OMICS Group Conferences
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International Conference on
Hydrology & Ground Water Expo

September 10-12, 2012 Hilton San Antonio Airport, USA

Preliminary interpretation of environmental isotopes data in the Ain El Atti area (Tafilalt)

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The IAEA-TC project INT/5/144 on sustainable use of saline land and saline groundwater for agricultural production has been conducted in the pre-saharian area of Aïn El atti through application of environmental isotopes supported by the hydrochemistry. In this area, a network of 20 water point has been the purpose of the isotopes analysis (□^{18}O, □^{2}H, ^{3}H, and ^{14}C) physical chemistry. The samples were taken once every three months from artesian groundwater "the lnfracenomanian" (4), the Turonian (4), the senonian (1) the Quaternary aquifer (5) and from the precipitation of the years 2001, 2002 and 2003. The obtained results show that: (i) the stable isotope from the Infracenomanian is very poor and they are without tritium, confirming the fact that this aquifer is confined and it's not evaporated. It's salinity which is very strong is due to the dissolution and the lixiviation of the geological formation, (ii) the Turonian, the Senonian and the Quarternary aquifers are not confined and their stable isotope contents are more or less important as the tritium, signifying that they receive recent recharge. The first one is affected by the artesian well and it's not evaporated and it has high salinity. The second and the third one are not affected by the artesian well, but the influence of the précipitation and the flood is clear. Their grounwater is not evaporated and their salinity is moderate. (iii) However, the Ziz surface water isotopic elements are rich, signifying an actual recharge. Its water is highly evaporated and its salinity is variable.

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