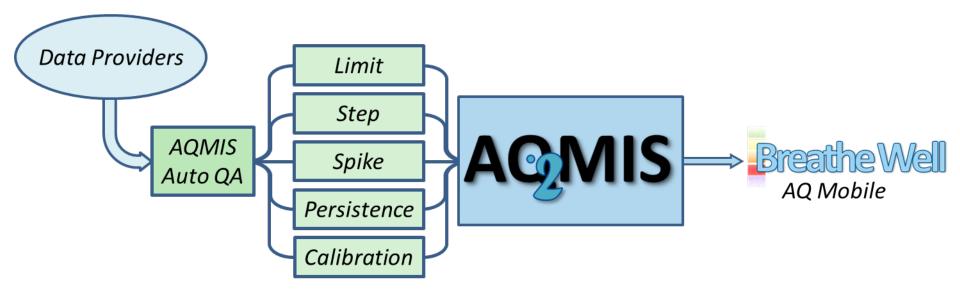
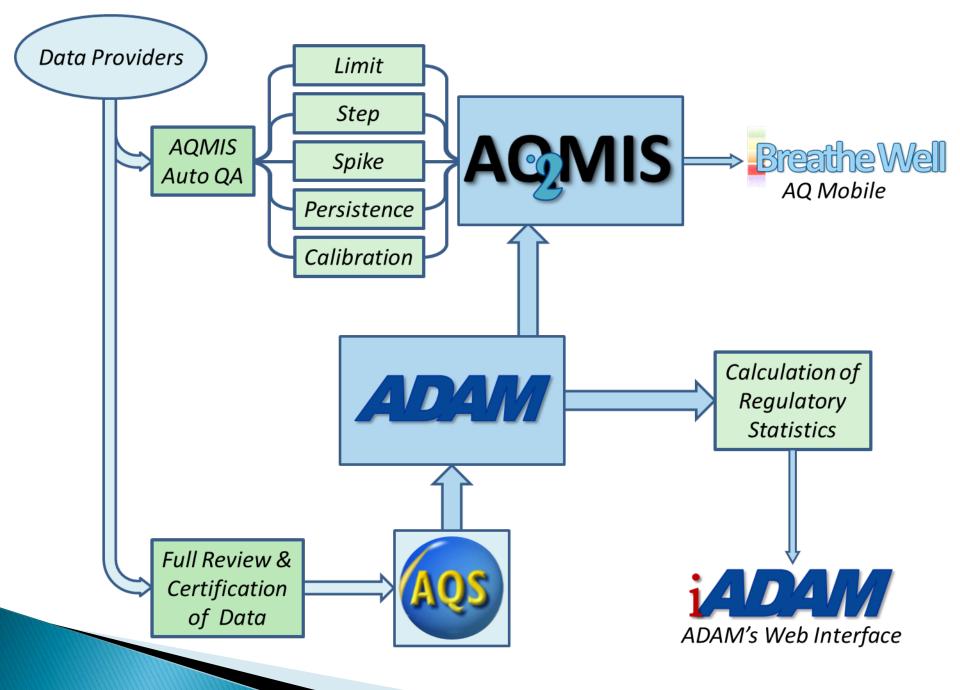
## ARB's Air Quality Data Systems

AQMIS and ADAM

Mena Shah

January 24, 2017





# History of AQMIS

- ▶ 1990s Contract with Chico State
- ▶ 2004 ARB AQMIS II
- 2008 Merged database
- ▶ 2013 Breathe Well mobile application
- 2016 Continuously running

# **AQMIS**

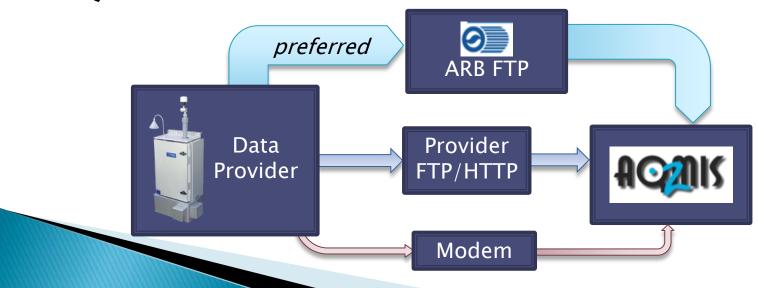
- Raw hourly data
  - 25 air quality parameters
  - 16 meteorological parameters
- Automated quality assurance routines
  - Improved data capture issues become apparent sooner
- Map displays of hourly data
- Data download and Graphing capability
- Mobile Web "Breathe Well" (https://mobile.arb.ca.gov/breathewell)

# **AQMIS Data Sources**

- Air Quality
  - Over 260 sites in California
  - 31 sites in Mexico
- California's local districts, ARB, and various national sources
- Air quality data from special studies, temporary sites, and events
- Meteorological
  - Air quality sites
  - Exclusive meteorological sites

# **AQMIS Data Streams**

- AQMIS gets preliminary data in 3 ways:
  - Providers send data file to the ARB-owned FTP server. This is the preferred method.
  - AQMIS pulls data file from the provider's FTP or HTTP site.
  - <u>Least preferred method:</u> AQMIS dials provider's modem.
- ADAM official data replace preliminary data in AQMIS



# Network Changes

- Preferred: Set up the new site and monitors in USEPA's AQS system
- Contact AQMIS through email at <u>aqmis@arb.ca.gov</u>
  - New sites
  - Moving sites
  - Terminated sites
- The new site information in USEPA's AQS system will propagate into AQMIS and ADAM databases

# New and Future Developments in AQMIS

## New:

- ARB's Greenhouse Gas Monitoring Network
  - CH<sub>4</sub>, CO, CO<sub>2</sub>, & N<sub>2</sub>O at 5 sites in CA
- Near-Roadway sites

## Future:

- Statistics related to the newly promulgated 2015 8-hr ozone standard of 0.070 ppm
- Long-term trends of ozone

# **AQMIS Main Page**

## Air Quality and Meteorological Information System

AQMIS provides a combination of preliminary (real-time) and official (historical) data.

Preliminary data are subject to change.

AQMIS data are in PST

This page last reviewed June 24, 2016

Breathe Well

AQMIS has gone mobile! View the most up-to-date ozone and PM2.5 concentrations near you or at over 150 cities across California on your mobile device.

Latest Ozone

For selected areas within the state, provides information on maximum ozone concentrations for yesterday, today, and for the year so far.

Latest Year's Ozone

For selected areas within the state, provides information on ozone exceedances for the last three years and current year so far. Results can be viewed at site level if desired.

Air Quality Data

Query tool to obtain both preliminary and official air quality data by selecting a time frame, an area of the state, and the type of report. Results can be clicked through for more detail.

Meteorological Data

Query tool to obtain real-time or historical meteorological data by selecting parameter, time period, area of the state, and report format. Results can be clicked through for more detail.

Google Maps

Customizable visual display of air quality or meteorological parameters using color-coded dots at site locations. Allows panning and zooming and satellite and terrain views.

Greenhouse Gas (GHG) Data **NEW!** Query tool to obtain both preliminary and official Greenhouse Gas (GHG) data by selecting a time frame, an area of the state, and the type of report. Results can be clicked through for more detail.

