



Near and Remote Sensing for Integrated Monitoring of Instability Processes

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Message from the Guest Editors

The use of appropriate technologies for monitoring environmental phenomena is of paramount importance in reducing disaster risk and territorial planning and managing. The wide availability and reduced cost of some types of sensors (Time Domain Reflectometry, Acoustic Emission, Laser, Inclinometers, GNSS), the greater availability of satellite remote sensing data, and the possibility of sharing in real time, determine a convenience to the integration of near and remote techniques of detection and monitoring of instability processes. For instance, SAR Interferometry allows identifying displacement signals valuable for monitoring ground and structural stability. However, for a real practical support, this technique should be combined with in situ monitoring networks and modelling tools. In this framework, several issues still remain open: optimal data integration; data requirements; validation experiments; finalization to process monitoring and early warning. This special issue is aimed at addressing all these themes through examples of algorithm development and application to case studies.





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Message from the Editor-in-Chief

Understanding the Earth's origin and its bio-geological evolution, the multiple implications of the geosciences (as a coherent set of interconnected disciplines), and the sociocultural and ethical interdisciplinary approaches, will be crucial for a better understanding of Nature, and also for undertaking scientifically based political decisions.

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