

8 June 2022

GIS @ **NYC** Emergency Management

NYC HURRICANE EVACUATION ZONES

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Executive Director, Geographic Information Systems

Agency Mission



Plan, Prepare
and Mitigate

Coordinate
and Support
Response and
Recovery

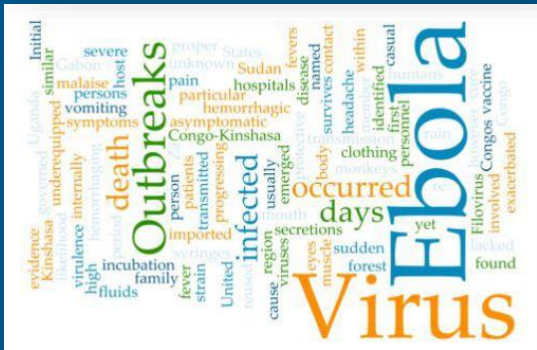


Educate the
Public

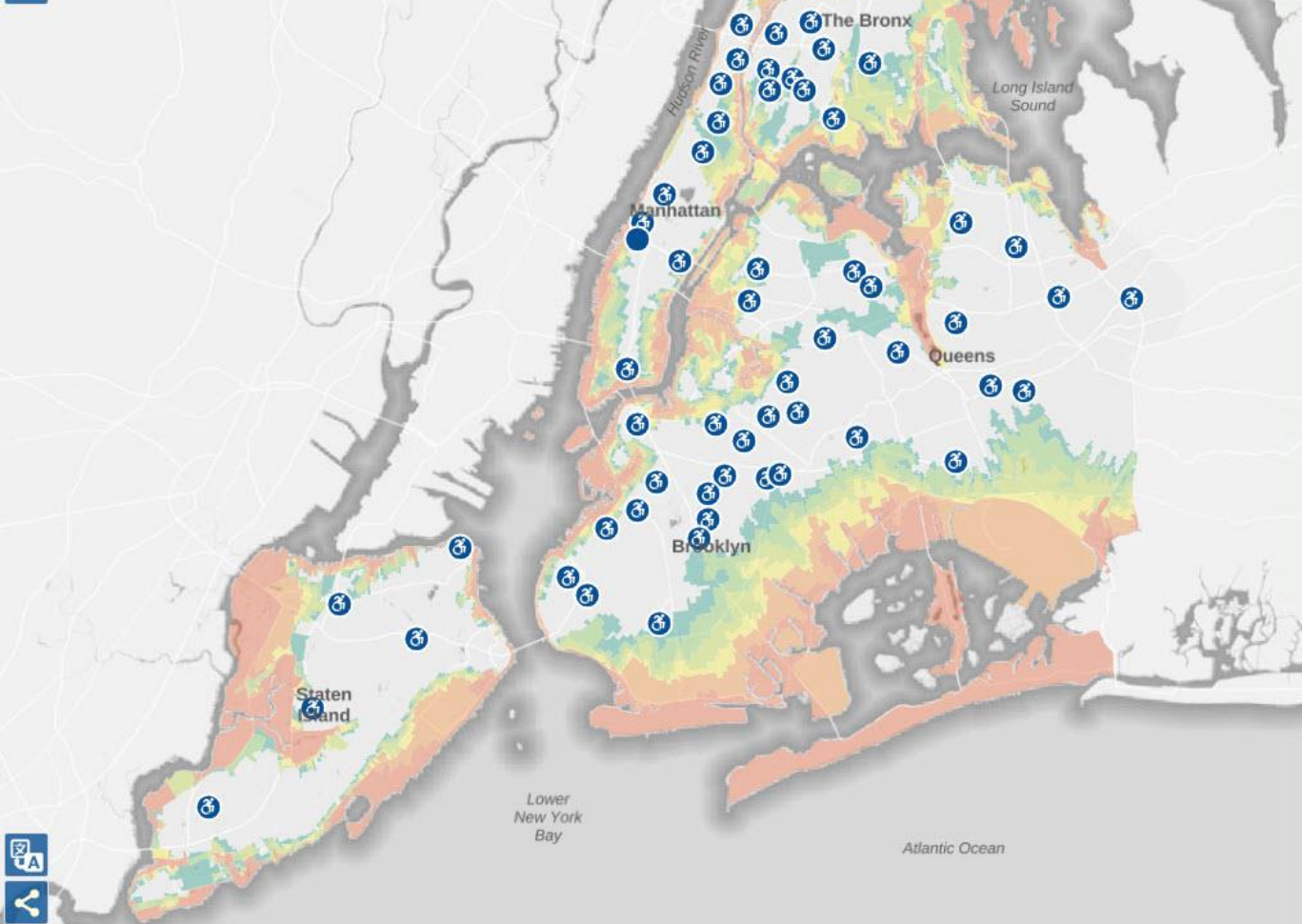
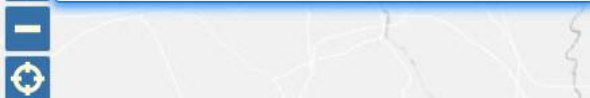
Collect and
Disseminate
Information



Types of Emergencies



NYC Hurricane Evacuation Zone Finder



Evacuation Centers

Legend

If you are required to evacuate, it is recommended that you shelter at the home of friends or family outside of the evacuation area. If you wish to go to a public facility, select any evacuation center from the following list and click for travel directions.

