




Flood Inundation Mapping and Alert Network (FIMAN)

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






Water Level Program Overviews

High Level Overview of Program

 **Emergency Management**
NC DEPARTMENT OF PUBLIC SAFETY

FIMAN Real-time flood mapping solution

- Gauges
 - 627 gauges in FIMAN
 - NC Emergency Management owned gauges (221)
- Telemetry
- Pre-made inundation libraries
- Web tool to efficiently communicate



What is the objective of your stations?

DPS Emergency Management
NC DEPARTMENT OF PUBLIC SAFETY

- Real-time flood inundation mapping (current and forecast)
- Alerts
- Leverage vast investment in data
- Assist in risk-based decisions during and before disaster
- Partnerships with local, state, and federal agencies and the private sector

North Carolina LIDAR Quality Level By Phase

Phase & Quality

- Phase 1 (DLR) - QL 1
- Phase 2 (DLR) - QL 1
- Phase 3 (DLR) - QL 2
- Phase 4 (DLR) - QL 1
- Phase 5 (DLR) - QL 1

EMAP Accredited

Who are your stakeholders / users?

- Emergency management officials/staff (state, federal, and local)
- Federal, state, and local government agencies
- NC Department of Transportation (BridgeWatch)
- NC Department of Environment Quality (DamWatch)
- Public
- Emergency Operations Center
- Media



What types of data do you collect?

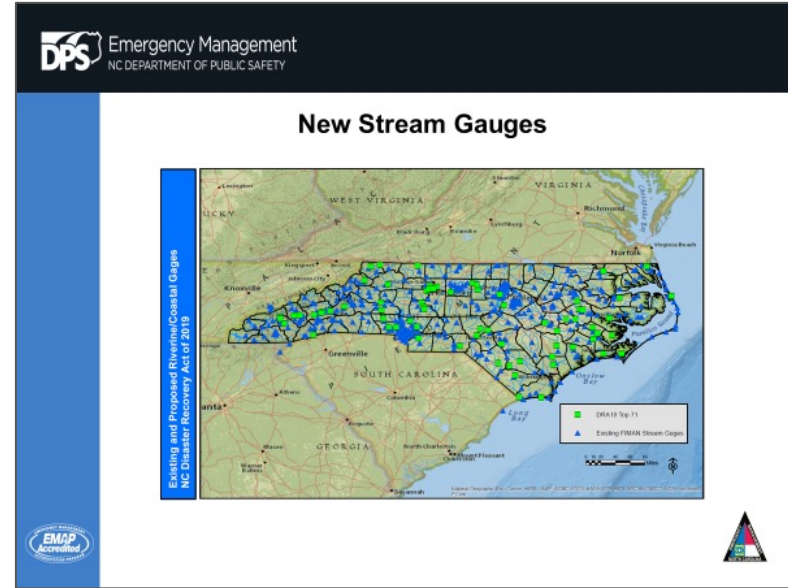
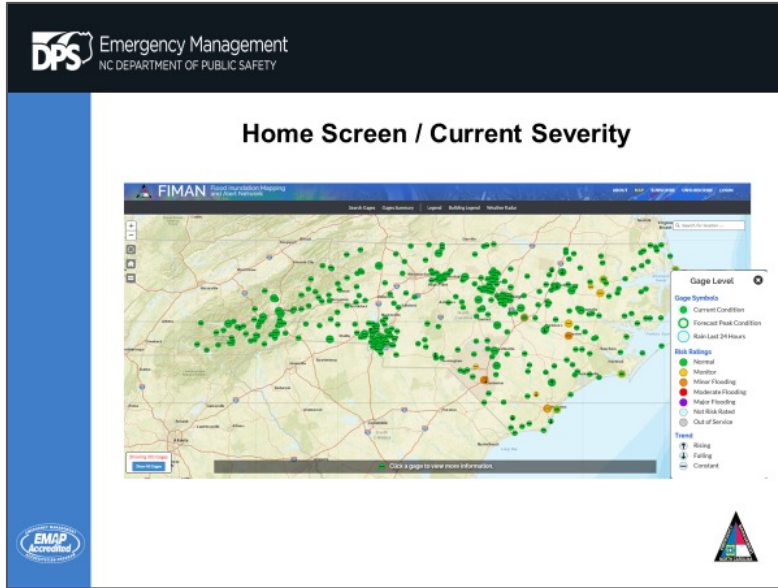
- Water level data for riverine and coastal sites
- Climate data (at some gauges)
- High water marks

The screenshot shows the 'High Water Mark (HWM) Photo Application' interface. It features a header with the 'DPS Emergency Management' logo and the text 'NC DEPARTMENT OF PUBLIC SAFETY'. The main heading is 'Comparing LiDAR based flood mapping to surveyed edge of water'. Below this is a sub-heading 'High Water Mark (HWM) Photo Application'. The interface is divided into two main sections: '1. Enter Information' and '2. Select Location'. The '1. Enter Information' section contains several input fields for 'Address', 'City/County', 'State', and 'Elevation (ft)'. The '2. Select Location' section includes a 'Map' button and a 'Location' field. To the right of the text is a photograph of a residential area with a large body of water in the foreground. At the bottom left is the 'EMAP Accredited' logo, and at the bottom right is a small triangular logo.

The screenshot displays the 'FIMAN Flood Inundation Mapping' tool interface. The header includes the 'DPS Emergency Management' logo and 'NC DEPARTMENT OF PUBLIC SAFETY'. The main title is 'Current Inundation Level and Map'. The interface shows a map of a river area with blue inundation overlays. A legend on the left indicates 'Current Inundation Level' with a color scale from 0.00 to 0.50. A data panel at the bottom provides details for 'The River at Greenville, SC', including 'Last updated: 1/15/2023 10:00 AM', 'Stage: 64.21 ft', '9900 cfs', 'Peak Water: 54.25 ft', 'Peak Date: 12/8/22', 'Flow: 10,000 cfs', and 'Inundation: 123,000'. The interface also includes a search bar, a 'Map' button, and a 'Data' button. At the bottom left is the 'EMAP Accredited' logo, and at the bottom right is a small triangular logo.



Where are your water level stations?



Expansion Opportunities

- Gauges being installed at some intermediate and high hazard dams
- Updating FIMAN web application (adding a weather page)
- Current partnership with NC Department of Transportation
- Expand Adopt-a-Gauge program
- Local government gauge maintenance policy



Expansion Opportunities

- Incorporate six (6) FIMAN gauges into NOAA's CO-OPS network
- Current and future research projects with NC A&T State University Geomatics program
- Requested recurring gauge maintenance funds
- Requested funding to create inundation libraries for gauges without inundation libraries

