

Update on Arvin / Lamont Community Air Monitoring

Arvin / Lamont CSC Meeting

September 25, 2024

Air Monitoring Update

Status of Community Air Monitoring Plan Implementation

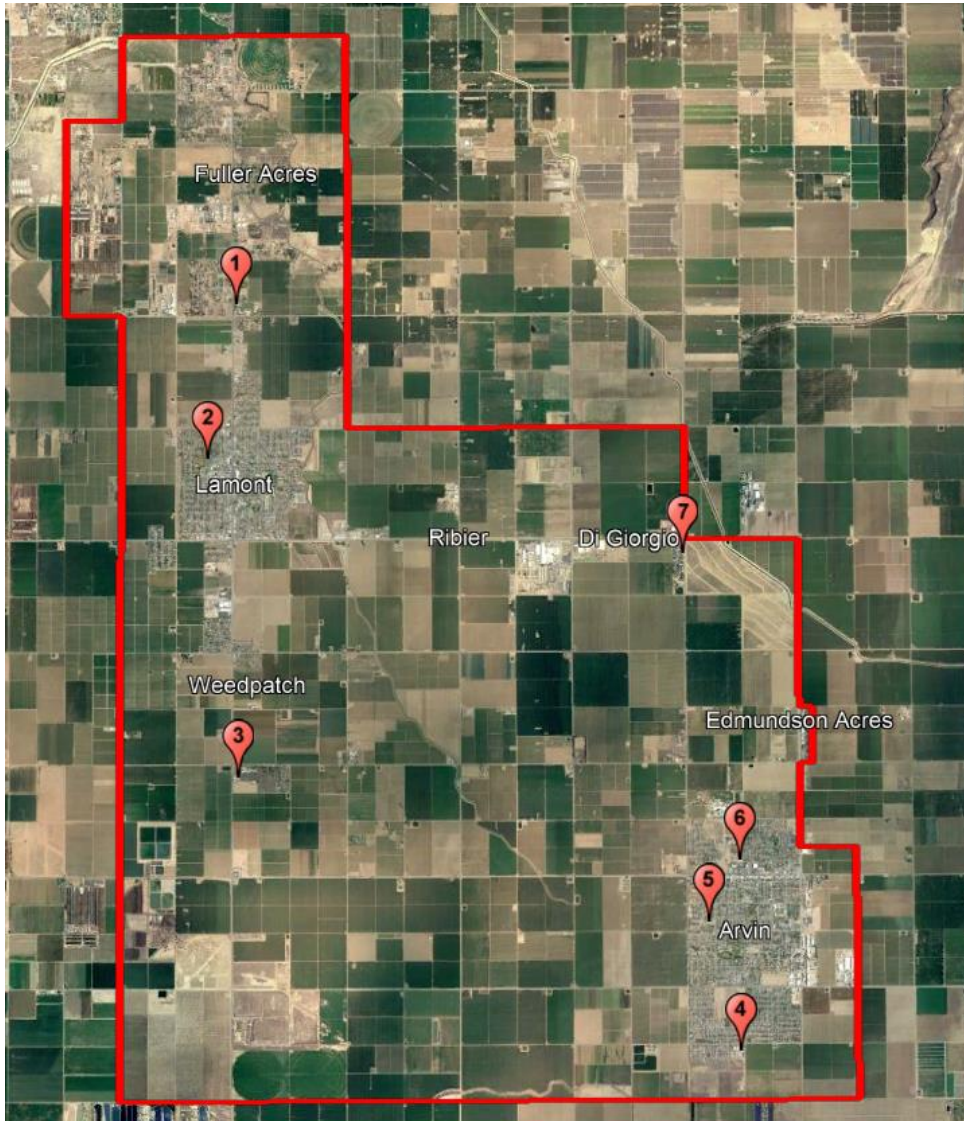
Review Air Monitoring Data Collected

Wild Fire Update

Outreach and Communication Update

Questions, Comments, And Recommendations

CAMP Implementation Status



#	Location	Monitoring	Done
1	Mountain View Middle School	PM2.5, BTEX, H2S, SO2	Yes
2	Alicante Elementary	PM2.5, BTEX, H2S, SO2, NOx, Black Carbon	In progress
3	Sunset Middle School	PM2.5	Yes
4	El Camino Real Elementary School	PM2.5	Yes
5	Bear Mountain Elementary School	PM2.5	Yes
6	Arvin Community Services District	PM2.5, H2S, SO2, NOx, Ozone, CO, Black Carbon, Toxics	Yes
7	Di Giorgio & Comanche	PM2.5	In progress

Community Air Monitoring Platforms



Community Air Monitoring Platforms (cont'd)



Ongoing Community Air Monitoring

- District continuing to conduct localized air monitoring in the Arvin/Lamont AB 617 community
- Looking for an acceptable location to deploy PM2.5 monitor near Di Giorgio and Comanche
- Working with Lamont School District to deploy air monitor at Alicante Elementary School
 - Working on electrical infrastructure and final placement of equipment
- Air monitoring van available to monitor pollutants in areas of interest
- Lab analysis of air samples for PM2.5 and VOC speciation being conducted at Arvin Community Services District trailer site.

