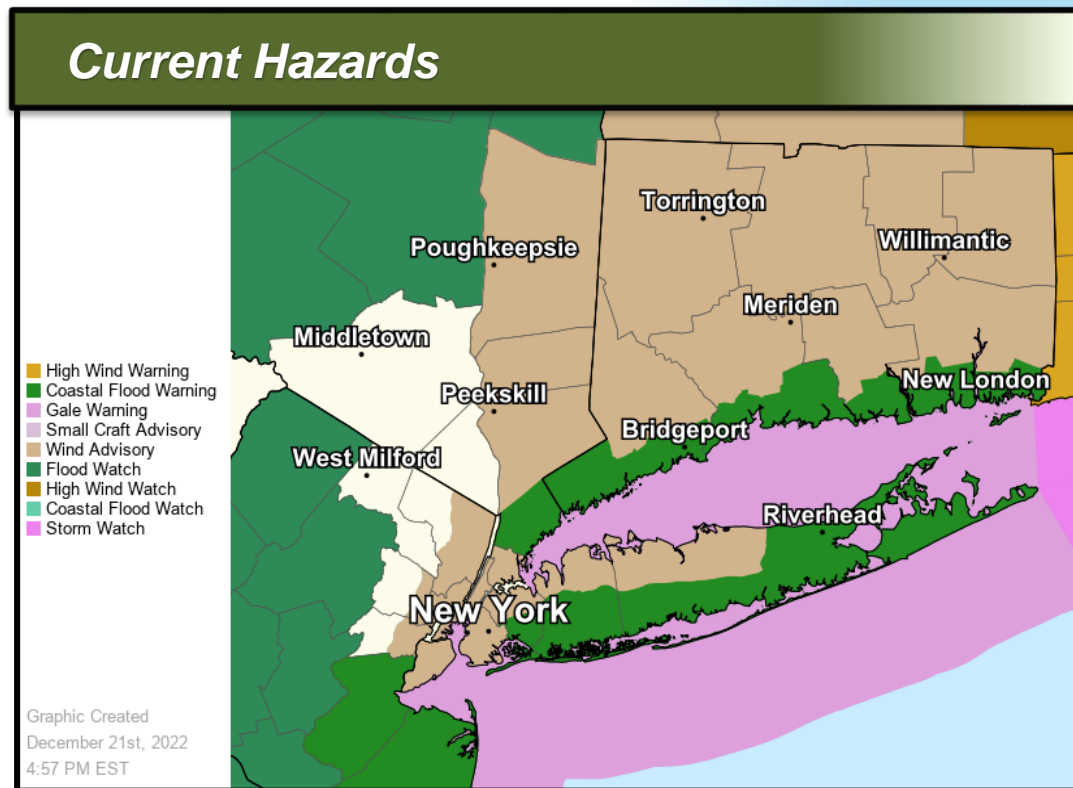


# Major Late Week Winter Storm






## Decision Support Briefing #3 As of: 6:00 PM Dec 21, 2022

### What Has Changed?

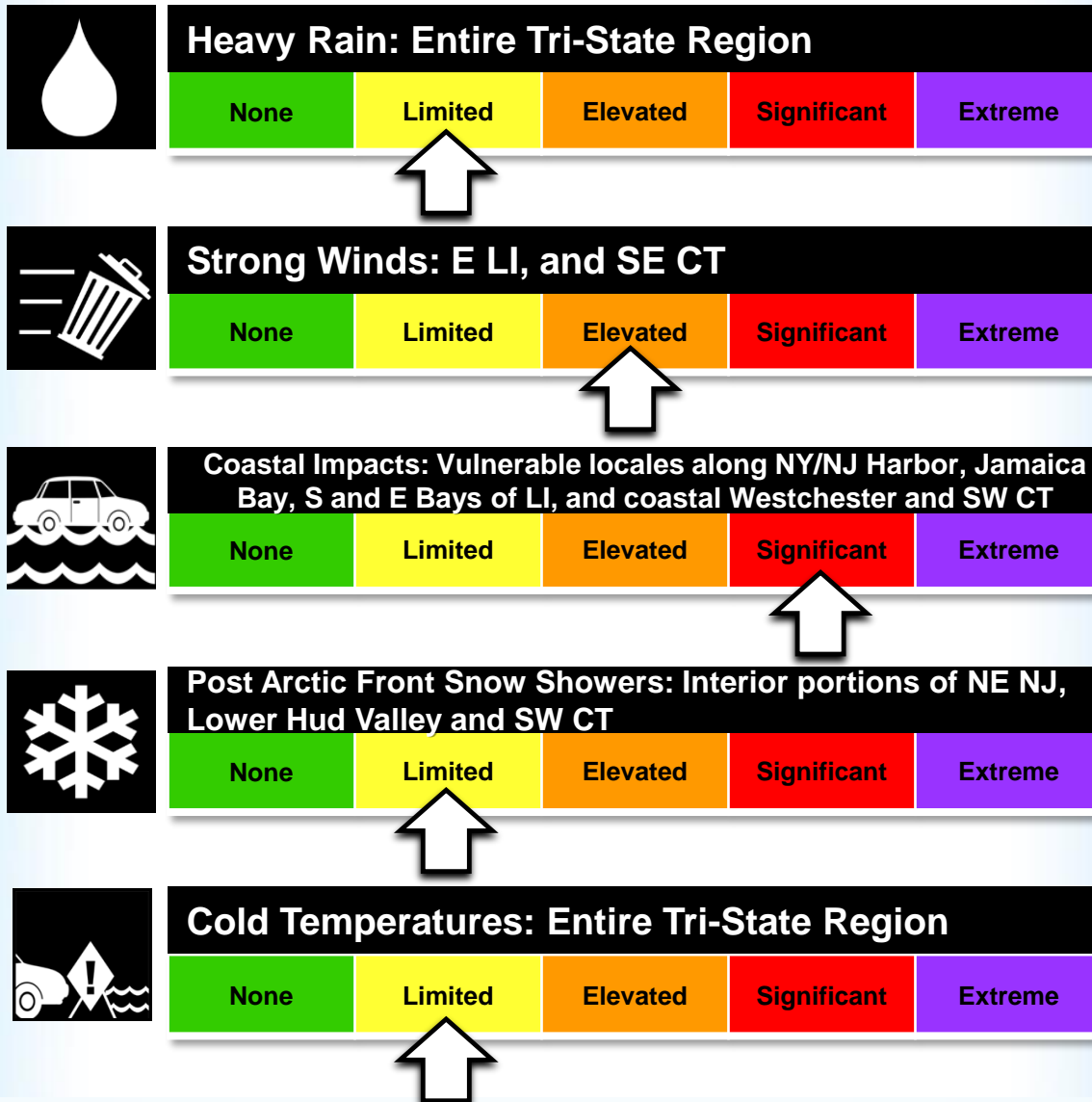
- **Upgrade to Coastal Flood Warning for portions of the region.** Potential for widespread major flooding has decreased. Still widespread moderate to localized major threat.
- **Wind advisory issued for Thu Night into Friday Night for the coast.**
- **Upgrade to Gale Warning for Thu Night into Saturday morning.**
- **Potential for snow showers and spotty flash freeze conditions N&W of NYC**



# Main Points

Hazard	Impacts	Location	Timing
<b>Heavy Rain</b> 1.5 to 2.5 inches, locally 3 inches. 	<ul style="list-style-type: none"> <li>• Minor Flooding of Urban Areas, Low-lying Roads.</li> <li>• Rapid rises on small Streams and Creeks.</li> </ul>	Entire Tri-State Region	Thursday Evening through Friday Afternoon
<b>Strong Winds</b> 25 to 35 MPH with gusts to 45 to 55 mph 	<ul style="list-style-type: none"> <li>• Strong winds will blow down scattered tree limbs and blow around unsecured objects.</li> <li>• Power outages possible.</li> </ul>	Entire Tri-State Region	Late Thursday night through Friday evening
<b>Coastal Impacts</b> 1 to 2 ft, locally 3 ft of flooding AGL 	<ul style="list-style-type: none"> <li>• Widespread moderate to locally major flooding likely Fri am high tide for portions of the coast.</li> <li>• Areas of dune erosion and scattered overwashes along oceanfront</li> </ul>	Localized major threat along Jamaica Bay, W Great South Bay, south shore of CT and North fork of LI.	Friday AM high tides
<b>Post Arctic Front Snow Showers</b> 	<ul style="list-style-type: none"> <li>• Spotty light snow accumulation possible behind cold front, particularly N&amp;W of NYC, causing spotty flash freeze conditions possible.</li> </ul>	Interior portions of NE NJ, Lower Hud Valley and SW CT	Friday afternoon into early evening
<b>Cold Temperatures</b> Min windchills of -5 to 5 F. 	<ul style="list-style-type: none"> <li>• Potential for localized flash freezing of bridges and elevated surfaces with snow showers Fri Eve.</li> <li>• Scattered areas of black ice</li> </ul>	Entire Tri-State Region	Late Friday aft into Fri Night

