



Transdisciplinary approach to disentangle the construction of Mediterranean cultural landscapes: a methodological proposal to the Galatzó catchment (Mallorca, Spain)

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The comprehension of environmental change and the role of human activities, such as deforestation, reforestation, grazing, terracing or farming, can be properly assessed combining on-site and off-site datasets, which can help to situate a project within a larger geomorphic system (*sensu* Butzer, 2008). The on-site/off-site dichotomy relates directly to the complementarity of catchment (mesoscale) and site (microscale); because of the juxtaposition of contrasting topographies, rock types, land uses and soil characteristics, possibly subject to different climatic inputs.

Paleoenvironmental and archaeological data have shown that Mediterranean landscapes are the result of complex long-term socio-environmental interactions (Mercuri et al., 2011; Roberts et al., 2011). The Galatzó public state is located in the southwestern part of the Serra de Tramuntana mountain range (mid-mountain region in Mallorca), which was included in the UNESCO World Heritage list in 2011 as a cultural landscape resulting from long-term human-nature interactions. Most of this public state is under the limits of a drainage catchment (ca. 9 km²) ranging from 150 to 1,025 m a.s.l. Therefore, it constitutes a key site to explore how landscape was generated and modified over millennia as it presents a wide diversity of past human-induced deposits in a context of diversified geomorphic units. The area has been intensively inhabited since Bronze Age (ca. 1800-900 cal BC) until present, as it is recorded by historical and archaeological data (Albero 2006; Agualeles et al. 2010).

Within this project, a transdisciplinary approach to socio-environmental interactions from prehistory until present-day will be applied to better define the genesis and evolution of Galatzó cultural landscape. The methodological framework lies on off-site (remote-sensing, palynology, pedoanthracology and paleogeography) and on-site analysis (anthracology, archaeopalynology, OSL-Optically Stimulated Luminescence and archaeological data) performed in different geomorphic units within the Galatzó catchment, such as agricultural terraces, lime and charcoal kilns, fluvial terraces as well as soils and lagoon sequences in the shore. Such a transdisciplinary approach will be spatially integrated and analysed by using GIS techniques and blended with historical data to better define spatial organization and mobility of human practices from the uplands to the lowlands. Such integrated study within a long-term historical perspective will result on the understanding of the current landscape shaping and, consequently, it will help paving new management tools and providing well-founded criteria for nature conservation and landscape management.

References

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