

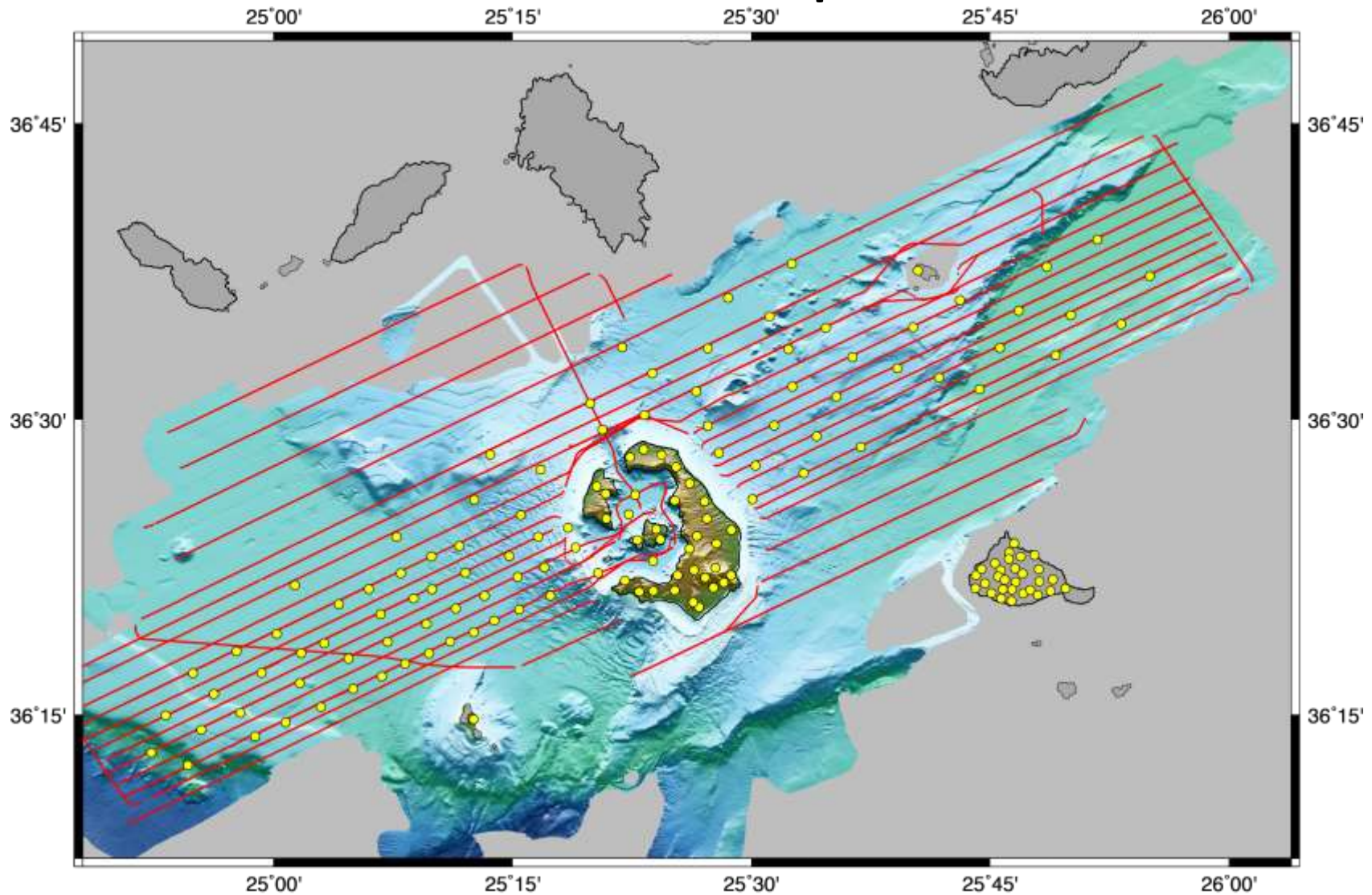
PROTEUS



Plumbing Reservoirs Of The Earth Under Santorini

Emilie Hooft, Joanna Morgan, Paraskevi Nomikou, Doug Toomey, Mike Warner, Costas Papazachos

