
Pesticides Monitoring in Eastern Coachella Valley

Community Air Protection Program

Assembly Bill (AB) 617

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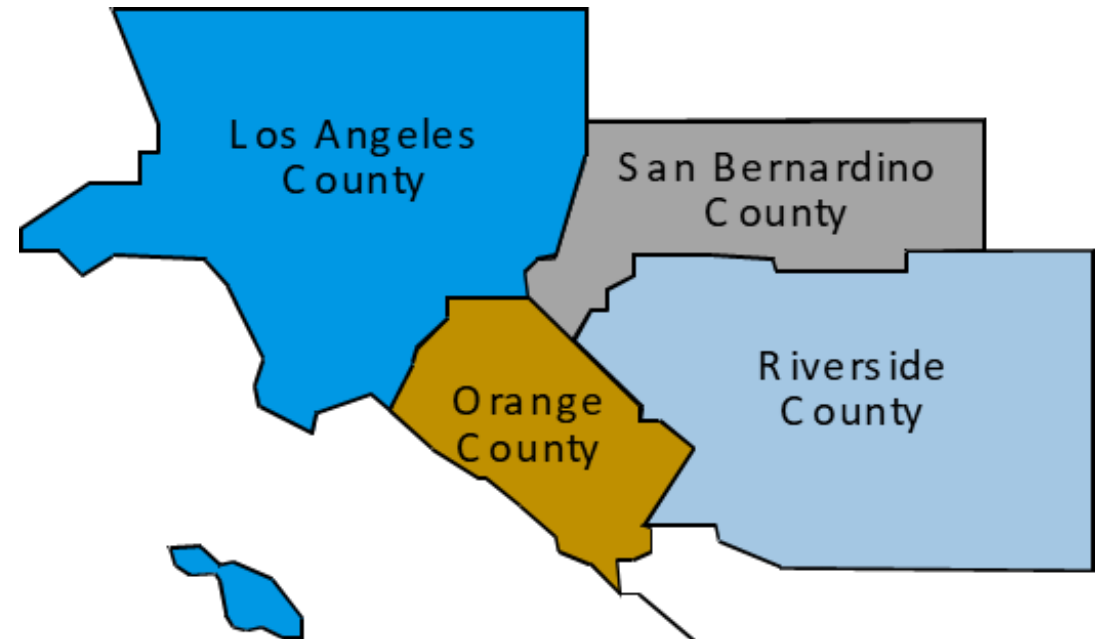


What Is The South Coast AQMD?

Regional government agency responsible for protecting our residents from the health effects of air pollution

What we do:

