

Update on South Central Fresno Community Air Monitoring

South Central Fresno CSC
September 11, 2024

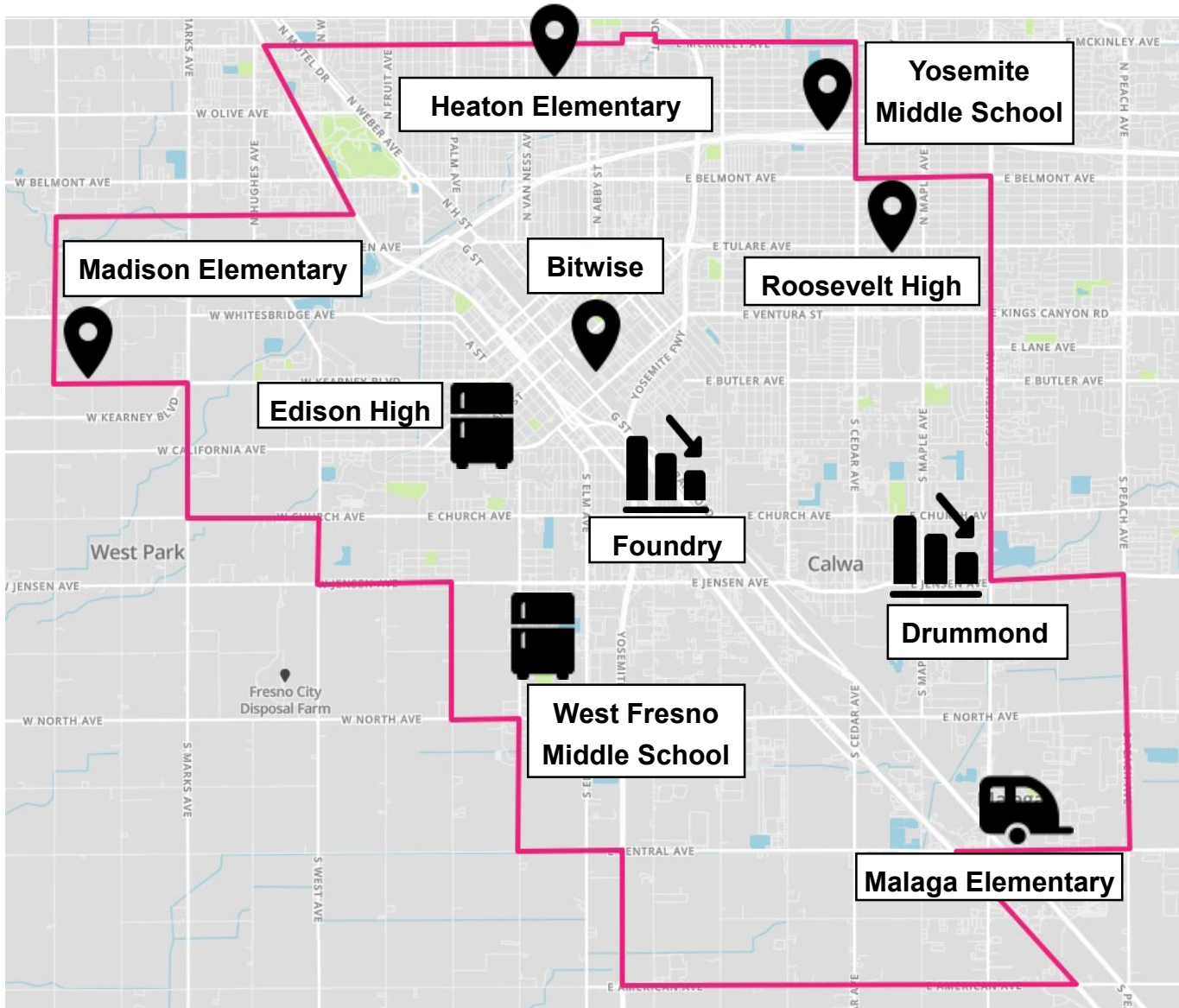
Air Monitoring Update

Status of Community Air Monitoring Plan Implementation

Review Air Monitoring Data Collected

Questions, Comments, And Recommendations

CAMP Fully Deployed



**PM2.5
Monitor**



Compact System: PM2.5, Black Carbon, Ozone, BTEX, NOx, VOC, CO (Edison), Toxics (Edison), SO2 (West Fresno)



**Regulatory Air
Monitor:** Foundry (PM2.5), Drummond (Ozone, NO2, PM10)



Trailer: PM2.5, Black Carbon, Ozone, CO, NO2/NO, H2S/SO2, BTEX



Mobile Monitoring

Van: respond to community concern

Ongoing Community Air Monitoring

- District continuing to conduct localized air monitoring in the South Central Fresno community
- Fully deployed air monitoring platforms across the community, according to Community Steering Committee recommended network design
- Extensive PM_{2.5} and VOC speciation sampling and laboratory analysis being conducted since late 2019
- Continue to seek input from CSC on air monitoring deployment and analysis

