CLERK OF THE BOARD OF SUPERVISORS

EXHIBIT/DOCUMENT LOG

MEETING DATE & AGENDA NO. 09/09/2025 #17

STAFF DOCUMENTS (Numerical)

No.	Presented by:	Description:
1	N/A	
2		
3		
4		
5		

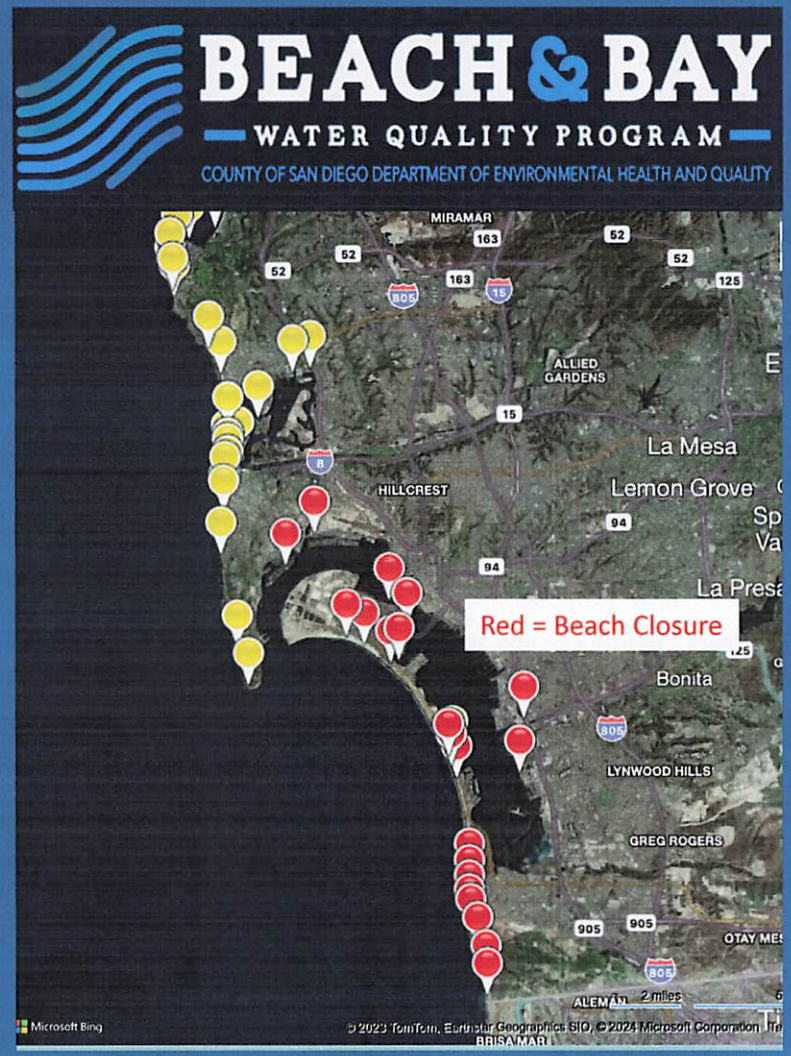
PUBLIC DOCUMENTS (Alphabetical)

No.	Presented by:	Description:
A	Kim Prather Granados And Paula Stigler Granados	13-Page PowerPoint
B		
C		
D		
E		
F		

Ongoing Sewage Crisis in Southern San Diego County

Southern San Diego beaches are often closed due to high bacteria levels in the water. Many South Bay residents report strong odors and associated health impacts. Beaches were closed for > 1,300 days!

Dr. Beatriz Klimeck (Prather Lab)



Extending community impacts: Water to air

THREAD SEWAGE CRISIS

The San Diego Union-Tribune

Full coverage: The transborder sewage crisis in San Diego

May 18, 2024

"You inhale 11,000 liters of air a day, versus two liters of water that you drink," said UC San Diego biochemist Kim Prather, another task force member and principal investigator on the aerosols study. "So, your main exposure route is the air. Our thinking is that a lot of the exposure and a lot of the illness is coming from what people are breathing."

