

Water Chemistry of the Nilambe Oya, a Tributary in the Central Mahaweli Valley of Sri Lanka 2. Phosphorus, Nitrate and Nitrite Concentrations

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Abstract

Concentrations of phosphorus (total and dissolved), nitrate and nitrite of the Nilambe Oya were determined monthly from June 1994 to May 1995 for ten randomly selected sites employing standard sampling and analytical methods. Results were analyzed using one-way ANOVA to examine spatial and temporal variations in relation to seasonal rainfall and land use patterns of the watershed. Concentrations of total and dissolved phosphorus are within the range reported for tropical streams and rivers but the levels of nitrate were relatively higher than the reported values for tropical regions. Concentrations of both total phosphorus and nitrate increased during the rainy season from October to December. However, phosphorus concentration (total and dissolved) did not show significant seasonal variability. Seasonal variability in nitrate and nitrite concentrations was statistically highly significant. In contrast, concentrations of phosphorus (total and dissolved) and nitrogen species (nitrate and nitrite) showed statistically significant inter-site variability.