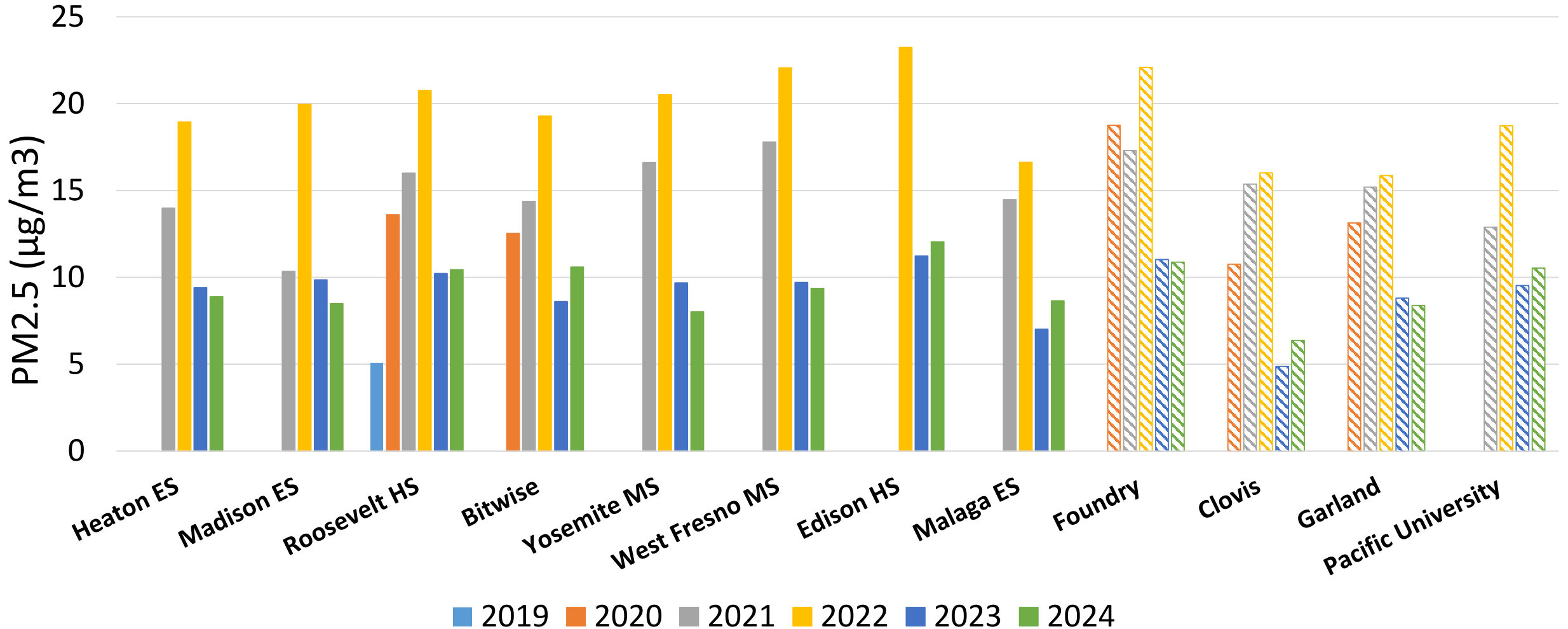
Air Monitoring Update Summary

On average, PM2.5 levels in 2024 similar to 2023.

2024 Q2 had increase wildfire smoke impacts compared to recent years.

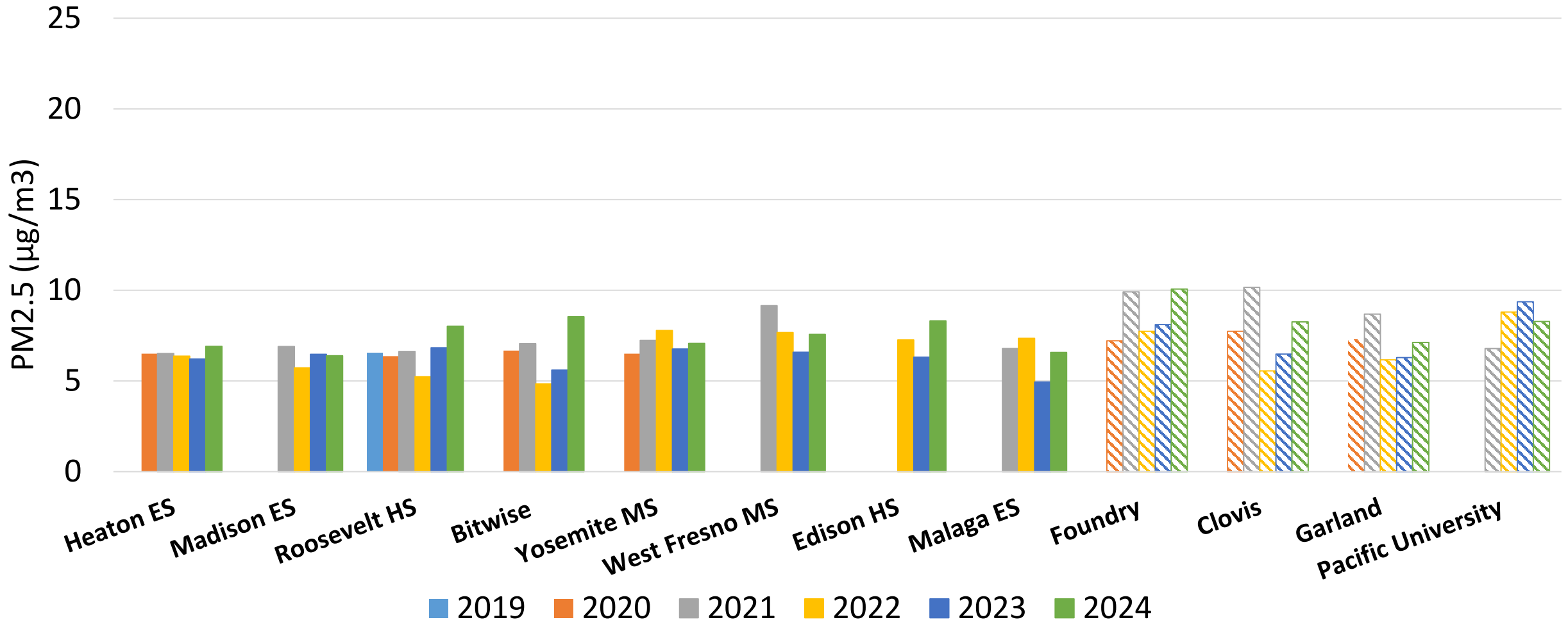
Quarter 1 Average PM2.5 Comparison

Quarter 1 Average PM2.5 2024 low at all sites.
Previous years had stagnant weather causing PM2.5 to be higher.



