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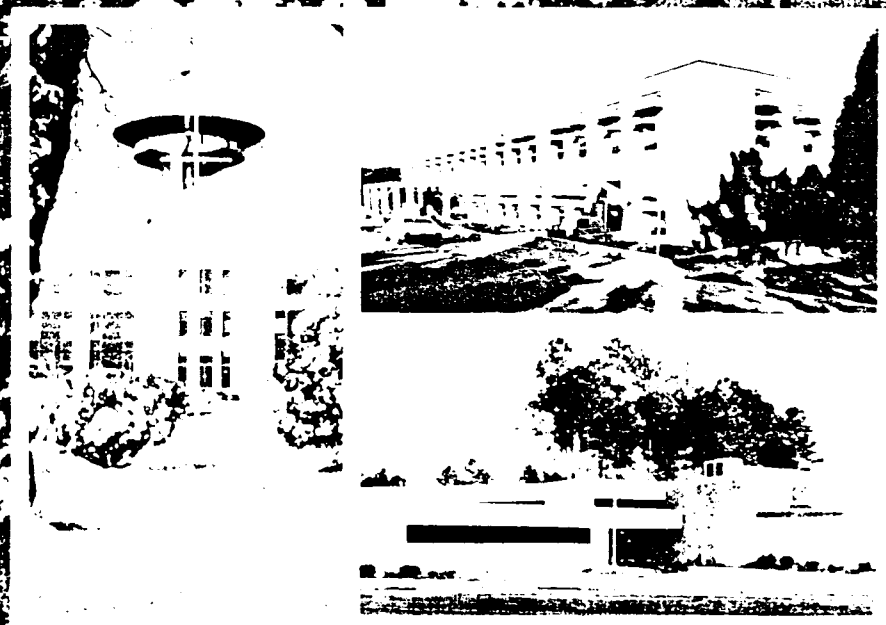
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13. Abstract (Maximum 200 words). The importance of maintaining accurate information on water depths and sediment distributions in coastal regions is becoming increasingly important as large groups of the global population concentration in these areas. Both commercial and defense segments of society require accurate and timely bathymetry in this dynamic environment. The traditional measurement techniques that have been used to monitor the evolution of these rapidly changing coastal zones are slow and expensive. As a result, charts of many parts of the world are grossly outdated. To lessen this problem, airborne lidar mapping systems have been developed and are currently being used. However, the performance of these systems is degraded by the numerous existent environmental conditions such as water clarity, water surface roughness, and bottom vegetation. To circumvent these problems, airborne electromagnetic (AEM) methods have been developed for measuring water depths and sediment conductivity from helicopter platforms. The first generation of digitally controlled AEM systems have been evaluated and found to provide accurate water depths and water conductivities from the shore to depths in excess of 20 m.					
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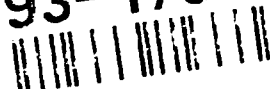


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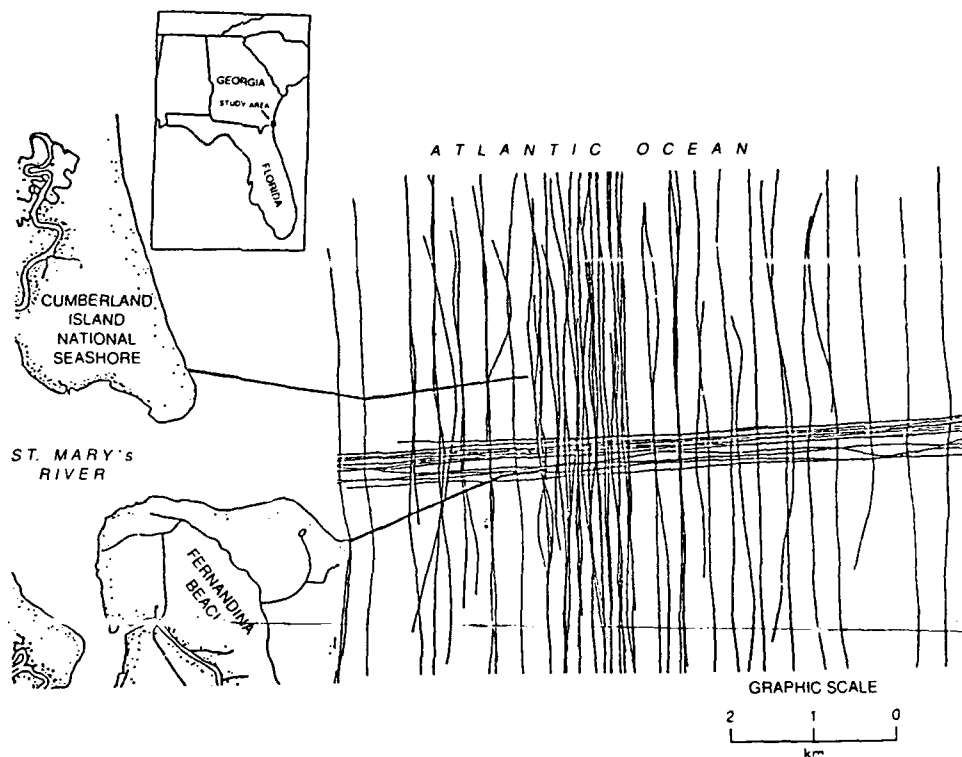


