On balance of chloride ion in Kanna river aroud Wataruse area, Kamikawa, Saitama, Japan

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Shallow groundwater in the Wataruse area contains high concentrations of chloride ions (6.2 mg/L-284.4 mg/L) in February 2019. This chloride ion is due to the deep-seated fluid that rises from the underground and passes through the basement. Hasegawa et al. (2019) estimated the origin of deep fluids using stable isotope ratios of oxygen and hydrogen. As a result, the origin of the deep fluid was presumed to be a mixture of long-term stagnant water and slab-originated water. The helium isotope ratio revealed that deep-seated fluids of the same origin in the Wataruse area and the Joboji area increased in area. In this study, a more detailed study was conducted on the rise and mixing of deep-seated fluid.

Keywords: stream water, chloride ion, dissolved load, deep-seated fluid, income and outgo

