

A preliminary study on origins of sulfate ion in shallow groundwater in the highly-urbanized Musashino Plateau, Tokyo, J

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Sulfate concentration of shallow groundwater in the highly-urbanized Musashino Plateau, Tokyo, Japan shows high spatial variability in the range between 7-135 mg/L. In addition, the long-term change in sulfate concentration over the past 75 years proved to be different from those of chloride and nitrate-N & nitrite-N concentrations. To discuss possible origins of sulfate ion in groundwater, a sulfur isotope study was carried out on the basis of seven water samples in October 2012. Although a limited number of samples, sulfur isotope measurements (+2.3 to 6.2 per mil delta-34S) suggest contribution of chemical fertilizers once used in field cropping and/or leaking sewage from aging, deteriorated sewer pipes, accounting for high sulfate concentration in shallow groundwater in the Musashino Plateau.

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