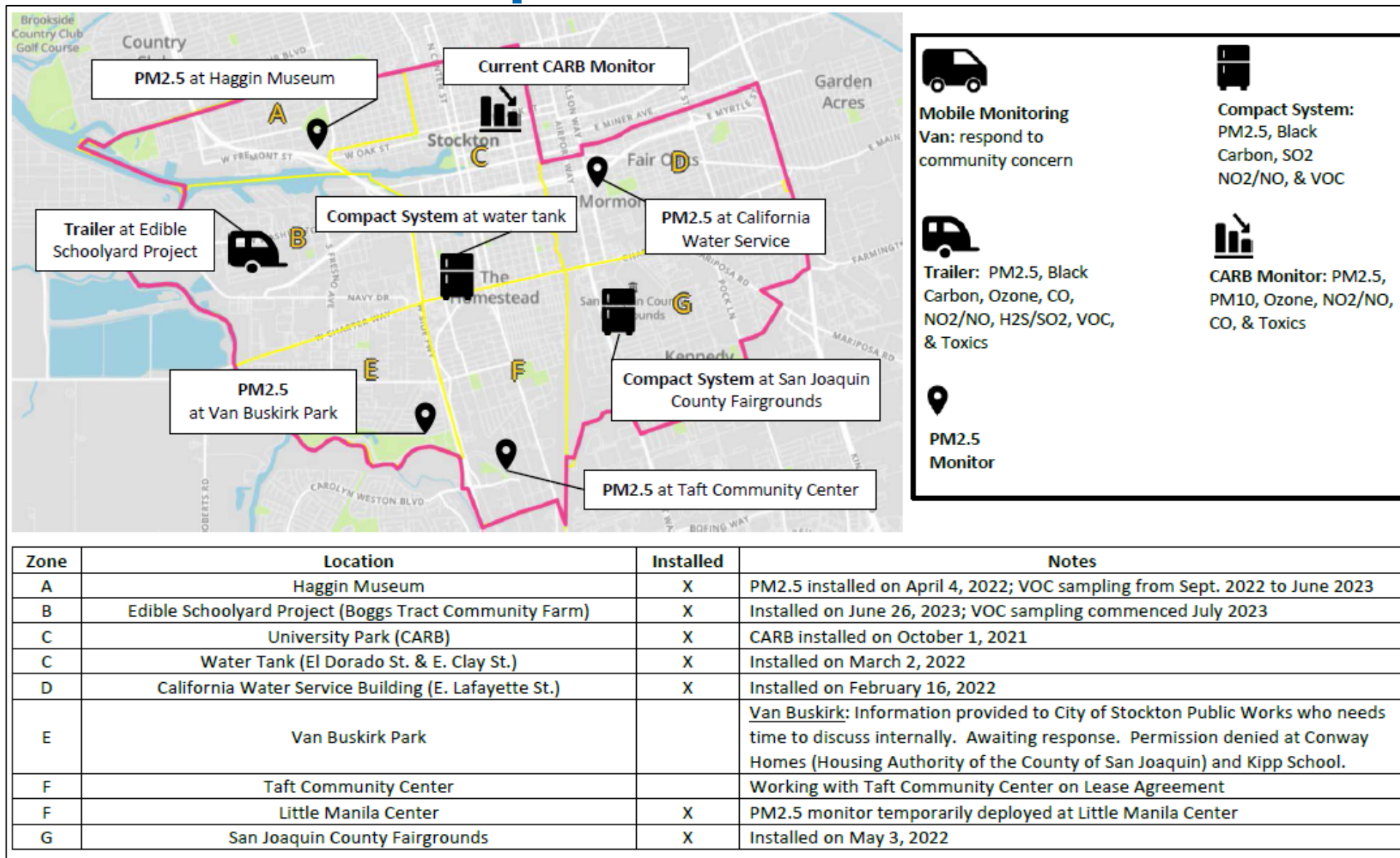


# Update on Stockton Community Air Monitoring

Stockton CSC Meeting  
November 1, 2023

# CAMP Implementation Status



# Community Air Monitoring Platforms





# Community Air Monitoring Platforms (cont'd)





# Community Air Monitoring Platforms (cont'd)



# Key Takeaways from July – September 2023

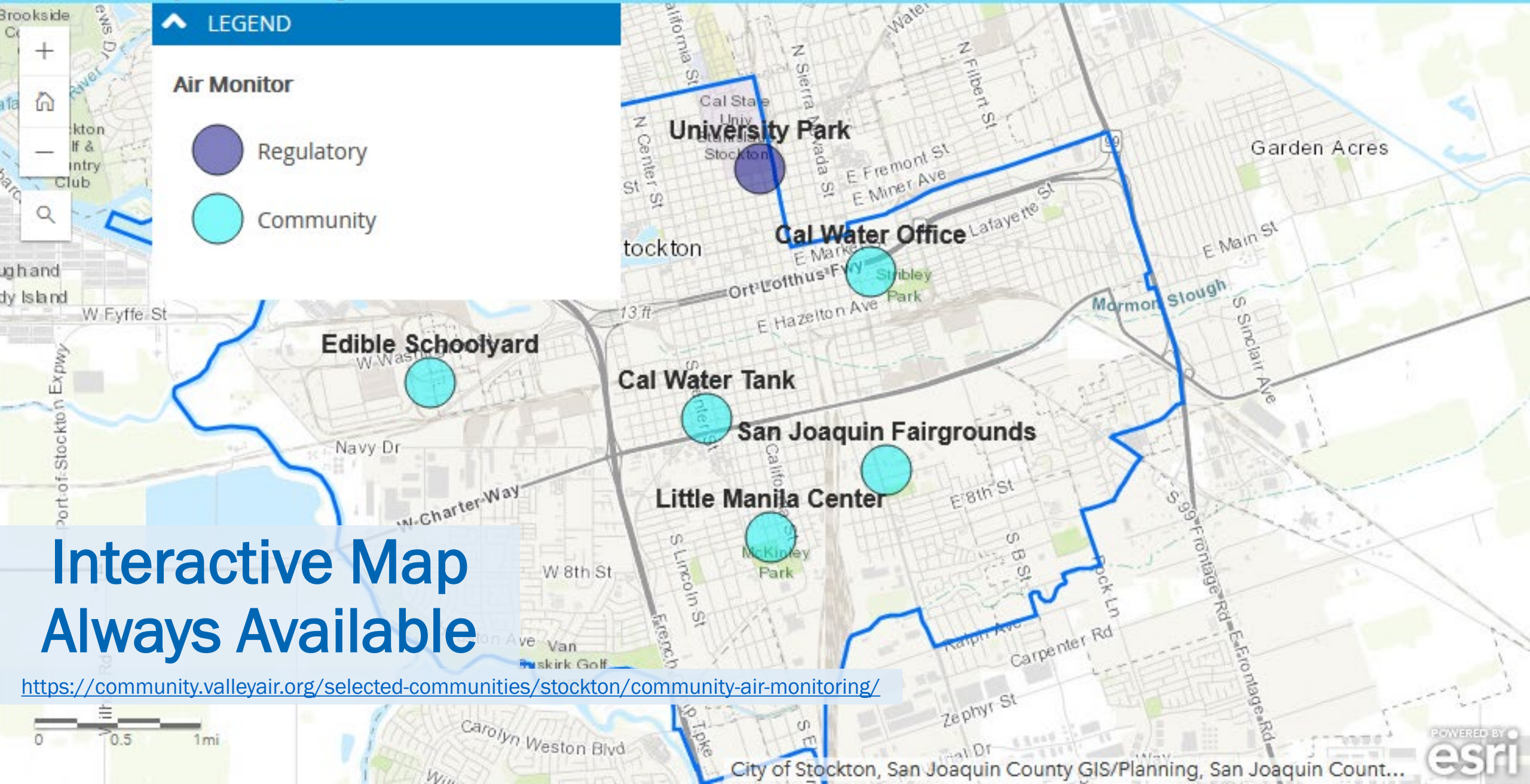
