



Connecticut Department of Energy and Environmental Protection



July 28, 2016 OTR and Connecticut Ozone Exceedances

By Michael Geigert

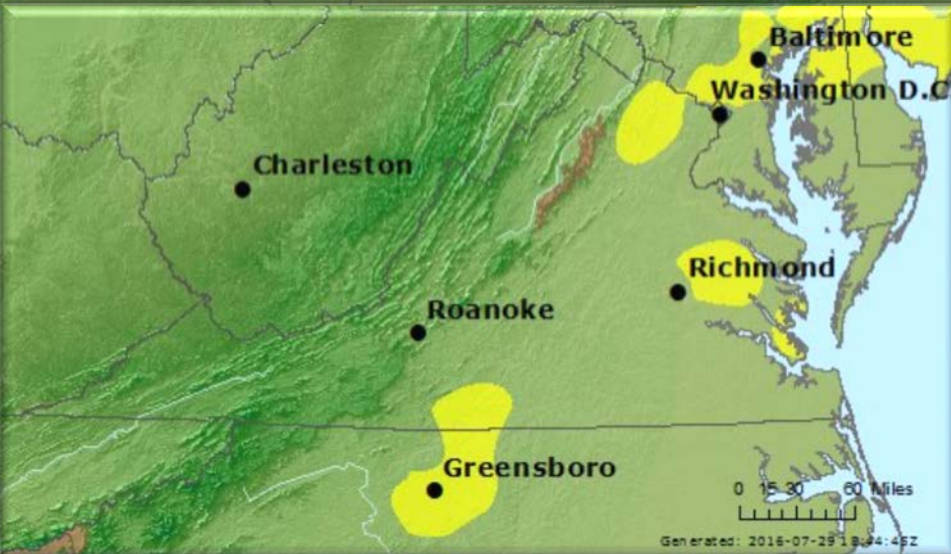
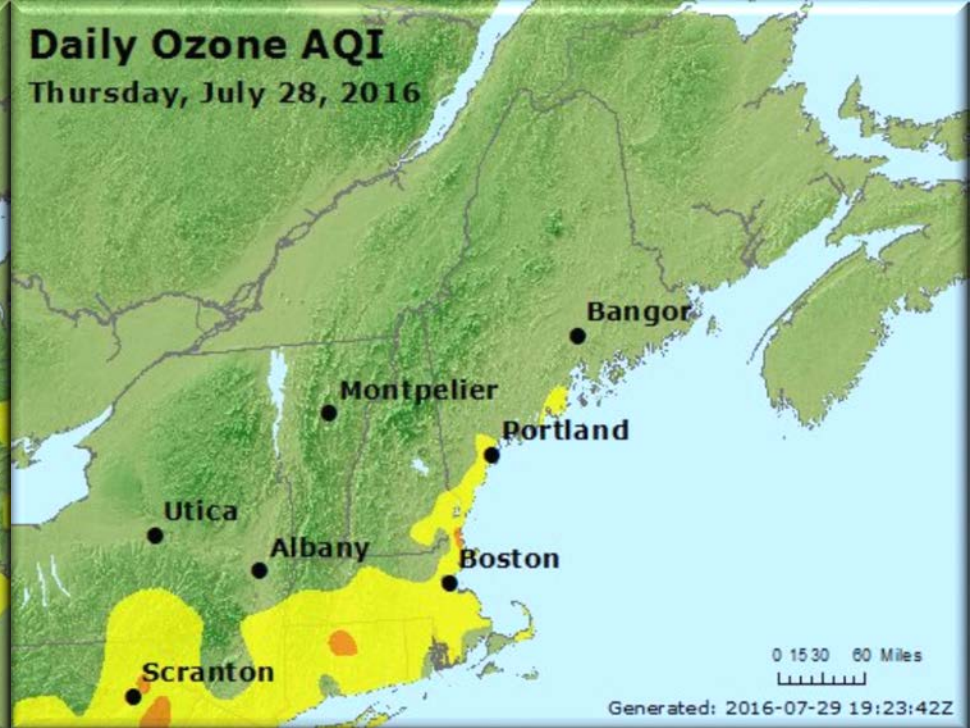


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Summary

- 5 States had exceedances: MA,CT,NY,NJ and PA;
- Mostly moderate ozone levels throughout the I-95 corridor.
 1. 6 sites above 70 ppb ozone NAAQS, 1 site in CT
 2. 0 sites above (2008) 75 ppb ozone NAAQS, 0 sites 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 exceeded the 70 ppb NAAQS. Bradley Airport had a high temperature of 96° F. (15 days in July so far over 90 ° F.)

