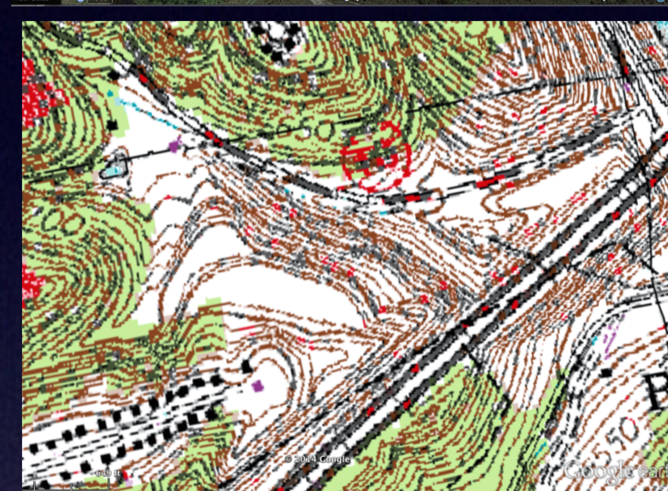
Incorporating Field Work in Geomorphology in the Ohio River Valley Region

Sarah Johnson, Northern Kentucky University

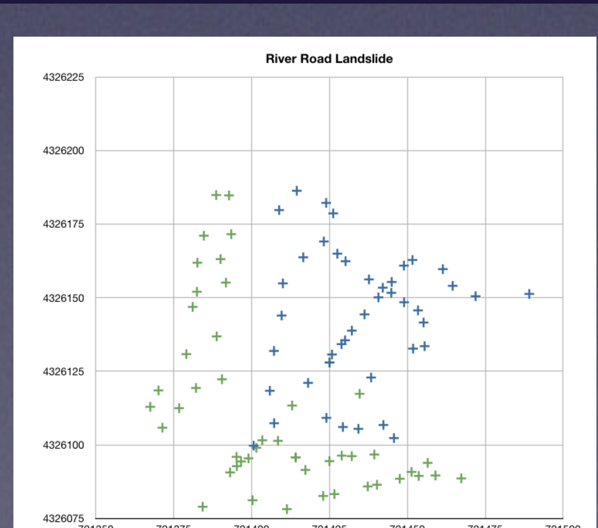
Survey & Model Slope Stability of a Landslide in Northern Kentucky

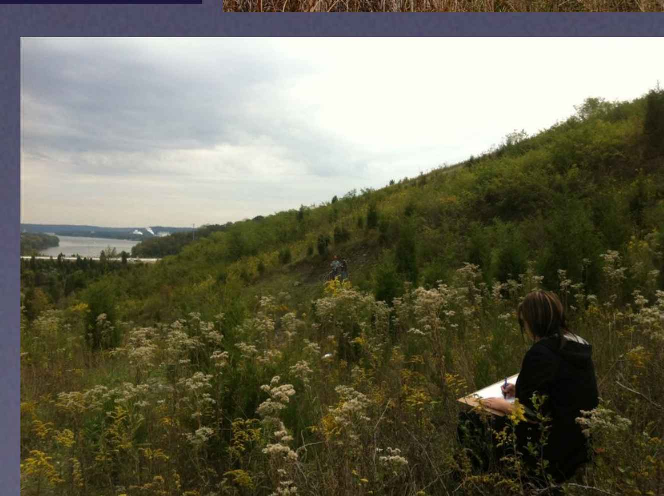


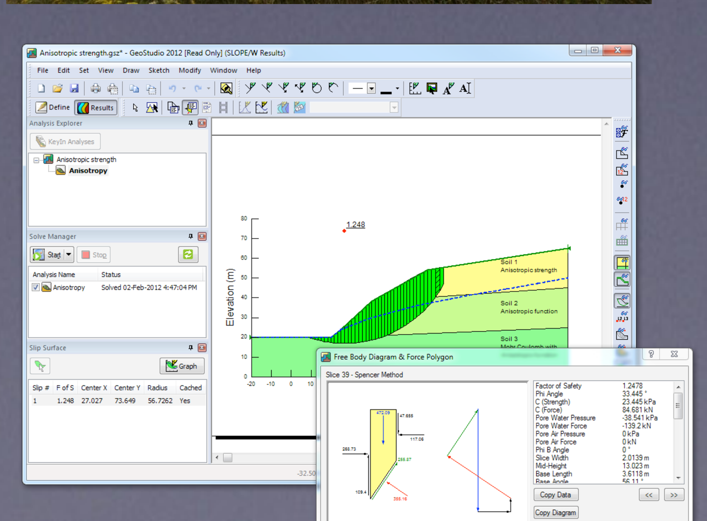


- Students survey a landslide in fill using a total station
- Students map the slide in the field and create their own topo map
- Students use 2 historic topographic maps (pre-fill, and post-fill/pre-landslide) and survey data to draw a cross section
- Students input topographic and soil data into SLOPE/W and model the stability of the slope before and after the fill was added