Across all community sites, most days **PM2.5 concentrations measured in the Good or Moderate Air Quality Index (AQI) categories** – only 2 days were in Unhealthy for Sensitive Groups AQI category

PM2.5 concentrations were **influenced by smoke from wildfires**

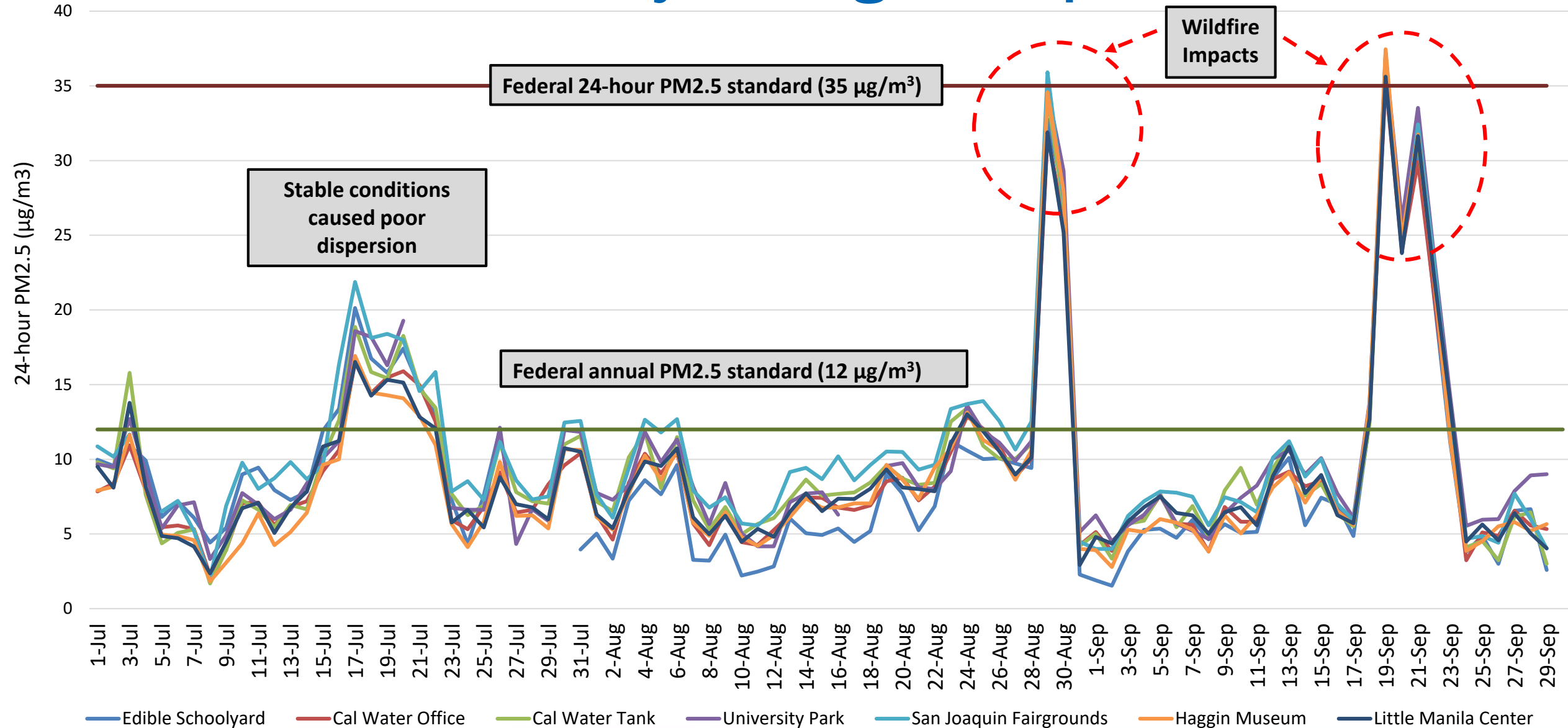
Volatile Organic Compound (VOC) concentrations remained **below health thresholds**