Air Monitoring Update Summary

For Q1 and Q2 2024, PM2.5 levels at all sites below daily PM2.5 standard

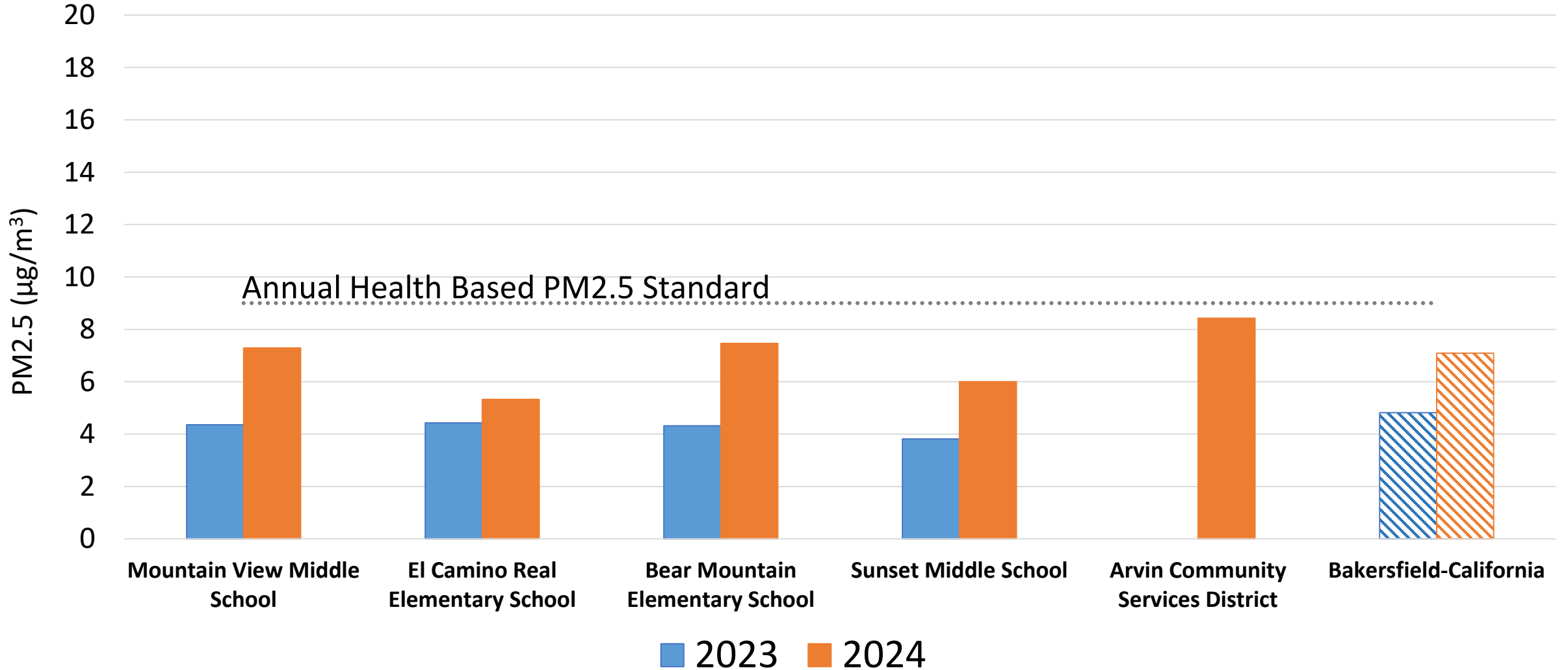
July 4th PM2.5 levels rise significantly due to fireworks

