A Survey on the Effect of Environmental Factors on Primary Production in Mahshahr Creeks (Northwest of the Persian Gulf)

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Abstract

In this study, spatial and temporal variability of physical and chemical factors and its effect on primary production was investigated in Mahshar, Zangi and the mouth of the Musa estuary creeks during a year from November 2013 to July 2014. Phytoplankton primary production was measured by the oxygen light and dark bottle technique, and High performance liquid chromatography (HPLC/UV-VIS) was used to detect and measure chlorophyll-a. The highest primary production (1/59 gc/m^2/day) was obtained in April in the mouth of the Musa creek and the lowest (0/02 gc/m^2/day) in October in the Zangi creek. Principal component analysis (PCA) reduced the data dimensionality from 18 environmental parameters to 4 principal components explaining about 84 % of the data variability. Comparison of primary production in three creeks in this study with other global zones showed that primary production is average.

Keywords: *Chl-a, Primary production, Mahshahr creek, Persian Gulf.*