Grant Agreement No. 718679
Safety – Sentinel for geohazard prevention and forecasting

SAFETY
Training course:

Description and program

Table of Content

EXECUTIVE SUMMARY

This document provides a first draft of the SAFETY deliverable “International SAFETY training course”. The document contains the SAFETY training plan, which focuses on the understanding, interpretation and use of the SAFETY products. This report documents the training activities and material planned for SAFETY.

1 INTRODUCTION

The main objective of the Safety project is providing Civil Protection Authorities (CPA) with the capability of periodically evaluating and assessing the potential impact of geohazards (volcanic activity, earthquakes, landslides and subsidence) on urban areas. This goal includes the implementation of a procedure involving new free accessible tools and methods that can produce periodically updated geohazard activity maps and impact assessment maps on infrastructure networks and built-up areas.

The produced maps are based on deformation activity maps derived from Satellite SAR interferometry techniques (InSAR) like Persistent Scatterer Interferometry (PSI). The PSI based deformation activity maps are usually not a standard type of input for CPA'S. For this reason, a proper interpretation requires of a full understanding of the whole production process as well as a well understanding of how must be used. Moreover, its integration with different layers like geohazard inventories or critical infrastructures provides the capability of generating periodically geohazard activity maps and vulnerability elements at risk. The main goal of the training is to help potential final users of the SAFETY products with the knowledge to properly interpret and use them.

CPA technicians from EU countries, which deals with Geohazard maps in prevention activities, represent the main target group. This group will have priority during the inscription period. It is also expected the attendance of different organizations as Geological surveys that usually works with regional and national authorities.

This document contains the SAFETY training plan. It mainly focuses on the understanding of the main products of the SAFETY project, and its interpretation.

2 TRAINNING MATERIAL AND TECHNICAL CONTENT

The SAFETY training material consists in a series of PowerPoint presentations containing all the information needed to fully understand the SAFETY products. The training material will be downloadable via the SAFETY website.

The technical content of the SAFETY training will include:

1. Basic introduction to InSAR and PSI (only restricted to the key necessary concepts).
2. Discussion of some key aspects of PSI:
   - 2.1. The main PSI features, e.g. Persistent Scatterers, Line-of-sight, linear model, etc.
   - 2.2. The main advantages and limitations of PSI data.
   - 2.3. Hints to exploit the data, examples and counter-examples.
3. Generation and use of the Active Deformation Areas (ADAs):
   - 3.1. Main procedure and tools.
   - 3.2. Hints for interpretation.
   - 3.3. Safety case studies
     - 3.3.1. Canary Island
     - 3.3.2. Volterra
4. Generation and use of the susceptibility maps:
   - 4.1. Main procedure and tools;
   - 4.2. Hints for interpretation
   - 4.3. Discussion of the two test sites of the project

4.3.1. Canary Island

4.3.2. Volterra

5. Generation and use of the Geohazard activity maps.
   5.1. Main concepts.
   5.2. Hints for interpretation.
   5.3. Safety case studies
      5.3.1. Canary Island
      5.3.2. Volterra
6. Generation and use of the Vulnerability Elements at risk maps.
   6.1. Main procedure.
   6.2. Hints for interpretation.
   6.3. Safety case studies
      6.3.1. Canary Island
      6.3.2. Volterra

3 AGENDA

Dates: 27-28 of November 2017.

Venue: School of Civil Protection, Madrid (Spain)

12:00	Bus at Atocha Station (Madrid).	
13:00 – 14:00	Reception of participants/Lunch	
14:00 – 14:20	Welcome. Safety project overview.	Oriol M. (CTTC)
14:20 – 15:20	Basic introduction to InSAR and PSI techniques.	Oriol M. (CTTC)
15:20 – 15:45	*Break*	
15.45 – 17:00	Discussion of some key aspects of PSI.	Oriol M. (CTTC)
17:00 – 17:15	*Break*	
17.15 – 18.30	Generation and use of the Active Deformation Areas maps.	Anna B. (CTTC)
20:30	Dinner	
9:00 – 10:00	Generation and use of the susceptibility maps	Paola R./Roberto S.
10:00 – 11:00	Generation of the Geohazard activity maps	IGME/UNIFI
11:00- 11:30	*Break*	

11:30 – 12:30	Generation of the Vulnerability Elements at risk maps	IGME/UNIFI/IRPI
12:30 – 13:30	Discussion about Vulnerability maps: - Strategic vulnerability: review of the tables of elements at risk with assistants. - Discussion about attention levels with the assistants.	All
Training closure and lunch		
15:30	*Bus to Madrid Atocha*	