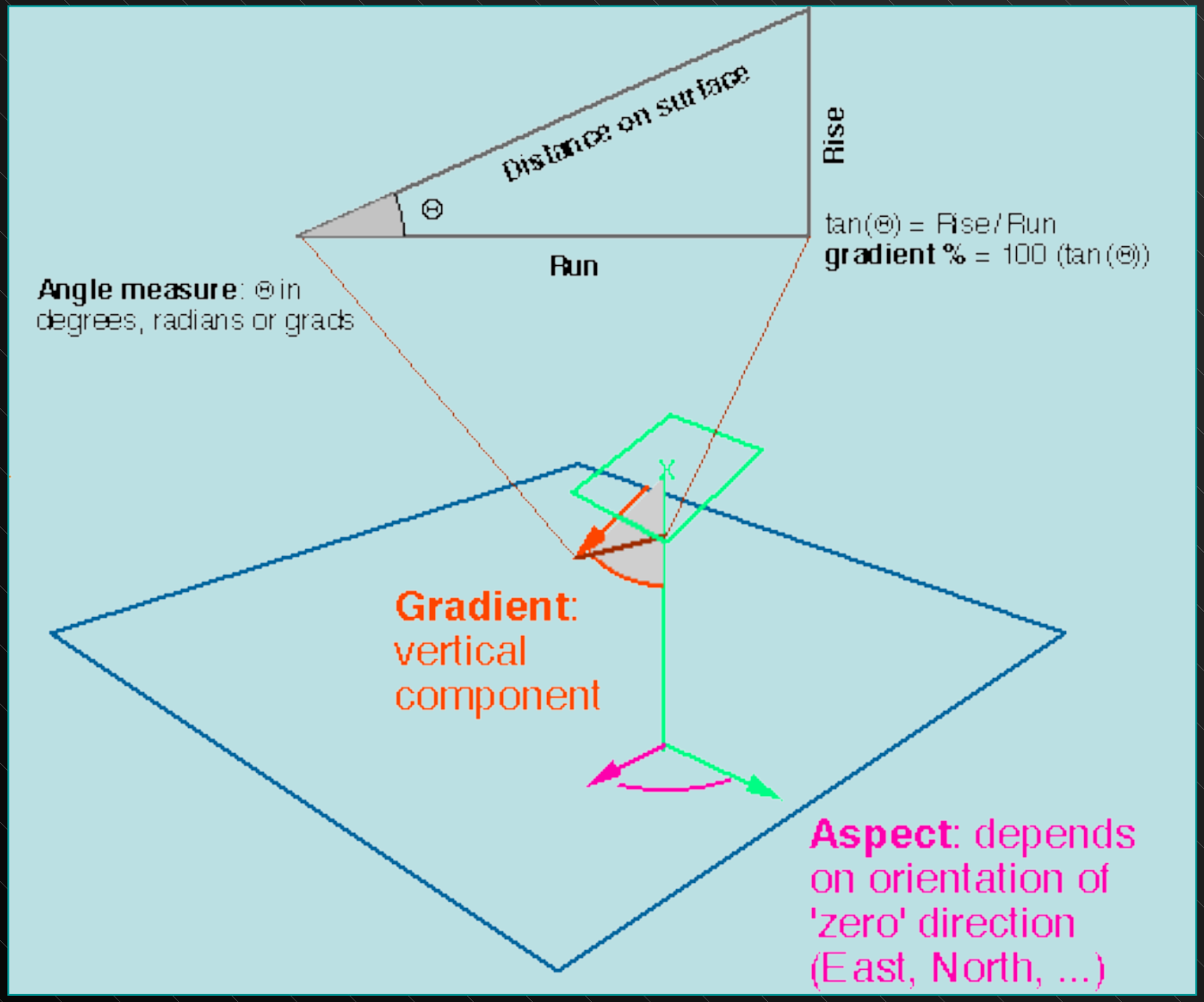
