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Eruption in Eyjafjallajökull 20 March to present http://www2.norvol.hi.is/page/ies_EYJO_compiled

Meginmál vefsíðu: Fara efst a síðu

Fimmvörðuháls and Eyjafjallajökull eruption: 20 March to present
Compiled by Freysteinn Sigmundsson and staff of the Institute of Earth Sciences

Information sources: Nordic Volcanological Center, Institute of Earth Sciences; Icelandic Meteorological Office (seismic and hydrological observations) and many others.

April 24: Magma flow rate has remained at similar level over the last few days. Plume activity is gradually declining. Flow of lava is considered to have began around noon on Wednesday 21 April. Timing is based on: a) onset of semi-continuous discharge of meltwater from Gígjökull, b) Observations of steam rising at northern margin of ice cauldon at 1300 on 21 April, and c) a change occurs in fluctuations in tremor amplitude at this time. No signs of melting or meltwater discharge towards south. No signs of termination of eruption.

April 23: Similar situation for the last two days (see 21 April report)
Seismic tremor recorded by the Icelandic Meteorological Office: Some fluctuations, but mostly stable
Eruption plume: The strength and tephra content of the plume varies. In afternoon 22 April plume reached temporarily up to 6 km height, but was mostly at about 3 km level. Wind deflects the plume now to NW, closing airports in SW-Iceland.

April 22: Similar situation as yesterday (see 21 April report)
Seismic tremor recorded by the Icelandic Meteorological Office: Some fluctuations, with a peak shortly after midnight 22 April related to a small flood of meltwater. Since the onset of the explosive eruption the tremor has overall been gradually increasing, with superimposed fluctuations.

April 21: Eruption continues with less explosive activity. Eruption rate is inferred to have declined over last few days and now be an order of magnitude smaller than during the initial 72 hours of the eruption. Present eruption rate is estimated to less than 30 m3/s of magma, or 75 tonnes/s , with a large uncertainty.

April 20: Latest results from GPS stations around Eyjafjallajökull show deflation associated with the eruption. No movements associated with the Katla volcano are presently observed - Benedikt Ófeigsson and Bryndís Brandsdóttir

April 15: Explosive eruption continues. Eruption plume reaches mainland Europe with closure of airspace over large part of Northern Europe, incldluing UK and Scandinavia. Eruption tremor continues at similar level.

April 14: Onset of seismic tremor shortly after midnight of increasing amplitude, in association with an eruption from a new vent under the central ice-capped crater of Eyjafjallajokull. The eruption is visually confirmed in early morning - eruption plume rises above Eyjafjallajokull. Meltwater forms a jokulhlaup.

April 13: Extensive seismic swarm begins around 23:00 under the central part of Eyjafjallajokull.

April 12: Seismic tremor reaches a minimum - eruption temporarily stops.

April 11: Eruption tremor approaches pre-eruptive levels, but visual observation reveal eruptive activity in late afternoon.

April 9: After little change in deformation rates during the eruption, timeseries at continuous GPS-stations north of the volcano show sudden change, partly jumping back to pre-eruptive levels. Signals may relate to decreasing pressure in the magma conduit feeding the eruption.

April 7: Activity has stopped in the original craters of the eruption, and is limited to craters on the new fissure formed on 31 March. Lava flows cover an estimated area of 1.3 square kilometers, with estimated average thickness of 10-20 m. Maximum elevation of scoria craters formed in the eruption is 82 m.

April 5: Eruption tremor (1-2 Hz frequency band at nearest seismic station Godabunga) begins to decline in a gradual manner.

31 March - April 6: Activity continues in both the old and new eruptive craters, in a similar manner as before, with

lava mostly flowing towards the NE, and pronounced „lava falls“ in Hvannárgil. Last active phase of the of the lava fall into Hrunagil on 31 March.

Evening of March 31: Opening of a new short fissure immediately north of the previous one probably relating to changes at shallow depth in the feeder channel (few hundred meters?). No change in eruption tremor.

23 - 31 March: Steady eruptive activity in initial craters with gradual focusing towards fewer vents. Lava flows towards north into two canyons, Hrunagil and Hvannárgil, with intermittent spectacular „lava falls“ as molten lava flows off steep cliffs into both canyons. Extensive steam plume generation when magma melts snow in front of advancing lava, mostly in the canyons. Two or three plumes observed (one at the eruptive craters, others more pronounced in front of the advancing lava). Meltwater released in batches into rivers in the canyons. Relatively steady eruption tremor recorded by seismometers.

22 March: Initial observations from ground. Activity had focused on a series of closely spaced vents. Prevailing easterly winds lead to maximum scoria accumulation on a linear rim west of the NE-SW oriented fissure. Lava flows (Aa type) towards the Hrunagil canyon with initial view on a spectacular „lava fall“ as molten lava flows off steep cliffs into the canyon.

21 March: Observations from air in early morning reveal a short (<500 m) NE-SW oriented effusive eruptive fissure with fire fountaining and Hawaiian eruptive style. Fire fountains occur from 10-12 vents, with lava jets reaching up to about 100 m hight. The eruption appeared stable from 4-7 AM when viewed from air. The eruption tremor rose gently until reaching a maximum around 7-8 AM. No further lengthening of the fissure was detected. Lava is limited to immediate surroundings of the eruptive craters (less than few hundred meters). Minor amount of ash falls within few km to the west of the eruption site, carried by easterly winds. No ice melting is occurring as the eruptive fissure is just outside the ice covers of Eyjafjallajökull and Mýrdalsjökull.

20 March, late evening: An eruption begins on Fimmvörðuháls located between the Eyjafjallajökull and Mýrdalsjökull ice caps. The eruption was initially detected visually; a red cloud above eruptive site was seen around 23 GMT. The onset of the eruption was gentle, following a period of weeks and months prior to the eruption of high seismic activity and high crustal deformation rates in the Eyjafjallajökull volcanic system. Seismic tremor begins around 22:30 and rises gently. Seismicity was not enhanced significantly immediately prior to the eruption compared to the weeks prior to the eruption. However, the depth of earthquakes decreases and earthquake propagate from magma upwelling area under Eyjafjallajökull towards the eruptive site.