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# DESIGNATING AREAS FOR THE 2024 PM<sub>2.5</sub> STANDARD

May 30, 2024

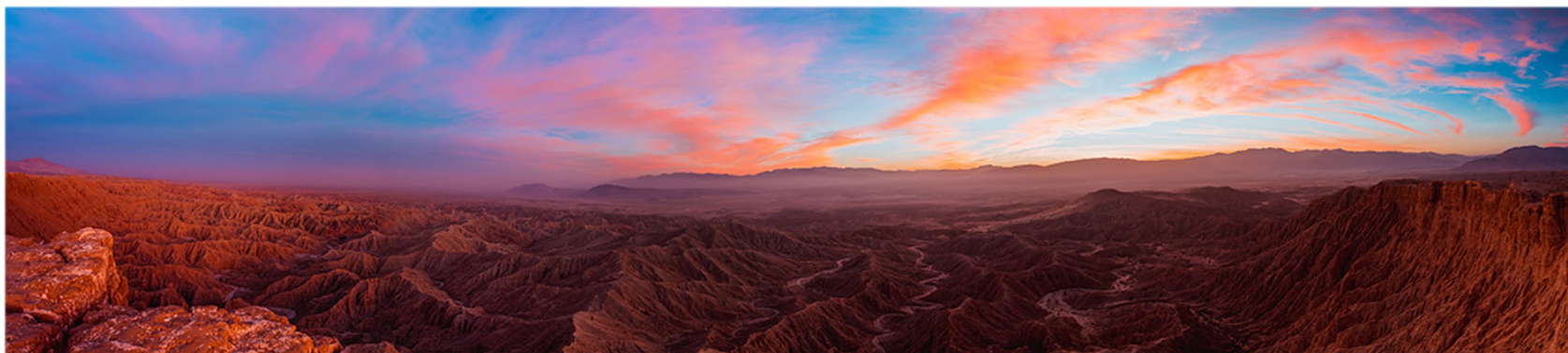
Lindsay Wickersham  
Air Planning Section  
Region 9





# OUTLINE

- 2024 Particulate Matter (PM) Standard
- Designation Process
- Implementing the Standard
- Next steps

