

Stormwater Flood Prevention Preparedness Resiliency & Recommendations

Chatham County Planning Board, October 20, 2025



Lessons from Tropical Storm Chantal

July 6-7 2025

- **More than 10 inches of rain dumped on Chatham County**, causing 3 deaths, many road closures, and tremendous flood damage to houses, businesses, cars, and more.
- **This extreme precipitation overwhelmed even well-designed stormwater management systems.**
- **Chatham County regulations require stormwater controls to be built for a 25 year flood.** Chantal was a 500, or even 1000 – year- flood in many parts of the county.
- **Chatham County is one of the fastest growing counties in NC.** Forest cover sponges up rainfall, but it's being lost as new development converts forest to rooftops and pavement.
- **Warming climate, and flood impact with heavier rainfall and loss of forest cover, adversely affect our existing landscape, public health and roads.**

Planning Board Recommendations:

1. Conduct a survey concerning damage from Chantal

- Determine the full extent of the damage
 - *DOT has information on damage to public roads, but much damage to homes, buildings, private roads, bridges, culverts and driveways unreported*
- County should survey residents (mail + online) on storm damage
 - *Collect information on types of flooding, knowledge of floodplains*
 - *Survey also to include information on warnings and available help*

Planning Board Recommendations:

2. Explore extent of Chantal floods

- NC uses Light Detection and Ranging (LIDAR) for the NC Flood Resiliency Blueprint, with data results expected this fall
- Increase community resilience by updating information about flood hazard areas and about the state flood planning process
- Map flooding from Chantal
 - *How much did flooding from Chantal exceeded current floodplains?*
 - *What preventive measures can be taken?*
 - *Impact on vulnerable residents: are low-income or elderly residents more vulnerable? Impact on schools?*

Planning Board Recommendations:

3. Consider New Ordinances and Policies

- UDO sections related to flooding could be adopted as stand-alone ordinances
 - *For example, the Tree Protection section*
 - *Amend ordinances for stronger flood prevention and resilience for adoption if and when restrictions by the NC General Assembly on downzoning are lifted*
- Incentives to developers who design stormwater control measures to accommodate 100-year storms.
 - *(NC General Statutes seem to prohibit increasing the 25-year storm design to a 100-year storm, since we are not under EPA Phase II permits as neighboring cities.)*
- Modification of the Environmental Impact Assessments (EIAs), required of developers to mitigate the impact on downstream waters and properties when floods exceed the 25-year threshold

Planning Board Recommendations:

4. Preparedness and Education

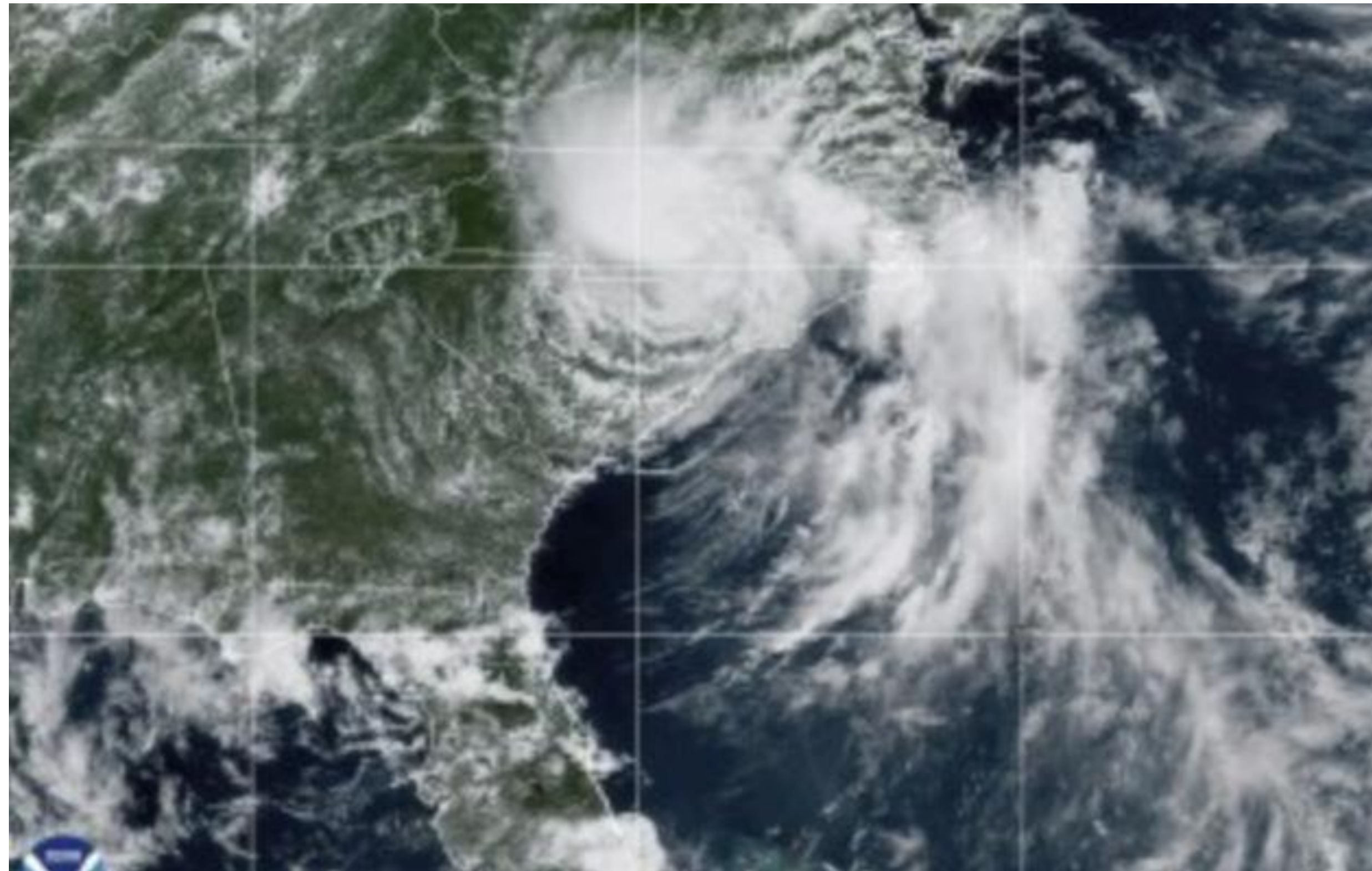
- Better protection for protect public health and property in the next flood
 - *Improve measures such as increased warning systems, road closure warnings and emergency housing*
- Educational information for residents
 - *Seminars, print and online materials*
 - *On flood risks, emergency alerts, shelter-in-place vs evacuation, and more*

Planning Board Recommendations:

5. Funding for Improved Flood Resiliency

- To support greater protection of life and property during future floods
- Stormwater reviews and enforcement, given the numerous developments proposed and underway
- For consultants to assist with initiatives recommended in this presentation, including:
 - *a survey of flood damage*
 - *investigating ordinance changes*
 - *public outreach and education about flood risks*

Let's Be Better Prepared the Next Time!



According to the NC Climate Science Report, 2020 *“Based on the virtual certainty that water vapor in the atmosphere will increase as global warming occurs, it is very likely that the risk of extreme precipitation will increase everywhere in the Piedmont.”*

We should assume the next Chantal can happen again, any time.