THE INVESTIGATION OF SOME PHYSICAL AND CHEMICAL CHARACTERISTICS IN WATER COLUMN OF SOUTH-EASTERN BLACK SEA COAST (TRABZON)

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This paper presents the work, which has been carried out in the Black Sea’s Yomra-Trabzon region, between 40° 58.385’ N-39° 50.982’ E and 40° 58.662’ N-39° 51.275’ E coordinates, in two different stations in the depths of 50 m and 200 m. About 150 measurement have been done between 2004 and 2008.

It has been investigated, changes in some physical and chemical parameters (salinity, temperature, density, conductivity, dissolved oxygen, chlorophyl-a, pH and light transmission) in this water column during project.

In this water column salinity, temperature, density, conductivity, pH, dissolved oxygen, light transmission and chlorophyll-a parameters have been measured in relation to the depth. It’s been noticed that these profiles change depending on time of the year and the depth.

Surface temperature of sea water in parallel and depending on the weather temperature, increases and reach 26.39±0.88°C in August and decrease to the minimum level of 8.31±0.58°C in March. While surface level temperature difference during the year is around 19-20°C and goes down to 6-7°C in 50 m depth, 2-2.5°C in 100 m depth and 0.5°C in 200 m depth.

During the project, salinity measurements of surface water are average of %17.69±0.16. These salinity measurements increase depending on the depth of water and in 50 m about %18.18, 100 m %19.20 and 200 m %21.13.

Density measured in the surface water as sigma-t, found minimum in August as 9.92±0.27 kg/m³ and reaches maximum in February as 13.76±0.13 kg/m³.

Conductivity in the surface water measured as minimum of 1.99 S/m in March, maximum of 2.95 S/m in August.

Change of pH in surface water has been found at 7.8-8.5 and It has been seen that pH value decrease specially under photosynthesis zone and stabiled at 7.6-7.7.

It’s been noticed that dissolved oxygen changes in surface water depending on temperature time of the year. increasing the depth dissolved oxygen decreases and goes down about zero at 200 m dept.In surface water chlorophyll-a has been detected between 0.2-6 µg/L. Effective change of chlorophyll-a depending on dept has been from surface to 50 m dept.