



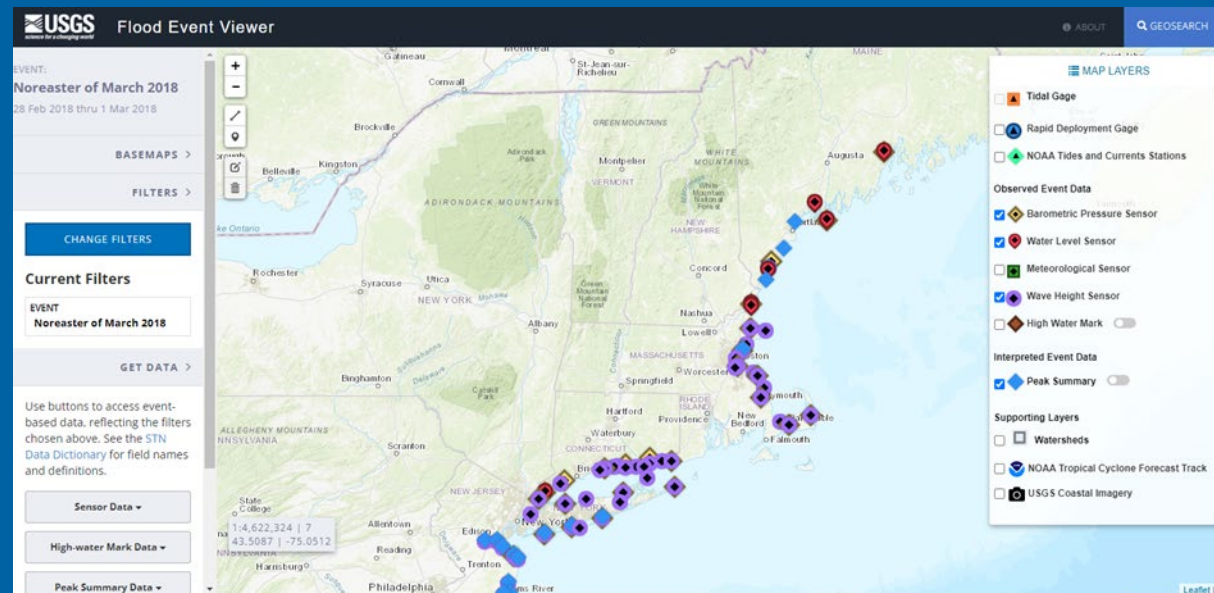
USGS Coastal Water Level Monitoring

Jon Morrison

NROC Meeting 11/9/2022

USGS Surge Wave and Tidal Hydrodynamics Network (SWaTH)

- Network of stations along the East Coast
- Pre-installed infrastructure with stations surveyed to common NAVD 88 Datum
- Long-term publicly accessible database and viewer



The SWaTH Network

- **Consists of a variety of technologies; High water marks, short term flexible low-cost sensors, high frequency short term sensors, rapid deployment short-term real-time gages, and continuous real-time USGS gages**
- **The real-time equipment can be configured with a variety of telemetry platforms including satellite and cell modem**
- **The network also consists of several locations that are set up on transects from the shoreline inland**

- Flexible low-cost methods for water level data collection
- Hobo Loggers 1 hertz or longer
- True Blue Loggers 4 hertz
- High-water marks validated with surveyed points quickly

