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ABSTRACT

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Classification: Landsat Type I Report

Authors: A. L. Higer and L. J. Swayze ent

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Geological Survey, Miami, Fla.

Descriptors: Landsat-1, SKYLAB (S-192), Imagery, Green Swamp

Identifiers: Vegetative categories, water volume maps, processing of imagery.

Abstract: Using Landsat-1 and SKYLAB (S-192) data the Green Swamp area of Central Florida was categorized into vegetative classes. These data were compared with a detailed vegetative map compiled from low altitude photography. Agreement of Landsat and Skylab categorized data with the vegetation map were 87 percent and 83 percent respectively.

Landsat I and Landsat-2 data were processed to produce water volume maps of the Everglades. A difference in the number of picture elements (24) per line between Landsat-1 and Landsat-2 images presented a software problem in the processing of the data. These problems were resolved by the Aero Space Division of Bendix Corporation.

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LANDSAT TYPE I PROGRESS REPORT

By

A. L. Higer and I. J. Swayze

a. TITLE: AN ANALYSIS AND COMPARISON OF LANDSAT-1, SKYLAB (S-192) AND

AIRCRAFT DATA FOR DELINEATION OF LAND-WATER COVER.

b. GSFC ID of P. I. ~~I 414~~

c. As of January 1976 all digital processing of Landsat imagery to

complete the goals of the water management project in Florida have

been completed. We are now proceeding to write the analysis of

these data for the NASA final report.

d. During the last reporting period seventeen data collection platforms

were in operation in the Everglades.

e. Landsat-1 and SKYLAB (S-192) data for the Green Swamp area of

Central Florida were categorized into five classes: water, cypress,

other wetlands, pine and pasture. These categories were compared

with similar categories on a detailed vegetative map made using low

altitude photography. Agreement of Landsat and SKYLAB categorized

data with the vegetation map were 87 percent and 83 percent

respectively. The Green Swamp vegetative categories may be wide-

spread but often consist of numerous small isolated areas, because

Landsat has a greater resolution then SKYLAB it is more favorable for

mapping the small vegetative categories. However with the additional

1.

spectral resolution available in the S-192 data it is possible to categorize complex areas, such as the Green Swamp, provided the investigation has adequate ground truth to establish the subcategories and to merge them into logical composites.

Landsat-1 and Landsat-2 data were processed to produce water volume maps of the Everglades. The Landsat-2 imagery had 24 picture elements more per image line than did the Landsat-1 imagery. These additional picture elements created a software problem for geographically locating the data collection platforms within the Landsat-2 scene. The aero space Division of Bendix Corporation was able to rewrite the computer program to resolve this problem.