

SEISMIC SOURCES OF THE COFFEE REGION (CENTRAL ANDEAN AREA - COLOMBIA)

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1As part of the Project Seismotectonics of the Colombian Territory, INGEOMINAS is carrying out the identification and characterization of active seismic sources in the Coffee Region of Colombia. This region has a high seismic hazard area, which is affected both by subduction related earthquakes from the Nazca and South American plates and by shallow activity associated to the crustal deformation and active faults (e.g. Romeral, Cauca, Ibagué). The Quindío earthquake occurred in this region on January 25th 1999, gave place to several studies of geology, seismology, and geotechnics that have added more information to this study.2The area of interest was delimited within a radius of 250 kilometers around the city of Pereira. In this study the principal sources are characterized by their activity recorded by the Colombian National Seismological Network (CNSN) operating since 1993, geological data and previous field studies. Criteria to associate seismicity to sources were established and the analysis of focal mechanisms, parameter b and energy release were also considered. Major historical earthquakes have been assigned to seismic sources according to the available macroseismic studies and instrumental locations previous to the CNSN. With this analysis, ten different seismic sources were distinguished and characterized in the region.3The information of this study is used as input to complement the Active Fault Database of Colombia developed by INGEOMINAS. This characterization is rather important for future seismic hazard assessments in the area.