

Paso del Norte Air Quality Report | February 20, 2024

Dr. Carlos Rincon, US EPA Region 6



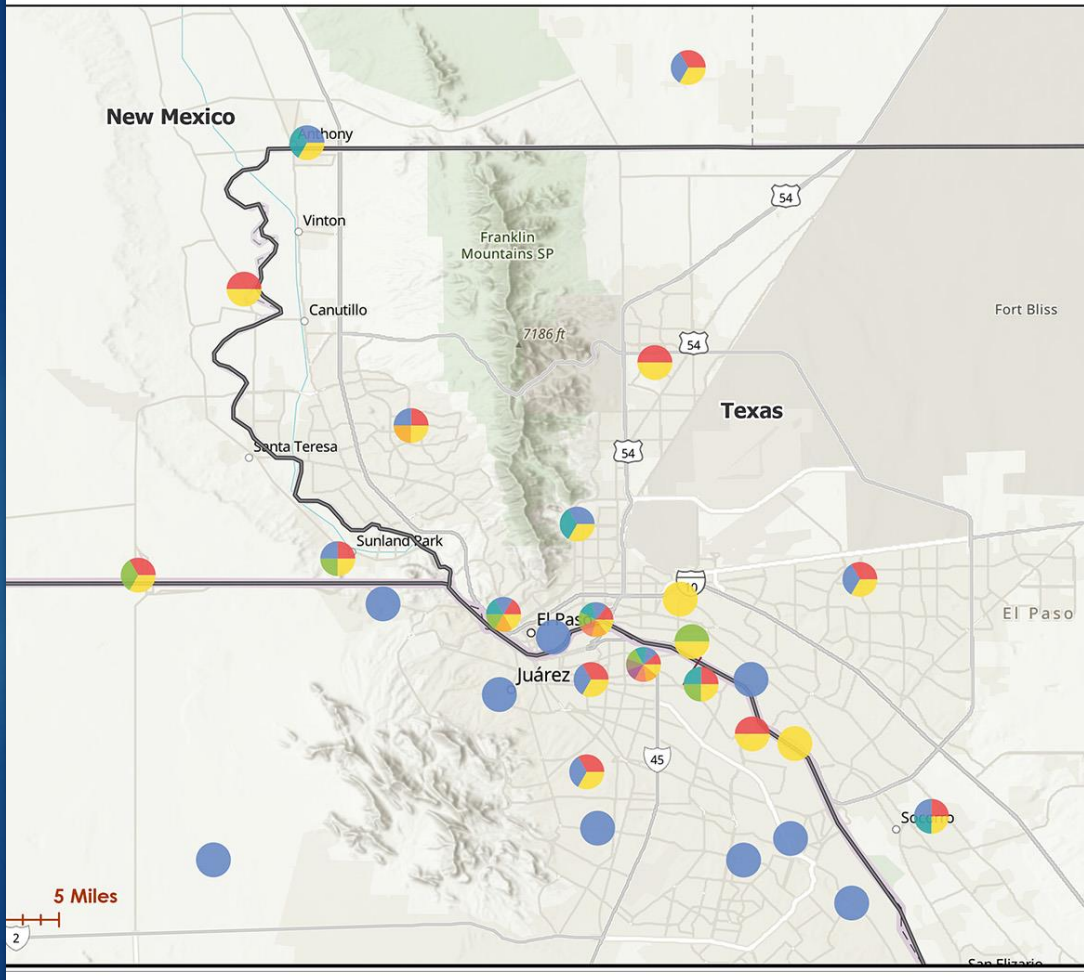
Overview

- Current air monitoring networks
- January – December 2023 data by pollutant with design values for each country
- Open discussion

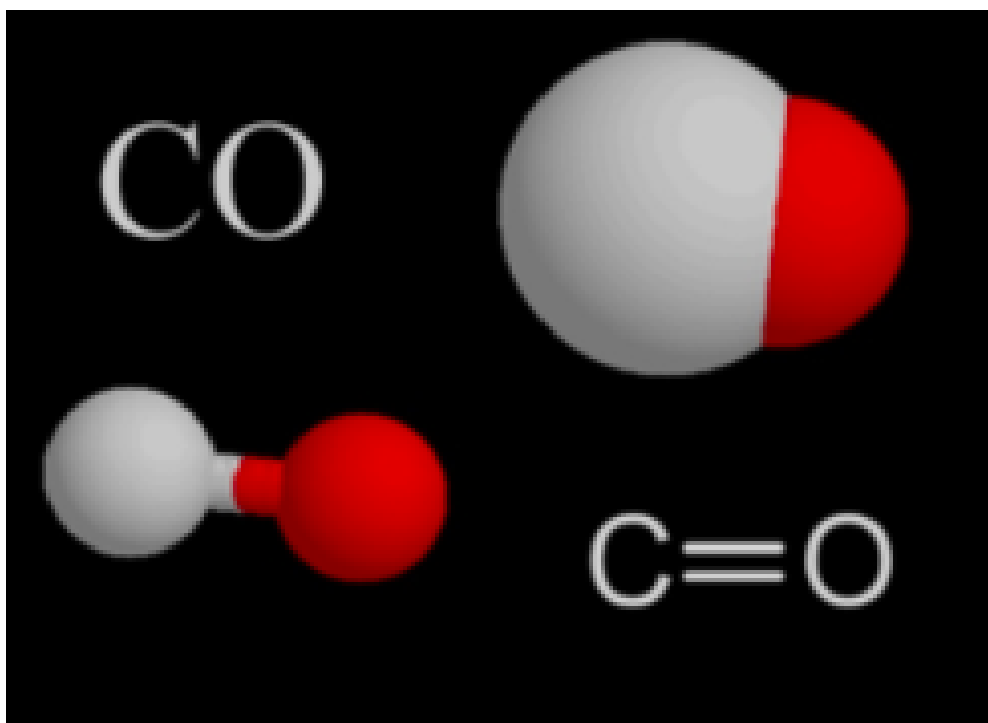
El Paso del Norte Airshed Air Quality Monitors

