

## Monitoring of Forest Cover Dynamics in the High Atlas of Morocco (Zaouit Ahansal) Using Remote Sensing Techniques and GIS

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**Abstract :** The present work focuses on the assessment of forest landscape changes in the region of Zaouit Ahansal, using multitemporal satellite images at high spatial resolution. Several remote sensing methods were applied namely: The supervised classification algorithm and NDVI which were combined in a GIS environment to quantify the extent and change in density of forest stands (holmoak, juniper, thya, Aleppo pine, crops, and others). The results obtained showed that the forest of Zaouit Ahansal has undergone significant degradation resulting in a decrease in the area of juniper, cedar, and zeenoak, as well as an increase in the area of bare soil and agricultural land. The remote sensing data provided satisfactory results for identifying and quantifying changes in forest cover. In addition, this study could serve as a reference for the development of management strategies and restoration programs.

**Keywords :** remote sensing, GIS, satellite image, NDVI, deforestation, zaouit ahansal

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