



Geldingadalir 2021 ©Egill Árni Guðnason

NASPMON: CURRENT STATE OF THE ERUPTION

Egill Árni Guðnason

NASPMON 1st in-person meeting, Reykjavík

September 8th, 2021

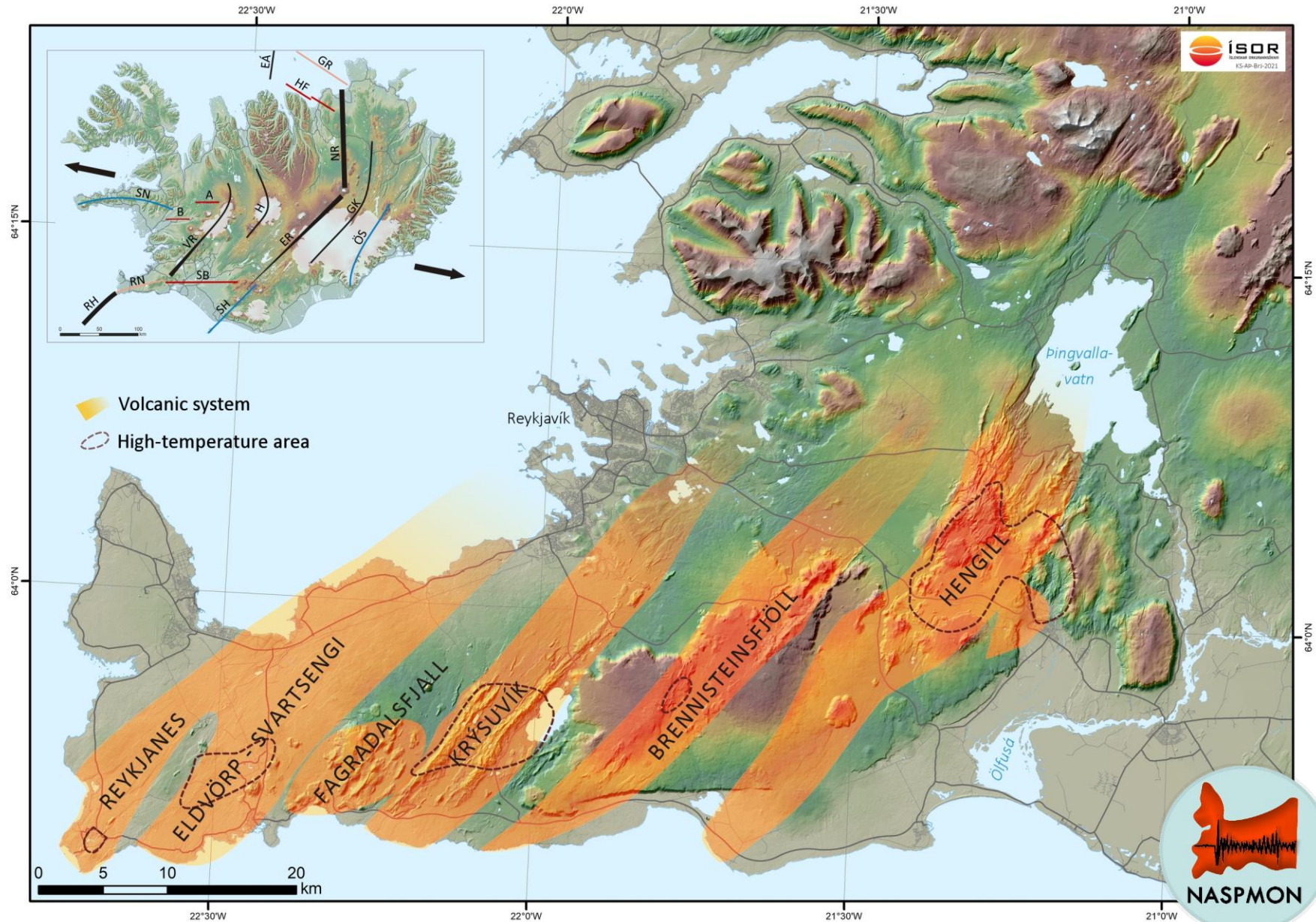
BRIEF REVIEW: VOLCANIC SYSTEMS OF THE REYKJANES PENINSULA

Fissures and normal faults grouped into 6 en echelon volcanic systems:

- Reykjanes
- Eldvörp-Svartsengi
- Fagradalsfjall
- Krýsuvík
- Brennisteinsfjöll
- Hengill

Normal faults and fissures w/ NE-trend

Active HT geothermal system in 5 of 6 volcanic systems



BRIEF REVIEW: TECTONICS OF THE REYKJANES PENINSULA

The structural features of the Reykjanes Peninsula Trans-Tensional Zone

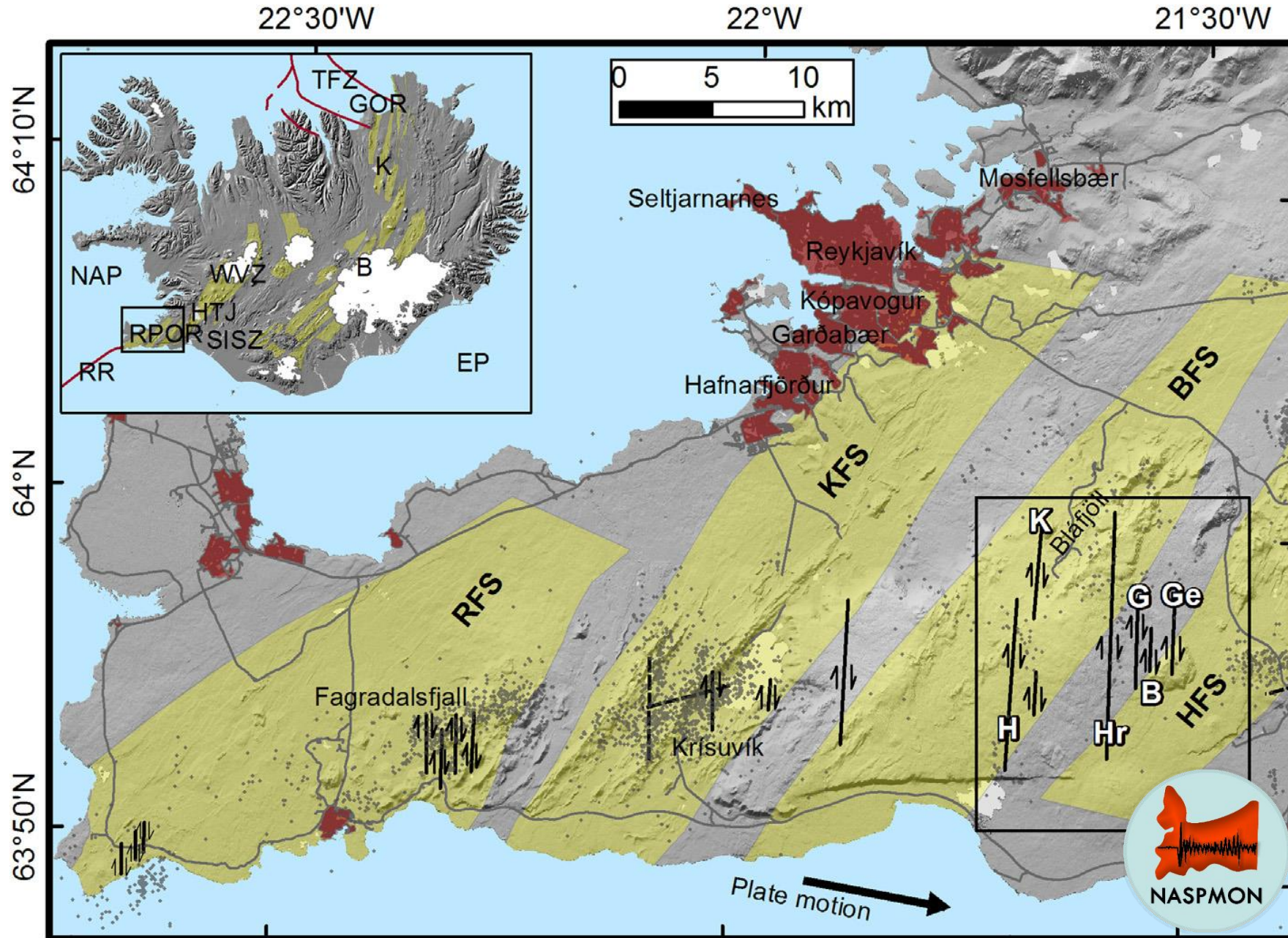
Seismogenic strike-slip faults expressed as N-S trending arrays of en-echelon fissures

Right-lateral movement dominant

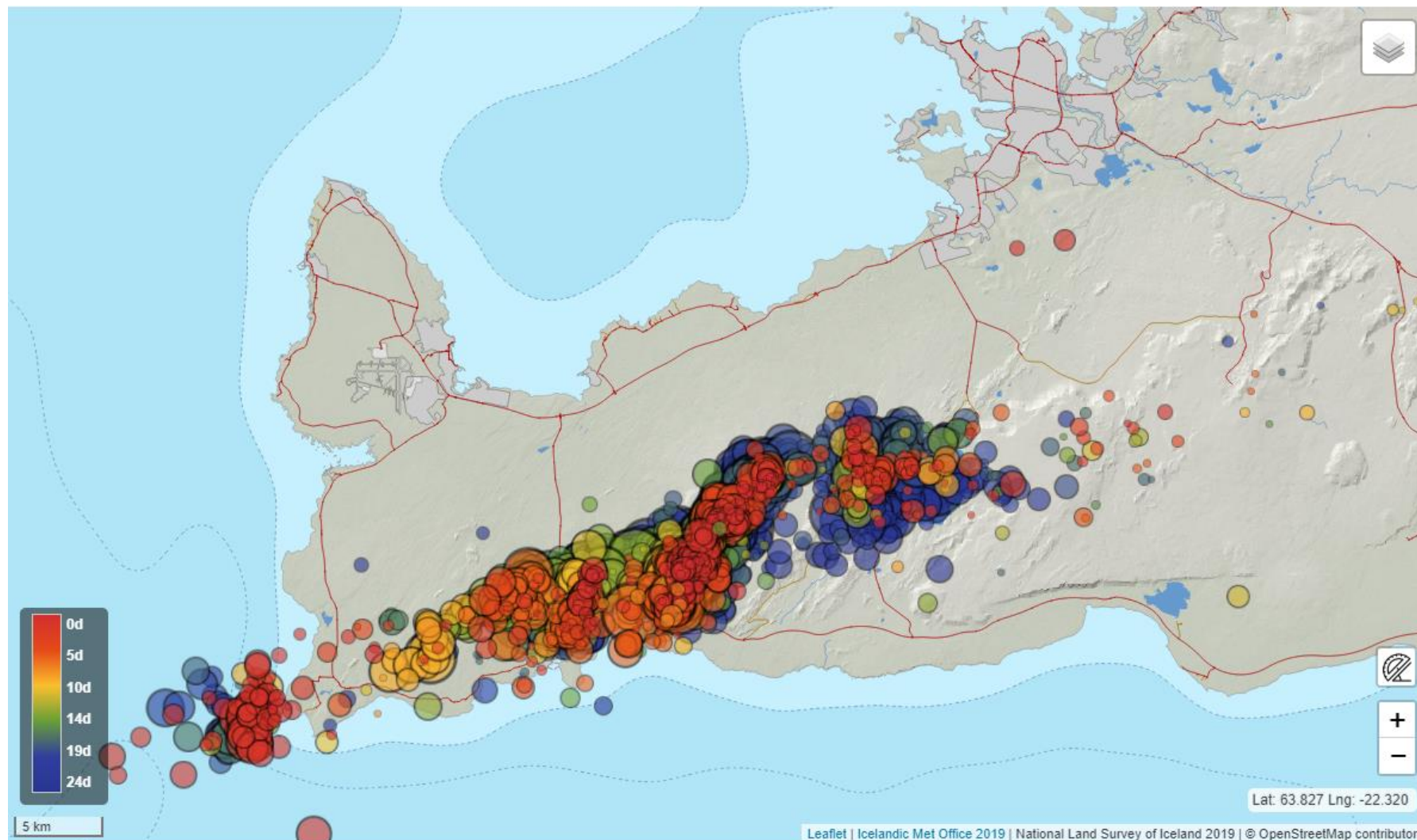
Generate the largest earthquakes

Earthquake epicenters of M>2 during 1993-2013, from the IMO.

