



Division of Energy, Mineral, and Land Resources Program Updates

ESI Conference– Hot Topics

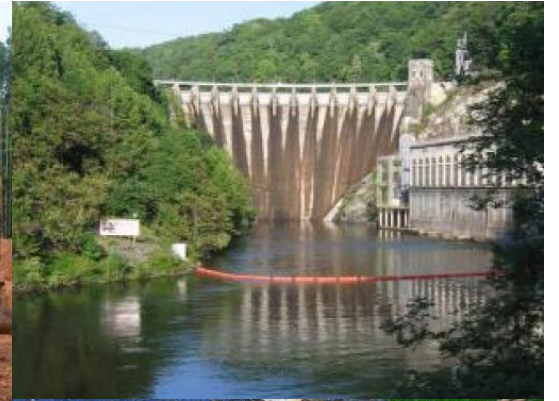
W.E. Toby Vinson, PE, Director

October 10, 2025



Organizational Information

- 7 Sections
 - Geological Survey
 - State Mapping
 - Rare Earth Minerals
 - Landslide Mapping/Response
 - Erosion and Sedimentation Control
 - Delegated Local Programs
 - Stormwater
 - State SW/Delegated Local Programs
 - NPDES SW/MS4
 - Water Supply/Watershed
 - Mining
 - Dam Safety
 - Onshore Wind Energy
 - Oil and Gas



NC Geological Survey

- Landslides in Western NC (mapping tool) [Landslides Hazard Website Link](#) [Link\(arcgis.com\)](#)



Regulatory Programs

Sediment Program Section

- Erosion and Sedimentation Control (ESC) – Regulates land disturbing activity (residential, commercial, industrial development) one acre or greater in size
 - Sedimentation Pollution Control Act of 1973 is primary general statute
 - Plan reviews and compliance are conducted in the ROs
 - Approximately 9,000 + active projects at any one time
 - Has oversight and audit authority on 54 delegated local programs plus NC DOT, managed in CO
 - AccessDEQ is active for online applications and we will be going to online applications only in the very near future.



Regulatory Programs

Stormwater

- Stormwater (SW) – Regulates stormwater discharges through a variety of federal, state, and local programs. [Active Stormwater Permits Map \(arcgis.com\)](http://arcgis.com)
 - NPDES construction SW, NPDES Industrial SW, Post-Construction SW (coastal and watershed-based), Municipal Separate Storm Sewer Systems (MS4s), local Water Supply Watersheds
 - Post-Construction SW Permitting conducted in Washington, Wilmington ROs and Raleigh Central office
 - Approximately 9,000 + construction SW at any one time, 4,600 industrial SW, 18,000 + post-construction SW, 115 MS4, 286 local water supply watershed
 - AccessDEQ online applications is now active for the NPDES Construction SW program and will soon be linked to the Sediment Program for a one application/two permit process
 - AccessDEQ is also being developed for our Post-Construction SW Program as well. This will hopefully go on line in the fall.



Regulatory Programs

Mining

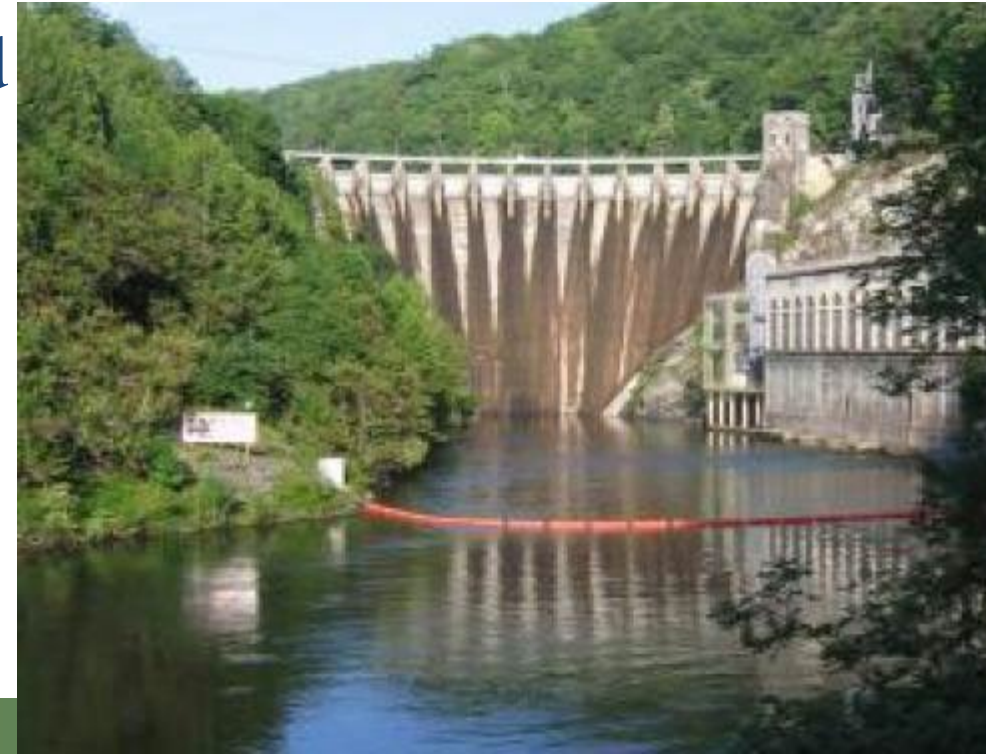
- Mining – Regulates mining activities with disturbed/affected area of greater than 1 acre. [North Carolina Mining Permits \(arcgis.com\)](https://arcgis.com)
 - Permitting (Mining Act of 1971) is conducted in CO along with Enforcement and Compliance is conducted in ROs.
 - Approximately 740 surface mines in NC. These include sand mines, quarries, and industrial mineral mines among others.
 - Mine reclamation covered through sureties (max \$1 million - Blanket)
 - AccessDEQ under development for online applications



