

2018 Ozone Season Summary



Introduction

- Photochemical reactions of oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) cause formation of ground level ozone (O_3)
- Ozone is attributed to premature deaths, affects vegetation and whole ecosystems
- Local meteorology affects O_3 formation
 - Temperature, wind speed & direction, humidity, solar radiation, cloud cover, etc.

Ozone Season

- Period of time in which O₃ typically reaches higher concentrations: May 1- September 30

Yearly highest O ₃ AQI	Date
122	6/6/2018
115	6/9/2017
100	6/9/2016
100	6/5/2015
100	7/22/2014

- Design Value (DV): 3-year average of annual 4th highest daily maximum 8-hr O₃ concentration
- National Ambient Air Quality Standard (NAAQS): 0.070 ppm for Attainment/Nonattainment

Ozone Air Quality Indices

- Developed for public notification of air quality

Revised Ozone AQI Breakpoints				
Category	AQI Value	8-Hour Average (ppm)		
		1997	2008	2015
Good	0-50	0.000-0.064	0.000-0.059	0.000-0.054
Moderate	51-100	0.065-0.084	0.060-0.075	0.055-0.070
Unhealthy for Sensitive Groups	101-150	0.085-0.104	0.076-0.095	0.071-0.085
Unhealthy	151-200	0.105-0.124	0.096-0.115	0.086-0.105
Very Unhealthy	201-300	0.125-0.374	0.116-0.374	0.106-0.200

2018 Ozone Season Overview

Little Rock/North Little Rock/Conway MSA

- 153 Days
- 130 Green Days (8-hour Average 0-54 ppb)
 - 85% of total season
- 21 Yellow Days (8-hour Average 55-70 ppb)
 - 14% of total season
- 2 Orange Days (8-hour Average 71-85 ppb)
 - 1% of total season
 - June 5th and 6th

2018 Ozone Forecasting Statistics

- ADEQ's **No Action/Action Day** forecast accuracy: 98%

Unhealthy for Sensitive Groups	101-150	0.085-0.104	0.076-0.095	0.071-0.085
Unhealthy	151-200	0.105-0.124	0.096-0.115	0.086-0.105
Very Unhealthy	201-300	0.125-0.374	0.116-0.374	0.106-0.200

