

Remote sensing

By Maurice Nyquist, Chief

Since the gift of a modest minicomputer system by NASA/ERL a year ago, the program has been deeply involved with construction of digital data bases for several parks and regions. At three areas (Big Bend, Great Smokies, and Yosemite NPs) high resolution aircraft multispectral scanner (MSS) data are being used in conjunction with digital topographic data. These data bases will be used for park specific natural science, resources management, and fire fuels modeling applications, and in the case of Yosemite, methodology development of Resource-at-Risk determinations for FIREPRO. Other ongoing projects for North Cascades and the National Capital Region are using various combinations of digital topographic.

Landsat MSS, Landsat Thematic Mapper (TM) or high resolution aircraft MSS.

An ambitious program has evolved whereby this office will be developing a digital data base for all Alaska parks with preliminary emphasis on vegetation and fire fuel classifications. Funds have been obligated through a cooperative agreement between NOAA, EROS Data Center, NASA, and this office to acquire TM data (30m or 1/4-acre pixels) for ± 26 scenes from Landsat D* launched in February 1984. Therefore, TM data for the program will start to become available during the summer of 1984. Digital terrain data for 121 1° X 1° scenes covering the parks have been acquired and processing steps are proceeding.

To carry out the aforementioned projects new modules or other modifications have been made to ELAS (Earth Resources Laboratory Applications Software), the software package we use for multispectral classification and geographic information system (GIS) analyses, enabling us to derive elevation, slope, aspect, and average slope length classes; making much easier the lumping of multispectral classes into desired thematic (e.g. vegetation/landcover) classes because the color methodology used retains color meaning and contextual information; and taking the vector data files of SAGIS (the software package used at DSC) to build "line-type" data bases and convert them to ELAS (Earth Resources Lab Applications Software) format.

We look forward to sharing the results of these and other pending developments following testing and actual park applications.