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 homo-
geneity, 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 pic-
ture 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.