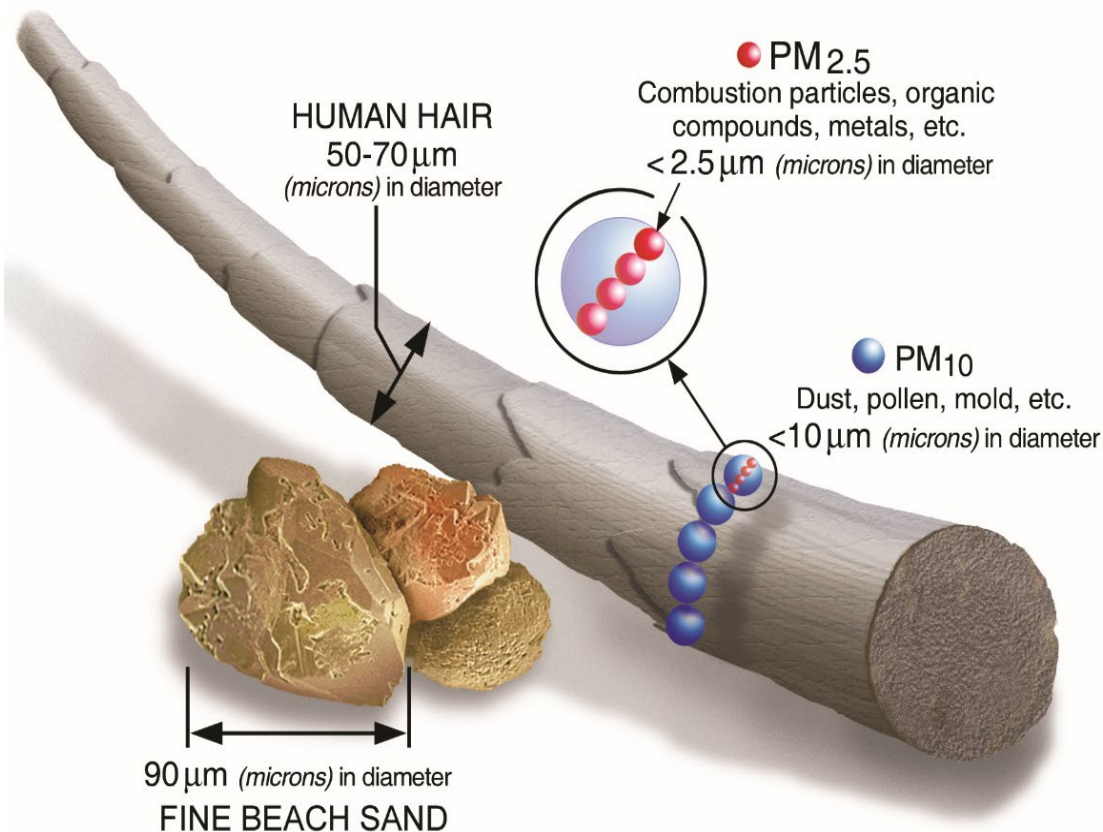


# 2024 ANNUAL PM<sub>2.5</sub> STANDARD





# WHAT IS PARTICULATE MATTER (PM)?



- PM, also called particle pollution, is the term for a mixture of solid particles and liquid droplets found in the air.
- These particles come in many sizes and shapes and can be made up of hundreds of different chemicals.
- Particle pollution includes:
  - PM<sub>10</sub>: inhalable particles, with diameters that are generally 10 micrometers and smaller; and
  - PM<sub>2.5</sub>: fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.



## PM HEALTH EFFECTS

- PM can irritate your eyes, nose, and throat. Breathing these particles can also affect both your lungs and heart.
- PM exposure is linked to decreased lung function, bronchitis, aggravated asthma, and even premature death.
- People with heart or lung diseases, children, and older adults are the most likely to be affected by particle pollution exposure.





# PRIMARY PM FORMATION

- PM is created in two different ways: primary and secondary formation
- Primary particles are emitted directly from a source
- Sources of primary PM may include:
  - Smokestacks
  - Fires
  - Construction sites
  - Unpaved Roads





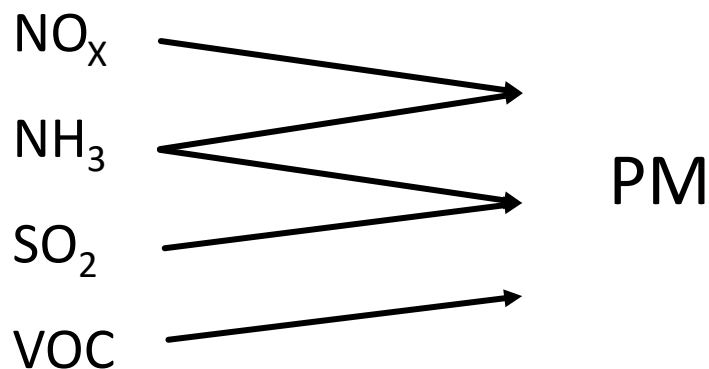
# SECONDARY PM FORMATION

■ Secondary particles are formed in the atmosphere through chemical reactions of gases. Those gases are referred to as precursor pollutants and include:

- Oxides of nitrogen ( $\text{NO}_x$ )
- Sulfur dioxide ( $\text{SO}_2$ )
- Ammonia ( $\text{NH}_3$ )
- Volatile organic compounds (VOCs)

■ Sources of PM precursor pollutants may include:

- Cars and trucks
- Construction equipment
- Industrial and agricultural pollution
- Personal care products
- Natural Sources (volcanoes, forest fires)





# FORMS OF THE STANDARD FOR PM<sub>2.5</sub>

## Annual Standard

- The annual PM NAAQS is the annual mean of PM<sub>2.5</sub> concentrations averaged over three years
- The average concentration must be less than or equal to 9 µg/m<sup>3</sup> to meet the standard

