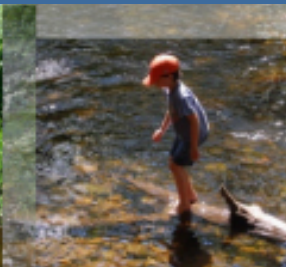
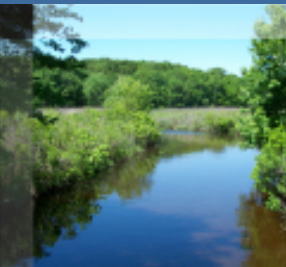
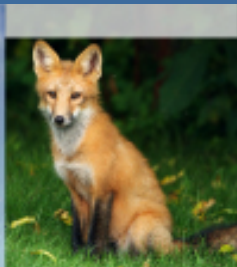




# Connecticut Department of Energy and Environmental Protection



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

# August 25, 2016 OTR and Connecticut Ozone Exceedances

By Michael Geigert



Connecticut Department of Energy and Environmental Protection

# Summary

- Connecticut and Maine had ozone exceedances;
- MODERATE levels measured along the remainder of the I-95 corridor from Maryland through coastal Maine.
  1. 2 sites above 70 ppb ozone NAAQS, 1 site in CT
  2. 1 site above (2008) 75 ppb ozone NAAQS, 1 site in CT
  3. 0 sites above (1997) 84 ppb ozone NAAQS, 0 sites in CT







# Regional AQI Maps

# Table of OTR Monitoring Sites

- 1 site in Connecticut and Maine exceeded the 70 ppb NAAQS. Bradley Airport had a high temperature of 86° F.

Site	Site AQS	Date (LST)	Max 8-hour Ozone ppb
Cornwall	090050005	8/25/2016	79
Kennebunkport	230312002	8/25/2016	73
CHICOPEE	250130008	8/25/2016	69
WARE	250154002	8/25/2016	69
East Hartford	090031003	8/25/2016	68
Danbury	090011123	8/25/2016	67
LYNN	250092006	8/25/2016	67
Padonia	240051007	8/25/2016	67
Bar Harbor - Ca	230090102	8/25/2016	66
E. Milton - Blu	250213003	8/25/2016	66
Greenfield	250112005	8/25/2016	66
Cape Elizabeth	230052003	8/25/2016	65
Gardiner	230112005	8/25/2016	65
Newburyport	250094005	8/25/2016	65
Acadia NP - McF	230090103	8/25/2016	64
Haverhill	250095005	8/25/2016	64
Londonderry - M	330150018	8/25/2016	64
Odiorne State P	330150016	8/25/2016	64
Stafford	090131001	8/25/2016	64
Westport	090019003	8/25/2016	64
Furley	245100054	8/25/2016	63
Greenwich	090010017	8/25/2016	63
Middletown	090070007	8/25/2016	63
Millbrook	360270007	8/25/2016	63
Miller State Pa	330115001	8/25/2016	63
Mt Ninham	360790005	8/25/2016	63
Port Clyde	230130004	8/25/2016	63
Stratford	090013007	8/25/2016	63
DURHAM	230010014	8/25/2016	62
Holden	230194008	8/25/2016	62
Madison-Beach R	090099002	8/25/2016	62
Portsmouth	330150014	8/25/2016	62
Essex	240053001	8/25/2016	61
Portland - Deer	230050029	8/25/2016	61



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# CT Monitoring Site Design Value Update