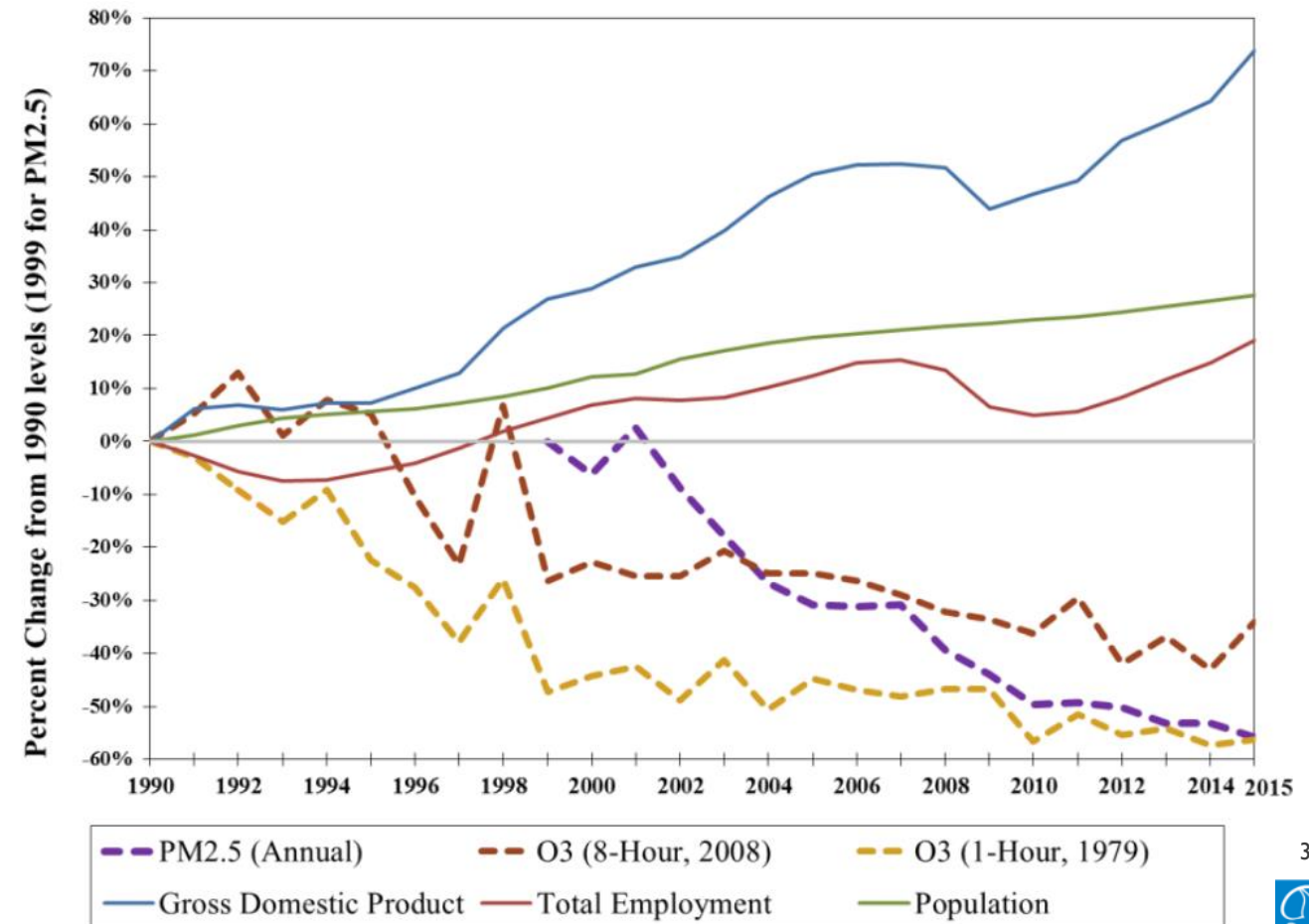
- Develop regional Air Quality Management Plan
- Adopt air quality rules and regulations
- Issue permits
- Conduct periodic inspections and respond to air quality complaints
- Conduct air monitoring
- Engage with all stakeholders
- Public outreach



Regional Air Quality Improvement

Over the past 30 years:

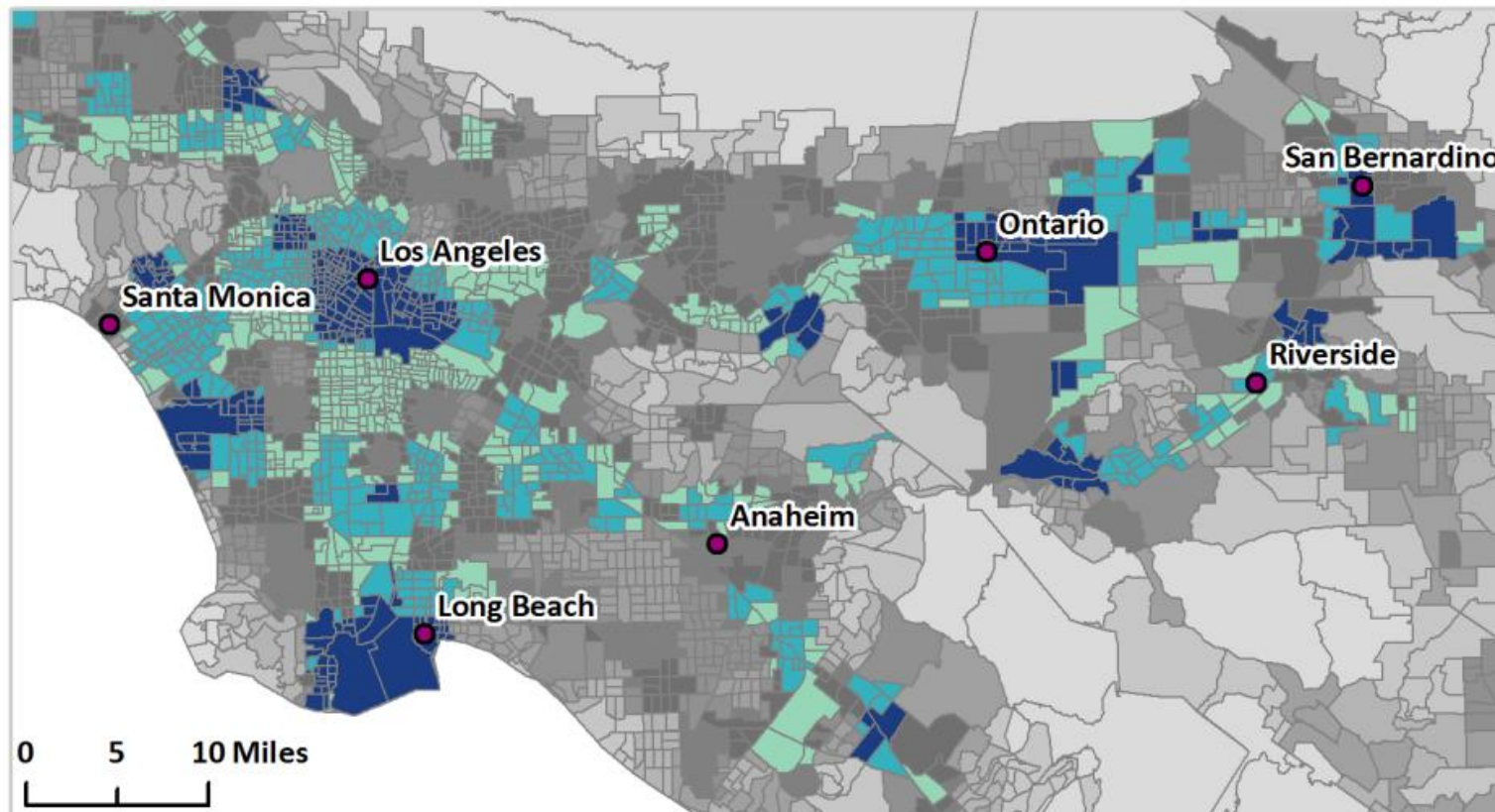
- Substantial increase in population, GDP, and employment
- Significant improvement in regional air quality



