Abstract Details

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Category: Interdisciplinary Working Groups

Paper ID: 57-IWG-A1080

Title: Nitrate pollution of groundwater in the delta of the Yellow River

Abstract:

It was reported that the wetland may reduce nitrate to N gases by denitrification. The delta of the Yellow River is composed of large wetland areas, and spatial distribution, sources and N-processes of nitrate pollution in groundwater are investigated based on the field surveys and chemical and isotopic (18O, D, 15N) analyses took place in August 2002 and September 2003. Diversion of the Yellow River for irrigation together with the excessive use of N-fertilizer may contribute to the nitrate pollution in groundwater, which interacts well with surface flow of the Yellow River and the Bohai Sea. Among 58 water samples collected, 52 groundwater and river water samples were found having nitrate more than 1mg/L except 6 samples from the wells used for producing salt etc. The highest concentration of nitrate is 202 mg/L, and most nitrate polluted groundwater was found in an area about 20-30 km away from the Yellow River. This indicates the impact of irrigation on nitrate, which is transported mostly to a depth of about 50 m in the delta.

Presentation Mode: Oral

Keywords: nitrate pollution, groundwater, delta, the Yellow River, isotope

Status: Pending.

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