



8th Ensemble Users Workshop

Ensemble products and application for weather

National Weather Service - Eastern Region

Thursday, September 12, 2019

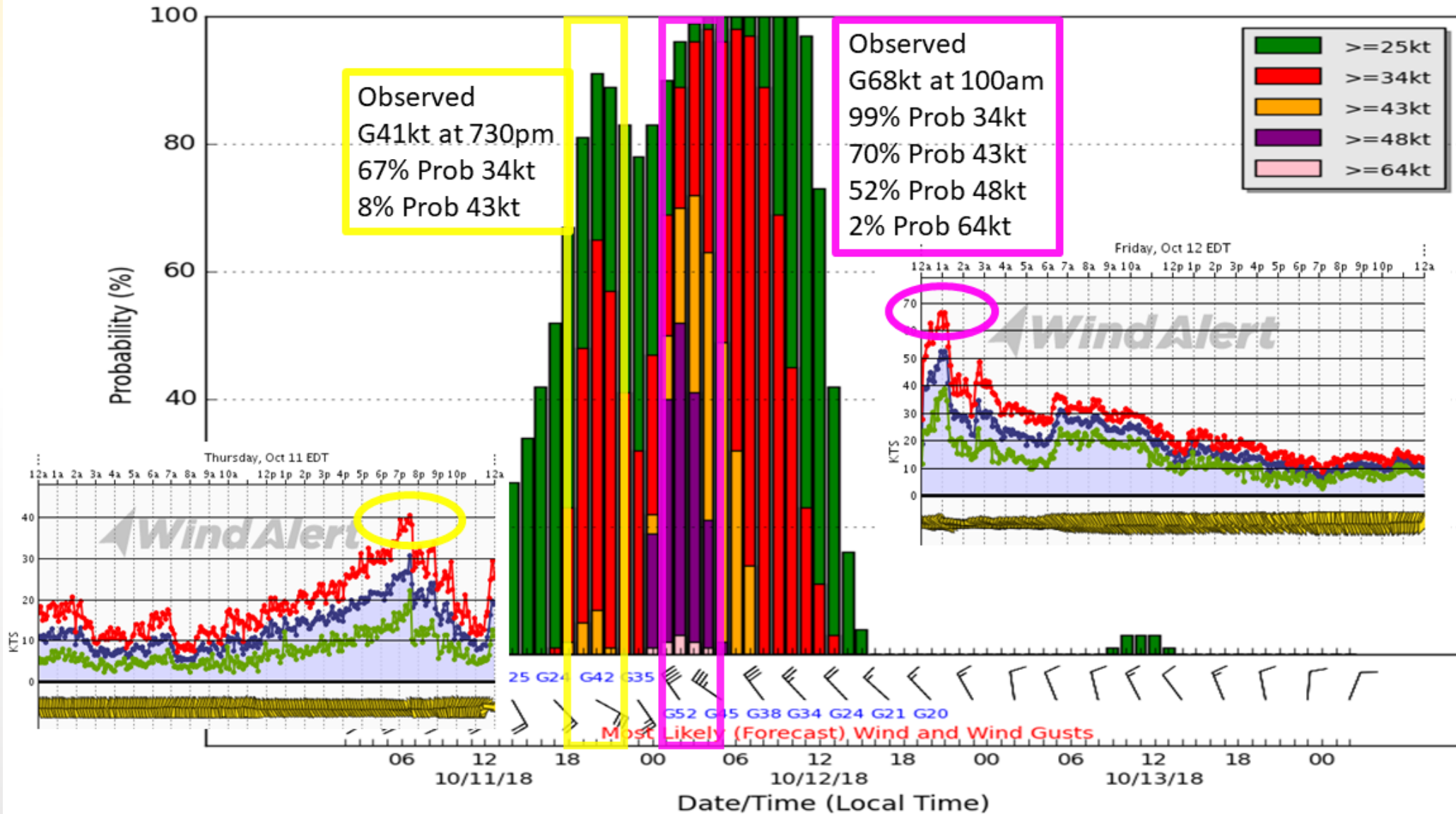


Wind Speed and Gust Probabilities (experimental)