Figure from: Einarsson et al., 2018

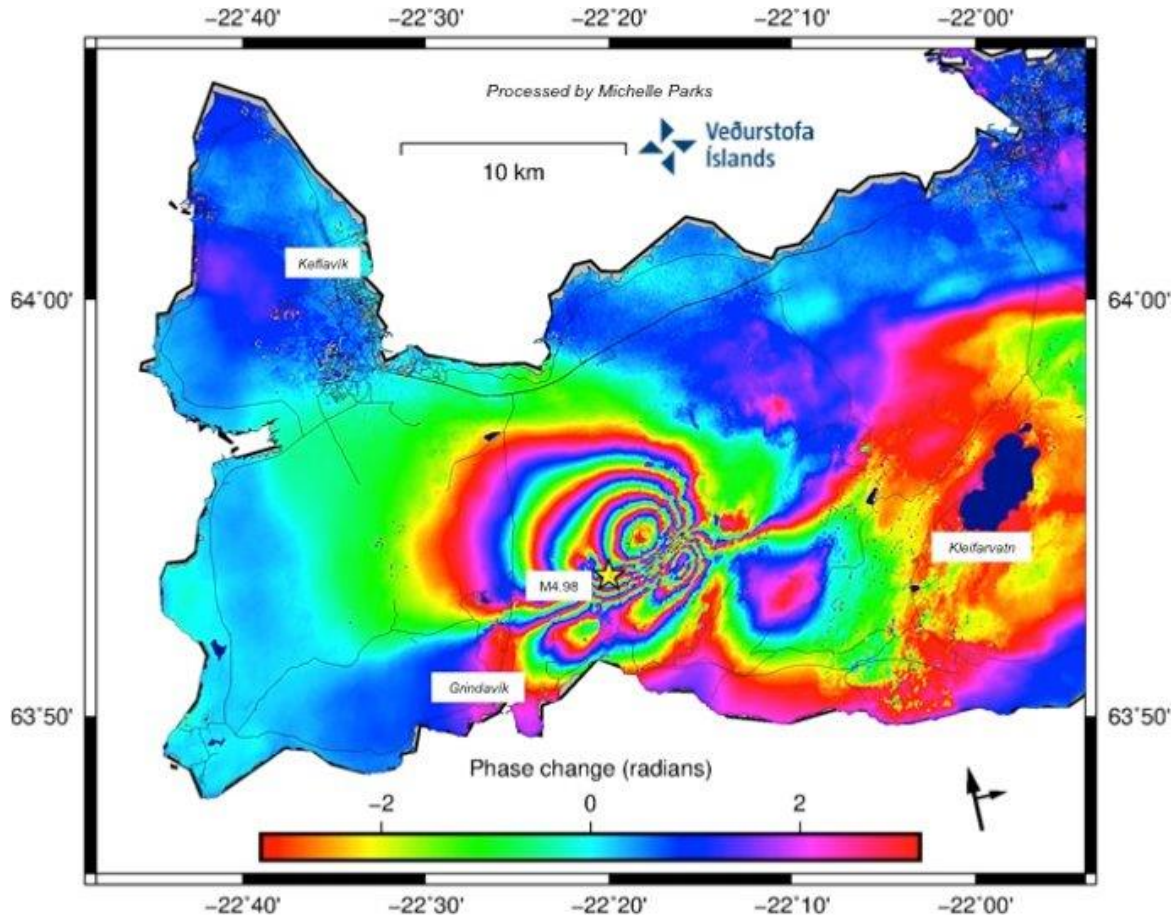


IMO LOCATIONS – 2021 / DYKE ONSET TO ERUPTION (24.FEB. – 20.MAR.)

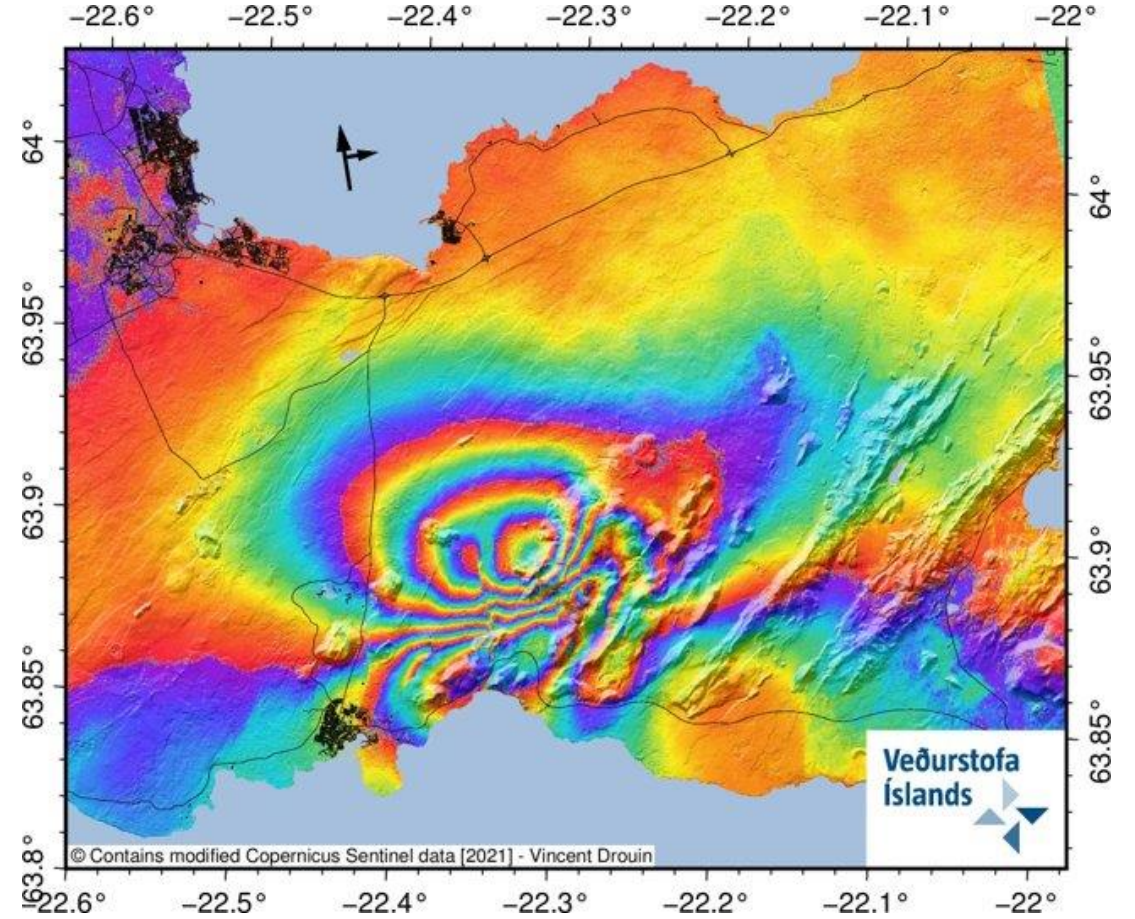


INSAR : DYKE PROPAGATION CONFIRMED

3.-9. March 2021

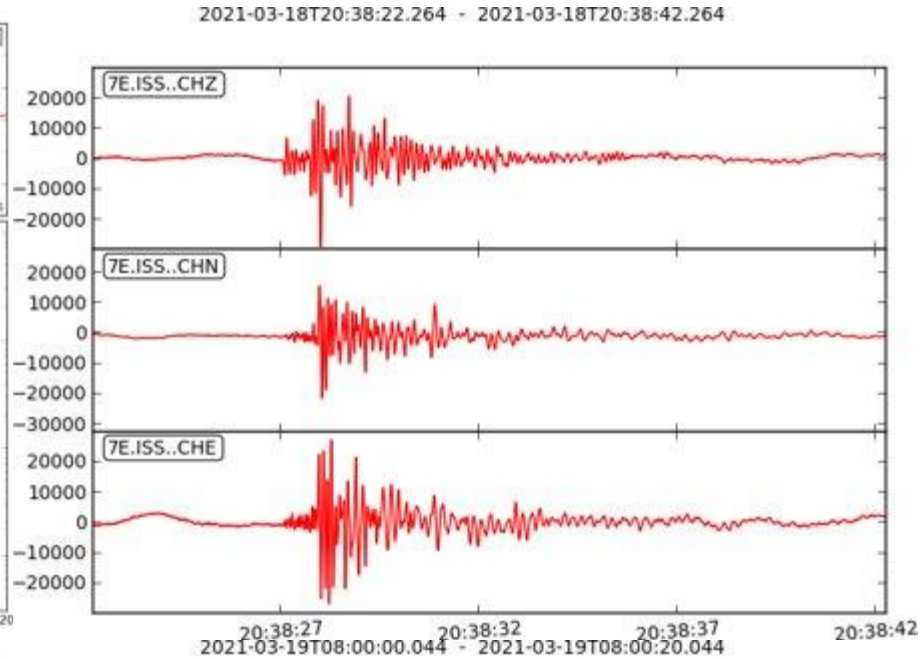
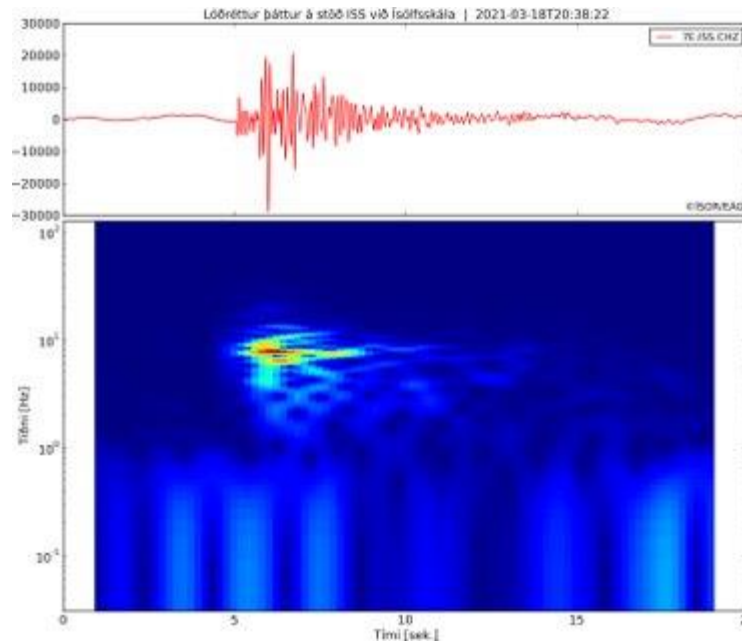


