NATIONAL COMMISSIONER OF THE ICELANDIC POLICE

DEPARTMENT OF CIVIL PROTECTION AND EMERGENCY MANAGEMENT

THE SCIENTIFIC ADVISORY BOARD OF THE ICELANDIC CIVIL PROTECTION

Date: 28.11.2014	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 two weeks.
- Seismic activity in Bardarbunga continues to be strong. The biggest earthquake that was detected since noon on Wednesday, was of magnitude M5,1 this morning, 28. November at 06:41. Since noon on Wednesday 7 earthquakes larger then M4,0 were detected in Bardarbunga and 12 earthquakes between M3,0-3,9. In total about 170 earthquakes were detected in Bardarbunga since Wednesday.
- About 20 earthquakes were detected in the dyke and around the eruption site in Holuhraun since Wednesday. All of them were smaller then magnitude M1,0.
- About 20 earthquakes were detected in Tungnafellsjokull glacier since Wednesday. The biggest one was of magnitude M2,0.
- Scientists flew over Bardarbunga on Wednesday, 26. November. According to data collected in the flight the total depression of the Bardarbunga caldera is 50 meters and the total volume of the depression about 1,4 cubic kilometre since the seismic activity started in mid-August.
- No signal is coming from the GPS station in the Bardarbunga caldera, the most likely explanation is that the subsidence of the caldera is so great that the GPS station is now below the caldera rim and is therefore out of sight of the relay station in Kverkfjoll.

Air quality:

- Today (Friday) and tomorrow gas pollution is expected north of the eruption site, but in East Iceland tomorrow night.
- 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 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 Dyngjujokull, 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 1 of December.