



Microzonation O₂ and H₂S respiration in recent organic matter-rich sediments. Petrola Lake (SE Albacete).

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The sediment-water interface and associated redox processes can play an important role in mitigating the organic and inorganic contaminants. Calibrated microelectrodes with a tip diameter of 100 microns was used for knowing the microzonation, production and consumption rates of O₂ and H₂S in the water-sediment interface from Petrola hypersaline lake. Oxygen measurements were performed each 25 μm until a maximum depth of 2 mm was reached. Hydrogen sulfide and pH profiles were performed each 100 μm to a maximum depth of 1 cm. Specific O₂ and H₂S consumption reaction rates were calculated from measured concentration profiles by using a simple one-dimensional diffusion reaction model. Microzonation of O₂ and sulfate respiration in recent organic rich sediments suggest distinct reactive zones to take into account when dealing with the attenuation of organic (i.e. pesticides) and inorganic pollutants (nitrate).