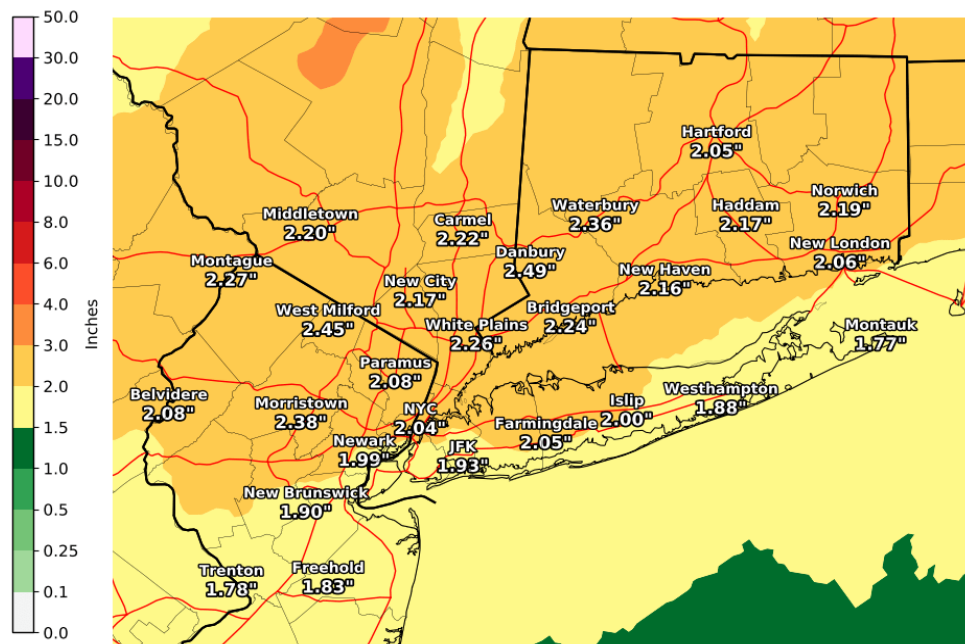
# Summary of Greatest Impacts



# Heavy Rain

## Expected Rainfall/Liquid Equivalent - Official NWS Forecast

Valid: 12/21/2022 03:00 PM - 12/25/2022 03:00 AM EST



## Hazards:

- ✓ Total rainfall of 1.5" to 2.5" with locally 3 inches possible Thursday Afternoon into Friday Morning.
- ✓ Rainfall rates of 0.25 to 0.5"/hr

## Impacts –

- ✓ Minor urban flooding of low-lying Roads, and Small Streams and Creeks
- ✓ Minor river flooding possible on fast responding creeks/ivers

## Timing:

- ✓ Heaviest rain from 7pm Thursday through 7am Friday.



National Weather Service  
New York NY  
12/21/2022 03:18 PM EST

Follow Us:   
weather.gov/nyc

## Forecast Challenges:

Confidence is increasing in forecast rainfall amounts. Heavy rain may come to an end before the time of Fri AM high tide.

# Flood Hazard Outlook



## Experimental 7-Day Flood Hazard Outlook

Includes Flash, River, and Tidal Flood Hazards



Issued: 2022-12-21 03:00 PM CST (21:00 UTC) | Valid Through: 2022-12-28 03:00 PM CST (21:00 UTC) | Next Issuance: 2022-12-22 03:00 PM CST (21:00 UTC)

### Flood Hazard Messages

#### Northeast

- Flash, urban, and small stream flooding impacts, as well as minor to isolated moderate river flooding impacts, are likely Thursday through Saturday in response to locally heavy rainfall combined with snowmelt.

#### Eastern Seaboard

- Widespread minor to isolated major coastal flooding impacts are possible during high tide Thursday and into the weekend. Refer to products issued by local NWS offices for more details.

#### Midwest and Upper Great Lakes

- Very cold temperatures Friday through the weekend will create favorable conditions for rapid river ice formation and potential ice jams.

#### Louisiana

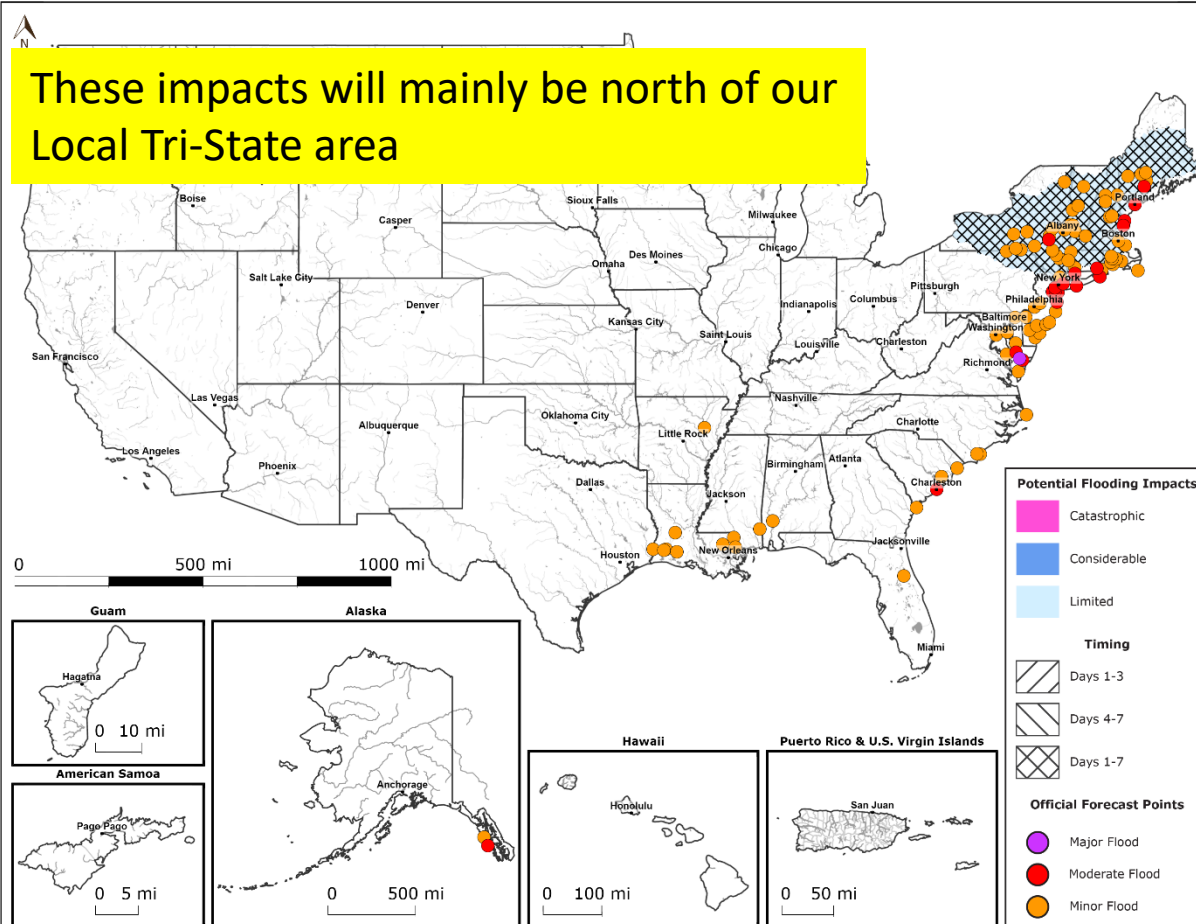
- Minor river flooding will continue on downstream portions of the Calcasieu and Pearl rivers through this weekend.

#### Western Washington

- Multiple rounds of rainfall combined with a significant warm up this weekend and early next week may result in hydrologic impacts. Confidence remains low at this time, but this area should be closely monitored.

**Disclaimer:** This outlook provides an overview of potential flooding impacts. Please refer to detailed products issued by local National Weather Service offices for official forecasts and warnings. ([www.weather.gov](http://www.weather.gov))

These impacts will mainly be north of our Local Tri-State area

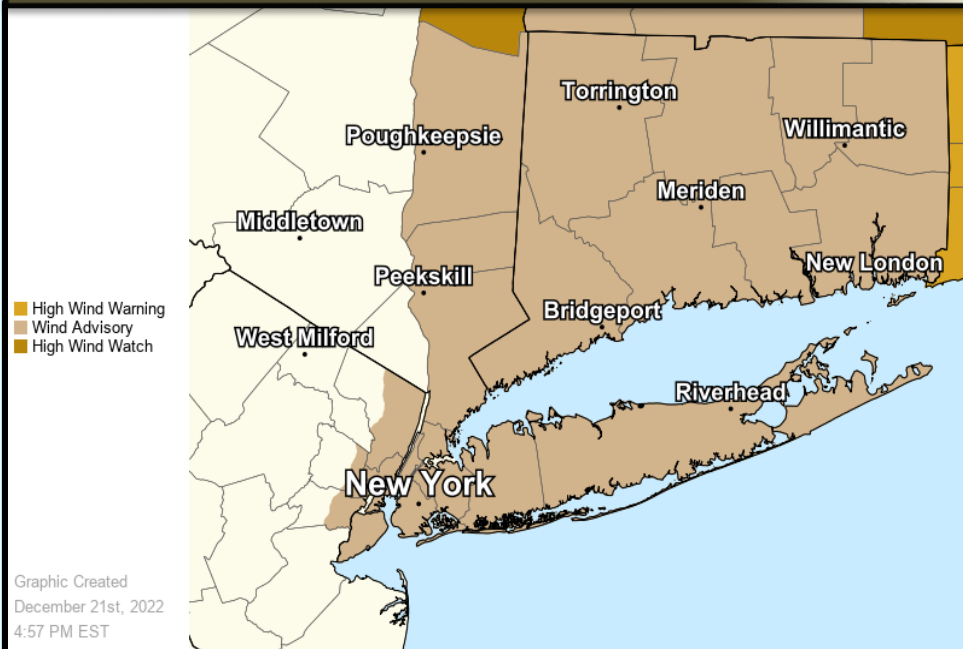


To learn more or provide feedback, visit: [https://nws.weather.gov/products/PDD/PDD\\_ExpFloodHazardOutlook\\_2022.pdf](https://nws.weather.gov/products/PDD/PDD_ExpFloodHazardOutlook_2022.pdf)



# Strong/Damaging Winds

## Wind Related Hazards



## Hazards and Impacts:

**Location – Strongest winds along the coast**  
**Wind Advisory in Effect Thu Night thru Friday Night**

- ✓ **Strong Winds:** SE/S winds of 25 to 35 mph with gusts 45 to 55 mph Thu Night into early Fri morning for the coast. Winds will shift to the SW/W late Friday morning into afternoon with the same speed.
- ✓ **There is potential for a brief period of damaging southerly winds of 40 mph with gusts to 60 mph with a narrow line of heavy showers and embedded thunderstorms ahead of the cold front Friday morning.**
- ✓ **Impacts:** Strong winds will blow down scattered tree limbs and blow around unsecured objects.

