

Paso del Norte Air Quality Report | October 19, 2023

Dr. Carlos Rincon, US EPA Region 6



*Overview

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

Paso del Norte Air Monitoring Stations

El Paso del Norte Airshed Air Quality Monitors

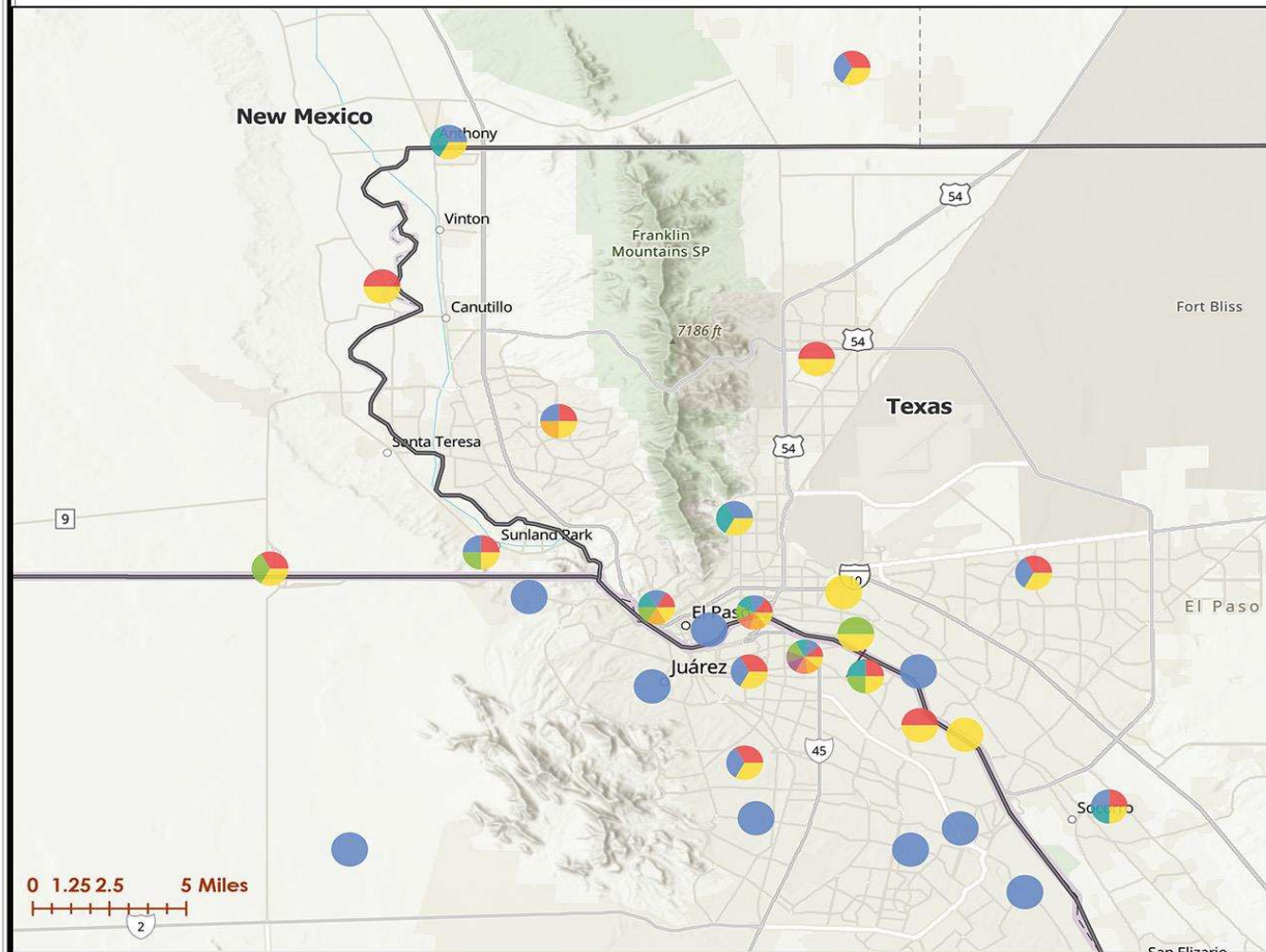
April 2021

Map Requested by TCEQ Office of Air



Protecting Texas by
Reducing and
Preventing Pollution

Texas Commission on Environmental Quality
GIS Team (Mail Code 197)
P.O. Box 13087
Austin, Texas 78711-3087
Date: 6/24/2022
CRF 0073203
Cartographer: CHoddePi

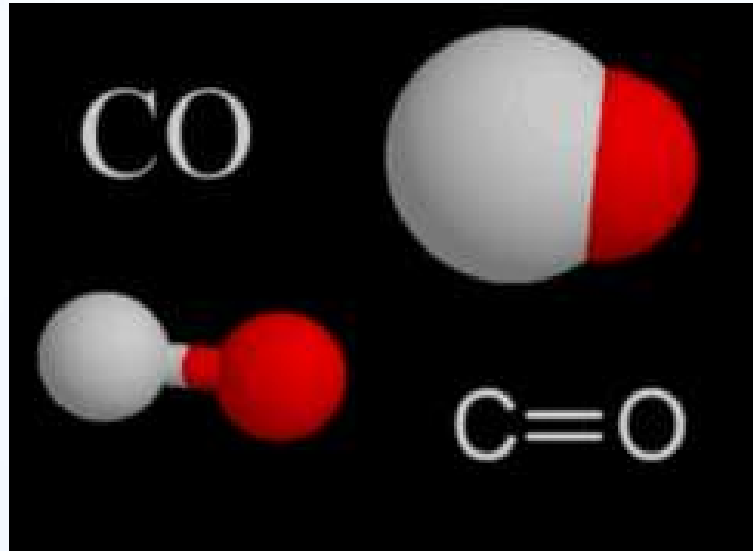


- Ozone
- PM 10
- PM 2.5
- NO₂
- NO_x
- NO
- SO₂
- CO
- Met



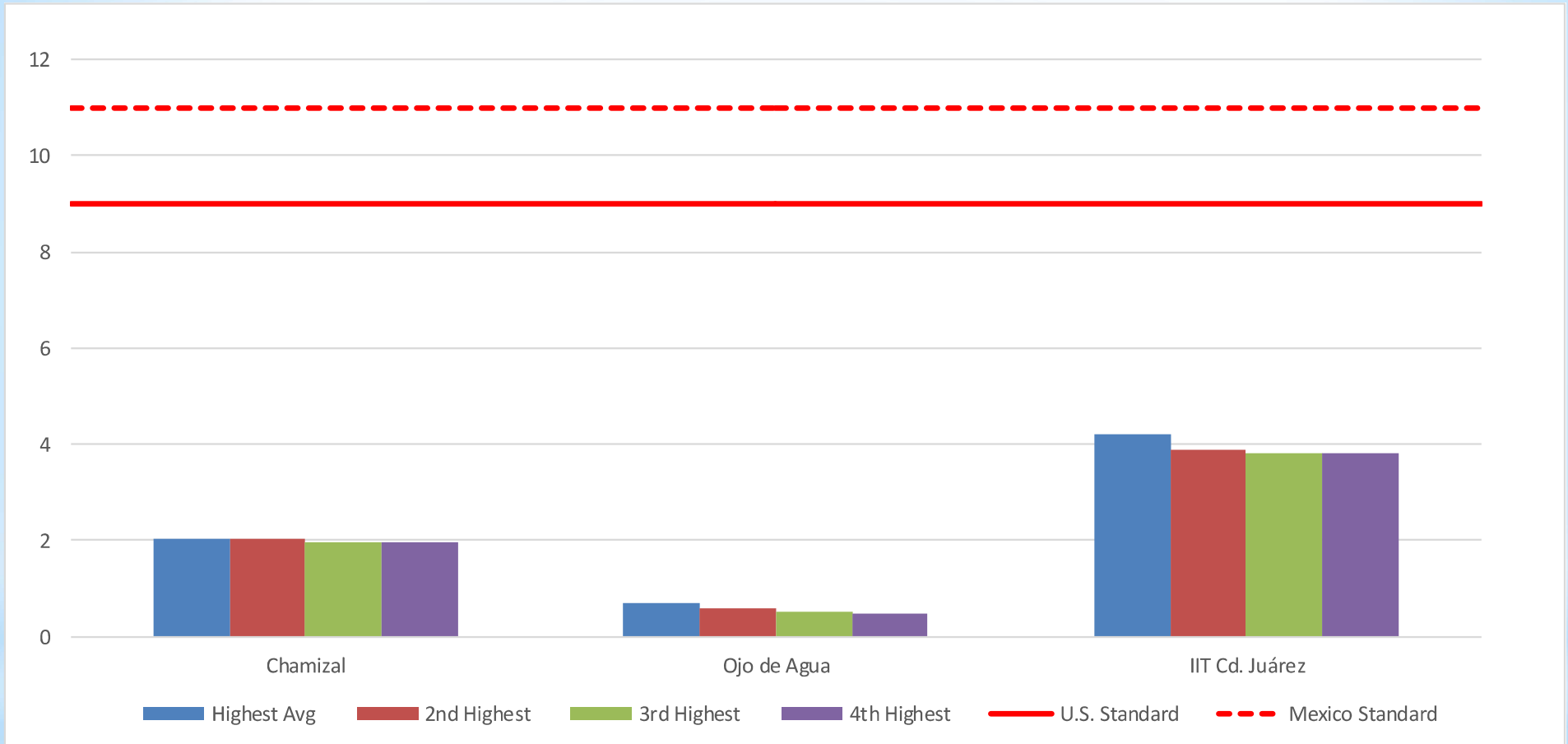
Source: The location of the facility was provided by the TCEQ Office of Air.

