

Geometrical definition of the Boconó fault in the sector Las Gonzalez Mérida, from the simultaneous relocation of seismic events occurring in a burst of seismicity during 2015-16

In November 11, 2015 in took place a seismic event, $M_w=5.1$, in the Las Gonzalez sector of the Boconó fault in western Venezuela region. This event was followed for an intense seismic activity mounting up to almost one thousand of events until March 31, 2016, as was recorded by the permanent FUNVISIS seismic network in Venezuela. However, during those dates an important project, GIAME, with a significant number of temporal stations, were in place and running, collecting seismic data data for the given region. For this work, we will relocate the captured population of events with techniques, First) that accounts for the correlated travel-time predicted errors, with the usage of the ILOC code (Bondar et. al, 2011), and Second) that involves the simultaneous calculation of hipocenters of the given set of seismic events based on the difference of residuals between previously located neighbors events to achieve an improved relative location, with the usage of the HypoDD code (Waldhauser et. al, 2000). We expect that the reached better accuracy, with the new solutions, we will shed light on the presence of the smaller secondary faults present in the area, at the surface and in its dipping to the depths.

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Track Classification: Theme 1. The Earth as a Complex System