All Centers

Only Accessible Centers

IS 2

655 Parkside Avenue
Between Nostrand Avenue and Rogers Avenue
Brooklyn, NY 11226

[Map](#)

[Directions](#)

[Details](#)

PS 6

43 Snyder Avenue
Between Flatbush Avenue and Bedford Avenue
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PS 23

545 Willoughby Avenue
Between Marcy Avenue and Tompkins Avenue
Brooklyn, NY 11206

[Map](#)

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NYC Hurricane Evacuation Zones

- **Hurricane Evacuation Zones:**
 - *a.k.a. Evacuation Zones or Evac Zones*
 - *For life safety from the threat of storm surge only!*

- **“Flood Zones”:**
 - *This terms refers to FEMA’s Flood Insurance Rate Maps*
 - *Zones are drawn for insurance purposes*
 - *NOT the same as Hurricane Evacuation Zones*

- **SLOSH: Sea, Lake, and Overland Surges from Hurricanes**
 - *NWS storm surge model*

- **AGL / Inundation: Above Ground Level**
 - *Depth of water above ground at a given location*

Background: Evacuation Zone updates

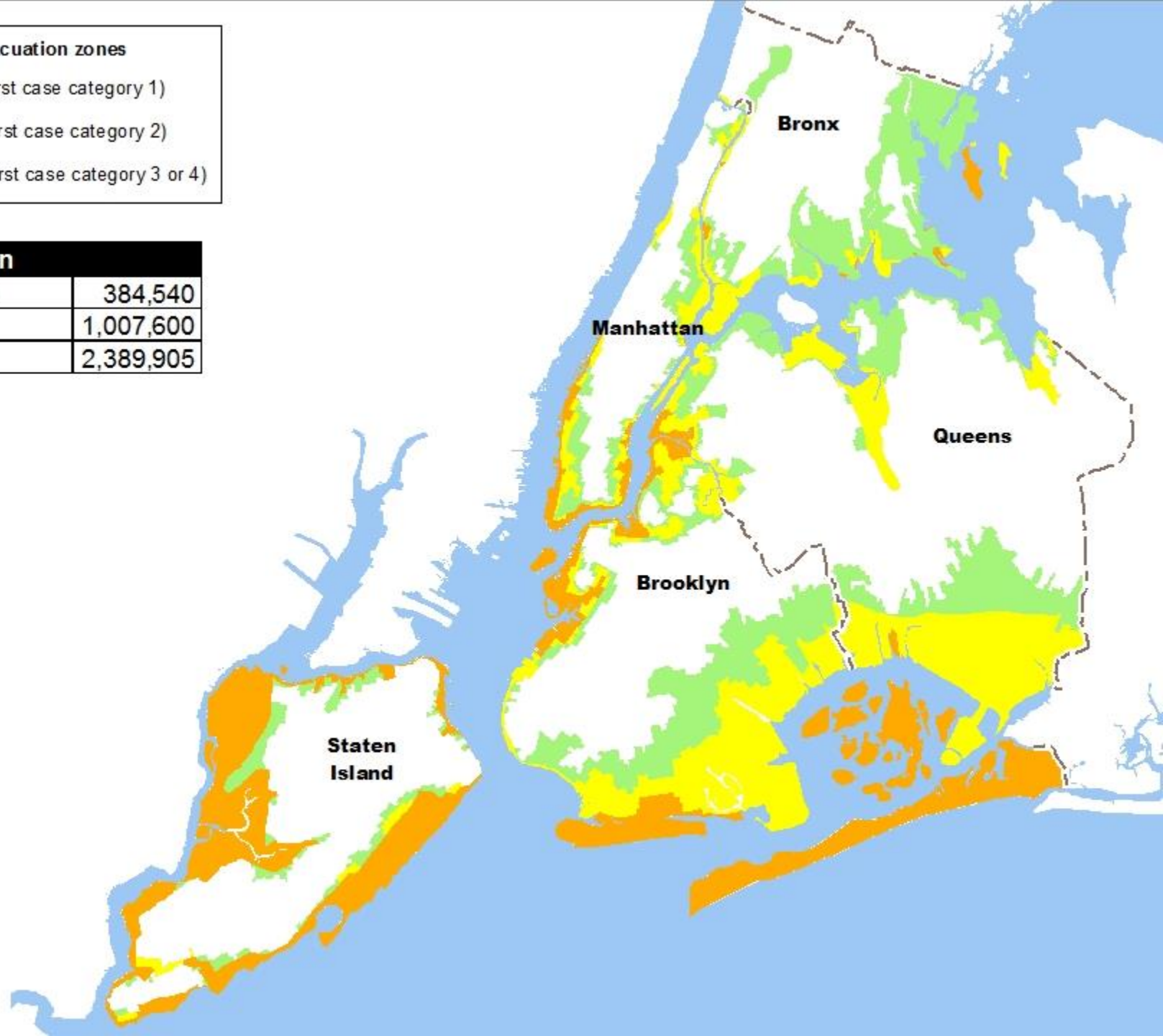
- **2003:** NY2 SLOSH & Zones A-B-C
- **2010:** NY3 SLOSH basin released
- **Spring 2013:** Zones 1-6 finalized; implemented for 2013 season
- **2020:** NE1 SLOSH Basin released
- **Spring 2021:** Updated zones released

