

## Phytoplankton of the Atlantic Ocean off Lagos

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**Abstract :** A study was carried out in the Atlantic Ocean off the Lighthouse Beach, Lagos. There were monthly and spatial variations in physical and chemical characteristics of the neritic ocean (August-December, 2014). Mean and standard deviation values for air temperature were  $27.67 \pm 2.98$  oC, water temperature ( $28.37 \pm 1.88$ ), pH ( $7.85 \pm 0.17$ ), Conductivity ( $44738.75 \pm 6262.76$   $\mu$ S/cm), Total dissolved solids ( $29236.71 \pm 4273.30$  mg/L), Salinity ( $27.11 \pm 3.91$  ‰), Alkalinity ( $126.99 \pm 42.81$  mg/L) and Chloride ( $15056.67 \pm 2165.78$  mg/L). Higher estimates were recorded in the dry than wet months for these characteristics. On the other hand, reducing values were recorded for Acidity ( $2.34 \pm 0.63$  mg/L), Total hardness ( $4711.98 \pm 691.50$  mg/L), Phosphate ( $1.1 \pm 0.78$  mg/L), Sulphate ( $2601.99 \pm 447.04$  mg/L) and Nitrate ( $0.12 \pm 0.06$  mg/L). Values for Total suspended solids and Biological oxygen demand values were low ( $< 1$ mg/L). Twenty-one species of phytoplankton were recorded. Diatoms recorded 80.92% and were the dominant group. *Hemidiscus cuneiformis*, *Coscinodiscus centralis*, *Coscinodiscus lineatus*, *Coscinodiscus radiatus* and *Oscillatoria limosa* were more frequently occurring species. *Biddulphia sinensis* and four species of *Ceratium*, were representatives of the dry season. The dry season also recorded comparatively higher individuals of phytoplankton than the wet season. *Spirogyra* sp. (green algae) appeared only in the wet season. Species abundance (N) was highest in December at Station 1 (13.15%) (dry season) and lowest in August (wet season) at Station 3 (2.96%). The physico-chemical factors and phytoplankton reflected a tropical unpolluted neritic oceanic environment.

**Keywords :** sea, physico-chemistry, micro-algae, lighthouse beach

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