

Flood Inundation Mapping Alert Network (FIMAN)

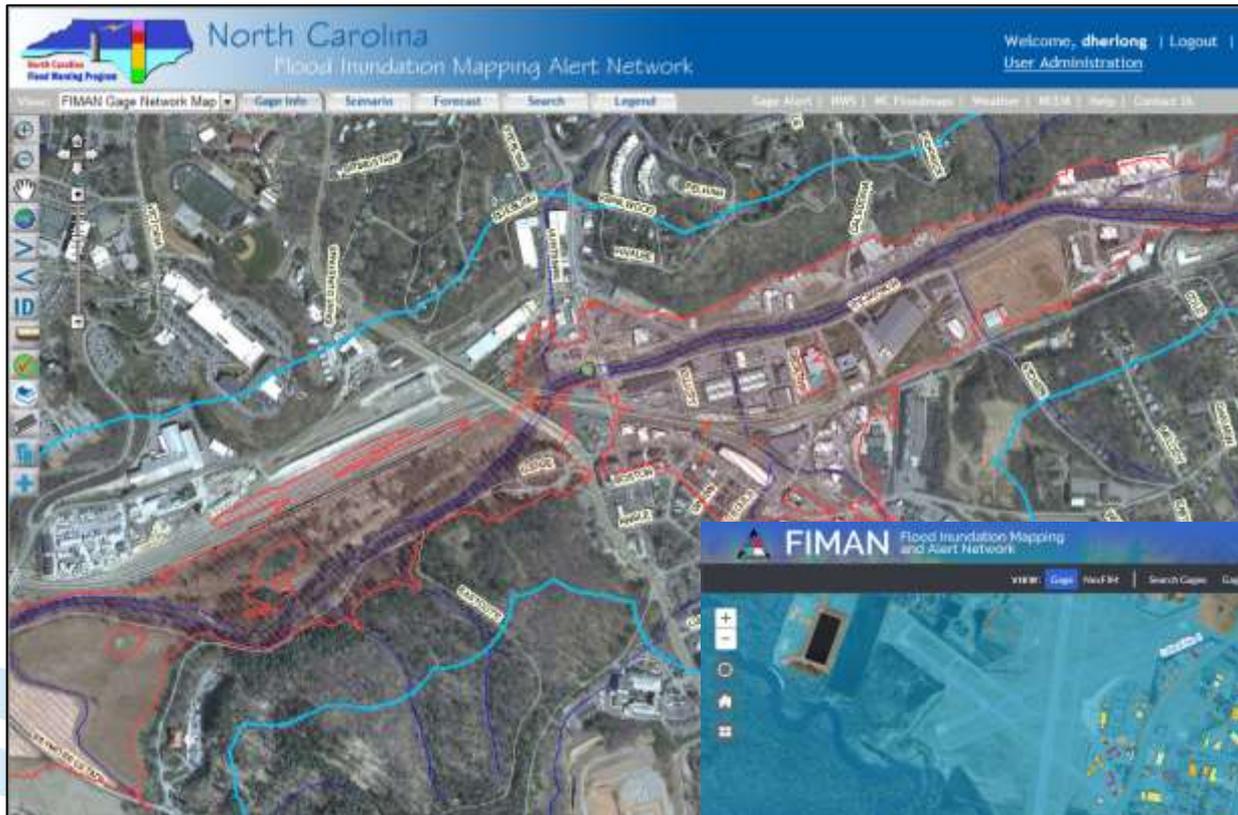
<https://fiman.nc.gov/fiman/>



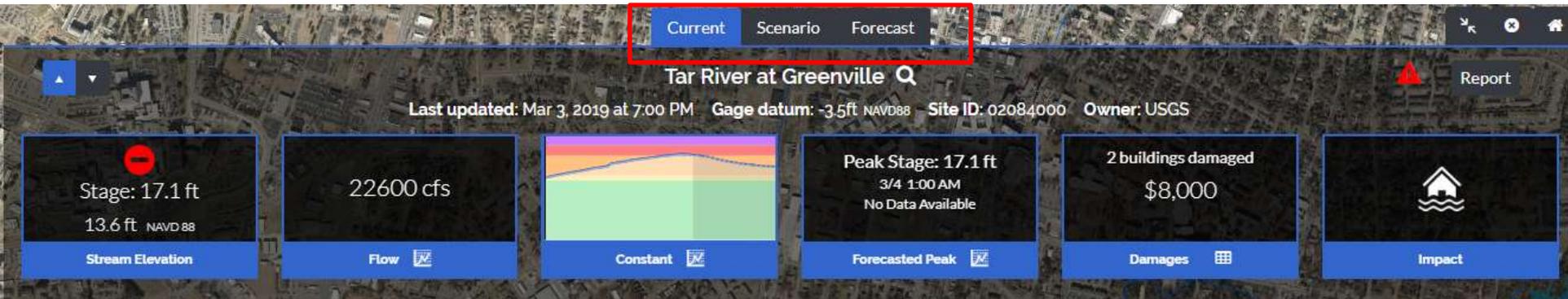
North Carolina Emergency Management



What is FIMAN?



