- Andre, T. and B. Paulo.2005 .Monitoring vegetation regeneration after forest fires using satellite imagery. New Strategies for European Remote Sensing, Oluib ed. © 2005 Millpress, Rotterdam, ISBN 90 5966 003 X.
  - Jorg, P.,D. Otto, D. Hans and J. Nicole. 2010. Applied vegetation mapping of large-scale areas based on high resolution aerial photographs a combined method of remote sensing, GIS and near comprehensive field verification .Nature consult, Hildesheim, German.
  - Mitri, G. H. and I. Z. Gitas. 2007. Mapping post-fire vegetation regeneration using EO-1 Hyperion. Department of Biology, University of Trieste, via Weiss 2, 34127 Trieste, Italy.
  - Michael, A., C. Joanne, A. Richard, E. Joan and S. Magnussen.2008. Spatially Explicit Large Area Biomass Estimation Three Approaches Using Forest Inventory and Remotely Sensed Imagery in a GIS. Sensors.
  - Rokos, D. and P. Kolokoussis.1996. The Use of Remote Sensing in the Evaluation of Natural Regeneration Potential, Erosion Risk and Desertification Risk, after Forest Fires. National Technical University of Athens, Heroon Polytechniou 9 Zographos 15780.
  - Sangawongsea, S., P. Pinkantayonkb and W. Nawapramotec. 2003. Use of Remote Sensing, GIS and Field Survey Techniques for Forest Fire Mapping in the Upper Nan Watershed, Northern Thailand.
  - Yelena, M., Y. Adil, B. Gambarov and H. Maral. 2010. Remote Sensing and GIS as an Advance Space Technologies for Rare Vegetation Monitoring in Gobustan State National Park, Azerbaijan. *Journal of Geographic Information System*, 2, 93-99.

## VEGETATION AND FOREST FIRE REGION CLASSIFICATION IN ATROOS REGION BY USING R.S AND GIS.

Muzahim Saeed Younis \* Mohammed Younis Al-Allaf\* Ahmed Bahjat Khala\*\*

## **ABSTRACT**

This study was conducted on the floor coverings deployed in the Atroosh City in the province of Dohuk which are located in northern Iraq between longitudes  $43^{\circ}\ 17\ 23.207\ -43^{\circ}\ 26\ 43.598$  and latitudes  $36^{\circ}\ 49\ 12.363\ -36^{\circ}\ 53\ 14.208$  and heights ranging from level Searbin637—1404m and an area of 96.58 km². Featuring site Atrush occurrence within the formations of the mountainous region , which has many different plant covers , where in natural broadleaf , needle , mixed , as well as natural pastures and agricultural land , has

<sup>\*</sup>Dept. of Forestry – College of Agriculture – Univ. of Mosul.

<sup>\*\*</sup> Directorate of Diyala Agriculture- Ministry of Agric.

پونس و آخرون

been part of these forests to fires in different periods. For the purpose of classification of the study area for various blankets and plant areas of forest fires, we have based on the field survey to identify ground control points by using GPS for the purposes of classification, and also used the satellite image of satellite Pleiades captured on 06.02.2013 by resolution 2m for the purpose of classification, where we conduct the classification process is directed classification unsupervised the satellite image, and showed the result of classification we get 10 classes, namely forests burned, forests broad-leaved forests, needle, mixed forests, soil, grass and jungles, pastures, agricultural land, roads, buildings and Mnchaouat and rocks, have been identified and compared with Ground control points and the 135 points, where was calculated classification accuracy of the satellite image and evaluated, based on the standards used for such studies, a matrix of errors Error Matrix to the percentage of each classes and the map as a whole, and the accuracy of the seed , the measure was also adopted to calculate the Kappa statistical precision as this scale measures the degree of difference between the ground control points that have been taken and the changes that have been classified in Category stomach map of the site itself and compare, and were 84.56%.

**Key words:** Vegetation classification, Forest fire, Remote Sensing, GIS.

## Diyala Agricultural Sciences Journal, 7 (1):160-173. ISRA impact factor 4.758.

http://www.agriculmag.uodiyala.edu.iq

http://www.iasj.net/iasj?func=issueTOC&isId=4427&uiLanguage=en