## Forecast Challenges:

The potential for a brief period of high winds Friday morning/early afternoon with a line of heavy showers ahead of the cold front will be alerted if needed using short fuse wind or severe thunderstorm warning products.

## Timing:

- ✓ Strongest winds from 10pm Thursday through 10pm Friday.



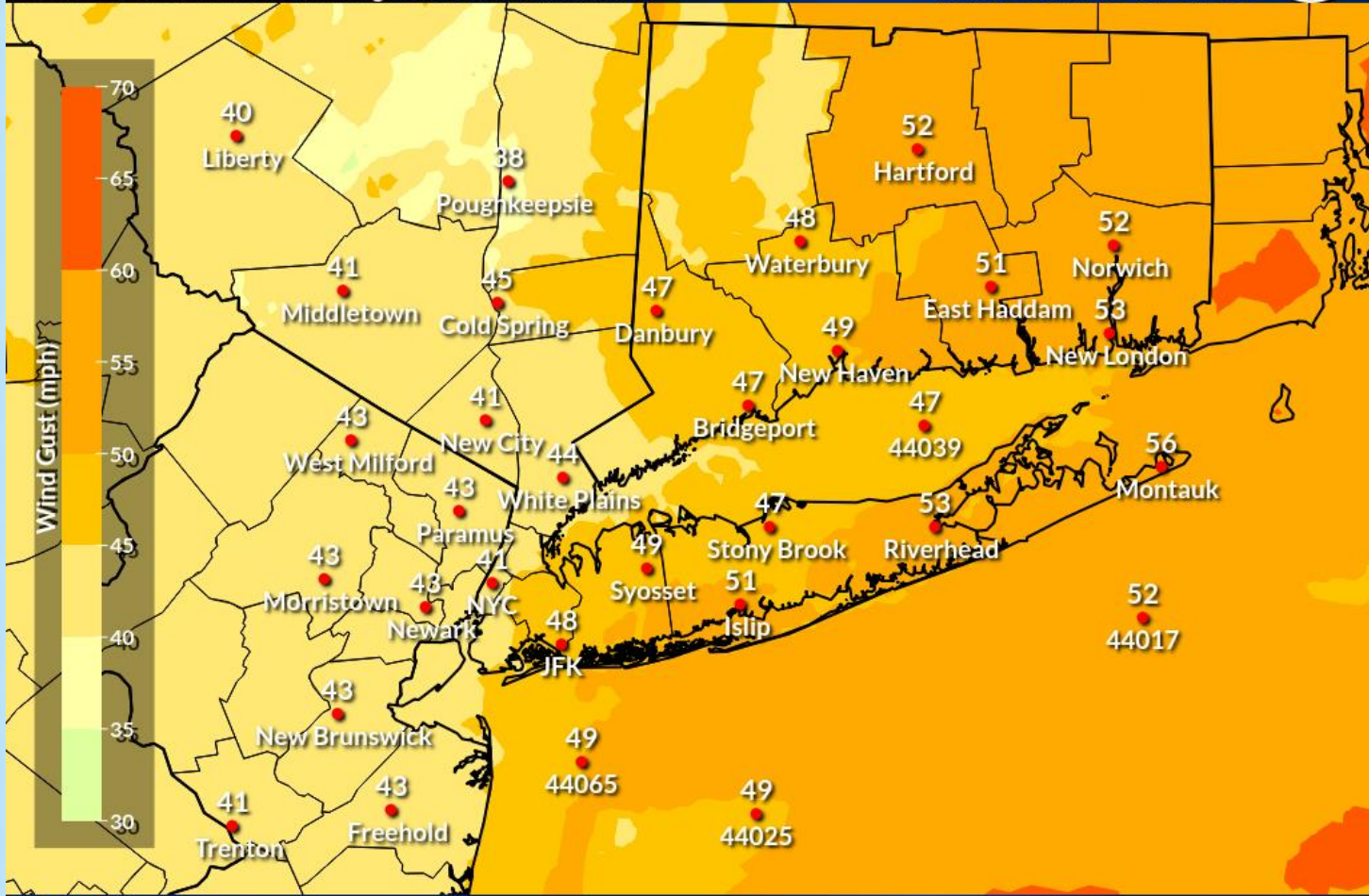
# Strong/Damaging Winds

## Maximum Wind Gusts

Valid: Thu Dec 22 10:00 PM through Fri Dec 23 10:00 PM

Weather Forecast Office  
New York, NY

Issued Dec 21, 2022 4:47 PM EST

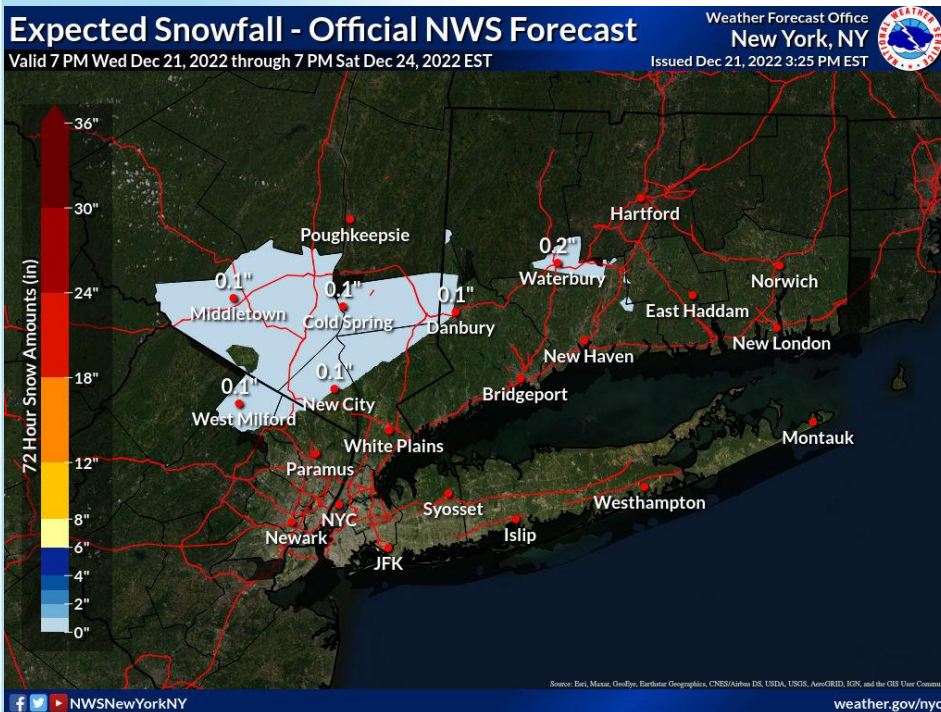


NWSNewYorkNY

[weather.gov/nyc](http://weather.gov/nyc)



# Post Frontal Snow Showers/Flash Freeze Potential



## Hazards and Impacts:

**Location** – N&W of NYC highest probability, with low probability for NYC, LI, SE CT

- ✓ **Snow Accum:**
  - ✓ **Likely:** Dusting in spots
  - ✓ **Reasonable worst case:** 1-2" west of the Hudson River, 1" for rest of Lower Hud and S CT, Less than an inch for city/coast.
- ✓ **Snowfall rates:**
- ✓ **Snow Character:** Dry and powdery
- ✓ **Air temps:** Rapidly dropping below freezing in the late afternoon/early evening. Road temps would likely lag by 1 to 2 hours.
- ✓ **Impacts:** Localized flash freeze threat.

## Forecast Challenges:

The coverage and intensity forecast of any post arctic front snow showers will be refined over the next 24 hours. The flash freeze threat will be predicated on this activity.

