Landslide early-warning integrated system

Results

Project Information

LEWIS

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Project closed

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Programme for research, technological development and demonstration on "Energy, environment and sustainable development, 1998-2002"

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€ 2 690 004,00

EU contribution
€ 1 498 181,00

Coordinated by
UNIVERSITA DEGLI STUDI DI BARI
Italy

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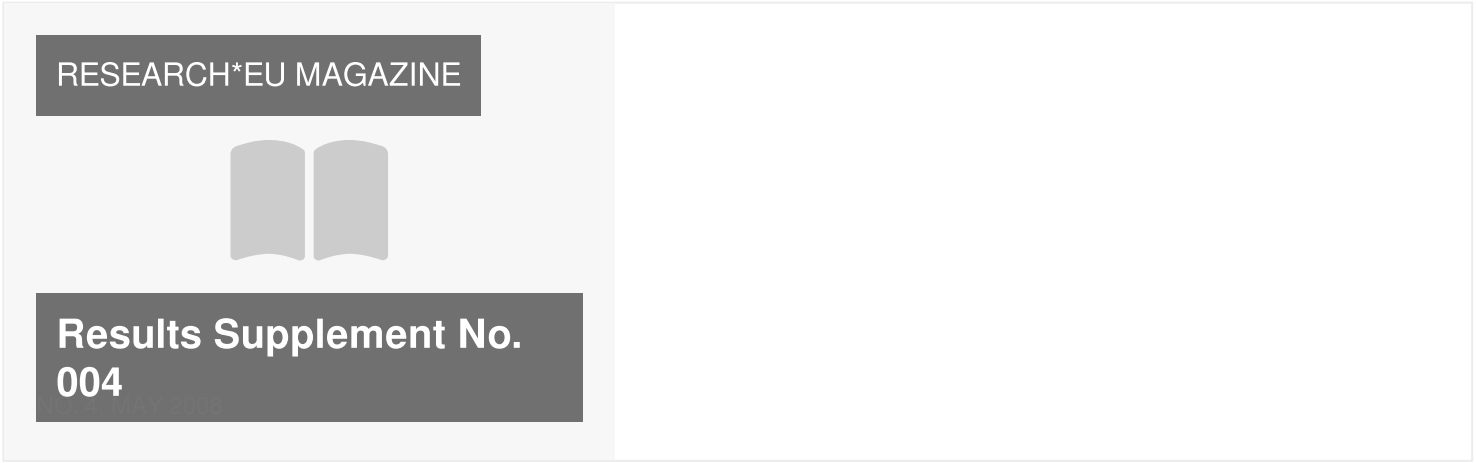

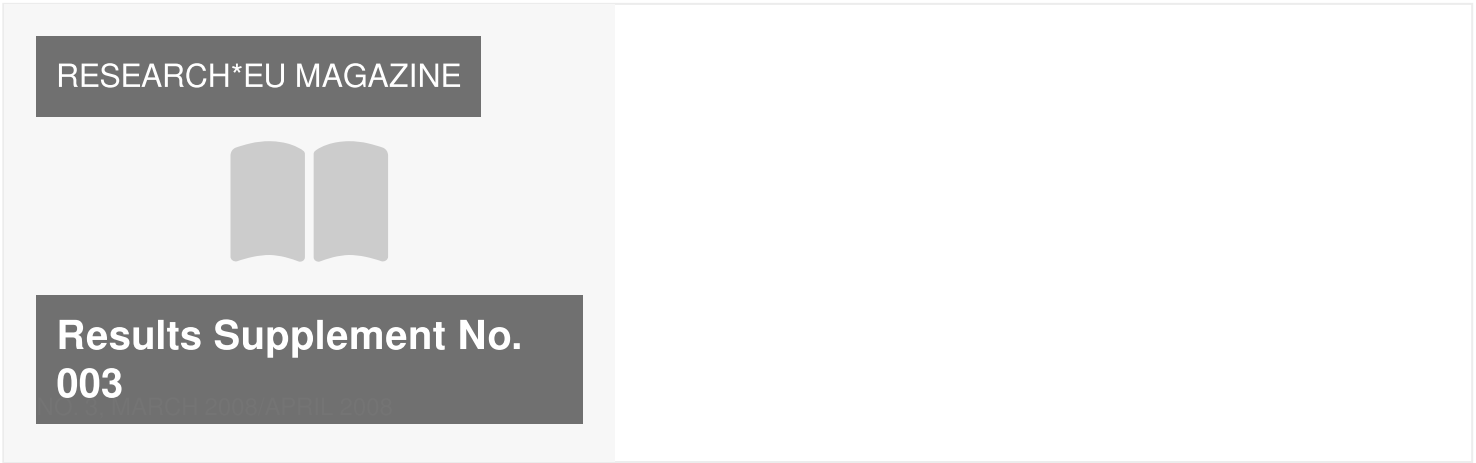

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Deliverables

Working prototype of watch map service with database, software and operative manuals for two test sites

The Watch map: all the information, static and dynamic, collected from EO data and from ground networks and included in the GIS after all processing but before the application of the inference engine. This is intended to be given to academic and research institutions for scientific purposes, perhaps even transcending that of landslide applications.

Scientific and professional training of young graduates in the field of remote sensing technologies

In the framework of the together with the SPINUA algorithm development and validation, the WP8.2 activity led also to the scientific and professional training of young graduates in the field of remote sensing technologies applied to environmental studies. This training activity has been carried on in the framework of the Master degree in Remote Sensing Application in Environmental Studies yearly organized by and hosted in the Dipartmento Interateneo di Fisica of Bari (Italy)., in collaborations with the Italian Space Agency and most of the Italian aerospace industries involved in the Remote sensing activity.

The experience gained in running this Master School can be applied for the training of new experts in EO data utilization for landslide warning and monitoring, as well as for the training of public administration employees to be involved in this future application of the results of this project.

Working prototype of warning map service with software and operative manuals plus the database for two test sites

The warning map or updateable susceptibility map is the final product LEWIS project. It is a map highlighting of seven levels of warning. The warning map is based on the displacement information coming from the persistent scatterers (PS) detection and from the outcomes of the inference engine, incorporating and automating expert competences in recognizing areas of increasing landslide hazard. In addition to the moving PS, the levels of susceptibility highlighted in the susceptibility map result in a ?warning? level when a negative slope instability impact from land use change occurs.

When a land use change occurs in an area with nonzero susceptibility, it provides a warning, represented by a ?warning map?. This is the most relevant and useful result, since it highlights land use changes, which may lead to an increased landslide hazard. As such, it is of interest for deployment in land use planning and civil protection, and it may also interest private entities such as insurance or engineering consultancy services. This output is at present a working prototype, although it can be the object of further studies and improvements.

Working prototype of susceptibility map database, software and operative manuals for two three test sites

The susceptibility map consists of a ?zonation? of the area into seven levels of susceptibility (plus a zero level) based on the static information (slope, lithology, geology, past landslide activity) extracted from EO and field data. It is also an input for the warning map production.

LEWIS web site

The LEWIS Web site provides project information and achievements, to stimulate contacts with other users and other industrial sectors. We conceived and realised the web site of LEWIS

http://www.silogic.fr/lewis/. This could be indirectly exploited as it may give us an entry to our web site, giving us the chance to be known by potential partners.

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Permalink: https://cordis.europa.eu/project/id/EVG1-CT-2001-00055/results