



Investigating the influence of Atlantic water inflow on primary production in a regional model for the Fram Strait

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A regional model for the Fram Strait with resolution 3.5 km has been set up as a coupled physical-biogeochemical model, HYCOM-NORWECOM, nested into a 15-km basin-scale model for the North Atlantic and Arctic. Both the basin scale and regional model has been compared to the same in-situ dataset covering mostly the eastern part of the Fram Strait. In the Fram Strait flow of Atlantic water on one side of the strait and Arctic water on the other side of the strait influences, temperature, salinity and nutrient availability which in turn influencing the primary production in the strait. In particular the ratio of silicate to nitrate differs across the strait and it is hypothesized that this difference causes in addition to the physical environment influences the relative abundance of diatoms and flagellates across the strait. Using the model we investigate how the inflow of Atlantic water in the model affect the ecosystem in the Fram Strait and which factors controlling the primary production and phytoplankton composition.