Abstract View

Volume 14, Issue 7 (July 1984)

Journal of Physical Oceanography
Article: pp. 1239–1246 | Abstract | PDF (580K)

Additional Current Measurements in the Alaskan Stream near Kodiak Island

R.K. Reed and J.D. Schumacher

Pacific Marine Environmental Laboratory, National Oceanic and Atmospheric Administration, SeaUle, WA 98115

(Manuscript received December 13, 1983, in final form March 26, 1984)

DOI: 10.1175/1520-0485(1984)014<1239:ACMITA>2.0.CO;2

ABSTRACT

Long-term records from four current meters in the Alaskan Stream off Kodiak Island are presented. The net flows decreases with depth and appeared to be in approximate geostrophic equilibrium. Large fluctuations were not common, and the flow was dominated by low-frequency energy. This behavior, which is also supported by temperature and salinity data, suggests a vertically coherent flow with occasional lateral meanders.

The eddy kinetic-energy levels in this region of the Alaskan Stream were quite low, especially in comparison with those in the Kuroshio and Gulf Stream. The flux of momentum across the inshore edge of the Stream appeared to be onshore and to represent a transfer of energy fron3 the mean flow to smaller scales; an eddy viscosity of not more than 10^6 cm^2 s^{-1} was indicated. The impact on shelf waters of the small, onshore eddy heat flux is unclear.