# San Joaquin Valley Air Monitors

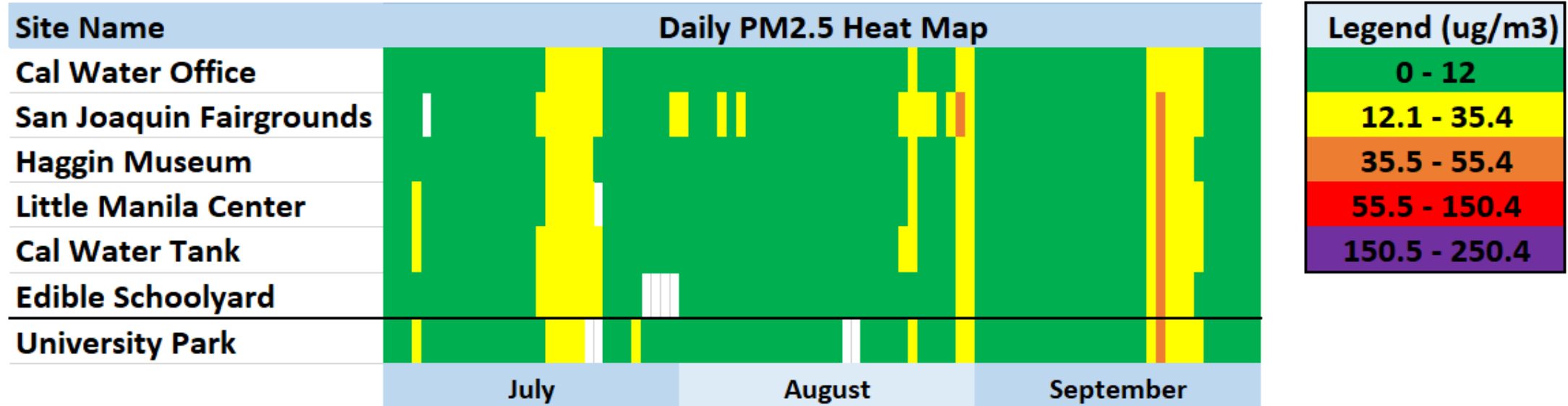


# PM2.5 Daily Average Comparison





# PM2.5 Daily Average Concentration Comparison

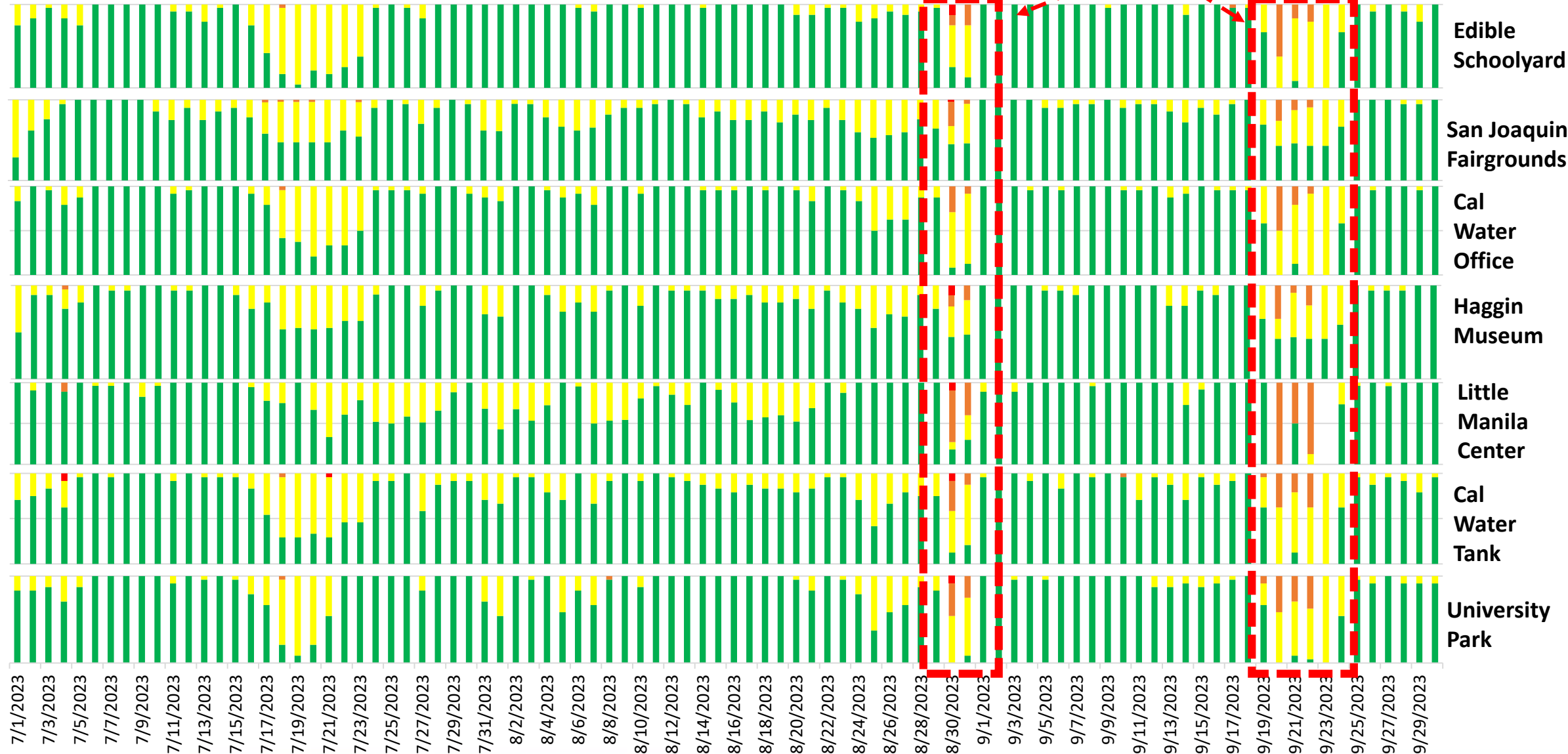


Levels of Concern	Daily Concentration (µg/m3)	Description of Air Quality
Good	0-12	Air Quality is Satisfactory, and air pollution poses little or no risk
Moderate	12.1- 35.4	Air quality is acceptable. However there may be a risk for some people, particularly those who are unusually sensitive to air pollution
Unhealthy for Sensitive Groups	35.5 -55.4	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Unhealthy	55.5 – 150.4	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	150.5-250.4	Health Alert: The risk of health effects is increased for everyone

