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CTD surveys of a 200 by 200 km grid were made in the Coastal Transition Zone off northern California in mid-June, and at the end of July 1988. The June survey shows strong gradients in water properties on isobaric surfaces in the upper 100 m, and significant gradients as deep as 500 m, the maximum common depth. As expected from the strong current which flowed diagonally across the grid from northeast to southwest, isopycnal surfaces with sigma-t values between 25.0 and 26.0 sloped steeply upward from depths of 100 and 200 m to intersect or approach the surface. Even the deepest isopycnal surface (sigma-t = 26.8) had a depth range of more than 100 m. On all isopycnals, the temperature distribution is quite patchy, indicating structure on scales less than 20 km; nevertheless, there is significant structure on larger scales. On the deepest (26.6 and 26.8) isopycnal surfaces the highest temperatures were adjacent to the continental slope, consistent with a long-term average northward flow with a depth of 250-350 m and width of 20-30 km. On shallower isopycnals (25.2 to 26.2), warm waters occur in both the NW and SE corners of the grid, i.e. suggesting that the southwestward-flowing current is advecting cooler water from the north.

Results will also be presented for the late July survey, and both will be compared with results from the larger surveys made in May and June 1987.