Science
AAAS

AIR POLLUTION

Heavily polluted Tijuana River drives regional air quality crisis

Benjamin Rico[1], Kelley C. Barsanti[2], William C. Porter[3], Karolina Cysneiros de Carvalho[3], Paula Stigler-Granados[4], Kimberly A. Prather[1,5]*

Industrial chemicals and untreated sewage have polluted the Tijuana River for decades, recently causing >1300 consecutive days of California beach closures. In summer 2024, wastewater flows surged to millions of gallons per day despite no rain, enhancing water-to-air transfer of hydrogen sulfide (H_2S) and other toxic gases at a turbulent hotspot. High wastewater flows and low winds led to nighttime H_2S peaks, reaching 4500 parts per billion (ppb)—exceeding typical urban levels of <1 ppb. H_2S levels and community malodor reports were strongly correlated (correlation coefficient $r = 0.92$), validating long-dismissed community voices and highlighting an environmental injustice. This study demonstrates that poor water quality can substantially affect air quality—although rarely included in air quality models and health assessments—with far-reaching implications as polluted waterways increase globally.

Professor Kimberly Prather, UC San Diego
Distinguished Chair in Atmospheric Chemistry

Co-authors:
Ben Rico (UC San Diego)
Kelley Barsanti (NCAR)
William Porter (UC Riverside)
Karolina Cysneiros de Carvalho (UC Riverside)
Paula Stigler-Granados (San Diego State University)

