



# Connecticut Department of Energy and Environmental Protection

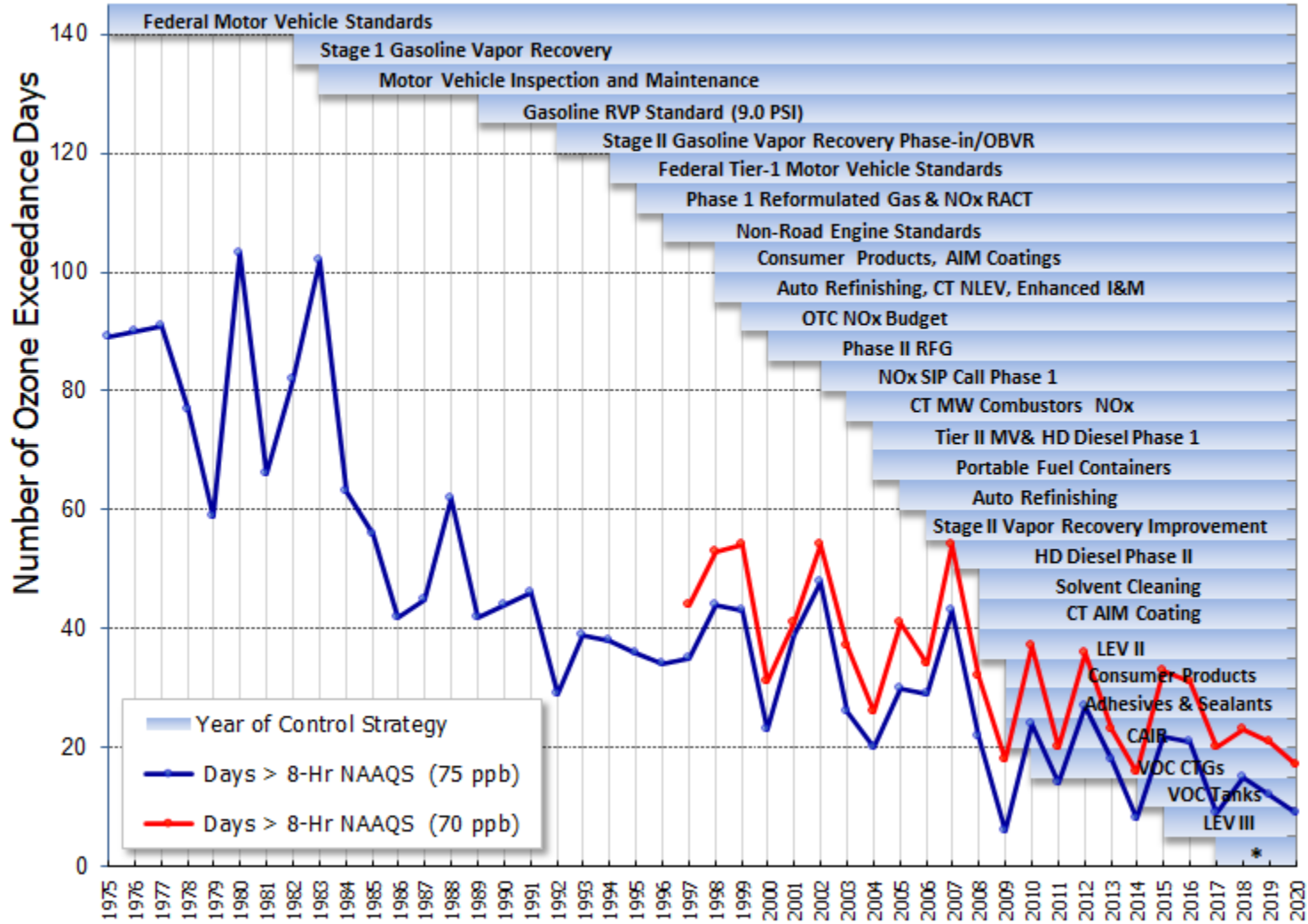


2020 Ozone Season Review and Looking Ahead for 2021

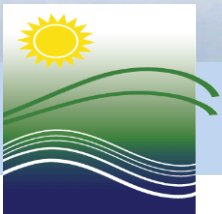
Michael Geigert

# 2020 Ozone Season: 17 Exceedance Days

## Connecticut 8-Hour Ozone Exceedance Day Trends and Implemented Control Strategies

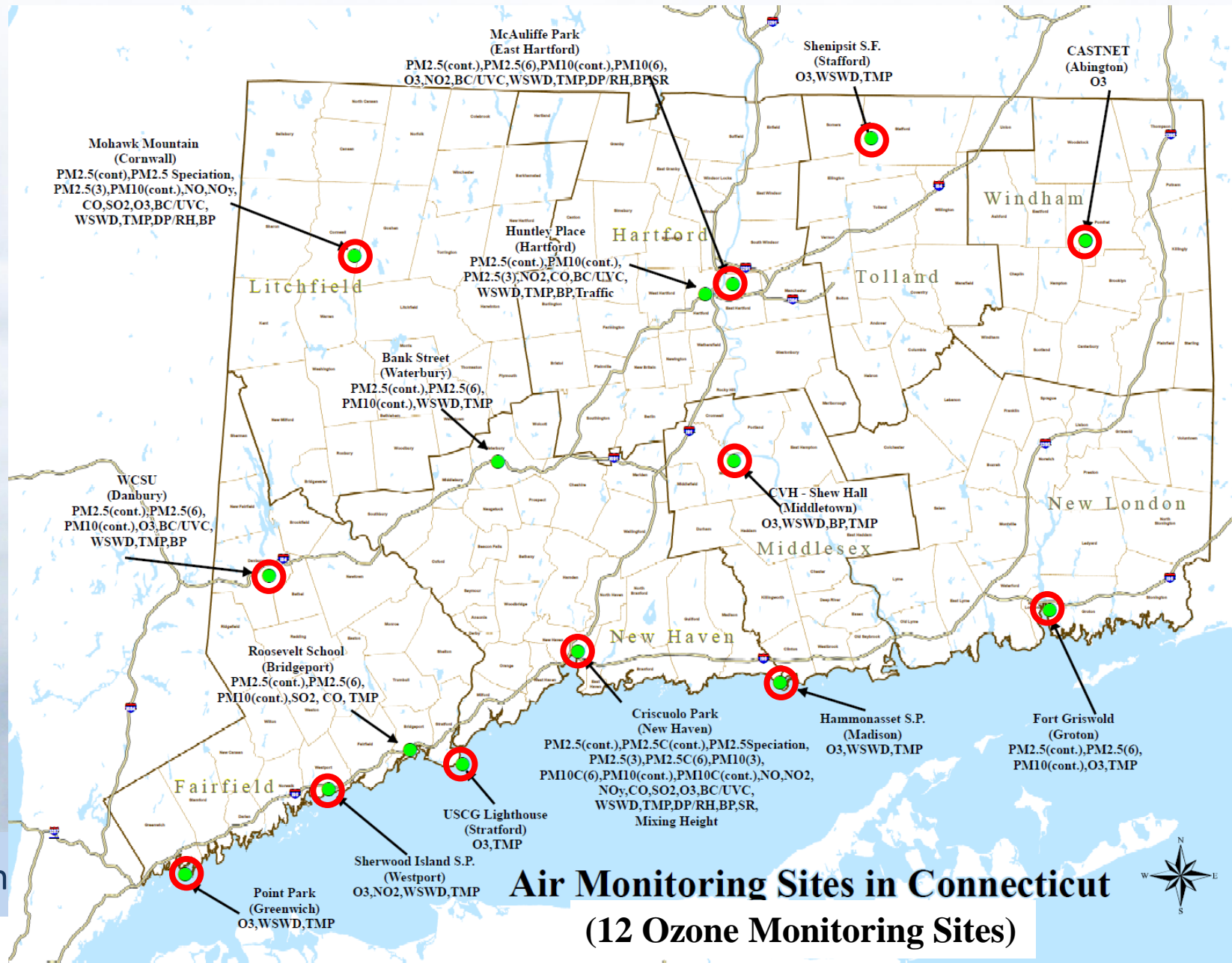


\*NOx RACT Fuel Burning Sources, Consumer Products, AIM, NOx Reductions MWC and Federal Tier 3 Motor





# CT Air Monitoring Sites



Conn

**Air Monitoring Sites in Connecticut  
(12 Ozone Monitoring Sites)**



# Ozone in Connecticut 2020

Connecticut Department of Environmental Protection  
2020 8-Hour Ozone Daily Maximums\*

2020	June		July									August					
Site	4	9	13	19	20	21	25	26	27	28	30	3	5	10	21	22	24
Abington	62	58	48	65	46	42	45	44	60	47	55	49	M	M	65	49	45
Cornwall	63	65	39	60	44	43	44	47	57	43	53	46	M	53	59	48	49
Danbury	63	71	43	67	46	46	59	48	53	47	54	46	48	68	57	50	52
East Hartford	68	65	50	69	46	45	48	47	53	44	55	44	48	54	62	52	48