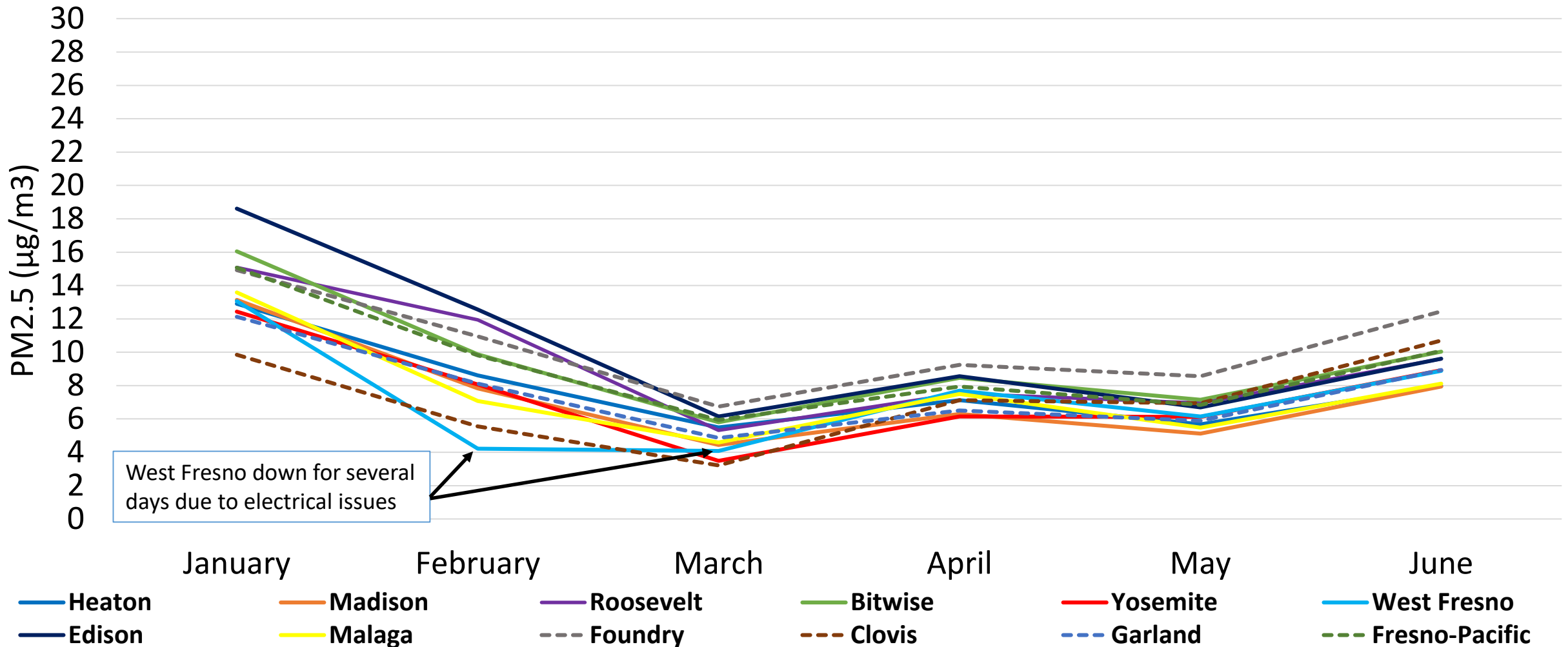
Quarter 2 Average PM2.5 Comparison

2nd Quarter Average PM2.5 typically the lowest concentration for the year



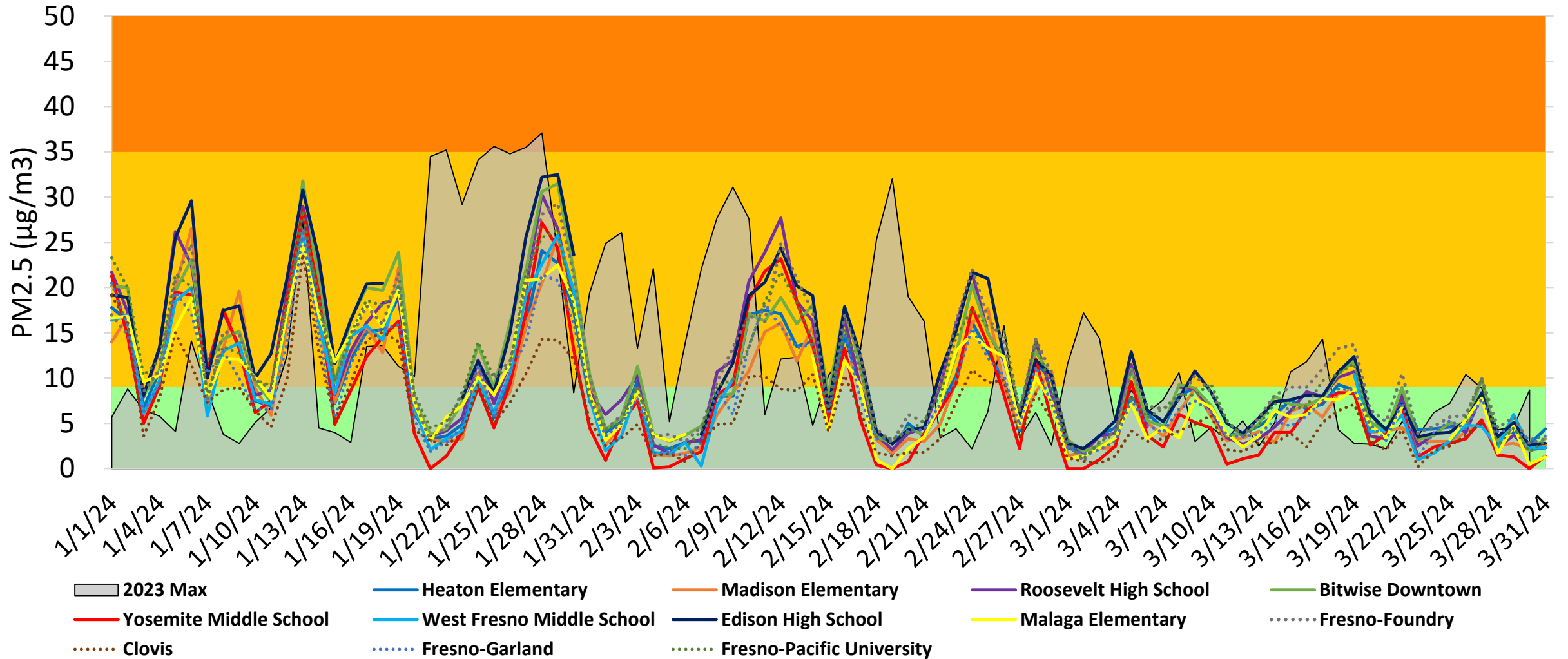
PM2.5 Monthly Average Comparison

Monthly PM2.5 Average higher due to typical winter season and drops down into spring. In June, some sites were impacted by wildfire smoke.



