

**Dr. Thomas E. Gill**  
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Department of Geological Sciences and Environmental Science & Engineering Program  
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## EDUCATION

- 1995- 1998 Postdoctoral Training. USDA Agricultural Research Service- Cropping Systems Research Laboratory, Wind Erosion and Water Conservation Research Unit, Lubbock, Texas.  
*Mentor: Dr. Ted M. Zobeck.*
- 1995 Ph.D. University of California at Davis- Earth Science and Resources Graduate Group.  
*Dissertation title: "Dust Generation Resulting from Anthropogenically- Desiccated Playa Systems: Studies of Mono and Owens Lakes, California"*  
*Chair: Dr. Thomas A. Cahill.*
- 1984 B.S. University of California at Davis- Atmospheric Science (with honors).  
Minors: Geology, Geography.

## PROFESSIONAL EXPERIENCE

- 2004- Associate Professor (tenured since 2009): Department of Geological Sciences and Environmental Science and Engineering Ph.D. Program, The University of Texas at El Paso.  
*Accomplishments: Supervised or co-supervised six Ph.D. dissertations in Geological Sciences and Environmental Science and Engineering, and four M.S. theses in Geological Sciences and Environmental Science. Currently supervise one Ph.D. and one M.S. student. Have supervised seventeen graduate and eleven undergraduate student researchers, in total.*
- 2000- 2004 Research Assistant Professor: Department of Civil Engineering / Department of Geosciences (joint), Atmospheric Science Group, and Wind Science and Engineering Research Center, Texas Tech University, Lubbock.  
*Accomplishments: Co-supervised three M.S. theses in Atmospheric Science and Geology. Principal or co-principal investigator of over \$2.2 million in Federal and State grants and contracts.*
- 1998- 2000 Research Associate: Wind Science and Engineering Research Center and Atmospheric Science Group, Texas Tech University, Lubbock.  
*Project: "Windstorm Mitigation Initiative: Wind Erosion/ Integrated Testing for Wind Effects"*  
*Mentor: Dr. Richard E. Peterson.*

- 1995- 1998 Physical Scientist (GS-11): Wind Erosion and Water Conservation Research Unit, Cropping Systems Research Laboratory, United States Department of Agriculture-Agricultural Research Service, Lubbock, Texas.  
*Project:* “Sustainable Agricultural Systems That Reduce Wind Erosion and Dust Emissions”  
*Mentor:* Dr. Ted M. Zobeck.
- 1985- 1995 Postgraduate Researcher: Air Quality Group / Analytical Services Division, Crocker Nuclear Laboratory, University of California- Davis.  
*Projects:* “Air Quality at Mono Lake”: “Interagency Monitoring of Protected Visual Environments”: “Crocker Historical and Archaeological Projects”: “Evaluation of Dust Transport from Toxic Waste Sites”: “Effect of Volcanic Aerosols from Kilauea on the Air Quality of Hawaii Island”: “Impacts of the Mono-Inyo Craters Volcanic Eruptions in the Adjacent White Mountains, CA-NV”: “Analytical Services- Particle-Induced X-ray Emission and X-Ray Fluorescence”: “PIXE Analysis of Volcanic Glass from the Mono-Inyo Craters Region, Eastern California”: “Trace Element Analysis of Deposited Dusts in the Great Basin of California”: “Generation, Characterization and Transport of Owens (Dry) Lake Aerosols”: “Mitigation of Windblown Dust and Reclamation of Public Trust Values at Owens Lake, California”: “Air Quality In The Sierra Nevada Bioregion.”  
*Mentor:* Dr. Thomas A. Cahill.
- 1984- 1985 Volunteer Research Assistant: Department of Geography, University of California- Davis.  
*Project:* “Climatic Water Budget of the Mono Basin, California”  
*Mentor:* Dr. Marlyn L. Shelton.

## **OTHER PROFESSIONAL EXPERIENCE**

- 2014- Professional consulting, “Minority-Serving Institution-Reconstructing Earth’s Climate History Program to Enhance Ocean and Climate Curricula and Provide Authentic Research Opportunities for Faculty and Students”- Ocean Leadership Consortium
- 2014- Organizing Committee; 18<sup>th</sup> International Soil Conservation Organizations (ISCO) Congress, El Paso, TX, May 2015
- 2012- Co-Chair, Pan American Node for Global Dust and Sand Early Warning System Dust Sources, Compositions and Effects Sub-Group; World Meteorological Organization (WMO)
- 2011- Associate Editor, *Aeolian Research*; Elsevier Science Publishers
- 2011- Chair, Graduate Studies Committee, Department of Geological Sciences; UTEP
- 2009- Faculty Participant and Mentor, Climate Studies Geosciences Diversity Project; American Meteorological Society
- 2009- Collaborating Academic Scientist, "Deteccion de tormentas de polvo en imagenes satelitales multiespectrales;" Universidad Tecnico de Chihuahua through CONACYT (Mexican National Science Foundation)

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- 2008- Collaborating Academic Scientist, "Procesos en capas atómicas internas: producción y transferencia de vacantes por impacto de iones pesados en tierras raras;" Universidad Nacional Autónoma de México through CONACYT (Mexican National Science Foundation)
- 2008- Collaborating Academic Scientist, "Empleo de los lantanoideos en la identificación de fuentes emisoras de polvos atmosféricos;" Universidad Nacional Autónoma de México through CONACYT (Mexican National Science Foundation).
- 2007- Contributing Writer; Encyclopedia of Earth (<http://www.eoearth.org>)
- 2006- Global Associate; International Center for Arid and Semiarid Land Studies, Texas Tech University, Lubbock
- 2006- Storm Spotter (advanced certification); National Weather Service El Paso Forecast Office, Santa Teresa, NM
- 2005- Faculty Participant and Mentor, Weather Studies Geosciences Diversity Project; American Meteorological Society
- 2005- Cooperating Academic Scientist, Wind Erosion and Water Conservation Research Unit; USDA Agricultural Research Service, Lubbock and Big Spring, TX
- 2005- Natural Hazards Working Group; International Association of Geomorphologists
- 2004- Member of the Graduate Faculty, Department of Geological Sciences: UTEP
- 2004- Professional Geologist, License No. 3496: Board of Professional Geoscientists, State of Texas
- 2000- Collaborating Academic Scientist, Southwest Climate Impacts Project; United States Geological Survey
- 1999- Adjunct Faculty, The Institute of Environmental and Human Health (TIEHH); Texas Tech University, Lubbock
- 1999- Co-Editor, Bibliography of Aeolian Research; online at <http://www.csrl.ars.usda.gov/wewc/biblio/bar.htm>
- 1987- Country Specialist/Coordinator, Southern and Central Africa Country Coordination Groups; Amnesty International USA
- 1984- Senior Fellow; The Murphy Center for the Codification of Human and Organizational Law, Garrett Park, MD
- 2011- 2014 Graduate Adviser (Graduate Program Director), M.S. programs in Geological Sciences, Geophysics, Environmental Science and Ph.D. program in Geological Sciences; UTEP

