Japan Geoscience Union Meeting 2014
(28 April - 02 May 2014 at Pacifico YOKOHAMA, Kanagawa, Japan)

MIS21-24 Room:511 Time:April 28 17:30-17:45

The availability of atmospheric nitrate in a forested ecosystem

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Nitrogen is an important element for forest ecosystems; shortage of nitrogen limits plant growth [Vitousek andHowarth, 1991], however, nitrogen discharged from forested ecosystems link to various environmental problems, such as eutrophication of aquatic ecosystems and deterioration of drinking water quality. Recently, atmospheric nitrogen deposition into terrestrial ecosystems is increasing [Galloway et al., 2008]. However, influence of the increase of atmospheric nitrogen deposition on forested ecosystem is not clear because the interaction between nitrogen input/output and inner nitrogen cycle is not sufficiently understood. In this study, to clarify the interaction between nitrogen input/output and inner nitrogen cycle, we investigate the atmospheric nitrate discharge rate from forested watershed and discuss the availability of atmospheric nitrate deposited into forested watersheds.

Keywords: forested watershed, stable isotope, nitrate, atmospheric deposition