April 2021

Map Requested by TCEQ Office of Air



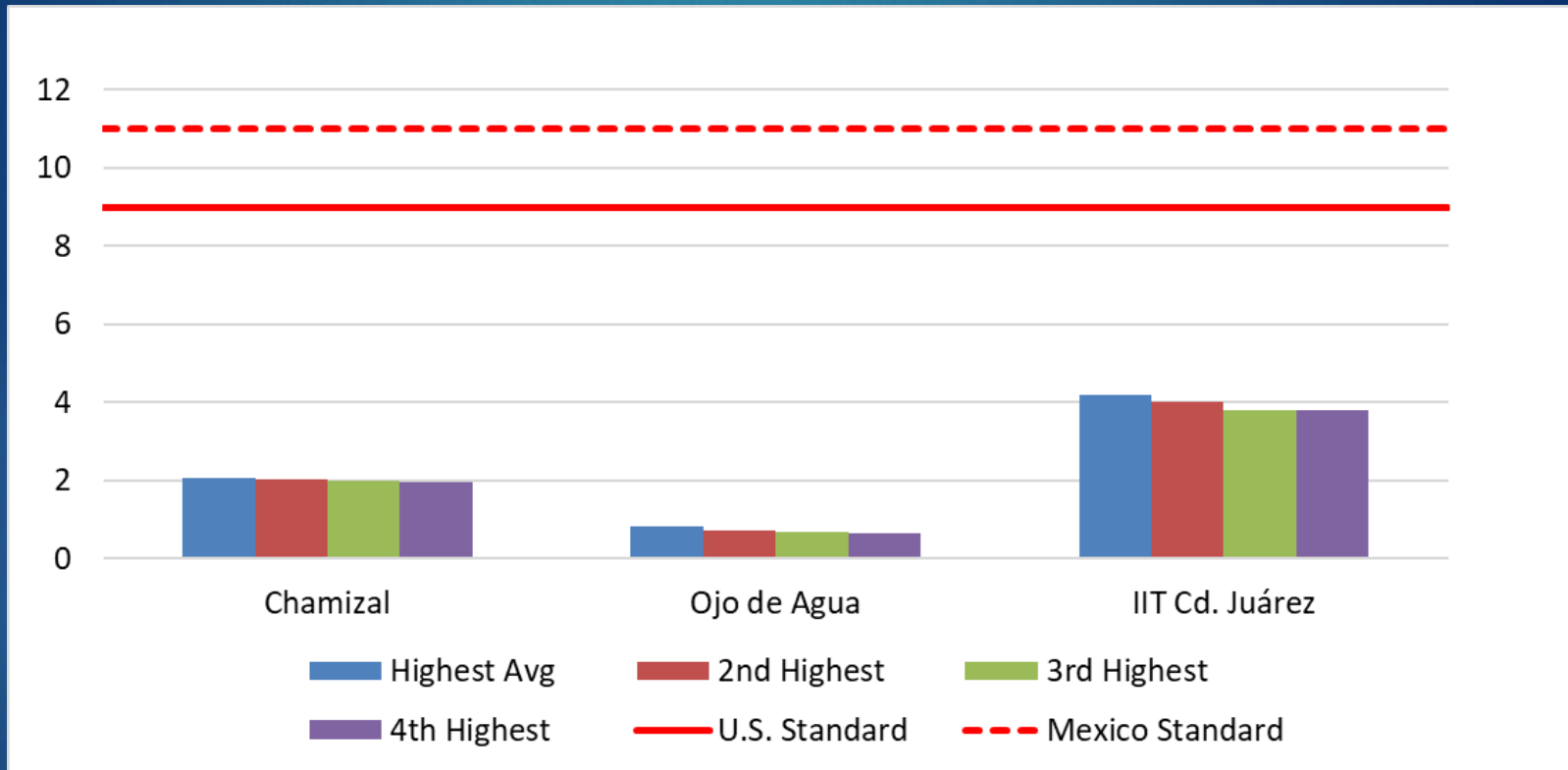
Paso del Norte Air Monitoring Stations



Carbon
monoxide
(CO)
Monóxido
de
carbono



CO 8 Hr. Averages Four Highest Values in (ppm) El Paso and Ciudad Juárez (January – December 2023)



The **U.S. federal standard, 9.0 ppm**, is violated when more than one reading at the same monitor in one calendar year is at or above that value.

The **Mexico federal standard** is a highest allowable limit of 11 ppm.

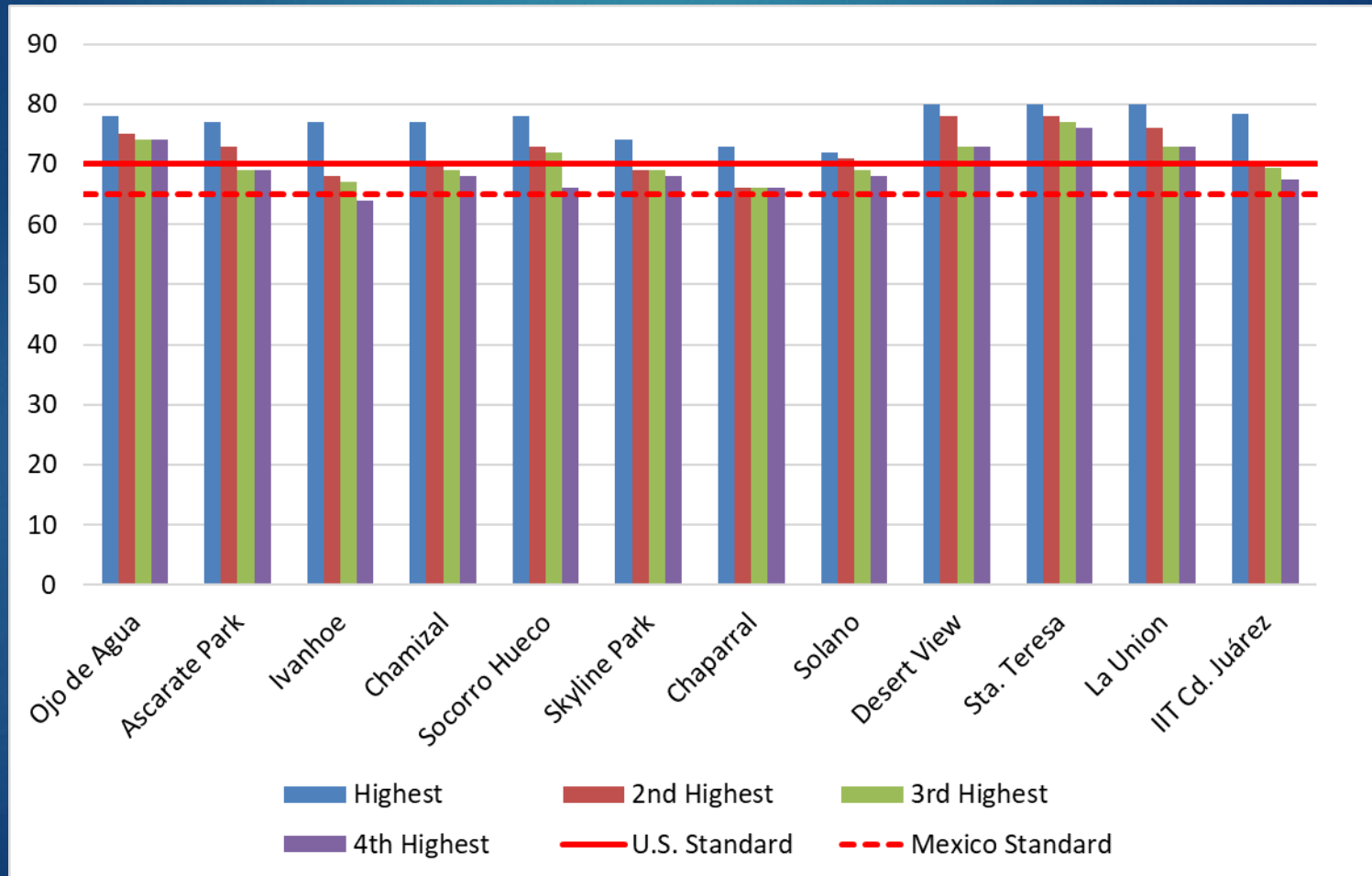


Ozone
(O_3)
Ozono

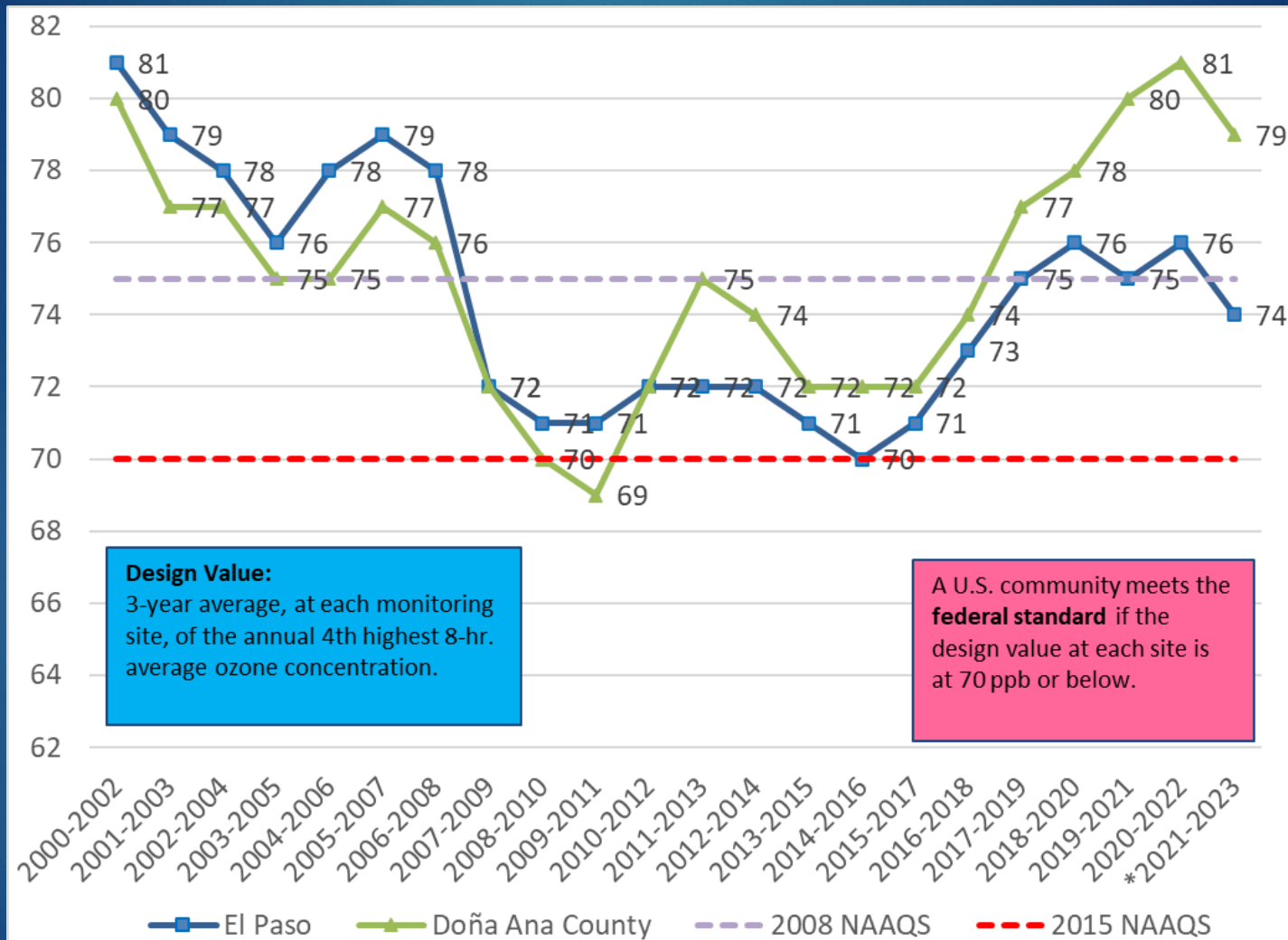
Ozone 8-Hour Averages Highest Values at Monitors in the Paso del Norte (January – December 2023)

