
Agriculture & Air Quality in Doña Ana County

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Air Quality Bureau



AQB Mission: To protect the inhabitants and natural beauty of New Mexico by preventing the deterioration of air quality

Air Pollutant Categories

■ Criteria Pollutants

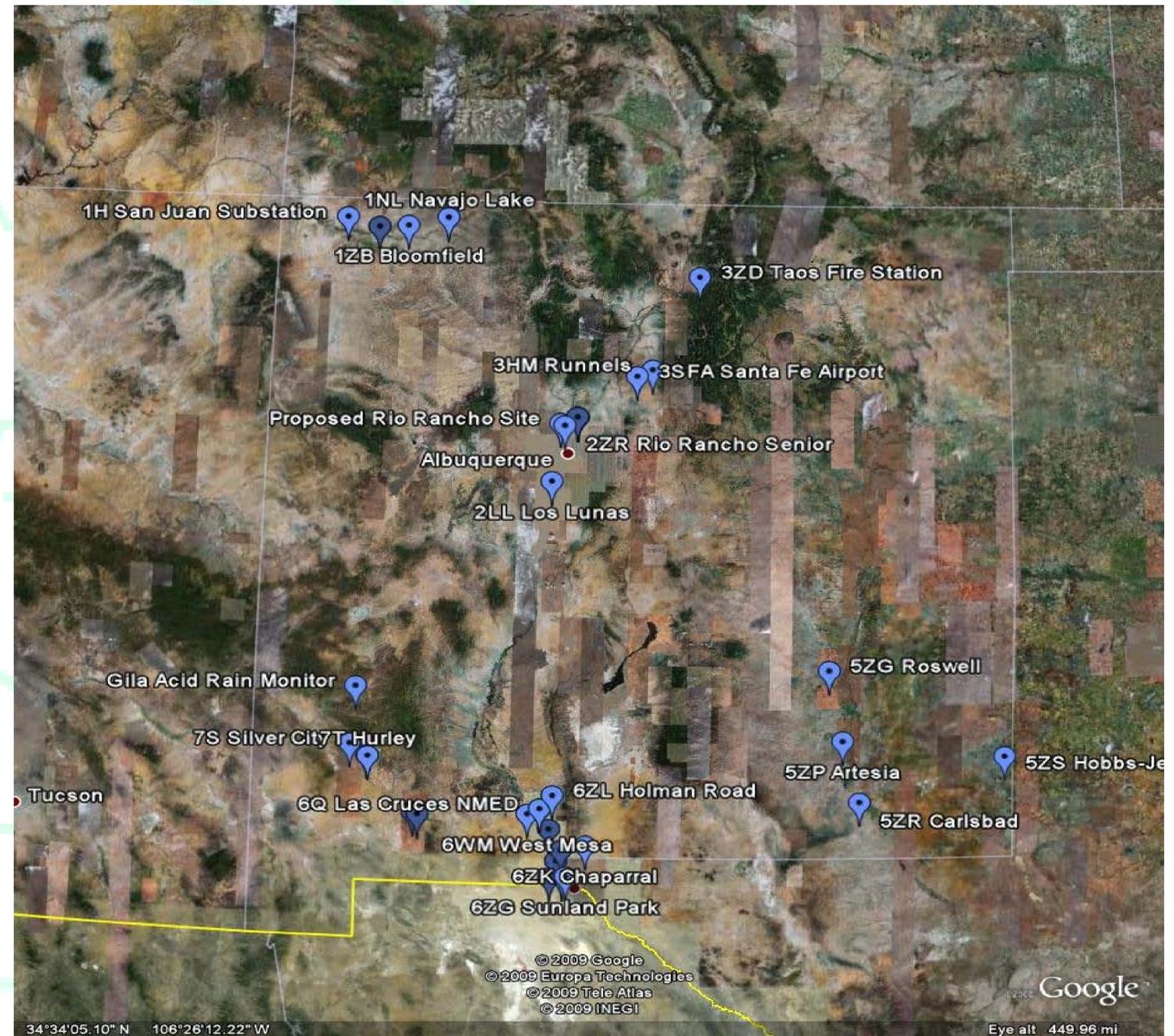
- Most common
- Widespread
- Hazard to public health and welfare
- Ambient standards established

