



**BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT**

A high-angle photograph of the Golden Gate Bridge in San Francisco, showing traffic on the roadway and the city skyline in the background under a clear blue sky.

Update on Fires

Board of Directors Meeting

October 18, 2017

**Wayne Kino,
Director of Compliance & Enforcement**
Judith Cutino, Health Officer
**Eric Stevenson
Director of Meteorology and Measurement**
**Lisa Fasano
Communications Officer**

Overview

- Air District Discovery/Notification
- Air District Response Objectives
- Summary of Fires
- Health Effects of Smoke
- Air Monitoring and Quality
- Communications and Media
- Summary

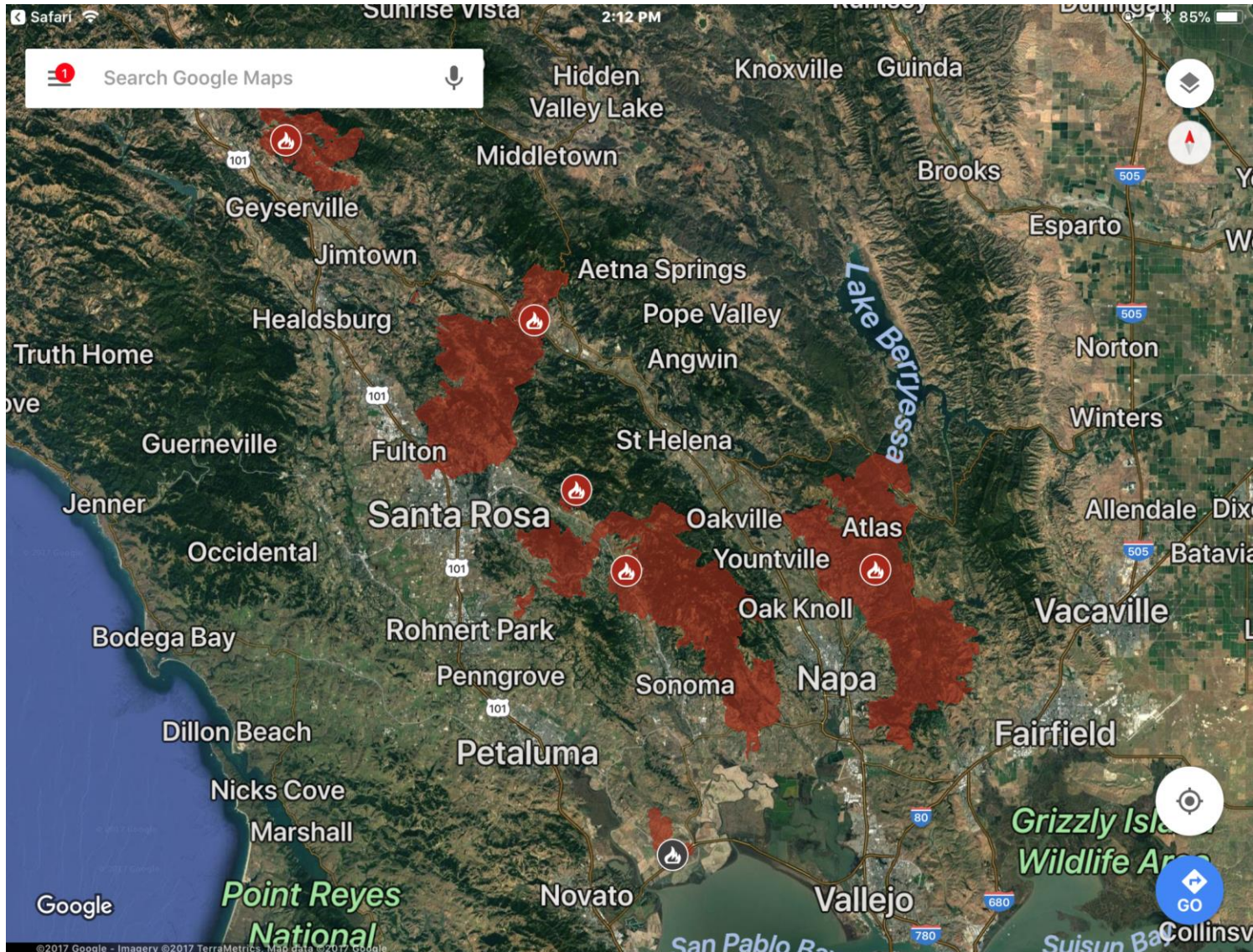
Discovery/Notification

- Observation of an accidental release
- Citizen complaints
- Emergency response agencies
- Media reports
- Facility notification
- Community Awareness & Emergency Response (CAER) program (Contra Costa County only)