# Hourly Air Quality

July 1, 2023 – September 30, 2023

Wildfire  
Impacts





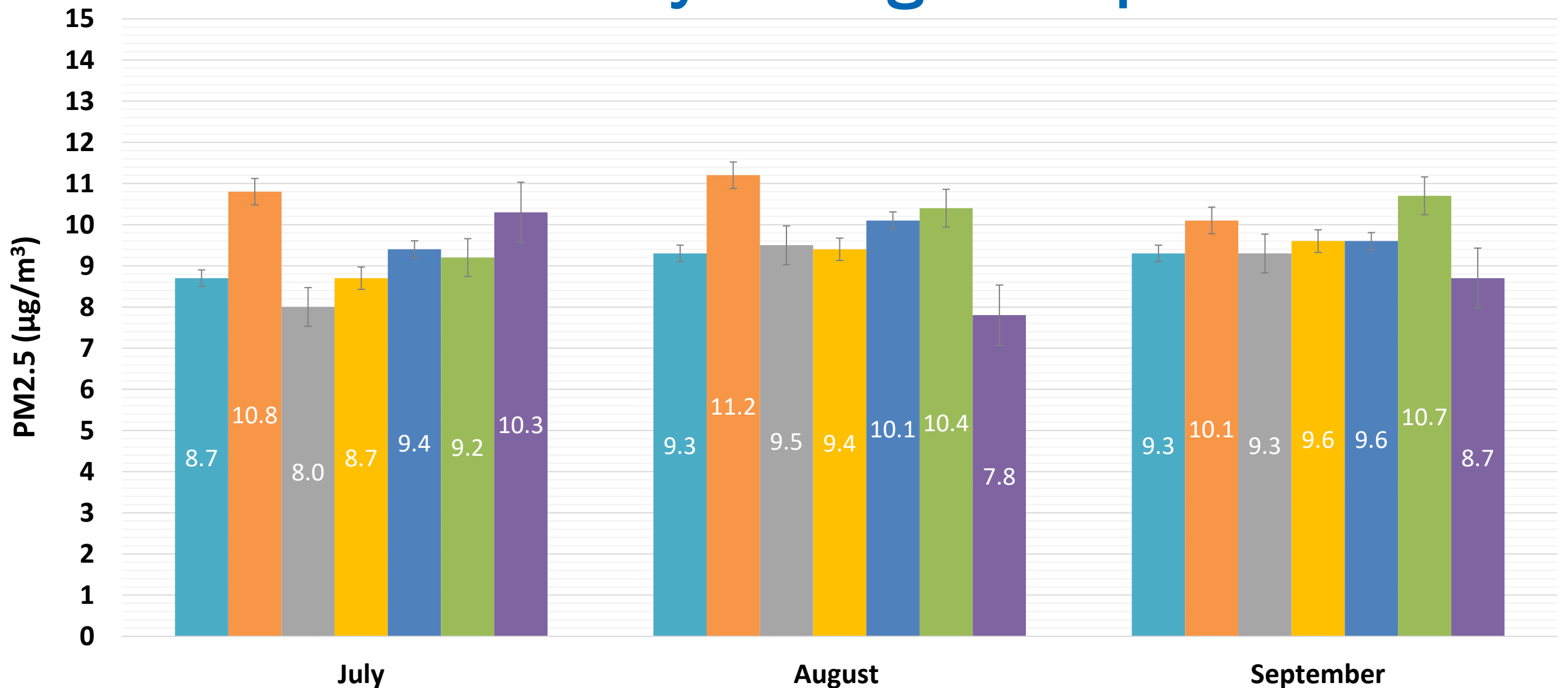
# PM2.5 Quarterly Average Comparison

July 1, 2023 – September 30, 2023

	<u>2023</u> Quarter 3 Average PM2.5 ( $\mu\text{g}/\text{m}^3$ )	<u>2022</u> Quarter 3 Average PM2.5 ( $\mu\text{g}/\text{m}^3$ )
<b>Stockton Community Monitors</b>		
Little Manila Center	9.2	7.8
Cal Water Office	9.1	7.1
Cal Water Tank	9.7	7.5
Haggin Museum	8.9	6.8
San Joaquin Fairgrounds	10.7	9.2
Edible Schoolyard	8.9	-
<b>Stockton Regulatory Monitor</b>		
University Park	10.1	6.1

- Quarterly average PM2.5 concentrations at community monitors comparable to regulatory monitor at University Park
- Quarterly average of all locations under annual standard of  $12 \mu\text{g}/\text{m}^3$
- 2023 slightly higher than 2022 due to wildfire impacts

# PM2.5 Monthly Average Comparison





# Efforts to Understand Causes of High PM2.5

## Surveillance and Enforcement

- Inspectors and air monitoring operators are looking for activity around the area

## Air Pollution Monitoring Network

- Lab analysis of PM2.5 air samples

# Volatile Organic Compound (VOC) Speciation Summary – Haggin Museum

- 20 samples taken from April 2023 to June 2023
- **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)
<b>Methanol</b>	Automobile exhaust, solvent use, and naturally from vegetation and microbes	21,367	<b>12.0</b> ✓	3,052	<b>4.7</b> ✓
<b>Acetaldehyde</b>	Wood combustion in fireplaces and woodstoves, coffee roasting, burning of tobacco, vehicle exhaust fumes, and coal refining and waste processing	261	<b>6.6</b> ✓	78	<b>1.5</b> ✓



