

Responding to our Wildfire Smoke Public Health Crisis: Lessons Learned On Protecting Our Future

AGENDA: 4

Jack Broadbent
Bay Area Air Quality
Management District
Executive Officer/APCO
Community and Public
Health Committee Meeting
March 14, 2019

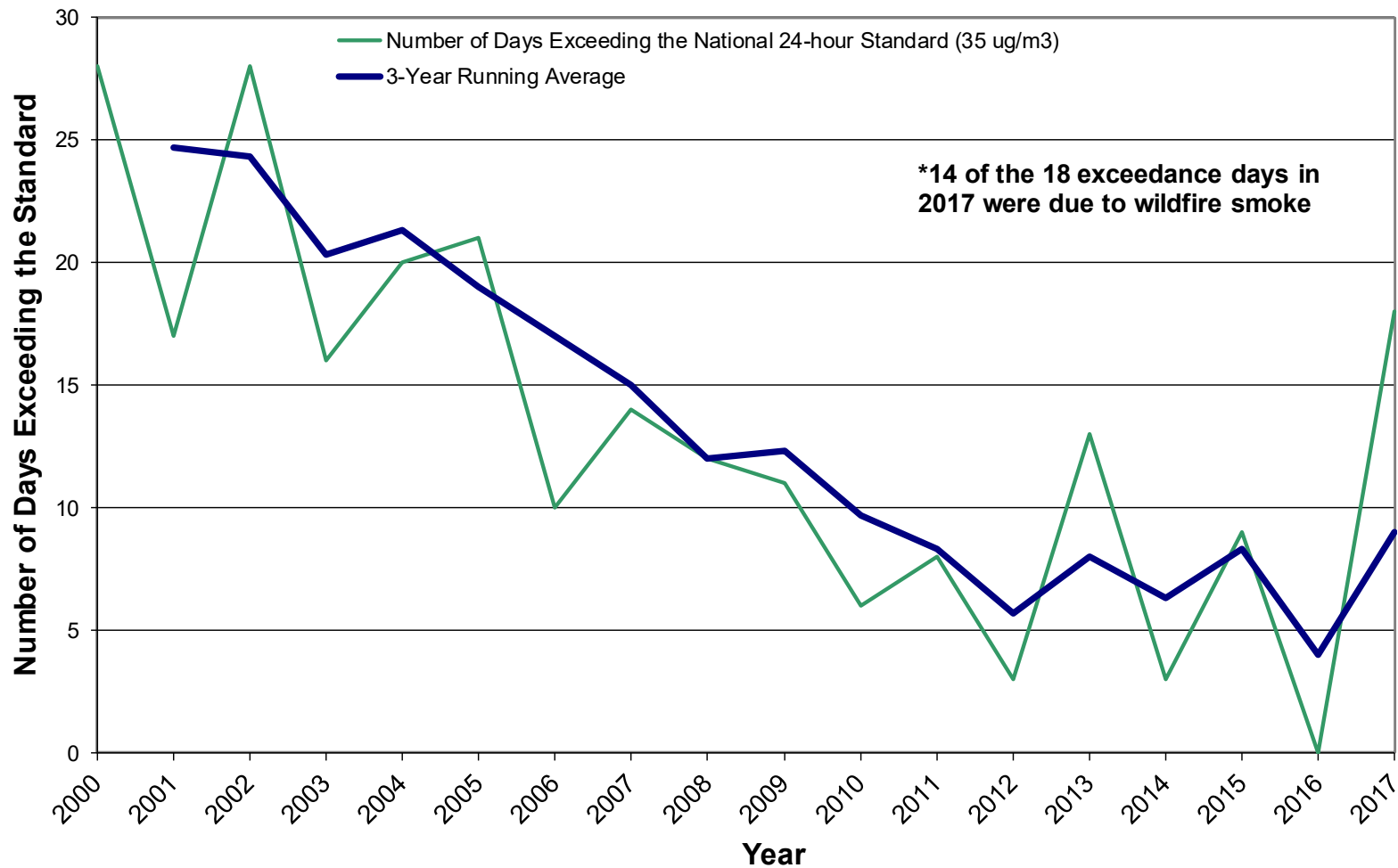


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Bay Area Smoke

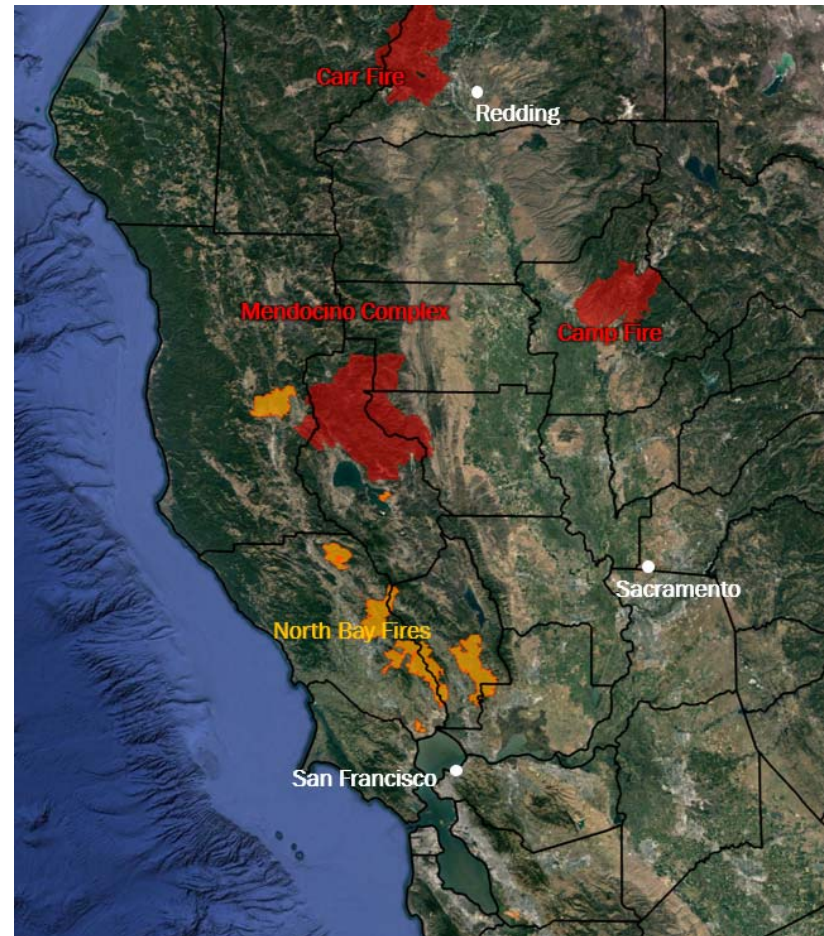


