

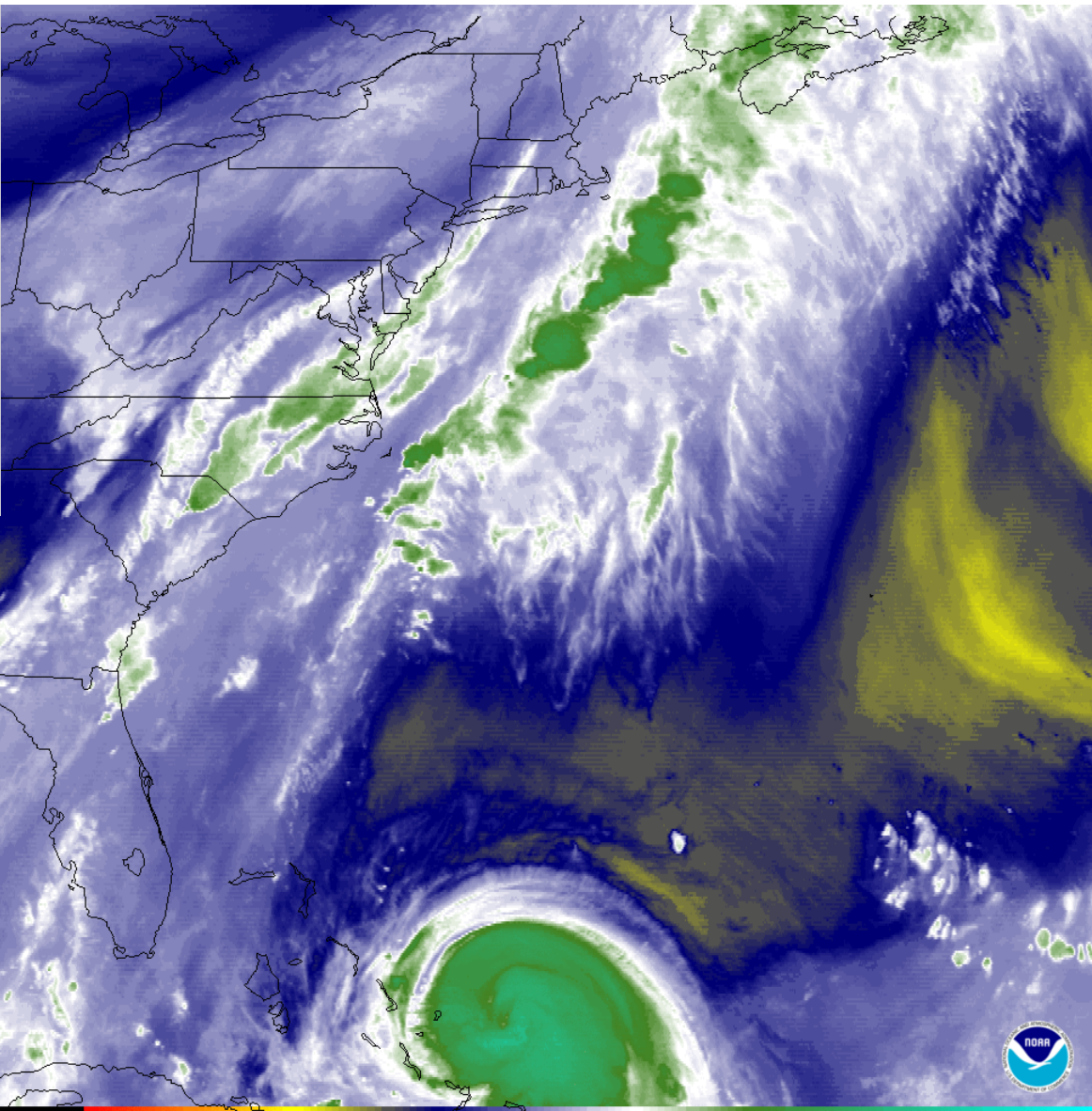
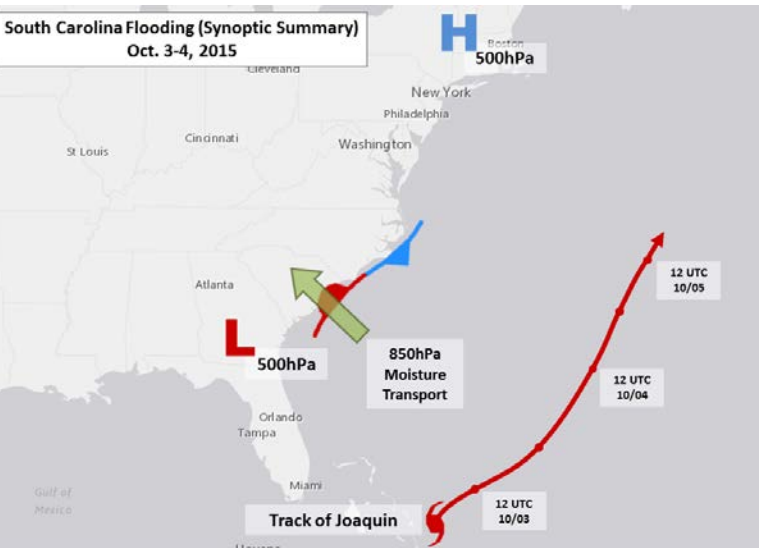


