



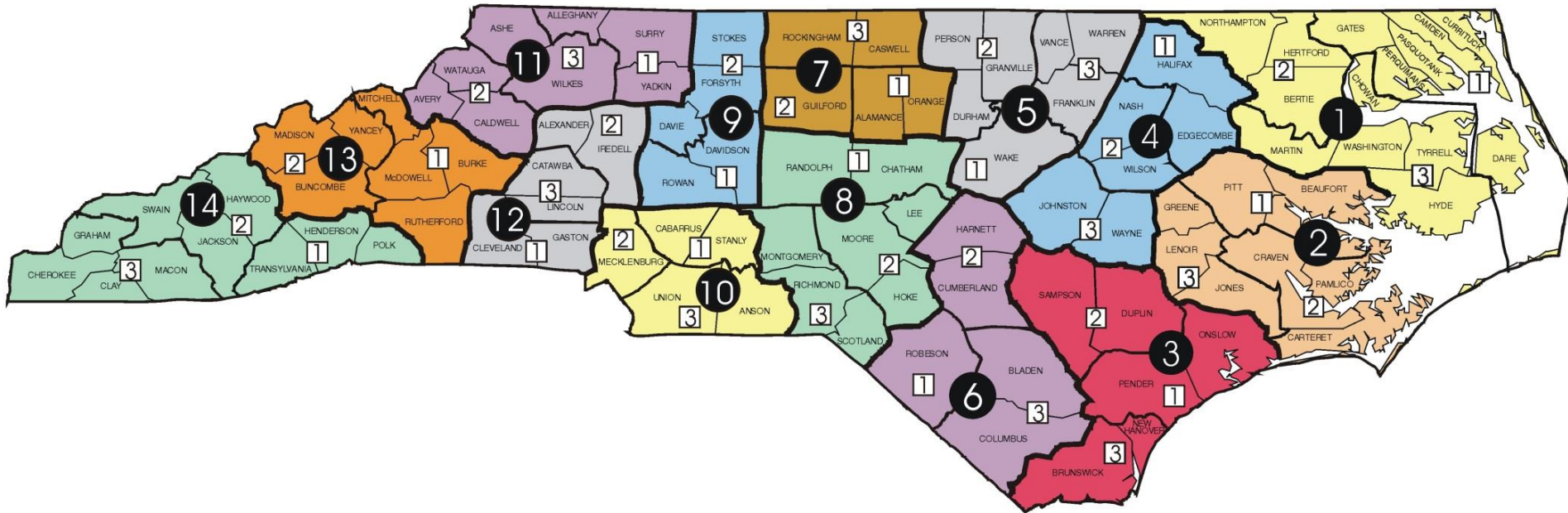
Disaster Debris Management Workshop

NCDOT Disaster Recovery Operations

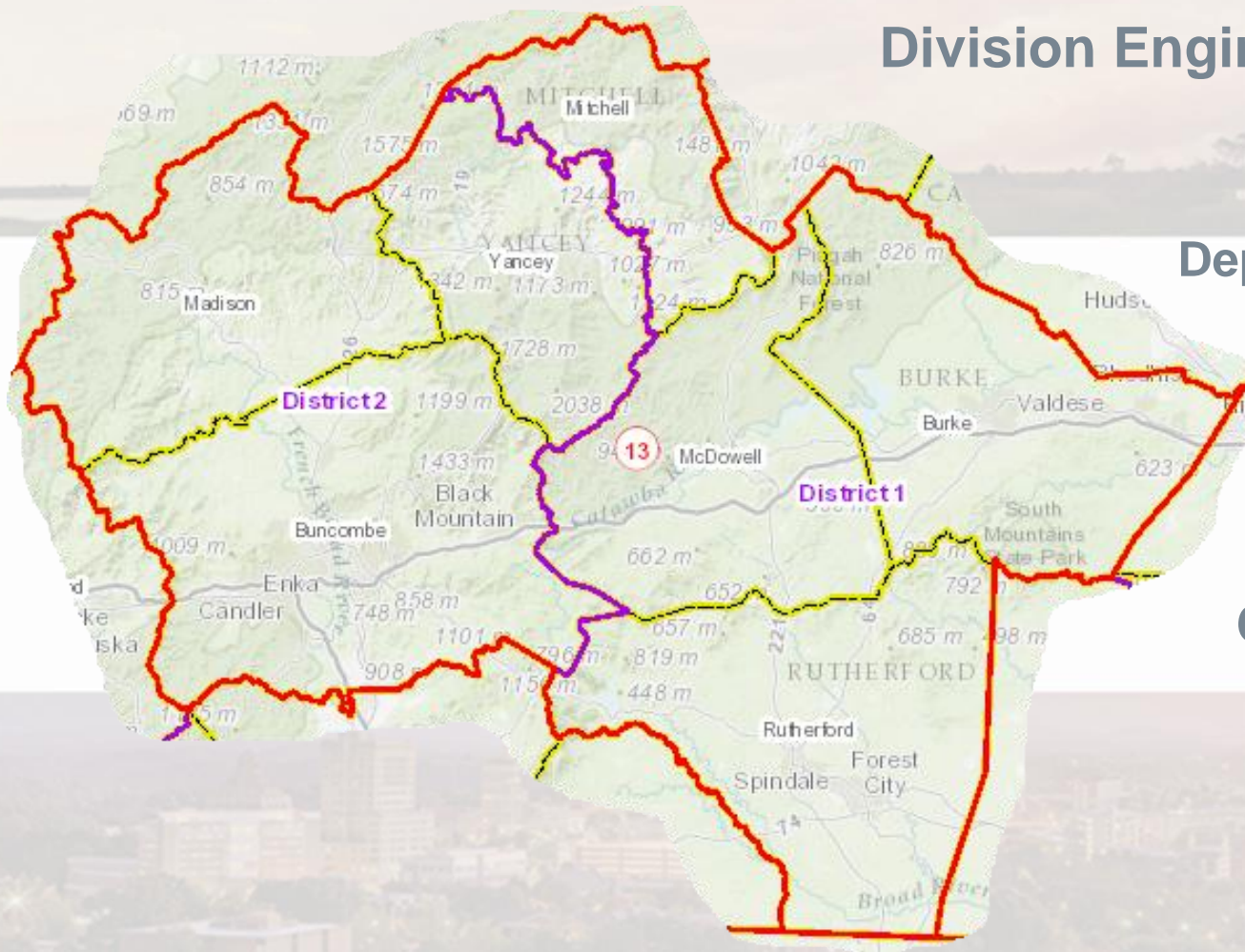
June 15, 2017



NCDOT: Divisions and Districts



NCDOT: Disaster Recovery Operations



Division Engineer

Deputy Division Engineer

Division Maintenance Engineer

District Engineer

County Maintenance Engineer



NCDOT: Disaster Recovery Operations

NCDOT's Responsibilities

- § 136-18. Powers of Department of Transportation.
- The said Department of Transportation shall be vested with the following powers:
- (1) The N.C. Department of Transportation (NCDOT) has the responsibility for and the supervision of all matters pertaining to the planning, design, construction, maintenance and operations of the North Carolina State Highway System.