Bay Area PM_{2.5} Exceedance Trends



2017/2018 Northern California Wildfires

- 2017 Napa, Sonoma and Mendocino
- 2018 Carr, Mendocino Complex and Camp

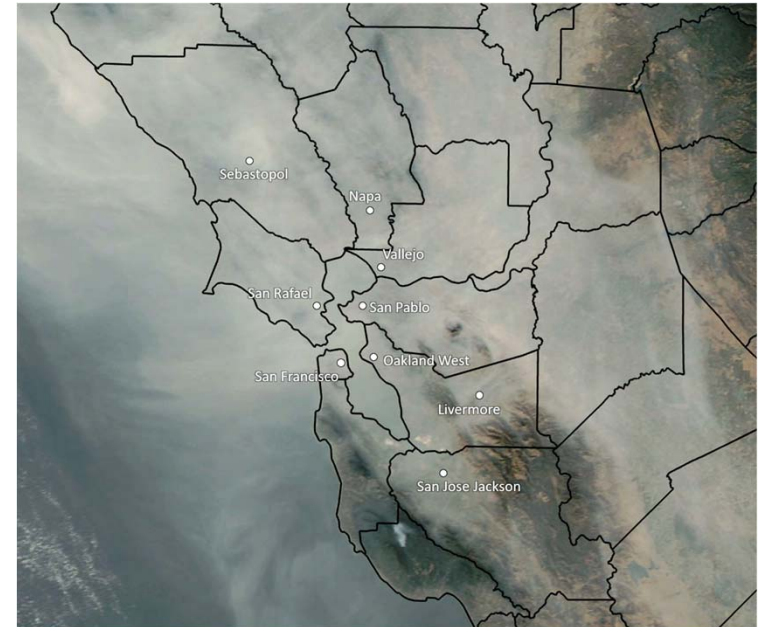


Sonoma/Napa Fires

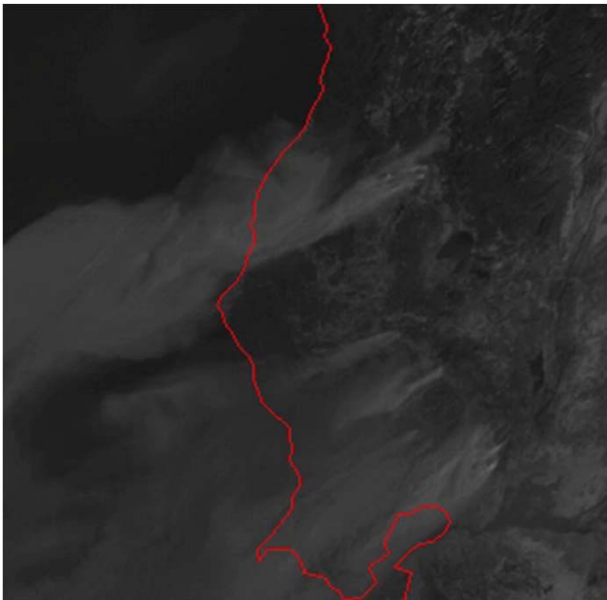
Camp Fire



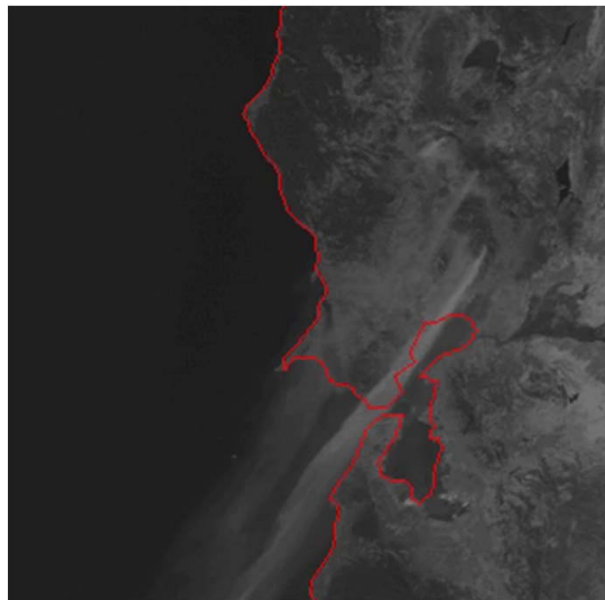
GOES-16 visible satellite loop from Thursday 10/12/2017



