

The impact of climate change on river flow in arid and semi-arid rivers in Algeria

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Abstract In Algeria, the problems of water resources have not been adequately treated till now, both in the analysis of climate change and in the formulation of climate policy. Similarly, in most cases, the historical evolution of climatic parameters and water resources has not been evaluated in different horizons and at different scales. In order to check this evolution, we selected the Algerian-Hodna-Soummam (AHS) basin that belongs to three different climate regions of Algeria, to evaluate the impact of future climate change on seasonal flows of 2050 and 2100. To better understand the importance of these impacts, we based our analysis on average flow of the reference period (1961–1990) and made comparisons to this. The methodology used is based on the GR2M model. The analysis of the results shows a marked decrease in average monthly flows compared to the reference period in the different horizons and the various studied scales.

Key words climate change; river flow; Algeria