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The Bering Slope Current System

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ABSTRACT

The Bering Slope Current flows from southeast to northwest across the Aleutian Basin of the Bering Sea, parallel to the continental slope of the eastern Bering Sea shelf. The water mass characteristics and distributions and the flow field were investigated in August 1972 during *T.G. Thompson* Cruise 071.

Water mass analysis revealed a southeast-flowing countercurrent bounded by two northwest-flowing bands. The countercurrent was clearly delineated by analyses of a temperature-minimum layer between ~ 50–300 m and a temperature-maximum layer between ~ 300–800 m. The description of the current as comprised of three bands was supported by parachute drogue measurements and geostrophic calculations along six STD sections normal to the slope.

The dynamic topographies showed an alternative description of the current as a system of eddies, and an interpretation based on incident and reflected planetary waves with a period of one year is presented. The generating mechanism may be related to the strong annual variation in Bering Sea weather.

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