## Impacts:

- ✓ Locally dangerous travel for Fri aft/eve commute

## Timing:

- ✓ 3 to 7pm



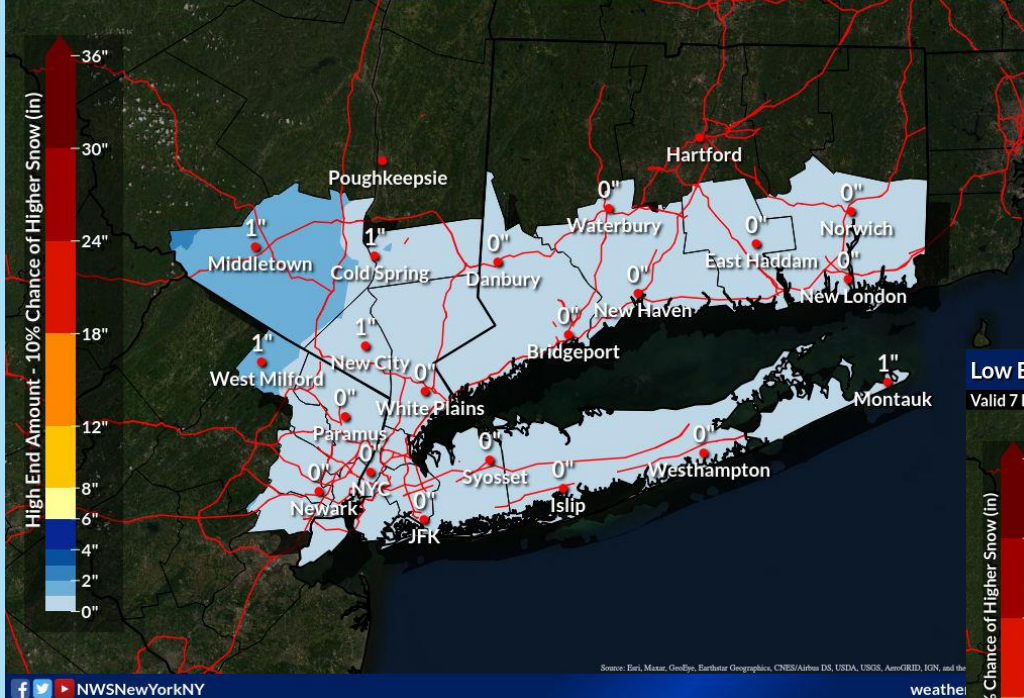
# Probabilistic Snowfall Forecast

## High End Amount - 1 in 10 Chance (10%) Of Higher Snowfall

Valid 7 PM Wed Dec 21, 2022 through 7 PM Sat Dec 24, 2022 EST

Weather Forecast Office  
New York, NY

Issued Dec 21, 2022 3:25 PM EST



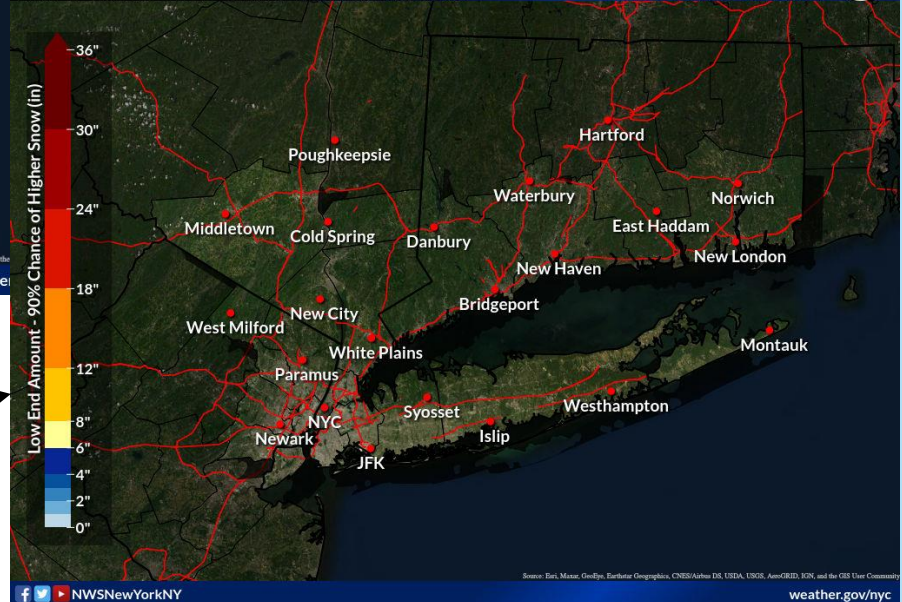
Snow amounts could be close to these levels with heavier and/or more widespread snow shower activity behind the arctic front. This would pose an elevated threat for flash freeze conditions!

## Low End Amount - 9 in 10 Chance (90%) Of Higher Snowfall

Valid 7 PM Wed Dec 21, 2022 through 7 PM Sat Dec 24, 2022 EST

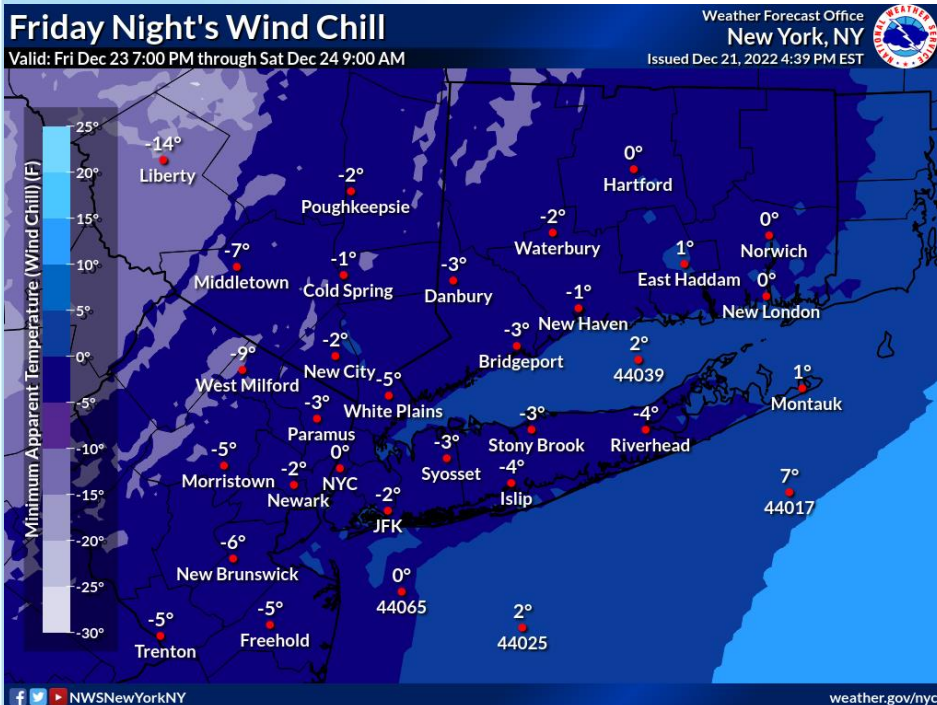
Weather Forecast Office  
New York, NY

Issued Dec 21, 2022 3:25 PM EST



Expect at least this much snow. Post arctic front snow shower activity dissipates as it approaches the coast.

# Cold Temperatures / Flash Freeze Potential



## Hazards:

- ✓ Temperatures plummet to 10 to 20F, with wind chills of -5 to 5F.
  - ✓ Friday Night:
    - ✓ Low Temps: Low to mid teens interior and Mid to upper teens coast.
    - ✓ Min wind chills: -5 to 5 F
  - ✓ Saturday:
    - ✓ High Temps: Low 20s interior and Mid 20s coast.
    - ✓ Wind chills: 5 - 15F
  - ✓ Saturday Night:
    - ✓ Low Temps: Low teens interior, Mid to upper teens coast
    - ✓ Wind chills: -5 to 10F
  - ✓ Sunday:
    - ✓ High Temps: Mid 20s interior and Upper 20s to 30 coast.
    - ✓ Wind chills: 10 to 20F

## Impacts:

- ✓ Localized Flash freeze potential across Interior Fri aft/eve, causing dangerous travel conditions especially on bridges and elevated surfaces into Saturday morning.

## Forecast Challenges:

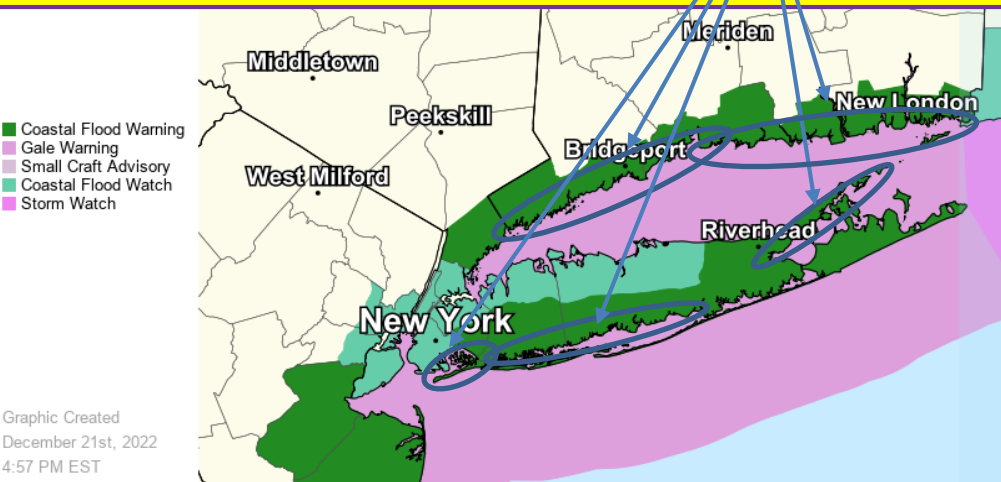
- ✓ Depending on how quickly temperatures plummet Friday evening, there is potential for a flash freeze of slushy surfaces across the Interior especially on bridges and elevated surfaces.



# Coastal Flooding

## Marine / Coastal Hazards

**Threat areas for locally major coastal flooding during Friday morning high tide (3 ft above ground level). Elsewhere threat is for moderate coastal flooding.**



For the latest coastal flood forecasts (hydrographs and tables) and the tools to visualize the potential coastal impacts (zoomable potential inundation map, impact catalogs, climatology, etc.) in your area of concern please go to the [NWS New York, NY Coastal Flooding Page](#)

### Coastal Flood Hazards and Impacts:

- ✓ **Widespread Moderate to locally Major coastal flooding potential (1 1/2 to 2 1/2 ft, locally 3 ft flooding above ground)** for S Nassau, S Queens, SW Suffolk as well as north Fork of LI and coastal CT.
- ✓ **Potential Impacts** – Numerous low-lying and shoreline roads will be closed in the area, with adjacent properties taking on water. Cars may be inundated if not moved to higher ground. Some flooding into areas that normally don't experience flooding.
- ✓ **Widespread moderate potential (around 2 ft above ground) coastal flooding** along NY/NJ harbor, Newark bay and tidally affected portions of Hackensack and Passaic Rivers, SE Suffolk, SE CT, and sound front communities of LI.

### Shoreline Hazards and Impacts:

- ✓ 10-15' breaking waves along the oceanfront, resulting in widespread dune erosion and scattered overwashes.
- ✓ 3 to 5' along coastal CT and Orient Point shoreline resulting in beach erosion, localized overwashes, and possible damage to shoreline structures.

