



Forecasting model-based assessment of desertification risk in Mediterranean areas

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The paper deals some important aspects concerning the study of desertification phenomenon, interesting the Mediterranean countries, through a combined approach of climate forecast modelling and conceptual assessment methodology. The territorial vulnerability assessment, qualitatively and/or quantitatively, of the risk related to the desertification processes has been evaluated as the degree of susceptibility of the study area, with respect to the hydraulic and hydrological stressing factors.

The methodological approach followed is based on the classification of desertification indicators by means of a suitable conceptual model applied to the study area in Basilicata region. The classical desertification indexes have been evaluated referring to the study area generating temporal informative maps. To achieve such objective, the historical series of temperatures and rainfalls of several gauge-stations have been analysed, and, with the support of previsional methodologies, the forecasted values of these parameters have been generated, in the short-medium term. In such way it is possible to develop a decision support system allowing both the evaluation of the actual state of territory and the elaboration of opportune actions and strategies to prevent dangerous situations according to the estimated future scenarios forecasted through the previsional model. The first results mainly show a low increasing rate of some indexes, such as aridity, erosivity and Fournier, in the southern Basilicata region, nearest to the sea, that give a first image of the vulnerability of the investigated area.