Source: South Coast AQMD AQMP

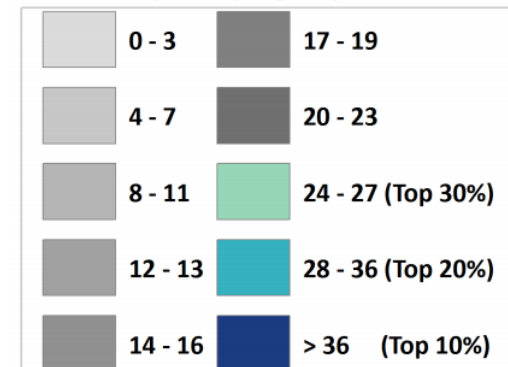
Motivation for Community-level Air Quality

- Historical focus on regional air quality
- Significant improvement, but disproportionate burdens remain
- Need for community-level focus
- Address cumulative exposure



Diesel PM

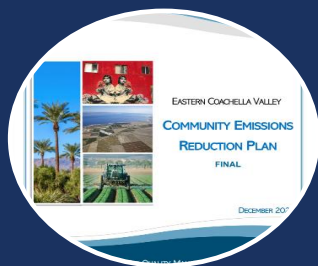
Diesel PM emissions from on-road and non-road sources for a 2012 summer day in July (kg/day)



Source: CalEnviroScreen 3.0

Overview Of AB 617 Program

- Signed into law July 26, 2017
- Invests resources and focuses on localized actions to reduce air pollution in communities disproportionately impacted by air pollution
- Purposeful and ongoing involvement of community members towards the emissions reduction goals



Community Air Plans

- Community Emissions Reduction Plans (CERPs)
- Community Air Monitoring Plans (CAMPs)



Clean Technology Investments



Rules Requiring Best Available Retrofit Control Technology (BARCT)



Easier Access to Emissions Data

Community Air Protection Program Assembly Bill (AB) 617

- Statewide program enacted in 2017 to reduce air pollution in Environmental Justice (EJ) communities
- Community partnerships and leadership are central to the program
- Community members collaborate with air districts to develop CERP and CAMP

Community Emissions Reduction Plan (CERP)

Provides a blueprint for achieving air pollution emission and exposure reductions to address the community's highest air quality priorities

Community Air Monitoring Plan (CAMP)

Provides a detailed plan for air monitoring activities to address the community's highest air quality priorities



PESTICIDE MONITORING

EASTERN COACHELLA VALLEY COMMUNITY



EASTERN COACHELLA VALLEY (ECV)