2012 Hurricane evacuation zones

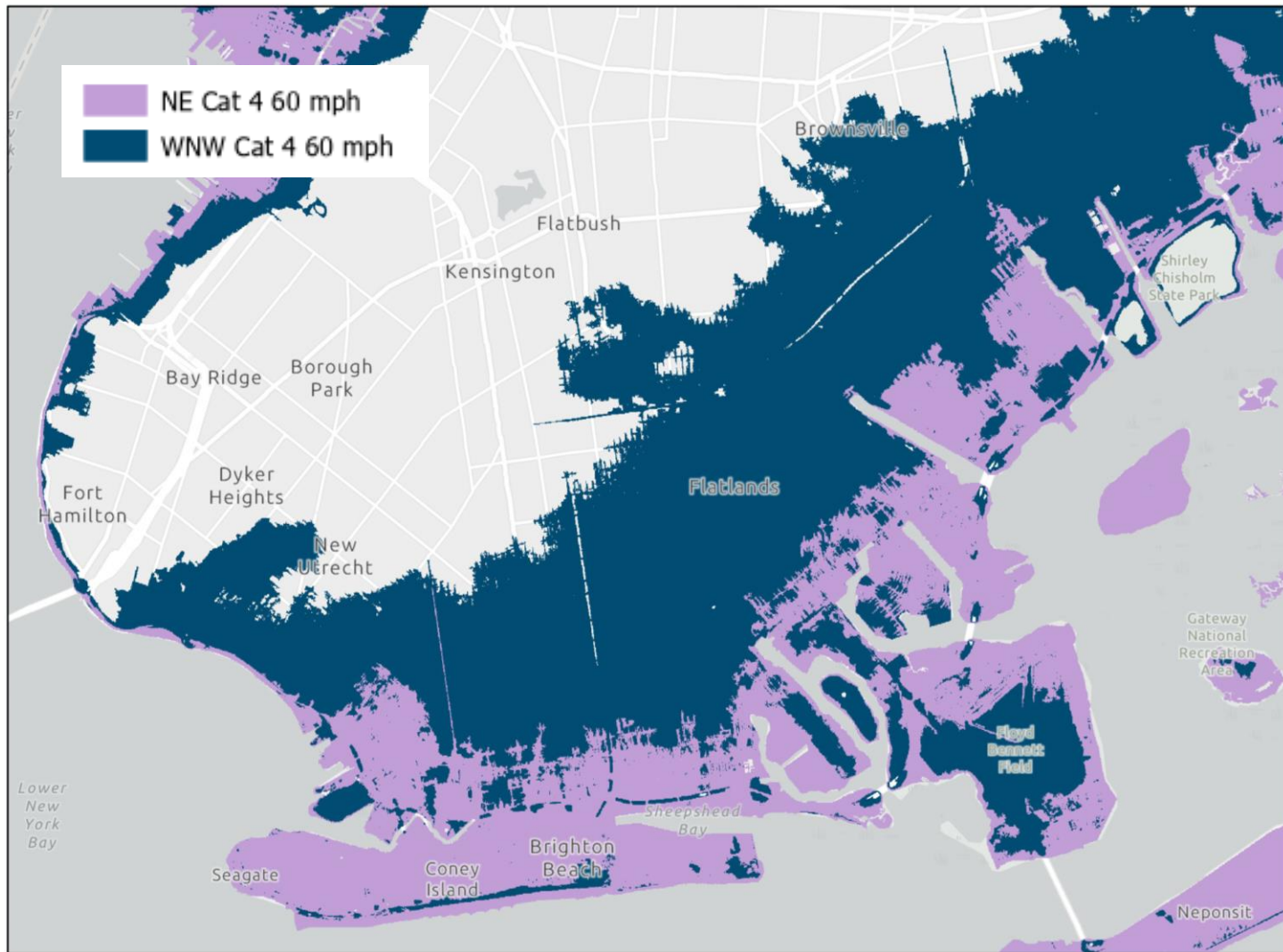
- Zone A (worst case category 1)
- Zone B (worst case category 2)
- Zone C (worst case category 3 or 4)

2010 Population

Zone A (Sandy)	384,540
Zone A+B	1,007,600
Zone A+B+C	2,389,905



Why Create Bearing-based Zones?



NE1 SLOSH: NE Category 4 60mph vs WNW Category 4 60mph (Southern BK / Jamaica Bay)

