



## Southern New Mexico / Western U.S. Dust Symposium

**October 25-27, 2021**

**11am - 3pm EDT**

Sponsors: NASA Applied Sciences, NM Environment Dept and George Mason University  
A virtual meeting hosted via ZOOM

Time (EDT)	Topic (Speakers)	Moderator
<b>Day 1 (Oct 25, Monday)</b> (11am-3pm EDT)		
<b>Opening: Dust Perspective: Local, National, and Global Perspectives</b>		
11:00-11:10	Welcome and Opening Remarks <i>(Armando Paz / William Sprigg / Daniel Tong)</i>	Daniel Tong (GMU) / Armando Paz (NMED)
11:10-11:20	Welcome from NMED, Air Quality Bureau <i>Michael Baca, Acting Planning Section Chief</i>	
11:20-11:35	Perspective from NASA <i>John Haynes, NASA Health and Air Quality Program</i>	
11:35-11:45	Perspective from World Meteorological Organization (WMO) <i>Alexander Baklanov, WMO Science Directorate</i>	
11:45-11:50	Perspective from George Mason University (GMU) <i>Andre Marshall, GMU Vice President for Research</i>	

**Day 1 Session 1: Regional Stakeholder Plenary Session**  
(11:50am-3pm EDT, Oct 25, Monday)

11:50-12:00	Dust Events on the Lordsburg Playa Based on Time-Lapse Camera Imagery in 2020 and 2021 <i>Dave DuBois, New Mexico State University</i>	Armando Paz (NMED) / William Sprigg (SPC)
12:00-12:15	A Geospatial Climatological Analysis of NWS Dust Products Across the U.S. <i>Laren Reynolds, National Weather Service - El Paso</i>	
12:15-12:30	An Analogue Approach to Forecasting Synoptic Dust Storms <i>Joseph DeLizio, National Weather Service - El Paso</i>	
12:30-12:45	Lordsburg Playa Dust Mitigation Project Update <i>Trent Botkin and Bill Hutchinson, New Mexico Department of Transportation</i>	
12:45-1:05	Road Forks Playa Project <i>Gordon Michaud, Bureau of Land Management</i>	
1:05-1:15	Break (Question & Answer)	
1:15-1:35	Dust Emission Responses to Ecological State Changes in the Chihuahuan Desert <i>Nicholas Webb, USDA Jornada Rangeland Research Programs</i>	
1:35-1:50	US Dust Storm Project <i>Karin Ardon-Dryer, Texas Tech University</i>	
1:50-2:10	Associations of Dust Event Exposures and Hospitalizations <i>Estrella Herrera-Molina, University of Texas El Paso</i>	
2:10-2:30	Association of Drought and Anthropogenic Land-Use with Dust Emissions <i>Tarek Kandakji, Texas Tech University</i>	
2:30-2:45	Dust Squared: An Investigation of Emission, Transport, and Deposition of Mineral Dust in the Intermountain West <i>Greg Carling, Brigham Young University</i>	
2:45-3:00	Question & Answer Session; Day 1 Wrap up.	

<b>Day 2: Session 2: Dust, Air Quality, &amp; Mitigation</b> (11am-1pm EDT, Tuesday Oct 26)		
11:00-11:15	Multiscale Modeling of Dust Storms, Wildfires and Ozone over Southwestern United States <i>Daniel Tong, George Mason University</i>	William Sprigg (SPC) / Scott Van Pelt (USDA)
11:15-11:30	Development of an Aeolian Source Map using the BRDF Albedo from VIIRS and MODIS <i>Barry Baker, NOAA ARL/GMU CISESS</i>	
11:30-11:45	Spatial and Seasonal Variability in Urban and Remote Coarse Aerosol Mass across the United States <i>Jenny Hand, Colorado State University</i>	
11:45-12:00	Dust Composition in the American West <i>Janice Brahney, Utah State University</i>	
12:00-12:15	Dust Aerosol Detection with an Ensemble of Machine Learning Models <i>Pablo Rivas, Baylor University</i>	
12:15-12:30	Detecting Events and Seasonal Trends in Dust and Biomass Burning Plumes Using Aerosol Scattering and Absorption: The (BC) <sup>2</sup> Network in El Paso <i>Rebecca Sheesley, Baylor University</i>	
12:30-12:45	Blowing Dust Events Across West Texas <i>Mary Kelley, Texas Tech University</i>	
12:45-1:00	Impacts of Dust Inputs on Phosphorus Dynamics and Availability in Soils <i>Mike Zhu, University of Wyoming</i>	
<b>Day 2 Session 3: Dust, Transportation, and Infrastructure</b> (1pm-3:20pm EDT, Tuesday Oct 26)		
1:00-1:15	Characterizing the role of wind and dust in traffic accidents in California- <i>Abinash Bhattachan, California State University East Bay</i>	Thomas Gill (UTEP) / Jimmy Li (UTulsa)
1:15-1:30	Arizona DOT Dust Mitigation Project <i>Kevin Duby, Arizona Department of Transportation</i>	