Greenwich	75	83	58	81	61	77	M	55	68	59	90	64	67	M	63	64	74
Groton	60	57	71	66	65	55	60	65	76	70	94	65	77	65	63	66	50
Madison	67	71	75	71	75	66	71	71	88	80	95	72	85	M	68	71	65
Middletown	69	68	61	79	52	51	56	50	60	52	59	52	57	69	71	57	55
New Haven	67	60	63	82	59	65	59	52	58	48	76	47	66	52	42	62	78
Stafford	68	M	50	66	43	40	42	44	52	44	53	44	50	54	59	49	52
Stratford	69	73	69	83	66	65	67	65	80	66	87	74	76	71	68	68	73
Westport	69	73	58	83	60	72	77	56	73	60	77	70	M	M	61	59	68
# days > Federal Standard	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

Good (0-54 ppb)

Moderate (55-70 ppb)

Unhealthy for Sensitive Groups (71-85 ppb)

Unhealthy (86-105 ppb)

Very Unhealthy (>106 ppb)

# Ozone Forecasts for Connecticut 2020

Actual Exceedance Days = 17

Forecast Exceedance Days = 13

Month	Actual Dates	Forecast Dates
May	None	None
June	4 & 9	9 & 22
July	13, 19, 20, 21, 25, 26, 27, 28, & 30	19, 20, 26, 27 & 29
August	3, 5, 10, 21, 22, & 24	5, 10, 11, 12, 21, & 24
September	None	None
<b>Total</b>	<b>17</b>	<b>13</b>