Computed at local weather forecast office using available time-lagged model data

No calibration or bias correction

Wind Gust Probabilities for Pilot Area (kt)





Meteorological Model Ensemble River Forecasts Hydrologic Ensemble Forecast Service

MMEFS: GEFS v11 --> Hydro Models

NAEFS --> Hydro Models

HEFS: statistically corrected GEFS v10 --> Hydro Models

Short-range Ensemble Forecasts, Typical Example



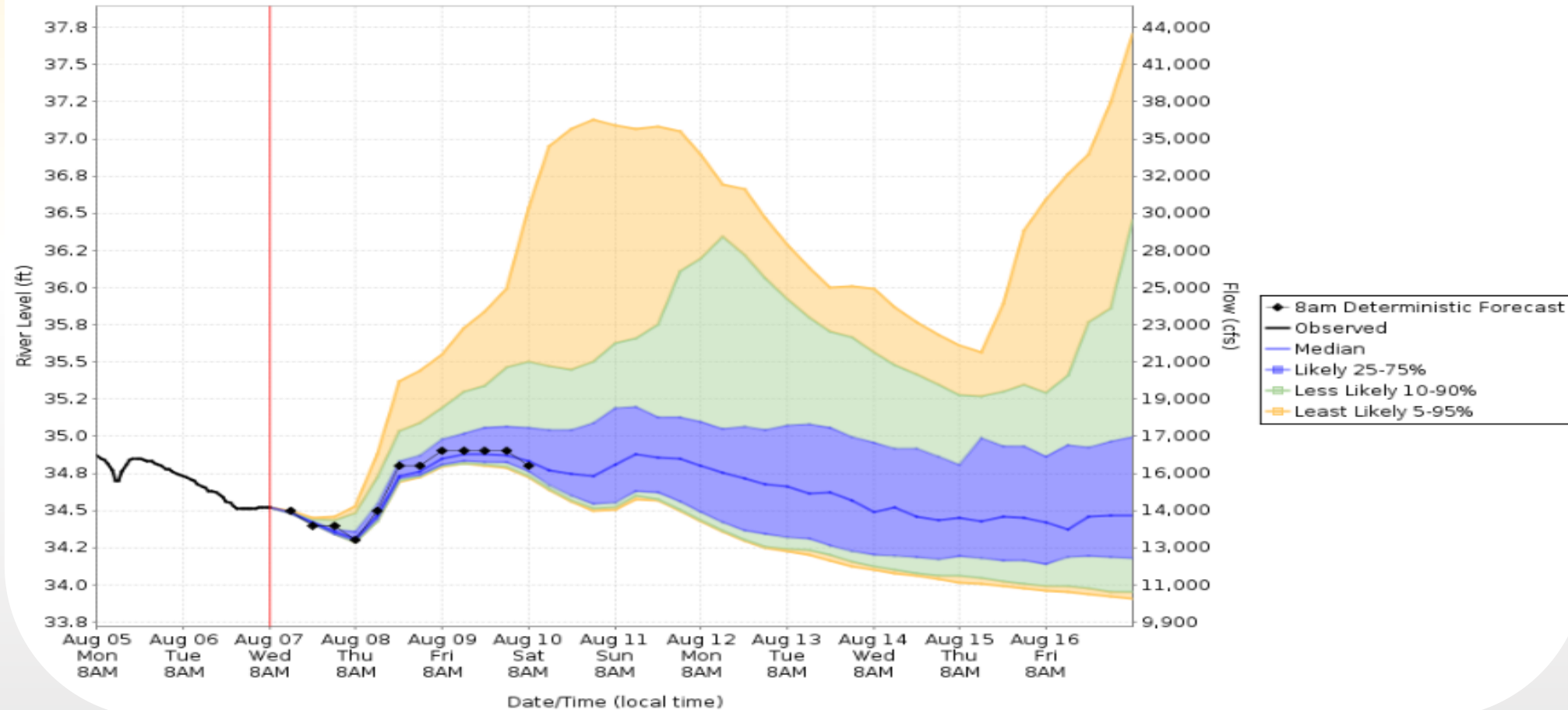
10-day Probability of Exceeding River Levels

