

# AB 617 COMMUNITY AIR MONITORING SALTON SEA



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JULY 30, 2020

# MONITOREO DE AIRE COMUNITARIO AB 617 SALTON SEA



PAYAM PAKBIN, PHD  
SUPERVISOR DEL PROGRAMA



30 DE JULIO DE 2020

# AIR POLLUTANTS ASSOCIATED WITH THE SALTON SEA

## Odorous compounds

- Hydrogen Sulfide (H<sub>2</sub>S)

## Windblown Dust

- Fine Particulate Matter (PM<sub>2.5</sub>)
- “Inhalable” Particulate Matter (PM<sub>10</sub>)

# CONTAMINANTES DEL AIRE ASOCIADOS CON EL SALTON SEA

## Compuestos Olorosos

- Sulfuro de Hidrógeno ( $H_2S$ )

## Polvo Soplado por el Viento

- Materia de Partículas Finas ( $PM_{2.5}$ )
- Materia de Partículas “Inhalable” ( $PM_{10}$ )

# ODORS FROM THE SALTON SEA

*A gas with a strong unpleasant odor that resembles rotten-eggs*

*Released from natural processes occurring in the Salton Sea*

**Hydrogen Sulfide  
(H<sub>2</sub>S)**

*May cause headaches, nausea, respiratory and nasal irritation, and other symptoms*

- California state standard = 30 ppb\*
- No National standard

\*ppb = parts per billion

# OLORES DEL SALTON SEA

*Un gas con un desagradable olor fuerte parecido a huevos podridos*

*Emitido por procesos naturales que ocurren en el Salton Sea*

**Sulfuro de Hidrógeno (H<sub>2</sub>S)**

*Puede causar dolores de cabeza, náusea, irritación respiratoria y nasal, y otros síntomas*

*- Estándar estatal de California = 30 ppb\**

*- No hay estándar nacional*

*\*ppb = partes por billón*

# CURRENT AIR MONITORING FOR HYDROGEN SULFIDE (H<sub>2</sub>S)

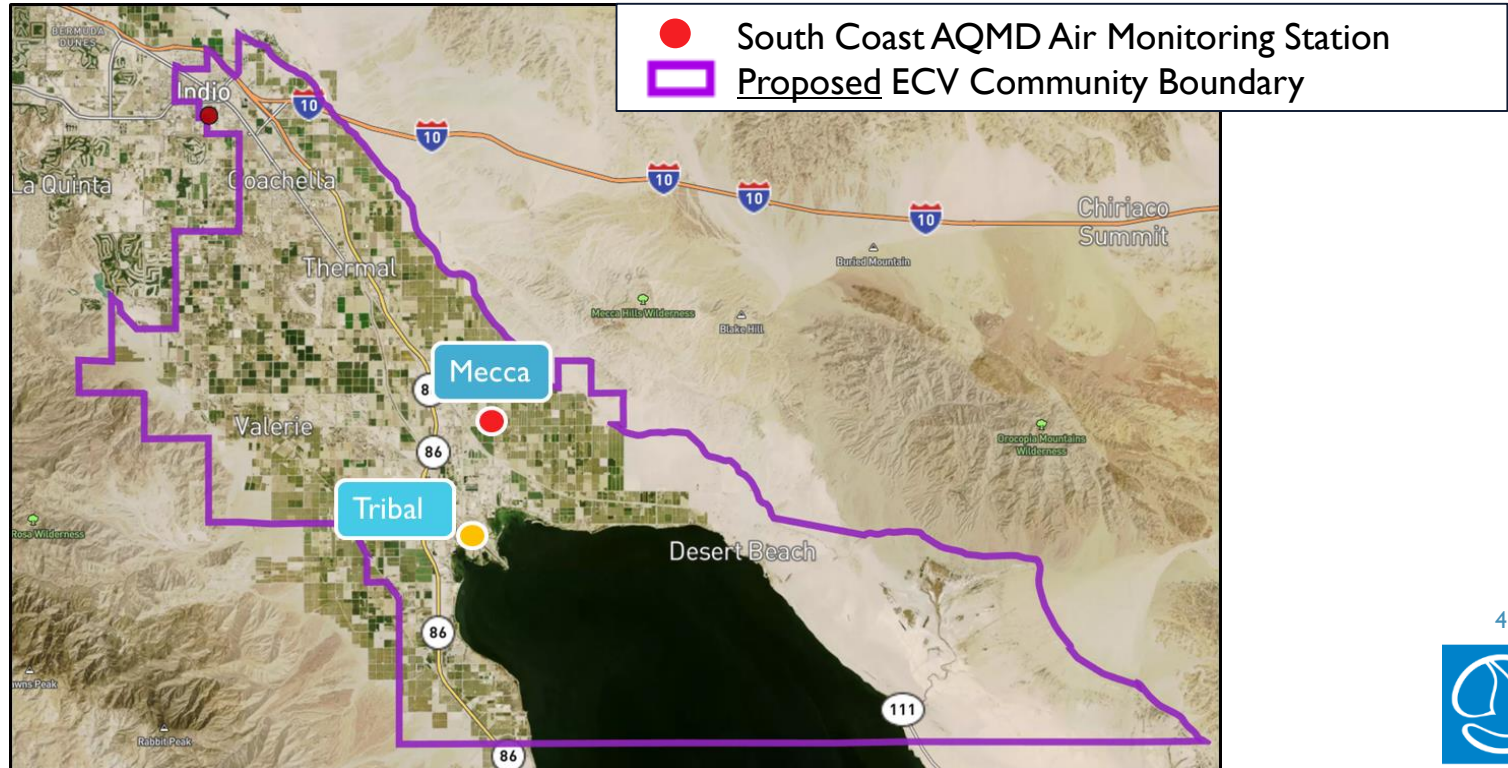
**Purpose:** to inform the community about the odors they smell and where they come from, including a notification system for when ambient levels exceed the State standard