Wildfires contributed to elevated PM2.5 levels

Air monitoring data available online at your community portal

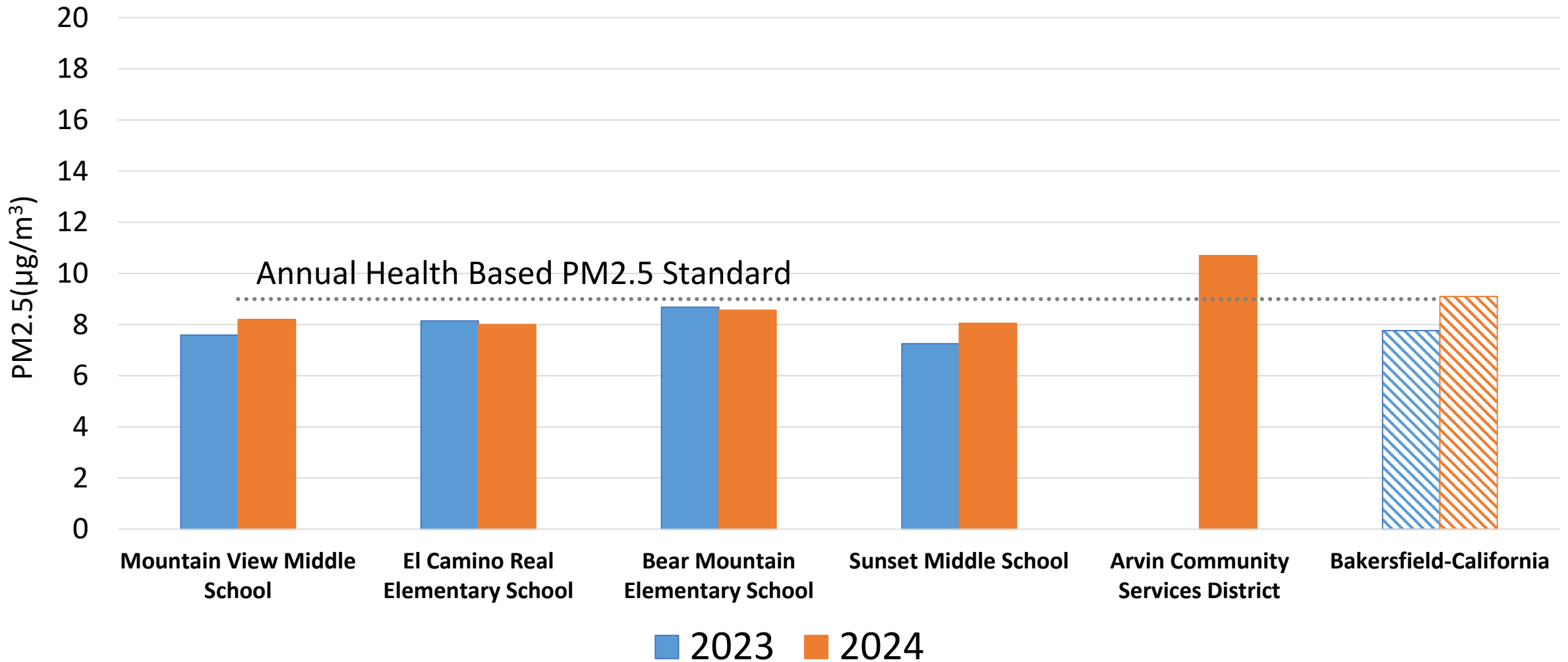
Quarter 1 Average PM2.5 Comparison

2024 Quarter 1 Average PM2.5 low at all sites, slightly higher than 2023



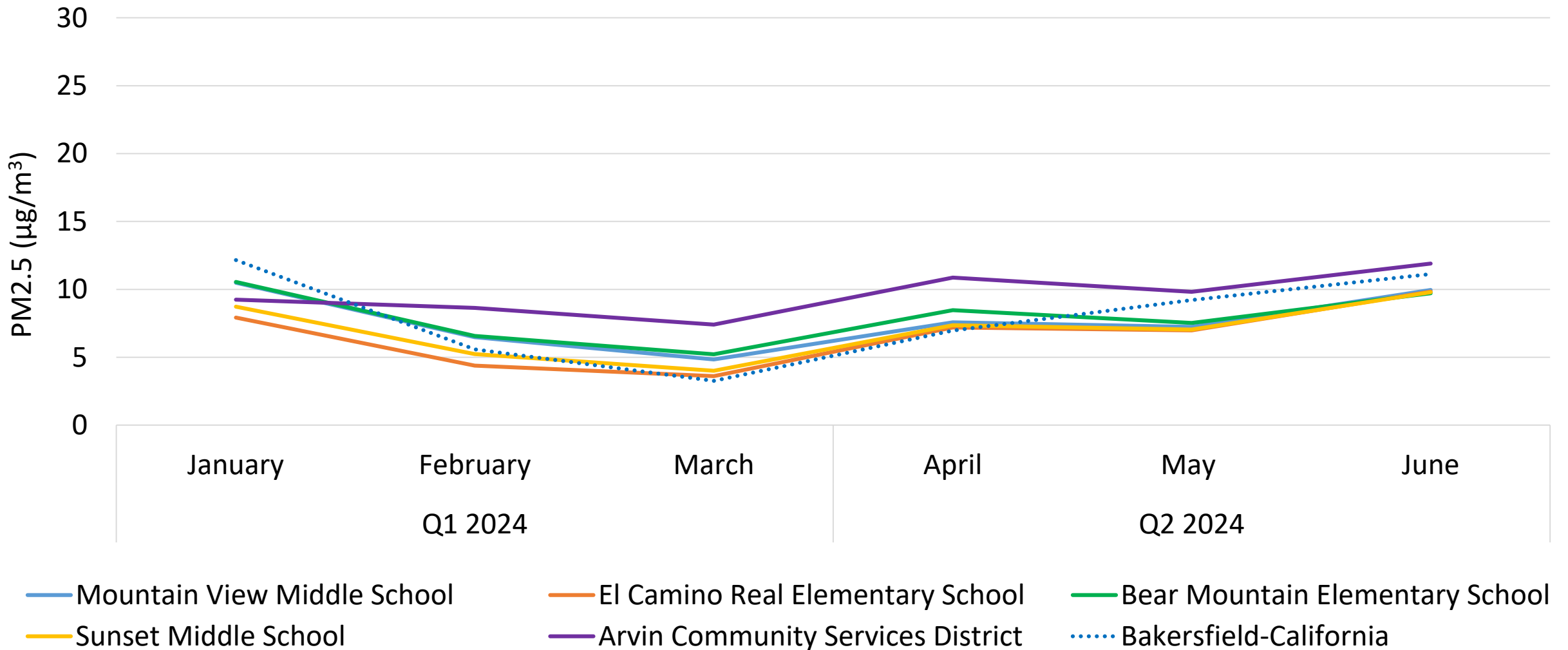
Quarter 2 Average PM2.5 Comparison

2024 2nd Quarter Average PM2.5 low, similar to previous year



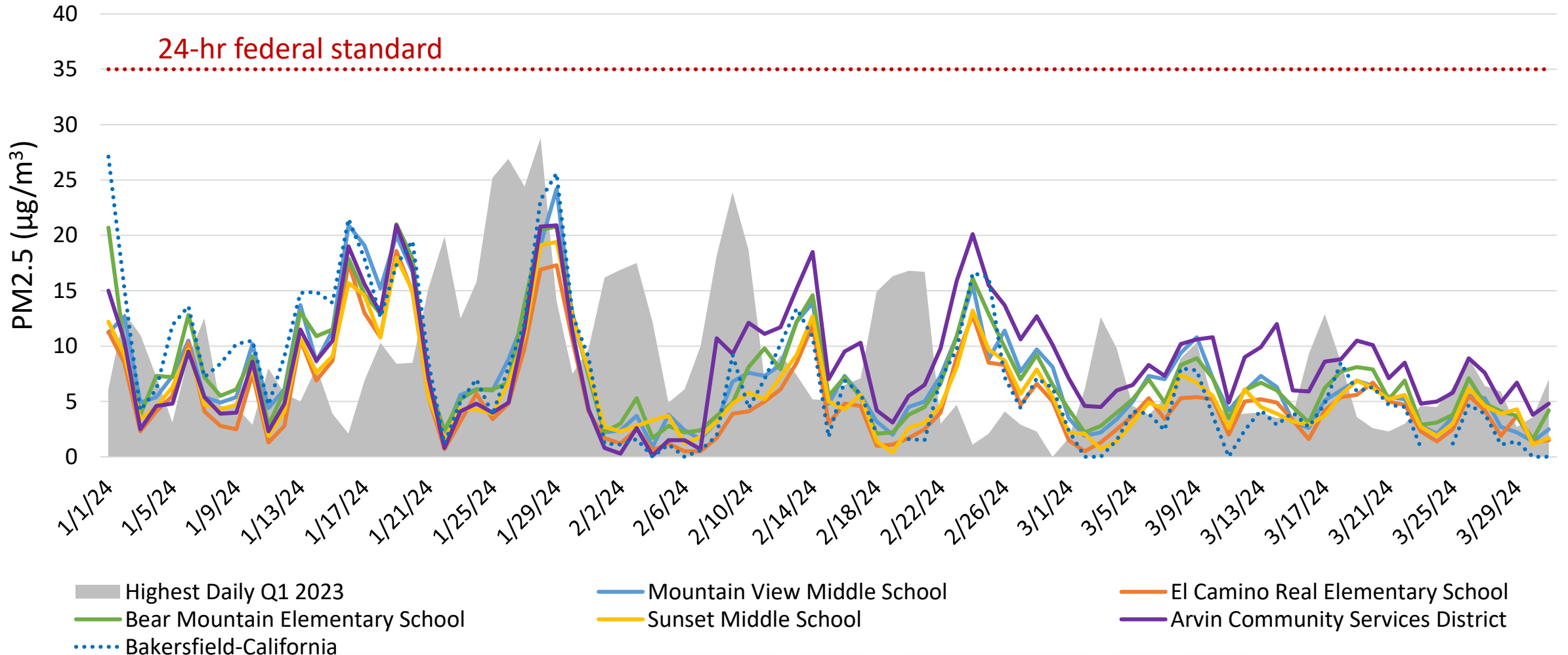
PM2.5 Monthly Average Comparison

Monthly PM2.5 levels remain low, with a slight wildfire-related rise.



