

The influence of dry deposition and wet deposition on streamwater nitrate concentration in forested watersheds

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Nitrogen exported from forest is considered to affect the eutrophication in downstream ecosystems, therefore, the understanding of nitrogen export processes from forest is important. Recently, nitrogen deposition to terrestrial ecosystem is increasing and that enhance nitrate concentration exported from some forested watersheds. Nitrogen deposition to forest generally consists of dry and wet deposition of nitrogen, however, the influence dry deposition on nitrogen export from forested watershed has not clear compared with the influence of wet deposition. In this study, we measured nitrogen compounds concentrations in stream water, throughfall and air in forested watersheds near highway to clarify the influence of dry deposition and wet deposition on streamwater nitrate concentration. We collected streamwater in 23 sites, throughfall in 13 sites and nitrogen oxide aerosol in 8 sites at north part of Shiga prefecture. Streamwater was collected from March 2016 to November 2016 in a month interval, and throughfall and aerosol were collected from August 2016 in two weeks interval. Nitrate concentrations were higher in streamwater from forested watershed near highway. We will discuss the relationship between streamwater nitrate concentrations and wet and dry deposition in presentation.

Keywords: nitrate, streamwater, dry deposition, wet deposition, forested watershed