Site	Site AQS	Date (LST)	Max 8-hour Ozone ppb
Pocono	420890002	7/28/2016	73
East Hartford	090031003	7/28/2016	72
Newburyport	250094005	7/28/2016	72
Newark Firehous	340130003	7/28/2016	71
PECK	420690101	7/28/2016	71
Susan Wagner	360850067	7/28/2016	71
Leonia	340030006	7/28/2016	70
WILK	420791101	7/28/2016	70
CCNY	360610135	7/28/2016	69
Greenwich	090010017	7/28/2016	69
Kennebunkport	230312002	7/28/2016	69
Stratford	090013007	7/28/2016	69
FREE	420950025	7/28/2016	68
Madison-Beach R	090099002	7/28/2016	68
Odiorne State P	330150016	7/28/2016	68
Bayonne	340170006	7/28/2016	67
Camden Spruce S	340070002	7/28/2016	67
Westport	090019003	7/28/2016	67
Middletown	090070007	7/28/2016	66
Pfizer Lab	360050133	7/28/2016	66
SCRA	420692006	7/28/2016	66
Fall River	250051004	7/28/2016	65
LYNN	250092006	7/28/2016	65
Rockland Cty	360870005	7/28/2016	65
White Plains	361192004	7/28/2016	65

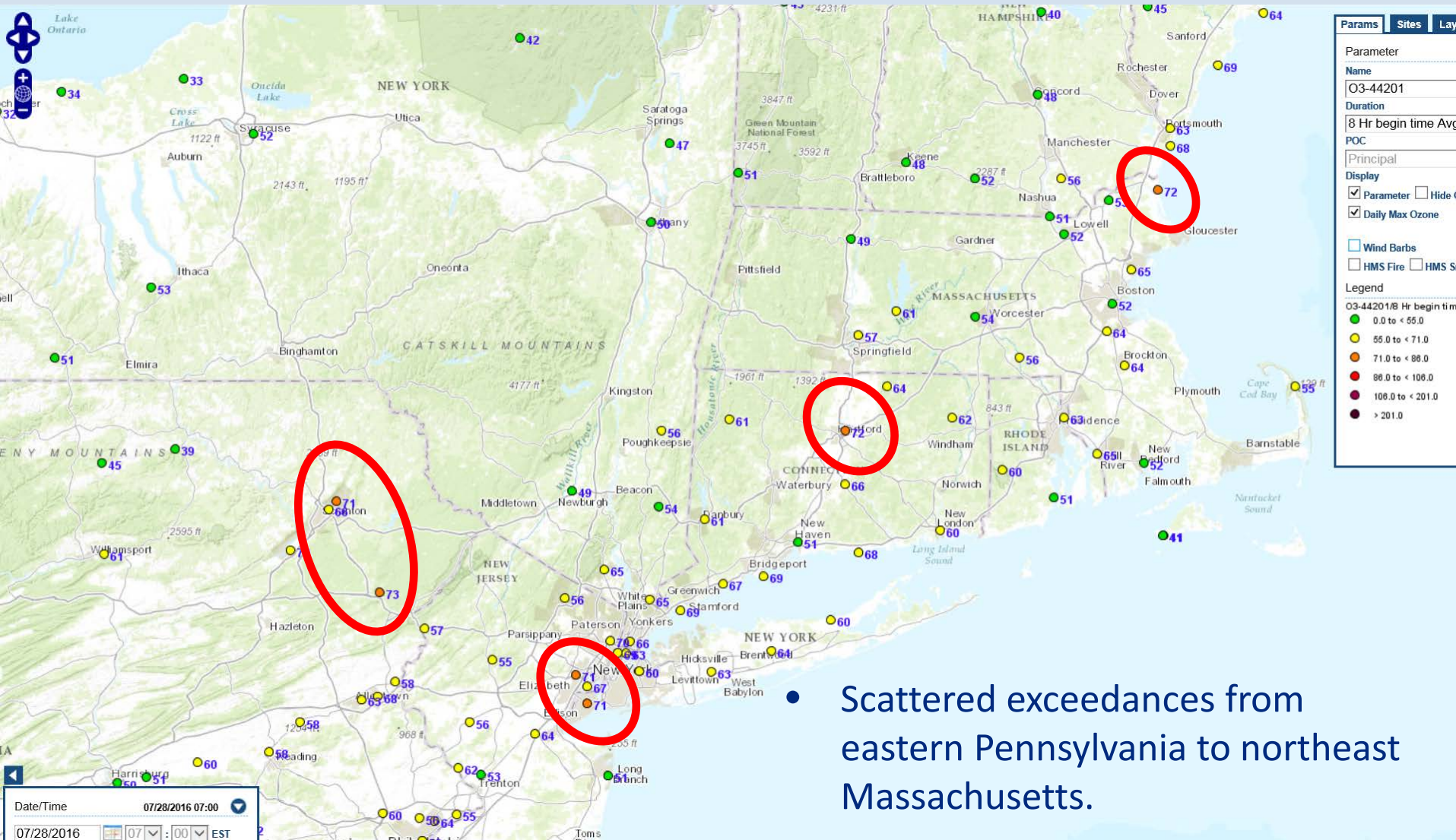


CT Monitoring Site Design Value Update

- Connecticut has 22 exceedance days to date
- No change to table with this episode

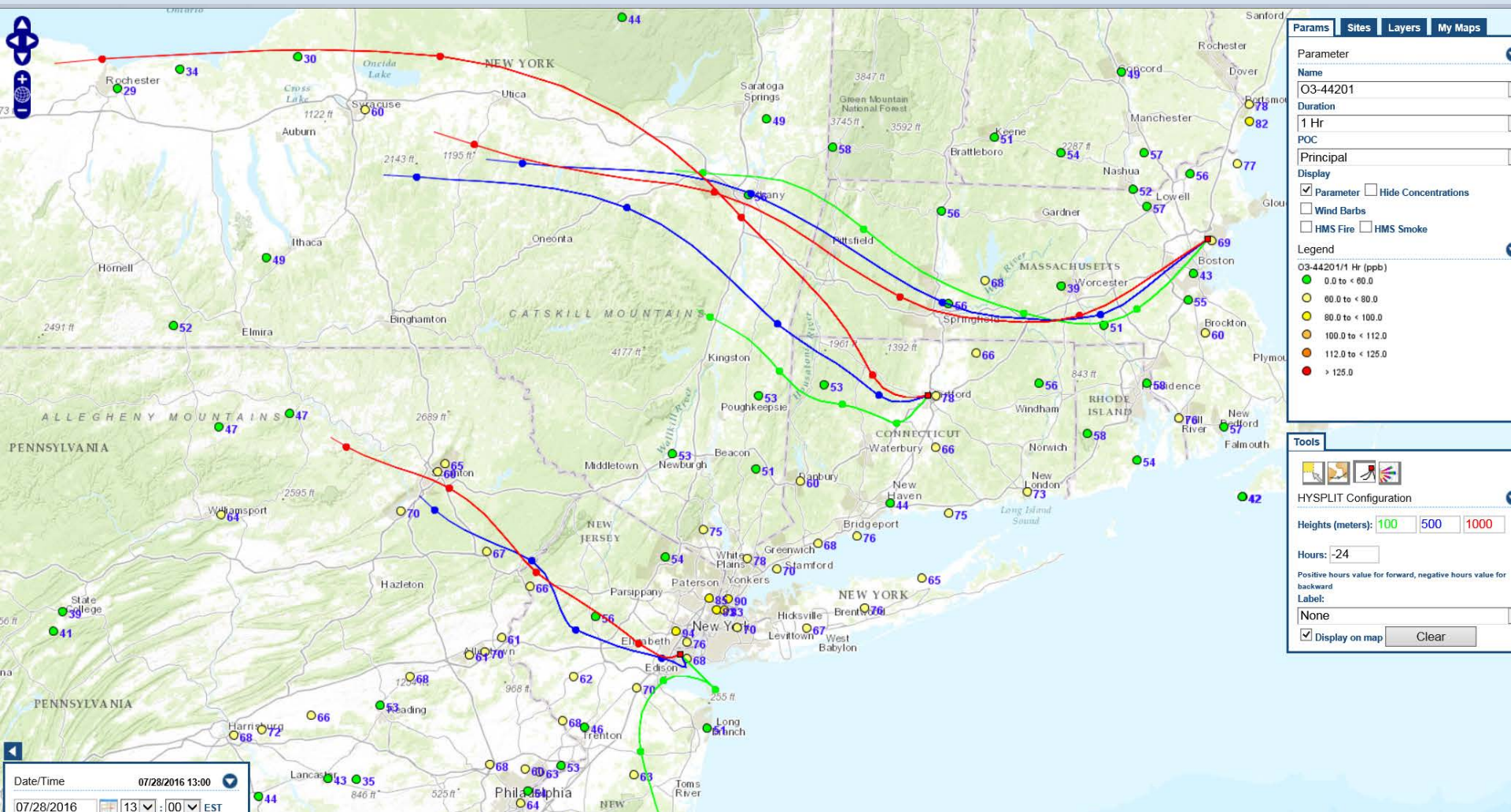
			To Date 2016 Compliance Status x = Violating NAAQS			
	Site Name	To Date: 2016 DV	2015 NAAQS	2008 NAAQS	1997 NAAQS	Next Possible NAAQS in Violation (key monitor in each NA is highlighted in RED)
SWCT Portion of NYC Area	Danbury	78	x	x		Four more 102+ ppb days violates 1997 NAAQS
	Greenwich	82	x	x		Four 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	72	x			Three more 86+ ppb days violates 2008 NAAQS One more 76+ ppb days violates 2008 NAAQS
	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