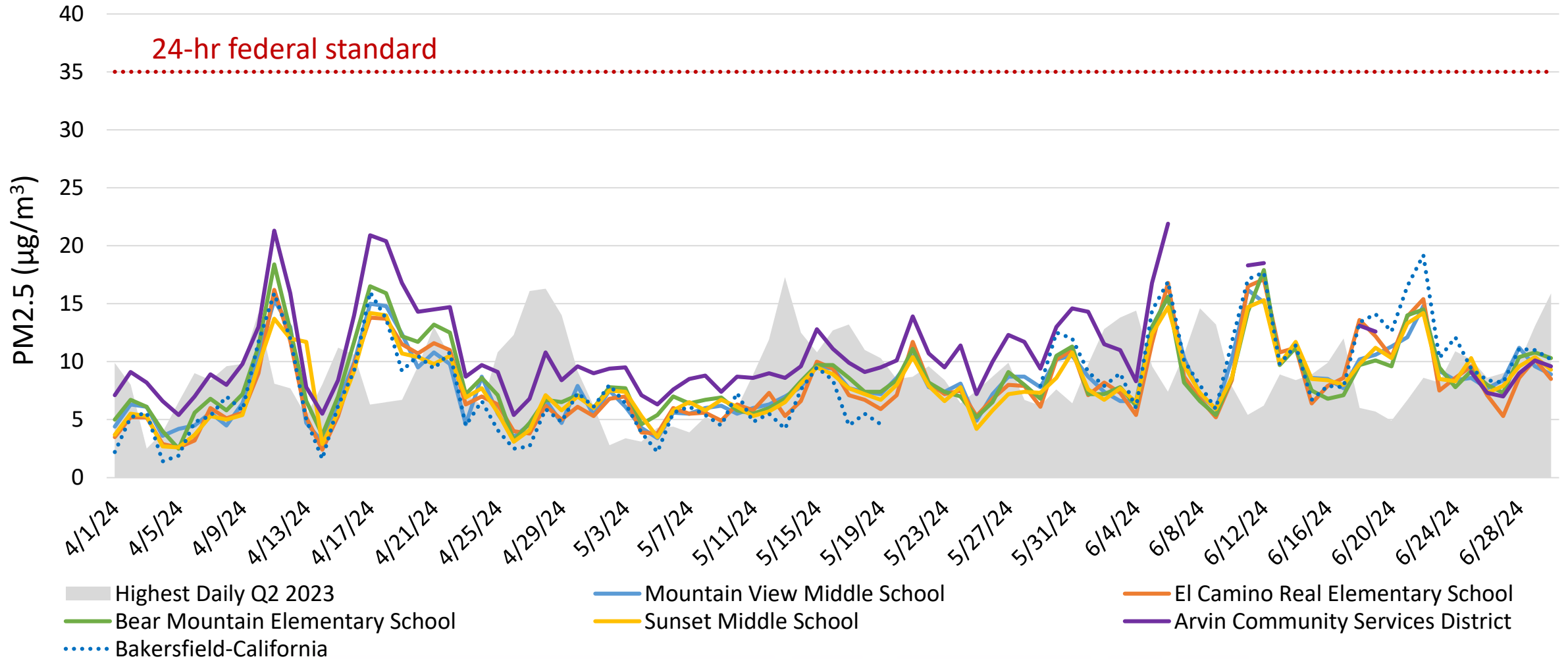
Q1 2024 PM2.5 Daily Average Comparison

PM2.5 daily averages remain below federal standard at all sites, similar to previous year



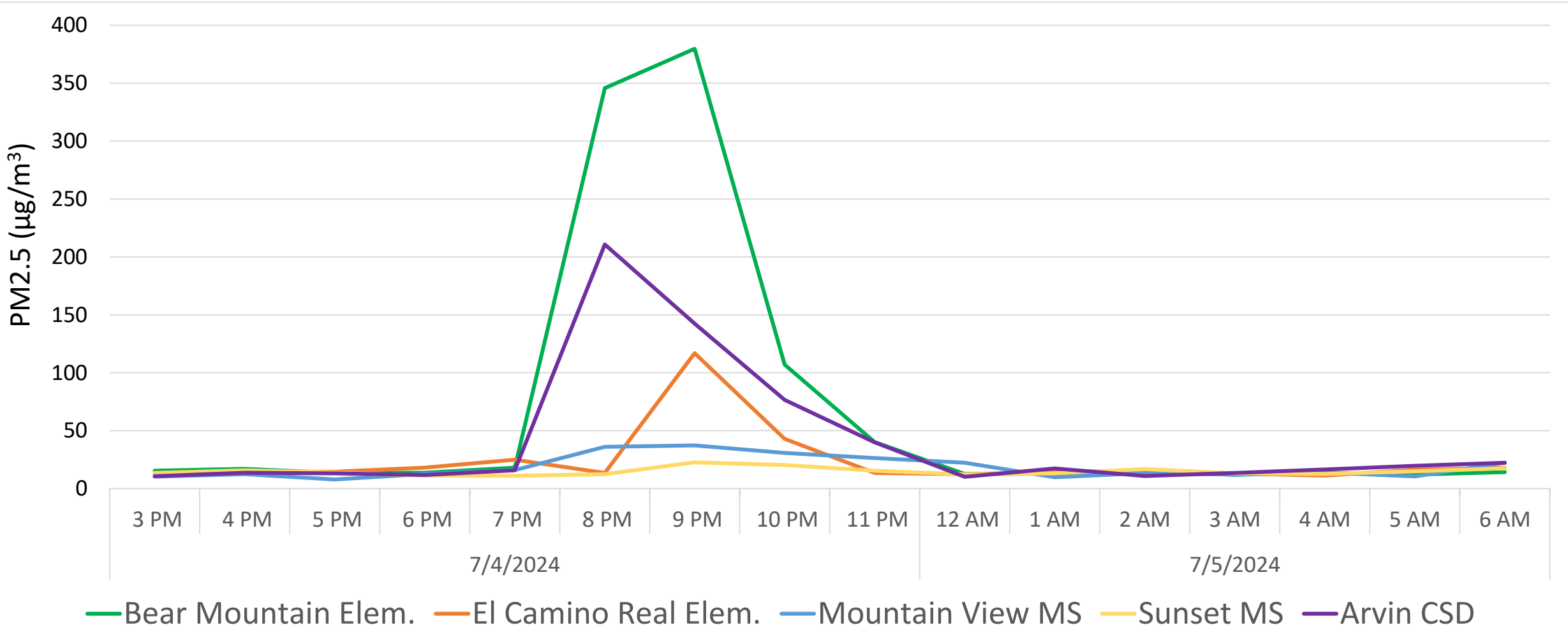
Q2 2024 PM2.5 Daily Average Comparison

PM2.5 daily averages remain below federal standard at all sites, similar to previous year