## 24-hour Standard

- The 24-hour NAAQS is the 98<sup>th</sup> percentile from each year, averaged over three years
- The average concentration must be less than or equal to 35 µg/m<sup>3</sup> to meet the standard

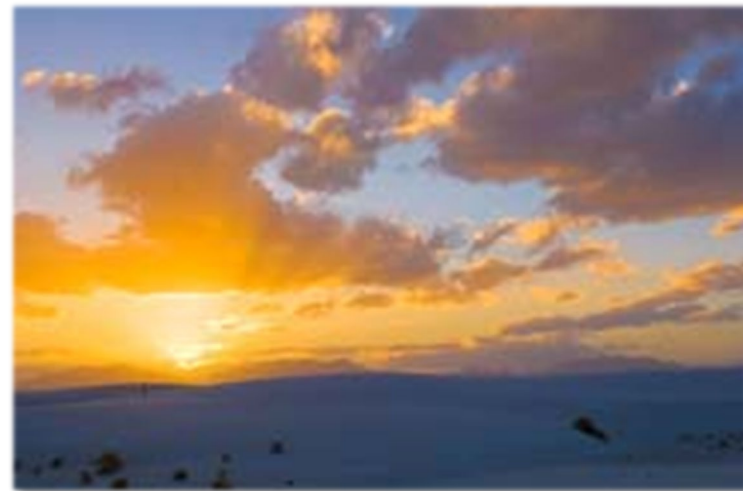
Today we are going to be focusing on the Annual Standard for PM<sub>2.5</sub>





# 2024 ANNUAL PM<sub>2.5</sub> STANDARD

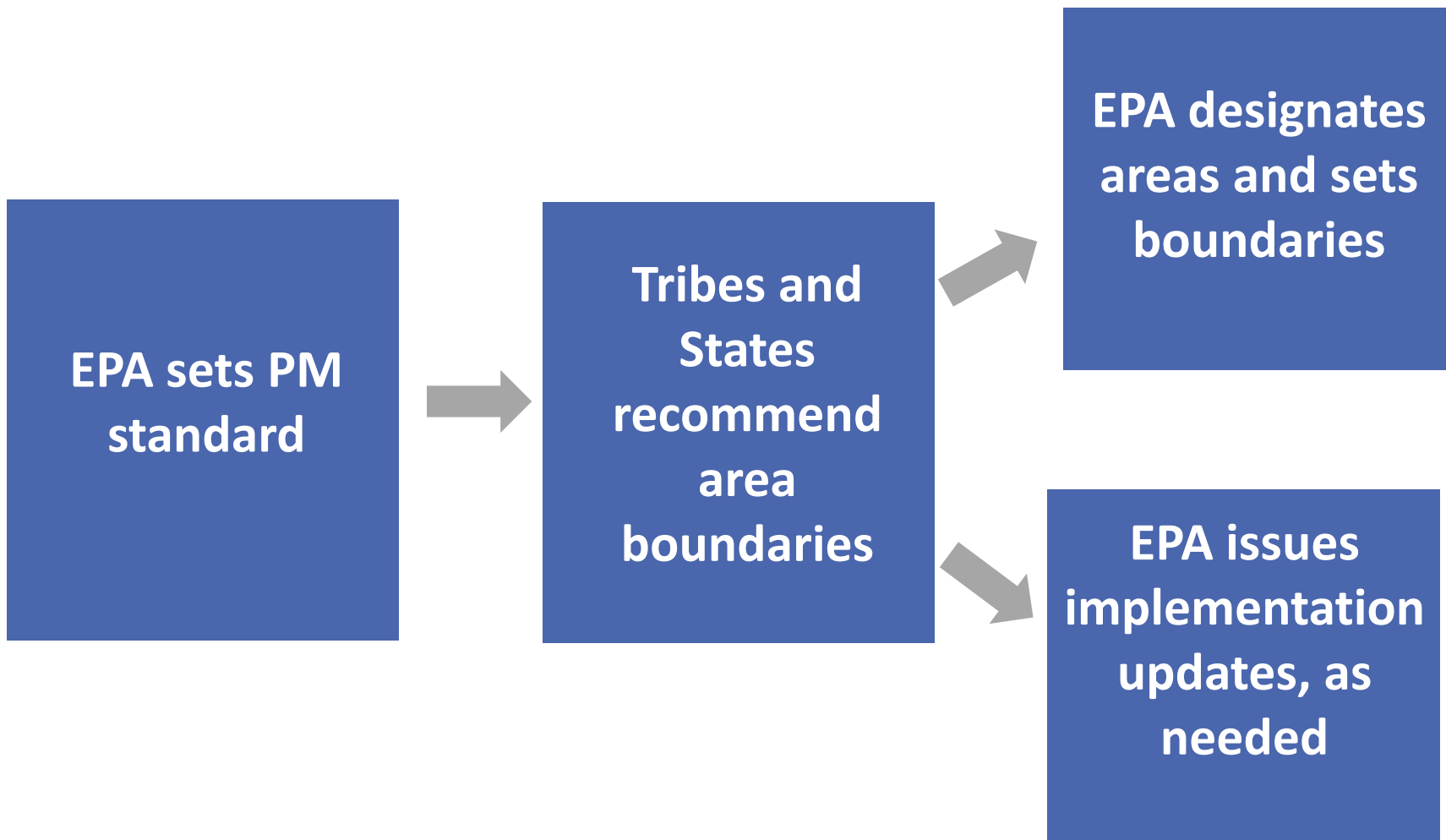
- Particulates have been regulated since the 1970s and PM<sub>2.5</sub> specifically has been regulated since 1997
- Clean Air Act requires periodic review of new science
- EPA strengthened the annual PM<sub>2.5</sub> standard in 2024 to 9  $\mu\text{g}/\text{m}^3$
- Triggers two-year process to designate all areas for new standard