U.S. federal standard:
70 ppb for the 3-year average of the 4th
highest value

The maximum permissible limit in Mexico:
65ppb on an 8-hour moving average



Ozone 8-Hr. Design Values | El Paso and Doña Ana County (highest value of all sites in each area, 2002 – 2023*)



Particulate Matter (PM) Material Particulado

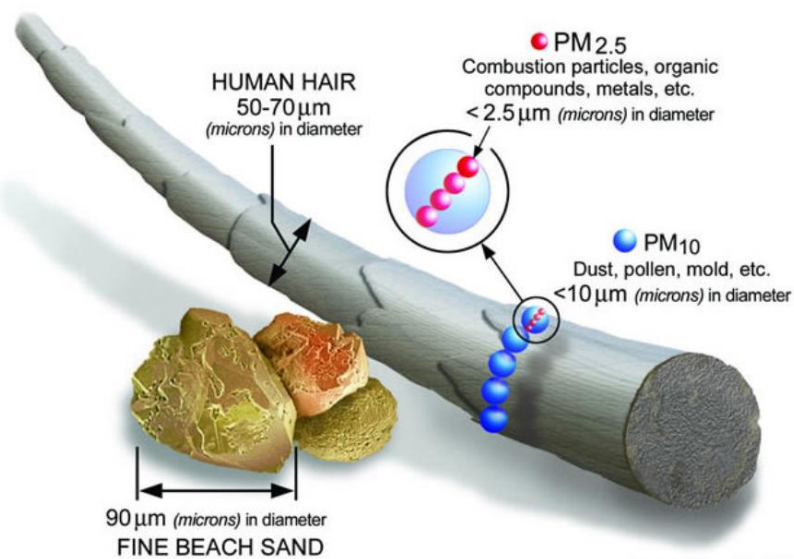
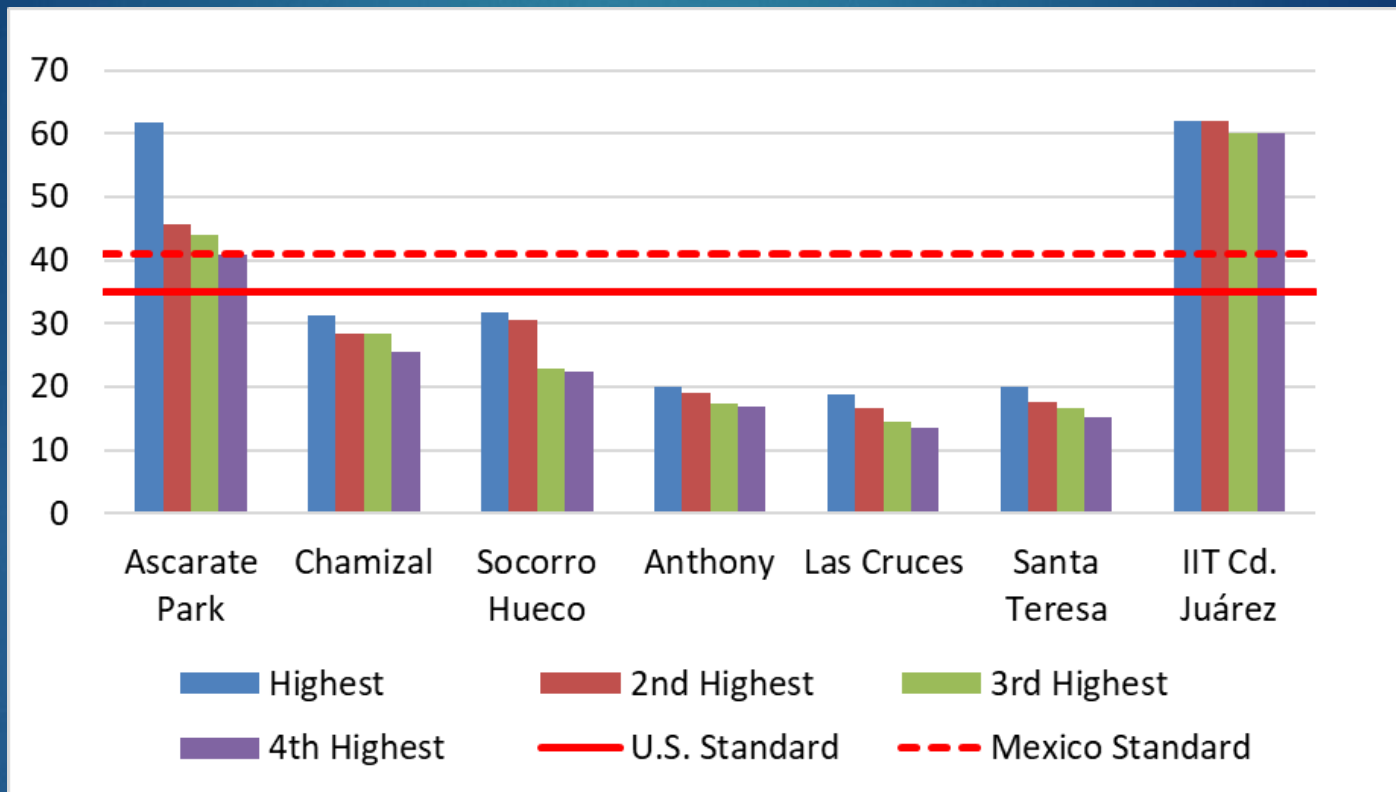


Image courtesy of the U.S. EPA

PM_{2.5} 24-Hour Averages (µg/m³) Four Highest El Paso, Doña Ana County, and Ciudad Juárez January – December 2023



U. S. federal standards:

The standard for 24-hr averages, 35 µg/m³, is violated if it is exceeded by the average over any three-year period, of the annual 98th percentile

The highest allowable limit in Mexico for PM_{2.5} is 41 µg/m³, in 24-hour averages.

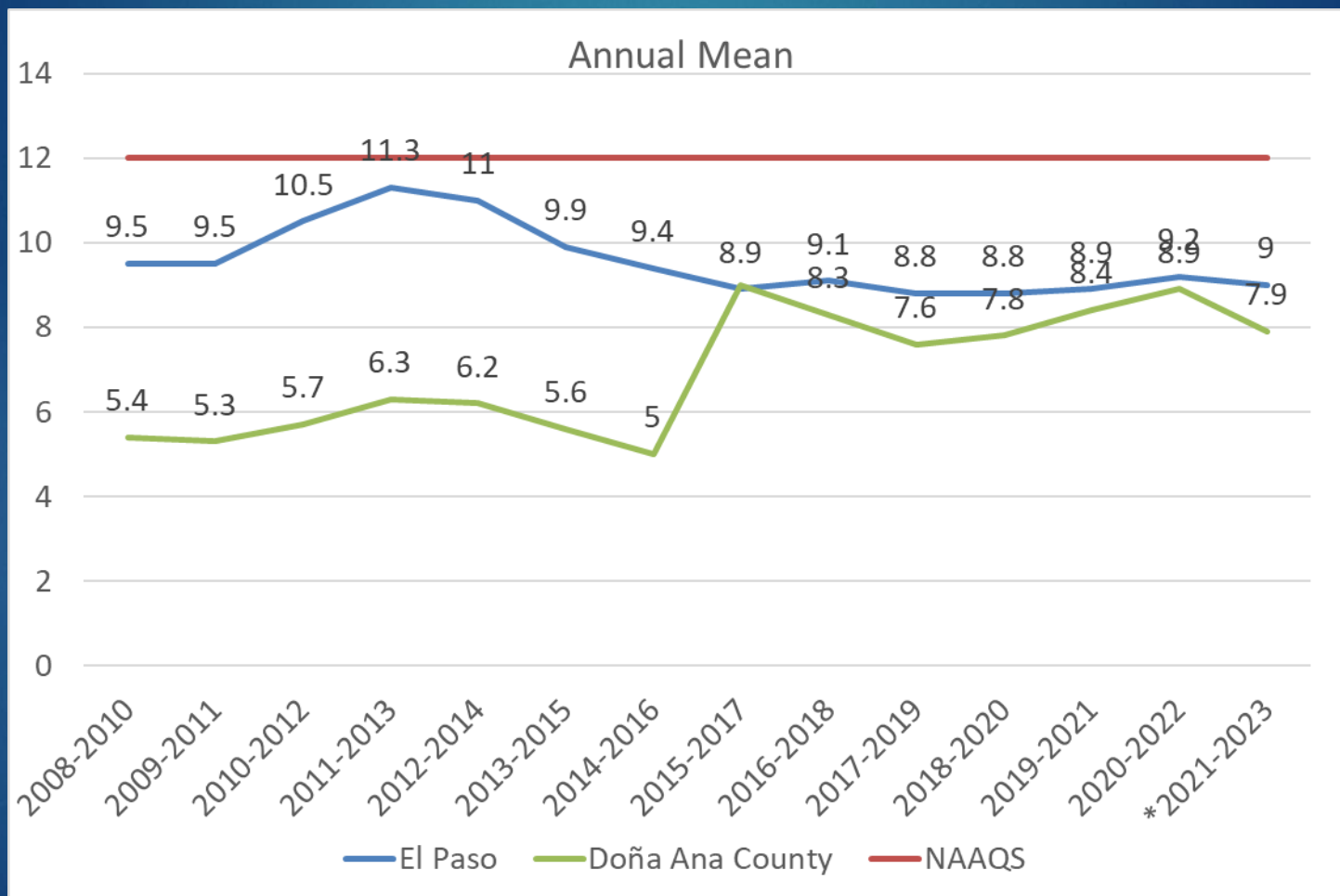
Special Purpose Monitors-Non-validated Data