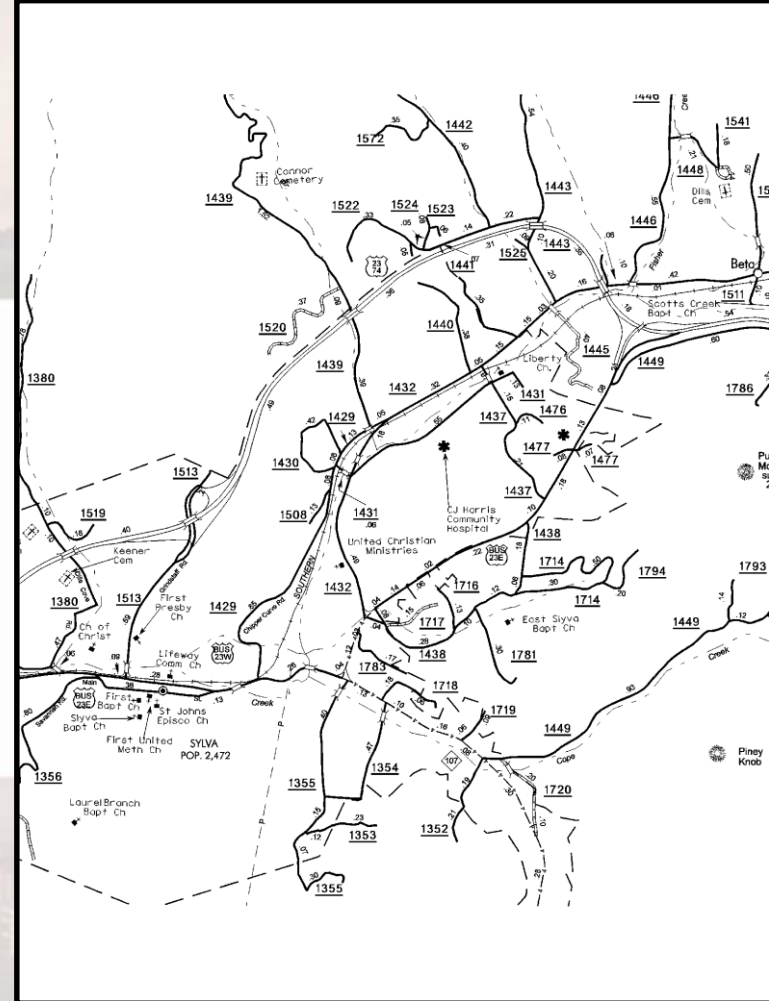


NCDOT: Disaster Recovery Operations

NCDOT State System Road Miles ±79,578.04

- Interstate ±1,322.72
- US Routes ±5,570.16
- NC Routes ±8,170.77
- Primary Routes ±15,063.65
- SR Routes ±64,514.39

NCDOT State System Lane Miles ±156,000



NCDOT: Disaster Recovery Operations

It is the policy of the Department to perform recovery efforts in the following order of priority:

- Routes included in the Bare Pavement System
- Remaining US and NC routes not in the Bare Pavement System
- Paved Secondary Routes not in the Bare Pavement System
- Unpaved Secondary Routes



NCDOT: Disaster Recovery Operations

Bare Pavement Routes are:

- Interstate and four-lane divided Primary routes and other primary and secondary routes considered to be essential to the overall objectives of recovery operations - the movement of interstate traffic.
- Routes important to public safety.



NCDOT: Disaster Recovery Operations

Debris removal is authorized when in the public interest (Stafford Act)

In the Public Interest:

- Eliminate immediate threats to life, public health, or safety
- Eliminate immediate threats of significant damage to improved public or private property
- Ensure economic recovery of the affected community to the benefit of the community-at-large



NCDOT: Disaster Recovery Operations

Eligibility:

- Eligible Applicant and Facility
- Responsibility of Eligible Applicant
- Result of Declared Disaster
- Within Designated Disaster Area



NCDOT: Disaster Recovery Operations

Debris:

- **Vegetative**
- **Construction and Demolition**
- **Personal Property**
- **Metals**
- **Household Hazardous Waste**
- **Sediment, Sand and Silt**



NCDOT: Disaster Recovery Operations

Debris Operations:

Phase I

Clearance of debris that hinders immediate life saving actions and possesses an immediate threat to public health and safety.

Phase II

Removing and disposing of debris that hinders the orderly recovery of the community and poses less immediate threats to health and safety.



NCDOT: Disaster Recovery Operations

Phase I:

- Emergency roadway debris clearance
 - First 72 hours after the disaster
 - Roadway debris is moved to the side of the road to open access routes into devastated areas to allow for:
 - Movement of emergency vehicles
 - Law enforcement
 - Resumption of critical services
 - Damage assessment to critical public facilities and utilities



NCDOT: Disaster Recovery Operations

Phase I:

First Priority:

- Hospitals
- Police
- Fire/Rescue stations

Second Priority:

- Schools and municipal buildings
- Water and Wastewater treatment plants
- Power generation units
- Airports and seaports



NCDOT: Disaster Recovery Operations

Phase II:

Removal Reduction Disposal

- Activation of contracts
- Citizen notification of debris procedures
- Debris management site activation
- Removal of debris from public right-of-ways
- Movement of debris to management or landfill sites



NCDOT: Disaster Recovery Operations

NCDOT Local Agreement for Debris Collection:

- Allows NCDOT the ability to release authority to local governments for the purpose of debris removal from State System routes.
- Can be executed prior to storm season
- Valid for five years with an optional two year extension
- Encourages communication between FEMA, Emergency Management, NCDOT, and Municipality/County.
- Local governments can respond to constituents requests for debris removal and be eligible for FEMA reimbursement
- Allows NCDOT the ability to concentrate on infrastructure recovery
- Joint participation assists in the recovery efforts resulting in quicker return to pre-event conditions



NC Transportation: Disaster SharePoint Site

Questions?

Joshua Kellen

Disaster Recovery Engineer

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(919) 835-8491



NCDOT: Disaster Recovery Operations

Municipal System (Road Miles)

$\pm 1,175$

NCDOT State System (Road Miles)

$\pm 2,338.65$

- Raleigh
- Greensboro
- Winston-Salem
- Greenville
- Fayetteville



857 Square Miles



NCDOT: Disaster Recovery Operations

Municipal System (Road Miles)

NCDOT State System (Road Miles)

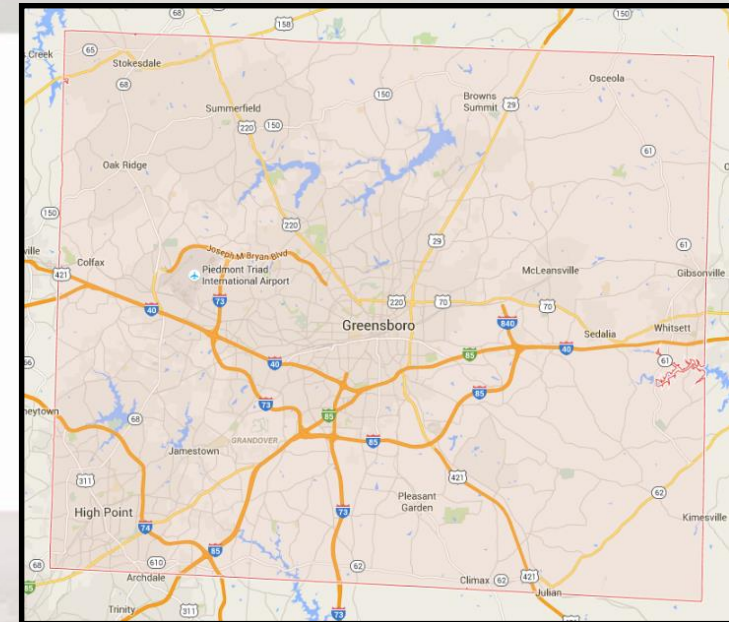
- Raleigh
- Greensboro
- Winston-Salem
- Greenville
- Fayetteville

