

Eruption in Eyjafjallajökull

Status Report: 18:00 GMT, 06 May 2010

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Based on: IMO seismic monitoring; IES-IMO GPS monitoring; IMO hydrological data; IMO weather radar measurements, MODIS satellite image; reports from sent through the IMO web site, information from the Icelandic Coast Guard flight yesterday.

Eruption plume:

Height (a.s.l.): The ash plume observed from commercial pilots between 0530h and 0800h: 30,000 ft/9km. ICG helicopter flight between 13h and 14h: sometimes under 20,000 ft (where there is a cloud bank) and oscillates up into the cloud bank (over 9 km). The height of the plume varies from 4-6 km according to the weather radar. Icelandair Cargo flight at 18:00 climbing towards east from Keflavík estimates height at 21-22,000ft.

Heading: East-south-east over land, then to the south (assessed from AVHRR figure from NOAA at 0435h and 1154h).

Colour: A police officer from Hvolsvöllur, stationed at Rauðafell, observed the ash plume to be dark-gray. Observation from ICG: dark.

Tephra fallout: Considerable ashfall at Þykkvabæjarklaustur in Álftaver (at a distance of 65-70 km), (everything has turned black). It has not been established whether the ash cloud south of Eyjafjallajökull is ashfall or ash that has already fallen and is being blown from the ground. Ashfall seems to start midway through Mýrdalssandur.

Lightning: No detections today over the eruption site.

Noises: No noise can be heard at Hvolsvöllur. No noise was heard at Seljavellir at noon. Noise heard at Heggstaðanes (200 to the north).

Meltwater: Discharge from Gígjökull decreases further and meltwater seems to be running from the eastern side of the glacier. This is different from tuesdays meltwater were water was running from the west side. Lava flow might be changing the direction of meltwater flow. Such changes should be taken seriously with regard to possible outbursts due to accumulation of meltwater. Discharge at the old Markarfljóts bridge is decreasing. It has now been verified that increase in electrical conductivity in Jökulsá á Sólheimasandi was caused by

volcanic ash penetrating the glacier and the meltwater. This rules out the possibility of sulphur rich gas from magma entering the meltwater.

Conditions at eruption site: The lava stream down Gígjökull has been stationary for the last two days. Explosive activity has increased and the cinder cone continues to build up in the northern most ice cauldron.

Seismic tremor: Tremor levels continued to decrease yesterday and this morning. They are now similar to what they were in the first phase of the eruption, 14 to 17 April.

Earthquakes: Earthquake activity is still being recorded. At least 10 earthquakes have been located since midnight. Most of the earthquakes are sourced beneath or south of the top crater in the eruptive conduit that has formed since 3 May. Most of the earthquakes are less than magnitude 2, the biggest M2.2. Three events have been recorded beneath the southeastern ice cap, depth uncertain.

GPS deformation: Measurements from around Eyjafjallajökull show continued horizontal displacement. South of the eruption, stations THEY and SVBH have begun to drift southward, whereas FIM2, located east of the eruption, shows northward motion. No further northward motion has been observed at STE2, located to the north. Today's displacement pattern suggests deformation beneath the southeastern part of Eyjafjallajökull.

Other remarks: Between 14 April and 5 May no signals (except diurnal and long-period earth tides) are seen at strain-station Stórólfsvoll, ~35 km WNW of the eruption.

Overall assessment: Explosive activity has increased and effusive part has decreased for the last two days. This results in a higher eruption column with increased tephra fallout. There are no signs that the eruption is about to end.