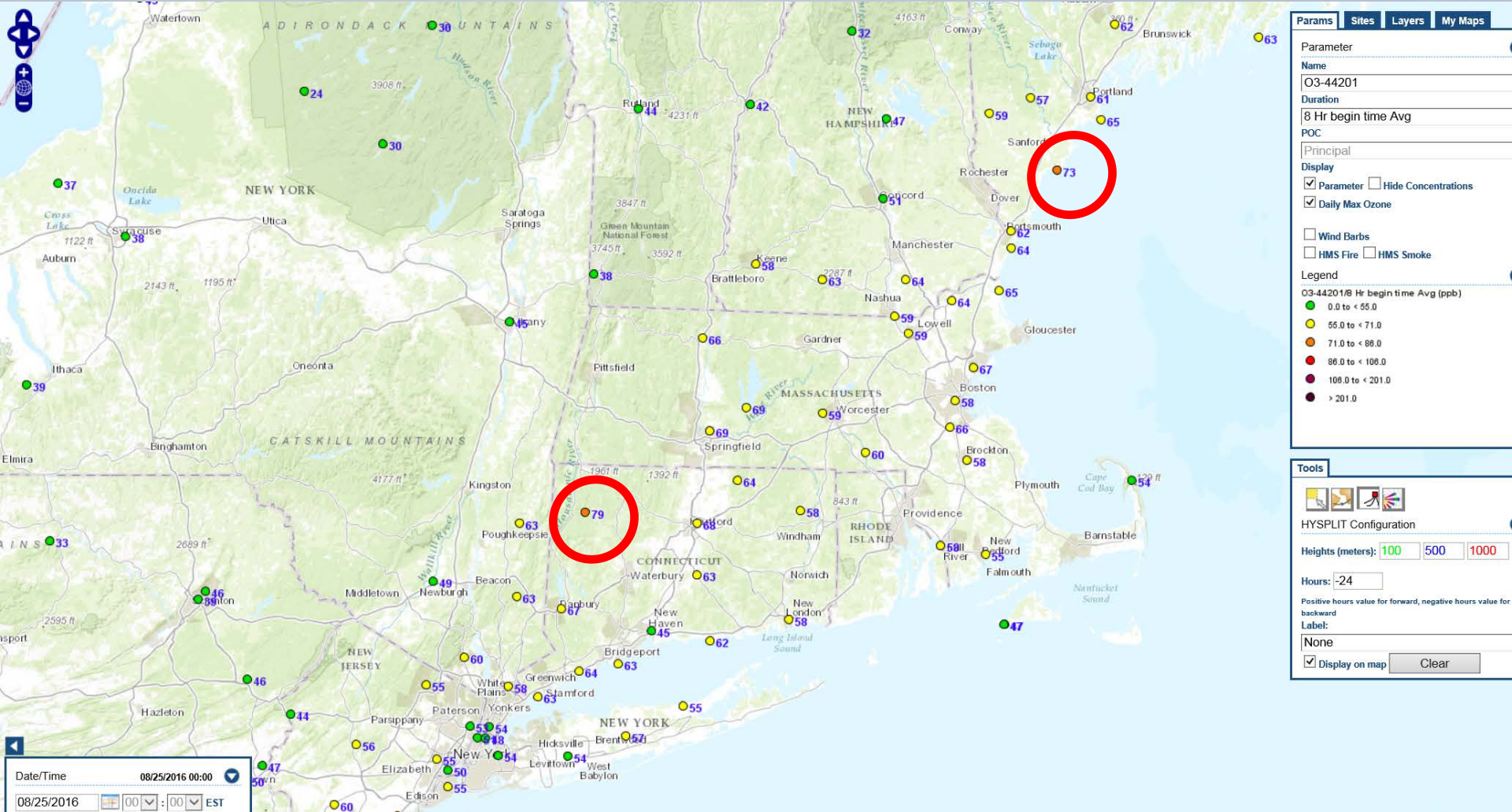
- Connecticut has 28 exceedance days to date.
- The 2016 DV at Cornwall increased to 73 ppb.

		To Date 2016 Compliance Status x = Violating NAAQS				
	Site Name	To Date : 2016 DV	2015 NAA QS	2008 NAA QS	1997 NAAQS	Next Possible NAAQS in Violation (key monitor in each NA is highlighted in RED)
SWCT Portion of NYC Area	Danbury	78	x	x		Four more 102+ ppb days violates 1997 NAAQS
	Greenwich	82	x	x		Four more 93+ ppb days violates 1997 NAAQS
	Madison	76	x	x		Four more 105+ ppb days violates 1997 NAAQS
	Middletown	79	x	x		Three more 97+ ppb days violates 1997 NAAQS
	New Haven - Crisculo Park	76	x	x		Four more 101+ ppb days violates 2008 NAAQS
	Stratford	81	x	x		Three more 95+ ppb days violates 1997 NAAQS
	Westport	85	x	x	x	Violates all NAAQS
Greater CT	Cornwall	73	x			Three more 86+ ppb days violates 2008 NAAQS <b>One more 76+ ppb day violates 2008 NAAQS</b>
	East Hartford	75	x			
	Groton Fort Griswold	72	x			Three more 86+ ppb days violates 2008 NAAQS
	Stafford	73	x			Three more 79+ ppb days violates 2008 NAAQS
	Abington (CASTNET)	68				One more 76+ ppb days violates 2015 NAAQS





