ROLE OF MOGI-GUAÇU FLOOD-PULSE ON SEDIMENTATION AND PARTICULATE COMPOSITION IN THE INFERNÃO LAKE (SP, BRAZIL).

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We measured rates of sediment accumulation in an oxbow lake of the Mogi-Guaçu river-floodplain system, using the 210Pb dating and sediment trap methods. The steady accumulation of sediment, showed by the CRS model, from 1982 onwards agrees with the date when the adjoining area was proclaimed a natural reserve (Jataí Ecological Station). We considered that, since the founding of Jataí Ecological Station, gallery forest has begun to act as a temporary barrier to the highest sediment transport and deposition. This led to stabilize the particulate input during most of the year, except during the flood-pulse, when significant part of these materials had been transported, deposited and preserved in the floodplain lakes. On the other hand, the sedimentation enhancement, during the second half of this century, seems to be caused by spread of sugar cane culture. In terms of quality, the particulate matter of the Infernão Lake is quite homogeneous along the water column, suggesting that phytoplankton is the predominant source, as indicated by *13C and C/N ratio values. However, the external input into the lake was observed, especially during wet season, when runoff increased and river overflowing reached the lake. Absence of clay in the lake surface trap revealed occurrence of coagulation in the water column, resulting from leaching diluted minerals of the eroded soils present in the flood-pulse load. The duration of flood-pulse is significantly more important than its intensity, in relation to the amount of particulate matter retained in Infernão Lake, that receives the overflow from Mogi-Guaçu River.