

Regional Correlation of Shoreline and Sea Level Change Rates - Previous estimates of long-term shoreline change have been developed (U.S. Army Corps Engineers (1973), Dolan et al. (1983)). These estimates are available on a state wide basis and regionally (such as the entire Atlantic coast). It would be a useful and instructive first broad-brush effort to correlate these estimates with local estimates of sea level rise over the past 50 years or so.

7.4.2 New Data

Quantification of Cross-shore Sediment Budget Components - Referring to Eq. 7.17, the focus of this research element would be to quantify the three terms on the right hand side. The complete methodology has not been developed as yet, but would probably consist of long-term observations of offshore stakes to determine total vertical change, studies of biogenetic production and attrition and deposition rate by suspended sediment traps. It would be useful to conduct this element in conjunction with the experimental element of "Evidence from the Continental Shelf" to be described below.

Shoreline Monument System - The state of Florida maintains a monumented baseline around 1,030 km of sandy shoreline. Since the early to mid 1970's, comprehensive surveys have been conducted on approximately a decadal basis and post-storm studies carried out when appropriate. This type of system provides the only basis for obtaining quality information of shoreline change. It would be very worthwhile, in anticipation of the rising concern over shoreline response to sea level rise, to encourage other states to install, monitor and maintain a monumented system similar to that of Florida.

Evidence from the Continental Shelf - The seafloor of the continental shelf contains information relating to past shoreline response to sea level rise and potential future response. Specifically, Swift (1975) has shown that along much of the Mid-Atlantic Region, there is a "lagoonal carpet" of muds that could not contribute significantly to the sediment budget of the active shoreface. Additionally, the shape of the offshore profiles, along with the availability of sand-sized material contains information (although as yet not completely understood) whether the offshore profile will serve as a source or sink of sand.

In addition to the above, it would be worthwhile to conduct measurements of long-term sediment movement on the continental shelf. These measurements