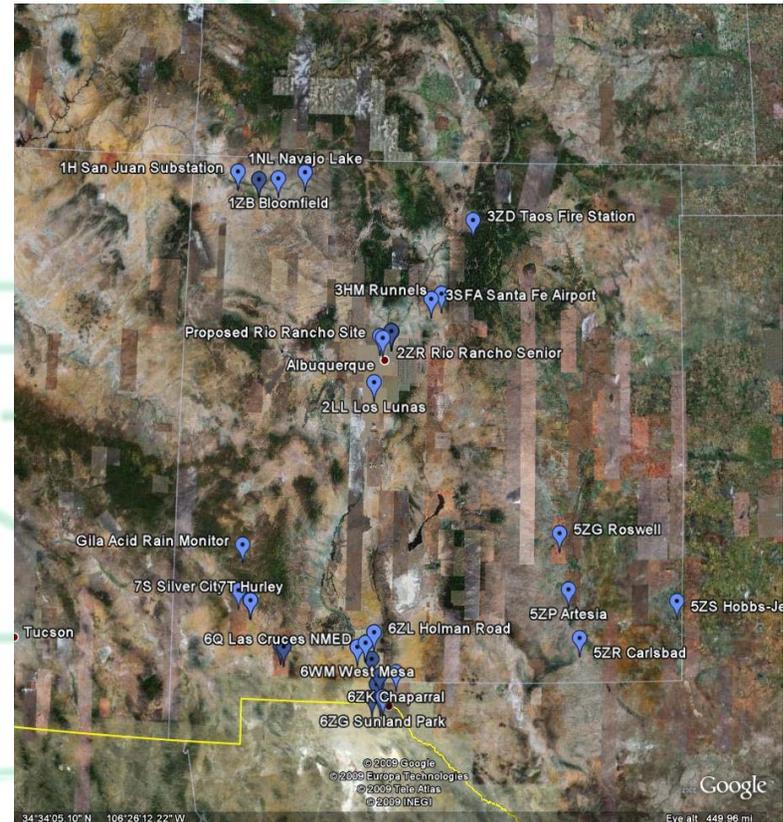

NMED Dust Open House

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

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

- Carbon Monoxide
- Lead (No Monitors in NM)
- Nitrogen Dioxide
- Particulate Matter (PM₁₀)
- Particulate Matter (PM_{2.5})
- Ozone
- Sulfur Oxides

Monitor locations



Particulate Matter (PM₁₀ and/or PM_{2.5}) Monitors in NM

Name	Fine Particles (PM _{2.5})	Coarse Particles (PM ₁₀)
Size	≤ 2.5 microns in diameter	≥ 2.5 ≤ 10 microns in diameter
Source	<ul style="list-style-type: none"> Industrial (power plants) & residential (wood burning) combustion Vehicle exhaust 	<ul style="list-style-type: none"> Wind-blown dust Dust from unpaved roads Materials handling Crushing & grinding operations Agriculture



Dust and Health: Overall effects

■ Health Effects:

- Increased breathing problems
- Damage to lung tissue
- Allergic reactions
- Aggravate existing health problem
 - Asthma
 - Bronchitis
 - Cardiovascular disease

■ Welfare Effects:

- Reduces visibility, causing accidents
- Impair health of animals and vegetation
- Reduce crop production
- Reduce quality of life

Dust and Health: Respiratory effects

- PM is among the most harmful of all air pollutants
- Smallest particles lodge deep in the lungs

Less Serious
reversible
not debilitating
not life-threatening



More Serious
irreversible
debilitating
life-threatening

Skin Rash

Nausea

Kidney, Liver Damage

Cancer

Asthma

Cough, Throat Irritation

Nervous System Damage

Chronic Bronchitis

Birth Defects

Headache

Dizziness

Miscarriages

Dust and Health: At risk groups

- ❑ Infants, children, & teens
- ❑ Elderly
- ❑ People with asthma, bronchitis, emphysema, or other respiratory ailments
- ❑ People with heart disease
- ❑ Pregnant women
- ❑ Healthy adults working or exercising vigorously outdoors

Fugitive Dust: At Risk Groups								
County	Total Pop	14 & Under	65 & Over	Pediatric Asthma	Adult Asthma	Chronic Bronchitis	Emphysema	Cardiovascular Disease
<u>BERNALILLO</u>	573,675	118,903	66,710	11,881	33,820	19,039	6,473	121,513
<u>CHAVES</u>	60,177	13,602	8,859	1,393	3,409	1,959	747	13,443
<u>DONA ANA</u>	178,664	42,265	19,754	4,238	10,073	5,553	1,843	34,564
<u>EDDY</u>	51,139	11,444	7,438	1,163	2,910	1,687	644	11,625
<u>GRANT</u>	30,237	6,108	5,256	628	1,772	1,052	433	7,656
<u>LEA</u>	55,655	12,983	6,790	1,329	3,122	1,752	614	11,330
<u>SAN JUAN</u>	120,367	30,686	11,024	3,132	6,501	3,603	1,148	21,892
<u>SANDOVAL</u>	96,071	22,209	10,497	2,254	5,406	3,060	1,041	19,539
<u>SANTA FE</u>	134,525	25,422	15,041	2,579	8,059	4,679	1,614	30,337
<u>VALENCIA</u>	67,578	15,980	7,199	1,617	3,774	2,130	718	13,500

Source: American Lung Association, 2004 Data.