- ADEQ's **Good/Moderate** forecast accuracy: 76%

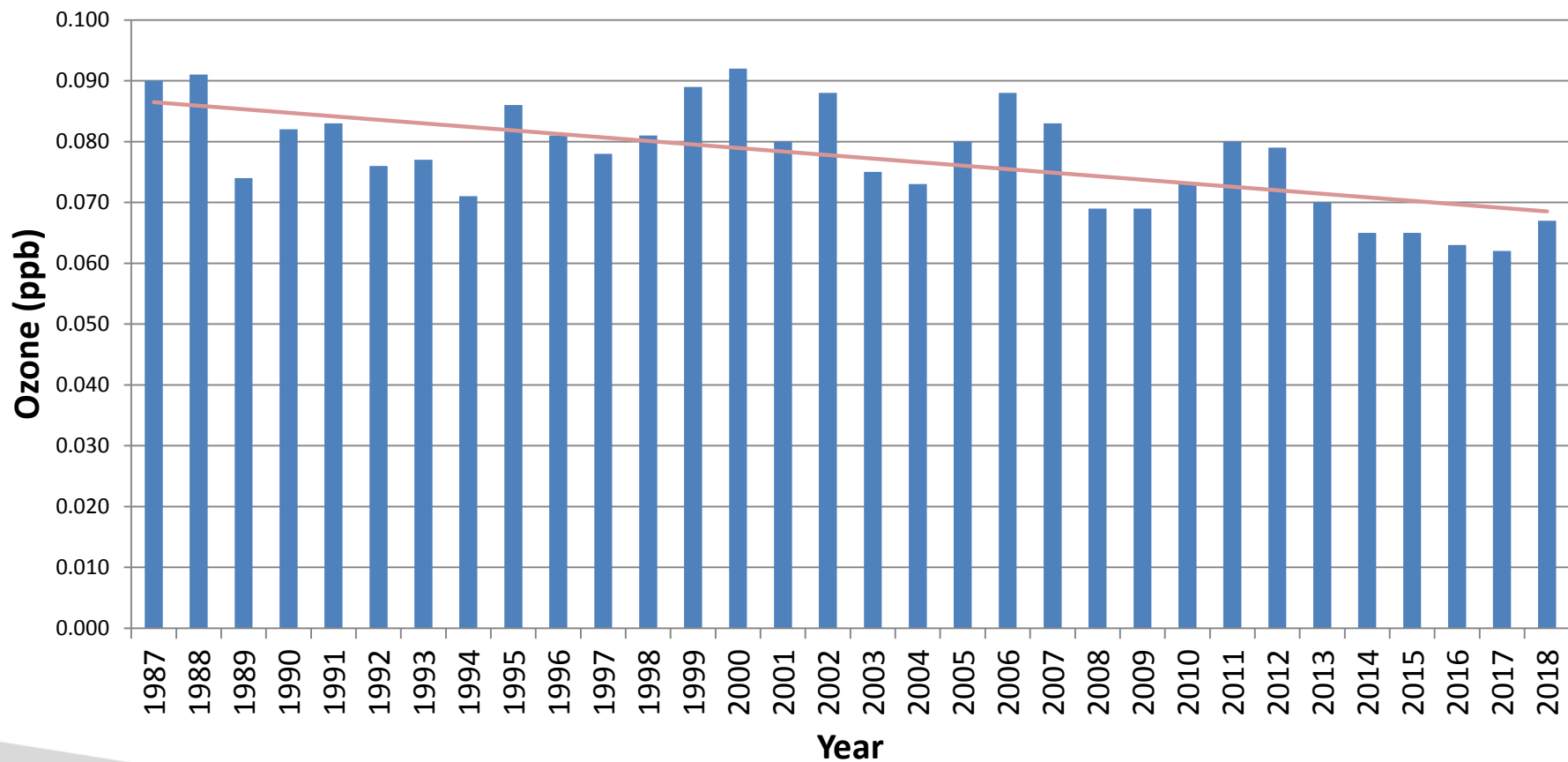
Good	0-50	0.000-0.064	0.000-0.059	0.000-0.054
Moderate	51-100	0.065-0.084	0.060-0.075	0.055-0.070

