

IMPACT OF CLIMATE CHANGE ON RUNOFF IN THE CHELLIF BASIN (ALGERIA)

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Abstract:

Several recent studies have assessed the historical evolution of climatic and water resources. To observe this trend we selected the Chélif basin, located in northern Algeria. We evaluated the impact of future climate change on seasonal flows of 2020 and 2050. To better understand the importance of these impacts. We have based our analysis on average flow of the reference period (1961–1990) and compared them with those that might result from changes in the main direct constraints. The methodology used is based on the GRM2 model. The analysis of the results showed a marked decrease in average monthly flows over the period. By 2020 the largest decrease of 28.17% was recorded in winter followed by autumn (16%). By 2050. The results will show a reduction of flow of about 40.16% and of 18% for winter and spring. For the Lower Chélif and Mina, the lower rates are approximately 13.46% and 17.60% for the autumn and spring of 2050, respectively.

Key words: climate change; flow; simulation; Cheliff; Algeria.