Publication Date: **August 28, 2025**

CAICE NSF center for aerosol impacts on chemistry of the environment

UC San Diego | SCRIPPS INSTITUTION OF OCEANOGRAPHY

The Airborne Institute

September 2024

Los Angeles Times

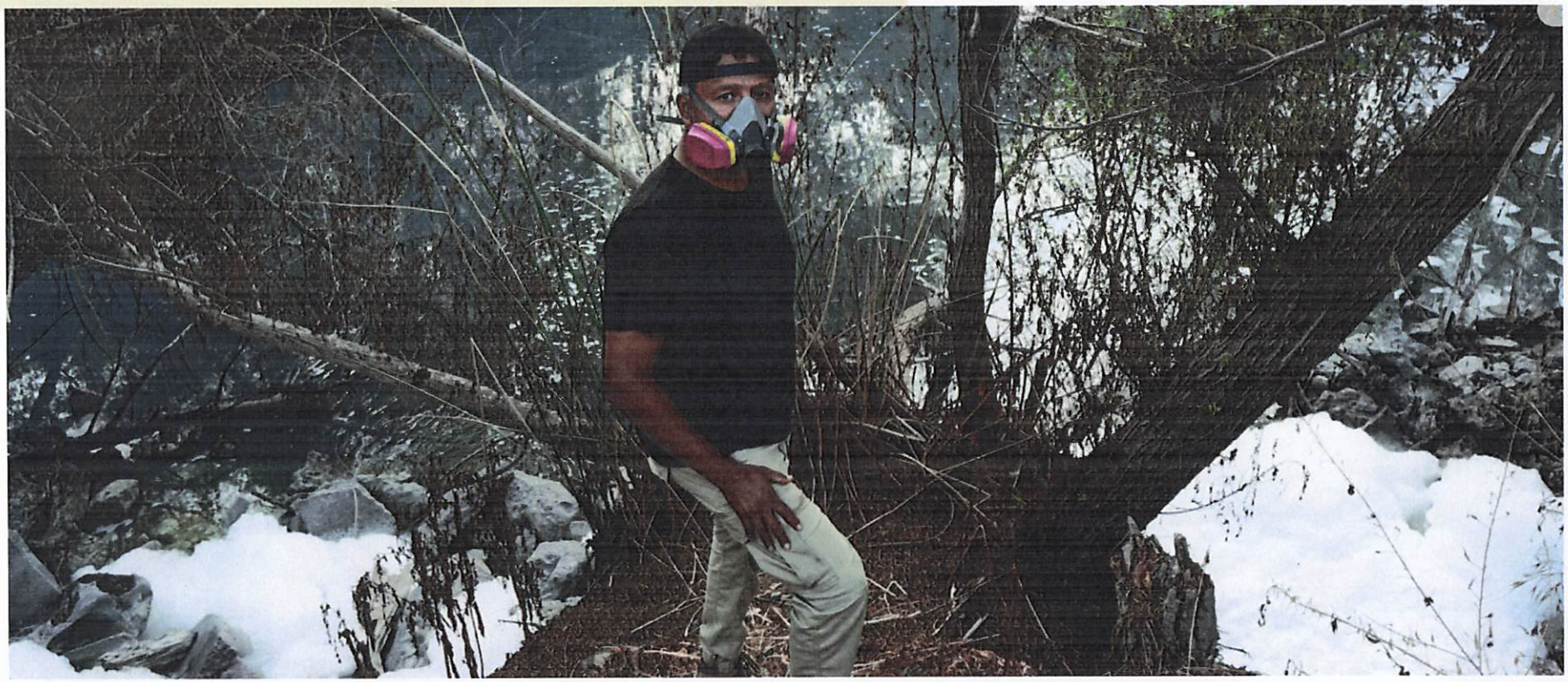
CLIMATE & ENVIRONMENT

Some in this California beach town insist the Tijuana River is poisoning them. Officials disagree

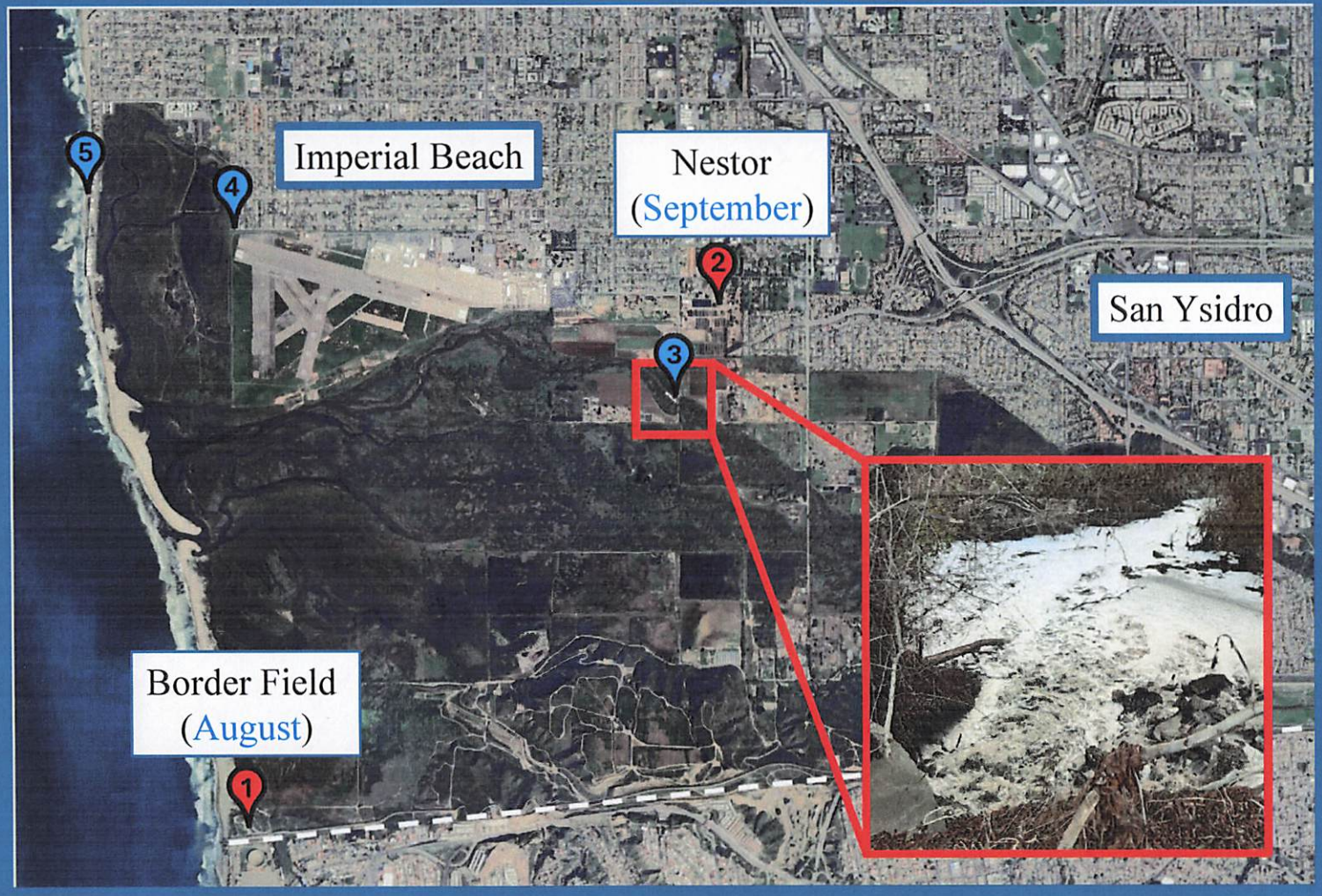
Escalating odor reports (>200 per day)

