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TYPE I PROGRESS REPORT

March 1 - April 30, 1974

- a. Land Use Management in Minnesota, #283.
- b. Joseph E. Sizer (ST-360)
- c. The rate of receipt of standing orders and retrospective requests is unchanged.
- d. The demonstration project for monitoring the extent of seasonal cultivation for wildlife habitat studies is nearing completion. Minnesota Department of Natural Resources game biologists have outlined test areas for demonstration of reliability and for testing the problem of operator variance with minimally trained interpreters. The mapping of these areas by a test group is nearly complete and the results will be analyzed by the next reporting time.

The procedures for manipulation of ERTS data are directed towards simple, low cost equipment procedures that will enable wide spread use of these materials in regional and field offices and reduce budgetary considerations to a minimum. This is being accomplished by copying the mapping areas of a township size from back lighted 9 1/2" ERTS color composite images with a standard single lens reflex camera fitted with extension tubes. Overlap of about 50 percent on all margins is maintained to minimize lens distortion from either the camera or the 2"x2" slide projector. This procedure enables the use of short projection distances for 1:62,500 mapping and minimizes the image-map registration time. Remote focus, zoom lens projectors are employed to simplify the registration problem and images are projected directly on base maps which are affixed to either a bulletin board or a chalk board.

Preliminary evaluation suggests that training for this type of interpretation is simplified by using small area color slides rather than employing single band 7 black and white transparencies.

The last demonstration project to be initiated under this contract was begun during this reporting period. The project was selected by the Department of Natural Resources and involves the initiation of a complete inventory of Minnesota surface water resources. ERTS-1 imagery was selected as an information base to verify water on standard U.S.G.S. 1:24,000 quadrangles and to map change in water areas.

The reasons for using ERTS-1 imagery are based on demonstrated ability to detect water features of at least 10 acres in areal extent, to provide timely information on seasonal variation and to complete the job in a relatively short time, thus complying with a legislative directive to complete the water inventory and identify waters of the state by January 1, 1975. Both budgetary and time constraints effectively eliminate considerations of special mission aircraft photography for this purpose. The existing lake inventory of DNR is not capable of supplying the information because of the scale of the maps included in the report and because it is an inventory of basins capable of holding water. The amount of water, if any, is not known. When available, the data are several decades old.

N74-27768

Unclas

CSCI 08B G3/13 00547

(E74-10547) LAND USE MANAGEMENT IN MINNESOTA Progress Report, 1 Mar. - 30 Apr. 1974 (Minnesota State Planning Agency, St. Paul.) 3 p HC \$4.00

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Verification of extent and location of surface waters will be accomplished by projection of 35mm copies of segments of ERTS-1 color products onto 1:24,000 U.S.G.S. topographic quadrangles.

Test examples of two quadrangles were presented to the DNR commissioner's staff meeting on 22 April 1974 and this process of water inventory was approved. DNR has appointed a staff member to work with the project and to develop priorities for mapping. In addition, watershed boundaries and topographic base maps are being provided by DNR. Water data will be produced in a way that and at a scale that facilitates its use by field personnel and its entry into a state wide water information system.

- f. No technical reports or papers have been completed in this reporting time interval.
- h. No changes have been made in the standing order form.
- i. ERTS image descriptor form is attached.
- j. Ten data requests were filed on March 8, 9, 10, 11, 13 and April 8, 9, 10, 24, and 25, 1974.
- k. No budgetary changes are foreseen at this time.
- l. No personnel changes have occurred.

ERTS IMAGE DESCRIPTOR FORM
(See Instructions on Back)

DATE May 9, 1974

PRINCIPAL INVESTIGATOR Sizer, Minn. - S.P.A.

GSFC _____

ORGANIZATION _____

NDPF USE ONLY
D _____
N _____
ID _____

PRODUCT ID (INCLUDE BAND AND PROJECT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	water	agriclt.		
1345-16322-7-B	x			Twin Cities
1309-16325-7-B	x			Twin Cities
1075-16321-7-B	x			Twin Cities
1453-16302-7	x			Twin Cities
1346-16381-7-B	x			S. W. Minnesota
1020-16252-7	x			N. E. Minnesota
1022-16375-7		x		S. Central Minnesota
1237-16333-7-B		x		S. Central Minnesota

*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

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