9.-20. March 2021

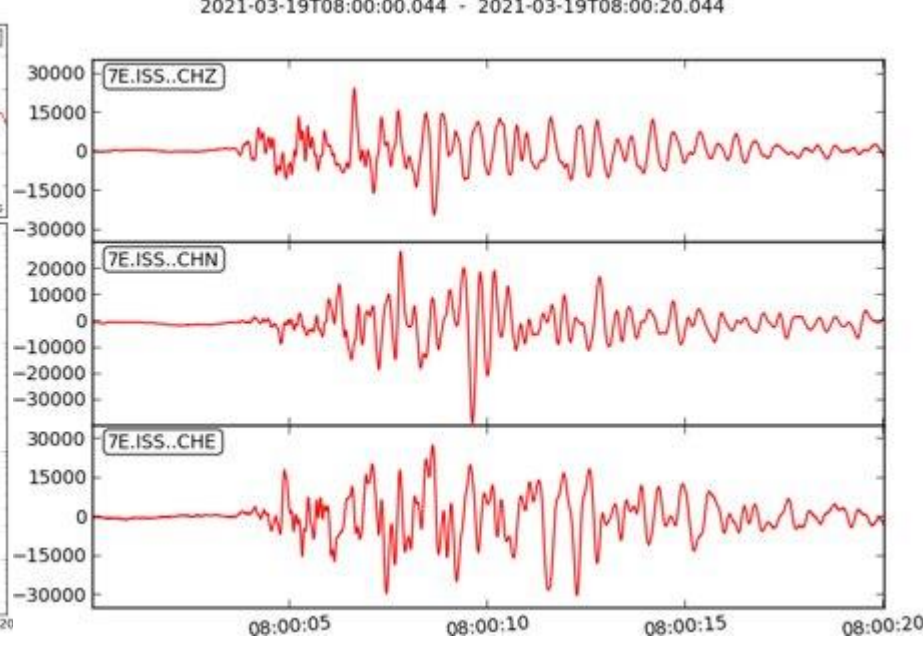
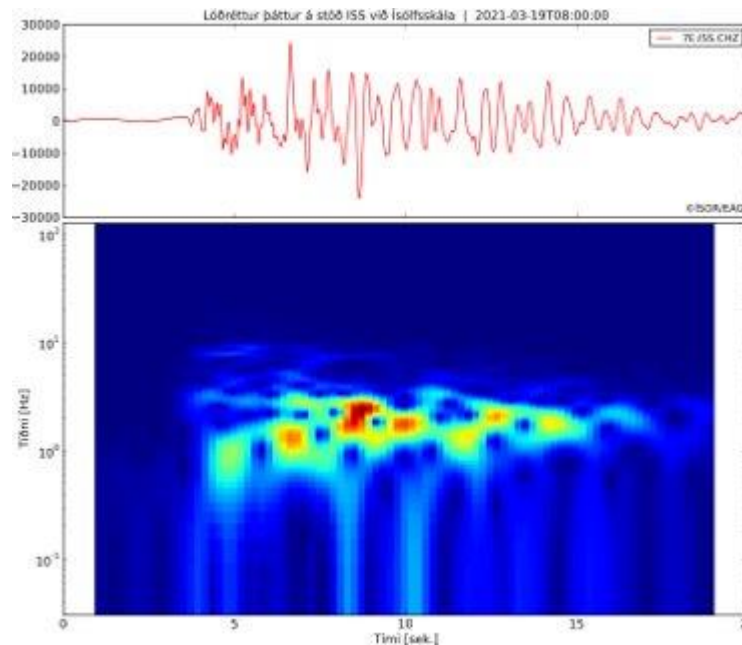


LF EVENT ON STATION ISS

HF event on 2021-03-18T20:38:22



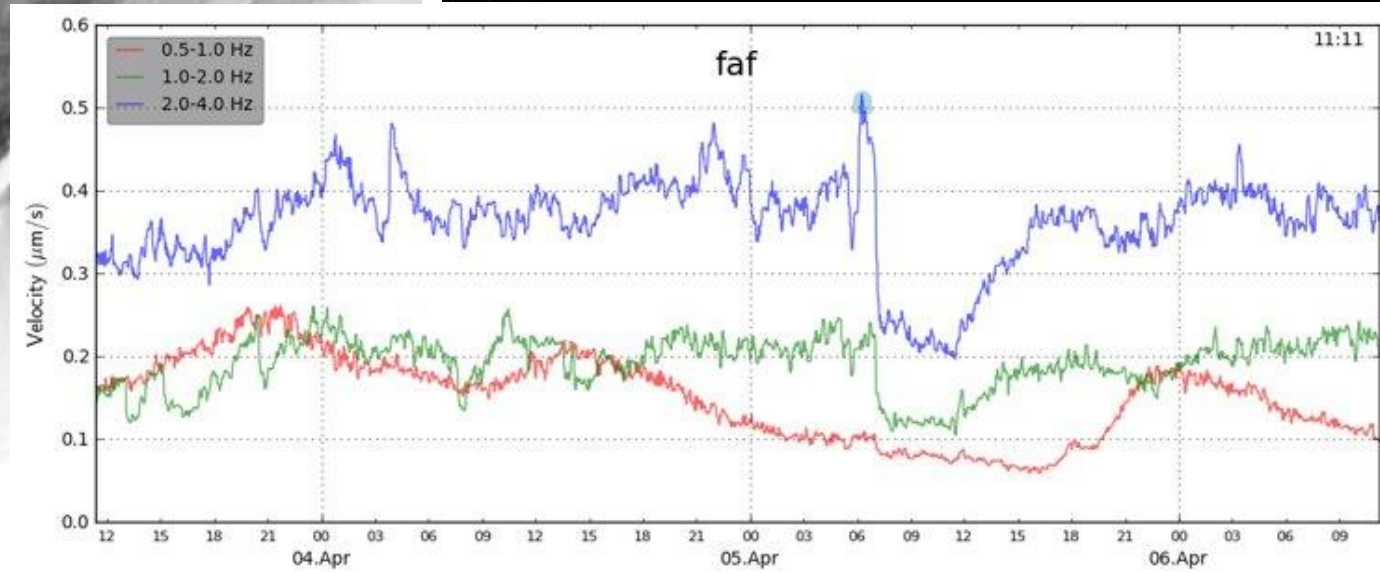
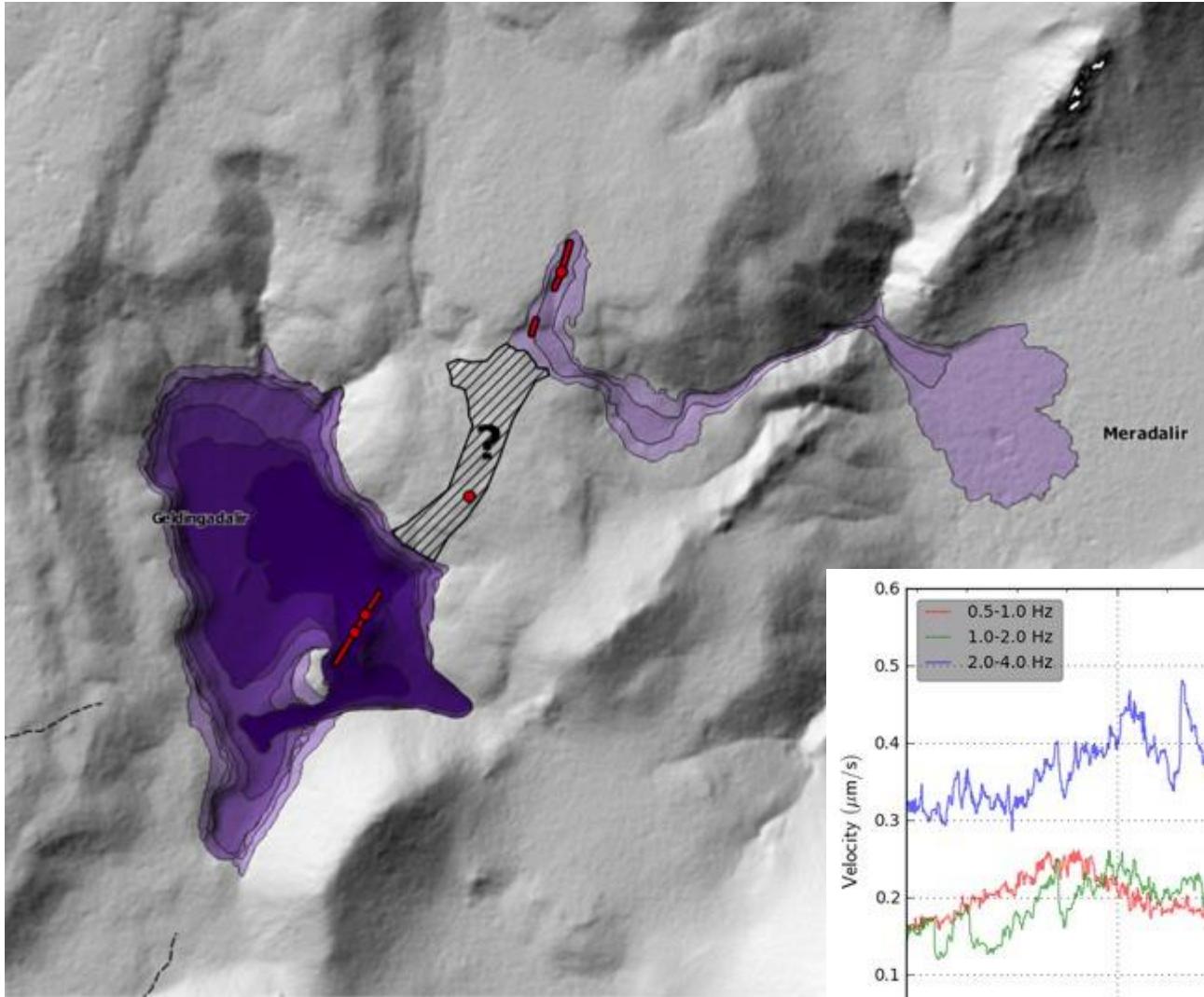
LF event on 2021-03-19T08:00:00





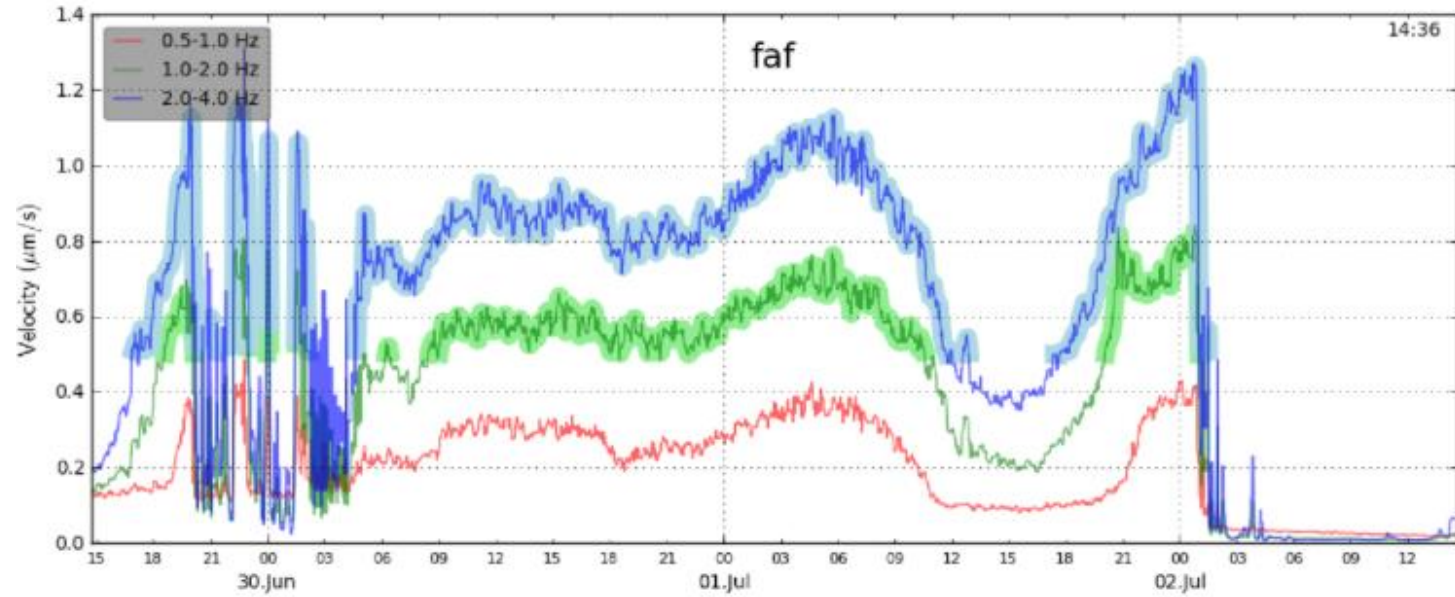
First photo of the eruption, 19. March - Civil Protection/Björn Oddsson