# August 25, 2016 Peak Northeast Ozone

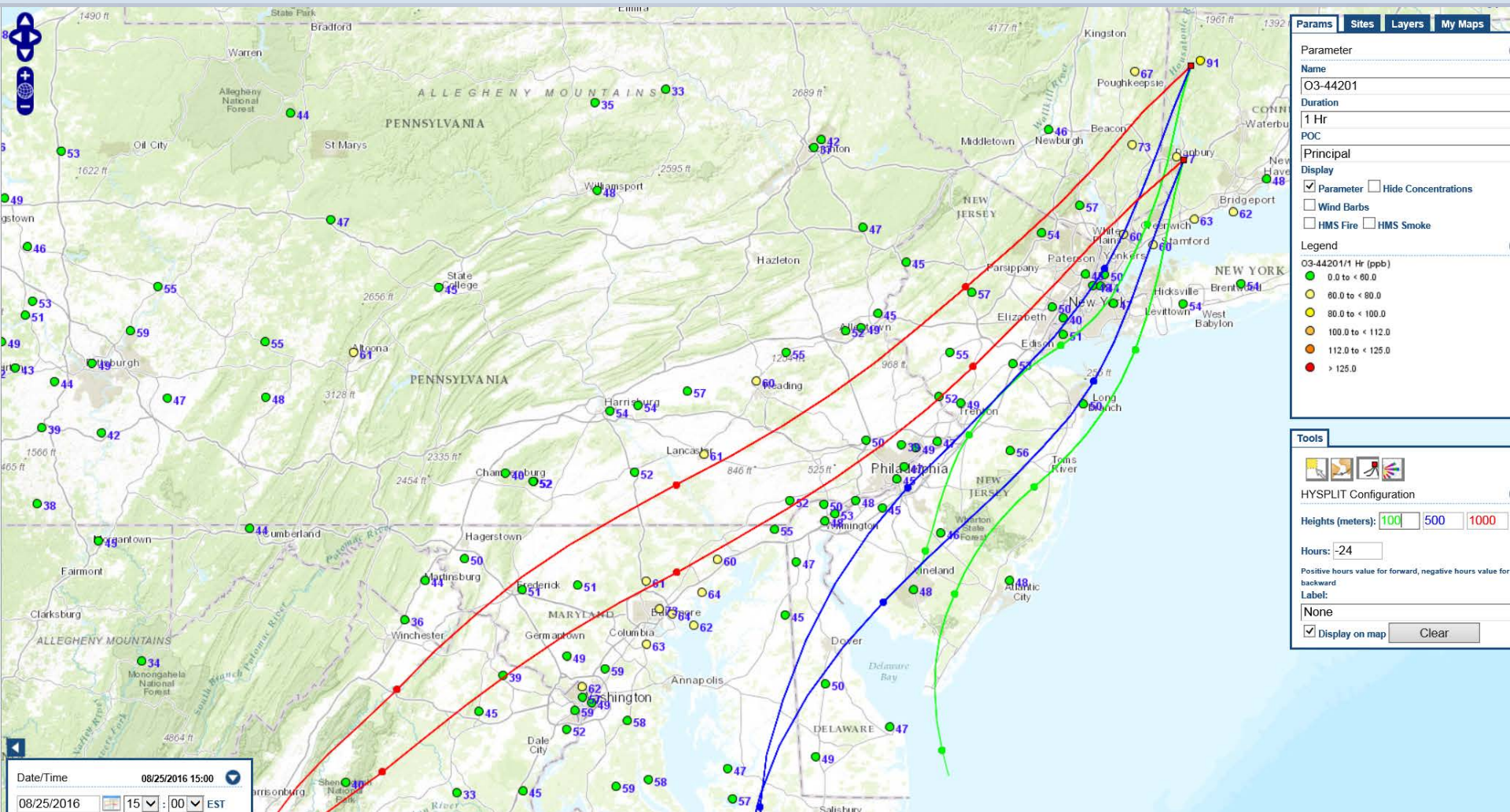


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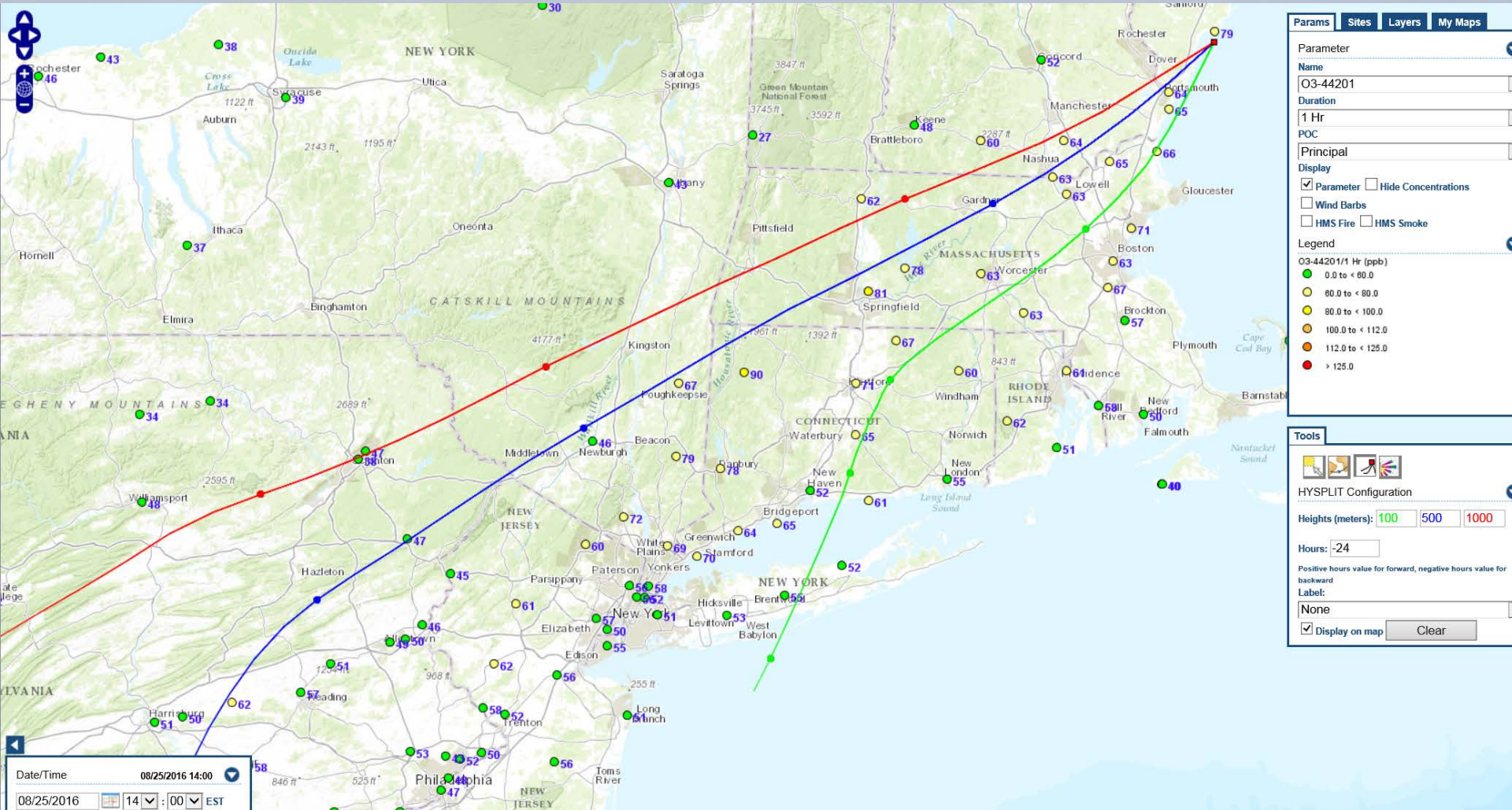
# August 25, 2016 Back Trajectories 3:00 pm EST



Back Trajectory winds (100-1000 meters) were southwesterly, with the low level winds passing over NYC to Cornwall. The low level winds to Danbury were further east, which lowered their ozone levels.