Note: El Paso County (Ascarate Park and Socorro Huevo) data are Federal Reference Methods (FRM) monitors while DAC are Federal Equivalent Method (FEM).

PM_{2.5} Compliance with U.S. Federal Standard El Paso and Doña Ana Counties

Annual Design Value

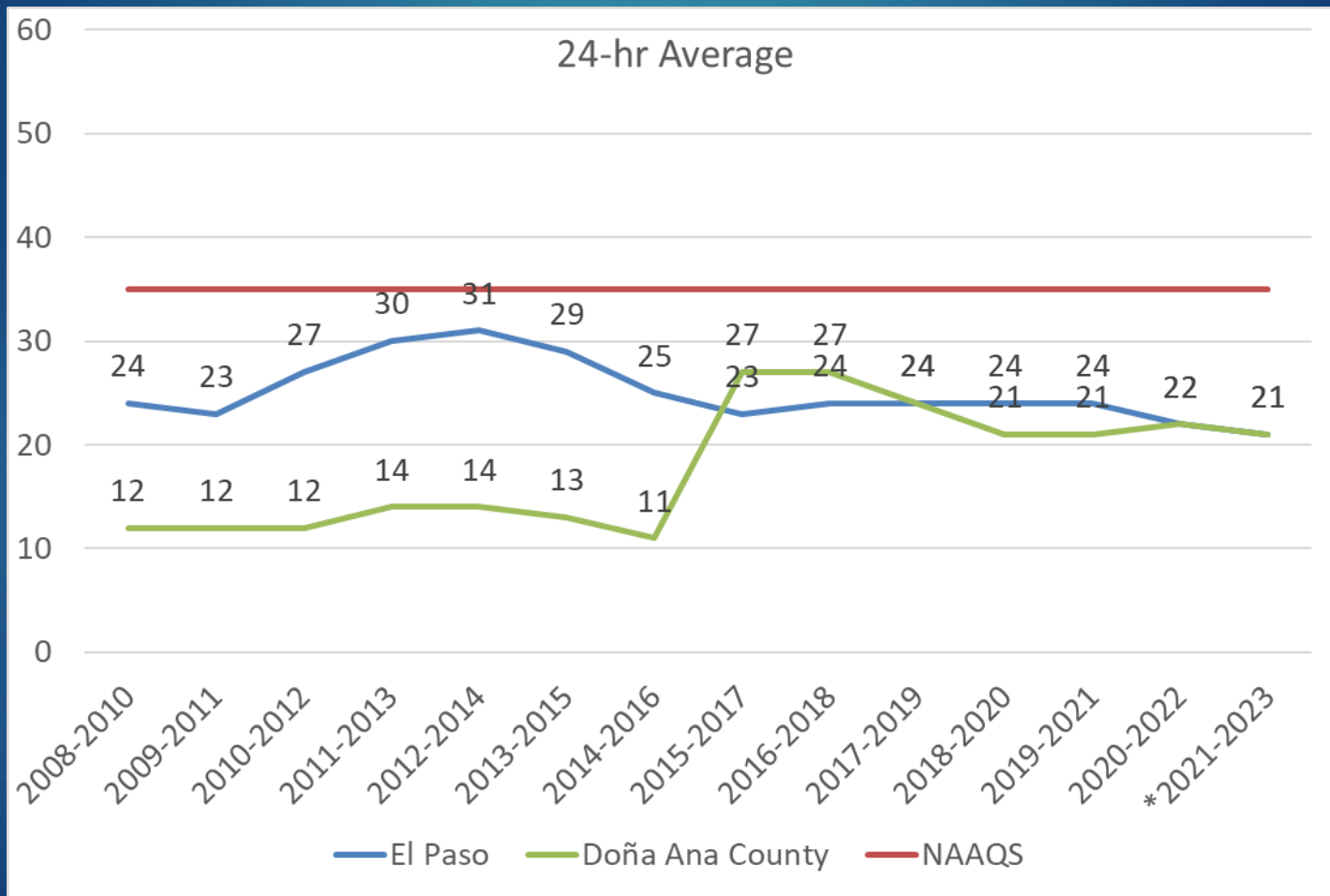
U.S. Standard: 12 µg/m³



PM_{2.5} Compliance with U.S. Federal Standard El Paso and Doña Ana Counties

24-Hour Design Value

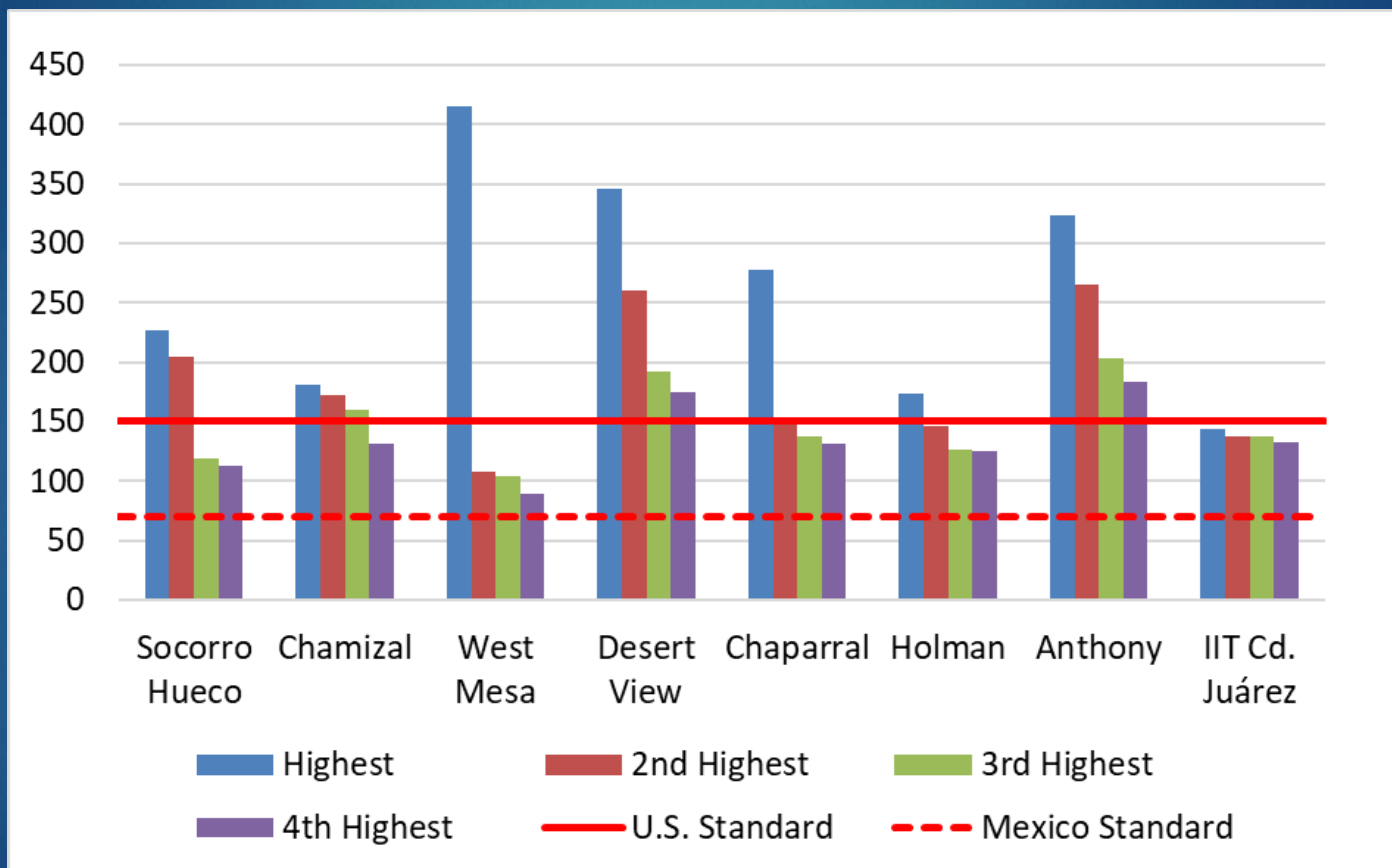
U.S. Standard 35 µg/m³



PM₁₀ 24-Hour Averages (µg/m³) Four Highest El Paso, Doña Ana County, and Ciudad Juárez January – December 2023

U.S. federal standard:
150 µg/m³ not to be exceeded more than once per
year on average over three years at any one monitor.

