David W. DuBois, Ph.D.
New Mexico State University
Department of Plant & Environmental Sciences
Las Cruces, NM

EDUCATION AND TRAINING

University of Nevada Reno	Atmospheric Sciences	Ph.D. 2003
New Mexico State University	Physics	M.S. 1991
Rutgers University	Physics	B.A. 1988

PROFESSIONAL EXPERIENCE

2016-present	State Climatologist, Associate College Professor, Department of Plant and Environmental Sciences, New Mexico State University, Las Cruces, NM
2010-2016	State Climatologist, Assistant College Professor, Department of Plant and Environmental Sciences, New Mexico State University, Las Cruces, NM
2009-2010	Associate Research Air Quality Scientist, Division of Atmospheric Sciences Desert Research Institute, Las Vegas, NV
2003-2009	Assistant Research Air Quality Scientist, Division of Atmospheric Sciences, Desert Research Institute, Las Vegas, NV
2001-2003	Manager, Dispersion Modeling and Emission Inventory Section, Air Quality Bureau, New Mexico Environment Department, Santa Fe, NM
1999-2001	Environmental Engineering Specialist, Dispersion Modeling and Emission Inventory Section, Air Quality Bureau, New Mexico Environment Department, Santa Fe, NM
1995-1999	Research Assistant, Desert Research Institute, Division of Atmospheric Sciences, Reno, NV
1991-1995	Associate Scientist, SciTec, Inc., Princeton, NJ

STATE CLIMATOLIGIST ACTIVITIES

As the State Climatologist and Director of the New Mexico Climate Center, Dr. DuBois is the first contact person for climatic information in the state of New Mexico. Recently he contributed to New Mexico's Climate Adaptation & Resilience Plan and the 50-year Water Plan for the state. He serves as the Director and oversees the operations, maintenance, and data delivery from the state-wide ZiaMet weather station network. The ZiaMet network has recently expanded to more than 200 weather stations, https://weather.nmsu.edu/ziamet/. Dr. DuBois is involved in STEM outreach, citizen science, and climate literacy programs across the state of New Mexico.

RESEARCH ACTIVITIES

Dr. DuBois maintains an active research program in air quality and climate. He recently led a project to measure PM2.5 at the US/Mexico Bridge of Americas to assess the levels inhaled by Custom and Border Protection staff at the port of entry. He conducted a study for the Texas Commission on Environmental Quality to understand ozone along the US/Mexico border that impacts the USEPA National Ambient Air Quality Standards regional attainment status. He also

directed studies for the New Mexico Department of Transportation to monitor the hazards of dust storms on interstate-10 on the Lordsburg Playa. Dr. DuBois investigated the climatology of extreme heat and the urban heat island. In 2020 he led a project to map the urban heat island in Las Cruces with the help of a team of volunteers. Dr. DuBois is also a co-PI on the Climate Assessment for the Southwest or CLIMAS program covering Arizona and New Mexico. Through CLIMAS, he is currently assisting the New Mexico Acequia Association in leveraging climate products to better manage their waters.

TEACHING and MENTORING

Introduction to Air Pollution, NMSU Environmental Sciences Program, ENVS 460 each year from 2011-present. This is an introductory course on air quality for both graduate and advanced undergraduate students and taught in a classroom setting.

Climate Studies, Water and Society, WSAM/RGSC 575, Fall 2024. The graduate level course provided a brief description of the Earth's climate system, an in-depth review and methodologies used to investigate climate change and variability, evidence of climate change on natural systems, vulnerability of human (e.g., agriculture) and natural systems to climate change, and mitigation and adaptation strategies.

Climate Change Strategies for a Changing World, NMSU Environmental Sciences Program. This course serves as an introduction for students to climate and climate change at the undergraduate and graduate level.

Capstone course for NMSU Engineering students. I have co-taught this capstone course for undergraduate students focusing on a long-term project in the area of Internet of Things.

Taught two-week summer courses at Universidad de La Salle, Bogotá, Colombia in 2016 and 2017. In 2016 I taught Water Security in a Changing Climate and in 2017 World Food Security: Elements of Climate and Climate Change.

