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The Use of GIS and Google Earth for Preliminary Site Selection of Groundwater Recharge in the Azraq Oasis Area—Jordan

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ABSTRACT

Groundwater is considered to be the major water resource for many areas and the only source of water in some areas in Jordan. Some of Jordan groundwater resources are presently exploited at maximum capacity and in some cases are exploited beyond their safe yield. One of the efficient ways to fight the deficit in groundwater resources is through recharging the water tables naturally or artificially. This research aimed to select the optimum sites for groundwater recharge in the Azraq Oasis area/Jordan through the use of GIS techniques. The selection criteria were based on slope, drainage density, lineament density within the study area. The adopted selection technique was the Boolean techniques (Multiplication) within a Raster GIS. Thirty five sites were selected within the study area with areas vary between 5.2 ha to 273.5 ha. The total area that has the potential for groundwater recharge is 1659.5 ha which represents ca. 3.55% of the study area.

KEYWORDS

GIS; Groundwater; Recharge; Jordan; Azraq Oasis

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