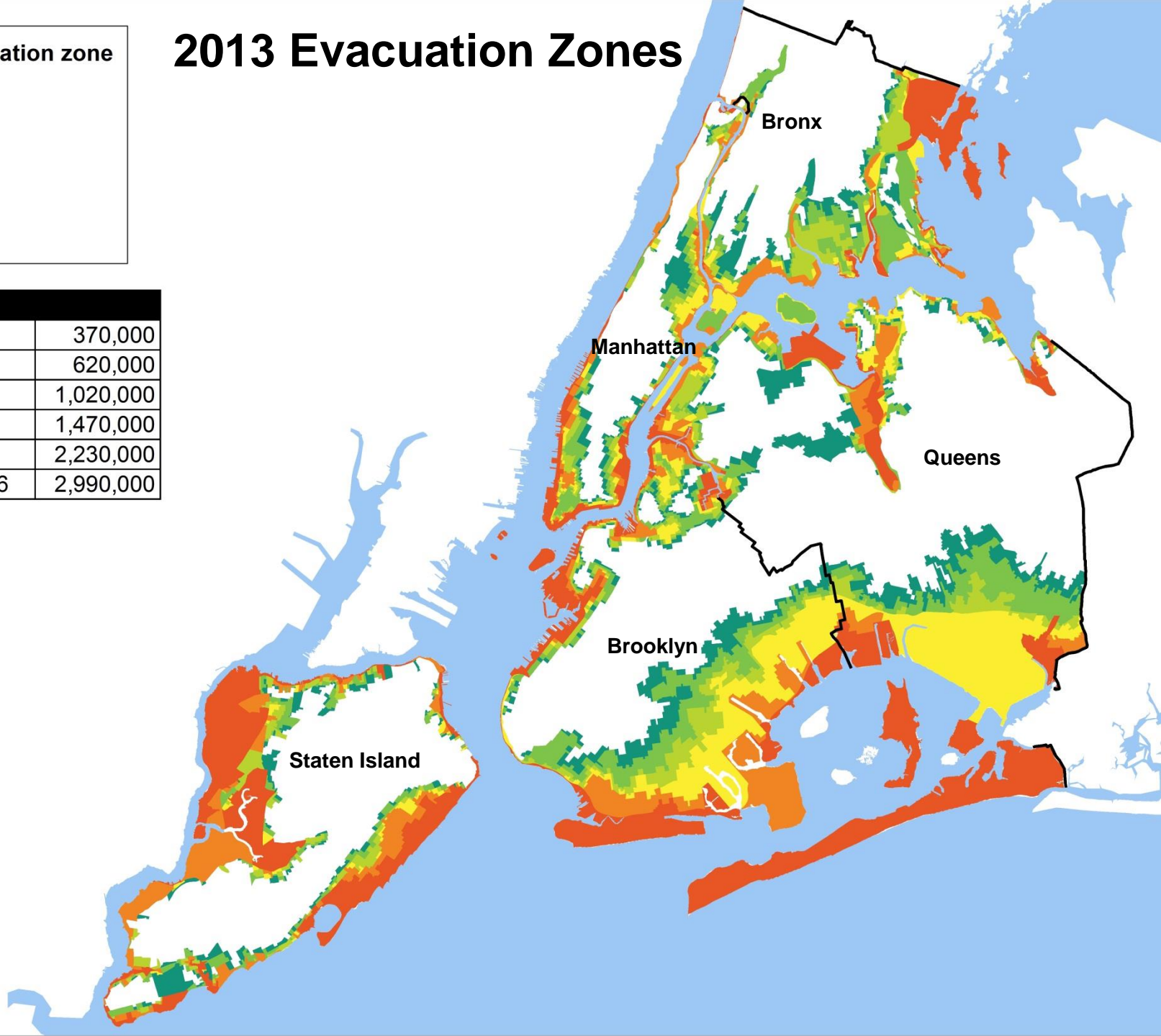
2013 Evacuation Zones

Hurricane evacuation zone

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6

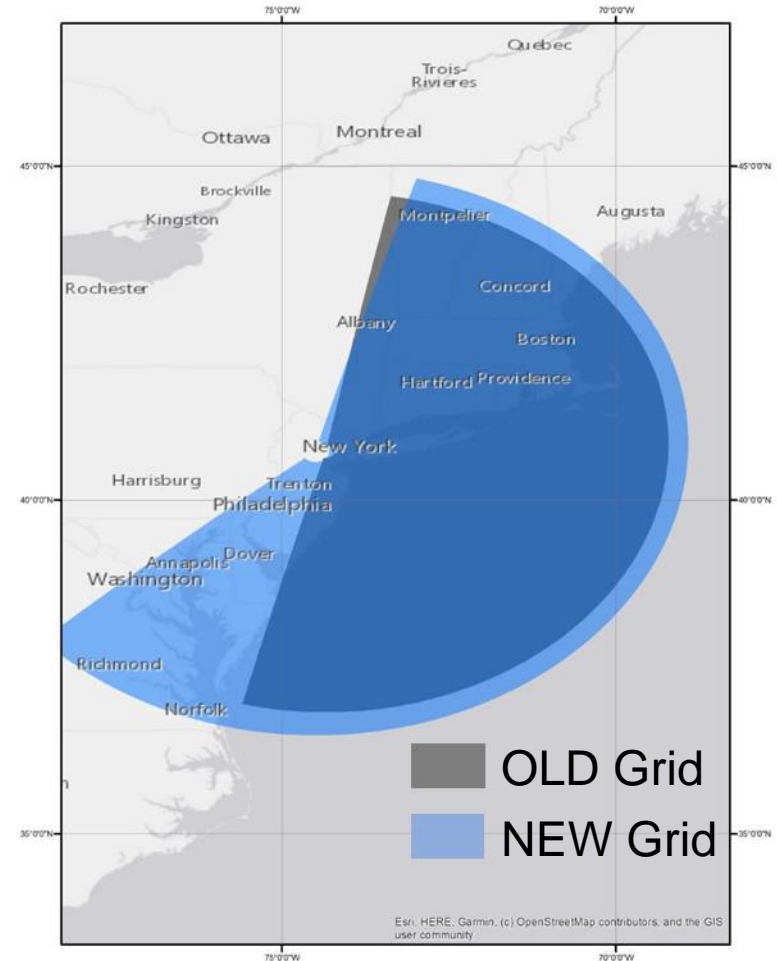
2010 Population

Zone 1	370,000
Zone 1+2	620,000
Zone 1+2+3	1,020,000
Zone 1+2+3+4	1,470,000
Zone 1+2+3+4+5	2,230,000
Zone 1+2+3+4+5+6	2,990,000



SLOSH NE1 SLOSH Update

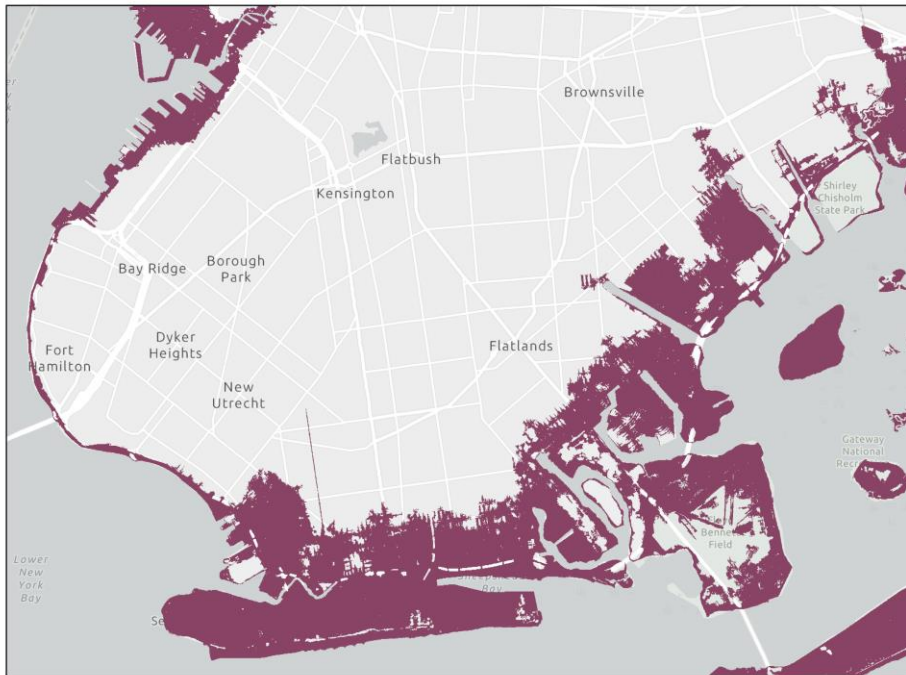
1. Data is available in much greater detail compared to the 2010 version (higher resolution)
2. More accurate terrain data for NYC helps improve storm surge mapping
3. Better modeling of how water flows through NYC's bays and rivers
4. All of this put together should mean a better, more accurate storm surge model!