# CT Ozone 2020 Design Values

		2020 Compliance Status							
		x = Violating NAAQS							
	Site Name	To Date: Prelim 2020 DV	2015 NAAQS	2008 NAAQS	1997 NAAQS	# Needed to Next NAAQS in Violation (key monitors in each NA are highlighted in RED)			
SWCT Portion of NYC Area	Danbury	71	X			4	more days > 80	ppb day(s) violate the	2008 NAAQS
	Greenwich	82	X	X		3	more days > 84	ppb day(s) violate the	1997 NAAQS
	Madison	80	X	X		3	more days > 93	ppb day(s) violate the	1997 NAAQS
	Middletown	74	X			3	more days > 74	ppb day(s) violate the	2008 NAAQS
	New Haven	72	X			2	more days > 77	ppb day(s) violate the	2008 NAAQS
	Stratford	80	X	X		4	more days > 89	ppb day(s) violate the	1997 NAAQS
	Westport	79	X	X		4	more days > 89	ppb day(s) violate the	1997 NAAQS
Greater CT	Cornwall	65				4	more days > 79	ppb day(s) violate the	2015 NAAQS
	East Hartford	67				4	more days > 73	ppb day(s) violate the	2015 NAAQS
	Groton	73	X			3	more days > 78	ppb day(s) violate the	2008 NAAQS
	Stafford	69				4	more days > 68	ppb day(s) violate the	2015 NAAQS
	Abington	66				4	more days > 75	ppb day(s) violate the	2015 NAAQS
Number of Exceedance Days to Date			17		<a href="#">The 1997 standard was repealed with the 2008 implementation rule. Effective April 6, 2015</a>				

Design value triggers for the NAAQS:

1997 = 85 ppb

2008 = 76 ppb

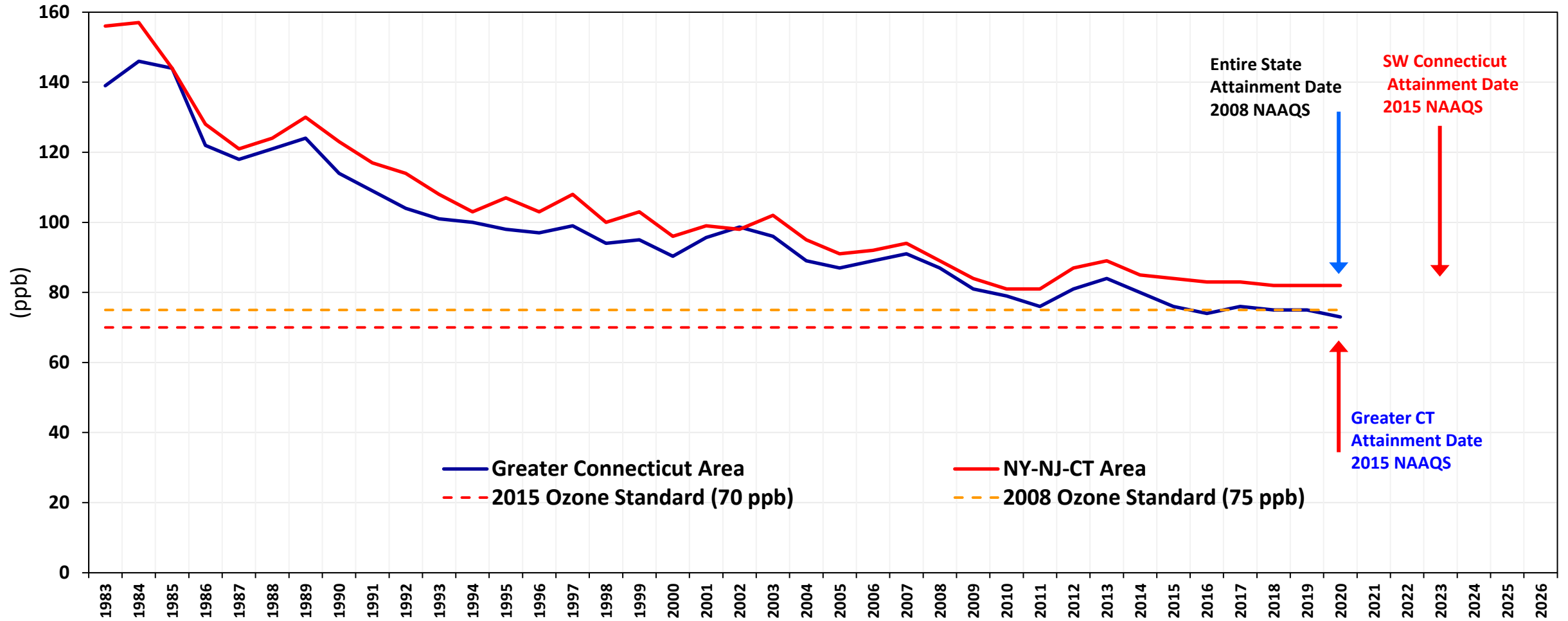
2015 = 71 ppb





# Ozone NAAQS Attainment Dates

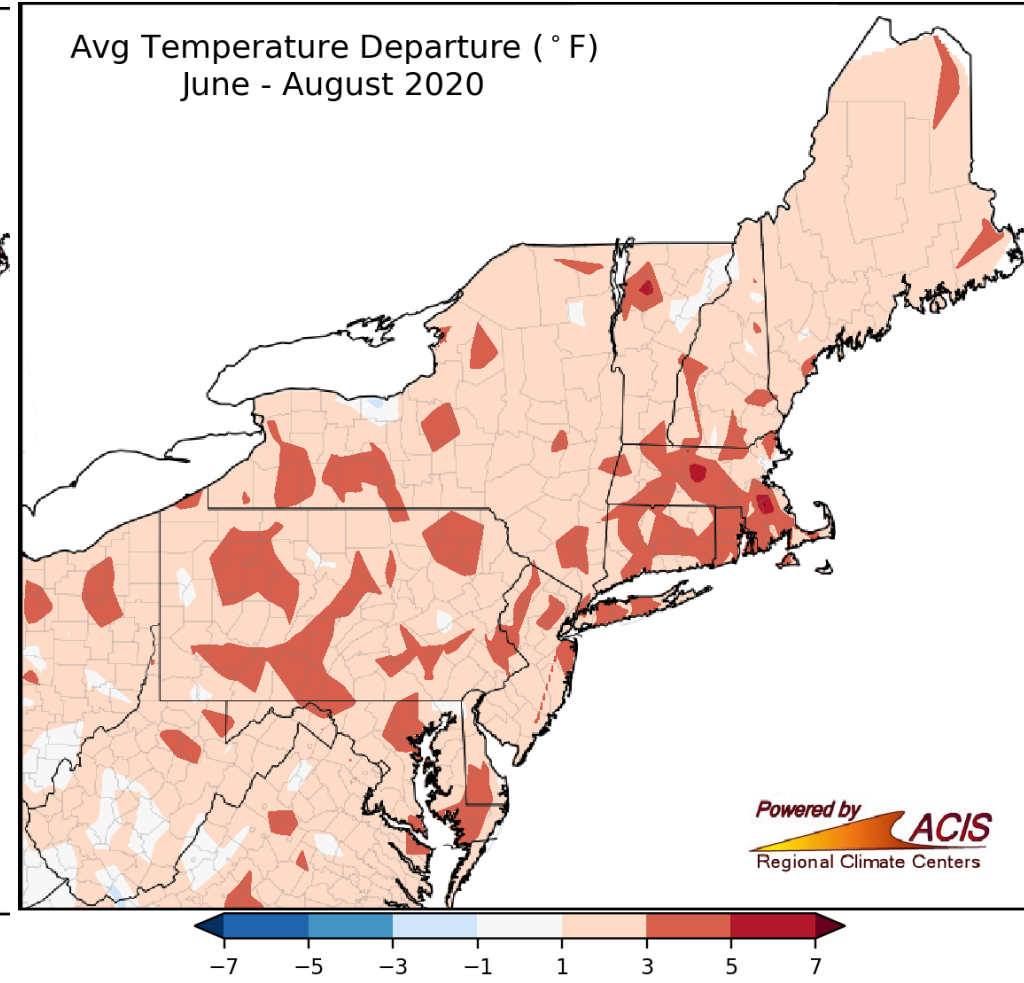
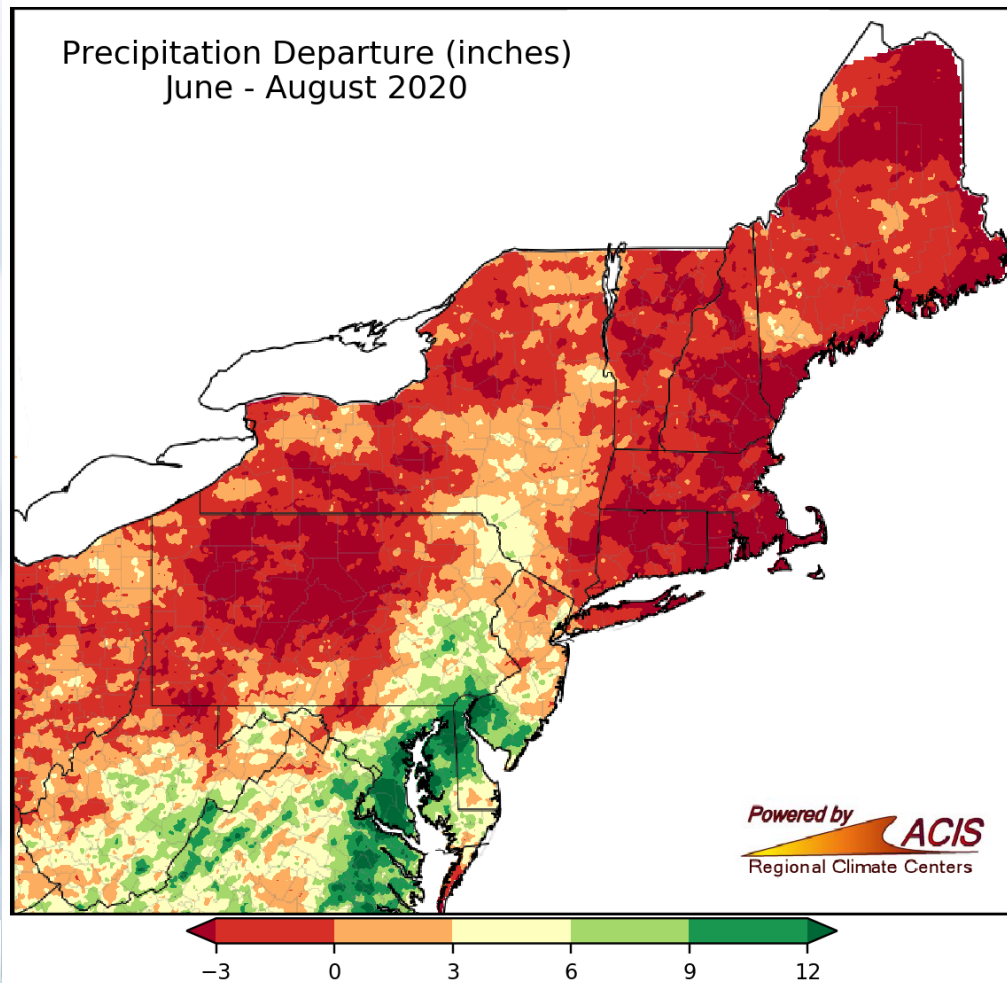
## Ozone Design Value Trends Connecticut's Two Nonattainment Areas



Connecticut was required to attain the 2008 standard by the end of 2020. Greater Connecticut was required to attain the 2015 standard by the end of 2020, and southwest CT by the end of 2023.

