

Major Coastal Storm Tonight into Monday

Decision Support Briefing #5

As of: 600 PM Dec 17, 2023

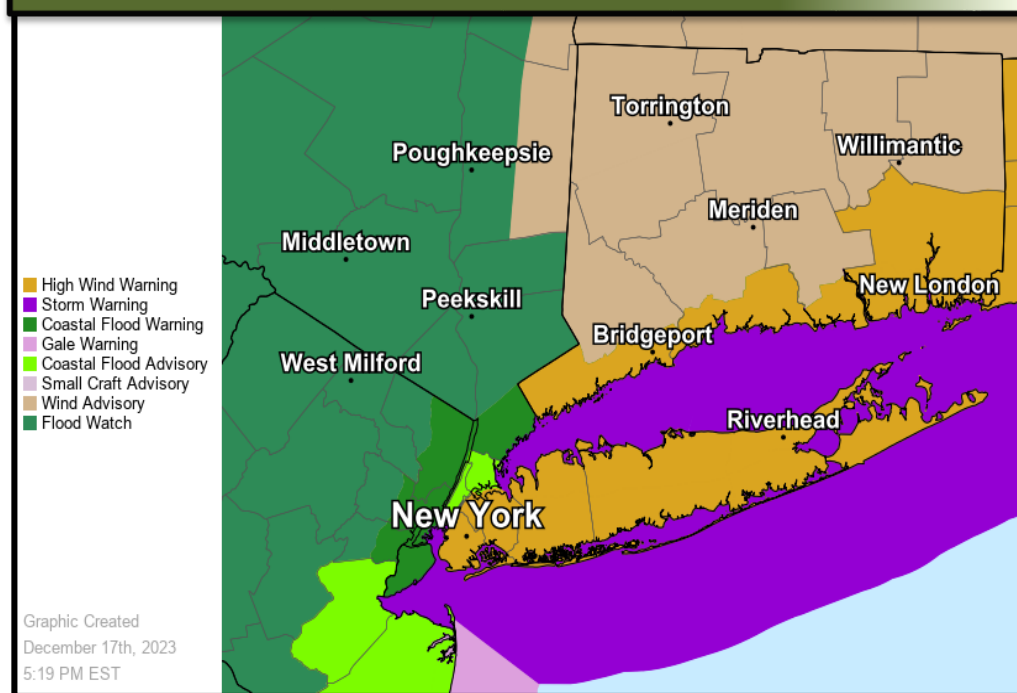
What Has Changed?

- ✓ Threat for moderate to possibly major river flooding across NE NJ, Lower Hud and SW CT is increasing.
- ✓ Coastal flood warnings and advisories have been expanded.

Key Messages

- ✓ **Widespread minor to moderate urban, poor drainage and river flood threat, tonight thru Monday afternoon.**
- ✓ **Major flooding possible along a quick responding rivers.**
- ✓ **Widespread moderate coastal flooding expected for much of the coast with Monday's afternoon high tide. Locally major coastal flooding possible.**
- ✓ **Widespread dune erosion and scattered overwashes along the ocean beachfront on Monday.**
- ✓ **Strong to damaging winds for the coast late tonight into Monday.**
- ✓ **Storm conditions and high seas on all waters tonight through Monday.**

Current Hazards



Heavy Rain bringing Widespread Minor to Moderate Flooding Threat. Locally Major Flooding Possible

Hazards:

✓ Storm Total Rainfall:

- ✓ 3 to 5", locally 6" possible for NE NJ, Lower Hud and SW CT
- ✓ 2 to 3", locally 4" for NYC, W LI, and most of SE CT
- ✓ 1 1/2 to 2 1/2" for E LI, extreme SE CT
- ✓ Much of this will fall over 8-12hrs between 3am and 11am

✓ Rainfall Rates:

- ✓ 1/2 to 3/4"/hr for a 6-8 hr period between 3am and 11am. Localized 1"/hr rate possible.

Impacts across Flood Watch Area:

- ✓ **Widespread minor to moderate urban and poor drainage flooding expected late tonight through Monday morning. Isolated to scattered flash flooding possible.** This will likely cause scattered to numerous disruptions to transportation, and localized flooding of basements, first floors of residences and businesses, as well as some underground infrastructures.
- ✓ **Minor to moderate flooding expected along several quick responding small rivers and streams of NE NJ, Lower Hudson Valley and SW CT late tonight through Monday. Reasonable worst case scenario of moderate to major flooding for a few quick responding rivers, particularly in NE NJ and Lower Hud Valley if greater than 4" of rainfall is realized.**
- ✓ **Significant rises expected along large stem rivers** with minor flooding possible across a few areas river Monday into Tuesday.
- ✓ **Heavy rainfall and/or runoff coinciding with times of high tide late Monday morning through Monday afternoon will exacerbate flood impacts along the coast and tidally affected river basins.**

Timing:

- ✓ **Heaviest rainfall between 3am and 11am Monday morning, but significant flood impacts likely continue through Monday afternoon.**