Dashboard Concept



- Three Tabs
 - **Current:** Provides most recent gage data
 - **Scenario:** Planning tool for visualization and impact
 - **Forecast:** Shows timeline using NWS forecast data
- Info Widgets
 - Interactive for stage, flow, forecast, impacts

Flood Impacts/Damages

Tar River at Greenville Buildings in Inundation Extent
Scenario Stage: 23.7 Ft

Export to Excel | Export KMZ | Filter by Type: All

Current Flood Depth	Estimated Damages	Flood Depth	Occupancy Type	Building ID
Sub Structure	\$410,949	2	Commercial	3714755615
0 - 1 ft	\$291,021	2.9	Residential	371471405
1 - 2 ft	\$206,505	0.4	Commercial	3714758239
2 - 3 ft	\$161,317	-1.5	Residential	3714755581
3 - 4 ft	\$110,819	4.8	Residential	3714733459
4 - 5 ft	\$108,643	0.8	Commercial	3714755310
> 5 ft	\$101,735	-3	Residential	3714767584
TOTAL	\$76,266	1.4	Commercial	3714755336
	\$52,082	5.6	Commercial	37147262
	\$51,785	-1.7	Residential	37147185

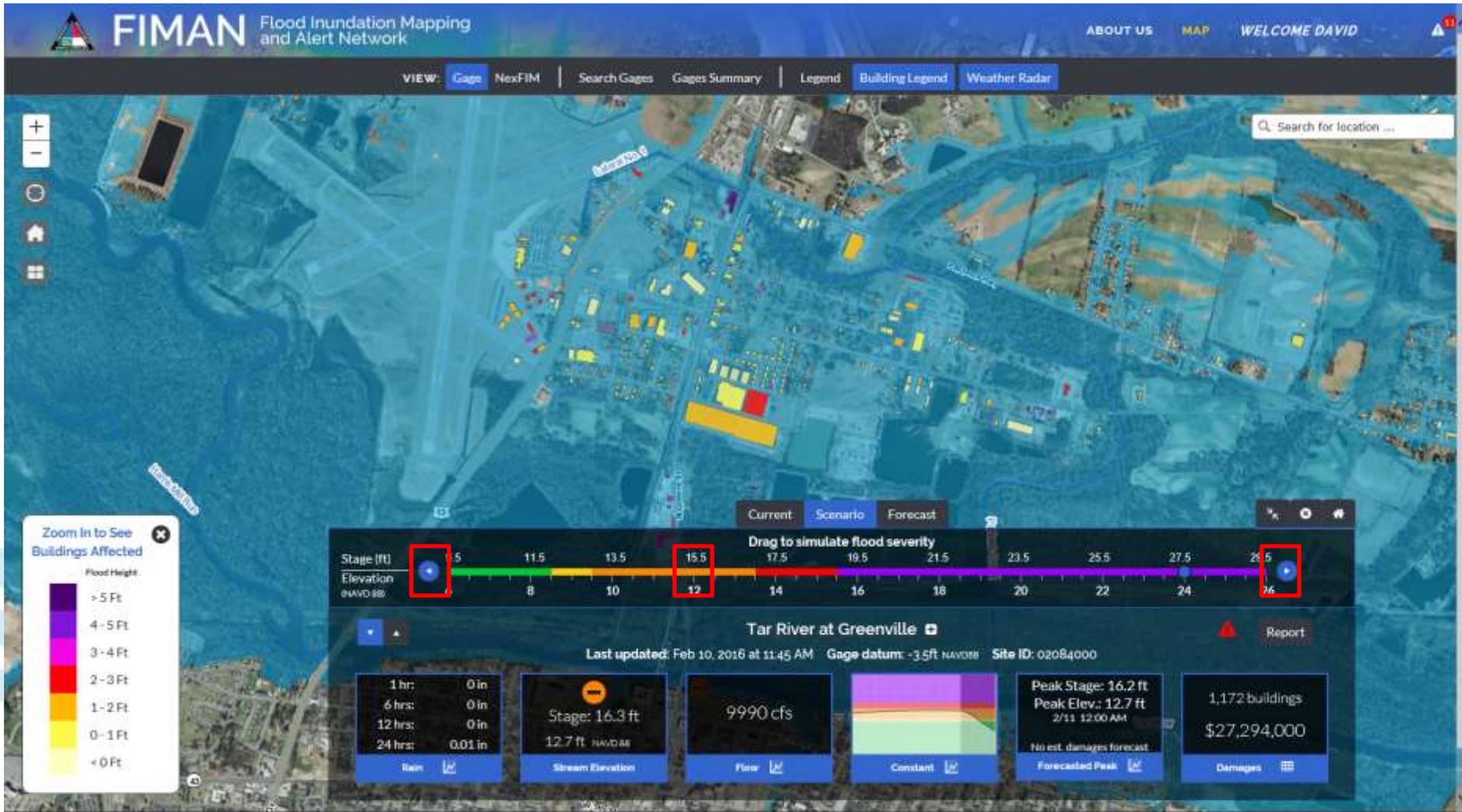
1 - 10 of 266 items

Additional buildings may be impacted outside of the inundation extent.
This table reflects counts of buildings inside the FIMAN inundation extent where structural damages (\$)

Additional buildings may be shown (color coded) in the map indicating buildings inside the inundation extent that may not sustain structural damages due to elevated first floor elevations or site-specific conditions.

266 buildings damaged
\$3,237,000

Flood Scenario Mode



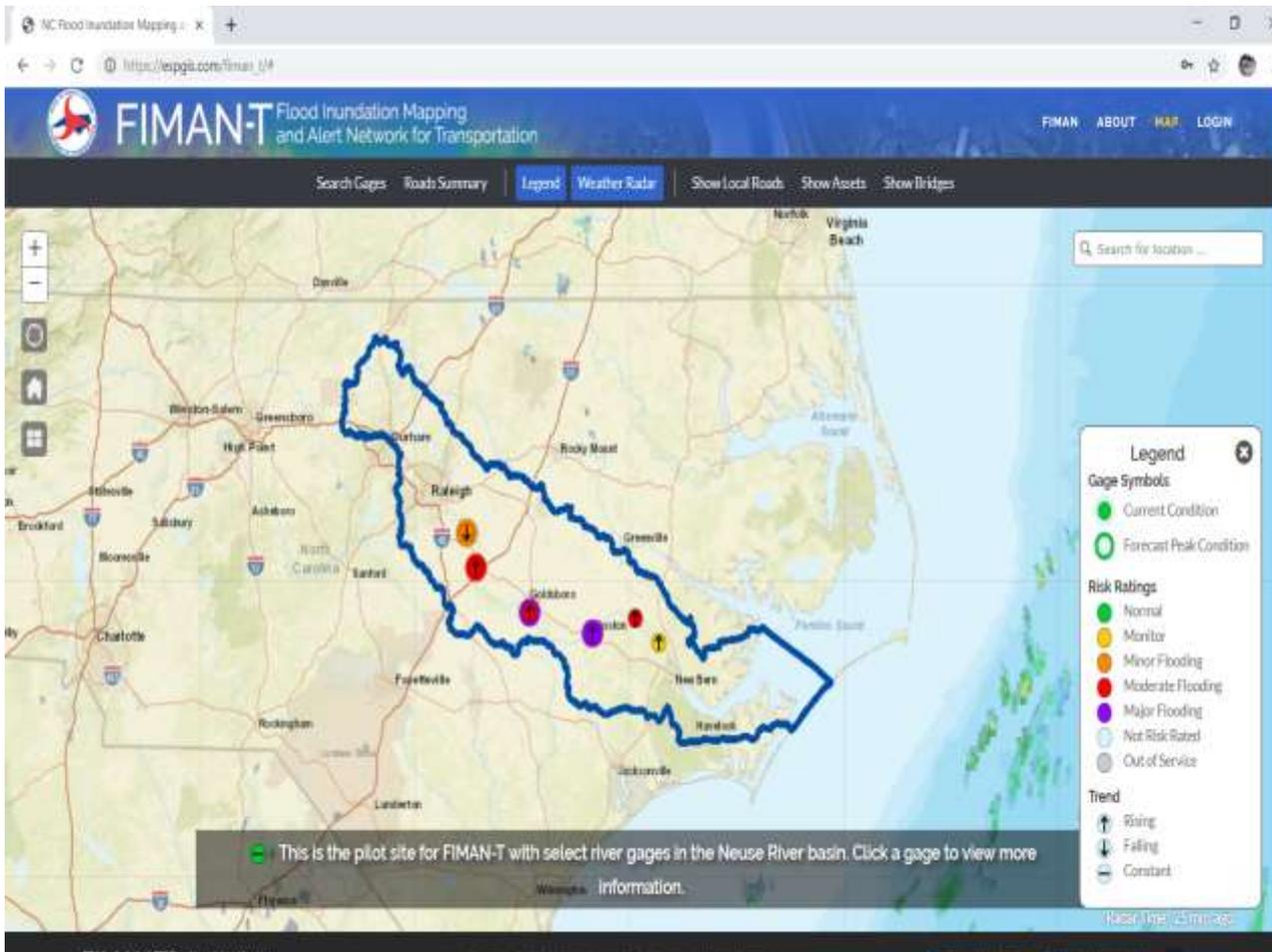
FIMAN-T

Flood Inundation Mapping and Alert Network for
Transportation

FIMAN-T is a web-based tool used to provide DOT officials and other emergency stakeholders real-time and forecasted flood inundation depths along roads, bridges, and other NCDOT assets.