# Summer 2020 Precipitation-Temperature Summary

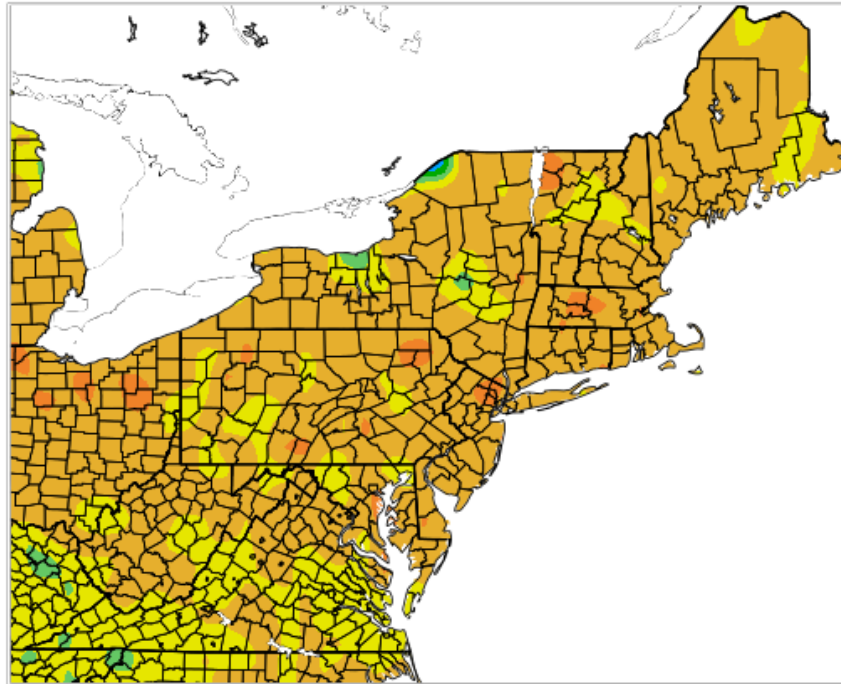
Overall, a drier and warmer summer for Connecticut



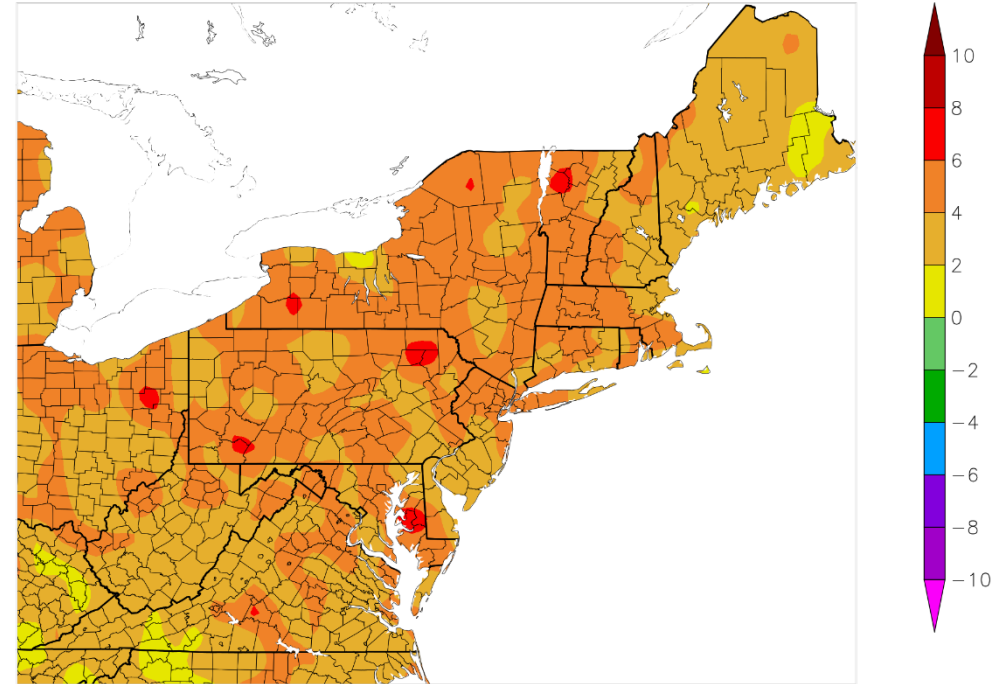


# July 2019 Verses July 2020 Temperatures

Departure from Normal Temperature (F)  
7/1/2019 – 7/31/2019



Departure from Normal Temperature (F)  
7/1/2020 – 7/31/2020



Generated 8/20/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 8/20/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

Well above average 2020 July temperatures, compared with 2019, helped produce nearly as many exceedance days as 2019.



