Microcomputer digitizing system for dual use in applications of remote sensing and microscopic image analysis

Creator/Author McHone, J.G.
Publication Date 1988 Aug 01
Resource Relation AAPG Bull. ; Vol/Issue: 72:8; AAPG Eastern section meeting; 13-15 Sep 1988; Charleston, WV, USA

Research Org Univ. of Kentucky, Lexington (USA)

Abstract
A new image-analysis laboratory is being developed with equipment that has dual use for the interpretation and classification of satellite and air-photo images, and also for classification and automated measurement of minerals and textures in thin sections of rocks. Digitizing techniques for all the applications utilize input from a nine-track tape drive or from monochromatic television cameras on a microscope and a camera stand. The microcomputer contains a TV frame grabber and a graphics board that develops 512 by 512 by 32 bit images on a high-resolution color monitor. Output devices include the tape and disk drives, a color ink-jet printer, and a photographic film copier. A large digitizing board, a large-screen monitor, and a plotter are attached for computer-aided drafting. Several software packages are being integrated and modified for the analysis work. The software routines for image enhancement, annotation, measurement of areas, and classification by pixel characteristics are common to both remote sensing and microscopic analysis. The system is a cost-effective way to combine studies of tectonic patterns, structural surface features, and rock and vegetation types using remote images, with grain size, shape, identification, and porosity measurements of the rocks themselves.