

SOIL EROSION SUSCEPTIBILITY ASSESSMENT IN MEDITERRANEAN AREAS
THROUGH THE ANALYSIS OF SOIL QUALITY. A TEST IN THE
GUADALMEDINA WATERSHED (MÁLAGA, SPAIN)

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Soil erosion is one of the most relevant environmental problems facing society today. Thus, climate change has a direct impact on these processes through a feedback loop, especially in the Mediterranean region, where the situation is conceived as one of maximum fragility and sensitivity. The increase in extreme precipitation and temperature events, together with differential human land use, lead to an intense impoverishment of Mediterranean soils. In this sense, it is essential to determine the levels of susceptibility of the territory to erosive processes in order to create strategies aimed at improving the management of the territory and reducing the possible existing risks. Specifically, this work has focused on the Guadalmedina river basin in the province of Malaga (Spain), which is representative of the current dynamics of the Mediterranean landscape. To achieve this, a soil quality index based on a multi-criteria analysis of different soil indicators (water, physical and organic) has been applied in this work, using a total of 132 soil samples. In addition, the results of this analysis have been compared with soil erosion values derived from the application of the RUSLE model. On a general level, lower soil erosion rates clearly correspond to those areas where soil quality indicators show optimal values. Likewise, the results obtained show how soil organic indicators play a decisive role in water erosion processes in the Mediterranean area.