



Characterization of soil properties and soil ecosystem services in meadows from a high Mediterranean mountain (Sierra de las Nieves National Park, southern Spain).

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Soils in meadows from high Mediterranean mountains play an important role from the ecosystem service point of view: e.g., regulating water cycle and capturing soil organic carbon, provisioning support to herbaceous plants and thus grass for wild animals and cattle, and cultural aesthetic values to mountainous landscape. These soils are threatened by global warming because it may bring modifications in vegetal species, vegetation type, and coverage. Also, an increment in grazing pressure may lead to a decrease in vegetation cover and thus enhancing soil degradation as well as increasing water erosion. All these would implicate modifications in the provided ecosystem services.

To investigate the soil ecosystem services provided by soils from meadows located in the upper part of a Mediterranean mountain (Sierra de las Nieves National Park), a first approach to characterize their properties was conducted. These meadows are located above 1,700 m.a.s.l., are related to the presence of marly bedrock where shrub cover is less than 50%, mainly, because of the coat and sheep grazing activity is not intensive. To do this, firstly, meadow soils were randomly sampled in the upper 0-10 cm of depth collecting disturbed and undisturbed samples. Once these samples were dried in laboratory, the following properties have been analysed: bulk density, gravel content, texture, aggregate stability fraction, organic carbon content, organic matter content, pH, electrical conductivity, cationic exchangeable capacity, cations, saturation in bases, and water holding capacity in field and wilting points. After the data validation one statistical analysis will be performed for a broad characterisation and preliminary evaluation of soil ecosystem services.