

## Evaluating temperature dependence of arsenic and boron adsorption onto sediments

\*栗田 桂吾<sup>1</sup>、斎藤 健志<sup>2</sup>

\*Keigo Kurita<sup>1</sup>, Takeshi Saito<sup>2</sup>

1. 埼玉大学工学部建設工学科、2. 埼玉大学大学院理工学研究科

1. Department of Civil and Environmental Engineering, Faculty of Engineering, Saitama University, 2. Graduate School of Science and Engineering, Saitama University

Subsurface temperature increase likely due to global warming and urbanization has been observed all over the world. This phenomenon may cause changes in physical, chemical, and microbial processes in subsurface environment, resulting in groundwater quality changes. The effect of temperature increase on subsurface environment including groundwater system has not been sufficiently clarified. The objective of this study was therefore to clarify temperature dependence of arsenic and boron adsorption onto sediments based on batch adsorption experiments under 20°C and 40°C conditions. Completely different two samples of Holocene (non-marine sediment) and Miocene deposits (marine sediment) were used in this study. The adsorbed amount of arsenic at 40°C was significantly higher than that at 20°C, suggesting clear temperature dependence for arsenic. Oppositely, the adsorbed amount of boron was not clearly affected by temperature.

キーワード：温度依存性、吸着、ヒ素、ホウ素、堆積物

Keywords: Temperature dependence, Adsorption, Arsenic, Boron, Sediment