PhD Topic: Assessing the impact of climate change on phytoplankton in Fram Strait: 1. particle absorption properties from continuous measurements of spectral absorption attenuation sensor meter (AC-S)

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The decline of Arctic sea ice as well as its resulting feedbacks is asserted to have great impacts on the Arctic phytoplankton, and caused large regional variations in primary production range in the Arctic Ocean and its marginal seas. Understanding and quantifying such impacts is critical to appreciate the Arctic as a system and allow diagnostic modeling of its current status and dynamics.

To assess the above impacts of reduction in sea ice and then the changes in physical properties on Arctic phytoplankton, numerical models have emerged as valuable tools. In order to assess these impacts of sea ice, phytoplankton: Analysis and parameterization. Journal of Geophysical Research: Oceans, 103(C13), 30683-30694.


In situ sensor: Absorption Attenuation Spectra Meter (AC-S)

First Results

Comparison of particle absorption at 443 nm obtained from AC-S and discrete sample measurements

Discrete sample (N=242): \(\alpha(443) = 0.0625 + 0.075\)