Used to Estimate the Range of Possible River Levels
[without ENSPOST (Experimental)]

Caution: Official forecast may be updated after this graph is generated.
For the latest official forecast, go to <https://water.weather.gov/ahps>

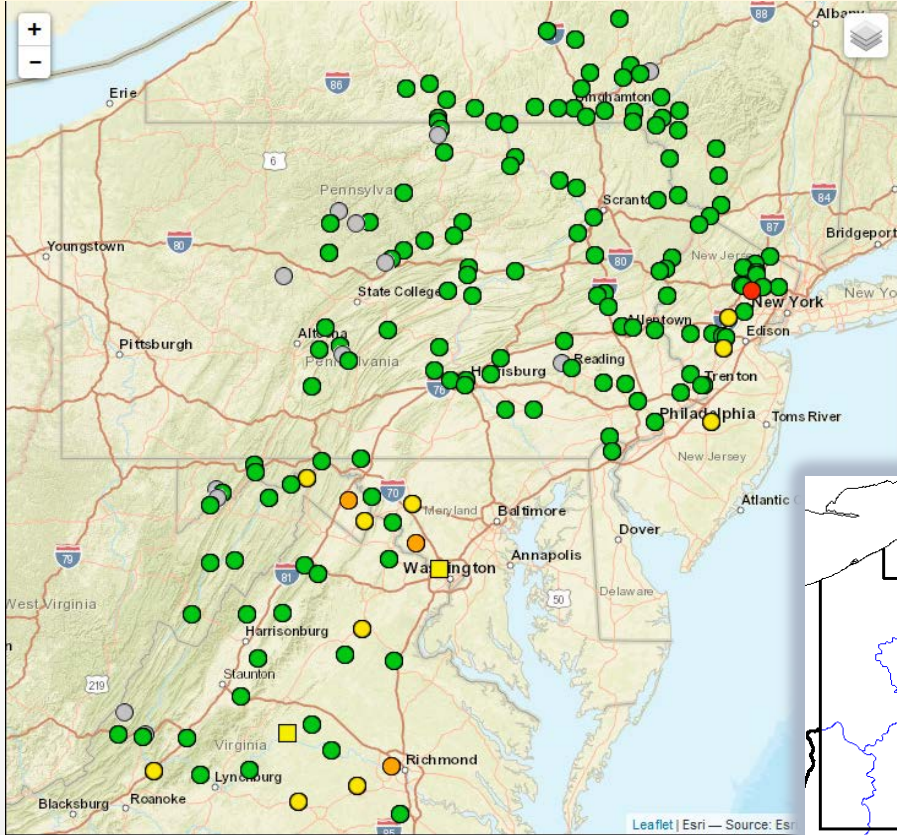


Susquehanna River at Marietta, PA (MRTP1)