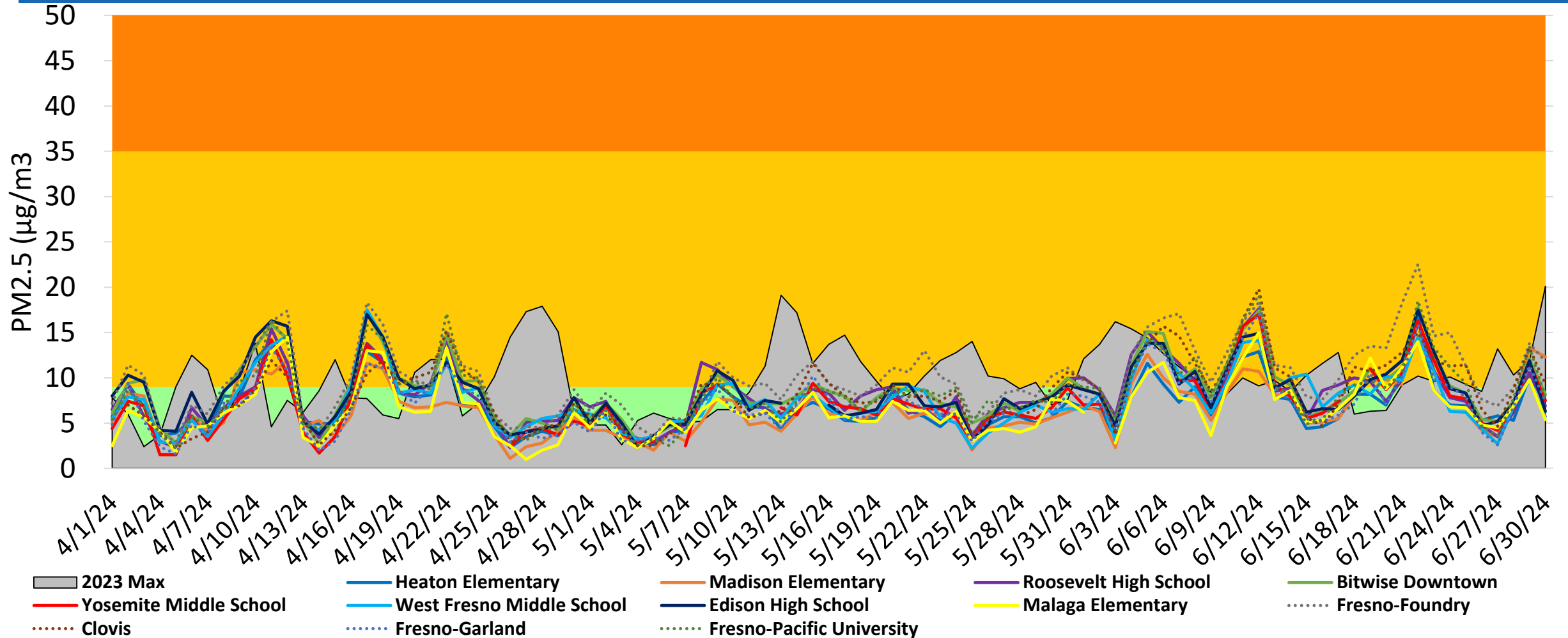
Daily Average PM2.5 Quarter 1 2024

Similar readings with lower peaks in Q1, 2024 than in Q1, 2023



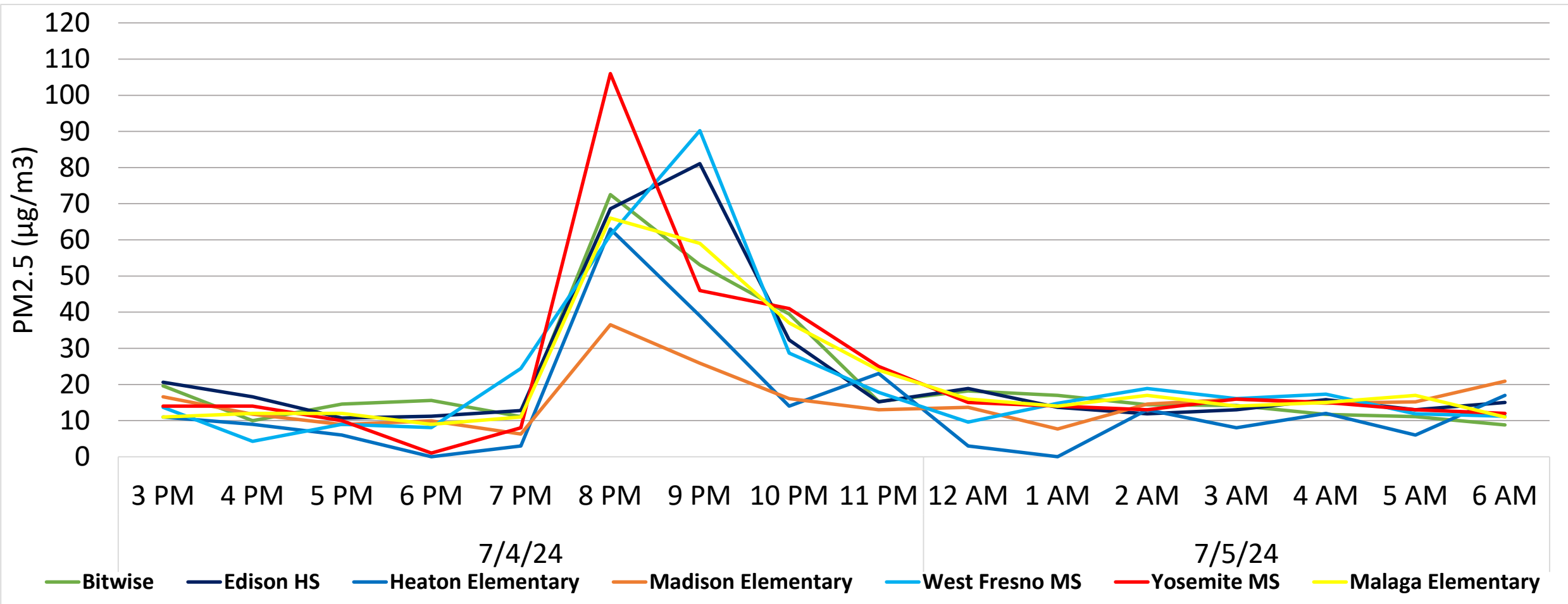
Daily Average PM2.5 Quarter 2, 2024

Daily averages remain low similar to previous Q2, 2023.
In June, wildfire smoke impacted several sites.



4th of July

Highest PM2.5 spikes closer to residential neighborhoods



Types of PM2.5 at Edison High School January – June 2024

Ammonium Nitrate:

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

Ammonium Sulfate:

- Formed in atmosphere (not emitted) from emissions of sulfur oxide (SOx) 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:

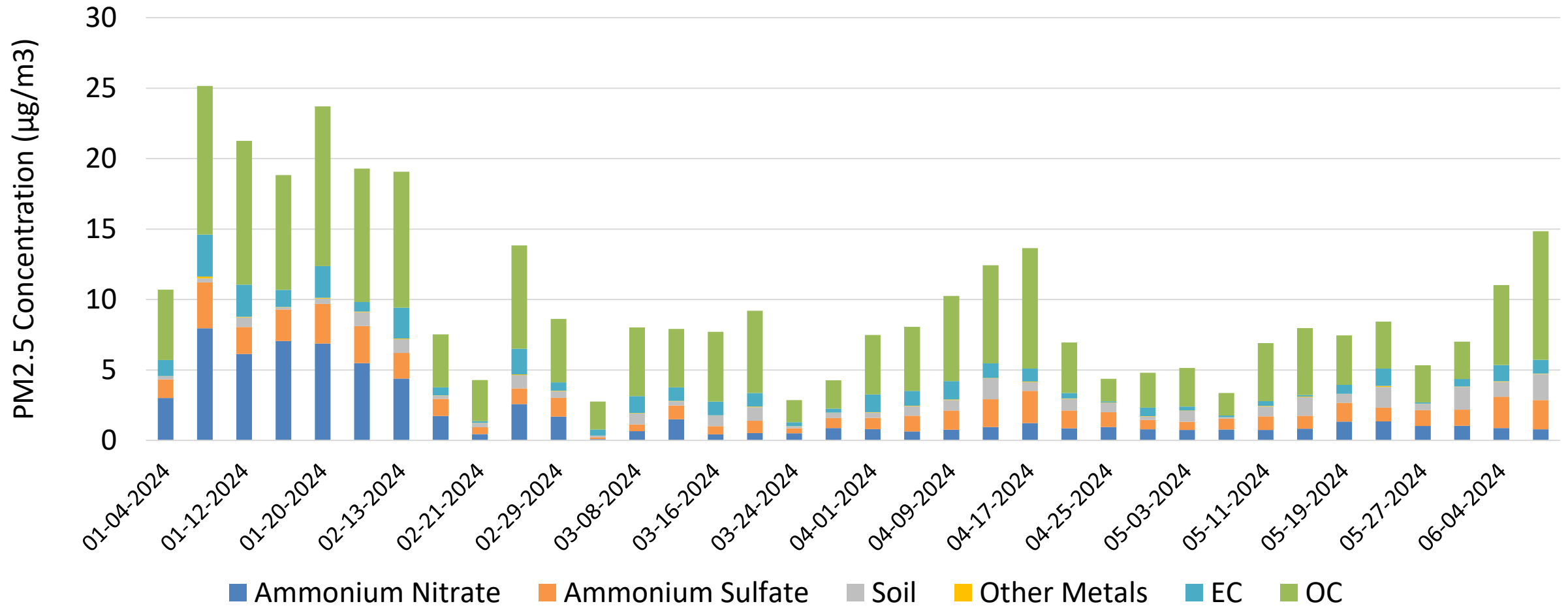
- Road dust and soil dust in the air from activity, such as soil disturbance or airflow from traffic.

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.

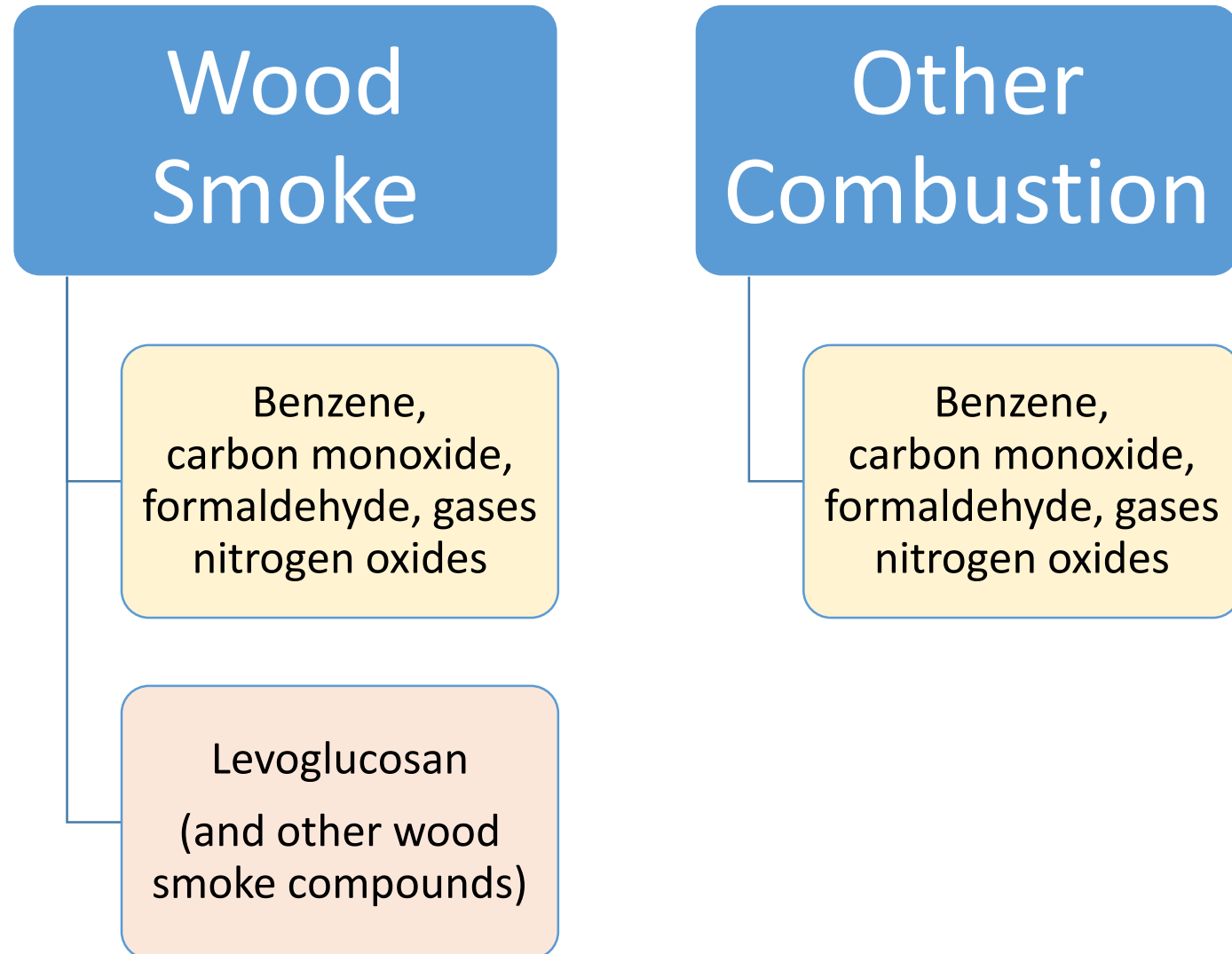
Types of PM2.5 at Edison High School January – June 2024

PM2.5 levels rise in the winter with more ammonium nitrate.