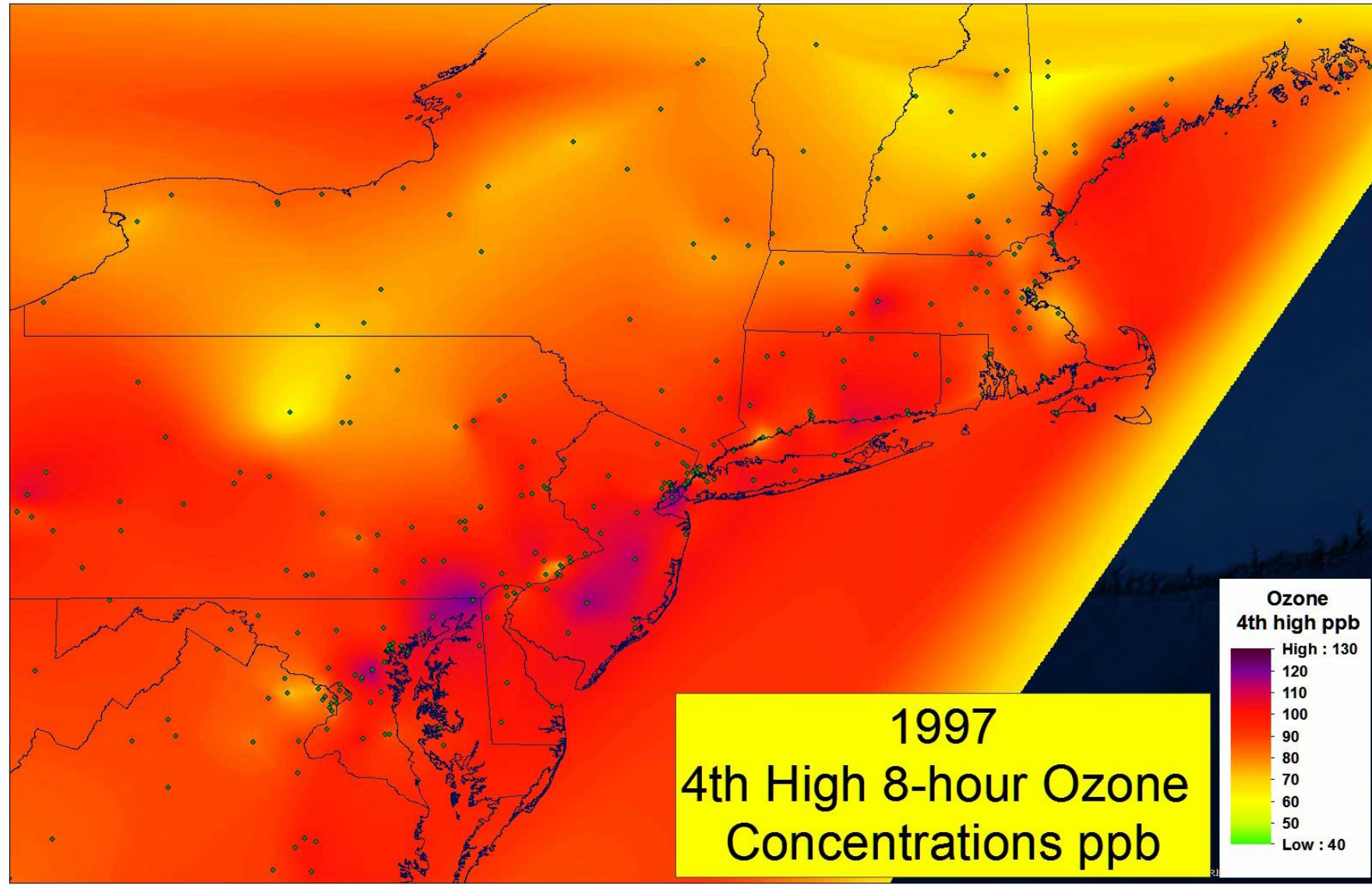
Connecticut Department of Energy and Environmental Protection

# 2020 Ozone Season Summary

- 17 exceedance days in 2020, compared with 21 in 2019;
- A hot, dry, summer weather pattern set up from late June through August, which pushed the highest ozone levels from high NOX and VOC emissions along the I-95 corridor and NYC into Connecticut.
- The NOAA & Barons models generally under predicted in May and early June, and again in September, and some model over predictions began in late June and continued into late August;
- We also under-predicted ozone when smoke was present for a few events this summer based on the modeling. Smoke may have hindered the model performance due to solar attenuation and not including its chemistry; therefore models may have under-predicted an additional 5-10 ppbs.