This map was generated by the Information Resources Division of the Texas Commission on Environmental Quality. This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. For more information concerning this map, contact the Information Resource Division at (512) 239-0800.



* Carbon monoxide (CO)
Monóxido de carbono

CO 8 Hr. Averages Four Highest Values in (ppm) El Paso and Ciudad Juárez (January - September 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**.

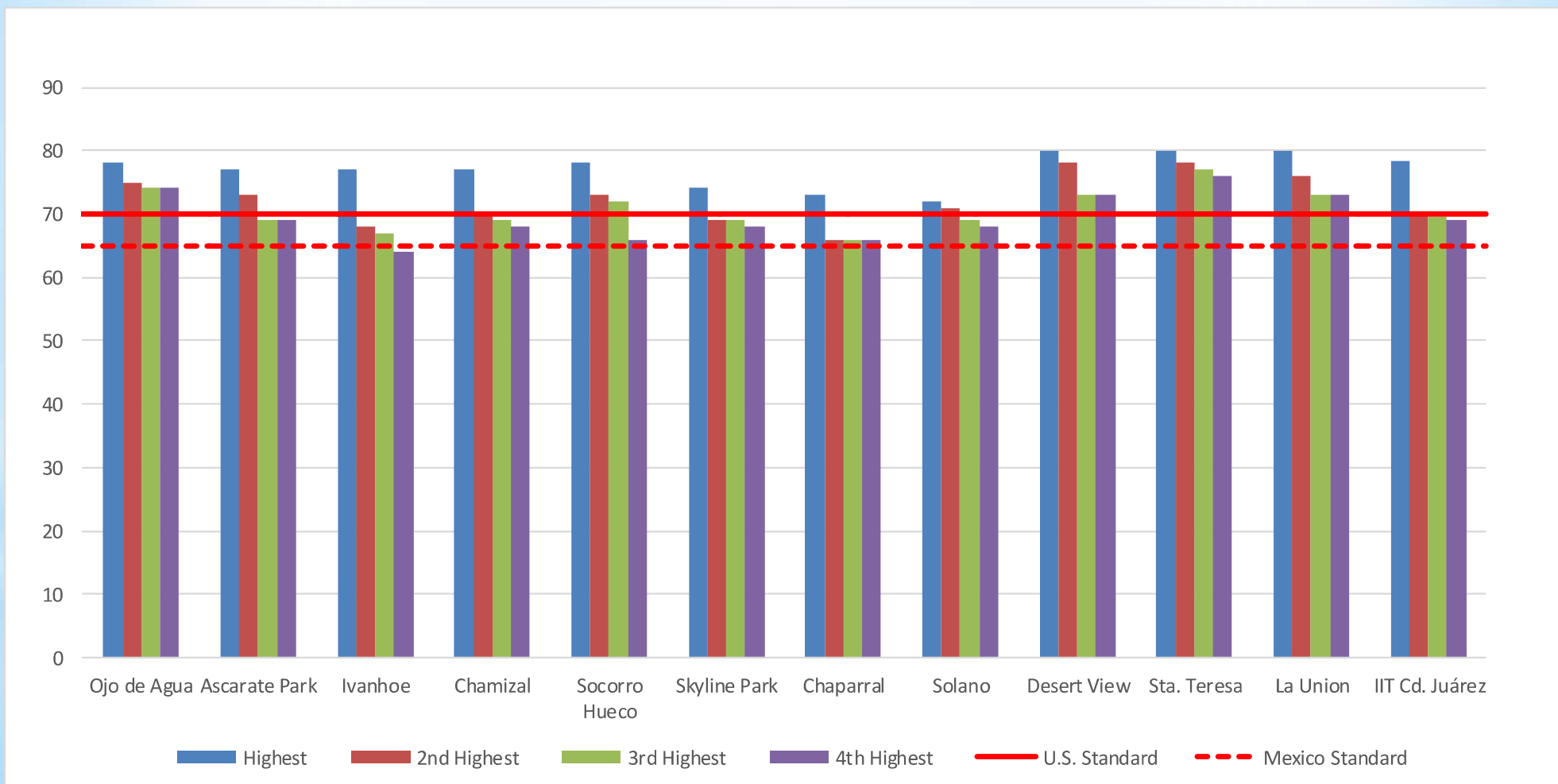


*Ozone (O_3)
Ozono

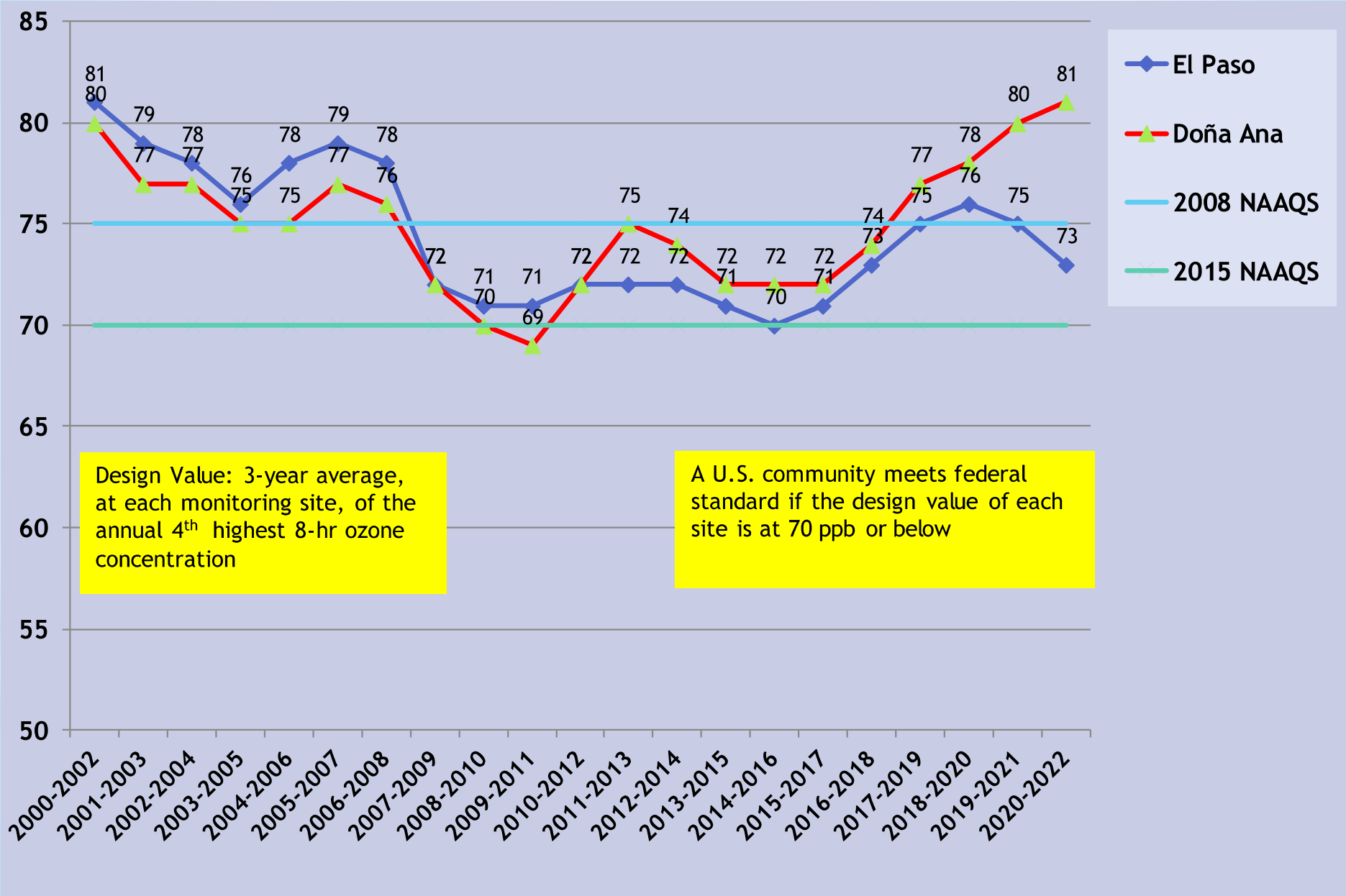
*Ozone 8-Hour Averages Highest Values at Monitors in the Paso del Norte (January - September 2023)