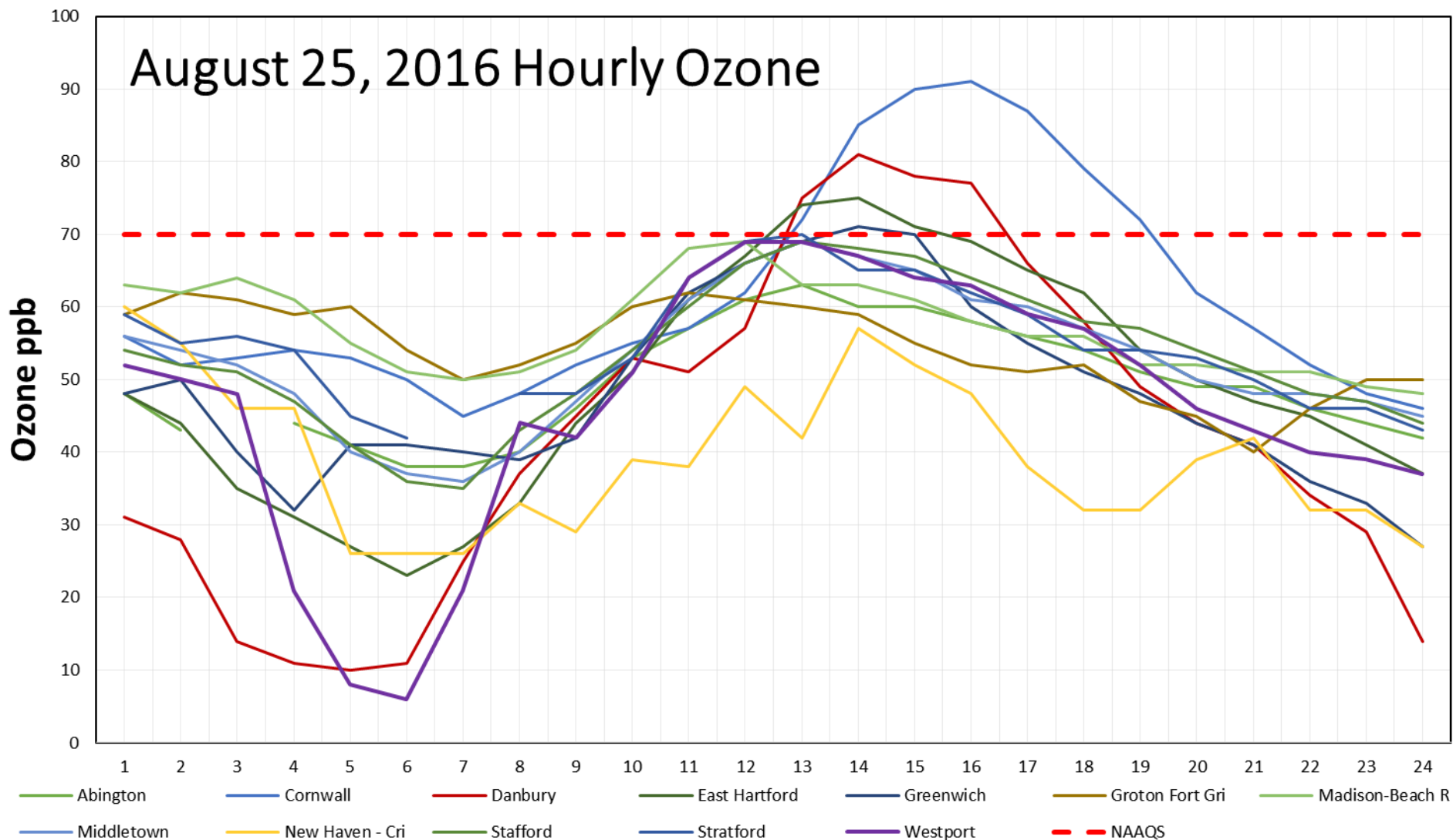
# August 25, 2016 Back Trajectories 3:00 pm EST



Back Trajectory winds (100-1000 meters) to coastal Maine passed over the NYC metro area twelve hours before. With possible low level enhancement from the Boston plume, this produced USG ozone at Kennebunkport, Maine.

