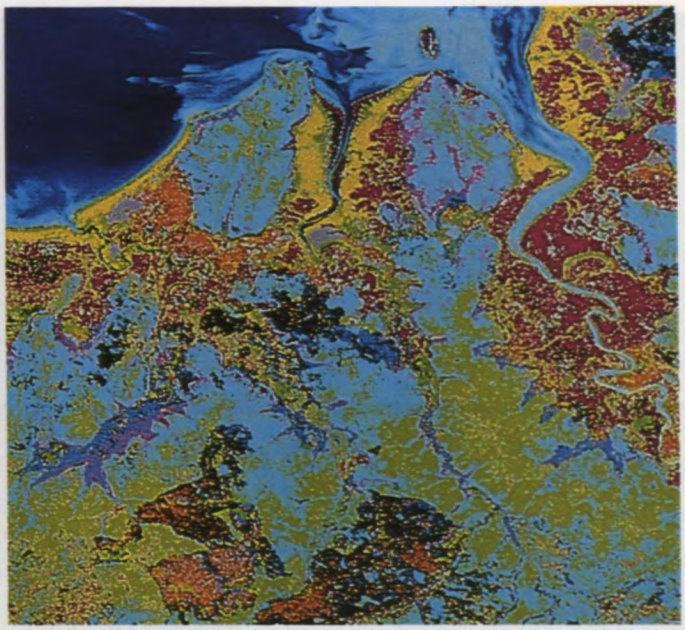

The northern coastal plain east of Darwin, Australia. The left image has been computer-enhanced so that vegetation appears as bright red and grasslands, recently charred by fire, as black. On the right, each form of land cover has been assigned a colour. Red and dark blue are mangroves; tidal flats are light blue; forest is green; grasslands are pink; freshwater swamps, light blue; and open woodlands, black.

The heart of any image analysis system is the display subsystem. Dipix systems utilize a bulk image memory, raster mapped display allowing users to view rectangular images of arbitrary size and variable display depth or spectral resolution. Dipix displays avoid the graphic display bit plane architecture that places dimensional restrictions on a user's configuration of the X-Y-Z dimensions of a displayed image. Instead, control is placed in the hands of the user to configure images independent of dimension, to display multiple images, to segment a display screen into independent display regions, to roam throughout large images, to zoom freely to a region of interest, and remain confident that the image analysis system is prepared for the high-volume, high-resolution images of the near future.

Processing speed is essential for an image analysis system to be functional and cost-effective. Dipix has designed processing hardware and software that will cater to the interactive speeds demanded by users. Image warping, convolution filtering, and arithmetic operations, to name a few, are all catered for by high-speed processing. In conjunction, configurable software packages contain a host of applications tasks imbedded with hundreds of software functions. All software tasks are easy to understand, well documented, have paths for both novice and expert users, and have a common prompting structure between tasks.

Services. Dipix offers consulting services in remote sensing including evaluation and monitoring of remote sensing programs and technology transfer/enhancement. Image interpretation and mapping services are available in the fields of agriculture, environmental analysis, exploration geology, forestry, ice, land use, map making, route selection, terrain analysis, water quality, energy and the oceans.

Applications. Dipix products and services have applications in many fields:

- agriculture — acreage estimates, yield predictions, soil utilization, crop optimization, drought, wetlands classification;
- forestry — type mapping, health monitoring, disease inventory, wood species mapping, fire hazard monitoring, timber volume estimates, clearance monitoring and forest fire mapping;
- hydrology — snow mass/runoff monitoring, runoff forecasting and flood monitoring;
- mapping and cartography — land-use changes and environmental monitoring and forecasting;
- 3-D seismic interactive interpretation;
- geological and lithological mapping;
- direct identification of exposed surfaces;
- mineral and hydrocarbon exploration;
- ice monitoring and modelling;
- oceans — oil spills and coastal zones.