### Timing:

- ✓ Around and near the times of high tide Fri AM

**Forecast Challenge:** The extent of major coastal flooding (3 ft above ground) will depend on strong southeast winds continuing right through the time of high tide Fri AM. Low prob for minor flooding with Thu eve high tide. Potential for residual minor to moderate coastal flooding in the great South Bay with Friday Evening High Tide.

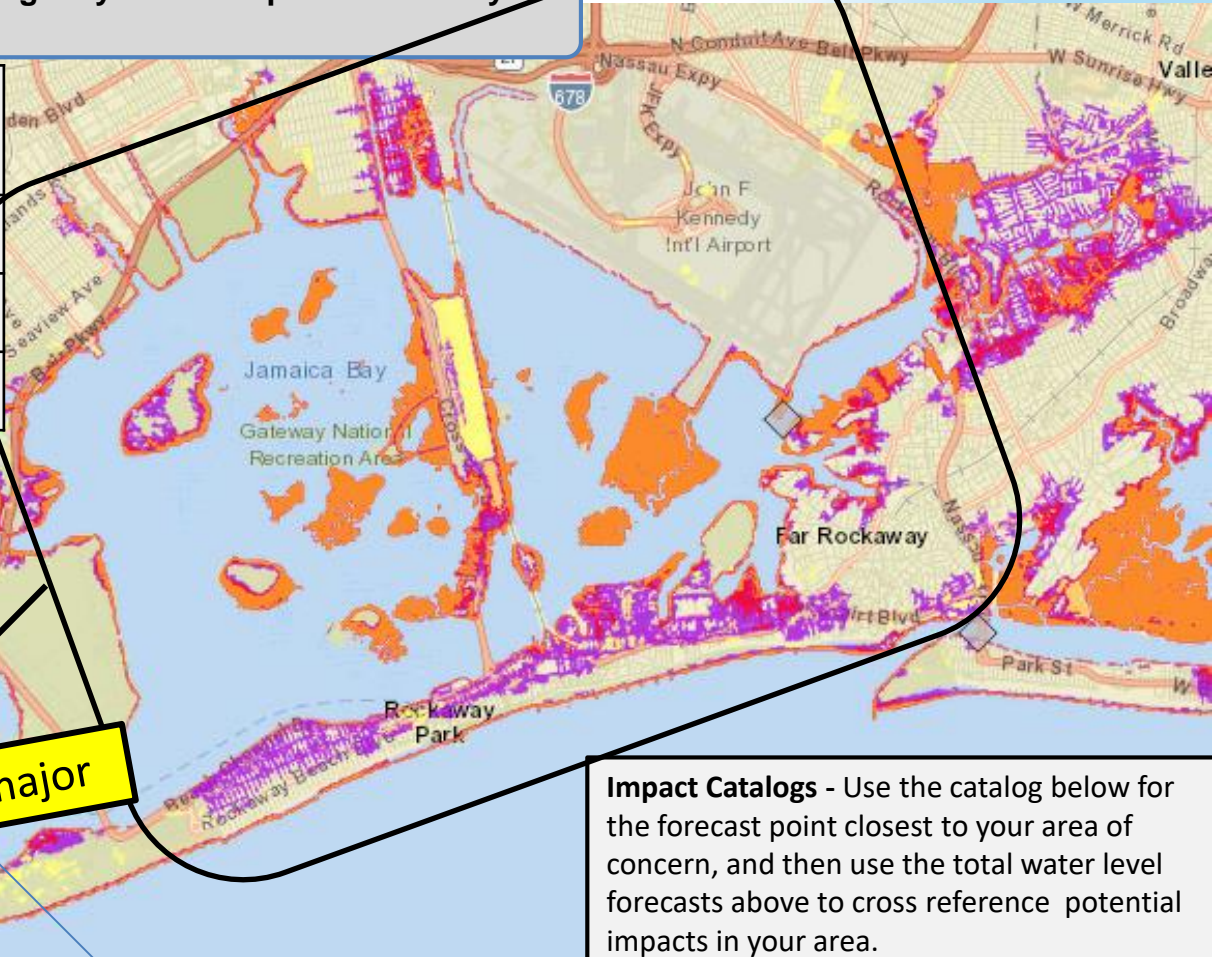


# Coastal Flooding – Potential Flood Impact Areas

The map below shows the potential extent of flood impact (water above ground) during the Friday morning high tides. Flooding may be as deep as 2 to locally 3 ft in spots.

Forecast Location (High tide Time)	Peak Water Level (ft) (MHHW)	Departure at high tide (ft)	Flood Impact
Jamaica Bay (8am)	2.6-3.1	+(1.9-2.3)	<b>Mod-Maj</b>
Rockaway Inlet (7am)	2.9-3.4	+(2.0-2.5)	<b>Moderate</b>
East Rockaway (7am)	2.3-2.8	+(2.0-2.5)	<b>Mod-Maj</b>

Map Legend
Expected Areas of Flood Impact
Likely Areas of Flood Impact
Possible Area of Flood Impact
Low-lying areas – Could flood hydrostatically



**Primary concern area for localized major**

**Impact Catalogs** - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

- [Jamaica Bay at Inwood](#)
- [East Rockaway](#)
- [Rockaway Inlet](#)

For the latest coastal flood forecasts (hydrographs and tables) and the tools to visualize the potential coastal impacts (zoomable potential flood impact map, impact catalogs, climatology, etc.) in your area of concern please go to the [NWS New York, NY Coastal Flooding Page](#)

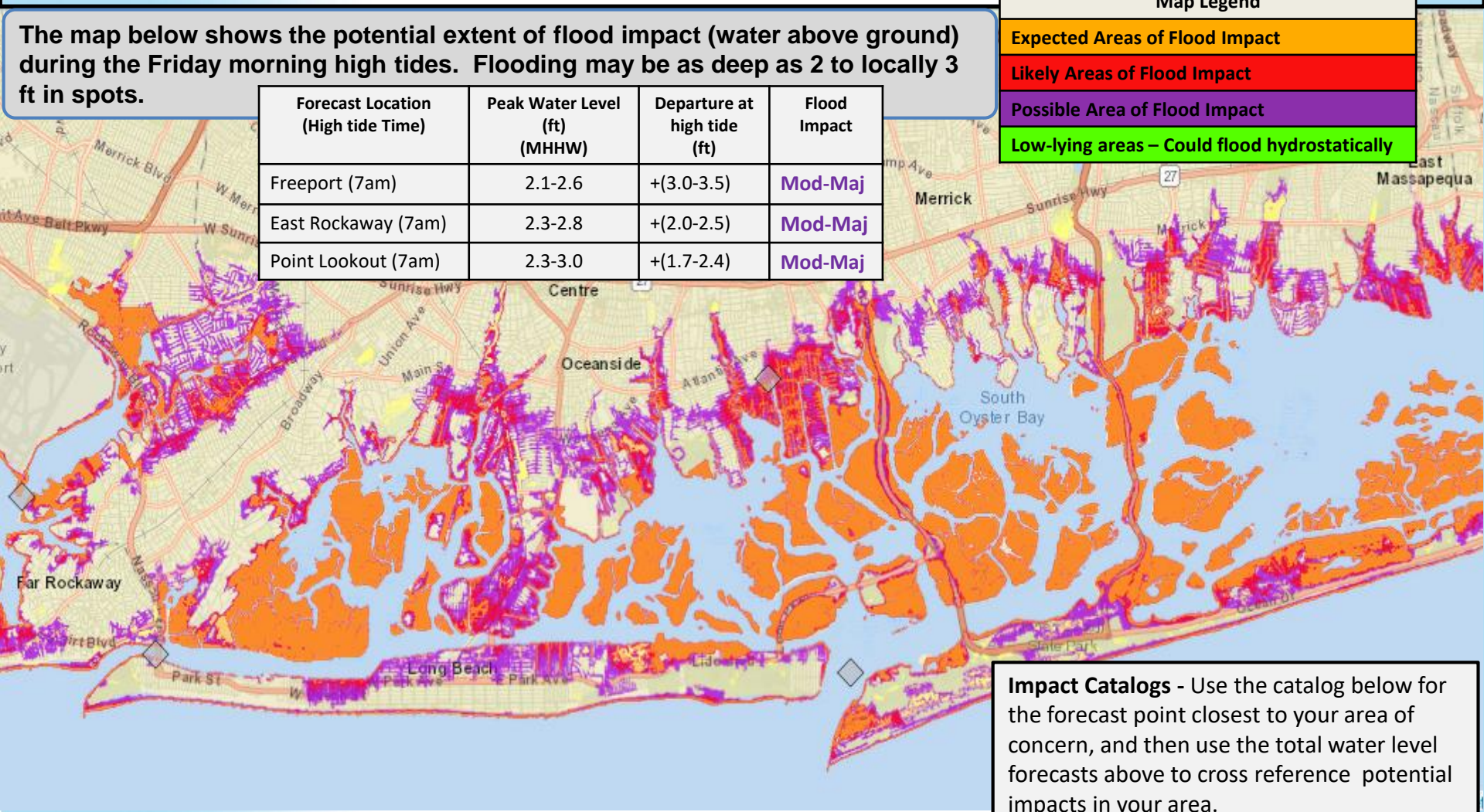


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Freeport (7am)	2.1-2.6	+(3.0-3.5)	Mod-Maj
East Rockaway (7am)	2.3-2.8	+(2.0-2.5)	Mod-Maj
Point Lookout (7am)	2.3-3.0	+(1.7-2.4)	Mod-Maj

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Low-lying areas – Could flood hydrostatically



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- [East Rockaway](#)
- [Point Lookout](#)