± 1,175

± 1,100

± 2,338.65

± 1,810.84



658 Square Miles



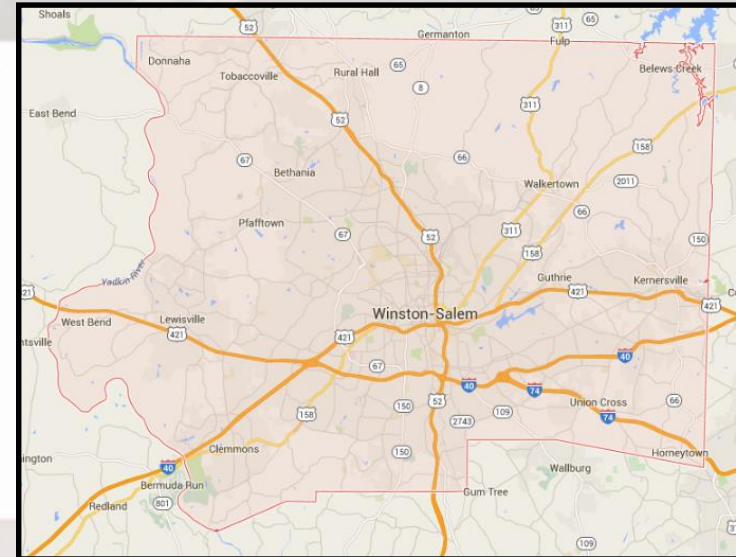
NCDOT: Disaster Recovery Operations

Municipal System (Road Miles)

NCDOT State System (Road Miles)

- Raleigh ± 1,175
- Greensboro ± 1,100
- Winston-Salem ± 1,001
- Greenville
- Fayetteville

± 2,338.65
± 1,810.84
± 1,040.52



413 Square Miles



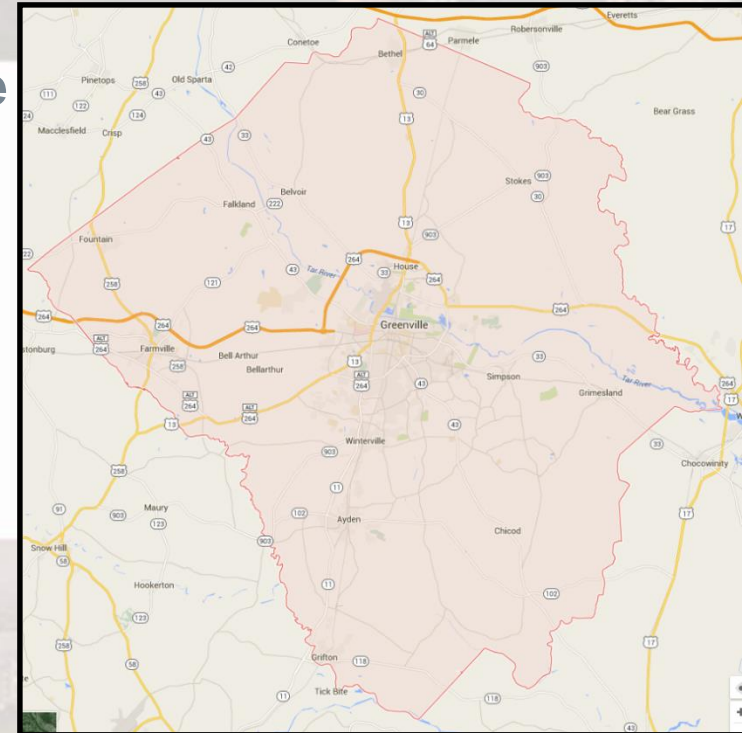
NCDOT: Disaster Recovery Operations

Municipal System (Road Miles)

NCDOT State System (Road Miles)

- Raleigh ± 1,175
- Greensboro ± 1,100
- Winston-Salem ± 1,001
- Greenville ± 336
- Fayetteville

- ± 2,338.65
- ± 1,810.84
- ± 1,040.52
- ± 1,108.78



655 Square Miles

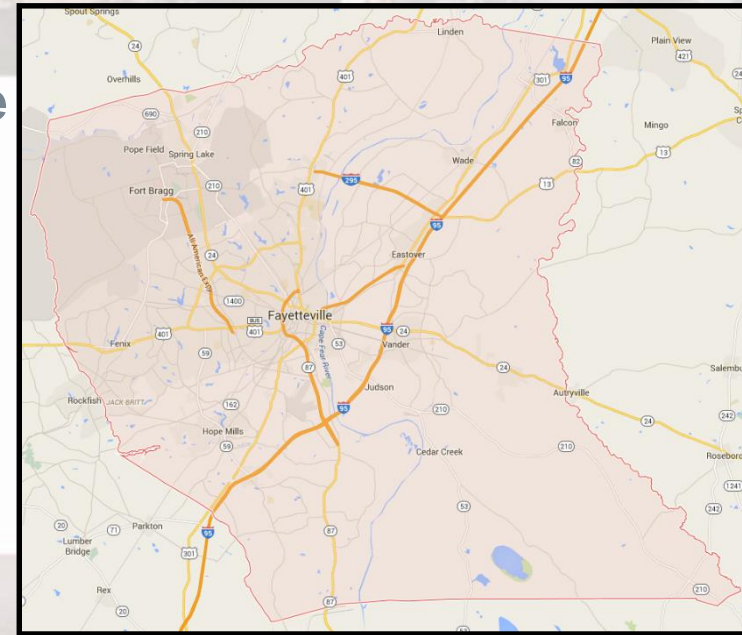


NCDOT: Disaster Recovery Operations

Municipal System (Road Miles)

NCDOT State System (Road Miles)

- Raleigh	± 1,175	± 2,338.65
- Greensboro	± 1,100	± 1,810.84
- Winston-Salem	± 1,001	± 1,040.52
- Greenville	± 336	± 1,108.78
- Fayetteville	± 735	± 1,166.70