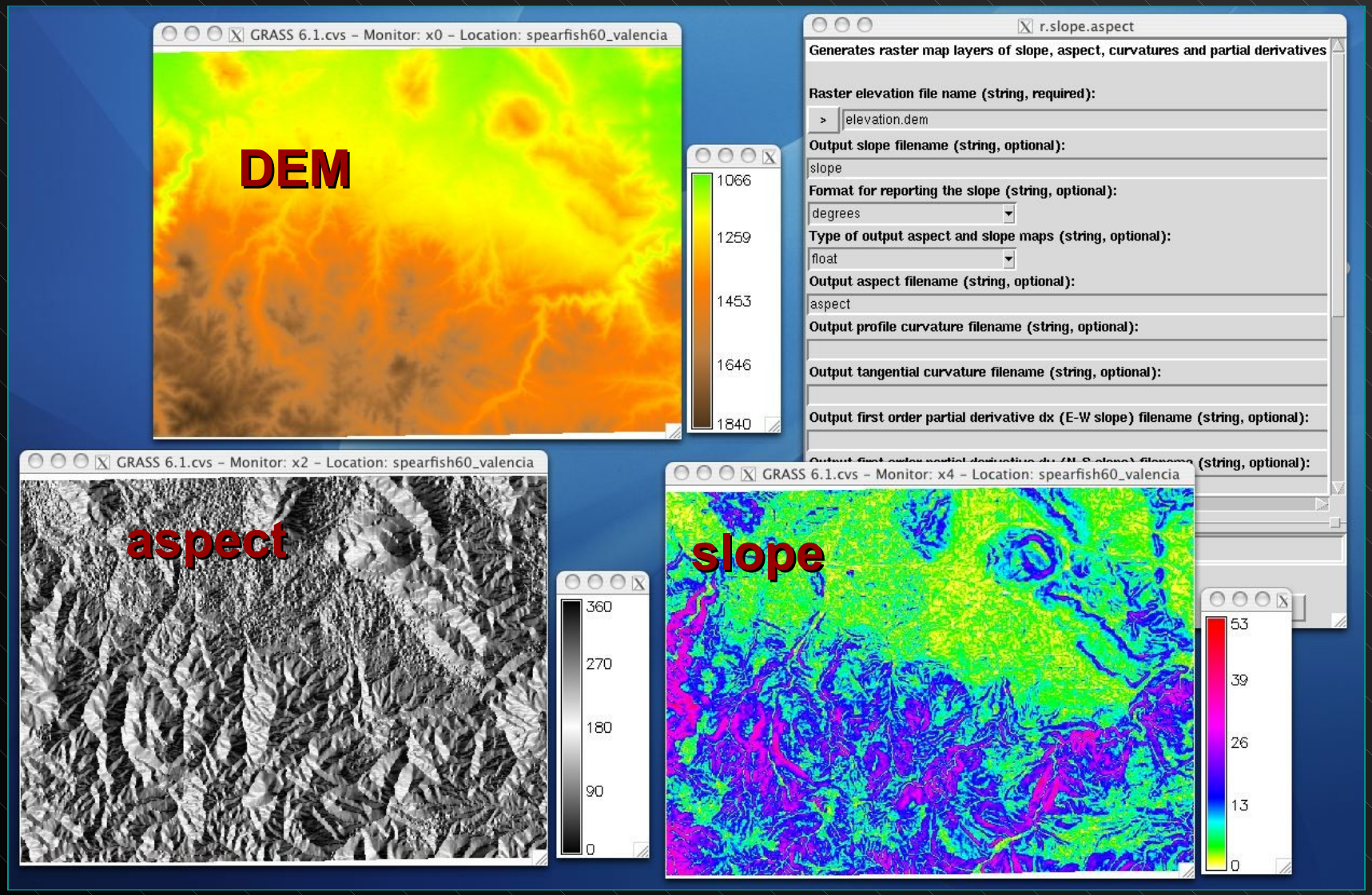
DEM/DTM

