Abstract View

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Low-Frequency Variations in Sea Level and Currents in South San Francisco Bay

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ABSTRACT

In order to examine physical process in the subtidal time range, sea-level and current meter data for south San Francisco Bay (South Bay) were filtered using a low-pass digital filter to remove tidal period variations. and then subjected to an empirical orthogonal function analysis. For the sea-level data, there is one dominant empirical mode that is correlated with nonlocal coastal forcing. A small amount of the variance is associated with local wind setup. For the current meter data, there are two dominant empirical modes that correlate with local wind forcing and tidal forcing over the spring-neap cycle. In general, South Bay is dominated by coastal forcing on sea level during all seasons, and dominated by wind and tidal forcing on the residual currants during the summer.