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- 2010- 2013 Reviewer/ Evaluator, curriculum materials for K-16 level on climate change and energy-related topics; Inverness Research, Inc., Inverness, CA
- 2001- 2013 Science Adviser; *Earth and Sky* Radio Series (<http://www.earthsky.org>)
- 2012 UTEP Representative; Biennial Heads and Chairs Meeting, American Geophysical Union and American Meteorological Society, Boulder, CO
- 2011- 2012 Pro bono consulting (wind erosion control); HDR Architecture, Inc.
- 2011- 2012 Chair, Personnel Committee, Department of Geological Sciences; UTEP
- 2008- 2011 Member, QUEST (Quantifying and Understanding the Earth SysTem) Working Group on Dust; British Natural Environment Research Council
- 2010 Evaluator; Canadian Environmental Certification Approvals Board, Ottawa
- 2008- 2010 Member of the Scientific Research Committee; American Lung Association of Texas- Western Region, El Paso, TX
- 2009 UTEP representative; 45th Meeting of the Joint Advisory Committee for Improvement of Air Quality in the Cd. Juarez, Chihuahua/ El Paso, Texas/ Doña Ana County, New Mexico Air Basin
- 2009 Joint Session Organizer/Chair, “Aeolian Dust: Transport Processes, Anthropogenic Forces, and Biogeochemical Cycling;” American Geophysical Union Fall Meeting, San Francisco, CA
- 2008- 2009 Reviewer/ Content Provider, development of an online / DVD- based undergraduate Physical Geology course; Dallas County Community College District, Dallas, TX
- 2008 Joint Session Organizer/Chair, “Developments in Aeolian Research: Bridging the Interface between Soil, Sediment, and Atmosphere;” Geological Society of America/ Soil Science Society of America Joint Annual Meeting, Houston, TX
- 2008 Session Convener, “Ephemeral Lakes and Mineral Dust;” International Society for Salt Lake Research- 10th International Conference on Salt Lake Research, Salt Lake City, UT
- 2007 Professional consulting (storm damage assessment); Safeco Business and Home Liability Insurance Company
- 2007 Founding member, participant in the organizing committee for the creation of the Society and drafting bylaws; International Society of Aeolian Research
- 2006- 2007 Professional consulting (expert witness); Dines and Gross P.C.
- 2005- 2006 Faculty mentor, SOARS (Significant Opportunities in Atmospheric Research and Science) program; University Corporation for Atmospheric Research, Boulder, CO
- 1996- 2006 Adjunct Professor and Member of the Graduate Faculty, Department of Geosciences: Texas Tech University, Lubbock

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- 2005 Reviewer: The Good Earth (Earth Science text); McGraw Hill, Inc.
- 2004- 2005 Professional consulting, Research, Development and Engineering Command; U.S. Department of Defense (subcontractor through Texas Tech University)
- 2003- 2005 Participating Guest, Atmospheric Sciences Division; Lawrence Livermore National Laboratory
- 2002 Co-Convener and Symposium Organizer, Fifth International Conference on Aeolian Research (ICAR-5) and Global Change and Terrestrial Ecology Soil Erosion Network (GCTE); Texas Tech University, Lubbock
- 2002 Professional consulting (erosion control); Faegre BD Consulting
- 2001- 2002 Member; Federal Interagency Urban Dispersion Modeling Working Group
- 1995- 2001 Member of the Board of Directors; ECOTEMA, Davis, CA
- 2000 University Representative to Physical Sciences and Mathematics Review Panel, Advanced Research and Advanced Technology Program Evaluation; State of Texas Higher Education Coordinating Board, Austin, TX
- 1999- 2000 Member; National Academic Advisory Committee for Owens Lake Dust Mitigation
- 1998- 2000 Chairman of the Modeling Subcommittee, Admiral Elmo Zumwalt Jr. Memorial National Center for Countermeasures to Chemical and Biological Threats; Texas Tech University, Lubbock
- 1999 Session Co-Chair, "Aeolian Processes and Geomorphology;" Geological Society of America South-Central Section Meeting, Lubbock, TX
- 1998 Professional consulting (land use management and wind erosion control); State of California Department of Justice, Sacramento
- 1993- 1998 Member of the Board of Directors; International Azerbaijan Research and Development Institute, Washington, DC
- 1997 Professional consulting (air sampling); San Joaquin Valley Air Pollution Control District, Modesto, CA
- 1995 Session Co-Chair, "Desert Dust;" American Geophysical Union Fall Meeting, San Francisco, CA
- 1990- 1994 Member of the Board of Directors; Cal Aggie Christian Association, Davis, CA
- 1987- 1994 Pro bono consultant (land use management and wind erosion control); Morrison & Foerster, P.A., Jones & Stokes, California Attorney General's Office, and California State Lands Commission, Sacramento

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- 1990- 1992      Chair, Music Subcommittee, Committee on Arts and Lectures; University of California-Davis
- 1989- 1991      Pro bono consultant (land use management and wind erosion control); Federal-State Interagency Salton Sea Task Force, El Centro, CA
- 1986- 1991      Member, Technical Advisory Group on Mono Lake, Section E (Air Quality); State of California Department of Water Resources, Sacramento
- 1983- 1984      Chair, Chancellor's Disability Programs Administrative Advisory Committee; University of California- Davis

## **PROFESSIONAL AFFILIATIONS**

Air and Waste Management Association (AWMA)  
 American Association for the Advancement of Science (AAAS)  
 American Association for Wind Engineering (AAWE)  
 American Geophysical Union (AGU)  
 American Meteorological Society (AMS)  
 Chihuahuan Desert Research Institute  
 Cloud Appreciation Society  
 El Paso Geological Society (EPGS)  
 Geochemical Society  
 Geological Society of America (GSA)  
 International Association for Geoscience Diversity (IAGD)  
 International Erosion Control Association (IECA)  
 International Society for Salt Lake Research (ISSLR)  
 International Society of Aeolian Research (ISAR) (founding member and member of the organizing committee for the creation of the Society and preparation of its bylaws)  
 New Mexico Geological Society (NMGS)  
 Royal Geographical Society (Great Britain) (Fellow)  
 Sigma Xi  
 Soil and Water Conservation Society (SWCS)  
 Texas Academy of Science (TAS)

