

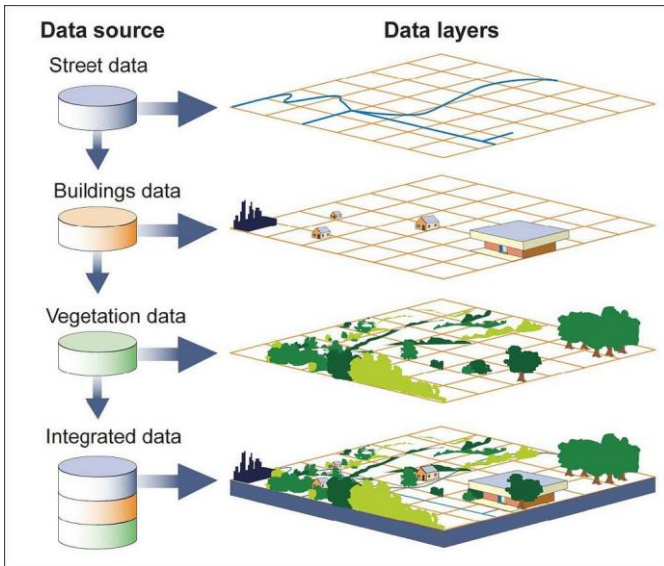
NCDOT & NCDIT – T

Florence Response Utilizing GIS

“Get as much verified information as possible, to as many officials as possible, as soon as possible”

