

The Use of Remotely Sensed Data to Extract Wetlands Area in the Cultural Park of Ahaggar, South of Algeria

Authors : Y. Fekir, K. Mederbal, M. A. Hammadouche, D. Anteur

Abstract : The cultural park of the Ahaggar, occupying a large area of Algeria, is characterized by a rich wetlands area to be preserved and managed both in time and space. The management of a large area, by its complexity, needs large amounts of data, which for the most part, are spatially localized (DEM, satellite images and socio-economic information...), where the use of conventional and traditional methods is quite difficult. The remote sensing, by its efficiency in environmental applications, became an indispensable solution for this kind of studies. Remote sensing imaging data have been very useful in the last decade in very interesting applications. They can aid in several domains such as the detection and identification of diverse wetland surface targets, topographical details, and geological features... In this work, we try to extract automatically wetlands area using multispectral remotely sensed data on-board the Earth Observing 1 (EO-1) and Landsat satellite. Both are high-resolution multispectral imager with a 30 m resolution. The instrument images an interesting surface area. We have used images acquired over the several area of interesting in the National Park of Ahaggar in the south of Algeria. An Extraction Algorithm is applied on the several spectral index obtained from combination of different spectral bands to extract wetlands fraction occupation of land use. The obtained results show an accuracy to distinguish wetlands area from the other land use themes using a fine exploitation on spectral index.

Keywords : multispectral data, EO1, landsat, wetlands, Ahaggar, Algeria

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