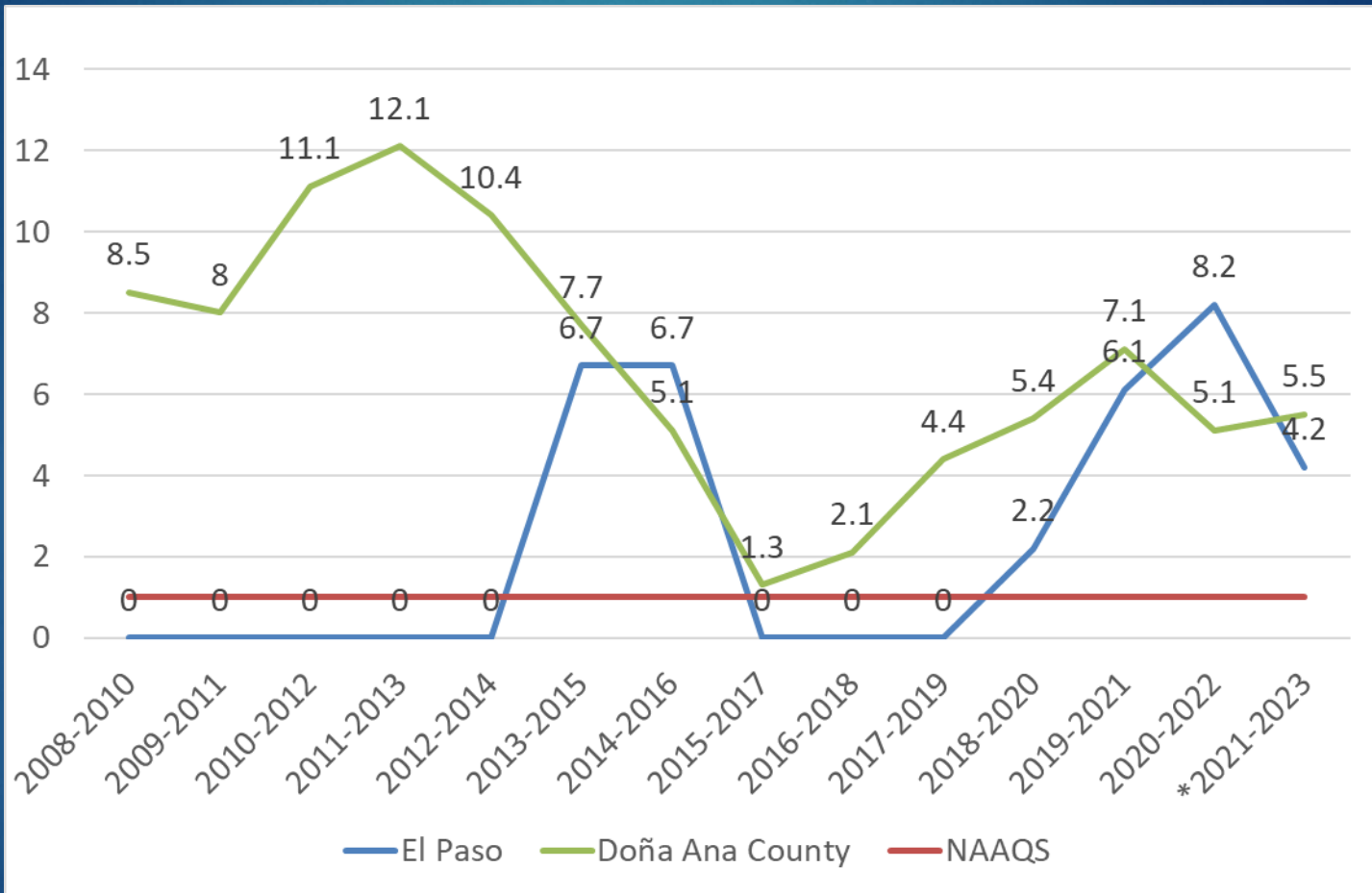
The maximum permissible limit in Mexico
for PM₁₀ is 70 µg/m³ on a 24-hour
average



Note: All NMED data has been flagged
as exceptional events for high wind.

PM₁₀ 24-Hour Design Values El Paso and Doña Ana County | 2008 – 2023

Estimated Number of Exceedances



*EPA exceptional events concurrences not reflected for Doña Ana County. - EPA Currently has an EE packet on hand from NMED

Exceptional Events | Doña Ana County

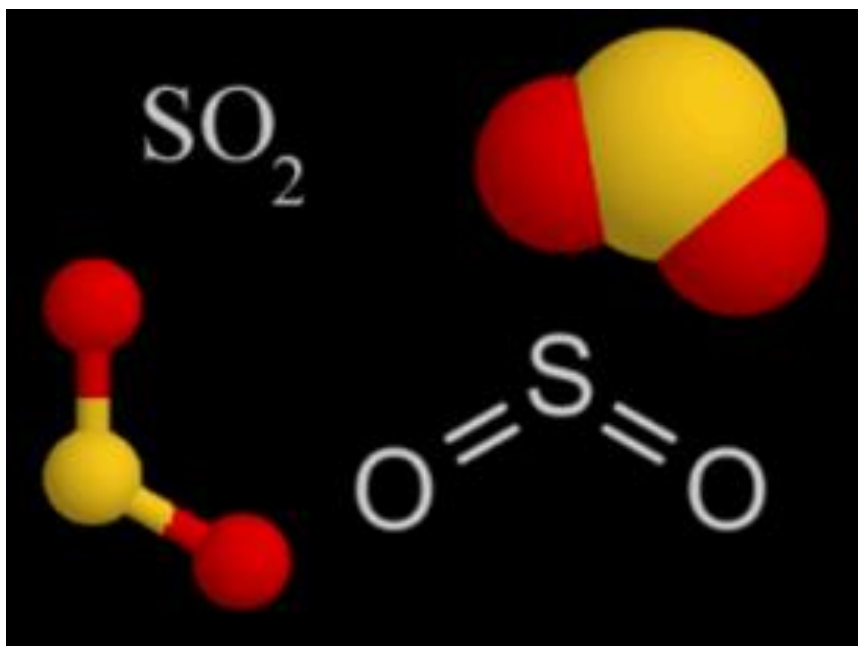
► High-Wind Blowing Dust
PM₁₀ Exceedances of
NAAQS

Year	Events	Observed Exceedances	Concentrations (µg/m ³)	EPA Review Process
2022	15	30	157 - 879	Internal QA/QC
2021	15	31	157 - 769	Submitted
2020	8	13	157- 504	Concurrence
2019	8	25	156-734	Concurrence
2018	7	18	158-326	Concurrence
2017	11	27	157-721	Concurrence
2016	11	28	162-689	Concurrence

Compliance with exposure limits: Annual arithmetic mean of PM 2023 in Ciudad Juarez

Parameter	Annual exposure limit	Annual mean
PM _{2.5}	10 µg/m ³	*22 µg/m ³
PM ₁₀	28 µg/m ³	*59 µg/m ³