Fig. 7 — Map of the location where AEM flight lines were distributed and data were collected at a rate of 30 samples per second

BATHYMETRY

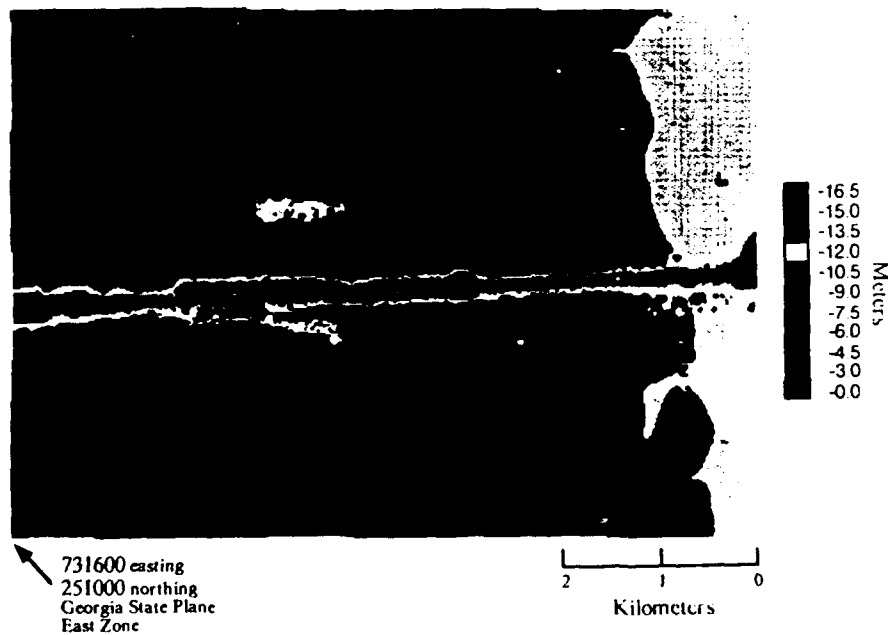


Fig. 8 — The distribution of water depths in the survey area are shown as color coded regions that are defined on the right side of the figure. The heavy black lines on the left side of the map represent the stone jetties that protect the river entrance.

SEDIMENT

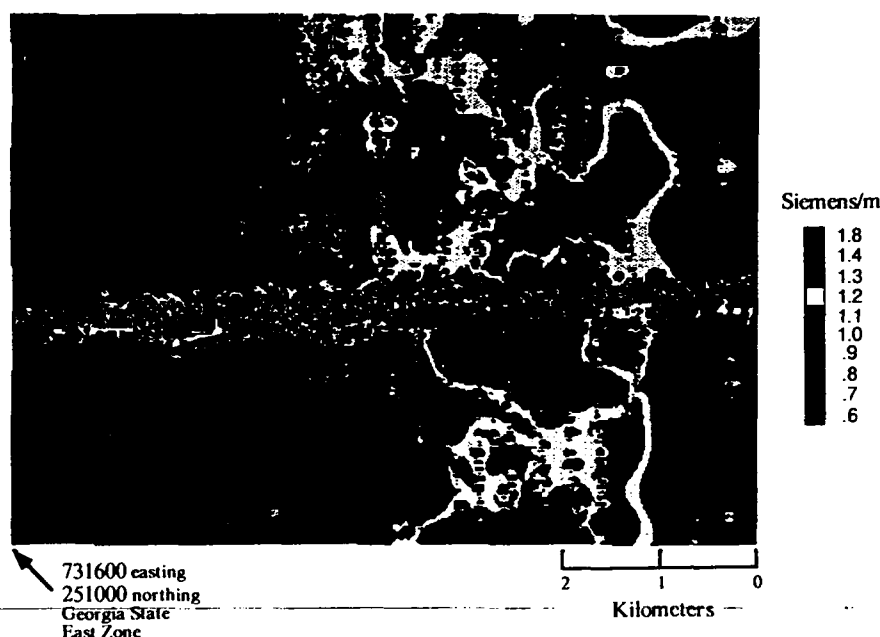


Fig. 9 — The sediment conductivity variations are displayed according to the color coded map. The values vary over 300% moving from the beach on the left side of the map to the seaward side.

proved to be an important tool to remotely measure multiple oceanographic and geotechnical parameters.

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[Sponsored by CNO]

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The High Temperature Superconductivity Space Experiment (HTSSE)

A.R. Peltzer, C.L. Lichtenberg,
and G.E. Price

Space Systems Development Department

The High Temperature Superconductivity Space Experiment (HTSSE) program was initiated by NRL in 1988. The HTSSE program is being developed and managed by NRL. The overall goal is to demonstrate the potential advantages of high-temperature superconductor (HTS) electronic components subsystems in space. The first phase of the program is HTSSE-I, which will prove that passive HTS microwave devices have the ability to survive