New Mexico State University Role as graduate student Primary Advisor:
Environmental Science, 10 MS, 2 Ph.D.
Civil Engineering, 1 MS
Data Science, 1 MS

SERVICE TO COMMUNITY, STATE and NATION

Chairman, Governor's Drought Monitoring Work Group, Responsible for holding a monthly meeting with committee members from federal, state, and tribal agencies to assess the state of drought in New Mexico, since 2011-present

Contributor to the weekly US Drought Monitor in collaboration with the National Weather Service and other federal and state agencies., 2011-present

State coordinator for the Community Collaborative Rain Hail and Snow (CoCoRaHS) network for New Mexico, Responsible for encouraging regional and county coordinators across the state, 2011-present

Voting member of the Joint Advisory Committee (JAC) for the Improvement of Air Quality in the Paso del Norte since 2012. This committee meets quarterly and provides a forum for discussing issues in air quality in the US and Mexico. Related to the JAC, I serve as USEPA Border 2025 co-leader for goal 1, air quality. 2014-present

Secretary, American Association of State Climatologists, 2021-2025

Served on advisory committee and represented the state-level mesonets for the NOAA National Mesonet Program, 2019-2021

Co-founder and outreach chair of the New Mexico section of the American Meteorological Society, 2023-present

Serve on steering committee for the USDA Southwest Climate Hub, 2019-present

Serve on the Acequia Drought Resilience Project Advisory Committee, 2024-present

Founding committee member of the Cambios Climate Change Speaker Series at NMSU, 2019-present

Peer reviewer for Journal of the Air & Waste Management Association, Journal of Aerosol and Air Quality Research, and Atmospheric Chemistry & Physics, International Journal of Climatology, and American Geophysical Union journals

PEER REVIEWED PUBLICATIONS (LAST 5 YEARS)

National Academies of Sciences, Engineering, and Medicine. Panel Members include A. Russell (Chair), S. Aarons, R. Bahreini, D. DuBois, V. Eviner, S. Mahan, T. Moore, G. Okin, D. Or, R.S. Van Pelt, A. Venkatram, and I. Walker (2025). Off-Lake Sources of Airborne Dust in Owens Valley, California. Washington, DC: National Academies Press. https://doi.org/10.17226/27958

Treminio, RS, NP Webb, S Dhital, A Faist, B Newingham, C. Brungard, D DuBois, BL Edwards, E Kachergis (2025) Dust transport pathways from The Great Basin, Aeolian Research, 72, 100958. https://doi.org/10.1016/j.aeolia.2024.100958

Singh, Subraham, G. Johnson, D. DuBois, I.G. Kavouras (2022). Assessment of the contribution of local and regional biomass burning on PM2.5 in New York/New Jersey metropolitan area. Aerosol and Air Quality Research 22, 220121, https://doi.org/10.4209/aaqr.220121

Mokari E., D. DuBois, Z. Samani, H. Mohebzadeh, K. Djaman (2021). Estimation of daily reference evapotranspiration with limited climatic data using machine learning approaches across different climate zones in New Mexico. Theoretical and Applied Climatology, https://doi.org/10.1007/s00704-021-03855-y

Mokari E., H. Mohebzadeh, Z. Samani, D. DuBois, P. Daggupati (2021). Spatiotemporal imputation of MODIS land surface temperature using machine learning techniques (Case study: New Mexico's Lower Rio Grande Valley), Remote Sensing Applications: Society and Environment, Volume 24, 2021, 100651, ISSN 2352-9385, https://doi.org/10.1016/j.rsase.2021.100651

Dinan M., Elias E., Webb N.P., Zwicke G., Dye T.S., Aney S., Brady M., Brown J.R., Dobos R.R., DuBois D., Edwards B.L. (2021). Addressing air quality, agriculture, and climate change across the Southwest and Southern Plains: A roadmap for research, extension, and policy. Bulletin of the American Meteorological Society. Jul;102(7):E1394-401. https://doi.org/10.1175/BAMS-D-21-0088.1

Dormody T.J., P. Skelton, G. Rodriguez, D.W. Dubois, and D. VanLeeuwen. (2021) Assessing the Impact of a Weather and Climate Curriculum on Youth Science Comprehension,