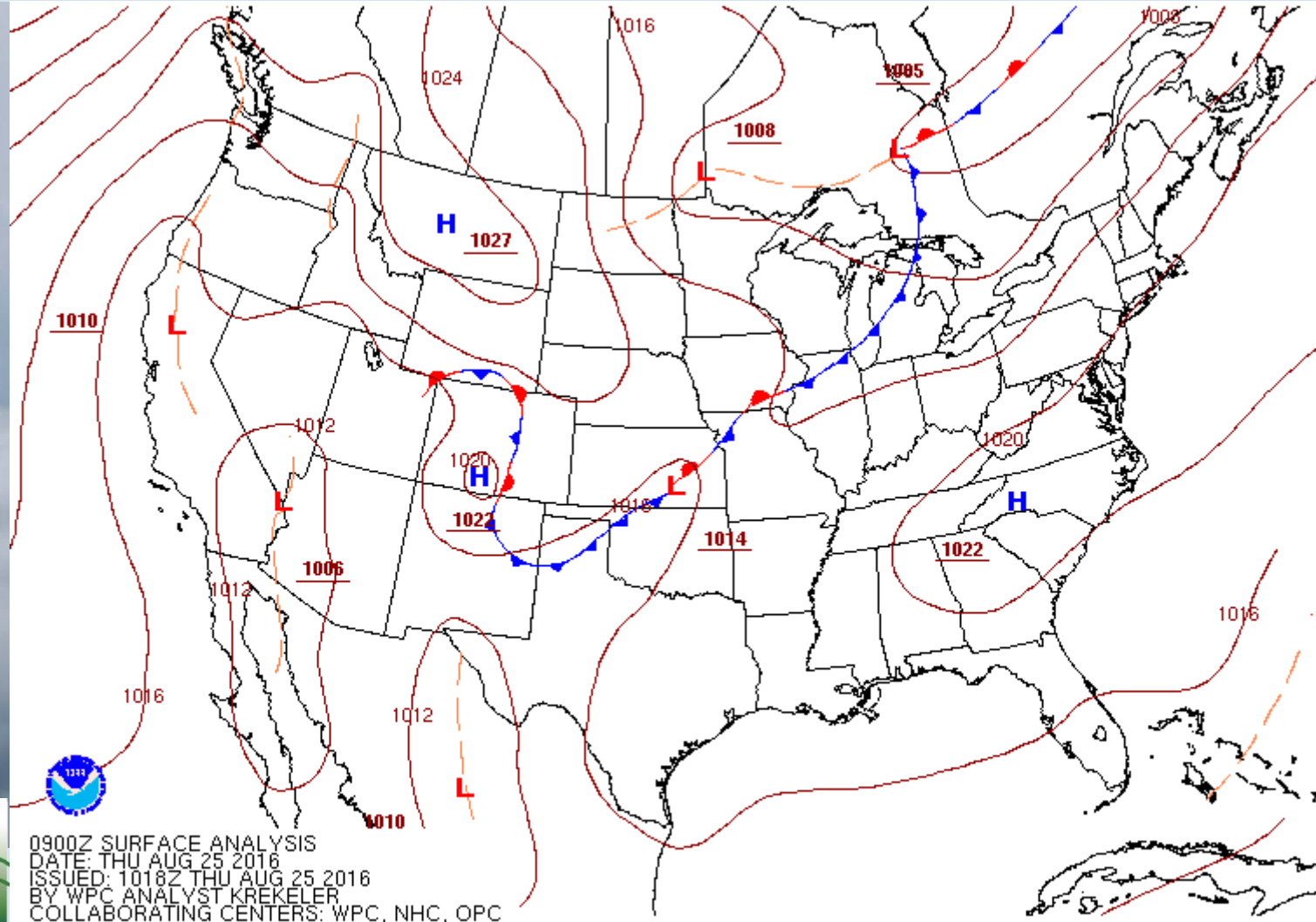
# CT Ozone Monitors August 25, 2016

Elevated ozone mainly confined to monitors at Danbury and Cornwall. Hourly ozone peaked at 91 ppb at Cornwall.



# August 25, 2016 Surface Analysis