



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



THE SCIENTIFIC ADVISORY BOARD OF THE ICELANDIC CIVIL PROTECTION

Date: 05.12.2014 **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

- Insubstantial changes have been on the volcanic eruption in Holuhraun over the last few weeks.
- Scientists flew over Bardarbunga and the eruption site in Holuhraun yesterday, Thursday 4 December. Measurements done during the flight indicates that the subsidence in the Bardarbunga caldera continues with similar rate as is has done for the last few weeks. Data collected on the volume of the lava field as still being processed.
- Scientists flew this morning on a helicopter from the Icelandic Coast Guard towards Bardarbunga. The mission is to restore connection with the GPS station in the Bardarbunga caldera.
- Seismic activity in Bardarbunga continues to be strong. Four earthquake of magnitude M4,3 were detected since noon on Wednesday, 3. December. Two were detected yesterday at 00:32 and 15:45, and two tonight at 00:16 and 03:03. Ten earthquakes larger than M,4 were detected over the period, and 12 earthquakes between magnitude M3,0-4,0. In total 125 earthquakes were detected in Bardarbunga since noon on Wednesday.
- Little seismic activity was detected in the dyke and around the eruption site in Holuhraun since Wednesday.
- Following the overview of the activity in Bardarbunga and the volcanic eruption in Holuhraun issued after the last meeting of the Scientific Advisory Board, on Wednesday, it is worth to note the following:
 - Despite several events where high values of sulphuric dioxide (SO₂) have been recorded, following the volcanic eruption, no cases of serious health problems have been reported, although many people have experienced temporary respiratory discomfort.

Air quality:

- Today (Friday) gas pollution is expected south and east of the eruption and the wind is calm. Looks like stronger winds tonight and the pollution will travel towards north northwest. Tomorrow (Saturday) the gas pollution will move eastward.
- 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](#)).



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- 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 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.
- Three scenarios are considered most likely:
 - The eruption on Holuhraun declines gradually and subsidence of the Bardarbunga caldera stops.
 - Large-scale subsidence of the caldera occurs, prolonging or strengthening the eruption on Holuhraun. In this situation, it is likely that the eruptive fissure would 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.
 - Large-scale subsidence of the caldera occurs, causing an eruption at the edge of the 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 Monday 8 of December.

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