## Mecca (Saul Martinez Elementary School)

- H<sub>2</sub>S
- Wind

## Tribal (Salton Sea Near-Shore Site)

- H<sub>2</sub>S
- Wind



# MONITOREO DE AIRE ACTUAL PARA EL SULFURO DE HIDRÓGENO (H<sub>2</sub>S)

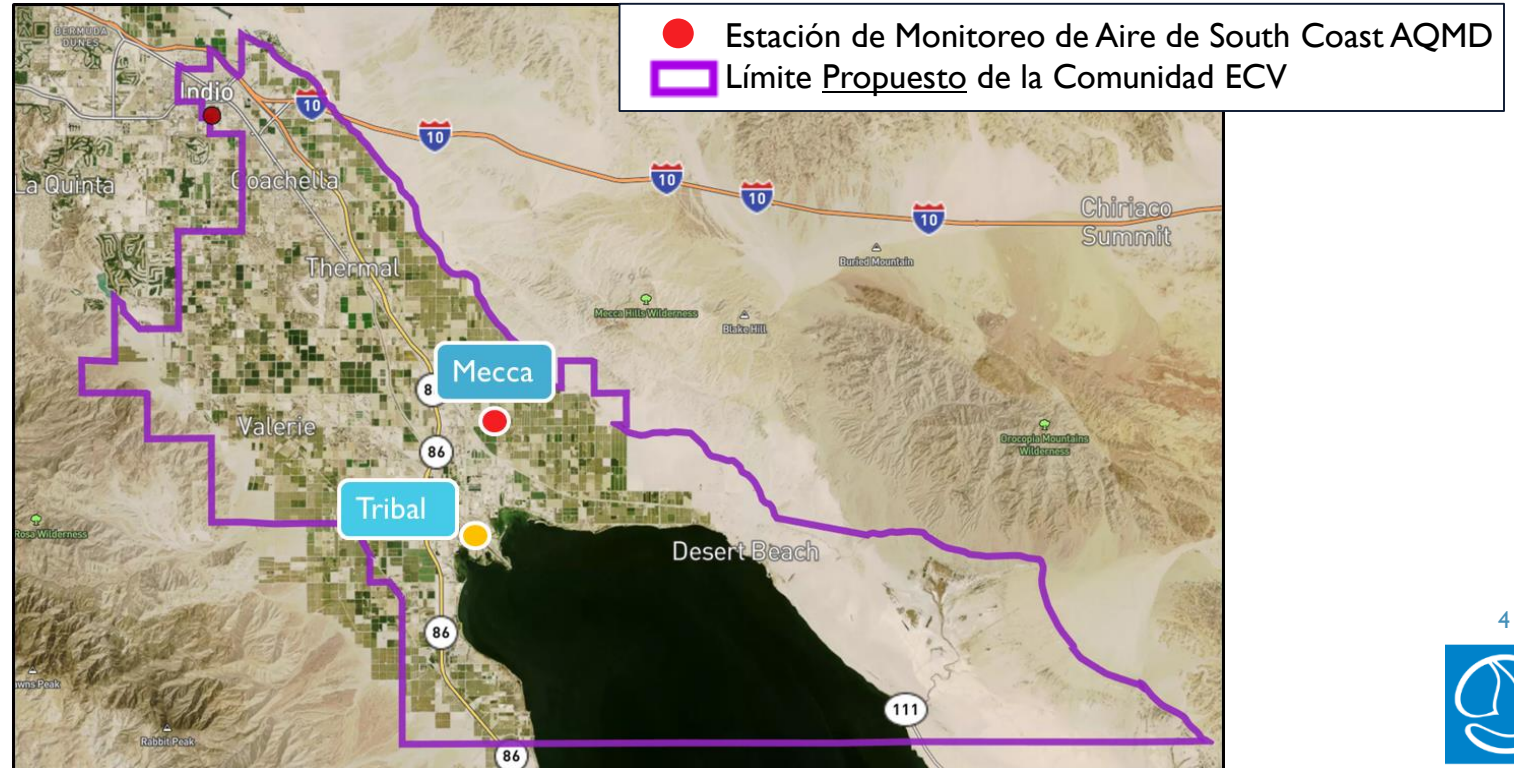
**Propósito:** informar la comunidad sobre los olores que huelen y de donde vienen, incluso un sistema de notificaciones cuando los niveles ambientales exceden el estándar estatal