## **HONORS**

Maquis Who's Who in America, 2007-  
 Maquis Who's Who in Science and Engineering, 2006 –  
 Academic Keys Who's Who in Sciences Higher Education, 2006  
 Outstanding Editorial Reviewer, American Society of Agricultural Engineers, 2002  
 Switzer Foundation Fellow in Environmental Sciences, 1991-1992  
 University of California, Davis Graduate Opportunity Fellow, 1985-1989  
 University of California, Davis Outstanding Senior Award, 1983-1984  
 University of California Regents Scholar, 1979-1983

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## RESEARCH INTERESTS

My research has always been highly interdisciplinary and collaborative. The primary goal of my research is to improve our understanding of how geomorphology, soil properties, the hydrologic cycle, meteorology, land use and land cover influence the generation and transport of aeolian dust (mineral aerosol) in the Earth system, with particular focus on how these factors impact the physical and biogeochemical properties of dust in southwestern North America. A related interest is the improvement and validation of remote sensing and meteorological modeling tools to detect and trace the generation and transport of dust aerosols. A growing research direction is the investigation of the human and ecosystem health impacts of aeolian dust. My scientific interests also include the geomorphology, sedimentology, and geochemistry of saline lakes, playas and evaporites; the environmental geochemistry, biogeochemistry and analytical chemistry of trace elements in sediments and aerosols; natural resource management in drylands; and applications of atmospheric science to homeland security.

## PUBLICATIONS (\* graduate student author) (\*\* undergraduate student author)

### Published peer-reviewed manuscripts:

0. White, Warren, Nicole P. Hyslop, Krystyna Trzepla, Sinan Yatkin, Randy S. Rarig, Jr., **Thomas E. Gill**, and Lixin Jin, in press. Regional transport of a chemically distinctive dust: gypsum from White Sands, New Mexico (USA). *Aeolian Research*, in press. (Since arrival at UTEP)

1. Li, Wen-Whai, Elaine Hampton, William L. Hargrove, Manuel Pina Jr. and **Thomas E. Gill**, in press. Implementation of Border-Land Air Quality Education and Training Strategies. In: *Proceedings of the 107<sup>th</sup> Annual Meeting of the Air and Waste Management Association*, Long Beach, CA, June 2014, Air and Waste Management Association Publication ACE-13-EF, in press. (Since arrival at UTEP)

2. Charlevoix, Donna, Rajul Pandya, Alison Bridger, **Thomas E. Gill**, Elaine Hampton, Redina Herman, John A. Knox, Wen-Whai Li, and Diane Stanitski, in press. New Directions for The AMS Symposium on Education. *Bulletin of the American Meteorological Society*, doi:10.1175/BAMS-D-13-00273.1 (Since arrival at UTEP)

3. **Gill, Thomas E.**, 2013. Analysis of postage stamps by proton-induced X-ray emission spectrometry. *Smithsonian Contributions to History and Technology*, 57: 83- 90. (**Invited manuscript**) (Since arrival at UTEP)

4. Ginoux, Paul, Joseph M. Prospero, **Thomas E. Gill**, N. Christina Hsu and Ming Zhao, 2012. Global scale attribution of anthropogenic and natural dust sources and their emission rates based on MODIS Deep Blue aerosol products. *Reviews of Geophysics* 50:RG3005, 36 pp., doi:10.1029/2012RG000388 (**Invited manuscript**) (Since arrival at UTEP)

5. \*Rojo, Lila, **Thomas E. Gill**, and Melanie A. Barnes, 2012. Intercomparison of PIXE and ICP-OES analyses of aeolian dust from Owens Lake, California. *Geostandards and Geoanalytical Research* 36(1): 83- 102, doi: 10.1111/j.1751-908X.2011.00058.x (Since arrival at UTEP)

6. Lee, Jeffrey A., Matthew C. Baddock, \*Mbongowo J. Mbuh, and **Thomas E. Gill**, 2012. Geomorphic and land cover characteristics of aeolian dust sources in west Texas and eastern New Mexico, USA. *Aeolian Research* 3(4): 459- 466, doi:10.1016/j.aeolia.2011.08.001 (Since arrival at UTEP)

7. Bullard, Joanna E., Sandy P. Harrison, Matthew C. Baddock, Nick A. Drake, **Thomas E. Gill**, Grant H. McTainsh, and Youbin Sun, 2011. Preferential dust sources: a geomorphological classification

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designed for use in global dust-cycle models. *Journal of Geophysical Research- Earth Surface* 116: F04034, doi:10.1029/2011JF002061, 20 pp. (Since arrival at UTEP)

8. Baddock, Matthew C., **Thomas E. Gill**, Joanna E. Bullard, \*Miguel Dominguez Acosta and \*Nancy I. Rivera Rivera, 2011. Geomorphology of the Chihuahuan Desert based on potential dust emissions. *Journal of Maps* 7: 249- 259, doi:10.4113/jom.2011.1178 (Since arrival at UTEP)

9. \*Esparza, Angel E., Rosa M. Fitzgerald, **Thomas E. Gill**, and \*Javier Polanco, 2011. Use of Light Extinction Method and Inverse Modeling to Study Aerosols in the Paso del Norte Airshed. *Atmospheric Environment* 45(39): 7360- 7369, doi:10.1016/j.atmosenv.2011.07.039 (Since arrival at UTEP)

10. Grineski, Sara E., Joan G. Staniswalis, \*Yanlei Peng, \*Priyangi Bulathsinhala, and **Thomas E. Gill**, 2011. Hospital admissions for asthma and acute bronchitis in El Paso, Texas: Do age, sex, and insurance status modify the effects of dust and low wind events? *Environmental Research* 111(8): 1148- 1155, doi:10.1016/j.envres.2011.06.007 (Since arrival at UTEP)

11. Okin, Gregory S., Joanna E. Bullard, Richard L. Reynolds, John-Andrew C. Ballantine, Kerstin Schepanski, Martin C. Todd, Jayne Belnap, Matthew C. Baddock, **Thomas E. Gill**, and Mark E. Miller, 2011. Dust: Small-scale Processes with Global Consequences. *EOS- Transactions of the American Geophysical Union* 92 (29): 241-242, doi:10.1029/2011EO290001 (Since arrival at UTEP)

12. \*Floyd, Kevin W., and **Thomas E. Gill**, 2011. The association of land cover with aeolian sediment production at Jornada Basin, New Mexico, USA. *Aeolian Research* 3(1): 55- 66, doi:10.1016/j.aeolia.2011.02.002 (Since arrival at UTEP)