Dry season: 40-80 million gallons/day of wastewater flowing into the Pacific Ocean

Which gases (= odors) are being released?



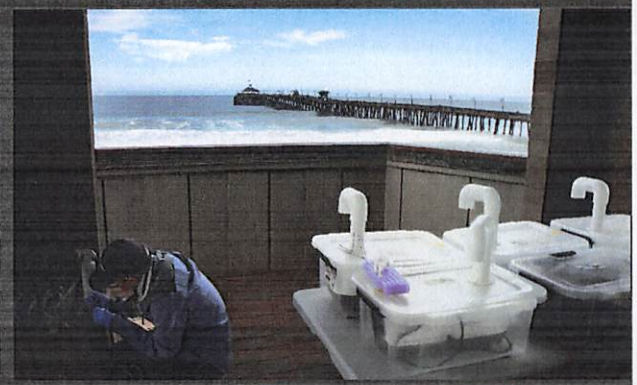
South Bay "Dry Season" Study (September 1-22, 2024)



Tijuana River (Saturn Blvd) Hot Spot
Foam Patch Visible From Space

Saturn Blvd Hot Spot (Tijuana River)

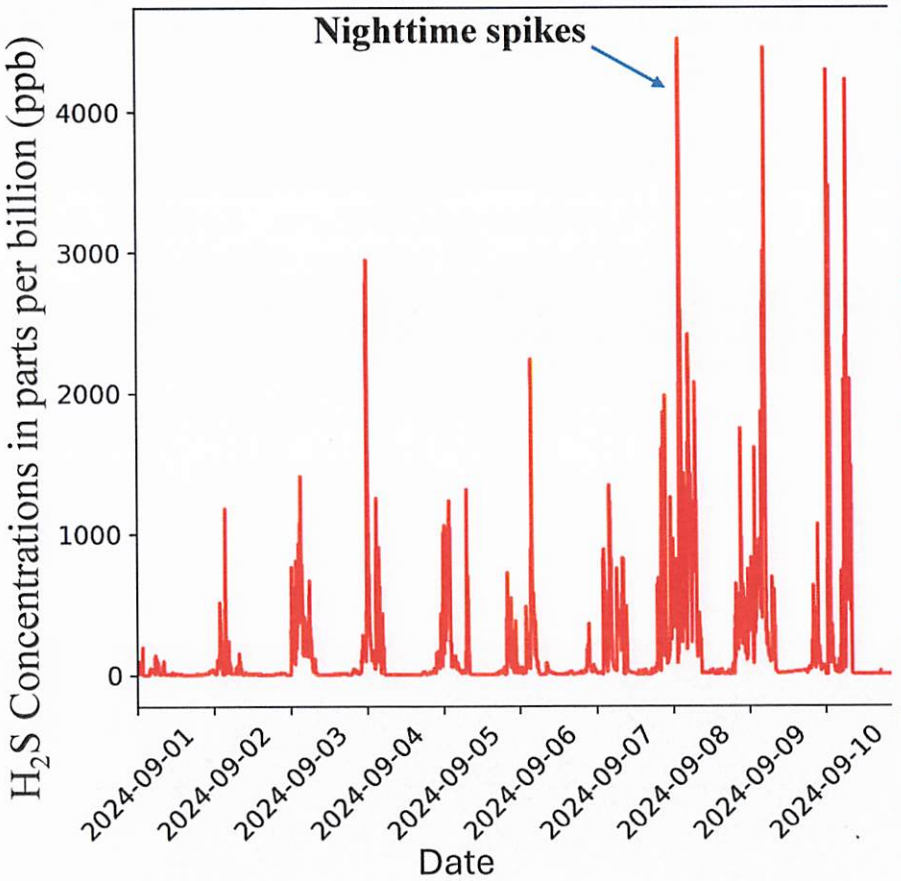
South Bay San Diego and Imperial Beach Air and Water Sampling