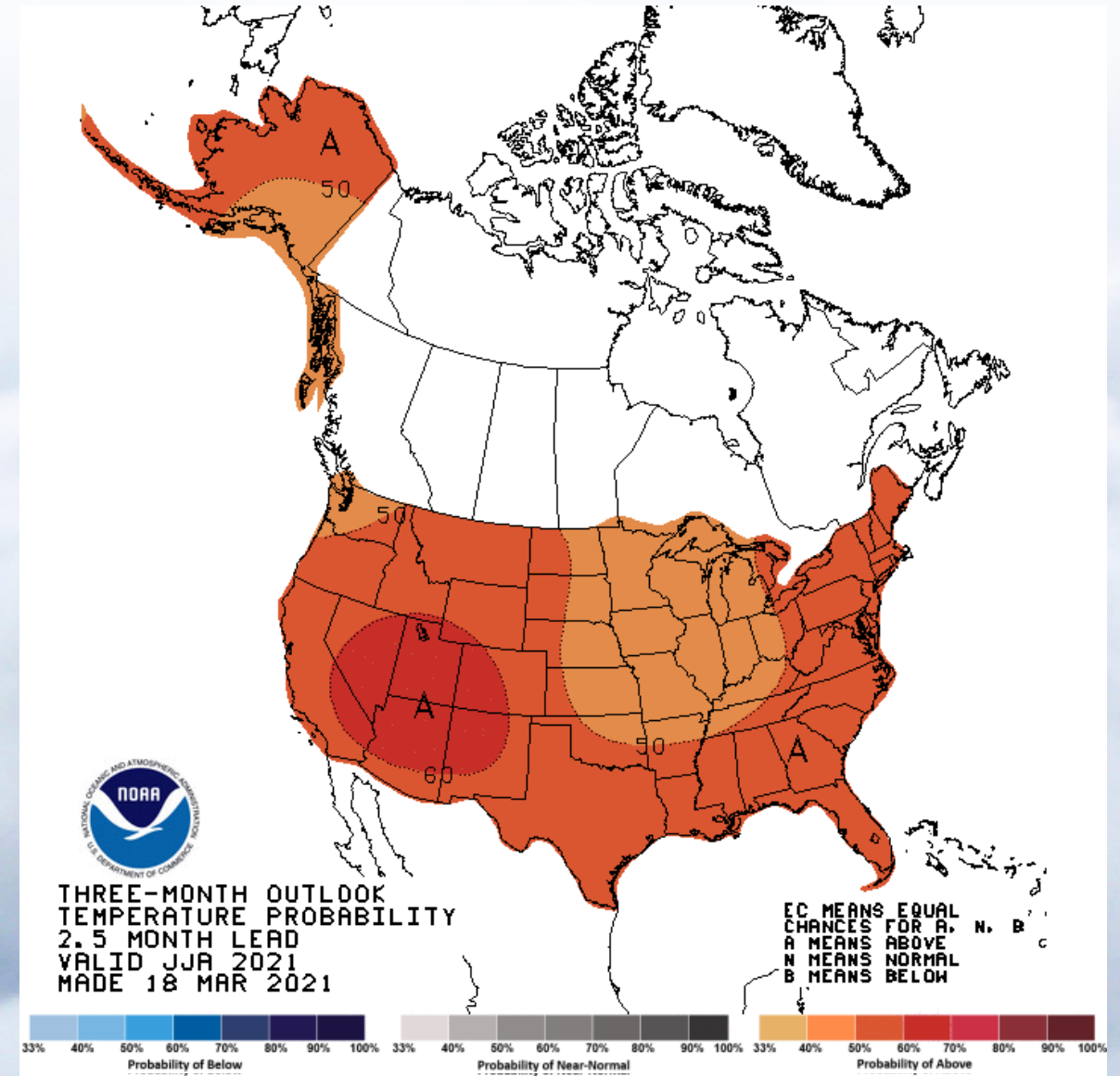
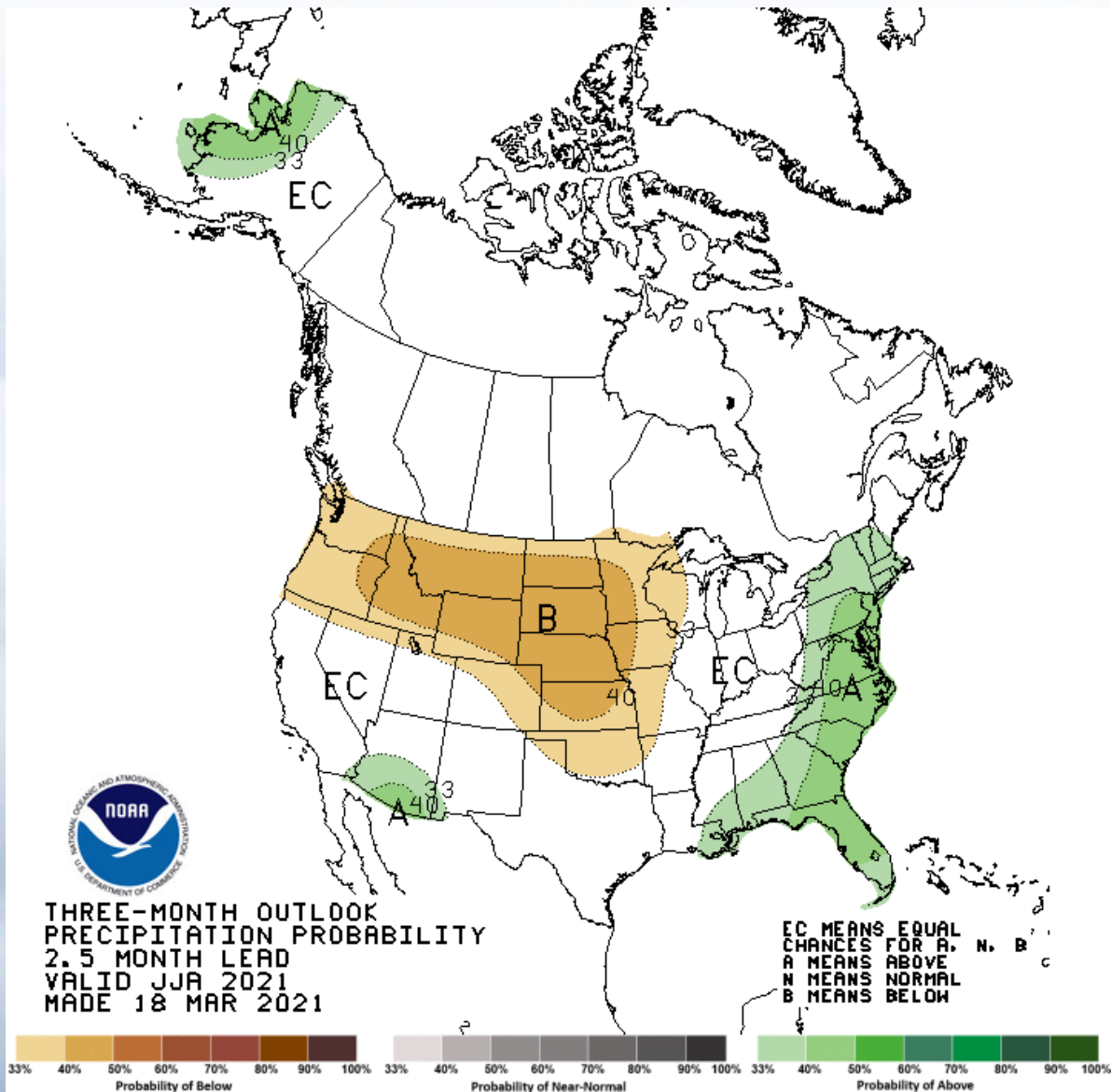
# Animation of 4<sup>th</sup> High Ozone (ppb) 1997-2020



