

EROS Program Office project research: FY 78

A. In-house projects

- o Landsat image maps of Cape Cod (with National Park Service)
- o Land systems mapping from Landsat (applicable to BLM)
- o Desertification indicators from Landsat (with U.S. Forest Service)
- o Remote sensing of dynamic geological phenomena and geologic hazards (with Iceland National Energy Authority and Geologic Division)
- o Mapping of shallow ocean bottom features from Landsat images of the Pallau Islands, western Pacific (Trust Territories)
- o Satellite image atlas of glaciers (with WRD, NOAA/NESS, and international groups)
- o Surface expression of deep-seated geologic structure in Alaska (Landsat)
- o Integration of Landsat and geophysical data (with New Mexico Geological Survey)
- o Lineament studies of the conterminous U.S. and North America with Landsat.
- o Use of Landsat for spectral discrimination of evaporite deposits.
- o International Geological Correlation Program (IGCP) Project 143, International Union of Geological Sciences.
- o Optical processing and enhancement of surface water and snow area change using Landsat (BPA and BuRec).
- o Landsat applications in karst areas of Turkey (UN sponsored).
- o Oil slick detection and monitoring.
- o Luminescence studies (with Oil and Gas Branch, Geologic Division; EPA, Dept. of Ag. Research Service, BLM, and BuRec).

B. EROS sponsored projects in other bureaus of the Department and divisions of the Survey

|   | <u>EROS</u> | <u>Bureau/Division</u>  |
|---|-------------|-------------------------|
| o BLM: Wildland vegetation inventory  | \$38.5K     | \$450K                  |
| o OSM/BuMines: Use of digital Landsat data for coal surface mine monitoring   | 50K         | 50K OSM<br>150K BuMines |
| o BuMines: Use of Landsat for kaolin, phosphate, coal and uranium surface mine monitoring in South Carolina, Georgia, Florida, and New Mexico | 42K         | 30K                     |
| o BuRec: Land resource analysis using airborne multispectral scanners   | 25K         | 26K                     |
| o BurRec: SMS 2 monitoring of cloud top temperatures over the Sierra Nevada   | 15K         | 18K                     |
| o BuRec: GOES Hydrometeorological Data Relay from the Sierra Nevada   | 15K         | 16K                     |
| o BuRec: Use of Landsat digital analysis for reclamation land use inventory of the Colorado River System                                      | 15K         | 15K                     |
| o Fish and Wildlife: Investigation of Seasat radar for Arctic fowl management   | 21K         | 8K                      |
| o Mining Enforcement and Safety Administration (MESA): Landsat and aircraft imagery for mine ground stability evaluation.                     | 34K         | 34K                     |
| o Geologic Division: Optimum spectral bands for geologic investigation.   | 40K         | 100K                    |
| o Geologic Division: Remote sensing (Landsat digital analysis) of porphyry copper alteration zones.   | 15K         | 15K                     |
| o Geologic Division: Microwave studies  | 15K         | 11K                     |

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|---|---|-----|-----|
| o | Topo Division: Interpretation of Landsat image maps including the mapping of temporal phenomena and thematic portrayal on line maps | 10K | 10K |
| o | Topo Division: Geometric analysis of Landsat images and image maps.   | 5K  | 5K  |
| o | Topo Division: Investigations of Image processing for optimum utility and analysis of informational content                         | 5K  | 5K  |
| o | Topo Division: Investigation of projections for space sensors   | 10K | 10K |
| o | Topo Division: Cartographic investigation of space sensors and systems including stereo Landsat                                     | 9K  | 3K  |
| o | Topo Division: Requirements and parameters for an operational Landsat   | 3K  | 3K  |
| o | WRD: Satellite image atlas of glaciers  | 15K | 15K |
| o | WRD: Estuarine simulation using Landsat digital data.   | 12K | 12K |