13. \*Rivera Rivera, Nancy I., **Thomas E. Gill**, Max P. Bleiweiss, and Jennifer L. Hand, 2010. Source identification of hazardous Chihuahuan Desert dust outbreaks. *Atmospheric Environment* 44: 2457- 2468, doi:10.1016/j.atmosenv.2010.03.019 (Since arrival at UTEP)

14. \*Parham, Thomas L. Jr., Cinzia Cervato, William A. Gallus Jr., Michael Larsen, Jon Hobbs, Pete Stelling, Thomas Greenbowe, Tanya Gupta, John A. Knox, and **Thomas E. Gill**, 2010. The InVEST volcanic concept survey: exploring student understanding about volcanoes. *Journal of Geoscience Education* 58(3): 177- 187. (Since arrival at UTEP)

15. \*Sookbursingh, Rudy, \*Karina Castillo, **Thomas E. Gill**, and Russell R. Chianelli, 2010. Salt separation processes in the saltcedar (*Tamarix ramosissima*). *Communications in Soil Science and Plant Analysis* 41(10): 1271- 1281. (Since arrival at UTEP)

16. **Gill, Thomas E.**, John E. Stout, and \*Porfirio Peinado, 2009. Composition and characteristics of aerosols in the Southern High Plains of Texas (USA). *American Institute of Physics Conference Proceedings* 1099: 255- 258. (Since arrival at UTEP)

17. \*Rivera Rivera, Nancy I., **Thomas E. Gill**, Kristi A. Gebhart, Jenny L. Hand, Max P. Bleiweiss, and Rosa M. Fitzgerald, 2009. Wind modeling of Chihuahuan Desert dust outbreaks. *Atmospheric Environment* 43 (2): 347- 354, doi:10.1016/j.atmosenv.2008.09. (Since arrival at UTEP)

18. Stout, John E., Andrew S. Warren, and **Thomas E. Gill**, 2009. Publication trends in aeolian research: an analysis of the Bibliography of Aeolian Research. *Geomorphology* 105(1): 6- 17, doi:10.1016/j.geomorph.2008.02.015 (Since arrival at UTEP)



19. Lee, Jeffrey A., **Thomas E. Gill**, Kevin R. Mulligan, \*Miguel A. Dominguez, and \*Adriana E. Perez, 2009. Land use/land cover and point sources of the 15 December 2003 dust storm in southwestern North America. *Geomorphology* 105(1): 18- 27, doi:10.1016/j.geomorph.2007.12.016 (*Since arrival at UTEP*)
20. Sawalha, Maather F., Mrinal K. Sengupta, Shin-Ichi Ohira, Ademola D. Idowu, **Thomas E. Gill**, \*Lila Rojo, Melanie Barnes, and Purnendu K. Dasgupta, 2008. Measurement of soil/dust arsenic by gas-phase chemiluminescence. *Talanta* 77: 372- 379. (*Since arrival at UTEP*)
21. \*Haque, M. Nazmul, Jose R. Peralta-Videa, Gary L. Jones, **Thomas E. Gill**, and Jorge L. Gardea-Torresdey, 2008. Screening the phytoremediation potential of desert broom (*Baccharis sarothroides* Gray) growing on mine tailings in Arizona, USA. *Environmental Pollution* 153: 362- 368. (*Since arrival at UTEP*)
22. \*Rojo, Lila, **Thomas E. Gill**, and Dale A. Gillette, 2008. Particle size/composition relationships of wind-eroding sediments, Owens (dry) Lake, California, USA. *X-Ray Spectrometry* 38: 111- 115 (**Invited manuscript**) (*Since arrival at UTEP*)
23. Van Pelt, R.Scott, Ted M. Zobeck, Jerry C. Ritchie, and **Thomas E. Gill**, 2007. Validating the use of <sup>137</sup>Cs measurements to estimate rates of soil redistribution by wind. *Catena* 70: 455- 464. (*Since arrival at UTEP*)
24. \*Dominguez, Miguel A., and **Thomas E. Gill**, 2007. PIXE based geochemical characterization of the pluvial Lake Palomas system, Chihuahua, Mexico. *Proceedings of the 11<sup>th</sup> International Conference on PIXE and its Analytical Applications*, Puebla, Mexico, May 2007, ISBN 978-970-32-5115-5, UNAM Press, Mexico D.F., paper no. PII-33, 4 pp. (*Since arrival at UTEP*)
25. \*Rojo, Lila, **Thomas E. Gill**, and Dale A. Gillette, 2007. Particle size/composition relationships of wind-eroding sediments, Owens Lake, California, USA. *Proceedings of the 11<sup>th</sup> International Conference on PIXE and its Analytical Applications*, Puebla, Mexico, May 2007, ISBN 978-970-32-5115-5, UNAM Press, Mexico D.F., paper no. PII-32, 4 pp. (*Since arrival at UTEP*)
26. **Gill, Thomas E.**, 2007. Analysis of 19th century Mexican postage stamps by PIXE. *Proceedings of the 11<sup>th</sup> International Conference on PIXE and its Analytical Applications*, Puebla, Mexico, May 2007, ISBN 978-970-32-5115-5, UNAM Press, Mexico D.F., paper no. PI-42, 4 pp. (*Since arrival at UTEP*)
27. \*Perez, Adriana E., and **Thomas E. Gill**, 2007. Composition of mineral aerosols generated in the Salt Basin of far west Texas (USA) using PIXE and complementary techniques. *Proceedings of the 11<sup>th</sup> International Conference on PIXE and its Analytical Applications*, Puebla, Mexico, May 2007, ISBN 978-970-32-5115-5, UNAM Press, Mexico D.F., paper no. PI-34, 4 pp. (*Since arrival at UTEP*)
28. \*Rojo, Lila, **Thomas E. Gill**, and Melanie A. Barnes, 2007. Intercomparison of aeolian dust elemental concentrations via PIXE and ICP-AES. *Proceedings of the 11<sup>th</sup> International Conference on PIXE and its Analytical Applications*, Puebla, Mexico, May 2007, ISBN 978-970-32-5115-5, UNAM Press, Mexico D.F., paper no. PI-32, 4 pp. (*Since arrival at UTEP*)
29. **Gill, Thomas E.**, Ted M. Zobeck, and John E. Stout, 2006. Technologies for laboratory generation of dust from geological materials. *Journal of Hazardous Materials* 132: 1- 13. (**Invited manuscript**) (*Since arrival at UTEP*)
30. Chang, Chia- Bo, and **Thomas E. Gill**, 2005. MM5- HPAC simulation experiments. *Meteorology and Atmospheric Physics* 90: 127- 138. (*Since arrival at UTEP*)

