

Seasonality of diatom and silicoflagellate assemblages observed in settling particles of the western Arctic Ocean

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Under the changing hydrographic condition of Arctic Ocean, production, species composition and the phenology of phytoplankton and ice-algae assemblages has been influenced. In order to observe the relationship between changing environmental condition and siliceous phytoplankton (diatoms and silicoflagellates), settling particle samples obtained by bottom tethered moorings with sediment trap were studied in the southern Chukchi Borderland and the southwestern Canada Basin from October 2010 to September 2014 and from September 2015 to September 2017, respectively. Settling flux of diatom valves increased in summer and occasional events of shelf matter advection. Settling flux of ice algae was relatively abundant around late July-early August probably reflecting seasonal sea-ice retreat. However, ice algae and planktic diatoms did not increase in summer 2012 when oligotrophic sea-surface water covered around the mooring station. Settling fluxes of silicoflagellate skeleton increased in July (with high dominance of *Stephanocha speculum* commonly observed in cold waters) and November-January (with *S. medianocis* which is relatively abundant in polar ocean with sea-ice).

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