



Ozone & Particulate Challenges in Maricopa County



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Air Quality Department

Particulates From Human Activities



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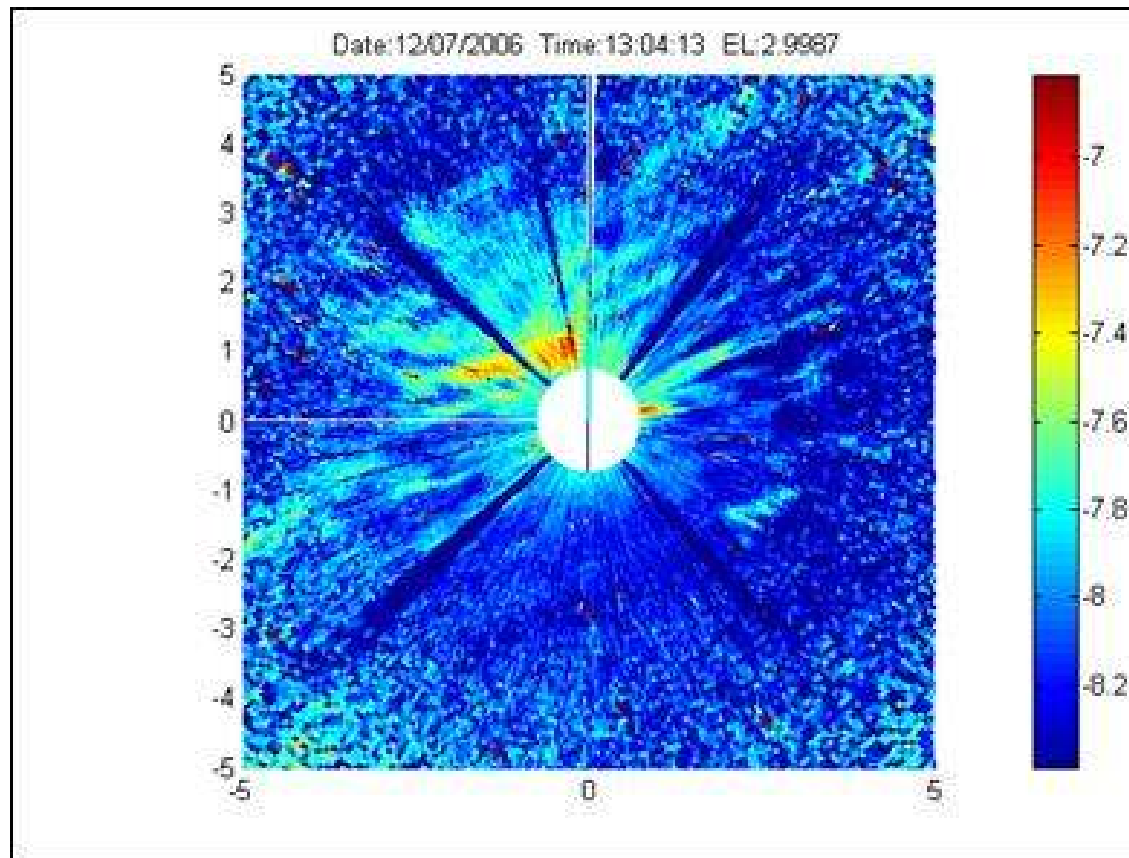
Stagnation



