



The 2011 Eruption of Nabro Volcano (Eritrea): Earthquake Locations from a Temporary Broadband Network

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Nabro volcano dominates the central part of the Nabro Volcanic Range (NVR), which trends SSW-NNE covering a stretch of 110 km from the SEE margin of the Afar depression to the Red Sea. Regionally, the NVR sits within the Afar triangle, the triple junction of the Somalian, Arabian and African plates. On 12th June 2011 Nabro volcano suddenly erupted after being inactive for 10, 000 years. In response, a network of 8 seismometers, were located around the active vent. The seismic signals detected by this array and those arriving at a regional seismic station (located to the north-west) were processed to provide accurate earthquake locations for the period August-October. Transects of the volcano were used to create cross sections to aid the interpretation.

Typically, the majority of the seismic events are located at the active vent and on the flanks of Nabro, with fewer events dispersed around the surrounding area. However, there appears to be a smaller hub of events to the south-west of Nabro beneath the neighbouring Mallahle volcanic caldera (located on the Ethiopian side of the international border). This may imply some form of co-dependent relationship within the plumbing of the magma system beneath both calderas.