

# Work Unit 3.1 Prioritization of Storm Hazards and Critical Facilities

Brownawell, Cerrato, Lwiza, Swanson, Dvarskas

- Inventory maps, prioritize vulnerable critical facilities\*
- Examine current mitigation measures using cost-benefit analysis
- Examine economic and environmental impacts of oil and sewage spills on fisheries and ecological resources
- Estimate amount and costs of removing debris
- Estimate tree damage associated with power failures

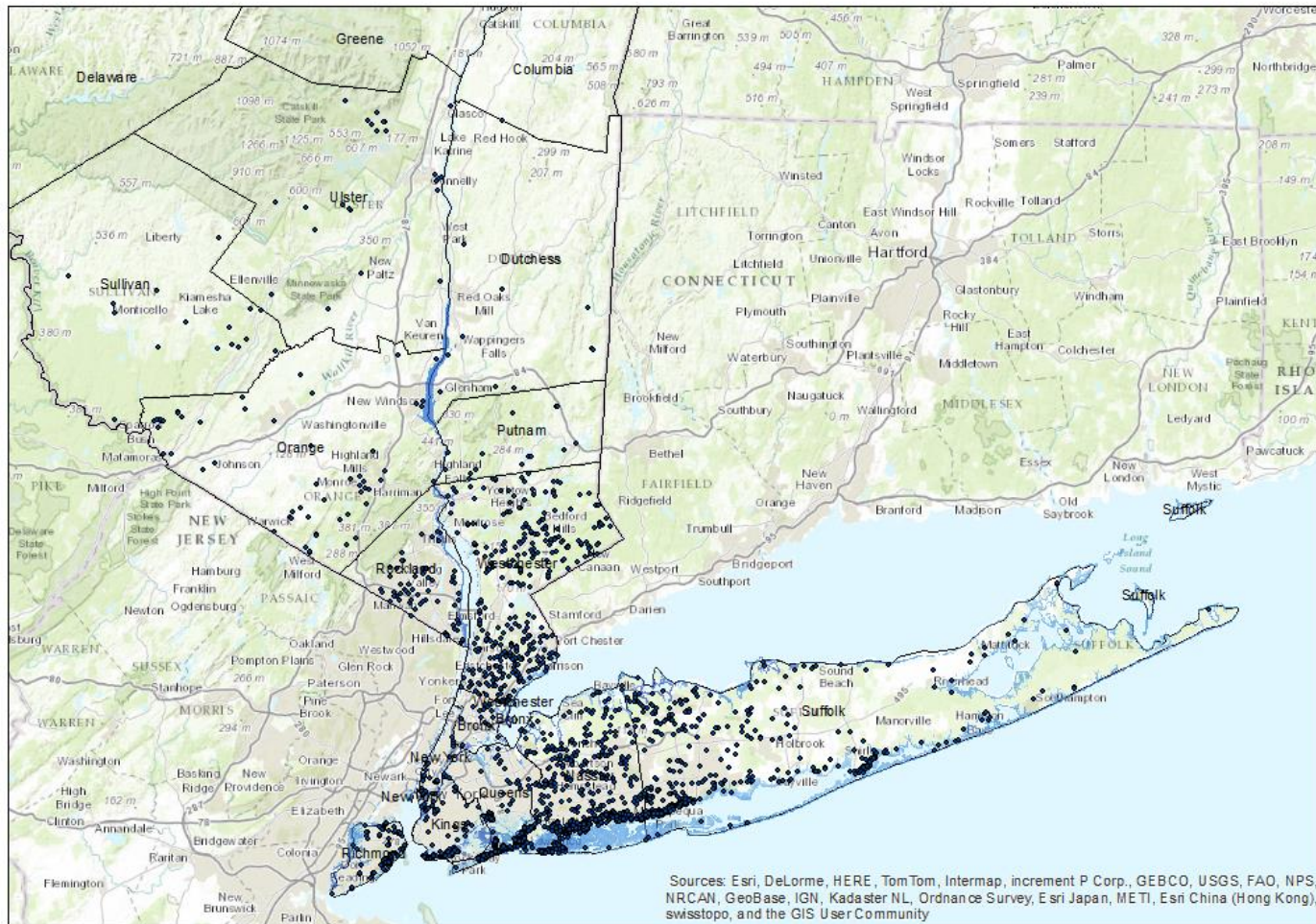
## \* FEMA Critical Facilities:

- Flammable, explosive, and/or toxic materials production or storage facilities
- Hospitals, nursing homes
- Police stations, fire stations, emergency operations centers, vehicle and equipment storage facilities
- Public and private utility facilities vital to maintaining or restoring services (STPs, piers, power stations)