John Farley
NCDOT GIS Manager
November 7, 2018



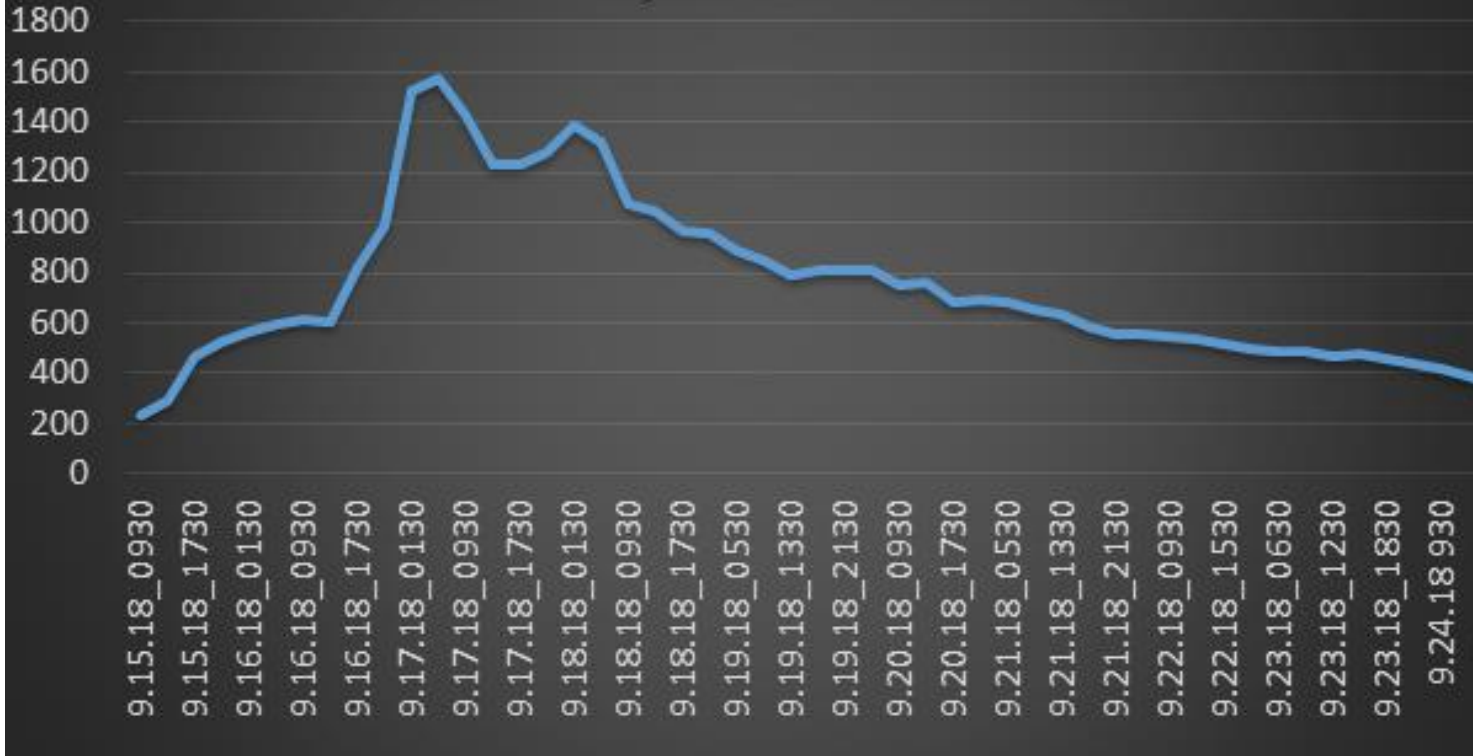


Source: GAO.



Times They Are a Changin'

Total Reported Closures



- 2400 road closures during Florence
- 1600 max at one time

Hurricane Florence

Road Type	#	%		
Interstate	22	1%	23%	
US	206	9%		
NC	334	14%		
Secondary	1860	77%	77%	
Total	2422	100%		

Hurricane Florence Disaster Event Time Line

Legend:

- Red = Hurricane Florence events
- Orange = DMV impacts
- Green = GIS actions
- Blue = Web Services actions
- Yellow = Infrastructure actions

Events

SOE Declared

Wilmington Cutoff

Florence landfall
Saturday 8:30AM

1600
roads closed

Business
Impacts

Bladen DMV Closed

Emergency Msg to IVR

STARS Help Desk Closed

63 DMV LPAs closed

Activate alternate DMV Cust Contact Ctr

LPAs Resume normal duties

IT Actions

Mon 9/10

Tues 9/11

Wed 9/12

Thurs 9/13

Fri 9/14

Sat 9/15

Sun 9/16

Mon 9/17

Tues 9/18

Wed 9/19

Communicate w all DOT
Bus Units to ID BEFs

GIS Coordination
begins

IT Recommend's
DMV close

Alternate IT Help
Desk Ready

Hydraulics
& Facilities
Mapping

Hotel Mapping

TIMS support

TIMS History Event Map started

Web Team staff available 24x7

0365 hurricane collaboration sites stood up

Start Rcvg
Emergency
data requests

Drone Mapping

assigned in DOT Traffic Mgmt Call Ctrs

GIS Servers stressed thru Oct 11

Drone
Imagery
published

Div 3 Maps for
Secretary

AGOL Shelter Map

Fuel Depots
Data Requests

Drone Imagery Flown

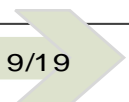
Daily TIMS Maps

Drone Imagery Published

Sat Sept 1 – Sun 30 Inundated w new AGOL/123 Accounts Req (460 total)

