

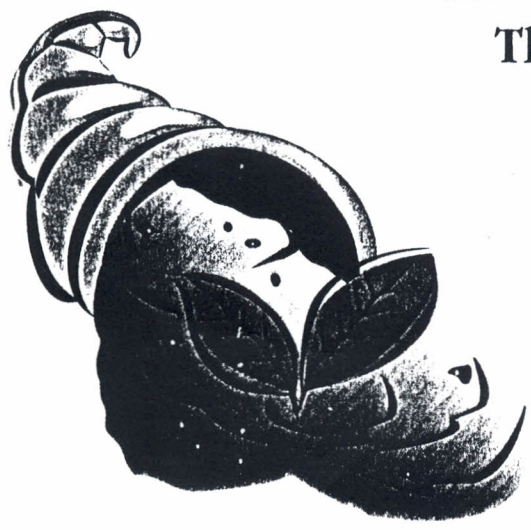
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ABSTRACTS BOOK

Man and Soil at the Third Millennium



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The Normalized Difference Vegetation Index (NDVI) as indicator of the soil degradation

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In this work we present the temporal evolution of the vegetation and their relationship with the soil degradation in an area located in Northeast of the Madrid Community (Spain).

This method was based in the analysis of the two images Landsat-5 TM dated of May 7, 1987 and June 27, 1994, integrating Remote Sensing, Geographic Information System and ground plots data, to apply the NDVI (Normalized Difference Vegetation Index). This index was obtained with the bands 3 and 4, corresponding to visible (630-690 nm) and near infrared (760-900 nm). The change of the Vegetation Index (NDVI), between two dates was related to the process of deterioration of vegetal canopy.

The results show that the Vegetation Index on the class associated to anthropic structures increase their surface in 48%. The brushwood class experiment a significative change with a relative reduction of 53%. The analysis of frequency histograms of NDVI for two dates show a decrease of vegetation canopy in the area of the class with the smallest density and an improvement in the vegetation protection at the highest density class.

This methodology and results shows the utility of the analysis of the temporal changes of the NDVI in the interpretation and evaluation of an area and their potential degradation.

