Research Paper

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Effective Factors in Ground Water Variations and Water Table Decrease in Ardabil Plain

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1-Introduction

The rapid growth of the world's population and the development of agriculture in recent decades have led to an increase in water pumping, resulting in a drop in groundwater levels. The consequences, including rising costs of water extraction, landslides, and declining water quality, have become a serious global problem today. The aim of this study was to investigate the factors affecting the decrease and change of groundwater level in Ardabil plain in two periods 1995 to 2005 and 2005 to 2015.

2-Methodology

The monthly precipitation data of Ardebil, Nir, Namin, Abi baglo, Hir, Samiyan stations in the Ardabil plain during the statistical period of 1995-2015 and monthly data of the height of the station in 24 Piezometric well ring were chosen for the plain. Landslide OLI and TM satellite imagery was used to prepare land use map for the target periods in June 1993, 2005, and 2015.

3- Results and Discussion

The results of land use changes in the years 1993, 2005, and 2015 in the Ardabil plain showed the highest watery agriculture with 48156.26, 50678.66, and 58356.68 and area water level, respectively, were with 168.75 ,88.65 and 380.95 ha, lowest level Which indicates the high level of agricultural land involvement in the decline of agricultural land in the Ardebil plain.

4- Conclusions

The study of the process of Piezometric Wells showed that in the plain of Ardabil, the maximum height of the surface of the station (1437 m) is related to the southern parts of the plains around the village - Noshahr-Kargan and the minimum height (1300 m) is

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related to the village of Khalifaulo Sheikh. The highest level of cultivation is also focused on user plans in these areas.

Keywords: Groundwater, Land use, Piezometric well, Water table, Ardabil plain, Ardabil province

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