



State Implementation Plan Development for the Pinal County PM₁₀ / PM_{2.5} Nonattainment Areas

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Background on Particulate Matter in Pinal County

- U.S. EPA designated a portion of Pinal County as nonattainment for the 24-hour $PM_{2.5}$ standard ($35 \mu\text{g}/\text{m}^3$) on February 3, 2011 based on ambient monitoring data between 2006 and 2008
- U.S. EPA designated a larger portion of Pinal County as nonattainment for the 24-hour PM_{10} standard ($150 \mu\text{g}/\text{m}^3$) on May 31, 2012 based on monitoring data between 2006 and 2008
- More recent data indicate attainment of the 24-hour $PM_{2.5}$ standard, though PM_{10} data still show nonattainment

Background on Particulate Matter in Pinal County

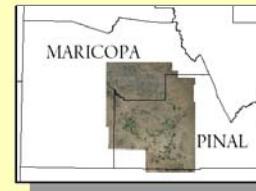
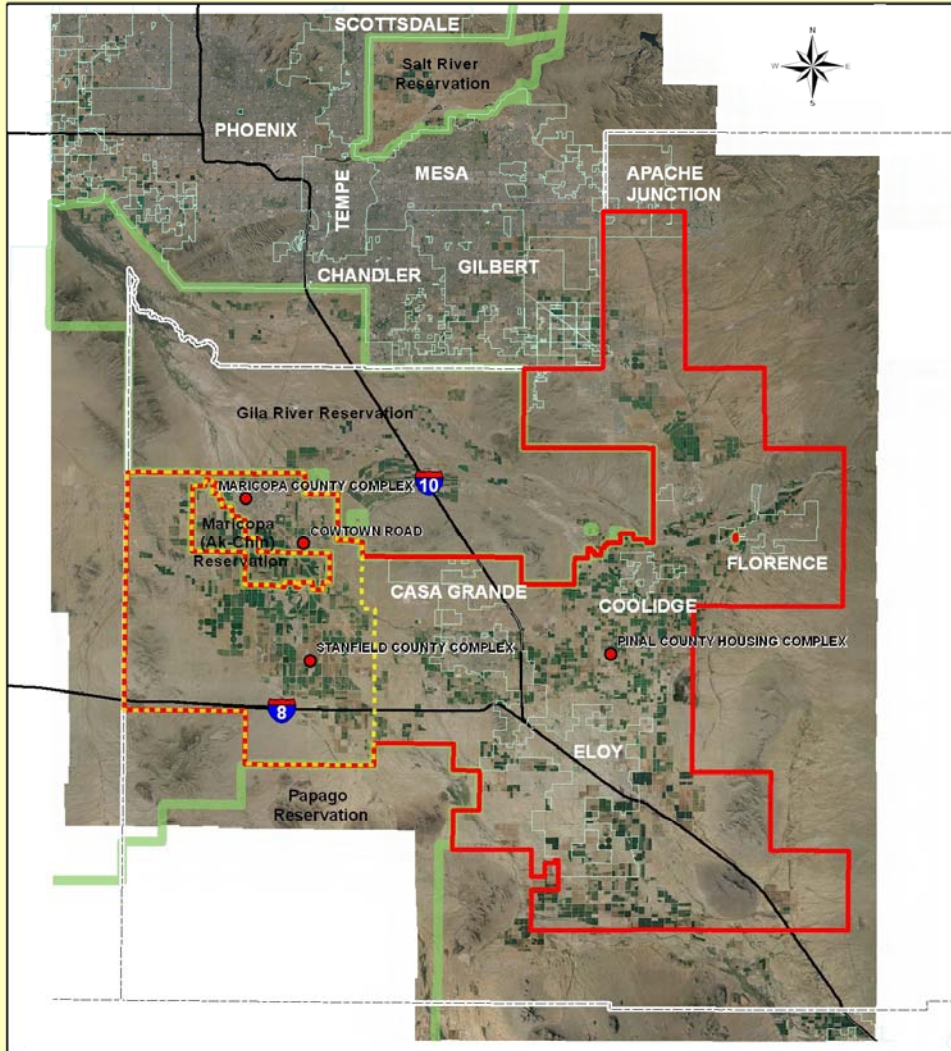
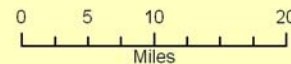


Image Date: April 1-4, 2008

1 in = 10 miles



SEPTEMBER 27, 2012

Nonattainment Boundaries and some PCAQCD ambient monitoring locations in Western Pinal County

