APPLIED REMOTE SENSING PROGRAM (ARSP)

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Second Quarter Report of LANDSAT Investigation #23610

Quarterly Progress Report to

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

For the Period
14 May 1975 to 13 August 1975

In cooperation with local, regional, state, and federal agencies within the State of Arizona

23610

PROGRESS REPORT

14 May - 13 August 1975

Objectives:

The objective of LANDSAT investigation #23610 is to establish through joint projects, centers of remote sensing competence and awareness in local and state agencies. To accomplish this objective, various applied remote sensing projects have been initiated with state agencies and/or rural county governments and their progress will be reported in this and following quarterly reports. Activities this past quarter centered around finishing field work and final interpretation work on a number of projects.

Following is a summary of the status of on-going projects for the second quarter of the project year:

Arizona Water Commission Project Phase one of the project being done for the Arizona Water Commission, Arizona's state water planning agency, U.S. Soil Conservation Service, and other state and federal users (see first quarter report) has been completed, and an oral report made to the cooperating agencies. It was determined in phase one that there was a considerable difference in quantity, composition, and vigor from the upstream to the downstream side of some structures, while other structures exhibited almost no noticeable effects on surrounding vegetation. This project was done using natural color and color infrared high altitude photography at 4X enlargement, which provided a mapping scale of 1:30,000. Interpretation was done visually, using a Bausch & Lomb Zoom Transfer Scope; acreage figures were obtained by measurement of vegetation delineations with a polar planimeter.

Phase two of the Water Commission project will attempt to determine significant variables in affects upon vegetation of selected structure. Among parameters included in phase two will be soils, slope, and a search of historical aerial photographic data to determine pre-structure vegetation conditions. Results of this project will find direct application in design of impoundment and diversion structures which will be part of the Central Arizona Project (CAP), and in surface drainage facility design conducted by all cooperating user agencies in arid and semi-arid areas.

Land Use and Flood Hazard Projects The four-county (Apache, Graham, Yavapai, and Yuma) land use and flood hazard delineation project is essentially completed, with only final cartographic and report preparation work remaining to be done. Upon completion of the final comprehensive report, presentation of the data will be made to the Planning Commissioners and Broad of Supervisors in each of the cooperating counties. Each of the county planning directors now has in his possession a set of pre-publication maps which will be used in the land use management operations of the county governments until presentation of the final maps. An assessment of uses of project data is now being made, and evaluations of effectiveness of implementation of remote-sensing-derived information into the land use decision process will be reported in the third quarter report.

Arizona Oil and Gas Conservation Commission Project OALS Bulletin 9 entitled "Tectonic Analysis of Folds in the Colorado Plateau of Arizona" have been completed. This study and developed maps was designed to provide incentives for oil and gas exploration in Arizona.

Arizona's energy future is going to be a major topic in the upcoming state legislature. Actions that we see coming out of the legislature include: 1) greater state efforts to promote Arizona as a potential energy producer; 2) additional state funding to the Oil & Gas Conservation Commission for an integrated state program

in fossil fuel exploration; 3) tax-break incentives to oil companies drilling on state trust land; 4) new impetus on uranium exploration in Arizona. The Governor has stated that the Commission must become the lead agency in Arizona's attempt to become more energy sufficient in fossil fuels.