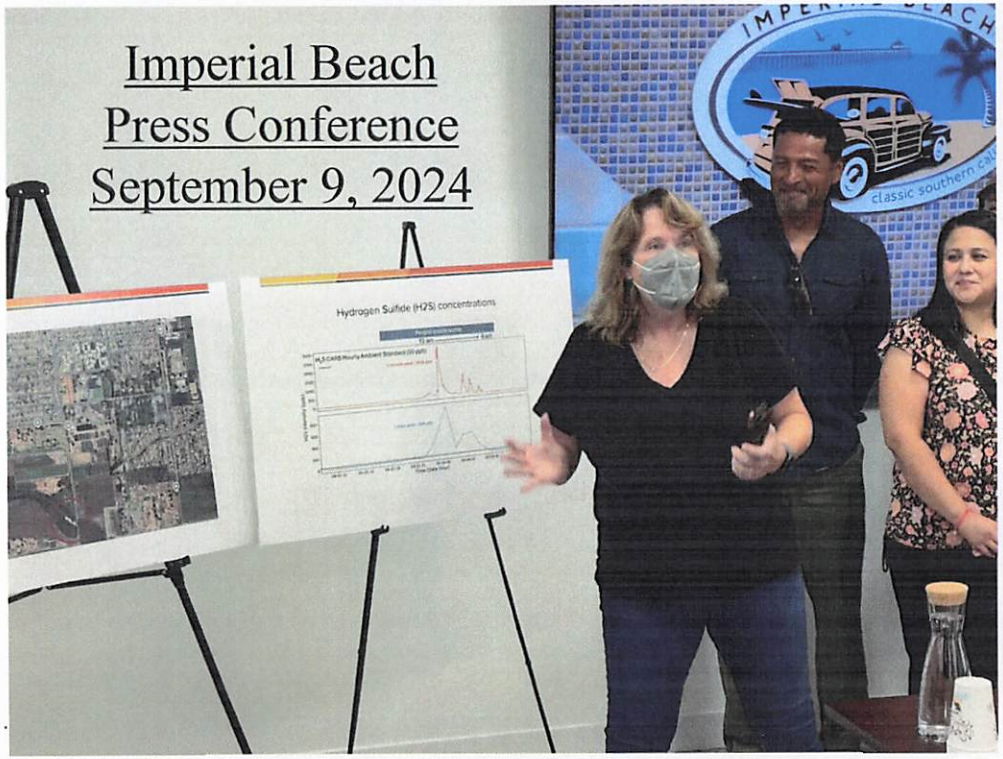


Hydrogen Sulfide (H_2S) Concentrations in Nestor (South San Diego Community)

For decades: Residents have been reporting a persistent "rotten egg smell"

