>> SYNTHESIZE MOUNTAINS OF KNOWLEDGE <<

Submitted Abstract

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Abstract

Developing more sustainable agricultural systems represents a challenge and urgent global venture. Over the long term, rural activities have given rise to a wide variety of historic landscapes. Historic Landscape Characterisation (HLC) uses a qualitative but formalised method to map historic landscapes' chronological and spatial complexity. Meanwhile, in environmental studies, the diachronic land-use-land cover (LULC) analysis has helped illustrate how different anthropogenic activities have altered the soil erosion rate in specific areas. Modelling can provide a quantitative and consistent approach to estimating soil erosion under a wide range of conditions. RUSLE (Revisited Universal Soil Loss Equation) model has been applied to infer soil loss at a regional scale. RUSLE modellers use LULC as a proxy to calibrate the soil erosion vulnerability.

This study proposes an innovative methodology that combines both the historical/cultural and the environmental values of LULC to inform the development of a model to evaluate the increasing/decreasing soil erosion rate. The diachronic analysis of historical features (mapped as HLC types) informs the estimation of LULC, which characterised a landscape. At the same time, these features had an impact on local soil erosion rates. In this study, the HLC types have been employed to define the C and P factors, the two most challenging factors to be determined in the RUSLE equation.

The methodology proposed has been tested in the Tuscan - Emilian Apennines historical landscape (Vetto - Italy). Environmental sustainability and historic landscape conservation are typically treated as two separate fields. Still, this research proposes a new way to embrace cultural and natural values as components of the same landscape management plans

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