ERUPTION TIMELINE

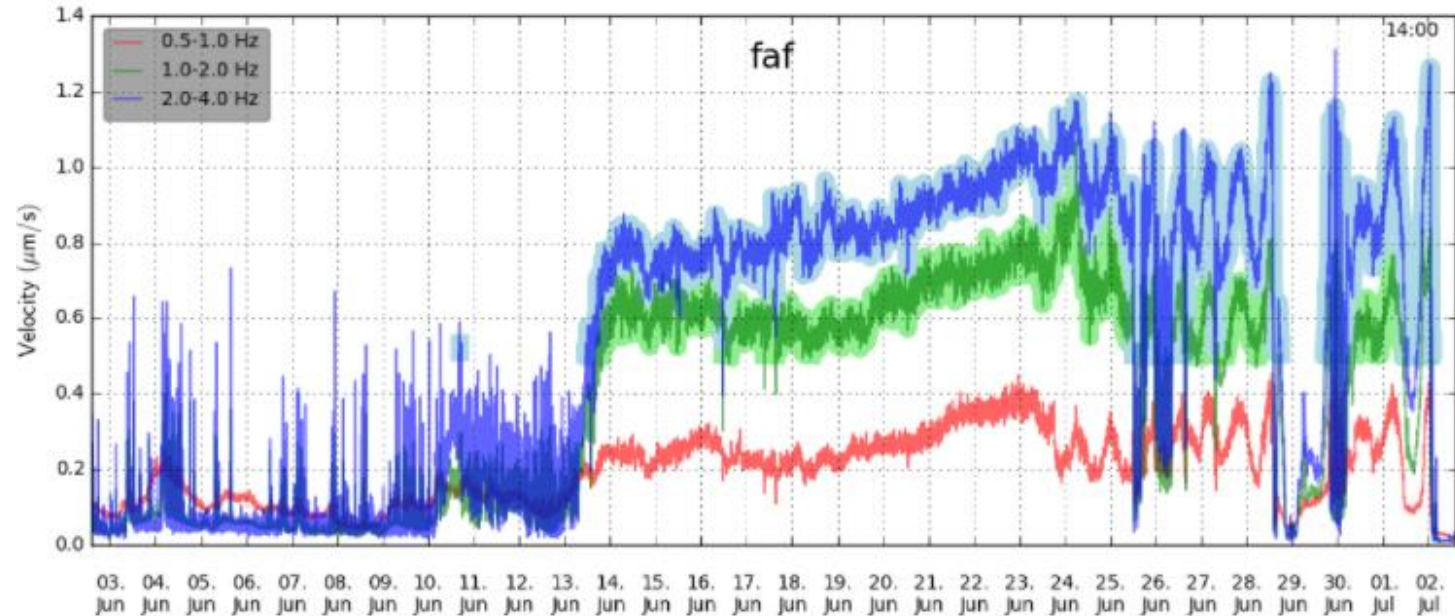


CURRENT STATE OF THE ERUPTION

Short-term tremor on FAF

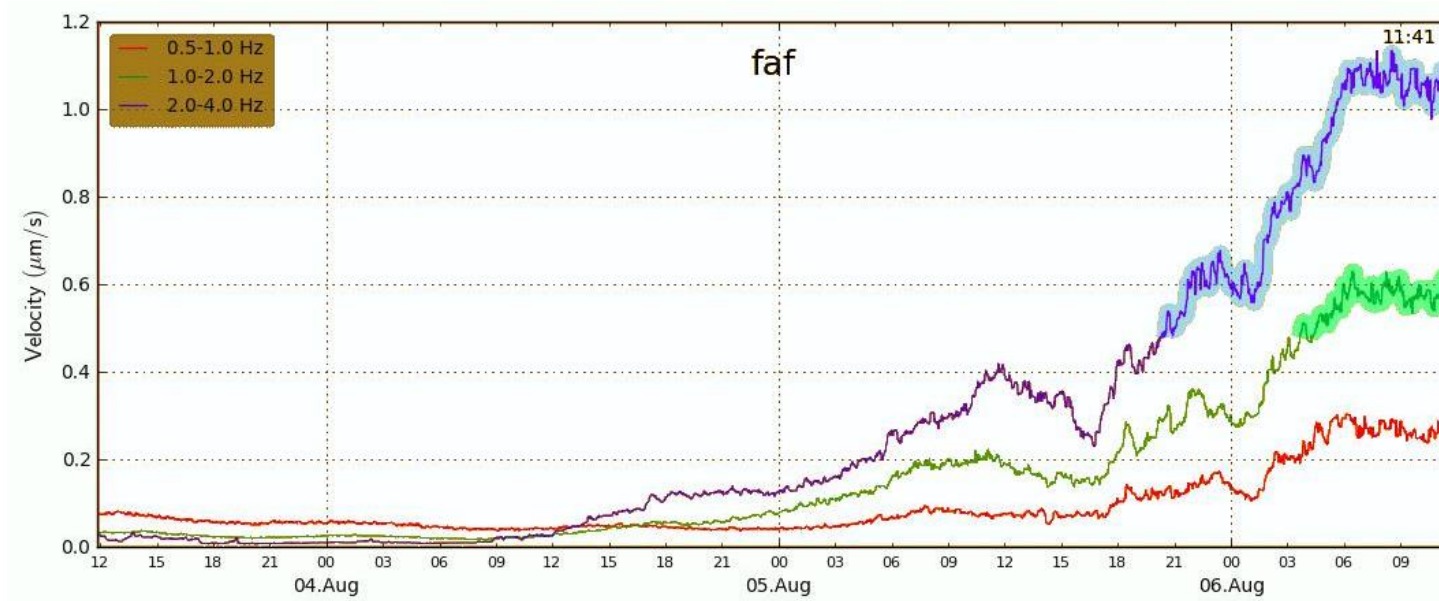


Long-term tremor on FAF

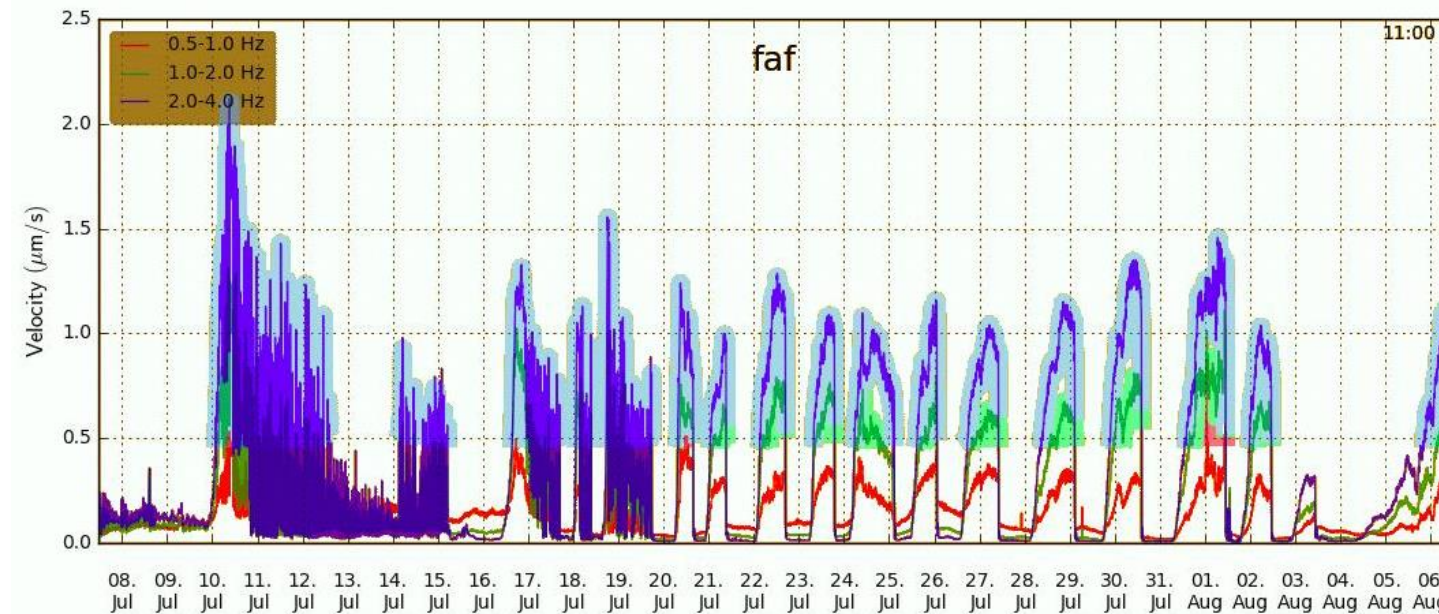


CURRENT STATE OF THE ERUPTION

Short-term tremor on FAF

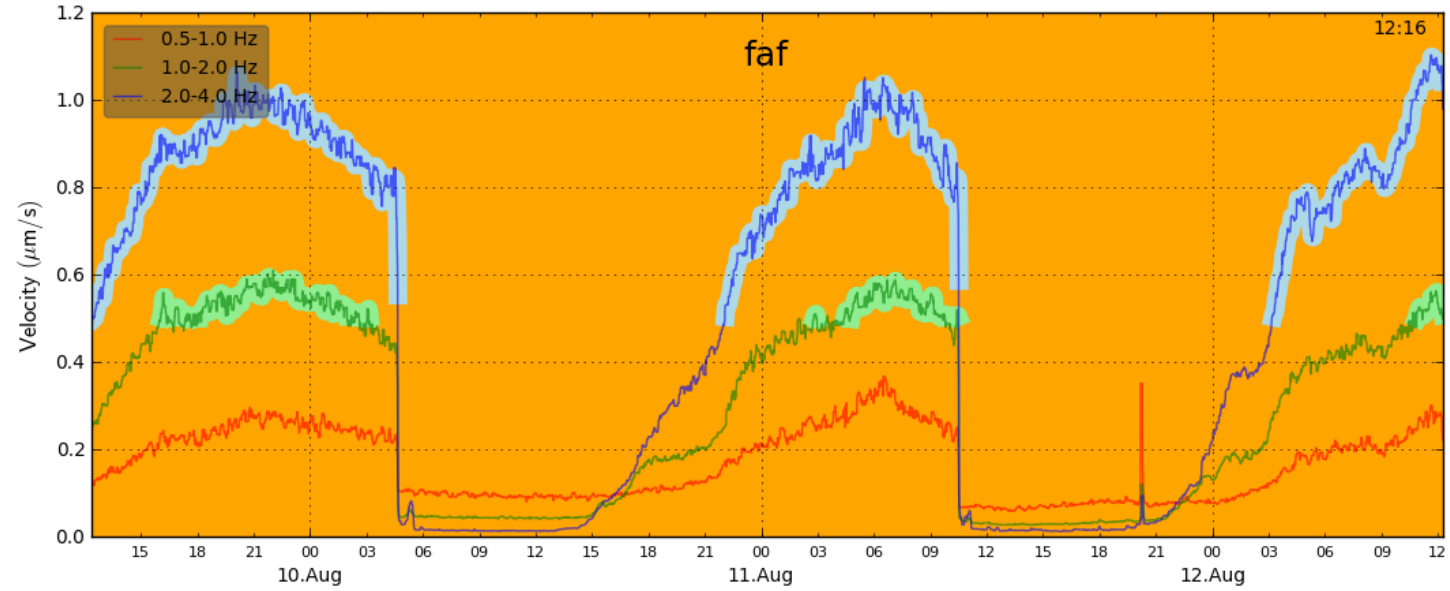


Long-term tremor on FAF