# All NY DEC Spills Attributed to Sandy from 14 Counties

Geocoded Address Matches for 4523 of 4854 Spills

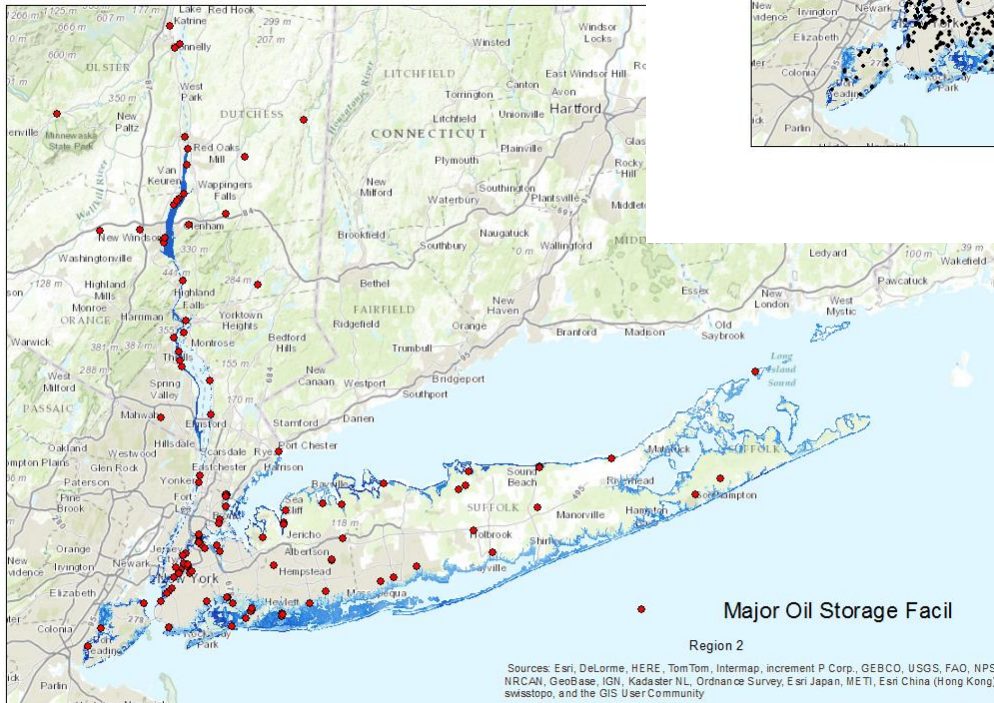
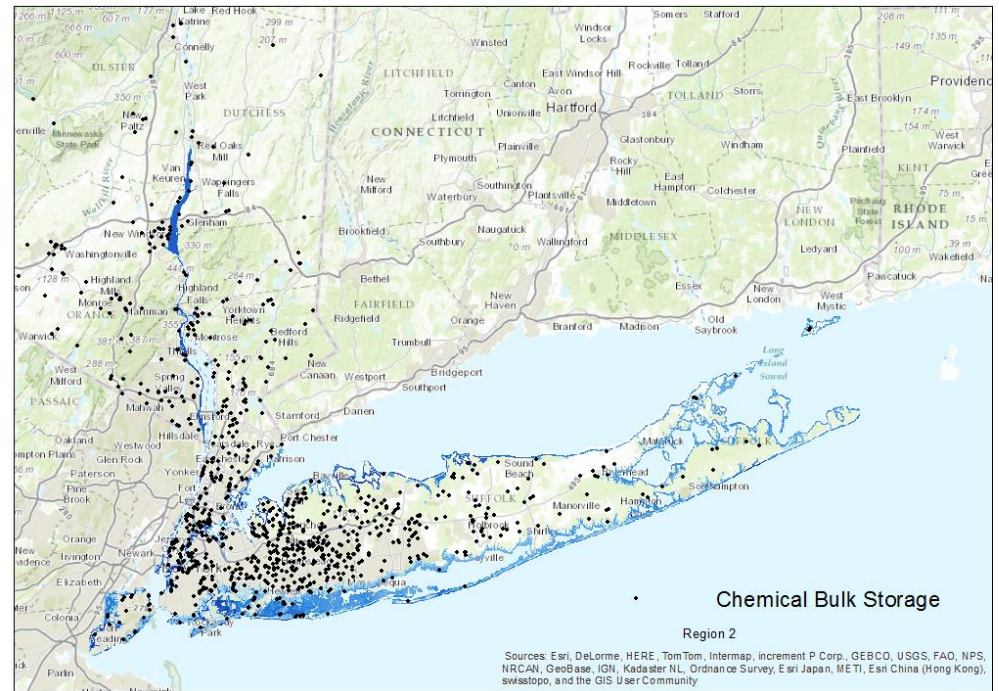
Spill Source Information for All Spills, with Spilled Material Data Missing at 37% of Sites, half in Queens