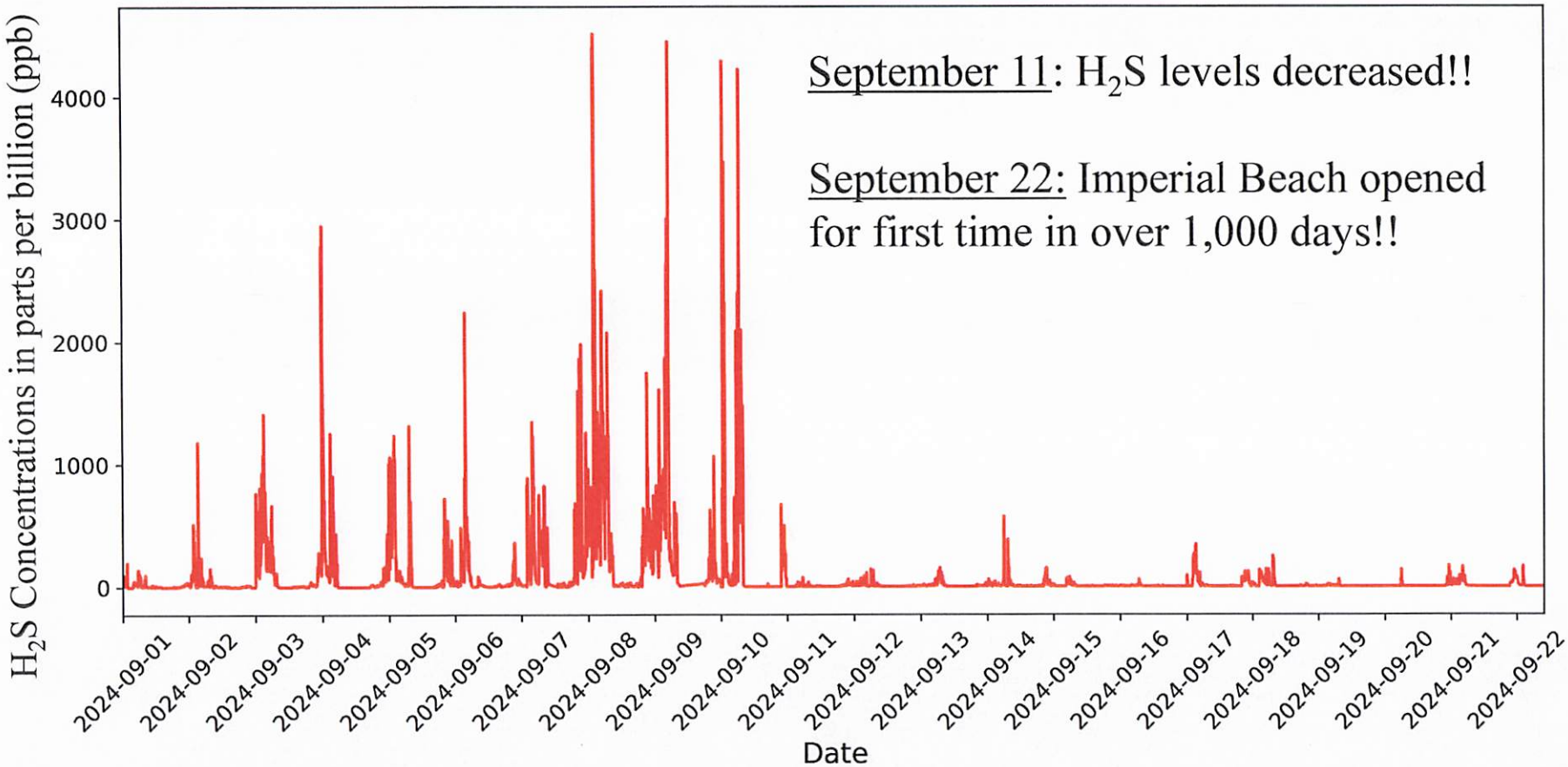
Measurements show nightly H_2S spikes 4,500 times higher than typical urban levels!!