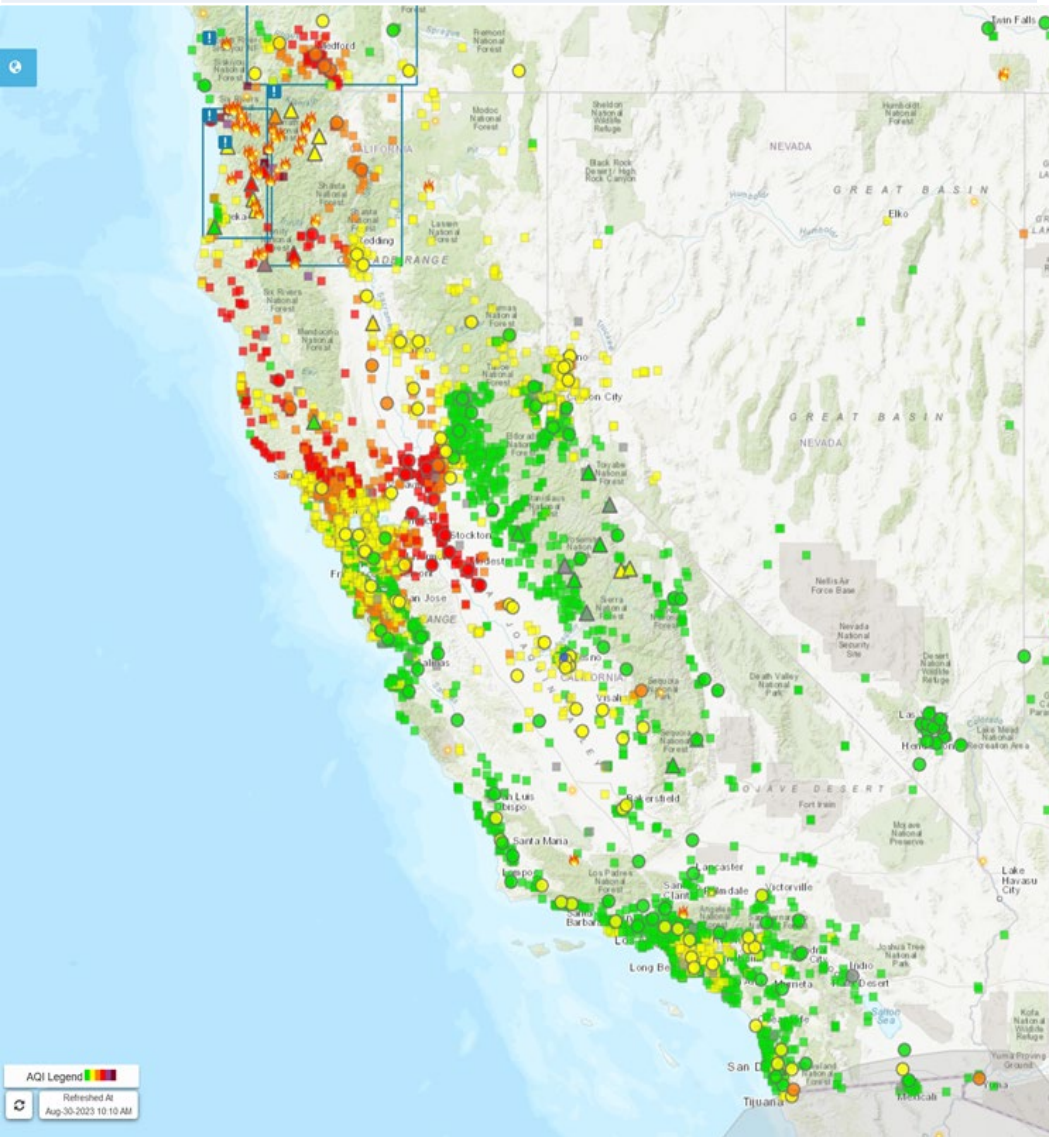
# Volatile Organic Compound (VOC) Speciation Summary – Edible Schoolyard

- 12 samples taken from June 29, 2023 to August 7, 2023
- **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)
<b>Methanol</b>	Automobile exhaust, solvent use, and naturally from vegetation and microbes	21,367	<b>21.0</b> ✓	3,052	<b>12.2</b> ✓
<b>Acetaldehyde</b>	Wood combustion in fireplaces and woodstoves, coffee roasting, burning of tobacco, vehicle exhaust fumes, and coal refining and waste processing	261	<b>5.3</b> ✓	78	<b>3.5</b> ✓

# Wildfire Impacts: August 30, 2023

Observations as of August 30, 2023 at 10:10 AM PDT:

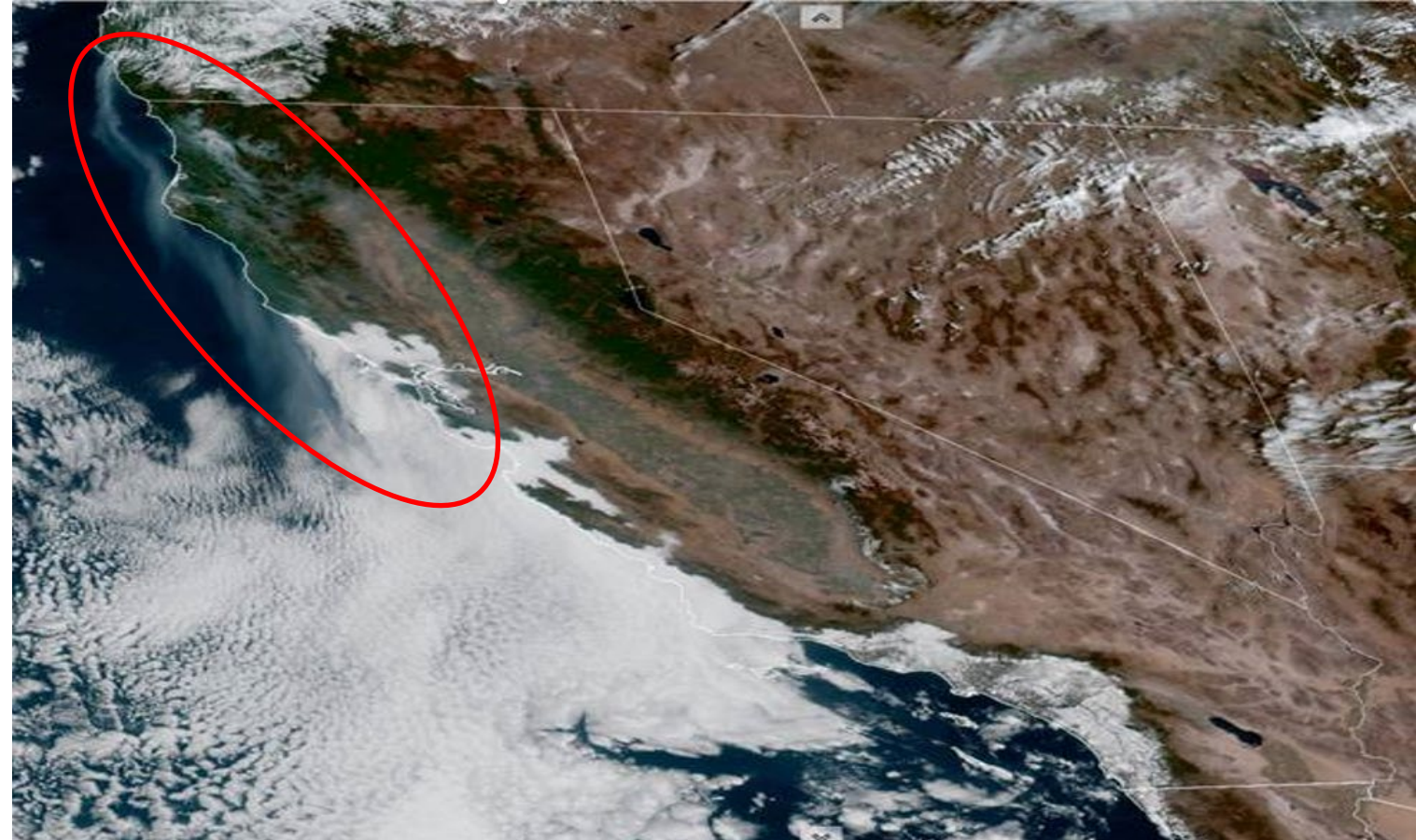
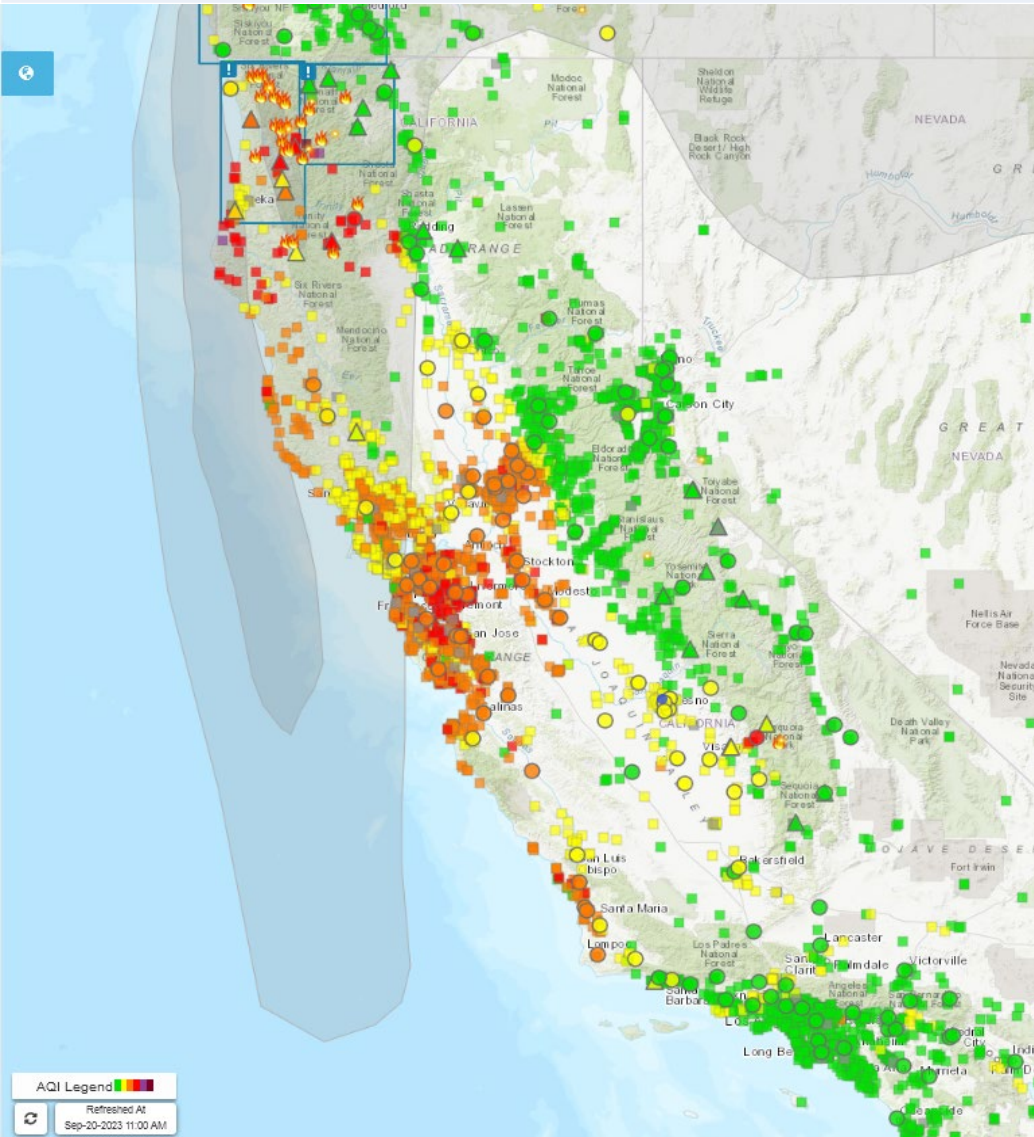


Name of Fire	County
<u>Bedrock Fire</u>	Willamette NF - Oregon
<u>2023 SRF Lightning Complex and Redwood Lightning Complex</u>	Humboldt
<u>Lost Fire</u>	Del Norte
<u>Deep Fire</u>	Shasta
<u>2023 Happy Camp Complex</u>	Siskiyou
<u>Smith River Complex</u>	Del Norte
<u>South Fork Complex</u>	Redding
<u>Redwood Fire</u>	Tulare