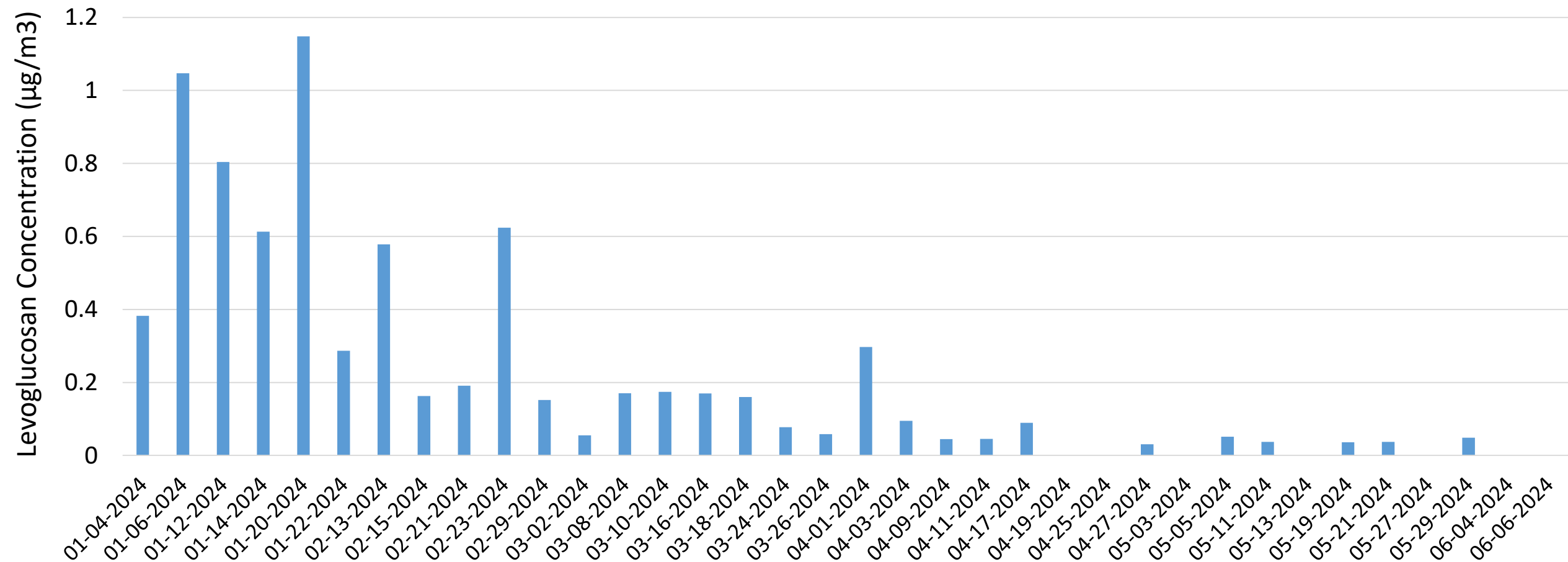
How can we tell if the PM2.5 is from wood burning?

- As an example, here are some compounds and chemicals that are present in wood smoke and other types of combustion
- Levoglucosan is monitored because it is not from other types of combustion
- Levoglucosan is only from wood smoke



Levoglucosan values January – June 2024

The marker for wood burning, which includes residential & illegal open burning, is higher in Q1, 2024.



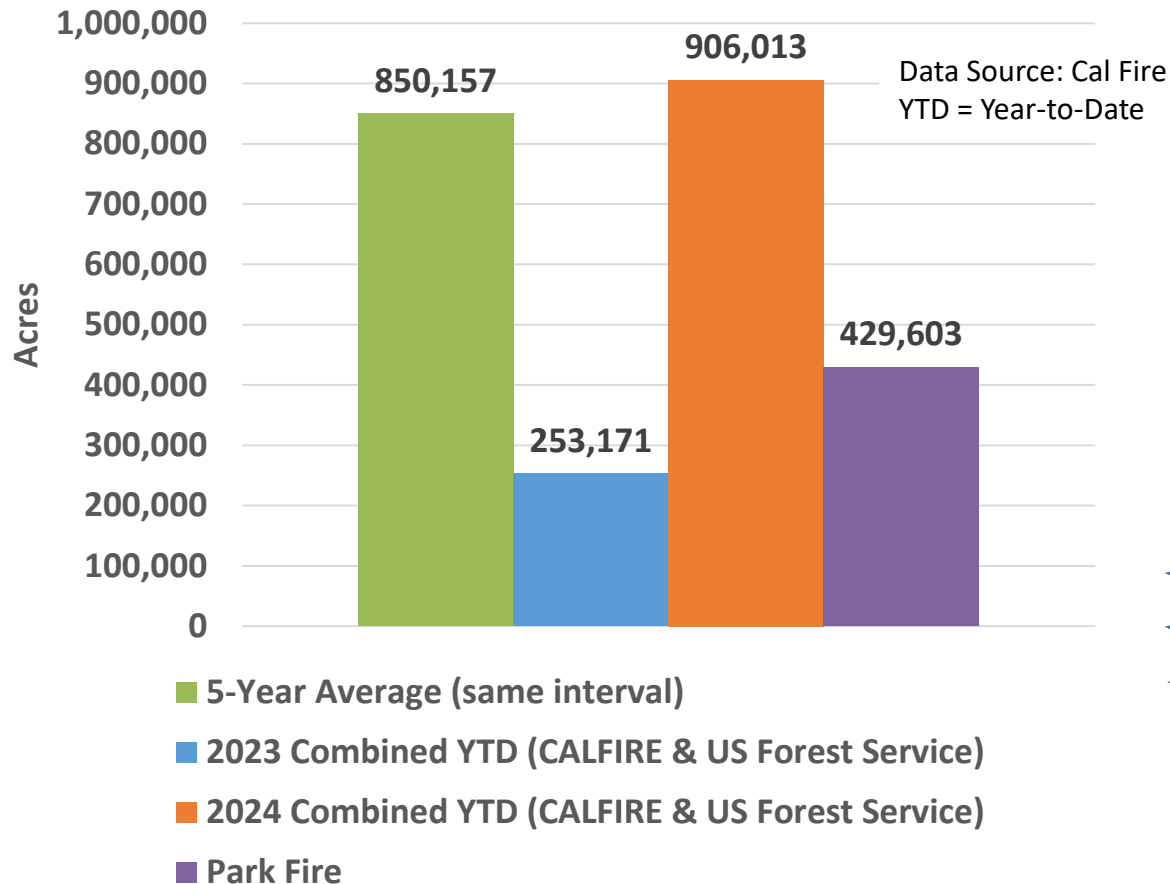
Volatile Organic Compound (VOC) Speciation Summary – Malaga Elementary

- 50 samples taken from January 4, 2024 to August 1, 2024
- **Acetaldehyde & methanol** 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)
Methanol	Automobile exhaust, solvent use, and naturally from vegetation and microbes	21,367	17,000 ✓	3,052	1005.8 ✓
Acetaldehyde	Wood combustion in fireplaces and woodstoves, coffee roasting, burning of tobacco, vehicle exhaust fumes, and coal refining and waste processing	261	47 ✓	78	3.7 ✓

