

河口湖の湖底直上水の安定同位体比とバナジウム濃度の空間分布 Spatial distribution of vanadium concentrations and water isotopes in lake bottom water from Lake Kawaguchi

山本 真也^{1*}; 長谷川 達也¹; 吉澤 一家²; 中村 高志³; 内山 高¹
YAMAMOTO, Shinya^{1*}; HASEGAWA, Tatsuya¹; YOSHIZAWA, Kazuya²; NAKAMURA, Takashi³; UCHIYAMA, Takashi¹

¹ 山梨県環境科学研究所, ² 山梨県衛生環境研究所, ³ 山梨大学国際流域環境研究センター

¹Yamanashi Institute of Environmental Sciences, ²Yamanashi Institute for Public Health, ³International Research Center for River Basin Environment, University of Yamanashi

Spatial distribution of vanadium concentrations was examined in bottom water from Lake Kawaguchi, on the northern foot of Mt. Fuji, in order to test the hypothesis that the water outflow from underwater springs in Lake Kawaguchi could affect the vanadium concentrations of lake water. The samples were collected from the east lake basin and the Funatsu lake basin on July 14-August 2, 2005, and from the west lake basin on November 1 and October 31, 2013. Vanadium concentrations in the bottom water from Lake Kawaguchi range from 0.66 $\mu\text{g/L}$ to 3.18 $\mu\text{g/L}$. Because vanadium concentration in precipitation is generally $<0.1 \mu\text{g/L}$, the variations are most likely attributed to the dilution of the lake water due to precipitation, and/or the input of water masses with high vanadium content. Although the concentrations of vanadium are significantly lower than those in the groundwater of the Mount Fuji, we found a relatively vanadium-enriched water mass along the southern coast of the west lake basin, off coast of Higashiken lava flow from Mount Fuji. The area matches well with the potential location of underwater springs in Lake Kawaguchi, and the lack of any riverine input around the area suggests that a water mass with relatively high vanadium concentration is likely provided from underwater springs that are located in off coast of the basaltic lava flow of Mount Fuji. We also plan to discuss the source of underwater springs based on stable water isotope ratios in the presentation.

キーワード: 河口湖, バナジウム, 水安定同位体比, 富士山

Keywords: Kawaguchiko, vanadium, stable water isotopes, Mount Fuji