July 28, 2016 Peak Northeast Ozone



- Scattered exceedances from eastern Pennsylvania to northeast Massachusetts.

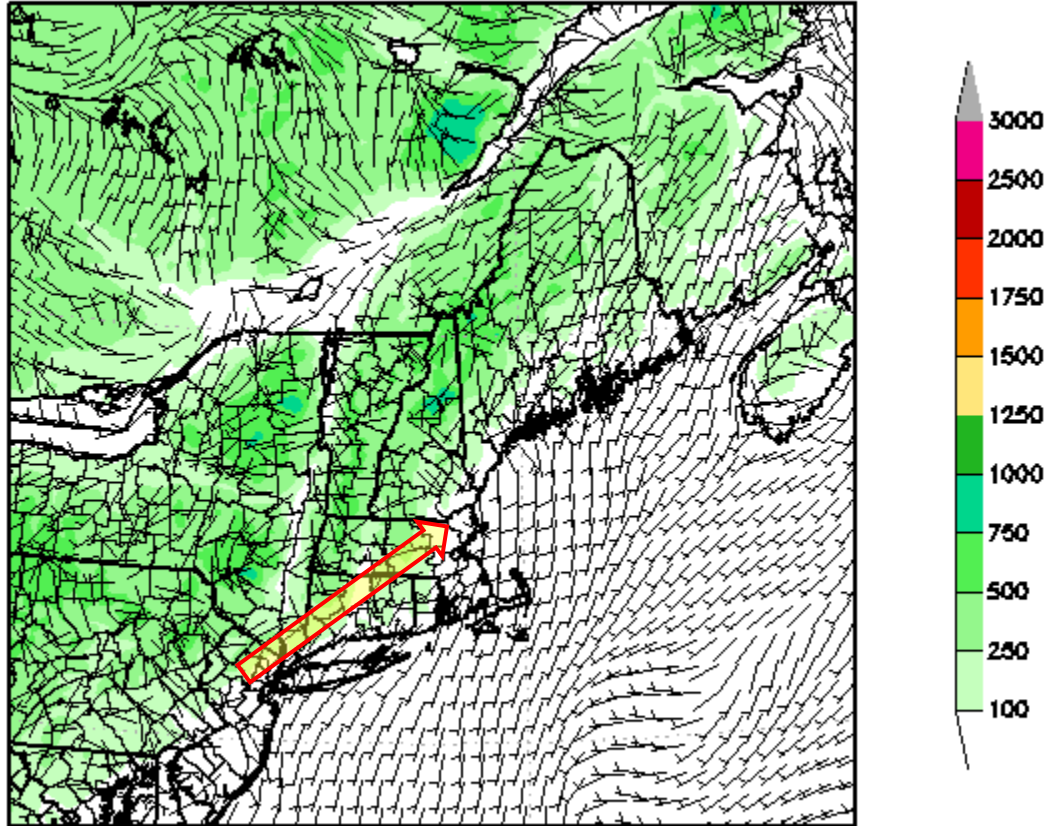
July 28, 2016 Back Trajectories 1:00 pm EST



Boundary layer winds (10-1000 meters) were northwest and turned southwest during the morning. Winds were light, so elevated ozone was likely due to nearby sources and recirculation.

