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Nature-Based Solutions to face climate change adaptation and mitigation in Mediterranean watersheds

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Rural areas of the Mediterranean watersheds face great environmental challenges, where climate change impacts the water cycle, the soil, and biodiversity, which are often priority issues for adaptation. These, have been aggravated by historical land management practices trends. In this context, we propose Nature Based Solutions (NBS) in the form of Sustainable Land Management (SLM) actions at the watershed scale to achieve climate change adaptation and mitigation while promoting other ecosystem services.

SLM actions are local adaptation practices that promote sustainable rural development. Thus, we seek the combination of several actions to achieve regional (watershed scale) more integrated approaches. With this study, we aim at proving that NBS, and thus SLM, is a successful tool for alleviating climate change impacts (i.e. water scarcity, enhanced erosion, biodiversity decline) while promoting the role of land in mitigation and enhancing biodiversity in the rural Mediterranean areas.

For this, we propose a novel conceptualization of SLM actions that moves from their local application and evaluation to the regional more systemic approaches through their combination. Results show synergies in the atmosphere, biosphere, and hydrosphere, allow for the upscaling of SLM through systemic approaches and point at direct contributions to several Sustainable Development Goals.