

Abstract

Water resources is essential prerequisite for the preservation of the environment, growth, economic, political, social and cultural developments in nations. The quantity and water quality, one of the main pillars of sustainable development are considered. Plain area is dry and arid. Agriculture among the people of this region has a long history. Sistan River is the major source of water supply of sistan plain. This river is a tributary branch of the Hirmand River. In this research, the quality of open channels in wet and drought years in a 20-year period were studied at 10 stations. The evaluation criteria are based on international standards such as Will Cox and Schuler diagram. The chemical quality of Sistan river water, indicate that river water much of the agriculture restrictions and is accepted almost. Will Cox diagram shows that in most of the stations were located in class C₂S₁ little salty and for agriculture is almost proper. The chemical quality of water in Sistan River in hydrometric stations, we observe that the overall chemical quality of the river's water from quality aspects have relatively good and with caution and appropriate sanitation can be exploited for various uses. Moreover, the changes of quality parameters in both periods studied, showing the adverse impact of drought on water quality in plain rivers.

Keywords: water quality, open channels, Sistan plain



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