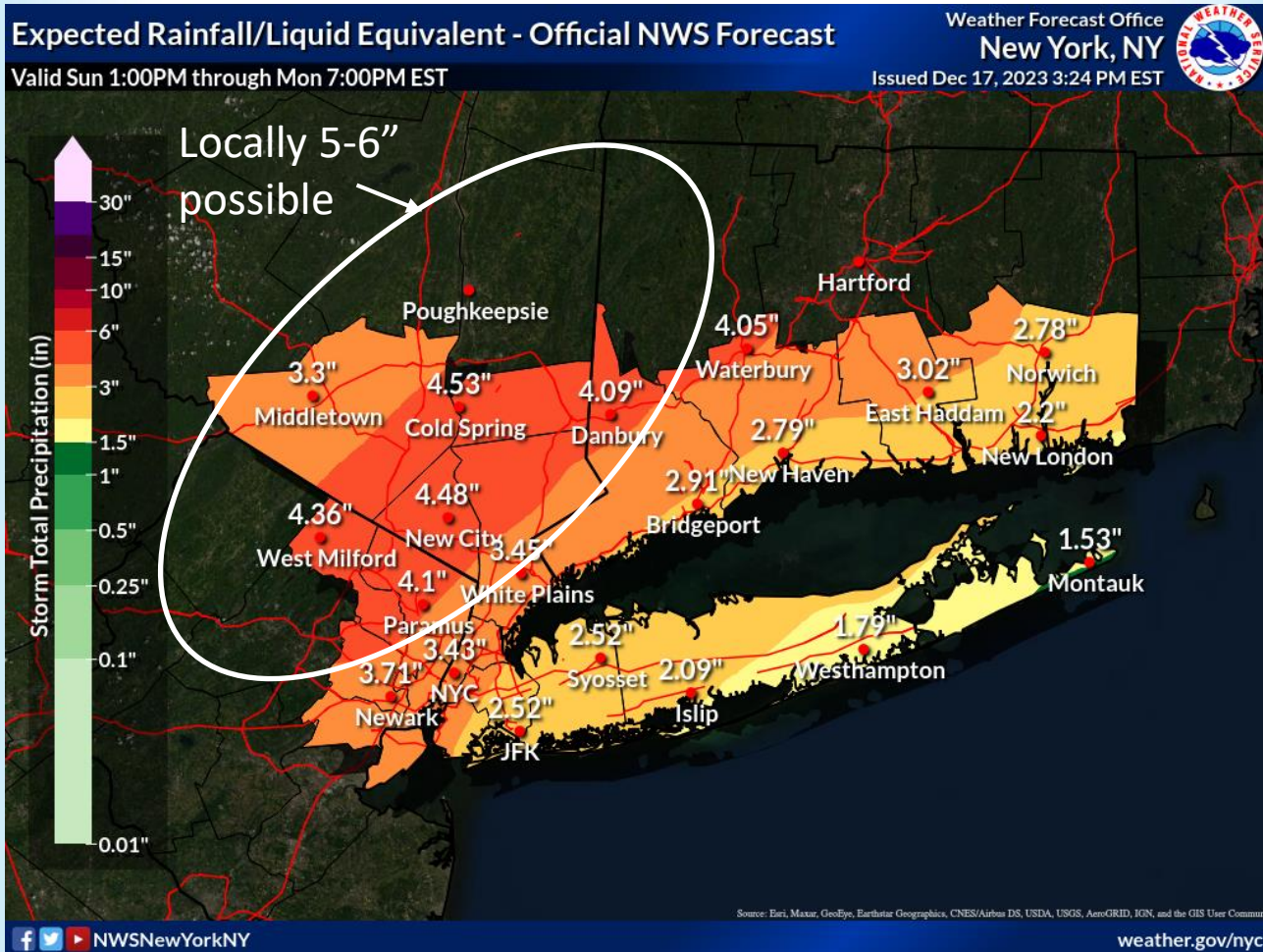
Current Convective and Flood Watches



Forecast Challenges:

- ✓ Streamflows are generally running high (around the 75th percentile), with slightly above normal soil moisture increasing the threat for flood impacts.
- ✓ Heavy rainfall and runoff coinciding with times of high tide late Monday morning through Monday afternoon will likely exacerbate flood impacts along the coast and tidally affected river basins.

Official Rainfall Forecast



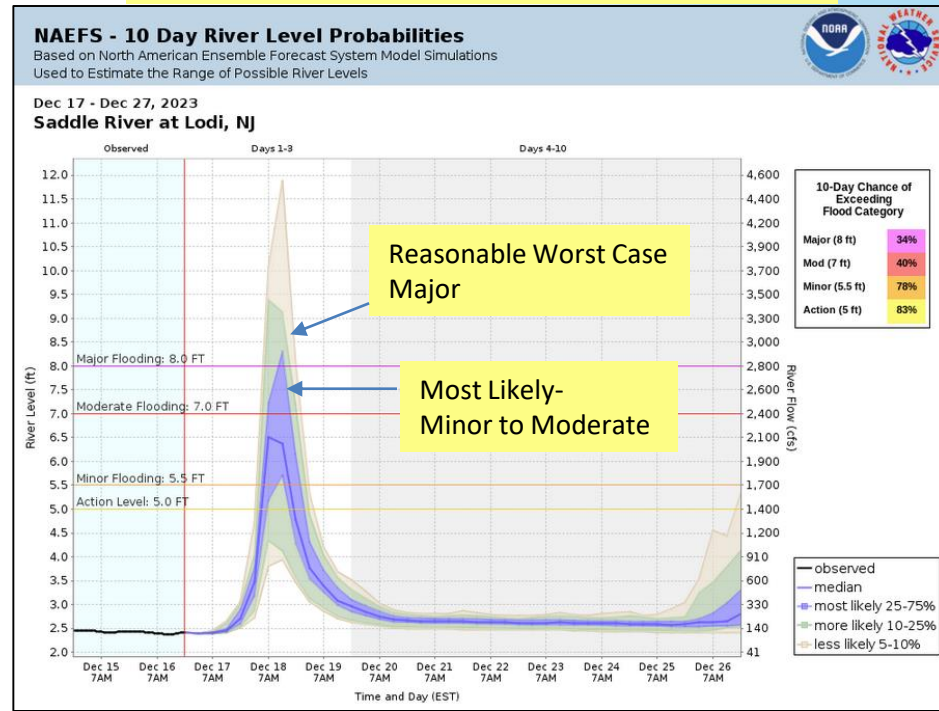
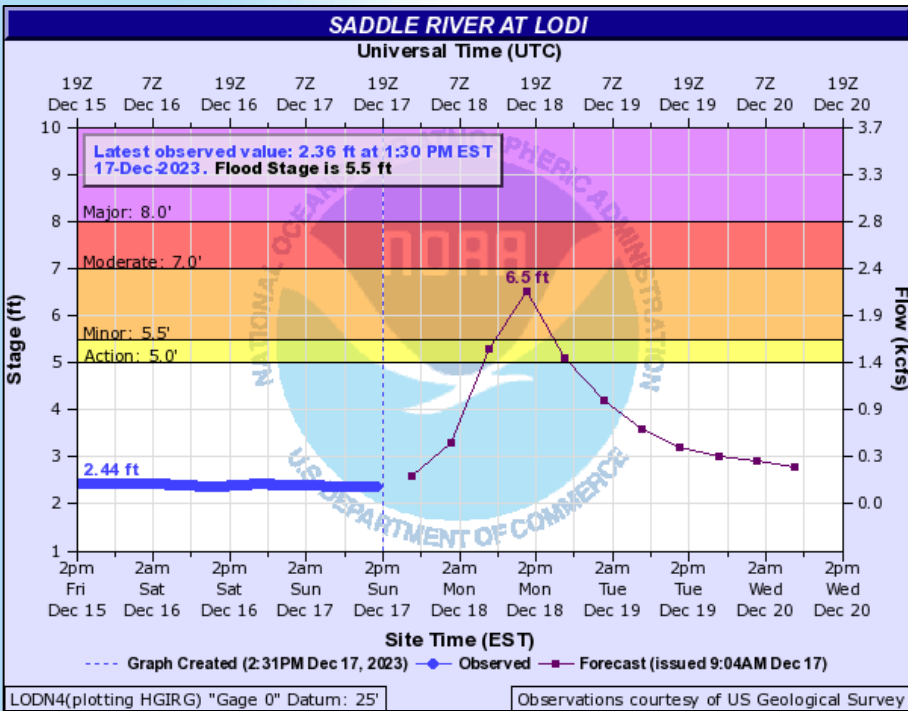
Northeastern NJ River Flooding Potential

- ✓ **Minor to moderate flooding expected along several quick responding small rivers and streams of NE NJ.**
- ✓ Reasonable worst case scenario of moderate to major flooding for a few quick response rivers, if greater than 4" of rainfall is realized.

For more details...See here for the latest [river forecasts](#), impact catalogs, and [inundation maps](#).