1:30-1:45	A Decade of Dust Forecasting and Collaboration Improvements: A Look Back and Path Forward. <i>Glenn Lader, National Weather Service, Arizona</i>	
1:45-2:00	Dust Storms and Highway Accidents in the United States <i>Irene Feng, George Mason University</i>	
2:00-2:15	Deadly 25 July 2021 Utah Dust Event <i>Kevin Perry, Univ of Utah</i>	
2:15-2:30	Airborne Dust and Aviation Risks <i>Slobodan Nickovic, Republic Hydrometeorological Service of Serbia</i>	
2:30-2:45	Experimental Investigation of Soiling Losses on Photovoltaic Modules with Artificially Deposited Dust of Different Particle Sizes <i>German Rodriguez, University of Texas at El Paso</i>	
<b>Poster Session</b>		
2:45-2:50	Opportunities to Eliminate Windblown Dust, with Ecological Restoration of the Original Native Ecosystems, and Stabilize Soil from Blowing. <i>Craig Dremann, The Reveg Edge</i>	Thomas Gill (UTEP) / Jimmy Li (UTulsa)
2:50-2:55	Solving Dust Issues with Ecological Restoration: Step #1-- Small-Scale Test-Plots <i>Brenda J. Sharp, Brenda Sharp Native Ecotypes, LLC</i>	
2:55-3:00	How Much PM <sub>10</sub> Dust Comes from Cropland? A High-Resolution Simulation Case Study of an Arizona Dust Storm <i>Janak Joshi, George Mason University, Fairfax, VA</i>	
3:00-3:05	Leveraging Deep Learning Technology for Image Recognition: Dust Adaptation <i>Thomas Y Chen, Academy for Mathematics, Science, and Engineering</i>	
3:05-3:10	Climate Impacts and Adaptive Management for Dust <i>Magdalena Muir, Universities of Alaska Fairbanks &amp; Calgary</i>	
3:10-3:15	Post-Fire Wind Erosion: Causes, Consequences, and Application Opportunities <i>Matt Germino, US Geological Survey</i>	

3:15-3:20	<p>Launching a School-based Low-cost Air Pollution Sensor Network in Pima County  <i>Chris Lim, University of Arizona</i></p>	
<p><b>Session 4: Dust and Health (11am-1pm EDT, Wed Oct 27)</b></p>		
11:00-11:15	<p>Update on Valley Fever Epidemiology  <i>Mitsuru Toda, Centers for Disease Control and Prevention</i></p>	<p>Jesse Bell (UNMC) / Ling Ren (GMU)</p>
11:15-11:30	<p>Valley Fever and Climate Change in the Western US  <i>Morgan Gorris, Los Alamos National Laboratory</i></p>	
11:30-11:45	<p>Valley Fever Prediction  <i>Jesse Bell/Qianqian Li, University of Nebraska Medical Center</i></p>	
11:45-12:00	<p>Public Health Surveillance for Coccidioides in New Mexico  <i>Sarah Shrum, University of New Mexico</i></p>	
12:00-12:15	<p>Veterans Administration and Cocci: Clinical Epidemiology and Outcomes  <i>Cynthia Lucero-Obusan, MD CIC, VHA Office of Population Health (10P), Public Health Surveillance and Research</i></p>	
12:15-12:30	<p>Impacts of Dust Emissions on Human Health in South Texas: A Review  <i>Amit Raysoni, The University of Texas Rio Grande Valley</i></p>	
12:30-12:45	<p>Low-Cost Dust Sampling and Laboratory Detection of Dust-Associated Microbiomes  <i>Pat Gillevet/Ling Ren, George Mason University</i></p>	
12:45-1:00	<p>Mineralogy Controlled Uranium Leaching from Inhaled Uranium-Containing Dust Upon Clearance to Gastro-Intestinal Tract  <i>Milton Chandra Das, New Mexico Institute of Mining &amp; Technology</i></p>	

**Session 5: Bridging Research to Operations**  
(1pm-2:30pm EDT, Wed, Oct 27)

1:00-1:10	Pinal & Maricopa County Air Quality Products & Statewide Service <i>Scott DiBiase</i>	William Sprigg (SPC) / Daniel Tong (GMU)
1:10-1:20	Pima County Air Quality Services & Feedback from Public Access to High-Resolution, Beta-Test PM Forecasts <i>Ursula Nelson, Sarah Reitmeyer</i>	
1:20-1:30	Pinal Health Department Perspective <i>Mariana Singletary</i>	
1:30-1:40	A National Perspective on Addressing Valley Fever <i>Brendan Jackson, Centers for Disease Control and Prevention</i>	
1:40-1:50	New Mexico Environment Department Perspective <i>Armando Paz</i>	
1:50-2:00	Arizona Department of Transportation <i>Kevin Duby</i>	
2:00-2:30	Questions & Discussion	