Model Winds for Northeast, 2:00am- 11:00pm

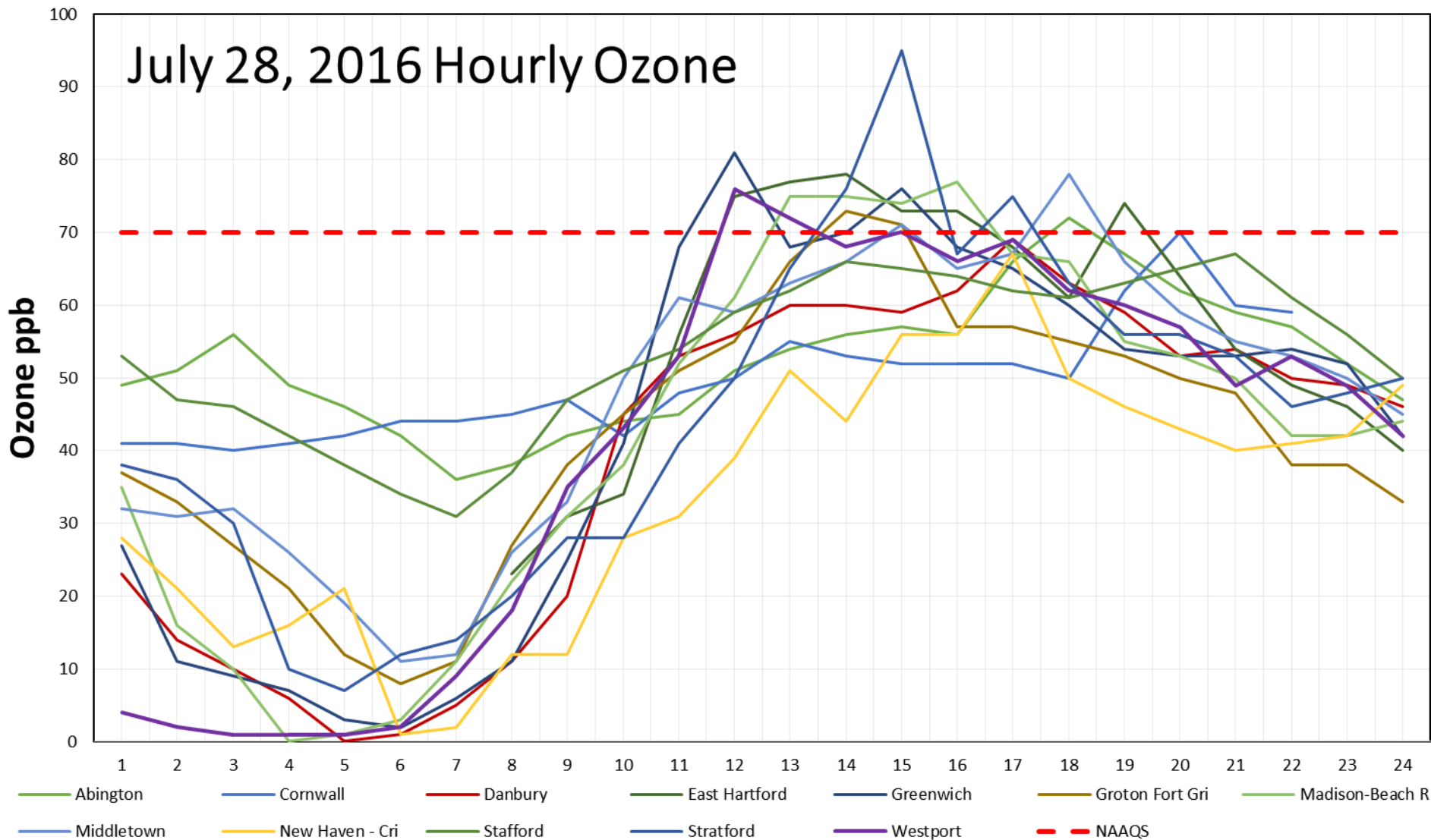
10-M WND, SFC HGT NAM4KM 06H FCST VALID 06Z 28 JUL 2016



Ozone levels had the potential to be much higher due to the southwest wind flow, but I-95 corridor transport occurred too late in the day, followed by clean maritime air in the evening.