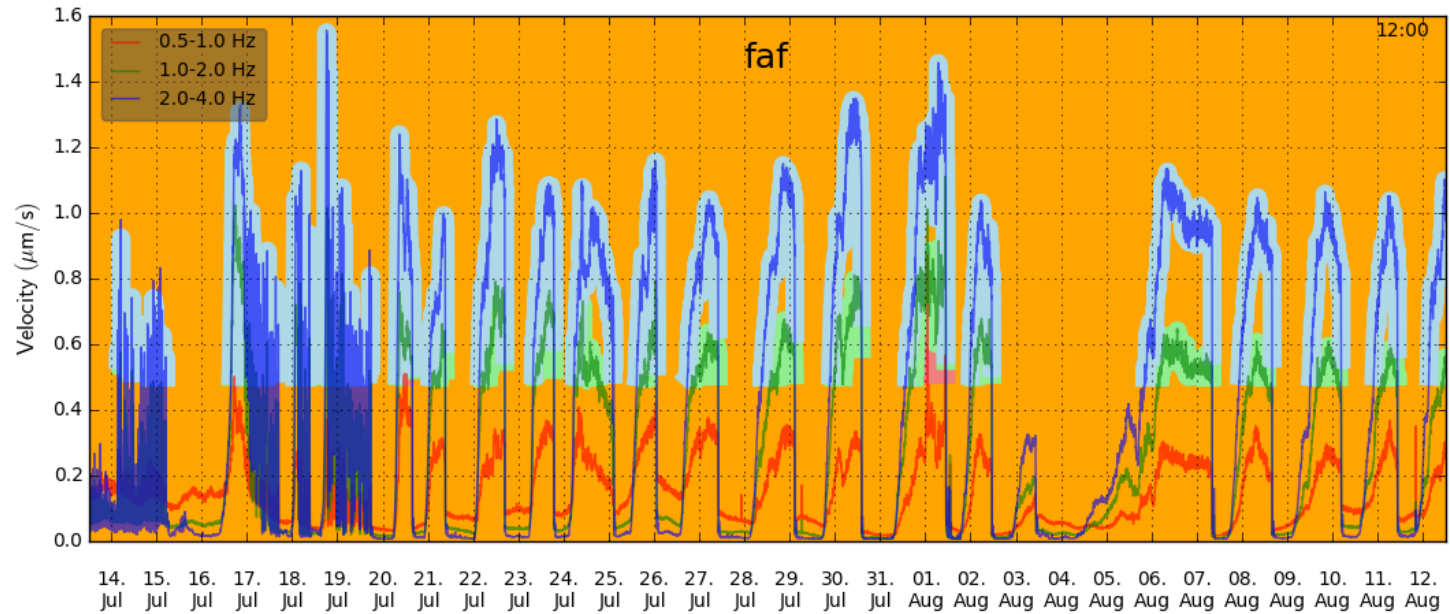


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Short-term tremor on FAF

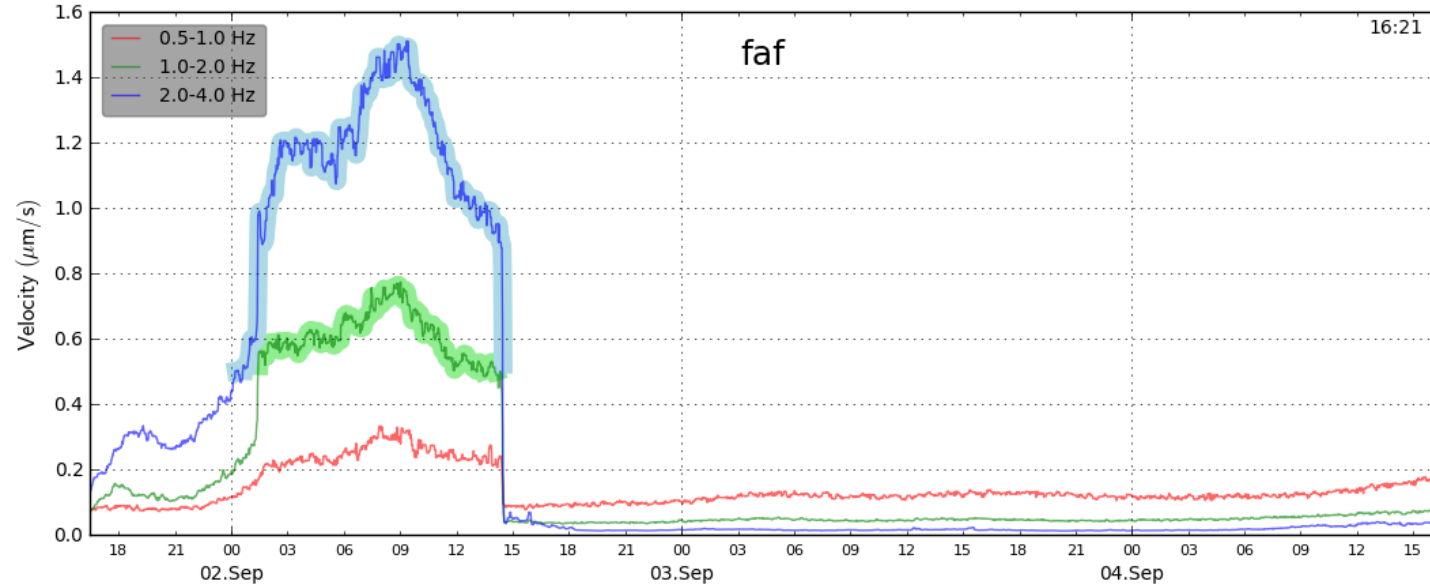


Long-term tremor on FAF

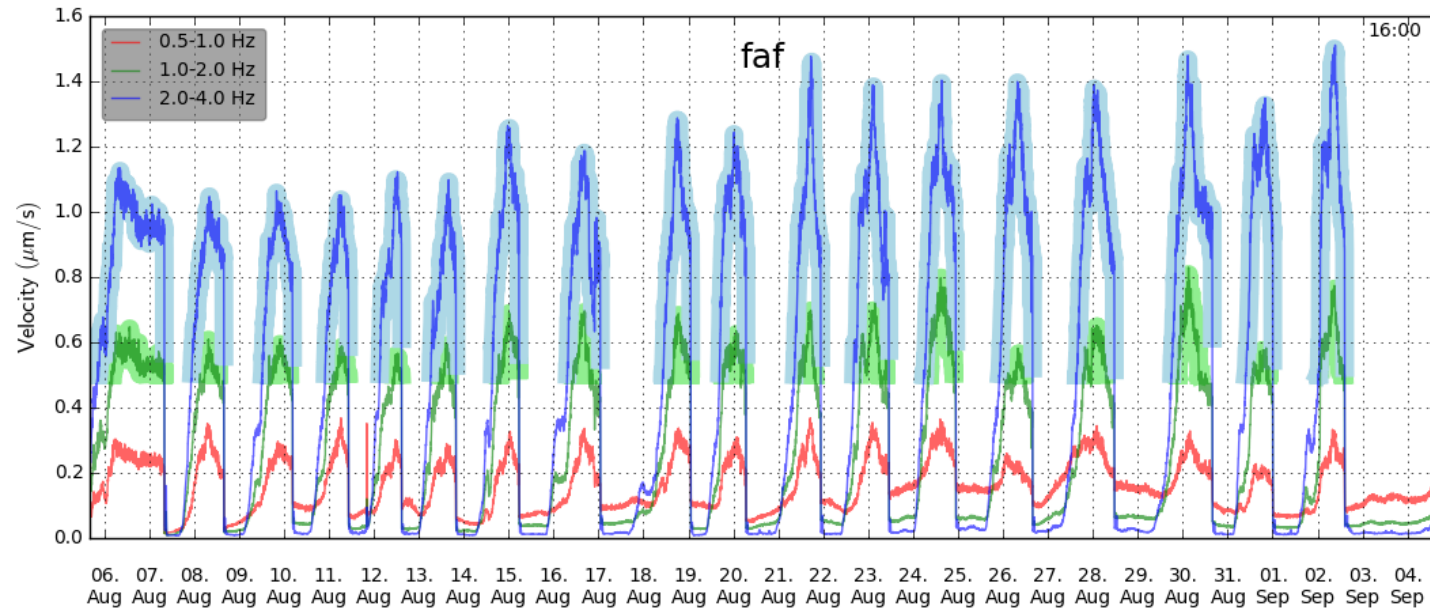


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Short-term tremor on FAF

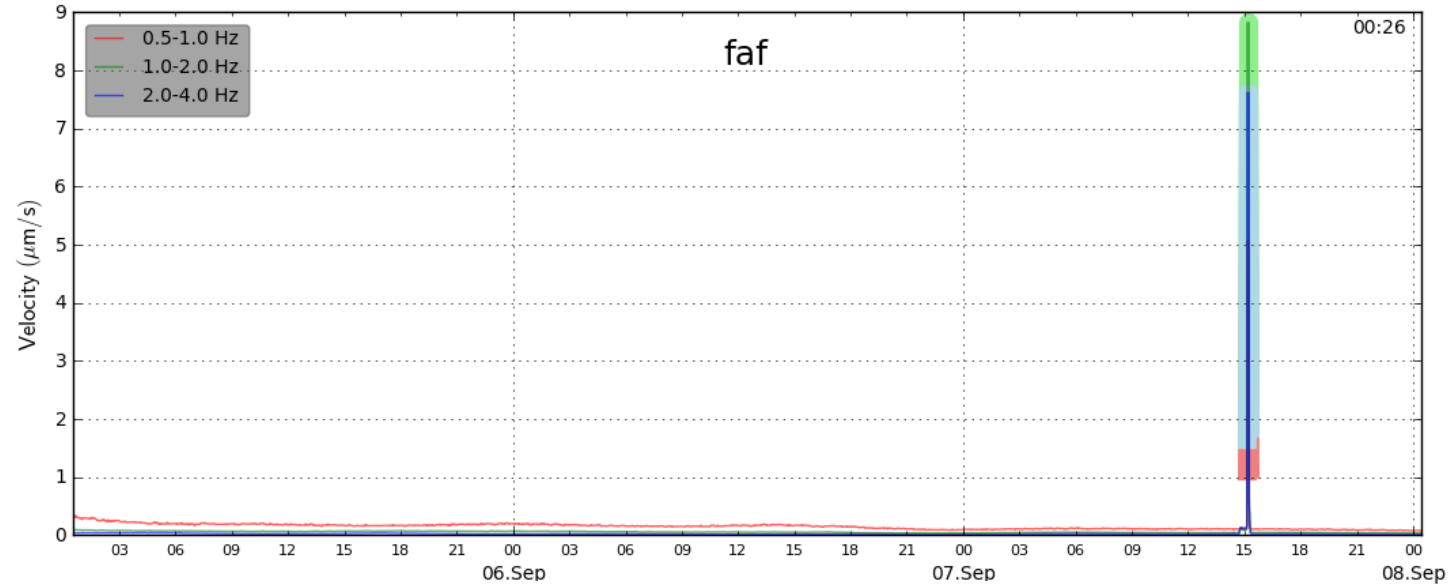