- Simple concept
- Not the way we normally conceive of the world spatially (remember world view)
- World as a surface
- Make possible a very diverse and powerful array of analytical methods for surfaces of all kinds
- Originally developed for landscape topography, but have subsequently been used for many other surfaces

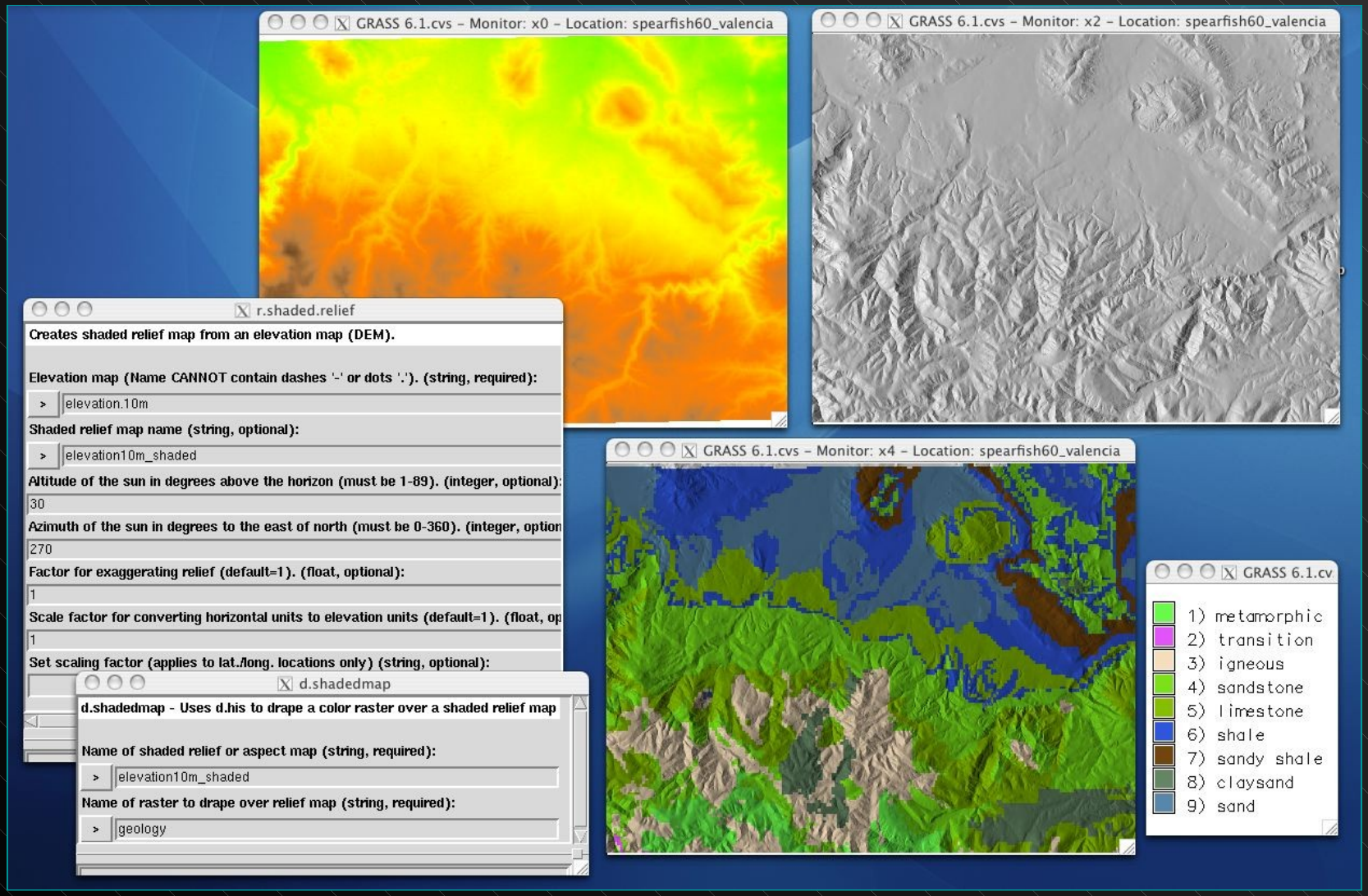
DEM: Terrain Analysis



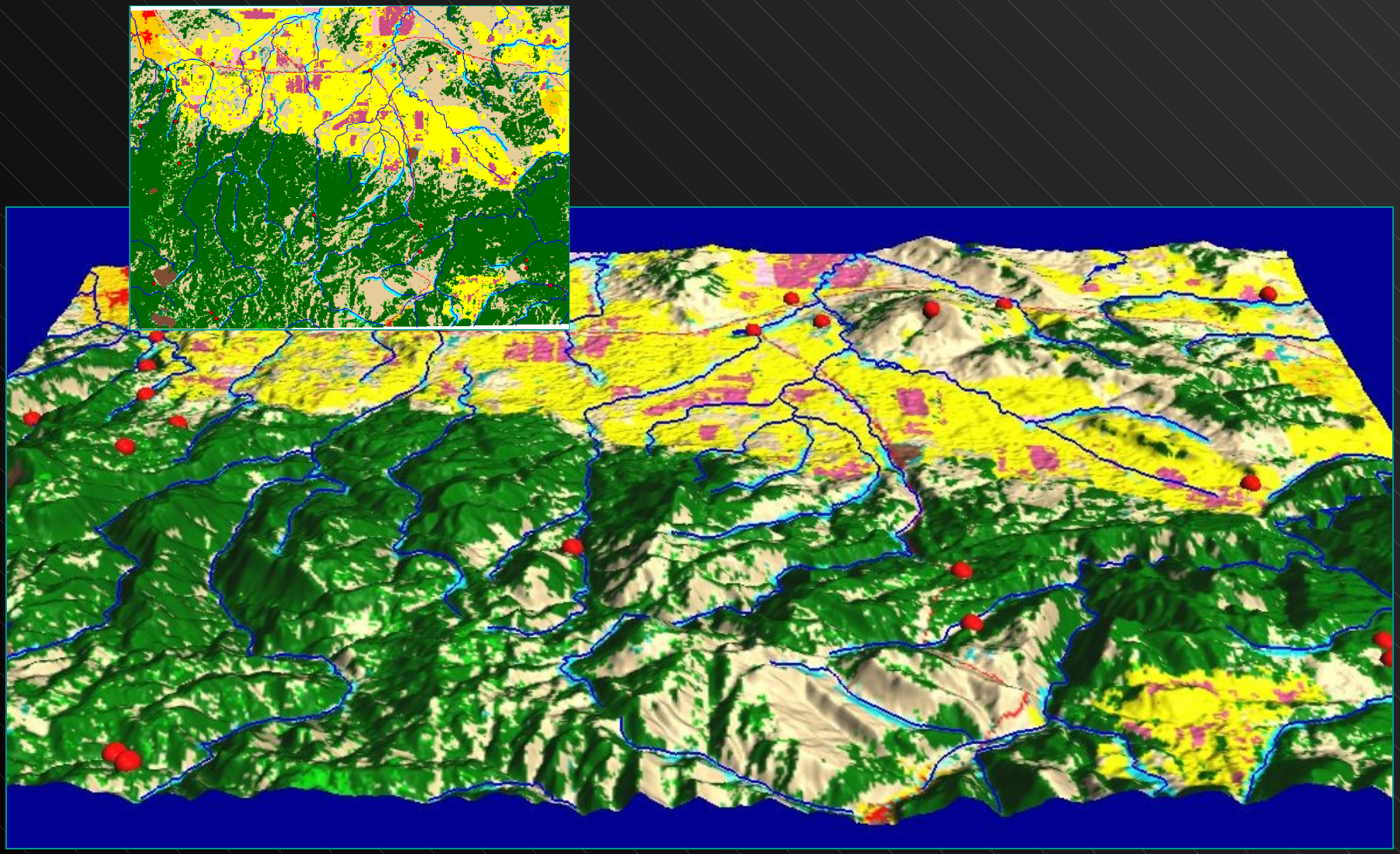
DEM: Terrain Analysis



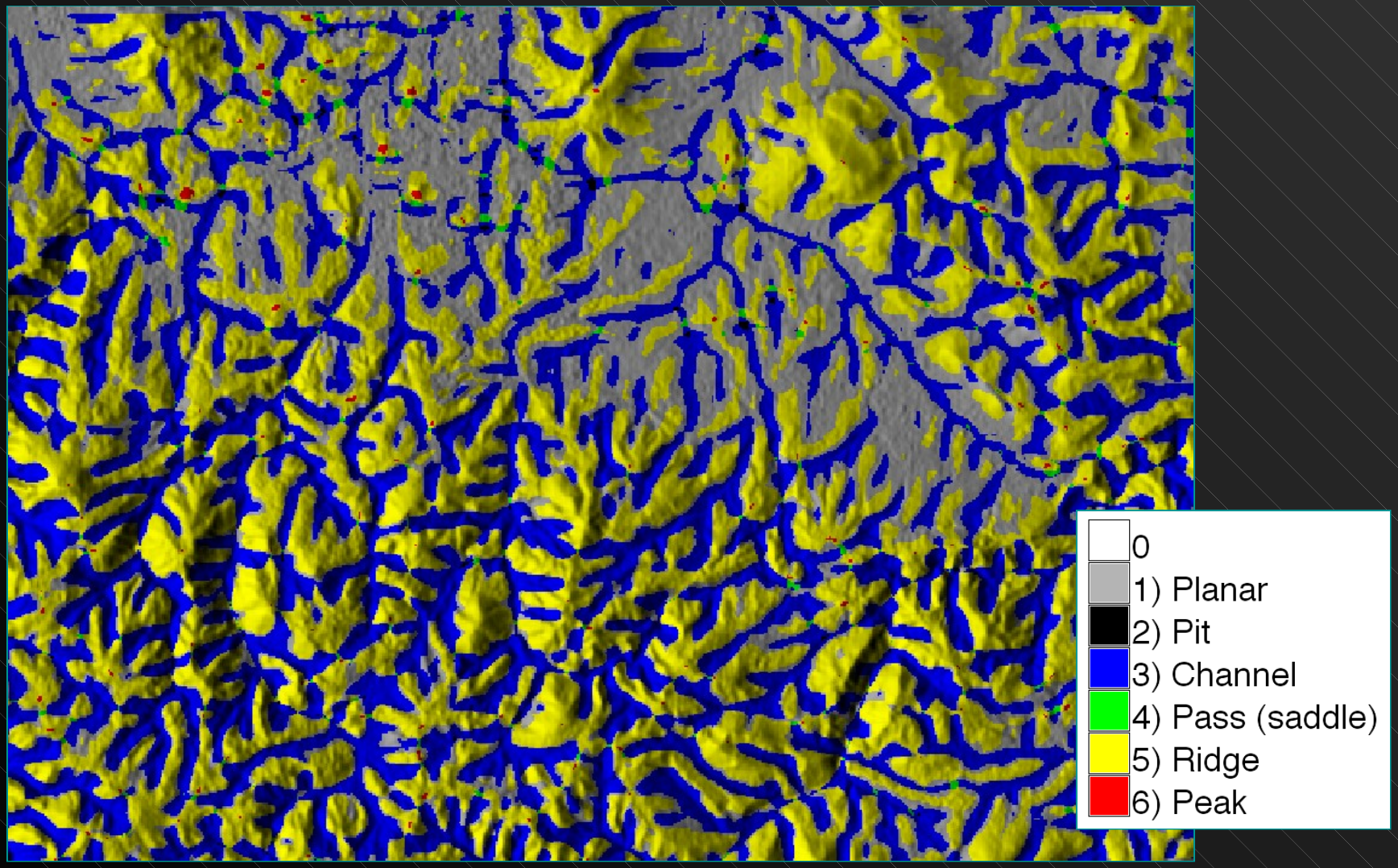
DEM: Shaded Relief