# **The South Carolina Extreme Rainfall Event**

**Oct 2-4, 2015**

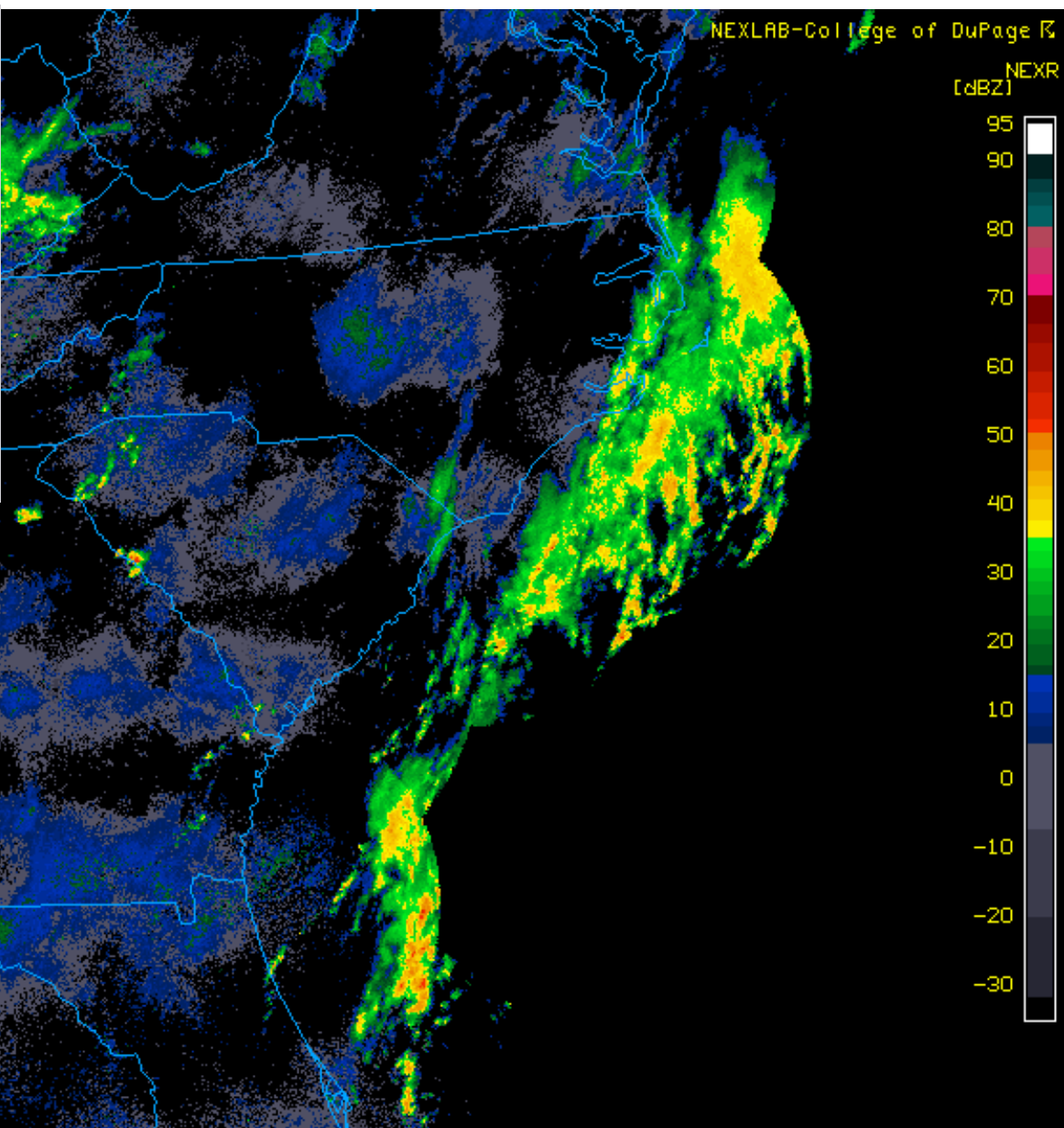
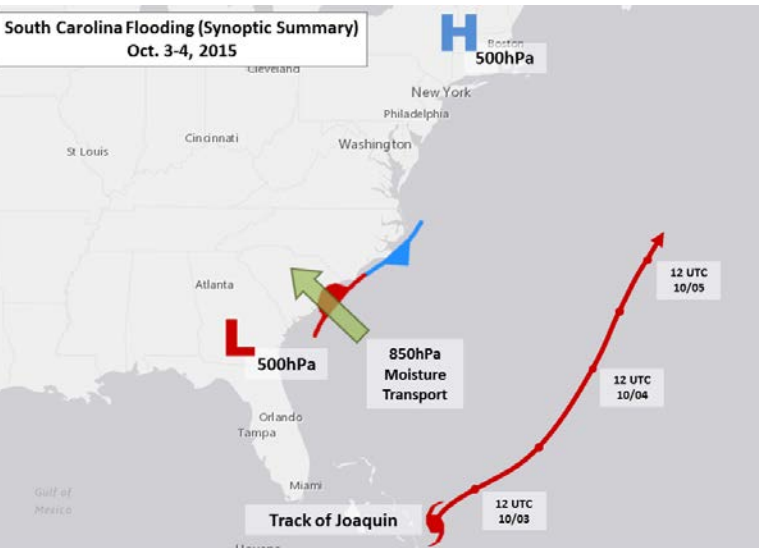
Dr. David Novak  