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

California Wildfires in 2024



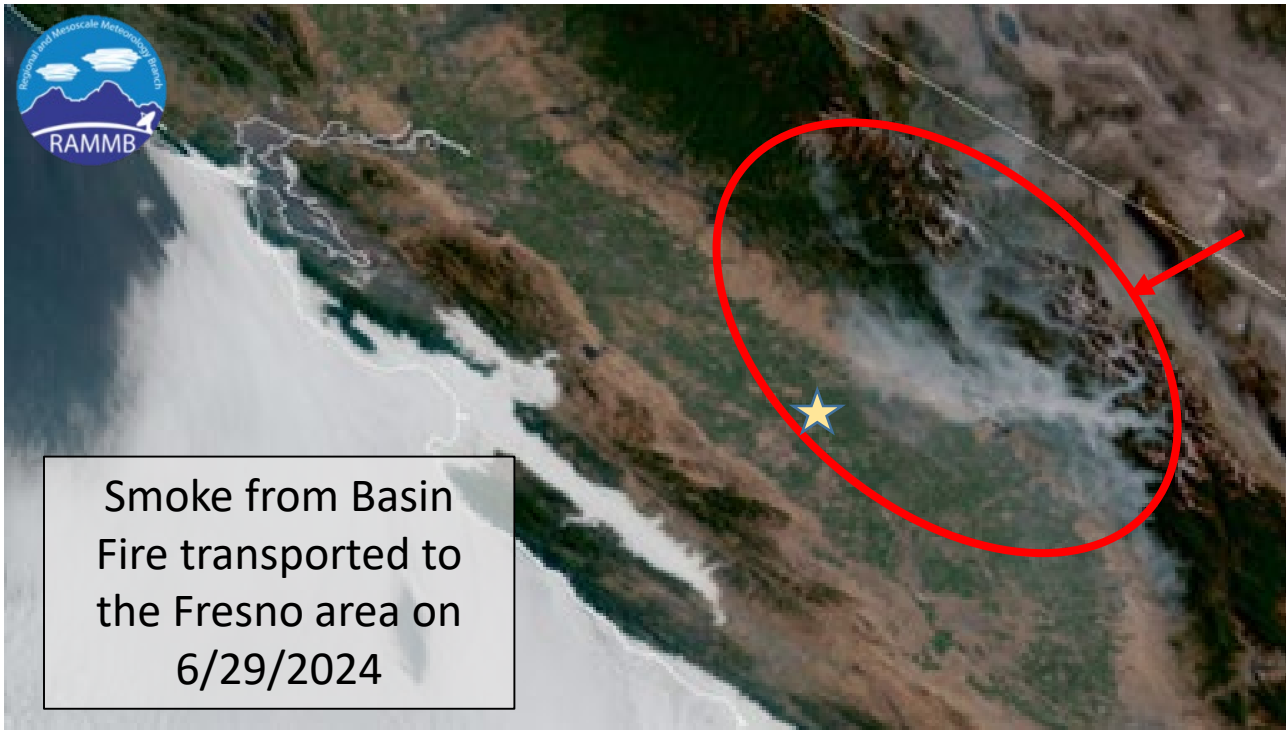
Wildfires Impacting Fresno County in 2024

Start Date	Wildfire Name	Acreage	County Location
5/30/2024	Canal Fire	827	Madera
5/31/2024	Tesoro Fire	109	Madera
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
7/13/2024	2024 SQF Lightning	33,026	Tulare/Kern
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	13,524	Tulare
9/3/2024	Boone Fire	17,766	Fresno

★ Still active wildfires as of 9/10

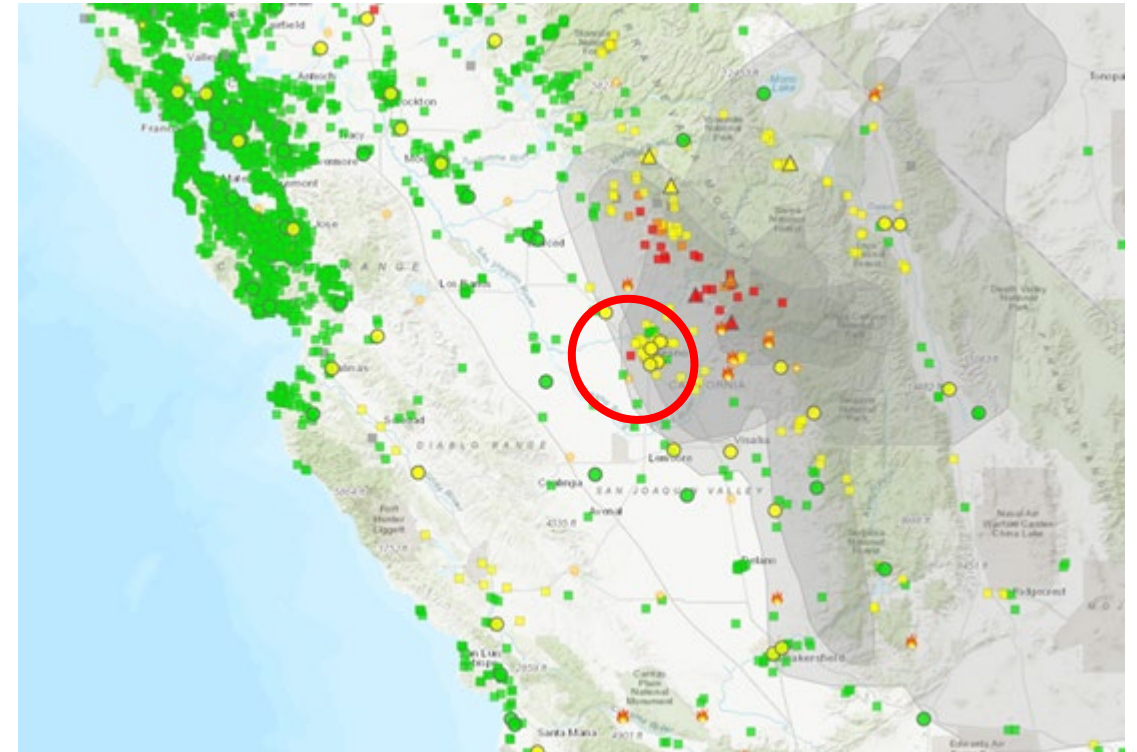
2024 wildfire season more active in 2024 than recent years. Few fires have been near the Fresno area.

