

## **THE BIOGEOCHEMICAL ENVIRONMENT IN THE GOLDEN HORN ESTUARY, ISTANBUL, TURKEY**

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The Golden Horn, an estuary in the European part of Istanbul, is an approximately 7 km long and 150 to 900 m wide, having depths ranging from 42 m at mouth of sea water and decreasing to 40 cm in its upper part and its surface area is about 2.6 km<sup>2</sup>. The study area has been polluted by sewage and urban wastewater particularly during the last two decades. The aims of this study (1) determining biogeochemical environment within the estuary (2) deciphering the environmental changes caused by waste water and sewage. For these purposes, firstly, anaerobic sulfur generating bacteria were tested in twenty surface water samples collected from June to July 1997. Secondly, the occurrences of Hydrogen sulfide and sulphate were determined. Also, dissolved oxygen, ammonium, phosphate, nitrate are analysed. The concentration of sulphate, phosphate, ammonium and dissolved oxygen values show marked variation in the study area. The reaction of anaerobic sulfur generating bacteria increase with decreasing oxygen values. The occurrences of H<sub>2</sub>S in the study area is fairly clear.