Transport of Nutrients by the Jets of the Coastal Transition Zone, 1988

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The concept that energetic jets and eddies transport recently upwelled, high nutrient water offshore is investigated using results from a series of repeated CTD surveys of the Coastal
Transition Zone off Northern California. The horizontal variability in nutrients while coherent with the advective regime was not as expected. The higher nutrient regions were to the south and only partially imbedded in the strong offshore flow. An investigation of the nutrient, temperature and salinity properties shows that the jet waters had lower nutrients at a given temperature than inshore waters. The process responsible for high nutrients offshore is therefore not simple advection of coastally upwelled water by the strong jets. Several mechanisms for the relatively high nutrients found offshore are suggested.