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MONITORING THE DUST STORMS IN THE EASTERN REGION OF SYRIA USING REMOTE
SENSING TECHNIQUE & GEOGRAPHIC INFORMATION SYSTEM

Abstract

This study aimed to: 1) monitor the dust storms using NOAA AVHRR images, 2) produce maps of visibility for 2005 and 2006, 3) study the relationship between dust storms and Winter Summer vegetation cover in fixed dates (April and August where the maximum vegetation cover of winter and summer) in the period 2005 to 2009. The data consist of the frequency days of dust Storms from 2005 to 2009 for 6 climatology station distributed in the Eastern region of Syria. The data were collected at daily base then arranged monthly, seasonally, and yearly. Results showed: • Ability of monitoring dust storms by NOAA AVHRR images through application of the equation of Brightness Temperature Differences (BTD = ch4-ch5). Sum of BTD values in 2009 reached (360- 480) and they concentrated in the areas of Deir al-Zour, Sour, Basera, thebian, Khsham, Hagen, Albukamal, Sousa and Kesra. • Producing visibility maps using satellite images utilizing from BTD equation. It was possible to divide the visibility according this BTD values to three classes (Dust haze 15-45, Blowing Dust 45-55 and Dust Storms 55-66). • Producing NDVI maps in the period of maximum winter and summer vegetation from 2005 -2009 showed increasing of an area of very light vegetation and decreasing of an area of light, medium and dense vegetation. The results showed an inverse relationship between the winter and summer vegetation and the number of days of dust storms. Key Words: Dust storms, Visibility, geo-statistical analyst, GIS, NOAA AVHRR, BTD and NDVI.