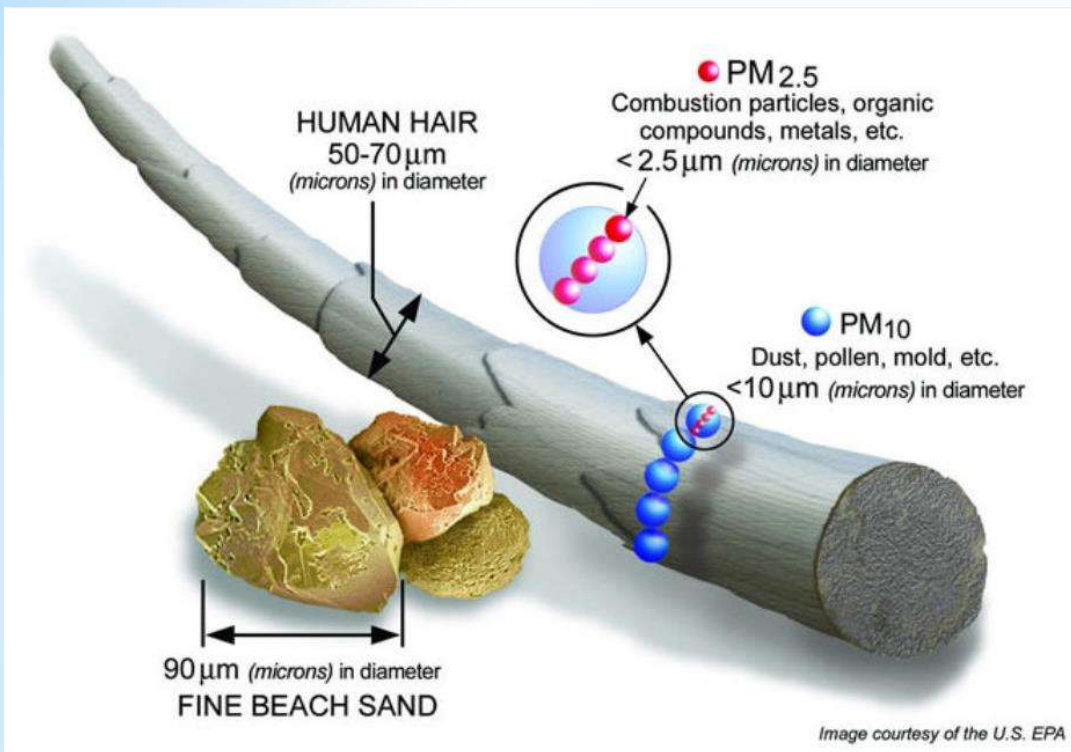
U.S. federal standard:
70 ppb for the 3-year average of the 4th
highest value

El Limite máximo permisible en México
para Ozono es de 65ppb en promedio móvil
de 8 horas



Ozone 8-Hr. Design Values | El Paso and Doña Ana County (highest value of all sites in each area, 2002 - 2022)