# Latest Year's Ozone Summary (In development)

Breathe Well

Latest Ozone

Latest Year's Ozone

Air Quality Data

Meteorological Data

Google Maps

Greenhouse Gas (GHG) Data

#### Latest Year's (Annual) Ozone Summaries for Selected Regions (PST)

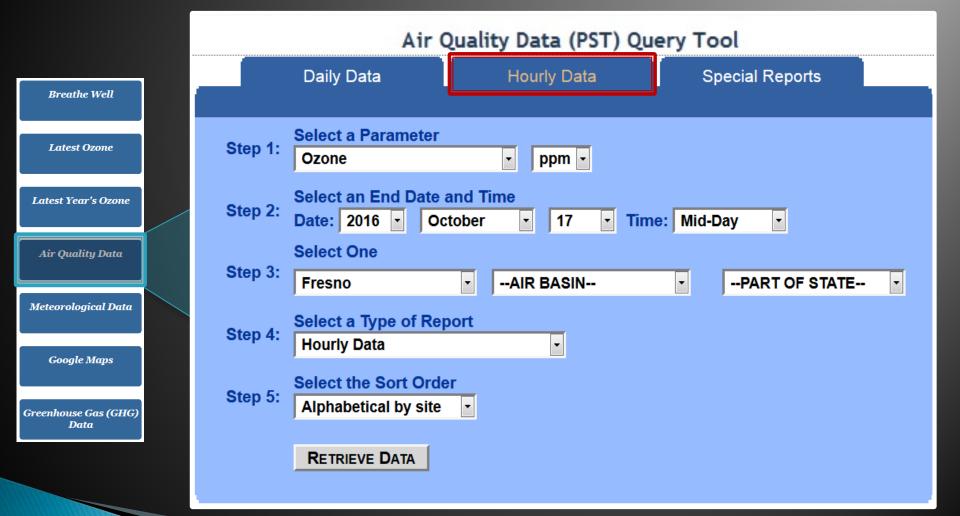
Data on this page extracted on October 27, 2016 at 14:28:15

Year 2013, 2014 and 2015 are whole years Year 2016 data are through 10/27/2016

Click Here to view data for all years through yesterday

		Exceed	dance Days	2		mum		Design	
		State 8-hr Std	National	8-hr Std	Concentra	tion (ppm) <sup>3</sup>	Value (ppm) <sup>4</sup>		
Region	Year	0.070 ppm	0.075 ppm	0.070 ppm	1-hr	8-hr	8-hr Std 0.075 ppm	8-hr Std 0.070 ppm	
	2013	30	16	30	0.117	0.087	0.09	0.09	
Sacramento	2014	54	29	51	0.107	0.09	0.085	0.085	
Metropolitan Area <sup>5</sup>	2015 <sup>1</sup>	<u>38</u>	<u>15</u>	<u>36</u>	0.122	<u>0.1</u>	<u>0.081</u>	<u>0.081</u>	
	<u>2016¹</u>	<u>38</u>	<u>27</u>	<u>5</u>	<u>0.114</u>	0.099	N/A	0.079	
	2013	28	7	25	0.095	0.082	0.08	0.08	
Can Diogo Air Basin	2014	36	12	33	0.1	0.087	0.079	0.079	
San Diego Air Basin	2015 <sup>1</sup>	<u>36</u>	<u>13</u>	<u>34</u>	0.098	0.084	0.079	0.079	
	<u>2016¹</u>	<u>30</u>	<u>11</u>	<u>9</u>	<u>0.1</u>	<u>0.087</u>	<u>N/A</u>	0.077	

# Air Quality Data Query



# Hourly Data Display

Fresno County **Hourly Ozone Breathe Well** 10/17/2016 MIDDAY Parts Per Million (ppm) <<< Hours 00-07 Hours 08-15 Hours 16-23 >>> Whole Day Latest Ozone Day's Max Day's Avg 08 - 09 09 - 10 10 - 11 11 - 12 12 - 13 13 - 14 14 - 15 15 - 16 (Graphit) **Bas Cnty** Site Name SJV FRE 0.033 0.042 0.044 0.049 0.048 Clovis-N Villa Avenue 0.049 0.033 0.039 0.048 Latest Year's Ozone SJV FRE 0.034 0.046 0.045 Fresno-Drummond Street 0.046 0.03 0.029 0.037 0.039 0.042 0.043 SJV FRF Fresno-Garland 0.049 0.033 0.032 0.036 0.039 0.042 0.044 0.048 0.049 0.049 SJV FRE Fresno-Sierra Skypark #2 0.048 0.031 0.033 0.041 0.044 0.042 0.048 0.047 0.025 0.038 Air Quality Data SJV FRE Parlier 0.05 0.031 0.036 0.040 0.042 0.045 0.046 0.048 0.050 0.050 Tranquility-32650 West Adams Avenue 0.048 0.029 0.039 0.043 0.044 0.045 0.048 0.048 SJV FRE 0.036 View Daily Data for this Area Pick Sites/Dates for Download Get Additional Information on Sites Meteorological Data Download Data: Quick or Select Format Google Maps Cell color is yellow if state 1-hour standard level is exceeded. **Change Selection** Hours listed are in Pacific Standard Time. Add one hour to convert to PDT. 2016 -October 17 Blank values indicate data not available. Ozone ppm -Greenhouse Gas (GHG) Check up to 4 boxes and click "Graphlt" button to see a graph. Sort: Basin/County/Site Data **Daily Average** 

