

MED SUV TASK 6.3 Capacity building and interaction with decision makers: Improving volcanic risk communication through volcanic hazard tools evaluation, Campi Flegrei Caldera case study (Italy)

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In the communication chain between scientists and decision makers (end users), scientific outputs, as maps, are a fundamental source of information on hazards zoning and the related at risk areas definition. Anyway the relationship between volcanic phenomena, their probability and potential impact can be complex and the geospatial information not easily decoded or understood by not experts even if decision makers.

Focusing on volcanic hazard the goal of MED SUV WP6 Task 3 is to improve the communication efficacy of scientific outputs, to contribute in filling the gap between scientists and decision-makers.

Campi Flegrei caldera, in Neapolitan area has been chosen as the pilot research area where to apply an evaluation/validation procedure to provide a robust evaluation of the volcanic maps and its validation resulting from end users response. The selected sample involved are decision makers and officials from Campanian Region Civil Protection and municipalities included in Campi Flegrei RED ZONE, the area exposed to risk from to pyroclastic currents hazard. Semi-structured interviews, with a sample of decision makers and civil protection officials have been conducted to acquire both quantitative and qualitative data. The tested maps have been: the official Campi Flegrei Caldera RED ZONE map, three maps produced by overlapping the Red Zone limit on Orthophoto, DTM and Contour map, as well as other maps included a probabilistic one, showing volcanological data used to border the Red Zone. The outcomes' analysis have assessed level of respondents' understanding of content as displayed, and their needs in representing the complex information embedded in volcanic hazard. The final output has been the development of a leaflet as "guidelines" that can support decision makers and officials in understanding volcanic hazard and risk maps, and also in using them as a communication tool in information program for the population at risk.

The same evaluation /validation process has been applied also on the scientific output of MED-SUV WP6, as a tool for the short-term probabilistic volcanic hazard assessment. For the Campi Flegrei volcanic system, the expected tool has been implemented to compute hazard curves, hazard maps and probability maps for tephra fallout on a target grid covering the Campania region. This allows the end user to visualize the hazard from tephra fallout and its uncertainty. The response of end-users to such products will help to determine to what extent end-users understand them, find them useful, and match their requirements.

In order to involve also Etna area in WP6 TASK 3 activities, a questionnaire developed in the VUELCO project (Volcanic Unrest in Europe and Latin America) has been proposed to Sicily Civil Protection officials having decision-making responsibility in case of volcanic unrest at Etna and Stromboli, to survey their opinions and requirements also in case of volcanic unrest