Official Forecast – Saddle River at Lodi

Probabilistic Forecast -- Saddle River at Lodi



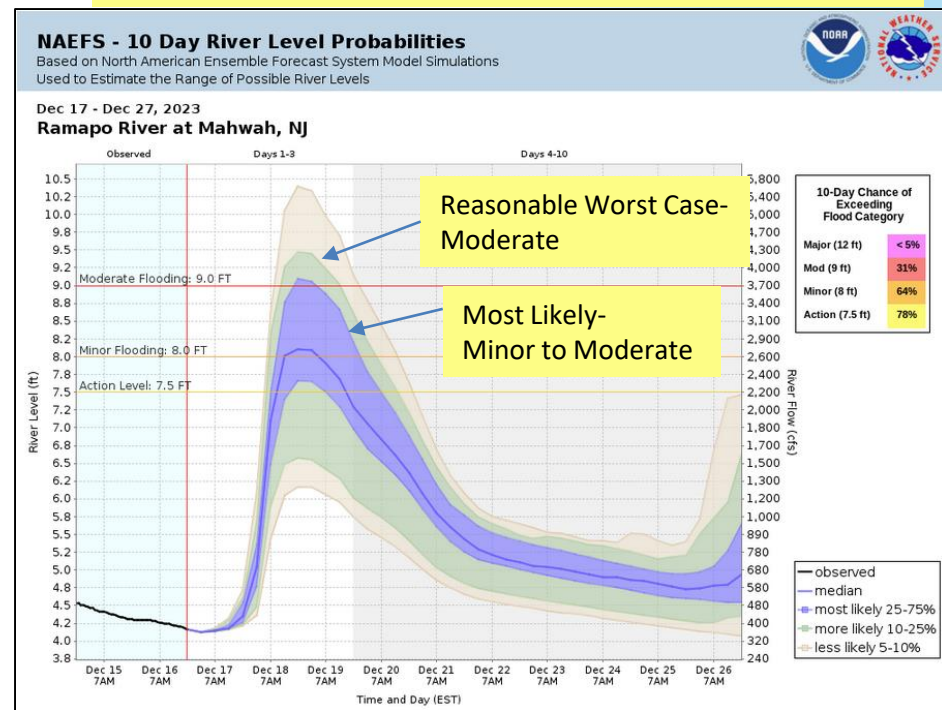
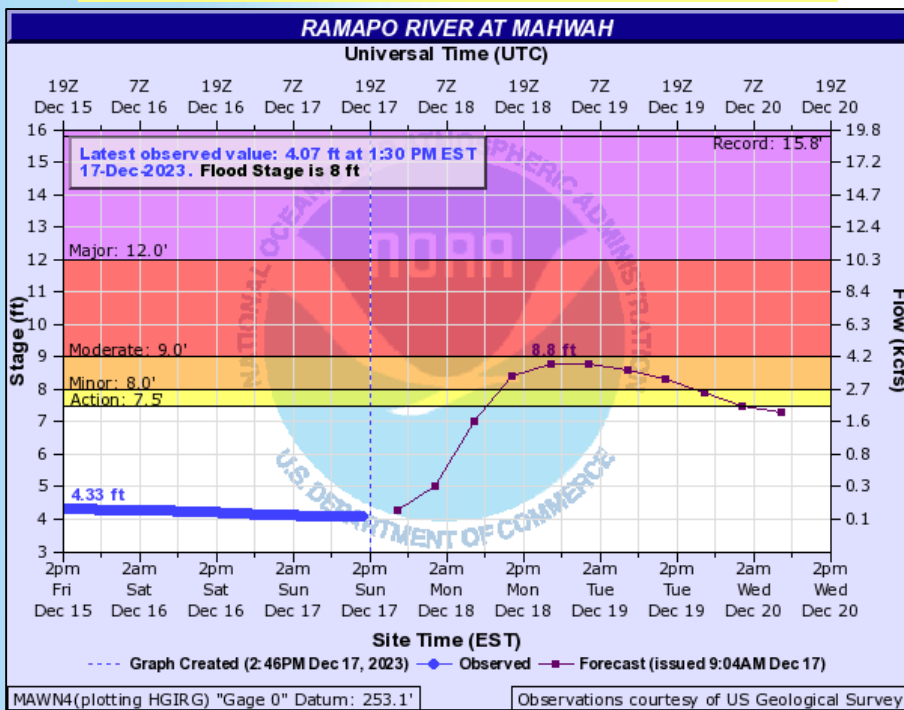
Northeastern NJ River Flooding Potential

- ✓ **Minor to moderate flooding expected along several quick responding small rivers and streams of NE NJ.**
- ✓ Reasonable worst case scenario of moderate to major flooding for a few quick response rivers, if greater than 4" of rainfall is realized.

For more details...See here for the latest [river forecasts](#), impact catalogs, and [inundation maps](#).