PROTEUS Experiment



Visit Emilie Hooft's overview poster Tuesday afternoon: D123B-2619



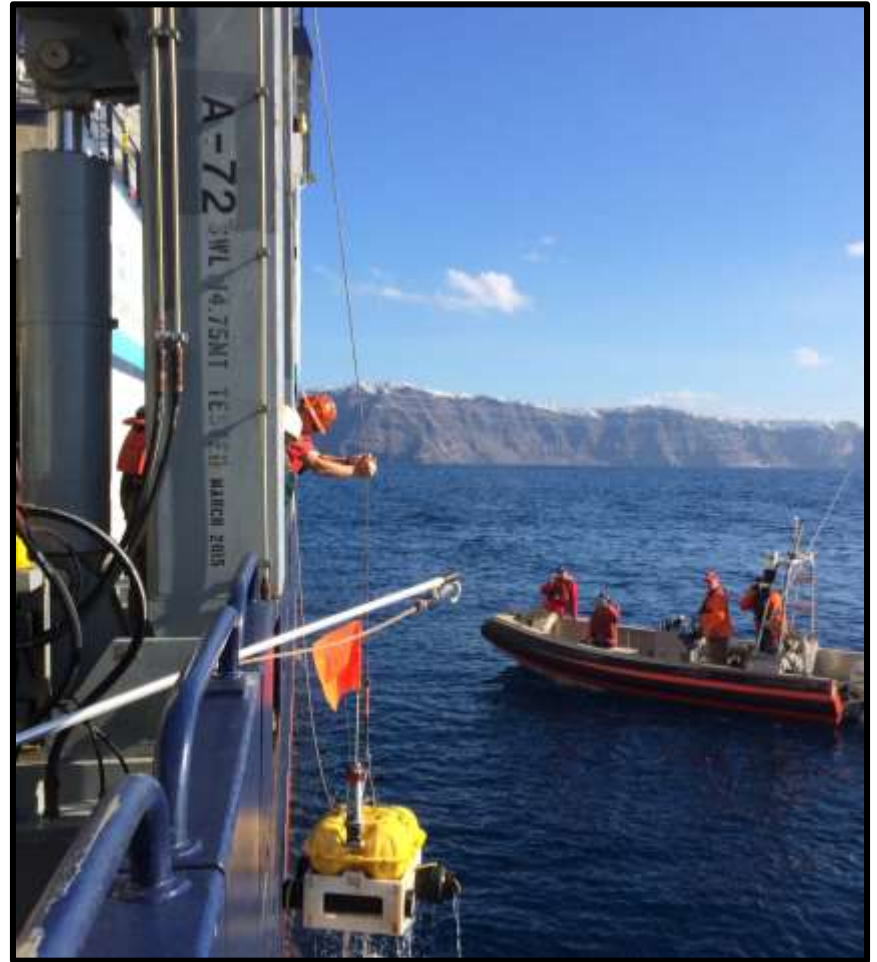
- 14,300 R/V Langseth sound sources
- 60 German land seismometers
- 5 Greek land stations on remote islands