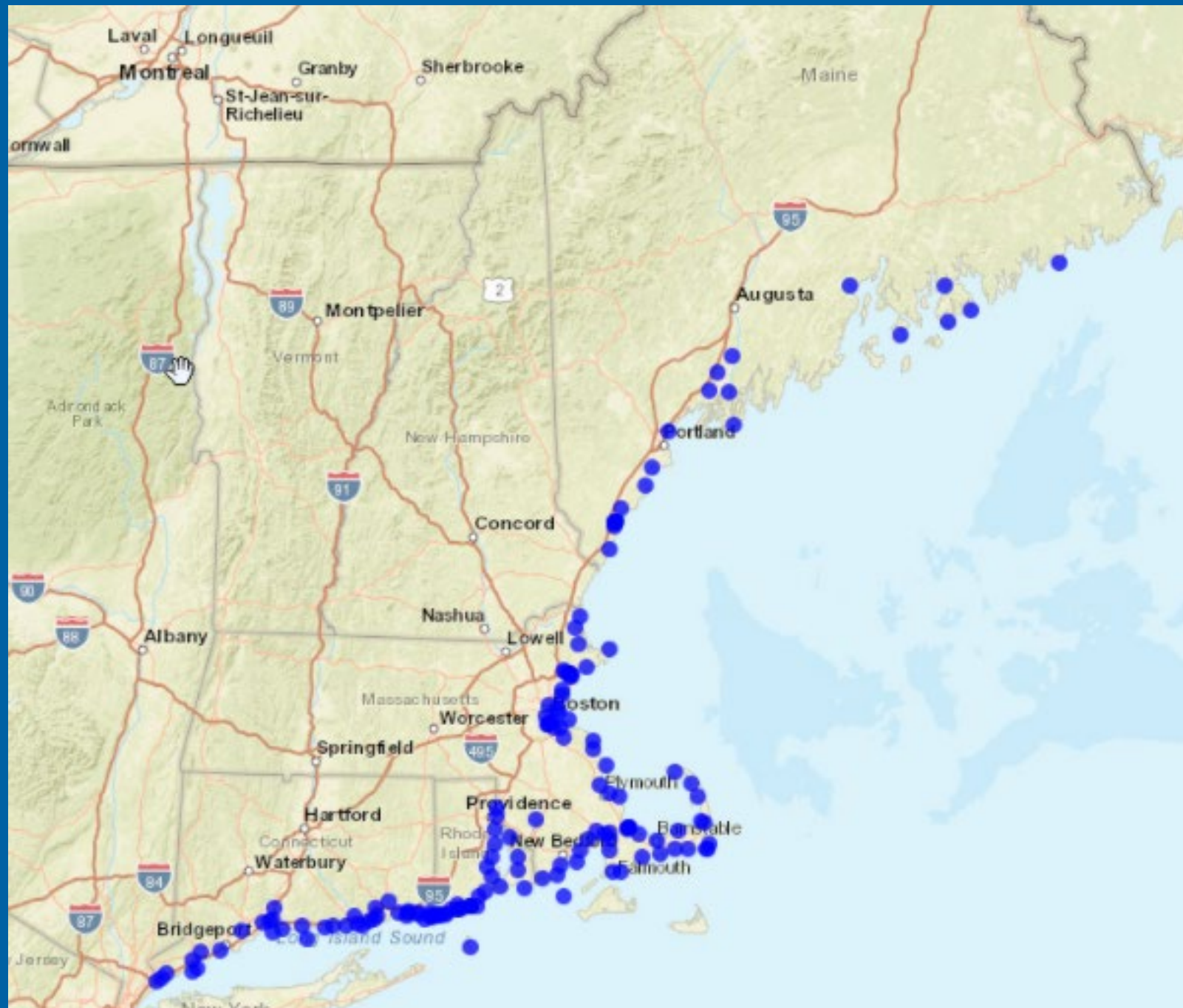


Data Collection Methods

- Rapid Deployment Gages (RDG's) flexible network, install quickly transmit data in real-time
- USGS permanent tidal water elevation only gages
- USGS WaterAlert allows for public to get notifications
<https://accounts.waterdata.usgs.gov/wateralert/>



USGS New England SWaTH Network



SWATH Network long-term database with searchable viewer application

- <https://www.usgs.gov/mission-areas/water-resources/science/surge-wave-and-tide-hydrodynamics-swath-network>





[WATER RESOURCES](#) | [SCIENCE](#)

Surge, Wave, and Tide Hydrodynamics (SWaTH) Network

ACTIVE

By [Water Resources](#) March 2, 2019



EVENT:

2021 Henri

20 Aug 2021 thru 3 Sep 2021

BASEMAPS >

FILTERS >

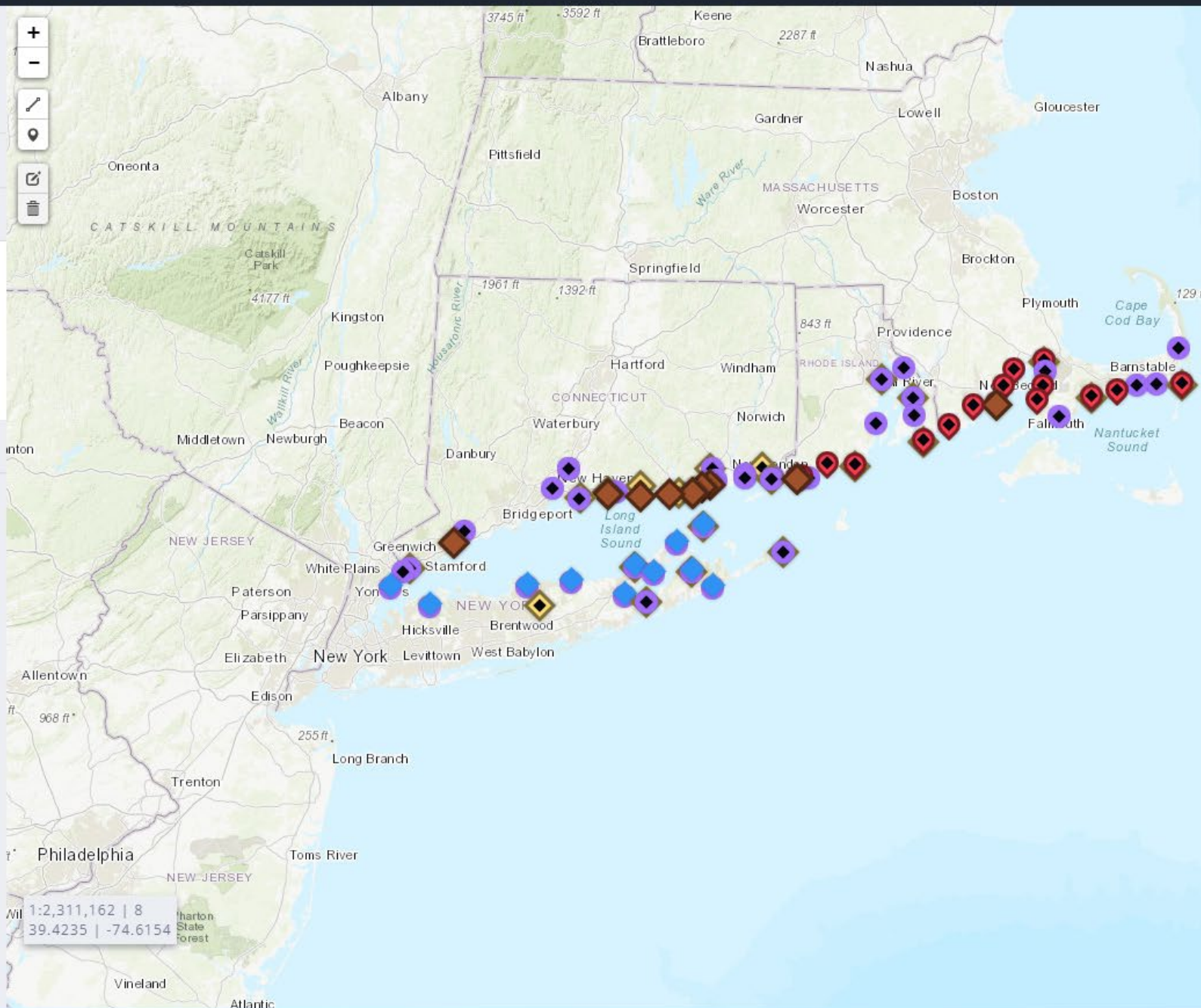
CHANGE FILTERS

Current Filters

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MAP LAYERS

Real-time Event Data

Tidal gages and real-time stream and rain gage layers only available at zoom level 9 and above. Please zoom in to view.

- Real-time Streamgage
- Real-time Rain Gage
- Tidal Gage
- SOFAR Buoy
- NOAA National Buoy
- Rapid Deployment Gage
- NOAA Tides and Currents Stations

Observed Event Data

- Barometric Pressure Sensor
- Water Level Sensor
- Meteorological Sensor
- Wave Height Sensor
- High Water Mark