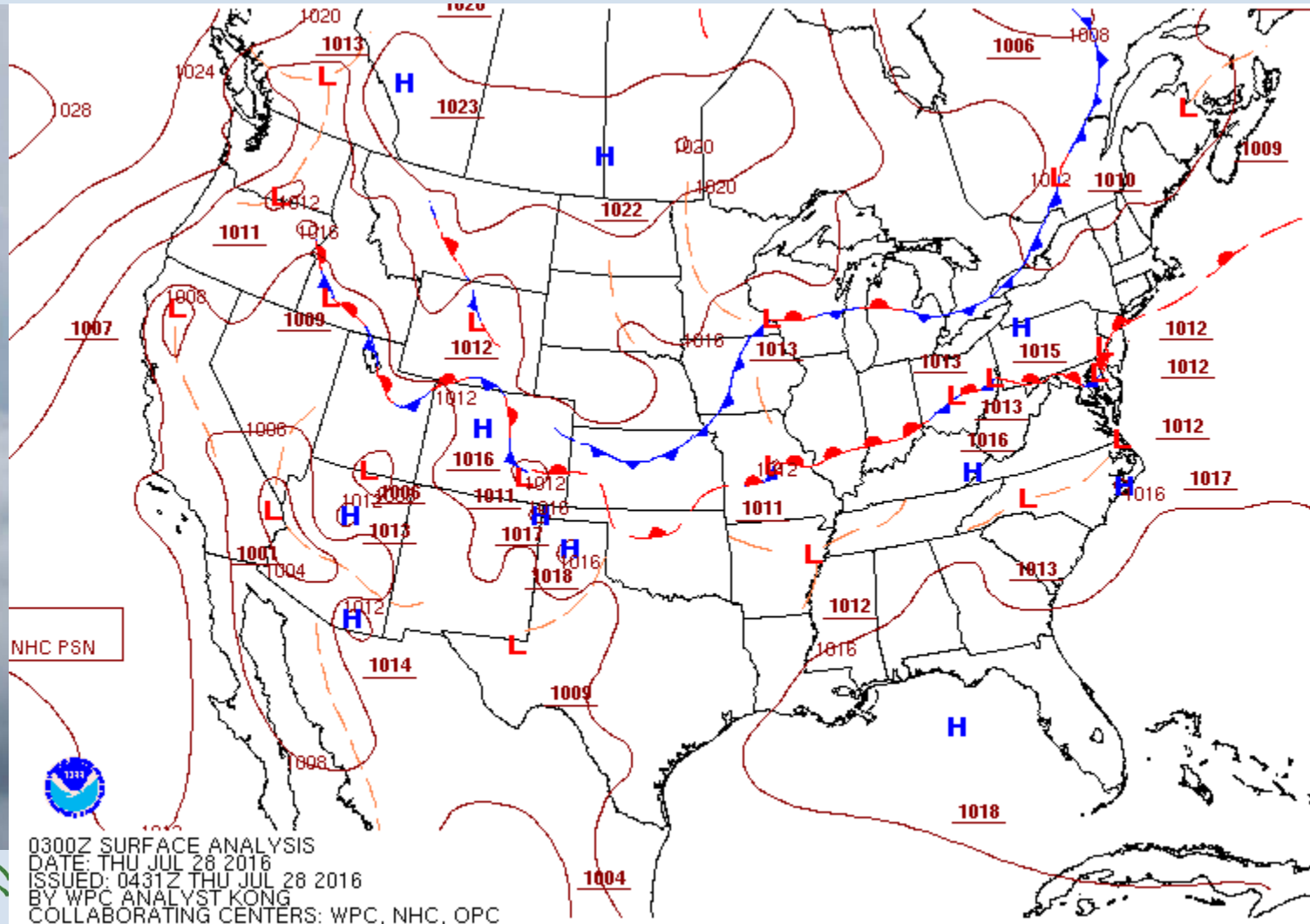
CT Ozone Monitors July 28, 2016

Stratford peaked at 95 ppb, while several other monitors hovered around the 70 ppb level.



