

2022 Ozone Season Review

Air Quality Advisory Committee

October 25, 2022



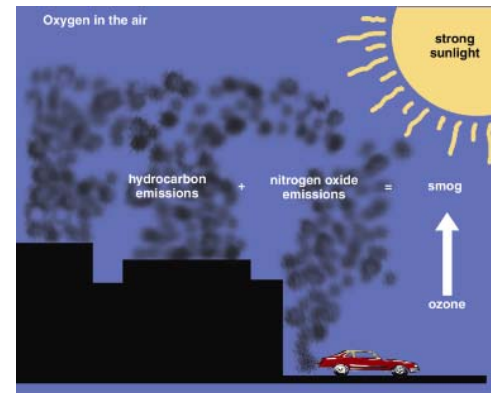
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Ground Level Ozone

Transportation-Related Pollutant of Concern

- ▶ Ozone is formed when hydrocarbons and nitrogen oxides from vehicle exhaust and other industrial processes have a chemical reaction with oxygen in the lower atmosphere
- ▶ Weather influences – strong sunshine, low wind speed, temperature 85° +
- ▶ Carried by wind



- ▶ Ozone affects children and the elderly
- ▶ High levels can cause headaches, fatigue and eye, nose and respiratory tract irritation
- ▶ Prolonged exposure can aggravate chronic heart disease and chronic respiratory ailments, like asthma

