

鄂尔多斯地下水同位素组成与气候变化关系

[点此下载全文](#)

引用本文: 黄冠星,孙继朝,齐继祥,臧逸中,陈京生,荆继红.2007.鄂尔多斯地下水同位素组成与气候变化关系[J].地球学报,28(6):550-554.

DOI: 10.3975/cagsb.2007.06.06

摘要点击次数: 525

全文下载次数: 606

作者	单位	E-mail
黄冠星	中国地质科学院水文地质环境地质研究所, 河北石家庄050061	gwwsun@263.net.cn
孙继朝	中国地质科学院水文地质环境地质研究所, 河北石家庄050061	
齐继祥	中国地质科学院水文地质环境地质研究所, 河北石家庄050061	
臧逸中	中国地质科学院水文地质环境地质研究所, 河北石家庄050061	
陈京生	中国地质科学院水文地质环境地质研究所, 河北石家庄050061	
荆继红	中国地质科学院水文地质环境地质研究所, 河北石家庄050061	

基金项目:鄂尔多斯盆地地下水资源勘查地质调查项目(编号:DKD2002006)

中文摘要:鄂尔多斯盆地地下水中 ^{18}O 同位素组成与区域古气候变化关系研究有利于认识区域水循环规律,在对鄂尔多斯盆地地下水 ^{18}O 、 ^{14}C 同位素资料分析基础上,结合相关古气候变化研究成果,对比研究鄂尔多斯盆地地下水的同位素组成与古气候变化的关系,认为:①鄂尔多斯盆地地下水中稳定同位素($\delta^{18}\text{O}$)含量的变化与该区古气候的变化具有良好的对应关系,在10 kaB.P.前后,鄂尔多斯盆地南部的古气候变化与其地下水中的 $\delta^{18}\text{O}$ 含量变化十分明显;②鄂尔多斯盆地南部,10.2~11.9 kaB.P.、13.1~14.4 kaB.P.及16.2~18.9 kaB.P.三个时可能由于当时古气温较低,导致地下水相对补给偏少;③地下水的补给过程受古气候的变化影响呈现非等速补给特征。

中文关键词:地下水 同位素 古气候 对比

The Relationship between Groundwater Isotopic Composition and Climate Change in Ordos

Abstract:The study of relationship between groundwater ^{18}O isotopic composition and paleoclimate change in the Ordos basin helps understand the regularity of regional circulation. Based on an analysis of groundwater ^{18}O , ^{14}C isotopic data of Ordos basin in combination with the results of paleoclimate change researches, the authors investigated the relationship between groundwater isotopic change and paleoclimatic change in this basin, and reached the following conclusions: ① the change of groundwater stable isotope ($\delta^{18}\text{O}$) content and that of the paleoclimate in Ordos basin show obvious corresponding relationship and, especially shortly before and after 10 kaB.P., the groundwater isotope $\delta^{18}\text{O}$ content and the paleoclimate in the south of Ordos basin both showed remarkable changes; ② in the three time spans of 10.2~11.9 kaB.P., 13.1~14.4 kaB.P. and 16.2~18.9 kaB.P., groundwater supply in the south of Ordos basin was somewhat insufficient, which might be attributed to the relatively low paleo-temperature at that time; ③ influenced by the change of paleoclimate, the supply process of ancient groundwater was not a uniform motion.