

## Variation in streamwater nitrate concentration before and after forest clear-cut by paired watershed approach

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<http://fa.depe.titech.ac.jp/~kuraji/kurajisecond.html>

Nitrate concentration of streamwater between recently clear-cut and adjacent uncut watersheds were compared. After clear-cut, nitrate concentration in the clear-cut watershed was higher than that in the uncut watershed. Nitrate nitrogen flux leaching from the clear-cut watershed was 37.5kg/ha/year, which was about 4 times higher than that from the uncut watershed. The difference of nitrate concentration between watersheds after clear-cut was distinct during storm events and the concentration in the clear-cut watershed was determined by changing mixing ratio among the high nitrate concentration unsaturated water from steep hillslopes, relatively low nitrate concentration groundwater and rainwater.

Nitrate concentration of streamwater between recently clear-cut and adjacent uncut watersheds were compared. Nitrate concentration in the clear-cut watershed was lower than that in the uncut watershed due to the difference of saturated groundwater occurrence determined by the topographical difference. After clear-cut, nitrate concentration in the clear-cut watershed was higher than that in the uncut watershed. Nitrate nitrogen flux leaching from the clear-cut watershed was 37.5kg/ha/year, which was about 4 times higher than that from the uncut watershed. The difference of nitrate concentration between watersheds after clear-cut was distinct during storm events and the concentration in the clear-cut watershed was determined by changing mixing ratio among the high nitrate concentration unsaturated water from steep hillslopes, relatively low nitrate concentration groundwater and rainwater.