

# Geologic Hazards Mapping and Monitoring State Perspective

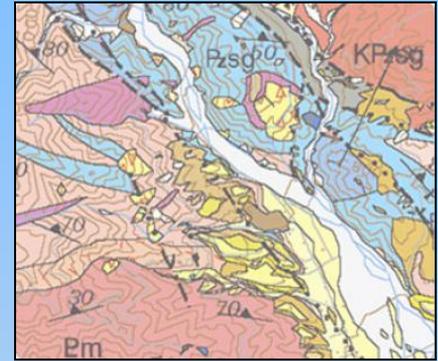
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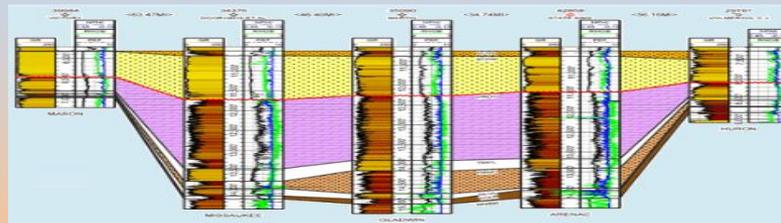


# Geologic Mapping – Foundation of identifying Geologic Hazards

- **National Cooperative Geologic Mapping Program**
  - Cooperative program between USGS, the States, and Academia
  - Foundation is the production of Geologic Maps
  - Authorized at \$64M, Appropriated at \$24.4M
  - Reauthorization needed in FY2019