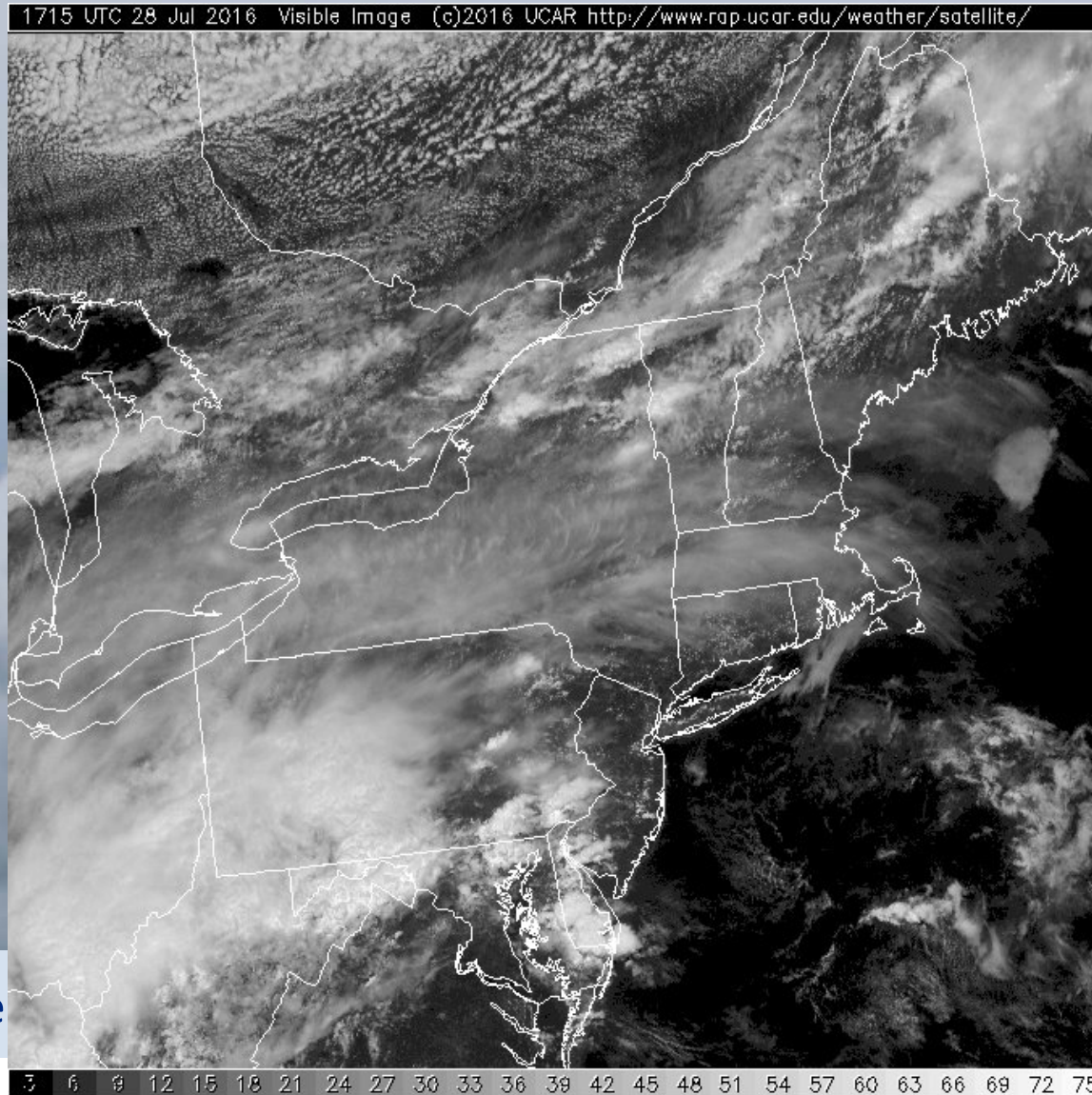
July 28 , 2016 Surface Analysis Animation

- Weak warm front dissipated during the morning as cold front approached in the afternoon. This allowed southwest winds to develop and ozone to form along the I-95 corridor.