89 OBSIP short period OBS



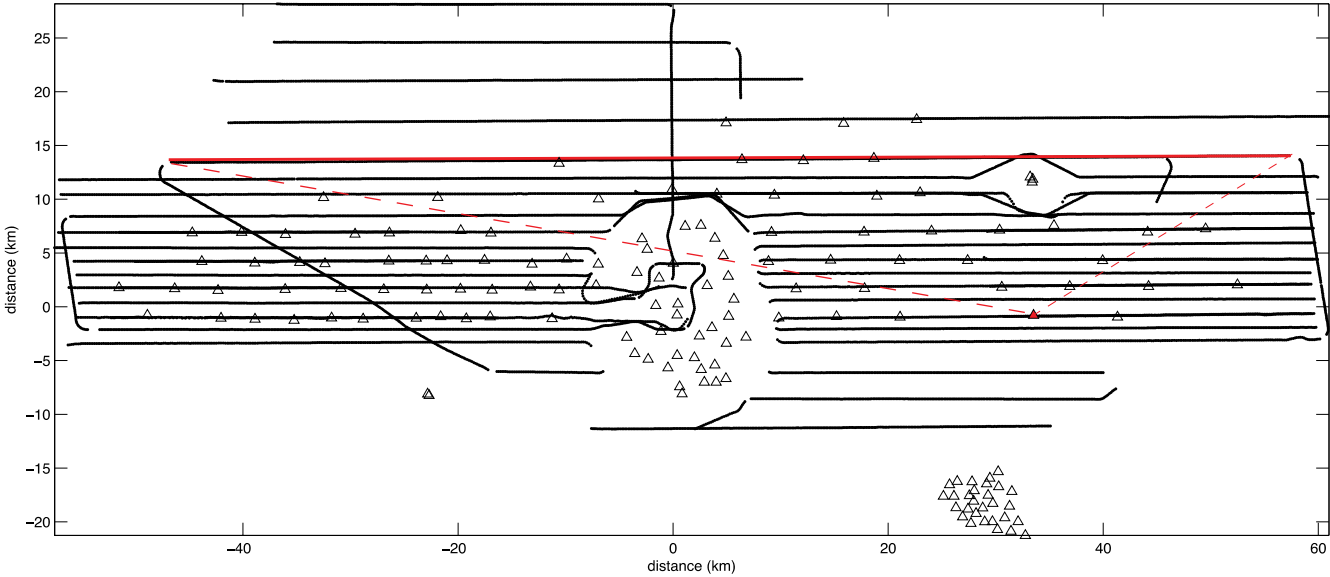
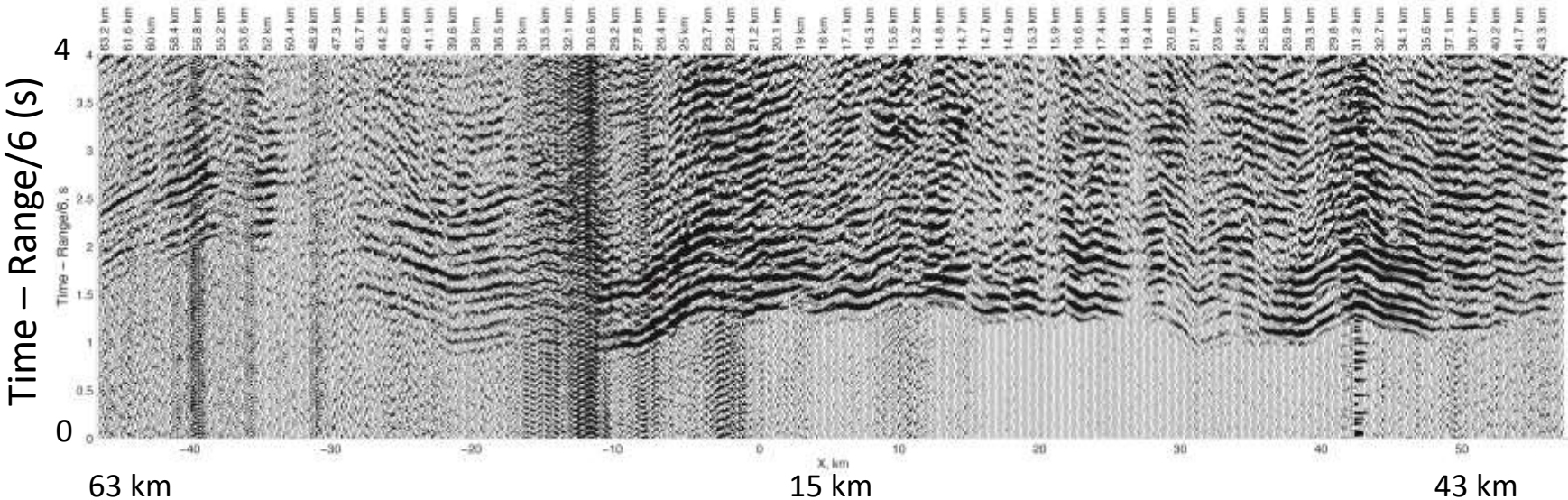
WHOI



