

# **Methodology for Volcanic Monitoring Using the Processing and Analysis of Geospatial Data and Its Implementation in the "Concepción" Volcano of Nicaragua**

According to documents of the Nicaraguan Institute of Territorial Studies (INETER), the Concepción volcano, which emerges from Lake Cocibolca, is one of the most dangerous volcanoes in Nicaragua. Concepción volcano is one of two volcanoes that make up the island of Ometepe in the great lake of Nicaragua where more than 40,000 inhabitants live. At the beginning of 2010, a scientific project was created between the University of Cádiz (UCA), the Higher Council for Scientific Research (CSIC), both institutions from Spain and the INETER of Nicaragua, for the design and creation of a permanent geodetic network (Concepcetepe Network) that allows the monitoring of the volcano this with the purpose of establishing a system to analyze the parameter of surface deformation and so obtain models of geodynamic deformation to help in the reduction and prevention of risks. As a result of this collaboration, a GNSS-GPS geodynamic network has been developed comprising seven continuous stations (MAGN, RIVA, JAPO, CONC, ESPE, MORR, OMAJ) actually used to monitor the volcanic activity in quasi real time.

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