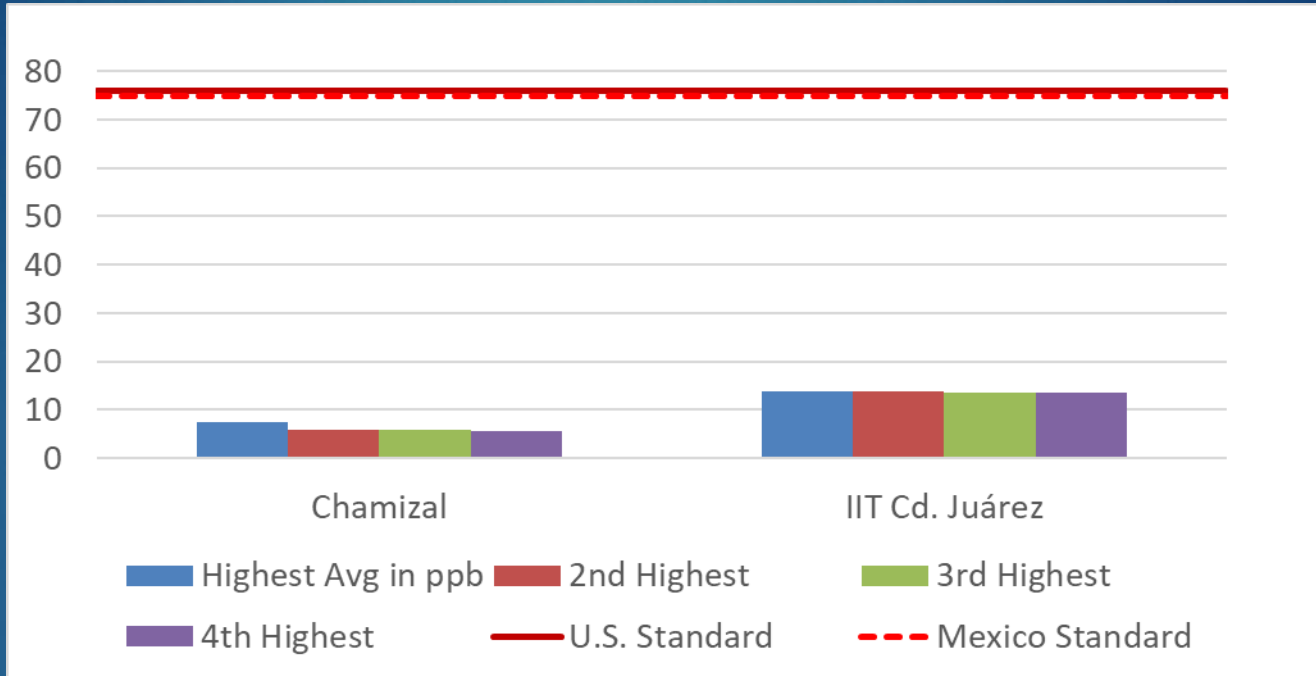
*Dust storm events are considered within this information.



Sulfur
Dioxide
SO₂
Dióxido de
azufre

SO₂ 1-Hour Averages | Four Highest

El Paso and Ciudad Juárez | January – December 2023

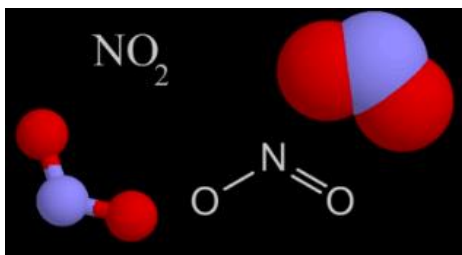


U.S. federal standard:
76 ppb 99th percentile of 1-hour daily
maximum concentrations, averaged over 3
years

The highest allowable limit in Mexico for
SO₂ is 75 ppb in 1-hour average.

Nitrogen Dioxide NO_2

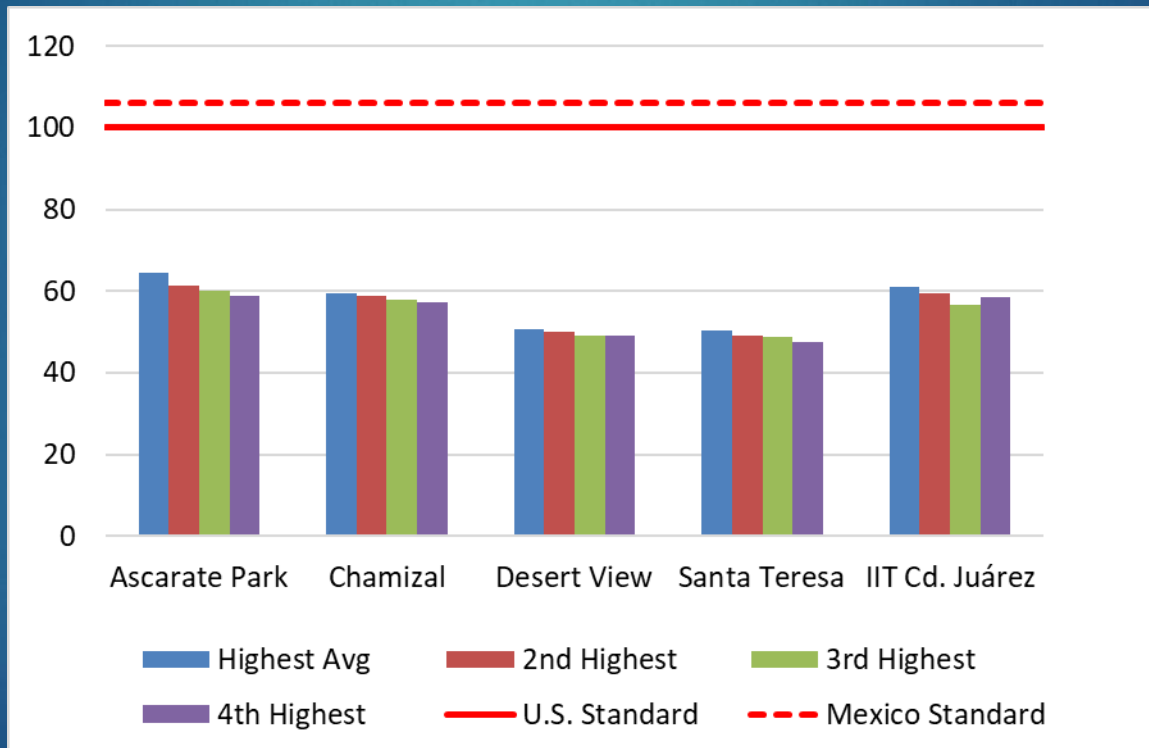
Dióxido de
nitrogéno



NO₂ 1-Hour Averages (ppb) Four Highest El Paso del Norte January – December 2023

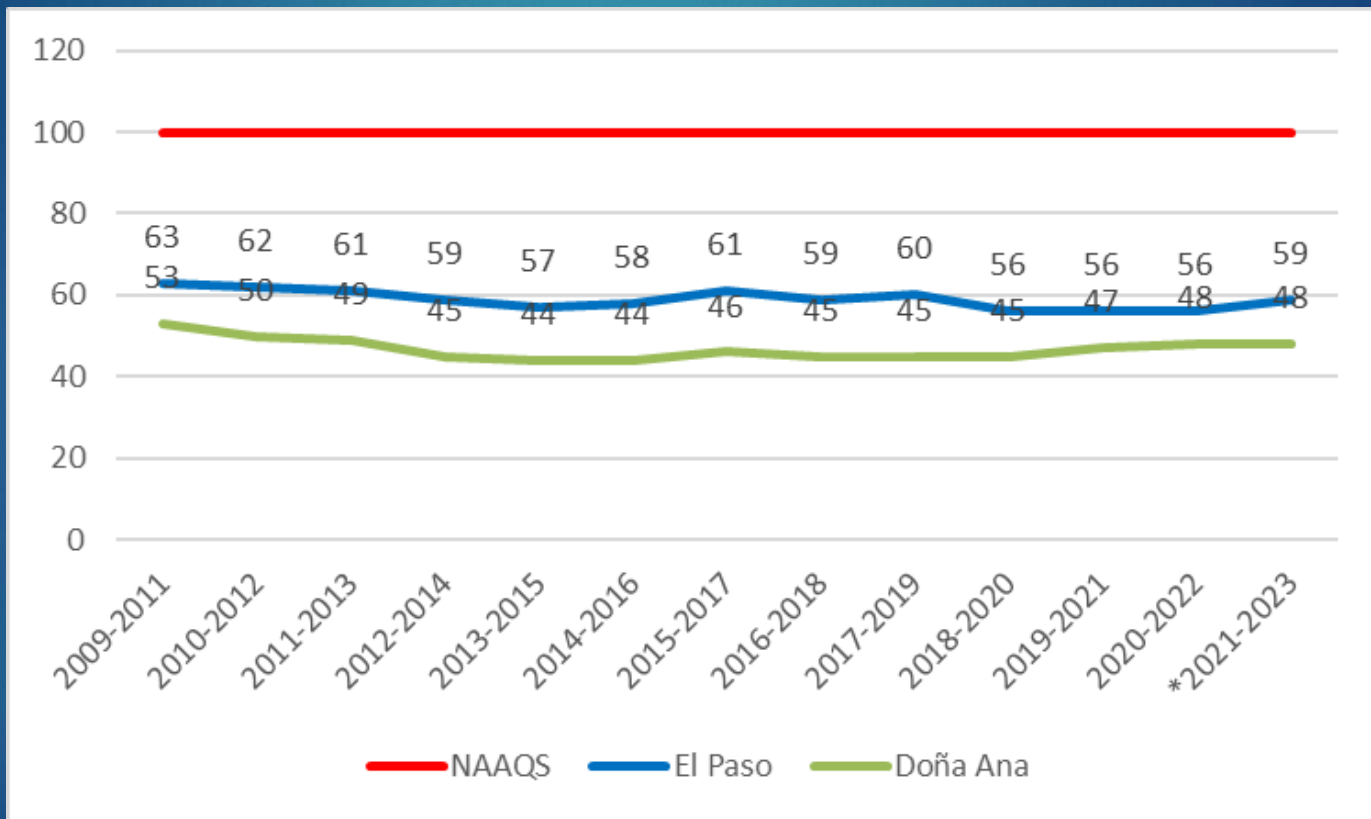
U.S. federal standard:
100 ppb 98th percentile of 1-hour daily maximum
concentrations, averaged over 3 years

