

Spatial and temporal variation of spring water in a headwater catchment underlain by sedimentary rock

TSUJIMURA, Maki^{1*}, Morihiko Wakabayashi¹, ONDA, Yuichi¹, KAWAGUCHI, Shimpei¹

¹University of Tsukuba

Spatial and temporal distribution of spring water in quantity and quality was observed to investigate the groundwater flow beyond topographical watershed. A total of 10 springs were monitored in a small headwater catchment underlain by sedimentary rock, Karasawan University Forest, Tokyo University of Agriculture and Technology, Tochigi prefecture, Eastern Japan in May, early in August, late in August, October 2011. Also, the residence time for all water samples were estimated by dissolved CFCs concentration in the samples. The water chemistry shows a different characteristic between sandstone and chert areas, and the estimated residence times of the spring water ranged from 7 to 20 years.

Keywords: spring water, sedimentary rock, residence time, groundwater flow