Annual Geological Conference 2002

Renaissance Hotel
Kota Bharu, Kelantan
26–27 May 2002

** Abstracts of Posters **

Climate change and chalk aquifer groundwater resources in West Norfolk, UK

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Assessment of the significance of climate change on water resources presents a considerable challenge. This study investigated the impacts of climate change on the Chalk aquifer of West Norfolk using a combination of a groundwater model (MODFLOW) and a climate change model (Hadley Centre's climate change experiment, HadCM2). Two future climate change scenarios were selected from the HadCM2 model: (i) a Medium-high (MH) emissions scenario and (ii) a Medium-low (ML) emissions scenario of greenhouse gases. Two future periods were considered: 2020-35 and 2050-65. Climate-change impacts were evaluated by incorporating the monthly estimated recharge inputs within the transient flow model and comparing the relative changes of groundwater levels and river baseflow volumes over monthly and annual timescales. Two opposite trends are predicted from the modelling of climate change scenarios for the two future periods considered (2020s and 2050s). The 2050ML scenario predicts an annual decrease in recharge of up to 13 mm, a monthly decrease in groundwater levels of up to 70 cm and a monthly decrease of up to 11% in the baseflow volume of the River Nar while the 2020ML scenario predicts an annual increase in recharge of up to 8 mm, a monthly increase in groundwater level of up to 50 cm and a monthly increase of up to 7% in the baseflow volume of the River Nar.