Interpreted Event Data

- Peak Summary

Supporting Layers

- Watersheds

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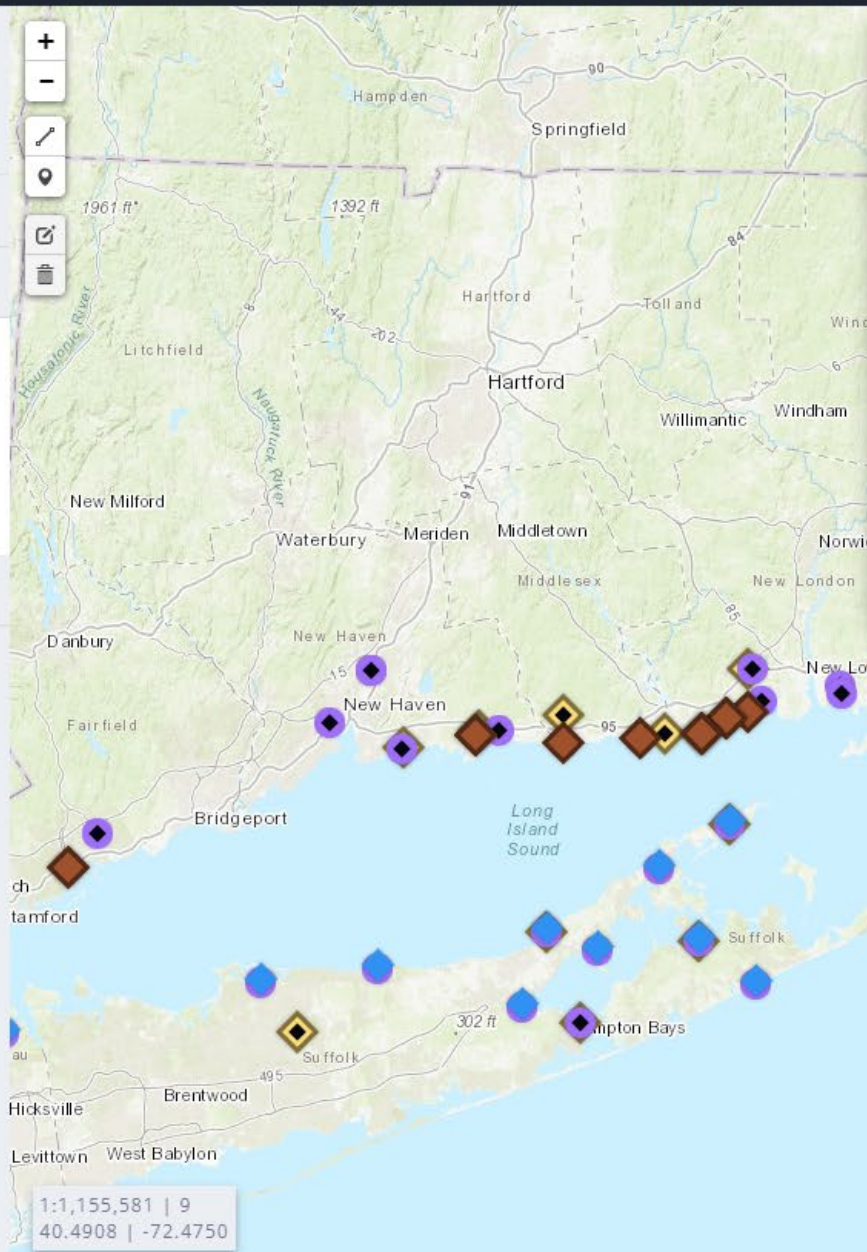
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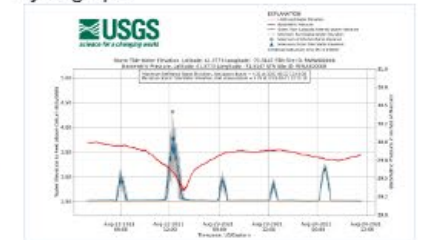
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WATER LEVEL SENSOR | 2021 HENRI

STN Site Number:	RIWAS00008
Status:	Retrieved
City:	Narragansett
County:	Washington County
State:	RI
Latitude, Longitude (DD):	41.3773, -71.5147
Site and Sensor Detail:	View Details

Hydrograph:



