



Mapping soil erosion risk in Serra de Grândola (Portugal)

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Geomorphological processes can pose environmental risks to people and economical activities. Information and a better knowledge of the genesis of these processes is important for environmental planning, since it allows to model, quantify and classify risks, what can mitigate the threats.

The objective of this research is to assess the soil erosion risk in Serra de Grândola, which is a north-south oriented mountain ridge with an altitude of 383 m, located in southwest of Alentejo (southern Portugal). The study area is 675 km², including the councils of Grândola, Santiago do Cacém and Sines.

The process for mapping of erosive status was based on the guidelines for measuring and mapping the processes of erosion of coastal areas of the Mediterranean proposed by PAP/RAC (1997), developed and later modified by other authors in different areas. This method is based on the application of a geographic information system that integrates different types of spatial information inserted into a digital terrain model and in their derivative models. Erosive status are classified using information from soil erodibility, slope, land use and vegetation cover. The rainfall erosivity map was obtained using the modified Fournier index, calculated from the mean monthly rainfall, as recorded in 30 meteorological stations with influence in the study area.

Finally, the soil erosion risk map was designed by overlaying the erosive status map and the rainfall erosivity map.