

Location Parameters for the 20 December 2020 Earthquake in Gaborone

Thursday, 22 June 2023 13:30 (15 minutes)

On 20 December 2020 an earthquake shook Gaborone city and its outskirts. This earthquake was recorded by some stations of the Botswana Seismological Network and also some from the International Monitoring System. Vertical components seismograms from these stations were analysed using Geotool software from the Comprehensive Nuclear-Test-Ban Treaty Organization and the Regional Seismic Travel Time (RSTT) model to refine the location parameters of this earthquake. Geotool results are: epicentre location at Lat 24.714 oS and Long 25.973 oE; origin time of 10:44:46.5 (UTC); depth of 12.1 km; body magnitude (mb) and local magnitude (ml) of 4.2 and 3.6, respectively. RSTT results are: epicentre location at Lat 24.708 oS and Long 26.036 oE; origin time of 10:44:46.622 (UTC), and depth of 11.6 km. The location parameters agree well within uncertainties.

Keywords: Gaborone, Earthquake, Geotool, Regional Seismic Travel Time, Seismograms

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Promotional text

International Monitoring Systems and International Data Centre products applicability.

Oral preference format

in-person

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