



Grant Agreement No. 783169
U-Geohaz – “Geohazard impact
assessment for urban areas”

Deliverable D2.2: Landslides tools and methods. User assessment procedure

A deliverable of WP 2 (Activity 2.2): User assessment

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Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
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EXECUTIVE SUMMARY

This document, which represents the second deliverable of WP2 “Tools to support the Early Warning for Landslides geohazard”, describes the actions performed in the Activity 2.2 “User assessment”.

The main goal of this task is the assessment of the project progress and of the results from the User perspective. It will be based on the SAFETY assessment procedure tailored to the specific characteristics of the U-Geohaz products, being applied in two phases: first, during the product generation by providing a continuous feedback to identify the gaps between the user requirements and the delivered products. Then a final assessment of the products by taking into account the validation results and the feedback provided by the involved CPAs. The main outcome of the user assessment activity will be fundamental for the integration of the U-Geohaz products in the CP prevention procedures. A critical evaluation of the developed tools, methods and generated results to support Early Warning System for Landslides geohazard in the Valle d’Aosta Region will be performed, including feedbacks and indications for possible improvements.

REFERENCE DOCUMENTS

N°	Title
RD1	DoW Part B

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1 INTRODUCTION

This document describes the assessment procedure for U-Geohaz. The main goal of the procedure is evaluating the WP2 developed products during its development and at the end of the project. The document consists in two main section. In the first section are briefly described the products to be assessed and the listed user requirements. In the second section is briefly described the procedure used for the assessment: the gap analysis.

The selection of the gap analysis procedure to assess the project products is based in the experience achieved by the consortium in previous projects (LAMPRE, DORIS and SAFETY)¹. The gap analysis is a procedure that allows identifying the gaps between the developed products and the final user requested products. It starts with a list of user specifications and it is applied during the development of the products allowing a realistic fit between user requirements and technical limitations. Since this procedure was successfully applied in the above-mentioned projects, it has been decided to adapt it to the specific needs of U-Geohaz.

2 WP 2 PRODUCTS

The main goal of WP2 is to implement and test a procedure to fully exploit the 6 days repeatability of the Sentinel-1 constellation, in order to continuously assess the potential impact of active landslides on urban areas and critical infrastructures.

The WP2 is based on the definition of specifically designed products, being maps, shapefiles and software tools.

In particular, WP2 will deliver:

- Active Deformation Areas (ADA) maps;
- Vulnerable Elements Activity Maps (VEAM);
- Software tools to produce the ADA maps.

The first activity of WP2 was aimed at defining a list of realistic user needs, in order to make them suitable to be integrated also in different national contexts. The user needs were collected in collaboration with the Valle d'Aosta Region Civil Protection (VARCP) and with the Valle d'Aosta Region authority (RAVA).

The products are briefly described in the tables below.

¹ LAMPRE, Landslide Modelling and tools for vulnerability assessment Preparedness and REcovery management, FP7 Grant 312384, <http://www.lampre-project.eu/>

DORIS, Ground Deformations Risk Scenarios: an Advanced Assessment Service, FP7 Grant 242212, <http://www.doris-project.eu/>

SAFETY, Sentinel-1 for geohazard prevention and forecasting, ECHO/SUB/2015/718679/Prev02, <http://safety.cttc.es/>

Activity 1.3 Landslide activity map		
Requirement	Product	User Requirements
WP1_1.3.2_1	Active Deformation Areas map (ADA)	U-Geohaz shall provide ADA in shapefile or raster format.
WP1_1.3.2_2	Active Deformation Areas map (ADA)	U-Geohaz shall provide ADA with a description of input data used.
WP1_1.3.2_3	Active Deformation Areas map (ADA)	U-Geohaz shall provide ADA with an evaluation of the quality and uncertainties of the product.
WP1_1.3.2_4	Active Deformation Areas map (ADA)	U-Geohaz shall provide ADA results in a specific layout ready to be printed for field activities.
WP1_1.3.3_5	Software tools to produce the 6-day ADA map and User manual	U-Geohaz shall provide a free prototype software for ADA generation compatible with common operating systems (Windows, MacOS or GNU/Linux)
WP1_1.3.3_6	Software tools to produce the 6-day ADA map and User manual	U-Geohaz shall provide guidelines for software tools use
WP1_1.3.3_7	Software tools to produce the 6-day ADA map and User manual	U-Geohaz shall foresee practical training sessions about the use of software tools

Activity 1.4 Vulnerable elements at risk map generation		
Requirement	Products	User Requirements
WP1_1.4_1	Vulnerable elements at risk map (VEAM)	U-Geohaz shall provide ADA in shapefile or raster format.
WP1_1.4_2	Vulnerable elements at risk map (VEAM)	U-Geohaz shall provide ADA with a description of input data used.
WP1_1.4_3	Vulnerable elements at risk map (VEAM)	U-Geohaz shall provide the methodology used to derive the VEAM.
WP1_1.4_4	Vulnerable elements at risk map (VEAM)	U-Geohaz shall provide VEAM represented as values or category classes
WP1_1.4_5	Vulnerable elements at risk map (VEAM)	U-Geohaz shall provide ADA results in a specific layout ready to be printed for field activities.

3 USER ASSESSMENT PROCEDURE

Following the experience of previous projects (LAMPRE, DORIS and SAFETY)², the user assessment procedure will be mainly focused on performing a detailed GAP analysis. The GAP analysis demonstrated its capability of granting a productive exchange of information between the scientific team and the final users in an easy way, i.e. with Civil Protection entities at different levels (regional to national). The main goal of the procedure is comparing current project performances with the final user needs making possible to develop strategies to “fill the gaps” and to achieve specific aims. All the above-mentioned requirements are the target of the GAP Analysis.

To monitor the performances of the ongoing project we have defined a simple summary table for the GAP analysis of each user requirement. The table is shown below.

ID Req	Current State	Target State	GAP exists	GAP Resolution	GAP Resolved Date	Comments	Color Scale
code	description	description	YES/NO	description	date	description	colour

Where:

- **ID Req:** code of the requirement as listed in D2.1: “Landslides tools and methods. User requirements”;
- **Current state:** implementation status of a specific requirement at the current moment;
- **Target state:** required target of the product, as listed in D2.1: “Landslides tools and methods. User requirements”;
- **GAP exists:** when current and target state are different then Gap exists;
- **Gap Resolution:** description of the actions to be carried out in order to solve the gaps;
- **Gap Resolved Date:** date on which the gap is solved;
- **Comments:** additional comments to explain the GAP resolution strategy;
- **Colour Scale:** relevance of the GAP following the colour scale:
 - o **red:** gap must be closed;
 - o **orange:** it is advisable to close the gap;
 - o **green:** gap is closed / nor relevant for the success of the project;
 - o **grey:** gap to be discussed with project partners.

² LAMPRE, Landslide Modelling and tools for vulnerability assessment Preparedness and REcovery management, FP7 Grant 312384, <http://www.lampre-project.eu/>

DORIS, Ground Deformations Risk Scenarios: an Advanced Assessment Service, FP7 Grant 242212, <http://www.doris-project.eu/>

SAFETY, Sentinel-1 for geohazard prevention and forecasting, ECHO/SUB/2015/718679/Prev02, <http://safety.cttc.es/>