https://www.cdc.gov/climateandhealth/effects/air_pollution.htm

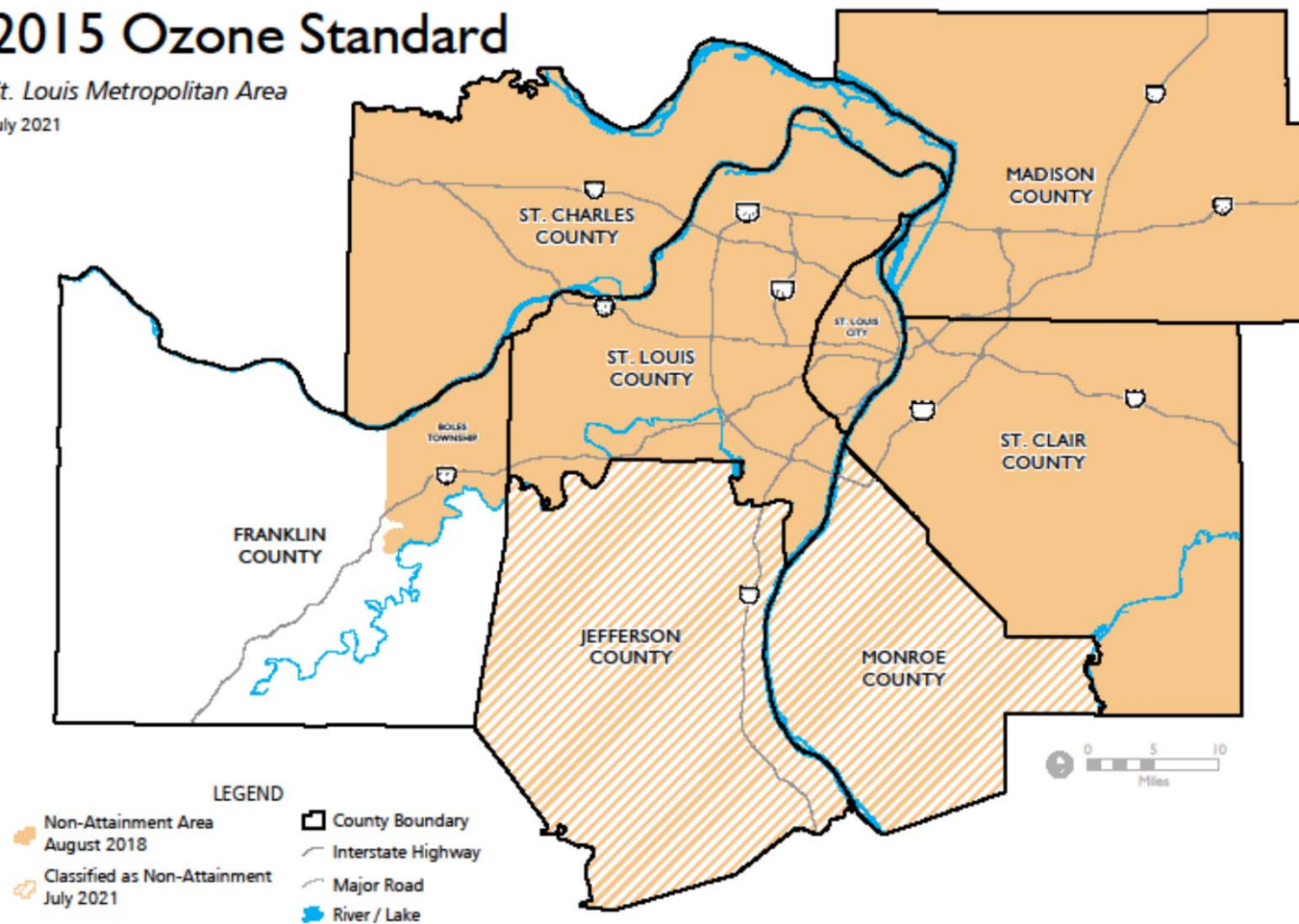
Ozone Data Sharing Project

- ▶ Ozone Season - March 1 to October 31
- ▶ East-West Gateway acts as a clearinghouse for ozone data
- ▶ Twelve hour period from 9 AM – 9 PM
- ▶ Initial quality assurance screening
- ▶ Prepare weekly and monthly reports



Non-Attainment Area 2015 Ozone Standard

St. Louis Metropolitan Area
July 2021



Sources: East-West Gateway Council of Governments



Ozone Monitors in the Non-Attainment Area

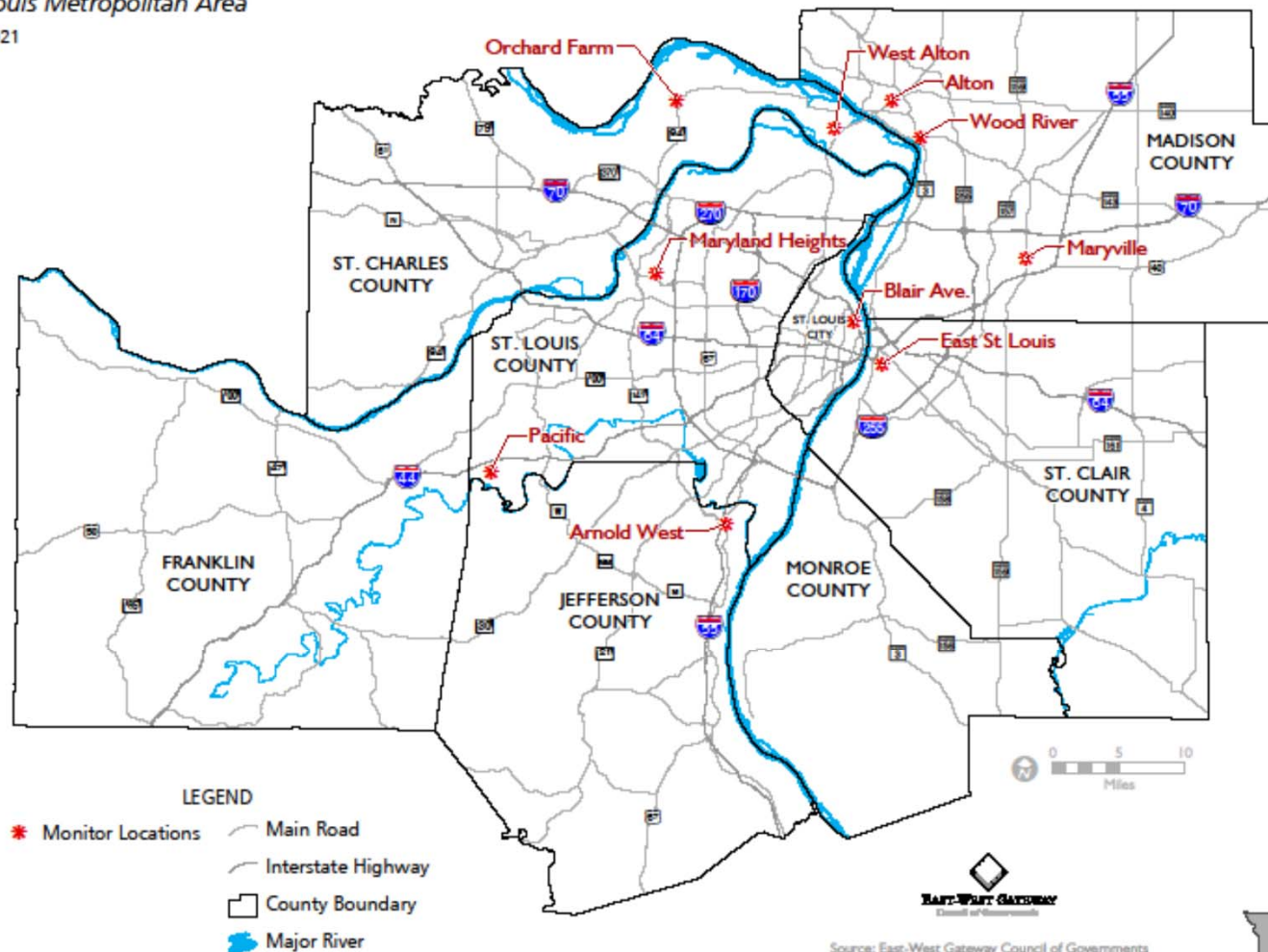
Monitor Name	County
Illinois	
Alton	Madison
Wood River	Madison
Maryville	Madison
East St. Louis	St. Clair
Missouri	
West Alton	St. Charles
Orchard Farm	St. Charles
Maryland Heights	St. Louis
Pacific	St. Louis
Blair Street	City of St. Louis
Arnold West	Jefferson