Bearing-based Zones

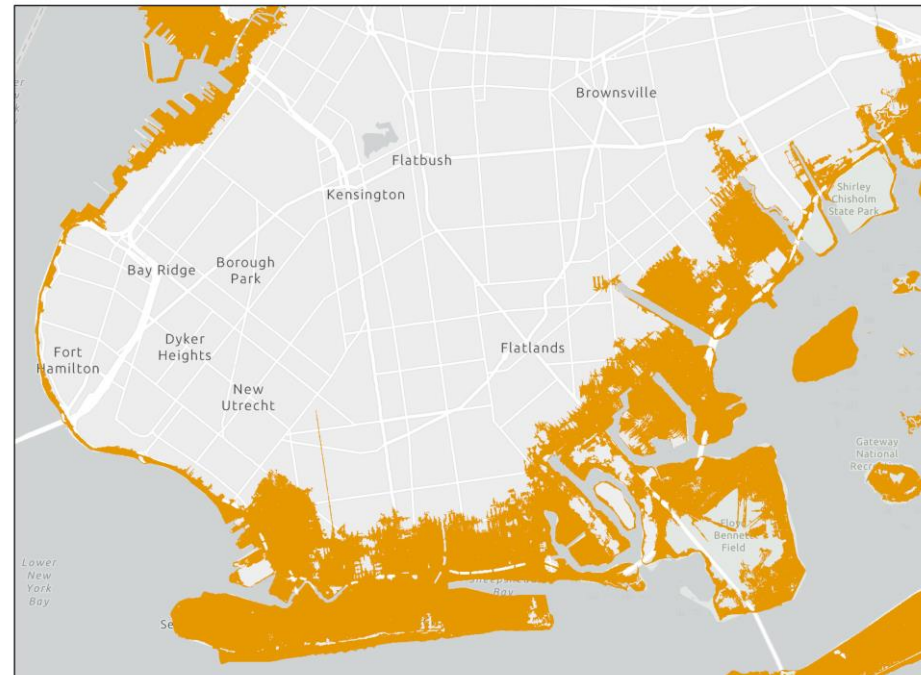
Scenarios with similar inundation extents are grouped into zones