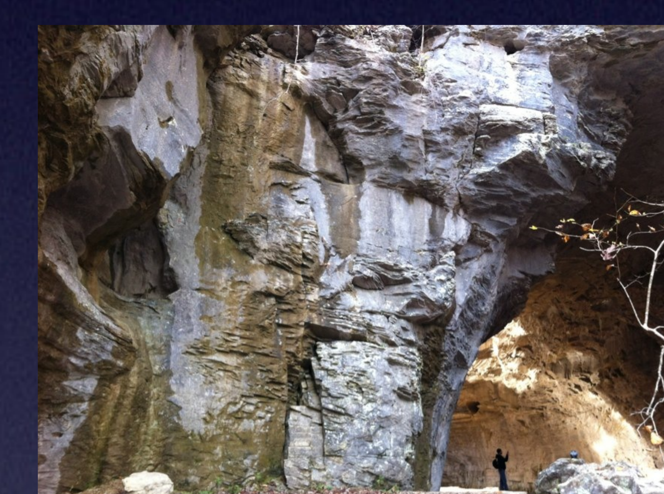


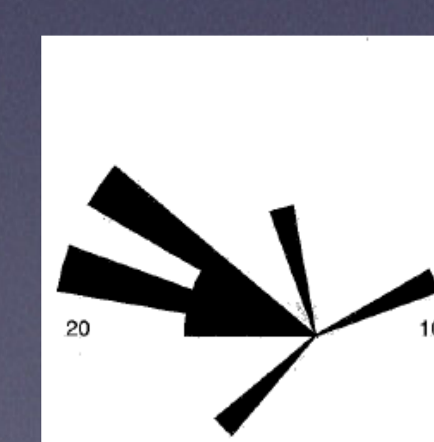


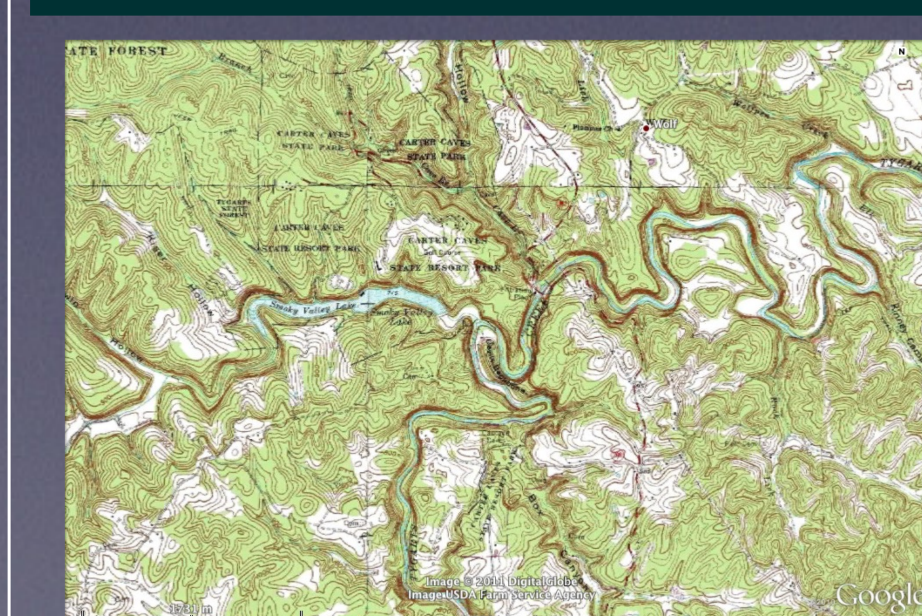
Compare Orientation of Arches, Joints, Cave Passages & Stream Valleys at Carter Caves, Kentucky



