ESTUARINE DENSITY FRONTS AND THEIR EFFECT ON OIL SLICKS

V. Klemas, D. Polis, G. Davis
College of Marine Studies
University of Delaware

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Significant Results

Estuarine fronts represent regions of extremely high gradient or discontinuity in various parameters of physical interest, the most important being the water velocity and density fields. Such fronts strongly influence pollutant dispersion, by capturing oil slicks and other pollutants concentrated in surface films and drawing them down into the water column. Aircraft and boats were combined to study the behavior of different types of fronts in Delaware Bay and their effect on pollutants in order to provide a basis for improving an oil drift and spreading model. Imagery from the LANDSAT satellites provided the most effective means of determining the location and extent of frontal systems over all portions of the tidal cycle. This information is being used to modify the oil drift and spreading model.