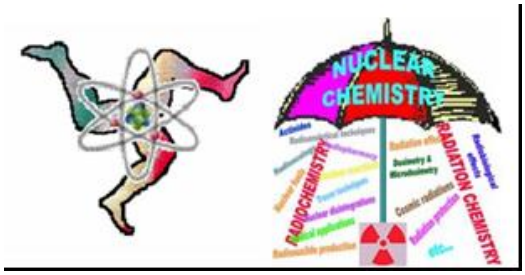

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Recent sedimentation rates and trace elements determined in cores from Pantanal, Mato Grosso do Sul, Brasil

Monday 19 September 2011 17:30 (1h 30m)

The Pantanal, in the southwest part of Brazil, is one of the world's largest freshwater wetland. This natural ecosystem has been affected due to urban contamination, irregular use of the land, tourism without control and excessive agricultural defensive utilization. In order to verify possible changes in this environment, a study was established in Pantanal da Nhecolândia, Mato Grosso do Sul, Brazil in 2006. Two sediment cores were collected in two small ponds in Nhumirim farm, Salina do Meio and Salina da Ponta and one core was collected in a pond in Firme farm, Salina Pedra do Sol. The sedimentation rate was determined using the 210Pb dating method. The sedimentation rates obtained for the three pounds are in agreement with other lacustrine system of the literature. The elements As, Ba, Br, Ce, Co, Cr, Cs, Eu, Fe, Hf, La, Lu, Na, Nd, Rb, Sb, Sc, Sm, Ta, Tb, Th, U, Yb, Zn and Zr were determined by instrumental neutron activation analysis technique –NAA. Their concentrations ranged from mg kg-1 to %. For validation methodology the reference materials Buffalo River Sediment (NIST SRM 2704) and Soil-7 (IAEA) were analyzed. The majority of the elements and rare earths analyzed showed concentrations lower when compared with shale and earth crust values. Factorial analysis, mode R, Cluster analysis and principal component analysis were applied for the data interpretation.

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