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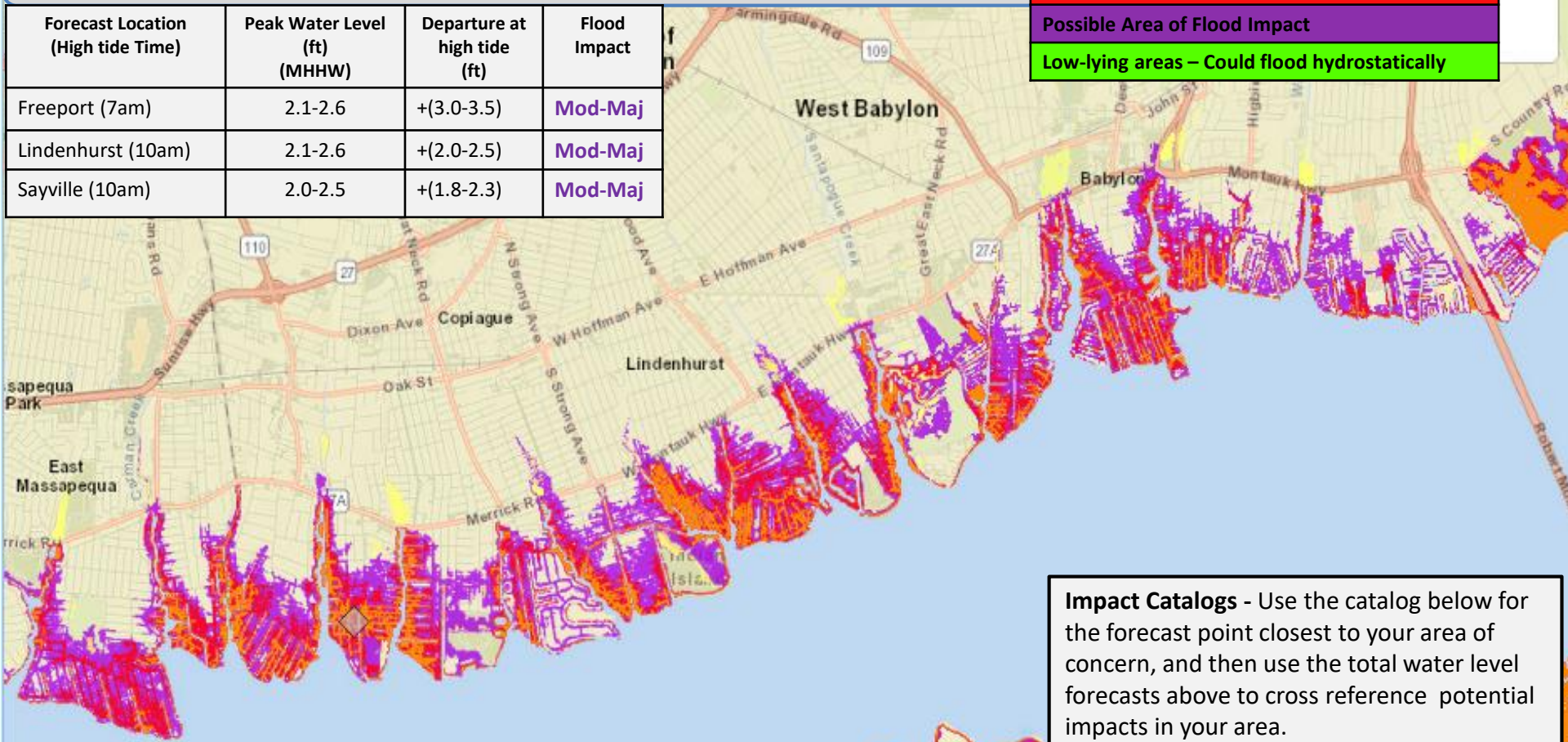


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Freeport (7am)	2.1-2.6	+(3.0-3.5)	Mod-Maj
Lindenhurst (10am)	2.1-2.6	+(2.0-2.5)	Mod-Maj
Sayville (10am)	2.0-2.5	+(1.8-2.3)	Mod-Maj



**Impact Catalogs** - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

- [Freeport](#)
- [Lindenhurst](#)
- [Watch Hill](#)

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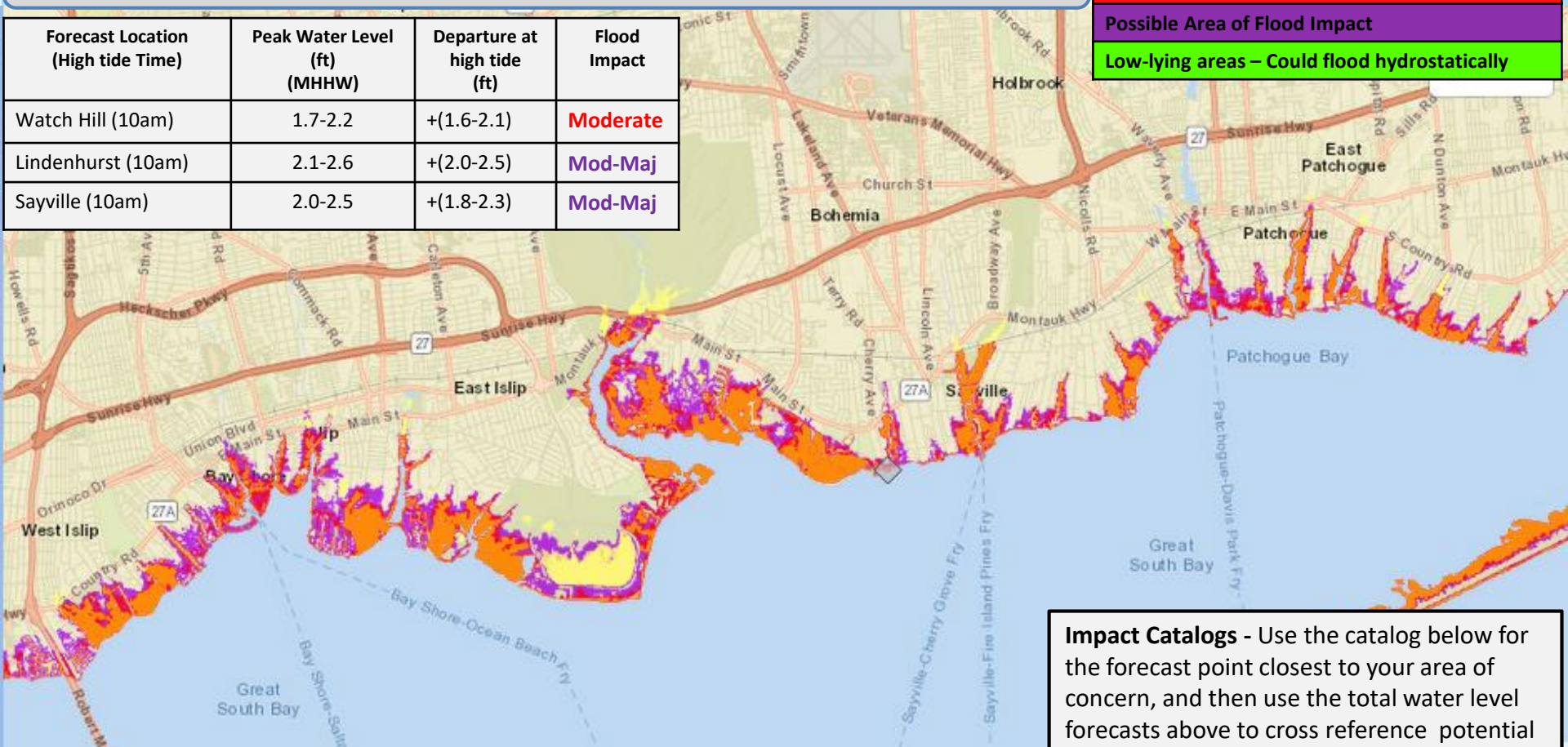


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Possible Area of Flood Impact
Low-lying areas – Could flood hydrostatically

Forecast Location (High tide Time)	Peak Water Level (ft) (MHHW)	Departure at high tide (ft)	Flood Impact
Watch Hill (10am)	1.7-2.2	+(1.6-2.1)	Moderate
Lindenhurst (10am)	2.1-2.6	+(2.0-2.5)	Mod-Maj
Sayville (10am)	2.0-2.5	+(1.8-2.3)	Mod-Maj



