



Biogeochemical process in an Amazon basin floodplain - Lago Grande de Curuai, Brazil

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The work was performed during in the Amazon, mainly focusing in the study of a typical floodplain (Lago Grande de Curuai) located on the right bank of the Amazon River. During the low water phase, the mean concentration of SS was 320,0 mg L⁻¹, which in turn, is 13-fold the mean concentration (24,5 mg L⁻¹) measured during the high water phase. During the rising water phase the concentration of SS decreased significantly to 83,0 mg L⁻¹. Concentration of DOC were very similar (4 mg L⁻¹) along the rising, high, and falling water phases, and increased significantly during the low water phase reaching mean value equal to 6,4 mg L⁻¹. The C:N varied from 7 to 9,2 showing the lowest value during the low water phase and highest values during the rising water. The δ¹⁵N values showed similar trend, varying from 4per mil during the low water phase and reaching the most depleted (<2 per mil) values during the falling water phase. The carbon isotopic composition varied from -27 to -25 per mil, but the low water phase was not different from the other phases. Dissolved and solid compounds suspended in the water of the Curuai Lake showed a very clear seasonal variation in concentrations, elemental and isotopic composition. During the rising water the Amazon River seems to be main source of organic matter and ions to floodplain. Inversely, primary production looks to be an important factor driving changes in the organic matter characteristics during low water phase.