

## Analytical study for water resources in Saber mountain, Taiz, Yemen

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The present research aimed to analytical study of the water resources in the area of study. The area of study receive significant amount of rain fall ranging between 500 - 1000 mm / year. The research deals the possibilities of water resources (surface and groundwater), and analysis of their geographical distribution in the area of study. In the present study, the estimation of the flow accumulation and the peak discharge during the maximum rainfall were computed and calculated using WMS8.1 and ArcHydro9 programs. The accomplished results show that accumulated flow of parts of main wadis ranged between 10583 and 51142 m<sup>3</sup>, while values of the expected total surface runoff during peak intensity in one day ranges between 336600 and 2143700 cubic meter per day. Through the study of groundwater and the status of water bearing formations, and their occurrence forms both in the form of the springs or wells, a map was constructed to show some places which will be subjected to depletion of groundwater aquifers possibilities. The presence and durability of surface water and groundwater is directly proportional to the amounts of rainfall, and due to these reasons, the citizens began to conserve the water to be use in the dry seasons for their needs as drinking and other domestic uses. GIS programs were be used in the various stages of the research, as well as machinery methods.

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