Meso-scale Chlorophyll Variations in the North Pacific Subtropical Gyre: An El Nino/La Nina Comparison

Carrie L. Leonard 1 2 3 4 5
Robert R. Biktais 1 6 7 8
S. Michael P. Seki 1 2 3
Jeffrey J. Polovina 1 2

1University of Hawaii, Department of Oceanography, 1100 Pope Rd., Honolulu, HI 96822, United States
2National Marine Fisheries Service, Southeast Fisheries Science Center, Honolulu Laboratory, 2570 Dole St., Honolulu, HI 96822, United States
3University of Hawaii, Honolulu, HI 96822, United States
4The University of Arizona, Tucson, AZ 85721, United States
5University of Hawaii, Honolulu, HI 96814, United States
6Bigelow Laboratory for Ocean Sciences, P.O. Box 1775, Phipps Highway, Boothbay Harbor, ME 04538, United States
7Gulf of Maine Research Institute, 88 Forest Avenue, Portland, ME 04101, United States
8Scripps Institution of Oceanography, University of California, La Jolla, CA 92037, United States

Springtime composite of surface chlorophyll (chl) derived from SeaWiFS imagery. The shaded region of chl (of the order of 0.2 mg/m²) north of 30°N in the eastern North Pacific Gyre. To investigate this variation, we estimated the primary production and phytoplankton standing stocks (SS) in this region. Time series of AVHRR data from 1998 to 2000 were used for the estimation of primary production and phytoplankton standing stocks. This analysis was performed for the period of March 1998 to March 2000. The results show that the primary production is highest in the central part of the eastern Pacific Ocean, with values ranging from 0.5 to 2.5 mg/m²/day. The phytoplankton standing stocks are also highest in this region, with values ranging from 0.5 to 2.0 mg/m². The distribution of primary production and phytoplankton standing stocks is not uniform, with the highest values occurring in the central part of the eastern Pacific Ocean. This indicates that the region is a hot spot for primary production and phytoplankton standing stocks, and is an important region for the productivity of the global ocean.

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Leonard J. Weliky 1 2 3 4 5 6
Frank Aiken 1 2 3 4 5
Thomas P. Gross 1 6
Jeffery T. McQuaid 1 6 7
Steven M. Zablocki 1 6 7
1Horn Point Laboratory, University of Maryland Center for Environmental Science, 3550 Horn Point Road PO Box 17 (Cambridge, MD 21613-071), United States
2National Oceanic and Atmospheric Administration, Silver Spring, MD 20910, United States
3NOAA Coral Reef Conservation Program, Silver Spring, MD 20910, United States
4National Research Council, Marine Biophysics Program, Silver Spring, MD 20910, United States
5Department of Environmental and Evolutionary Paleobiology, National Museum of Natural History, Smithsonian Institution, Washington, DC 20560, United States
6Boston University, Marine Program, Boston, MA 02215, United States
7Boston University, School of Marine Sciences, Boston, MA 02215, United States

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