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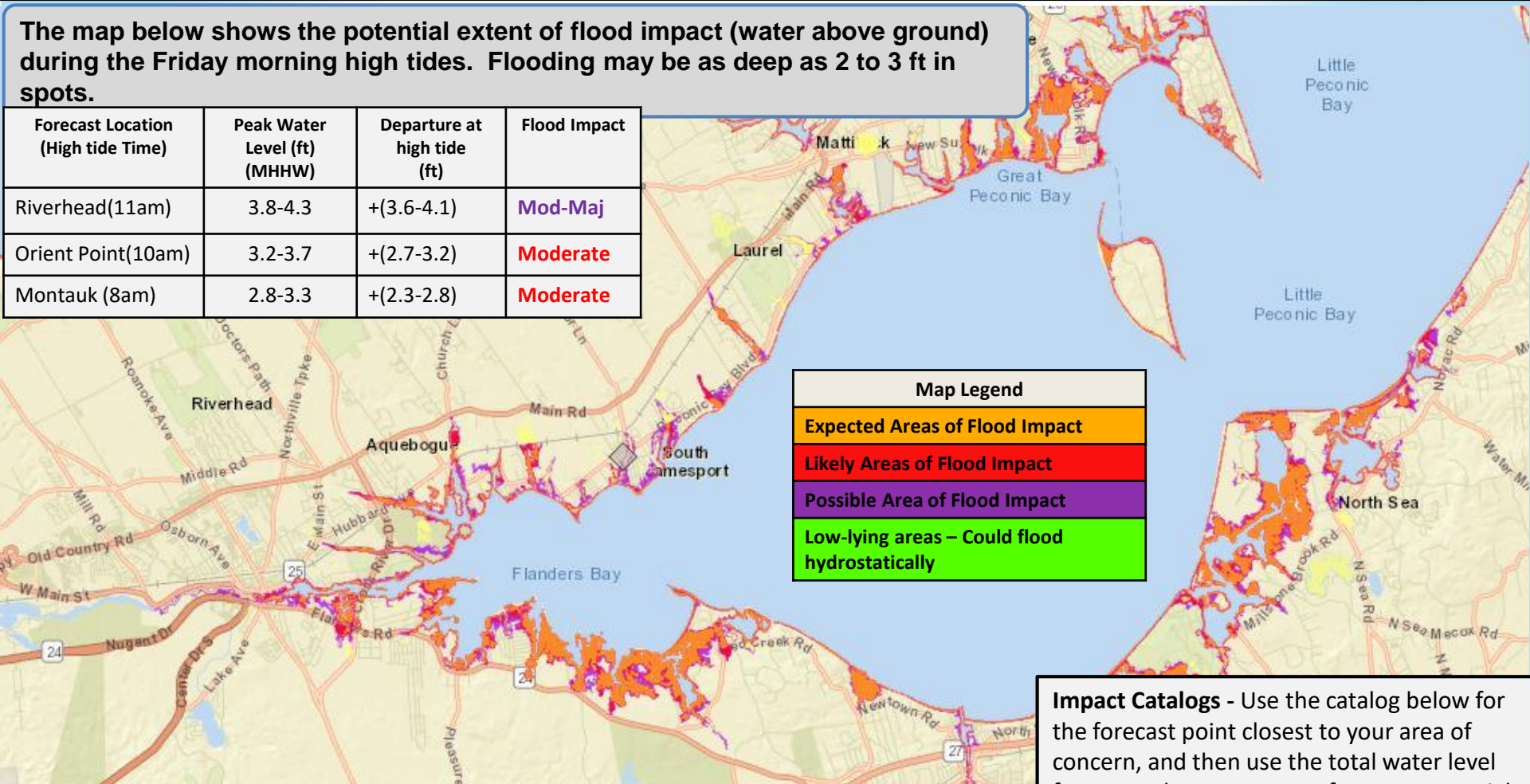
- [Lindenhurst](#)
- [Watch Hill](#)

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Forecast Location (High tide Time)	Peak Water Level (ft) (MHHW)	Departure at high tide (ft)	Flood Impact
Riverhead(11am)	3.8-4.3	+(3.6-4.1)	<b>Mod-Maj</b>
Orient Point(10am)	3.2-3.7	+(2.7-3.2)	<b>Moderate</b>
Montauk (8am)	2.8-3.3	+(2.3-2.8)	<b>Moderate</b>



Map Legend
Expected Areas of Flood Impact
Likely Areas of Flood Impact
Possible Area of Flood Impact
Low-lying areas – Could flood hydrostatically

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- [Riverhead](#)
- [Orient Point](#)
- [Montauk](#)

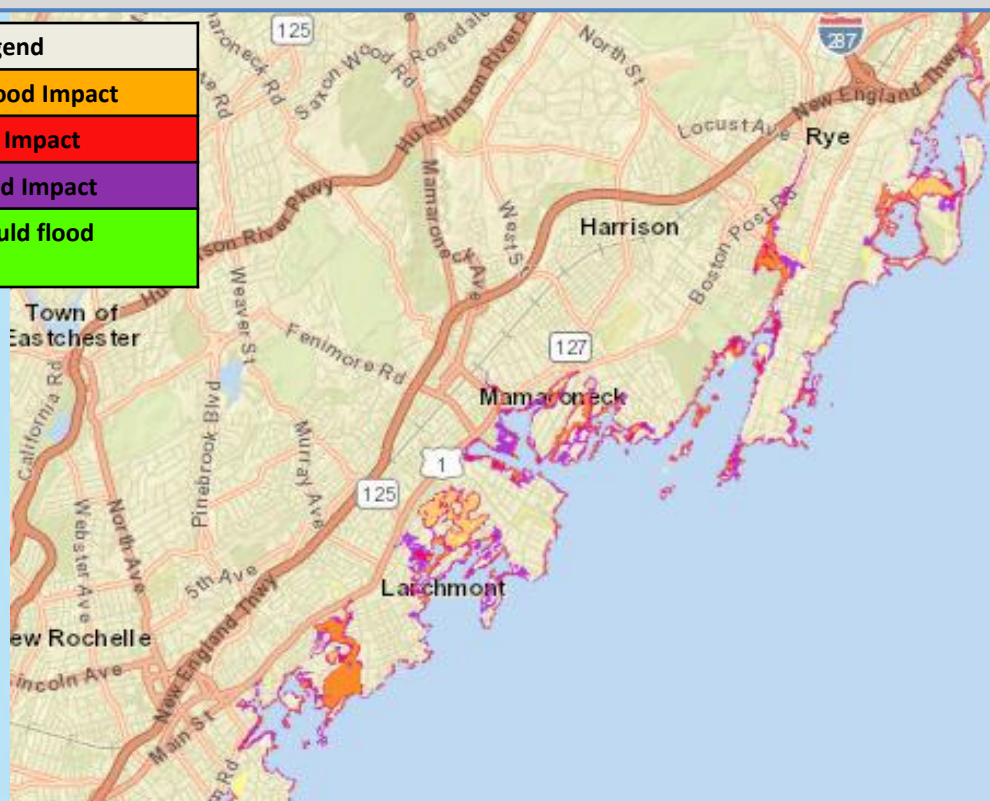
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Low-lying areas – Could flood hydrostatically



Forecast Location (High tide Time)	Peak Water Level (ft) (MHHW)	Departure at high tide (ft)	Flood Impact
Stamford (11am)	4.1-4.6	+(2.8-3.3)	<b>Moderate</b>
Kings Point (11am)	3.7-4.2	+(2.7-3.2)	<b>Moderate</b>

Wave action of 1 to 3 ft along shoreline may locally enhance coastal impacts.

**Impact Catalogs** - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

- [Stamford](#)
- [King Point](#)

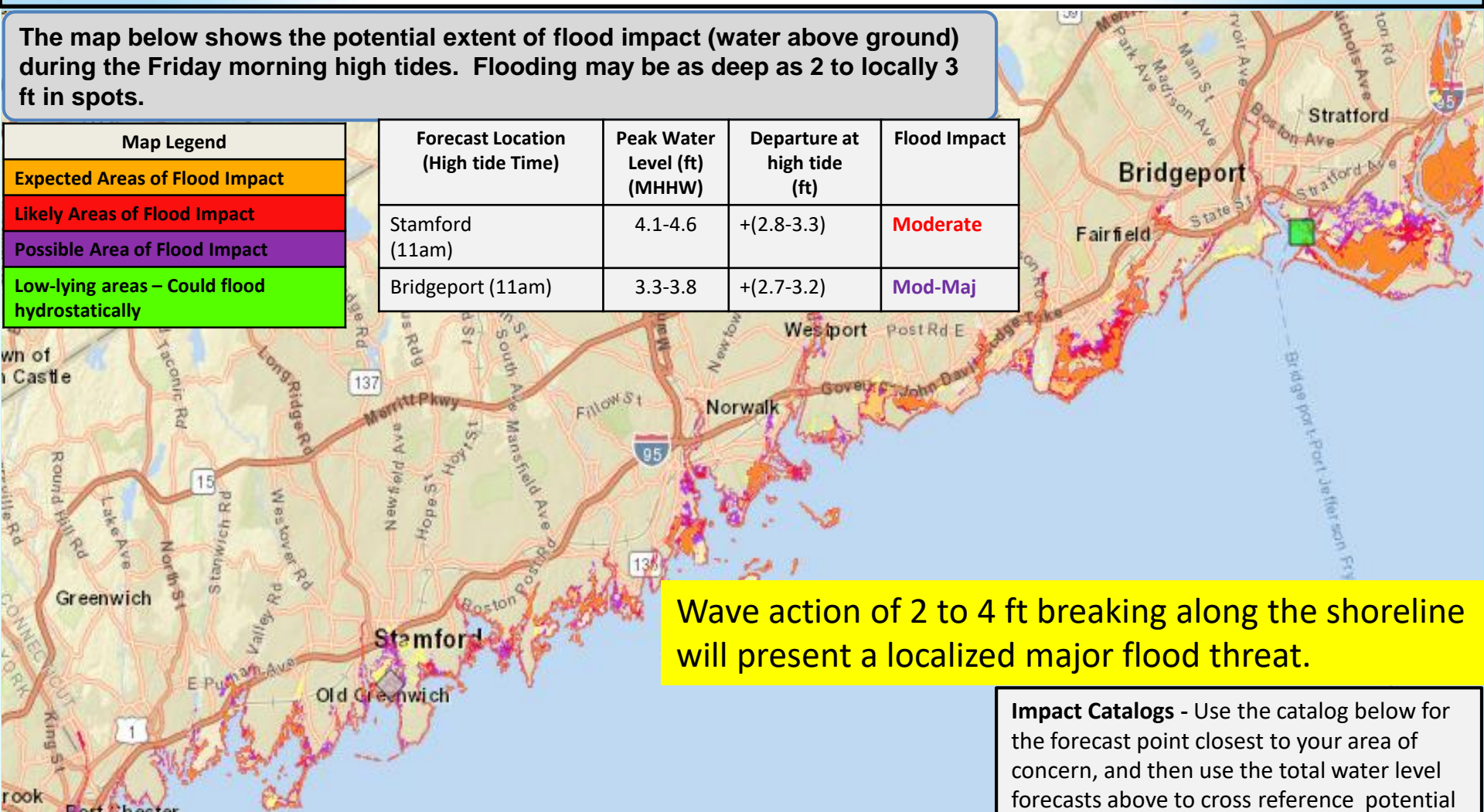
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Low-lying areas – Could flood hydrostatically				
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	Bridgeport (11am)	3.3-3.8	+(2.7-3.2)	<b>Mod-Maj</b>



Wave action of 2 to 4 ft breaking along the shoreline will present a localized major flood threat.