- Note the decrease in ozone during 2009, following the recession of 2008.



# 2021 Forecast Precipitation and Temperatures



- Forecasted above normal temperatures may counteract the full effects of reduced emissions.

# 2021 Ozone Forecasting Season

- Ozone Forecasting Season May 1- Sept 30.
- CTDEEP forecasters have complete capability to make forecasts and notify the public and regulated community while working remotely:
  1. List-server emails
  2. Phone messaging
  3. [CTDEEP AQI web page](#)
  4. EPA Airnow forecasts

## Receive notice of Daily AQI:

- [EnviroFlash](#) - Subscribe to receive air quality information by e-mail
- [Twitter](#) - Follow the air quality forecasts
- Subscribe to the [DEEP Air Quality Information listserv](#) to receive a daily ozone forecast between May 1 through September 30, and a daily PM2.5 forecast year round.
- Subscribe to the [DEEP Ozone Forecast listserv](#) to receive a daily 8-hour ozone forecast that is disseminated to Connecticut's Industrial and Electric Generating Units' combustion sources from May 1 through September 30.

**CT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION**

**Ozone Forecast  
For the Regulated Community**

The Ozone Forecast for **Friday, March 27, 2020** is:

**GOOD**

**No Forecast Dependent Restrictions**

Under regulations, permits and orders administered by the Bureau of Air Management, the regulated community uses the ozone forecast to determine whether certain operating restrictions apply for the forecasted day. These restrictions are imposed to limit unnecessary emissions of nitrogen oxides (NOx), which contribute to the development of ozone on high ozone days.

Owners of most emergency engines (usually diesel powered generators) use the ozone forecast to determine whether they can operate for routine, scheduled testing or maintenance. Such operations are restricted on days forecasted to have ozone air quality index (AQI) levels classified as unhealthy for sensitive groups (USG, or worse) anywhere in Connecticut.

A limited number of sources operate under an exemption in RCSA section 22a-174-22e that prohibit operation on days forecasted to reach the USG (or greater) AQI level for ozone.

The current ozone forecast for the regulated community is provided through a pre-recorded telephone message (860-424-4152), and an electronic message provided to the affected sources on request and on DEEP's primary AQI webpage. The web page provides the forecast as a traffic light indicator, with red meaning restrictions are in place for the forecasted day and green meaning that restrictions are not in place for the forecasted day.

For more information, visit the DEEP AQI Web Site:  
<http://www.ct.gov/deep/AQI>

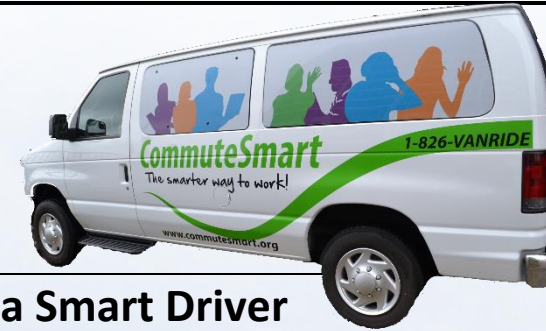
DEEP's Air Quality Index: (860) 424-4152  
or (800) 249-1234  
ALA's air pollution or lung health information: (800) LUNG-USA  
State clean air programs: (800) 249-1234  
Connecticut Department of Energy and Environmental Protection  
79 Elm Street, Hartford, CT 06106-5127



# Reminders for an Ozone Action Day

## Drive Less

- Walk or ride a bicycle
- Use public transportation
- Combine errands
- Join a carpool or vanpool
- Telecommute



## Be a Smart Driver

- Refuel your vehicle after dusk
- Stop refueling when the nozzle clicks off
- Drive at fuel-saving, moderate speeds
- Tune your car regularly
- Avoid idling your vehicle unnecessarily
- Test vehicle emissions on time

## In the Yard

- Use electric or hand powered equipment
- Reduce use of garden chemicals
- Delay mowing your lawn or using gas powered garden equipment until evening
- Refrain from recreational wood burning



## Around the House

- Set air conditioners to 78°
- Wait 'til 8 to use energy intensive appliances. Use energy efficient products (LED light bulbs, Energy Star rated appliances etc.) Buy environmentally-friendly cleaners Avoid using aerosol products Select water-based paint



## Drive Clean

- Consider purchasing or leasing a plug-in electric vehicle





# Questions?