Official Forecast – Ramapo River at Mahwah NJ

Probabilistic Forecast - Ramapo River at Mahwah NJ

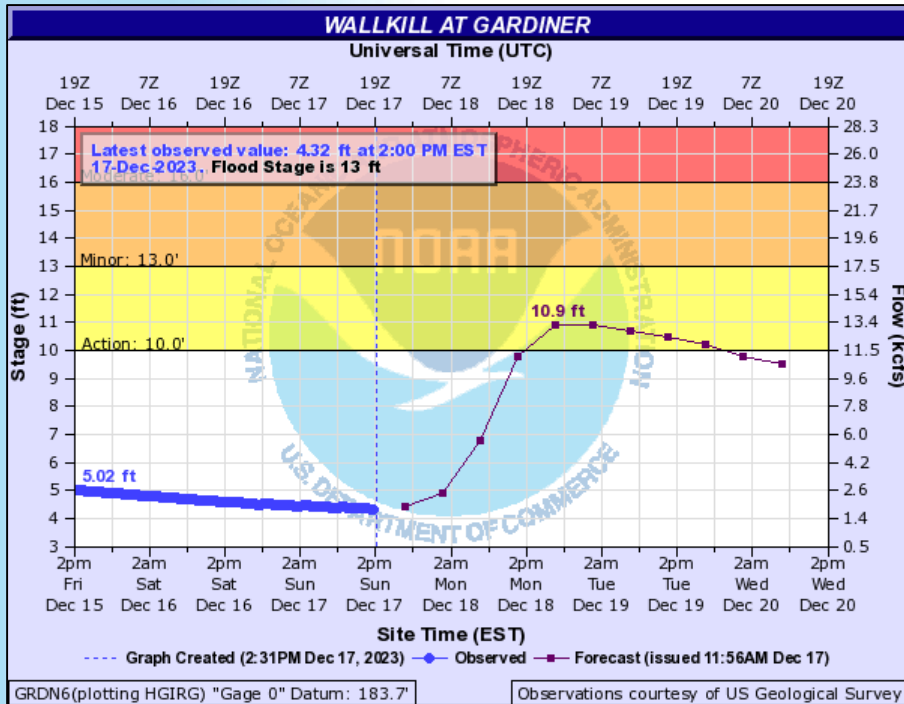


Lower Hudson Valley River Flooding Potential

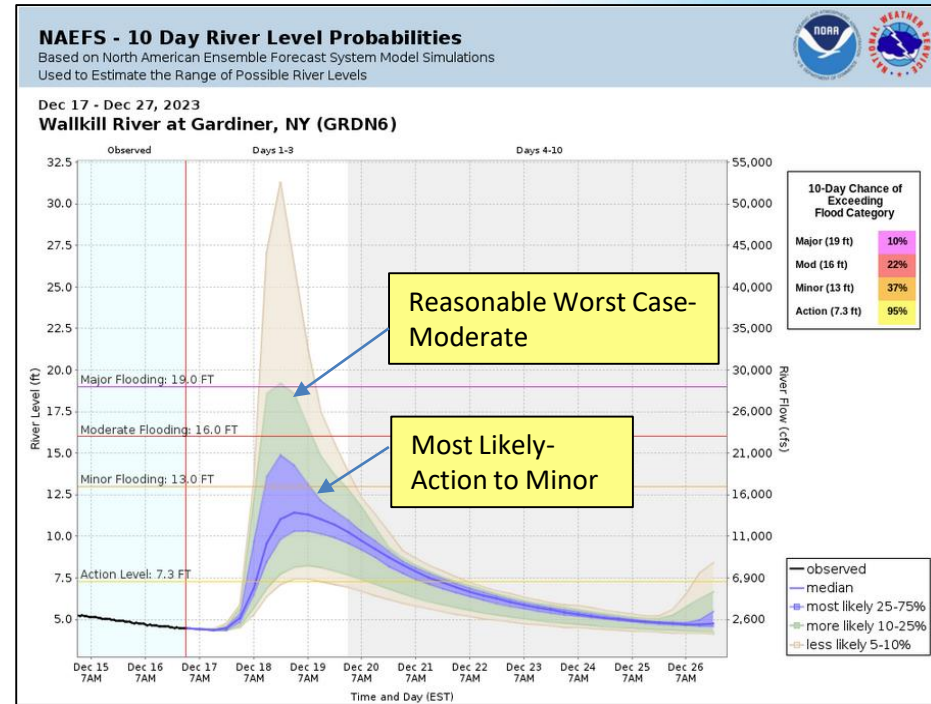
- ✓ **Minor to moderate flooding likely along several quick responding small rivers and streams, particularly Rockland and Westchester County.**
- ✓ **Reasonable worst case scenario of moderate to major flooding for a few quick response rivers, if greater than 3 ½ to 4" of rainfall is realized.**

For more details...See here for the latest [river forecasts](#) and impact catalogs.

Official Forecast – Walkkill at Gardiner NY



Probabilistic Forecast – Walkkill at Gardiner NY



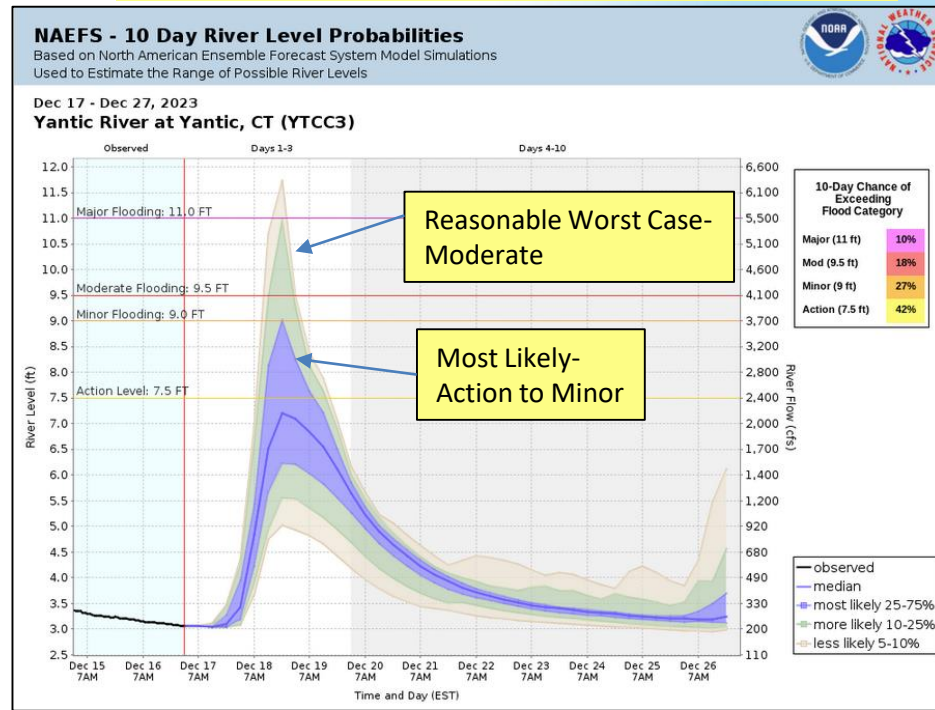
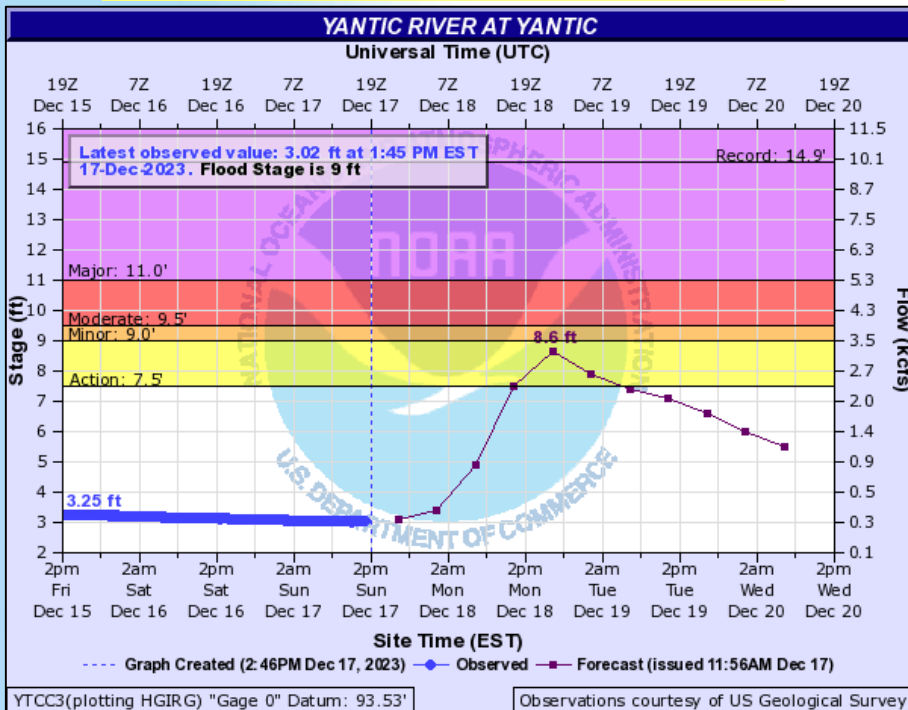
Southern CT River Flooding Potential

- ✓ Minor flooding likely along a few quick responding small rivers and streams, particularly southwestern CT.
- ✓ Reasonable worst case scenario of moderate flooding for a few quick response rivers, if greater than 3 ½ to 4" of rainfall is realized.

For more details...See here for the latest [river forecasts](#) and impact catalogs.

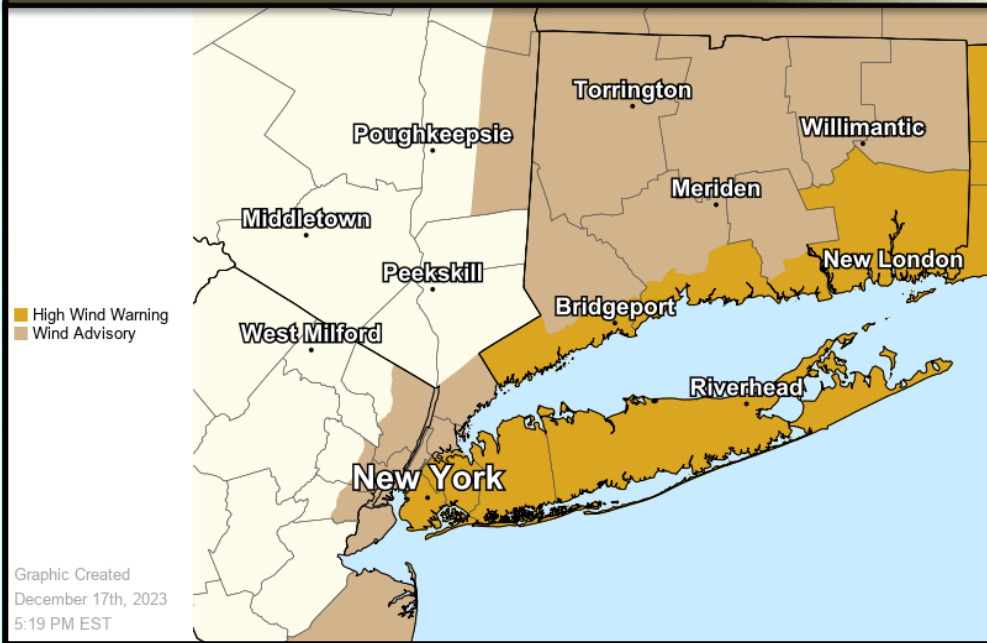
Official Forecast – Yantic River at Yantic CT