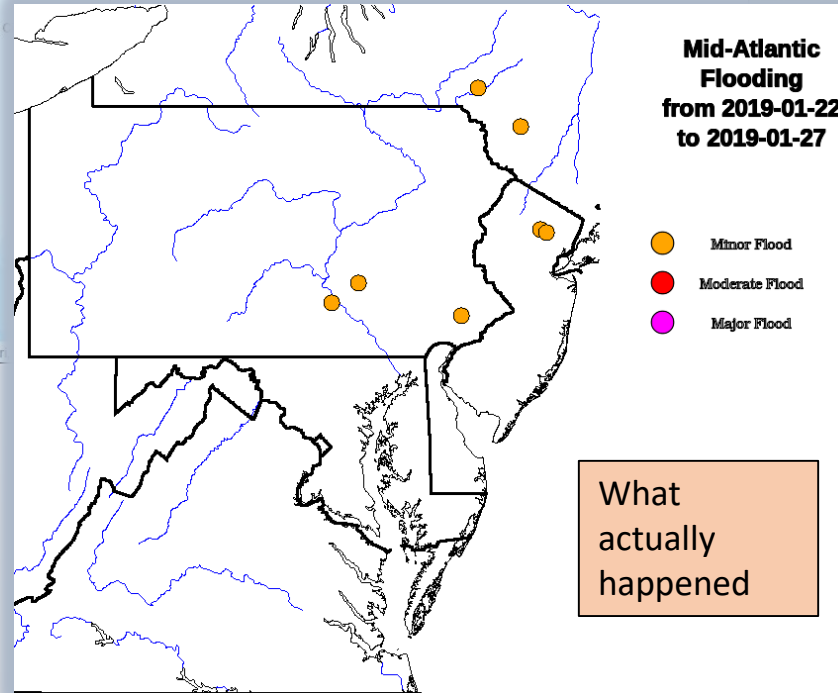
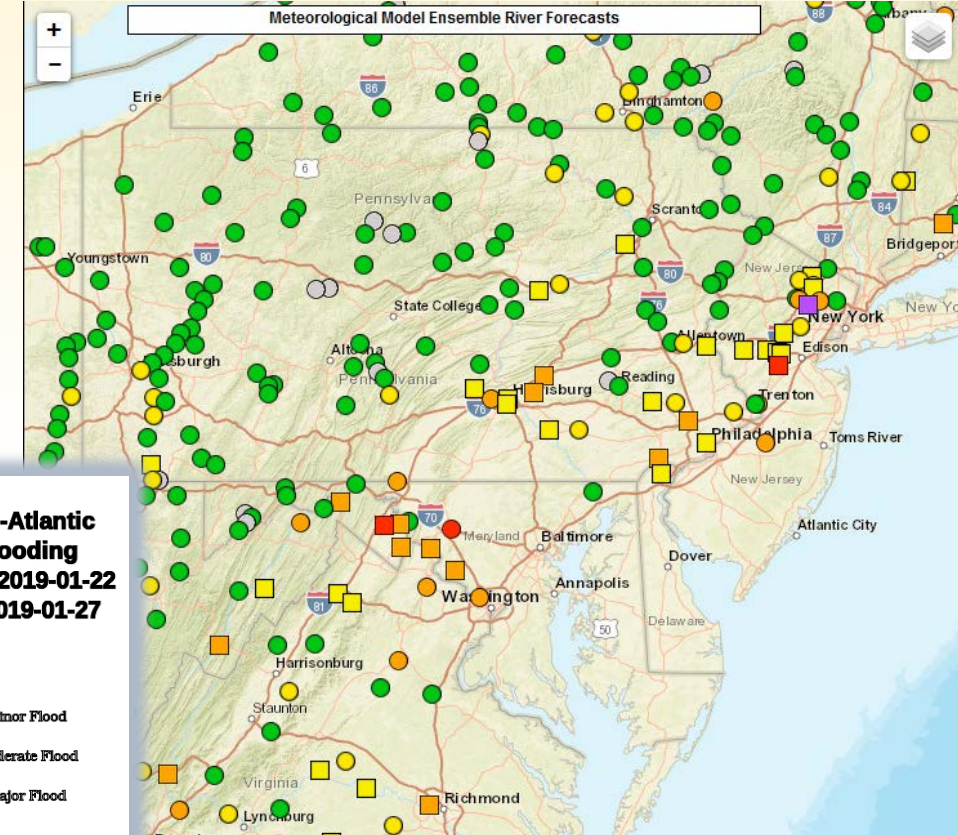
Short-range Ensemble Forecasts, Typical Example

HEFS Jan 22, 2019



Chance of Exceedance		
30%	Level	70%
	Action	
	Minor Flood	
	Moderate Flood	
	Major Flood	
= less than 30% chance of reaching Action level		
= no critical levels defined for this point		