Long-term tremor on FAF

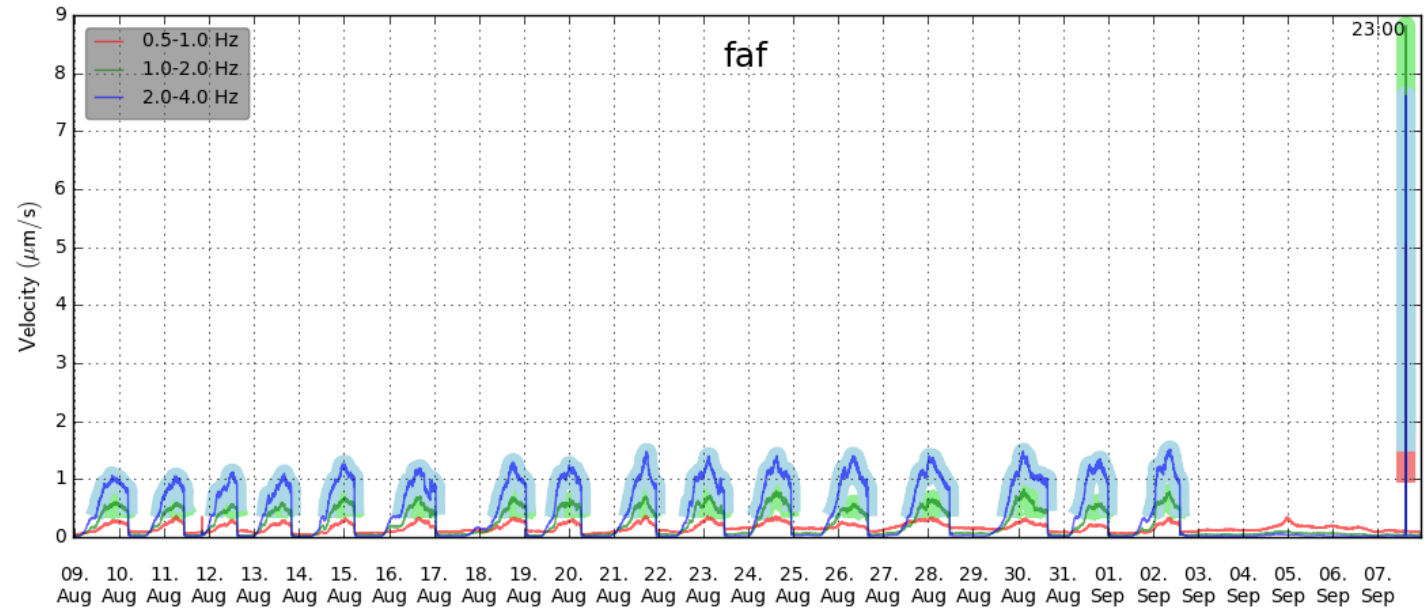


CURRENT STATE OF THE ERUPTION

Short-term tremor on FAF

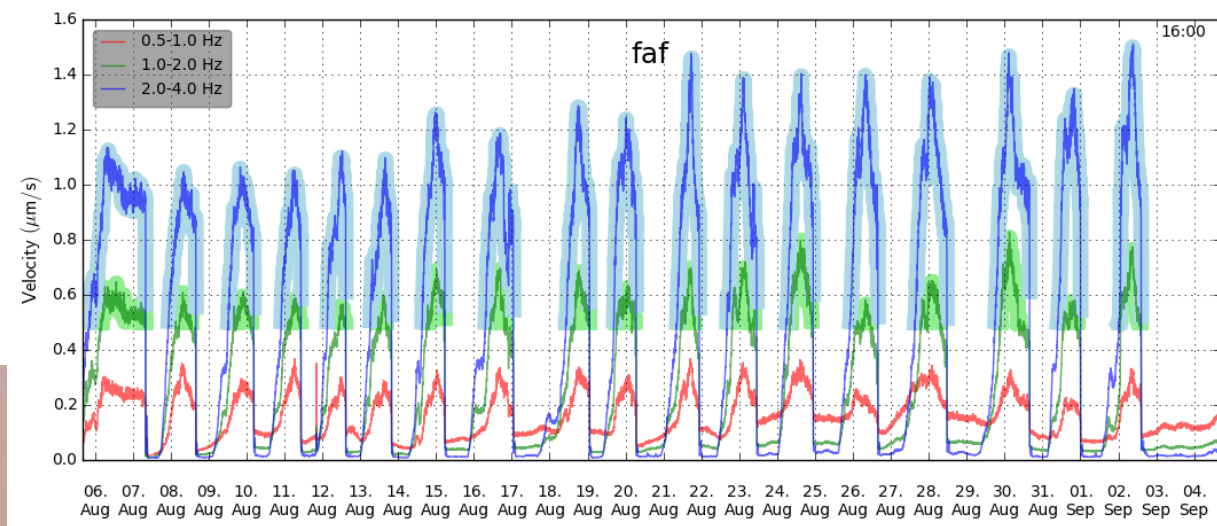


Long-term tremor on FAF



CURRENT STATE OF THE ERUPTION

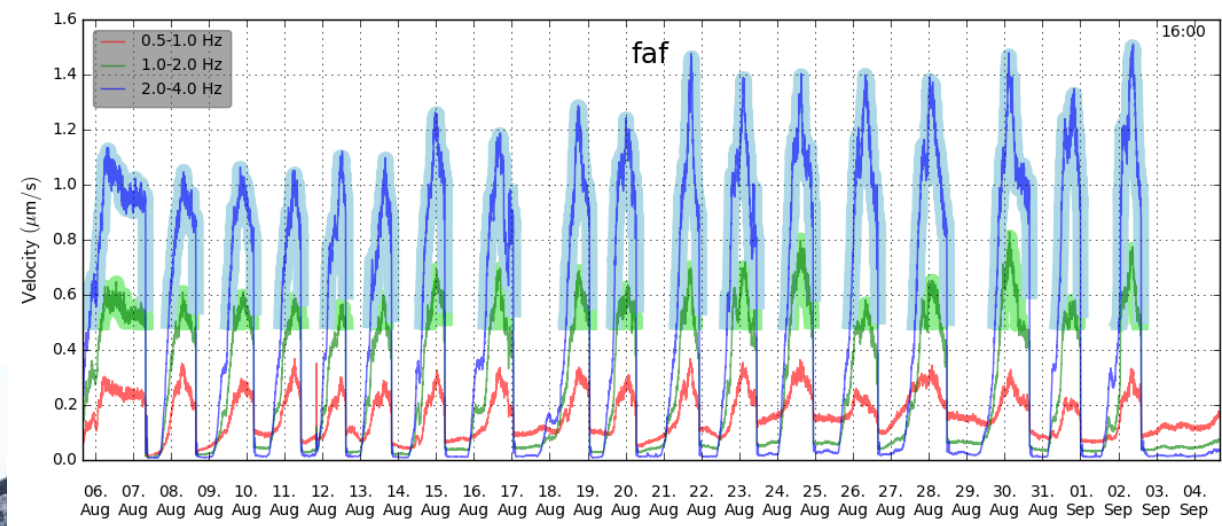
 **Langihryggur**



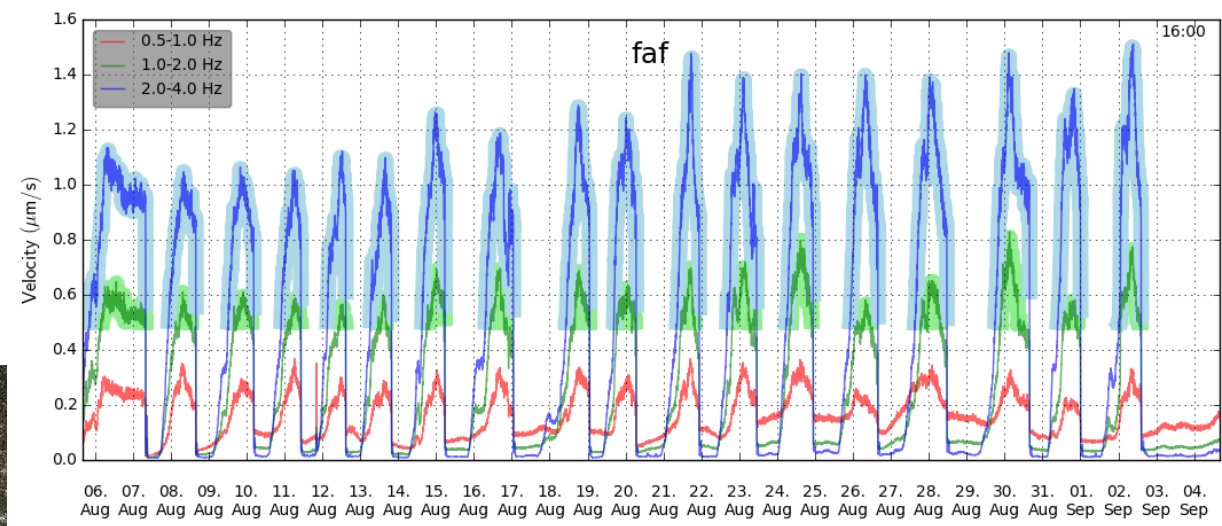
RUV.is



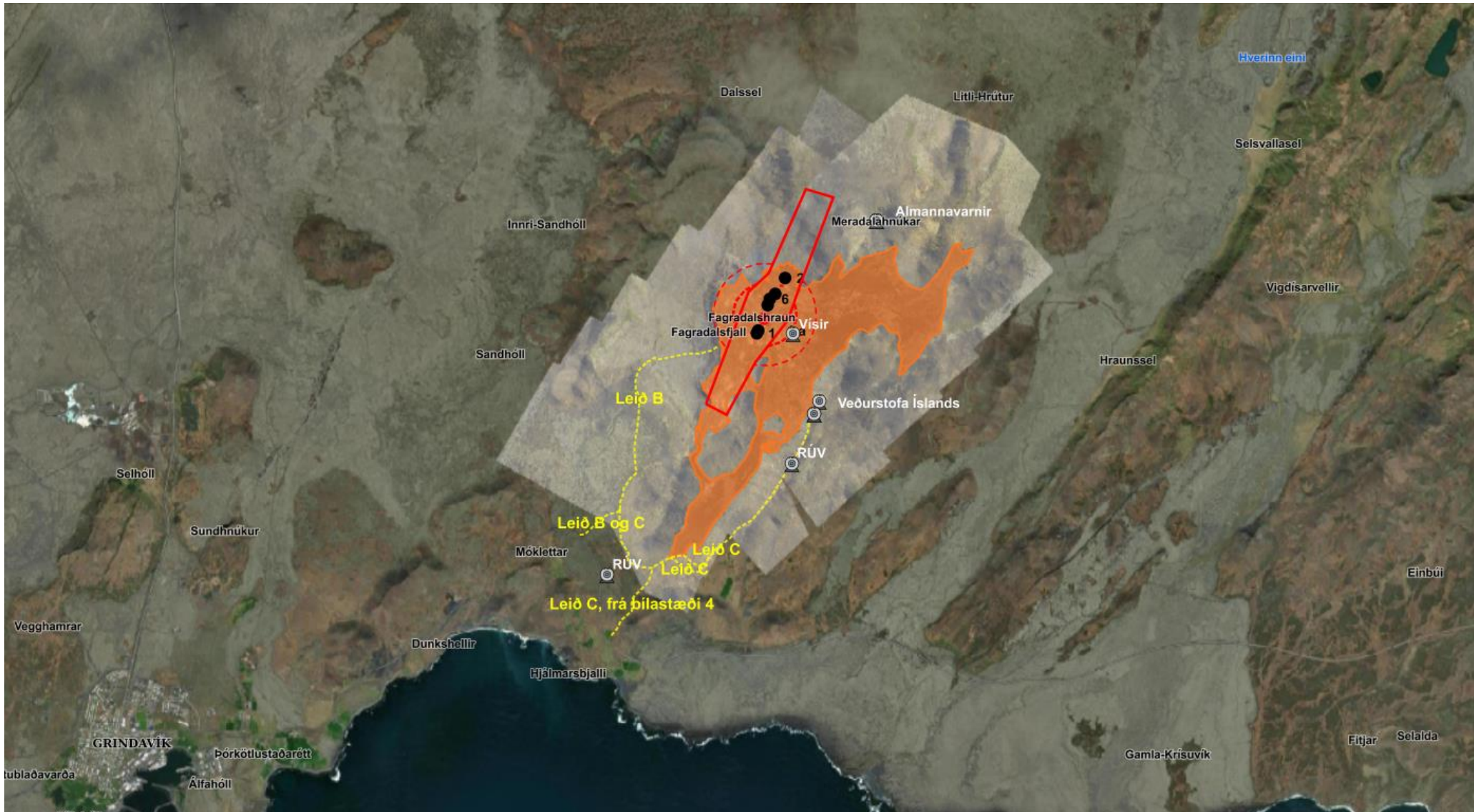