Probabilistic Forecast – Yantic River at Yantic CT



Strong to Damaging Winds

Wind Related Hazards



Hazards and Impacts:

High Wind Warning Area – Much of the coast

- ✓ **Peak Winds:** South to southeast winds of 25 to 40 mph with gusts to 60 mph. Highest across Long Island and southeastern CT, with isolated gusts to 65 mph. These strongest winds will likely be for a 4 to 6 hour period between 3am and 11am late tonight into Monday morning.
- ✓ **Impacts:** Numerous tree limbs will likely be downed, as well as scattered trees and power lines. Scattered power outages are likely. Poorly secured outdoor objects will be damaged or blown away.

Wind Advisory Area

- ✓ **Peak Winds:** South to southeast winds of 20 to 30 mph with gusts 45 to 50 mph.
- ✓ **Impacts:** Scattered tree limbs will likely be downed, as well as isolated trees and power lines. A few power outages possible. Poorly secured outdoor objects will be damaged or blown away.

Timing

- ✓ Strongest winds between 3am and 11am

Forecast Challenges:

Saturated soils may increase the downed tree impacts.



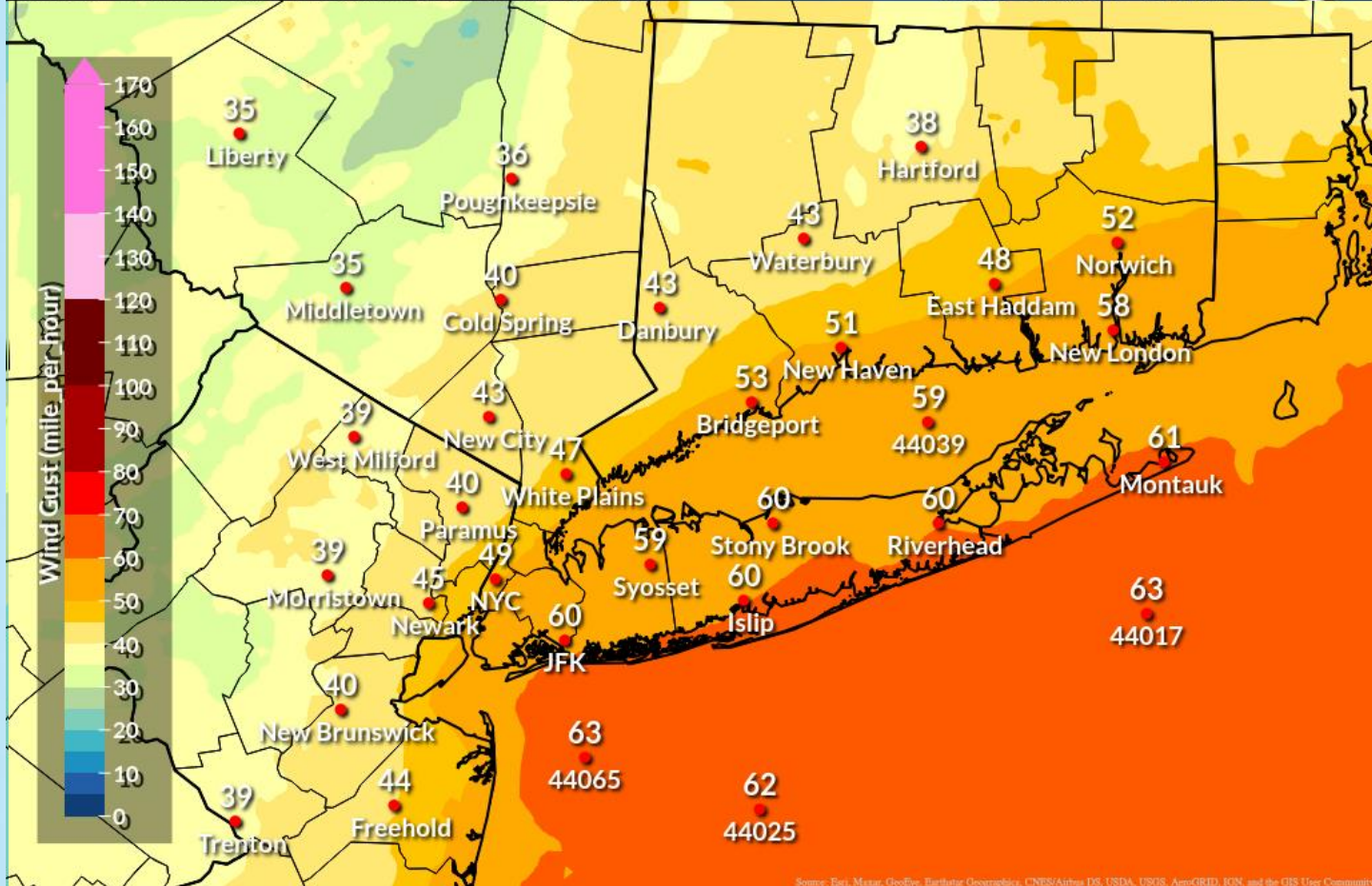
Strong/Damaging Winds

Sunday's Maximum Wind Gusts

Valid Sun Dec 17 7:00AM through Mon Dec 18 7:00AM EST

Weather Forecast Office
New York, NY

Issued Dec 17, 2023 4:02 AM EST



Source: Eeri, Masae, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NWSNewYorkNY

weather.gov/nyc

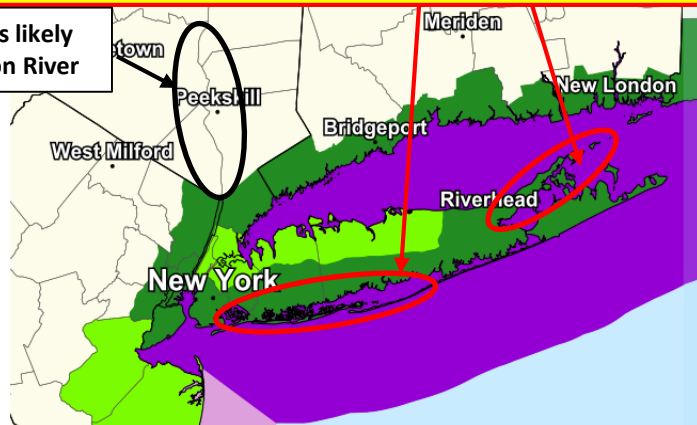
Coastal Flooding Hazard and Impacts

Marine / Coastal Hazards

Greatest threat areas for widespread moderate coastal flooding during Monday morning high tide (inundation of 2 to 2 1/2 ft above ground level). Locally major coastal flooding (inundation of 3 ft above ground level) possible in these areas.

