

**Direct Evidence For Hydrological Change in The Sahel During The Past
half-Millennium**

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Des analyses chimiques et isotopiques d'eaux interstitielles extraites de la zone non saturée de la nappe des sables dunaires quaternaires de la zone de Louga, au Nord-Ouest du Sénégal, ont été utilisées pour étudier la paléohydrologie de cette région au cours des derniers siècles. L'estimation des temps de résidence de l'eau en cours d'infiltration à partir de deux profils de chlorures permet d'établir une paléohydrologie de la zone.

Interstitial waters from the unsaturated zone of coastal Quaternary aquifer in north-western Senegal have been extracted to investigate the ground water recharge, using geochemical and isotopic methods. As well as providing information on recharge, the interstitial waters of the unsaturated zone provide a record of recharge events over a period up to 500 years. This gives the possibility to study past climatic and environmental changes. Two profiles are chosen from among a group of 19, obtained from two sites where different mean recharge values (15.5mm.yr^{-1} and 0.5 mm yr^{-1}) were measured, using the chloride technique and assuming steady state conditions of chloride transport. The residence times of water in the profiles are 118 and 500 years, respectively, and thus, recharge conditions back to the half-millennium are preserved. Such records may provide a direct means for establishing palaeohydrology over a time scale where it may be difficult to use proxy data.

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