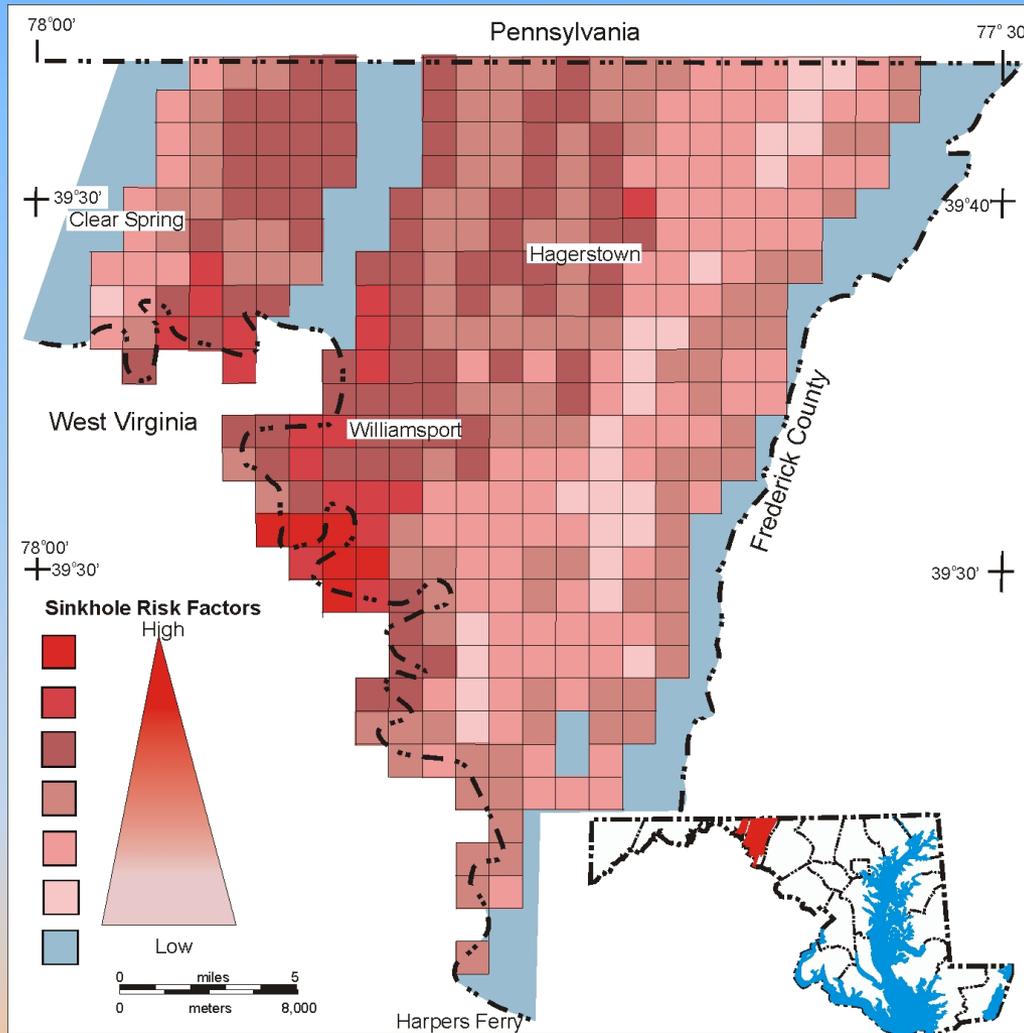


- Supplemented mapping and monitoring via NASA (InSAR and SWOT), NOAA (topographic bathymetric LIDAR), USGS (Landsat), NRCS (Soils information)
- **Field Geologists** – in the woods, on the streets, *in your community.*



# The Story Continues

## GEOInformation vs. GEOIntelligence

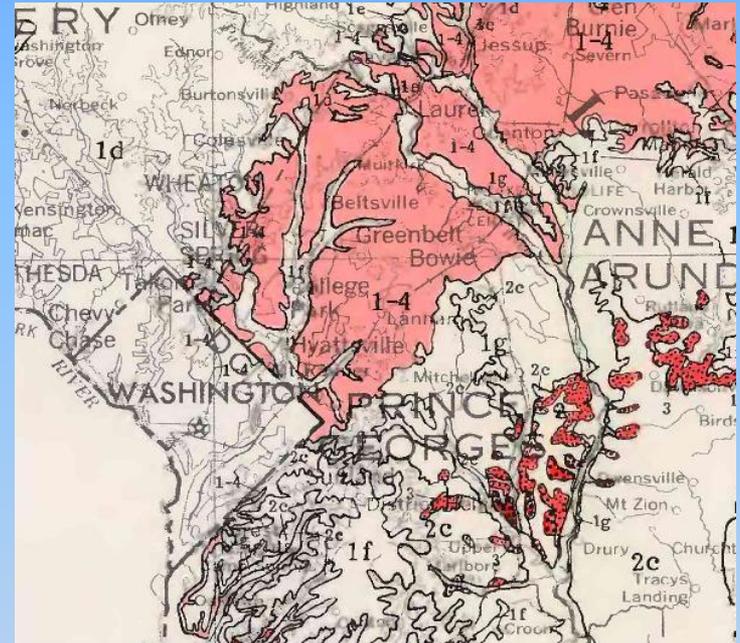


Risk probabilities for sinkholes at the 1 square Kilometer level in a county based on various factors such as bedrock, groundwater, fracture densities, and soil overburden



# GeoIntelligence to Guide Decisions

Using slope, soil characteristics, geologic structure, water drainage, and other factors, maps are made at the community level for landslide probabilities



USGS Map 2048, Pomeroy, 1988.

Counties and State Transportation planners use information to choose best locations for development.



North Carolina Geological Survey, Haywood, NC 2005

# Coastal Hazards

Erosion is mapped and monitored along shoreline stretches helping communities to plan infrastructure, development, and public access.



Area in picture has an average 4 foot of shoreline recession per year. Knowledge of this retreat aids in planning septic fields, wells, housing setbacks, boat ramps, and recreational area development.

# Community Infrastructure Impacts

Tremendous secondary impacts from GeoHazards

- Road and bridge Closures
- Drinking Water
- School closures
- Power Plant Closures



Small landslide shutdown tracks for 3 months