NE Category 4 SLOSH



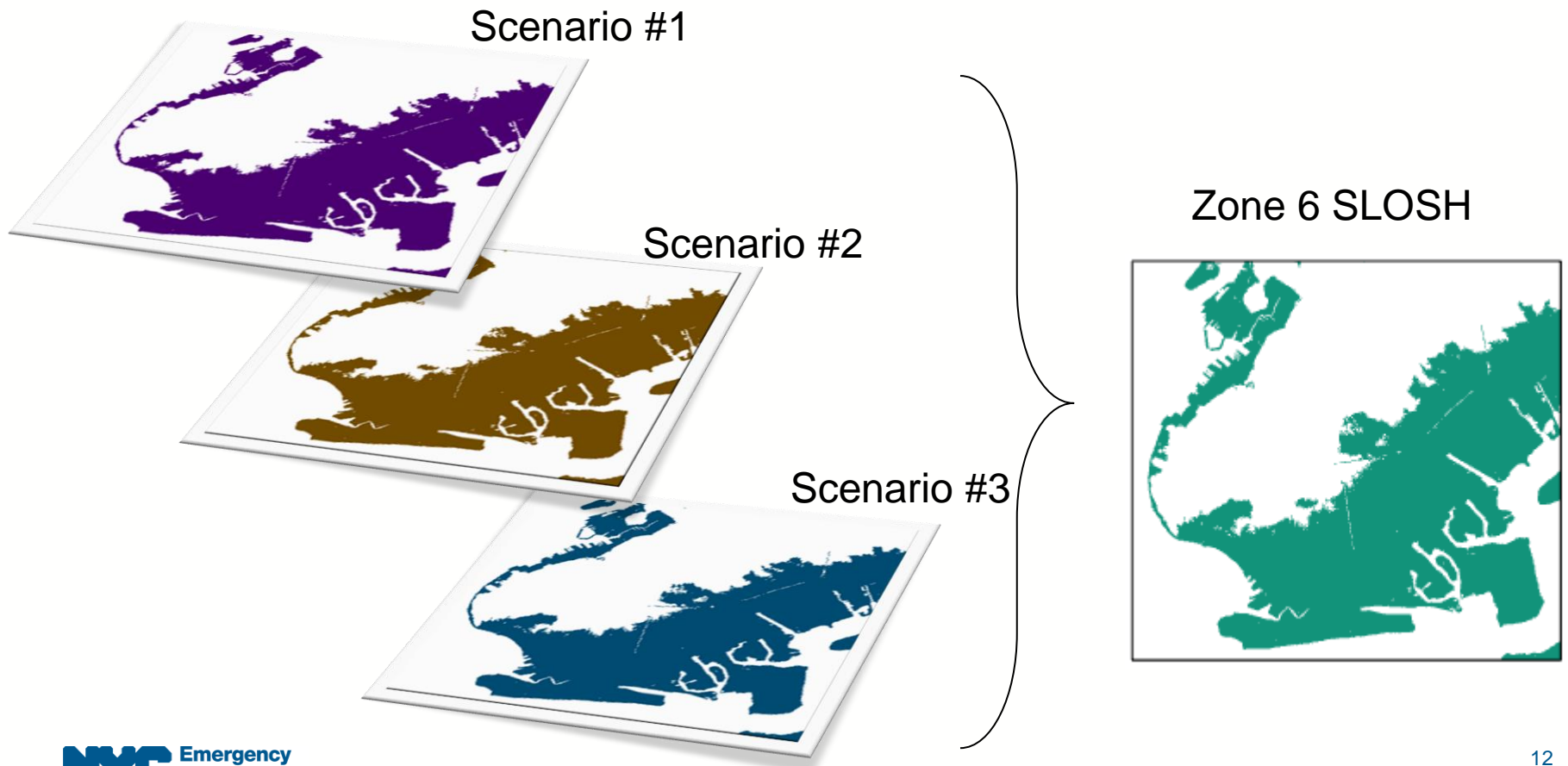
NE Cat 4 SLOSH

WNW Category 1 SLOSH



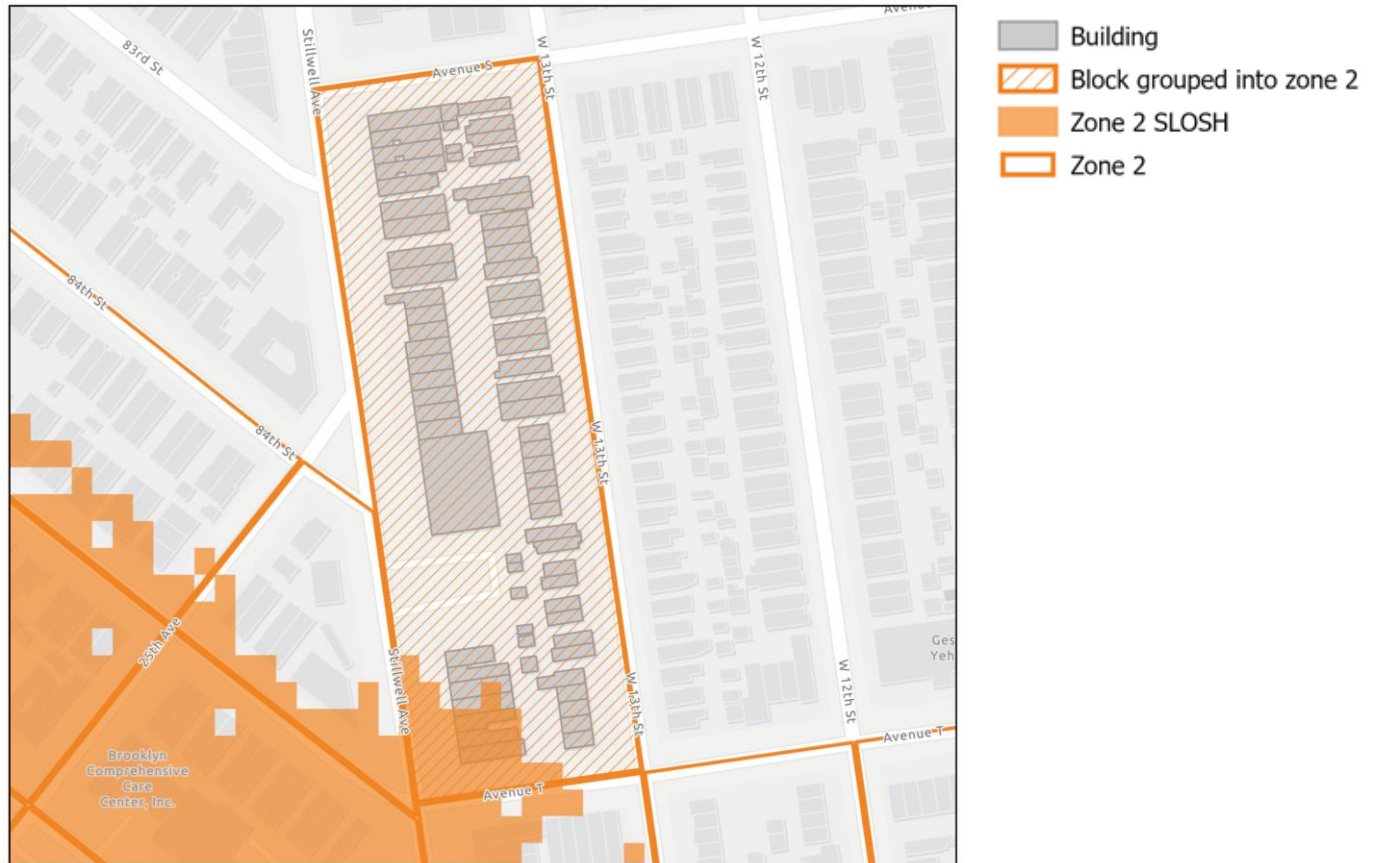
WNW Cat 1 SLOSH

SLOSH Zone creation



Evacuation Zone decision rules

- Conservative approach – 0" flooding threshold
- Any depth of water touching a structure on a block