Animation

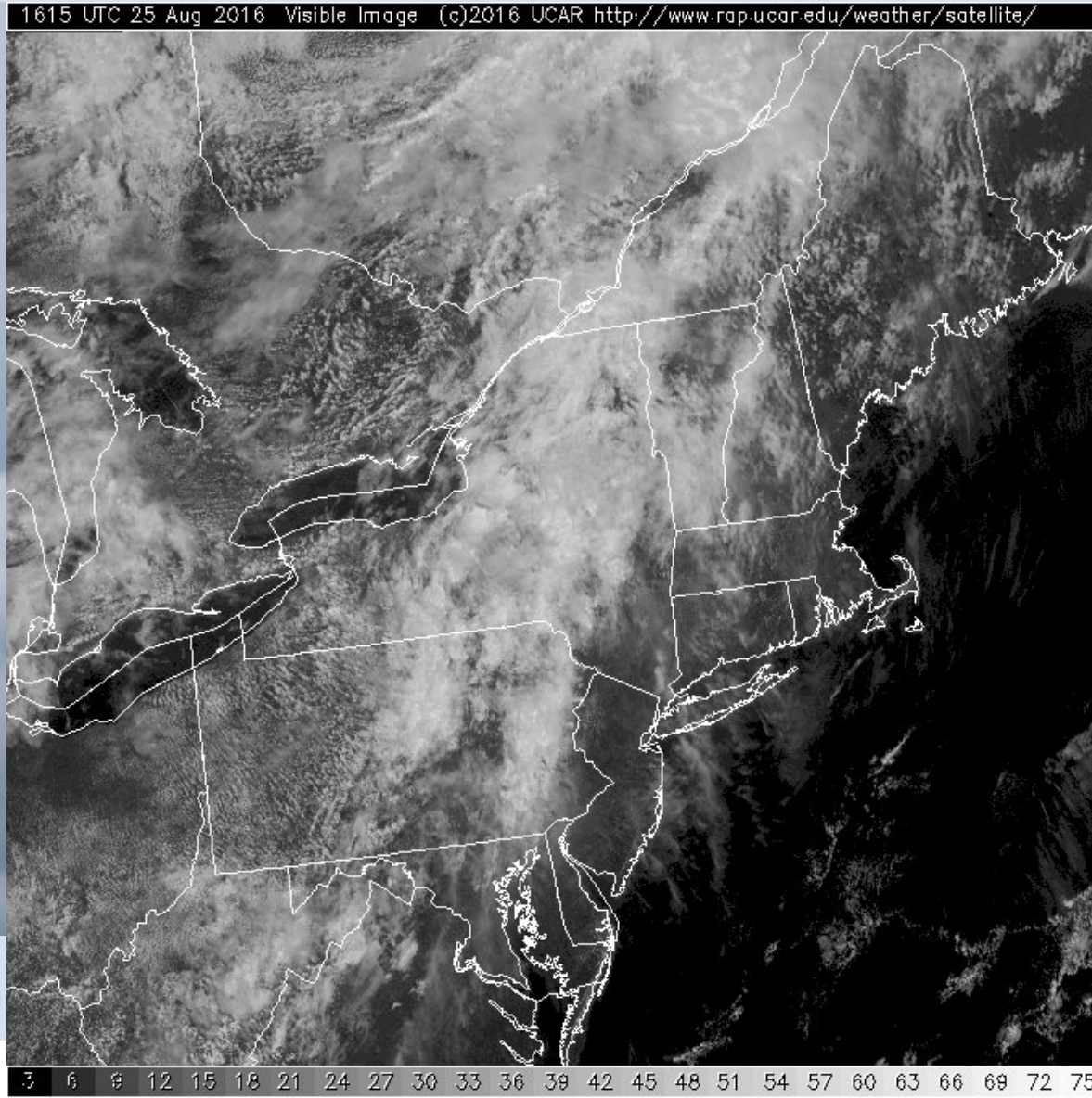
- Cold front remains well west of Connecticut as high pressure moves east of New England. This allows for more of a southerly maritime flow to develop over eastern Connecticut.





