

Kurdistan Region
Salahaddin University-Erbil
College of Engineering
Water Resource Department



Groundwater Level Decline of Some Wells at Central Basin of Erbil City

A Project Submitted to the Water Resource Engineering Department

University of Salahaddin -Erbil

Prepare By:

Avin Sleman Ismail

Firdaws Nabaz Salih

Warjin Wrya Shekho

Supervisor: Assist. Lect. Bruska S. Mamand

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Abstract

Groundwater level is a term that is used in a relatively loose way, normally referring to the level, either below ground or above ordnance datum, at which soil or rock is saturated. This is also referred to as the water table and represents the top of the saturated zone. Above the water table lies the unsaturated zone. The study area located at Erbil city at Kurdistan region of Iraq, which is the Central part of groundwater basin. 14 different monitoring wells at central sub-basin (1315 km²) of this basin were used in this work. The aim of this study is to measure the data of groundwater level in monthly along 2021 and 2022 that allowed for assessment of the factors affecting on groundwater level depletion. It allows for assessing the balanced and sustainable groundwater planning and management in the study area. Wells that measured their water level area located at different village or/and districts of the Erbil city like : Salahaddin district, Mastawa, Pirdawd, Qushtapa, Kasnazan district, College of science, Satoor, ,Baghe shar park, Gulan, Nawroz, Shorsh, Bahar, Shadi, Mnara. The findings indicated that certain wells conserve water from one year to the next as a result of the recharge from other sources, particularly precipitation. During the years 2021 to 2022, the bahar well in this study has maximum recharged water table by approximately 2.5 m, also mnara well has minimum recharged water table about 0.07 m. On the other hand, the shadi well has maximum depleted water table about 1.9 m, and shorsh well has minimum depleted water table about 0.074 m.

This study dedicated to

First and foremost, many thanks to gracious Allah for giving us strength and wisdom throughout the work. Then our precious parents, siblings, our supervisor (Bruska S. Mamand) for her continuous support and advice throughout this investigation. Also dedicates to everyone who might find this work interesting

Supervisor Certificate

I certify that the engineering project titled (Groundwater level decline for some wells at central basin of Erbil city) was done under my supervision at the Water Resources Engineering Department, College of Engineering -Salahaddin University –Erbil. In the partial fulfillment of the requirement for the degree of Bachelor of Science in Water Resources Engineering.

Supervisor

Signature:

Name: Lect. Bruska S. Mamand

Date: / /

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