O53. EVALUATION OF MOUNTAIN AREA AS NON-POINT SOURCE OF NITROGEN FOR SETO INLAND SEA: THE NORTHERN SHIKOKU REGION, JAPAN

Shohei Morisawa[1], Yukio Komai[1], Takao Kunimatsu[2]

[1]Osaka Institute of Technology, Japan, [2]University of Shiga Prefecture, Japan.
m1m16f05@oit.ac.jp

The northern Shikoku region is located in the Western part of Japan and faces towards the Seto Inland Sea. The forest area, which is one of the non-point sources in the Seto Inland Sea watershed, occupies 75% of the land use in the watershed of the northern Shikoku region. The amount of loadings of nutrients and COD in the Seto Inland Sea has been estimated by the unit load method but actually the data has not been investigated. It is however, necessary to know the real concentration of nitrogen in mountain streams to evaluate the role which is the mountain area plays as non-point sources. Therefore, more water samples of mountain streams in the watershed need to be taken and the concentrations of nitrogen analyzed. The mountain streams in the northern Shikoku area were investigated from April, 2015 to November, 2015. The number of sampling sites was 283, in addition to the past data by Kunimatsu et al. The average concentration of nitrate nitrogen in Ehime, Kagawa, and Tokushima was 0.61mg/L, 0.78mg/L and 0.34mg/L, respectively. The environmental standard range for nitrogen in the Seto Inland Sea is from between less than 0.2mg/L and less than 1mg/L. Therefore, the average concentration of nitrogen in these regions was over category II, and those of mountain streams in Kagawa Prefecture exceeded category III. About 20% of mountain streams were more than 1mg/L. It has become clear that mountain areas occupy an important position as non-point sources for the Seto Inland Sea.