## Mecca (Escuela Primaria Saul Martinez)

- H<sub>2</sub>S
- Viento

## Tribal (Sitio Cerca de la Costa de Salton Sea)

- H<sub>2</sub>S
- Viento

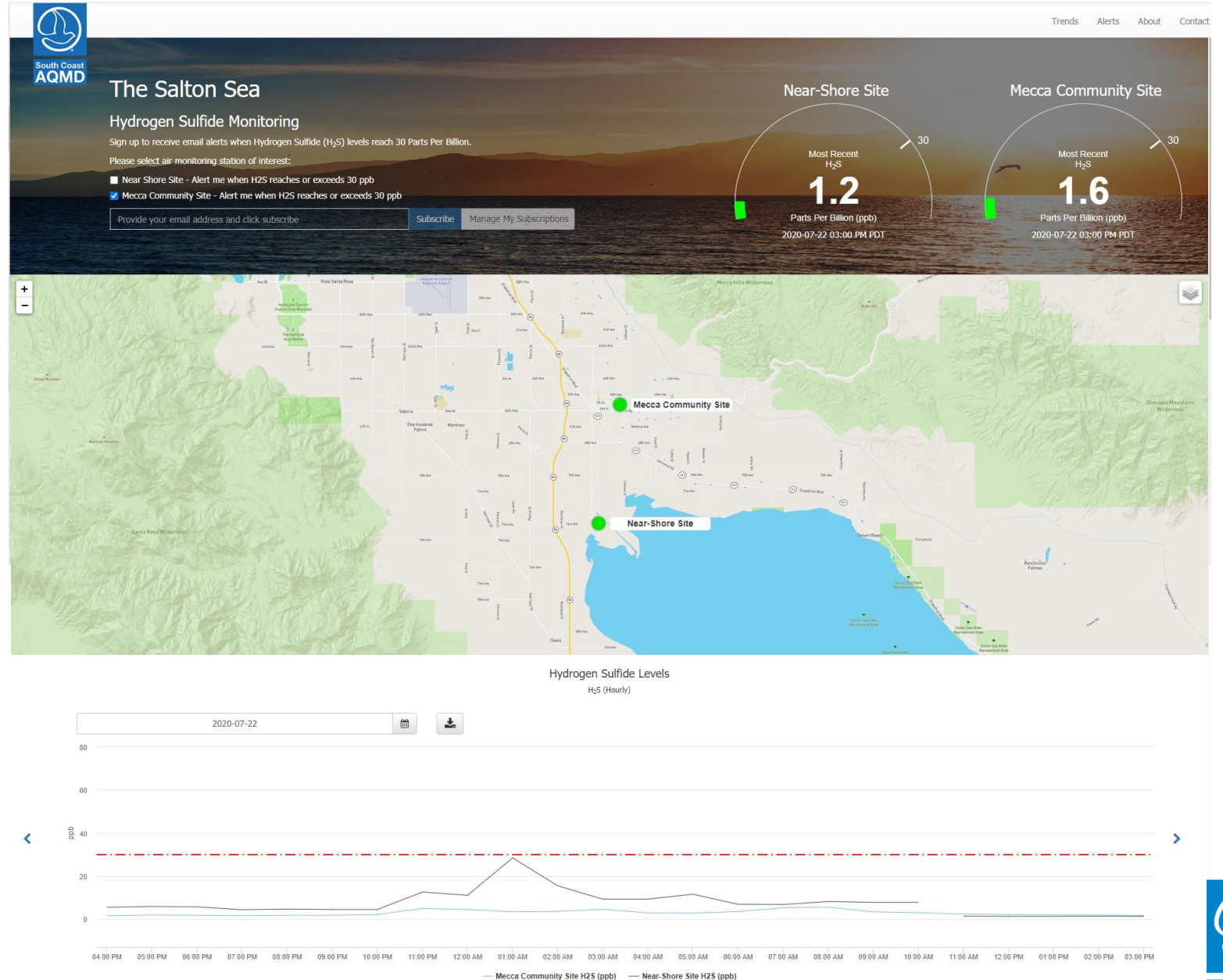




# DATOS DE MONITOREO DE AIRE EN TIEMPO REAL

[saltonseaodor.org](http://saltonseaodor.org)