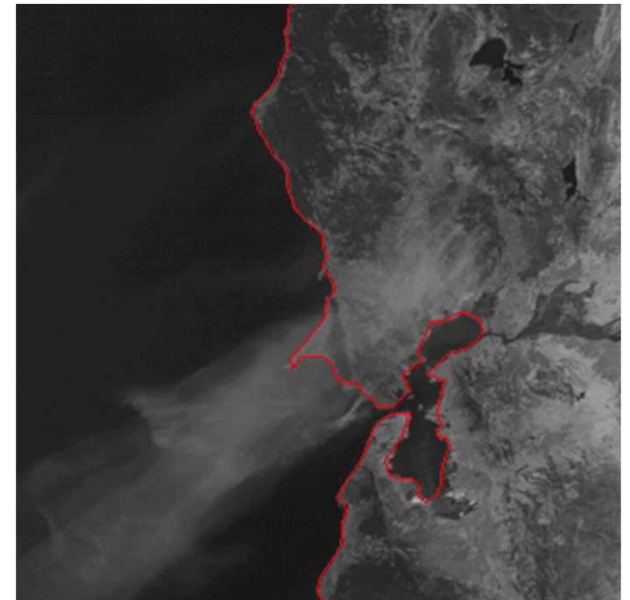
North Bay Fires: GOES-16 Imagery



Monday 10/09/2017



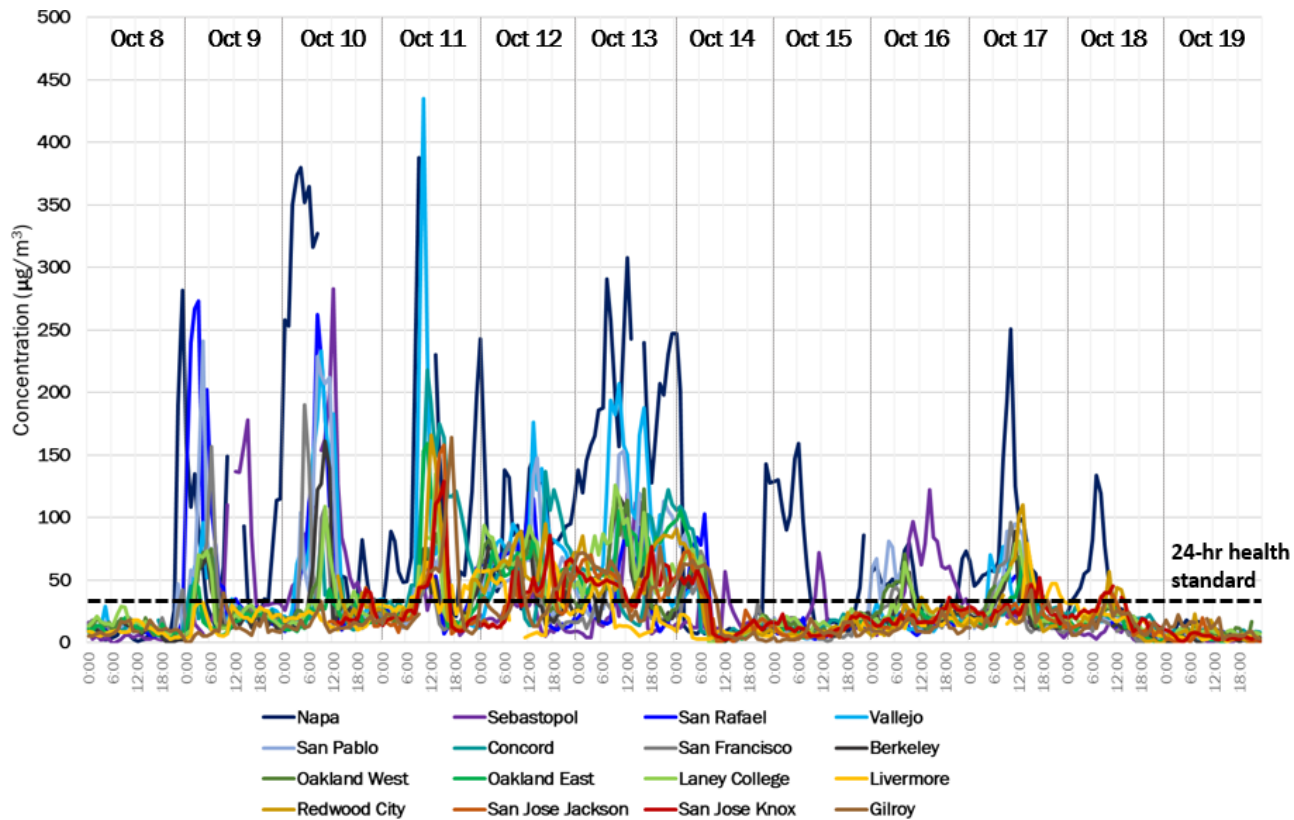
Thursday 10/12/2017



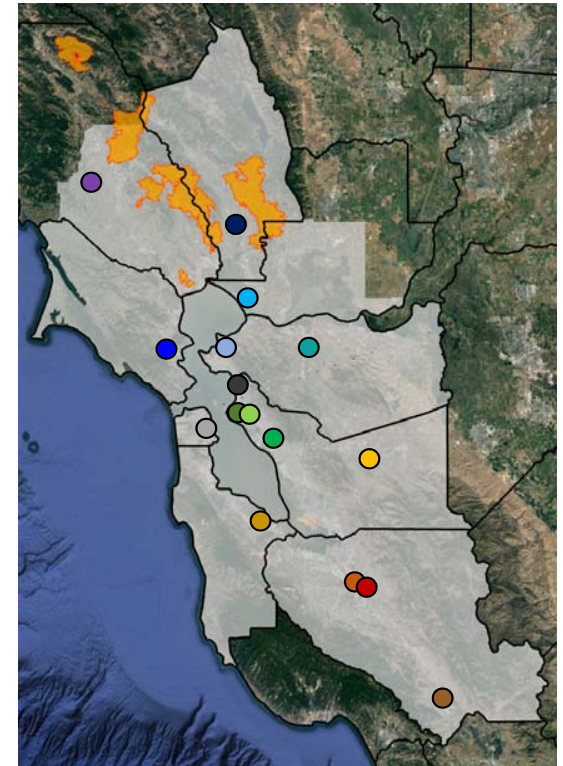
Saturday 10/14/2017



Hourly PM_{2.5} Concentrations During North Bay Fires



PM_{2.5} Monitors



Substantial variability in hourly concentrations over time and distance as smoke plumes pivoted across the Bay Area over several days (cool colors farther north, warm colors farther south)



Northern California Wildfires – October 2017



Station	24-hour Avg. Concentration ($\mu\text{g}/\text{m}^3$)	1-hour Max. Concentration ($\mu\text{g}/\text{m}^3$)
Sebastopol	20	46
Napa	113	323
Vallejo	80	176
San Rafael	56	120
San Pablo	59	148
Oakland West	55	82
San Francisco	50	88
Livermore	34	64
San Jose Jackson	34	80