**Impact Catalogs** - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

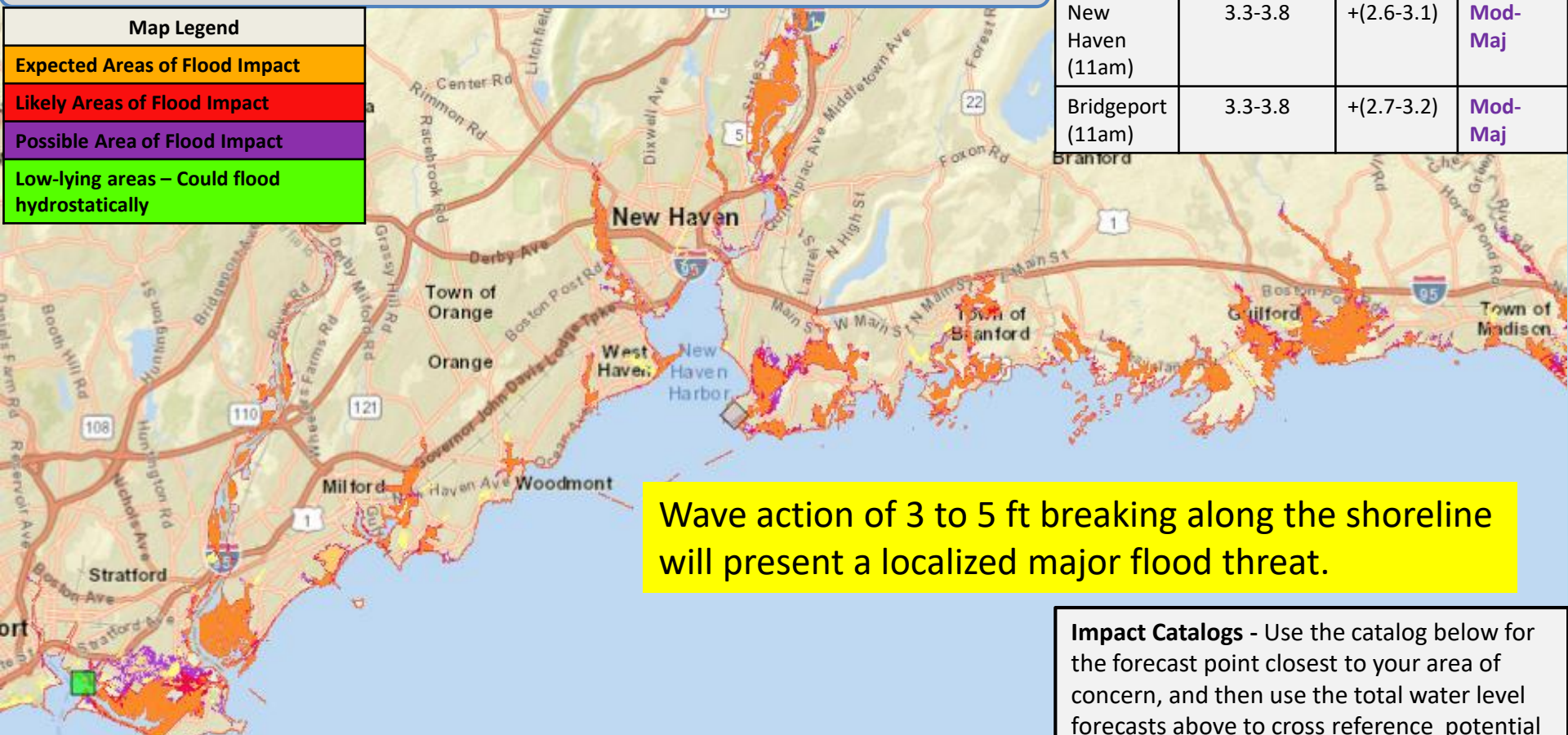
- [Stamford](#)
- [Bridgeport](#)

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Likely Areas of Flood Impact
Possible Area of Flood Impact
Low-lying areas – Could flood hydrostatically



Forecast Location (High tide Time)	Peak Water Level (ft) (MHHW)	Departure at high tide (ft)	Flood Impact
New Haven (11am)	3.3-3.8	+(2.6-3.1)	<b>Mod-Maj</b>
Bridgeport (11am)	3.3-3.8	+(2.7-3.2)	<b>Mod-Maj</b>

Wave action of 3 to 5 ft breaking along the shoreline will present a localized major flood threat.

**Impact Catalogs** - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

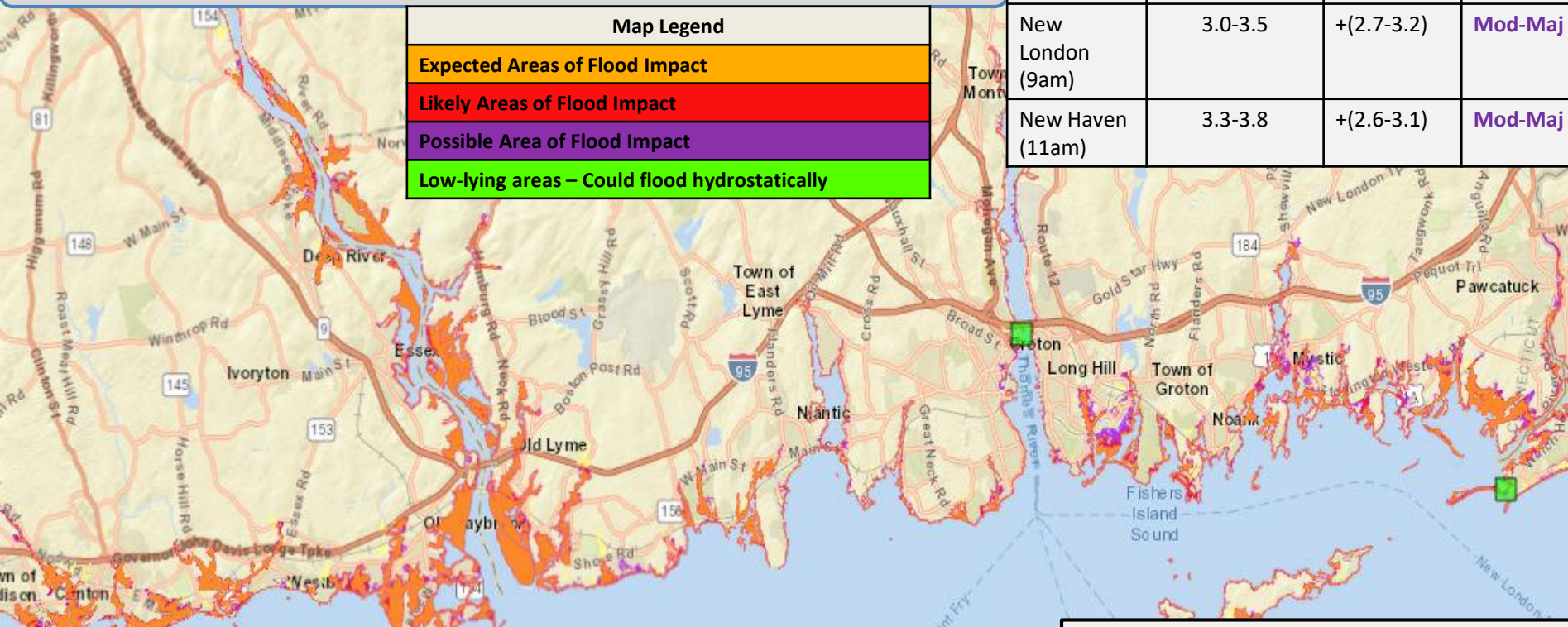
- [New Haven](#)
- [Bridgeport](#)

For the latest coastal flood forecasts (hydrographs and tables) and the tools to visualize the potential coastal impacts (zoomable potential flood impact map, impact catalogs, climatology, etc.) in your area of concern please go to the [NWS New York, NY Coastal Flooding Page](#)



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The map below shows the potential extent of flood impact (water above ground) during the Friday morning high tides. Flooding may be as deep as 2 to 3 ft in spots.



Wave action of 3 to 5 ft breaking along the shoreline will present a localized major flood threat.

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- [New Haven](#)
- [New London](#)

For the latest coastal flood forecasts (hydrographs and tables) and the tools to visualize the potential coastal impacts (zoomable potential flood impact map, impact catalogs, climatology, etc.) in your area of concern please go to the [NWS New York, NY Coastal Flooding Page](#)



## Event Summary

### **A potent low pressure system will affect the area through Saturday morning.**

- ✓ Heavy rainfall of 1.5" to 2.5", with locally 3" for the Tri State may lead to local urban and small stream flooding late Thursday into Friday afternoon.
- ✓ Southeasterly to southerly winds 25-35 mph with gusts 45-55 mph are increasingly likely over coastal areas and the waters Thursday Night into Friday morning. A brief period of S 40G60mph just ahead of cold front. Winds then shift to the SW/W during the afternoon on Friday with similar speeds through Friday Evening.
- ✓ Potential for local flash freeze N&W of NYC Fri aft/eve rush. Areas of Black Ice and Cold temperatures Fri Eve/Night, with sub freezing temperatures continuing through Monday.
- ✓ Gale conditions are expected on all waters late Thu into Fri.
- ✓ Locally major coastal flooding potential for south facing communities of southern Nassau, SW Suffolk, S Queens, south shore of north fork of LI, including Riverhead, and coastal CT for Friday am high tide cycles. Elsewhere widespread minor to moderate coastal flooding conditions.
- ✓ Widespread dune erosion and scattered overwashes from breaking surf potentially peaking at 10-15 ft during the Fri into Fri Night period along the oceanfront.