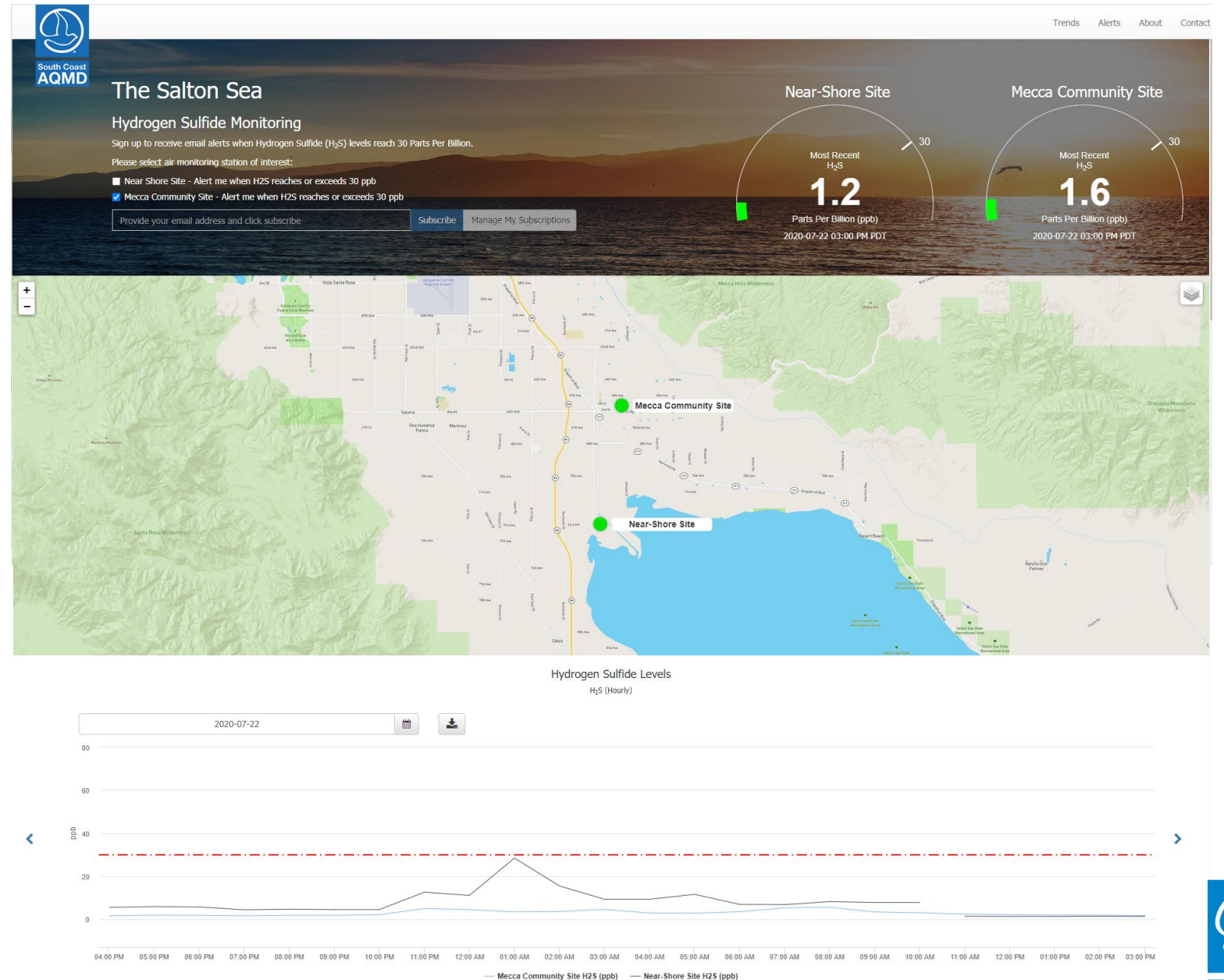
- Mediciones de sulfuro de hidrógeno ( $H_2S$ ) en tiempo real
  - Valores actuales
  - Series temporales
- Sistema de notificación basado en suscripción
  - Alertas por correo electrónico cuando los niveles de  $H_2S$  exceden el estándar estatal
- Avisos de olor y pronóstico: [airalerts.org](http://airalerts.org)



# REAL-TIME AIR MONITORING DATA

[saltonseaodor.org](http://saltonseaodor.org)

- Real-time measurements of hydrogen sulfide (H<sub>2</sub>S)
  - Current readings
  - Time series
- Subscription based notification system
  - Email alerts for when H<sub>2</sub>S levels exceed the State standard
- Odor advisories and forecast: [airalerts.org](http://airalerts.org)