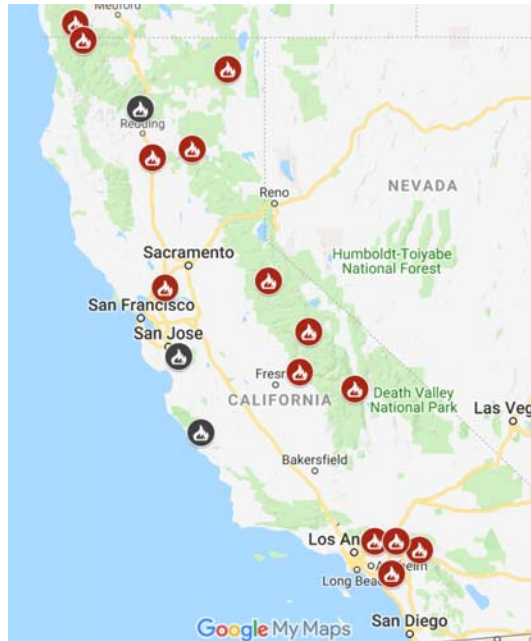
Summer 2018 California Fires



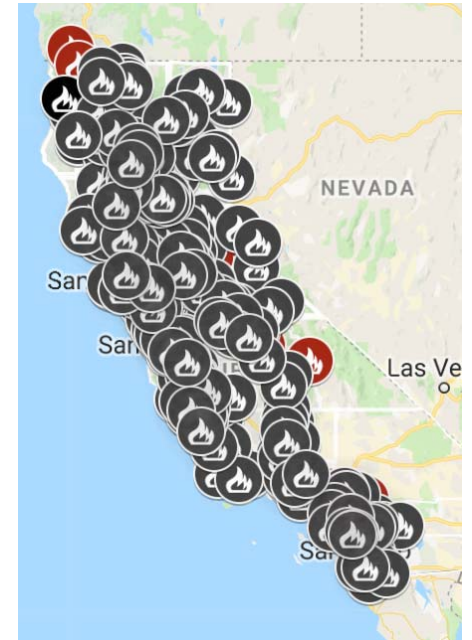
August 2018



September 2018



Active CalFire Incidents 2018



Statewide Incidents Summer 2018

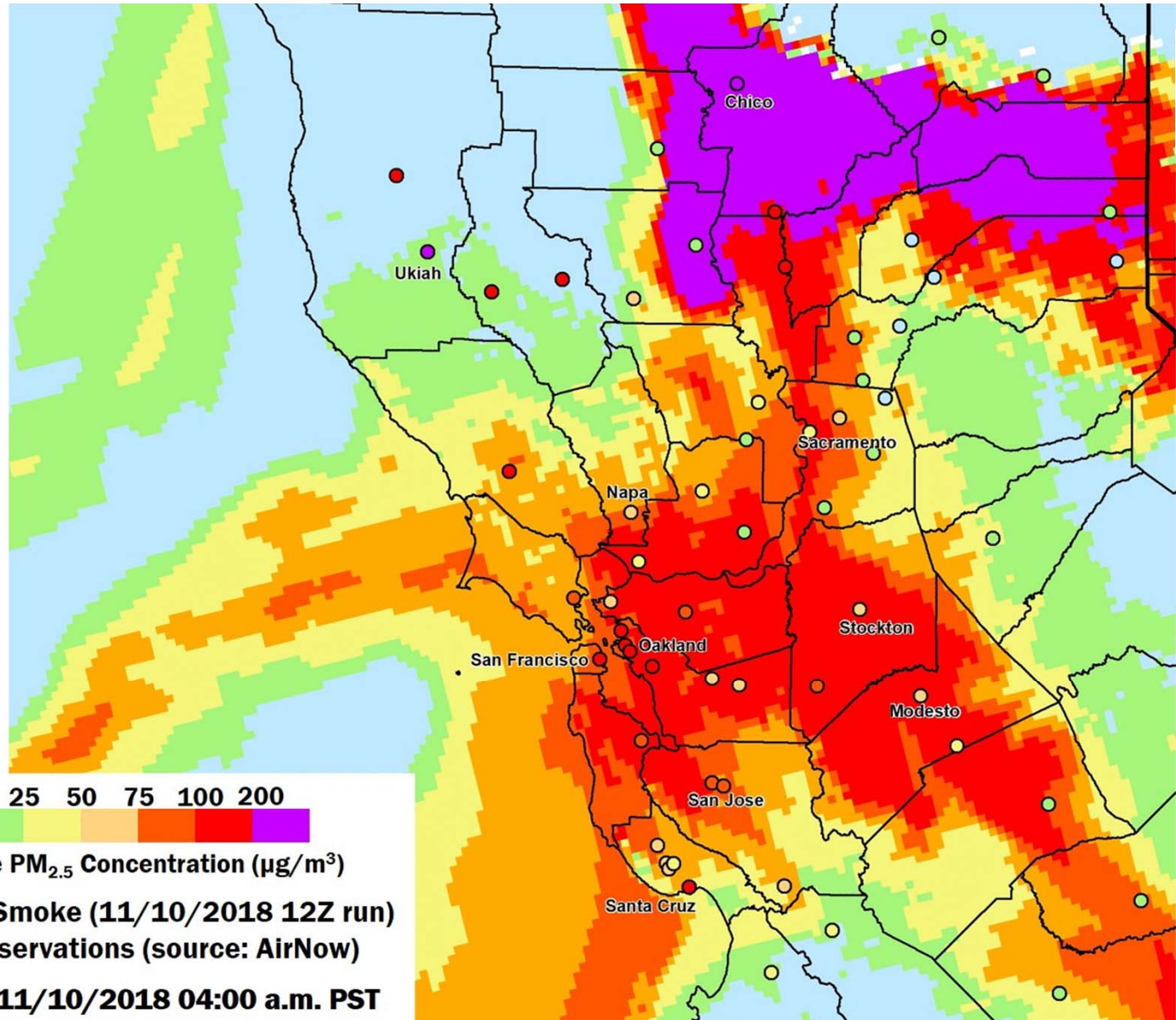


Camp Fire: GOES-16 Imagery

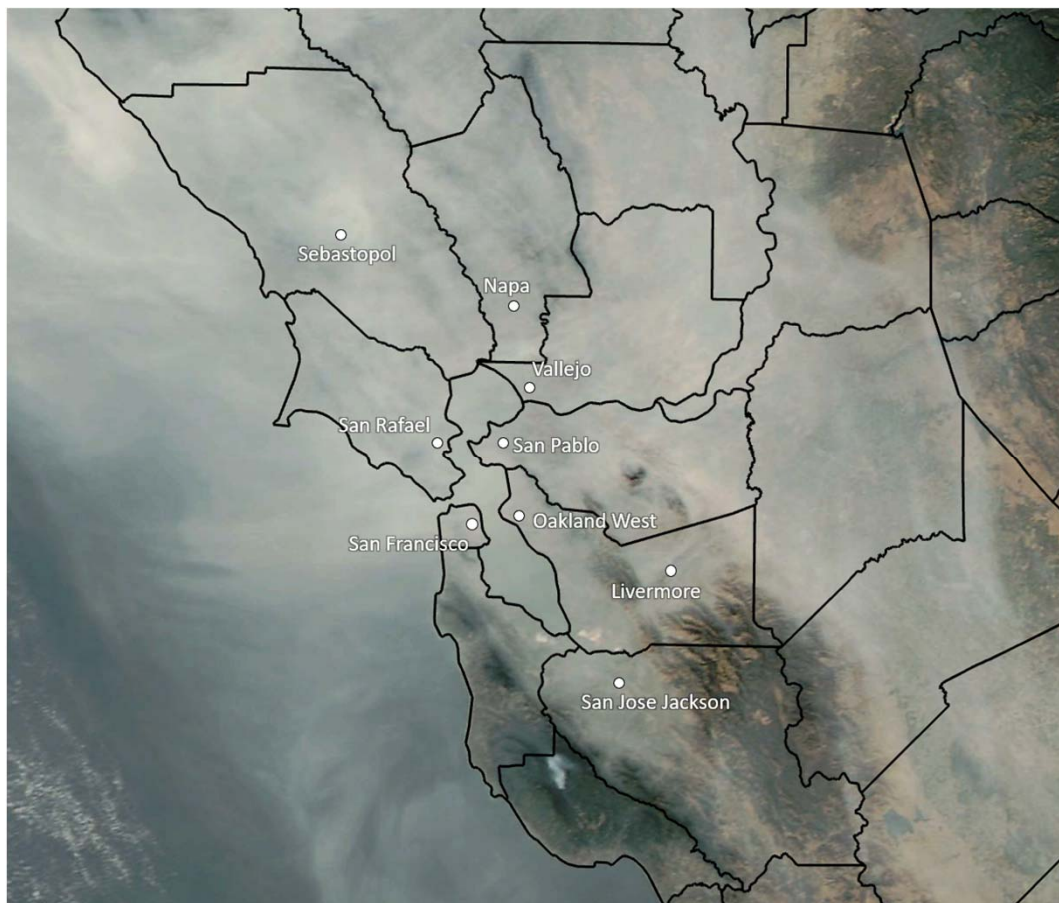


(November 8-12, 2018)