PM₁₀ and PM_{2.5} Particle Size

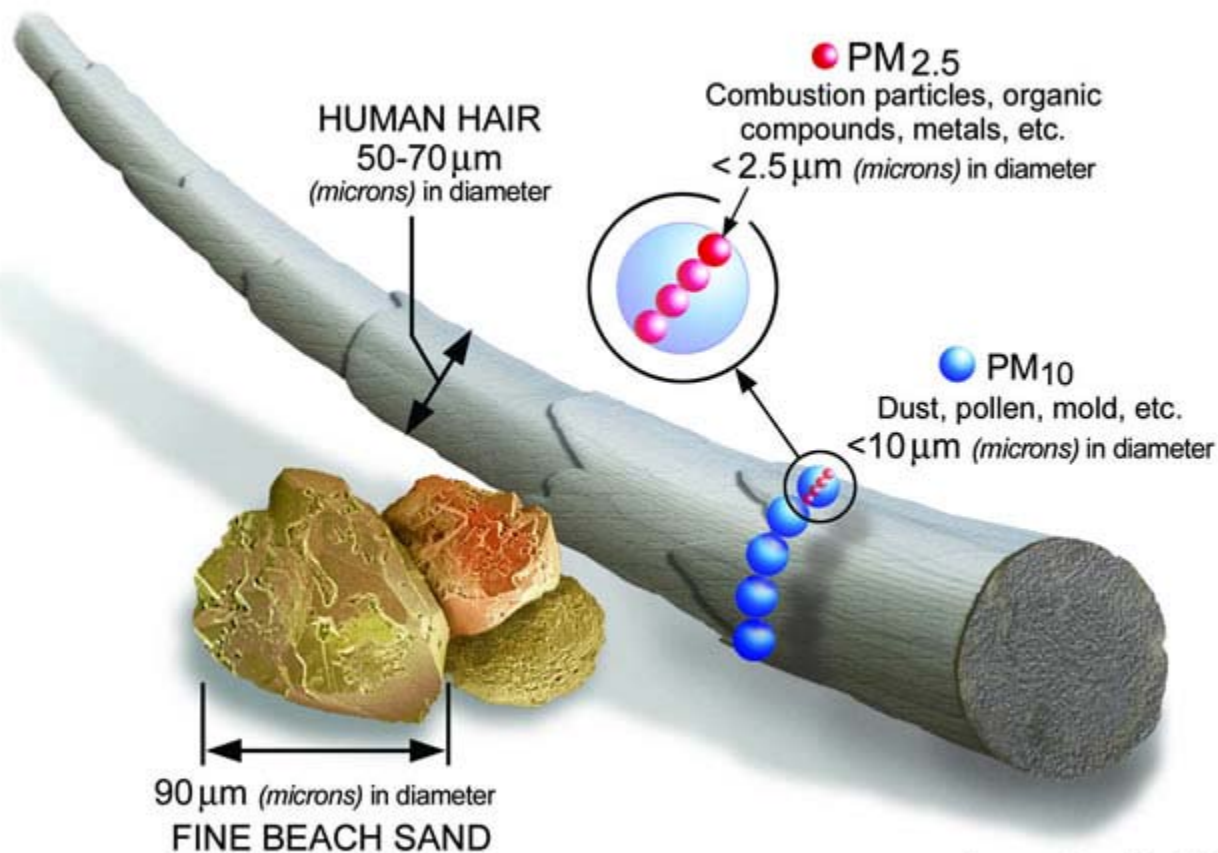


Image courtesy of the U.S. EPA



State Implementation Plan Development

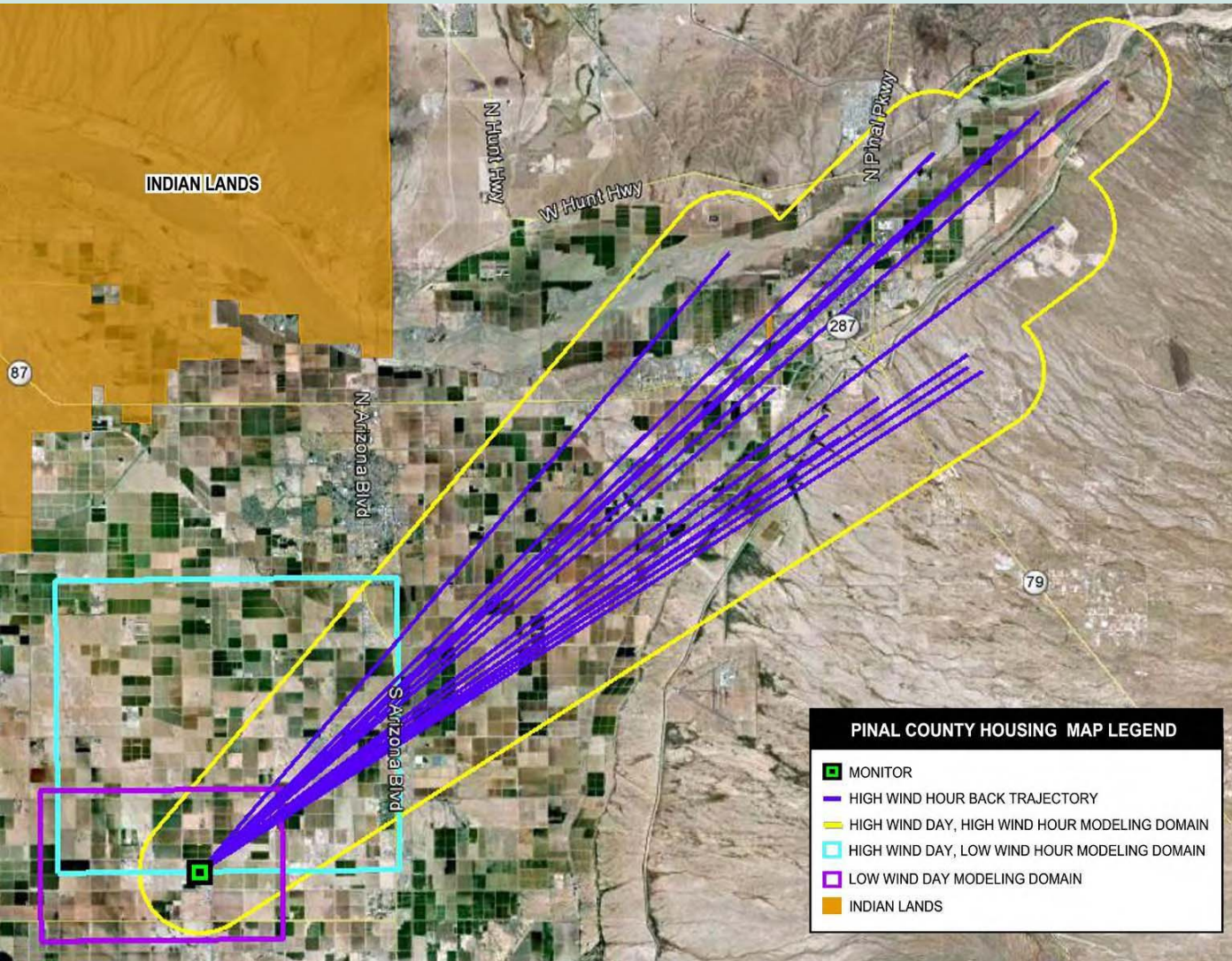
- Interagency effort by ADEQ, PCAQCD, EPA, ADOT, contractors, Tribes, and stakeholders
- Objective → Identify specific sources of particulate pollution and develop control strategies to mitigate ambient pollution levels
- Starts with extensive review of ambient air quality data (2006-2008)
- Identification of exceedance days for design day selection
 - Needed for modeling attainment in future years



State Implementation Plan Development

- Currently working on baseline emission inventory (EI) development to identify specific sources and estimate emissions
- Required to develop emission inventories for base year (2008) and specific design days
 - High wind emissions
 - Low wind (stagnation) emissions
- Basic Approach
 - Emissions = activity level x emission factor (e.g. traffic count [activity level] x unpaved roads [emission factor])
- Challenges
 - Collecting / estimating activity level data and calculating / estimating local emission factors
 - Allocating small datasets to entire nonattainment area
 - Identifying accurate assumptions

State Implementation Plan Development



PINAL COUNTY HOUSING MAP LEGEND

- MONITOR
- HIGH WIND HOUR BACK TRAJECTORY
