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Assessment of local Seismic records and the largest earthquake magnitude in Comoro-Islands between 2017 and 2021

The Comoros Volcano Observatory has recorded significant seismic activity through the local seismic network in recent years. The evolution of the local seismicity, often assessed as volcano-induced seismicity, raises numerous inquiries on the seismo-volcanic hazards and the Magnitude records in the Comoro Archipelago. Data from the Karthala Volcano Observatory (KVO) bulletin between 2017 and 2021 revealed a Magnitude $M_d \sim 0$ to 4.95 . An inclusive catalog of the collected data available in this period frame is made, and spatial distribution of every year is created. A high record of seismicity is noticed for 2018 with the largest calculated magnitude. Based on previously published studies, the reservoir of magma that caused the huge earthquake swarm with the highest record of seismic activity generated a M_w 5.9 on 15 May during the sequence of May 2018 in the east of Mayotte Island, an important local and regional volcano seismicity acknowledged in addition to the Karthala volcano seismic behavior in Grand Comore Island. This study describes the seismic distribution in the time frame of five years successively, the evaluation from each year, and the impact based on the volcanic influence in the Comoro Archipelago as part of the East African Rift System.

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