About Geographic Information Systems (GIS)

NYC Emergency Management relies on accurate geographic information for virtually all of its emergency response, planning operations, and outreach. Through its Geographic Information Systems (GIS) division, the agency can easily map and access data — from flood zones and local infrastructure to population density and road closures — before, during, and after an emergency.

What is GIS?
GIS can combine layers of different information, creating products that are much more sophisticated than single view maps. By linking maps to databases, GIS enables users to visualize, manipulate, analyze, and display spatial data. For decision-makers, GIS can be valuable in helping determine the best location for a new facility, analyzing structural or environmental damage, viewing similar events in a neighborhood to detect a pattern, and so on.

Accurate data is crucial to the development of effective maps. While some data can only be produced during an emergency, many datasets can be created before an incident occurs. In order to serve the City's mapping needs, NYC Emergency Management GIS includes the Public Safety GIS Data Development Center.
Learn more about the Data Development Center

How Does GIS Help the City?
GIS assists the City in the following capacities:

Operations
GIS aids in the response effort by creating maps that show significant features around the affected area. GIS will also incorporate any information critical to the operation including reports of power outages, road closures, infrastructure, critical facilities and data collected in the field during the response. After an emergency, GIS can help recovery workers make decisions about the priority order for demolition, plan reconstruction of an area, and determine which property owners qualify for grants or loan programs, among other recovery-related issues.
See a sample of these maps

Planning
GIS works with agency planners to provide maps, tables, and analysis in support of planning efforts.
See a sample of these maps

General Use
GIS creates a variety of maps that are not part of a formal plan or an individual incident. This includes creating maps for meetings, presentations and training exercises, as well as helping divisions visualize data over time.
See a sample of these maps

Learn More about GIS in Emergency Management

- To find out if your home is located in a hurricane evacuation zone, use NYC Emergency Management's GIS-based Hurricane Evacuation Zone Finder.
- Find and use geographical data (U.S.)
- Mapping the Risks (RAND), a study about the security of publicly available geospatial data.

Successful Response Starts With A Map (National Research Council of the National Academies) free download that explains how to use geospatial data, tools, and infrastructure in disaster management.

Other Geography Resources

- NYCityMap
- NYC OpenData
- NYC Emergency Management GIS Day 2014 – Learn About the Borough of Queens
- National Geographic Society
- Library of Congress
- Historic Maps
- Geographic Dictionary