

## **Abstract**

It has now been proven that it will experience a warmer future as a result of the phenomenon of global climate change, and that the rate and type of precipitation in the various regions are changing significantly. The occurrence of such conditions can lead to changes in the hydrological, surface water and underground water resource as well as how water is accessed at the level of a catchment area. Since Iran is a part of the arid and semi-arid regions of the world, underground water plays an indelible role in supplying its water needs that should specifically address the issue of groundwater resources and the effects of climate change. The purpose of this study is to examine the impact of climate change on the basis of the IPCC's fourth and fifth reports to compare these two models together and determine the impact of climate parameters on groundwater resources known as Aspas plain in Fars province using the MODFLOW simulator. In this research, the climatic parameters of five synobectic stations (Abadeh, Doroodzan, Shiraz, Fasa, Lar) using the DELTA method for the 20-year observation period of 1986-2005 as a watchdog and climate predictions were made for a period of one hundred year from 2011-2090. The results of the IPCC fourth report of Delta showed that the highest effect was on Abadeh city with the lowest temperature of  $-6/962$  and Lar with the highest temperature of  $46.7371$  as well as all cities showed rising temperatures for the foreseeable years. By comparing the IPCC's fourth report with the Delta method and the fourth LARS report, the results indicated an increase in precipitation and an increase in temperature for the Abadeh area which have not predicted floods for the area. The Lars and Delta models have little difference in the fine-grained scaling and prediction of climatic data. Therefore, given that, the data of the fifth-series models can not be done with Larses. Delta model can be used in this field by applying climatic results and groundwater simulation with MODFLOW model of groundwater Aspas model that was plain and they were modeled in two stable and unstable states and also two scenarios were defined. In scenario A, the area based on the division has a total surface area of 3.28 meters. The scenario B was divided into three critical parts with a 1.6 and a half-critical drop of 2.4 and a very critical one with a 6.3 drop.

**Keywords:** Climate change, Allocation of water resources, General atmospheric circulation model, Modfolow, Lars\_wg, Delta



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