NAEFS-MMEFS Jan 22, 2019



What actually happened



Probabilistic Winter Precipitation Forecasts

46 members: WPC, GEFS, SREF, CMC, EC/ECE, NAM, HiResWin, HRRR

Adds probabilistic information to deterministic snow forecasts

Snowfall Totals by Location

Experimental - [Leave feedback](#)

11/09/2017 0700PM to 11/10/2017 0700AM

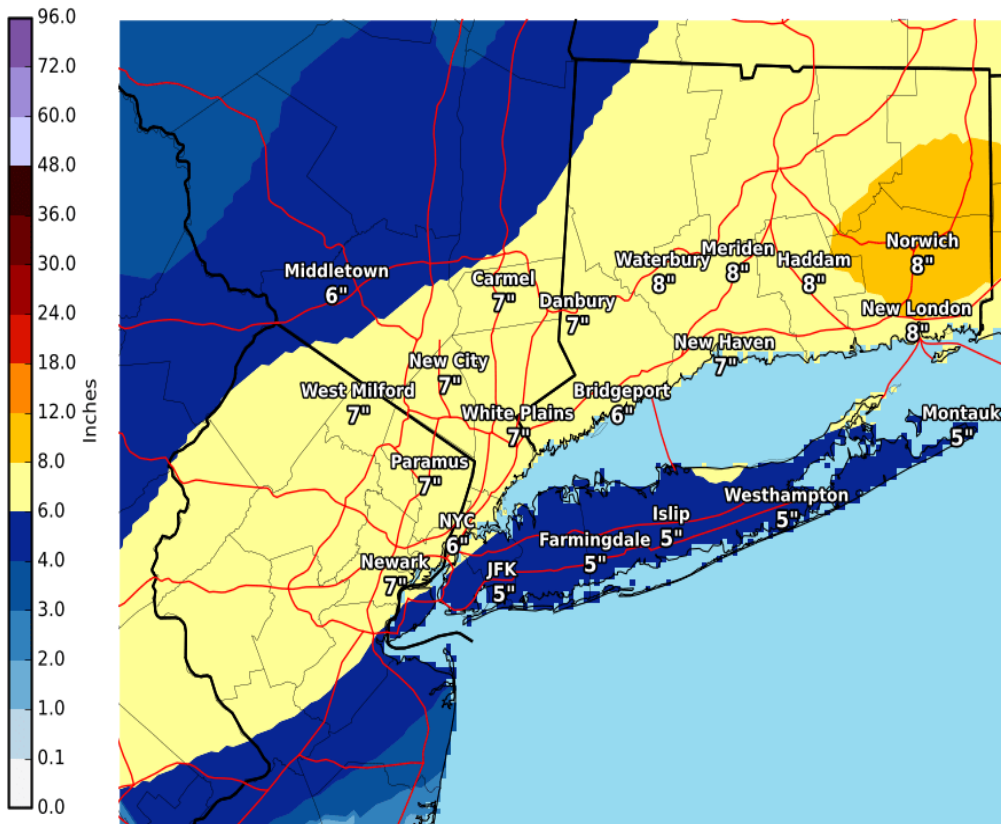
[What's this?](#)

County:

Location	Snow Amount Potential			Chance of Seeing More Snow Than							
	Low End Snowfall	Expected Snowfall	High End Snowfall	>=0.1"	>=1"	>=2"	>=4"	>=6"	>=8"	>=12"	>=18"
Barre, VT	0	<1	<1	71%	0%	0%	0%	0%	0%	0%	0%
Burlington, VT	0	<1	<1	47%	0%	0%	0%	0%	0%	0%	0%
Island Pond, VT	<1	1	1	80%	27%	0%	0%	0%	0%	0%	0%
Malone, NY	<1	1	2	85%	46%	1%	0%	0%	0%	0%	0%
Massena, NY	<1	1	2	85%	43%	4%	0%	0%	0%	0%	0%
Middlebury, VT	0	<1	<1	63%	0%	0%	0%	0%	0%	0%	0%
Newport, VT	<1	2	2	85%	45%	0%	0%	0%	0%	0%	0%
Plattsburgh, NY	0	<1	<1	60%	0%	0%	0%	0%	0%	0%	0%
Potsdam, NY	<1	1	2	87%	51%	9%	0%	0%	0%	0%	0%
Randolph, VT	0	<1	<1	55%	0%	0%	0%	0%	0%	0%	0%
Rutland, VT	0	<1	<1	69%	0%	0%	0%	0%	0%	0%	0%
Springfield, VT	0	<1	<1	48%	0%	0%	0%	0%	0%	0%	0%
St. Albans, VT	0	<1	<1	66%	0%	0%	0%	0%	0%	0%	0%
St. Johnsbury, VT	0	<1	<1	76%	0%	0%	0%	0%	0%	0%	0%
Stowe, VT	0	1	1	78%	3%	0%	0%	0%	0%	0%	0%
Ticonderoga, NY	0	<1	<1	63%	0%	0%	0%	0%	0%	0%	0%

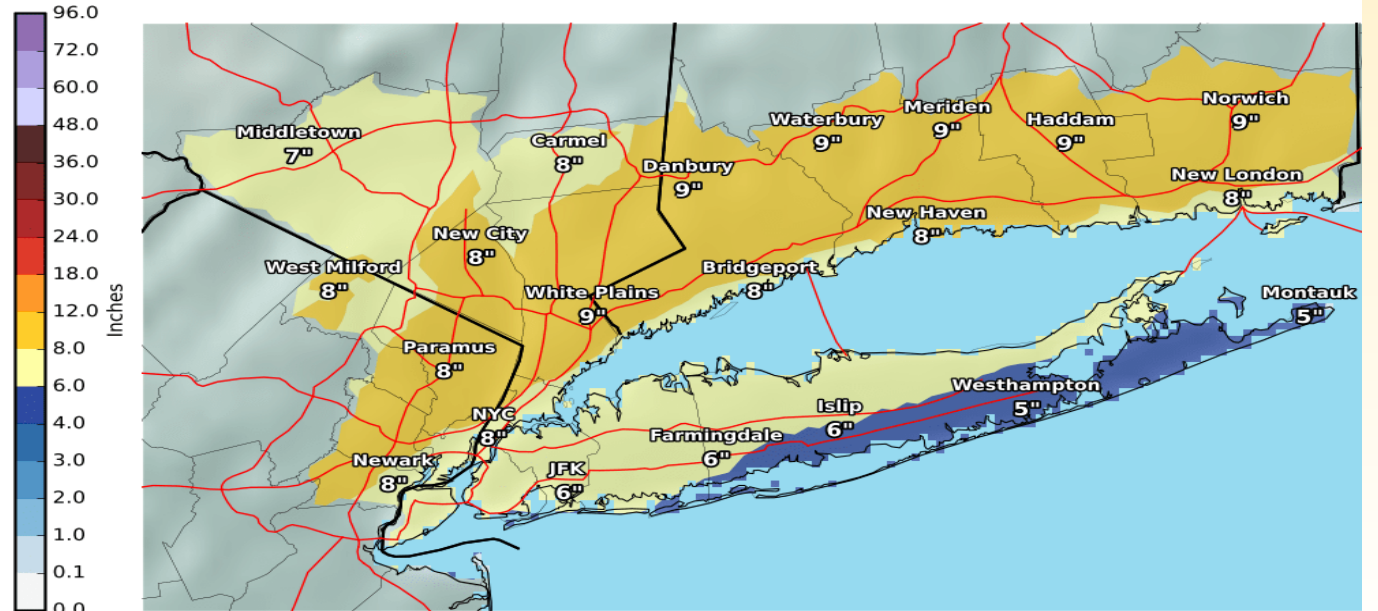
Expected Snowfall - Official NWS Forecast

