Chemical Oceanography Of The Southern Black Sea Shelf Waters

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This study aims to investigate water quality parameters such as dissolved oxygen (DO), total suspended solids (TSS), dissolved hydrogen sulfide (DHS), biological oxygen demand (BOD), and the effects of the terrestrial originated (natural + industrial) inputs on metal distribution. Water samples from Igneada to Hopa along the shelf were collected during 2004-2007 (Figure 1). DO contents are higher than saturated values in the primary production periods especially in the upper water column. However in the summer periods they are at the highest values in the colder underlying water. TSS and BOD contents are highest at the river mouths and stations where primary production increases. The dissolved (Fe, Mn, Pb, Cu, Cd and Hg) and suspended solids-associated metal ion (Al, Fe, Mn, Pb, Cu, Cd and Zn) contents in the water column are higher than the corresponding natural abundance of mineral values in sea water [1]. On the other hand, they are lower than the critical limits set by the General Criteria of Seawater mentioned in the Directory for Aquatic Products. The controlling factors are inputs from mining zones and terrestrial (domestic + industrial) pollutants. In addition, the effect of Danube River is also clearly seen in distributions on the west shelf.

Figure 1. Sampling stations along the Southern Black Sea Shelf.

References