# DESIGNATIONS PROCESS



# NEW STANDARD TRIGGERS DESIGNATIONS PROCESS



# 2024 PM STANDARD: DESIGNATIONS TIMELINE

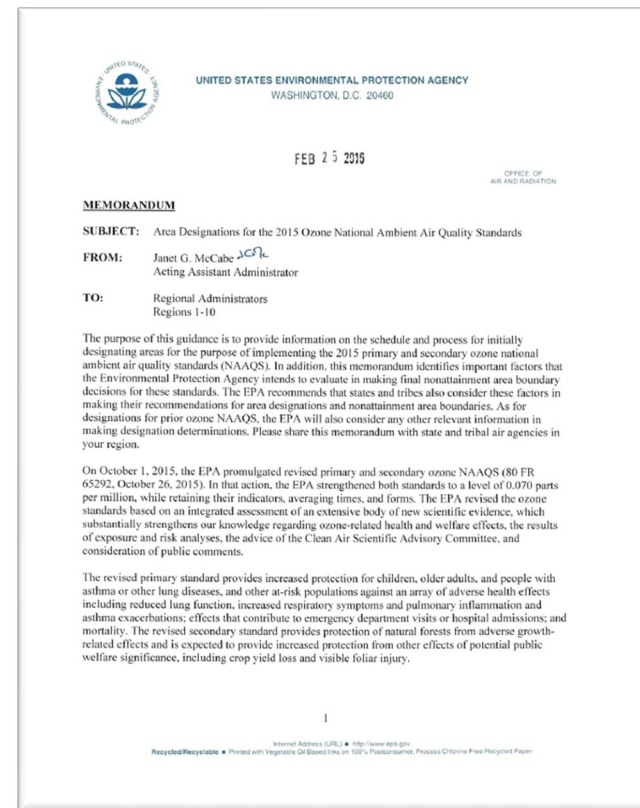


Date	Milestone
February 7, 2024	Annual PM <sub>2.5</sub> Standard strengthened to 9 µg/m <sup>3</sup>
February 7, 2025	Recommendations for PM designations due to EPA ❖ Based on 2021-2023 air quality data
October 9, 2025	EPA responds to recommendations
February 6, 2026	Designations finalized ❖ Based on 2022-2024 air quality data