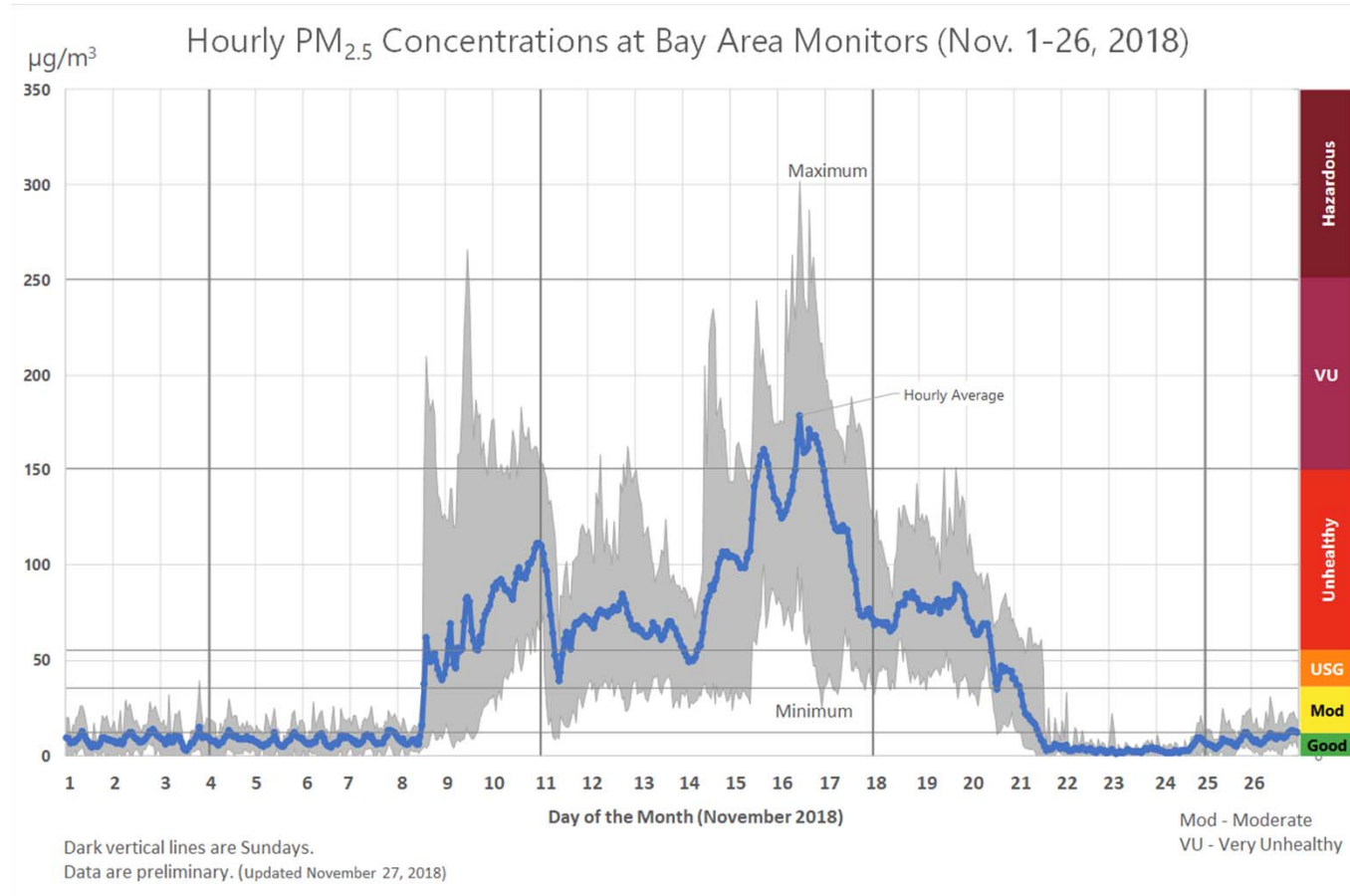
Camp Fire Impacts - November 16, 2018



Station	24-hour Avg. Concentration ($\mu\text{g}/\text{m}^3$)	1-hour Max. Concentration ($\mu\text{g}/\text{m}^3$)
Sebastopol	89	104
Napa	118	154
Vallejo	197	245
San Rafael	168	218
San Pablo	195	301
Oakland West	169	210
San Francisco	178	241
Livermore	172	287
San Jose Jackson	131	151



PM2.5 Concentrations





Health Messaging

- Keep children indoors and limit their activity
- Everyone stay indoors, windows & doors closed
- Utilize a “clean” room if available
- Limit outdoor activities
- No outdoor exercising
- If necessary, find a clean air space:
 - > local library
 - > shopping mall
 - > theater



Health Impacts

WILDFIRE POLLUTION HARMS HEALTH

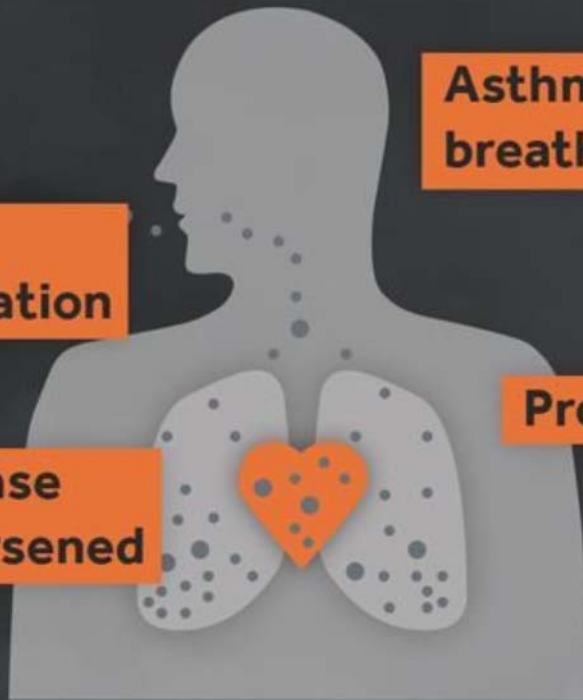
Fine particle (PM_{2.5}) effects

Eye, lung,
throat irritation

Asthma attacks,
breathing problems

Heart disease
effects worsened

Premature death

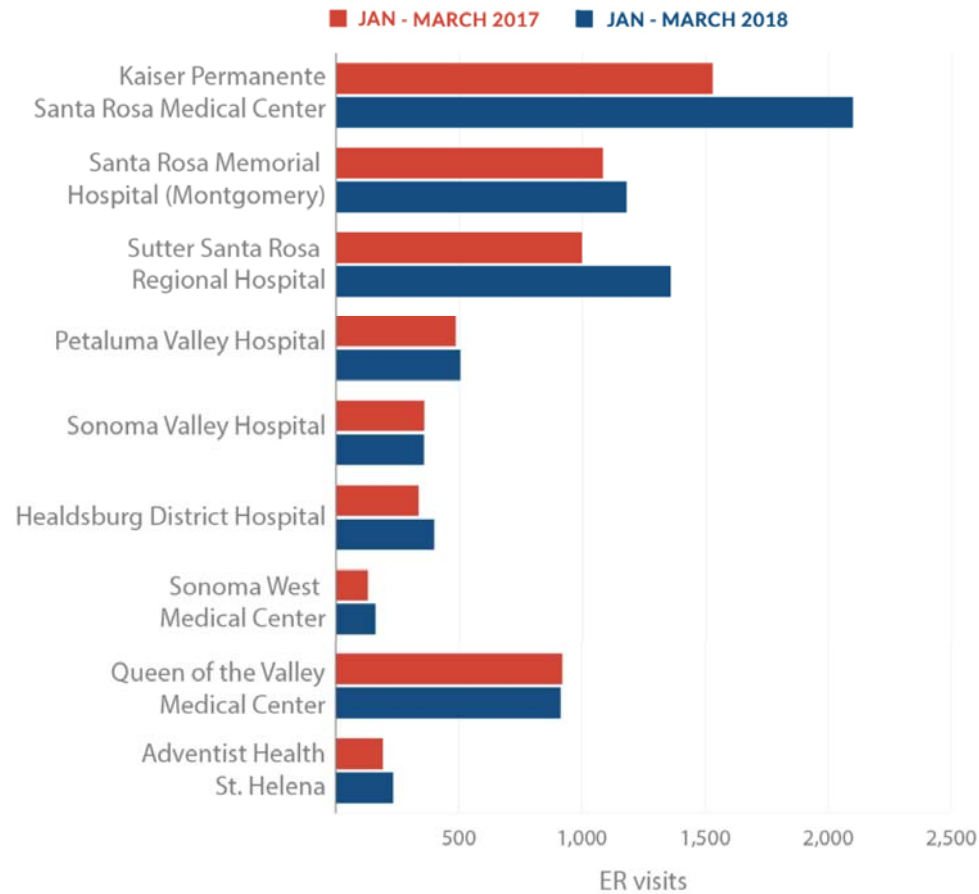


CLIMATE  CENTRAL



Emergency Room Visits Before and After the Tubbs Fire

Sonoma County Respiratory Visits



Source: California Office of Statewide Health Planning and Development, Reveal analysis
Credit: Gabriel Hongsdusit/Reveal



Bay Area Leadership



Messaging



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

SMOKE ADVISORY, SPARE THE AIR
 FOR IMMEDIATE RELEASE: October 10, 2017
 CONTACT: Ralph Borrman, 415-760-7000

HEALTH ADVISORY, SPARE THE AIR ALERT
 FOR IMMEDIATE RELEASE: October 10, 2017
 CONTACT: Health Office - 415-749-9500

Air District Issues Smoke
 North Bay still impacted by heavy smoke.