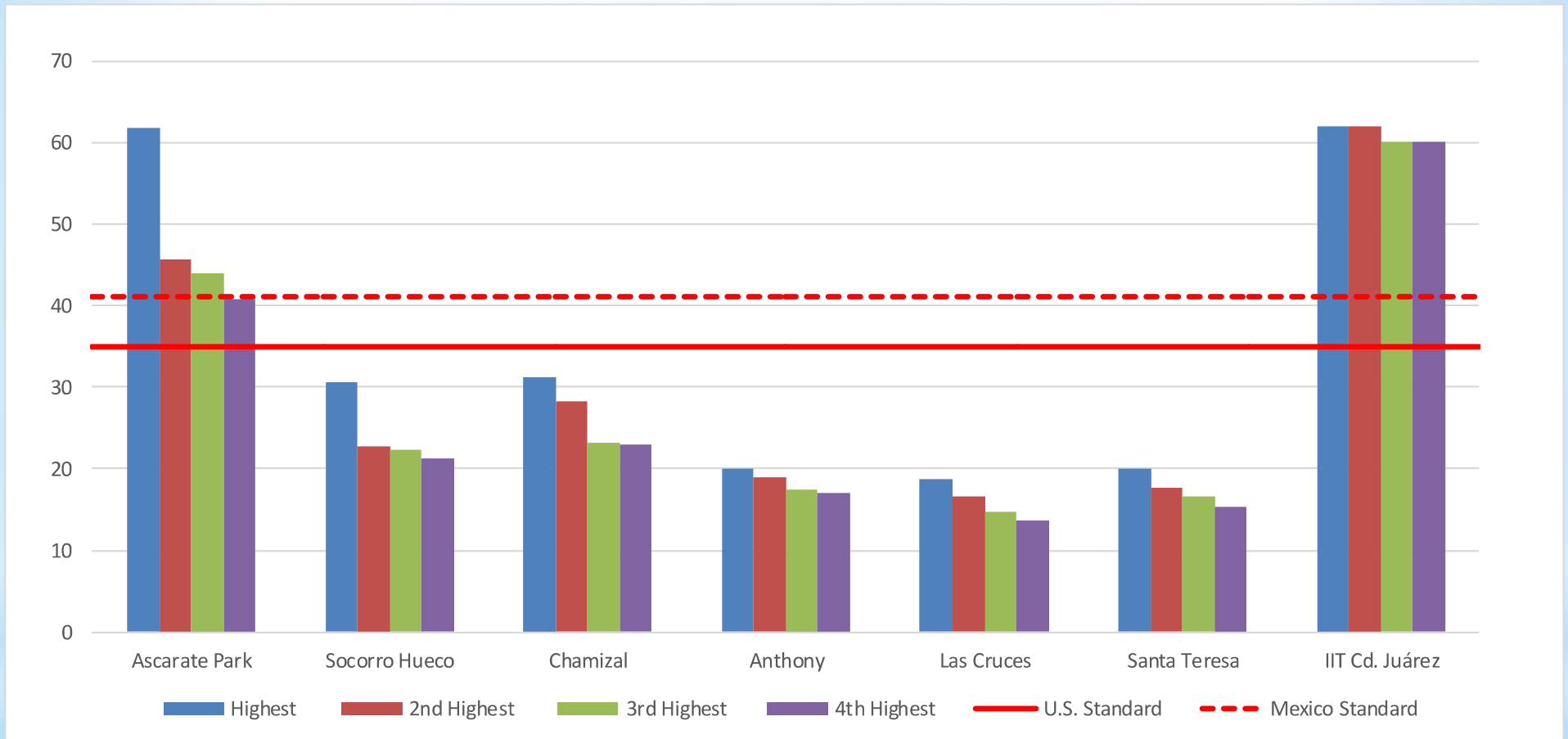


* PM 2.5

* PM 10

* Particulate Matter (PM)
Material Particulado

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

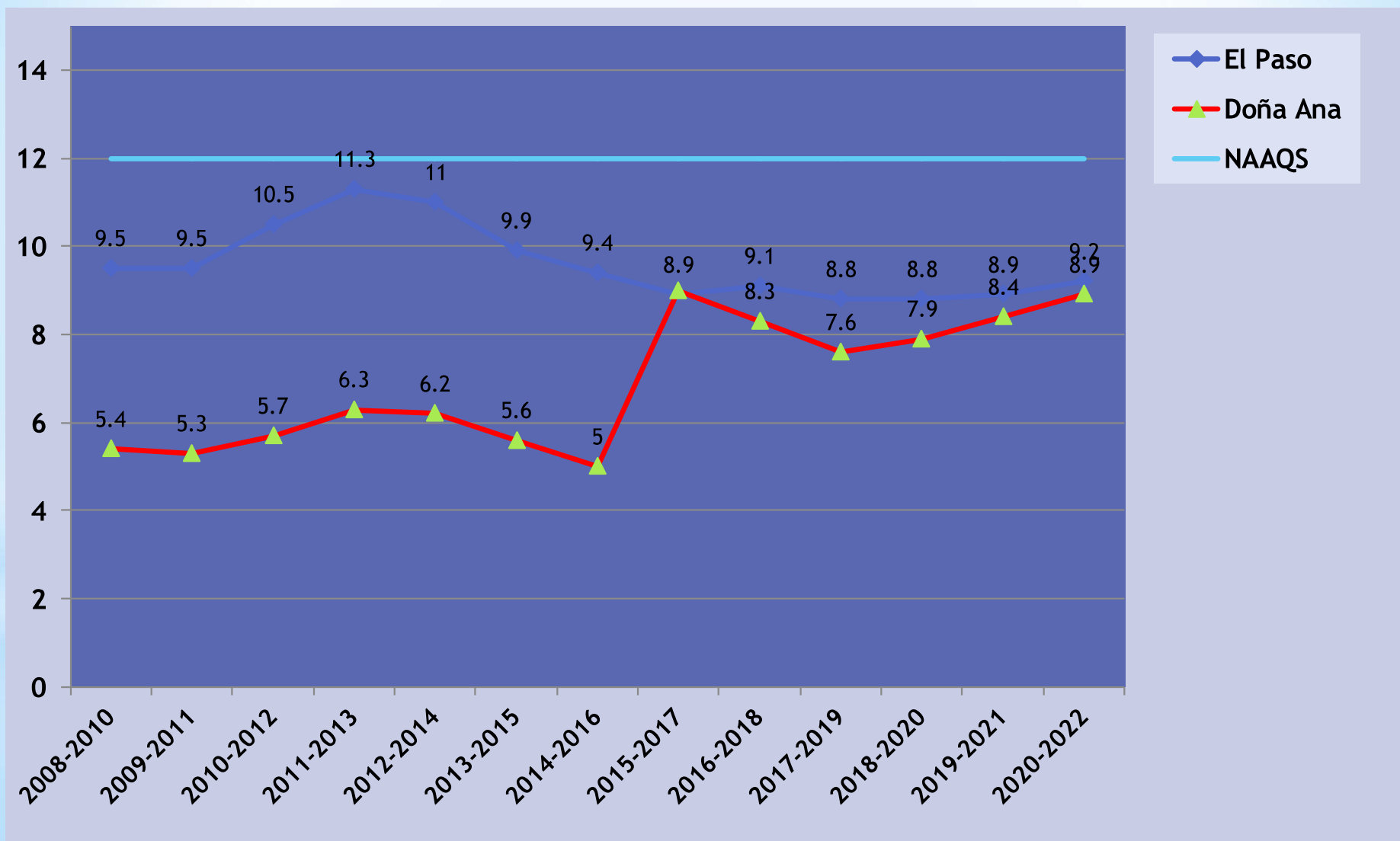
* **Special Purpose Monitors-Non-validated Data**

Note: El Paso County (Ascarate Park and Socorro Hueco) 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

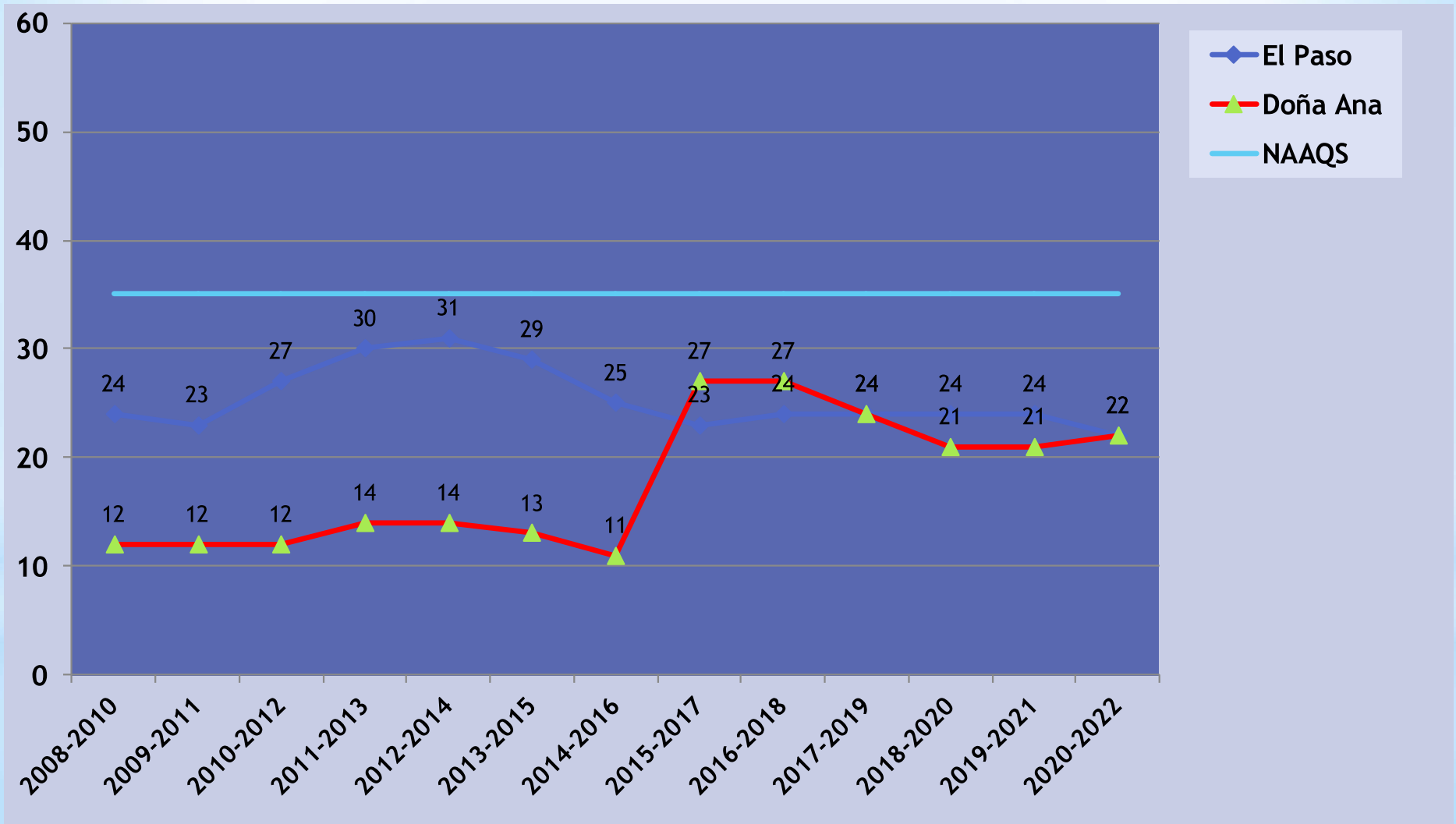
U.S. Standard: **12 $\mu\text{g}/\text{m}^3$**



