

Dispersion and Mixing in Estuaries and Coastal Seas

Robert J. Chant, Josh Kohut, Scott Glenn

IMCS Rutgers University

71 Dudley Road

New Brunswick, NJ 08901

ABSTRACT

Processes that drive dispersion and flushing of coastal and estuarine waters will be discussed based on a series of experiments conducted in several regional estuaries. In particular processes associated with tides, river discharge and meteorological forcings will be discussed and put into context with specific local estuarine systems. Results are based on over a decade of work in the region and include data collected for moored observations, dye experiments, shipboard observations and remotely observed surface currents and temperature. The talk will contrast how how estuarine flushing time can be fundamentally different depending of estuarine morphology, tidal forcing and river discharge. Finally, results will be put in context with efforts to make water quality predictions.

KEYWORDS

Dispersion, flushing time, tidal processes, estuarine type