Seasonal variation of nutrients dynamics in two river in Parnaíba watershed, Piauí - Brazil

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Introduction

Human interference has profoundly altered the global biogeochemical cycles [1]. Watershed land use increased the amount of nutrients transported, namely, agricultural or urban lands export nutrients at higher rates than undisturbed watersheds [2].

Particularly for N, humans have almost doubled the rate of discharge into the global cycle. On the other hand, as is true of N, substantial volumes of P are also added to the land in the form of animal manures. The external supplies of N and P to aquatic ecosystems are derived from a wide variety of sources, including groundwater, fluvial, and atmospheric inputs.

Based on the aforementioned information, the present study aimed to evaluate nutrient concentrations with in two river in Parnaíba watershed.

Methods

Surface water samples were collected with a Van Dorn bottle, physico-chemical parameters were measured during the 2010 winter and 2011 summer and winter for determination of dissolved oxygen (DO), suspended particulate matter (SPM), phosphate and nitrate. Temperature, pH and conductivity were measured in situ.

Discussion

According to the obtained results, the present study shows that the most affected areas were those close to human settlements. Agricultural areas also significantly contributed to higher concentrations of nutrients

References

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