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COMPARISON BETWEEN PAEOENVIRONMENTAL AND LAND USE CHANGES RECORDS IN BRAZILIAN AMAZONIA ECOSYSTEMS

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Record interpretations of biomass burn require a comparison among the charcoal particle fluxes in different vegetal communities. The charcoal fluxes, which are related with paleofires, represent an important disturbance to the atmospheric system. These charcoal particles emitted to the atmosphere can provide a decrease in the sunlight penetration and promote greenhouse gas enhancement, which have a large residence time in relation to the sunlight blockage. Thus, the evaluation of charcoal deposition, as a consequence of regional burns, will have great importance to determine the impact of climatic change in different tropical ecosystems. This subject will be an important contribution for understanding the dynamics among vegetation, climate and carbon cycle along the present interglacial. In this study, paleofires records were obtained through the charcoal particle fluxes analysis in sediments of lakes surrounded by different vegetation, which represents the most spread ecosystems in Brazil. The main goals were to identify similarities in periods of vegetation burn during the Holocene and evaluate the influence of biomass availability to charcoal fluxes. Fires records were obtained through the charcoal particles flux analyses in lacustrine sediments (Lagoa

da Pata, São Gabriel da Cachoeira (AM); Humaitá (AM), Lago do Saci (PA), Carajás N4, (PA); and Caracarana (RO); resevoirs sediments in an intense land use change region (Alta Floresta, MT). The charcoal analyses could have also a great importance in evaluating the impact of dry climates in different ecosystems. Determination of fire frequencies and dimensions in key areas of South America, during the Holocene, is a first step to understand the global carbon transference between terrestrial and atmospheric systems. The synchronism among the fires occurrences show a good relation with the middle Holocene dry climate phase in Brazil. Discrepancy in the flux values could be attributed to differences in biomass availability provided by these ecosystems and paleofire intensity.