



Geochemistry of Amazon Basin supported by the ADCP measurements

Victor Paca (1), Daniel Moreira (1), Achilles Monteiro (1), and Henrique Roig (2)

(1) CPRM - Geological Survey of Brazil (victor.paca@cprm.gov.br), (2) UNB - University of Brasilia (roig@unb.br)

The Amazon River is the largest river in the world in volume of water. The basin has 6.915.000 Km², but the last gauging station of Amazon River with regular and continuous measurements of discharge and sediment transport are Óbidos station with 4.670.000 Km². Óbidos It is also the last stream gauge station with no or less tidal effect observed from Atlantic Ocean and registered. The Clim-Amazon Project has been done the first measurements with the purpose to acquire geochemical and hydrological informations downstream Óbidos station.

The system studied has input data of sediments load after Óbidos, and the output of the system, at the Amazon River is at Macapá, close to the mouth of Amazon river. And flow the main tributaries along this way, between these two stations.

To evaluate the geochemical source, the mass balance, and isotopic geochemistry is necessary the informations about the traces the main chemical elements, transported by the discharge from the main rivers of this area: Tapajos, Xingu, Paru, Jari, and the Amazon River at Monte Alegre and at Macapá.

The ADCP – *Acoustic Doppler Current Profile*, equipment is used to get the stream discharge value at the moment of transect. But also get two more informations necessary for the geochemistry, and do the collecting points profiles. The place with most velocity at transect or the place with more backscatter. These informations are related with the sediment load of the river. Or which one can provide the better idea of how are transported the sediments at the measured transects. What was to observe was the main speed of the stream flow or the main backscatter sectional.

The main purpose of the work is to show how works the correlation between the backscatter and speed data given by the ADCP, downstream Óbidos, and the main confluences of Amazon River, until Macapá. The ADCP measurements support the geochemical studies and the course of sediments load transported by the discharge of these rivers.