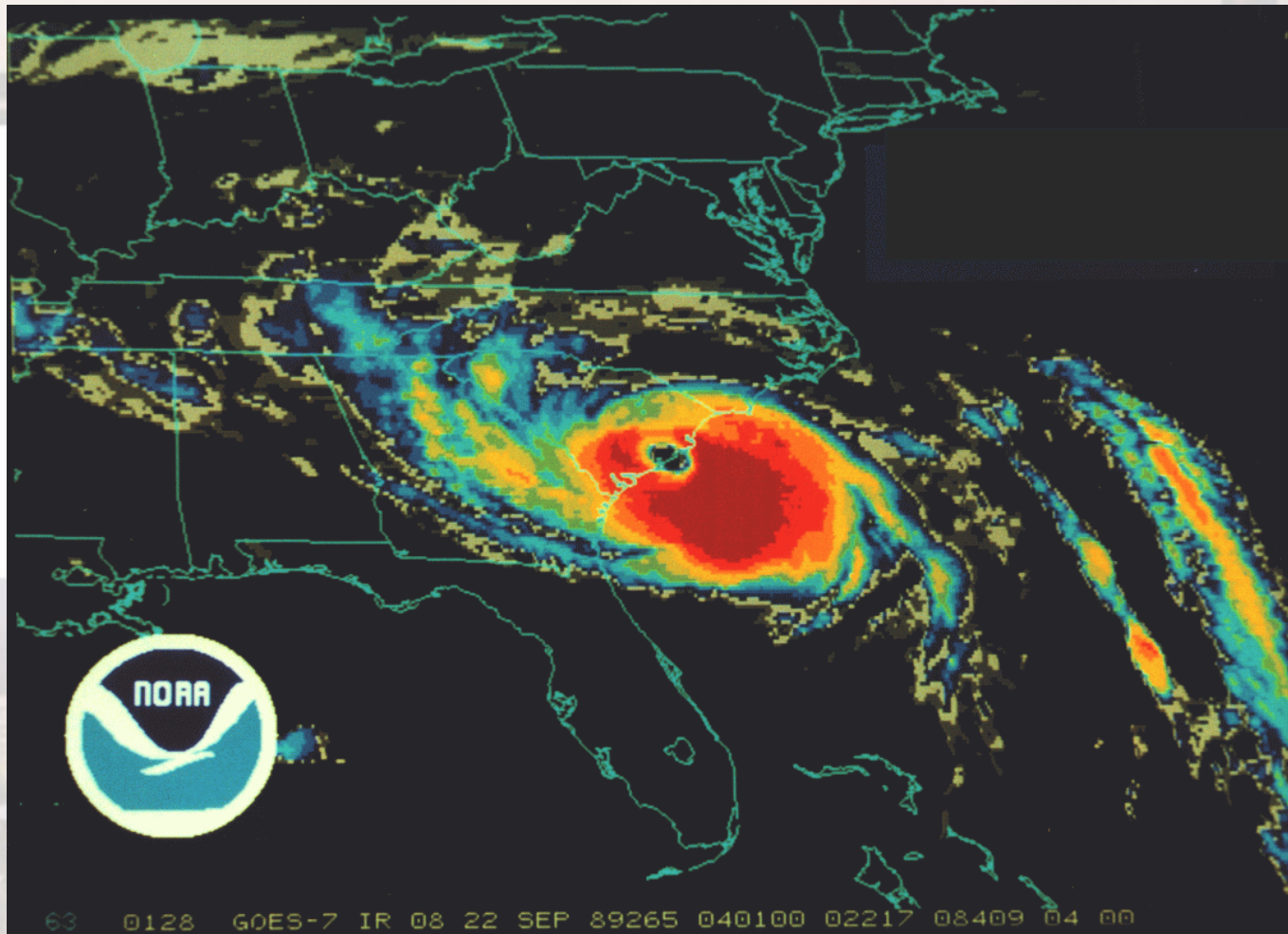


658 Square Miles



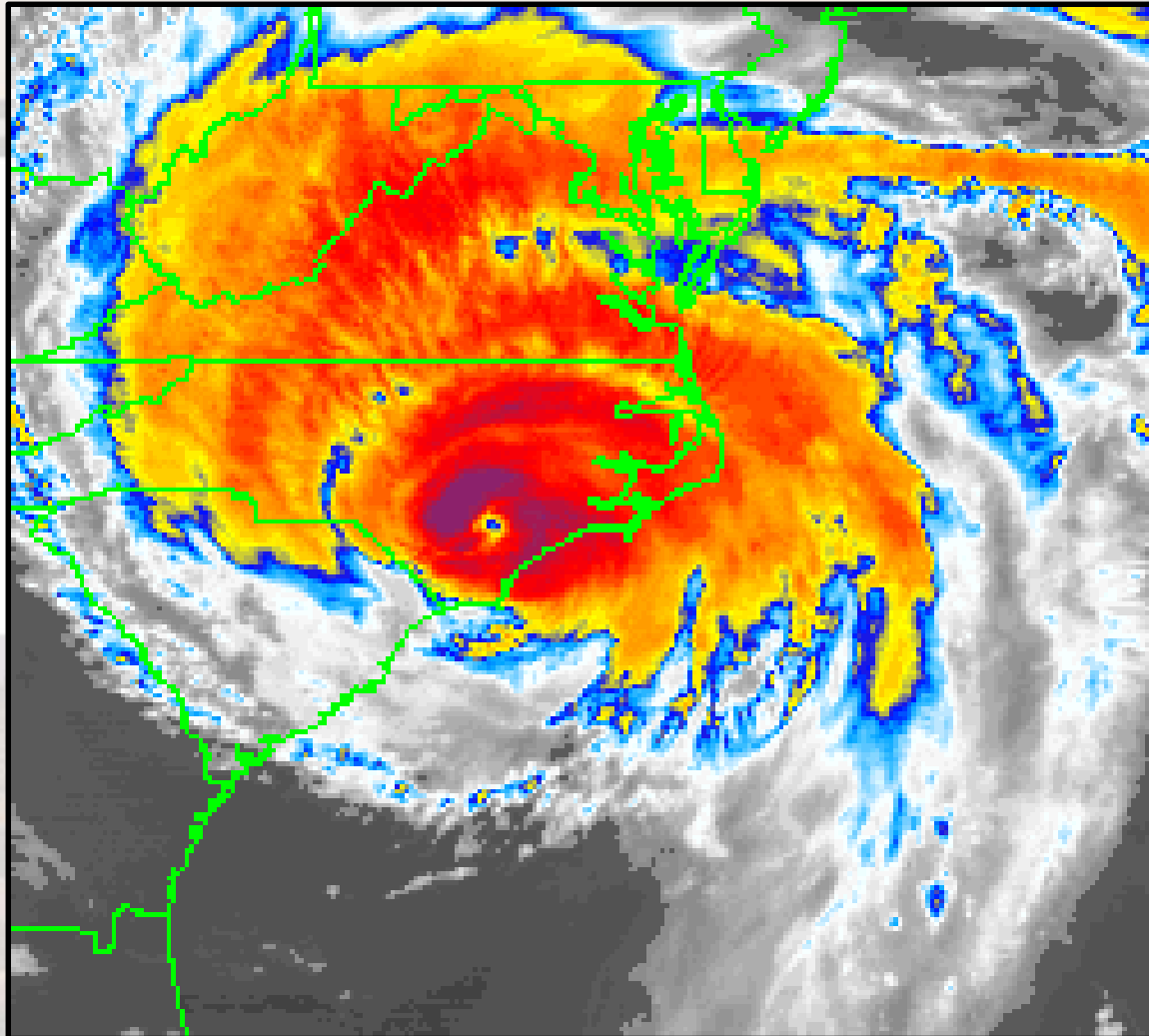
NCDOT: Disaster Recovery Operations

1989 Hugo



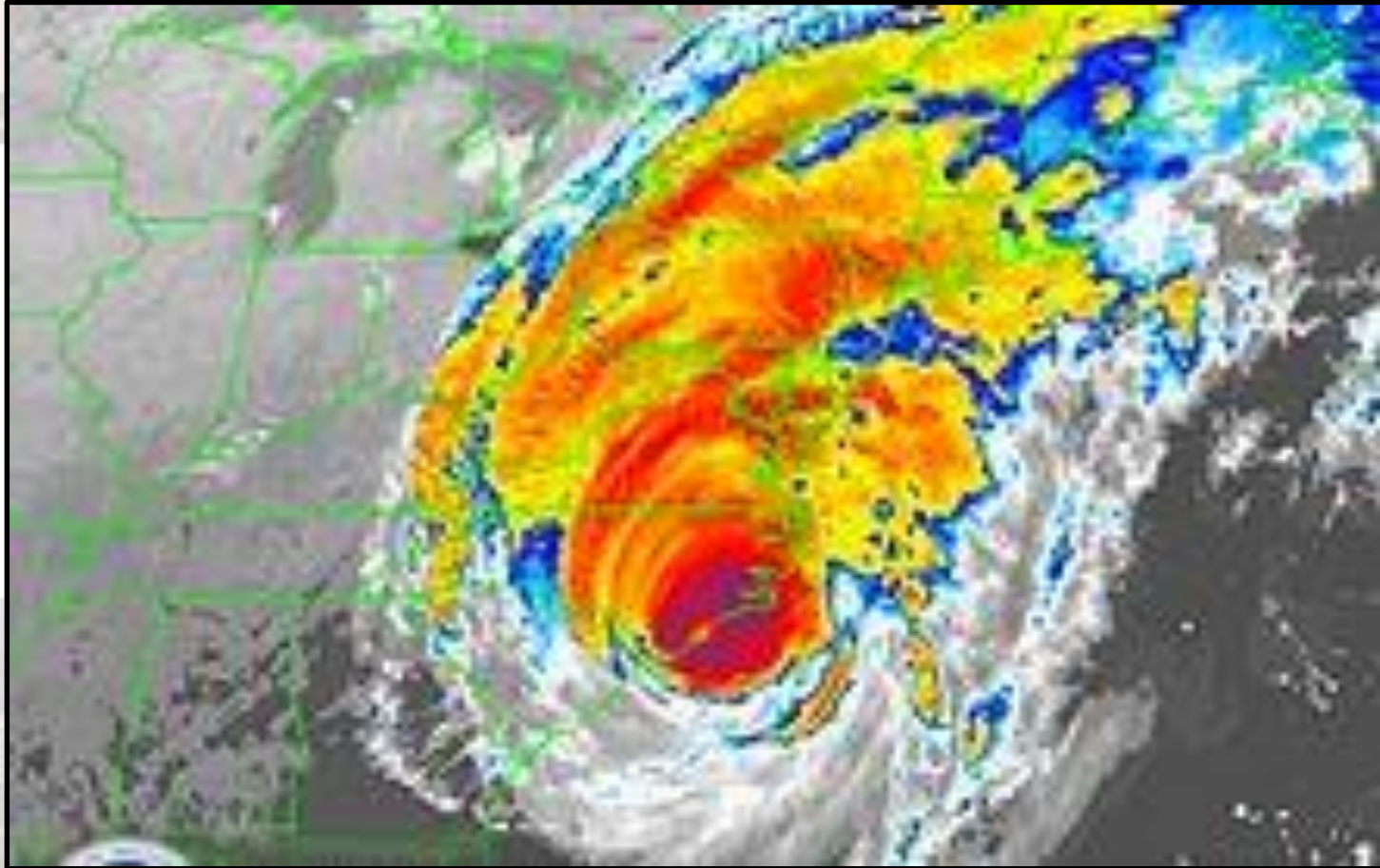
NCDOT: Disaster Recovery Operations

1996 Fran



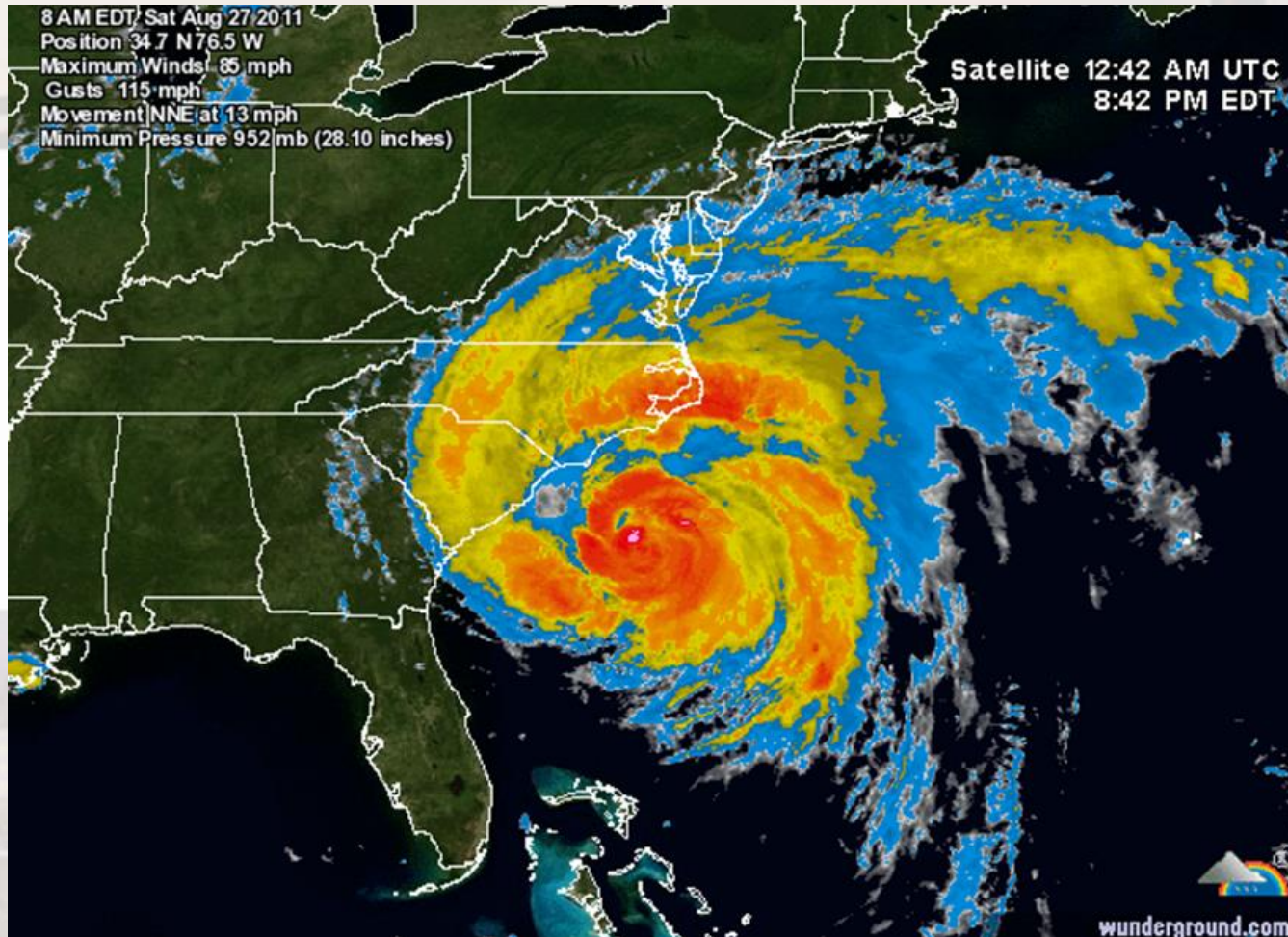
NCDOT: Disaster Recovery Operations

1999 Floyd



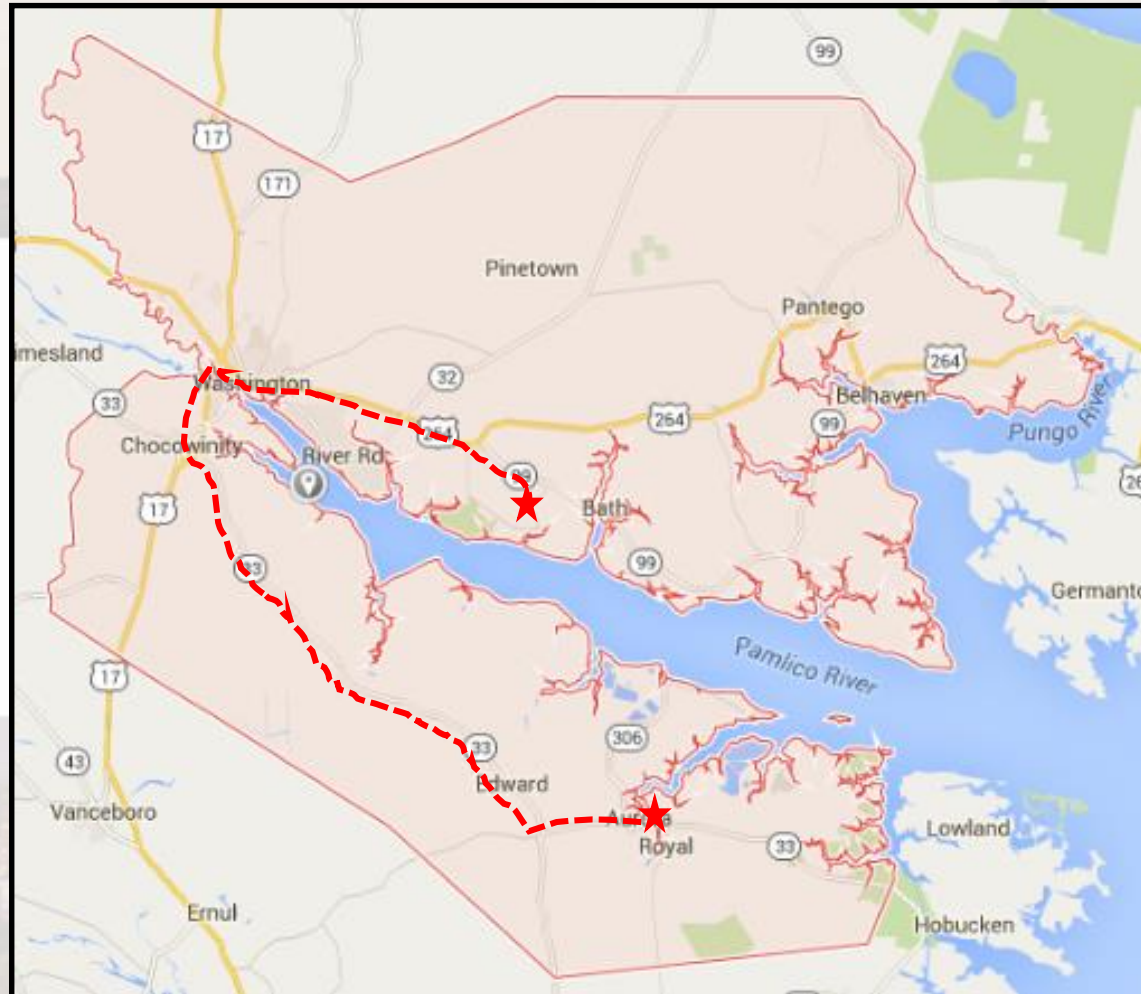
NCDOT: Disaster Recovery Operations

2011 Irene



NCDOT: Disaster Recovery Operations

- ± 100 Miles Round Trip
- ± 3 Hour Round Trip
- 3 Trips Per Day



NCDOT: Disaster Recovery Operations

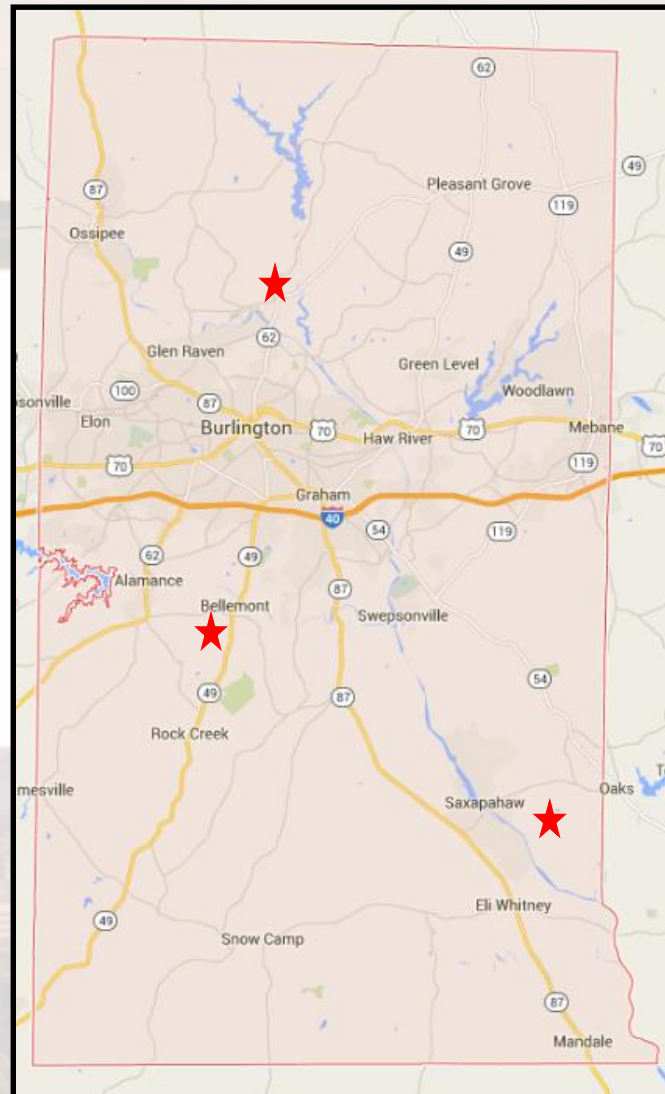
2014 Ice Storm