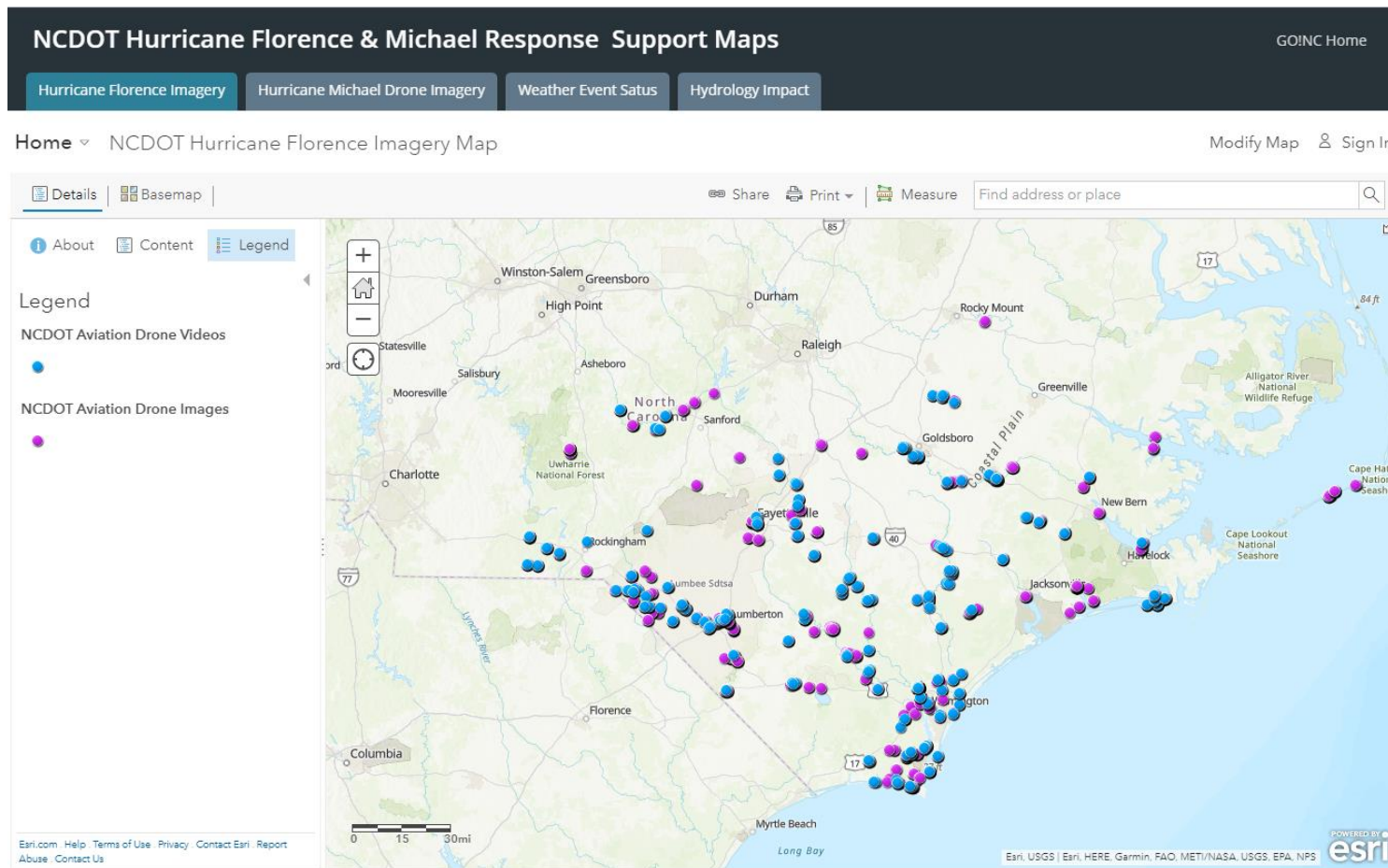
Sun Sept 23 MOA Maps

Wed Oct 3 Lenoir
impact for Kinston



UAS – Unmanned Aerial Systems

- NCDOT deployed 14 teams
- Over 3200 Images and Videos were collected



US 117 – Pender County



UAS – Unmanned Aerial Systems

Image Capture



Seven Springs, NC



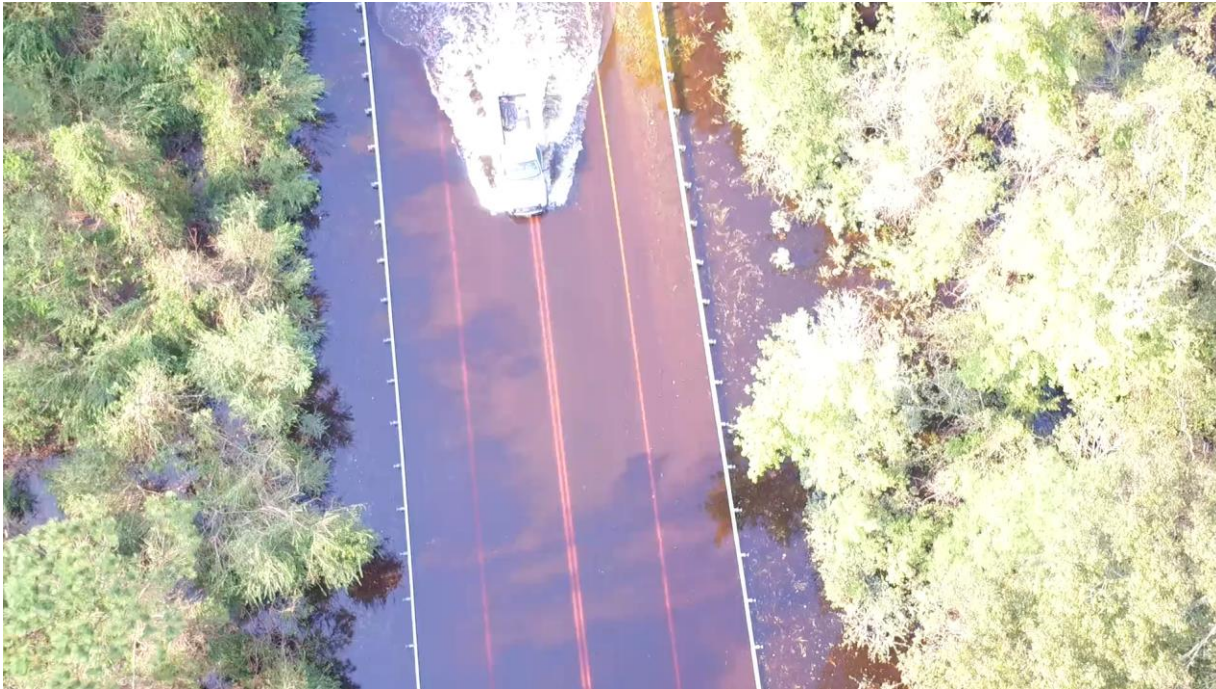
Lumberton, NC



NC22 at Highfall

UAS – Unmanned Aerial Systems

Video Capture



US 117

Storm Maps

