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## KEYWORDS

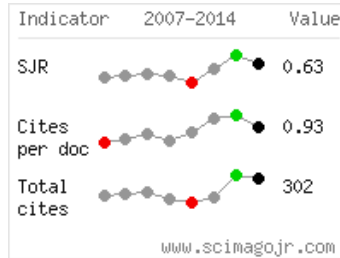
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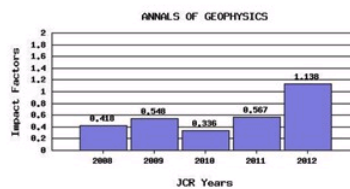
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# Satellite differential SAR interferometry for the evaluation of effects of hydrogeological disasters: definition of a scale for damage evaluation

*V. Rizzo, A. Iodice*

## Abstract

In this paper we present the results of monitoring soil movements over an about 10 km<sup>2</sup> area around the border between the Calabria and Basilicata regions in Italy. Monitoring has been performed using the satellite differential SAR interferometry measurements integrated with GPS measurements. In particular, we used ERS data acquired at time interval of several months (about two acquisitions per year), and after particularly strong pluvial events. Terrain displacement spatial and temporal analysis has been performed by employing the original method described in Berardino et al. (2002, 2003). Obtained results allow us to characterise unstable areas, and can be used within projects aimed at territory classification and characterisation, and at performing damage evaluation. Accordingly, this technique has been included in the framework of a proposed UE project (WEDELOP project) aimed at developing an integrated methodology to devise a damage scale for hydrogeological disasters. This scale is of great interest in many fields; in particular, definition of a damage scale would be highly desirable from the viewpoint of insurance companies.

# Keywords

landslide movements; damage evaluation; differential SAR interferometry; remote sensing of land surface; Maratea

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