PM2.5 Compliance with U.S. Federal Standard El Paso and Doña Ana Counties

24-Hour Design Value

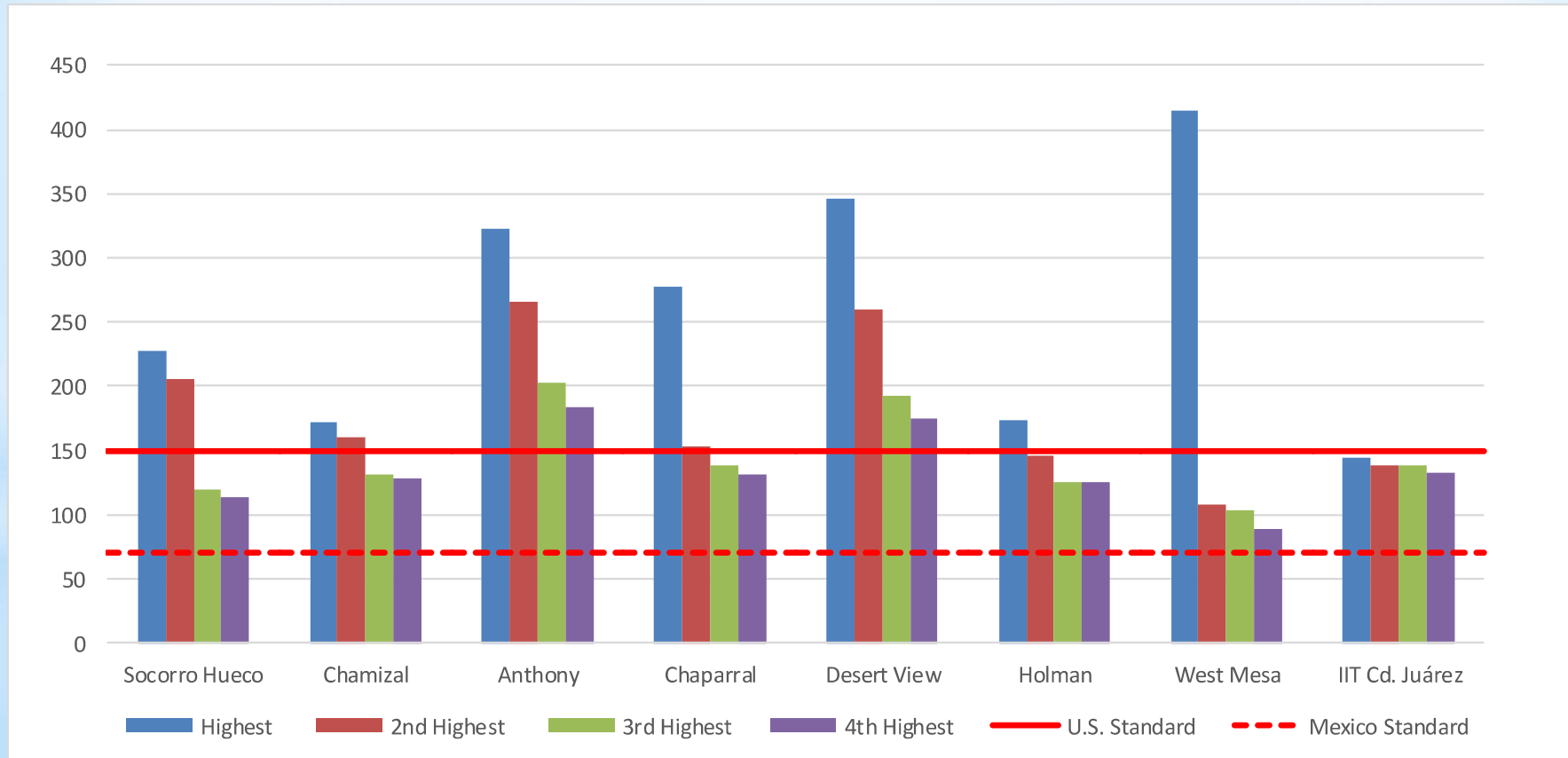
U.S. Standard **35 $\mu\text{g}/\text{m}^3$**



PM10 24-Hour Averages ($\mu\text{g}/\text{m}^3$) Four Highest El Paso, Doña Ana County, and Ciudad Juárez January - September 2023

El Limite máximo permisible en México para PM10 es de $70 \mu\text{g}/\text{m}^3$ en promedio de 24 horas

U.S. federal standard:
 $150 \mu\text{g}/\text{m}^3$ not to be exceeded more than once per year on average over three years at any one monitor.



*PM10 24-Hour Number of Exceedances El Paso and Doña Ana County | 2008 - 2022

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 |

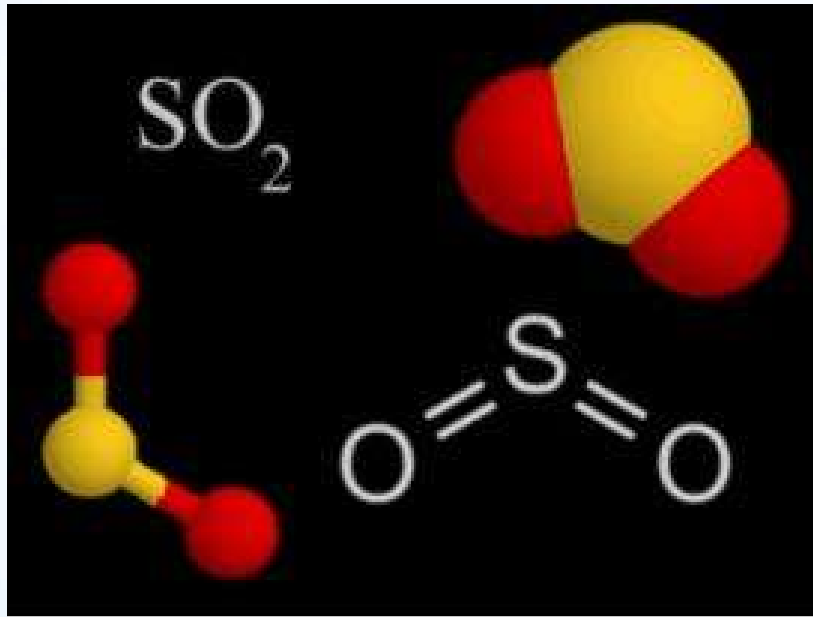
Cumplimiento con los límites de exposición crónica | Media aritmética anual 2023

Compliance with exposure limits | Annual arithmetic mean 2023

| Parámetro Parameter | Límite de exposición crónica anual Annual exposure limit | Promedio trimestral Quarterly mean |
|------------------------|--|---------------------------------------|
| PM _{2.5} | 10 µg m ⁻³ | 34** |
| PM ₁₀ | 36 µg m ⁻³ | 66** |

**Dentro de esta información se consideran los eventos de tolvaneras

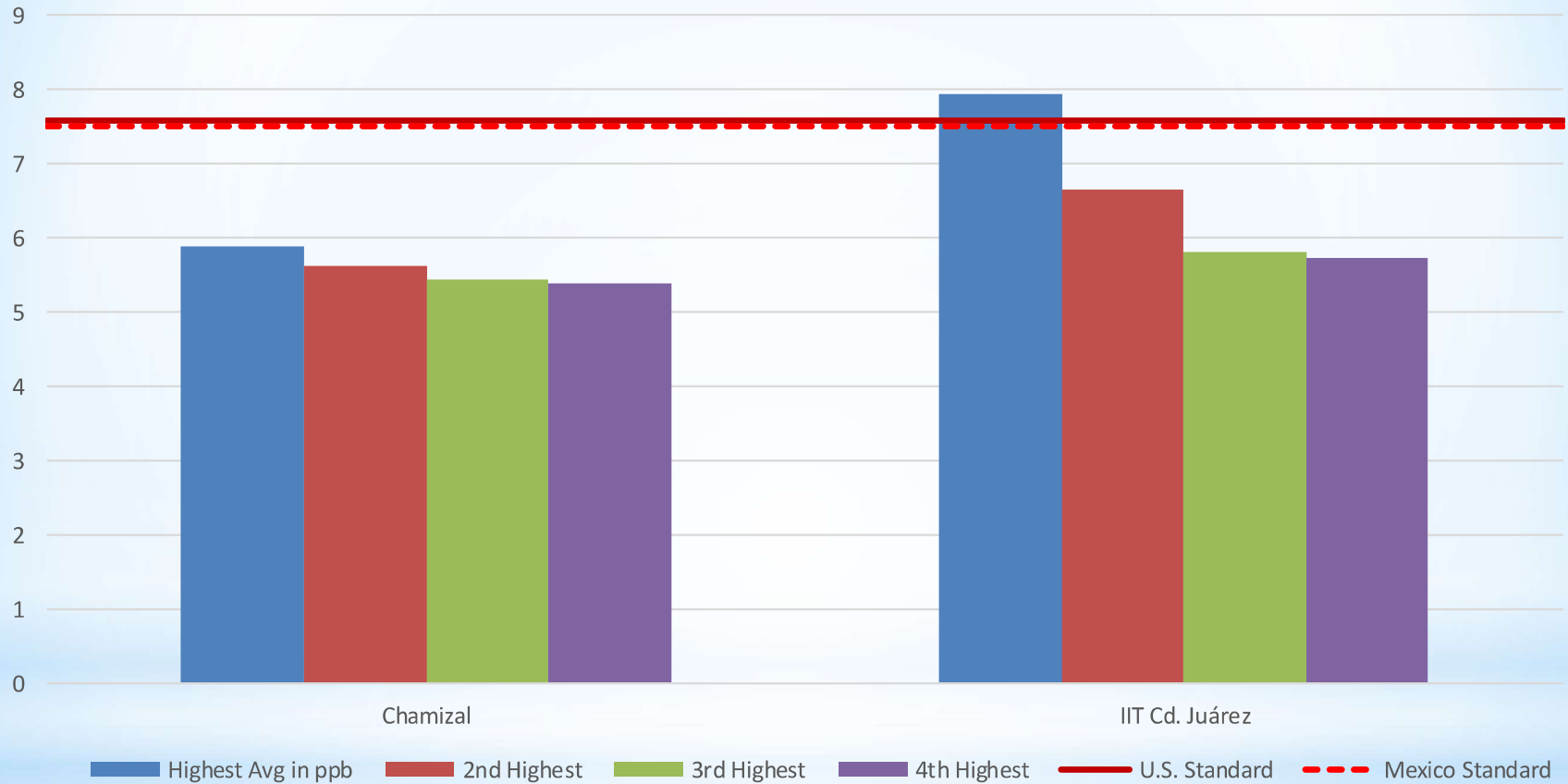
**Los datos obtenidos corresponden al primer cuatrimestre del año