FIMAN-T: Pilot

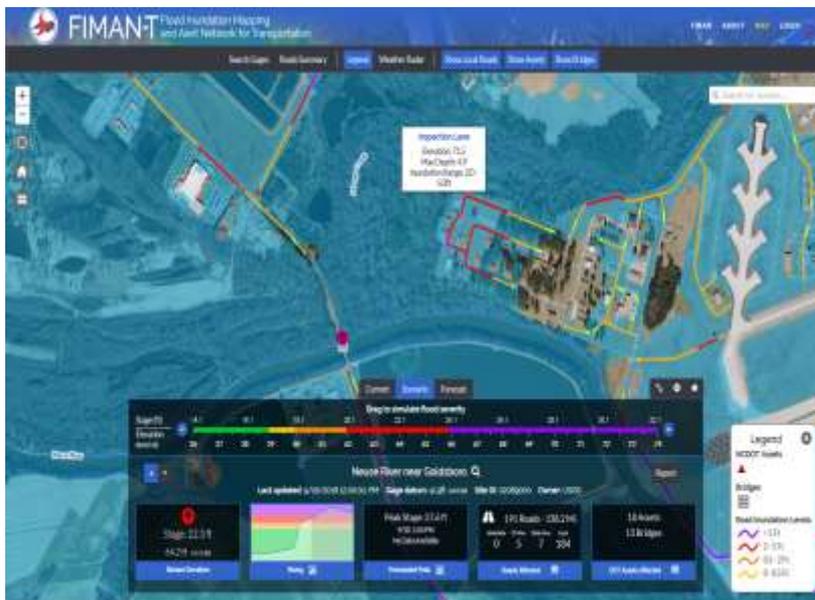
Currently, the Fiman-T Pilot Project monitors gages along the Neuse River Basin between Clayton and New Bern.



FIMAN-T: Current, Forecast and Scenario Road Impacts

FIMAN-T displays impacts to roads, bridges, and assets in 3 ways:

- ▶ **Current:** Using gage readings every 15 minutes, the web application displays real-time flooding extents and impacts.
- ▶ **Scenario:** Allows users to show impacts at various flood levels for scenario planning.
- ▶ **Forecast:** Based on the NWS forecasted hydrograph, FIMAN-T allows impacts to be visualized at the predicted peak flooding.



FIMAN-T: Snapshot

FIMAN-T Flood Inundation Mapping and Alert Network for Transportation

Search Gages Roads Summary Legend Weather Radar Show Local Roads Show Assets Show Bridges

Neuse River near Goldsboro
 Scenario Stage: 29.6 Ft
 Elevation: 71.5 (NAVD 88)
 Impact: Road Segments

Roadway Flood Depth Range	Estimated Inundated Lengths (Miles)				
	Total	Interstate	US Highway	NC Highway	Local Roads
Total	69.1	0.0	5.2	8.0	55.7
0-0.5ft	4.8	0.0	1.9	0.4	2.5
0.5-2.0ft	14.7	0.0	1.3	2.6	10.7
2.0-3.0ft	30.1	0.0	2.0	4.2	23.8
3.0+ft	19.5	0.0	0.0	0.7	18.7
Totals:	138.2	0.0	10.4	16.0	111.3

- Roadway classification and flood inundation values determined by using NCDOT LRS datasets overlaid on NCEM QL1 and QL2 raster datasets. All lengths are in miles.
- Some roadways may be inundated that do not appear in this application.
- Information should be evaluated with ground conditions before road closures or other emergency response actions.

Stage (ft): 14.1 16.1 18.1 20.1 22.1 24.1
 Elevation (NAVD 88): 56 57 58 59 60 61 62 63 64 65 66 67

Neuse River near Goldsboro Q
 Last updated: 9/16/2018 12:00:00 PM Gage datum: 41.9ft (NAVD 88) Site ID: 02089000 Owner: USGS

Stage: 22.3 ft
 64.2 ft (NAVD 88)
 Stream Elevation

Rising

Peak Stage: 27.6 ft
 9/18 2:00 PM
 No Data Available
 Forecasted Peak

191 Roads - 138.2 Mi.
 Interstate US Hwy State Hwy Local
 0 5 7 184
 Roads Affected

18 Assets
 13 Bridges
 DOT Assets Affected

Bridges

Road Inundation Levels
 > 5 Ft
 2-5 Ft
 0.5-2 Ft
 0-0.5 Ft

Questions?

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