Weather Event Response & Recovery Support Maps

[NCDOT Hurricane Michael Imagery Map](#)

[NCDOT Weather Information Map](#)

[NCDOT Facilities Status - Hurricane Florence Map](#)

[NCDOT Facilities Status - Hurricane Florence Viewer](#)

[NCDOT Facilities Status - Hurricane Florence Map - INTERNAL](#)

[NCDOT Hydraulics Data - Hurricane Florence](#)

[NCDOT Pipe Replacement Recommendations – INTERNAL](#)

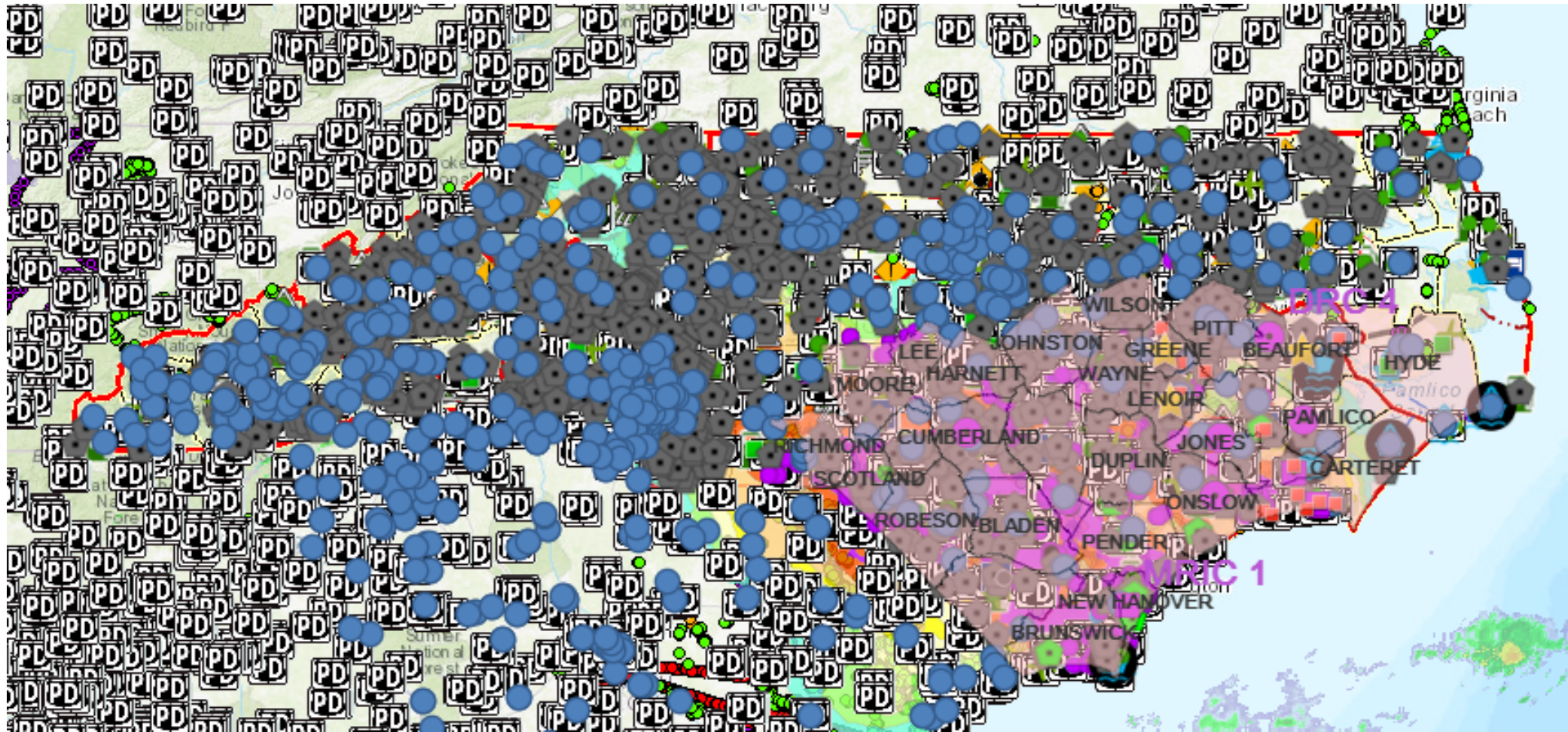
[Hurricane Florence Impact Maps](#)

