EGMS RASTOOL: European ground motion risk assessment tool

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RASTOOL Summary

- RASTOOL aims to provide CPA practitioners with the appropriate set of tools for simplifying the EGMS data, to automatically analyse them and to generate maps to support hazard, exposure and risk-assessment against geohazards, both natural and anthropogenic.

- **Policy area:** Prevention

- **Priority covered:** taking Europe as a unit and deriving products which can be used in the same manner by any national or regional civil protection.

- **Total Cost:** 528,946.02 € (EU contribution = 449,604.12)

- **Number of beneficiaries:** 7 (4 countries /4 research institutions/2 CPAs involved/1 international association)

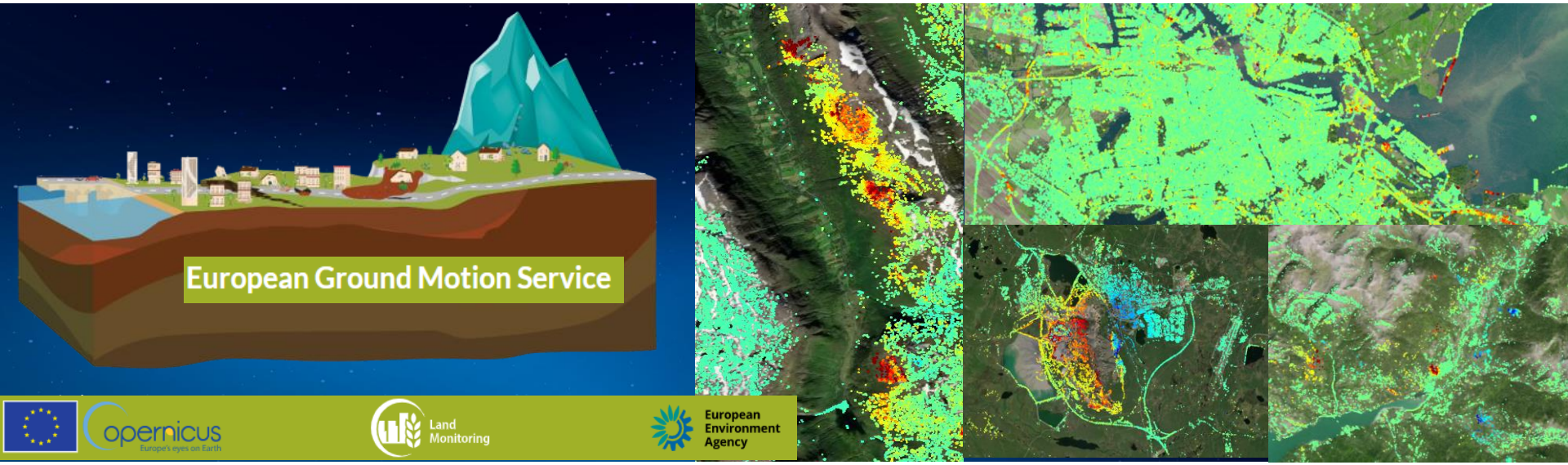
RASTOOL Background

Sentinel-1 for Geohazard regional monitoring and forecasting

Geohazard impact assessment for urban areas

- These projects were focused on developing tools and approaches to ease the full exploitation of Sentinel-1 based products for prevention against Geohazards and its potential impact on urban areas and infrastructures.
- The developed tools are nowadays successfully used by different actors involved in prevention tasks like Geological Surveys around Europe.
- The U-Geohaz approach have been used in two regions of Italy for landslide mapping and monitoring: Tuscany and Valle d'Aosta.
- Safety and U-Geohaz project contributed to the Volcanic Early warning system of IGN successfully used in the recent eruption of La Palma.

RASTOOL Background



- The European Ground Motion Service (EGMS) is focused on the deformation or motion of terrain, structures and infrastructures using data coming from Sentinel-1.

- It uses a technique that offers wide-area coverage and a relatively high spatial resolution: from a global outlook up to individual structures and buildings.