UPDATE DISPLAY

# Hourly Data Graph



Latest Ozone

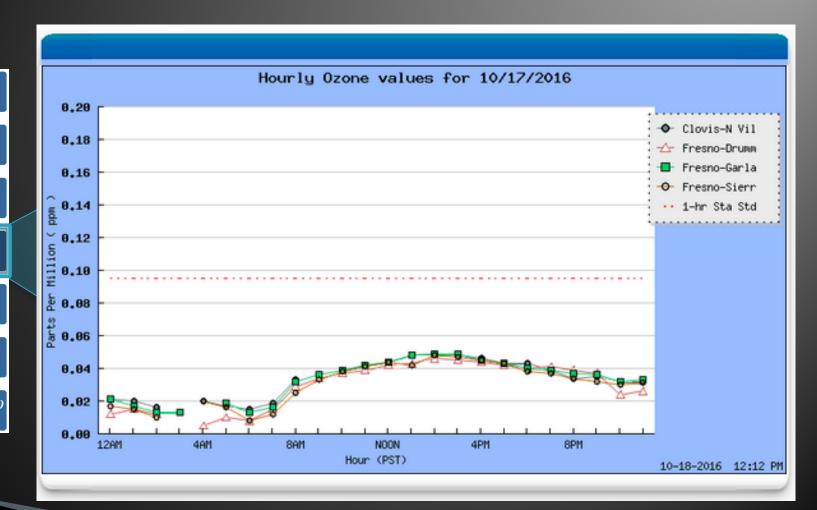
Latest Year's Ozone

Air Quality Data

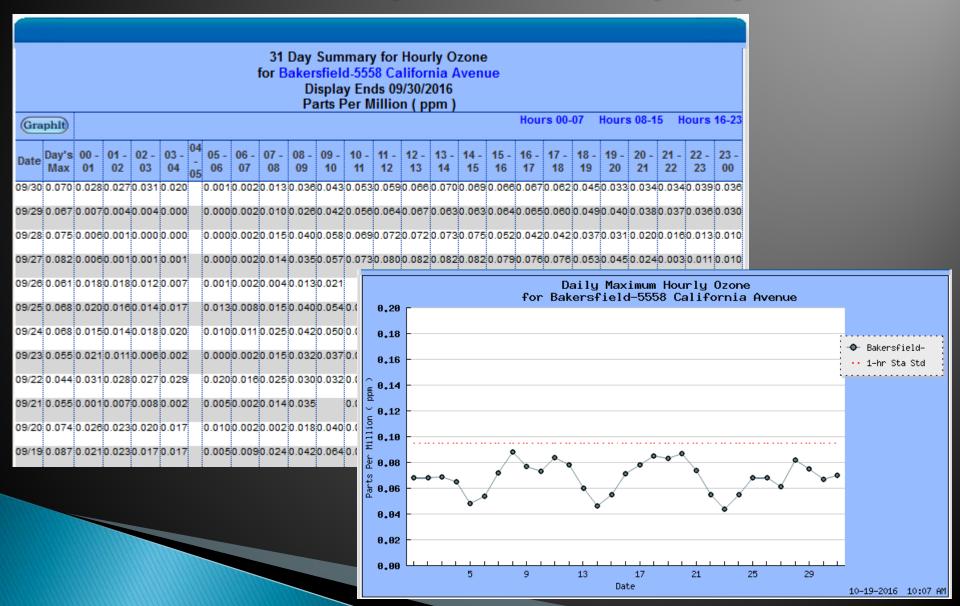
Meteorological Data

Google Maps

Greenhouse Gas (GHG) Data



# Monthly Data Display



# By Year

# Annual Summaries

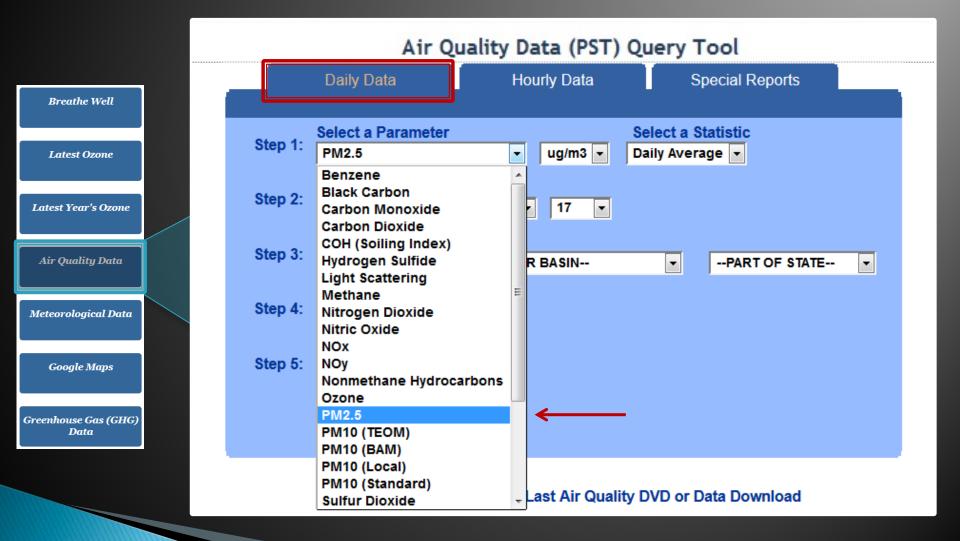
	Multiyear Ozone for San Joaquin Valley Air Basin ending in 2016 Parts Per Million ( ppm )												
	Exceedance Days Maximum												
Year State National Concentration													
	1-hr 8-hr 8-hr 1-hr 8-hr												
<u>2016*</u>	<u>51</u>	<u>112</u>	<u>88</u>	<u>0.131</u>	<u>0.101</u>								
<u>2015*</u>	<u>47</u>	<u>99</u>	<u>82</u>	<u>0.135</u>	<u>0.110</u>								
2014	52	140	95	0.128	0.104								
2013	2013 41 112 89 0.123 0.106												
2012 72 134 105 0.135 0.116													

San Joaquin Valley Air Basin
Annual Ozone Summary Data
2016
Parts Per Million ( ppm )

	Tarta Common ( ppm )											
			Exc	ceeda	nce Days	Maximum Co	oncentration	Ozone				
Basin	County	Monitoring Site	Sta	ate	National	Parts Per Mi	llion ( ppm )	Season				
			1-hr	8-hr	8-hr	1-hr	8-hr	Covered (%)				
SJV	Fresno	Clovis-N VIIIa Avenue	26	63	46	0.113	0.095	33				
SJV	Fresno	Fresno-Drummond Street	13	60	32	0.117	0.093					
SJV	Fresno	Fresno-Garland	15	58	37	0.117	0.091	1				
SJV	Fresno	Fresno-Sierra Skypark #2	6	45	26	0.108	0.089	58				
SJV	Fresno	Parller	28	79	52	0.131	0.101	15				
SJV	Fresno	Tranquility-32650 West Adams Avenue	0	21	7	0.093	0.081	0				

# By Site

# Air Quality Data Query



# 24-hour Average PM2.5 BAM

**Breathe Well** 

Latest Ozone

Latest Year's Ozone

Air Quality Data

Meteorological Data

Google Maps

Greenhouse Gas (GHG) Data

	Clovis-N Villa Avenue (D) Daily Average PM25 Hourly Data 2015											
				M	licrograms	s/Cubic Me	ter ( ug/m	3)				
Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	24.8	32.5	5.4	5.0	9.3	8.8	16.0	11.1	12.6	13.0	12.4	28.8
2	18.6	28.5	3.6	5.1	4.6	6.2	16.3	13.8	11.9	10.5	3.6	36.0
3	23.5	38.5	7.1	9.8	5.8	5.8	13.1	13.3	6.6	10.5	6.4	15.5
4	31.5	21.0	15.5	8.7	9.4	7.6	17.0	11.9	7.4	9.9	15.5	7.2
5	30.4	4.9	9.0	2.5	11.0	9.5	12.4	15.8	6.5	8.1	18.0	22.0
6	38.2	7.2	11.6	1.6	8.2	10.0	9.5	16.5	10.3	11.2	21.5	25.2
7	45.8	5.1	18.3	3.8		8.0	12.5	17.8	19.8	17.1	24.3	25.4
8	57.3		12.8	2.8		13.9	11.1	20.0	28.4	21.8	18.1	30.0
9	64.2	4.0	14.2	13.1		15.7	10.1	17.6	34.3	24.7		40.7
10	66.4	12.3	10.9	14.0		9.1	12.5	10.8	27.3	19.3	7.7	34.9
11	80.8	25.5	10.6	4.8		12.6	11.6	8.9	26.3	14.2	17.4	9.1
12	64.4		18.9	7.5	8.1	14.5	11.9	10.8	19.3	16.6	18.8	18.1
13	53.3		21.5	10.6	7.5	13.4	16.7	10.5	20.3	17.6	30.8	17.6
14	37.5		10.5	3.8	6.1	14.7	11.0	10.0	22.4	16.8	34.7	6.2
15	24.1		7.0	7.6	6.1	14.4	11.9	14.3	8.6	18.5	25.2	14.9
16	26.6		7.5	9.5	7.6	16.7	14.7	23.4	4.5	19.3	4.7	19.8
17	32.2		7.9	10.8	8.8	15.8	15.0	22.6	8.1	15.5	13.9	32.9
18	29.6		4.5	10.3	6.8	12.5	14.6	32.0	10.1	3.8	20.1	23.2
19	26.4		9.9	10.3	8.6	9.7	15.8	22.8	13.5	6.5	25.0	23.8
20	12.6		16.6	11.5	9.5	10.7	17.9	16.8	20.7	12.7	33.6	13.1
21	8.0		9.5	10.0	9.1	6.9	13.4	22.8	15.1	13.7	35.9	10.0
22	17.6		6.6	11.3	8.2	8.3	9.7	14.7	10.7	14.8	26.0	1.6
23	20.3		4.7	14.9	10.9	9.7	10.7	19.1	9.9	16.1	21.4	4.6
24	27.2		5.6	6.8	12.3	13.6	9.3	13.7	15.9	19.9	26.1	11.3
25	17.3		10.5	4.6	10.2	20.6	8.2	12.8	15.6	19.1	8.6	12.1
26	31.5		10.2	6.9	8.5	19.3	11.2	12.8	7.2	18.6	13.2	18.6
27	16.5	16.0	11.2	14.3	9.3	17.5	11.9	12.4	12.1	19.2	17.7	27.6
28	21.0	2.5	9.0	10.7	9.8	12.5	14.3	14.1	18.7	11.4	19.9	18.8
29	33.8		12.1	10.8	10.6	13.6	19.4	11.9	15.0	15.8	23.8	20.3
30	36.6		11.9	11.5	10.6	18.5	20.7	9.5	14.5	15.5	21.6	24.0
31	43.5		5.3		8.3		20.8	10.9		12.4		36.5
MAX:	80.8	38.5	21.5	14.9	12.3	20.6	20.8	32.0	34.3	24.7	35.9	40.7