2016-2018 Running Design Value for Little Rock/NLR/Conway MSA

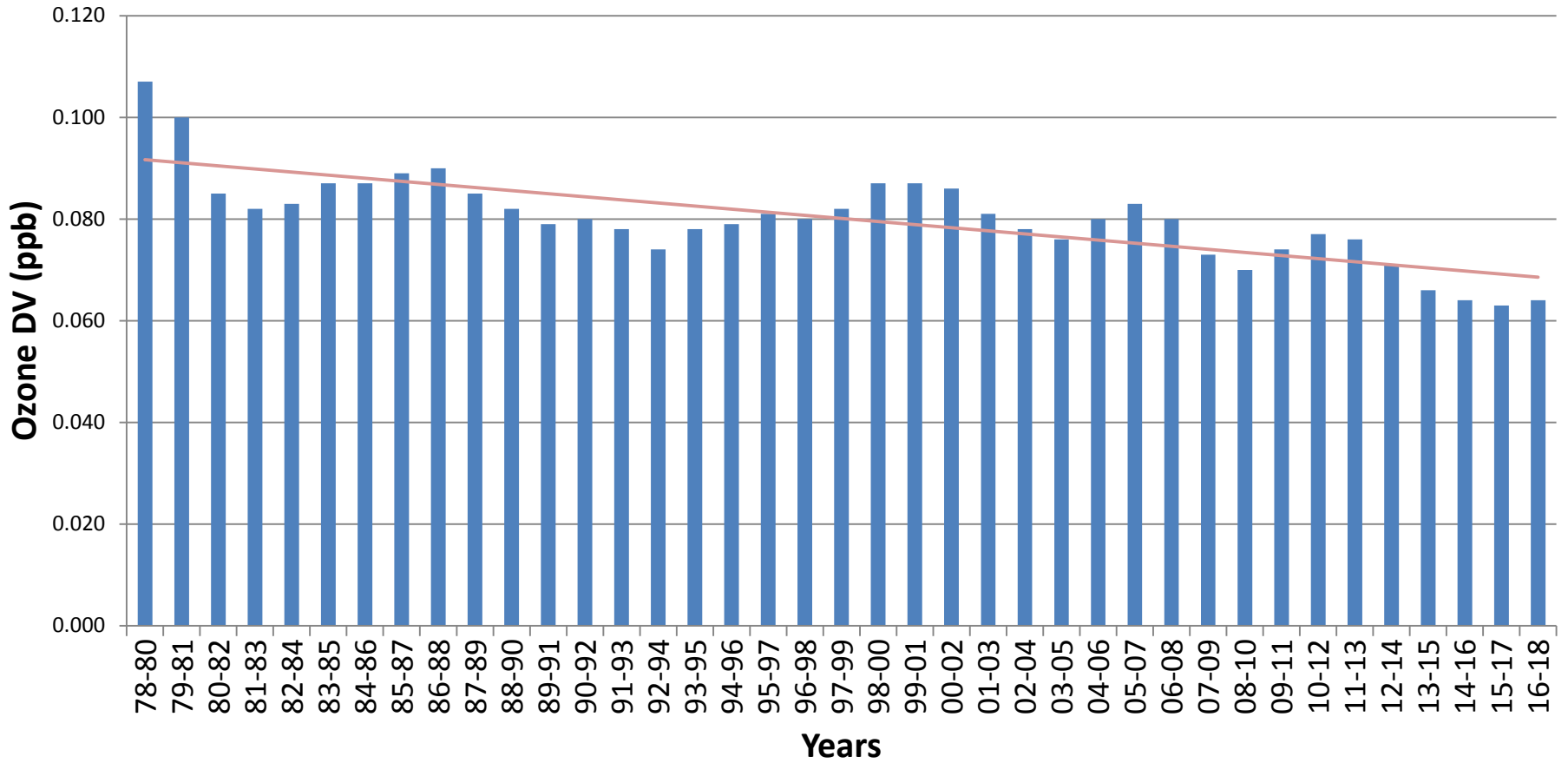
Little Rock/North Little Rock/Conway Metropolitan Statistical Area (MSA)		
4 th High for Years Shown	PARR	NLRAP
2016	0.065	0.063
2017	0.058	0.062
2018	0.064	0.067
3-year Average	0.062	0.064
LR/NLR/Conway MSA Design Value*	0.064	

*(0.070 ppm NAAQS)

NLR Airport 4th High 8-hour Ozone Values 1987-2018



NLR Airport Design Values 1978-2018



2016-2018 Running Design Value for Memphis MSA

Memphis Metropolitan Statistical Area (MSA)

4 th High	Frayser	Orgill	Hernando	Marion	Shelby Farms
2016	0.071	0.067	0.066	0.070	0.068
2017	0.064	0.064	0.060	0.064	0.068
2018	0.068	0.068	0.069	0.070	0.073
3-year Average	0.067	0.066	0.065	0.068	0.069
Memphis MSA Design Value*	0.069				

*(0.070 ppm NAAQS)

2016-2018 Running Design Values for all monitored MSAs & rural monitors in Arkansas

Monitoring Location	Running Design Value*
Little Rock/North Little Rock/Conway MSA	0.064
Memphis MSA	0.069
Fayetteville/Springdale/Rogers MSA	0.060
Deer	0.058
Eagle Mountain	0.061
Caddo Valley	0.058

*(0.070 ppm NAAQS)

Conclusion

- Arkansas remains in Attainment for the 2015 ozone NAAQS & all other NAAQS

Counties Designated "Nonattainment"

for Clean Air Act's National Ambient Air Quality Standards (NAAQS) *

