

Enhancing National Weather Service Partner Relationships through Development of Regional Tropical Training Exercises

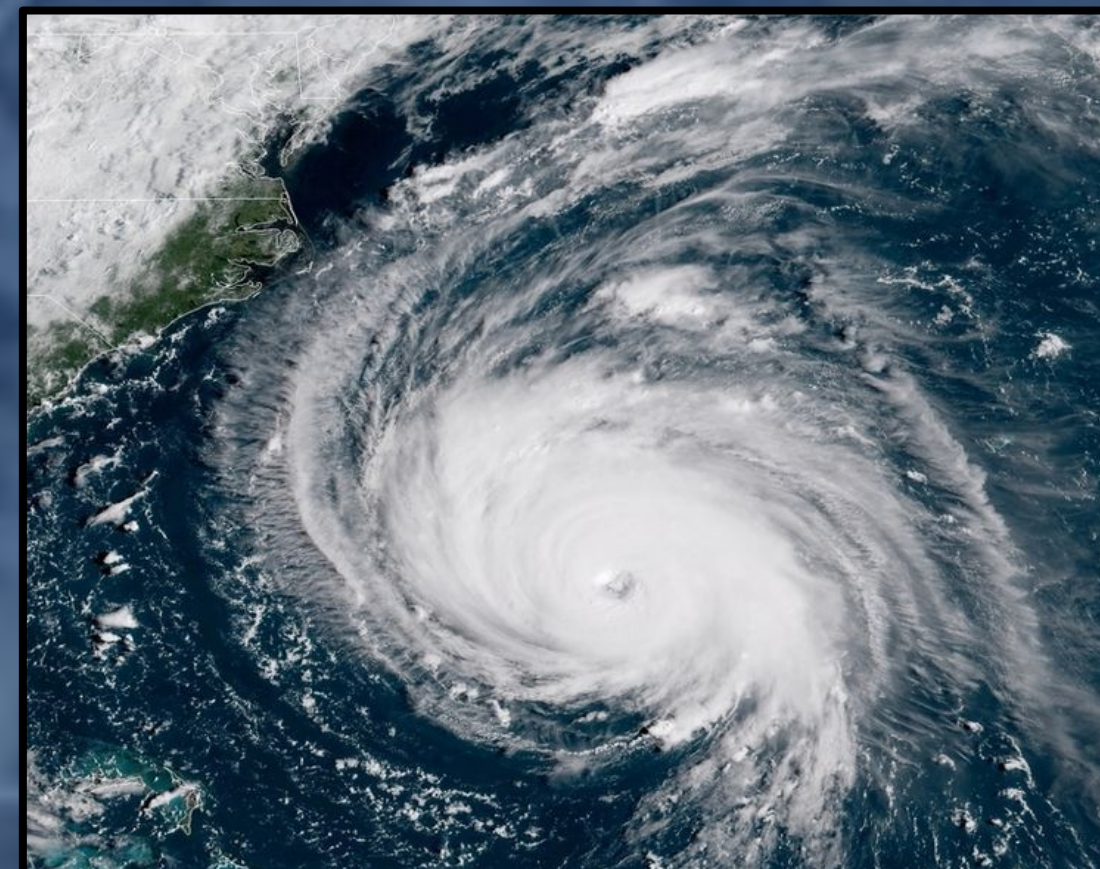
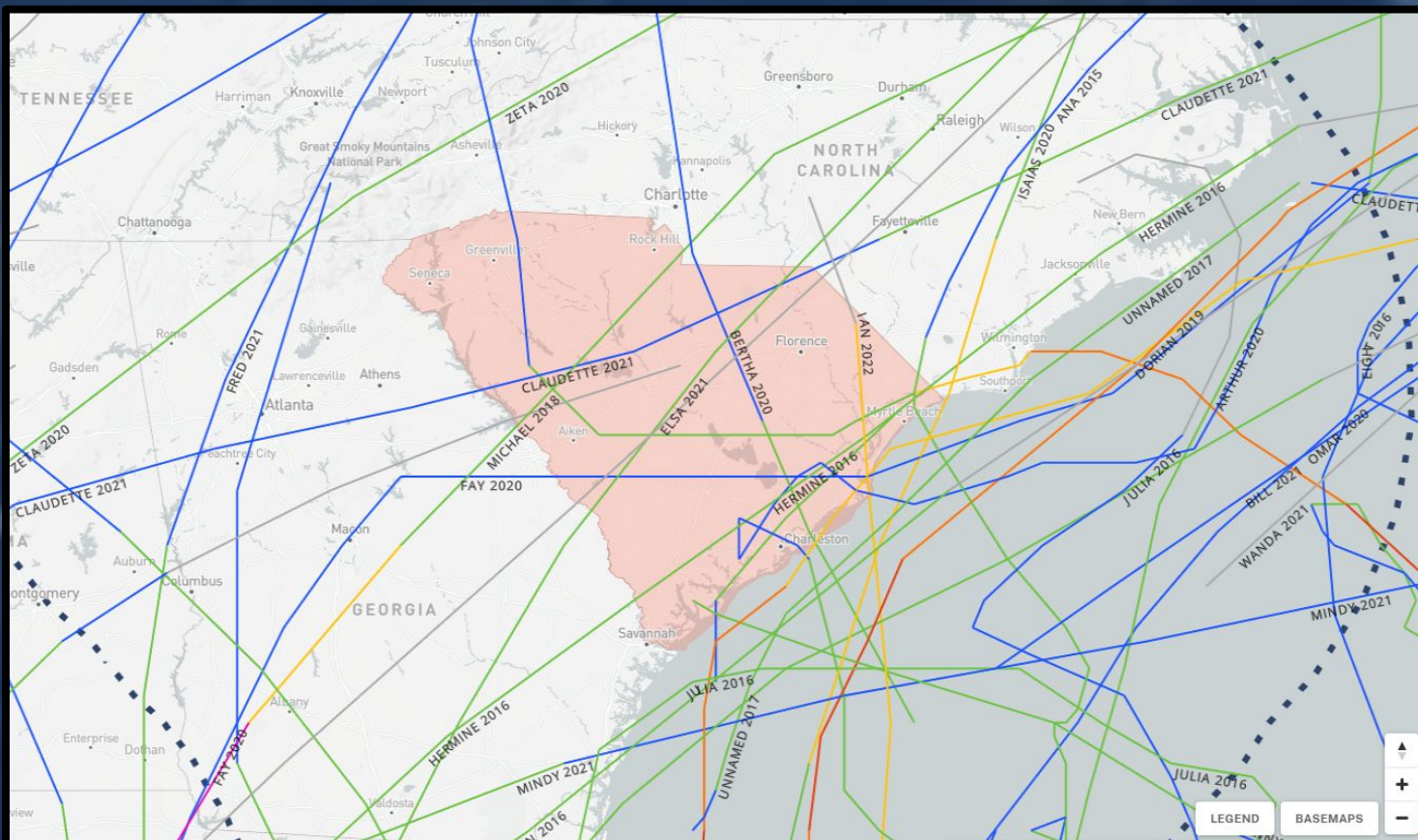


