



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



## THE SCIENTIFIC ADVISORY BOARD OF THE ICELANDIC CIVIL PROTECTION

**Date:** 27.01.2015    **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, Directorate of Health and The Environment Agency of Iceland.

### Main points

- Volcanic eruption in Holuhraun
- Air quality
- Scenarios

### Notes

- The volcanic eruption in Holuhraun continues. Visible intensity of the eruption was low on last Wednesday while various observations were done at the eruption site. Comprehensive cross-section measurements from air (on 30. December and 21. January) show however that the lava field has thickened substantially during these three weeks and that the volume of the lava field is now little less than 1.4 km<sup>3</sup>. The flow of magma, during this period, was just under 100 m<sup>3</sup> per second. The intensity of the eruption is there for slowly decreasing but hopefully it will be possible to measure the volume of the lava field again later this week, which will give new numbers on the flow of magma.
- Seismic activity in Bardarbunga continues to be strong. Eight earthquakes between M4.0-4.9 have been detected since the last meeting of the Advisory Board on Friday. The strongest one was measured M4.9 on Saturday, 24. January at 07:25. About 40 earthquakes between magnitudes M3.0-3.9 were detected over the period. In total around 150 earthquakes have been detected around the caldera since last Friday. No earthquake over M5,0 has been detected in Bardarbunga since 8. January.
- Around 50 earthquakes were detected in the dyke during the same period. Most of them were under M1.0 but the strongest one was M1.6 on 24. January.
- GPS measurements near northern Vatnajökull glacier show continuing slow deflation towards Bardarbunga.

#### Air quality:

- Today (Tuesday) gas pollution from the eruption might be felt in the northeast parts. Tomorrow (Wednesday) gas pollution will affect areas in the southeast during early morning, but areas to the south and southwest by afternoon.
- 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](http://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](http://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 SO<sub>2</sub> 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](mailto: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 little less than five 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 30<sup>th</sup> of January 2015.

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