

## **Report on exploratory fieldwork in the Maiella region**

BSG grant

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### **Science**

The exploratory fieldwork was performed from Tuesday May 5, 2015 to Sunday May 10, 2015.

#### *Tuesday*

Flew into Turin early, and met with colleagues Michele Freppaz and Margherita Maggioni in the afternoon. We discussed the state of the proposal that intends to take this work further, drawing some important conclusions about the modelling part. Also, Drs. Freppaz and Maggioni gave important tips and links to colleagues for the planned future fieldwork in the Maiella region.

In Turin, and during later communications with colleagues, it became apparent that the 2015 avalanche season had been particularly severe, with especially low-altitude avalanches affecting the area. This was of interest to the fieldwork planning (no samples could be taken from locations where snow was still present) and to our conceptualisation of the avalanche system.

#### *Wednesday*

On this day, I drove to the Maiella site from Turin.

#### *Thursday*

I explored the site where we are planning to place time-lapse photography equipment. This site, directly opposite the main west-face of the Maiella massif, turned out to be quite suitable. Micro-scale options for placement were recorded, and ideas about dirty avalanches affecting soils and landscapes were tested against first field observations.

In the afternoon I explored several roads that were of potential importance to access field sites. Several of these were badly damaged, but a good point to start walking was nonetheless found.

#### *Friday*

A long day of healthy walking allowed me to climb, and then traverse the length of, the Maiella massif. The views from above into the various avalanche chutes were invaluable and much photographic evidence was gathered. Various points of interest for future fieldwork, such as a mountain bivouac on top of the highest point of the massif, were also visited. Progress was impeded and made more interesting by the remaining snow cover.

#### *Saturday*

This day was used to approach the avalanche zone from the location scouted out on Thursday. A location above the treeline was reached using a suitable trail for future fieldwork, and short range observations of the effect of this year's avalanches on vegetation and soil were made.

Soil description and sampling were, however, done on a location under the treeline. This location was selected because it was representative for the areas that are unaffected by avalanching (i.e. next to avalanche runout zones), as evidenced by the presence of old trees. Nonetheless, the slope was approximately 30 degrees steep. A typical limestone-derived soil morphology was found: thick, clayey A-horizon rich in organic matter and some stones, underlain by a B-horizon with more stones and less organic matter. At three depths, samples were taken for Pu determination.

Later, an almost horizontal, stable reference site for Pu determination was selected near the lower starting point of the trail. Also here, the soil was first described using standard terminology.

#### *Sunday*

This day was spent driving back to Turin