Response Objectives

- Support first responders
- Identify the source and stop or minimize the emissions
- Gather information identifying emissions, community impacts, and equipment involved
- Determine additional Air District resources to be deployed
- Conduct sampling, modeling, lab analysis
- Coordinate effort with other relevant agencies

California Map of Fires

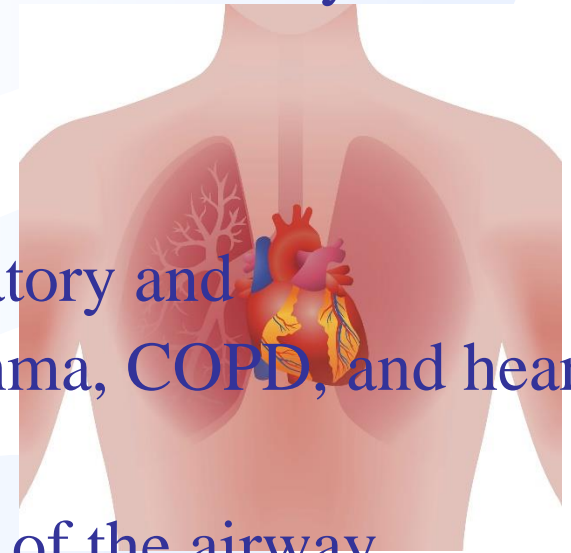


Fire Timeline

- On Sunday afternoon, standby staff responds to a wrecking yard/grass fire in Napa.
- By Sunday evening at approximately 10 pm, northern California 911 dispatchers were flooded with reports of fires.
- By Monday morning, over 20 fires are burning in California.
- On Monday morning, Air District issues a smoke and health advisory for the Bay Area.

Smoke Facts

- Composed of particulate matter and a mixture of various organic and inorganic gases.
- Exposure to high concentrations of smoke may cause:
 - Irritation of eyes, nose, throat, airway and lungs.
 - Chest tightness, cough, wheezing and difficulty breathing.
- More serious effects may include:
 - Exacerbation of pre-existing respiratory and cardiovascular disease such as asthma, COPD, and heart failure.
 - Bronchitis – chronic inflammation of the airway.
 - Increased risk of heart attack and stroke.



Reduce Exposure

- Stay Indoors with windows and doors closed
- Run air conditioner on recirculate, OR use freestanding indoor air HEPA filter
- Avoid outdoor activities, including exercise or sports while outdoor air is unhealthy
- Keep indoor air as clean as possible. Avoid activities that compromise indoor air, such as vacuuming, gas stoves, candles, ozone generators
- Seek a location with filtered air-conditioned air, such as a library or mall
- If outdoors for a prolonged period, an N95 particulate mask offers some protection.
- Spare the Air – curtail wood burning, lawn mowing, driving, and barbecuing

North Bay Wildfires

- On the evening of Sunday, October 8, numerous wildfires started in parts of Sonoma and Napa counties
- Air quality became unhealthy continued for several days due to ongoing fires and persistent northerly winds
- Relatively narrow but dense smoke plumes resulted in highly-variable air quality conditions
- Air District updated air quality forecasts early on Monday, October 9 to reflect wildfire smoke effects
- Air District provided regular air quality updates to partner agencies and organizations that requested them



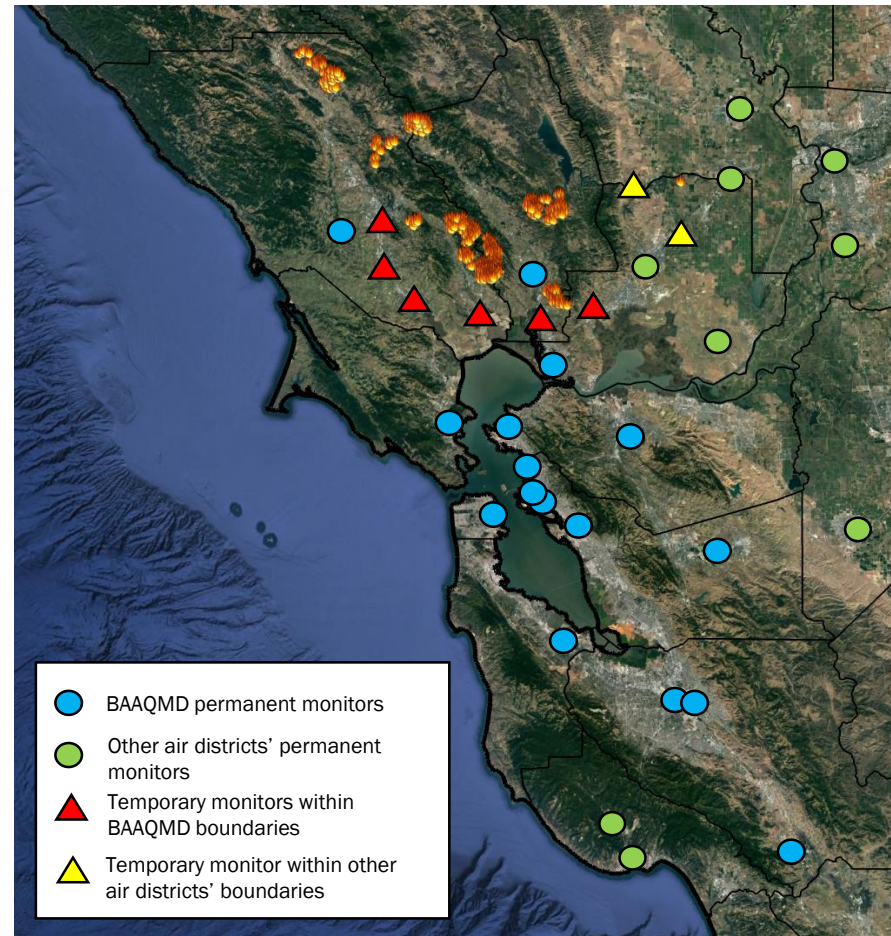
MODIS satellite image from Thursday 10/12/2017

