report from 28 April for details).

Conditions at eruption site:

Airborne radar surveys from TF-SIF show a well-formed crater. Lava is spreading northward from the crater toward the head of Gígjökull. Ice continues to be melted by the propagating lava front.

Seismic tremor: Intensity comparable to the preceding six days of eruptive activity.

Earthquakes: At 13:10 GMT, an M_l 1.5 earthquake was detected at shallow depth beneath the summit caldera; it is possible that this earthquake was a seismic explosion from the erupting crater.

GPS deformation: Horizontal displacement towards the centre of the volcano, in addition to vertical subsidence. These observations are consistent with deflation of a magma reservoir beneath Eyjafjallajökull.

Magma flow: No measurements possible today.

Other remarks: No measurable geophysical changes within the Katla volcano.

Overall assessment: Plume elevations and magma discharge levels remain similar to the preceding six days of activity. Lava continues to flow north from the eruption site toward the head of the Gígjökull glacier. Today's explosive activity and ash production represents a fraction of conditions during the height of the eruption (14–17 April). Presently, there are no measurable indications that the eruption is about to end.