July 28 , 2016 Satellite Animation

- Clouds held off until the evening, allowing ozone production to continue.

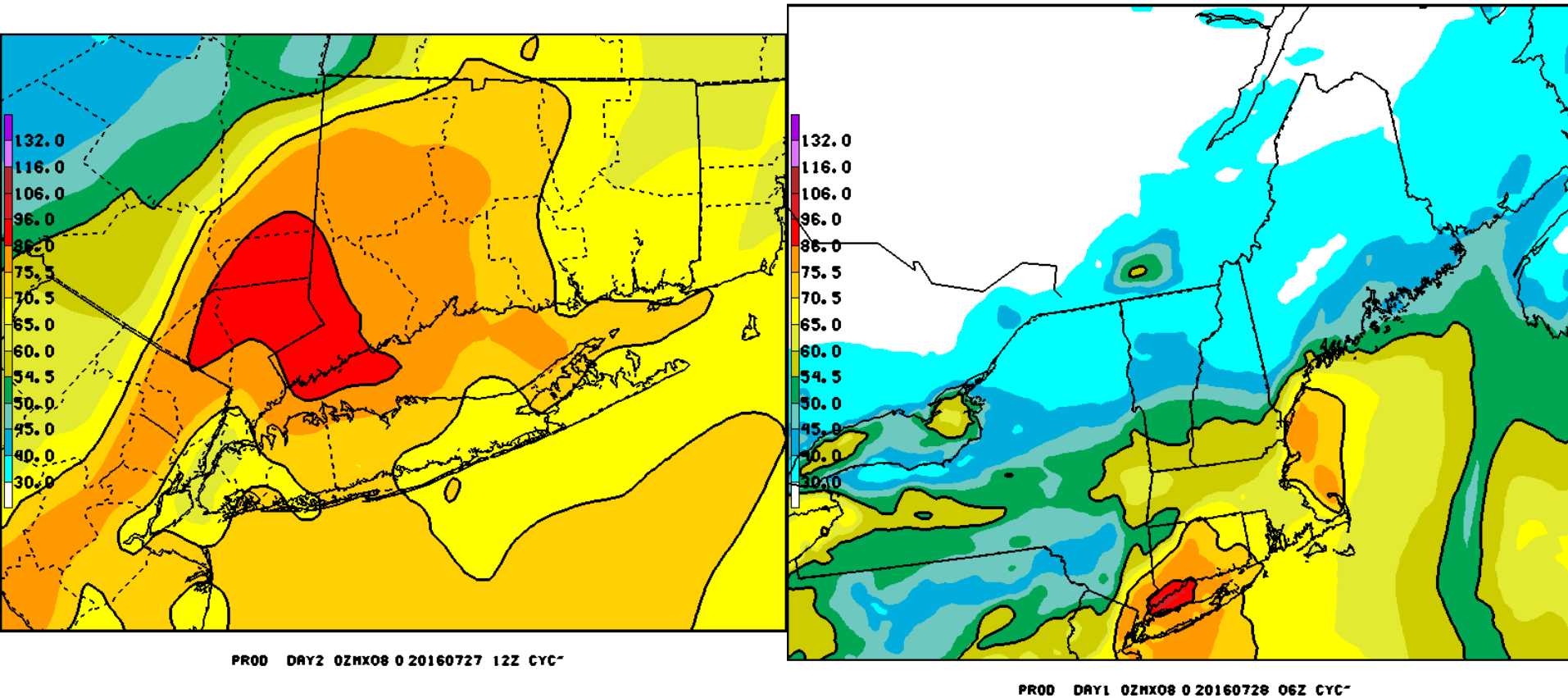


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July 28 , 2016 NOAA Model Performance

- Day before and same day NOAA model over-predicted Code RED ozone levels.



Conclusion

- Scattered USG event for the I-95 corridor into Massachusetts;
- Southwest winds developed as cold front approached;
- Ozone levels increased mostly from local production since winds were light;
- NOAA model over predicted the ozone levels, forecasting USG+ for most of the State.