# Wildfire Impacts: September 20, 2023

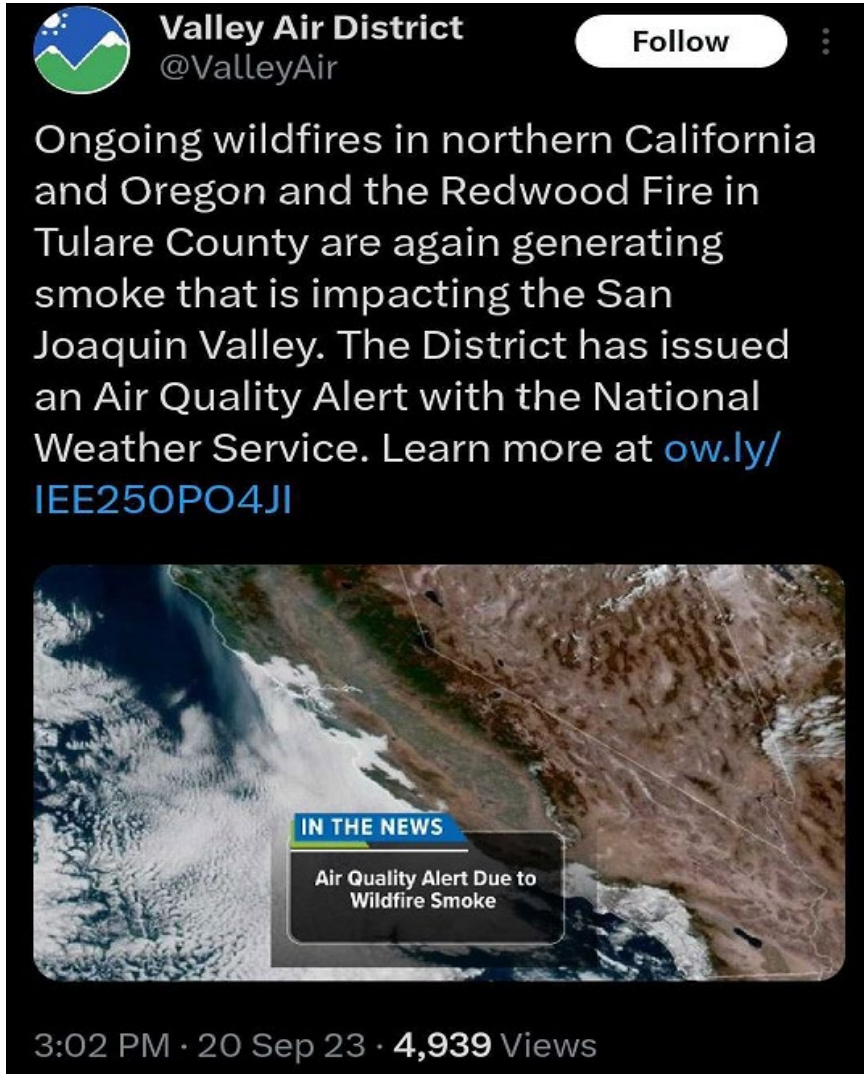
Observations as of September 20, 2023 at 11:00 AM PDT:



Name of Fire	County
<u>2023 SRF Lightning Complex and Redwood Lightning Complex</u>	Humboldt
<u>2023 Happy Camp Complex</u>	Siskiyou
<u>Smith River Complex</u>	Del Norte
<u>Redwood Fire</u>	Tulare

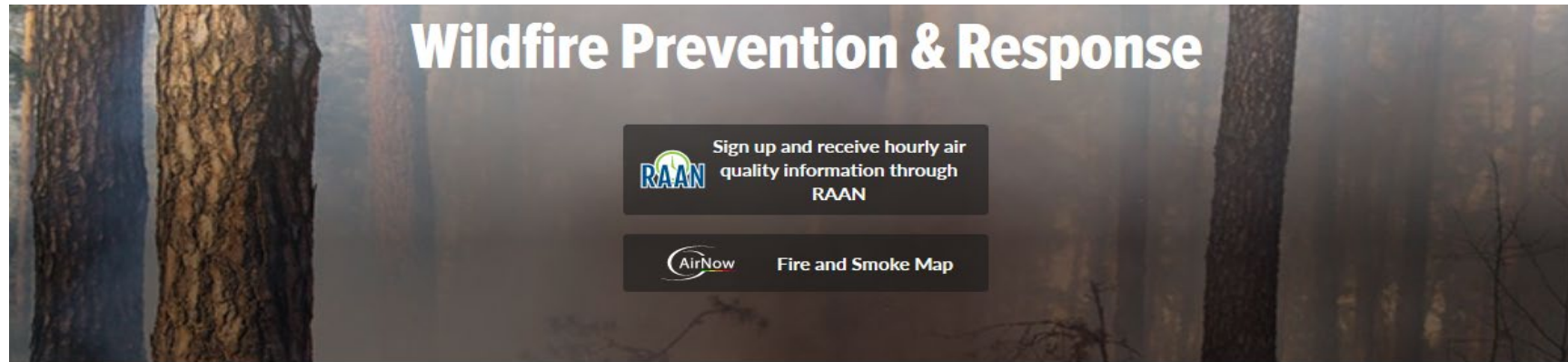


# How can the District make sure the community knows that we expect worse air quality?



- Schools participate in the Healthy Air Living school program
- News releases are issued before known and expected high pollution days
- District posts updates to social media sites like Facebook, Twitter, and Nextdoor

# District Wildfire Information Website



## Wildfire Information

How to Protect Yourself from Wildfire Smoke

Clean Air Centers

Efforts to Prevent and Minimize Wildfires

Air Quality Information

Cal/OSHA Worker Safety

Foothill & Mountain Communities

Resources

If you can smell smoke and see ash, that is an indication that you are being affected by poor air quality.

