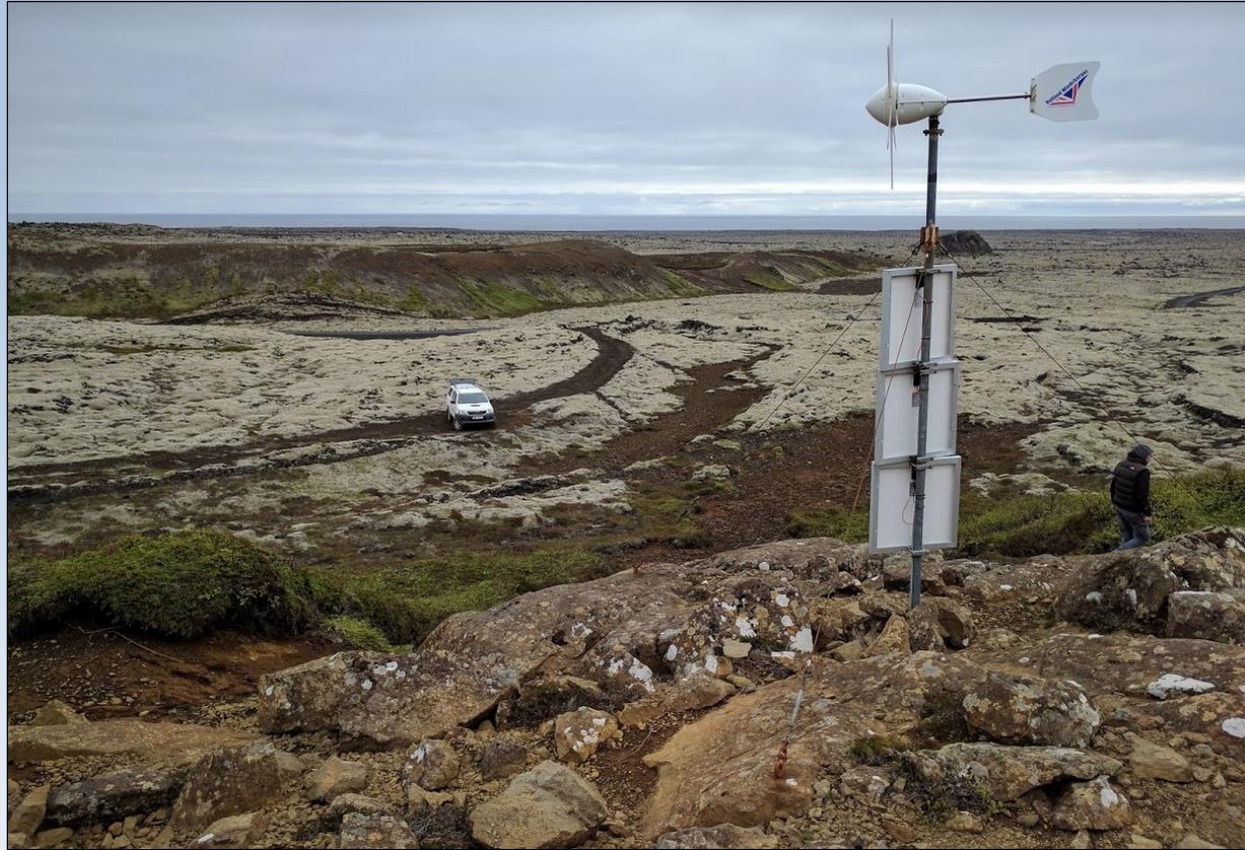


Project NASPMON



Jiří Málek

seismic-velocity models, seismic hazard

April 9, 2021

Expected results

The **maps of the P-wave and S-wave velocities** will be constructed based on the results of seismic tomography. The maps will be constructed for several depth zones. The first maps will show surface velocities, the last one will show the velocities at the depth of about 15 km.