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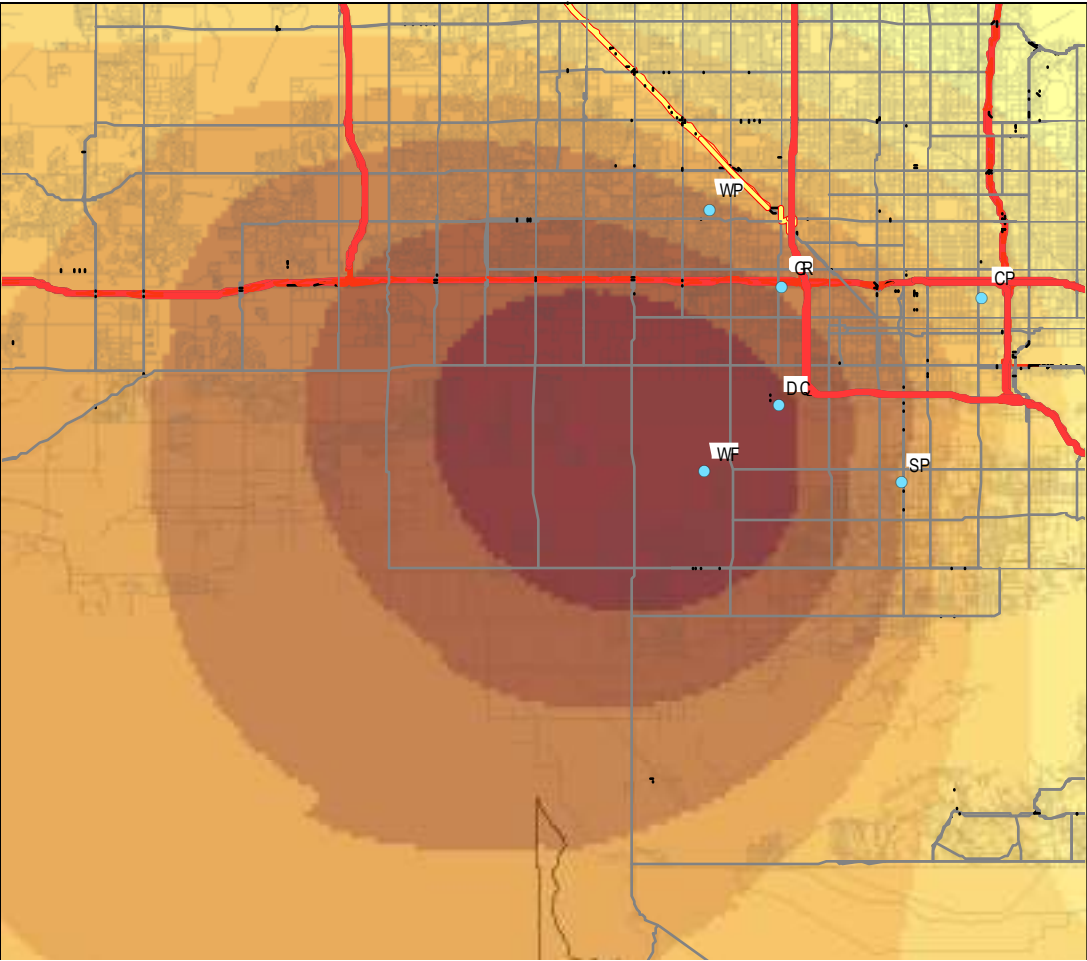
Lidar Image of 43rd Avenue & W. Broadway Road



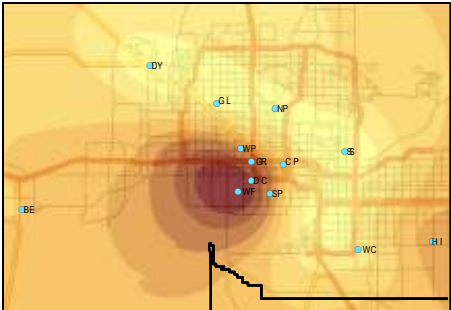
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Interpolated 24hr Average PM10 Readings for December 12, 2005



Blow-up of Exceedance Area



Interpolation Area

Interpolation Range Values		Monitor Site & 24hr Value	
71 - 90		●	BE - 119.4
90 - 105		●	CP - 116.5
105 - 120		●	DC - 206.8
120 - 135		●	DY - 75.7
135 - 150		●	GL - 84.4
150 - 175		●	GR - 172.7
175 - 200		●	HI - 142.7
200 - 235		●	NP - 80.8
		●	SP - 147.3
		●	SS - 71.2
		●	WC - 93.9
		●	WF - 233.0
		●	WP - 155.0

PM-10 Exceedances 2004-2006

Site	Operator	Address	# of Days
Bethune School	ADEQ	1310 S. 15 th Ave	1
Buckeye	MCAQD	MC85 & Hwy 85	7*
Central Phoenix	MCAQD	16 St & Roosevelt	2*
Durango	MCAQD	27 Ave & Durango	25*
Greenwood	MCAQD	27 Ave & I-10	4*
Higley	MCAQD	Higley Rd & Chandler Blvd	7*
West 43 rd	MCAQD	40 Ave & Broadway	35*
West Phoenix	MCAQD	39 Ave & Earll Dr	2*

