The current high performance (capacity and velocity) to transfer and receive a great volume of GNSS-GPS data, jointly with the low consume of receivers and WIFI transmission make possible the use of the superficial deformation parameter to monitor in real time the volcanic activity.

It is necessary the establishment a geodetic network around the volcano with a control station no directly affected by the volcano activity. The processing of GNSS-GPS observed data provides the direct distances between all the stations. Real time analysis of direct distances time series, obtained in time intervals, will allow the evaluation of the present volcanic activity.

With this approach, it is also necessary the geodetic link between the volcano geodetic network and a global reference station (IGS, ITRF) with absolute coordinates and its velocities known.

In this work the geodetic monitoring of active volcano Concepcion (Ometepe Island, Nicaragua) is shown. The CONCETEPE geodynamic network, composed by 8 stations placed in Ometepe Is. and the control station in Rivas village, 20 km far from the island. MANA, ITRF station sited in Managua (Nicaragua), is used as the CONCETEPE geodynamic network global reference.

The studies for establishing the best length of the observation sessions and the first deformation model are also shown. This model will be the reference to study the superficial deformation parameter evolution of active volcano Concepcion.