- Illinois monitors are operated by the Illinois Environmental Protection Agency
- Missouri monitors are operated by the Missouri Department of Natural Resources

Ozone Monitor Network

St. Louis Metropolitan Area

July 2021



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Exceedances March - October 2022*

DATE	TOTAL EXCEEDANCES	MAXIMUM VALUES OF EXCEEDANCE (ppb)
June 4, 2022	2	71, 72
June 5, 2022	2	73, 74
June 19, 2022	2	71, 71
June 20, 2022	2	78, 80
June 21, 2022	1	76
June 24, 2022	2	71, 73
June 29, 2022	5	72, 74, 76, 78, 81
June 30, 2022	3	71, 72, 76
July 8, 2022	1	73
July 11, 2022	2	71, 79
July 22, 2022	2	73, 81
Total	24	

*2022 data to be quality assured

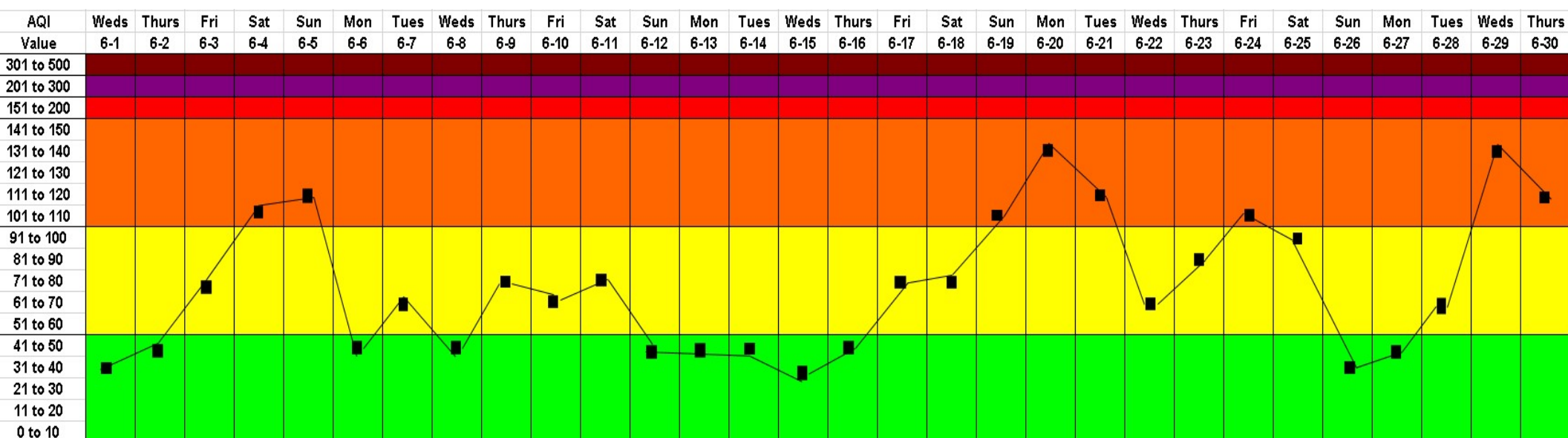
Exceedances March - October 2022

- ▶ 11 days
- ▶ 24 exceedances
 - ▶ 11 in Missouri
 - ▶ 13 in Illinois
- ▶ All ten monitors reported exceedances