■ Community profile

- In December 2019, the ECV community was designated as one of AB 617 Year 2 communities
- Population of approximately 80,000
- Residential centers in this rural community are surrounded by areas zoned for agricultural use

Eastern Coachella Valley (ECV) Community: Air Quality Priorities



Salton Sea



Open Burning &
Illegal Dumping



Fugitive Road
Dust



Diesel Mobile
Sources



Pesticides



Green Leaf
Power Plant



INTERAGENCY EFFORTS

- South Coast AQMD does not have any jurisdiction over pesticides
- Addressing this community concern required working with multiple agencies and community members
 - South Coast AQMD
 - U.S. Environmental Protection Agency (EPA) Region 9
 - California Air Resources Board (CARB)
 - California Department of Pesticide Regulation (DPR)
 - California Office of Environmental Health Hazard Assessment (OEHHA)
 - Riverside County Agricultural commissioner's Office (Ag. Commissioner)



Action	Responsible Entity
<ul style="list-style-type: none"> Identify pesticides used in ECV (e.g., frequency, amount, and ingredients) Provide consultation on field activities Support data analysis and interpretation 	DPR and Ag. Commissioner
<ul style="list-style-type: none"> Support prioritization of pesticides for potential air monitoring based on screening criteria and other relevant information 	OEHHA
<ul style="list-style-type: none"> Support protocol development for pesticide sampling and analysis Coordinate sampling and analysis of pesticides 	CARB and South Coast AQMD
<ul style="list-style-type: none"> Participate in field activities Analyze pesticide samples Support data analysis and interpretation 	CARB, South Coast AQMD, and DPR

ROLES AND RESPONSIBILITIES

GOAL I: GATHER INFORMATION AND CONDUCT AIR MONITORING FOR PESTICIDES

Action	Responsible Entity
<ul style="list-style-type: none"> Evaluate potential community health risks/impacts based on air monitoring results and other relevant information 	OEHHA and DPR
<ul style="list-style-type: none"> Identify opportunities to develop or amend pesticide regulations Hold a Pesticides Workshop and provide outreach materials (e.g., pesticide use enforcement, worker protection, and pesticide incident reporting) In consultation with South Coast AQMD, CARB and the CSC, develop community emission reduction plan (CERP) strategies for pesticides, if warranted 	DPR and Ag. Commissioner
<ul style="list-style-type: none"> Identify funding for exposure reduction projects (e.g., air filtration systems and weatherization projects) 	South Coast AQMD

ROLES AND RESPONSIBILITIES

GOAL 2: PURSUE PESTICIDES EMISSIONS AND EXPOSURE REDUCTIONS

SELECTION OF PESTICIDES

- The following high-volume pesticides were selected for monitoring (all used to prepare the soil for planting)

Metam-Sodium (MITC)

- Crops that use MITC include peppers, watermelon, grapes, lemons, and corn

1,3-Dichloropropene (1,3-D)

- Applied on crops such as grapes, lemons, peppers, watermelon, strawberries, and peaches

Chloropicrin

- Used as fumigants for watermelons and strawberries

SELECTION OF PESTICIDES PRIORITIZATION CRITERIA AND APPROACH

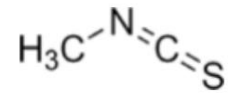
- These pesticides were prioritized for monitoring because:
 - They are volatile fumigants that can be present in ambient conditions
 - Have been established as toxic air contaminants by OEHHA
 - They have existing monitoring protocols
 - These are the major pesticides that are most likely to have the biggest impact on the community health
 - Based on the reported pesticide use from 2017 through 2019

1,3-Dichloropropene (1,3-D)



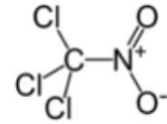
GC-MS Analysis

Methyl Isothiocyanate (MITC)