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31. Acosta-Martinez, Veronica, Ted M. Zobeck, **Thomas E. Gill**, and Ann C. Kennedy, 2003. Enzyme activities and microbial community structure in semiarid agricultural soils. *Biology and Fertility of Soils* 38: 216-227.
32. **Gill, Thomas E.**, and Zobeck, Ted M., 2003. Catching the wind: new views of aeolian processes. *EOS- Transactions of the American Geophysical Union* 84:110.
33. Prospero, Joseph M., Paul Ginoux, Omar Torres, Sharon E. Nicholson, and **Thomas E. Gill**, 2002. Environmental characterization of global sources of atmospheric soil dust identified with the NIMBUS-7 TOMS absorbing aerosol product. *Reviews of Geophysics* 40: 2-01 – 2-31 (doi: 10.1029/2000RG000095). **(Invited manuscript) (ISI Highly Cited Paper)**
34. **Gill, Thomas E.**, Dale A. Gillette, Tezz Niemeyer, and \*Russell T. Winn, 2002. Elemental geochemistry of wind-erodible playa sediments, Owens Lake, California. *Nuclear Instruments and Methods in Physics Research B*189 (1-4): 209-213.
35. Husar, Rudolf B., D.M. Tratt, Bret A. Schichtel, Stephan R. Falke, F. Li, Daniel Jaffe, Santiago Gasso, **Thomas E. Gill**, N.S. Laulainen, F. Lu, Marith C. Reheis, Y. Chun, Douglas Westphal, Bret N. Holben, C. Geymard, Ian McKendry, Norman Kuring, G.C. Feldman, C. McClain, R.J. Frouin, J. Merrill, David DuBois, Frank Vignola, T. Murayama, Slobodan Nickovic, Willam E. Wilson, Kenneth Sassen, and N. Sugimoto, 2001. The Asian dust events of April 1998. *Journal of Geophysical Research* 106D: 18317-18330. **(ISI Highly Cited Paper)**
36. **Gill, Thomas E.**, Richard L. Reynolds, and Ted M. Zobeck, 2000. Measurements of current and historic settled dusts in west Texas. *Proceedings of the 93<sup>rd</sup> Annual Meeting of the Air and Waste Management Association*, Salt Lake City, UT, June 2000, Air and Waste Management Association Publication VIP-49, Paper No. 175, 15 pp.
37. Zobeck, Ted M., **Thomas E. Gill**, and Thomas W. Popham, 1999. A two-parameter Weibull function to describe airborne dust particle size distributions of the Southern High Plains, USA. *Earth Surface Processes and Landforms* 24(10): 943-955.
38. Niemeyer, Tezz C., Dale A. Gillette, John J. DeLuisi, Young J. Kim, Ward F. Niemayer, Trevor Ley, **Thomas E. Gill**, and Duane Ono, 1999. Optical depth, size distribution and flux of dust from Owens Lake, California. *Earth Surface Processes and Landforms* 24(5): 463-479.
39. Gillette, Dale A., Donald W. Fryrear, **Thomas E. Gill**, Trevor Ley, Thomas A. Cahill, and Elizabeth A. Gearheart, 1997. Relation of vertical flux of particles smaller than 10  $\mu\text{m}$  to total aeolian horizontal mass flux at Owens Lake. *Journal of Geophysical Research* 102D: 26009-26015.
40. Gillette, Dale A., Donald W. Fryrear, Jing Bing Xiou, Paul Stockton, Duane Ono, Paula Helm, **Thomas E. Gill** and Trevor Ley, 1997. Large-scale variability of wind erosion mass flux rates at Owens Lake, 1. Vertical profiles of horizontal mass fluxes of wind-eroded particles with diameter greater than 50  $\mu\text{m}$ . *Journal of Geophysical Research* 102D: 25977-25988.
41. Perry, Kevin D., Thomas A. Cahill, Robert A. Eldred, Dabrina D. Dutcher and **Thomas E. Gill**, 1997. Long-distance transport of Saharan dust to the eastern United States. *Journal of Geophysical Research* 102D: 11225-11238.

42. **Gill, Thomas E.**, 1996. Eolian sediments generated by anthropogenic disturbance of playas: human impact on the geomorphic system and geomorphic impacts on the human system. *Geomorphology*, 17: 207-228.
43. Cahill, Thomas A., **Thomas E. Gill**, Jeffrey S. Reid, Elizabeth A. Gearhart, and Dale A. Gillette, 1996. Saltating particles, playa crusts and dust aerosols at Owens (dry) Lake, California. *Earth Surface Processes and Landforms*, 21: 621-639.
44. Gillette, Dale A., Donald W. Fryrear, Trevor Ley, Thomas A. Cahill, **Thomas E. Gill** and Elizabeth A. Gearhart, 1995. Ratio of vertical flux of PM<sub>10</sub> to total horizontal mass flux of airborne particles in wind erosion. *Proceedings of the 88<sup>th</sup> Annual Meeting of the Air and Waste Management Association*, San Antonio, TX, June 1995, Paper No. 95-TA38.02, 16 pp.
45. **Gill, Thomas E.** and Thomas A. Cahill, 1992. Drying saline lake beds: a regionally-significant PM<sub>10</sub> source. In: J.C. Chow and D.M. Ono (Editors), PM<sub>10</sub> Standards and Nontraditional Particulate Source Controls, *Air & Waste Management Association Transactions Series 22*: 440-454.
46. Dorn, Robert I., David H. Krinsley, Tanzhuo Liu, Steve Anderson, James Clark, Thomas A. Cahill and **Thomas E. Gill**, 1992. Manganese-rich rock varnish does occur in Antarctica. *Chemical Geology* 99: 289-298.
47. Dorn, Robert I., A.J. Timothy Jull, David J. Donahue, Thomas W. Linick, Lawrence J. Toolin, Robert B. Moore, M. Rubin, **Thomas E. Gill**, and Thomas A. Cahill, 1992. Rock varnish at Hualalai and Mauna Kea Volcanoes, Hawaii. *Pacific Science* 46: 11-34.
48. Dorn, Robert I., Thomas A. Cahill, Robert A. Eldred, **Thomas E. Gill**, Bruce H. Kusko, Andrew Bach, and Deborah L. Elliot-Fisk, 1990. Estimating the age of rock varnishes by PIXE, ICP and the electron microprobe. *International Journal of PIXE* 1: 157-195.
49. **Gill, Thomas E.**, Tony N. Tanada, Thomas A. Cahill, Dan Taylor, and Harold Matsuura, 1989. Air quality on Hawaii island during a Kilauea eruption. *Proceedings of the 82<sup>nd</sup> Annual Meeting of the Air and Waste Management Association*, Anaheim, CA, June 1989, Paper #89-66A.04, 15 pp.