Exceeding NAAQS: Non-attainment

- Non-attainment status results in:
 - ❑ Elevated controls for pollution sources
 - ❑ Increased permitting requirements for new sources
 - ❑ Emission inventory for all sources
 - ❑ Adverse economic impact to non-attainment area
 - ❑ Development of a program and air quality control plan to reestablish attainment
-

Exceeding NAAQS: Natural sources

- EPA's Natural Events Policy (NEP) of 1996
 - Natural events (dust storms) will not count as violations of the PM_{10} standard if reasonable dust control measures are taken and health advisories are issued.
 - Amended in 2007 to include $PM_{2.5}$
 - States must develop a Natural Events Action Plan (NEAP)

Doña Ana County-Natural Events Action Plan (NEAP)

- Purpose
 - Protect Public Health and Welfare
 - Key elements
 - Analysis & Documentation
 - Public Notification & Education
 - Minimize Public Exposure
 - Abatement & Mitigation
 - Periodic Review Prepared for EPA by NMED (Every Five Years)
-

NEAP: Analysis & Documentation

- Causal relationship
 - Measured Exceedance & High Wind Event
- Monitoring
 - Network: Seven PM₁₀ and Five PM_{2.5} Monitors in DAC
 - Weather Data
 - Reporting to EPA
- Public access/review

NEAP: Public Education & Notification

- **Health effects**
 - Short & Long Term
 - Susceptible Populations
- **Natural events**
 - Affect Air Quality
 - Windy Season-Late Winter & Early Spring
 - Happen Regularly
- **Actions**
 - Common Sense Approach
 - Minimize Public Exposure
 - Brochures, Fact Sheets, NEAP Briefing Document, etc
 - Open Houses/Formal Presentations
 - Susceptible Populations & Precautionary Measures
 - Air Quality Index (AQI) & Perception of Dustiness
 - Press Releases & Public Service Announcements
 - Internet: air.nmenv.state.nm.us

NEAP: Abatement & Mitigation

- Common Sources/Activities-Windblown Dust
 - Natural
 - Undisturbed Desert (Highest Winds)
 - Anthropogenic (Man-Made)
 - Construction Sites
 - Vacant Lots/Recreational Areas
 - Unpaved Roads, Playgrounds, Parking & Equipment Lots
 - Military Training Exercises
 - Agriculture
- Best Available Control Measures (BACM)
 - Revegetation and Organic Mulches
 - Erosion Control Mats & Geotextiles
 - Suppressants and Stabilizers
 - Smart Timing-Planning
 - Water

NEAP: Abatement & Mitigation

- Local ordinances
 - Stakeholders and Governments
 - Best Equipped for Development & Implementation of Solutions
 - CLC Ordinance No. 1789 (4/7/00)
 - DAC Ordinance No. 194-2000 (12/15/00)
 - Protect and Maintain Natural Environment & Reduce Negative Health Effects
- Stakeholder agreements
 - NMSU
 - NMDOT
 - Fort Bliss Military Reservation
 - Others

NEAP: Periodic Review

- Every Five Years (2005, 2010, 2015, etc.)
 - 2005 Atlas Project
 - PM Emissions Inventory
 - Agricultural v. Nonagricultural
 - Conclusions
 - Erosion-Largest Source Category (#1 BY-FAR)
 - Road Dust-Paved and Unpaved (Second)
 - Cropland Preparation
 - Construction Activities

NEAP: Periodic Review

- Adequacy
 - Overview of Ordinances and Agreements
- Conclusions
 - Successful First Stage
 - Continued Enforcement Essential
 - DAC NEAP Used as a Model for other SW Air Pollution Agencies
- Future plans
 - Improved Public Outreach & Education (Pro-active)
 - State Wide Regulations
 - Improved Emissions Inventories

Dust Regulations in Western States

	Arizona	Colorado	Idaho	Nebraska	Nevada	North Dakota	Oklahoma	Texas	Utah
Dust Permit Required									
Dust Control Plan Required		X							
Control Measures Defined	X	X	X		X	X		X	X
Agriculture Specifically Exempt				X	X	X	X		X
Unpaved Roads/Parking	X	X	X	X	X	X	X	X	X
Soil Disturbances <1 Acre	X		X	X	X	X	X	X	X
Construction/Large Operations	X	X	X	X	X	X	X	X	X
Vacant Lots	X		X				X	X	
Agriculture Operations	X								
Feedlots/Livestock		X							
Track Out/Paved Roads		X	X				X		X
Materials Storage/Handling	X	X	X	X	X	X	X	X	
Haul Roads	X	X	X	X	X	X	X	X	X
Haul Trucks	X	X	X	X	X	X	X	X	
Mining/Tailing Piles and Ponds	X	X	X			X	X	X	X
Demolition	X	X	X	X	X	X	X	X	X
Blasting Activities	X	X	X	X		X	X	X	
Sand Blasting		X	X				X	X	

Thank you for your participation.

Please Send Comments and questions to Michael Baca

at

michael.baca1@state.nm.us

or

1170 N. Solano Dr. Suite M

Las Cruces, NM 88001

For updates, please visit the NMED-AQB website at:

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