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Room:Convention Hall

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Concentration of nitrate nitrogen in a urban and mountainous area - Case study of Kyoto Basin and Mt. Tsukuba -

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The concentration of nitrate nitrogen ($\text{NO}_3\text{-N}$) in groundwater rose in recent years after the 1970's, and it began to pay attention as a serious social problem. As the main source of the nitrate nitrogen in groundwater, the following are the conceivable causes; i.e. excessive fertilizer for the farmland, the excrement of domestic animals and domestic waste water. It is difficult to specify the source of nitrate nitrogen when the multi sources exist. In the mountainous area where the anthropogenic impact is comparatively little, the concentration of nitrate nitrogen is high in some cases. The reason of this is exhaust fumes from cars which are contained the nitrogen oxides. The exhaust fumes diffuse to the atmosphere and nitrogen oxides fall to the mountainous area. The problem of nitrate nitrogen is widely caused from the urban area to the mountainous area, and thus, the groundwater quality investigation is executed.

In Japan, the environmental standard values of nitrate nitrogen have established for 10mg/L since 1999. However, the concentration of nitrate nitrogen in groundwater exceeds 10mgN/L in various places, and it is necessary to elucidate the source of the pollutant and checked the improvement plan.

In this presentation, it introduces the previous study of various places, and it reports on the problem about the nitrate nitrogen using the example of observing in the tea plantation, mountainous area and urban area.

Keywords: nitrate nitrogen, groundwater, Mt. Tsukuba, Kyoto Basin