

**SATELLITE-DERIVED OPTICAL ABSORPTION PROPERTIES IN
THE NEW ZEALAND SECTOR OF THE SOUTHERN OCEAN
DURING AUSTRAL SUMMER OF 2014**

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ABSTRACT

The Southern Ocean contributes significantly to global primary production and satellite remote sensing provides several advantages in assessing primary production in the region. Although chlorophyll based primary production models have been routinely used in many oceanic environments, they have been found deficient in the Southern Ocean. As such alternate absorption based models have been developed with promising results to estimate primary production from remote sensing. To obtain a better understanding of the optical environment in the New Zealand sector of the Southern Ocean, optical absorption of phytoplankton and detrital plus colored dissolved organic matter or CDM were examined during the Austral summer of 2014 using the Moderate resolution Imaging Spectroradiometer (MODIS) ocean color satellite data and the quasi-analytical algorithm (QAA). The satellite study is conducted in the context of field bio-optical measurements made onboard the R/V Araon as it transected the Southern Ocean from New Zealand to Terra Nova Bay in the Ross Sea, Antarctica during the 2014 Austral summer. In this study, the mean spatial distribution of satellite derived phytoplankton and CDM absorption during the summer as well as its temporal trends will be examined in relation to various water masses along the Araon transect. This work is supported by the Korea Polar Research Institute.