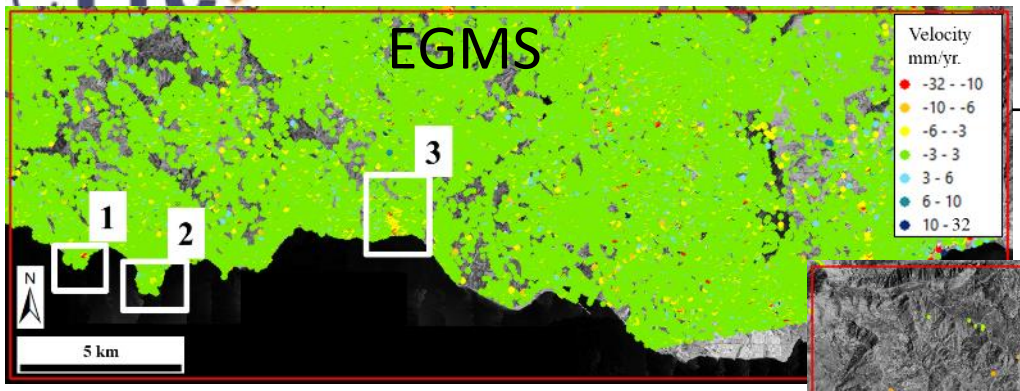
RASTOOL GOALS

- RASTOOL aims to develop the necessary tools to semi-automatically transform the EGMS outputs, composed of millions of point-like measurements, in maps ready to be used in the DRM cycle.

- The aim is to maximise the impact of EGMS in the implementation of DRR and DRM policies.

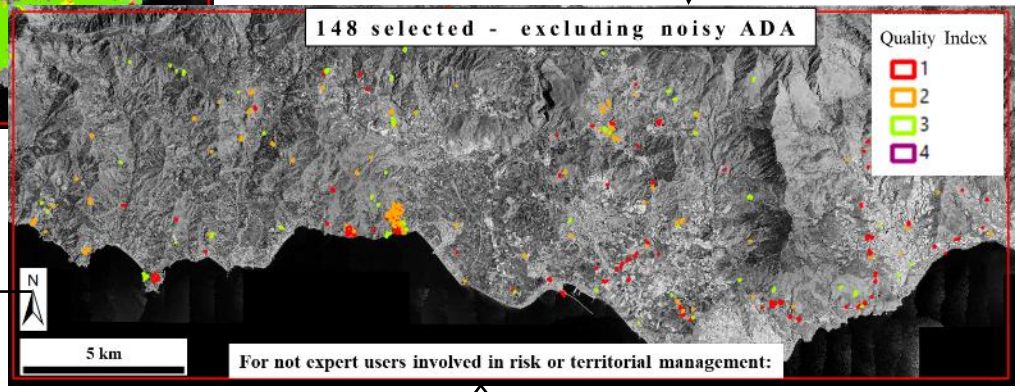
- RASTOOL will build upon the previous projects (Safety and U-Geohaz) to tune and develop tools ideally suited for EGMS products.