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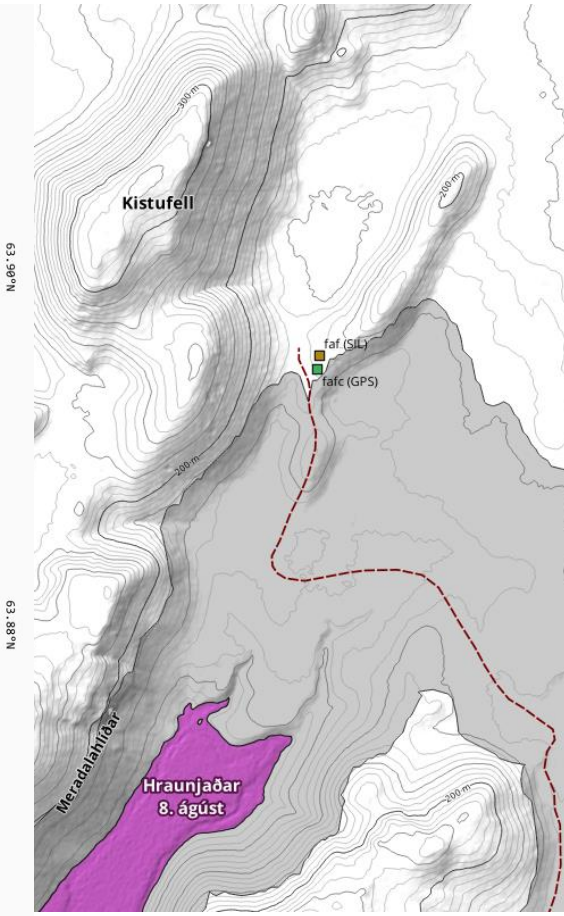
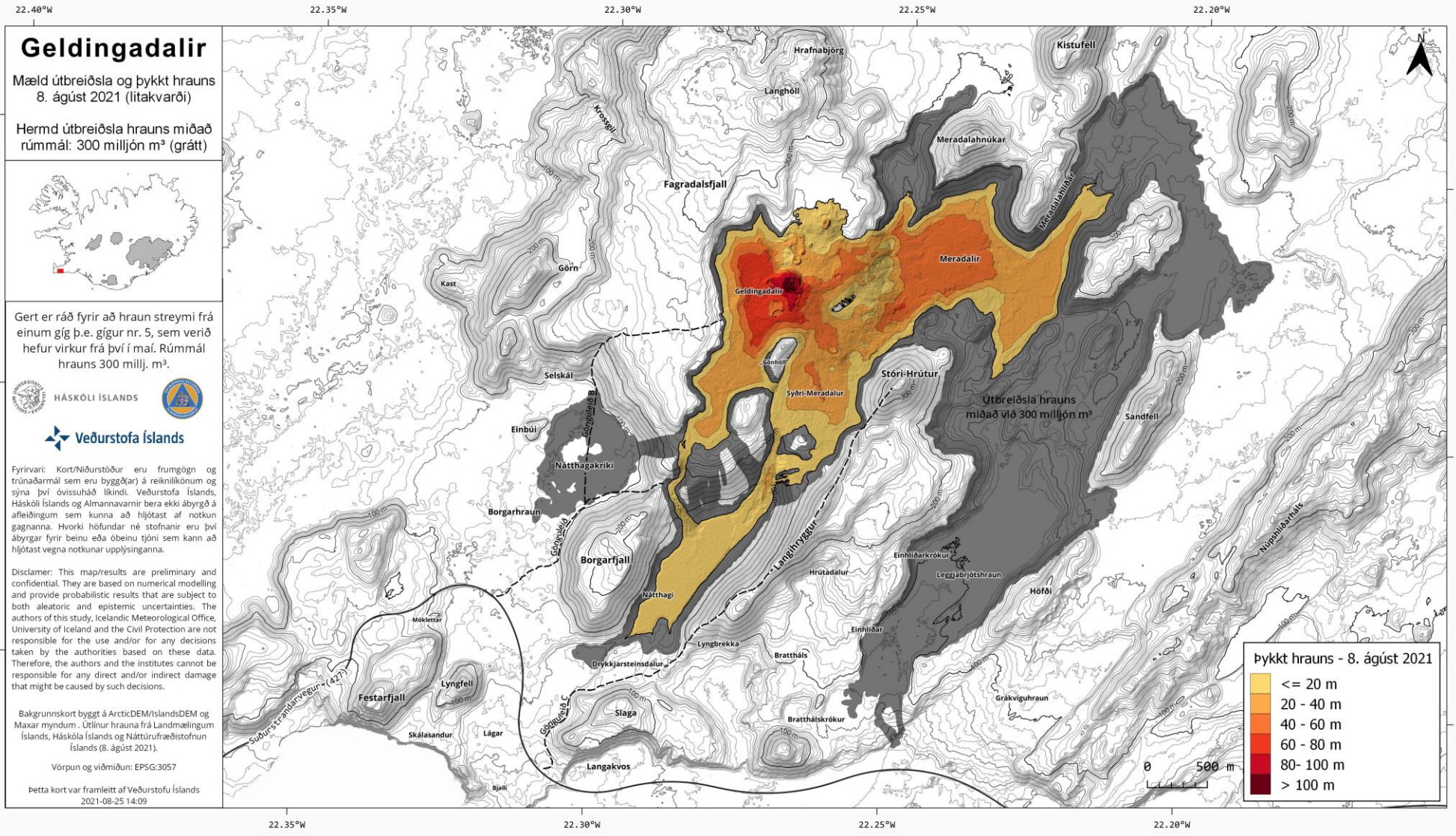
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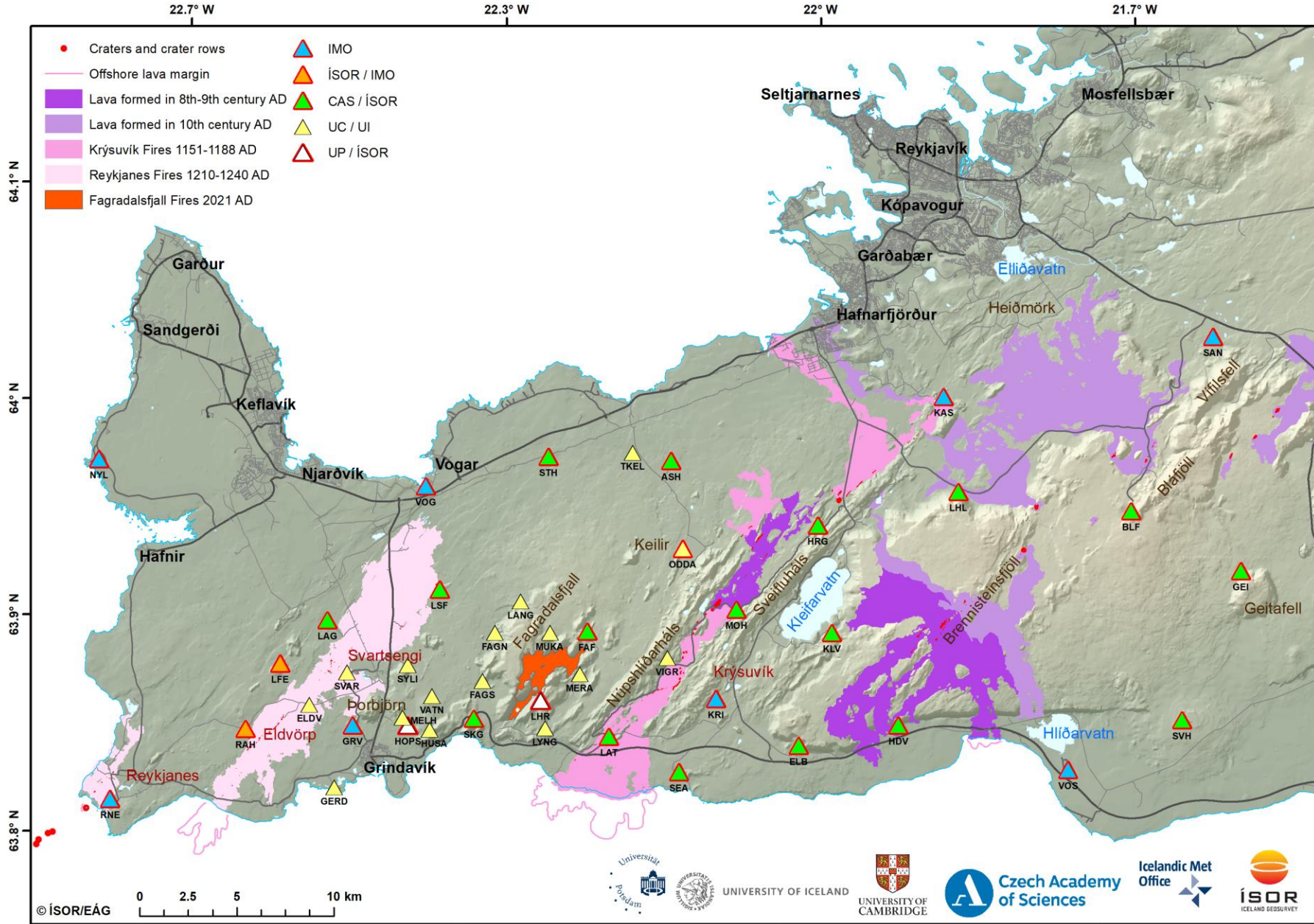
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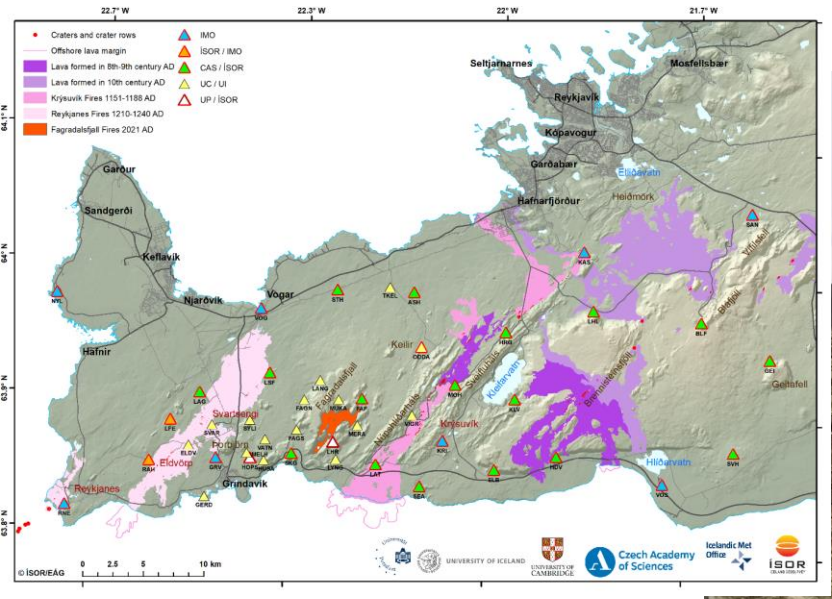
LAVA FLOW PREDICTIONS



