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

Deliverable D3.2: VEW Assessment Procedure

A deliverable of WP3: Early Warning System for Volcanic Activity

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Lead contractor for this deliverable: insert here the acronym of responsible partner: CNIG-IGN / SCP/ GOBCAN

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

The activities defined and performed in the Activity 3.2 named "VEW Assessment Procedure" are reported in this document, which represents the second official deliverable of WP3 "Early Warning System for Volcanic Activity".

The main goal of this task is the description of an assessment procedure to evaluate both the project progress and the results. The selected procedure is the GAP Analysis, as it was successfully used during the SAFETY project. This methodology will be applied to the list of user requirements established in deliverable D31 "VEW User Requirements" in order to identify possible gaps between requirements and final products to make the necessary actions, which can fill those gaps.

Close to the end of project a final assessment of the products will be done, taking into account also validation and feedback provided by involved CPAs. The outcome of this task will be essential for the integration of the U-Geohaz products in the CP prevention procedures.

REFERENCE DOCUMENTS

N°	Title
RD1	DoW U-Geohaz
D31	Technical Note. VEW User Requirements

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1 INTRODUCTION

This document is a technical note, which aims to describe the assessment procedure for the WP3:"Early Warning System for Volcanic Activity" regarding products and project development.

The procedure used to perform the user assessment is the gap analysis. The selection 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. The main concept is to compare the product development at any stage with the user requirement in order to find the "gaps" and to fill them. 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.

In particular, it will be applied in two stages:

1. During product generation phases the assessment procedure will provide continuous feedback to identify gaps between the user requirements and the delivered products and update the user needs, if necessary.
2. Final assessment of products will be done, taking into account all the feedback provided by CPAs and results from other deliverables as for example D38 "VEW Validation Report".

In the first section main products of WP3:"Early Warning System for Volcanic Activity" are summarized. In the second section, the assessment procedure is described in detail. In the third section a schematic execution plan of the user assessment task is provided.

2 PRODUCTS OF WP3: «EARLY WARNING SYSTEM FOR VOLCANIC ACTIVITY»

This is the list of products involved in WP3:

PRODUCT	ACRONYM	TYPE OF PRODUCT	SHORT DESCRIPTION
Displacement Map	DIM	Map	6-day map of displacements for Tenerife, La Palma and El Hierro islands based on Sentinel1 data

[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/

Deformation Activity Map	DAM	Map	Deformation velocity map for Tenerife, La Palma and El Hierro islands based on Sentinel1 data
Software to produce the 6-day maps		Software	Tools to process Sentinel-1 data to obtain DIM and DAM
User manual of sotfware		Document	Document which details how to install and use the software
VEW-Displacement Map	VEW-DIM	Map	6-day map of displacements for Tenerife, La Palma and El Hierro islands based on Sentinel1, GNSS and tiltmeter data
VEW-Deformation Activity Map	VEW-DAM	Map	Deformation velocity map for Tenerife, La Palma and El Hierro islands based on Sentinel1, GNSS and tiltmeter data

This list was defined in D31: "VEW User Requirements" in agreement with SCP and GOBCAN authorities.

3 USER ASSESSMENT PROCEDURE

In this part of the document, the assessment procedure that will be applied during the U-Geohaz project, for WP3, is explained in detail.

3.1 GAP Analysis

The GAP Analysis procedure compares current project performance with desired one and make possible to develop strategies to "fill the gaps" and therefore to achieve potential aims. This procedure was used successfully in previous projects (LAMPRE, DORIS and SAFETY)[2] . For this reason and taking into account the experience of the consortium, it has been selected also for U-Geohaz. Another key reason is that allows the assessment of the product in a simple way easing the collaboration between scientists and potential final users like for example CPAs.

A list of user requirements was stablished in D31:"VEW User Requirements". All of them are associated with any product explained in section 2. These requirements are in fact the target state of the GAP Analysis.

[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/

To monitor the project performance based on these requirements we have designed a strategy materialised in this table with the following fields:

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 every requirement stablished in D31:"VEW User Requirements" with the same nomenclature.
- **Current state**: Implementation status of a specific requirement at the current moment.
- **Target state**: Desired status of a specific requirement. In D31:"VEW User Requirements" it is named as "User Requirements".
- **GAP exists**: when current and target state are different then Gap exists = YES (otherwise, Gap exists=NO)
- **Gap Resolution** :description of the actions to carry out in order to solve the existing gap
- **Gap Resolved Date**: date when the gap is solved
- **Comments**: Additional comments to explain the GAP resolution strategy
- **Color Scale**: Importance of the GAP following the color scale:
  - RED: gap need to be closed
  - ORANGE: it is advisable that gap closes.
  - GREEN: gap is closed / nor relevant for the success of the project.
  - GREY: gap to be discussed with project partners.

4 EXECUTION PLAN

To perform the user assessment properly, collaboration with Spanish and Canary Civil Protection is essential. According to this workflow, we have scheduled meetings with CPAs and CNIG specialists in INSPIRE Directive before and after outstanding deliverables.

We provide an approximated schedule of the actions we will carry out until the end of project.

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
WM0 CPAs, CNIG		D31: UR			D32:UAP	D34:VEW		WM2 CPAs, CNIG			
				WM1 CPA							
M13	**M14**	**M15**	**M16**	**M17**	**M18**	**M19**	**M20**	**M21**	**M22**	**M23**	**M24**
					D35:DAM					D33	
						WM3 CPAs, CNIG	D37:Soft	WM4 CPAs, CNIG			WM5 CPAs, CNIG
								D36:Guide CPAS	D38:Val DAM		

Where:

- MX is the number of month in terms of the project.

- DXX is the number of deliverable for WP3.
  - D31:"VEW User Requirements"
  - D32:"VEW Assessment Procedure"
  - D33:"VEW User Assessment"
  - D34:"Description of the VEW"
  - D35:"Updated Deformation Activity Map"
  - D36:"Guidelines for the integration of products in CPAs"
  - D37:"Software tools to produce the 6-day terrain deformation map and user's manual"
  - D38:"VEW Validation Report"
- User Assessment deliverables are marked in blue.
- Working Meetings scheduled with CPAs and CNIG are marked in pink.

Before delivery of D31, we had several working meetings with CPAs to stablish the User Requirements of the project. We also met with CNIG specialists in INSPIRE to define user requirements in terms of the directive (WM0, M1).

Just before delivery of this document, we have had a meeting with Canary Civil Protection Authorities (WM1 CPA, M5).

During months 9 and 10, once we have the first Deformation Maps (internal deliverable, M6) and Description of VEW (M7), we will need to discuss user requirements and probably update/change some of them. With prototypes of first products for WP3 (DIM, DAM, VEW-DIM, VEW-DAM) we will need to make bigger efforts to implement INSPIRE Directive (WM2, M9-M10).

From M9 to M17 we will go on accomplishing user requirements until final version of products are available with delivery of D35. From M19 to M22 we will need to work closely to CPAs and CNIG to deliver D36, assimilating also results from D38 (WM3, M19; WM4 M21-22).

Final working meetings will be probably needed just before the end of project to update some user requirements (WM5, M23).