Surge impacts likely up the Hudson River

- Storm Warning
- Coastal Flood Warning
- Gale Warning
- Coastal Flood Advisory
- Small Craft Advisory



Graphic Created
December 17th, 2023
5:19 PM EST

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 see to the [NWS New York, NY Coastal Flooding Page](#)

Forecast Challenges:

- ✓ Peak surge of 3 1/2 to 5 ft will likely be between high tidal cycles Monday morning with strongest S/SE winds. If the windshift is delayed until the time of high tide, locally major flooding (3 ft of inundation above ground) is possible. This may not be evident until Monday morning.
- ✓ Heavy rainfall and/or runoff coinciding with tonight's and Monday afternoon's high tide will exacerbate street and property flooding along the coast and tidally affected rivers.

Coastal Flood Hazards and Impacts:

Monday afternoon high tide:

- ✓ **Coastal Flood Warning Areas:** Widespread moderate coastal flooding (2 to 2 1/2 ft above ground) expected for vulnerable coastal areas, as well as along tidally influenced rivers, such as the Hackensack, Passaic and Hudson Rivers. **Locally major coastal flooding (3 ft above ground) possible for the circled areas if wind shift occurs at or after the time of high tide.**
 - ✓ **Impacts** Numerous low-lying and shoreline roads are likely to be closed in the affected area, with adjacent properties taking on water. Scattered flooding of basements and first floors of low-lying residence possible. Cars will likely be damaged if not moved to higher ground.
- ✓ **Coastal Flood Advisory Areas:** Minor to locally moderate coastal flooding (1 to locally 2 ft above ground) for vulnerable coastal areas.
 - ✓ **Impacts** Scattered low-lying and shoreline roads are likely to be closed in the affected area, with adjacent properties taking on water. Cars may be damaged if not moved to higher ground.

Shoreline Hazards and Impacts:




- ✓ **12-16' breaking waves along the oceanfront, resulting in widespread dune base erosion and scattered overwashes with Mon afternoon high tide.**
- ✓ **3 to 5' waves along coastal CT (particularly SE CT), and 4 to 8' along Orient Point shoreline resulting in beach erosion, localized overwashes, and possible damage to shoreline structures with Mon early PM high tide.**

Timing:

- ✓ Minor flooding possible for the warning areas during the times of high tide tonight. Widespread moderate coastal flooding likely, reasonable worst case of locally major, around and near the times of high tide late Mon morning thru Mon afternoon.



Coastal Flooding Thresholds

	Minor (CF Advisory)	Moderate (CF Warning)	Major (Warning)
Picture	 <p>Westport</p>	 <p>Lindenhurst</p>	 <p>New Haven</p>
Hazard	<ul style="list-style-type: none"> • Low threat of property damage...and no direct threat to life. • 1 to 2 ft of inundation in shoreline and vulnerable areas. 	<ul style="list-style-type: none"> • Elevated threat of property damage...with a risk to life if one places themselves in unnecessary danger. • 2 to 3 ft of inundation in shoreline and vulnerable areas. • Minor to no inundation of surrounding coastal communities. 	<ul style="list-style-type: none"> • Significant threat to life and property. • 3-5+ ft of inundation in shoreline and other vulnerable areas. • Minor to moderate inundation (1 to 3 ft) of surrounding coastal communities that rarely experience coastal flooding.
Impact	<ul style="list-style-type: none"> • A few shoreline and vulnerable roadways and adjacent properties will experience shallow flooding. 	<ul style="list-style-type: none"> • Several shoreline and vulnerable area home and businesses will experience water inside. • Several low-lying coastal and shoreline roads will be closed. • A few cars may take on water or even be destroyed. 	<ul style="list-style-type: none"> • Evacuations will be necessary for the most vulnerable shoreline and coastal areas. • Many coastal communities will experience damage...with some shoreline and flood prone homes and businesses being destroyed. • Many cars will likely be submerged or washed away. • Several sections of nearshore roads and escape routes will be impassable and a few could be washed out. • Flood waters may extend well inland in low lying areas.

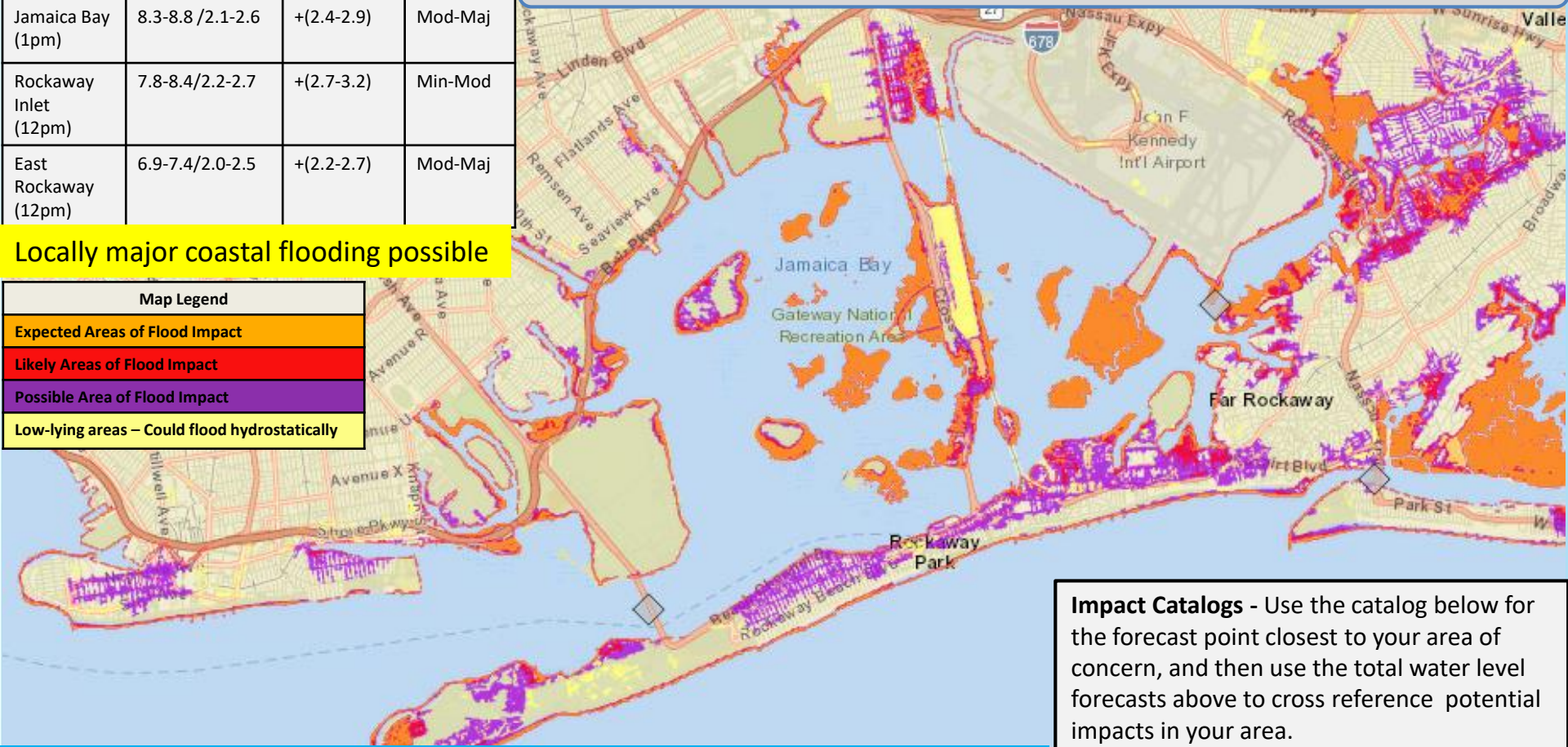
Coastal Flooding – Potential Flood Impact Areas

The map below shows the potential extent of flood impact (water above ground) during the Monday afternoon high tides. Flooding will likely be as deep as 2 to 2 ½ ft in spots, possibly as much as 3 ft in spots.

Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Jamaica Bay (1pm)	8.3-8.8 / 2.1-2.6	+(2.4-2.9)	Mod-Maj
Rockaway Inlet (12pm)	7.8-8.4 / 2.2-2.7	+(2.7-3.2)	Min-Mod
East Rockaway (12pm)	6.9-7.4 / 2.0-2.5	+(2.2-2.7)	Mod-Maj

Locally major coastal flooding possible

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



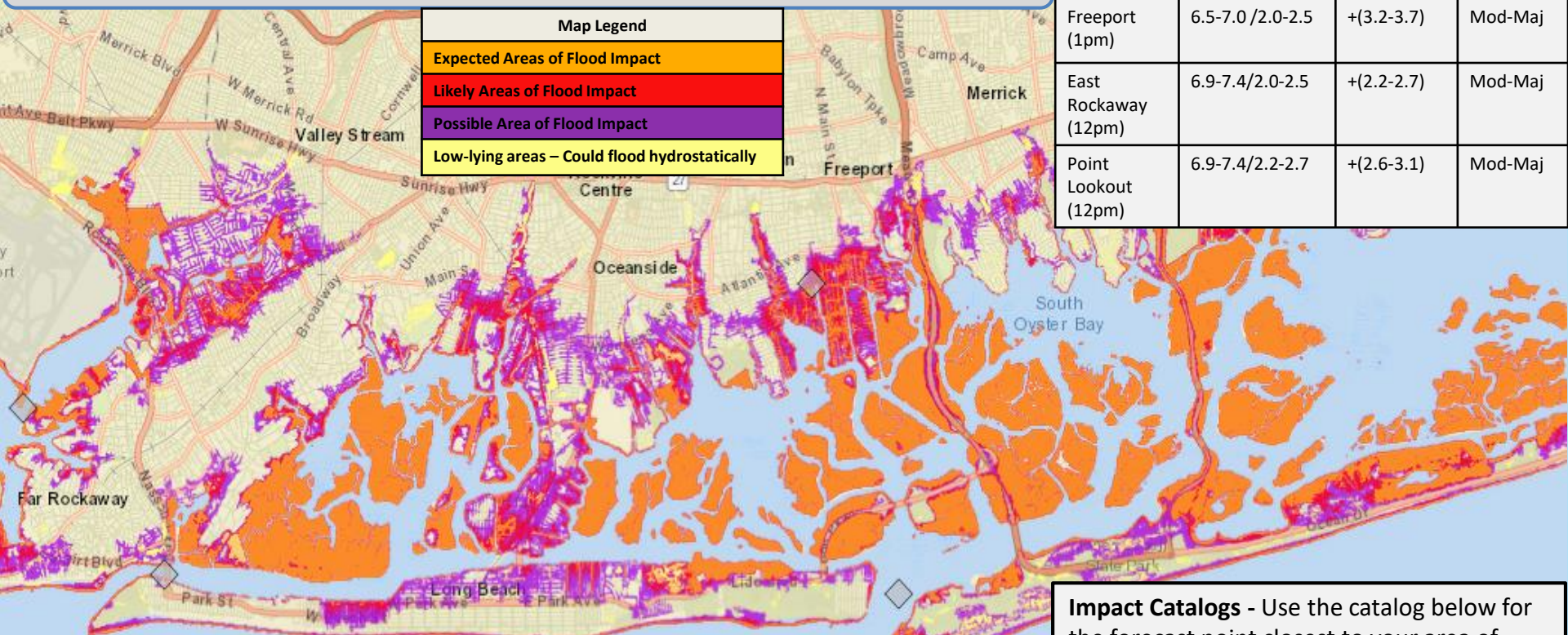
Impact Catalogs - Use the catalog below for the forecast point closest to your area of concern, and then use the total water level forecasts above to cross reference potential impacts in your area.

- [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](#)

Coastal Flooding – Potential Flood Impact Areas

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



Map Legend
Expected Areas of Flood Impact
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) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Freeport (1pm)	6.5-7.0 / 2.0-2.5	+(3.2-3.7)	Mod-Maj
East Rockaway (12pm)	6.9-7.4 / 2.0-2.5	+(2.2-2.7)	Mod-Maj
Point Lookout (12pm)	6.9-7.4 / 2.2-2.7	+(2.6-3.1)	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](#)
- [East Rockaway](#)
- [Point Lookout](#)

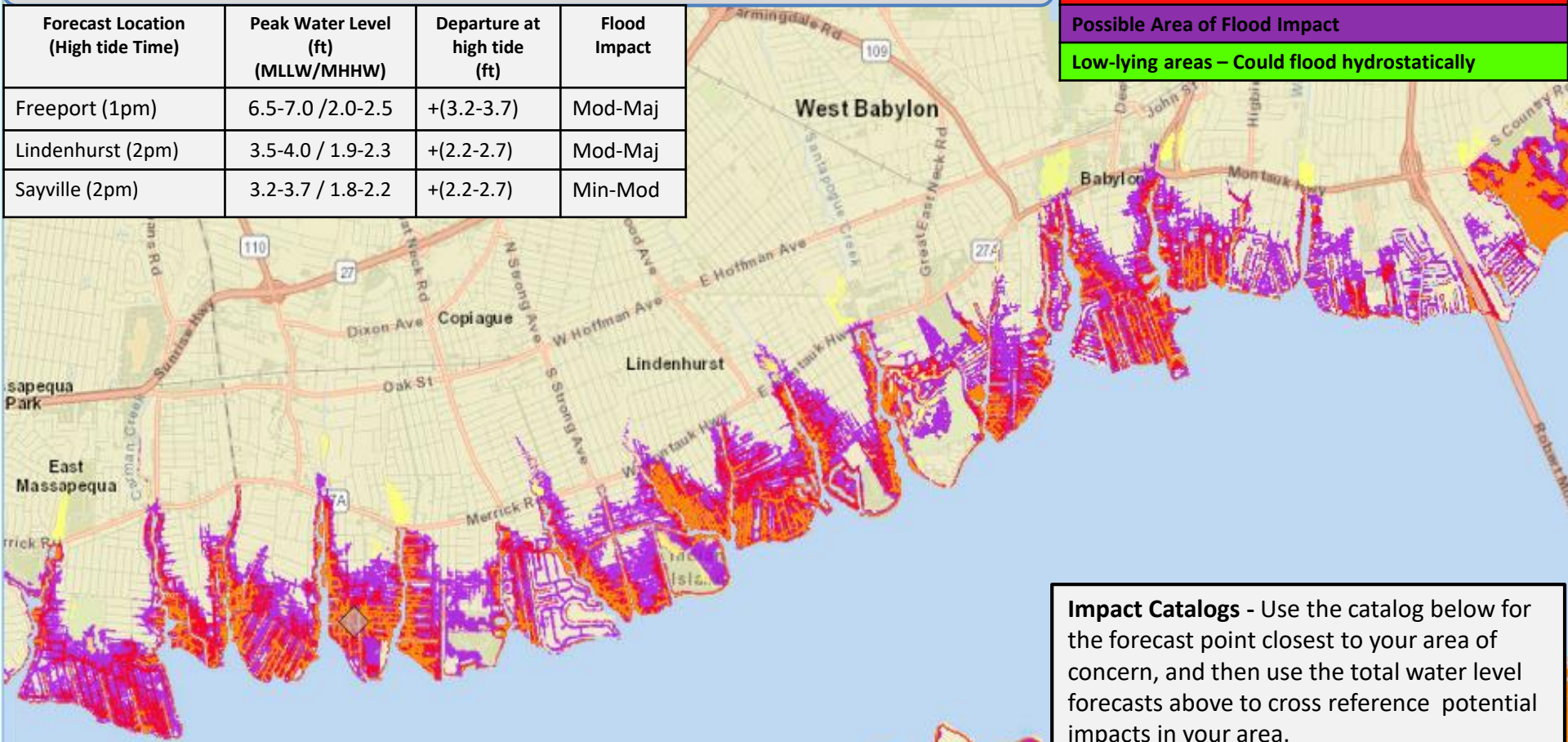
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Likely Areas of Flood Impact
Possible Area of Flood Impact
Low-lying areas – Could flood hydrostatically

Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Freeport (1pm)	6.5-7.0 / 2.0-2.5	+(3.2-3.7)	Mod-Maj
Lindenhurst (2pm)	3.5-4.0 / 1.9-2.3	+(2.2-2.7)	Mod-Maj
Sayville (2pm)	3.2-3.7 / 1.8-2.2	+(2.2-2.7)	Min-Mod



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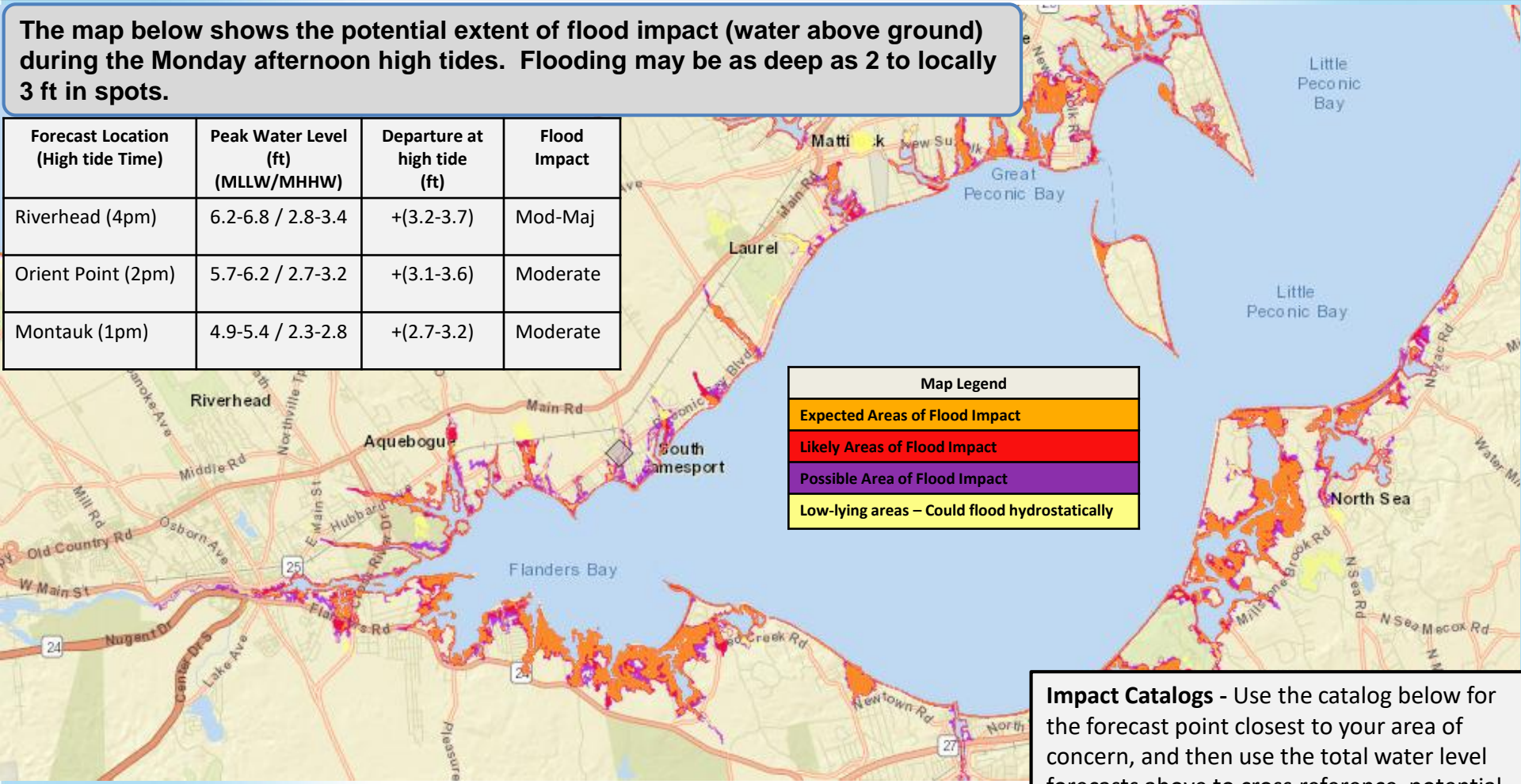
- [Freeport](#)
- [Lindenhurst](#)
- [Watch Hill](#)

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

Forecast Location (High tide Time)	Peak Water Level (ft) (MLLW/MHHW)	Departure at high tide (ft)	Flood Impact
Riverhead (4pm)	6.2-6.8 / 2.8-3.4	+(3.2-3.7)	Mod-Maj
Orient Point (2pm)	5.7-6.2 / 2.7-3.2	+(3.1-3.6)	Moderate
Montauk (1pm)	4.9-5.4 / 2.3-2.8	+(2.7-3.2)	Moderate



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

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.

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

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Event Summary

- ✓ Widespread 2 to 4", locally 5-6", of rain likely through Monday morning. Minor to moderate urban, poor drainage and river flood threat during this time, with isolated to scattered flash flood threat.
- ✓ Minor to moderate flooding of several quick responding rivers across NE Nj, Lower Hud and SW CT. Potential for a few rivers to hit major flooding if high end of rainfall amounts are realized.
- ✓ Southerly winds 30 to 40 mph with gusts 55 to 60 mph likely for the coast late tonight into Monday, causing numerous tree impacts and scattered power impacts.
- ✓ Widespread moderate coastal flooding (2 to 2 ½ ft inundation above ground) for vulnerable coastal communities during the Monday afternoon high tide. Locally major (around 3 ft inundation above ground) is possible. Surge flooding likely up tidally affected rivers as well.
- ✓ 12 to 16 ft breaking surf causing widespread dune erosion and scattered overwashes likely for the ocean beachfront.
- ✓ Storm conditions on all waters tonight through Monday.

