

Siliceous phytoplankton fluxes and their responses to the environmental variations in the north western North Pacific

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In order to decipher the relationships between siliceous phytoplankton floral fluxes and the environmental variations in the northwestern North Pacific, the sediment trap samples were examined. The samples were collected from December 1997 through May 2000 in the three sediment trap stations in the northwestern North Pacific. At Station 50N, which is located near center of the Western Subarctic Gyre (WSG), the flux peaks occurred in spring in each year. The sinking flora of the siliceous phytoplankton was characterized by the high dominances of the cold and oceanic water species. At Station KNOT, which is located in the southwestern edge of WSG, the temporal fluctuation trend of the silicoflagellate flux was different with diatom fluxes. The diatom fluxes showed the relatively higher period in spring. The highest diatom flux was observed in May 1999. In that sample, many *Chaetoceros* resting spores occurred. The *Chaetoceros* usually occurs in the high nutrient waters. The aluminum flux, which is applied as the indicator of the terrigenous materials, was also the highest during the sampled period. These results suggest that the highest flux in May 1999 was due to the allochthonous *Chaetoceros* resting spores, which were brought from the coastal area. Station 40N is located in the Subarctic Boundary. The diatom and silicoflagellate fluxes showed the same fluctuation trend at Station 40N. Dominant species both diatom and silicoflagellates was the warm water species in spring and summer, and the cold water species in fall and winter. This variation of the dominant species looks like the seasonal variation. However, the relative abundance variation of the silicoflagellates showed the significant correlation with the sea surface temperature anomaly.