# WINDBLOWN DUST FROM THE SALTON SEA

Windblown (fugitive) dust contains  $PM_{2.5}$  and  $PM_{10}$

Dust emissions from desert sources surrounding the Salton Sea can mix with emissions from newly exposed Salton Sea playa

## Particulate Matter ( $PM_{2.5}$ and $PM_{10}$ )

A number of adverse health impacts have been associated with exposure to both  $PM_{2.5}$  and  $PM_{10}$

National standards

California standards

	$PM_{2.5}$		$PM_{10}$	
	Annual Ave.	24-hr Ave.	Annual Ave.	24-hr Ave.
National standards	12	35	None	150
California standards	12	None	20	50

\*All units in  $\mu\text{g}/\text{m}^3$



# POLVO SOPLADO POR EL VIENTO DE SALTON SEA

*Polvo soplado por el viento (fugitivo) contiene  $PM_{2.5}$  y  $PM_{10}$*

*Polvo emitido por fuentes del desierto alrededor del Salton Sea pueden mezclarse con emisiones de la playa del Salton Sea recién expuesta*

## Materia de Partículas ( $PM_{2.5}$ y $PM_{10}$ )

*Se han asociado un numero de impactos adversos para la salud con la exposición a ambos  $PM_{2.5}$  y  $PM_{10}$*

Estándares Nacionales

Estándares de California

	$PM_{2.5}$		$PM_{10}$	
	Promedio Anual	Promedio 24-hr	Promedio Anual	Promedio 24-hr
Estándares Nacionales	12	35	Ninguno	150
Estándares de California	12	Ninguno	20	50

\* Todas unidades en  $\mu\text{g}/\text{m}^3$



# CURRENT AIR MONITORING FOR WINDBLOWN DUST

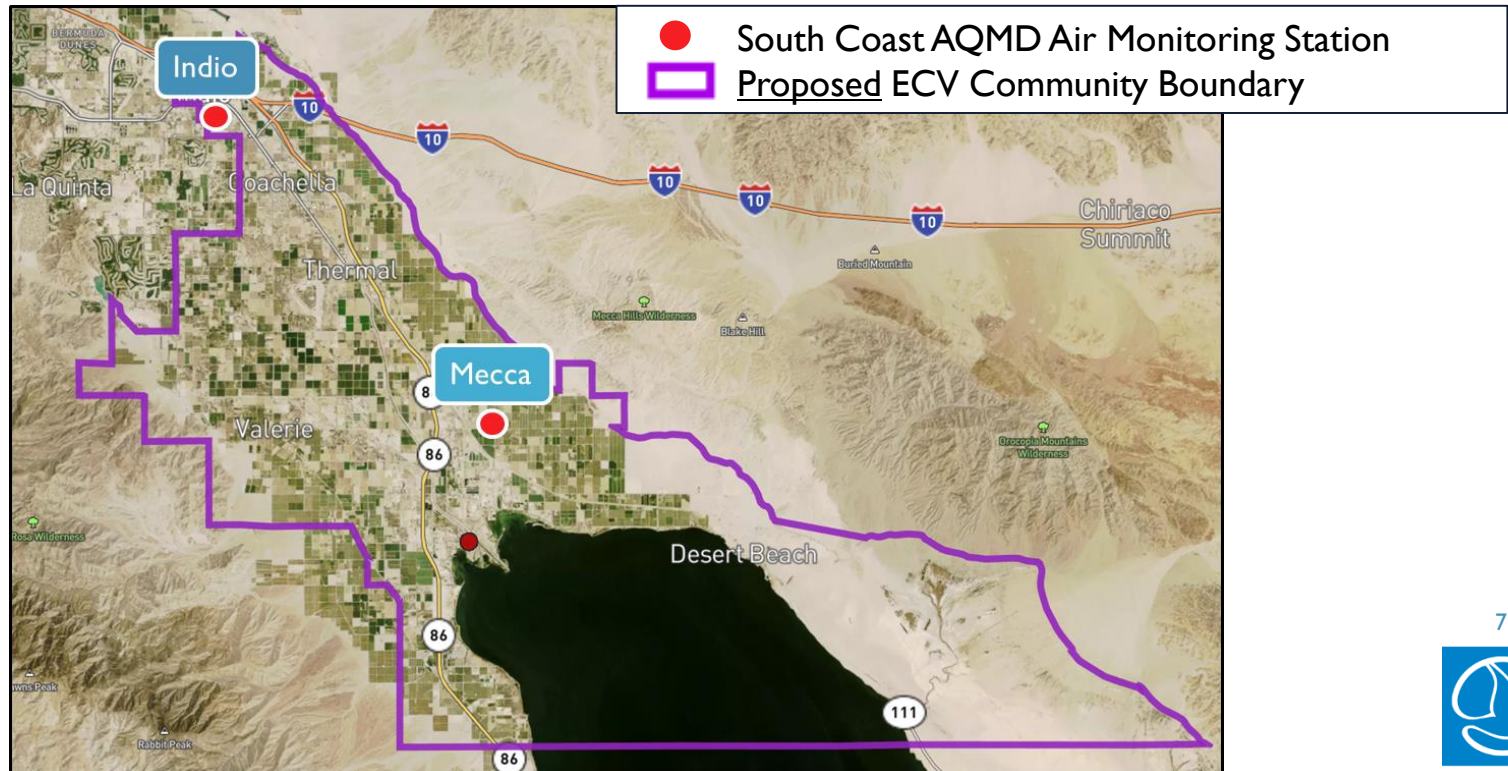
**Purpose:** to gain a better understanding of dust emissions and distinguish between windblown dust from desert areas and playa dust emissions from the Salton Sea