The highest allowable limit in Mexico
for NO₂ is 106 ppb in
hourly averages.



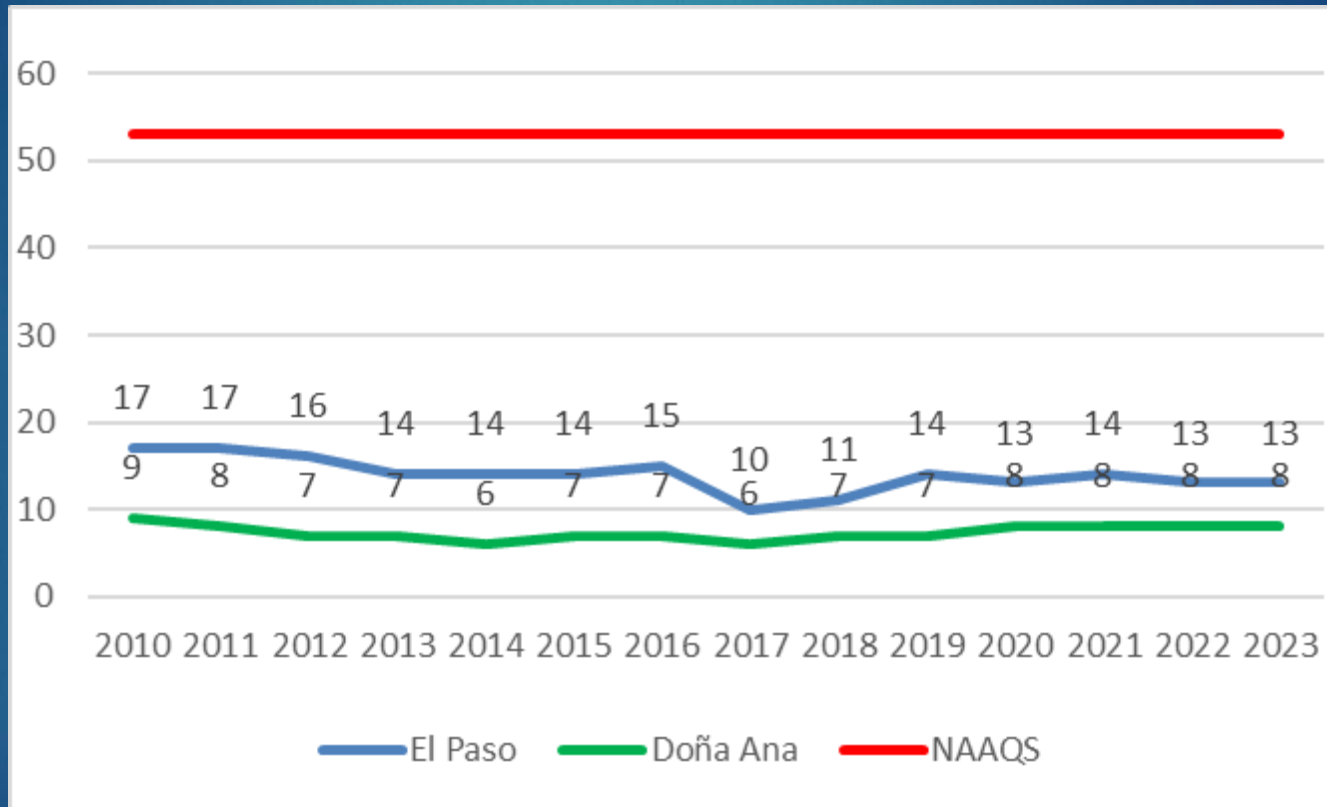
NO₂ Design Values 1-Hour Averages (ppb) El Paso & Doña Ana Counties

The 1-hour NO₂ NAAQS (**100 ppb**) is the 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations.



NO₂
Design Values Annual Mean (ppb)
El Paso & Doña Ana Counties

The annual NO₂ NAAQS (53 ppb) is the annual average concentration, averaged over three years.