Valid: 03/03/2019 01:00 PM - 03/04/2019 07:00 AM



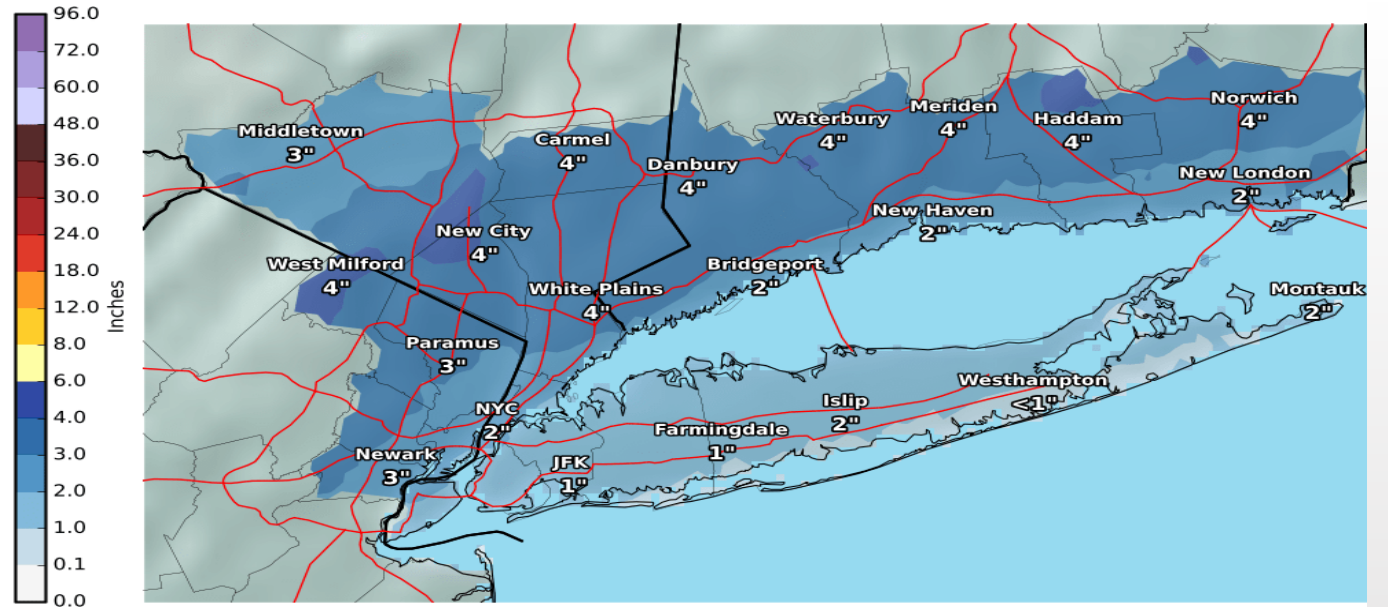
High End Amount - 1 in 10 Chance (10%) Of Higher Snowfall