## Indio

- PM2.5
- PM10
- Wind

## Mecca (Saul Martinez Elementary School)

- PM10
- Wind



# MONITOREO DE AIRE ACTUAL PARA POLVO SOPLADO POR EL VIENTO

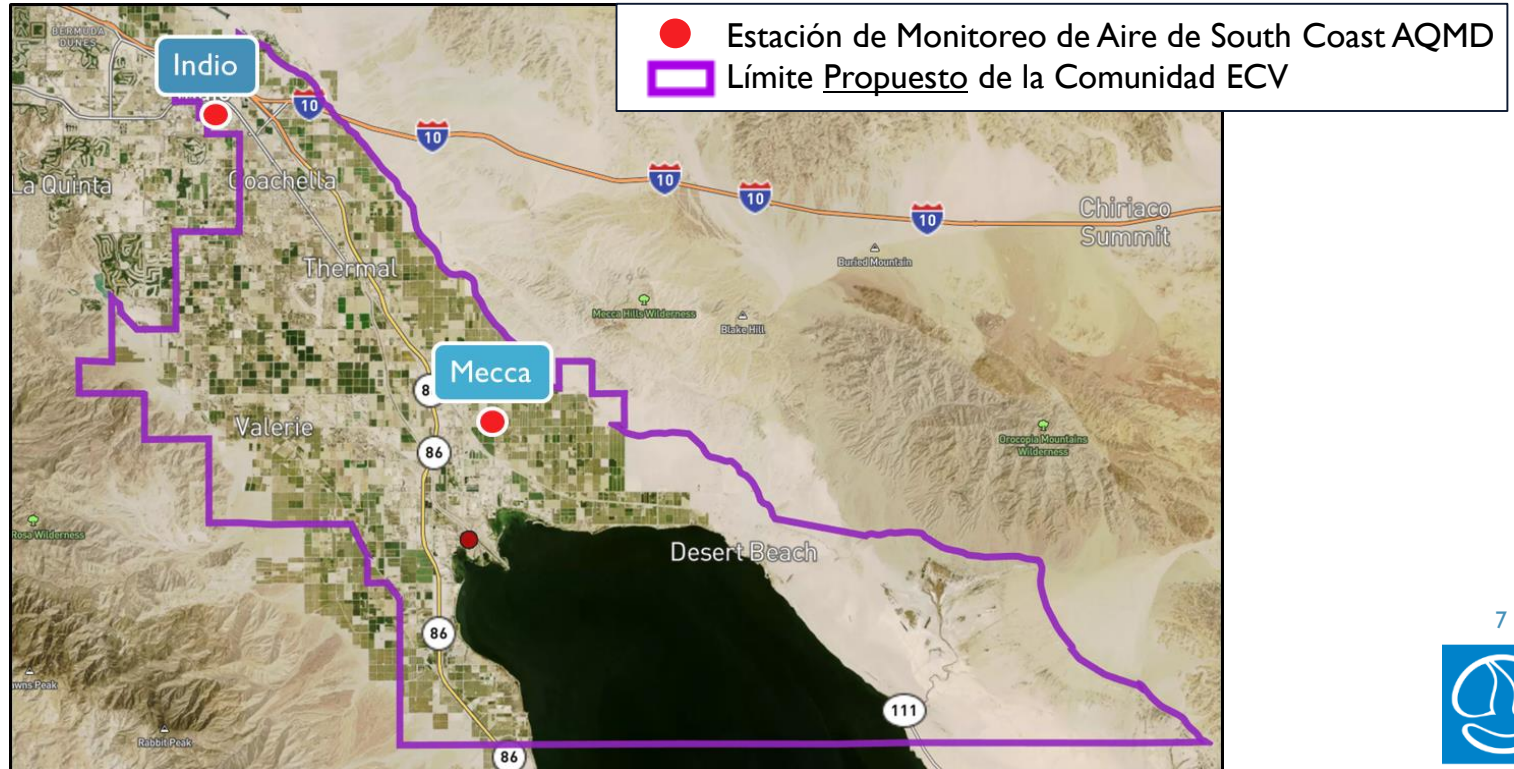
**Propósito:** obtener una mejor comprensión sobre las emisiones de polvo y distinguir entre polvo soplado por el viento de áreas del desierto y polvo emitido de la playa del Salton Sea