# August 25, 2016 Satellite Animation

- Clouds moved in after 4:00 pm in western Connecticut, which limited peak ozone production.

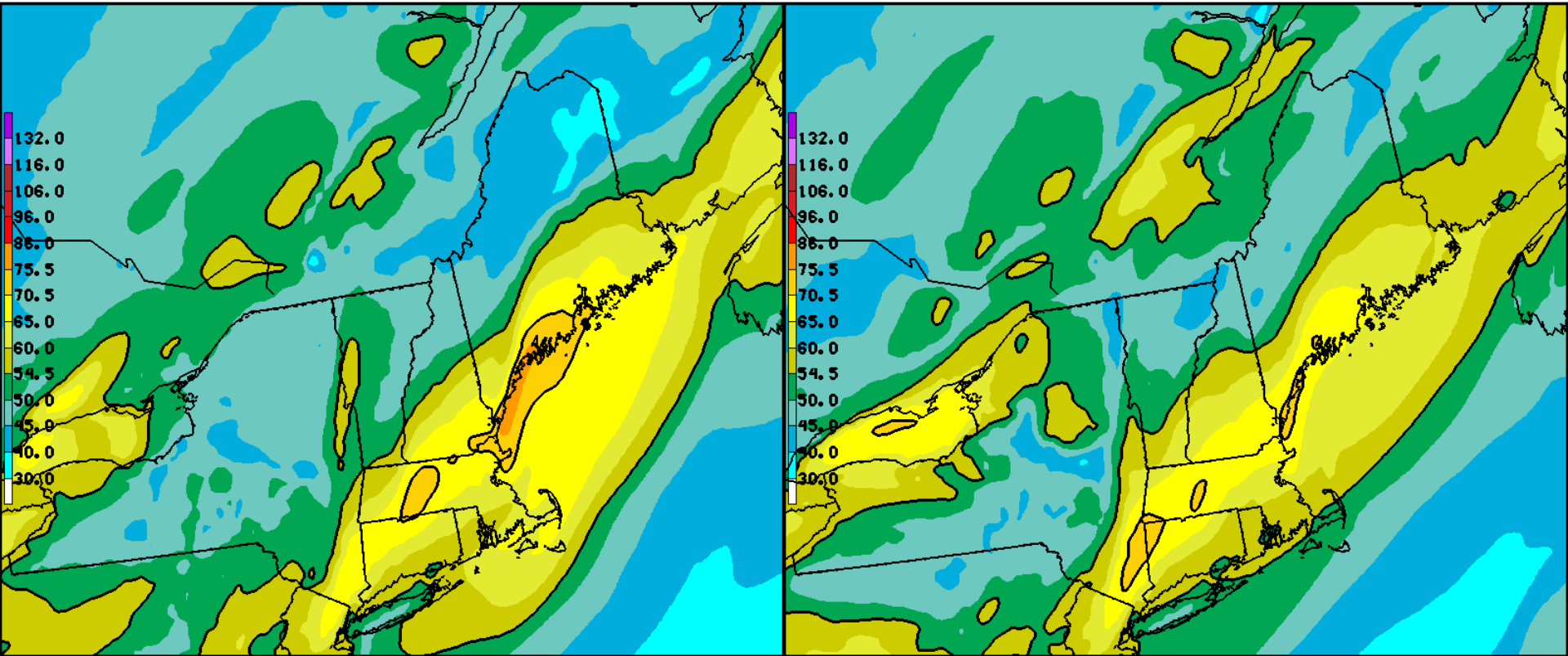


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# August 25, 2016 NOAA Model Performance

- Same day NOAA model showed potential for USG ozone levels over northwest Connecticut as well as coastal Maine.