4th of July

Highest PM2.5 spikes closer to residential neighborhoods



Types of PM2.5 at Arvin CSD

March – June 2024

Ammonium Nitrate:

- Formed in atmosphere (not emitted) from emissions of nitrogen oxides (NO_x), which is mostly from mobile sources.

Ammonium Sulfate:

- Formed in atmosphere (not emitted) from emissions of sulfur oxide (SO_x) from mobile sources and industrial processes.

Organic carbon:

- **Directly Emitted:** combustion including cooking, industrial processes, mobile source exhaust, tire wear, and wood burning
- **Formed in Atmosphere:** from wood burning, solvent use, and industrial processes.
- **Wood burning indicators:** Levoglucosan, mannosan, galactosan, potassium ions

Elemental Carbon:

- Directly emitted, also known as soot or black carbon, and is formed during incomplete combustion in fuels, including mobile exhaust (mainly diesel) and wood burning

Soil:

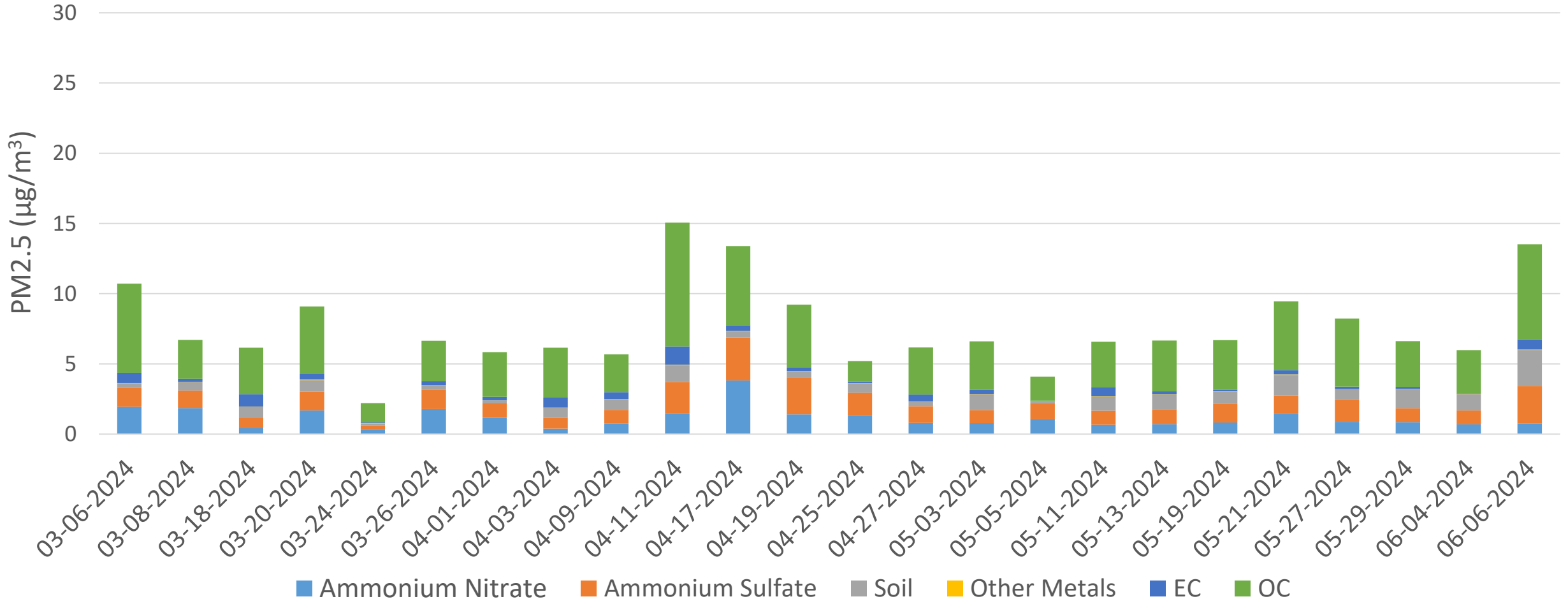
- Road dust and soil dust in the air from activity, such as soil disturbance or airflow from traffic.

Other Metals:

- Components from soil emissions or found in other particulates having been emitted in connection with combustion from engine wear, brake wear, and similar processes. Also fireworks.

Types of PM2.5 at Arvin CSD March – June 2024

PM2.5 levels remain low, primarily composed of organic carbon.