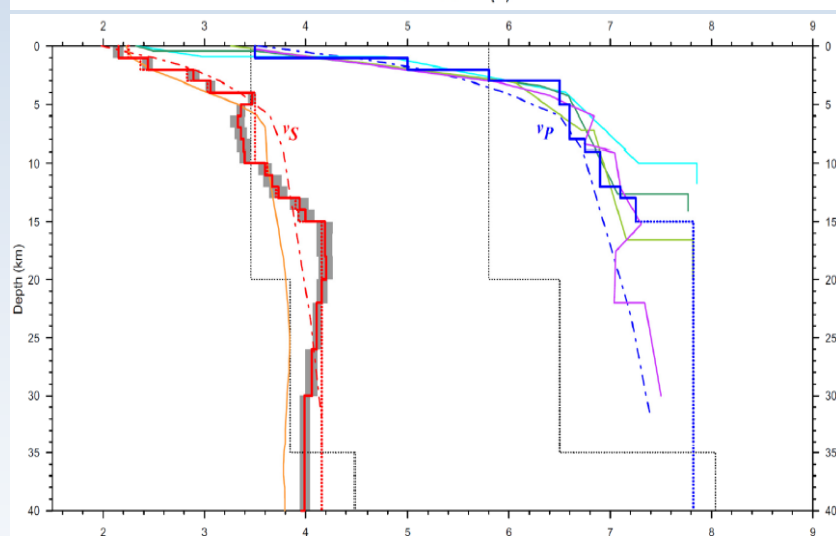
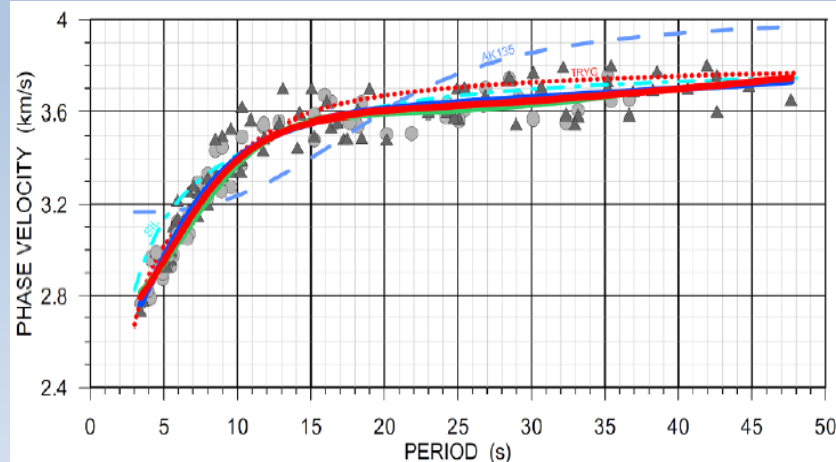
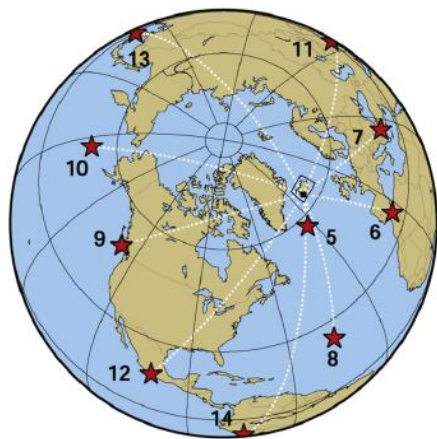
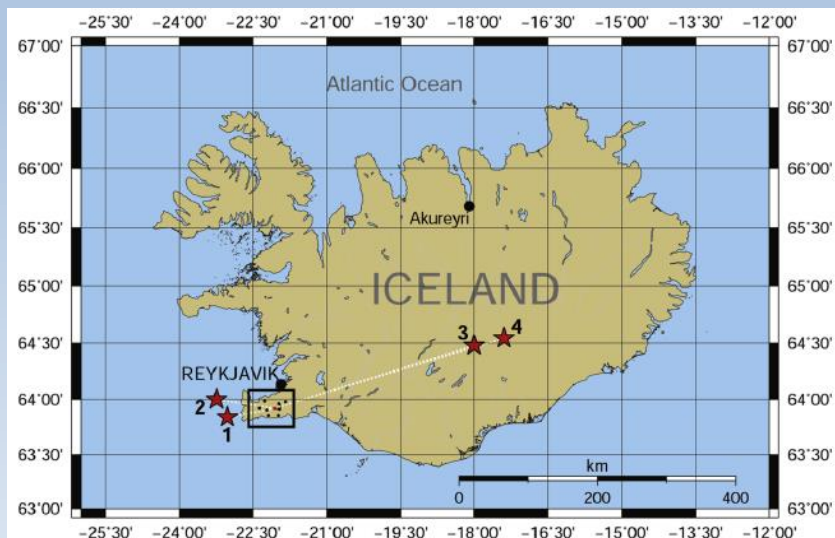
06/2023

A special **software** will be developed to **estimate ground motion** from the earthquakes in the Reykjanes peninsula. Ground motion will be characterized by peak ground acceleration and peak ground velocity on a vertical axis and in a horizontal plane. Response spectra will be also computed. The ground motion model will be derived based on seismograms from weak local earthquakes and it will be extrapolated to larger magnitudes. The software can be used for the purposes of seismic hazard assessment.