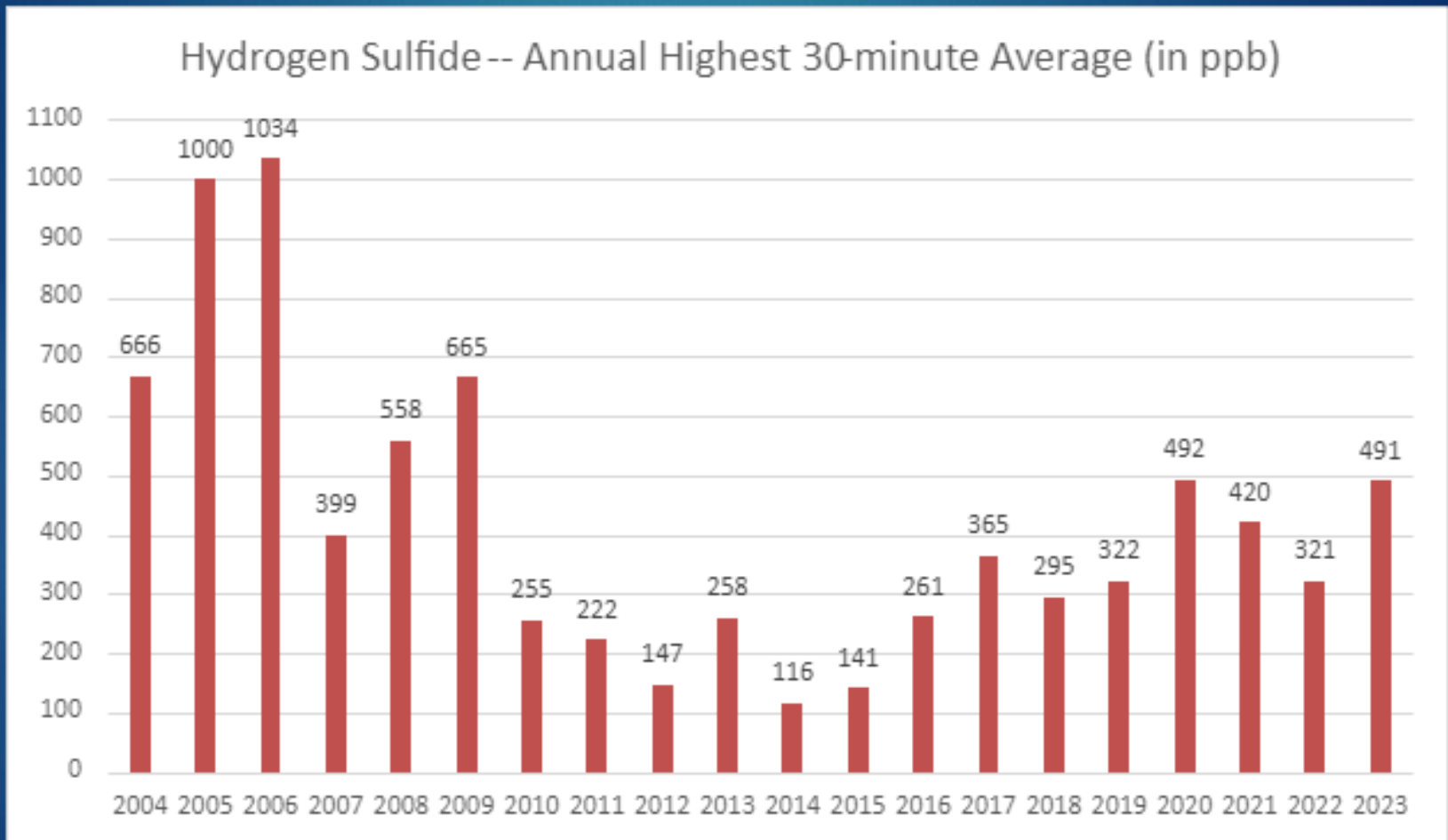




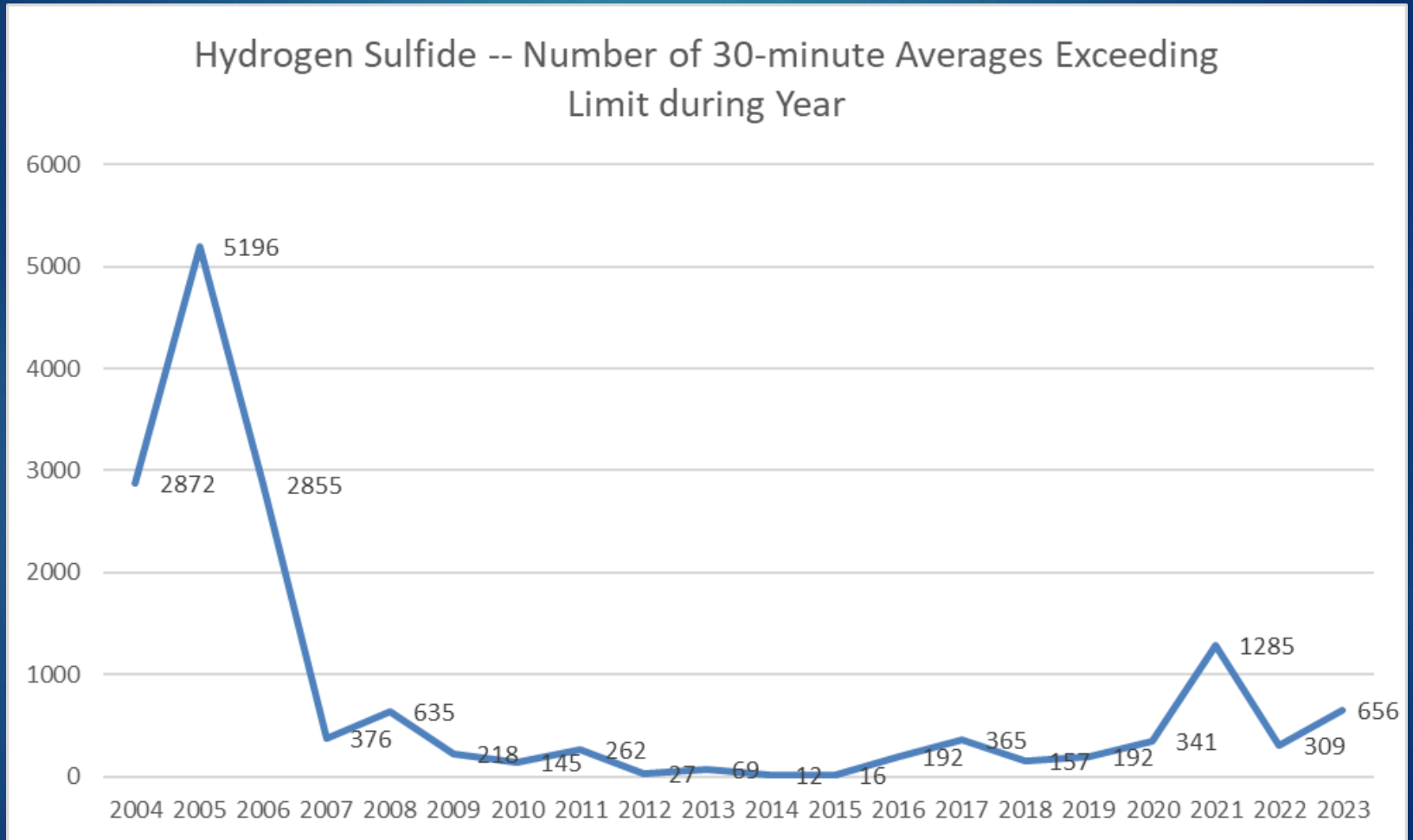
Hydrogen
Sulfide
(H_2S)
Sulfuro de
hidrógeno



Hydrogen Sulfide | 30-Minute Averages (ppb) Highest Value at “Lower Valley” Monitor 2004-2023

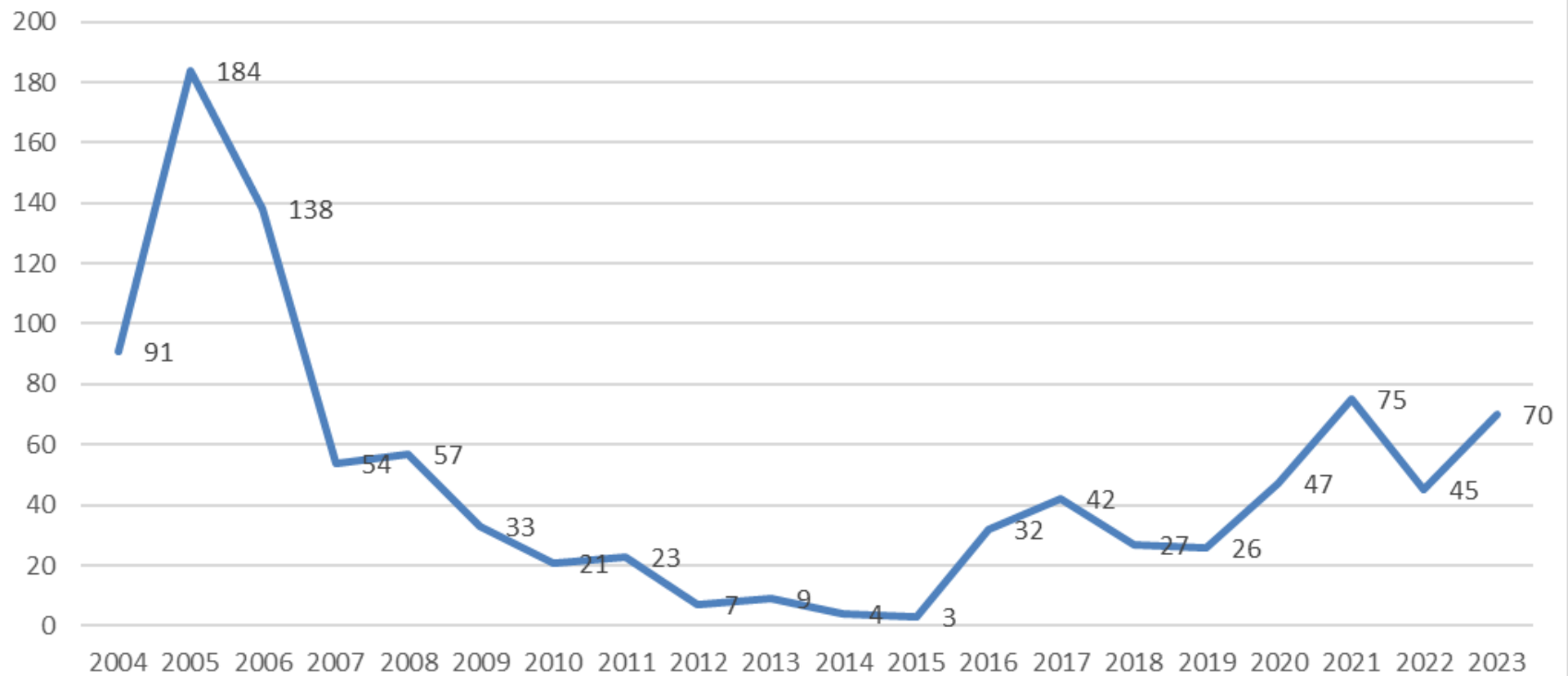


Hydrogen Sulfide | 30-Minute Averages (ppb)
Number of Exceedances at “Lower Valley” Monitor
2004-2023



Hydrogen Sulfide | 30-Minute Averages Number of Days with Exceedances at "Lower Valley" Monitor 2004-2023

Hydrogen Sulfide -- Number of Days during the Year with at least One 30-minute Average Exceedance



Questions? ¿Preguntas?

Links to publicly
available U.S. data:

- [EPA Air Trends](#)
- [Design Value Interactive Tool | US EPA](#)
- [Our Nation's Air 2023 \(epa.gov\)](#)
- [Daily Mean Values for Calendar Year 2023 \(texas.gov\)](#)

SDUE

francisco.gomez@chihuahua.gob.mx

Gobierno Municipal

ricardoaragonb@gmail.com

NMED

Armando Paz

armando.paz@state.nm.us

TCEQ

Border Affairs

ba@tceq.texas.gov



SECRETARÍA
DE DESARROLLO URBANO
Y ECOLOGÍA



Thank you!
Gracias!