Journal of Agricultural Education, 62(3), 153-166, https://doi.org/10.5032/jae.2021.03153

Darapuneni M.K., O.J. Idowu, B. Sarihan, D. DuBois, K. Grover, S. Sanogo, K. Djaman, L. Lauriault, M. Omer, S. Dodla (2021). Growth Characteristics of Summer Cover Crop Grasses and their Relation to Soil Aggregate Stability and Wind Erosion Control in Arid Southwest. Applied Engineering in Agriculture, Vol. 37(1): 11-23. https://doi.org/10.13031/aea.13972

Dormody T.J., P. Skelton, G. Rodriguez, D.W. DuBois, D. VanLeeuwen (2020). Science Comprehension Retention Among Youth Agriscience Students Instructed in Weather and Climate, Journal of Youth Development, Vol 15, No 6, DOI 10.5195/jyd.2020.902

Flores-Margez, J.P., J.A. Jiménez-Cervantes1, J.A. Hernández-Escamilla, E. Olivas-Enriquez, P. Osuna-Ávila, M.K. Shukla, A. González-Delgado, and D.W. DuBois (2020). Fungal genus detected in soils of Chihuahuan Desert during dust storms along United States-Mexico border. Terra Latinoamericana 38: 725-734. DOI: https://doi.org/10.28940/terra.v38i4.754

FUNDED STUDIES and PROGRAMS AS PI OR CO-PI (LAST 5 YEARS)

Support for the National Mesonet Program, Synoptic Inc., 2015-2026, $224K per year, PI

Earth to Sky Workshop: The Heat is on: Interpreting Climate Change in the Borderlands, NASA, 2025, $9K, PI

Collaborative research: RII Track-2 FEC: Advancing Quality and Climate-Resilient Water Management with Community Partnerships and Enhanced Sensor Network (AQUA-CLIME), NSF EPSCoR, 2024-2028, $596K, PI

Air Quality Assessment: International Bridge of Americas, El Paso, Texas. North American Development Bank, 2023-2024, $35K, co-PI

A Communication Framework for Ecological Drought Information in the Southwestern US. NOAA NIDIS, 2022-2024. $259K, co-PI

Earth to Sky Workshop: Fire, Water, Heat and Hope, Interpreting Climate Change in New Mexico, NASA, 2023, $7K, PI

Cultivating Equitable Responses to Increased Aridity in the US Southwest: The Climate Assessment for the Southwest, NOAA, 2023-2028, $1,201,022, co-PI

Expansion of the ZiaMet mesonet, NOAA, 2022-2023, $1,820,000, PI

Expansion of the ZiaMet weather station network, NM Legislature, 2021-2023, $1,940,000, PI

Participatory Approaches to Agroecosystem Resilience in Times of Drought (ARID): An Example from the Southern Great Plains. USDA-NIFA, 2018-2021, $180K of $1.188M, co-PI

Understanding Regional Linkages between Production Agriculture, Air Quality and Climate, US Department of Agriculture, Agricultural Research Services, 2018-2020, $43K, PI

Application of Forensic Hydrology to Model Weather Conditions, New Mexico Department of Transportation, 2018-2019, $53K, PI

Along Highway Wind Erosion Mitigation for NMDOT District 1, New Mexico Department of Transportation, 2017-2020, $175K, PI

Upper Basin Weather Station Operation and Maintenance, US Bureau of Reclamation, 2017-2020, $10K, PI

HONORS and AWARDS (LAST 5 YEARS)

2023 John C. Frye Memorial Award in Environmental Geology for Bulletin 164: "Climate Change in New Mexico Over the Next 50 Years: Impacts on Water Resources." Authors Nelia Dunbar, David Gutzler, Kristin Pearthree, Fred Phillips, Paul Bauer, Craig Allen, David DuBois, Michael Harvey, J. Phillip King, Leslie McFadden, Bruce Thomson, Anne Tillery

2022 Community Leader Public Health Hero Award, NMSU Department of Public Health Sciences

2021 Outstanding service based on the ARSCO program review for 2021 from the American Association of State Climatologists

2020 Climate Direct Action Award, The Climate Change Leadership Institute