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Time-series variation of diatom valve fluxes at Station K2 in the western Subarctic Pacific

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Abstract

Time-series variation of diatom sidocoenosis and sinking flux was studied at Station K2 (47°N, 167°E, 5,280 m in water depth) in the western Subarctic Pacific during two study periods (March 2005–June 2006, and November 2009–June 2010). During the first period, the level of diatom flux was similar to those previously observed on the pelagic side of the study area, and the dominant species was *Neodenticula seminae*, a representative pelagic diatom in the Subarctic Pacific. In the second period, the diatom flux often became much higher than that in the first period, which was due to high dominance of coastal diatoms such as *Chaetoceros* spp., *Thalassiosira nordenskiöldii*, and *Fragilariopsis* spp. Ocean color remote sensing detected a broad water area with high chlorophyll concentration along the east coast of the Kamchatka Peninsula reaching close to Station K2 in May 2009 and 2010. Accordingly, the maximum diatom flux was detected in mid-June 2009. A similar correspondence was previously observed at Station KNOT in 1999.

Key index words: diatom sidocoenosis, diatom flux, sediment trap, Station K2, Subarctic Pacific