IAF EARTH OBSERVATION SYMPOSIUM (B1)
Interactive Presentations - IAF EARTH OBSERVATION SYMPOSIUM (IP)

Author: Ms. Shaikha AlBesher
Mohammed Bin Rashid Space Centre (MBRSC), United Arab Emirates, Shaikha.albesher@mbrsc.ae

VEGETATION COVER MAPPING USING MULTI-TEMPORAL REMOTELY SENSED DATA AND GIS TECHNIQUES, THE UAE

Abstract

The United Arab Emirates is a rapidly growing country in various fields, where it witnessed prominent urban development in the past years. That urban expansion may have negative influences on the surrounding environment which raise the importance of monitoring its features. The Vegetation cover is one of the major features that can be affected by this growth. Hence, it is crucial to protect vegetation by observing the changes it experienced throughout the years. Nowadays, remote sensing and GIS techniques play a major role in studying the Earth's features, and ease that process in comparison with the traditional approaches. In this study, multi-temporal satellite imagery from Landsat-5, -7, and -8 with a 30 meters spatial resolution over the past three decades were utilized. Vegetation areas can be distinguished from other features in satellite images using a special vegetation index called Normalized Difference Vegetation Index (NDVI) that uses the spectral information of the red, and near-infrared bands. Based on a suitable threshold, the vegetation were separated from the remaining features and then converted from raster to vector. Accordingly the resultant vegetation layers were compared in order to monitor the changes. The conducted study yields that over the years of the study the vegetation cover increased gradually to finally reach more than 1000 square kilometers. In other words the vegetation cover were not impacted by the urban growth, which indicates that the UAE government considered the vegetation as a vital environmental element and protected it from the urban development. This type of studies can be beneficial formunicipal planning, and environmental authorities.