

Perth III: Mountains of Our Future Earth

4–8 October 2015



ABSTRACT SUBMISSION

Title: Microtopography affects the relationship between soil, plant distribution and decomposition rates in a subalpine grassland

Abstract No. 0553

Title Microtopography affects the relationship between soil, plant distribution and decomposition rates in a subalpine grassland

Abstract

Earth hummocks are small cryogenic mounds closely spaced in grassland or wetlands. The microtopography of hummocky terrain establish specific microclimatic conditions which may cause variations on soil chemico-physical properties and a selective distribution of plant species.

The work has been carried out at the LTER site of Torgnon (Aosta Valley, Italy), characterized by a *Nardus stricta* subalpine hummocky grassland located at 2100 m. The concave-convex pattern shows a differentiated distribution of vegetation with the dominance of *Nardus* on hummocks and a prevalence of dicotyledons in interhummocks. Such distribution indicates variations in water and nutrient fluxes.

In order to confirm this hypothesis, we collected topsoil samples and opened a soil pit. In addition, to investigate different litter decomposition rate, in relation to microtopography and plant species, litter bags were positioned in hummocks and interhummocks positions.

The results verify a faster decomposition of dicotyledons in the nutrient-richer interhummocks topsoils compared to the podzolized hummocks positions, and an overall slower decomposition rate of *Nardus* litter.

Permission Yes

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Registration Confirm

Categories 11 Mountain treeline ecotones; threshold dynamics and climatic relationships

Presentation Poster

Participation Is definite

Contact us if you have a problem or wish to withdraw a submission: mountains.2015.perth@uhi.ac.uk