

**PAPER TITLE** Multitemporal analysis of land use on area susceptible to desertification in the brazilian semi-arid: Cedro-PE . Authors: Clerio Lemos Sousa, Carlos Henrique Madeiros Casteleti

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**ABSTRACT**

Desertification is defined for UNEP (1991), as the degradation of lands in arid, semi-arid and sub-humid dry areas. In brazilian semi-arid region has demonstrated the pressure of human occupation changes, which are developed in non-sustainable form. This phenomenon is a climatic threat for biodiversity and its associated with climatic change and the lost of soil productivity and mainly for bad landscape use and human occupation. To monitor these transformation its become indispensable the use of Remote Sensing and Geographic Information System (GIS). Thus, in this work suggested a multitemporal analysis to monitoring susceptible areas for desertification in brazilian semi-arid in Cedro-PE. The selected area for this study is situated in the Central-Southern Semi-Arid part of the Pernambuco State of Northeastern Brazil, it covers about 172 km<sup>2</sup> and lies between 7° 48` and 7° 39` S latitude; 30° 18` and 39° 05` W longitude respectively. TM/Landsat-5, (bands 3, 4, 5) images were acquired in two extremes dates (25/09/1986 and 01/08/2001) and analyzed in a Georeferenced Information Processing System (SPRING), available at INPE`s Image Threatment Laboratory (LTID). It`s permitted estimate, compare and quantify the occupation areas like water, boreland, agricultural area, urban area and natural vegetation for supervised classification and subtraction of images. As result was obtained a thematic map with detection and analysis of the modifications promoted by antropic action that subsidized for planning and supportable development for municipal district.

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