■ Toxic Pollutants

- List of 188 pollutants
- More severe illness
- Increased mortality
- Emitted in smaller amounts

National Ambient Air Quality Standards (NAAQS) for Criteria Air Pollutants

- Carbon Monoxide-CO
- Lead-Pb₂
- Nitrogen Dioxide-NO₂
- Particulate Matter-PM₁₀ & PM_{2.5}
- Ozone-O₃
- Sulfur Dioxide-SO₂



NM Monitors

Criteria Air Pollutants Effects

■ Health Effects:

- Increased breathing problems
- Damaged lung tissue
- Aggravate
 - Asthma
 - Bronchitis
 - Cardiovascular and Lung disease
- Cancer
- Nervous System Damage

■ Welfare Effects:

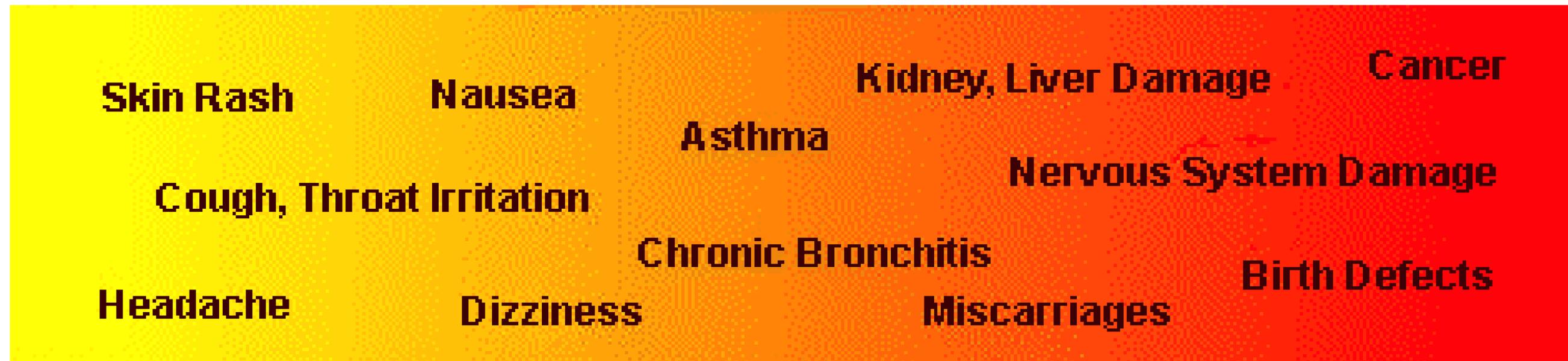
- Reduced visibility
- Impaired health of animals and vegetation
- Reduced crop production
- Reduced quality of life
- Acid rain
- Property damage

Criteria Air Pollution: Health Effects

Less Serious
reversible
not debilitating
not life-threatening



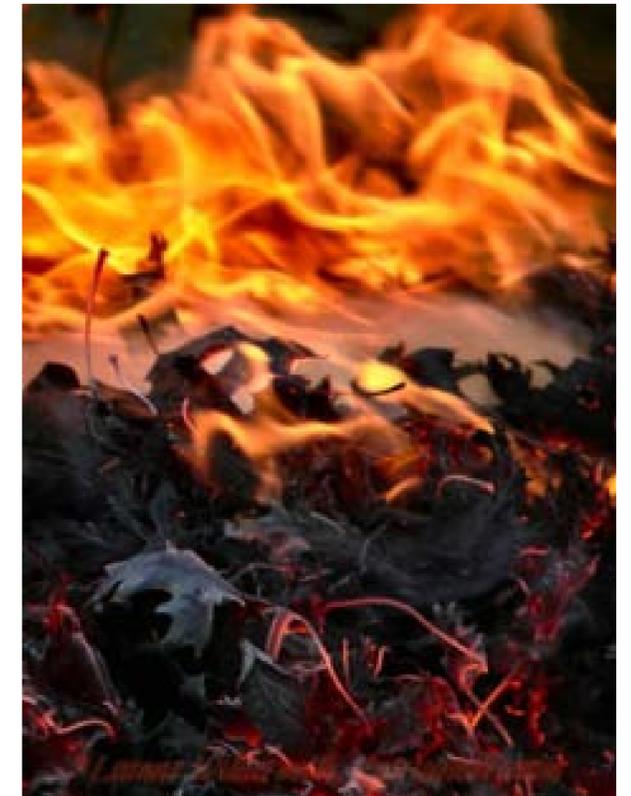
More Serious
irreversible
debilitating
life-threatening



