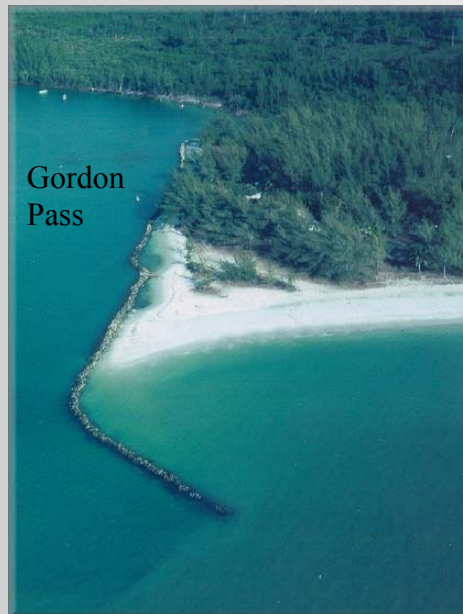
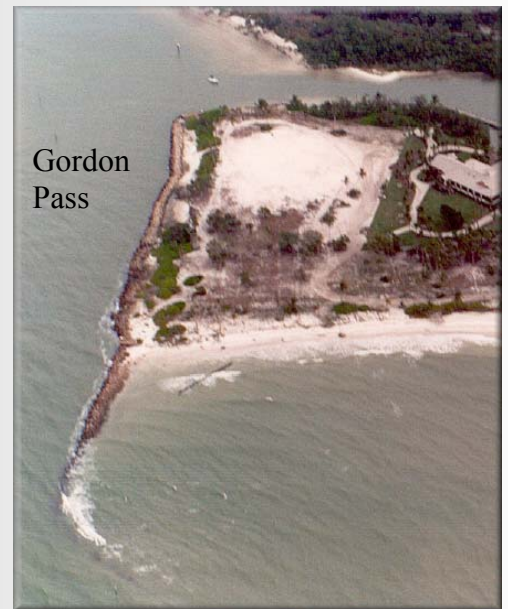


**COASTAL STRUCTURES MAINTENANCE AND RESTORATION**

The Keewaydin Island jetty, located on the south side of Gordon Pass in Naples Florida, was constructed over 40 years ago to stabilize the beach area south of the pass and to reduce sand losses to the adjacent inlet. Over the years, the jetty condition has deteriorated and contributed to the chronic beach erosion at the north part of the island. Humiston & Moore Engineers provided the technical design and was selected by the city of Naples to provide construction observation of the jetty restoration. The project includes jetty tightening to reduce the permeability of the jetty and thus reduce the northward sand losses into the inlet. The project also included restoration of the seaward segment of the jetty to provide

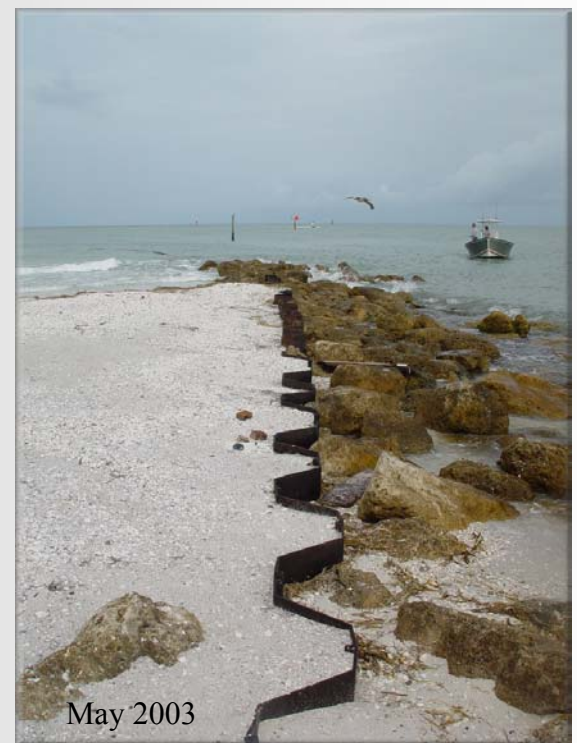


**SOUTH JETTY CONDITION IN 1981**

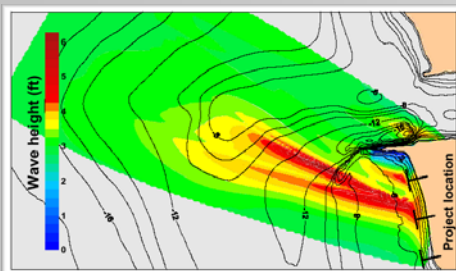


**SOUTH JETTY CONDITION IN 2000**

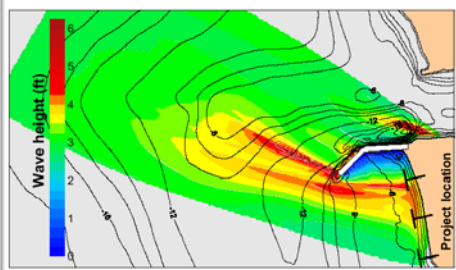
sheltering of the immediate downdrift beach from northwest waves. The project includes the following elements: (1) install steel sheet piling along the southern side of the existing jetty, (2) add additional foundation materials consisting of bedding stone and geo-textile composites, (3) place additional core and armor stone consisting of individual units weighing between approximately 1 and 4 tons each as necessary to achieve design elevations. The sheet piling and core stone were completed in 2002. The armor stone will be placed in June 2003 to complete the project.



**PROJECT UNDER-CONSTRUCTION  
JETTY TIGHTENING USING STEEL SHEETPILES**



**(Existing condition)**



**(Jetty tightening condition)**

**KEY PROJECT ELEMENTS**

- Inlet Impact Analysis
- Wave Modeling
- Jetty Design
- Sediment Budget Analysis
- Inlet Management
- Local & State Funding Coordination
- Construction Observation
- Bid Documents & Specifications

**DESIGN WAVE  
MODELING & ANALYSIS**