Poster Showcase #iaem23

Chris Birchfield, NWS Eastern Region Headquarters
John Quagliariello, NWS Columbia, SC
Non-Competitive Division

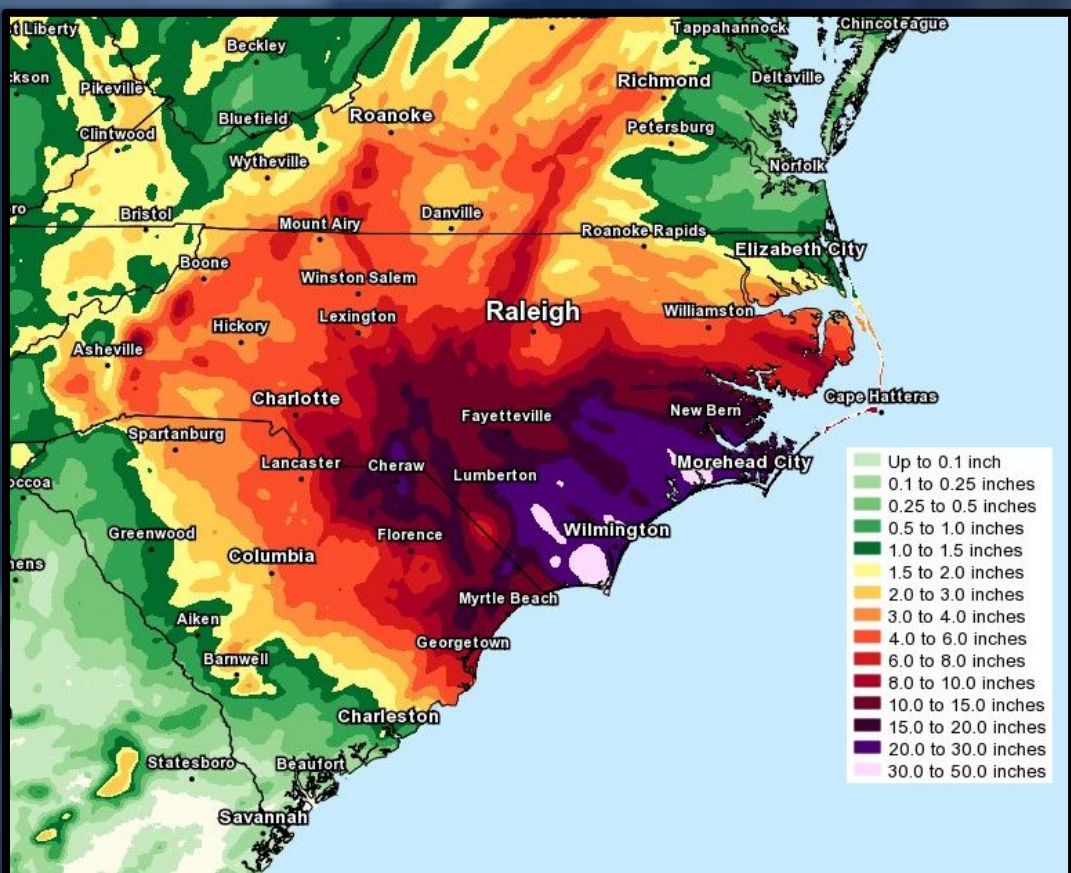
Background/Motivation

- Historically, hurricanes tend to be one of the most impactful natural disasters to affect the Carolinas and Georgia in terms of economic loss and fatalities.



Historical tropical cyclone tracks within 200 nmi of SC from 2015 to 2023 (NOAA)

Satellite image of Hurricane Florence (NOAA)



Storm total rainfall from Hurricane Florence (NOAA)

Storm surge flooding from Hurricane Florence (AP)

- Key public safety decision makers need to make critical life safety and economic decisions well in advance of an approaching tropical cyclone.
- Partners need to properly interpret NWS tropical forecast information in order to make effective decisions and message the information to get the needed public response.
- One way to enhance collaboration and improve communication is through an Integrated Warning Team, which enables public safety partners to test incident action plans and to strengthen relationships between the organizations before extreme weather events occur.