## Indio

- $PM_{2.5}$
- $PM_{10}$
- Viento

## Mecca (Escuela Primaria Saul Martinez)

- $PM_{10}$
- Viento



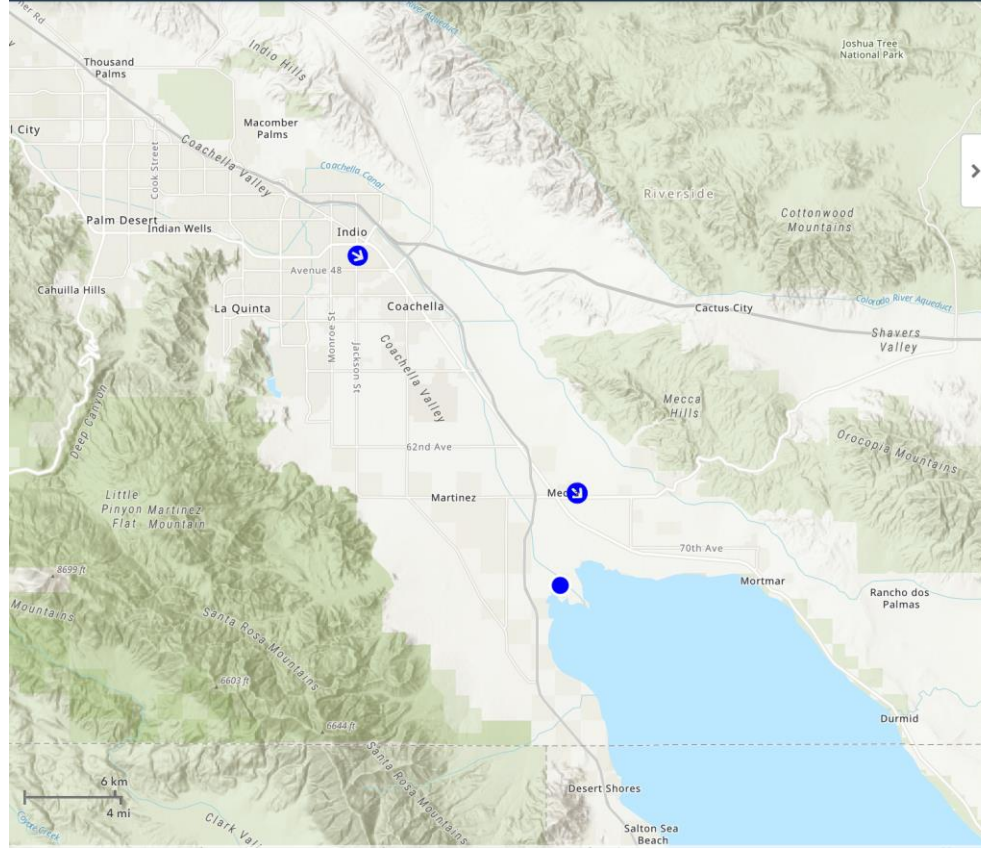
# REAL-TIME AIR MONITORING DATA

*Under development...*

- Real-time measurements of different air pollutants
  - H<sub>2</sub>S
  - PM<sub>10</sub>
  - PM<sub>2.5</sub>
  - Ozone
  - Wind
- Current readings
- Time series
- Dust advisories and forecast: [airalerts.org](http://airalerts.org)

<http://www.aqmd.gov/ab617-data-display-tool/ecv>

South Coast AQMD - AB 617 Community Air Monitoring



**AB 617 COMMUNITY AIR MONITORING**

**Community Air Monitoring** is being conducted in selected communities as part of the AB 617 program. The locations and types of pollutants being monitored is unique to each community and was determined through close collaboration with stakeholders. Data collected from air monitoring can provide valuable information about sources of air pollution, types of pollutants, and air quality impacts in AB 617 communities. Monitoring data resulting from the implementation of the Community Air Monitoring Plans (or CAMPs) can be used to support and track air quality actions prioritized by the community to reduce local exposure to harmful air pollutants.