# DESIGNATIONS GUIDANCE

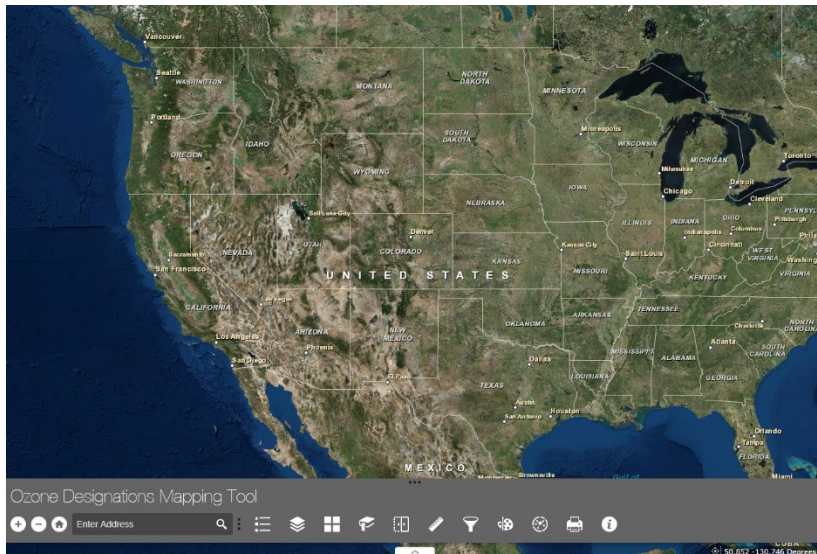
- EPA distributed a memo to tribes on February 14, 2024
- It describes five factors EPA will consider in determining area boundaries:
  - Air quality data
  - Emissions and related data
  - Meteorological data
  - Geography / topography
  - Jurisdictional boundaries



[Particle Pollution Designations Memorandum and Data for the 2024 Revised Annual PM2.5 NAAQS | US EPA](#)