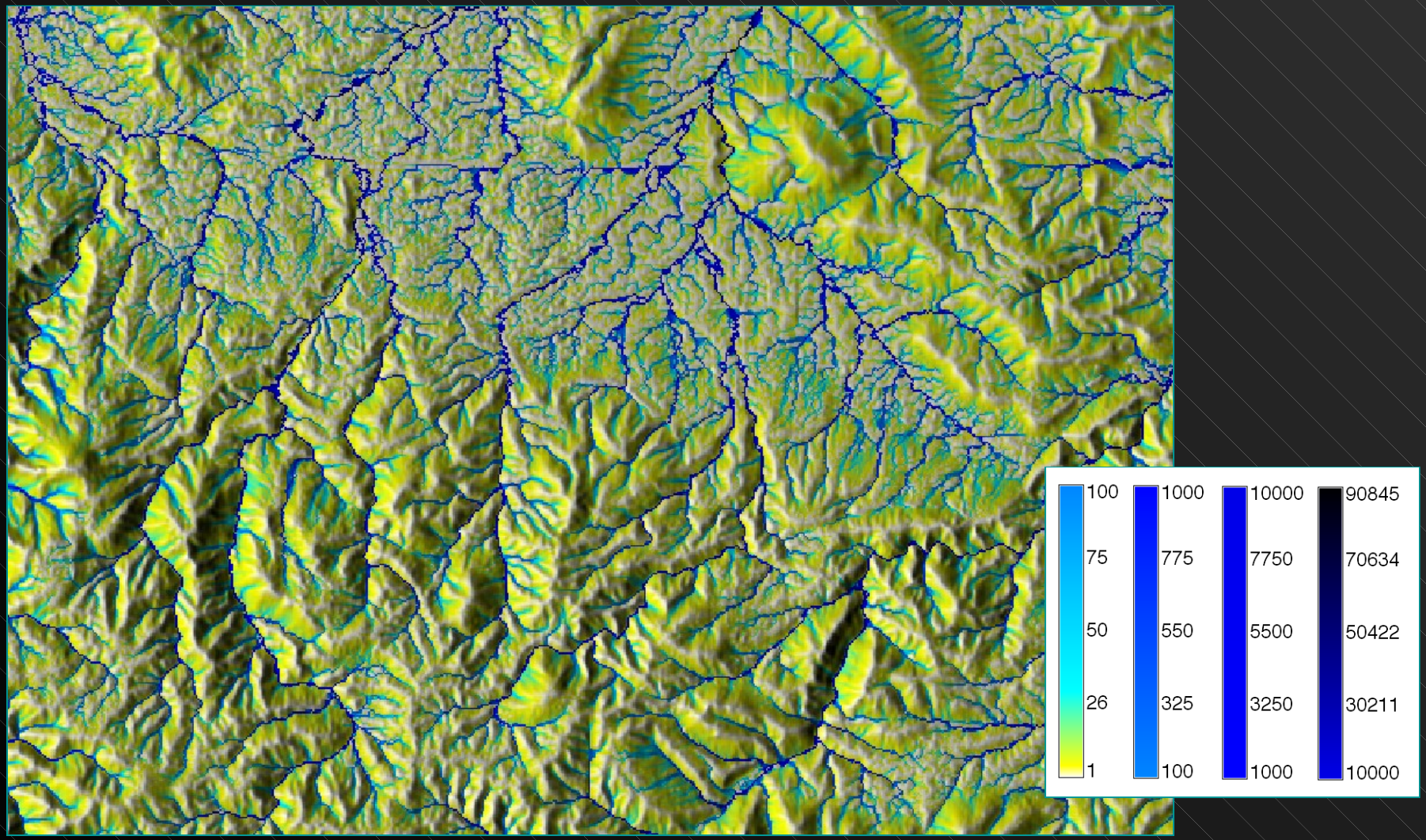
DEM 2.5D Visualization



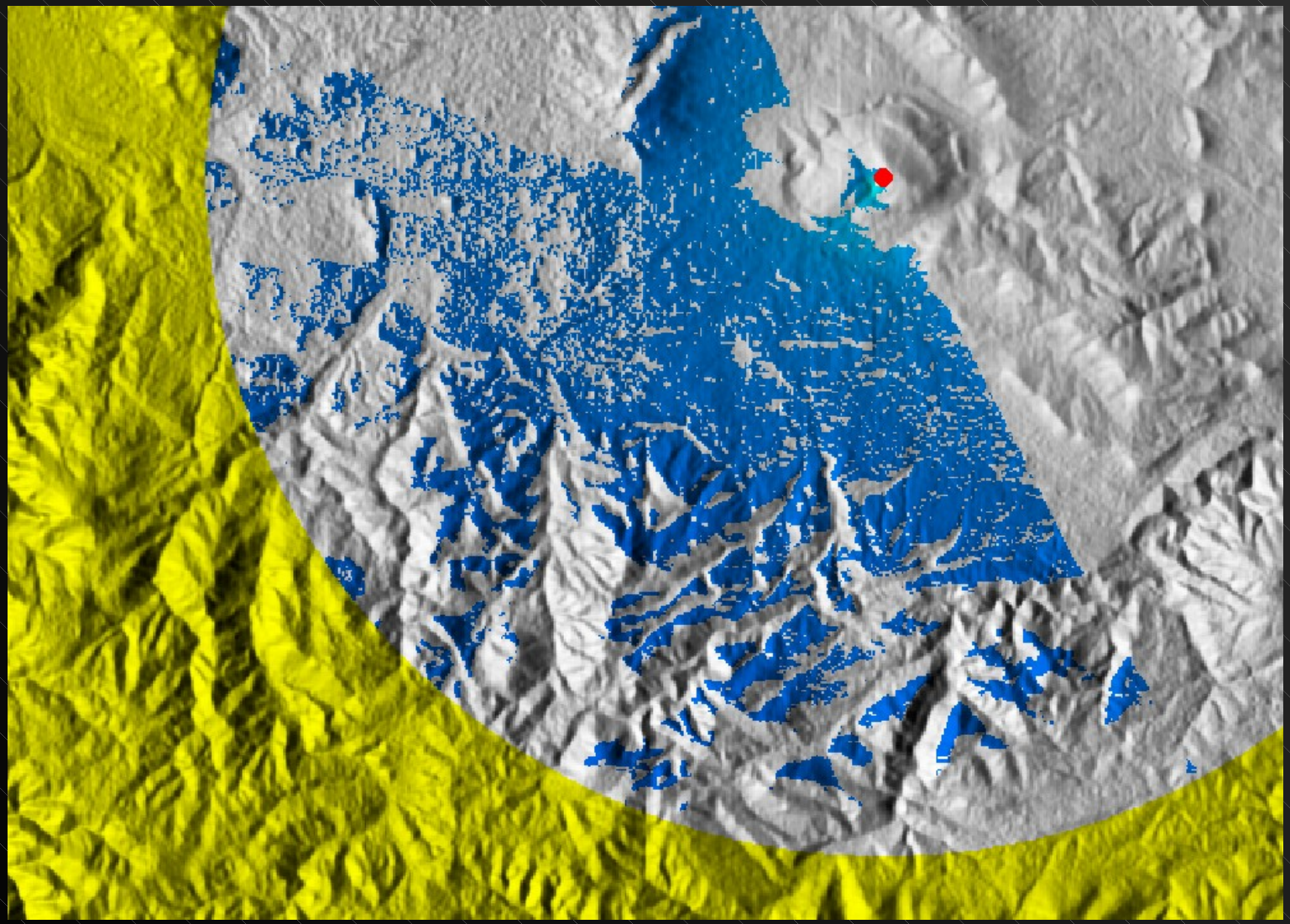
DEM: Terrain Features



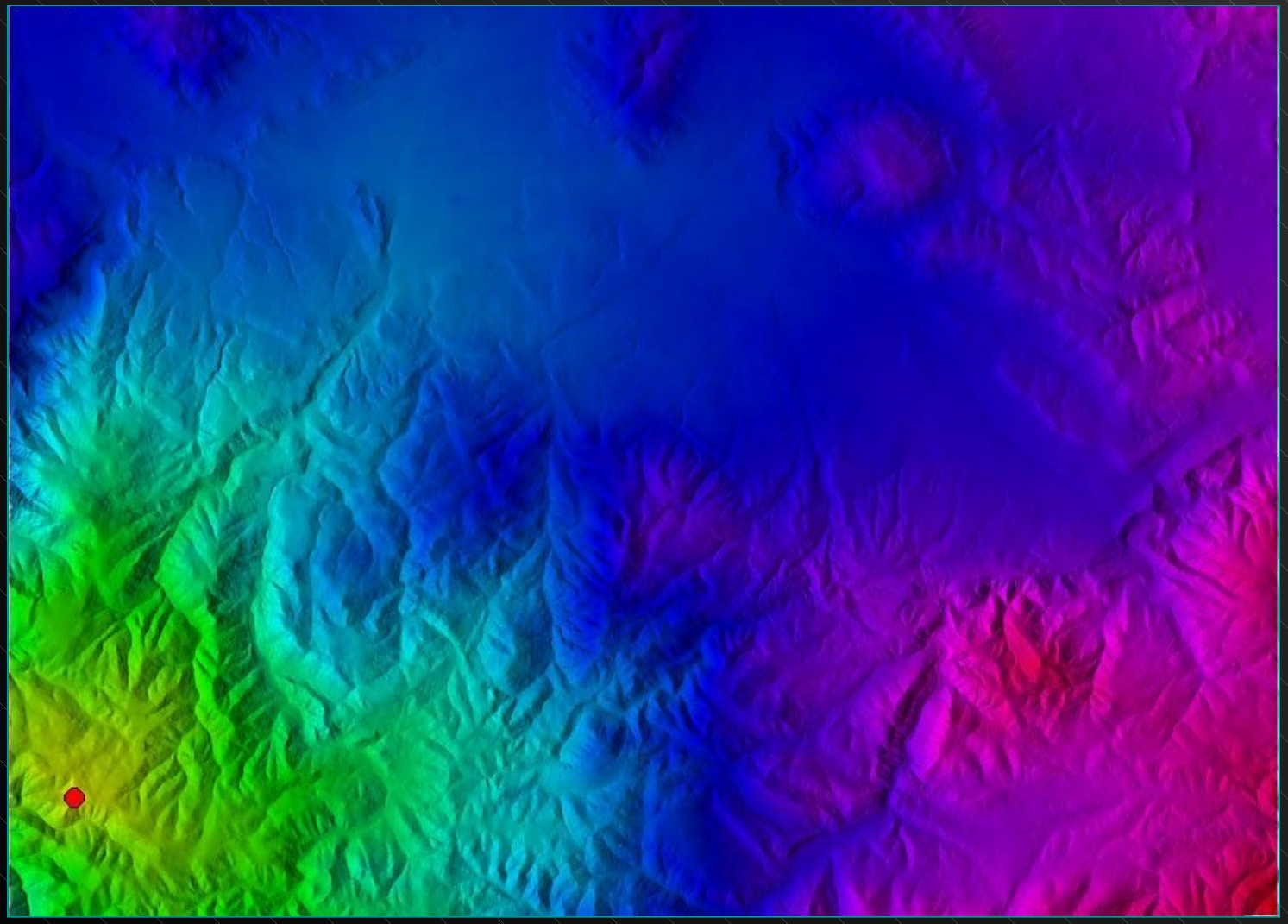
DEM: Hydrology -Accumulation



DEM: Visibility - Viewsheds



Cost Surfaces



Cost Surfaces

- Requires **point of origin**
- Distance
  - Cell value = number of cells away from point o origin X width of cell in map units
- Friction surface
  - Cell value = cost of traversing that cell
- Cost map = distance X friction for each cell
- Isotropic vs. anisotropic