11/2023

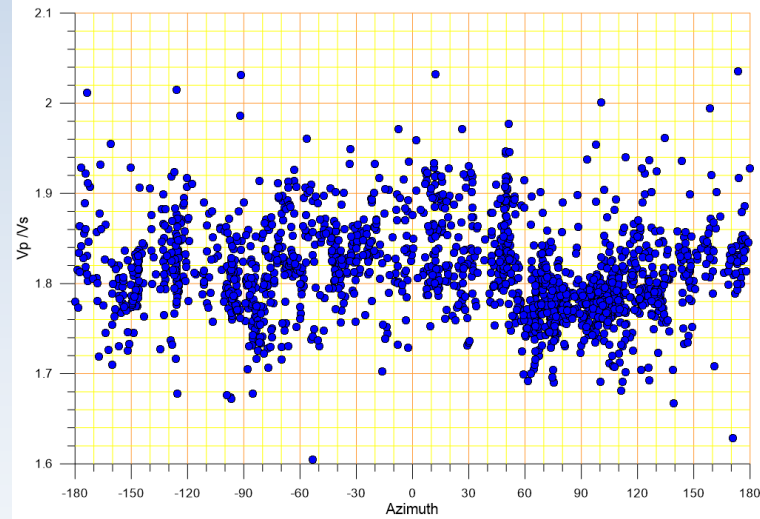
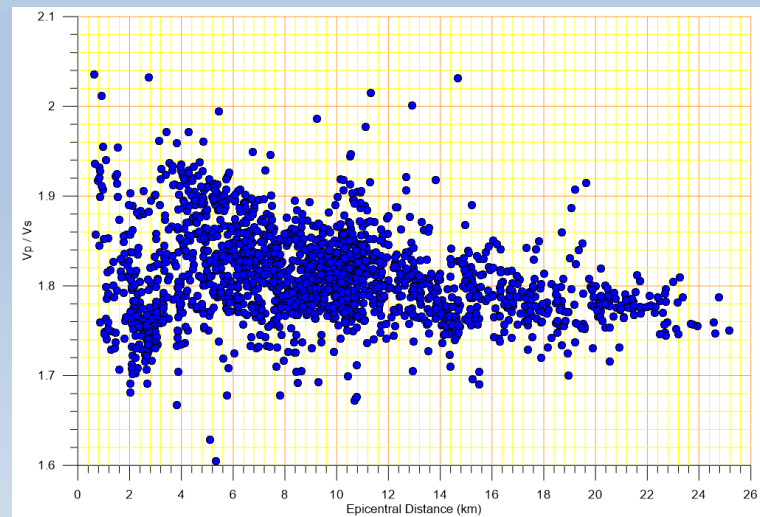
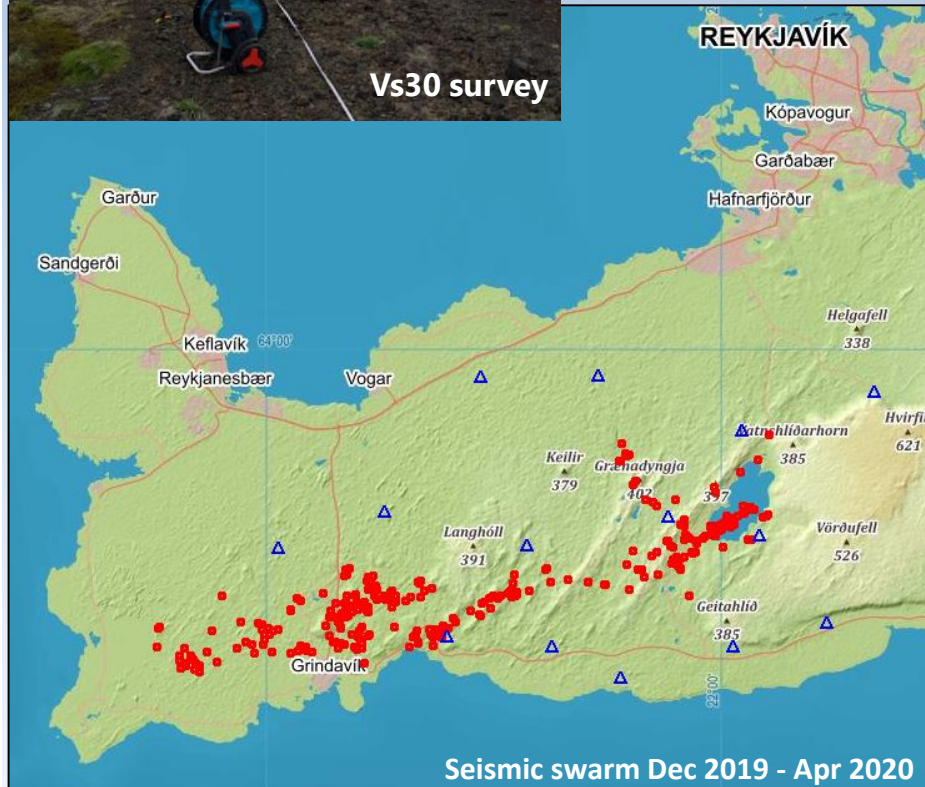
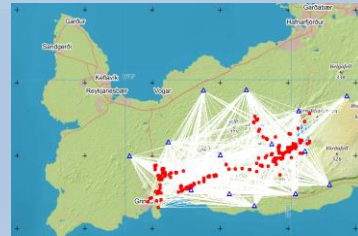
Velocity model

Málek J., Brokešová J., and Novotný O., (2019). **Seismic structure beneath the Reykjanes Peninsula, southwest Iceland, inferred from array-derived Rayleigh wave dispersion.** *Tectonophysics* 753, 1–14, DOI: 10.1016/j.tecto.2018.12.020



Improved velocity model

(paper is under preparation)



V_p / V_s ratio is azimuthally dependent