Agricultural Sources of Air Pollution

■ Crop Production

- PM-Tillage, Harvest, Wind Erosion
- NO_x-Equipment
- Toxics-Pesticides
- NH₃, N₂O, NO_x-Fertilization



■ Open Burning and SMPs

- PM
- VOCs
- NO_x

■ CAFOs

- PM
- VOCs
- Odors

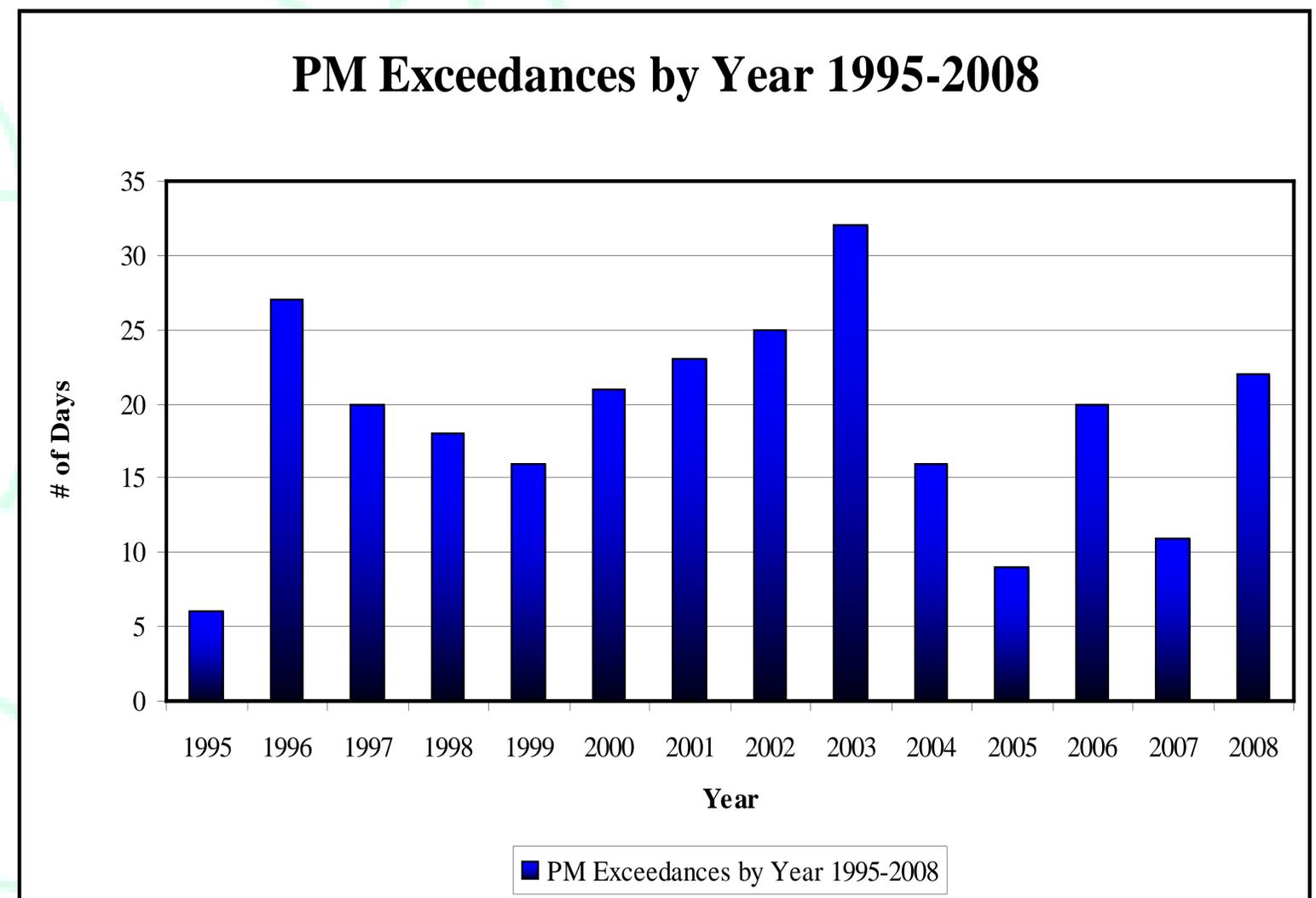


Exceeding NAAQS

- Non-attainment:
 - Elevated controls for pollution sources
 - Increased permitting requirements
 - Emission inventory for all sources
 - Adverse economic impact possible
 - Development of a program and air quality control plan to reestablish attainment

Exceeding NAAQS: Particulate Matter

- 1995-Present
 - 266 Days
 - 646 Exceedances
- EPA-Natural Events Policy
 - Wind storms, volcanoes, wild fires, etc.
 - Do not count as violations
 - Natural Events Action Plan (NEAP) required
- 2002 PM Emission Inventory
 - Non Ag. Emissions-1083 tons PM_{10} /yr and 653.1 tons $PM_{2.5}$ /yr
 - Ag. Emissions-470.7 tons PM_{10} /yr and 142.6 tons $PM_{2.5}$ /yr
 - Does not include Wind Erosion and paved and unpaved roads



Doña Ana County NEAP

- Purpose
 - Protect Public Health and Welfare
- Key elements
 - Analysis & Documentation
 - Minimize Public Exposure
 - Public Notification & Education
 - Abatement & Mitigation
 - Local ordinances and programs
 - Agriculture specifically excluded
 - Progress Review-Every Five Years (2010)

NEAP: Periodic Review 2005

- Every Five Years (2005, 2010, 2015, etc.)
 - 2005 Atlas Project
 - PM Emissions Inventory
 - Agricultural v. Nonagricultural
 - Erosion-Largest Source Category (#1 BY-FAR)
 - Road Dust-Paved and Unpaved (Second)
 - Cropland Preparation
 - Construction Activities
- 2005 Conclusions
 - Successful First Stage
 - Continued Enforcement Essential
 - DAC NEAP Used as a Model for other SW Air Pollution Agencies

