Hydrologic Study for Iraqi Western Desert to Assessment of Water Harvesting Project

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Abstract:

The look for new water resources and the optimal using of available water is very important because of high change in the climate of the earth, the dry wave in the region as well as the decreases of the water inflow to the Euphrates and the Tigris river because of the building of the dams upstream the basin in Turkey and Syria. In the present study, four biggest catchments area in the Iraqi western desert (wadi Horan, Wadi AlGhadaf, Wadi Ubayiad, and Wadi Tubul) were selected to study the hydrologic properties to determine the best region for the water harvesting because these areas include the most water harvesting project such as small dams. Present hydrologic study was depended on the available data to determine the amount of runoff that can be harvested according to measuring data of meteorological station in the region with the method of hydrograph for analysis.

harvesting according to the number of floods the catchment area (44 floods) with water volume (1047 * 106 m 3), and the average water harvesting (7098.64 m3 /km2). The second is wadi Horan, the number of floods to the catchment area (33 floods) with water volume (2033.29 * 106 m 3), and the average water harvesting (6115.16 m3 /km2). Then wadi Ubyaid number of floods to the catchment area (21 floods) with water volume (405.197 * 106 m 3), and the average water harvesting (2493.52 m3 /km2). The last one is wadi Tubul with number of floods to the catchment area (18 floods) with water volume (909.36 * 106 m 3), and the average water harvesting (2231.6 m3 /km2).