# Ocean Color Variability of Japan JGOFS time series station KNOT and its adjacent waters, northwestern North Pacific observed by OCTS and SeaWiFS during 1996-1999

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Abstracts

The Subarctic North Pacific is well known as one of the highest biological productivity region in the world. Monitoring variability of the chlorophyll a (chl-a) distribution is very important to understand the role of biological pump in the ocean and to clarify the geochemical carbon cycles.

Our objectives of this study are, to grasp the temporal and spatial variability of chl-a distribution at the Japan JGOFS time series station KNOT (Kyo-do Northwest Pacific Ocean Time Series) (44-N, 155-E) and its adjacent waters in the Subarctic north-western North Pacific, and to understand the mechanisms of chl-a distribution during 1996 - 1999. We applied ocean color remote sensing data sets both OCTS (Ocean Color and Temperature Scanner) from Oct. 1996 to June 1997 and SeaWiFS (Sea-viewing wide Field-of-view Sensor) from Sep. 1997 to July 1999. Furthermore to analyze short-term variability, we carried out synoptic ship observations at Stn. KNOT and its adjacent waters.

Relatively low chl-a concentration (about 0.3 - 0.8mg/m3) dominated throughout the year at the Stn.KNOT, but remarkable peak was seen in bloom period (in May and October), winter (in November and December) and summer (in August 1998). In adjacent sea area, most remarkable high chl-a (more than 10mg/m3) was seen northward to Stn.KNOT along the Kuril-Islands and adjacent waters in May 1999, moreover high concentration remain over a month during the bloom season. Year-to-year variability of chl-a was seen. Chl-a (about 1.4mg/m3) at the Stn.KNOT in November 1997 was higher than that in November during 1996-1999. Chl-a around the center of Western Subarctic Gyre in October 1998 was higher than that in October 1997.