Wildfires that may be impacting air quality in the San Joaquin Valley:

**Quarry Fire**  
Stanislaus

**Rabbit Fire**  
Tulare County

Wildfires with prior impacts to air quality in the San Joaquin Valley:

**2023 SRF Lightning and Redwood Complex**  
Humboldt

## IMPACTS OF WILDFIRE SMOKE

**= PARTICULATE MATTER (PM)**  
A complex mixture of extremely small particles made up of a number of components, including wildfire smoke, metals, dust and soot.  
**How small?**  
HUMAN HAIR ~ 50-70µm  
Soot ~ 0.1-1µm  
PM2.5 (<2.5µm)  
PM10 (<10µm)

ENGLISH ESPAÑOL

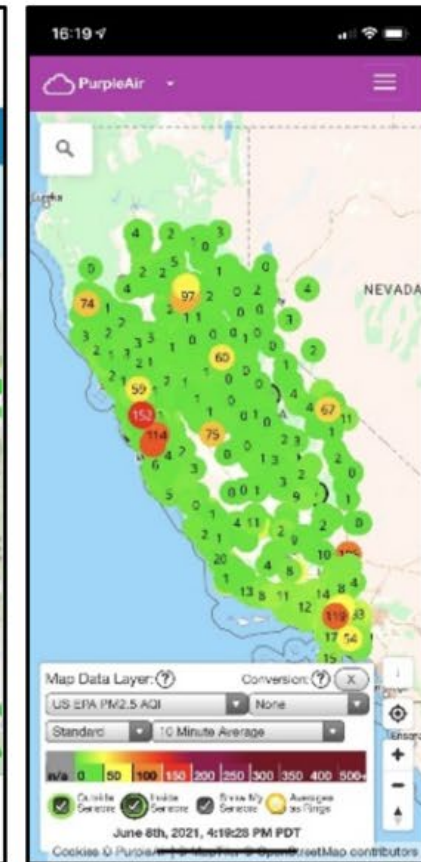
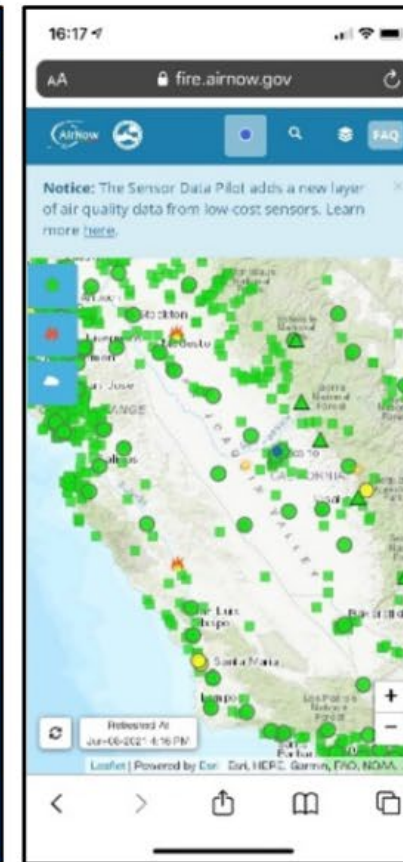
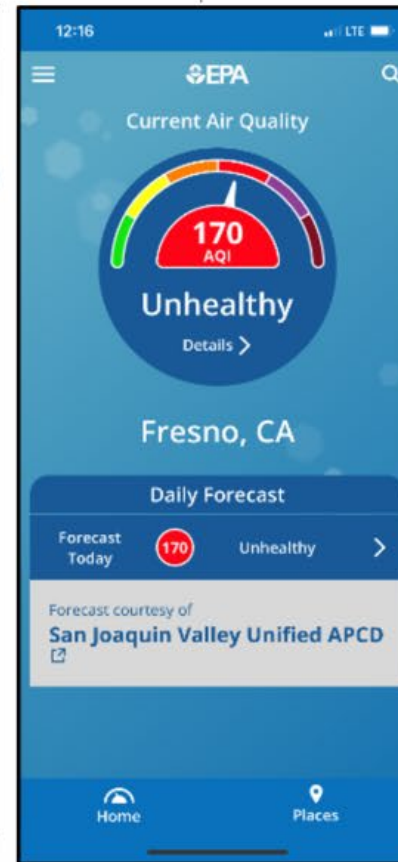
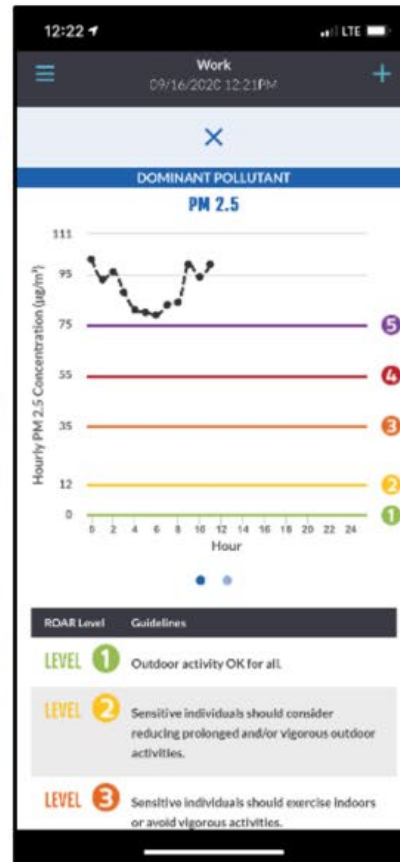
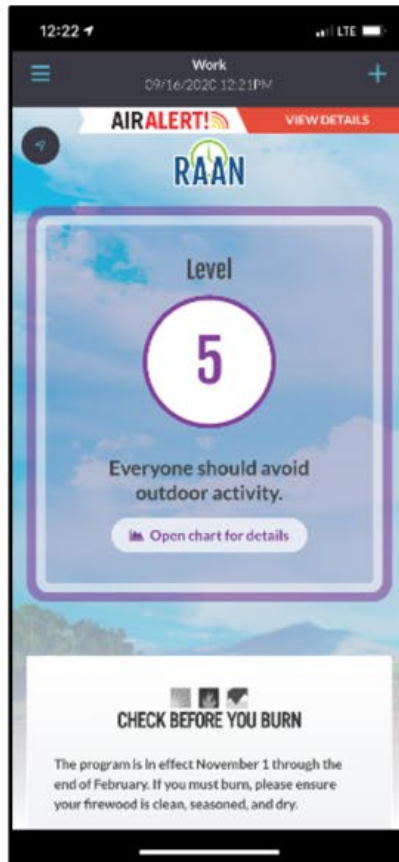
HMOOB ਪੰਜਾਬੀ

DIY Temporary Air Purifier



# Available Air Quality Tools

- Residents have found mobile applications useful
- New air quality tools have become available in recent years



# Comments/Questions?