

UNITED STATES GOVERNMENT

Memorandum

TO : Distribution

DATE: January 3, 1979

FROM : Chief, EROS Data Center

Re: OC 1-2

SUBJECT: Monthly Activity Report

Attached is the EROS Data Center monthly Activity Report for December, 1978.



Allen H. Watkins

Attachment

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EROS Data Center
Activity Report for
December 1978

ADVANCED GEOLOGIC REMOTE SENSING TECHNIQUES COURSE: An advanced course in geologic remote sensing techniques was given at EDC to 26 participants from BLM during the week of November 27th. The course was the second in a series of courses directed toward the remote sensing requirements of BLM geologists. Principal topics covered included contrast enhancement techniques, spatial filtering and edge enhancement techniques, MSS band ratios, principal components analysis, simulated natural color generation, and classification procedures. All lectures and exercises stressed both data processing mechanics and utility of output products in terms of geologic analyses and interpretations. A similar course will be given during the third week in October 1979 which will be open to all Federal and State agencies interested in advanced geologic remote sensing techniques.

INSTRUCTIONAL ASSISTANCE GIVEN AT GEORGE WASHINGTON UNIVERSITY REMOTE SENSING COURSE: EDC personnel gave the first two days of instruction for the George Washington University course in Remote Sensing and Digital Information Extraction. Approximately 15 persons from industry and government agencies attended the five-day course.

WORKSHOP ON INTEGRATION OF GEOPHYSICAL DATA WITH LANDSAT DATA: A workshop on integration of geophysical data with Landsat data for geological analysis was conducted at EDC by the Phoenix Corporation, McLean, Virginia. The two-and-one-half-day course was attended by 25 persons from the EROS Data Center and other government agencies. The course covered principles of magnetic and gravity surveys, reduction of aircraft and spacecraft potential field data, and development of geophysical/geological models in the analysis of geophysical data. An interactive analysis program was implemented on the IDIMS computer for two dimensional analysis and display of magnetic and gravity data.

PECORA V PLANNING SESSIONS: EDC participated in a Pecora V Technical Program committee planning session held during the American Water Resources Association's annual meeting in Orlando, Florida, December 7, 1978. During this planning session, many topics were discussed including the announcement for the call for papers, advertisement of the symposium, identification of session chairman, poster session requirements, and details of a field trip.

EROS DIGITAL IMAGE PROCESSING SYSTEM (EDIPS): The EDIPS system has been completely checked out in preparation for scheduling simulation activity in early January 1979. Paperwork for the procurement of two high density tape recorders for the Domsat link are in the Denver Branch of Contracts Office. Contract award is expected mid-January with delivery August 1979. Domsat antenna and electronics are scheduled for system checkout in January.

NSTL ACTIVITY: (1) Work was conducted over a 3-day period in the Santee-Cooper River Basin area in connection with the Corps of Engineers diversion project. Aircraft and ground reconnaissances were made and discussions regarding the establishment of an interagency environmental monitoring system were held. A meeting involving 11 different agencies is scheduled for mid-January in South Carolina to further develop this concept. (2) The U.S. Navy invited a member of the staff to participate in a demonstration of a bottom mapping sonar system. Both bottom profiling and side-looking sonar systems were demonstrated over a point 50 miles off shore in the Gulf of Mexico. The platform was the USNS Kane. (3) The Mississippi State University Graduate Course in Remote Sensing Applications was completed this month. (4) Six professors from the University of Florida at Gainesville toured the AAF in conjunction with an ERL Regional Training Program.

ALASKA ACTIVITY: Participated in field work and mapping for the Water Resources Level B study of Southcentral Alaska. Their portion of the study has now been completed and the finished maps and descriptions have been given to the Water Resources Council. The primary goal of the Southcentral Alaska Water Resources Level B Study is to formulate long-range regional plans for the years 1985, 2000 and 2025 and alternatives based on water and related land resources in the southcentral region of Alaska. The detail of classifications and of map scales (1:63,360 and 1:25,000) prepared for this study provides a data base which did not exist prior to June 1978. Approximately 10 million acres were mapped in six months using Landsat MSS data, aerial photography and field work. The reconnaissance level maps include land cover, landforms and surficial deposits, and geologic hazards. The remote-sensing data sources were analyzed by computer-aided analysis and/or manual interpretation techniques. Tabular data of acreage estimates of land cover were generated on a quadrangle by quadrangle basis for those areas completed by computer-aided analysis techniques. A user's guide to the reconnaissance maps of natural resources of Southcentral Alaska contains the essential information for meaningful interpretation of map content for planning purposes. This includes complete descriptions of the categories used in the classifications. A cooperative agreement between the Geophysical Institute and the Alaska Department of Natural Resources has been made under which we will serve as the State of Alaska repository for high altitude aerial photography. This photography is being acquired under a joint federal and state agency agreement to obtain high altitude aerial photography of the whole state during a three-year period, 1978 through 1980. Documentation of the film has been almost completed by BLM and will be in our files shortly. A vegetative-index map of a portion of the Fairbanks North Star Borough was prepared from Landsat data by means of ratioing bands 5 and 7. The goal is to delineate hardwood forests from softwood, brush and wetland categories to support land selection decisions by the Borough. Tentative maps in line-printer format are being evaluated by the Planning and Zoning Department to decide whether to extend this rather inexpensive technique to cover a major part of the Borough's lands.