NCDOT: Disaster Recovery Operations



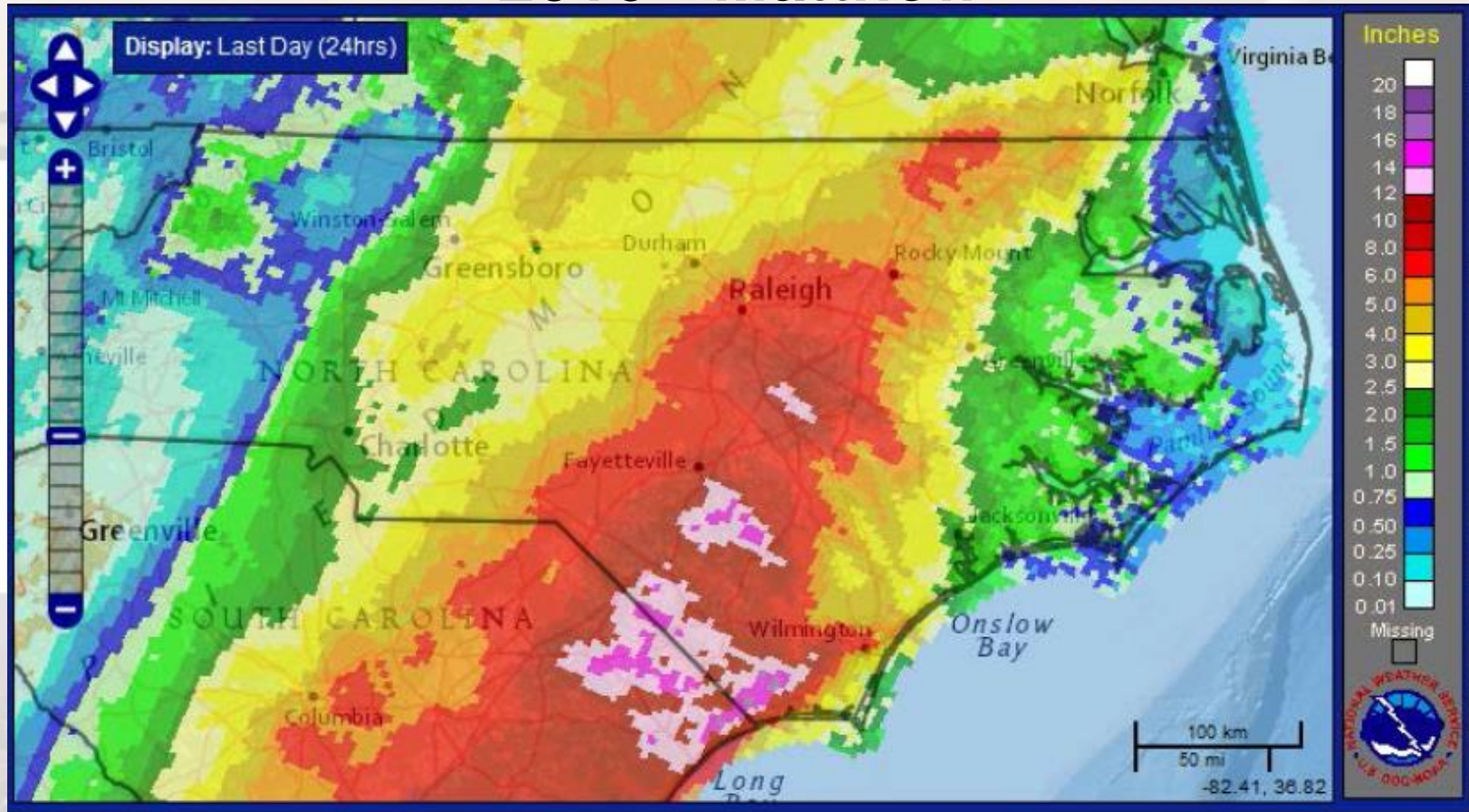
NCDOT: Disaster Recovery Operations



- ± 50 Miles Round Trip N of I-40
- 2-2.5 Hour Round Trip
- 4-5 Trips Per Day (Our personnel had keys to the landfill)

NCDOT: Disaster Recovery Operations

2016 Matthew



RAINFALL REPORTS

HURRICANE MATTHEW

Valid Sunday, October 09, 2016 (1:30 PM)



Location	Rainfall
White Oak (Bladen)	16.71"
Goldsboro (Wayne)	15.24"
Hope Mills (Cumberland)	14.71"
Chadbourn (Columbus)	12.90"
Lumberton (Robeson)	12.47"
Elm City (Nash)	11.95"
Edenton (Chowan)	11.88"
Windsor (Bertie)	11.07"
Point Harbor (Currituck)	10.73"
Easons Crossroads (Gates)	10.60"