# 24-hour Average PM2.5 BAM

Breathe Well

Latest Ozone

Latest Year's Ozone

Air Quality Data

Meteorological Data

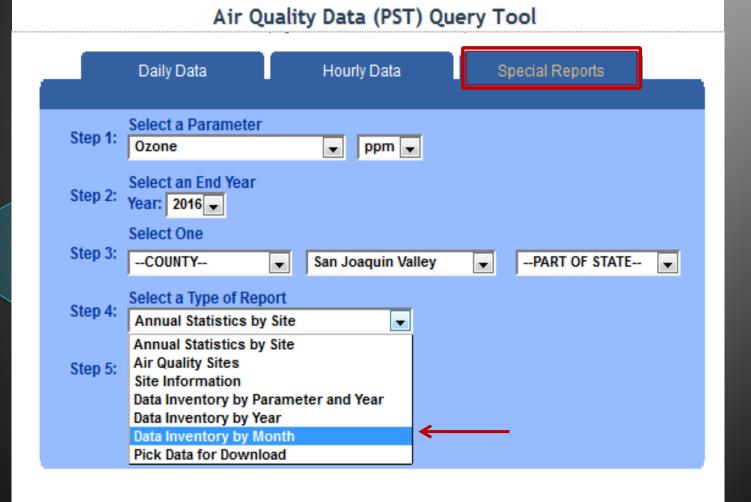
Google Maps

Greenhouse Gas (GHG) Data

Clovis-N Villa Avenue (D) Daily Average PM25 Hourly Data 2015 Micrograms/Cubic Meter ( ug/m³ )												
Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	24.8	32.5	5.4	5.0	9.3	8.8	16.0	11.1	12.6	13.0	12.4	28.8
2	18.6	28.5	3.6	5.1	4.6	6.2	16.3	13.8	11.9	10.5	3.6	36.0
3	23.5	38.5	7.1	9.8	5.8	5.8	13.1	13.3	6.6	10.5	6.4	15.5
4	31.5	21.0	15.5	8.7	9.4	7.6	17.0	11.9	7.4	9.9	15.5	7.2
5	30.4	4.9	9.0	2.5	11.0	9.5	12.4	15.8	6.5	8.1	18.0	22.0
6	38.2	7.2	11.6	1.6	8.2	10.0	9.5	16.5	10.3	11.2	21.5	25.2
7	45.8	7.2 5.1	18.3	3.8	0.2	8.0	12.5	17.8	19.8	17.1	24.3	25.4
8	57.3	5.1	12.8	2.8		13.9	11.1	20.0	28.4	21.8	18.1	30.0
9	64.2	4.0	14.2	13.1		15.7	10.1	17.6	34.3	24.7	10.1	40.7
10	66.4	12.3	10.9	14.0		9.1	12.5	10.8	27.3	19.3	7.7	34.9
11	80.8	25.5	10.6	4.8		12.6	11.6	8.9	26.3	14.2	17.4	9.1
12	64.4	25.5	18.9	7.5	8.1	14.5	11.9	10.8	19.3	16.6	18.8	18.1
13	53.3		21.5	10.6	7.5	13.4	16.7	10.5	20.3	17.6	30.8	17.6
14	37.5		10.5	3.8	6.1	14.7	11.0	10.5	20.3	16.8	34.7	6.2
15	24.1		7.0	7.6	6.1	14.7	11.9	14.3	8.6	18.5	25.2	14.9
16	26.6		7.5	9.5	7.6	16.7	14.7	23.4	4.5	19.3	4.7	19.8
17	32.2						15.0		8.1			32.9
			7.9	10.8	8.8	15.8		22.6		15.5	13.9	
18	29.6 26.4		4.5	10.3	6.8	12.5	14.6	32.0	10.1	3.8	20.1	23.2
19 20			9.9	10.3	8.6	9.7	15.8	22.8	13.5	6.5	25.0	23.8
21	12.6 8.0		16.6	11.5	9.5	10.7	17.9	16.8	20.7	12.7	33.6	13.1
			9.5	10.0	9.1	6.9	13.4	22.8	15.1	13.7	<u>35.9</u>	10.0
22	17.6		6.6	11.3	8.2	8.3	9.7	14.7	10.7	14.8	26.0	1.6
23	20.3		4.7	14.9	10.9	9.7	10.7	19.1	9.9	16.1	21.4	4.6
24	27.2		5.6	6.8	12.3	13.6	9.3	13.7	15.9	19.9	26.1	11.3
25	17.3		10.5	4.6	10.2	20.6	8.2	12.8	15.6	19.1	8.6	12.1
26	31.5	40.0	10.2	6.9	8.5	19.3	11.2	12.8	7.2	18.6	13.2	18.6
27	16.5	16.0	11.2	14.3	9.3	17.5	11.9	12.4	12.1	19.2	17.7	27.6
28	21.0	2.5	9.0	10.7	9.8	12.5	14.3	14.1	18.7	11.4	19.9	18.8
29	33.8		12.1	10.8	10.6	13.6	19.4	11.9	15.0	15.8	23.8	20.3
30	36.6		11.9	11.5	10.6	18.5	20.7	9.5	14.5	15.5	21.6	24.0
31	43.5		5.3		8.3		20.8	10.9		12.4		36.5
MAX:	80.8	38.5	21.5	14.9	12.3	20.6	20.8	32.0	34.3	24.7	35.9	40.7

# Monthly Inventory Query





Identify Data Changes Since Last Air Quality DVD or Data Download

# Monthly Inventory

**Breathe Well** 

Latest Ozone

Latest Year's Ozone

Air Quality Data

Meteorological Data

Google Maps

Greenhouse Gas (GHG) Data

	San Joaquin Valley Air Basin Monthly Data Availability for Ozone Data 2016														
Bas	Cnty	Site Name	Daily	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
SJV	FRE	Clovis-N Villa Avenue	D	н	н	н	н	н	н	Ηр	Ηр	Ηр	Ηр	Ηр	Нр
SJV	FRE	Fresno-Drummond Street	D	Ηр	Ηр	Ηр	Ηр	Нр	Нр	Нр	Нр	Ηр	Ηр	Ηр	Нр
SJV	FRE	Fresno-Garland	D	н	н	н	н	Ηр	Нр	Ηр	Ηр	Ηр	Ηр	Ηр	Нр
SJV	FRE	Fresno-Sierra Skypark #2	D	н	н	н	н	н	н	н	Нр	Ηр	Ηр	Ηр	Нр
SJV	FRE	Parlier	D	н	н	н	н	н	Нр	Ηр	Ηр	Ηр	Ηр	Ηр	Нр
SJV	FRE	Tranquility-32650 West Adams Avenue	D	н	н	н	н	н	н	н	Нр	Ηр	Ηр	Ηр	Нр
SJV	SJV KER Arvin-Di Giorgio D H H H H H H H H H H H P H P H P													Нр	
SJV														Нр	
SJV	KER	Bakersfield-Municipal Airport	D	н	н	н	н	н	н	н	Ηр	Ηр	Ηр	Ηр	Нр
SJV	KER	Edison	D	н	н	н	н	н	н	н	н	н	Ηр	Ηр	Нр
SJV	KER	Maricopa-Stanislaus Street	D	н	н	н	н	н	н	н	н	Ηр	Ηр	Ηр	Нр
SJV	KER	Oildale-3311 Manor Street	D	н	н	н	н	н	н	н	н	н	Ηр	Ηр	Нр
SJV	KER	Shafter-Walker Street	D	н	н	н	н	н	н	н	н	н	Ηр	Ηр	Нр
SJV	KIN	Hanford-S Irwin Street	D	н	н	н	н	н	н	н	Нр	Ηр	Ηр	Ηр	Нр
SJV	MAD	Madera-28261 Avenue 14	D	н	н	н	н	н	н	Ηр	Ηр	Ηр	Ηр	Ηр	Нр
SJV	MAD	Madera-Pump Yard	D	н	н	н	н	н	н	н	Нр	Ηр	Ηр	Ηр	Нр
SJV	MER	Merced-S Coffee Avenue	D	Ηр	Ηр	Ηр	Ηр	Ηр	н	н	н	н	Ηр	Ηр	Нр
SJV	SJ	Stockton-Hazelton Street	D	н	н	н	н	Нр	Нр	Нр	Нр	Ηр	Ηр	Ηр	Нр
SJV	SJ	Tracy-Airport	D	н	н	н	н	н	Нр	Ηр	Ηр	Ηр	Ηр	Ηр	Нр
SJV	STA	Modesto-14th Street	D	н	н	н	н	Нр	Нр	Нр	Нр	Ηр	Ηр	Ηр	Нр
SJV	STA	Turlock-S Minaret Street	D	н	н	н	н	н	н	н	н	Ηр	Ηр	Ηр	Нр
SJV	TUL	Porterville-1839 Newcomb Street	D	н	н	н	н	н	Нр	н	н	Ηр	Ηр	Ηр	Нр
SJV	TUL	Sequoia and Kings Canyon Natl Park	D	н	н	н	н	н	н	н	н	н	Ηр	Ηр	Нр
SJV	TUL	Sequoia Natl Park-Lower Kaweah	D	Ηр	Ηр	Ηр	н	н	н	н	н	н	Ηр	Ηр	
SJV	TUL	Visalia-N Church Street	D	н	н	н	н	Ηр	Нр	Ηр	Ηр	Ηр	Ηр	Ηр	Ηр
Get A	Get Additional Information on Sites														

