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Investigating the Factors Affecting Groundwater Level Decline in Kouhdasht Aquifer, Lorestan Province

Quantitative management of groundwater resources is very important, especially in arid and semi-arid regions. Like other plains of Iran, Kouhdasht plain has been also facing a groundwater decline in recent years. This study is aimed to investigate the factors affecting groundwater decline in Kouhdasht aquifer. For this purpose, precipitation data from the Kouhdasht synoptic station, groundwater level data in observation wells and groundwater abstraction data in the study area have been applied. The representative hydrograph for a period of 29 years (1989-2018) showed that the aquifer water level decreased by 22.50 meters (average 77 cm per year) during this period. Groundwater decline maps also indicated that the groundwater level in the north and south of the plain has been decreased more than in the middle. According to the results, overexploitation from authorized and unauthorized abstraction wells, occurrence of drought (according to the calculated groundwater drought index), reduction of surface water resources and recharge from rainfall are the most important effective factors in the groundwater drawdown in Kouhdasht aquifer.

Keywords: Kouhdasht Aquifer, Groundwater Drawdown, Groundwater Drought Index, Representative Hydrograph.

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