National Weather Service

## Meteorological Situation





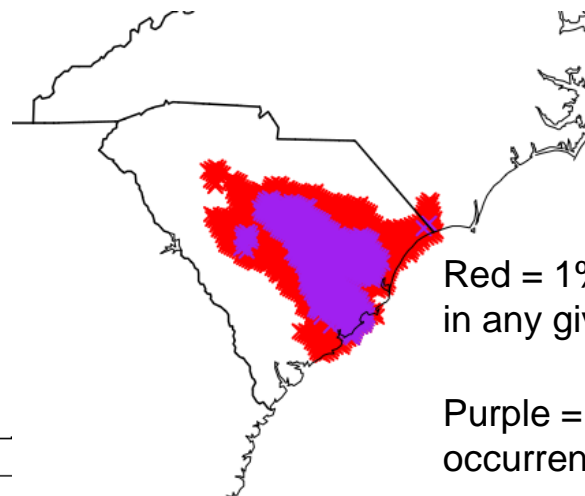
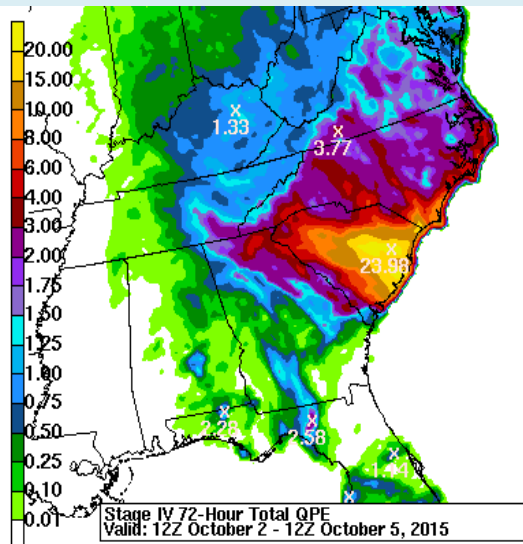
## Meteorological Situation



