

the model sediment scaled to the prototype is from three to ten times larger than the field sediment. Dean (1983) recommended that the scaling be conducted in accordance with the following parameter which incorporates both sediment and wave characteristics.

$$g \frac{H_b}{w^2} \quad (23)$$

where H_b is the breaking wave height and w is the fall velocity of the sediment. Without presenting the details, Figure 31 demonstrates that the use of the parameter gH_b/w^2 allows unification of the laboratory and field results.

The principles of beach nourishment were reviewed by Dean (1983). Included were the effects of sediment size on total volumes required and computational procedures to determine reduction in sand volumes required through application of a "perched beach" concept, see Figure 32. Also described were the merits of stabilization of beach nourishment projects by structures.

Dean and Maurmeyer (1983) presented models for long-term response to sea level rise. Models were presented in graphical form for a natural beach profile and a beach profile limited by a seawall. Figures 33 and 34 present the results for natural and seawalled beaches, respectively. It is seen from Figure 33 that, for a fixed breaking wave height, the berm recession for the natural beach increases with increasing storm tide. However, for the seawalled case, with increasing storm tide and fixed wave height, the deepening at the base of the seawall increases, reaching maximum, then with further increases in storm tide, decreases. The interpretation is that initially an increase in storm tide requires substantial erosion to meet the demand of maintaining the offshore profile the same relative to the fixed water level. However, increasing storm tides will cause the horizontal extent of the region requiring deposition to decrease to zero, thereby resulting in zero scour. At the limit, where no wave breaking occurs, (all the wave energy is reflected), this approximate method predicts that no erosion would occur. Of course, this result is not completely realistic. A model for barrier island response was presented which