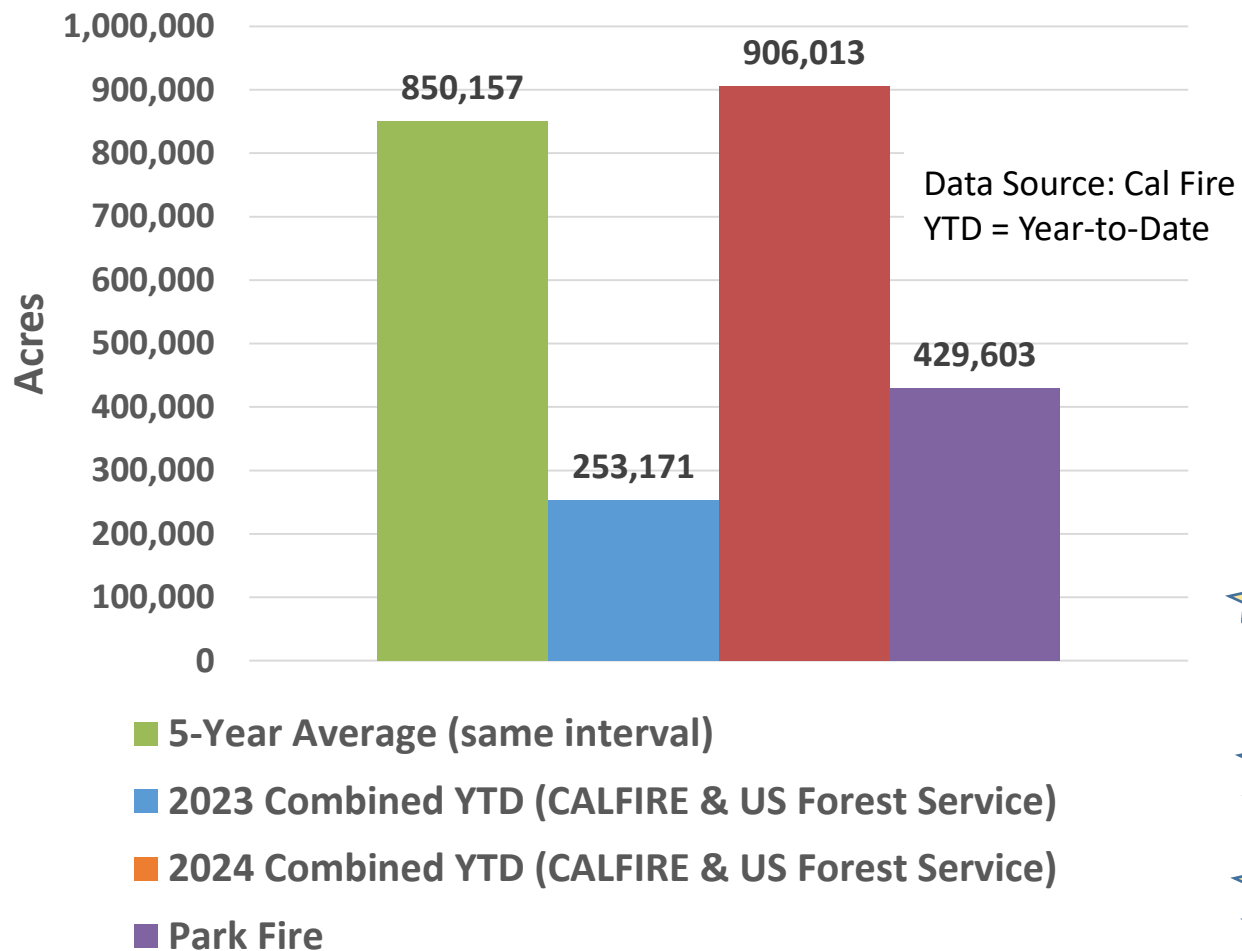
Volatile Organic Compound (VOC) Speciation – Arvin CSD

- 45 samples taken from January 4, 2024 to June 30th, 2024
- The compounds below have associated Reference Exposure Level (REL), a health metric established by Office of Environmental Health Hazard Assessment

Pollutant	Potential Sources of Emission	Short Term Impact		Long Term Impact	
		OEHHA Acute REL [1-hour] (ppb)	Max Measured [24-hour] (ppb)	OEHHA Chronic REL [Annual] (ppb)	Average Measured [Annual] (ppb)
Acrolein	Burning of fossil fuels, wood and coal	1.1	1.7	0.15	0.09 ✓
Methanol	Automobile exhaust, solvent use, and naturally from vegetation and microbes	21,367	53 ✓	3,052	15.1 ✓
Isopropanol	Industrial processes, hand sanitizers, and rubbing alcohol	1,302	1,300 ✓	2,849	80.52 ✓
Acetaldehyde	Wood combustion, vehicle exhaust, and waste processing	261	55 ✓	78	9.3 ✓

California Wildfires in 2024 (as of 9/10/24)

