

Spatial distribution of chemical compositions, hydrogen and oxygen isotopic ratios of stream water of the Shimanto River area, southwestern Japan

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109 river water samples were collected from 101 locations in the Shimanto River system and adjacent streams in the western part of Kochi Prefecture and southern part of Ehime Prefecture in December 2007, November 2008, and December 2009, for the purpose of understanding how the distribution of δD and $\delta^{18}O$ can be explained by geographical parameters (latitude (LAT), altitude (ELV) and inland degree (Distance from the nearest seashore; DS)) and meteorological parameters (mean annual temperature (MAT) and mean annual precipitation (MAP)), and what is the difference in those explanatory variables of the distribution of δD and $\delta^{18}O$ compared to the national level. As a result, it was found that the spatial distribution of δD , $\delta^{18}O$ of stream water in the Shimanto area can be shown in detail by using ELV and DS as geographical parameters and MAP as meteorological parameters as explanatory variables.

Keywords: stream water of the Shimanto River, hydrogen and oxygen isotopic ratio, altitude effect, amount effect, inland effect