# Critical Facilities:

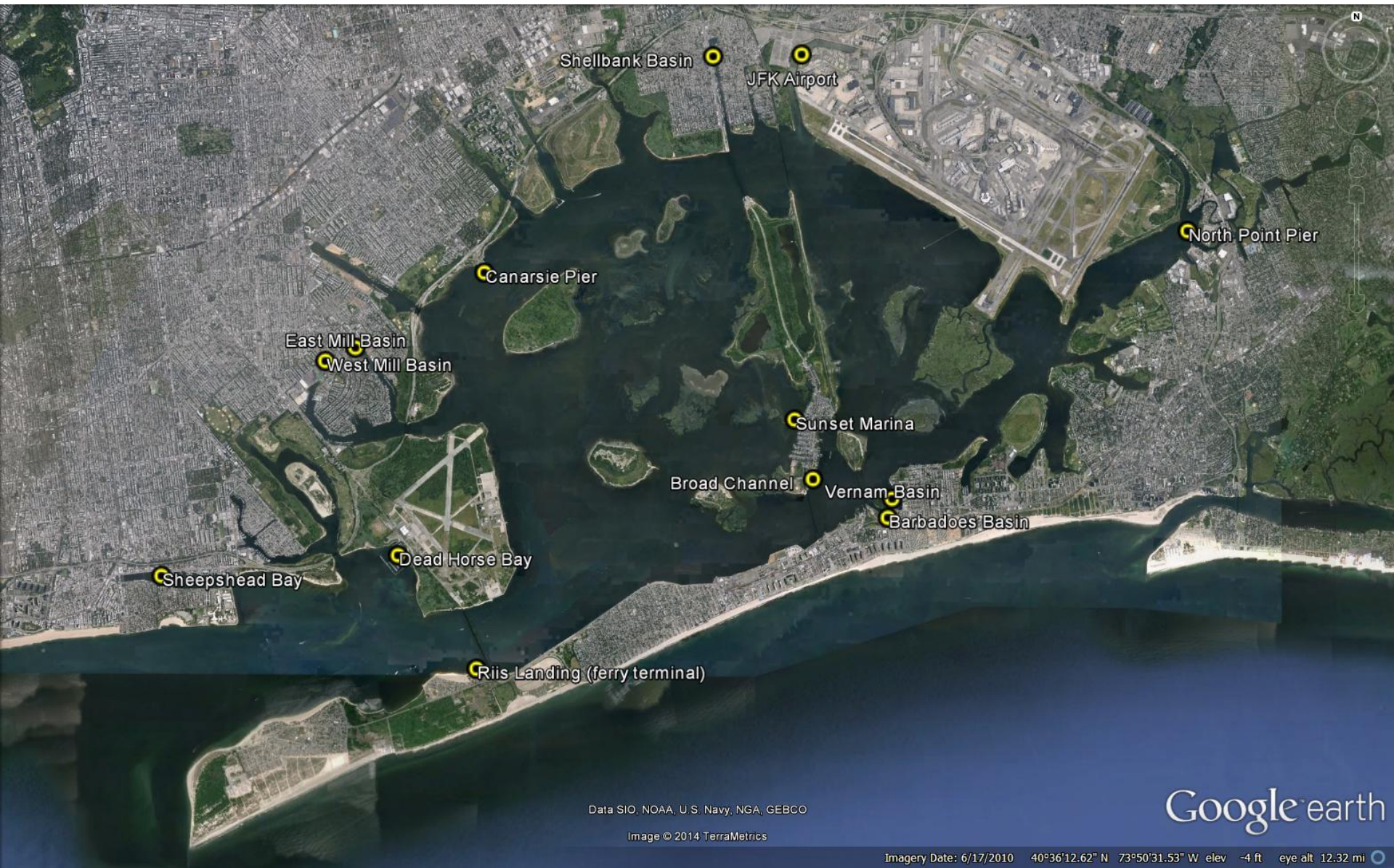
Chemical Bulk Storage  
and Major Oil Storage  
Facilities (>400,000  
gallons)



Some of the Chemical Bulk Storage Facilities are Sewage Treatment Plants that Reported Spills



# Potential Critical Piers in Jamaica Bay



Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Image © 2014 TerraMetrics

Google earth

Imagery Date: 6/17/2010 40°36'12.62" N 73°50'31.53" W elev -4 ft eye alt 12.32 mi

# Climate Change Mitigation Measures and Cost-Benefit Analysis

- Evaluate current mitigation measures including investigation of GIS layers available documenting areas with hardened shorelines (e.g. seawalls, revetments) and areas of elevated, values of these protected properties, and average construction and maintenance costs (e.g. per linear foot)
- Explore data on areas of dune and marsh restoration, areas and properties protected by restoration activities, and average costs associated with restoration activities

# Work Unit 3.1 Deliverables

- Inventory, map and georeference infrastructure datasets
- Report examining mitigation measures using cost benefit analysis
- Report on oil spills
- Report on debris