- HIGH WIND DAY, HIGH WIND HOUR MODELING DOMAIN
- HIGH WIND DAY, LOW WIND HOUR MODELING DOMAIN
- LOW WIND DAY MODELING DOMAIN
- INDIAN LANDS

Emission Inventory
 Development

Modeling Domain
 Inventories and
 nonattainment area
 inventory

Modeling Domain
 Inventory used to
 model attainment in
 future years based
 on control
 strategies

Next Steps

- Goal is to complete EI by March 31st
- Select primary contributors to elevated PM₁₀ concentrations and identify possible control measures (control strategy) by April 30th
- Hold stakeholder and public meetings – May, 2013
- Select Control Measures – June, 2013
- Prepare attainment demonstration – July, 2013
 - Utilizes control measures to model improvements
- Prepare SIP documentation – August, 2013
- Public Comment period – November, 2013
- Submit SIP to EPA for approval – December, 2013



Useful Web Links

- Ambient Air Quality Data → <http://www.epa.gov/airdata/>
- Pinal County Air Quality Control District → <http://pinalcountyz.gov/DEPARTMENTS/AIRQUALITY/Pages/Home.aspx>
- Arizona Department of Environmental Quality → www.azdeq.gov/environ/air/index.html
- ADEQ Exceptional Event Analyses → <http://www.azdeq.gov/environ/air/plan/nee.html>



Questions?

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Additional information available online at:
www.azdeq.gov/environ/air/index.html