SIO

OBS Seismic Data

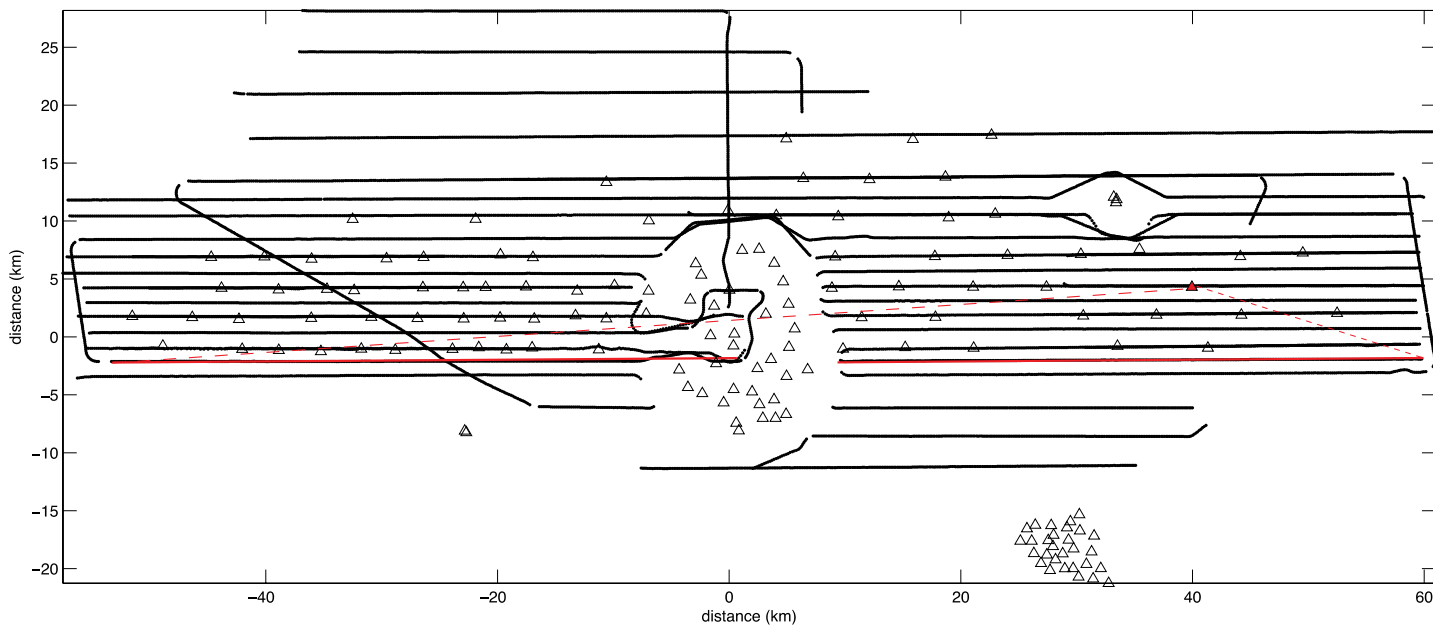
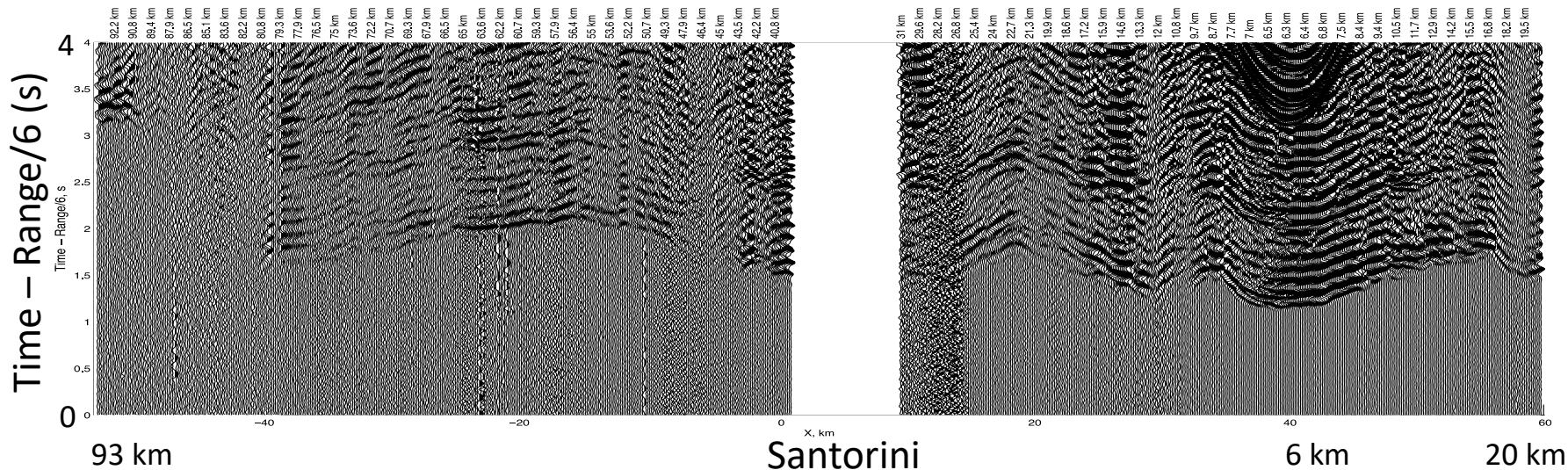
OBS 175 line 5