*Includes days excluded as natural/exceptional events

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Federal Requirements

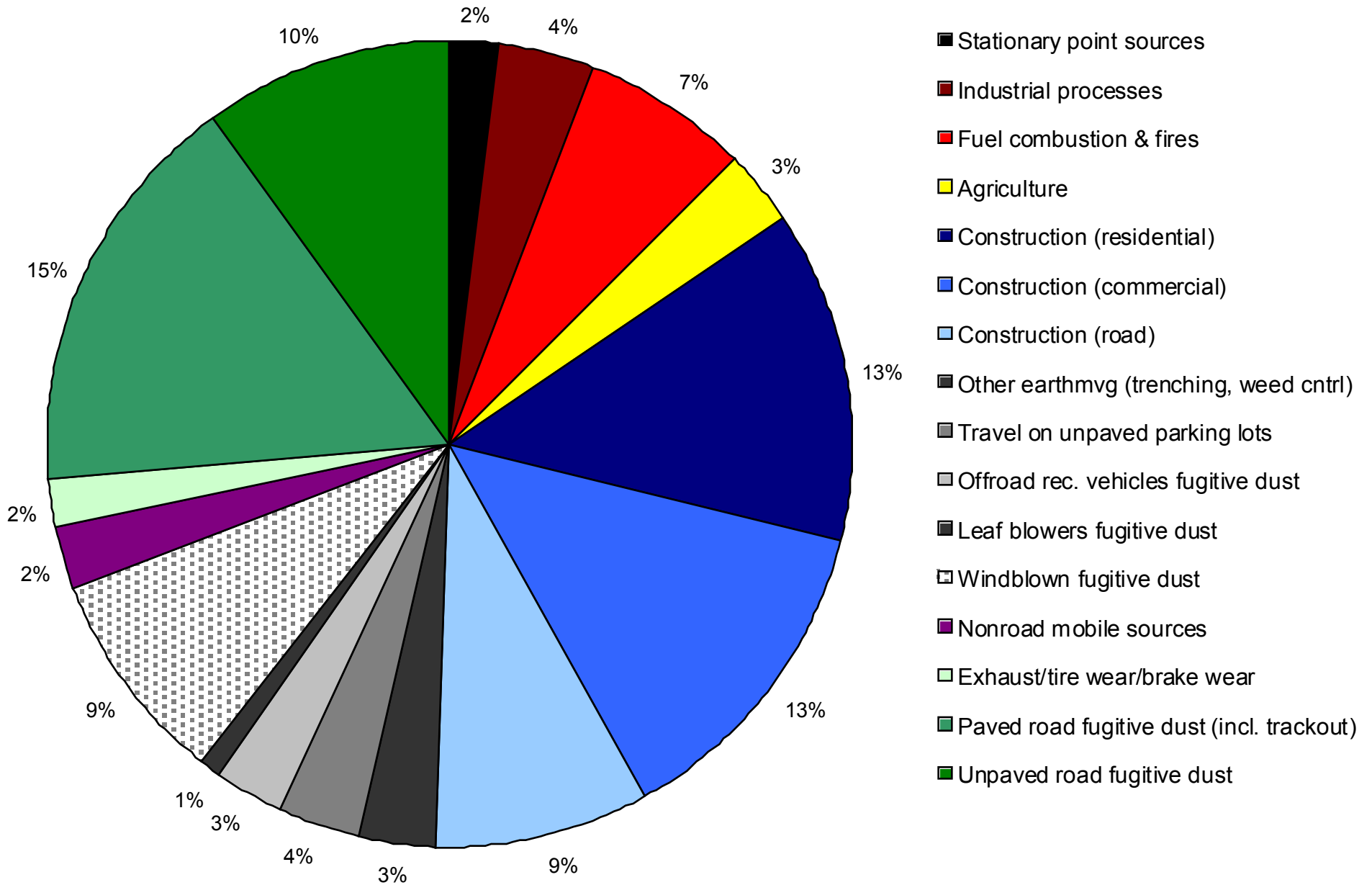
- Failed to attain PM-10 standard by 12/31/2006
- SIP revision now due 12/31/2007 to include:
 - Five Percent Plan
 - Attainment Demonstration at Monitors

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2005 PM₁₀ Emissions Inventory

(Revised May 2007 – PM₁₀ Nonattainment Area Total = 84,753 tons/yr)



What Must the Plan Accomplish?

