

## The Effect of Natural Properties on Human Uses of the Coloran Valley Basin Using Geographic Information Systems (GIS) and Remote Sensing (RS)

Dr. Hala M. Abdulrahman  
Baghdad university

Dr. Husin K. Abdulhusin  
hussainkadhim86@gmail.com

### Abstract:

The objective of the research is to determine the effect of natural characteristics in the human uses of the Kuluran Valley Basin in Sulaymaniyah Governorate in northeastern Iraq within the mountainous area (327.94) km<sup>2</sup>.

Modern techniques such as remote sensing (RS) technology were used to provide satellite imagery for an area with 11 satellite satellites (Land Sat L8 OLI), as well as the digital elevation model (DEM) of the region for topographic topology and hydrology of the region, To benefit from the availability of geographic information systems (GIS) programs from topographical, hydrological, geometric and spatial analyzes that can be used to search and extract maps and data aimed at reaching the goal.

The Statistical Program (Spss 22), which provides a set of statistical processes that can be harnessed to understand and interpret the effect of natural characteristics in human uses of the basin, was used.

The results showed that the density of the vegetation density was very strong and inverse (0.96). However, the distribution of the villages was influenced by the distance from the faults with a very strong and negative relationship (0.98). The normal methods of erosion were affected by a very strong and inverse relationship (0.997) The main methods of stability are very strong and inverse (0.95-).

**Keywords:** *natural characteristics, human uses, GIS, remote sensing.*