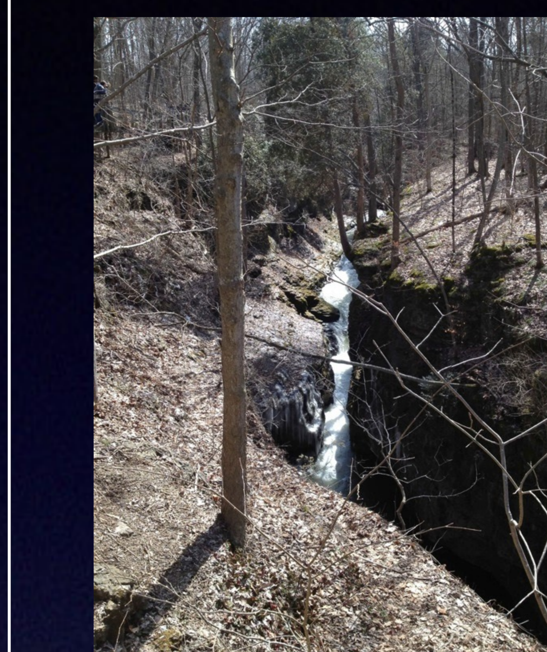
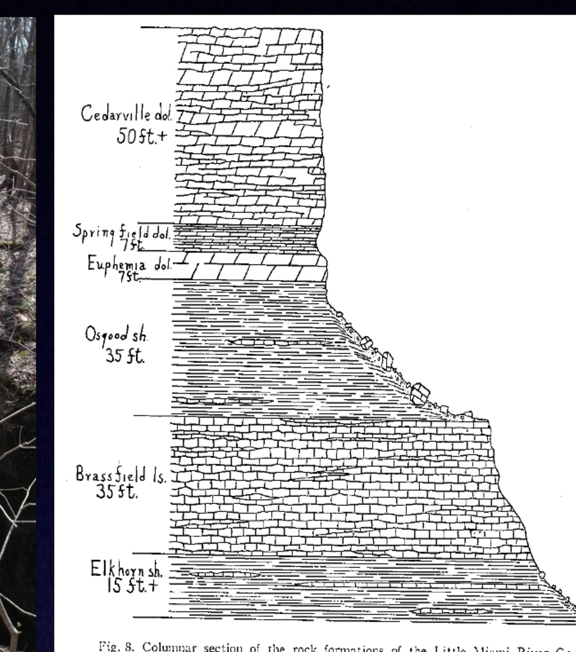
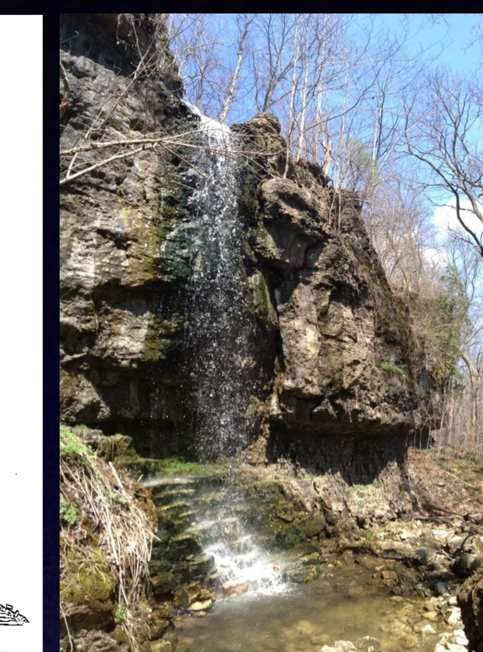
- Students compare the orientation of subsurface and surface features
  - collect orientation data of cave passageways, arches, joints
  - measure orientation of stream valleys
  - use rose diagrams to compare data sets
- Use topographic maps to estimate contact between limestone & sandstone
- Observe karst features in the field
- Write research paper