[NCDOT Hurricane Florence Imagery Map](#)

[USPS National Map](#)



Hurricane Florence Facilities Status Map (“The Kitchen Sink”)



GO!NC NCDOT Weather Event Information Map

~ NCDOT Weather Event Information Map - Created 9/11 - 26,270 views (this is our original TIMS and weather data map and is probably more public oriented)

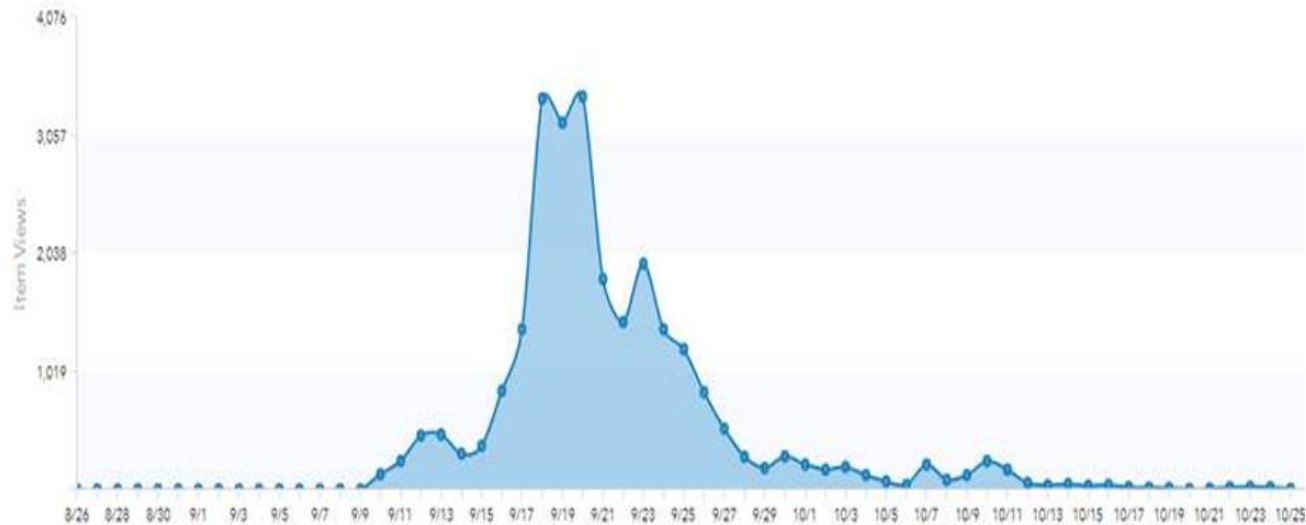
Item Views this Period

26,138

Avg Item Views Per Day

435.63

Usage Time Series



Most of the views were generated in that time window with over 200 times increase of daily viewing from about 15 to over 3000.

GO!NC is the North Carolina Department of Transportation's (NCDOT) portal through which NCDOT staff, business partners, and others can access and publish geospatial information pertaining to transportation in North Carolina.