California Wildfires in 2024



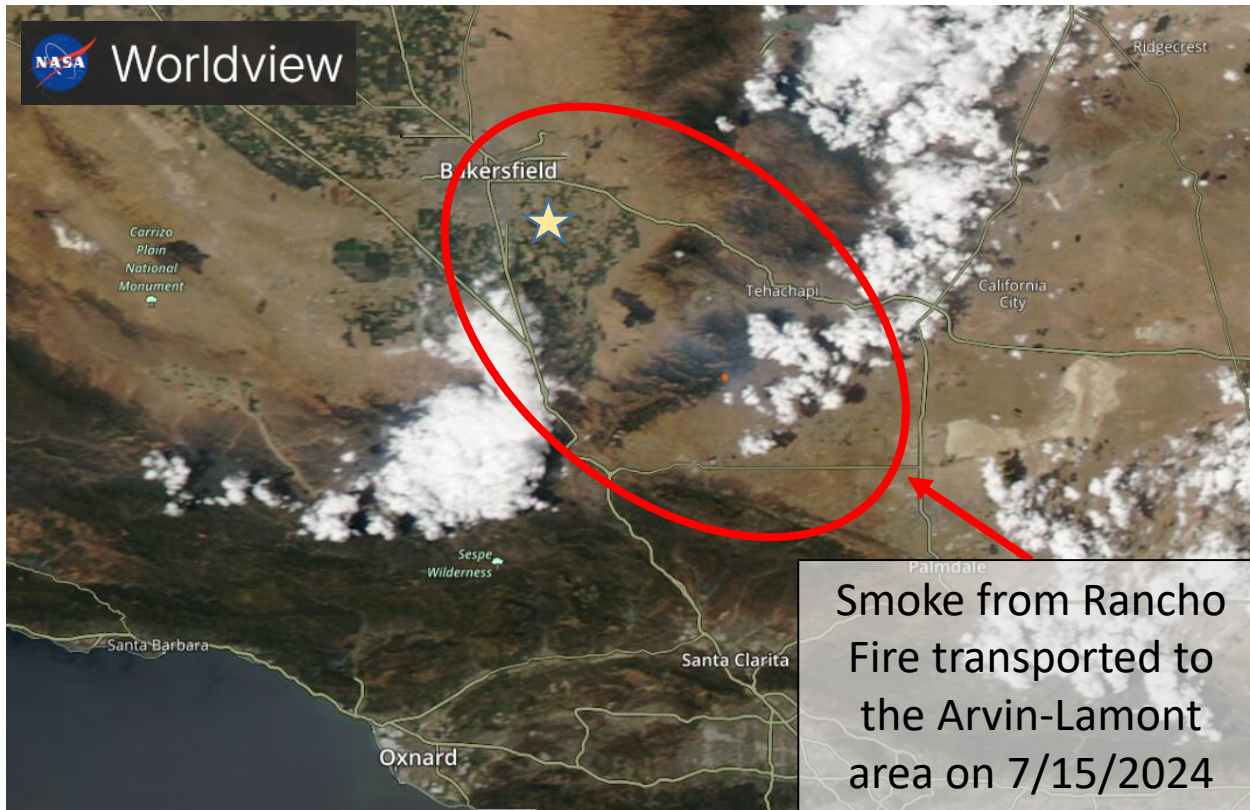
Wildfires Impacting Kern County in 2024

Start Date	Wildfire Name	Acreage	County Location
5/20/2024	Wind Fire	121	Kern
6/3/2024	Corral Fire	14,168	San Joaquin
6/11/2024	Oil Fire	214	Kern
6/17/2024	Sites Fire	19,195	Colusa
6/17/2024	Aero Fire	5,285	Calaveras
6/7/2024	Garlock Fire	54	Fresno
6/22/2024	Watts Fire	90	Fresno
6/22/2024	Willow	213	Madera
6/24/2024	Muscat Fire	142	Fresno
6/24/2024	Fresno June Lightning Complex Fire	10,616	Fresno
6/26/2024	Basin Fire	14,023	Fresno
7/5/2024	Lake Fire	38,664	Santa Barbara
★ 7/13/2024	2024 SQF Lightning	33,027	Tulare/Kern
7/13/2024	Rancho	9,950	Kern
7/13/2024	White	5,646	Kern
7/13/2024	Hurricane	12,703	Kern, San Luis Obispo
★ 7/24/2024	Borel Fire	59,288	Kern
★ 7/24/2024	Park Fire	429,603	Butte, Tehama
7/30/2024	Pedro Fire	3,815	Mariposa, Tuolumne
★ 8/11/2024	Coffee Pot Fire	13,440	Tulare
★ 9/3/2024	Boone Fire	17,766	Fresno

★ Still active wildfires as of 9/10/2024

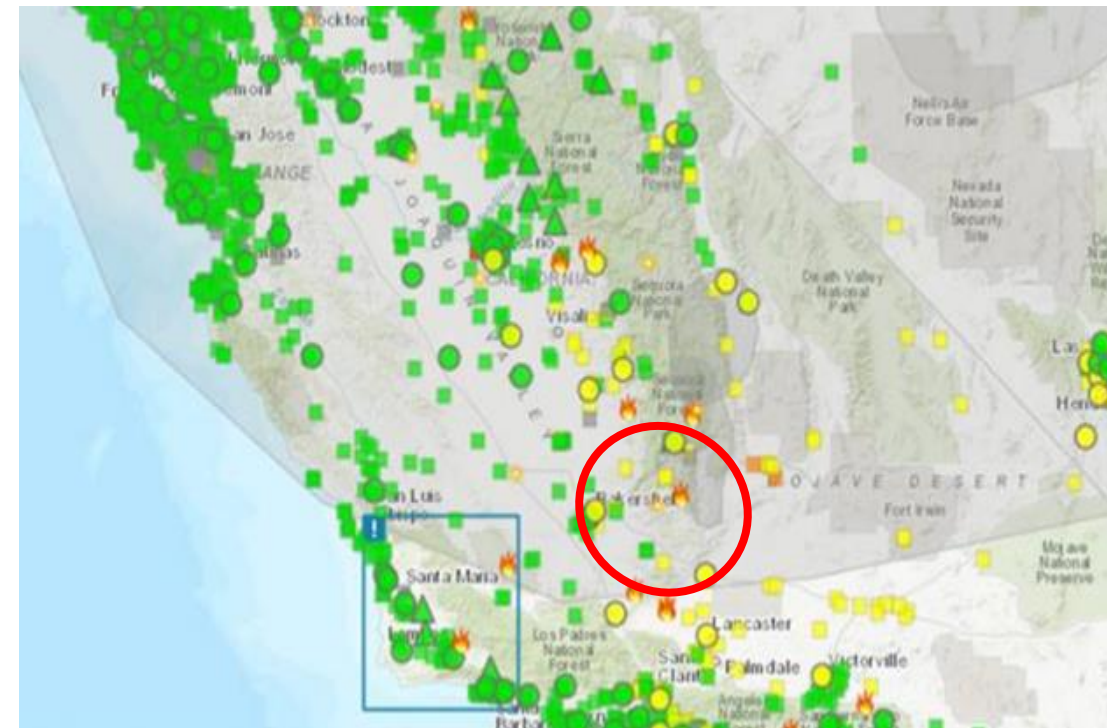
2024 wildfire season more active in 2024 than recent years.

Example of Smoke Visible on the Satellite



- The 2024 SQF Lightning Complex Fire, Rancho Fire, Hurricane Fire and White Fire started on Saturday, 7/13
- Smoke traveled downslope to the Arvin area

- AirNow Fire and Smoke Map is helpful to indicate when smoke is present at ground level