# Monthly Inventory

**Breathe Well** 

Latest Ozone

Latest Year's Ozone

Air Quality Data

Meteorological Data

Google Maps

Greenhouse Gas (GHG) Data

	San Joaquin Valley Air Basin Monthly Data Availability for Ozone Data 2016														
Bas	Cnty	Site Name	Daily	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
SJV	FRE	Clovis-N Villa Avenue	D	н	н	н	н	н	н	Ηр	Ηр	Ηр	Ηр	Ηр	Ηр
SJV	FRE	Fresno-Drummond Street	D	Ηр	Ηр	Нр	Нр	Нр	Нр	Ηр	Нр	Нр	Нр	Нр	Нр
SJV	FRE	Fresno-Garland	D	н	н	н	н	Нр	Нр	Ηр	Ηр	Ηр	Ηр	Ηр	Ηр
SJV	FRE	Fresno-Sierra Skypark #2	D	н	н	н	н	н	н	н	Ηр	Ηр	Ηр	Ηр	Ηр
SJV	FRE	Parlier	D	н	н	н	н	н	Ηр	Ηр	Ηр	Ηр	Нр	Ηр	Ηр
SJV	FRE	Tranquility-32650 West Adams Avenue	D	н	н	н	н	н	н	н	Нр	Нр	Нр	Нр	Нр
													Нр		
SJV															Нр
SJV	KER	Bakersfield-Municipal Airport	D	н	н	н	н	н	н	н	Нр	Нр	Ηр	Ηр	Нр
SJV	KER	Edison	D	н	н	н	н	н	н	н	Н	Н	Нр	Нр	Нр
SJV	KER	Maricopa-Stanislaus Street	D	н	н	н	н	н	н	н	н	Ηр	Нр	Ηр	Ηр
SJV	KER	Oildale-3311 Manor Street	D	н	н	н	н	н	н	н	н	н	Нр	Нр	Ηр
SJV	KER	Shafter-Walker Street	D	н	н	н	н	н	н	н	Н	н	Нр	Ηр	Ηр
SJV	KIN	Hanford-S Irwin Street	D	н	н	н	н	н	н	н	Нр	Нр	Нр	Нр	Нр
SJV	MAD	Madera-28261 Avenue 14	D	н	н	н	н	н	н	Ηр	Ηр	Ηр	Нр	Ηр	Ηр
SJV	MAD	Madera-Pump Yard	D	н	н	н	н	н	н	н	Ηр	Ηр	Нр	Нр	Ηр
SJV	MER	Merœd-S Coffee Avenue	D	Ηр	Ηр	Ηр	Ηр	Ηр	н	н	Н	Н	Нр	Ηр	Ηр
SJV	SJ	Stockton-Hazelton Street	D	н	н	н	н	Нр	Нр	Ηр	Ηр	Ηр	Нр	Ηр	Нр
SJV	SJ	Tracy-Airport	D	н	н	н	н	н	Нр	Ηр	Ηр	Ηр	Ηр	Ηр	Ηр
SJV	STA	Modesto-14th Street	D	н	н	н	н	Нр	Нр	Ηр	Нр	Ηр	Нр	Нр	Нр
SJV	STA	Turlock-S Minaret Street	D	н	н	н	н	н	н	н	н	Ηр	Ηр	Ηр	Нр
SJV	TUL	Porterville-1839 Newcomb Street	D	н	н	н	н	н	Нр	н	н	Нр	Нр	Ηр	Нр
SJV	TUL	Sequoia and Kings Canyon Natl Park	D	н	н	н	н	н	н	н	н	н	Ηр	Ηр	Ηр
SJV	TUL	Sequoia Natl Park-Lower Kaweah	D	Ηр	Ηр	Ηр	н	н	н	н	н	н	Ηр	Нр	
SJV	TUL	Visalia-N Church Street	D	н	н	н	н	Нр	Нр	Ηр	Нр	Ηр	Нр	Нр	Ηр
Get A	Get Additional Information on Sites														

# Using AQMIS

- Data Submission
  - Monthly Inventory for finding data gaps
- Data Validation
  - Comparison with nearby sites
  - Graphing
  - Outliers
- Special Events

# **AQMIS**

• Questions?

# **AQS** and **ADAM**

- USEPA's Air Quality System (<u>AQS</u>)
  - Data from thousands of nationwide monitors
  - Official air quality and meteorological data
  - Data available for download by registered users

## ADAM

- Flexible data selection
- Official data for current and past standards
- Graphing capability
- Accessibility open to public

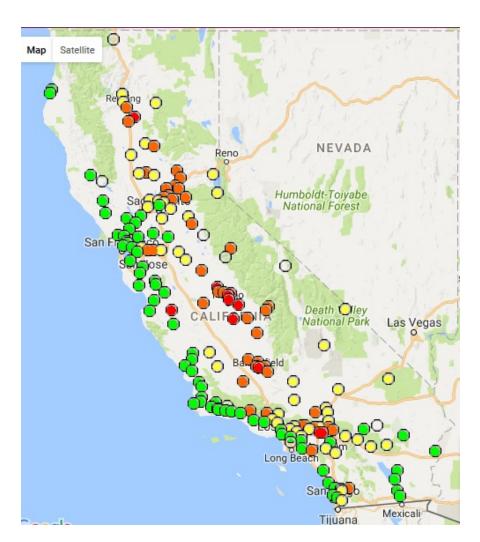
## **ADAM**

- Official data for current and past standards
  - Supports regulatory National and State statistics
  - Determined exactly as prescribed for national and state rules
- Graphing and flexible data selection
- ▶ iADAM -- ADAM's Web interface

# **ADAM Data Sources**

All California sites that submit to AQS

Near border sites in Mexico and Nevada



# Future ADAM Developments

- Restoration of Support:
  - Carbon monoxide standards
  - Sulfur dioxide standards
- Expand PM2.5 Support:
  - 12.0 μg/m³ annual standard
  - 65 μg/m³ 24-hour standard
  - All latest versions of Appendix N

- PM2.5 speciation
- Support lead standards
- Greenhouse gas data
- Meteorological data
- ▶ iADAM:
  - Download capability

# iADAM Main Page

### iADAM: Air Quality Data Statistics Select and View Air Quality Data for Various Pollutants throughout the State Select 8 Summary: Air Quality Summaries Tailored to Your Needs Select any combination of statistics & years that produces up to 8 output columns Trends Summaries: Air Quality Trends Summaries Select any number of years to see year-to-year trends in key air quality statistics Top 4 Summary: Top 4 Measurements and Days Above the Standard Choose any three year window of annual top 4 measurements and key annual statistics Hourly Listing: 24 Hourly Measurements for a Site and Day Choose any date and location to view all hourly measurements in a moveable 24-hour window Weekly Listing: Daily Statistics in a 10-Week Listing Display the daily statistic of your choice in a moveable 10-week window Toxics Summaries: Statewide & Site-by-Site Toxics Summary Statistics View comprehensive listings of statewide and site-by-site statistics for substances in ARB's toxics monitoring program

#### Select 8 Summary: Choose Statistics, Years, & Areas

Step

•Number of statistics times the number of years must equal 8 or less



Select 8 Summary:

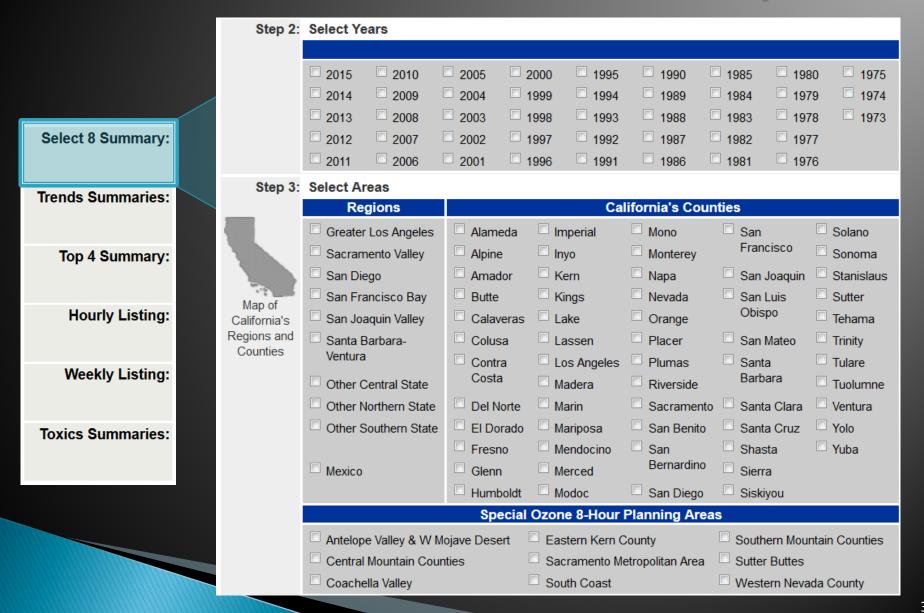
Trends Summaries:

