

The Mini-Ranger which is used for horizontal positioning consists of a 'master' unit mounted on the boat and a 'slave' unit located on the shore reference point from which the profile is being measured. Upon command from the master unit (at one second intervals), the slave unit responds and the delay between command and receipt of response is interpreted as distance. Since only one transponder is utilized, thus providing distance from the reference point, the alignment along the profile is provided by positioning two large orange-color target boards on the beach. They are separated by some distance and aligned with the profile azimuth by using a transit. The boat then moves in a course adjusted visually on line with the two target boards. Two survey runs are usually carried out for each profile line. An extra run may be added to profile surveys if any irregularities of the survey system are encountered during the profiling processes. For the post-nourishment survey conducted in January, 1989, the profile surveys were extended gulfward to a water depth of 18 feet.

Difficulties Encountered in the Surveys

No difficulties were experienced during the January, 1989 survey.

ANALYSIS AND PRESENTATION OF DATA

The offshore profile data obtained in the field are analyzed in the Coastal Laboratory of the Department of Coastal and Oceanographic Engineering at the University of Florida. After the data are retrieved from the field, they are transferred from the PDP-11 Micro-computer to a standard VAX-750 computer for later analysis. The first step in the analysis of surveyed profile data is to eliminate any erratic points in the depth measurements with frequencies smaller than 0.1 Hz by utilizing a nine-point rectangular filter. The second step is to adjust the water depth data, based upon the measurements of daily tides from a tide gage, to N.G.V.D datum. The third step is to reformat the data based on a linear interpolation to generate profile data points at spacings of 10 feet in horizontal distance from the baseline. The fourth step is to blend the two or three runs of a profile into one single profile. The reduced data indicate the final form for the surveyed profiles and are available in 5.25" floppy diskettes at the Department of Coastal and Oceanographic Engineering, University of Florida.

Appendix I presents plots combining the offshore profiles and beach profiles, surveyed by the Department of Geology, University of South Florida, for the post-nourishment survey. Appendix II presents the offshore and beach profiles for both the first (July 88) and third (Jan 89) post-nourishment surveys. Some of the composite profiles are seen to have a segment which is dashed in the nearshore