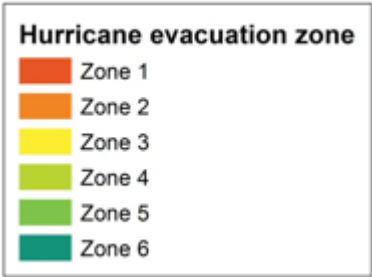


Evacuation Zone decision rules

- Isolation:
 - Rockaways & City Island all one zone

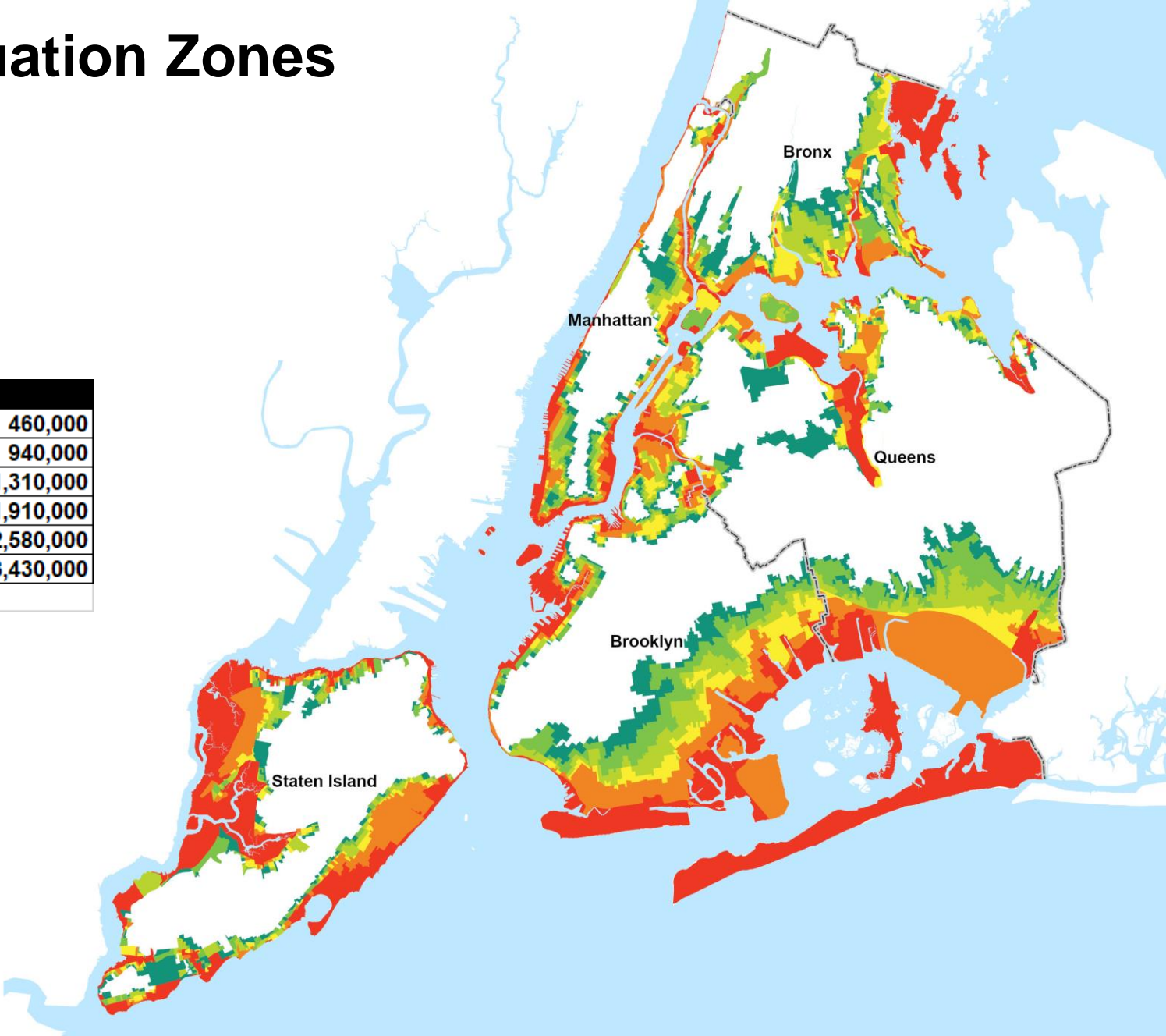


2021 Evacuation Zones



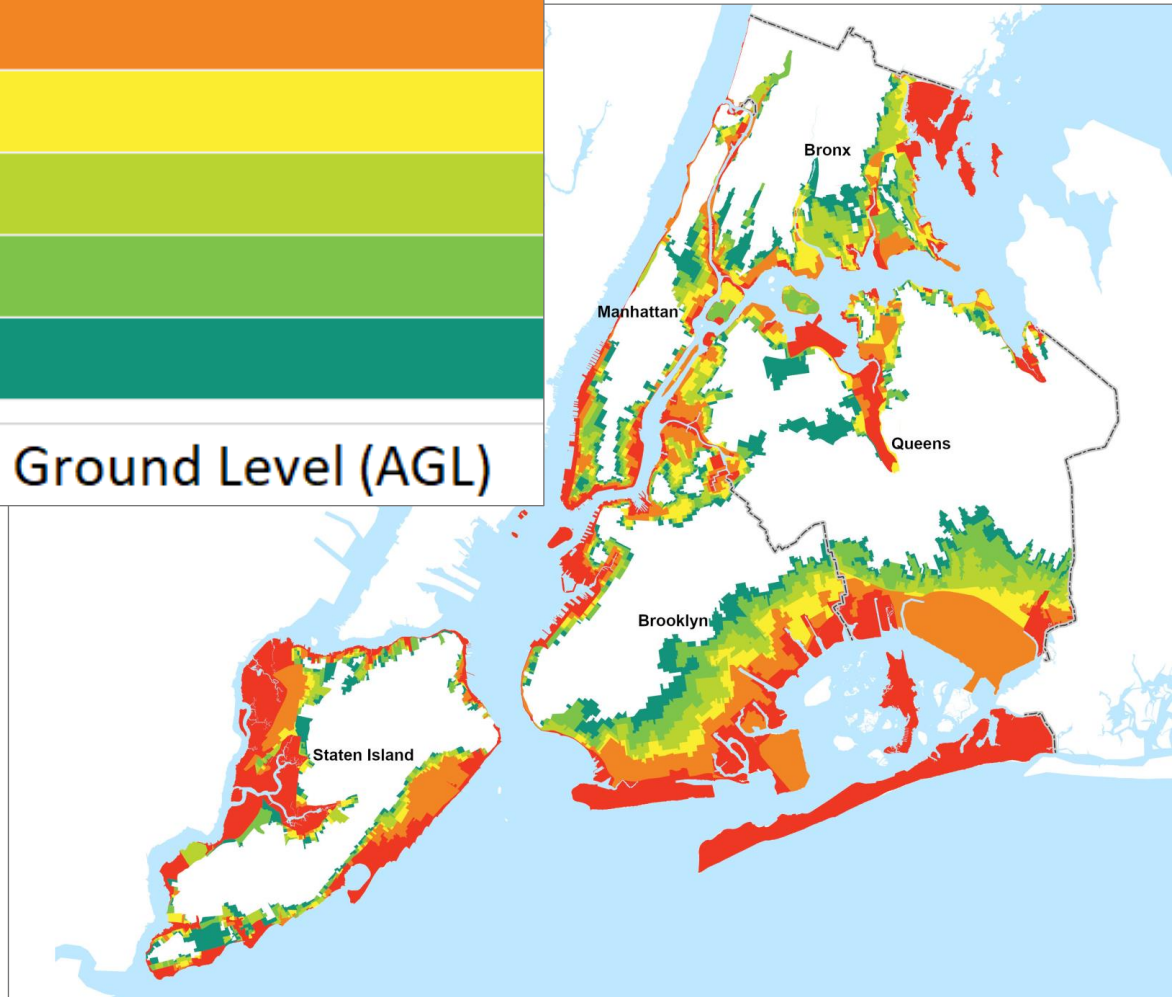
New Population*	
Zone 1	460,000
Zone 1 + 2	940,000
Zone 1 + 2 + 3	1,310,000
Zone 1 + 2 + 3 + 4	1,910,000
Zone 1 + 2 + 3 + 4 + 5	2,580,000
Zone 1 + 2 + 3 + 4 + 5 + 6	3,430,000

