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Analysis of Usefulness of ERTS-1 MSS Data
in Detecting and Measuring Coastal Marshes

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The Coastal/Estuarine Analysis Team has analyzed the usefulness of ERTS-1 data in detecting and measuring coastal marshes. The data chosen for study was taken over the Houston Area Test Site (HATS) on August 29, 1972. A study site was selected which contained marshes of varying size. Using a computerized clustering algorithm which groups areas of spectral homogeneity, it was possible to distinguish twenty-five classes or features. To determine the total acreage of the marshes, the "pure" picture elements were counted. Using a technique developed by the team, the boundary picture elements were also counted. Ground truth was provided from rectified, enlarged, and scaled high altitude aircraft photography acquired during the same time frame. Comparison of the ground truth coverage depicted by the aircraft photography to the clustering acreage displayed from the ERTS-1 data showed a percentage of accuracy ranging from 89% to 99% for determining areal extent of coastal marshes.

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