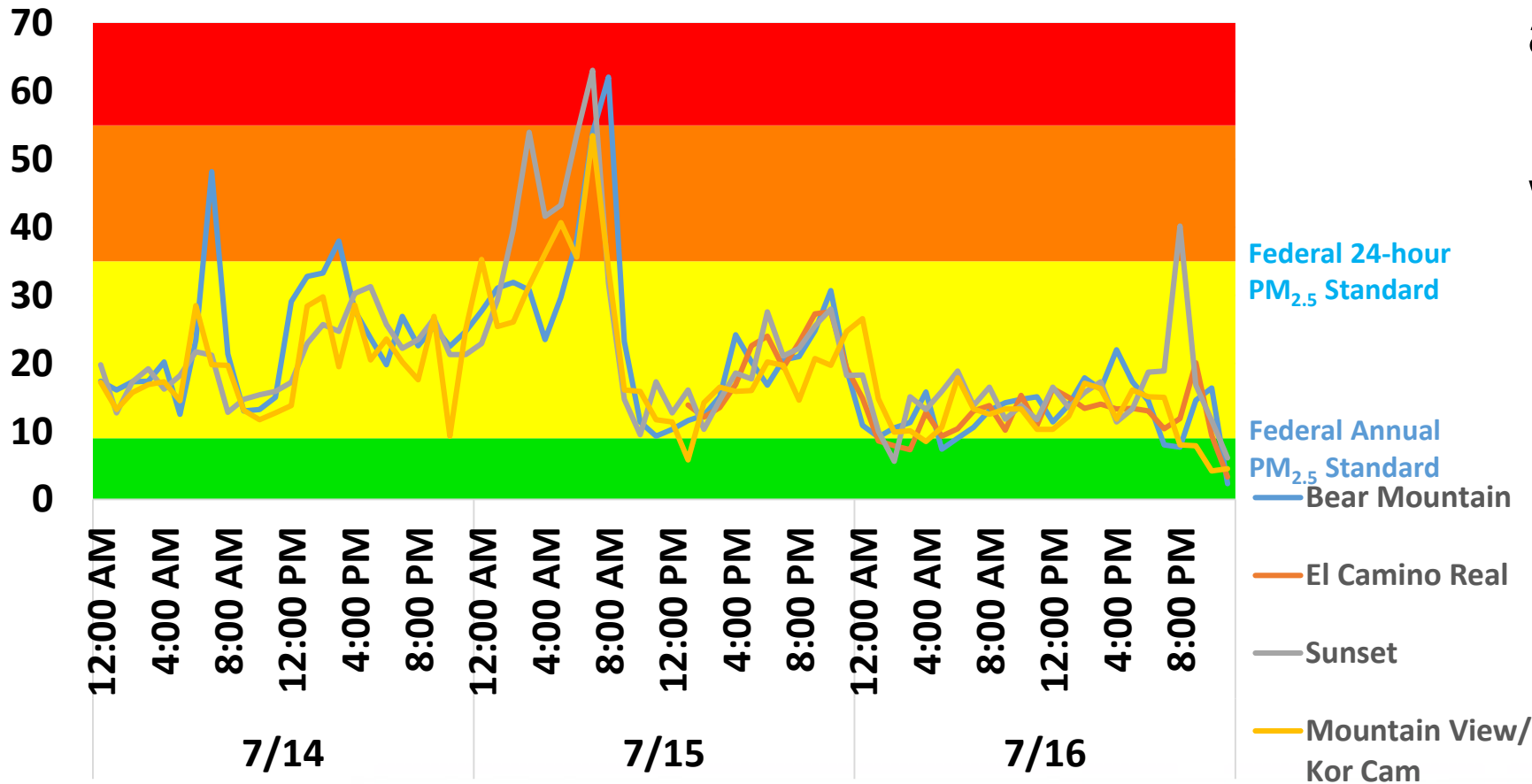


<https://fire.airnow.gov/>

Hourly PM2.5 Impacts from Smoke

Example of recent smoke impacts at Arvin community monitors from the 2024 SQF Lightning Fire

PM2.5 at Arvin-Lamont Sites



- Hourly PM2.5 readings at the Arvin air monitoring sites show when wildfire smoke impacts air quality

How can the District make sure the community knows that we expect worse air quality?



NEWS Release



24hr Media Cell Phone (559) 309-3336

For immediate release 06-27-2024

Attn: Local news, weather, health and assignment editors

Media Contact:
Heather Heinks (559) 994-7591
Spanish Media Contact:
Maricela Velasquez (559) 230-5849

Fresno County Wildfires Impact Valley Air Quality *District has issued an Air Quality Alert with the National Weather Service*

Ongoing wildfires in the Eastern Fresno County are generating smoke that is now affecting the San Joaquin Valley. Weather patterns through this weekend have the potential to continue to draw wildfire smoke into the Valley counties of Madera, Fresno, Tulare and Kern. As a result, the District has issued an Air Quality Alert with the National Weather Service. Residents impacted by the smoke are advised to stay indoors to minimize exposure to particulate matter (PM) emissions. This Air Quality Alert is in effect until the fires are extinguished.

The District strongly urges the public to take health-protective actions to stay safe when smoke from wildfires affects the Valley, including following [air-quality recommendations](#) when making decisions about outdoor activities. Additional health protective actions include:

- Staying indoors
- Using portable air cleaners or high-efficiency filters to remove fine particles from the air
- Planning ahead and creating a [clean air room](#)
- Visiting a [Clean Air Center](#). Similar to the Valley's cooling centers, the District's Clean Air Centers provide relief when wildfires & smoke events occur



- News releases are issued before known and expected high pollution days
- District posts updates to social media sites like Facebook, X, and Nextdoor
- Keep health departments and schools notified




Valley Air District

July 19 · 🌐


Are you [#SmokeReady](#)? Visit our wildfire resource page for health tips and fire information. Remember, if you can see ash or smell smoke, you are being impacted by particulate matter pollution. Learn more at www.valleyair.org/wildfires.

[#ValleyAirDistrict](#) [#Wildfire](#) [#Smoke](#)

How can the District make sure the community knows that we expect worse air quality?

 Valley Air District
August 22 at 1:02 PM · 🌐

Smoke from the Coffee Pot Fire in Tulare County is expected to affect the foothills and mountainous communities, and eastern parts of Madera, Fresno, and Tulare counties, as well as the Valley portion of Kern County. Before engaging in any outdoor activities, be sure to check the air quality in your area. For more information, visit www.valleyair.org/wildfires.



www.valleyair.org/wildfires

 Valley Air District
July 31 · 🌐

With continuing active fires in CA, there is the potential for smoke impacts valley-wide. If you can smell smoke and see ash, that is an indication that you are being affected by poor air quality. Prepare now by visiting: www.valleyair.org/wildfires



www.valleyair.org/wildfires

Community Air Quality Data

- District AB 617 webpage at: <http://community.valleyair.org/community-air-monitoring>
 - Real-time community air monitoring data
 - Quarterly reports
 - Weekly air monitoring updates
- CARB's statewide air quality data portal (AQview) displays and provides community air monitoring data from AB 617 communities
 - AQview website located at: <https://aqview.arb.ca.gov/>
 - Air quality data from Valley AB 617 communities available at this website
 - Development ongoing, new features to be added

Comments/Questions?