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Meridional Heat Transport in the Pacific Ocean

L.D. Talley

School of Oceanography, Oregon State University, Corvallis, OR 97331

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ABSTRACT

The heat transported meridionally in the Pacific Ocean is calculated from the surface heat budgets of Clark and Weare and others; both budgets were based on Bunker's method with different radiation formulas. The meridional heat transport is also calculated from the surface heat budget of Esbensen and Kushnir, who used Budyko's method. The heat transport is southward at most latitudes if the numbers of Clark and of Weare are used. It is northward in the North Pacific and southward in the South Pacific if Eshensen and Kushnir's numbers are used. Systematic errors in both calculations appear to be so large that confident determination of even the sign of the heat transport in the North Pacific is not possible. The amount of heat transported poleward by all oceans is obtained from the Pacific Ocean calculation and transports in the Atlantic and Indian Oceans based on Bunker's surface heat fluxes.

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