Regulatory Programs

Dam Safety

- Dam Safety – Regulates dam design, construction, repair, and removal
 - Reviews/Approvals and Enforcement are conducted out of CO and compliance conducted out of ROs
 - ~3,000 regulated dams, of which 1,700 + are high and intermediate hazard dams
 - Emergency Action Plans (EAPs) required for High and Intermediate Hazard potential dams
 - Play an important role in resiliency and emergency response planning



Hot Topics – E-Permitting - AccessDEQ

- IBEAM
- BIMS
- Access databases
- AccessDEQ rollout priorities
 1. ESC, November 1, 2023
 2. NPDES Construction SW, Two Phases, Fall and Winter 2025
 3. Post-construction SW, Two Phases, Fall and Winter 2025
 4. Mining, Winter 2025
 5. Dam Safety, next

Land Resources

Sedimentation

Silt Project

Project

Plan Checklist

Plan Actions

Affiliates

Fees

Inspections

Find

Add Edit

Project Number

Project Name

Owner Contains

County

Status

Find

Clear

Search Result

Project Number	Project Name	Owner	County	Status
Next >>				

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Hot Topics – New General Permits

This year 2025:

- NPDES General Permit NCG020000 – Mining Activities, July 1, 2025
- NPDES General Permit NCG190000 – Marinas and Shipbuilding, July 1, 2025

Next year 2026:

- NPDES General Permit NCG030000 – Metal Fabrication, July 1, 2026
- NPDES General Permit NCG060000 – Food and Kindred, July 1, 2026
- NPDES General Permit NCG080000 – Transit and Transportation, July 1, 2026
- NPDES General Permit NCG090000 – Paints and Varnishes, July 1, 2026
- NPDES General Permit NCG100000 – Use Motor Vehicles, July 1, 2026
- NPDES General Permit NCG120000 – Landfills, July 1, 2026



Hot Topics – Hurricane Helene



- As a result of Hurricane Helene, the Dam Safety Program has inspected over 400 dams in the impacted areas since September 2024.
- Although there were several emergency evacuations in several counties, we did not have loss of life as a result of dam failures.
- There was moderate to significant damage on 40 of the dams that we have inspected so far with estimated damage totals for the dams alone at over \$11 million.



Hot Topics – Hurricane Helene

Dam Recovery

- We will have a drawn-out recovery for the impacted dams as many of those owners have limited finances
- Recovery includes Repairs, Modifications, Breaches and Removals
- We are releasing advertisement and a Notice of Funding Opportunity this week for \$10 million in grants for High Hazard Dam impacted by Hurricane Helene.