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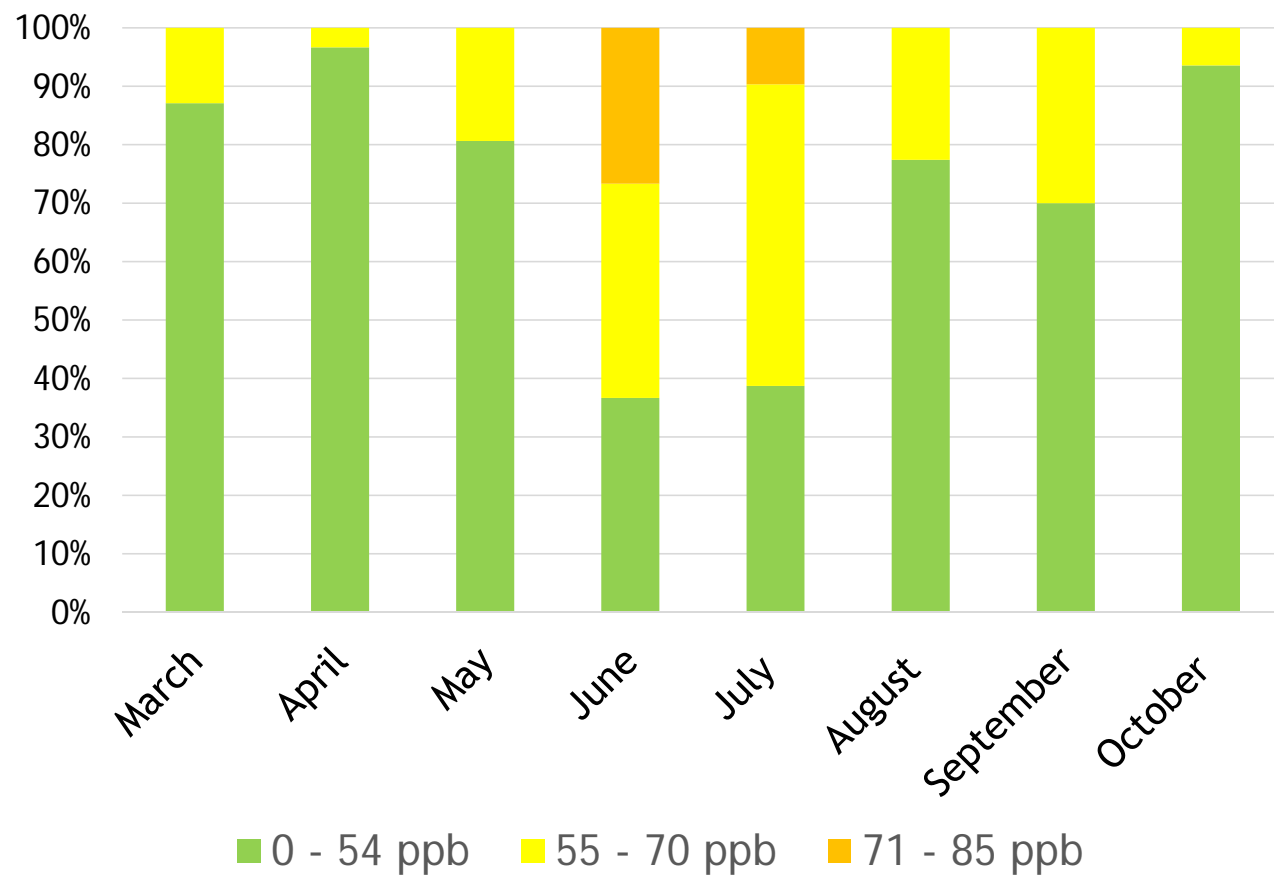
June 2022* AQI Calendar