Valid: 03/03/2019 01:00 PM - 03/04/2019 07:00 AM



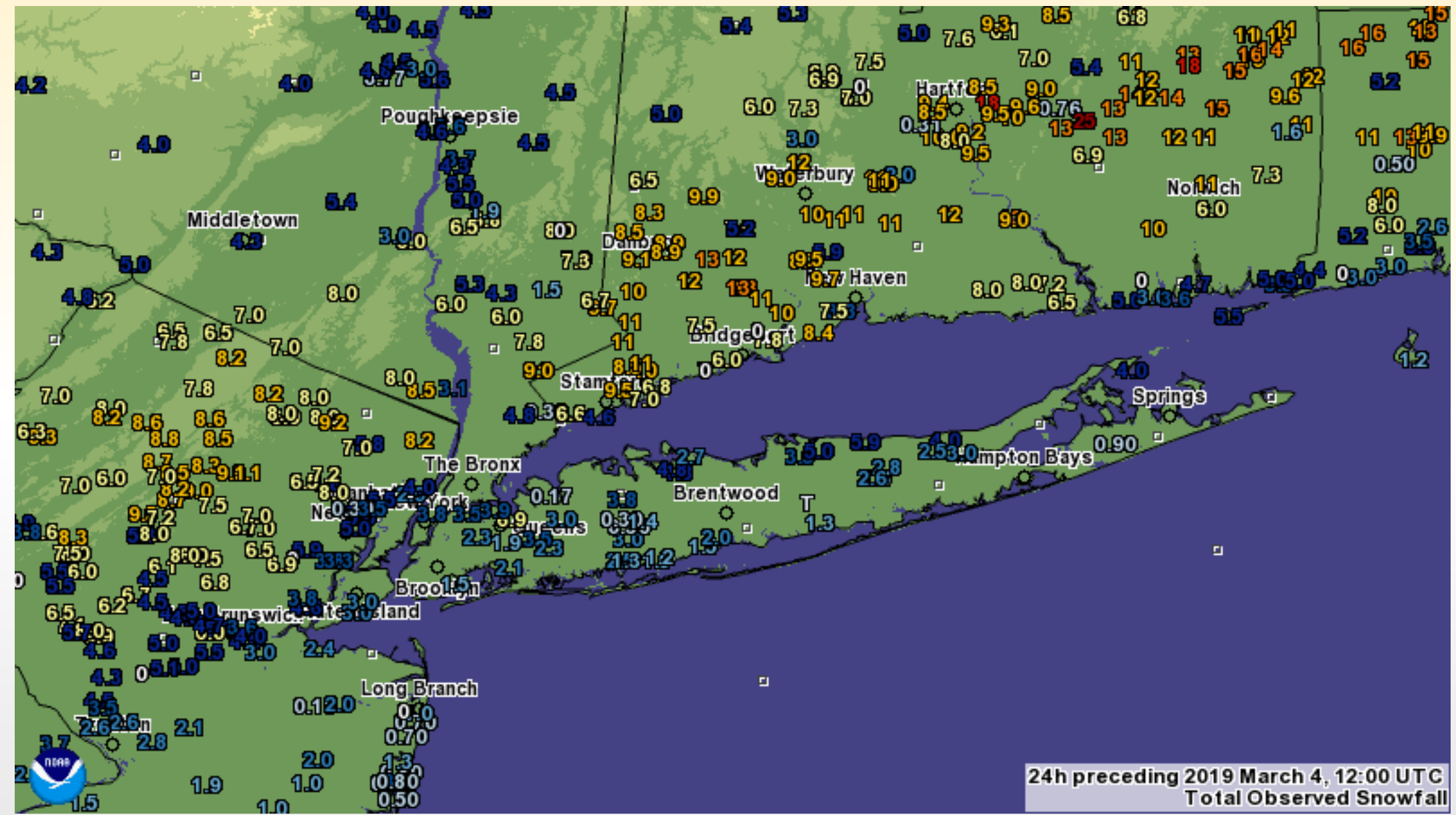
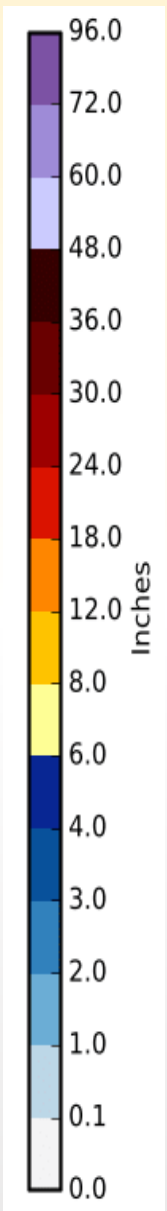
Low End Amount - 9 in 10 Chance (90%) Of Higher Snowfall

Valid: 03/03/2019 01:00 PM - 03/04/2019 07:00 AM



Uncertainty:

- ✓ A potential track closer to the coast could result in more mixing near the coast lowering amounts, while inland areas would have the potential for higher amounts
- ✓ A track slightly farther south could result in the highest snow totals near the coast, and slightly lower totals across far northern sections.



24h preceding 2019 March 4, 12:00 UTC
Total Observed Snowfall