SAN FRANCISCO - Today, the Bay Area Air Quality Management District is issuing a health advisory for the North Bay and Marin counties. Very unhealthy air quality from wildfire smoke and changing wind patterns could be expected in the North Bay. Due to active wildfire and changing wind patterns, air quality is expected to be very unhealthy in the North Bay. Outside of the North Bay area, air quality will be unhealthy to very unhealthy. Air quality may improve at times or get worse, very quickly.

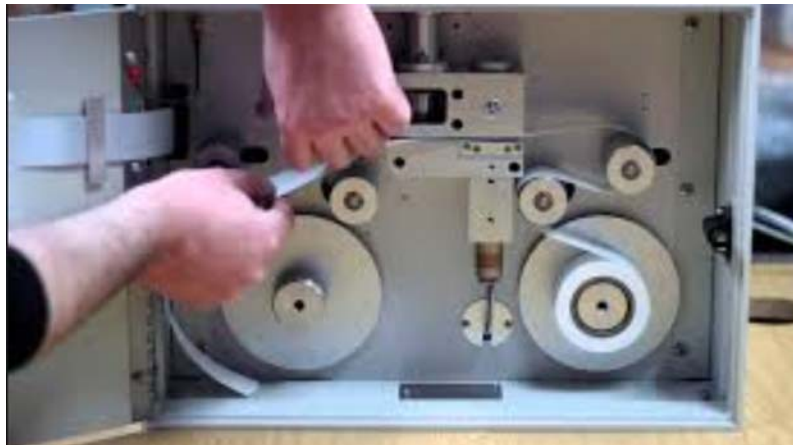
It is important that Bay Area residents protect their health, especially in North and Contra Costa counties, if it is recommended that residents, especially in heavy smoke areas, avoid outdoor activities. If it is recommended that residents, especially in heavy smoke areas, avoid outdoor activities, it is recommended that people and their administrators close air quality monitoring areas and allow children to be outside outdoor sports while air quality is unhealthy. Check here for real-time air quality readings: www.aqmd.gov

Check here for real-time air quality readings: www.aqmd.gov



Lessons Learned

Good	0 to 50
Moderate	51 to 100
Unhealthy for Sensitive Groups	101 to 150
Unhealthy	151 to 200
Very Unhealthy	201 to 300
Hazardous	301 to 500



Next Steps

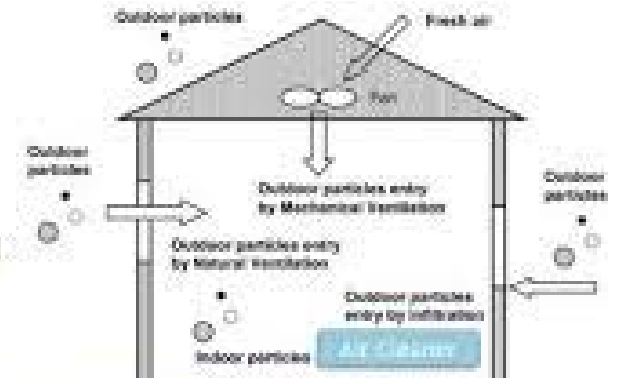


Clean Air Shelters

Limit infiltration from outdoors

Limit indoor air pollution

Clean indoor air (existing central air, HEPA, electrostatic precipitator)



Over 2011, Attachment: Environmental Protection Agency (EPA) and Health Services Authority



Lessons Learned

1. Wildfires are Erasing the Gains We Have Made in Reducing PM.
2. Forecasting Smoke Related Air Quality Events has Become Increasingly Important.
3. We Need to Rely More Heavily on Satellite Imagery.
4. Masks are Only Part of a Larger Solution to Protect the Public – But Require Clear Usage Information.
5. Models, while an important tool, Do Not Always Predict the Smoke Impacts Experienced by a Region.
6. Impacts Experienced are Different from other Air Pollutants– High Concentrations were Sustained 24 Hours a Day for 2 Weeks.
7. Health Messaging Should Be Kept Simple, Consistent and Repeated Often.
8. Strategy and Communication for Schools and Outdoor Sporting Events Need to be Developed.
9. Health Data is Important in Critical Messaging.
10. We Should Consider Other Metrics to Communicate to the Public.



Questions





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AGENDA: 5

Approval of Contract to Further Develop an Air Quality Technical Assistance Center for the Bay Area

Community and Public Health Committee Meeting
March 14, 2019

Eric Stevenson
Director of Meteorology and Measurements

Many Needs for Technical Assistance

Which sensor should I buy?

What does the data I collected mean?

How will the Air District use data I collect?

Where should I place my sensor?

What pollutant should I measure?

