

## Development of a new crustal thickness map of Venezuela based on seismological and gravimetric data

**K. Ramírez<sup>1</sup>, M. Schmitz<sup>1, 2, 3</sup>, J. Sánchez-Rojas<sup>1</sup>, M. Arnaíz-Rodríguez<sup>2</sup>**

<sup>1</sup>Fundación Venezolana de Investigaciones Sismológicas - FUNVISIS, Caracas, Venezuela

<sup>2</sup>Universidad Central de Venezuela (UCV), Caracas, Venezuela

<sup>3</sup>Universidad Simón Bolívar (USB), Caracas, Venezuela

An updated crustal thickness map based on wide-angle seismic refraction data has been compiled based on data from GIAME, BOLIVAR, GEODINOS, ECOGUAY and ECCO projects. Regarding an earlier version (Schmitz et al., 2008), seismic data from the GIAME project in 2014 allow to extend the coverage to western Venezuela with the Merida Andes. The efforts of this ongoing research are oriented to integrate results from various seismological methodologies with a density map that would yield a robust map that could be joined into a 2.5D model of the crust that will be constrained by the previously mentioned datasets. The contrast between this updated crustal thickness map and previous maps for both continental and oceanic crust for the Caribbean – South American plate boundary (Niu et al., 2007; Schmitz et al., 2008; Sánchez et al., 2010) is relevant, to understand characteristics of the deeper structures that had been interpreted from these datasets separately. Previous efforts made by Bezada et al. (2007) with integration of seismic Moho with results from receiver functions, properly spatially correlates with the updated Moho map that integrates the acquired seismic profiles. An expected outcome will be a unified map that could spatially correlate the different physical properties measured, and that best fits the data and describes the heterogeneities and main features of the Venezuelan crust. Therefore, the updated crustal thickness map based on wide-angle refraction is a first step towards understanding the lithospheric structures in the Andes, as well as in northwestern, central and eastern Venezuela.

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