

# Hydrological study of groundwater age in the Kanto Plain

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The Kanto Plain is the largest groundwater basin. Groundwater sampling and the construction of database are advanced for understanding of characteristics and distribution of delta-18O and delta-D. From the previous study, it is found that the groundwater with relatively low isotopic ratio is distributed in from the central part to Tokyo Bay area. But this tendency is not found in the isotopic distribution of meteoric water such as spring, river and shallow groundwater. Therefore, it is suggested that the groundwater with low isotopic ratio is not recharged in the central part but transported by groundwater flow. The objective of this study is to clarify the origin of low isotopic groundwater zone. Delta13C and 14C was analyzed to estimate the groundwater age of low isotopic groundwater.

Delta13C of groundwater samples were from -20.3 per-mill to 0.5 per-mill. These ratios suggest that the origin of carbon in groundwater was soil gas, organic matter and carbonate. Also, the age of low isotopic groundwater, which was calculated by Stuiver & Polach (1977), was from 8,100 to 15,000 years. It is necessary to discuss the accuracy of groundwater age, but the delta-18O and delta-D decrease according to increasing of groundwater age. Therefore, it is suggested the low isotopic groundwater had been recharged in cold climate. Also, this result shows the necessity of consideration of groundwater age in the large plain in Japan.