Air Quality Index					
Good	Moderate	Unhealthy for sensitive groups	Unhealthy	Very Unhealthy	Hazardous
0 ↔ 50	51 ↔ 100	101 ↔ 150	151 ↔ 200	201 ↔ 300	301 ↔ +

*2022 data to be quality assured

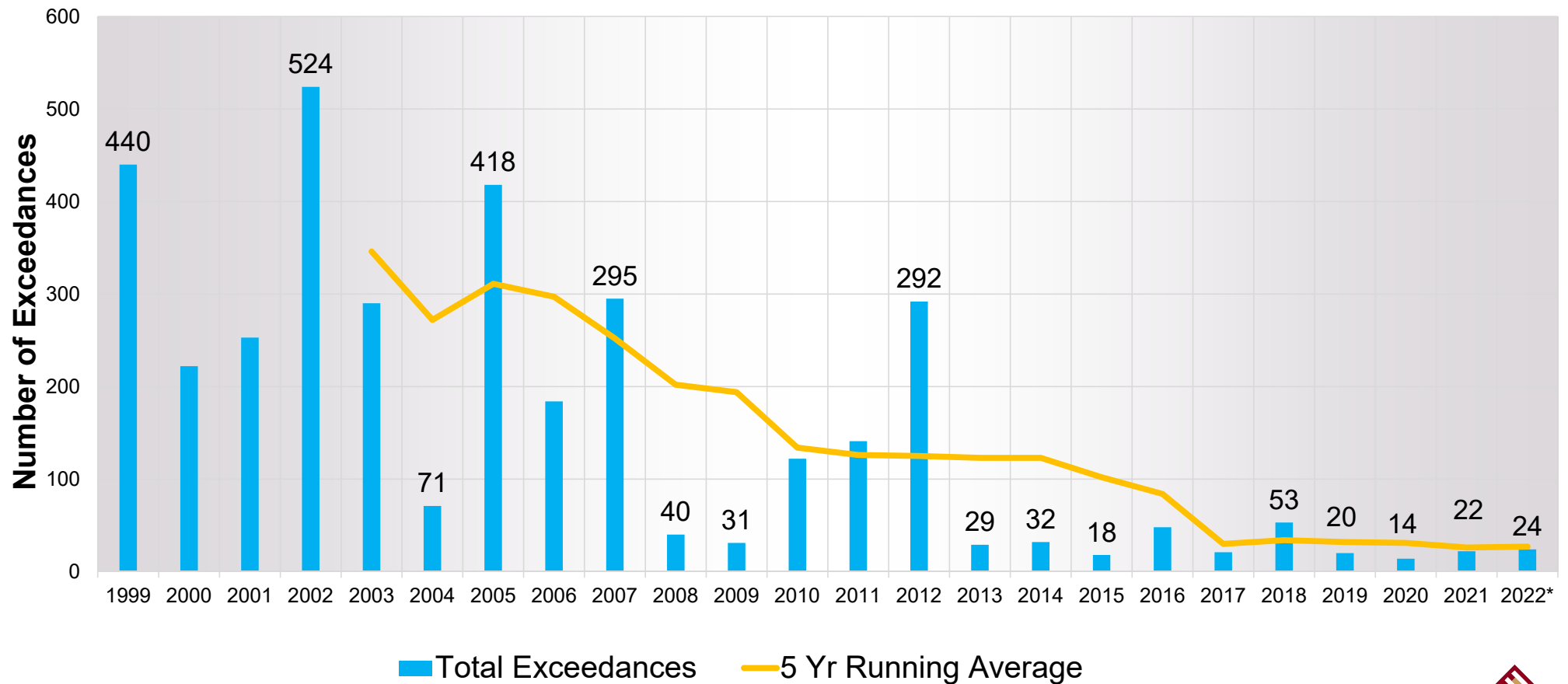
2022 Ozone Season AQI Breakdown



	Green	Yellow	Orange
March	27	4	
April	29	1	
May	25	6	
June	11	11	8
July	12	16	3
August	24	7	
Sep.	21	9	
October	29	2	
Total	128	45	11