An example: Building Capacity



An example: Building Capacity



Center Overview

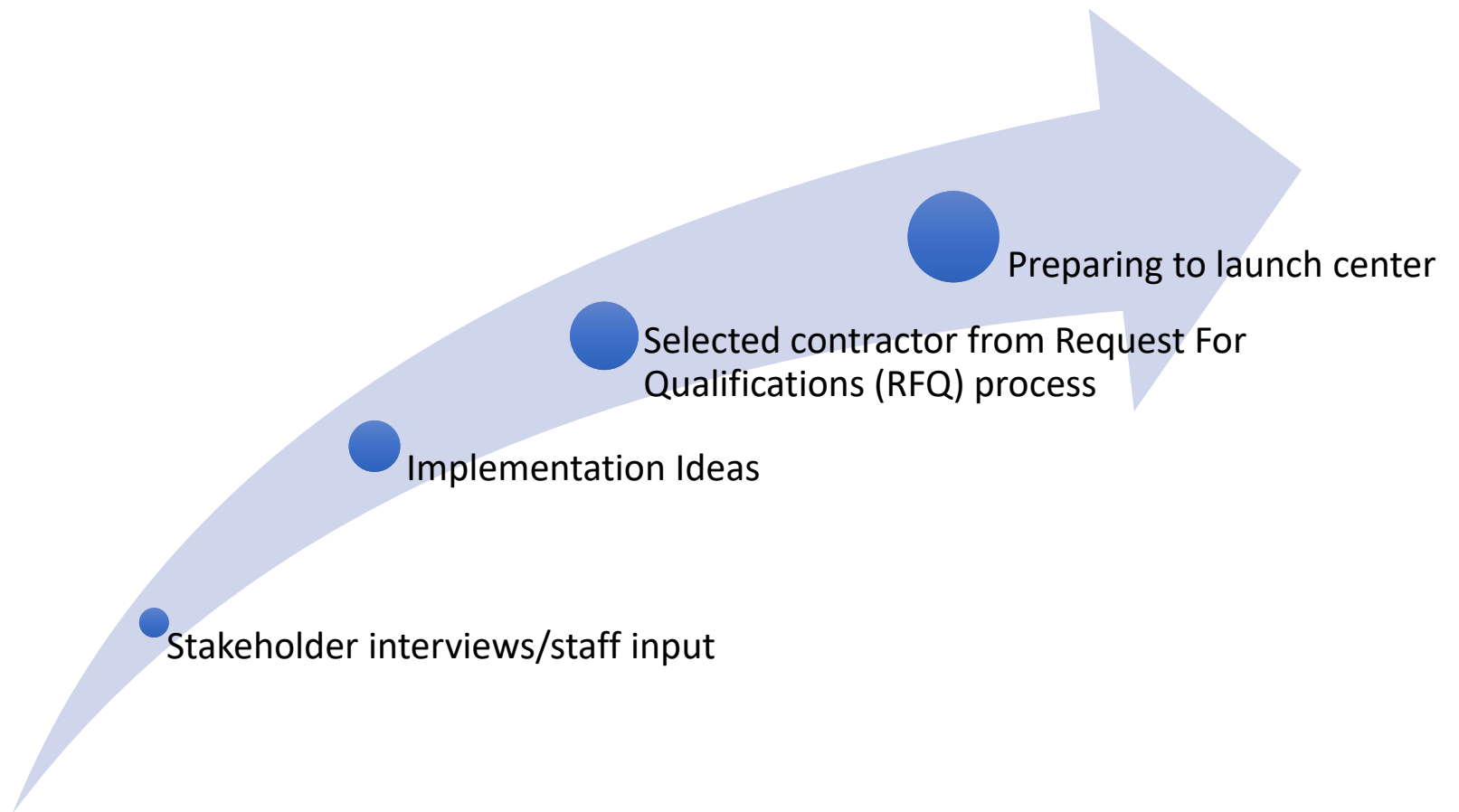
Purpose

Provide technical assistance for community air quality projects

Benefits

- ✓ Resources and expertise available through a third party
- ✓ Nimble and responsive support
- ✓ Resources resize or shift with demand
- ✓ Data integrity and accuracy
- ✓ Build community capacity
- ✓ Strengthen partnerships with community

Center Development Process



Center Services

Center will be operated by third party to provide:

Technical
Advice and
Guidance

End-to-end
Support

Education and
Training



Center Resources

Center
Website



Educational
Materials



In-
Community
Support



Next Steps and Timeline

Q2 2019	Q3 2019	Q4 2019 – Q2 2020
<ul style="list-style-type: none">• Check back with initial public stakeholders on plan• Develop onboarding process, systems, and materials• Have ongoing projects to test support and materials• Launch virtual Center	<ul style="list-style-type: none">• Build community awareness• Work with communities to develop Center evaluation process• Start onboarding new “end-to-end projects”	<ul style="list-style-type: none">• Continue providing “a la carte” and “end to end” project support• Year 1 evaluation



Support to community groups expands over time

Funding Source

- First phase of this contract is included in the Fiscal Year Ending (FYE) 2019 budget
- Remaining funds required for this contract will be allocated from the proposed FYE 2020 budget

Recommended Action

Recommend the Board of Directors authorize the Executive Officer/APCO to execute a contract with Kearns & West in an amount not to exceed \$540,000 to develop a technical assistance center for use by Bay Area community members.



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AGENDA: 6

Update on the James Cary Smith Community Grants for Fiscal Year Ending (FYE) 2019-2020 and Upcoming Assembly Bill (AB) 617 Capacity Building Community Grants

Community and Public Health Committee Meeting

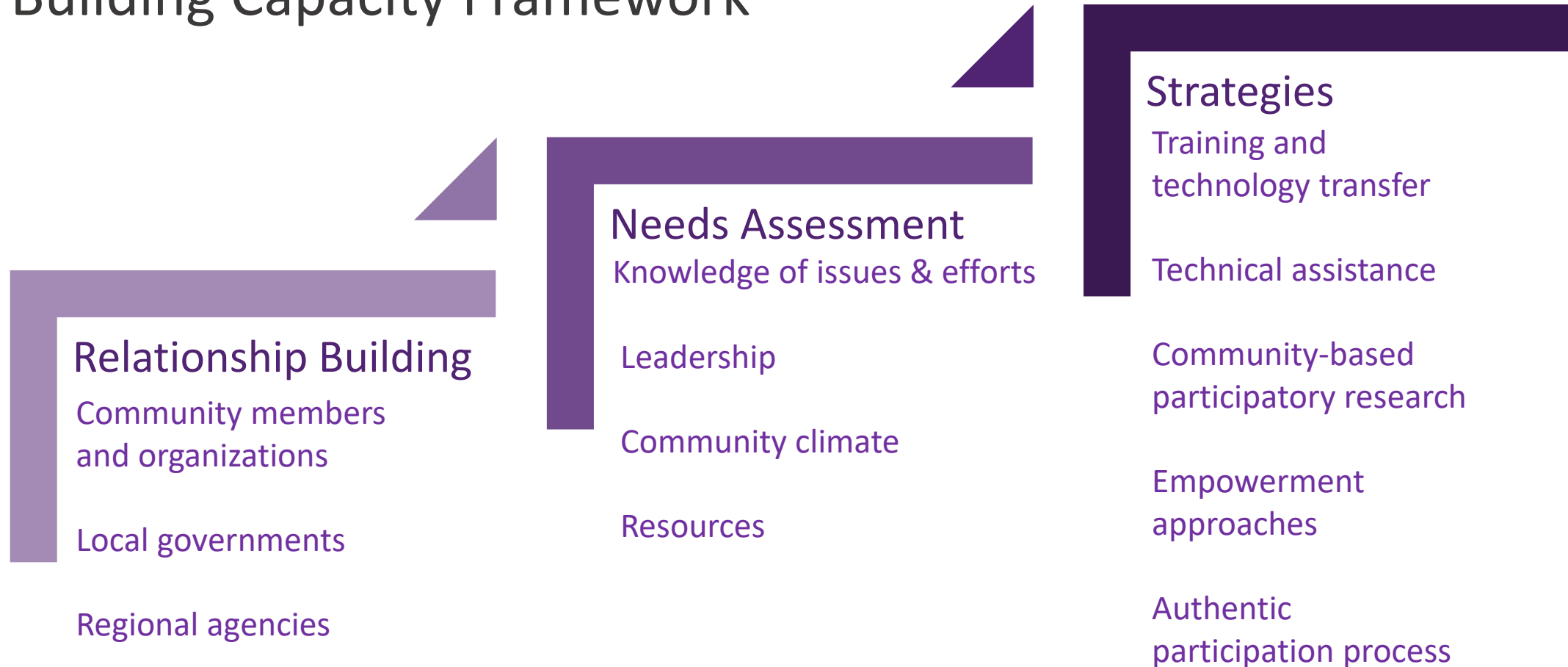
March 14, 2019

Luz Gomez

Manager, Community Engagement

Why Grants?