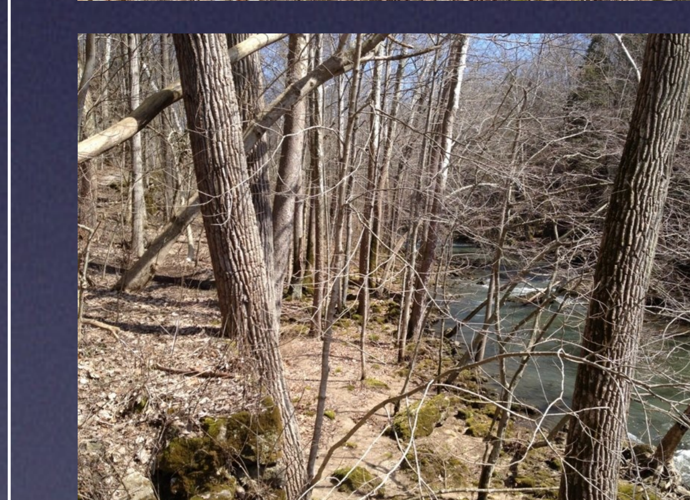
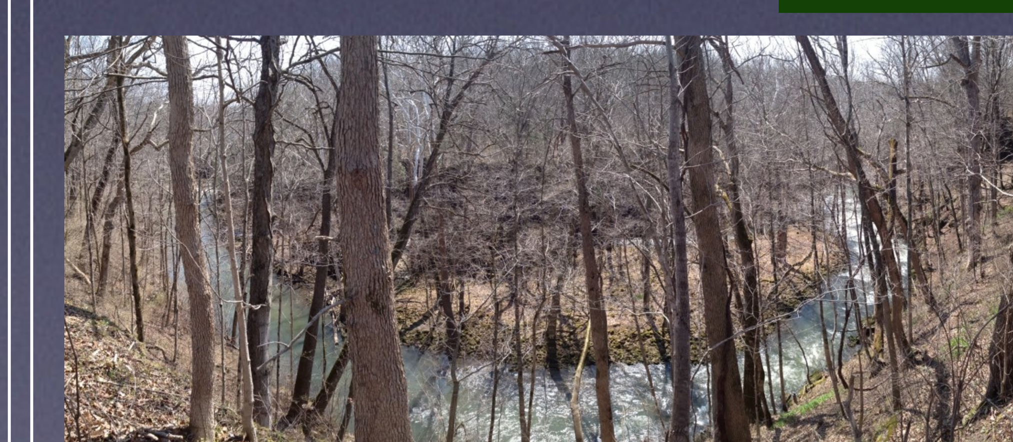
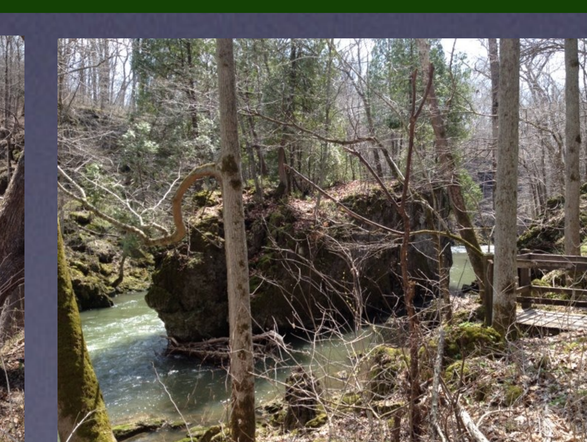
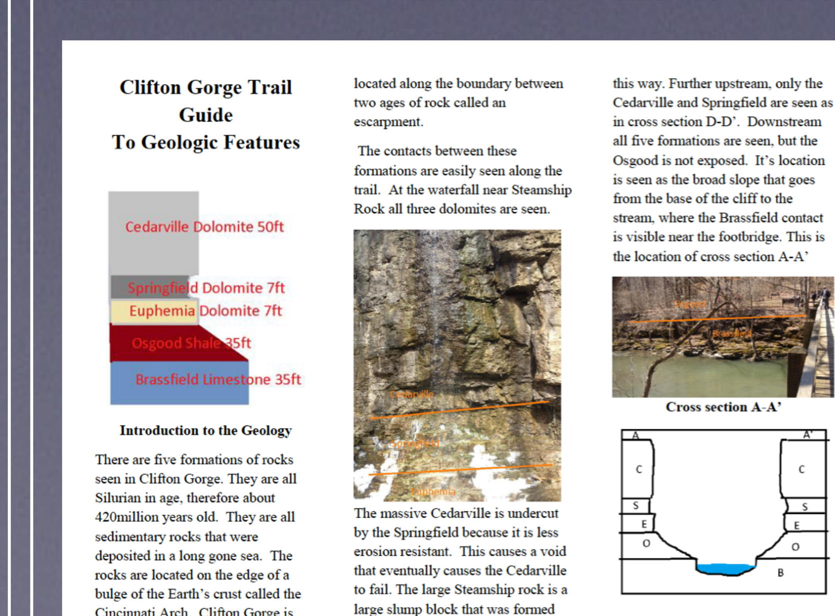




Explore Relationship Between Stratigraphy & Valley Morphology, Clifton Gorge, Ohio

- Students recognize different rock units (dolostone & shale)
- Use base map to locate contacts between units
- Interpret how the rock units influence the morphology of the valley
- Place in a regional context
- Observe fluvial features in the field
- Write an educational pamphlet for the general public






Clifton Gorge Trail Guide
To Geologic Features