Monitoring Response

- In addition to the Air District's 16 permanent PM_{2.5} stations, temporary monitors were deployed within the Air District's boundaries with the assistance of CARB and Sonoma Technology

- Santa Rosa
- Rohnert Park
- Petaluma
- Sonoma
- Napa (south)
- Cordelia

- These temporary monitors were positioned to more-closely assess air quality conditions immediately downwind of the fires



Summary of Daily Average PM_{2.5} Concentrations

($\mu\text{g}/\text{m}^3$) Color Coded by AQI Category (numbers are in *concentration* units, not AQI)

	Sun 10/08	Mon 10/09	Tue 10/10	Wed 10/11	Thu 10/12	Fri 10/13	Sat 10/14	Sun 10/15	Mon 10/16
Napa	25	86	N/A ¹	160	102	215	39	57	35
Napa Valley College	42	134	243	132	113	186	28	27	33
Napa (temporary)	N/A ³	N/A ³	N/A ³	102	108	171	20	19	24
Sonoma (temporary)	N/A ³	N/A ³	N/A ³	53	79	120	87	18	35
Cordelia (temporary)	N/A ³	N/A ³	N/A ³	N/A ³	N/A ³	143	31	11	16
Petaluma (temporary)	N/A ³	N/A ³	N/A ³	29	30	39	31	16	29
Rohnert Park (temporary)	N/A ³	N/A ³	N/A ³	N/A ³	23	51	33	21	40
Santa Rosa (temporary)	N/A ³	N/A ³	N/A ³	N/A ³	N/A ³	N/A ³	N/A ³	N/A ³	N/A ³
Sebastopol	4	57	82	26	20	34	18	20	50
San Rafael	10	75	66	29	56	40	26	10	15
Vallejo	11	34	73	66	80	102	18	11	17
San Francisco	15	35	46	25	50	35	21	10	23
San Pablo	12	43	69	33	59	71	26	11	33
Berkeley	9	24	42	30	47	49	21	12	24
Oakland West	12	29	35	34	55	56	23	13	31
Oakland East	11	19	21	45	58	70	28	11	19
Laney College	14	28	33	38	63	71	26	16	28
Concord	12	22	26	89	63	60	31	14	19
Livermore	9	19	18	38	34	23	9	10	14
Redwood City	N/A ²	N/A ²	30	46	61	58	25	10	20
San Jose Jackson	N/A ²	N/A ²	21	39	34	48	26	10	19
San Jose Knox	N/A ²	N/A ²	24	37	40	50	24	13	20
Gilroy	10	11	15	41	35	48	28	8	12

Air Quality Index	
	Good
	Moderate
	Unhealthy for Sensitive Groups
	Unhealthy
	Very Unhealthy