* Dióxido de azufre
Sulfur Dioxide SO₂

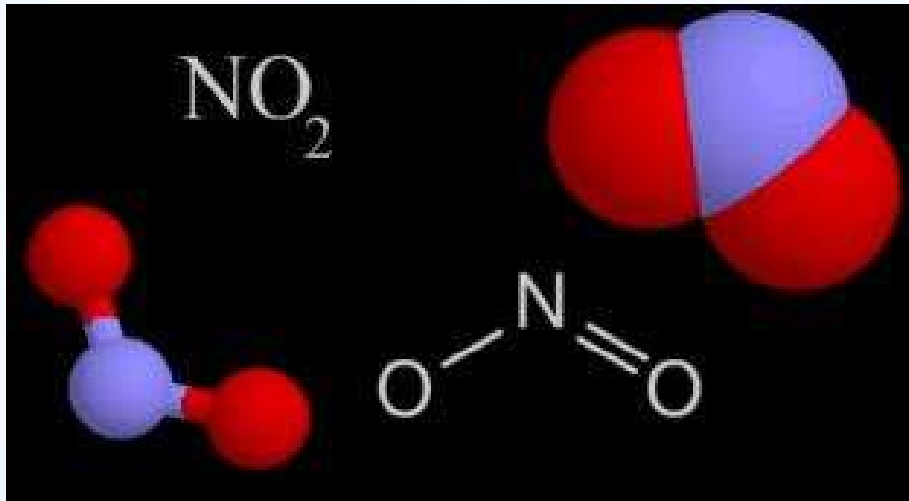
SO₂ 1-Hour Averages | Four Highest

El Paso and Ciudad Juárez | January - September 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.