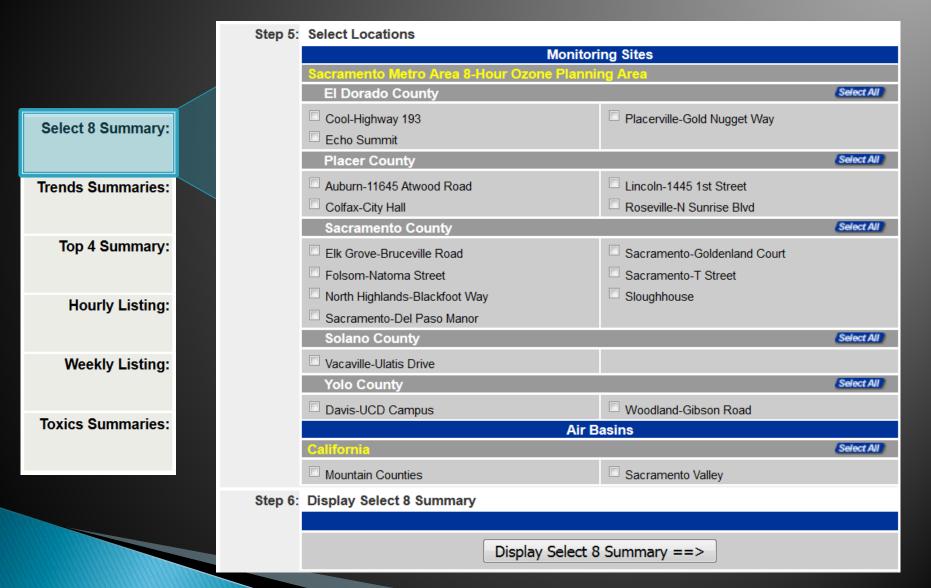
Top 4 Summary:

Hourly Listing:

Weekly Listing:

4.	0-14 04-4:-4:			
1:	Select Statistics Ozone 1-Hour	Ozone 8-Hour	PM2.5	PM10
	Days > Standard	Days > Standard	Est Days > Standard	Est Days > Standard
	□ National 1-Hour	□ National 0.070 ppm Std	□ National 24-Hour	□ National 24-Hour
	State 1-Hour	☐ National 0.075 ppm Std	Annual Averages	State 24-Hour
	1-Hour Observations	☐ National 0.08 ppm Std	National	Annual Averages
	☐ Maximum	State Standard	☐ State	National
	National 1-Year Estimated Expected Number of Exceedance Days  National 3-Year Estimated Expected Number of Exceedance Days  National Design Value  State Designation Value  Expected Peak Day Concentration  Year Coverage	8-Hour Averages  National 0.070 ppm Standard Maximum  National 0.075 ppm and 0.08 ppm Standards Maximum  State Maximum  National 0.070 ppm Standard Design Value  National 0.075 ppm Standard Design Value  National 0.08 ppm Standard Design Value  State Designation Value  Expected Peak Day Concentration  Year Coverage	National Design Value State Designation Value  24-Hour Averages National Maximum State Maximum National 98th Percentile National Design Value  Year Coverage	□ State □ National 3-Year □ State 3-Year  24-Hour Averages □ National Maximum □ State Maximum □ Expected Peak Day Concentration □ Year Coverage





Select 8 Summary:

**Trends Summaries:** 

Top 4 Summary:

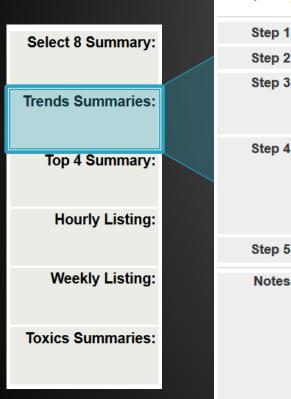
**Hourly Listing:** 

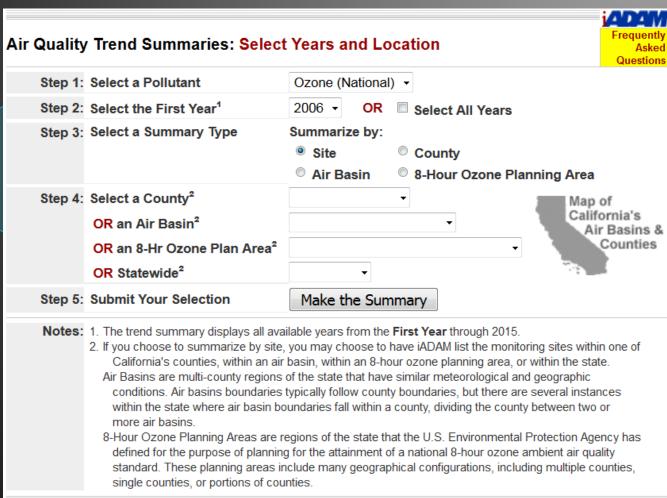
Weekly Listing:

**Toxics Summaries:** 

						TAKE THE					
Select 8 Summary						FAQs					
	Ozone										
		Natl 070 Standard	_	Natl 075 Standard	#Days > State 8-Hour Standard						
Monitoring Sites	2014	2015	2014	2015	2014	2015					
	Sacramento	Metro Area 8	B-Hour Ozone	Planning Are	a						
	Sacrame	nto County									
Elk Grove-Bruceville Road	1	2	0	1	2	2					
Folsom-Natoma Street	34	11	14	5	35	11					
North Highlands- Blackfoot Way	12	8	3	3	13	8					
Sacramento-Del Paso Manor	16	8	1	5	18	8					
Sacramento-Goldenland Court	3	4	1	1	4	6					
Sacramento-T Street	3	4	0	1	4	4					
Sloughhouse	10	14	5	6	10	14					

# iADAM: Trends Start Page





# iADAM: Trends Summary

Select 8 Summary:

**Trends Summaries:** 

Top 4 Summary:

**Hourly Listing:** 

Weekly Listing:

**Toxics Summaries:** 

Nationa	al Star	ndards	;									FAQs
	Days	> Sta	ndard	1-	Hour Ob	servatio	ns		8-Hour A	Averages		
	1-Hr	8-	Hr		EEN	IED¹		0.070 Std		0.075 Std		Year
Year	0.12	0.070	0.075	Max.	1-Yr	3-Yr	D.V. <sup>2</sup>	Max.	D.V. <sup>2</sup>	Max.	D.V. <sup>2</sup>	Coverage
2015	0	27	17	0.122	0.0	0.0	0.118	0.096	0.083	0.096	0.083	85
2014	0	18	11	0.123	0.0	0.3	0.116	0.092	0.080	0.092	0.080	95
2013	0	15	6	0.115	0.0	0.3	0.112	0.085	0.080	0.085	0.080	95
2012	1	18	10	0.134	1.0	0.3	0.111	0.095	0.078	0.095	0.078	99
2011	0	18	12	0.111	0.0	1.3	0.127	0.092	0.082	0.092	0.082	95
2010	0	8	3	0.104	0.0	3.7	0.134	0.081	0.089	0.081	0.089	96
2009	4	29	17	0.150	4.0	4.7	0.135	0.107	0.096	0.107	0.096	100
2008	7	37	28	0.135	7.1	5.7	0.141	0.111	0.096	0.111	0.096	98
2007	3	27	20	0.158	3.0	4.7	0.145	0.113	0.091	0.113	0.091	99
2006	7	24	17	0.165	7.0	4.4	0.141	0.120	0.090	0.120	0.090	99

Info: Click on a column header for more information about the statistic in that column.

Area: Los Angeles County; South Coast Air Basin;

Ozone Trends Summary: Azusa

South Coast Air Basin 8-Hour Ozone Planning Area

District: South Coast AQMD

롣 Graph

Years: Annual Ozone statistics are available for this site from 1978 through 2015.

Notes: All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005. Statistics related

to the revoked standard are shown in italies or italies

National exceedances shown in orange.

An exceedance is not necessarily a violation.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard exclude those 8-hour averages that have first hours between midnight and 6:00 am, Pacific Standard Time.

Daily maximum 8-hour averages associated with the National 0.070 ppm standard include only those

8-hour averages from days that have sufficient data for the day to be considered valid.