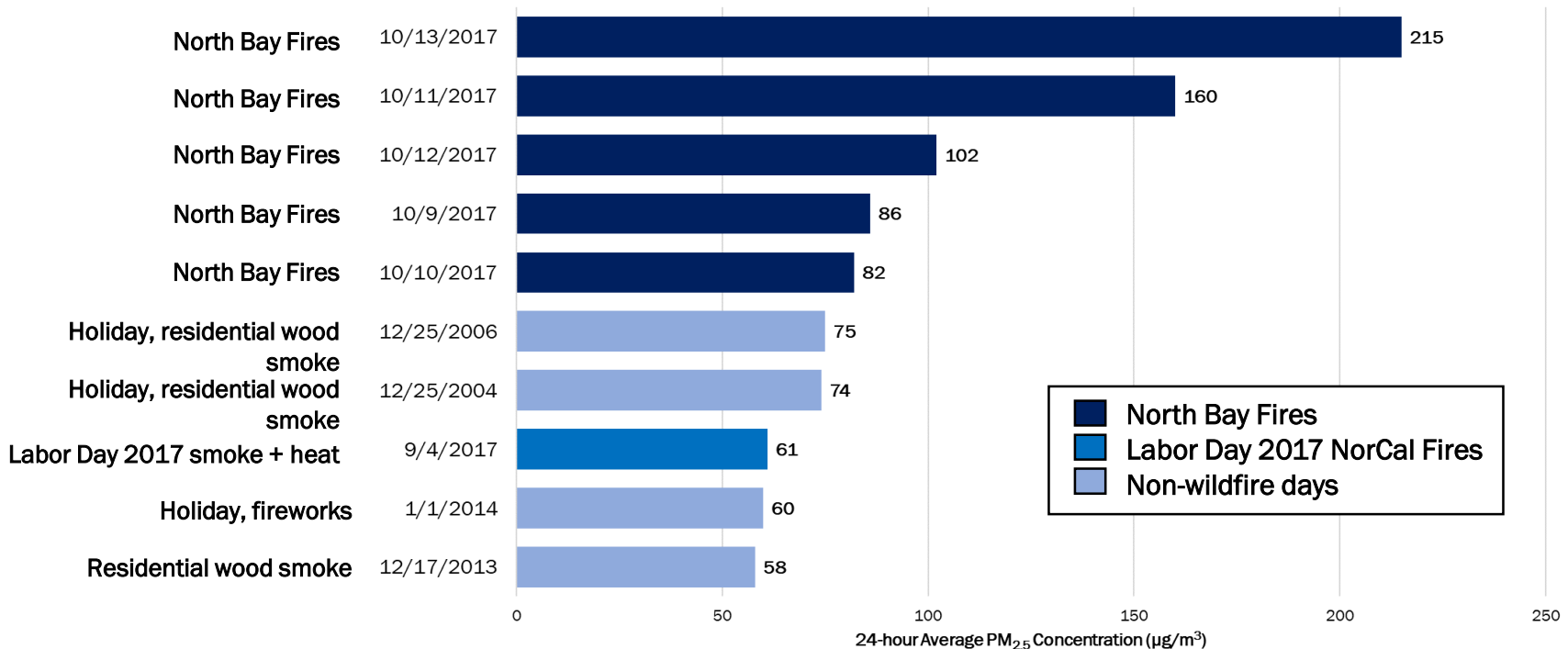
¹ Power/communications down at station

² Monitor undergoing maintenance

³ Temporary monitor not yet operational

Historical PM_{2.5} Days

Top Ten PM_{2.5} Days in the Bay Area since 2003



- Five of the top ten PM_{2.5} days are attributable to smoke from the 2017 North Bay Fires
- Data above do not include data from temporary monitors or Napa Valley College

Communicating Air Impacts

- **Developed** brief, active talking points
- **Focused** on Air District expertise
- **Responded** quickly to media & public info requests
- **Social media** helped move messages out further
- **Credibility** key: stayed in Air District's lane
- Air District **air quality expert** in the region
- Comms, Web Team, Meteorology, Compliance & Health Officer worked effectively as a team



Communicating Air Impacts

- Over **200 media calls** the past week
- Local, regional and national coverage
- Over **500 public calls** including:
 - School Districts
 - Public health nurses
 - High School & College athletic departments
- Reach this week on Facebook **102,906** and Twitter **632.4K**
 - Total reach: **735,306**
- This week's number of Instagram impressions: **2,445** (from 4 posts)
 - Averaged **68 "Likes"** per photo
- Increased follower count:
 - Facebook **1,767**; Twitter **3,266**; Instagram **947**



Summary

- Monitoring air quality and providing air quality data
- Communicating air quality impacts
- Aiding first responders by:
 - Providing and distributing over 40,000 N95 particulate masks (handout with locations)
- Preparing for the post fire clean-up



Lessons Learned

Prepare for future incidents by improving:

- **Communications:**
 - Develop additional methods to provide air quality information to the appropriate audience.
 - Improve communication of air quality impacts to affected parties during extraordinary events.
- **Response:**
 - Developing specialized incident response teams.
 - Reinforcing relationships with local, state and federal emergency response agencies.
- More to come.

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Richard Lew
Richard Murray
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