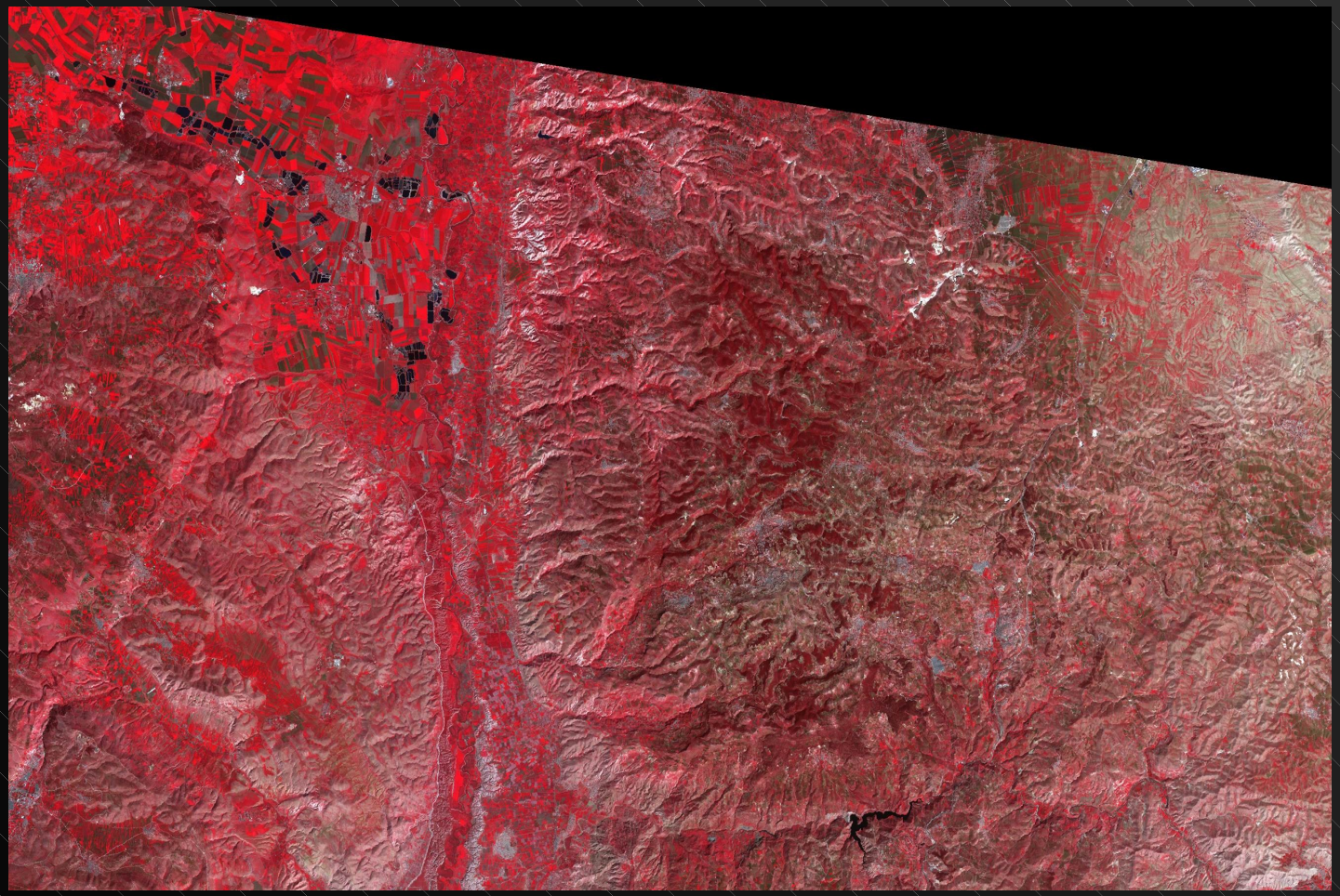
Imagery

Landsat

Visible Color: Red, Green, and Blue Spectra

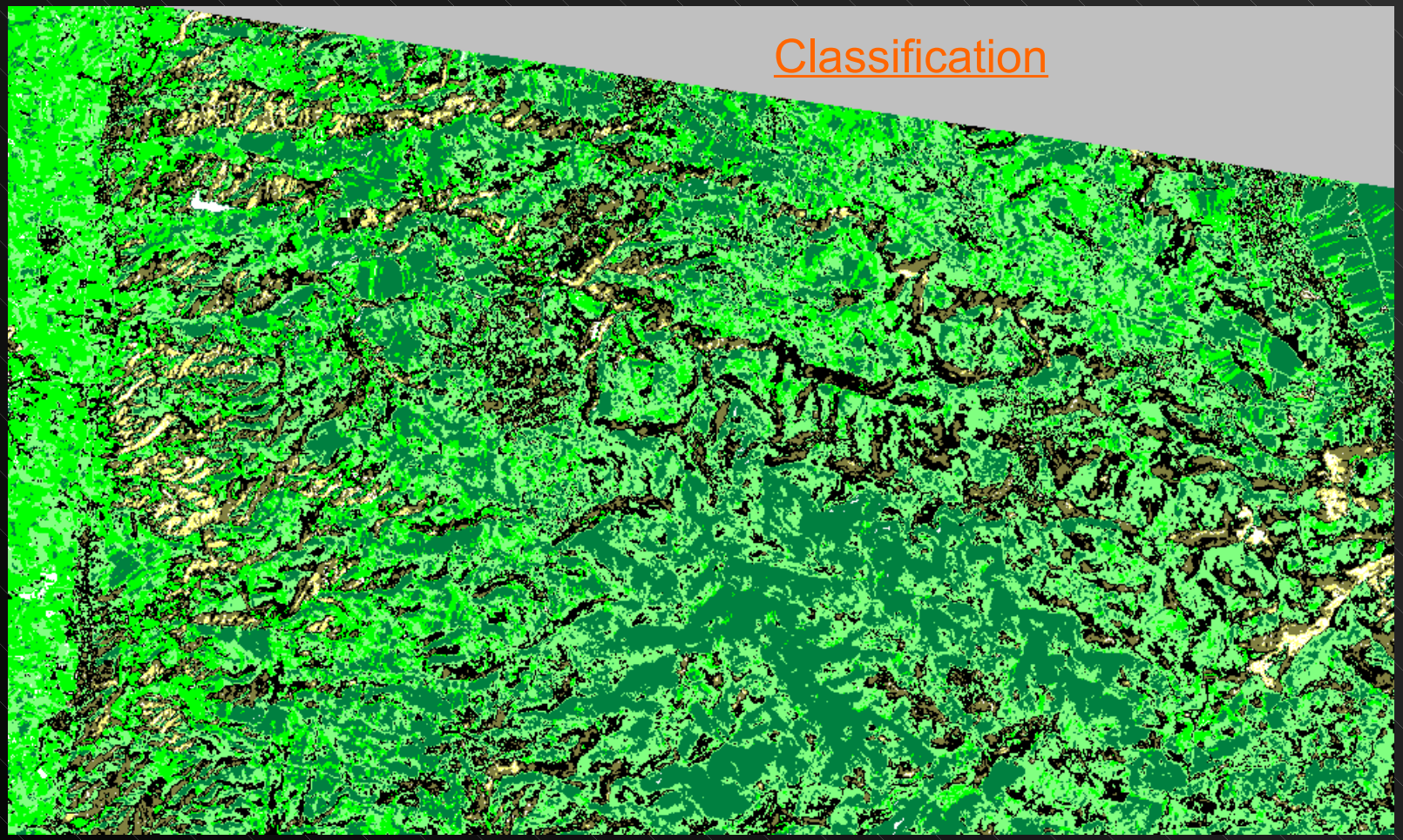
Imagery

Band Manipulation



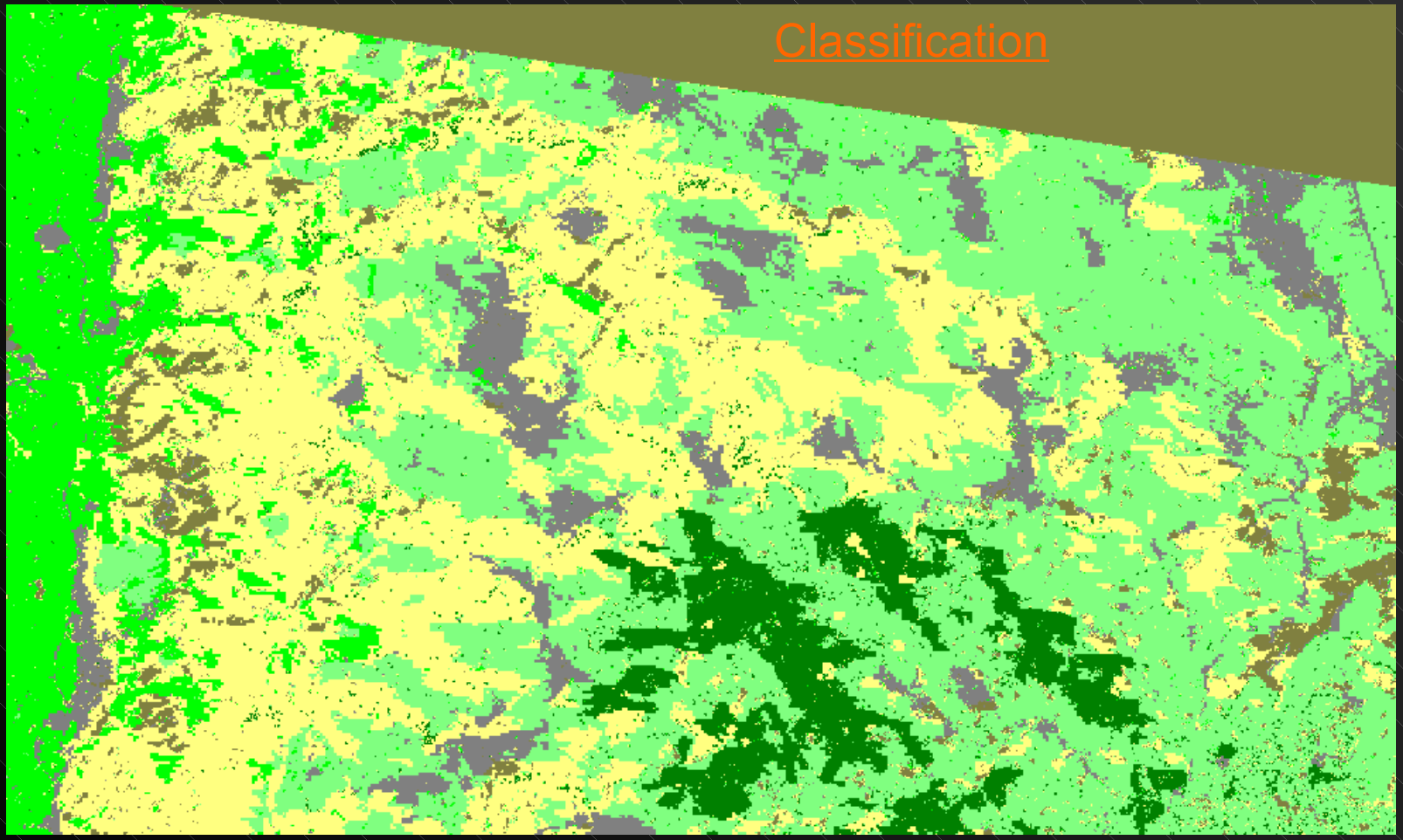
Growing Vegetation: Near Infra-red, Red, and Green Spectra

Imagery - Landcover



Unsupervised (automatic) landcover classification

Imagery - Landcover



Supervised (with user input) landcover classification