ABSTRACT

AVALANCHES IN THE MARCHE APENNINES MAIN AVALANCHE EVENTS IN SIBILLINI MOUNTAINS BETWEEN 2004 AND 2016

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The Functional Centre of Regione Marche, in collaboration with AINEVA, presents the first version of a report of the main avalanches occurred in Sibillini Mountains between 2004 and 2016.

The main purpose of this study is to put in relation reported events with synoptic charts, the most influential meteorological parameters and the Carta di Localizzazione Probabile delle Valanghe (CLPV) (avalanche prone location map), in order to offer municipal administrations and experts a technical-scientific tool for the decision-making process.

Almost all the material belongs to Regione Marche, otherwise the source is clearly mentioned.

Saint-Rhémy 1129, a disaster along Via Francigena

A. Debernardi, don P. Papone and V. Segor

A report of the avalanche of January 1129 that caused many victims along the route leading to Great San Bernard Pass

This article examines a text dating from 1129. It is very important evidence regarding an avalanche. Often we quickly lose the historical memory of avalanches, so when we run into papers that are so ancient, but at the same time very rich in details, dates, place and people, we become aware of how they are an important historical source to bear in mind. The Latin text that will be analyzed, which was translated by don Papone, priest of Valtournenche and researcher at the Aosta seminary, is the oldest known evidence of an avalanche in the Aosta Valley and certainly is the first one that allows us to locate with precision the place where the accident occurred. The original manuscript from which the text is taken and therefore analyzed is kept in the annals of the Abbey of Saint-Trond, near Liege in Belgium. This text was transcribed over the centuries in the work Monumenta Germaniae Historica; don Papone read the pages of this book and shared the discovery. The storyteller and witness of the accident is Rodolfo, abbot of the Benedictine monastery of Saint-Trond, who in January 1129, returning from Piacenza, was forced to cross the Great Saint Bernard Pass. Just outside the village of Saint-Rhémy, at the start of his difficult journey towards the pass, he witnessed and was struck by the avalanche he will describe in the annals of the abbey. Rodolfo saw the avalanche that fell from the slopes around Saint-Rhémy. Falling down into the valley, it buried 10 guides, some of whom did not survive the impact.

A new tool to support avalanche warning services has been developed AVALANCHE RELEASE PROPENSITY QUANTIFIED A model to calculate and show avalanche danger

L. Iacolettig and B. Sovilla

Avalanche bulletins use graphics, text and icons to provide information on avalanche hazard, but they lack a topographical visualisation of really dangerous areas. In order to overcome this limitation, a model was developed to support avalanche forecasters.

The model, which is an extension of an existing algorithm, calculates slab avalanche release propensity based on snowcover conditions. Its parameters were partially derived from a survey addressed to practitioners and include snowpack stability, dangerous slopes and altitudes, as well as a snowcover

and a forest mask. Furthermore, the model calculates the amount of dangerous steep slopes in a given area. This model does not take into account loose snow avalanches, or avalanches dynamics. Hence, future research should integrate these two additional factors within the algorithm. By improving the parameters definition and performing a final validation, the model can then be considered fully reliable as a support tool for avalanche forecasting.

Keywords: avalanche, Geographic Information System (GIS), hazard, snowpack, modelling.