Multi-Agency Planning

- The regional Tropical Training, Exercise, and Integrated Warning Team (IWT) Workshop took place in Columbia, SC in June 2023, with planning beginning in the late summer of 2022.
- NWS and multi-agency planning included participants from:
 - Six Weather Forecast Offices (WFOs) serving NC, SC, and GA
 - NWS Eastern Region Headquarters
 - National Hurricane Center
 - Federal Emergency Management Agency Region IV
 - South Carolina Emergency Management Division
 - North Carolina Emergency Management
 - Georgia Emergency Management and Homeland Security Agency



Meeting at the South Carolina Emergency Operations Center



NWS planning team and small group facilitators

Day 1: FEMA Training

- The first day consisted of FEMA's L310 and L311 courses, which cover Hurricane Readiness for Inland and Coastal Communities, respectively. In fact, *this was the largest offering of L310 that FEMA has ever conducted!*
- Both of these courses provided detailed training on the use of NHC and other NWS tropical-related products and services.
- Attendees were split into inland and coastal classrooms, allowing for more relevant instruction for each group.
- Instruction of the courses was divided among several different meteorologists, including those from local WFOs, SERFC, NHC and FEMA.



FEMA L311 instructed by Storm Surge Specialist Laura Alaka (NHC)

Day 2: Tabletop Exercise

- Participants were broken into small groups facilitated by NWS staff and given a suite of NHC and other NWS forecast products of a simulated Hurricane approaching the Southeast U.S. coast.
- Participants received a briefing from NHC during each phase of the event, and had to determine the best NWS products to use in their decision-making process.
- The smaller groups discussed the types of actions they would take based on their responsibilities.
- Key actions and decision thresholds were shared with the larger group, prompting follow-up discussions.



Small group breakouts facilitated by NWS staff

Day 3: IWT Meeting

- The last half-day consisted of an Integrated Warning Team (IWT) meeting.
- Presentations were provided by NWS Weather Prediction Center, National Water Center, Southeast River Forecast Center, and the Social, Behavioral, and Economic Sciences program.
- A large panel discussion with all of the national and regional centers, including National Hurricane Center allowed for interaction with all participants.
- State EM partners in SC and NC discussed tropical best practices and shared their experience messaging to partners and the public.



Panel discussion with NWS experts

Outcomes/Results

- Attendance far exceeded expectations, with over 150 total in-person participants, including:
 - State and local emergency management
 - Federal agencies (USGS, FEMA, USDA, DOL, DOD, etc.)
 - State and local agencies (DOT, Public Health, Police, Fire, etc.)
 - Media (Charlotte, Columbia, Florence-Myrtle Beach and Raleigh markets)
 - Schools/Universities
- Over 130 participants received FEMA L310 or L311 certification through Emergency Management Institute
- Media interviews conducted during the event highlighted the planning and cooperation between public safety agencies that take place well before a tropical event
 - Media is a critical component of risk communication and they achieved a better level of understanding of how to effectively message tropical hazards
- Relationships fostered during this workshop will help to facilitate communications before, during, and after real-world events.



NWS ER Tropical Program Manager Chris Birchfield providing a media interview



Relationships were strengthened at a group outing to a minor league baseball game

Feedback

"Both the 310 class and exercises were extremely valuable in becoming more familiar and comfortable with NWS products."
-Special Operations, Emergency Services Department

"The exercise was fantastic! Great discussion in our group, and the ability to interact with NWS professionals in such small groups was tremendously beneficial."
-Safety and Emergency Services Coordinator, Public School District

"This was one of the most informative trainings/exercises I have attended in a while. It was a lot of information in the 3 days, but it was more than worth the time! I appreciate that the time was spent full of information."
-Deputy Director, County Emergency Management

"We have refined our internal and external messaging (and timing) based on what was learned."
-Senior Safety & Security Coordinator, Communications Provider

"I was actually impressed with the variety of topics covered and the attention to problems we are more likely to face inland. The flood presentations were very informative (and perhaps even alarming)."
-Safety and Emergency Services Coordinator, Public School District

"I now have a better understanding of our risks associated with tropical weather and of forecasting procedures and products. This allows my district to make more-informed decisions. We will also be assessing our emergency operations plan to ensure we incorporate some of the procedures others discussed during the exercise. Extremely helpful!"
-Safety and Emergency Services Coordinator, Public School District