#### **Abstracts since arrival at UTEP:**

\*Collins, Joe D., **Thomas E. Gill**, and Richard P. Langford, 2015. Application of end-member mixing analysis (EMMA) of grain-size distributions to characterize site formation processes of Rimrock Draw Rockshelter (35HA3855), Harney Basin, Eastern Oregon. Presented at the Society of American Archaeology 80th Annual Meeting, San Francisco, CA, April 2015.

**Gill, Thomas E.**, \*Nancy I. Rivera Rivera and David J. Novlan, 2014. Differences in Fine- Coarse Aerosol Ratios in Convective and Non-Convective Dust Events in a Desert City. *Eos (Transactions, American Geophysical Union)* 95: (52 supp.): Paper 8030.

\*Rivas, Jose A., **Thomas E. Gill**, Elizabeth J. Walsh, and Robert L. Wallace, 2014. Dust deposition and biota dispersal by wind storms in the Chihuahuan Desert. Abstracts of NOAA 7<sup>th</sup> Biennial Education and Science Forum, Salisbury, MD, October 28, 2014, in press.

\*Spade, Daniela, **Thomas E. Gill**, Robert E. Dumais Jr. and Jason. Knievel, 2014. Improving terrain and land use representation in modeling the playa breeze using the Weather Research and Forecast model.

Abstracts of NOAA 7<sup>th</sup> Biennial Education and Science Forum, Salisbury, MD, October 28, 2014, in press.

Dominguez Acosta, Miguel, \*Adriana Beatriz Soto Diaz, **Thomas E. Gill**, and Sergio Saul Solis, 2014. Características meteorológicas de eventos de tormentas de polvo en la parte centro-norte del desierto chihuahuense durante el periodo 2002 al 2013. Abstracts of the Annual Meeting of the Union Geofísica Mexicana, Puerto Vallarta, Mexico, November 2014, Abstract #0401.

\*Peinado, Porfirio, **Thomas E. Gill**, Jeffrey A. Lee and Miguel Dominguez Acosta, 2014. Geochemical and Physical Properties of Dust Source Sediments in the Chihuahuan Desert and Southern High Plains. Geological Society of America 2014 Annual Meeting, Vancouver, Canada, October 2014, Paper No. 247308.

\*Velarde, Roberto, Richard Arimoto, and **Thomas E. Gill**, 2014. Evaluating global atmospheric transport of plutonium with dust aerosols. Abstracts of the 2014 Goldschmidt Conference, Sacramento, CA, June 2014, *Geochimica et Cosmochimica Acta*, in press.

Walsh, Elizabeth, Michael Moody, Ming-Ying Leung, **Thomas E. Gill** and \*\*Kayla I. Hinson, 2014. Assessment of aridland aquatic biodiversity using second generation sequencing. Abstracts of the 2014 Joint Aquatic Sciences Meeting, Portland, OR, May 21, 2014.

\*Odonmbaku, Abdul A.A., John Walton, Raed Aldouri and **Thomas Gill**, 2014. Estimating Recharge in the Mimbres Basin using Environmental Tracer Isotopes and GIS. Abstracts of the New Mexico Geological Society Spring Meeting, Socorro, NM, April 2014, *New Mexico Geology*, in press.

Lee, Jeffrey A., and **Thomas E. Gill**, 2014. "Causes" of the Dust Bowl Dust Storms: A Physical Geography Interpretation. Abstracts of the Annual Meeting of the Association of American Geographers, Tampa, FL, April 2014, Abstract #56651.

\*Rivas, Jose A. Jr., **Thomas E. Gill**, Elizabeth J. Walsh, and Robert L. Wallace, 2014. Characterization of Dust Transported to El Paso, Texas. Abstracts of the 18th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, American Meteorological Society Annual Meeting, Atlanta, GA, February 2014, Abstract # 236614.

\*Guereque, Mariana, Vernon R. Morris, Rosa M. Fitzgerald, **Thomas E. Gill** and Raed K. Aldouri, 2013. An in-situ investigation of aerosol number density characteristics within Saharan dust storms in the tropical Atlantic ocean. *Eos (Transactions, American Geophysical Union)* 94: (52 supp.): A21A-0006.

White, Warren H., Krystyna Trzepla, Sinan Yatkin, **Thomas E. Gill**, and Lixin Jin, 2013. Trends in Gypsiferous Aerosol Downwind of White Sands, New Mexico. *Eos (Transactions, American Geophysical Union)* 94: (52 supp.): A41G-0152.

Langford, Richard P., **Thomas E. Gill**, and \*Slade B. Jones, 2013. Local Sources of Sediment on Dunes at White Sands National Monument, Integration of Sedimentology and End Member Mixing Analysis. Geological Society of America 2013 Annual Meeting, Denver, CO, October 2013, Paper No. 131-2.

\*\*McKeon, Joshua, Kristen St. John, and **Thomas E. Gill**, 2013. Applications of XRF to Investigate Pleistocene Climate Variability at Hole 1208A, Shatsky Rise, North Pacific Ocean. Geological Society of America 2013 Annual Meeting, Denver, CO, October 2013, Paper No. 128-19.

*Thomas E. Gill, Ph.D.*

White, Warren H., Krystyna Nabaglo-Trzepa, and **Thomas E. Gill**, 2013. Gypsum Aerosol Downwind of White Sands, NM. Abstracts of the 2013 NOAA Earth System Research Laboratory Global Monitoring Annual Conference, Boulder, Colorado, May 2013.

Dominguez Acosta, Miguel, **Thomas E. Gill**, and \*Porfirio Peinado, 2013. Chemical and Physical Characteristics of Sediments from Prevalent Dust Sources in the Central Chihuahuan Desert, Chihuahua, Mexico. Abstracts of the American Geophysical Union Spring Meeting of the Americas, Cancun, Mexico, April 2013, Paper No. NH51C-03.

\*Mockford, Thomas W., Ted M. Zobeck, Jeffrey A. Lee, and **Thomas E. Gill**, 2013. A Laboratory Study of Wind Erosion Dust Emission Rates. Abstracts of the Annual Meeting of the Association of American Geographers, Los Angeles, CA, April 2013, abstract #53434.

Hampton, Elaine M., Wen-Whai Li, **Thomas E. Gill**, and William L. Hargrove, 2013. Buen Ambiente-Buena Salud: An Education-Based Program for Addressing Air Quality in a USA-Mexico Border Metroplex. Abstracts of the 22nd Symposium on Education, American Meteorological Society Annual Meeting, Austin, TX, January 2013, Abstract #213431.