## Rainfall By the Numbers

- 15-25" of rainfall in 3 days, including metro areas of Charleston and Columbia.
- The rainfall exceeded that of any tropical cyclone in South Carolina history.
- The flood of record was observed on the Black River.
- The official statewide daily rainfall record was exceeded in several locations.
- The statewide October monthly precipitation record has been broken.
- Rainfall in much of South Carolina had only a 0.1% chance of occurring in any given year

### Observed Rainfall



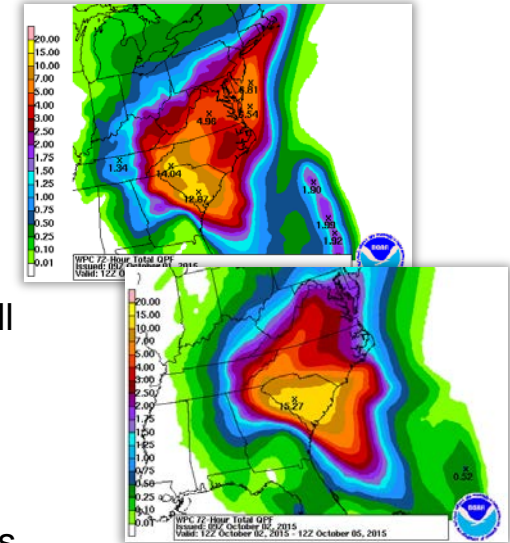
Red = 1% chance of occurrence  
in any given year

Purple = 0.1% chance of  
occurrence in any given year

## Event Timeline

Thursday, Oct 1

- 4 am: NWS predicts 15" for South Carolina and issues Flash Flood Watches
- 8:30 am: NWS briefs FEMA HQ
- **6 pm: State of Emergency declared**



Friday, Oct 2

- 5 am: NWS continues prediction of historic rainfall including 'high risk' of flash flooding
- 6 am: NWS deploys onsite to FEMA Region IV
- 8:30 am: NWS briefs FEMA HQ
- "Potentially Catastrophic" used in NWS messages
- **State and FEMA pre-position assets**
- 12 pm: Governor Haley Press Briefing  
"this is not just any rain, this is going to be the heaviest rainfall we have ever seen"
- Event begins in earnest



Saturday, Oct 3

Sunday, Oct 4

- Civil Emergency Message for the entire state for people to remain where they are if in a safe place