MAP LAYERS

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Supporting Layers

- Watersheds
- NOAA Tropical Cyclone Forecast Track
- USGS Coastal Imagery

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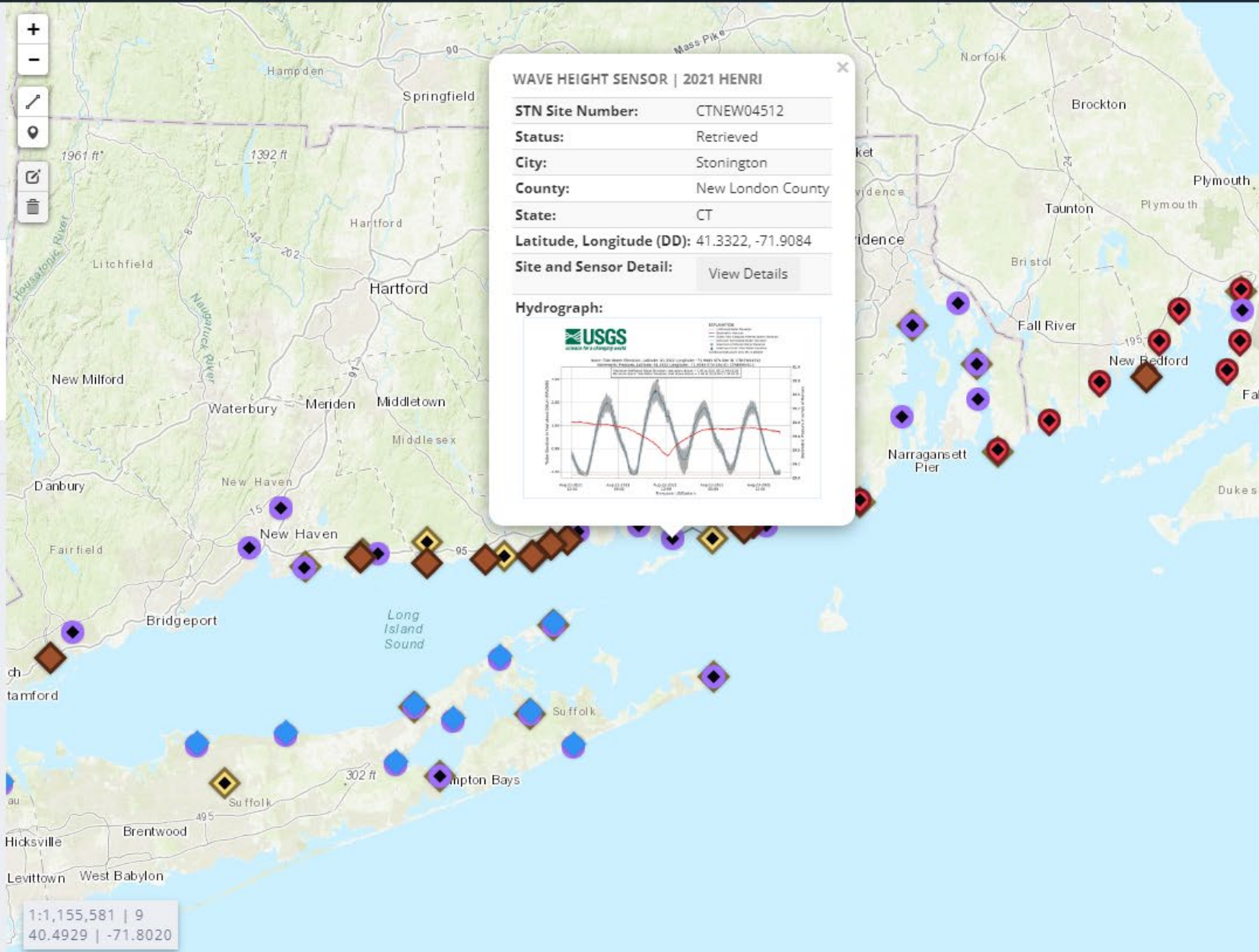
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MAP LAYERS

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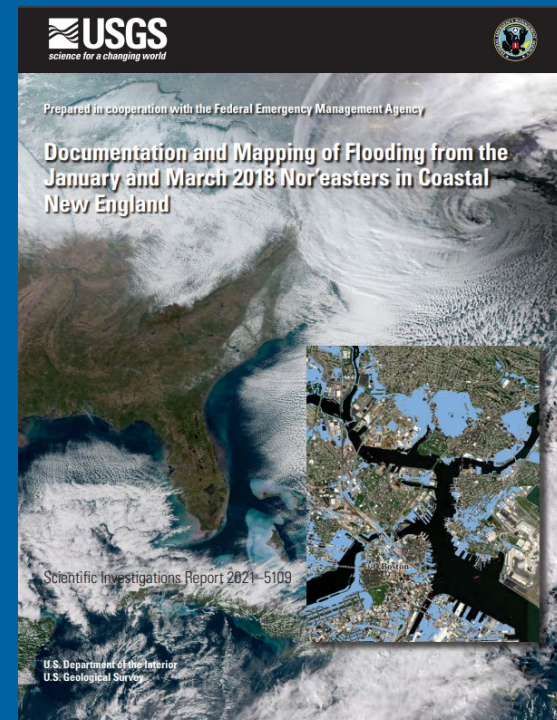
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1:1,155,581 | 9
40.4929 | -71.8020

Other USGS Products and Publications

- <https://wim.usgs.gov/geonarrative/newenglandnoreaster2018/>
- <https://www.usgs.gov/publications/documentation-and-mapping-flooding-january-and-march-2018-noreasters-coastal-new>



QUESTIONS?