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GREAT GEOMORPHIC CHANGES DUE TO UPPER TERTIARY / QUATERNARY TECTONIC SUBSIDENCE, VOLCANISM AND DEEP-SEATED LANDSLIDES: AN EXAMPLE FROM NW NICARAGUA, CENTRAL AMERICA

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The Chortis Block (NW part of the Caribbean plate) is the essential part of the Central America. It is recently subject of very complicated and intensive tectonic evolution consisting of active subduction, extensional and locally transpressional regimes along strike-slip faults, seismicity, volcanism or subsidence. Those processes, supplemented with intensive exogenic phenomena like hurricanes, tropical storms, floods, tropical weathering, mass wasting or erosion, have lead to sudden geomorphic changes at the local scales.

The paper presents an example of very complex evolution of the mountainous area of the Mesetas de Esteli Mts. near Esteli city, NW Nicaragua. The changes in hydrography and ground-surface shape of the area have been related especially to Upper Tertiary / Quaternary calc-alcalic volcanism, tectonic subsidence along a NNE-SSW trending sinistral strike-slip fault system, N-S and ESE-WNW trending normal faults, about 13-km-in-diameter subsidence caldera of Tomabu and deep-seated landslides, earthflows and rock avalanches. Abandoned valleys, sediments of lakes or up to 100 m deep landslide dam, river terraces, transpressional ridges are some of the proofs of those events.

The individual cases were identified and analysed by means of interpreting the remote sensing data (images of Landsat 7, digital elevation model obtained from Shuttle Radar

Topography Mission, stereoscopic photo-interpretation) and field reconnaissance, geomorphic, geological and engineering-geological mapping, sedimentological logging or verifying and measuring the tectonic joints.