

Eruption in Eyjafjallajökull

Status Report: 18:00 GMT, 01 May 2010

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Compiled by: *MJR / HB / FS / SSJ / BO*

Based on: IMO seismic monitoring; IES-IMO GPS monitoring; IMO hydrological data; web cameras of the eruption site from Vodafone, Mila, and Múlakot; IMO weather radar measurements; information from scientists at Gígjökull; aerial observations from two scientific overflights: TF-SIF (10:30–11:00 GMT) and Eagle Air (16:40–17:15 GMT).

Eruption plume:

Height (a.s.l.): TF-SIF observations at 10:30 GMT confirmed an ash plume rising to 4–5.4 km (13–18,000 ft) near to Eyjafjallajökull. Clouds of ash at lower elevations observed drifting south-east of the eruption site. No verifiable detections from the weather radar at Keflavík Airport.

Heading: South-east from the eruption site. Plume track detected up to 400 km from the eruption site on AHRR and MODIS satellite imagery (12:11 GMT and 13:30 GMT).

Colour: Dark grey (ash) clouds observed up to 4 km a.s.l. (~13,000 ft). White (steam) plumes rising from Gígjökull, north of the eruption site.

Tephra fallout: Dark, coarser-grained ash-fall reported at Ytri Sólheimar (11:00 GMT), located 22 km south-east of Eyjafjallajökull.

Lightning: No detections today over the eruption site (18:00 GMT).

Noises: Booming sounds reported in the vicinity of Eyjafjallajökull.

Additional note: Plumes of white steam extend partway down Gígjökull. The uppermost plume represents the position of the northward-flowing lava flow, whereas the lower plumes are from hot meltwater.

Meltwater: Discharge remains high from Gígjökull due to lava-ice interactions. Aerial observations of Gígjökull show that warm meltwater has carved a trench partway down the glacier. The electrical conductivity of Krossá and Steinhóltsá remains high (see reports from 28–30 April for details).

Conditions at eruption site:

A 200-m-wide eruptive crater is visible within the ice cauldron. The rim of the crater appears to be ~30 m lower than the adjacent ice surface. Lava has propagated ~1 km north from the crater toward Gígjökull. Although steam is forming over the lava front, no large emissions of steam originate from the eruptive crater.

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

Earthquakes: No locatable seismicity detected beneath Eyjafjallajökull.

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 eight days of activity. Lava continues to flow north from the eruption site and down 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.