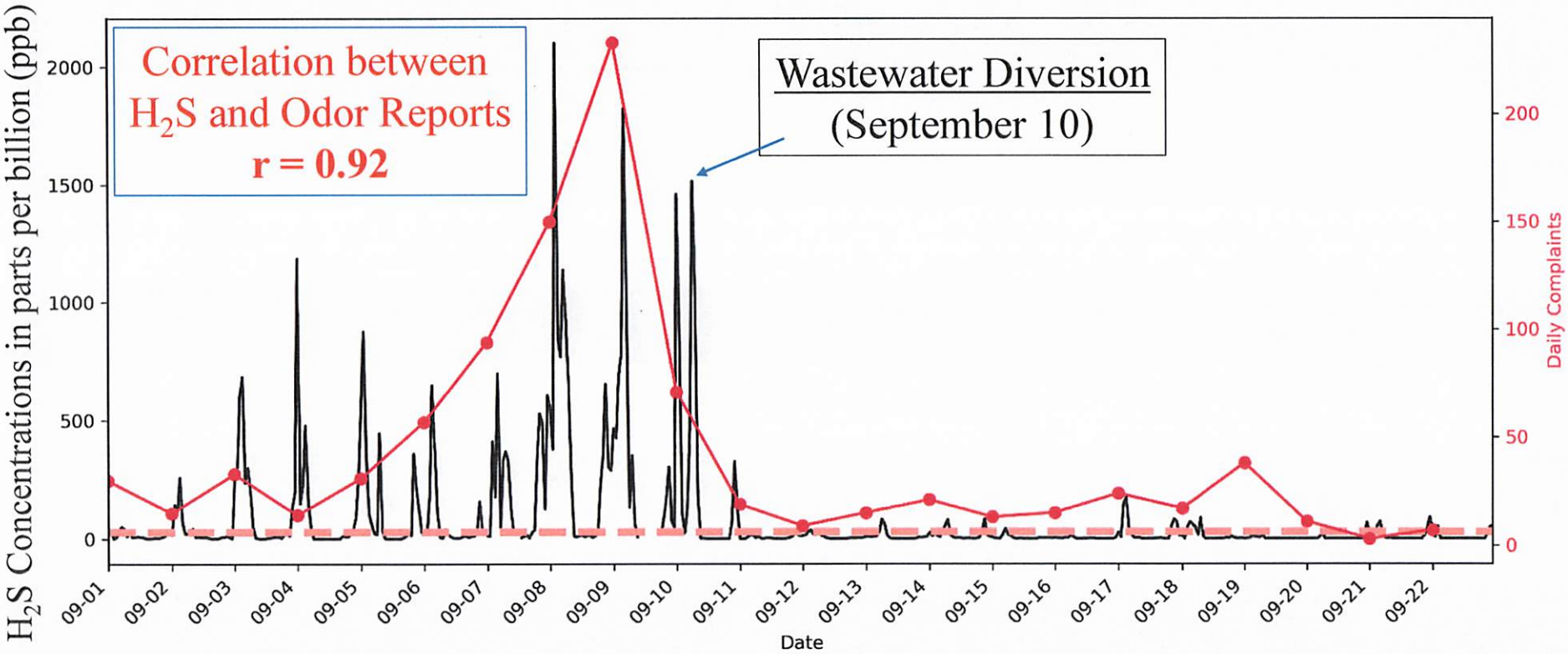
<u>September 10:</u> Wastewater in Tijuana River diverted—
"Tijuana River" flow <u>reduced</u>!!

Immediate Decrease in Toxic Hydrogen Sulfide (+ hundreds of other gases)
High levels in air (+ smell) linked to nighttime high flow of heavily polluted **wastewater**

