

Grímsvötn volcano

Status Report: 17:00 GMT, 3 November 2010

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- Based on: IMO seismic monitoring; IES-IMO GPS monitoring; IMO hydrological data; aerial observations from the Icelandic Coastguard (TF-SIF).
- Meltwater: Water continues to drain from Grímsvötn. At 09:30 GMT today, discharge was gauged at 2,600 m³/s on the Gígja river. Electrical conductivity has increased to 560 µS/cm. Conductivity levels in the Súla river are similar, indicating that a small volume of geothermal water is draining from the western side of the Skeiðarárjökull glacier. It is likely that the jökulhlaup is either at, or nearing, maximum discharge.
- Seismic tremor: At 02:30 GMT today, tremor levels at seismic station 'grf' increased considerably, particularly in the 1.5 – 5 Hz frequency band. Since then, tremor levels at grf have remained elevated. A likely cause for the intensification is a change in drainage rate from Grímsvötn. There is no sign of low frequency tremor indicative of volcanic activity.
- Earthquakes: At 17:44 GMT yesterday, a magnitude 1.6 earthquake was recorded beneath Grímsvötn. Several micro-earthquakes were detected at grf during the onset of heightened tremor at 02:30 GMT; these events were local to grf and probably sourced from the ice. Between 09:03 and 10:45 GMT four tectonic earthquakes were detected beneath Grímsvötn.
- GPS deformation: No change; see status report from 01 November 2010.
- Overall assessment: Seismic tremor at Grímsvötn has continued to amplify, indicating enhanced drainage of water from the subglacial lake. Aerial observations over Grímsvötn revealed no signs of volcanic activity. Discharge continued to increase in the Gígjukvísl river, although it is likely that the jökulhlaup is at, or nearing, maximum discharge. Presently, there are no detectable signs of the beginning of a volcanic eruption at Grímsvötn.