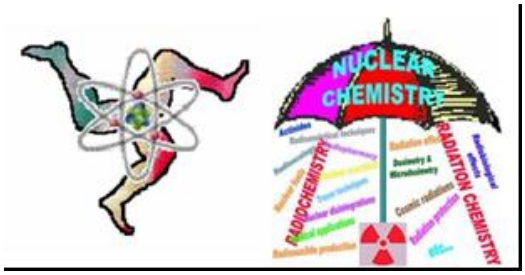

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Passive biomonitoring study for trace elements in oysters Crassostrea brasiliana (Lamarck, 1819: Mollusca, Bivalvia) in São Paulo State coastal sites, Brazil (25°00'-23°56'S, 47°25'-45°19'W)

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

Estuaries and coastal zones frequently receive a great number of contaminants from anthropic sources, resulting in degradation of these ecosystems as a whole. Trace elements present in estuarine water and in marine sediments may accumulate in many invertebrate marine species as bivalve mollusks such as oysters and mussels. This study aimed to determine trace elements in Crassostrea brasiliana oysters, very abundant in the estuaries of the State of São Paulo, Brazil, from three sites in São Paulo State coast: Cananéia Estuary (reference site), Bertioga and Santos Estuarine Systems (impacted by industrial and urban activities in moderate and heavy levels, respectively). Passive biomonitoring was carried out, in which the organisms were collected from their natural environment and analyzed. Seasonally, ninety individuals of Crassostrea brasiliana were collected in each site between September/08 and July/09. After sample collection and preparation, the elements As, Co, Cr, Fe, Se and Zn were determined by Instrumental Neutron Activation Analysis (INAA) and Cd, Pb and Hg were determined by Atomic Absorption Spectrometry (AAS). For analytical quality control, the NIST Standard Reference Material 1566b "Oyster Tissue"was analyzed. Statistical tests were applied to study the bioaccumulation of these trace elements and their seasonal variations.

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