# JPEG2000: Lossy or Lossless?

JP2 compression is based on wavelet technology and gives very high compression ratios while maintaining a high degree of image fidelity. Use JP2's lossless compression for those project materials that must strictly retain exact cell values for image processing and analysis. But for all activities that do not require precise cell values for analytical processing, you can greatly reduce file sizes by selecting some level of JP2's lossy compression.

Lossy JPEG2000

JP2 lossy compression conserves storage and memory when you use images for visualization, map and poster layout, online atlases, and other display and geopublishing activities.
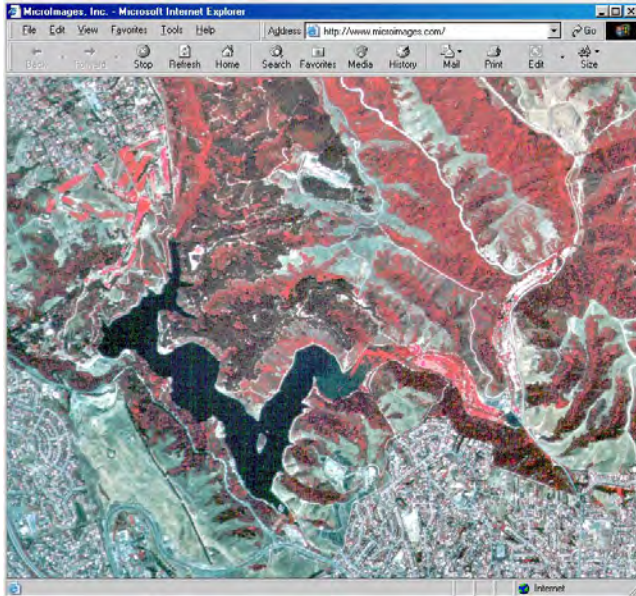
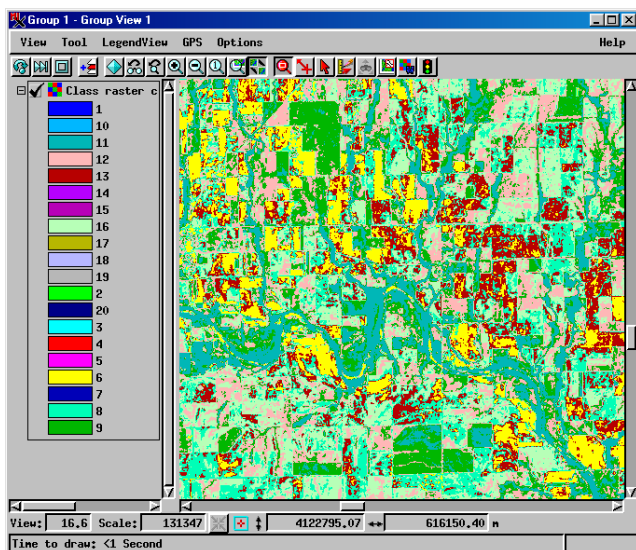### Lossy JPEG2000 is well-suited for:

- display and visualization
- map layouts
- project and report illustrations
- posters
- printed maps and images
- 3D simulation (TNTsim3D surfaces and textures)
- Web delivery
- TNTatlas on CD's
- low-quality source data (such as video capture)

An image presented on the Web, especially one that is not presented zoomed in closer than 1X, will be much smaller in JP2 and therefore be transferred more quickly over the net. A free browser plugin that enables JP2 viewing is available at:

http://194.231.34.35/products/download/index_e.html

Lossless JPEG2000

Use JP2's lossless compression, or other lossless formats (such as the raster objects in a MicroImages Project File), for all project materials that must strictly retain exact cell values for image processing and analysis.

Lossy JPEG2000 is NOT well-suited for most forms of computer-based image processing such as:

- surface analysis (contouring)
- elevation analysis
  (watershed, flow path, critical points...)
- image processing
- multispectral image classification
- hyperspectral analysis
- multi-linear regression, principal components,
  progressive transformation
- harmonic series

This classification raster was created from 5 bands of satellite imagery. Neither this result nor the source image bands should be subjected to any level of lossy compression.