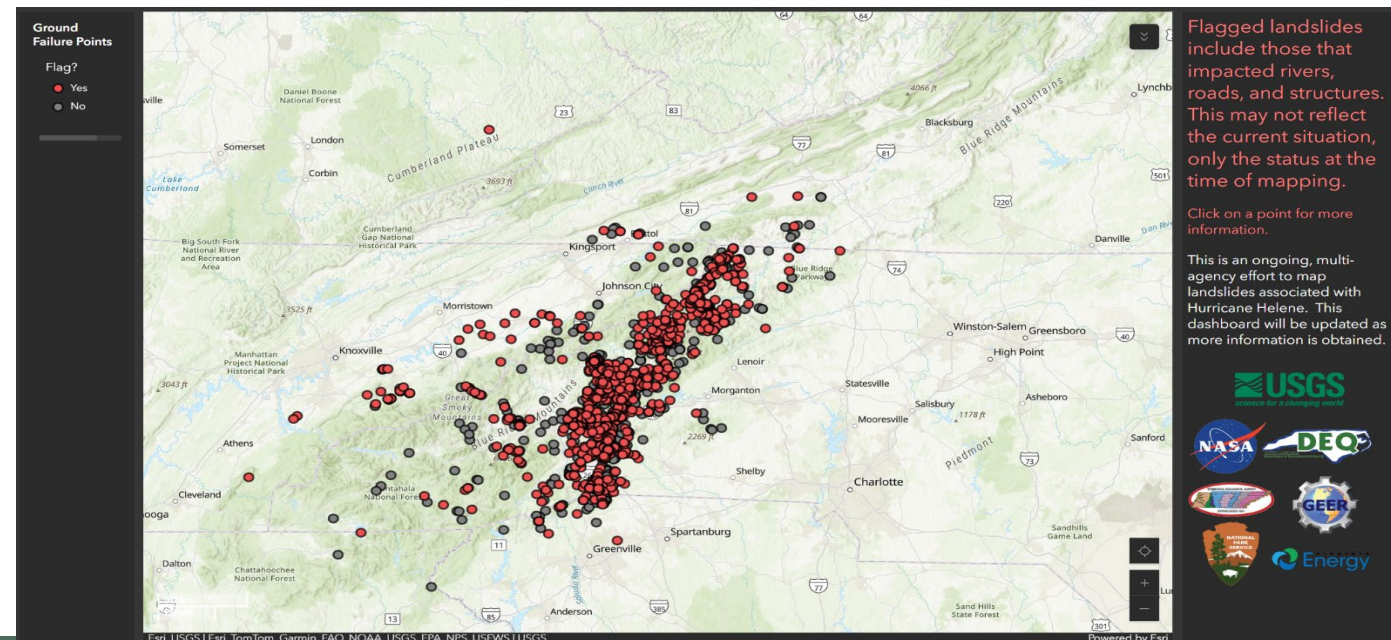


Hot Topics – Hurricane Helene



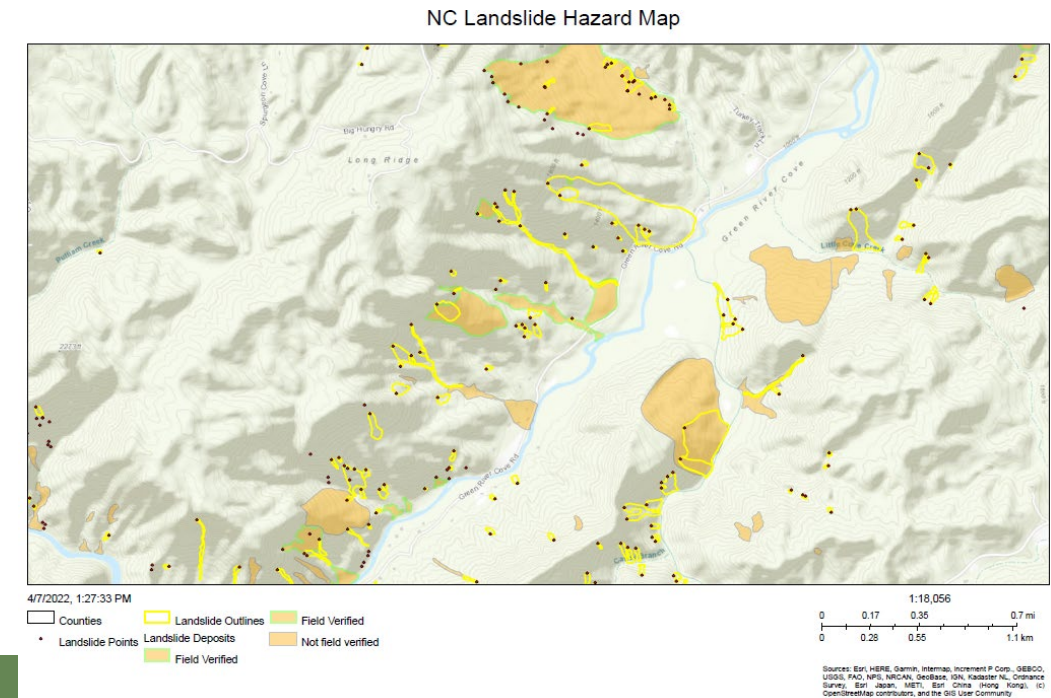
North Carolina Geological Survey - Landslides

- 4,000+ USGS known mapped landslides primarily along Blue Ridge Escarpment – 23 fatalities, damage ranges from complete destruction of infrastructure and physical property to damage only to raw land.
- Expansion of our Landslide Mapping and Response capabilities to address the greater than 4,000 new landslides, resulting from Hurricane Helene. This will include:
 - Landslide Early Warning System



Hot Topics – Hurricane Helene

- Identified Needs as a Result:
 - Development of new inundation maps for High and Intermediate Hazard dams that can be used by dam owners to complete Emergency Action Plans and for State and Local Emergency Management to develop emergency transportation and access/evacuation routing.



