

## Relationship between Spring Bloom and Sea Ice in the Northern East Sea

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### Abstract

Sea ices at the Tatarskiy Strait in the East/Japan Sea appear from November to April. Cold and fresh water, melted from the sea ices, may contain nutrients which are indispensable to spring bloom of phytoplankton and may provide a preferable condition to the spring bloom through changes in vertical structure of water column and stratification. Relation between the spring bloom along the Primorye coast and sea ices in the Tatarskiy Strait were investigated using multi-satellite multi-sensor data: ten-year SeaWiFS chlorophyll-a concentration data and PAR data, sea surface temperatures from NOAA/AVHRR, sea ice concentration and near-surface wind speed data from DMSP/SSM/I, near-surface wind vectors from QuikSCAT, and others. We provided evidences of southwestward flowing cold water masses from sea ice and its relation of chlorophyll-a concentration. This study showed that year-to-year variations of chlorophyll-a concentration in spring were positively correlated with those of sea ice concentrations at the Tatarskiy Strait.