



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



THE SCIENTIFIC ADVISORY BOARD OF THE ICELANDIC CIVIL PROTECTION

Date: 06.01.2015 **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 and The Environment Agency of Iceland.

Main points

- Volcanic eruption in Holuhraun
- Air quality
- Scenarios

Notes

- Insubstantial changes have been in the volcanic eruption in Holuhraun over the last few weeks. The lava is now both flowing inside a closed channels and on the surface of the lava field. Data collected in flight over the lava field on 30th of December show that the volume of the lava field in Holuhraun is about 1,15 cubic kilometre.
- Seismic activity in Bardarbunga continues to be strong, but it has though somewhat decreased. Total number of earthquakes in Bardarbunga from the last meeting of the board, on the 30th of December, is just over 250. About 20 earthquakes were between M4,0-5,0. The strongest one was M4,9 last night, 5. December, at 21:53. About 50 earthquakes were detected in the dyke of the same period, most of them smaller then M1,0. One earthquake was M2,0 yesterday, 5. January, at 02:26.
- Seven earthquakes were detected in Tungnafellsjokull glacier during the period. The strongest one was around M3,0 on 30. December at 16:51.
- GPS measurements near northern Vatnajokull glacier show continuing slow deflation towards Bardarbunga. The rate of the deflation continues to slow down.
- The GPS station in Bardarbunga caldera show that the caldera continues to subside. The rate of the subsidence continues to slow down and is now around 13 cm per day.

Air quality:

- Today, Tuesday, and tomorrow, Wednesday, there are chances of gas pollution north of the volcano.
- The Icelandic Met Office provides two-day forecasts on gas dispersion from the eruptive site in Holuhraun. Most reliable are the forecast maps approved my 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

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



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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 over three months, the lava flow is still great in Holuhraun and the rate of the subsidence of the Bardarbunga caldera is still significant. Three scenarios are considered most likely:
 - The eruption in Holuhraun continues until the subsidence of the Bardarbunga caldera stops. The eruption can still go on for many months.
 - The volcanic fissure may lengthen southwards under Dyngjajokull, resulting in a jokulhlaup 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 Bardarbunga caldera. Such an eruption would melt large quantities of ice, leading to a major jokulhlaup, accompanied by ash fall.

Other scenarios cannot be excluded.

- **From the Icelandic Met Office:** The Aviation Colour Code for Bardarbunga remains at 'orange'.
- The next meeting will be held on Friday 9 of January 2015.

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