**Abstract**

This study dealt with analyzing land cover and land uses and revealing the changes that occur in these covers in the study area, which is one of the districts of Wasit Governorate. In this study, the researcher adopted the formula of integration between remote sensing and geographic information systems in conducting a cartographic study to monitor and analyze land cover change over a period of 40 minutes. A past year from 1980 - 2020 AD, with both dry and wet seasons. The years 1980, 1990, 2000, 2010 and 2020 AD were chosen. The MSS, TM, ETM, OLI-TIRS sensor data of the American Land sat satellite was used, where the combination of wave and unwavered digital classification was used with... Visual classification, with the help of information systems, to exploit data on land cover as a form of integration, in addition to administrative and topographical maps. The study relied on the American Geological Survey system as a classification system to conduct the process of classifying land cover and land uses for the study area, which included four main categories: vegetation cover, water cover, and human use. And barren lands. The study reached a set of results, and among these results is that it is possible to rely on modern techniques in analyzing the earth's surface, classifying lands, studying the problems that occur in land cover, and revealing the changes that occur in these covers through the production of many detailed maps. The study also reached the following conclusions: There is spatial variation and temporal change in the types of land cover of the study area for the period 1980 - 2020 AD. The process of interpretation and analysis also demonstrated that the green land type had the highest percentage of area in the wet season, while in the dry season, barren lands are considered the highest in area for climatic reasons. As for human use, there has been a record of change. A little for the period between 1980 - 2020 AD, and finally the study concluded with a set of recommendations.

The Republic of Iraq
Ministry of Higher Education and Scientific Research
Wasit University
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Graduate Studies

# Cartographic modeling of land cover change in Al-Numaniyah district for the period (1980-2020) using RS remote sensing and geographic information systems (GIS.)

***A letter submitted by the student***

***(Ali Hamza Musa al-Lami)***

*To the Council of the College of Education for Humanities - Wasit University, which is part of the requirements for obtaining a Master's degree in Geography*

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***Mother. Dr. Amal Hadi Kazem Al-Jabri***

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