NATIONAL COMMISSIONER OF THE ICELANDIC POLICE

DEPARTMENT OF CIVIL PROTECTION AND EMERGENCY MANAGEMENT

THE SCIENTIFIC ADVISORY BOARD OF THE ICELANDIC CIVIL PROTECTION

Date: 05.11.2014	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

- The volcanic eruption in Holuhraun continues with similar intensity. Driving conditions are becoming hard in the area around the eruption site and on the road into the area making observation of the eruption more difficult for the scientists in the field.
- Seismic activity in Bardarbunga continues to be strong. Since Monday, the 3. of November, 200 earthquakes have been detected in the caldera. The largest measured earthquake was on Tuesday, November 4. at 20:45 of M4,8. A total of 15 earthquakes were of sizes between M 4 and 5; 15 of sizes between M3 and 4. No earthquakes larger than M5 have been observed since Sunday.
- The GPS station in the centre of Bardarbunga shows that the subsidence of the caldera continues with similar rate as it has been doing over the last few weeks. Measurements carried out from the air show that the greatest subsidence of the Bárðarbunga caldera has now reached 44 meters.
- Energy of the geothermal areas in Bardarbunga is now few hundred megawatts and the melting of water is estimated around 2 cubic meters per. second. Aerial observations on Tuesday November 4th show that the geothermal cauldrons in Báðarbunga have deepened by 5-8 meters over the past 11 days.
- Only 30 smaller earthquakes were detected in the dyke and at the eruption site in Holuhraun since Monday, none larger than M2,0.
- GPS measurements in the active area show minor changes, there are however signs of a slight decrease in the subsidence towards the Bárðarbunga volcano.

Air quality:

- Today (Wednesday) gas pollution from the eruption will travel towards northeast and subsequently to the northwest. Initially the pollution will be detected in the area of Austfirðir and subsequently as far west as Skagafjörður along the north coast. Tomorrow the the pollution will travel to the west and northwest coastal areas. Tomorrow evening the pollution will reach the coastal areas in the southwestern part of the country.
- 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 the meteorologist on duty, see Gas forecast. In addition there is an

automated model-based forecast available, this is still under development: see Gas model (trial run, see disclaimer).

- A new online gas detector has been put up in Hofn in Hornafjordur. 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 Friday November 7th.