Example of Smoke Visible on the Satellite



- The Basin Fire started on Wednesday, 6/26
- Smoke traveled downslope to the Fresno area

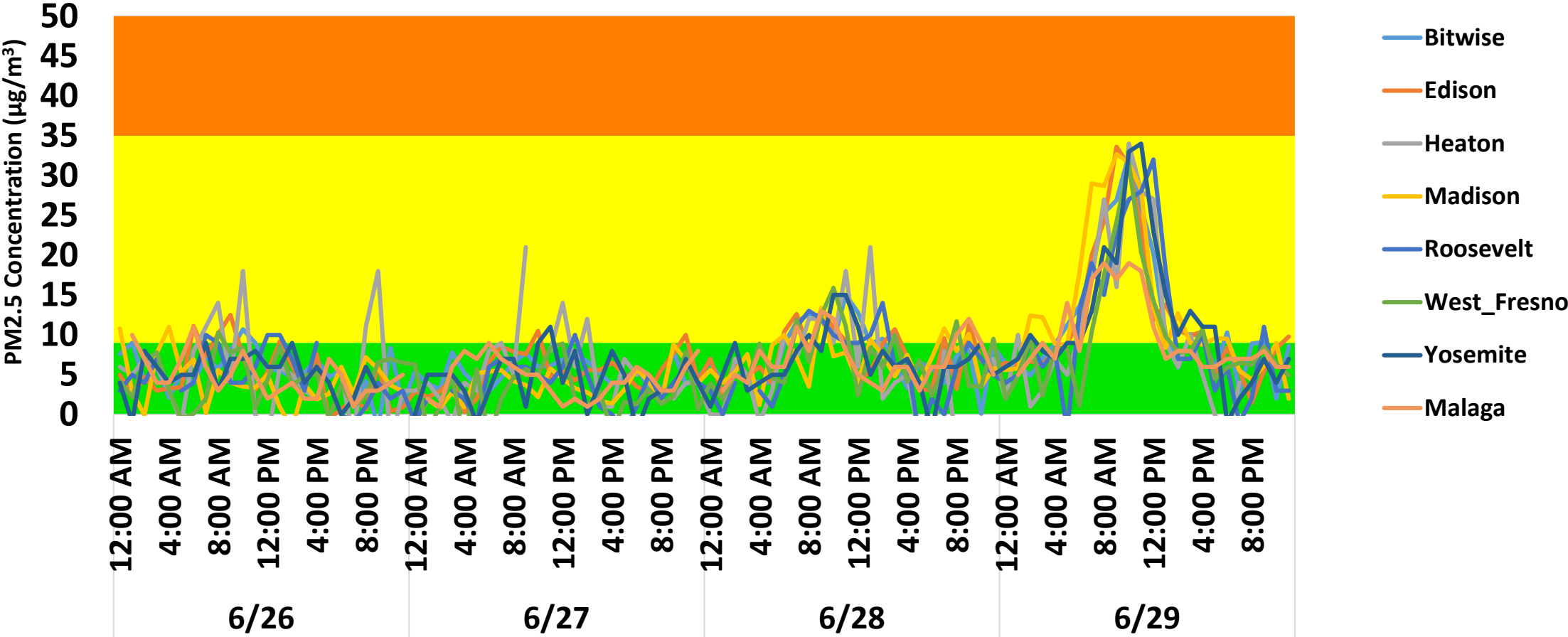
- AirNow Fire and Smoke Map is helpful to indicate when smoke is present at ground level



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

Hourly PM2.5 Impacts from Smoke

Example of recent smoke impacts at Fresno community monitors from the Basin Fire



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*

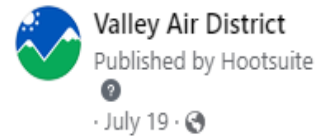
Ongoing wildfires in the Eastern Fresno County are generating smoke that is now affecting the San Joaquin Valley. Weather patterns through this weekend have the potential to continue to draw wildfire smoke into the Valley counties of Madera, Fresno, Tulare and Kern. As a result, the District has issued 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




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?

San Joaquin Valley Air Pollution Control District ✓
Communications Representative Danny Gonzalez • 22 Aug

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.



Wildfire Impact Update:
Possible smoke impacts from wildfires around the state

Actualización sobre el impacto de los incendios forestales:
Posibles impactos del humo de incendios forestales en todo el estado

www.valleyair.org/wildfires

Wildfires
valleyair.org

Posted to Subscribers of San Joaquin Valley Air Pollution Control District in 4 areas

19 likes • 53,511 Impressions

San Joaquin Valley Air Pollution Control District ✓
Outreach & Communications Manager Heather Hei... • 37 min ago • Edited

-> Resources to help protect you from wildfire smoke <-

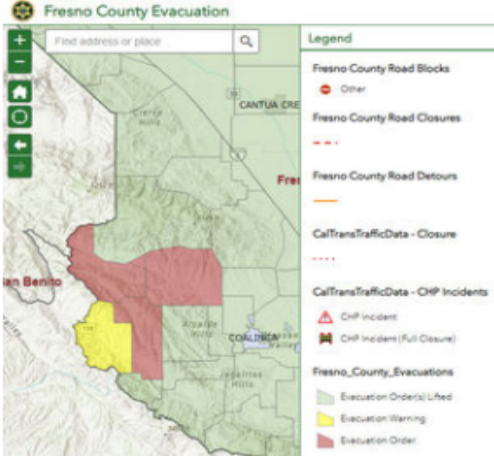

Neighbors – we’re on day two of the Boone Fire (near Highway 198 and Boone Lane) and smoke is impacting your area. If you can see ash and smell smoke, you are being impacted by particulate matter pollution and should find an air conditioned/filtered space or leave the area. The District has a wildfire resource page that can keep you up to date on air quality conditions and fire conditions. www.valleyair.org/wildfires

The Valley Air District team in partnership with CCEJN will be in the Coalinga area TODAY (9-4-2024/11am - 2pm) helping residents sign up for our Clean Air Rooms program. You can sign up directly right now at www.valleyair.org/roompurifier or visit us today and we’ll help you sign up.

Iglesia Apostolica de la Fe en Cristo Jesus
401 N Coalinga St.
Coalinga CA 93210

Boone Fire

90% Contained | 11,000 Acres | 1 County: Fresno



Fresno County Evacuation

Find address or place

Legend

- Fresno County Road Blocks
- Other
- Fresno County Road Closures
- Fresno County Road Detours
- CalTransTrafficData - Closure
- CalTransTrafficData - CHP Incidents
- CHP Incident
- CHP Incident (Full Closure)
- Fresno County Evacuations
- Evacuation Order (Lined)
- Evacuation Warning
- Evacuation Order

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?