



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



## THE SCIENTIFIC ADVISORY BOARD OF THE ICELANDIC CIVIL PROTECTION

**Date:** 13.01.2015      **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

- Insubstantial changes have been in the volcanic eruption in Holuhraun over the last few weeks. Although the power of the eruption has diminished, it is still quite forceful. The flow of lava is now largely under the surface of solidified lava.
- Seismic activity in Bardarbunga continues to be strong, but it has though somewhat decreased. The largest earthquake since the last meeting of the Advisory Board was of magnitude M4,7 on Saturday, 10 of January at 18:23. In total 16 earthquakes were recorded of the period between magnitude M4,0-5,0 and 13 between M3,0-4,0. Over 20 earthquakes were detected in the dyke of the same period, all of them smaller than M2,0.
- Six earthquakes were detected in Tungnafellsjökull glacier since Friday. The biggest was M2,1 tonight, January 13 at 04:21. Around 20 earthquakes were detected around Herdubreid, all smaller than M2,0.
- GPS measurements near northern Vatnajökull glacier show continuing slow deflation towards Bardarbunga.
- The GPS station in Bardarbunga caldera show that the caldera continues to subside.
- Indications are of increased respiratory symptoms in Iceland over the period of the volcanic eruption. No serious cases have though been reported.
- High values of sulphuric dioxide are still being recorded. Over the weekend high values were recorded in Hofn (3400  $\mu/m^3$ ) in Reydarfjordur (1000  $\mu/m^3$ ) and in Jokuldal (7800  $\mu/m^3$ ).
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#### Air quality:

- Today (Tuesday), there is a risk of gas pollution southwest of the eruption site. Tomorrow (Wednesday) gas pollution is expected south and southwest 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 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 over four 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 Dyngjufokull, 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 16 of January 2015.

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