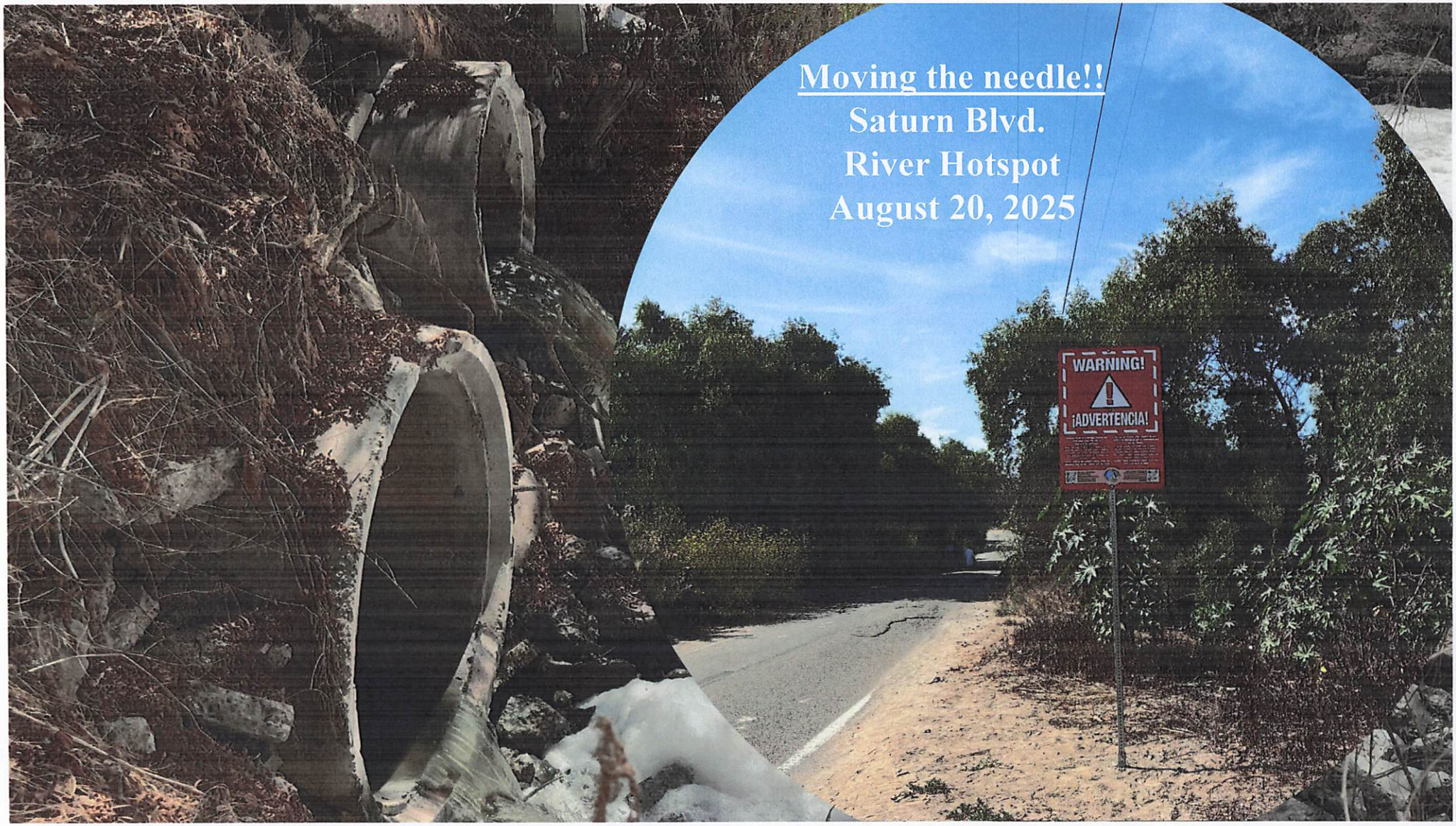


Rico, et al. (2025) "Heavily Polluted Tijuana River Drives Regional Air Quality Crisis", Science.

Hydrogen Sulfide (Toxic Gas) vs. Community Odor Reports



H_2S measurements validated long-dismissed community voices!!


Moving the needle!!
Saturn Blvd.
River Hotspot
August 20, 2025
WARNING!
¡ADVERTENCIA!

Air warning signs in English and Spanish put up near Tijuana River (August 20, 2025)

- Elevated levels of hydrogen sulfide gas have been detected due to Tijuana River pollution.

- People have experienced physical symptoms including headaches, nausea, and respiratory issues. If symptoms get worse, seek medical care.

- Other chemicals or toxic gases may be present and harmful to your health.

- Adults, children, and animals should avoid the immediate area and any contact with the water.