

# Seismology in Afar and the Northern Main Ethiopian Rift (MER): Potential Sources for Ground Truth Events

*Wednesday, 21 June 2023 09:41 (1 minute)*

Hundreds of years has elapsed since earthquakes started to be instrumentally recorded. However, our understanding of magmatic rifting and other complicated source features that we observe today was limited due to the absence of digital seismic records at epicentral distances of interest. After the advent of digital broadband instrumentation with wide dynamic range, volcano seismology has become one of the strongest disciplines contributing to the study of magmatism. Over 20 volcano-tectonic earthquake sequences have occurred in Afar and the northern main Ethiopian rift for the last couple of decades and the corresponding seismic data are recorded by temporary and permanent broadband seismic network. This shows that there are several active volcanic and fissure eruptive centers in the area which need monitoring to study continental rift mechanisms and for mitigating volcano and earthquake hazards. Moderate size earthquakes from these active volcanoes can be used as a reasonable ground truth event so as to improve the regional travel times curves.

## Promotional text

Volcano seismicity as a potential source of ground truth events.

## E-mail

atalay.ayele@aau.edu.et

## Oral preference format

in-person

**Primary author:** Prof. AYELE, Atalay (Addis Ababa University (AAU))

**Presenter:** Prof. AYELE, Atalay (Addis Ababa University (AAU))

**Session Classification:** Lightning talks: P2.1, P2.3, P4.4

**Track Classification:** Theme 2. Events and Nuclear Test Sites: T2.3 Seismoacoustic Sources in Theory and Practice