

>> SYNTHESIZE MOUNTAINS OF KNOWLEDGE <<

Submitted Abstract

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Abstract

Sierra Nevada, located in South-Eastern Spain, is considered a biodiversity hotspot within one of the most important biodiversity hotspots of the world: the Mediterranean Basin. The analysis of the climate series available indicates that an increase of temperatures and a reduction of water and snow precipitation is already occurring, increasing the aridity of this mountain area. According to climatic models, this trend will continue in the coming years, similarly to what is also occurring in other mountain areas. This situation poses a threat for the survival of many native species, many of them endemic, and also of ecosystems and ecosystem services. It also represents new challenges for the formulation of new paradigms to cope with these changes by means of strategies and measures allowing their adaptation to changing climatic scenarios, while supporting their conservation and sustainable use. The Sierra Nevada protected area (National and Natural Parks) has created an infrastructure whereby scientists and managers work together to conduct decision-making for the management of its natural assets based on the most objective and reliable scientific knowledge: the Sierra Nevada Global Change Observatory. Five case-studies are presented under this communication, showing how the generation of in-situ datasets, their validation and scientific interpretation, have been applied to define and optimize the management practices: 1) Ibex management and the control of emergent diseases; 2) Recovery Plan of high-mountain juniper scrublands; 3) Post-fire ecological restoration plan; 4) Naturalization projects for Pine Reforestation grounds and development of decision-making tools and 5) LIFE ADAPTAMED, adaptive management for the protection of the Sierra Nevada ecosystem services in a changing scenario.

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