

Paleoseismology in Venezuela: an overview

¹AUDEMARD, FRANCK A. and ¹SINGER, ANDRE. ¹Funvisis, Caracas, Venezuela.

The 45 trenches studied in the last 32 years actually prove the long Venezuelan paleoseismic tradition despite of being a "so-called" developing country. The first 2 trenches were dug across the Oca fault at Sinamaica in 1968 by the american Woodward-Clyde Company. Since 1979, all further paleoseismic studies have been performed by FUNVISIS and the Uribante-Caparo hydroelectric project (southern Mérida Andes, where 22 huge trenches were bulldozer-dug) became their first assessment. Except for these CADAFE-financed trenches and two others, all other assessments were for PDVSA. Western Venezuelan faults were studied between 1986 and 89: the Valera, Mene Grande, Boconó and Andes Northern Foothills thrust faults. Also, the first 5 hand-dug trenches were studied at the 3,200m-high Páramo La Colorada in 1989. In 1990-91, the Ancón and Oca faults, east of Maracaibo lake, were assessed. Simultaneously, trenching techniques were also applied to contemporary earthquake-induced liquefaction features, in eastern Falcón state; and to natural outcrops exposing the Urumaco fault (northwestern Venezuela). Except for the Morro-de-Los-Hoyos trench across the Boconó fault, where a PILOTO-Project-sponsored paleoseismic school (SAWOP) took place in 1997, paleoseismic studies in the late 90's focused on El Pilar fault, eastern Venezuela: Las Toscanas site in 1994 and 3 additional trenches across the Cariaco 1997 earthquake surface rupture. The contribution of this approach refer to: Holocene fault activity, slip-per-event and average slip rate of a given fault (or segment), fault segmentation, size and recurrence of prehistoric earthquakes, seismotectonic association of historical earthquakes and landscape evolution on the short and long term.