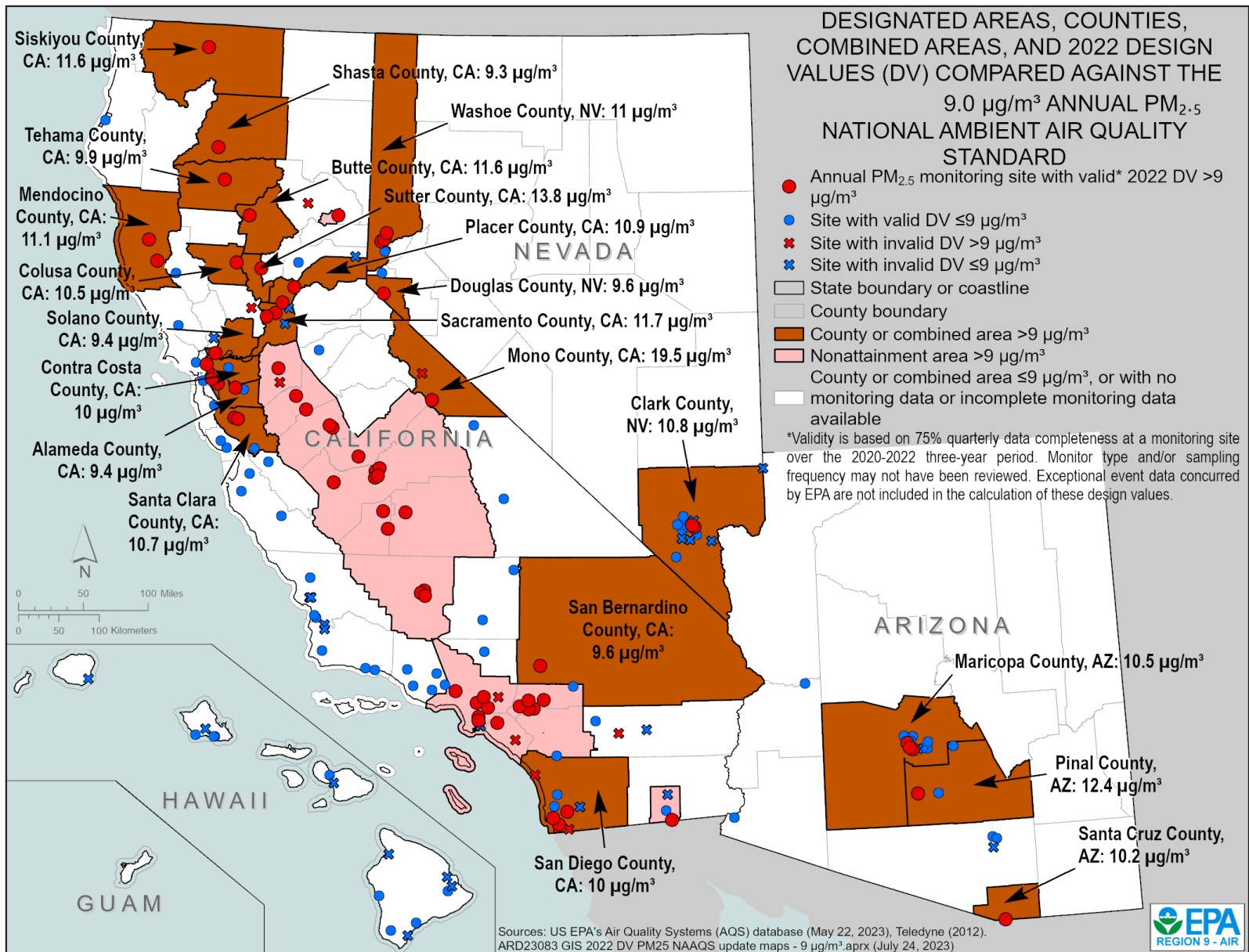


# TRIBAL RECOMMENDATIONS



[PM<sub>2.5</sub> Designations Mapping Tool](https://www.epa.gov/particulate-pollution-designations)

- Submitting a recommendation is optional
- Suggested analyses are described in guidance memo
- EPA is providing data via an interactive mapping tool





# DESIGNATING TRIBAL LANDS

- Historically designated together with state land
- Submitting recommendations is optional for tribes
- State recommendations do not include recommendations for nearby tribal land







# DESIGNATING TRIBAL LANDS

- Purpose of designating tribal land:
  - Inform the public of air quality in and around tribal lands
  - Not a statement about whether tribes or sources on tribal land are causing or contributing to air pollution
- Designating a tribe as its own area is best supported by regulatory data in the relevant area of Indian Country.



# IMPLEMENTING THE 2024 PM<sub>2.5</sub> STANDARD



# MEETING THE STANDARDS



- EPA's national rules in the power, transportation, and industrial sectors will continue to help reduce PM and make the strengthened standard easier to achieve and maintain.
- Recent EPA actions include:
  - Emission standards for heavy-duty vehicles and engines,
  - Emission standards for light- and medium-duty vehicles,
  - Methane standards for oil and gas sector operations,
  - Regulations to reduce emissions from industrial facilities, including the 2023 Good Neighbor Plan and the April 2024 rules on fossil fuel-fired power plants.



**EPA projections show federal rules will reduce air pollution on tribal lands.**



# PERMITS

- New and modified sources of pollution on tribal lands require permits
- New designation may change permit threshold for major and minor sources
- For more information on tribal air permits:

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valladolid.catherine@epa.gov  
(415) 947-4103





# PLANS AND CONTROL MEASURES

- Tribes are not required to submit plans or enact controls
- States must submit plans and enact controls on state land
- Tribes may submit plans and enact controls and can participate in state planning processes







# TRIBAL NONATTAINMENT AREAS

- For tribal areas designated separately from states:
  - Tribe or EPA addresses control requirements
  - Decisions on attainment are best supported by regulatory air monitoring data
- For more information see EPA policy on tribal designations:  
<https://www.epa.gov/tribal-air>



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## NEXT STEPS





## NEXT STEPS

### Important Deadlines

February 7, 2025	Tribal recommendations due to EPA* (optional)
Oct 9, 2025	EPA responds to recommendations

\*This deadline is set by the Clean Air Act and is not flexible



## CONTACT US

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