OBS Seismic Data

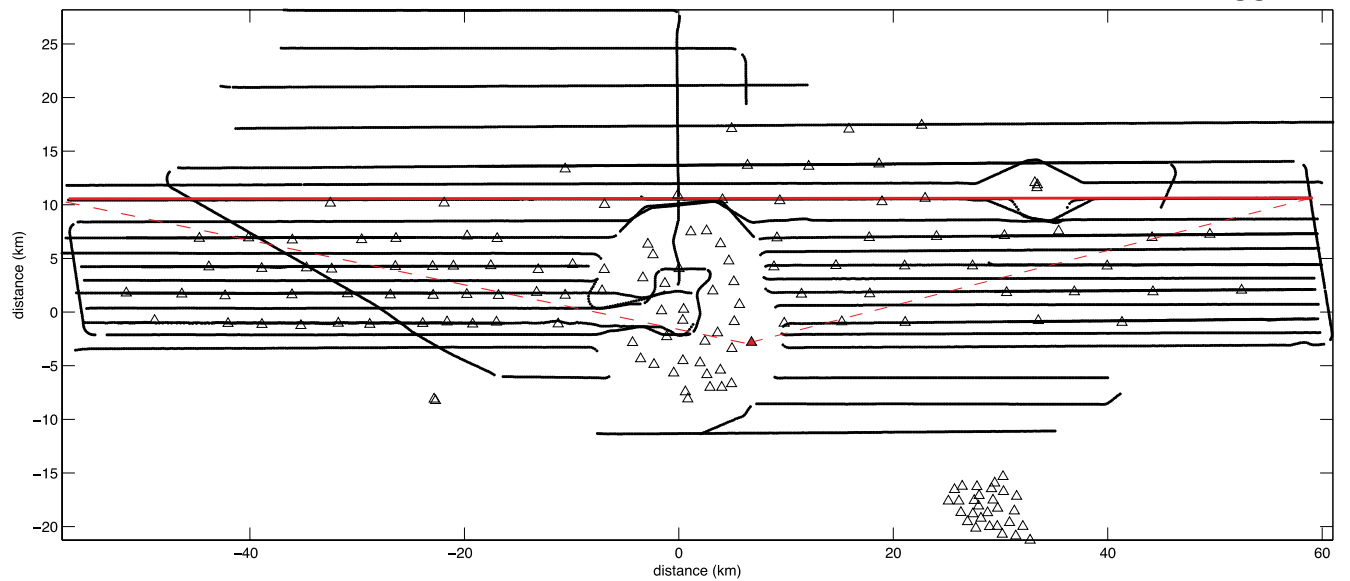
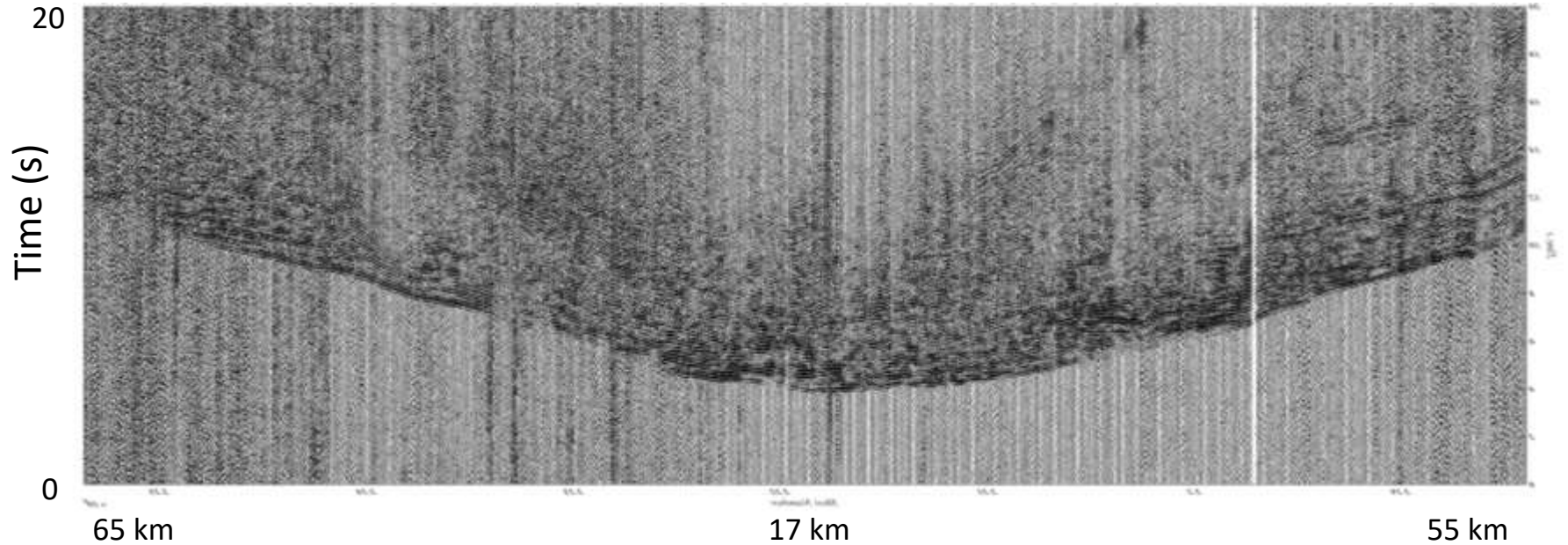
OBS 135 lines 21&22

