

Groundwater Quality in the Rhiss-Nekor Plain, Morocco: Impacts of Human Activities

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Abstract : The Rhiss-Nekor aquifer represents a primary water source for the central Rif region. Many operating structures were built for irrigation and drinking water supply. Because of the vulnerability of this aquifer, a thorough knowledge of the environment is needed to evaluate and protect resources. This work aims at the quality assessment of the water table of the plain Ghiss-Nekor and determination of pollution sources in order to establish a map of the web. The plain-Rhiss Nekor, with an area of 100 km², is located on the Mediterranean coast of Morocco. It has a particular geological structure resulting from the opening of a graben at the end of the Tertiary, which is filled by the accumulation of hundreds of meters of sediment, generating considerable heterogeneity in deposits. This heterogeneity gives various hydrodynamic properties within the aquifer of the plain. The analysis of the water quality of twenty water points, well distributed over the plain, showed high natural salinity linked to the geological nature of the area. This salinity increases in the littoral area by the seawater intrusion phenomenon. This is accentuated by overexploitation of the ground water due to the growing demand. Some wells, located inland, are characterized by organic pollution caused by wastewater seepage from septic tanks and lost wells widespread in the region.

Keywords : anthropogenic factors, groundwater quality, marine intrusion, Rhiss-Nekor aquifer

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