Garner (Johnston)	10.22"

WIND REPORTS

HURRICANE MATTHEW

Valid Sunday, October 09, 2016 (as of 2:00PM)



Location	Max Wind Gust
St. James Plantation (Brunswick)	86 mph
Hatteras (Dare)	82 mph
Federal Point (New Hanover)	82 mph
Jacksonville (Onslow)	72 mph
Beaufort (Carteret)	70 mph
Elizabeth City (Pasquotank)	69 mph
Lumberton (Robeson)	67 mph
Cherry Point (Craven)	64 mph
Back Island (Pender)	64 mph
Currituck (Currituck)	62 mph
Greenville (Pitt)	59 mph

NCDOT: Disaster Recovery Operations

- Over 2,000 identified FEMA route sites
- Over 700 identified FHWA route sites



NCDOT: Disaster Recovery Operations

- At height of storm – over 600 closures
- Currently –9 closures (as of June 14)



NCDOT: Disaster Recovery Operations

- Approximately 90% of the workforce in Divisions 1, 2, 3, 4, 5, 6 & 8 utilized
- Over 360 personnel were mobilized from west and piedmont to assist
- Additionally, personnel assisted from other groups such as traffic systems, operations, support, design and modal division staff



NCDOT: Disaster Recovery Operations



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NCDOT: Disaster Recovery Operations



NC Transportation: Disaster SharePoint Site

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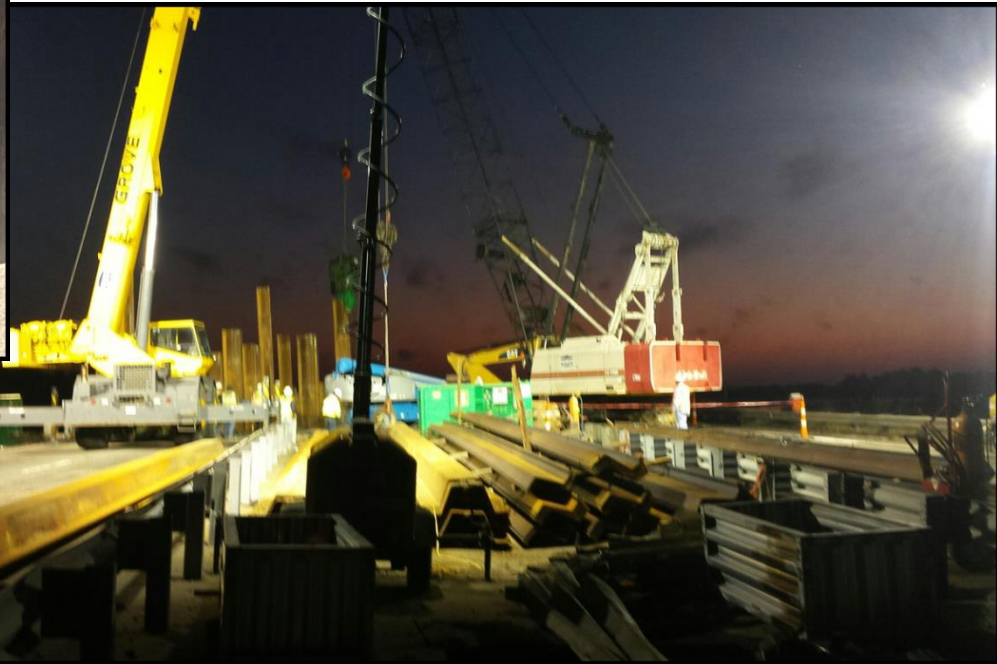