GC-MS Analysis

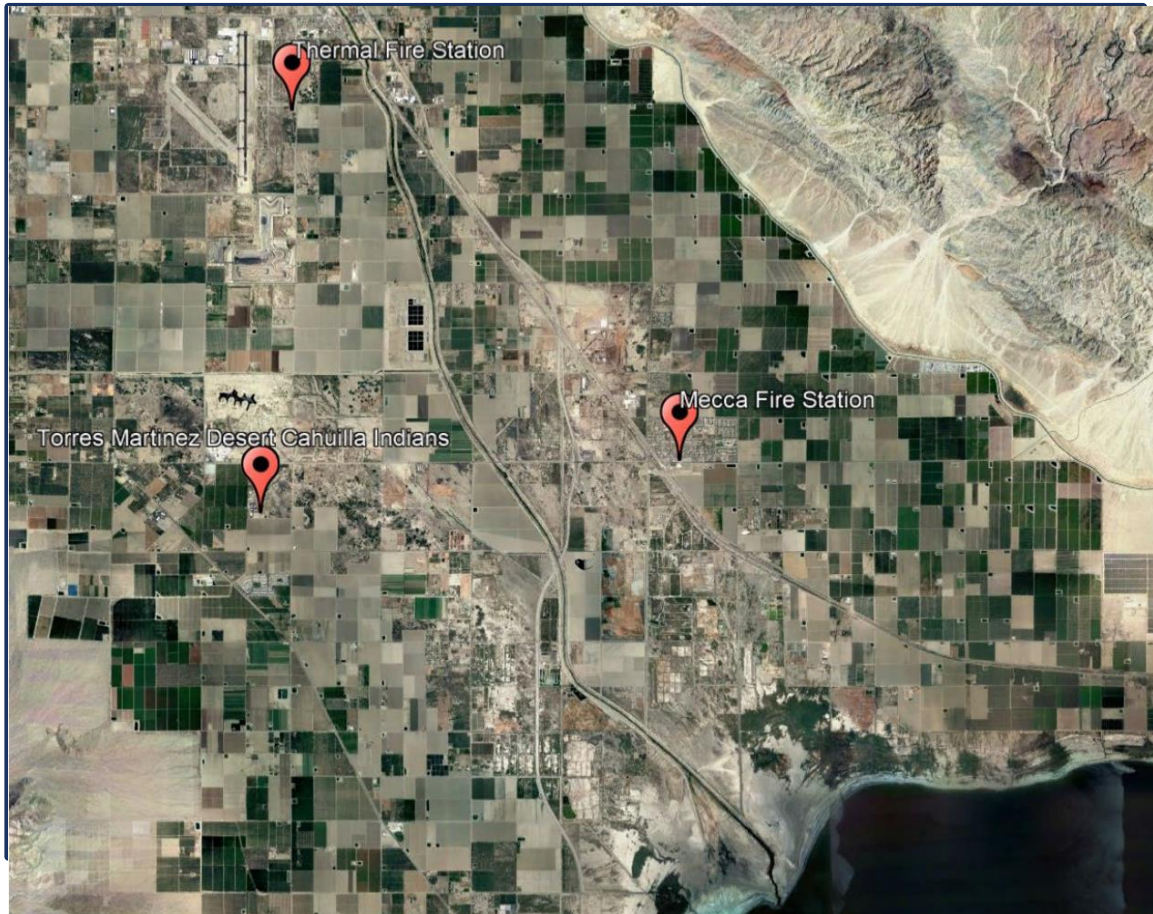
Chloropicrin



GC-MS Analysis

ANALYTICAL METHODS

MONITORING APPROACH



- Location selection
 - Throughout the community, close to sensitive receptors and pesticide application areas
 - Two at County fire stations and one at the Torres Martinez Desert Cahuilla Indians air monitoring station
- Seasonal intensive measurements during the high use season
 - Sample collection at 3 locations
 - 4 consecutive 24-hr samples per week for 13 weeks
 - Randomized schedule to include all days of the week
- Sample analysis was done at CARB Northern Laboratory

SAMPLING RESULTS

Pesticide	Report Limit ($\mu\text{g}/\text{m}^3$)	Number of Samples Collected	Invalid Samples	Below the Reporting Limit	At or Above the Reporting Limit
MITC	0.03	156	15	71	70
I,3-D	0.25	156	15	141	0
Chloropicrin	0.06	156	17	137	2

NEXT STEPS...

-
- OEHHA and DPR to evaluate potential health impacts
 - DPR and Ag. Commissionaire to determine exposure risks, identify opportunities to develop or amend regulations, pesticide notification system, and outreach strategy
 - South Coast AQMD to support exposure reduction projects (e.g., air filtration systems and weatherization projects)
 - South Coast AQMD to collaborate with Growing Coachella Valley Local Farmer and Growers association on emissions and exposure reduction strategies in ECV

QUESTIONS & COMMENTS ?

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<http://www.aqmd.gov/nav/about/initiatives/environmental-justice/ab617-134/ab-617-community-air-monitoring>