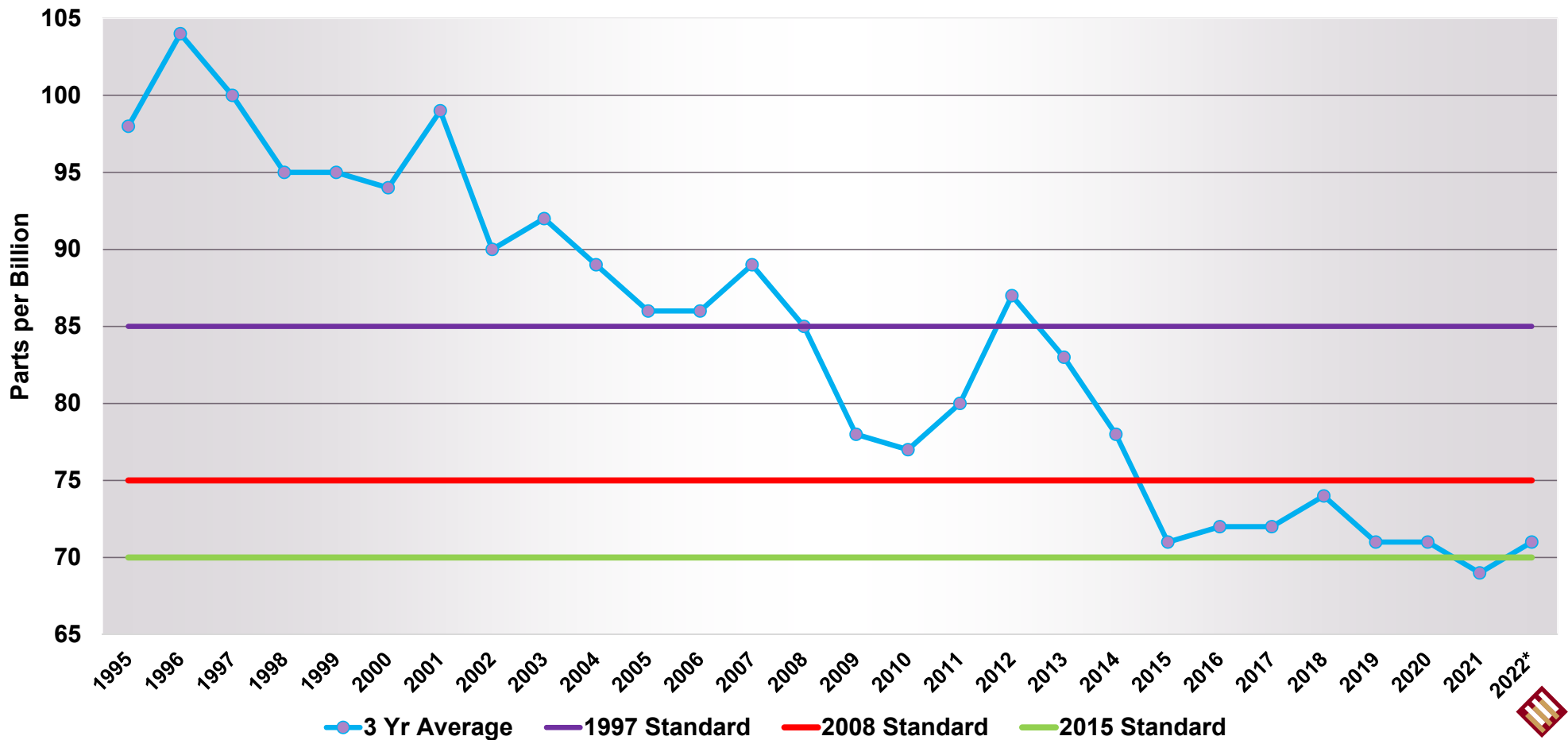
St. Louis Region 1999 - 2022* Exceedances

Based on 2015 Standard



*2022 data to be quality assured

St. Louis Region General Ozone Trends 1995 – 2022*



*2019 - 2021 Three-Year Average may be 69 ppb. Average is preliminary, . Data to be quality assured.

Incomplete Data March – October 2022

Missouri		
Monitor	# of Days	# of Hours
Blair St.	1	12
Bonne Terre*	1	4
Maryland Heights	2	12
Pacific	1	6
West Alton	1	5

Illinois		
Monitor	# of Days	# of Hours
Alton	3	27
Jerseyville*	1	8
Maryville	9	99
Nilwood*	1	12
Wood River	8	70

In 2022 all of the incomplete data has been due to equipment malfunctions.

* Outside the non-attainment area for the 2015 eight-hour ozone standard

Questions?

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