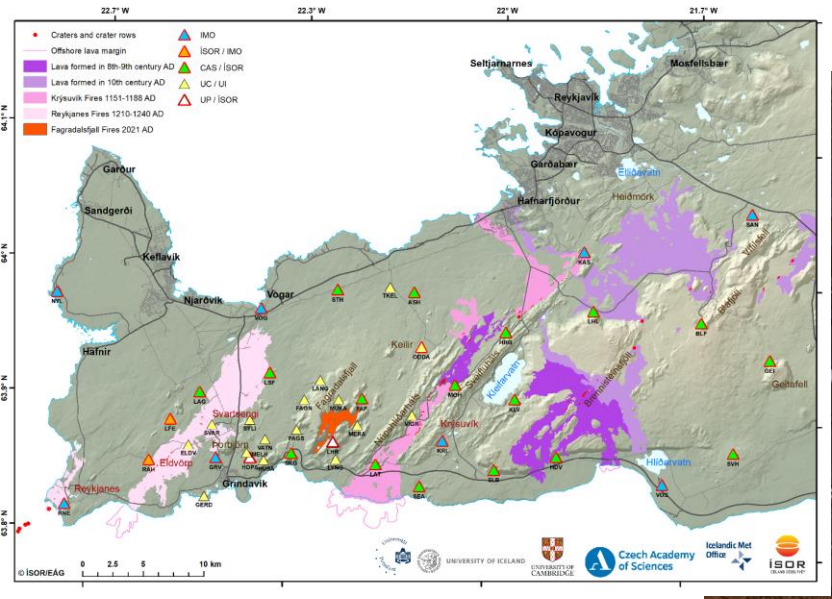
EARTHQUAKE MONITORING NETWORK



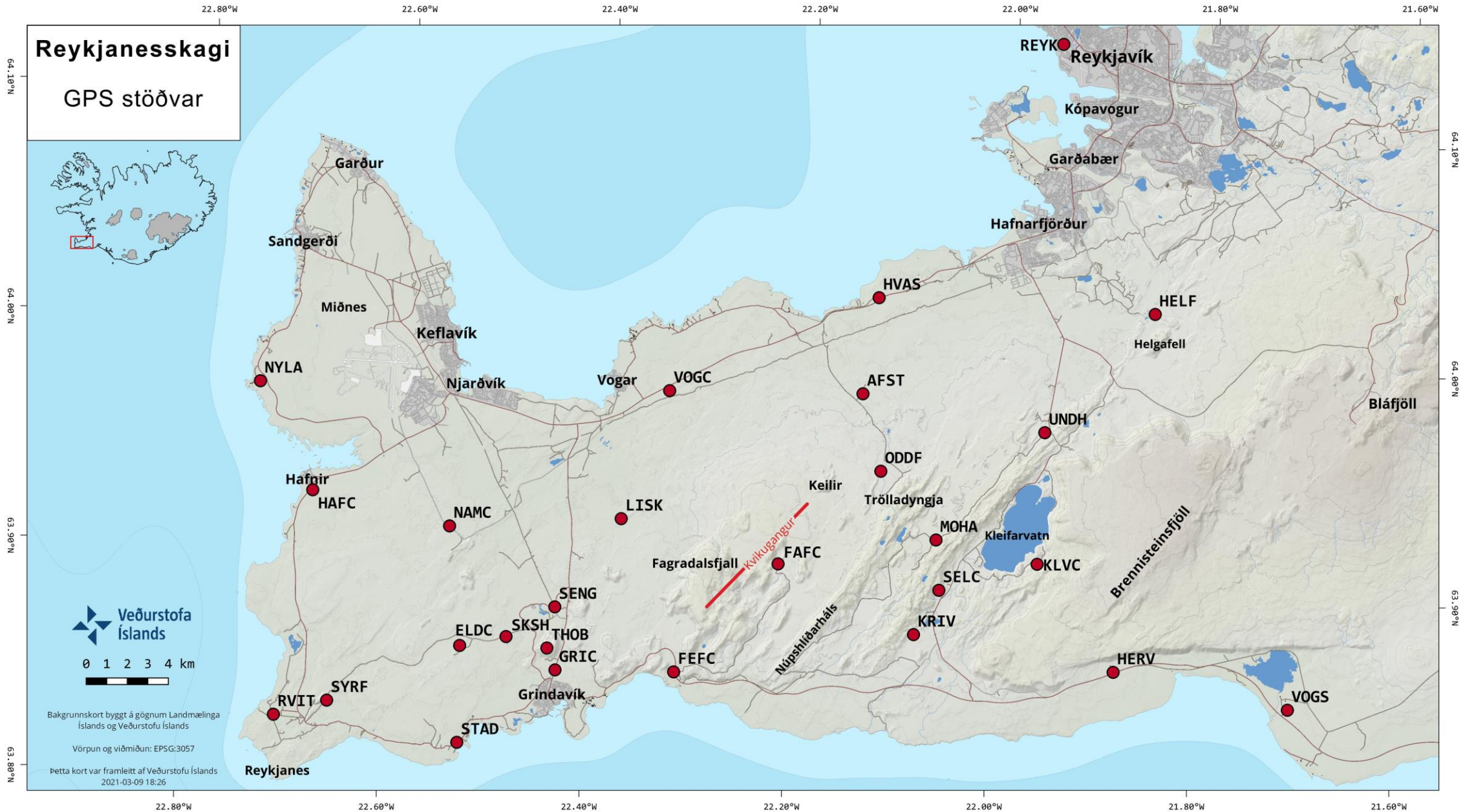
BLUESEIS: EVA EIBL / UNI. POTSDAM



BLUESEIS: EVA EIBL / UNI. POTSDAM



CGPS MONITORING NETWORK



Veðurstofa Íslands

0 1 2 3 4 km

Bakgrunnskort byggt á gögnum Landmælinga Íslands og Veðurstofu Íslands

Vörpun og viðmiðun: EPSG:3057

Þetta kort var framlétt af Veðurstofu Íslands 2021-03-09 18:26

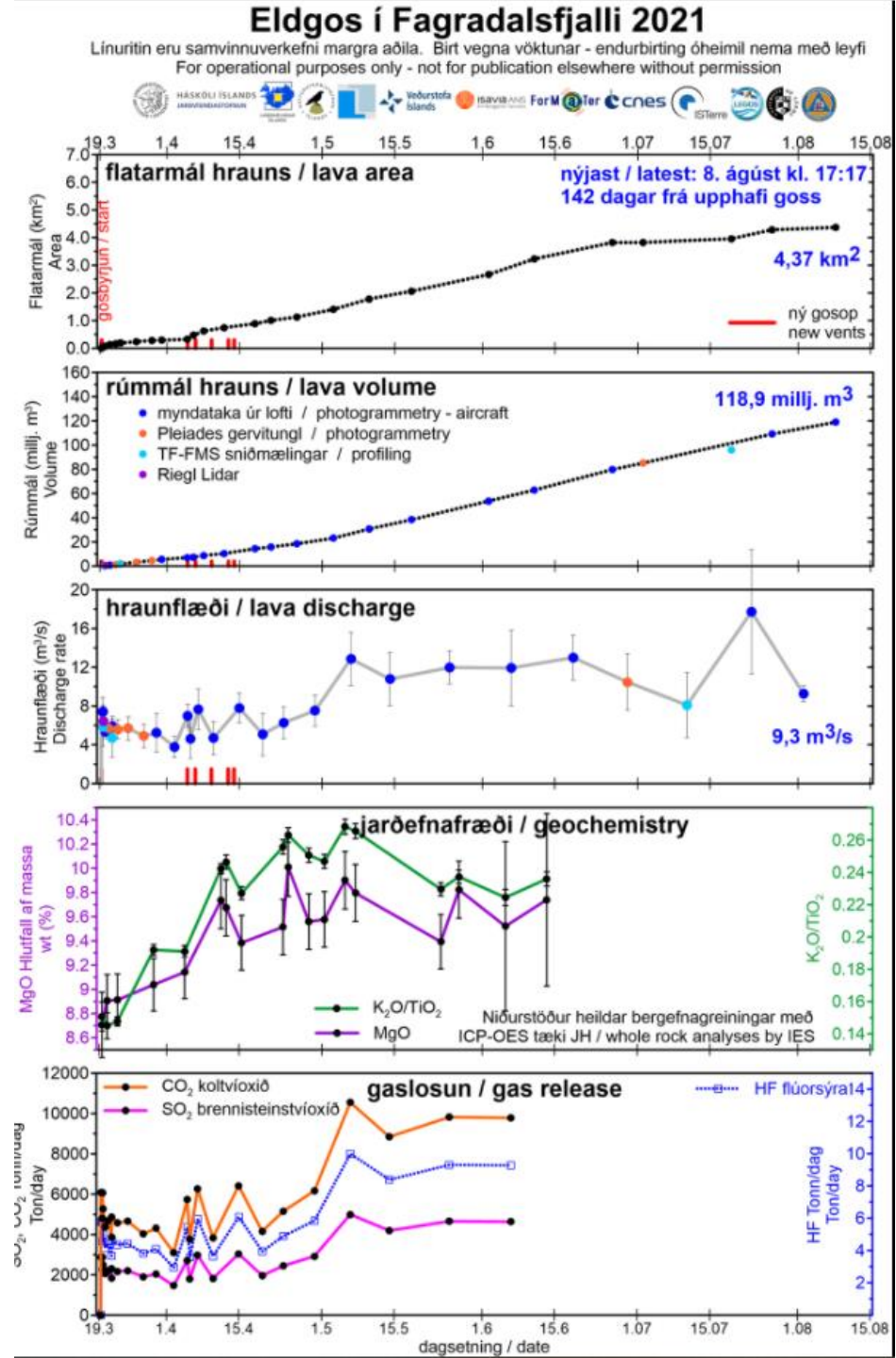


NASPMON

VOLCANO MONITORING

Other monitoring includes e.g.:

- Continuous GPS and InSAR
- Lava flow modelling
- Gas measurements
- Fracture mapping
- Drone footage
- Live webcams
- etc.



Thanks for your attention!



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