



NATIONAL COMMISSIONER OF THE ICELANDIC POLICE
DEPARTMENT OF CIVIL PROTECTION AND EMERGENCY MANAGEMENT



THE SCIENTIFIC ADVISORY BOARD OF THE ICELANDIC CIVIL PROTECTION

Date: 24.02.2015 **Time:** 09:30 **Location:** Crisis Coordination Centre, Skogarhlid.

Regarding: Volcanic activity in the Bardarbunga system.

Attending: Scientists from Icelandic Met Office and the Institute of Earth Sciences University of Iceland along with representatives from the Icelandic Civil Protection, The Environmental Agency of Iceland and The Directorate of Health.

Main points

- Volcanic eruption in Holuhraun
- Air quality
- Scenarios

Notes

- For the last few days there has been very poor visibility of the eruption in Holuhraun due to bad weather.
- Seismic activity in Bárðarbunga continues to diminish although it can still be considered strong. The strongest earthquake since Friday was measured M3.7 on Saturday, 21st of February, at 15:20. Two other earthquakes stronger than magnitudes M3.0 were detected over the period. In total around 60 earthquakes were detected around the caldera since last Friday. Two deep earthquakes were detected 18 km southeast of Bárðarbunga. The former on 20th of February at 02:50 on 19 km depth, and the later on 21st of February at 21:55 on 16 km depth. No earthquake over M5.0 has been detected in Bárðarbunga since 8. January.
- Around 90 earthquakes were detected in the dyke during the same period. The strongest ones were measured M1.6. It is worth to mention that bad weather does affect the number of small earthquakes detected.
- The rate of the subsidence in Bárðarbunga caldera is now less than 2 cm a day. Ice is subsiding into the caldera does effecting that the data coming from the GPS station in the caldera.
- GPS measurements near Vatnajökull glacier show continuing slow deflation towards Bárðarbunga, indicating a flow of magma from under the volcano.
- Two earthquakes were detected around Tungnafellsjökul glacier, both smaller than M2.0. About 40 earthquakes were detected around Askja and Herðubreið since last Friday. All of them smaller than M2.0.

Air quality:

- Today (Tuesday) gas pollution is expected Southwest and West of the volcano. Tomorrow (Wednesday) gas pollution might be felt to the Northwest of the eruption site.
- The Icelandic Met Office provides two-day forecasts on gas dispersion from the eruptive site in Holuhraun. Most reliable are the forecast maps approved by meteorologist on duty, see [Gas forecast](#). And although still being developed further, an automatic forecast, see [Gas model](#), is also available (trial run, see [disclaimer](#)).
- Measurements of air quality can be found on the webpage www.airquality.is Data from handheld gas monitors, spread around the country, can also be found on that page



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- Instructions:
 - People who feel discomfort are advised to stay indoors, close their windows, turn up the heat and turn off air conditioning. Use periods of good air quality to ventilate the house. People experiencing adverse effects should be in immediate contact with their healthcare centre. Measurements of air quality can be found on the webpage www.airquality.is The Meteorological Office issues forecast on its web-page and warnings if conditions change to the worse.
 - Instructions from [The Environment Agency of Iceland](#) and [Chief Epidemiologist](#) can be found on their web-sites.
 - Check the Icelandic Met Office forecasts for sulphuric gas dispersion on the web as described above.
 - Handheld meters have been distributed around the country for SO₂ measurements three times a day.
 - Information and any questions on air pollution can be sent to The Environment Agency through the email gos@ust.is. The Environment Agency is especially looking for information from people who have been in contact with high concentrations of gas; where they were, at what time it happened, how the gas cloud looked (colour and thickness of the cloud) and how they were affected by it.
- The volcanic eruption has now been going on for almost half a year. The lava flow has decreased substantially in Holuhraun and the rate of the subsidence of the Bárðarbunga caldera has also decreased substantially. Three scenarios are considered most likely:
 - The eruption in Holuhraun continues until the subsidence of the Bárðarbunga caldera stops. The eruption could come to an end in the next few weeks but it cannot be ruled out that a small eruption could go on for many months.
 - The volcanic fissure may lengthen southwards under Dyngjufjökull, resulting in a jökulhlaup and an ash-producing eruption. It is also possible that eruptive fissures could develop in another location under the glacier. If such an eruption would be prolonged it could eventually produce a lava flow.
 - Volcanic eruption in the Bárðarbunga caldera. Such an eruption would melt large quantities of ice, leading to a major jökulhlaup, accompanied by ash fall.

Other scenarios cannot be excluded.

- **From the Icelandic Met Office:** The Aviation Colour Code for Bárðarbunga remains at 'orange'.
- The next meeting will be held on Friday 27th of February 2015.

The National Commissioner of the Icelandic Police, Department of Civil Protection and Emergency Management
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