Ginoux, P., J.M. Prospero, **T.E. Gill**, L. Clarisse, C. Clerbaux, P. Coheur, O. Dubovik, and N.C. Hsu, 2012. Global anthropogenic dust sources associated with agriculture and hydrology. *Eos (Transactions, American Geophysical Union)* 93: (52 supp.): A42E-06.

**Thomas E. Gill**, Elizabeth J. Walsh, Robert L. Wallace, Lila Rojo, and \*Jose A. Rivas, 2012. Aeolian transport of invertebrates. *Eos (Transactions, American Geophysical Union)* 93: (52 supp.): A33D-0198.

Meyer, C., J. Gillow, R. Lindeman, J. Sueker, P. Hunter, M. Barkley, A. Thatcher, K. Pratt, \*C. Gaston, K. Prather, and **T. Gill**, 2012. Natural Mitigation of Acidic Mine Soil: Evaluation of the Atmospheric Deposition of Alkaline Minerals. Abstracts of the Society for Environmental Toxicology and Chemistry North America 33<sup>rd</sup> Annual Meeting, Long Beach, CA, November 2012, p. 271.

Richard P. Langford, \*Slade B. Jones, and **Thomas E. Gill**, 2012. Sand Grain Size and Crystallization, Sources and Transport of Gypsum Sand in the White Sands Dune Field. Geological Society of America 2012 Annual Meeting, Charlotte, NC, November 2012, Paper No. 210898.

**Gill, Thomas E.**, and Lee, Jeffrey A., 2012. On The Multiple Causes of the 1930s North American Dust Bowl. Abstracts of the American Quaternary Association 22nd Biennial Meeting, Duluth, MN, June 22, 2012, pp. 64- 65.

\*Anaya, Lisa M., **Thomas E. Gill** and Jasper G. Konter, 2012. Analysis of Atmospheric Dust in the Southwest using Radiogenic Isotopes. Abstracts of NOAA 6th Biennial Education and Science Forum, Tallahassee, FL, March 28, 2012, abstract #P068.

Lee, Jeffrey A., Ted M. Zobeck, **Thomas E. Gill**, Miguel Dominguez Acosta, and \*Porfirio Peinado, 2012. Potential dust production from wind-erodible soils on the Southern High Plains and Chihuahuan Desert: preliminary findings. Abstracts of the Annual Meeting of the Association of American Geographers, New York, NY, Feb. 27, 2012, abstract #47639.

Knox, John A., **Thomas E. Gill**, and David J. Novlan, 2012. Fear of Bouncing: Societal and Scientific Contexts of Wind-Related Bounce House Hazards. Abstracts of the Seventh Symposium on Policy and Socio-Economic Research, American Meteorological Society 92nd Annual Meeting, New Orleans, LA, January 23, 2012, Poster No. 329, Paper No. 202775.

*Thomas E. Gill, Ph.D.*

Ginoux, Paul A., Joseph M. Prospero, **Thomas E. Gill**, and Nai-Yung Christina Hsu, 2011. Natural and anthropogenic dust: from sources to radiative forcing, derived from satellite data and GFDL climate model. *Eos (Transactions, American Geophysical Union)* 92: (52 supp.): A51E-01.

Baddock, Matthew, Jeffrey A. Lee., **Thomas E. Gill**, and \*Joseph Mbuh , 2011. No country for old men: the controls of geomorphology and land use on dust emission in west Texas and eastern New Mexico. Abstracts of the 17<sup>th</sup> Windy Day- The Annual Meeting of the UK Aeolian Research Community, Sheffield, England, October 2011, p. 17.

\*Jones, Slade B., Richard P. Langford and **Thomas E. Gill**, 2011. Correlation of Dune Geomorphology with Grain Size and Distribution, White Sands, New Mexico. *Geological Society of America Abstracts and Programs* 43(5): 280.

Cahill, Thomas A., David E. Barnes, \*Roberto Velarde and **Thomas E. Gill**, 2011. Tracking sources of fugitive dust at Nipomo Mesa, California. Abstracts of the International Symposium on Erosion and Landscape Evolution, September 2011, Anchorage, Alaska, *American Society of Agricultural and Biological Engineers Publication* #711P0311, p. 22.

\*White, Christopher, \*Francisco Alvarez, \*Roberto Velarde, **Thomas Gill** and Evegny Shafirovich, 2011. Combustible Mixtures of Lunar Regolith Simulant JSC-1A with Magnesium. Abstracts of the Combustion Institute's 7<sup>th</sup> National Combustion Meeting, March 2011, Atlanta. GA.

\*Mbuh, Mbongowo, Robert Pavlowsky, Matthew Baddock, Jeffrey Lee, and **Thomas Gill**, 2011. Soil influence and geomorphology of dust sources on the southern High Plains using MODIS imagery from 2001 to 2009. Abstracts of the Association of American Geographers Annual Meeting, Seattle, April 2011, #3276.

Lee, J.A., Matthew C. Baddock, \*Mbongowo Mbuh, **Thomas E. Gill**, \*Samuel C. Whitehead, and \*\*Catherine E. Lee, 2011. Land surface characteristics of aeolian dust sources in West Texas and eastern New Mexico. Abstracts of the Association of American Geographers Annual Meeting, Seattle, April 2011, #5268.

\*Peng, Yanlei, Joan G. Staniswalis, Sara E. Grineski and **Thomas E. Gill**, 2011. A retrospective analysis of the association of dust storms and respiratory hospitalizations in El Paso, Texas, using a case-crossover study design. Abstracts of the Eastern North American Region Spring Meeting of the American Biometric Society (With IMS and Sections of ASA), Miami, FL, March 20- 23, 2011, p.8.

Walsh, Elizabeth, Thomas Schroeder, **Thomas E. Gill**, and Robert L. Wallace, 2011. Dispersal, species diversity, and phylogenetic dispersion of rotifers among small, highly disconnected Chihuahuan Desert habitats. Abstracts of the American Society of Limnology and Oceanography Biannual Aquatic Sciences Meeting, San Juan, PR, February 2011, #8794.

\*Mbuh, Mbongowo, Matthew C. Baddock, Jeffrey A. Lee and **Thomas E. Gill**, 2010. The spatial and temporal variability of dust sources on the Southern High Plains and eastern New Mexico from MODIS imagery. Abstracts of the Annual Meeting of the Great Plains-Rocky Mountain Division of the Association of American Geographers, Lawrence, Kansas, October 2010, pp. 54-55.

Bullard, Joanna E., Sandy P. Harrison, Matthew C. Baddock, Nick Drake, **Thomas E. Gill**, Grant McTainsh, and Youbin Sun, 2010. Preferential dust sources: a geomorphological classification designed

for use in global aerosol models. Abstracts of the VII International Conference on Aeolian Research, Santa Rosa, Argentina, July 2010, p.65.

