



THE 28<sup>TH</sup> GENERAL ASSEMBLY OF  
THE INTERNATIONAL UNION OF  
GEODESY AND GEOPHYSICS  
<https://www.iugg2023berlin.org/>

## Present-day 2D infinitesimal strain across the Canary Islands from GNSS data analysis

Benavent, M., Riccardi, U., Tammaro, U., Arnosó, J., Gonzalez Motesinos, F., Blanco-Montenegro, I., Vélez, E.

We studied the deformation pattern across the Canary Islands derived from daily GNSS time series analysis spanning the period from 2017 to the present. From the GNSS velocity field, through a triangular segmentation approach, a 2D map of the infinitesimal deformation field across the archipelago was reconstructed. This study updates our previous one for the period 2011 to 2017, which revealed E-W and NE-SW orientation patterns influenced by the regional strain field, and also suggested that the extensional and compressional regimes in the region could influence the different episodes of volcanism in the Canary Islands. Our main interest was to characterize the deformation pattern in the youngest and westernmost islands of the archipelago where the most recent episodes of volcanism took place the 2011-2012 submarine eruption in El Hierro and the 2021 subaerial eruption in La Palma. In this study, special attention was paid to the area between the islands of Tenerife and Gran Canaria, an area of intense seismic activity, where several seismic swarms have been occurred since 2018.

### IAVCI; V01 Volcano Geodesy Techniques and Approaches for Studying and Monitoring Volcanic Processes

#### Citation

Benavent, M., Riccardi, U., Tammaro, U., Arnosó, J., Gonzalez Motesinos, F., Blanco-Montenegro, I., Vélez, E. (2023): Present-day 2D infinitesimal strain across the Canary Islands from GNSS data analysis, XXVIII General Assembly of the International Union of Geodesy and Geophysics (IUGG) (Berlin 2023).

<https://doi.org/10.57757/IUGG23-2625>

Cite as: [https://gfzpublic.gfz-potsdam.de/pubman/item/item\\_5019269](https://gfzpublic.gfz-potsdam.de/pubman/item/item_5019269)