- Reductions in tons/yr to meet 5% Plan Criteria
 - 5% for 2008, est. 4,240 tons/yr.
 - 5% for 2009, est. 4,240 tons/yr.
 - 5% for contingency measures, est. 4,240 tons/yr.
 - Example: All the unpaved roads and alleys paved over the last 10 years total 340.91 miles and reduce emissions by 5.8% at a total cost of approximately \$153 million.
- Controls necessary to attain at the monitors
- Apply those controls to similar sources in other, unmonitored areas

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State Implementation Plan [SIP] Development

PM₁₀ Five Percent Plan

- Feb/Mar 07 Suggested Control Measures
- June 07 Commitments to Implement Due
- Sept 07 Draft Plan available
- Oct 07 Public Hearing
- Dec 07 MAG Regional Council Action
- Dec 31, 2007 ADEQ submits plan to EPA

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Senate Bill 1552

- Provides additional authorities and measures related to both PM-10 and Ozone plans
- Measures include:
 - Paving unpaved roads > 100 ADT
 - Dust proof parking, driveways
 - Codes to restrict parking on vacant lots
 - City codes to prohibit OHV use off-road
 - Dust control training & coordinators

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Rule Development Activities

- Rule 200 – Permit Requirements
- Rule 300 – Visible Emissions
- Rule 310 – Fugitive Dust
- Rule 310.01 – Fugitive Dust from Unpermitted Sources
- Rule 316 – Nonmetallic Mineral Mining

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Rule Development Activities

Continued

- Rule 314 Open Burning
- Residential Woodburning Restriction Ordinance

- Rules need to be in place by early 2008

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Enhanced Monitoring Site Surveillance (Since March 2005)

- Inspectors fan out from the monitors during high PM events
- On days when high PM is forecasted
- On days when notified by Monitoring Division of high PM
- Provides e-mail notification of high PM forecasts

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County Resources

- 30 dust field staff currently
- Need 17 additional inspectors to meet current SIP workload
- Need to revise fees
- Need still more additional inspectors necessary to implement all the new measures

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PM_{2.5} Timeline

- Nov/Dec 07 State Recommendations
- Nov/Dec 09 EPA makes designations
- April 2010 Designations effective
- April 2013 SIPs due
- April 2015 Attainment date



8-Hour Ozone Standard

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8-Hour Ozone NAAQS

Three Year Average of 4th High

Site	2004 (ppm)	2005 (ppm)	2006 (ppm)	3 Yr. Avg.
Fountain Hills	.075	.088	.084	.082
Humboldt Mt.	.078	.088	.084	.081
North Phoenix	.080	.084	.085	.083
Rio Verde	.074	.087	.083	.081

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State Implementation Plan [SIP] Development

8-hour Ozone Attainment Demonstration

- May 06 - Feb 07 Technical work in progress
- May 07 Draft plan available
- June 07 Public Hearing
- June 07 MAG Regional Council
Action
- June 2007 ADEQ submits plan to EPA

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8-hour Ozone Modeling

3 High-ozone Episodes Modeled

- August 5-11, 2001 (local and transport)
- June 3-7, 2002 (predominantly transport)
- July 8-14, 2002 (predominantly local)

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VOC Emissions

Category	% of June 15, 2002	% June 08
Total VOC	696 mt/day	700 mt/day
Point	2	2
Area	13	15
Mobile	13	10
Non-Road	7	8
Biogenics	65	51

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NOx Emissions

Category	% on June 15, 2002	% in June 2008
Total NOx	292 mt/day	287 mt/day
Point	4	11
Area	3	5
Mobile	63	51
Non-Road	27	30
Biogenics	3	3

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Plan Measures

- Summer reformulated fuel
- Phased-in emission test cutpoints
- Traffic signal coordination
- MCAQD rule for polystyrene foam operations

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Questions?

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