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SEASONAL AND INTERANNUAL VARIABILITY OF REMOTELY SENSED CHLOROPHYLL-A IN ARCTIC OCEAN DURING A RECENT DECADE

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Recent time series of satellite-observed ocean colour data (Moderate Resolution Imaging Spectroradiometer; MODIS) were examined to understand the dominant temporal and spatial patterns of chlorophyll-a concentration in the Arctic Ocean. Total twelve years (2003-2014) 8-days mean level-3 data (spatially, approximate 4.5 km resolution) were used for analysis. Though this was our preliminary study for Arctic Ocean using remote sensing data, we tried to provide some fundamental informations for oceanographer and ecologist who is studying Arctic Ocean. Our major objectives were as follows: (1) utilize satellite chlorophyll data to classify biological domain over an extended Arctic region which include Bering Sea; (2) evaluate spatial patterns and seasonal-to-interannual variability of chlorophyll of the study area; and (3) identify possible mechanisms that could control the phytoplankton dynamics at each classified region. We investigated not only the intensity of seasonality of phytoplankton bloom but also peak timing of the bloom. Possible implications of these results will be discussed.