

THE MODERNIZATION OF THE NATIONAL SEISMOLOGICAL NETWORK, VENEZUELA

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The northern edge of Venezuela is characterized by a moderate seismicity, produced by the Caribbean and South America plate interaction. Many of the cities in that region have suffered strong damage caused by earthquakes throughout the history. After the 1967 Caracas earthquake actions were taken to install a national seismological network, which finally was operative in 1982. Remote field stations (short period, one vertical component) sent data via analog telemetry to the central site in Caracas. A first step towards the modernization of the network was done in Sucre State, struck by the 1997 Cariaco earthquake. Here, five stations, equipped with three component broadband sensors and 24-bit digitizers were installed. Digital data transmission via spread spectrum telemetry and telephone lines will allow data transmission to the central sites in Caracas and Cumaná, where the existing analog networks will be integrated – the net will be operative by end-1999. Data acquisition and analysis will be done with the SEISLOG, SEISNET and SEISAN packages. In the final stage, a total of 35 broadband stations will cover the northern part of Venezuela, including some stations south of the Orinoco river. Data transmission will be done using digital telemetry as well as telephone links and satellite communication. The central site in Caracas as well as local short period networks (operated by universities or energy companies) will interchange the data via telephone links.