Hot Topics – Hurricane Helene

- NPDES General Permits
 - If required by a change in state or federal law, Per-and polyfluoroalkyl substances (PFAS) will be added as a potential required monitoring parameter if deemed by the Director on a case-by case basis.
 - If monitoring finds these substances the site may also be required to obtain a Waste-Water Permit.



Hot Topics – Probable Maximum Precipitation (PMP) Study

- Study by **AWA** (Applied Weather Associates) lead by Chief Meteorologist Bill Kappel.
- Contract signed in **July 2023**.
- Scheduled to be completed by **March 2025**.

HMR51:

- **24-hour PMP = 29.7 inches**
- **72-hour PMP = 35.4 inches**

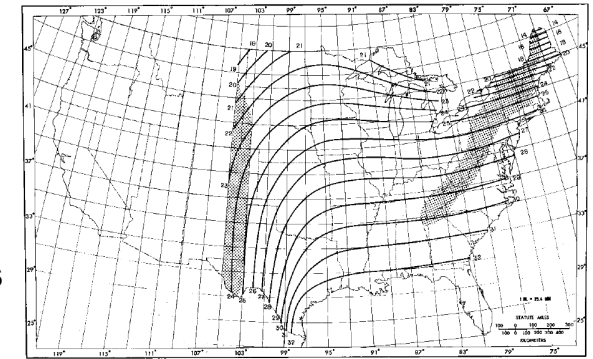
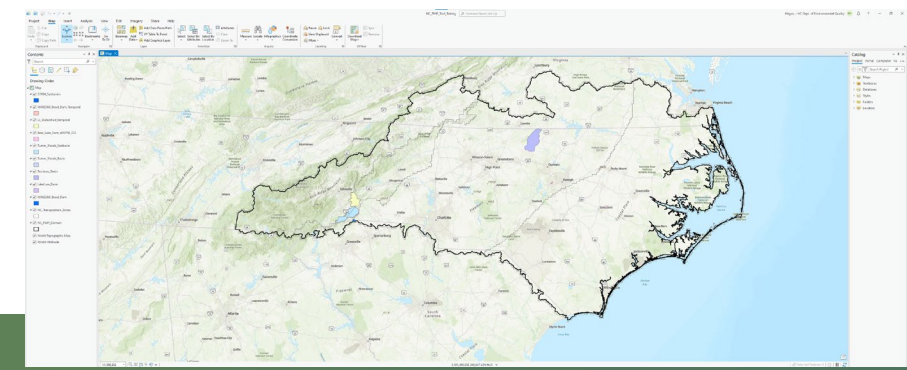
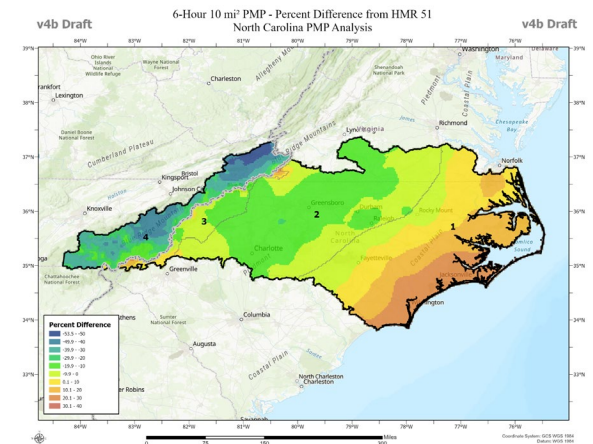


Figure 10.--All-season PMP (in.) for 6 hr 10 mi² (26 km²).

- **Main tasks:**
 - Develop **PMP Values** for different storm types & different durations.
 - **Local Storms (1-hr to 24-hr)**
 - **General Storms (1-hr to 72-hr)**
 - **Tropical Storms (1-hr to 72-hr)**
 - **Temporal Distributions.**
 - **AEP:** Annual Exceedance Probability Analyses (many return periods).
 - Projected Effects of **Climate Change** on PMP.

Lake Lure Example

No	STORM_TYPE	PMP_01	PMP_02	PMP_03	PMP_04	PMP_05	PMP_06	PMP_12	PMP_24	PMP_48	PMP_72
1	Local	6.99	10.97	14.81	17.54	19.94	21.91	24.04	24.1		
2	General	5.22	5.68	9.45	9.54	10.06	13.5	15.69	15.98	17.16	17.75
3	Tropical	3.74	5.9	7.2	8.52	10.23	12.13	21.11	21.36	21.69	21.95



Partners



FEMA



Questions?