09-Dec-2016 Station 135; Channel 4; Filter 4th order, Minimum phase, [5 25] Hz; Scale 7e-07x; Clip 0.3



Sanotrini Seismic Data

Station 813 line 6



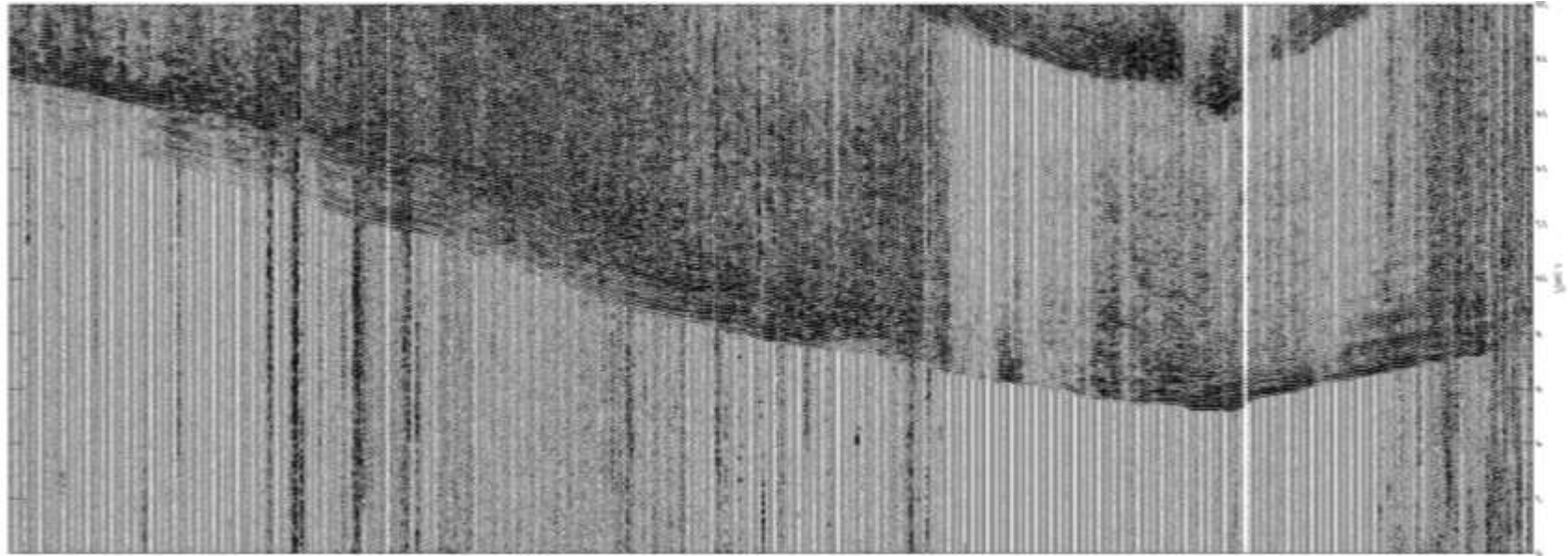
Anafi Seismic Data

Station 905 line 6

20

Time (s)

