

The Water-Climatic Balance of Mosul Station and Al-Kut Station for the Period from (2010-2020).

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- **Abstract:** Since Iraq is located within what is known as a dry and semi-arid climatic region, this means its total dependence on running water, i.e. rivers, the mainstay of which is rainfall. Therefore, the process of its calculations, i.e. extracting the quantities of water between what falls and is lost (evaporates) was one of the important priorities and by following the most accurate and most successful mathematical methods, which indicate accurate results, especially using mathematical equations that lead to the desired results through the adoption of water budget methods and calculations, which varied according to the approved foundations and the areas in which Where these rates apply. And the matter becomes more important if we know the importance of the water budget accounts for economic activities, especially agriculture, and the activities associated with it for the population of Iraq, which is the first craft and since ancient times. Therefore, this study (the water-climatic balance of the Mosul and Kut stations) came to contribute, with other studies, to determining the amount of water needed for irrigation and estimating the size of the irrigation need and what is related to it...By applying the climatic budget rates that are in line with the location of Iraq and its climatic conditions, the following is shown: - The researcher concluded, through the application of Ivanov's equation, that the water deficit and surplus amounted to a total of about $(-110.12 + 162.4)$ mm at the Kut and Mosul stations, respectively. - When applying Najib Kharoufa's equation to the same two stations for the same period, it was found that there was a water deficit in the Kut and Mosul stations, reaching $(164.06$ and $992.7)$ mm, respectively.
- **Keywords:** climatic region, Mosul stations, Najib Kharoufa's