*calculated with 2020 Census data




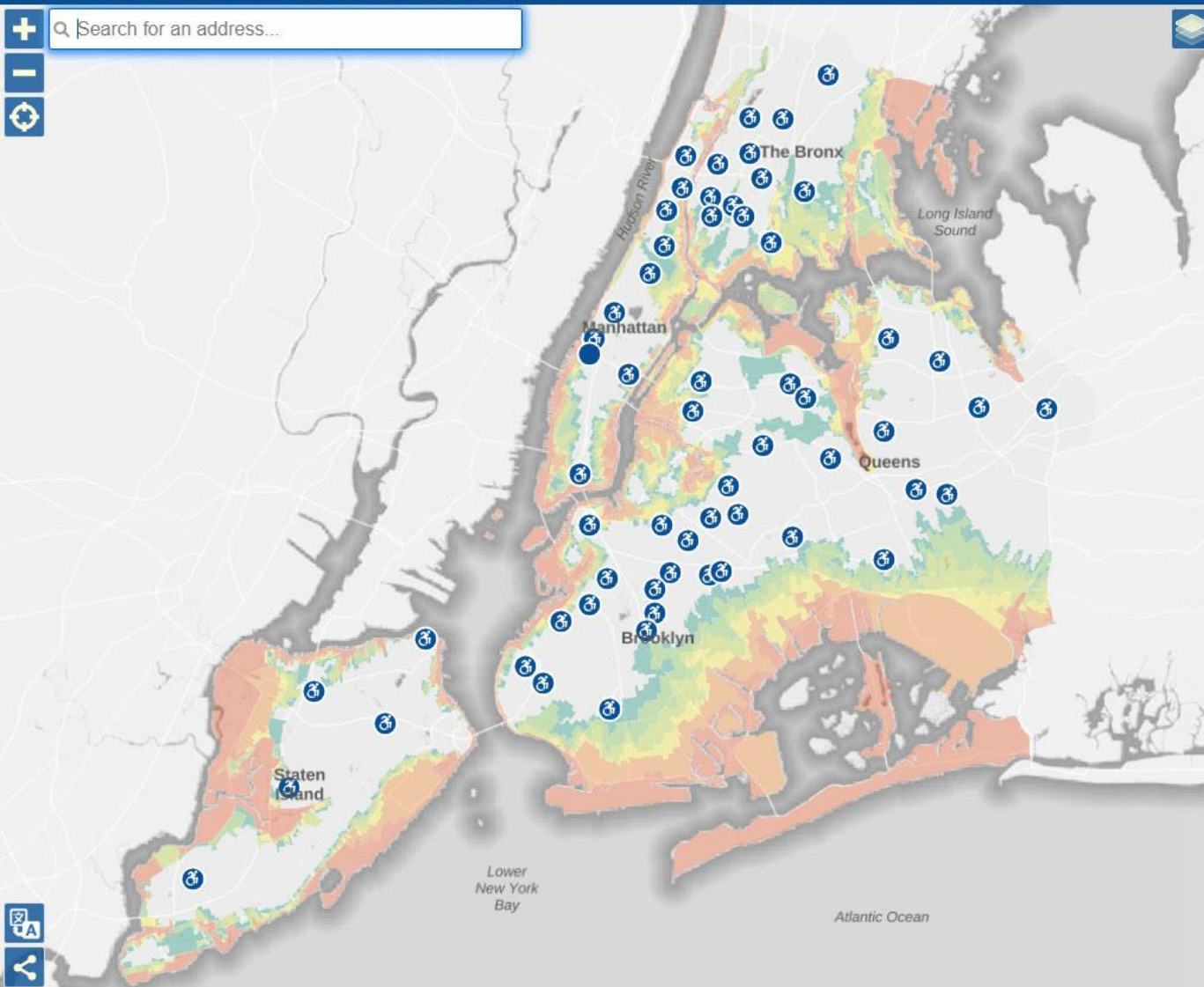
2021 Evacuation Zones

Evacuation Zone	Maximum Inundation*
Zone 1	10 ft
Zone 2	14 ft
Zone 3	19 ft
Zone 4	22 ft
Zone 5	27 ft
Zone 6	33 ft
* Inundation datum is Above Ground Level (AGL)	



NYC Hurricane Evacuation Zone Finder

 Search for an address...



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Map



Directions



Details

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- Hurricane Evacuation Zone Finder:

[*NYC.gov/KnowYourZone*](https://www1.nyc.gov/site/planning/data-maps/open-data.page#other)

[*https://maps.nyc.gov/hurricane/*](https://maps.nyc.gov/hurricane/)

- Hurricane Evacuation Zones:

[*https://www1.nyc.gov/site/planning/data-maps/open-data.page#other*](https://www1.nyc.gov/site/planning/data-maps/open-data.page#other)

- Evacuation Zone SLOSH data: Coming Soon

[*https://opendata.cityofnewyork.us/*](https://opendata.cityofnewyork.us/)