PROD DAY2 OZHX08 0 20160824 06Z CYC~

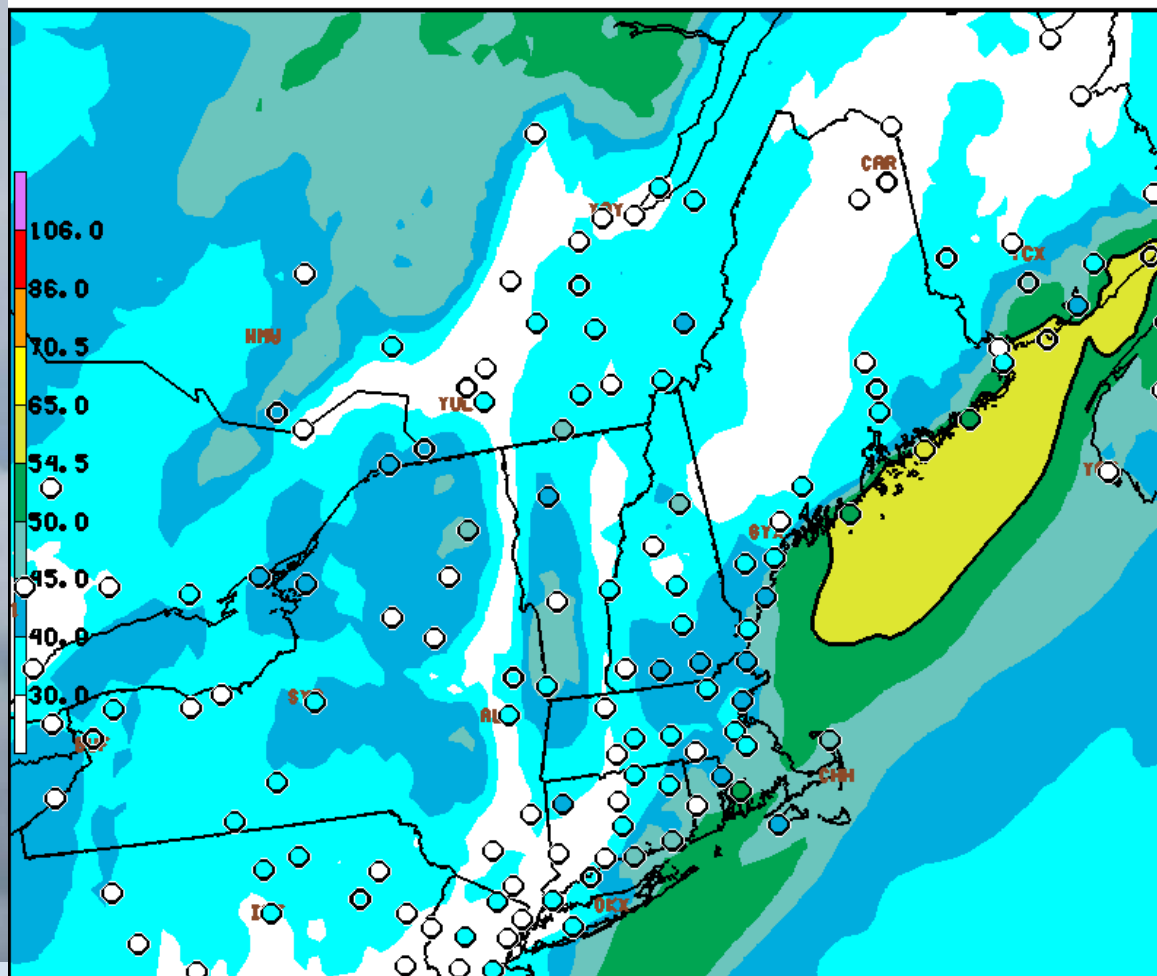
PROD DAY1 OZHX08 0 20160825 06Z CYC~



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# August 25, 2016 NOAA Model Performance

- 3-hour NOAA ozone model animation verifies that highest ozone plume was pushed into northwest Connecticut and part of Boston plume interacted with coastal Maine.



PROD OZCN01 THU 160825/1200Y06



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# Conclusion

- USG ozone event just for Connecticut and Maine.
- Southwest winds over NYC caused elevated ozone to form over extreme western Connecticut for several hours;
- Clouds moved in after 4:00 pm, which limited ozone production at the Danbury and Cornwall sites;
- Same day NOAA model did well predicting USG ozone from the NYC plume over northwest Connecticut and coastal Maine.

