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INVESTIGATION OF ERTS-A IMAGES FOR APPLICATION TO THEMATIC MAPPING

Dean T. Edson
U.S. Geological Survey
Washington, D.C. 20242

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16. Abstracts Photomechanical, electronic analog (video), and digital image processing hardware has been acquired and integrated into an operational research thematic isolation/extraction system. Software required for the digital subsystem which supports the photomechanical image processing has been debugged and tested. Experimental processing of selected ERTS-1 MSS scenes indicates that the themes of open water, infrared-reflective vegetation, ice-snow cover, and mass-works-of-man can be isolated in the MSS images in a reasonably systematic manner.					
17. Key Words and Document Analysis. 17a. Descriptors Thematic Mapping Open Water Infrared-Reflective Vegetation Ice-Snow Cover Mass Works of Man					
17b. Identifiers/Open-Ended Terms					
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TYPE II PROGRESS REPORT

ERTS-A

- a. Title: Investigation of ERTS-A Images for Application to Thematic Mapping
- ERTS-A Proposal No. SR 116
- b. GSFC ID No. of P.I.: IN 385
- c. Statement and explanation of any problems impeding progress of the investigation:
1. Geometric analyses required to assess cartographic value of images have been severely limited by the serious shortage of available RBV scenes.
 2. Radiometric analyses of images have been delayed by lack of sufficient RBV scenes, and by inability to obtain systematically consistent high quality MSS transparencies for research work.
 3. Thematic isolation technique development has been delayed by administrative procurement problems associated with acquisition of special photographic films and chemicals, some of foreign manufacture.
- d. Discussion of accomplishments during the reporting period, and of those planned for the next reporting period.

During the reporting period, the Autographic Theme Extraction System (ATES) hardware was acquired and integrated into an operational research unit. Software, written for the digital image processing subsystem of the ATES, was written, debugged, and tested. Two scientific technicians were instructed in the photolab quality control and special photomechanical image processing techniques required to support ATES operations. Two high-altitude aircraft and three ERTS-1 MSS image scenes were processed for the four project themes in order to experimentally assess system capability and also identify potential radiometric problems associated with the theme isolation processes.

The next reporting period will be spent developing and modifying minor system support hardware, perfecting systematic instrumental radiometric calibrations, establishing optimum theme isolation procedures and parameters, and gaining practical experience through additional MSS image processing.

- e. Discussion of significant scientific results, and their relationship to practical applications or operational problems, including estimates of the cost benefits of any significant results.

N/A

- f. A listing of published articles and/or papers, preprints, in-house reports, or abstracts of talks released during the reporting period:

1. Briefing - Federal Mapping Task Force, OMB, Reston, Va.
2. Briefing - EROS Data Center, Sioux Falls, S.D.

- g. Recommendations concerning practical changes in operations, additional investigative effort, correlation of effort and/or results as related to a maximum utilization of the ERTS system:

None

- h. Changes in standing order forms:

N/A

- i. ERTS Image descriptive forms:

N/A

- j. Changes in Data Request forms:

N/A

- k. DCP status:

N/A