NMED NEAP Review 2010

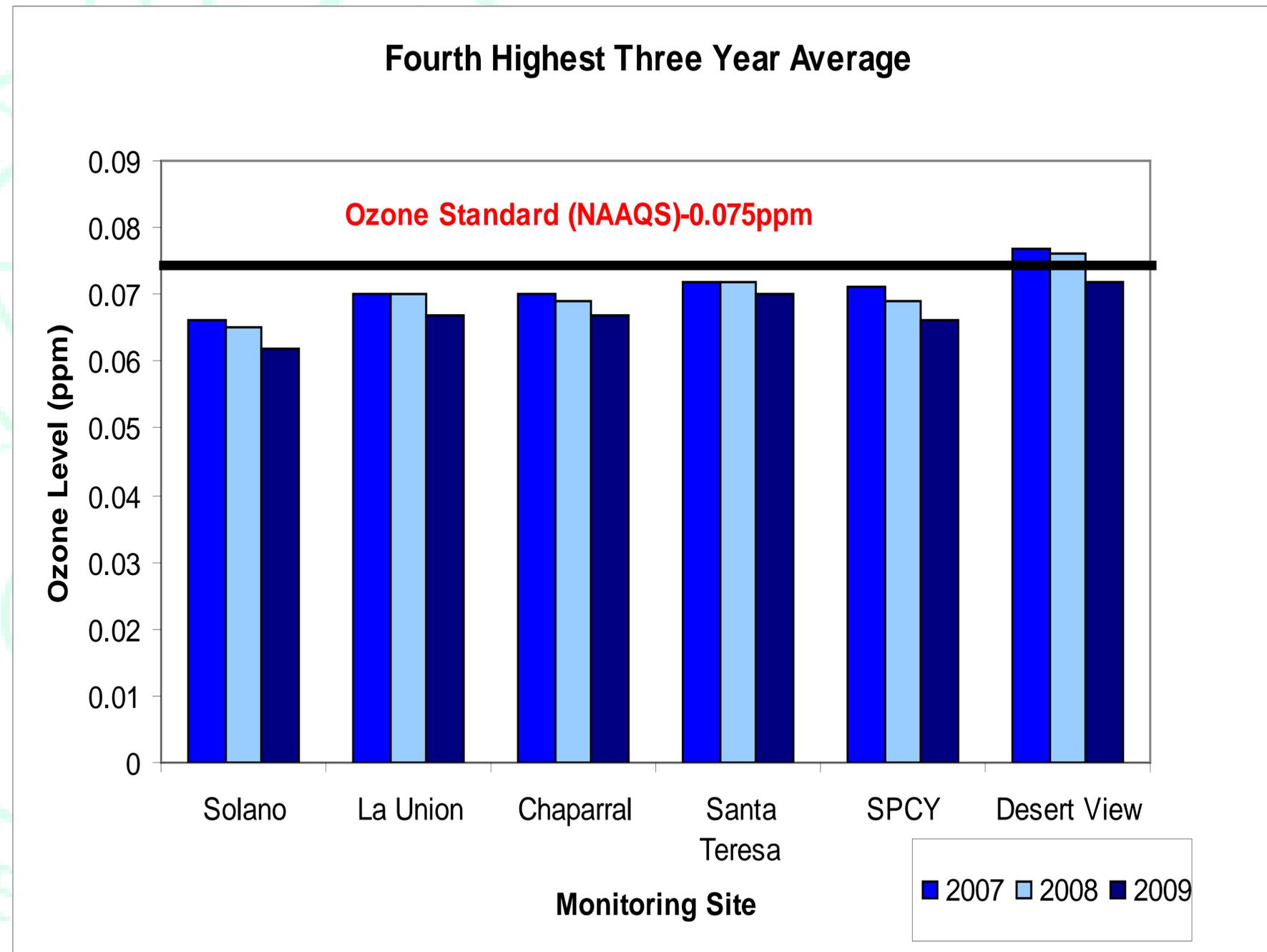
- Conditions causing exceedances
 - Have they changed?
- Implementation of key elements
 - Fully implemented
- Adequacy of implementation
 - Number of people reached
 - Overview of Ordinances and Agreements
- Future plans
 - Improved Public Outreach & Education (Pro-active)
 - State Wide Regulations
 - Improved PM Emissions Inventories
 - Review process to begin in May

O₃ NAAQS

- March 2008: Lowered to 75 ppb
 - Pre 2008-rounding rules allowed up to 84 ppb
 - Clean Air Scientific Advisory Committee
 - Recommended range = 60-70 ppb
- 2009 Reevaluation of NAAQS
 - Judicial review-EPA must follow CASAC Advice
 - New Secondary Standard- W_{126} proposed @ 15ppm/hr
 - DAC @ 72 ppb & 16 ppm/hr (2007-2009)
 - Final Rule-August 31, 2010

Exceeding NAAQS: Ozone in Southern DAC

- 2008-New O₃
 - Violation of NAAQS
 - Non-attainment recommended
- 2009 Data
 - No longer in violation of NAAQS
 - 72 ppb
 - Revised NAAQS by September
 - 60-70 ppb



Exceeding NAAQS: Ozone in Southern NM

Sunland Park Area Boundary Recommendation



Legend

- Dona Ana Major
- ⊙ Ozone Monitors
- El Paso Major

▭ Recommended Nonattainment Area



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www.nmenv.state.nm.us/aqb/