Weather Event Response & Recovery Support Maps

- NCDOT Hurricane Michael Imagery Map
- NCDOT Weather Information Map
- NCDOT Facilities Status - Hurricane Florence Map
- NCDOT Facilities Status - Hurricane Florence Viewer
- NCDOT Facilities Status - Hurricane Florence Map - INTERNAL
- NCDOT Hydraulics Data - Hurricane Florence
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- USPS National Map



Storm Apps

- *Drone Map and Display*
- *Secretary's Mobile Drone Mission Assignment*
- *Pipe Inventory, Assessment, and Replacement (mobile component)*
- *Traffic Information Management System (TIMS) GIS Integration*
- Mobile Damage Assessment
- Mobile Debris Removal



Florence

After Action and Lessons Learned

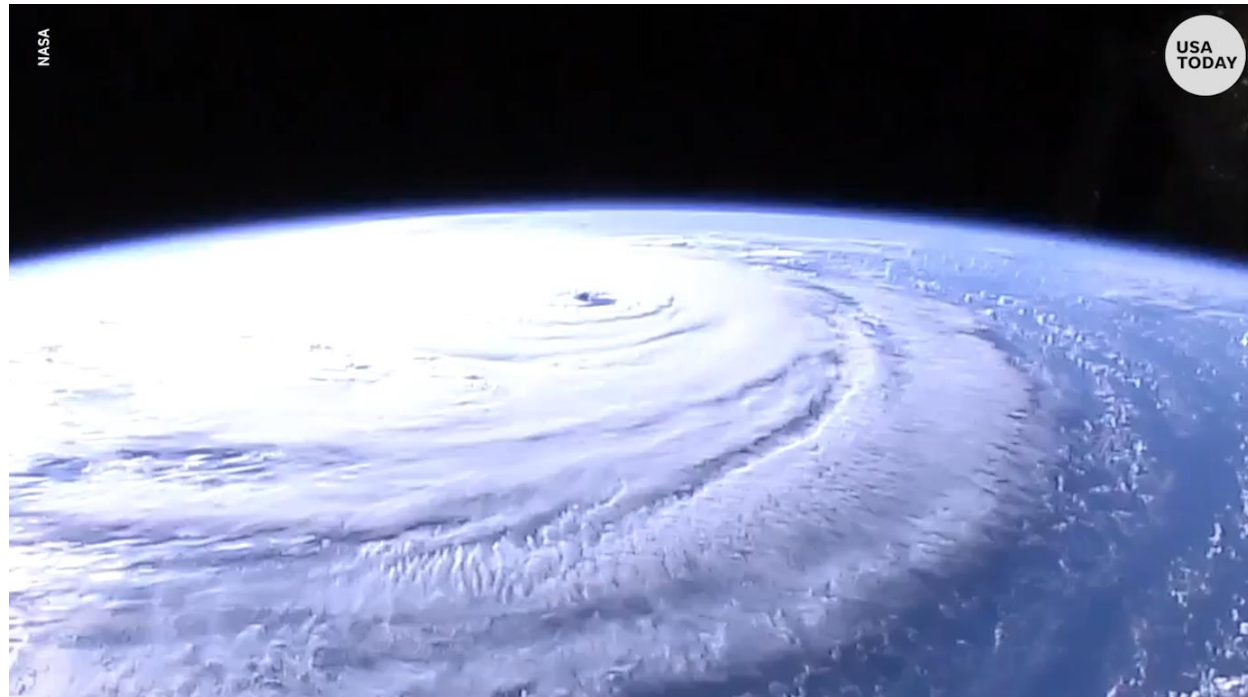
- Finishing the After Action Report for DIT – T
 - Majority are GIS and/or Data Management Related
- Meeting with the business to consolidate and prioritize recommendations



Florence

Some Recommendations...

- Daily Geospatial Call – Patterned on the one for FEMA
- State GIS Staff (Resources?) for local assistance
- Etc...



Questions...



Let's Connect!



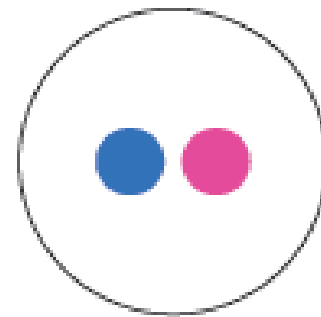
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