IDENTIFICATION OF MARINE INTRUSION IN THE PLAIN OF COLLO, NORTHEASTERN ALGERIA

Abstract

The population increase, urbanization and intensification of agriculture and demands for water supply in the coastal plain of Collo led to excessive pumping of the unconfined aquifer with limited dimensions. This study aimed to characterize the effect of the overexploitation of the groundwater from the only unconfined aquifer in the region, what resulted in the inversion of the groundwater flow and the rise the possible seawater pollution that is shown in the water table map. The causes and effects of the saltwater intrusion were discussed. The interpretation of the electrical conductivity measurements, chloride and sodium maps have shown clearly the areas where values were the highest with tighter curves towards the sea, the wadis Guebli and Cherka. These values distribution indicated a marine source of salinity in wells and boreholes close to the sea and wadis.

Key words: Algeria, coastal aquifer, Collo, marine intrusion, water salinity