

Identification of potential sites for runoff water harvesting

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Abstract

Runoff water harvesting (RWH) is a potential solution for areas suffering from water scarcity, such as the western desert of Iraq. Site selection based on RWH ranking using a combination of a watershed modelling system, geographic information systems and remote sensing techniques may enable authorities and water engineers to determine potential solutions to water scarcity. In this work, these methods were employed to produce eight thematic maps of the volume of annual floods, basin area, basin length, maximum flow distance, drainage frequency density, lineament frequency density, basin slope and stream order. These maps were used to rank and classify probable sites based on equal weight and statistical weight. The results were then used to classify the selected sites into four classes, namely sites with very high, high, moderate and low RWH potential. The proposed method was shown to be beneficial in the identification of potential RWH sites.