

United States Department of the Interior



GEOLOGICAL SURVEY
EROS Data Center
Sioux Falls, South Dakota 57198

IN REPLY REFER TO:

OC 6-5

June 27, 1983

(addressed to 110 individuals)

Dear RIPS User:

The purpose of this letter is to inform you of plans for the transition of the EROS Remote Information Processing System (RIPS) from a prototype to an operational system. A brief history of RIPS, the reasons for the recent upgrade, and the ways it will affect you are described below.

In 1980, the EROS Data Center (EDC) initiated development of a Remote Image Processing Station (RIPS) in order to generate a low cost continuous tone color display. The station was connected to a host minicomputer through a standard phone line and was configured so that image processing software could be developed for stand-alone operation. Experimental software was written to demonstrate the system's unique capabilities.

The success of the prototype was matched by its visibility in the user community. To date, over 100 organizations have inquired about the system, and over 50 have requested software. A conference was held in October 1981, in order to demonstrate the concept to potential users and system vendors. This resulted in a functional specification for a Department of Interior cooperative procurement, and in October 1982, a contract was awarded to Spectral Data Corp. for 18 systems. These systems are now being tested at EDC and delivered to user sites. As experience was gained in pilot projects and demonstrations, the software was broadened from image processing capabilities to include development of spatial analysis techniques and display of other sources of geographic data.

The system was recently renamed the Remote Information Processing System (RIPS) to reflect its ability to process not only images but other types of spatially encoded information.

Several user systems have been acquired by various agencies using EDC's original prototype parts list, and 18 Spectral Data systems will soon be in the field from the cooperative procurement. It is likely that several more systems will also be acquired from Spectral Data's newly approved GSA schedule. With the establishment of this new user community, it was determined that RIPS should be supported in an operational status.

This added emphasis will affect RIPS users immediately, in the near-term (9 months), and in long-term support.

Immediate Benefits

- 1) The EROS Data Center currently offers flexible disc products containing Landsat subscenes registered to UTM grid coordinates.
- 2) In May 1983, the prototype software and Spectral Data system hardware was released for user installation and testing.
- 3) Beginning June 1983, a prototype host capability will allow online access to EROS for the purpose of:
 - o requesting a geographic search of EDC data base for Landsat and image products
 - o requesting EROS image products to be ordered and sent by mail
 - o requesting digital processing of Landsat MSS, RBV, and TM data as well as Digital Elevation Model (DEM) data. Results will be mailed and/or stored online for subsequent processing
 - o online access to file transfer software for two-way transmission of RIPS digital products between EROS host computer and RIPS.

Near-term Benefits

- 1) Over the next nine months, EDC will implement a baseline operational software system with improved maintenance characteristics, better operational throughput, and several new capabilities. For example:
 - o an Exchange Memory Area (EMMA) will be used for passing image parameters from program to program, eliminating repetitive user prompts

- o remote diagnostics will be used to check out hardware and software problems
 - o a disc file I/O system will be implemented which is optimally designed for raster images and vector graphics data.
- 2) Within the next 12 months, an enhanced set of RIPS host capabilities will be available which will include:
- o Landsat classification and enhancement techniques, driven by statistics and parameters determined on RIPS, and then transmitted to the host for processing of large data sets
 - o calculation of topographic derivative products including slope, aspect, shaded relief, and perspective views generation from DEM data.
- 3) An improved RIPS Teleconferencing System (RTS) will be available for RIPS user discussions and software exchange.

Long-term Benefits

Research and Development will continue, in concert with operational improvements. Projects under development include:

- o MC6800 processor upgrade
- o Winchester (hard) disc options
- o printers, plotters, color hard-copy output devices
- o tape cartridge media for data storage
- o higher resolution displays.

This phased implementation plan was developed to ensure a logical transition from R&D prototype software environment to operational software. During the transition period, existing prototype software will be used with minimal modifications required to conform to the Spectral Data RIPS. The baseline operational software system will be written for the Spectral Data system, and after its release, EROS will no longer provide operational support for the prototype software configuration.

For user technical problems during the transition, you should contact:

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FTS 784-7114 Commercial (605)594-6114

The RIPS concept has exciting potential both for users and for the USGS, and we look forward to actively supporting users with products, services, and analysis systems.

Sincerely,

Original Signed By:
ALLEN H. WATKINS

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Chief, EROS Data Center

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