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Thirteen Category Recognition  
Map of Yellowstone National  
Park Produced from ERTS-1  
MSS Data

(E74-10373) THIRTEEN CATEGORY RECOGNITION  
MAP OF YELLOWSTONE NATIONAL PARK PRODUCED  
FROM ERTS-1 MSS DATA (Environmental  
Research Inst. of Michigan) 4 p HC  
\$4.00

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Report 193300-43-L

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In cooperation with: Dr. Harry Smedes  
U. S. Geological Survey

Original photography may be purchased from  
EROS Data Center  
10th and Dakota Avenue  
Sioux Falls, SD 57198

Dr. Ralph Root  
Dr. Don DeSpain  
National Park Service

Thirteen Category Recognition  
Map of Yellowstone National  
Park Produced from ERTS-1  
MSS Data

As part of a cooperative program between the U. S. Geological Survey and National Park Service of the U. S. Department of Interior, Colorado State University, and ERIM, scientists are exploring the utility of multi-spectral scanner data collected by ERTS-1 and pattern recognition processing techniques in mapping the natural resources of Yellowstone National Park. The cooperating investigators are Dr. Harry Smedes of U.S.G.S., Don DeSpain of NPS, Ralph Root of CSU, and Fred Thomson and Norm Roller of ERIM. Dr. Smedes and Don DeSpain are helping to define classes of interest to natural resource managers, Ralph Root is helping ERIM perform multispectral pattern recognition processing and checking result accuracy, and ERIM personnel are implementing pattern recognition techniques on ERTS-MSS data.

Recently, we completed thirteen category recognition maps of Yellowstone National Park from data collected on 6 August 1972 (Frame 1015-17404). The results of pattern recognition were displayed by printing on a special "ink squirting" display of Mead Corporation. The map is presented here as Figure 1. The legend and color code appear as Table 1.

The map slightly distorts the true appearance of the park, because the ERTS resolution elements of 57 x 80 meters are presented as squares. The original map was approximately 40 x 60 inches in size.

Accuracy checks of this product are currently being completed by Ralph Root, Dr. Smedes and Mr. DeSpain. Results will be reported at the Ninth Remote Sensing Symposium in Ann Arbor.

TABLE 1

COLOR CODE FOR 12 CATEGORY  
YELLOWSTONE MAP

<u>Color Number</u>	<u>Approximate Color</u>	<u>Class</u>
1	Violet	Shadowed Rock
2	Blue	Water
3	Cyan	Forest
4	Green	Grass 3
5	Yellow-Green	Grass 2
6	Yellow	Grassland
7	Yellow-Orange	Grass/Brush
8	Orange	Light Rock 3
9	Orange-Red	Light Rock 2
10	Magenta	Light Rock
11	White	Thermal Deposits
	Black	Not Classified

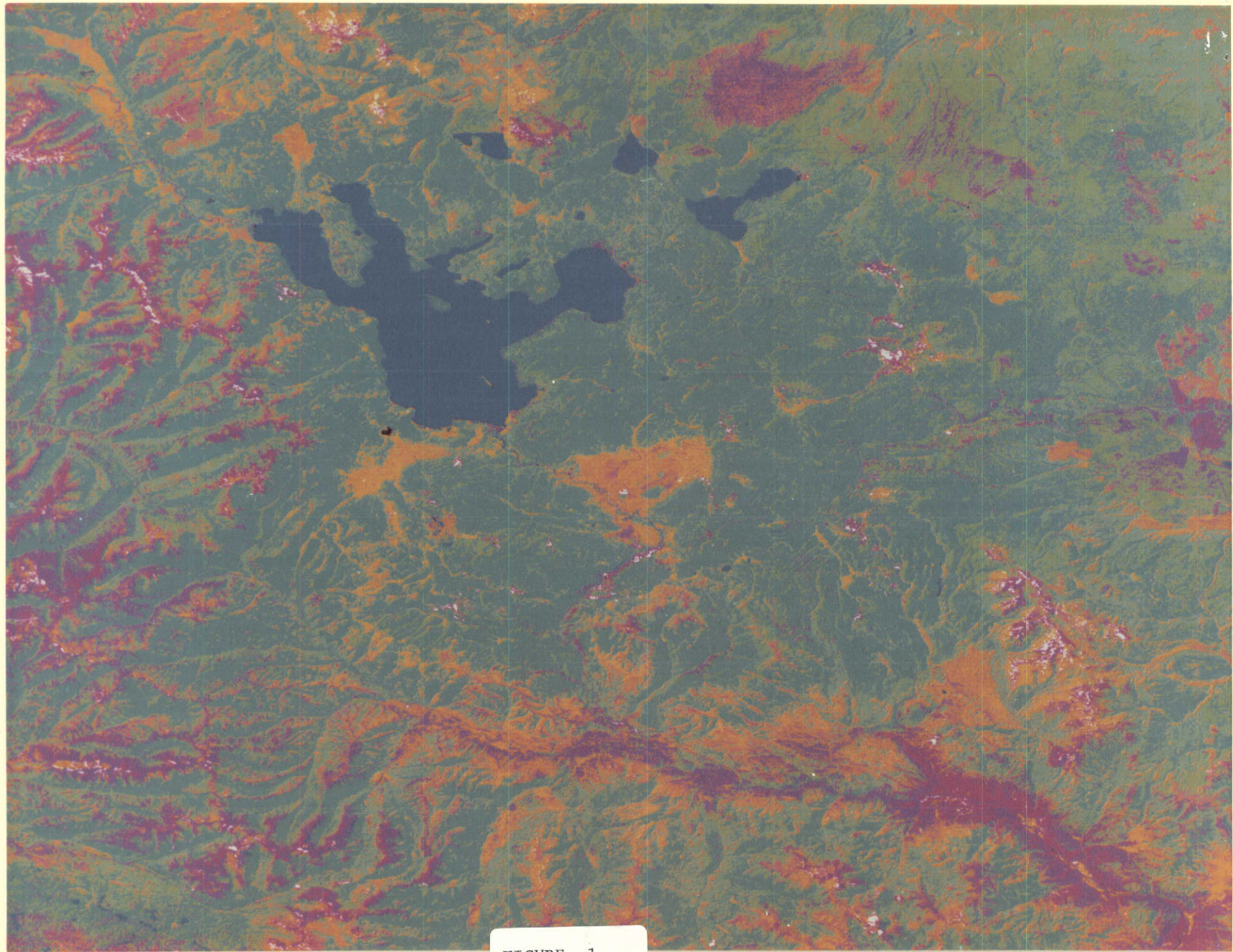


FIGURE 1