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TITLE: Calibration of Seismic Magnitudes for Volcanic Earthquakes on
Montserrat

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The magnitude of seismic events related to volcanoes has an important role in determining the status of the volcano and helps to give an idea as to what is driving the eruption. The Montserrat Volcano Observatory (MVO) has monitored the Soufriere Hills Volcano, Montserrat since the current eruption started in 1995. The MVO estimates of the magnitudes of volcanic earthquakes have not proven to be reliable. The purpose of this study is to establish a more robust magnitude scale. A duration magnitude is calculated using data from MBRV, a seismic station located in the north of Montserrat. This scale is calibrated against the scale used by the Seismic Research Center (SRC) for earthquakes throughout the Eastern Caribbean. This results in a scale that is more robust and that is accurate for both volcanic earthquakes on Montserrat and regional earthquakes outside Montserrat.