



CORVALLIS, OREGON 97331

OREGON STATE UNIVERSITY

RANGELAND RESOURCES PROGRAM

E72-10176

20 October 1972

CR-128413

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ERTS Technical Officer  
Code 430, GSFC  
Greenbelt, Maryland 20771

Dear Sir:

This abstract is being submitted in compliance with Article II, Item 2; Article VIII, B; and Article IX of Contract NAS5-21831. These articles cover "deliverable documentation," "shipment," and "data use and release restrictions" pertaining to our NASA supported study of ERTS-1 data.

Sincerely,

Barry Schrupf  
(UN 618)

BJS:sch

Enclosure

(E72-10176) LANDFORM VEGETATION  
RELATIONSHIPS IN SOUTHERN ARIZONA B.J.  
Schrupf, et al (Oregon State Univ.)  
20 Oct. 1972 3 p

CSCL 08F

G3/13

N73-10355

Unclas  
00176

LANDFORM-VEGETATION RELATIONSHIPS IN SOUTHERN ARIZONA

a paper to be presented Nov. 9, 1972 at the

International Conference on Remote Sensing  
In Arid Lands

University of Arizona  
Tucson

by

David A. Mouat

Rangeland Resources Program  
Oregon State University  
Corvallis

ABSTRACT

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This paper presents one phase of an ERTS-1 investigation. That research effort is designed to accomplish incorporation of ERTS-1 data in vegetation inventory procedures.

One of the chief goals of our project has been, and continues to be, the classification, analysis, and monitoring of environmental resource data. We have tended to concentrate our research on vegetation. Toward that end, we have employed high altitude (approximately 1:120,000) and space (approximately 1:700,000) photographic imagery. While some vegetation units can be interpreted at those scales, associated environmental variables including landforms may be employed to facilitate, reinforce, and refine that task.

Several landform variables have been chosen for the study. Some are interpretable at both scales of imagery; some have been found to have

significant correlations with vegetation and plant species distributions. Variables included are elevation, aspect, slope angle (these latter two can be considered together as a measure of solar irradiation), parent materials, relief, drainage density, and landform type.

Successful vegetation interpretation at the scales obtained from high altitude and space, then, largely depends upon the degree of vegetation-landform variable correlation and, especially, the skill and facility which photo interpreters exhibit in the identification of those variables.