

## Wind effect on the stream water chemistry in the upstream of the Ara River

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Although a forest ecosystem is generally deficit of nitrogen, high nitrate concentrations are often reported on the streams in Kanto region since 1990s. To examine the effect of the characteristics of watershed and atmospheric deposition on the nitrate concentration of stream water, we analyzed major ions of the stream water at the upstream region of the Ara River in the summer of 2008. We sampled at more points than described in Konohira et al. (2006), which reported as high as 3 mg/L of nitrate nitrogen in some streams.

Among the watershed characteristics, geology and forest composition did not show clear effect on the water quality. Higher concentrations of nitrate were observed in the stream water sampled lower altitude and/or more northeastern part of the watershed. Because the wind from the Tokyo metropolitan area first encounters the mountains in such areas, we concluded that the atmospheric nitrogen deposition is accumulated in such specific zone and induce the higher nitrate concentration in the stream water.