RASTOOL CONCEPT



Safety

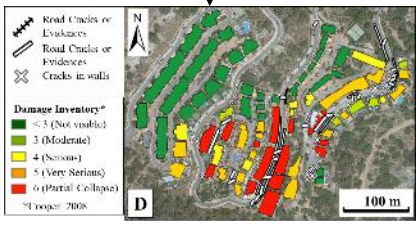
Rastool 1: tune for massive use

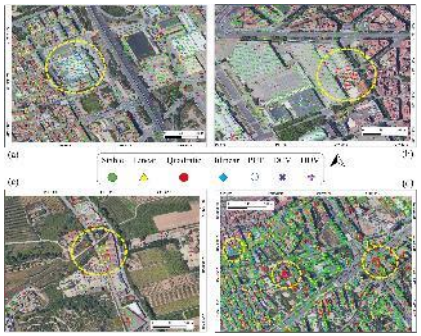


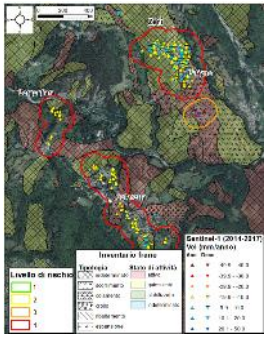
RASTOOL

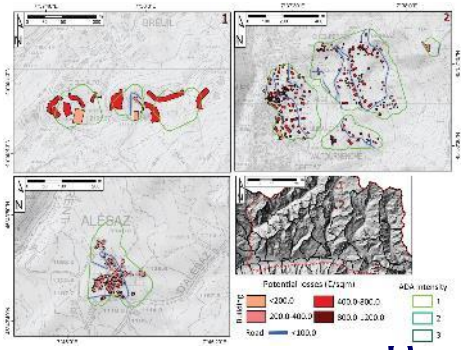
UG

Rastool 2: automathic tools

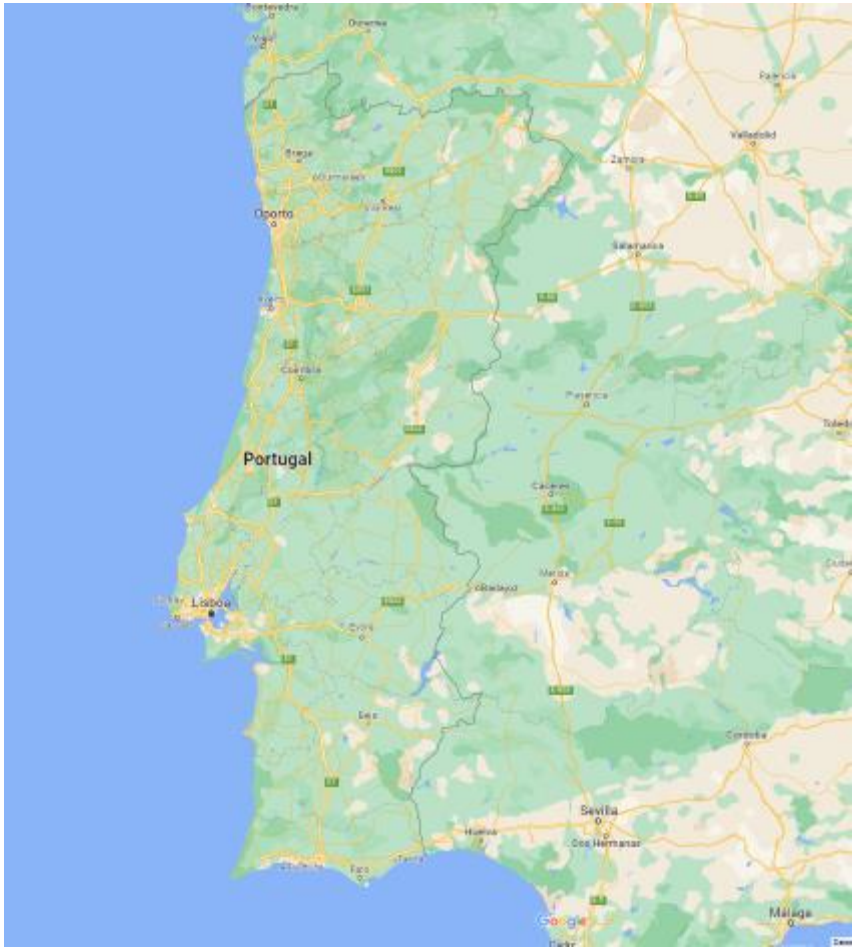








RASTOOL SITES



- We are going to demonstrate the full set of RASTOOL tools in a buffer around the Portugal-Spain border

- We are going to perform and application of the first level RASTOOL tool in a set of countries borders selected by the End User of the team.

RASTOOL Consortium

CTTC
Centre Tecnològic de Telecomunicacions de Catalunya

Instituto Geológico y Minero de España

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DIPARTIMENTO DI SCIENZE DELLA TERRA

EUROGEOSURVEYS
European Geoscience for Society
The Geological Surveys of Europe

IGOT
Instituto de Geografia e Ordenamento do Território
UNIVERSIDADE DE LISBOA

AUTORIDADE NACIONAL
DE EMERGÊNCIA E PROTEÇÃO CIVIL

Regione Autonoma Valle d'Aosta

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Thanks for your kind attention!