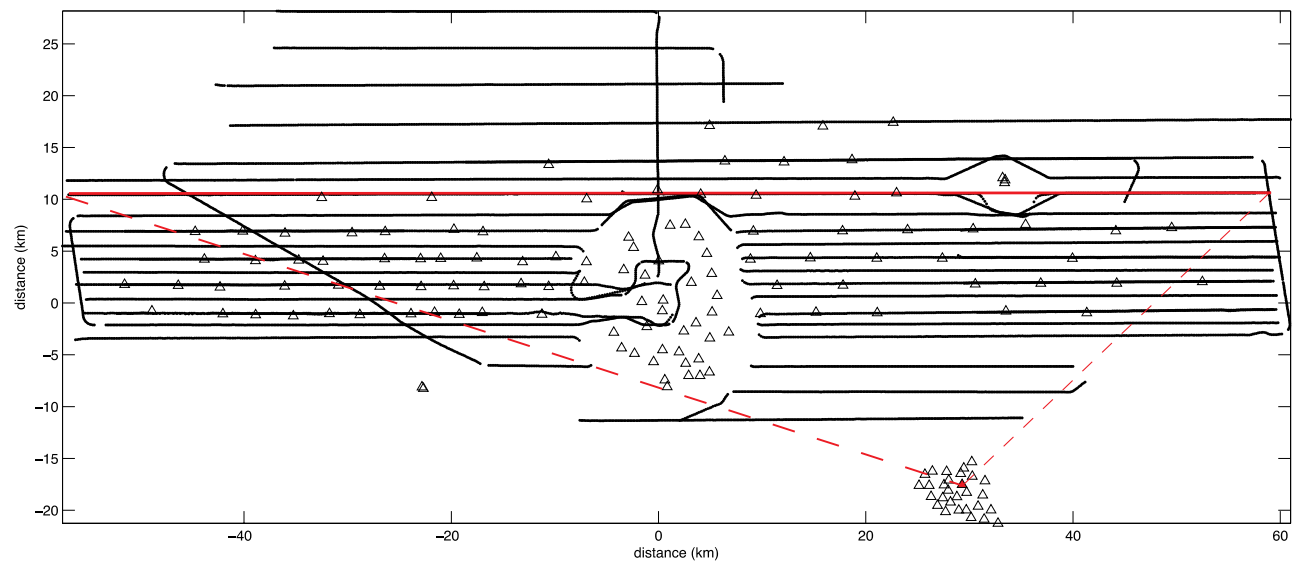
0



90 km

22 km

40 km



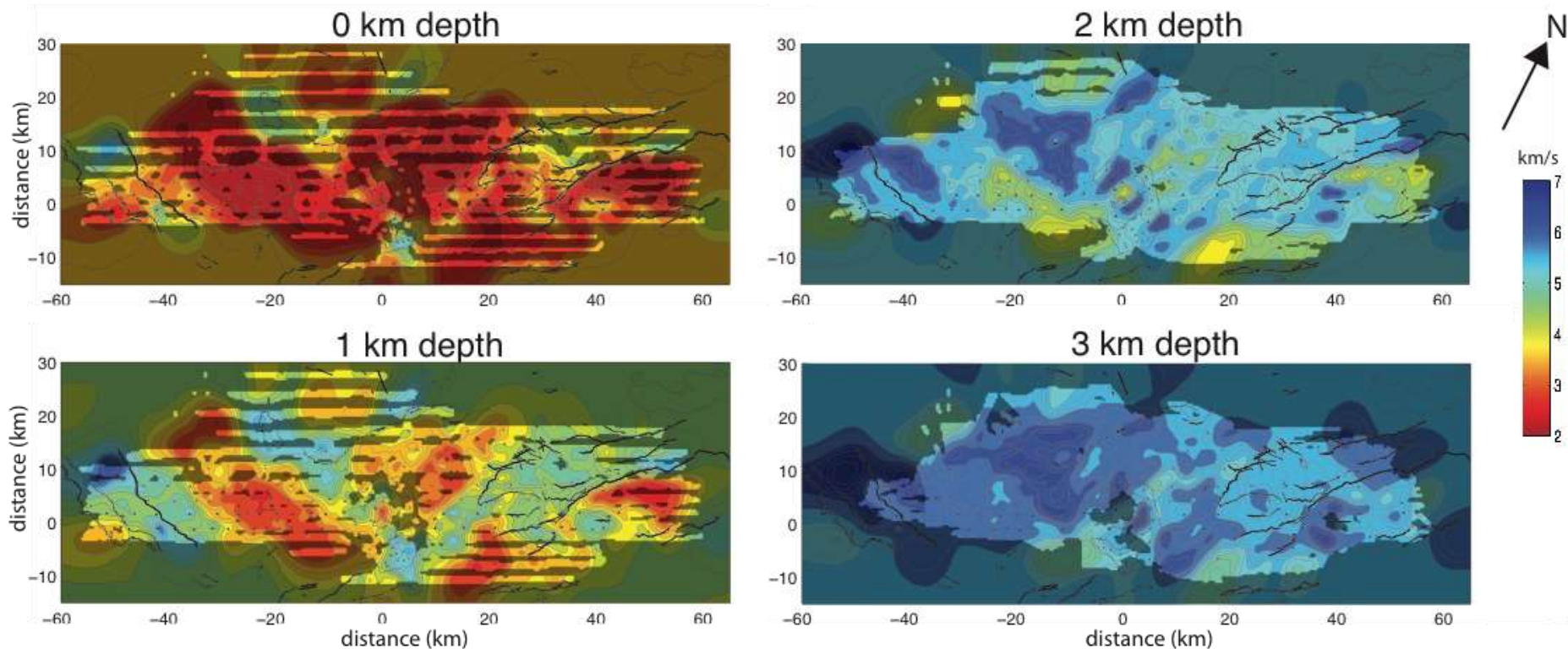
Santorini Seismic Experiment

Goal: recover the entire crustal magma plumbing structure of an arc volcano:

- We will analyze the seismic data using state-of-the art methods:
 1. 3D anisotropic seismic tomography
 2. 3D full waveform inversion

Preliminary Tomography Images for Upper Crustal Velocity Structure

Includes 70,000 P-wave picks from 2 to 20 km range.