**Main Goals & Objectives**

- To help provide critical information used to guide investigations or provide public information
- To expand South Coast AQMD's understanding of air quality priorities in AB 617 communities
- To support the development and implementation of emission reduction strategies and enforcement actions designed to improve local air quality and reduce exposure
- To complement and enhance existing South Coast AQMD and community-led programs

**Types of Monitoring and Data Reporting**

- Continuous monitors – near real-time (within an hour)
- Time-integrated samples – summary reports (several days to weeks)
- Mobile surveys – summary reports (several days to weeks)

**CAMP Highlights**

- Will provide new information about air pollution at the community level
- Monitoring will be done in areas of concern identified by the selected communities
- Areas selected for monitoring reflect the air quality priorities in AB 617 communities

# DATOS DE MONITOREO DE AIRE EN TIEMPO REAL

*Bajo desarrollo ...*

- Mediciones de diferentes contaminantes del aire en tiempo real
  - H<sub>2</sub>S
  - PM<sub>10</sub>
  - PM<sub>2.5</sub>
  - Ozono
  - Viento
- Valores actuales
- Series temporales
- Avisos de polvo y pronóstico: [airalerts.org](http://airalerts.org)

<http://www.aqmd.gov/ab617-data-display-tool/ecv>

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# SOUTH COAST AQMD AIR MONITORING CAPABILITIES



**Fixed air monitoring** stations can provide real-time data reporting and help track the progress of emission reduction strategies



**Continuous multi-metals monitoring** can help characterize the chemical composition of fugitive dust emissions from different sources (e.g. the Salton Sea or the surrounding desert areas)

## Low-Cost Sensor Network

can provide real-time data reporting and cover a larger area in the community



# CAPACIDADES DE MONITOREO DEL AIRE DE SOUTH COAST AQMD



Estaciones de **monitoreo fijo** pueden proporcionar informes de datos en tiempo real y ayudar a seguir el progreso de estrategias de reducción de emisiones



**Monitoreo continuo de multi-metales** puede ayudar a caracterizar la composición química de las emisiones de polvo fugitivo de diferentes fuentes (p.ej., el Salton Sea o las áreas de desierto alrededor)

## Red de Sensores de Bajo Costo

puede proporcionar informes de datos en tiempo real y cubrir un área más grande en la comunidad



# SOUTH COAST AQMD AIR MONITORING CAPABILITIES



**Fixed air monitoring** stations can provide real-time data reporting and help track the progress of emission reduction strategies



**Mobile monitoring** can help identify pollution hotspots and support CERP actions

## Low-Cost Sensor Network

can provide real-time data reporting and cover a larger area in the community



# CAPACIDADES DE MONITOREO DEL AIRE DE SOUTH COAST AQMD



Estaciones de **monitoreo fijo** pueden proporcionar informes de datos en tiempo real y ayudar a seguir el progreso de estrategias de reducción de emisiones



**Monitoreo móvil** puede ayudar a identificar puntos calientes de contaminación y apoyar acciones del CERP

## Red de Sensores de Bajo Costo

puede proporcionar informes de datos en tiempo real y cubrir un área más grande en la comunidad



# EXAMPLES OF POTENTIAL AIR MONITORING STRATEGIES

## Determine Air Monitoring Objectives

- 1) Provide real-time data
- 2) Notification systems
- 3) Tracking the progress of emission reduction strategies

## Recommend appropriate strategies

- 1) Expanding the current network for PM<sub>10</sub> and H<sub>2</sub>S measurement
- 2) Additional monitors to cover a wider range of air pollutants (e.g. metals)
- 3) Establishing a sensor network (e.g. for PM)

## Areas of collaboration

- 1) Work with CSC on air monitoring research projects
- 2) Work with other agencies to harmonize air monitoring strategies



# EJEMPLOS DE POSIBLES ESTRATEGIAS PARA MONITOREO DE AIRE

## Determinar Objetivos de Monitoreo del Aire

- 1) Proporcionar datos en tiempo real
- 2) Sistemas de notificacion
- 3) Seguir el progreso de estrategias de reducción de emisiones

## Recomendar estrategias apropiadas

- 1) Ampliar la red actual para la medición de  $PM_{10}$  y  $H_2S$
- 2) Monitores adicionales para cubrir una gama mas amplia de contaminantes del aire (p. ej. metales)
- 3) Establecer una red de sensores (p. ej. para PM)

## Áreas de colaboración

- 1) Trabajar con el CSC en proyectos de investigación de monitoreo del aire
- 2) Trabajar con otras agencias para armonizar estrategias de monitoreo del aire



# DISCUSSION

## COMMENTS AND QUESTIONS?

Please contact:  
Payam Pakbin  
[ppakbin@aqmd.gov](mailto:ppakbin@aqmd.gov)  
909-396-2122



# DISCUSIÓN

¿COMENTARIOS Y PREGUNTAS?

Por favor contactar a:  
Payam Pakbin  
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