



## **The INVOLCAN's GPS Network for the volcanic surveillance of Canary Islands**

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Since 2004, Instituto Tecnológico y de Energías Renovables (ITER), in collaboration with the University of Nagoya and GRAFCAN, is monitoring Canary Islands with a network of differential GPS stations. Since its creation in 2011, Instituto Volcanológico de Canarias (INVOLCAN), started coordinating the collection and the processing of the data of the Red GPS Canaria (RGC).

Currently the network consists of a total of 35 stations distributed over the Canary islands: 5 on La Palma, 6 on El Hierro, 1 on La Gomera, 12 on Tenerife, 4 on Gran Canaria, 4 on Fuerteventura and 3 on Lanzarote. The network is composed both of Leica and Ashtech stations. Data of ITER and Univ. Nagoya stations are collected daily through UMTS connection.

All the data are processed to retrieve daily solutions, using Bernese 5.2 processing environment. The processing is performed weekly, using preliminary IGS orbit data, with the purpose of redacting an informative summary of the volcanic activity: GUAYOTA ([www.involcan.org/guayota](http://www.involcan.org/guayota)). Once final orbit data are available at IGS, data are reprocessed, inserted into a MySQL database and published on monthly bulletins ([www.involcan.org/boletin-mensual](http://www.involcan.org/boletin-mensual)).

The data from RGC is used of course for volcano monitoring purposes. We show some example results for El Hierro eruption. Furthermore the long term time series provides useful information about the geodynamics of the Canarian Archipelago.