Daily maximum 8-hour averages associated with the National 0.075 ppm standard may come from days that don't have sufficient data for the day to be considered valid, provided the daily maximum 8-hour average itself includes sufficient data to be considered valid.

- <sup>1</sup> EENED = Estimated Expected Number of Exceedance Days
- <sup>2</sup> D.V. = National Design Value
- \* There was insufficient (or no) data available to determine the value.

Go to

iADAM Home

Trends Summaries Start

State Ozone/PM2.5/PM10 Trends for this Site

# iADAM: Trends Summary

Ozone Trends Summary: Azusa

National Standards Sandards														
Ozone	Ozone Trends Summary: Azusa													
Nation	National Standards													
	Days > Standard 1-Hour Observations 8-Hour Averages													
1-Hr 8-Hr EENED¹ 0.070 Std 0.075 Std														
Year														
2015														
2014	0													
2013	0	15	6	0.115	0.0	0.3	0.112	0.085	0.080	0.085	0.080	95		
2012	1	18	10	0.134	1.0	0.3	0.111	0.095	0.078	0.095	0.078	99		
2011	0	18	12	0.111	0.0	1.3	0.127	0.092	0.082	0.092	0.082	95		
2010	0	8	3	0.104	0.0	3.7	0.134	0.081	0.089	0.081	0.089	96		
2009	4	29	17	0.150	4.0	4.7	0.135	0.107	0.096	0.107	0.096	100		
2008	7	37	28	0.135	7.1	5.7	0.141	0.111	0.096	0.111	0.096	98		
2007	3	27	20	0.158	3.0	4.7	0.145	0.113	0.091	0.113	0.091	99		
2006 7 <b>24 17</b> 0.165 7.0 4.4 0.141 <b>0.120 0.090 0.120 0.090</b>														
<b>Z</b> Graph														

5 hour average itself includes sufficient data to be considered valid.

\*EENED = Estimated Expected Number of Exceedance Days.

Daily maximum 8 hour averages associated with the National 0.075 gpm standard may come from days. that don't have sufficient data for the day to be considered valid, provided the daily maximum.

# iADAM: Trends Summary

Ozone Trends Summary: Azusa

Select 8 Summary:

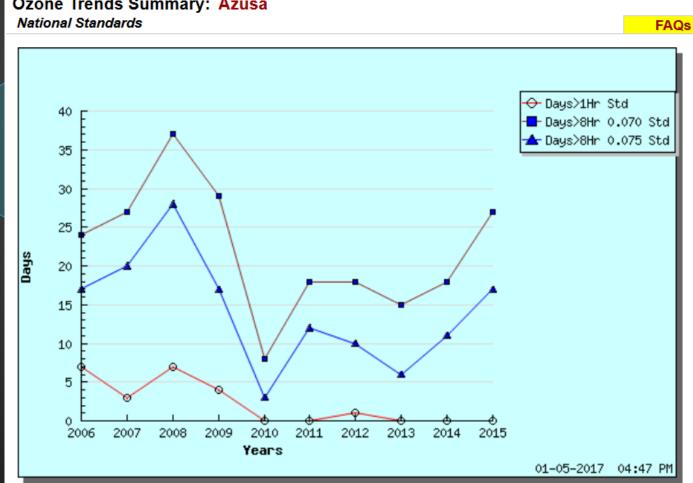
**Trends Summaries:** 

Top 4 Summary:

**Hourly Listing:** 

Weekly Listing:

**Toxics Summaries:** 



**ADAM** 

# ARB Toxics Network

Select 8 Summary:

**Trends Summaries:** 

Top 4 Summary:

**Hourly Listing:** 

Weekly Listing:

**Toxics Summaries:** 

	Annual Toxics Summaries by Monitoring Sites  FAQS						
Volatile Organic Compounds	Polycyclic Aromatic Hydrocarbons	Metals					
Volatile Organic Compounds							
Acetaldehyde	ortho-Dichlorobenzene	Methyl tertiary-Butyl Ether					
Acetone	para-Dichlorobenzene	Methylene Chloride					
Acetonic	cis-1,3-Dichloropropene	Perchloroethylene					
Acrolein	trans-1,3-Dichloropropene	Styrene					
Benzene	Ethyl Benzene	Toluene					
1,3-Butadiene	Ethylene Dibromide	Trichloroethylene					
Carbon Disulfide	Ethylene Dichloride	meta-Xylene					
Carbon Tetrachloride	Formaldehyde	meta/para-Xylene					
Chlorobenzene	Methyl Bromide	ortho-Xylene					
Chloroform	Methyl Chloroform	para-Xylene					
meta-Dichlorobenzene	Methyl Ethyl Ketone	para rijiana					
Polycyclic Aromatic Hydrocar Benzo(a)pyrene-10 Benzo(b)fluoranthene-10	Benzo(g,h,i)perylene-10 Benzo(k)fluoranthene-10	Dibenz(a,h)anthracene-10 Indeno(1,2,3-cd)pyrene-10					
Metals	Denzo(kynuoramanene-10	indeno(1,2,3-cd)pyrene-10					
Aluminum	Hexavalent Chromium	Silicon					
Antimony	Iron	Strontium					
Arsenic	Lead	Sulfur					
Barium	Manganese	Tin					
Beryllium	Mercury	Titanium					
Bromine	Molybdenum	Uranium					
Cadmium	Nickel	Vanadium					
Calcium	Phosphorus	Yttrium					
Chlorine	Potassium	Zinc					
Chromium	Platinum	Zirconium					
Cobalt	Rubidium						
Соррег	Selenium						

View a Different Site View a Different Substance Order a Data CD **Annual Toxics Summary** 

Azusa Benzene parts per billion FAQs

ADAM

Select 8 Summary:

**Trends Summaries:** 

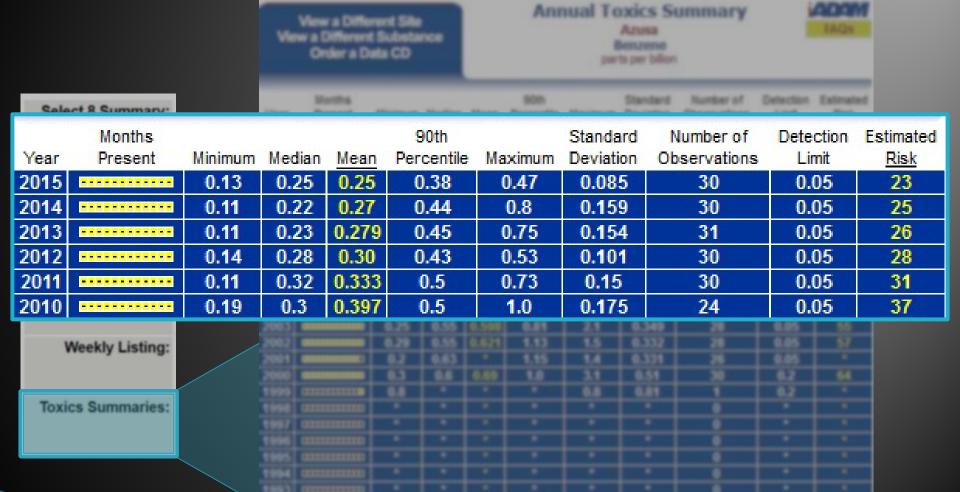
Top 4 Summary:

**Hourly Listing:** 

Weekly Listing:

**Toxics Summaries:** 

	Months				90th		Standard	Number of	Detection	Estimated
Year	Present	Minimum	Median	Mean	Percentile	Maximum	Deviation	Observations	Limit	Risk
2015		0.13	0.25	0.25	0.38	0.47	0.085	30	0.05	23
2014		0.11	0.22	0.27	0.44	0.8	0.159	30	0.05	25
2013		0.11	0.23	0.279	0.45	0.75	0.154	31	0.05	26
2012		0.14	0.28	0.30	0.43	0.53	0.101	30	0.05	28
2011		0.11	0.32	0.333	0.5	0.73	0.15	30	0.05	31
2010		0.19	0.3	0.397	0.5	1.0	0.175	24	0.05	37
2009		0.1	0.29	0.328	0.6	1.1	0.211	31	0.05	30
2008		0.18	0.3	*	0.55	0.89	0.163	28	0.05	*
2007		0.15	0.36	0.42	0.78	1.2	0.248	27	0.05	39
2006		0.16	0.37	0.376	0.52	0.83	0.152	29	0.05	35
2005		0.15	0.47	0.512	0.76	1.2	0.265	29	0.05	47
2004		0.2	0.36	0.432	0.76	1.0	0.211	29	0.05	40
2003		0.25	0.55	0.598	0.81	2.1	0.349	28	0.05	55
2002		0.29	0.55	0.621	1.13	1.5	0.332	28	0.05	57
2001		0.2	0.63	*	1.15	1.4	0.331	26	0.05	*
2000		0.3	0.6	0.69	1.0	3.1	0.51	30	0.2	64
1999	**********	0.8	*	*	*	0.8	0.81	1	0.2	*
1998		*	*	*	*	*	*	0	*	*
1997	**********	*	*	*	*	*	*	0	*	*
1996	•••••	*	*	*	*	*	*	0	*	*
1995		*	*	*	*	*	*	0	*	*
1994		*	*	*	*	*	*	0	*	*
1993		*	*	*	*	*	*	0	*	*
1992		*	*	*	*	*	*	0	*	*
1991	**********	*	*	*	*	*	*	0	*	*
1990	**********	*	*	*	*	*	*	0	*	*
1989	**********	1.0	*	*	*	3.2	0.81	7	0.5	*



View a Different Site View a Different Substance Order a Data CD **Annual Toxics Summary** 

Number of

Observations

30

Azusa Benzene parts per billion

Select 8 Summary:

**Trends Summaries:** 

Top 4 Summary:

**Hourly Listing:** 

Weekly Listing:

**Toxics Summaries:** 

	Order a Da	ata CD		parts per billion						30		
			-							31		
	Months				90th		Standard	Number of		30		
Year	Present	Minimum	Median	Mean	Percentile	Maximum	Deviation	Observations	+	30		
2015		0.13	0.25	0.25	0.38	0.47	0.085	30	+			
2014		0.11	0.22	0.27	0.44	0.8	0.159	30	Ц_	24		
2013		0.11	0.23	0.279	0.45	0.75	0.154	31		31		
2012		0.14	0.28	0.30	0.43	0.53	0.101	30		28		
2011		0.11	0.32	0.333	0.5	0.73	0.15	30		27		
2010		0.19	0.3	0.397	0.5	1.0	0.175	24	+-			
2009		0.1	0.29	0.328	0.6	1.1	0.211	31	<u> </u>	29		
2008		0.18	0.3	*	0.55	0.89	0.163	28		29		
2007		0.15	0.36	0.42	0.78	1.2	0.248	27		29		
2006		0.16	0.37	0.376	0.52	0.83	0.152	29		28		
2005		0.15	0.47	0.512	0.76	1.2	0.265	29	+-			
2004		0.2	0.36	0.432	0.76	1.0	0.211	29		28		
2003		0.25	0.55	0.598	0.81	2.1	0.349	28		26		
2002		0.29	0.55	0.621	1.13	1.5	0.332	28		30		
2001		0.2	0.63	*	1.15	1.4	0.331	26	+-			
2000		0.3	0.6	0.69	1.0	3.1	0.51	30	<del>                                     </del>	1		
1999	**********	0.8	*	*	*	8.0	0.81	1		0		
1998	***************************************	*	*	*	*	*	*	0		0		
1997		*	*	*	*	*	*	0		0		
1996		*	*	*	*	*	*	0	+-			
1995	**********	*	*	*	*	*	*	0	Ц_	0		
1994	***************************************	*	*	*	*	*	*	0		0		
1993		*	*	*	*	*	*	0		0		
1992		*	*	*	*	*	*	0	+-	0		
1991	**********	*	*	*	*	*	*	0	+			
1990	************	*	*	*	*	*	*	0		0		
1989		1.0	*	*	*	3.2	0.81	7		0		
										7		

# Benzene: Estimated Risk

With the second	Months				90th		Standard	Number of	Detection	Estimated
Year	Present	Minimum	Median	Mean	Percentile	Maximum	Deviation	Observations	Limit	<u>Risk</u>
2015		0.13	0.25	0.25	0.38	0.47	0.085	30	0.05	23
2014	***********	0.11	0.22	0.27	0.44	0.8	0.159	30	0.05	25
2013		0.11	0.23	0.279	0.45	0.75	0.154	31	0.05	26
2012		0.14	0.28	0.30	0.43	0.53	0.101	30	0.05	28
2011	***********	0.11	0.32	0.333	0.5	0.73	0.15	30	0.05	31
2010		0.19	0.3	0.397	0.5	1.0	0.175	24	0.05	37

## **Estimation of Cancer Risk**

- Mean = average of the 12 monthly site averages
  - Requires at least 1 sample per month
- Estimated Cancer Risk Factor
  - Unit Risk Factor (URF) California Office of Environmental Health Hazard Assessment

View a Different Site View a Different Substance Order a Data CD

**Annual Toxics Summary** 

Azusa Benzene

parts per billion

ADAM

FAQs

Select 8 Summary:

**Trends Summaries:** 

Top 4 Summary:

**Hourly Listing:** 

Weekly Listing:

**Toxics Summaries:** 

	Months				90th		Standard	Number of	Detection	Estimated
Year	Present	Minimum	Median	Mean	Percentile	Maximum	Deviation	Observations	Limit	Risk
2015		0.13	0.25	0.25	0.38	0.47	0.085	30	0.05	23
2014		0.11	0.22	0.27	0.44	0.8	0.159	30	0.05	25
2013		0.11	0.23	0.279	0.45	0.75	0.154	31	0.05	26
2012		0.14	0.28	0.30	0.43	0.53	0.101	30	0.05	28
2011		0.11	0.32	0.333	0.5	0.73	0.15	30	0.05	31
2010		0.19	0.3	0.397	0.5	1.0	0.175	24	0.05	37
2009		0.1	0.29	0.328	0.6	1.1	0.211	31	0.05	30
2008		0.18	0.3	*	0.55	0.89	0.163	28	0.05	*
2007		0.15	0.36	0.42	0.78	1.2	0.248	27	0.05	39
2006		0.16	0.37	0.376	0.52	0.83	0.152	29	0.05	35
2005		0.15	0.47	0.512	0.76	1.2	0.265	29	0.05	47
2004		0.2	0.36	0.432	0.76	1.0	0.211	29	0.05	40
2003		0.25	0.55	0.598	0.81	2.1	0.349	28	0.05	55
2002		0.29	0.55	0.621	1.13	1.5	0.332	28	0.05	57
2001		0.2	0.63	*	1.15	1.4	0.331	26	0.05	*
2000		0.3	0.6	0.69	1.0	3.1	0.51	30	0.2	64
1999	**********	0.8	*	*	*	0.8	0.81	1	0.2	*
1998	**********	*	*	*	*	*	*	0	*	*
1997	*********	*	*	*	*	*	*	0	*	*
1996	**********	*	*	*	*	*	*	0	*	*
1995	**********	*	*	*	*	*	*	0	*	*
1994	**********	*	*	*	*	*	*	0	*	*
1993	**********	*	*	*	*	*	*	0	*	*
1992	**********	*	*	*	*	*	*	0	*	*
1991	*********	*	*	*	*	*	*	0	*	*
1990	*********	*	*	*	*	*	*	0	*	*
1989	**********	1.0	*	*	*	3.2	0.81	7	0.5	*

# Summary

## **AQMIS** and **ADAM** are flexible tools:

## **AQMIS**

- Preliminary Air Quality and Meteorological Data
- Real-time Tool
  - Determine data gaps
  - Flag data

## **ADAM**

- Easily accessible through iADAM
- Select and graph variety of data combinations
- Official Air Quality Data
- Supports National and State Standards
  - ° Currently: all ozone standards, 35  $\mu$ g/m³ and 15.0  $\mu$ g/m³ PM2.5 (2006) standards, all PM10 standards, all NO<sub>2</sub> standards, and H<sub>2</sub>S standard
  - Future: all PM2.5 standards, all CO standards, all SO<sub>2</sub> standards, all Lead standards

## Links & Contacts

## Links:

AQMIS

https://www.arb.ca.gov/airqualitytoday

AQMIS Mobile Website:

https://mobile.arb.ca.gov/breathewell

▶ iADAM:

https://www.arb.ca.gov/adam

## Contacts:

> AQMIS: <u>aqmis@arb.ca.gov</u>

ADAM: <a href="mailto:adam@arb.ca.gov">adam@arb.ca.gov</a>