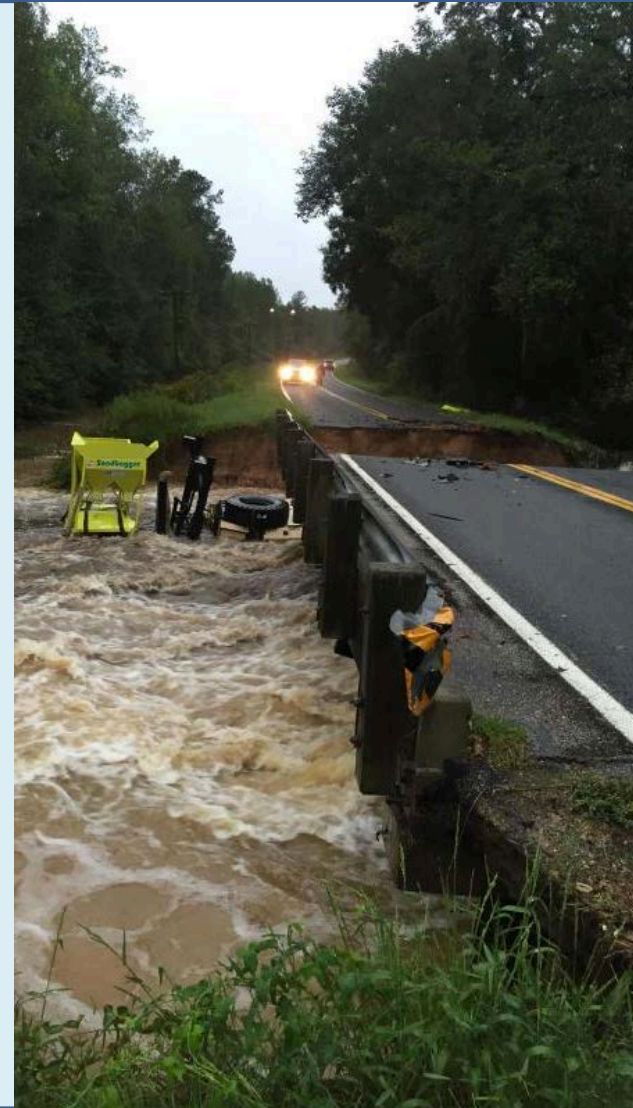
Monday, Oct 5

- NOAA/USGS rapid river gauge deployments and flood damage surveys



## Decision Support Services

- Remote Support to Partners
  - FEMA – National Watch Center and Regions.
  - U.S. Department of Health and Human Services.
  - State of South Carolina.
  - Santee Cooper (State-owned utility seated at the South Carolina Emergency Operations Center).
- On-site Support to FEMA Region IV
  - NWS Meteorologist and Hydrologist deployed.
- Decisions based on NWS Support and Data
  - Evacuations.
  - Pre-positioning of resources.
  - Pre-positioning of personnel.
  - Enhanced staffing.
  - Contingencies for power operations



## Getting the Word Out

 **U.S. National Weather Service (NWS)** shared CBS DFW's video.  
Published by Sean Potter [?] · October 5 at 1:05pm · 🌐

A mere 6 inches of fast-moving flood water can knock over an adult. It takes just 12 inches of rushing water to carry away a small car, while 2 feet of rushing water can carry away most vehicles. It is NEVER safe to drive or walk into flood waters.

Turn Around Don't Drown!

<http://tadd.weather.gov/>



3,887,527 Views

**CBS DFW**  
October 4 at 10:49pm · 🌐

Turn around, don't drown! We've all heard it before, and despite the warnings, this driver chose to risk his life. This happened in Carolina. He was eventually pulled to safety by rescue crews. No one was injured.

228,176 people reached

1.1k Likes · 312 Comments

👍 Like    💬 Comment    ➦ Share

- Extensive Social Media #TADD



- Extensive national and local media interviews (Associated Press, ABC, CBS, FOX, MSNBC, The Weather Channel, Bloomberg, LA Times, Wall Street Journal)

**AP**

**THE BIG STORY**

## Hurricane and rainstorm are locked in a dangerous dance

By [SETH BORENSTEIN](#) Oct. 1, 2015 5:53 PM EDT

Meteorologists are deeply uncertain about where Joaquin will go. But they warn that the record-breaking downpours from storm No. 1 are a sure and scary thing.

# The System Worked

Accurate and consistent forecasts of a historic rainfall event

Proactive federal, state, and local response

*The Washington Post*

## Meteorologists pegged the epic South Carolina flood forecast days in advance

By Jason Samenow October 7   Follow @capitalweather

“...it’s hard to imagine how forecasters could have done a better job in warning about this flood event.”



**FEMA**

“Through continuous decision support..., FEMA and interagency partners were able to preposition assets and personnel”



“this is going to be the heaviest rainfall we have ever seen” – South Carolina Governor Haley