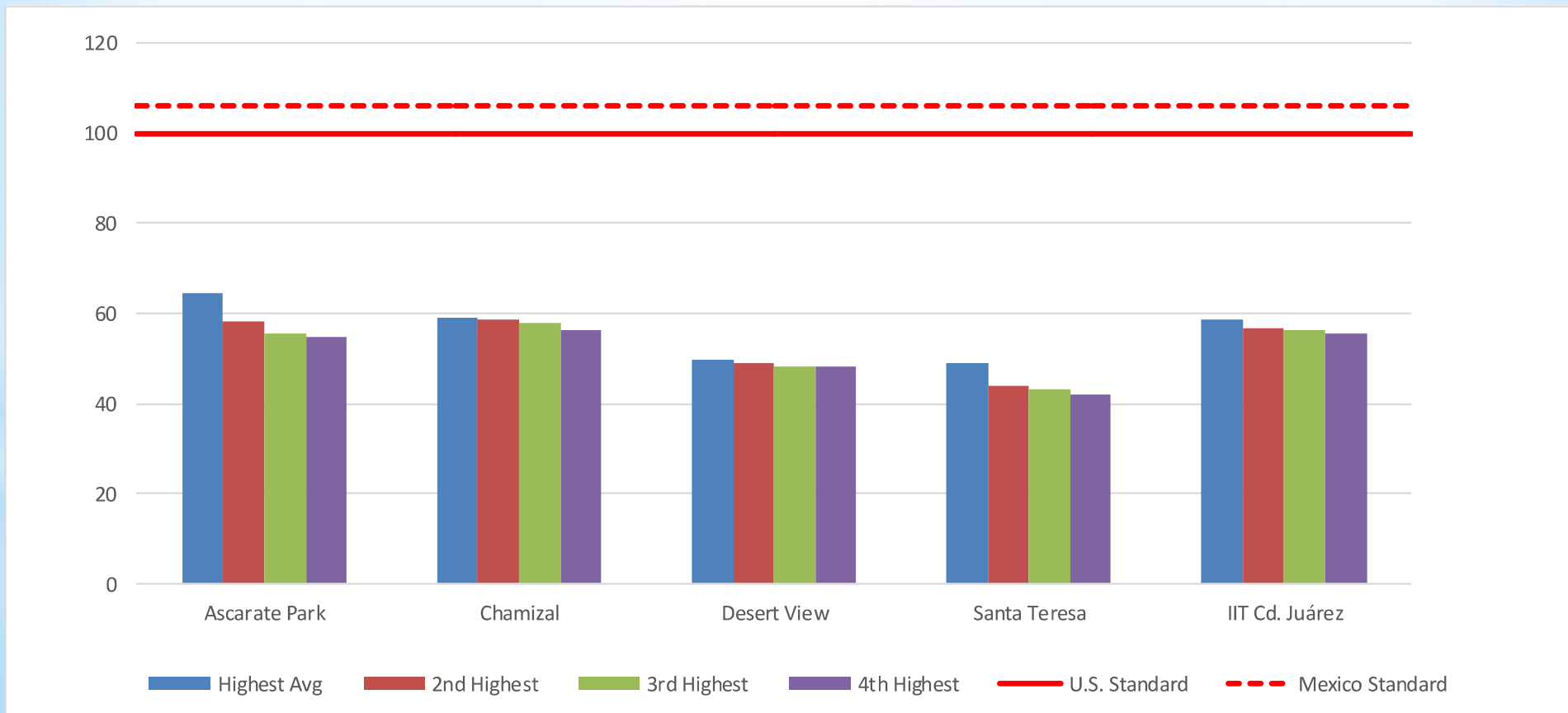


* Dióxido de nitrógeno
Nitrogen Dioxide NO₂

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

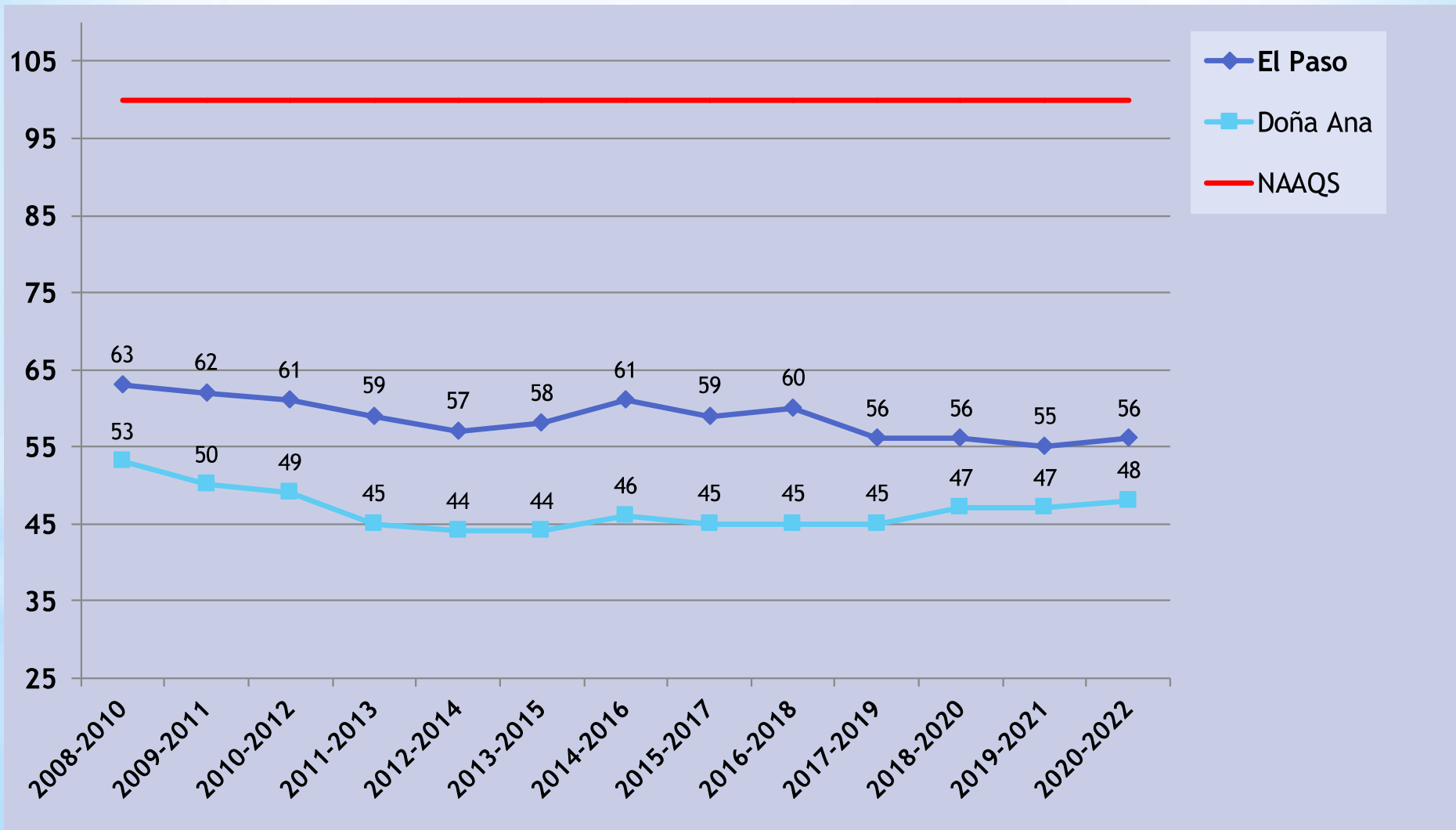
U.S. federal standard:
100 ppb 98th percentile of 1-hour daily maximum
concentrations, averaged over 3 years

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



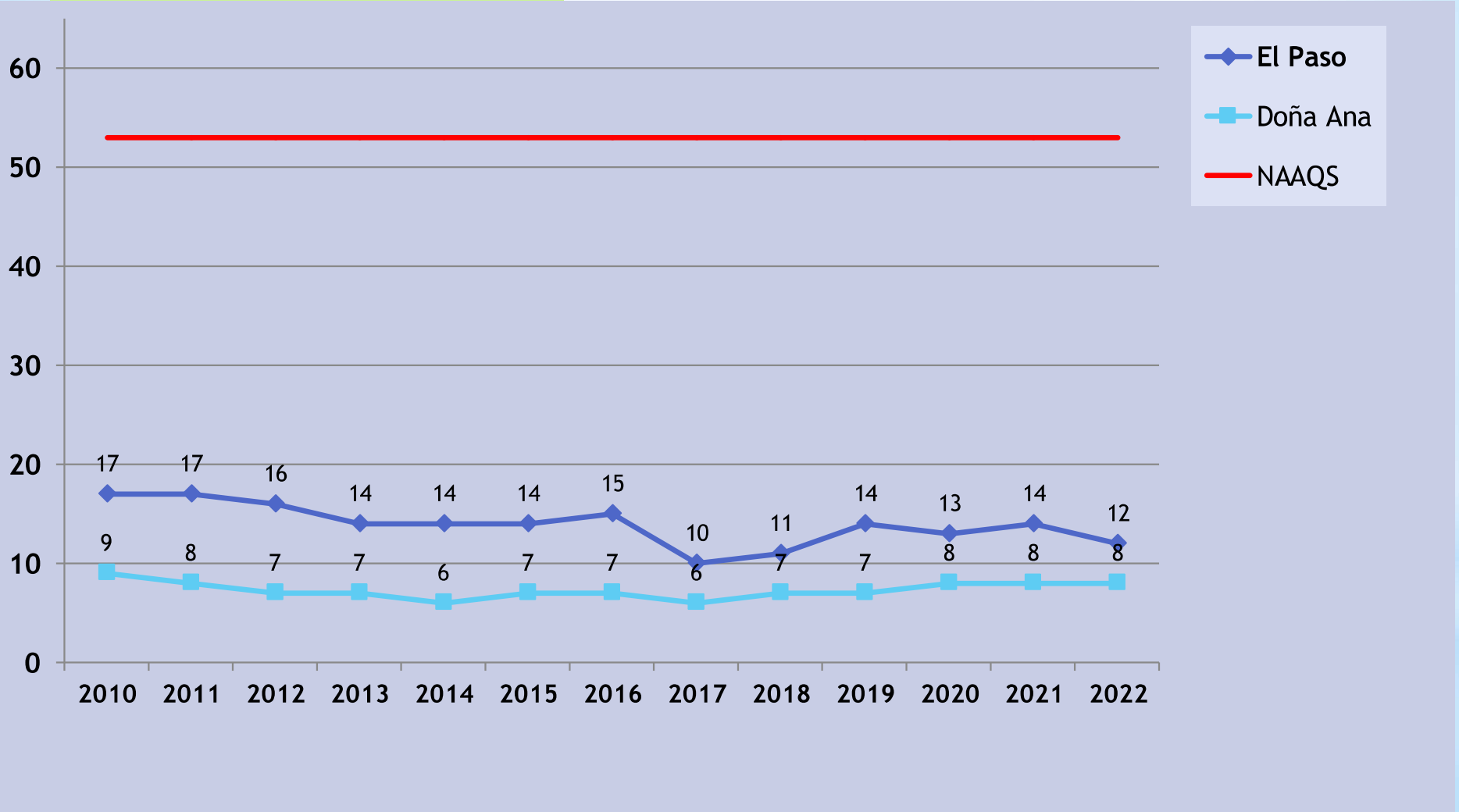
NO₂ Design Values 1-Hour Averages (ppb) El Paso & Doña Ana Counties

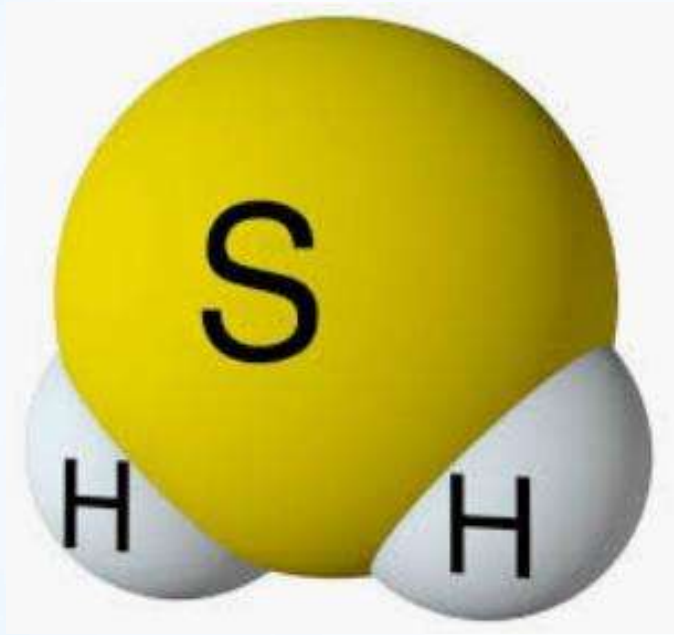
The 1-hour NO₂ NAAQS (100 ppb) is the 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations.



