

Impact of Climate Change on Water Level and Properties of Gorgan Bay in the Southern Caspian Sea

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Abstract : The Caspian Sea is the Earth's largest inland body of water. One of the most important issues related to the sea is water level changes. For measuring and recording Caspian Sea water level, there are at least three gauges and radar equipment in Anzali, Nowshahr and Amirabad Ports along the southern boundary of the Caspian Sea. It seems that evaporation, hotter surface air temperature, and in general climate change is the main reasons for its water level fluctuations. Gorgan Bay in the eastern part of the southern boundary of the Caspian Sea is one of the areas under the effect of water level fluctuation. Based on the results of field measurements near the Gorgan Bay mouth temperature ranged between 24°C-28°C and salinity was about 13.5 PSU in midsummer while temperature changed between 10-11.5°C and salinity mostly was 15-16.5 PSU in mid-winter. The decrease of Caspian Sea water level and rivers outflow are the two most important factors for the increase in water salinity of the Gorgan Bay. Results of field observations showed that, due to atmospheric factors, climate changes and decreasing of precipitation over the southern basin of the Caspian Sea during last decades, the water level of bay was reduced around 0.5 m.

Keywords : Caspian Sea, Gorgan Bay, water level fluctuation, climate changes

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