Building Capacity Framework



James Cary Smith Community Grants - FYE 2019 Update



- Established in 2015 as a way to promote and support efforts to reduce air pollution through direct collaboration with community members
- This is the fourth cycle of this program
- Board approved FYE 2019 Guidelines in September, 2017
 - \$50,000 remaining for School Community Grants
- Primary focus areas include:
 - Education and Engagement
 - Local Air Pollution Capacity Building Projects
 - Community-Based Participatory Research

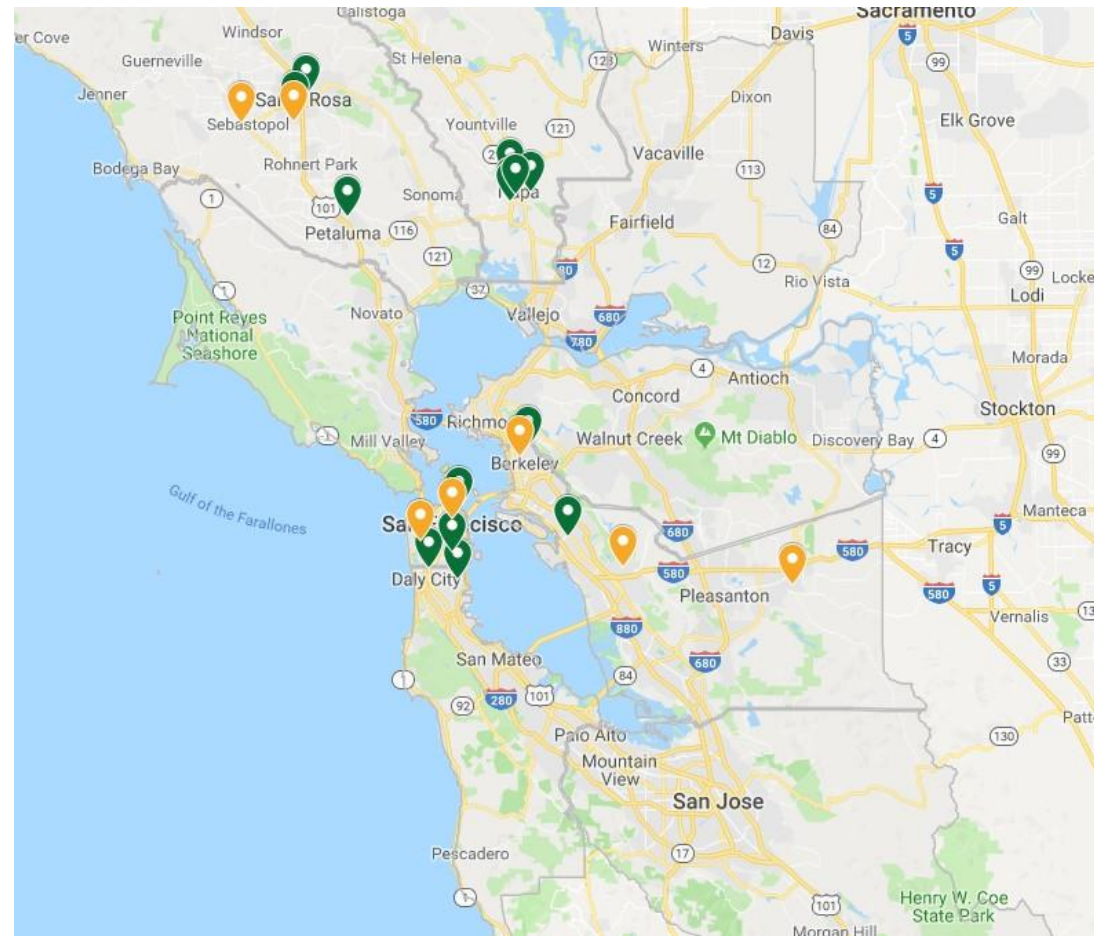
Education and Engagement: School Community Grants Program



- Request for Projects: December 7, 2018
- Grants up to \$2,500 for teachers and student/parent leaders in public K-12 schools
- A total of \$50,000 available
- Priority for low-income schools and schools located in communities highly impacted by air pollution
 - AB 617 communities
 - Community Air Risk Evaluation (CARE) communities
 - Projects in schools serving low-income students (at least 50% of students on free or reduced lunch programs).

School Community Grants Program: Results

- 39 applications received from 7 counties
- 15 projects selected for funding
 - 7 additional proposals pending technical review
- Projects include:
 - Idle free campaigns, urban greening projects, Earth Day poster contest, Chinese language bike fair, edible gardens, and more



Green = accepted for funding
Yellow = pending technical review

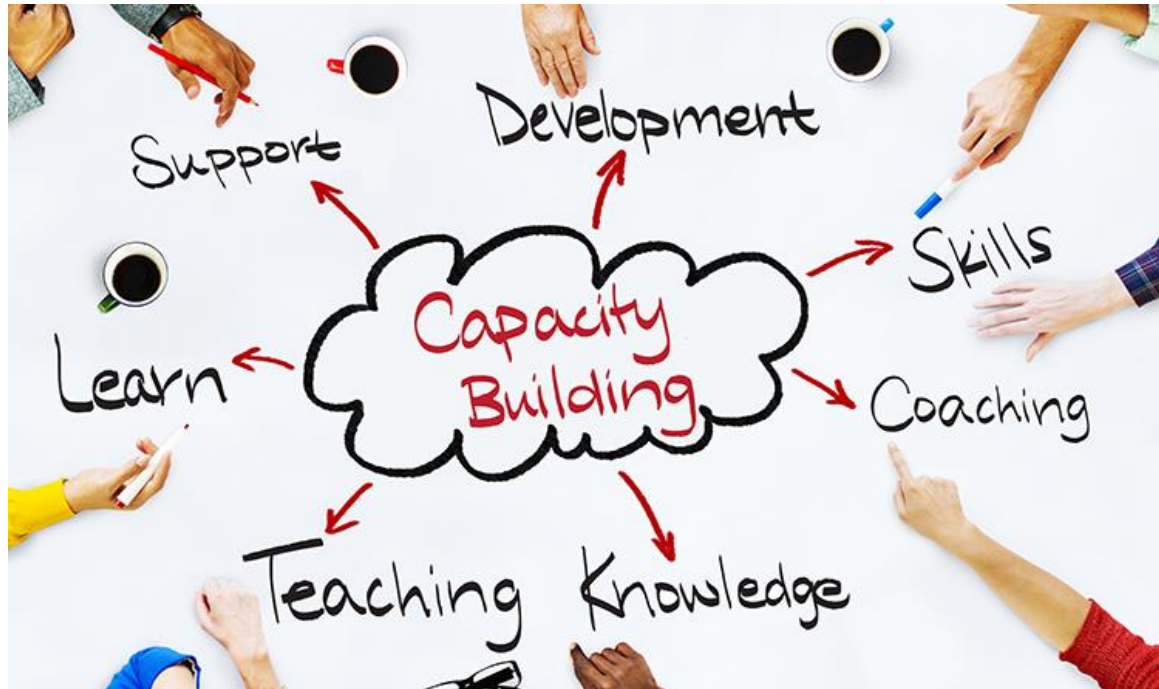
Upcoming Local Air Pollution Capacity Building Projects



- Developing Program Guidelines
- Goal: Call for Projects in late Spring, 2019
- Grants of up to \$10,000 for community-based organizations to implement community-based solutions to address air pollution
- A total of \$100,000 available
- Grants will fund non-technical activities such as active transportation educational campaigns, urban greening projects, and environmental justice community engagement projects

AB 617 Community-Led Capacity Building Grants

New Program for FYE 2019!



- \$250,000 for AB 617 priority communities (years 2-5):
 - Bayview Hunters Point, East Oakland/San Leandro Area, Vallejo, Pittsburg/Bay Point Area, San Jose, Tri-Valley Area
- Community-informed grant guidelines
- Goal: Call for Projects by late Spring 2019
- Grants will fund a range of activities meant to ready communities to partner with the Air District on AB 617

Questions?

Luz Gomez, MPH
Community Engagement Manager
lgomez@baaqmd.gov