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

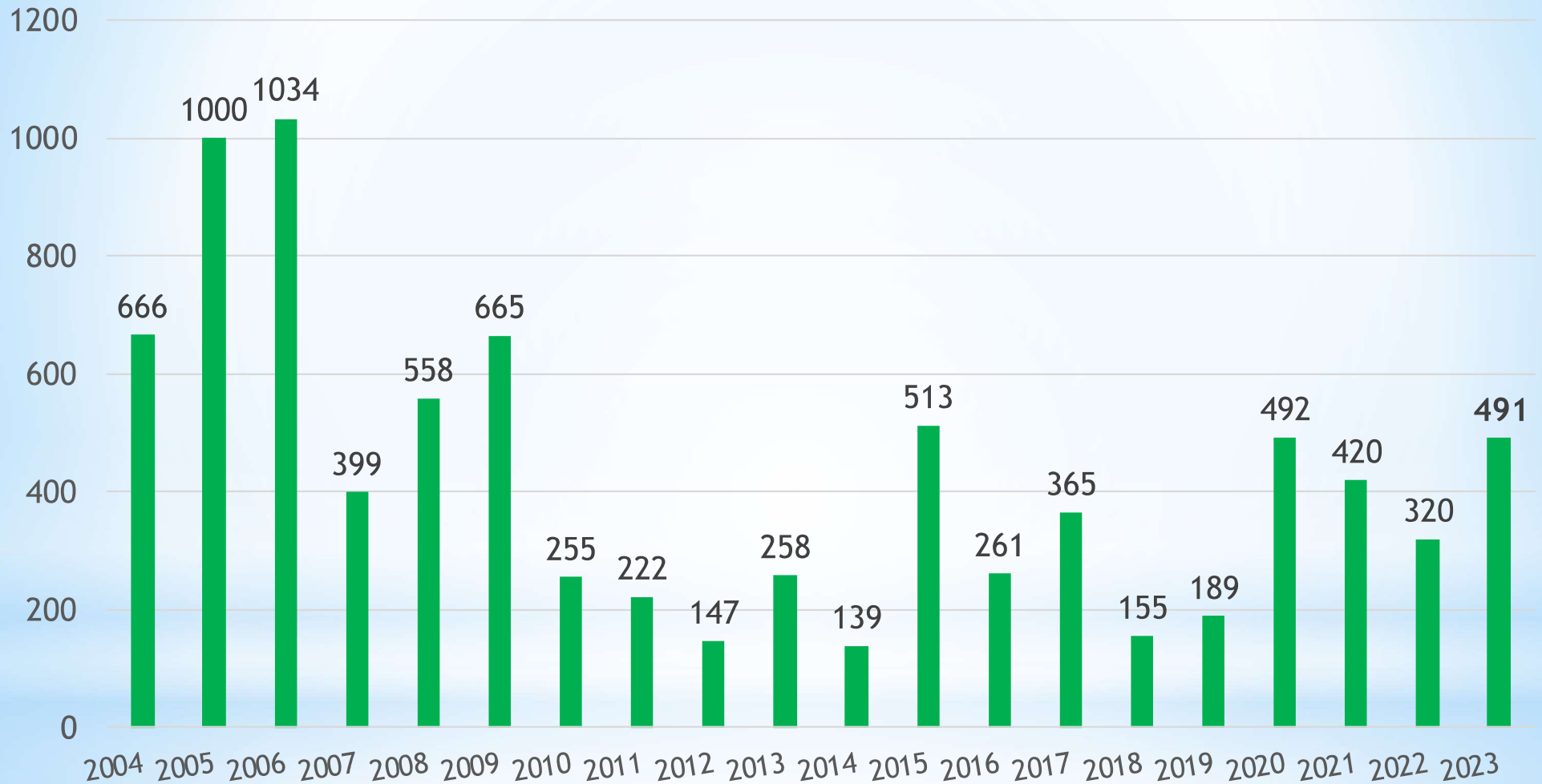
The annual NO₂ NAAQS (53 ppb) is the annual average concentration, averaged over three years.



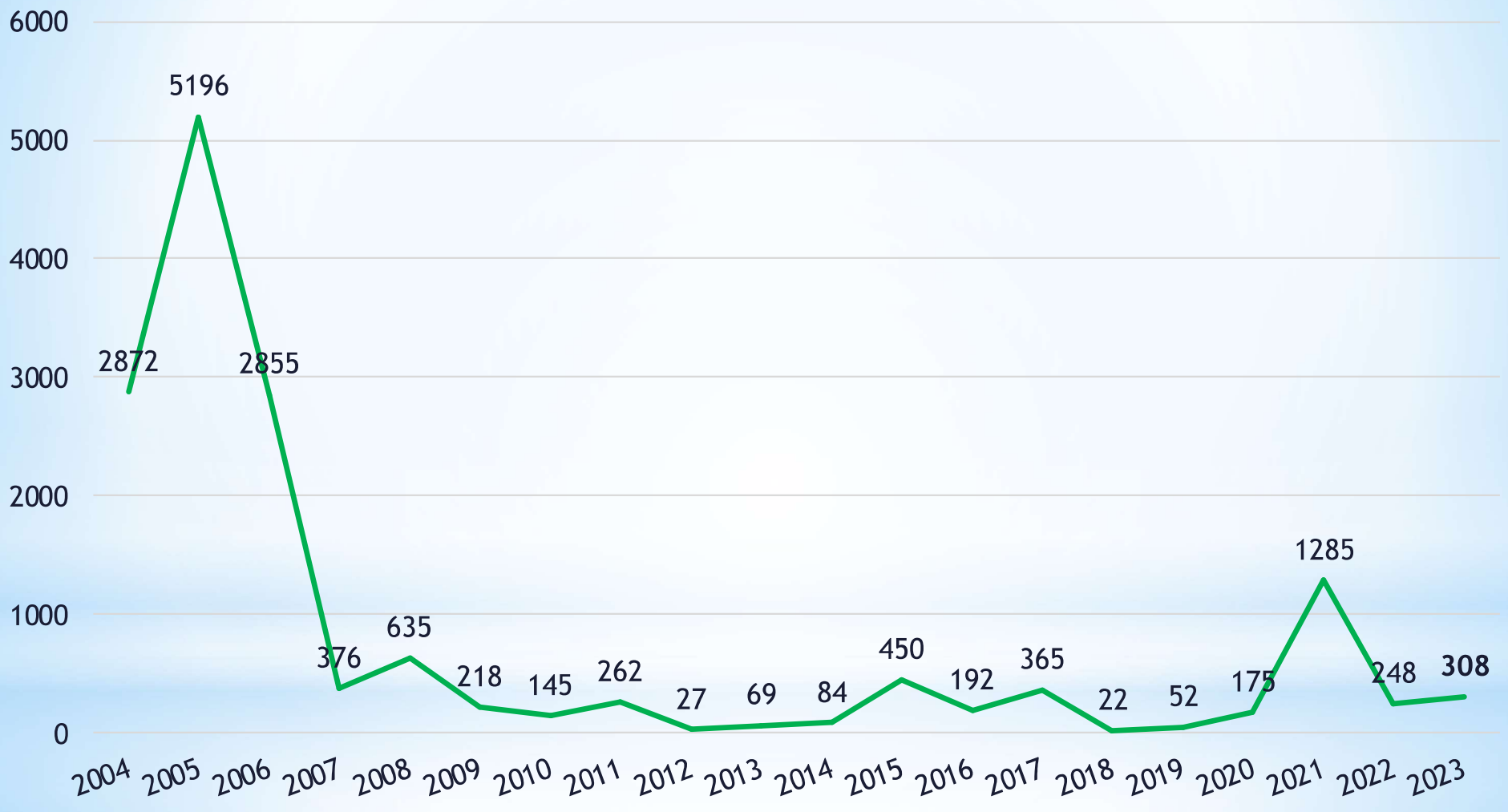


*Hydrogen Sulfide (H_2S)
Sulfuro de hidrógeno

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



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



Hydrogen Sulfide | 30-Minute Averages

Number of Days with Exceedances at “Lower Valley” Monitor 2004-2023 (Jan - Sept 2023)



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CECATEV

CENTRO DE CIENCIAS ATMOSFÉRICAS
Y TECNOLOGÍAS VERDES

* Questions?
¿Preguntas?



*Thank you!
Gracias!