NCDOT: Disaster Recovery Operations

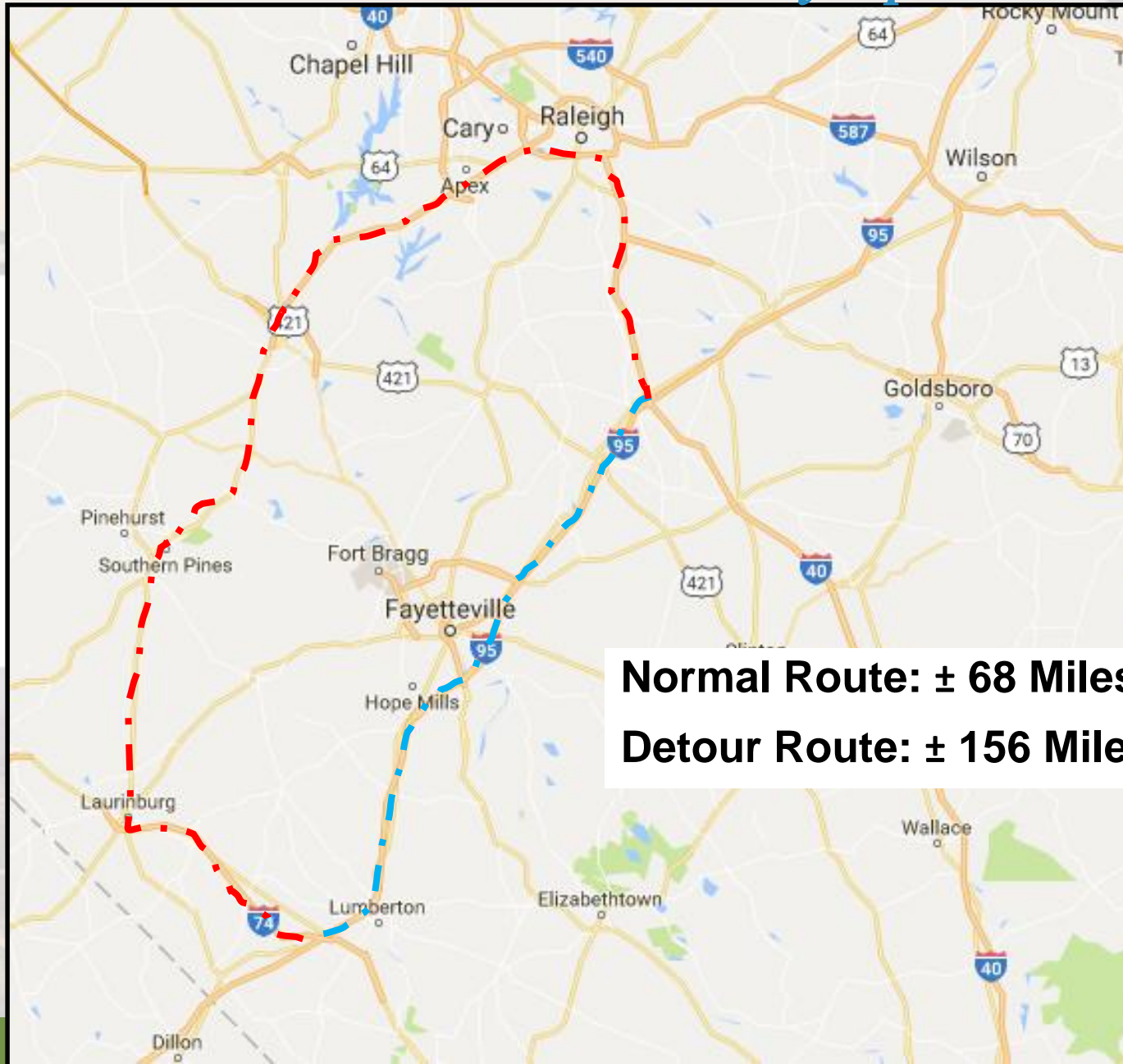
I-95 Mile Marker 18.5 (Lumber River)



NCDOT: Disaster Recovery Operations



NCDOT: Disaster Recovery Operations



Normal Route: ± 68 Miles ± 1 H 00 Min
Detour Route: ± 156 Miles ± 2 H 35 Min



NCDOT: Disaster Recovery Operations



NCDOT: Disaster Recovery Operations



NCDOT: Disaster Recovery Operations



NCDOT: Disaster Recovery Operations



Pigeon River

Runyon Creek

Mt Sterling
Creek

Pigeon River

Counterfeit
Branch

40

40

40

40

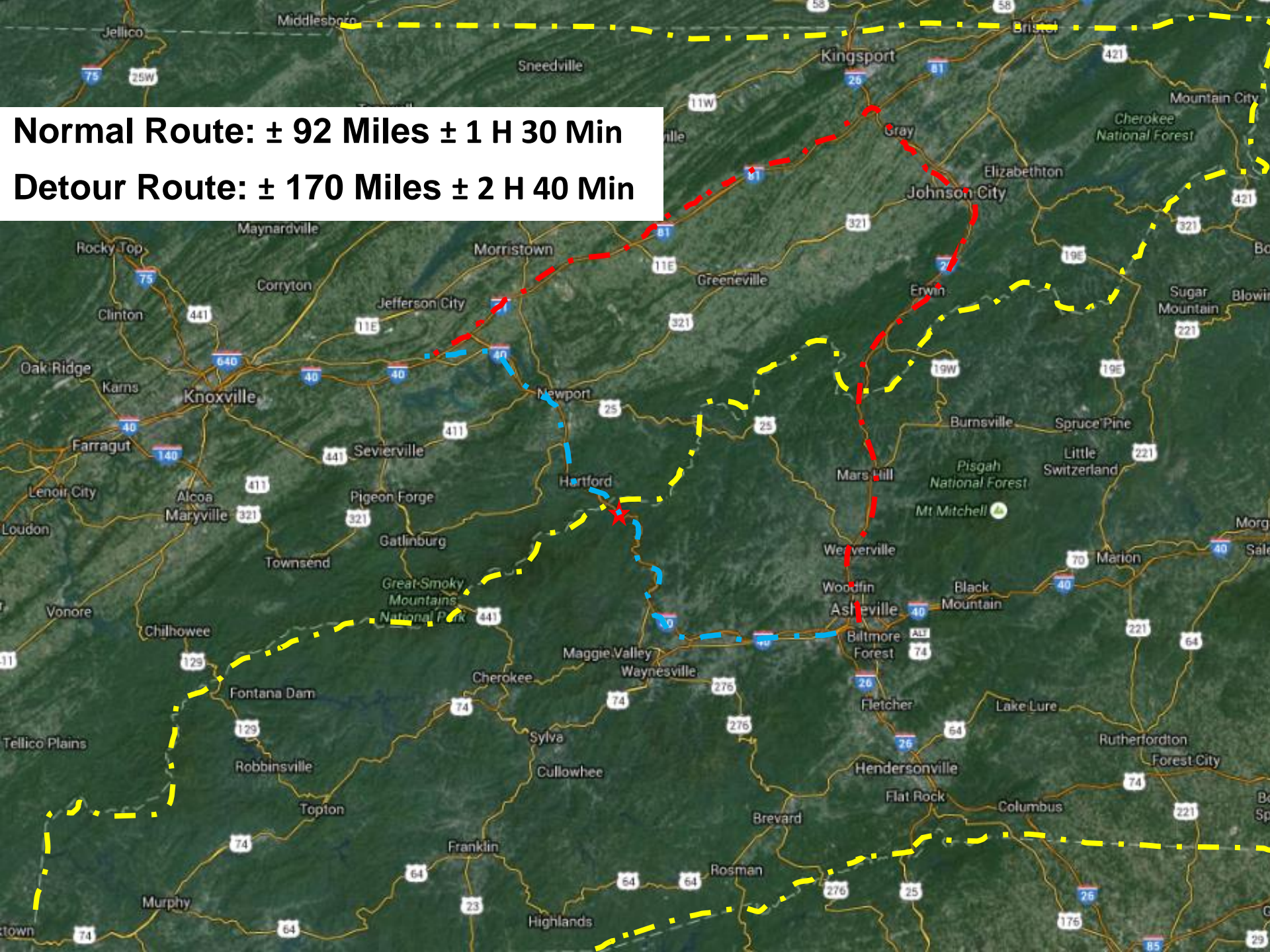
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Normal Route: ± 92 Miles ± 1 H 30 Min
Detour Route: ± 170 Miles ± 2 H 40 Min



NC Transportation: Disaster SharePoint Site

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NC
Nothing Compares
NORTH CAROLINA