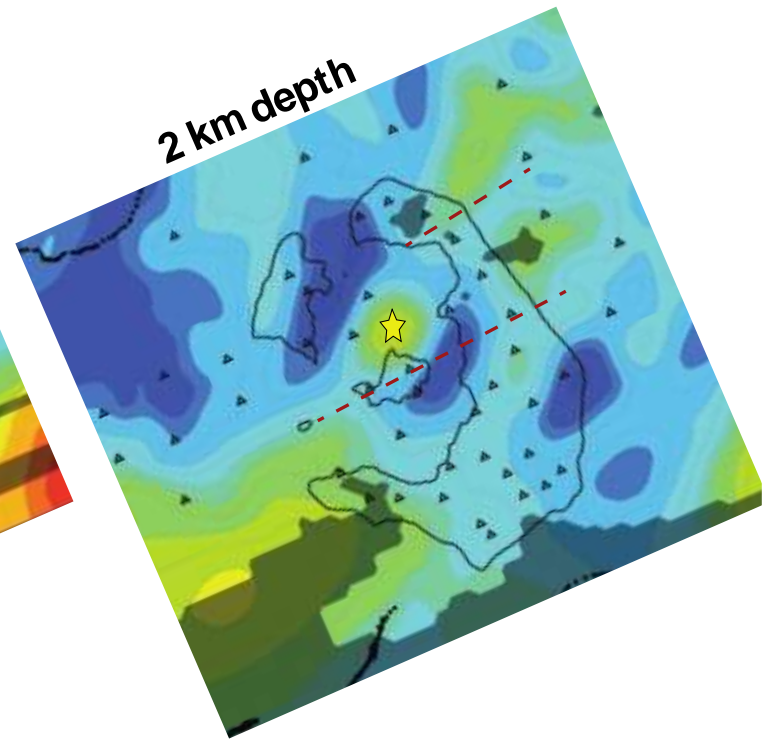
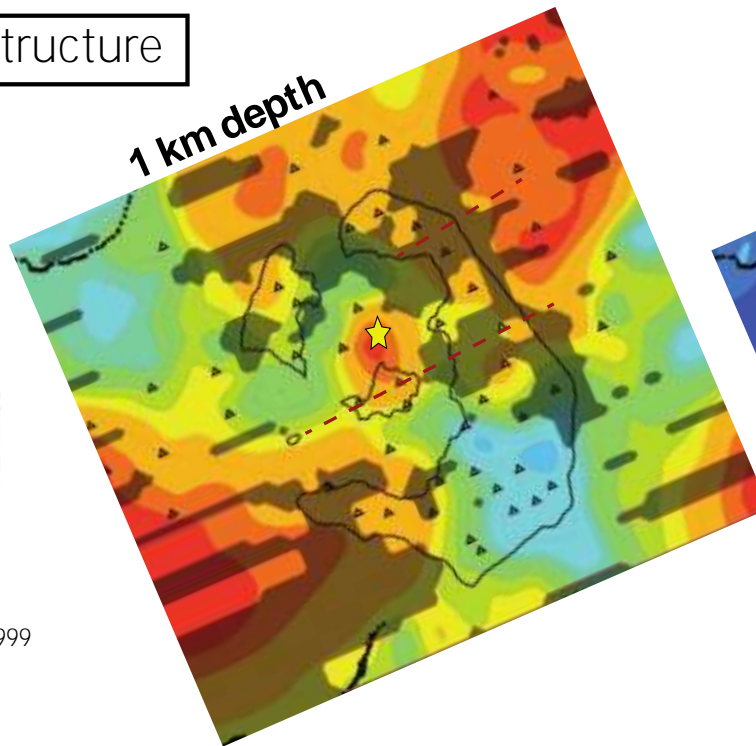
Visit Ben Heath's tomography results poster Friday afternoon: V53C-3129

Shallow Velocity Structure beneath Santorini

Santorini Shallow Structure



From Drüitt, 1999



- Low velocity volume at shallow depth (1-2 km) beneath the northern caldera basin
- Co-located with inflation source from 2011-2012 episode – but was at 4-6 km depth
- Stay tuned for the deeper structure!

Visit Ben Heath's tomography results poster Friday afternoon: V53C-3129

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Questions/comments contact:

emilie@uoregon.edu

Or come and see our posters Tuesday and Friday afternoons: *D123B-2619* & *V53C-3129*