



IAEA

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Atoms for Peace

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Protecting and managing water resources in Algeria

The challenge...

Algeria faces groundwater issues that include increased exploitation of coastal aquifers, and the threat of groundwater contamination. In order to effectively manage their water resources, the Algerian Government required accurate information on aquifer hydrodynamics. Isotope hydrology can help to determine groundwater resource parameters, providing a better understanding of water dynamics to support sustainable management.

The project...

Isotope methods, together with conventional techniques, were used to investigate the hydrodynamics and recharge conditions of the aquifer systems in the Mostaganem plateau and the Sidi Bel Abbés Governorate. The impact of increased groundwater exploitation on the seawater interface was assessed and the impact and magnitude of oil and fuel contamination in Chott El Hodna (M'Sila wilaya) was evaluated. A mix of national and regional projects on the application of isotope techniques in the wetland area helped Algeria to determine hydrodynamic parameters such as porosity, permeability, rate and direction of subsurface flow, water dating and leakage among various aquifers.



The impact...

The project supported the improved management of water resources in Algeria through preservation of water quality and identification of recharge conditions. As part of the project, a methodological tool was established to enable better understanding, protection and sustainable management of Algeria's water resources. Using the water resource data generated, Algeria is able to support sustainable water use through the development of national guidelines for the optimal exploitation of water resources for drinking, agriculture and industry.