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Seismicity of Botswana for the period 1950 - 2014

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An earthquake catalogue spanning more than six decades of instrumental observations has been assembled for Botswana and adjacent regions. The events occurred during the period between 1950 February 10 and 2014 December 31 and are distributed within the area enclosed by South Latitudes 17° and 28° and East Longitudes 19° and 30°.

Whilst the level of local seismicity in Botswana is generally low, moderate to large earthquakes have been recorded in the Okavango delta region (ODR), the largest event of which was observed on October 11, 1952 and had a local magnitude of 6.7 [1, 2]. The motivation behind the interest in creating a national seismicity database is not merely for academic research driven by scientific curiosity, but also of further paramount practical significance in providing a wealth of information that enables seismologists and engineers to better assess the distribution, frequency, and severity of seismic hazards throughout the country for contribution in the establishment of seismic source zones and building codes for sustainable land use planning and minimization of loss of life, property damage, and social and economic disruption associated with the occurrence of earthquakes [3].

The Botswana Seismological Network (BSN) was established by the Botswana Government through the Department of Geological Survey (DGS) as a national earthquake surveillance facility to undertake a long-term earthquake monitoring across the country. The seismic network data will be used in developing a comprehensive probabilistic assessment of the seismic hazard in the country to enable comprehensive ranking of earthquake-related threats and disaster risk reduction to provide input in the risk management decisions.

References:

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- [2] Scholz K.M. (1975) UNDP/FAO BOT/71/506
- [3] Shedlock K.M. (1999) Annali di Geofisica 42(6): 977-997