Lee, Jeffrey, Matthew Baddock, \*Mbongowo Mbuh, **Thomas Gill**, \*Samuel Whitehead, and \*\*Catherine Lee, 2010. Geomorphological and Land Use/Land Cover Characteristics of Aeolian Sources in West Texas and Eastern New Mexico, USA. Abstracts of the VII International Conference on Aeolian Research, Santa Rosa, Argentina, July 2010, p.117.

\*Shekhter, Eugenia G., R. Scott Van Pelt, Keith Pannell, **Thomas E. Gill**, and Melanie A. Barnes, 2010. Attic Dust Analysis Approach for Evaluation of Heavy Metal Deposition on the El Paso Del Norte Region. Abstracts of the VII International Conference on Aeolian Research, Santa Rosa, Argentina, July 2010, p.129.

\*Rivera Rivera, Nancy I., Kristi A. Gebhart, **Thomas E. Gill**, Jenny L. Hand, David J. Novlan, and Rosa M. Fitzgerald, 2010. Analysis of Air Transport Patterns Bringing Dust Storms to El Paso, Texas. Abstracts of the VII International Conference on Aeolian Research, Santa Rosa, Argentina, July 2010, p.143.

Dominguez Acosta, Miguel, **Thomas E. Gill**, and \*Porfirio Peinado, 2010. Geochemistry of Dust Producing Sediments in the Chihuahuan Desert. Abstracts of the 20<sup>th</sup> Congress of the Instituto Nacional de Geoquímica, Mexico, October 2010, Temixco, Mexico. *Actas del INAGEQ (Instituto Nacional de Geoquímica, Mexico)* 16(1): 214.

\*Velarde, Roberto, Philip Goodell, Minghua Ren and **Thomas Gill**, 2010. Evaluating Long Term Transport and Accretion of Radionuclide Bearing Dust by Aeolian Processes, Peña Blanca, Chihuahua, Mexico. Abstracts of the Materials Research Society, Spring Meeting, April 2010, San Francisco, CA, Paper #AA6.15.

Jeffrey A. Lee and **Thomas E. Gill**, 2010. Dust Storms of the Great Plains in the 1930s. Abstracts of the Association of American Geographers, 106<sup>th</sup> Annual Meeting.

\*Whitehead, Samuel C., Matthew Baddock, **Thomas Gill**, \*\*Catherine Lee, Jeffrey Lee, and \*Mbongowo Mbuh, 2010. Source Classification of Dust Plumes on the Llano Estacado of West Texas and Eastern New Mexico. Abstracts of the Association of American Geographers, 106<sup>th</sup> Annual Meeting.

\*Mbuh, Mbongowo, Mathew Baddock, Jeffrey A. Lee, **Thomas E. Gill**, and \*Samuel C. Whitehead, 2010. Spatial and Temporal Variability of Dust Production on the Southern High Plains from 2001 to 2009 using MODIS Satellite Images. Abstracts of the Association of American Geographers, 106<sup>th</sup> Annual Meeting.

\*Peng, Yanlei, Joan G. Staniswalis, Sara E. Grineski, and **Thomas E. Gill**, 2010. A retrospective analysis of the association of dust storms and respiratory hospitalizations in El Paso, Texas, using a case-crossover study design. Abstracts of the 1<sup>st</sup> Environment and Health Symposium, American Meteorological Society Annual Meeting, Atlanta, GA, January 2010, J20.7.

Lee, Jeffrey A., and **Thomas E. Gill**, 2010. What really caused the Dust Bowl? Abstracts of the 22<sup>nd</sup> Conference on Climate Variability and Change, American Meteorological Society Annual Meeting, Atlanta, GA, January 2010, J3.15.

\*Floyd, Kevin W., **Thomas E. Gill**, and Dale A. Gillette, 2009. Particle size distributions of aeolian sediments from five ecosystem types at the Jornada Basin, New Mexico, USA. *Eos (Transactions, American Geophysical Union)* 90: (52 supp.): EP21A-0575.

Pingitore, Nicholas E., Juan W. Clague, **Thomas E. Gill**, Maria A. Amaya, and Thomas A. Cahill, 2009. X-ray absorption spectroscopy of zinc in airborne particulate matter shows tire debris concentrated in > 0.5  $\mu\text{m}$  fraction. *Eos (Transactions, American Geophysical Union)* 90: (52 supp.): EP21A-0573.

Cahill, Thomas A., **Thomas E. Gill**, Nicholas E. Pingitore, Hector A. Olvera, Juan W. Clague, David E. Barnes, Kevin D. Perry, Wen-Whai Li, and Maria A. Amaya, 2009. Size-time-composition resolved study of aerosols across El Paso, Texas in fall 2008. *Eos (Transactions, American Geophysical Union)* 90: (52 supp.): EP21A-0570.

**Gill, Thomas E.**, \*Mbongowo J. Mbuh, \*Miguel A. Dominguez, Jeffrey A. Lee, Matthew C. Baddock, \*\*Catherine E. Lee, \*Sam C. Whitehead, \*Nancy I. Rivera Rivera, and \*Porfirio Peinado, 2009. Geomorphology of MODIS-visible dust plumes in the Chihuahuan Desert- preliminary results. *Eos (Transactions, American Geophysical Union)* 90: (52 supp.): EP21A-0569.

\*Velarde, Roberto, Richard Arimoto, **Thomas E. Gill**, Chang-Hee Kang, and Philip Goodell, 2009. Evaluating global atmospheric transport of plutonium with dust aerosols. *Eos (Transactions, American Geophysical Union)* 90: (52 supp.): EP21A-0559.

Bullard, Joanna, Nick Drake, **Thomas Gill**, and the QUEST Working Group on Dust, 2009. Preferential dust sources in global aerosol models: a new classification based on geomorphology. *Eos (Transactions, American Geophysical Union)* 90: (52 supp.): EP23D-01.

\*Shekhter, Eugenia, R. Scott Van Pelt, Keith Pannell, **Thomas E. Gill**, and Melanie A. Barnes, 2009. Attic Dust Analysis Approach for Evaluation of Heavy Metal Deposition in the El Paso Del Norte Region. Abstracts of the American Chemical Society 65<sup>th</sup> Southwest Regional Meeting, El Paso, Texas, November 2009, 78290.

\*Rojo, Analila, **Thomas E. Gill** and Melanie A. Barnes, 2009. Intercomparison of PIXE and ICP-OES Analyses of Aeolian Dust From Owens (Dry) Lake, California. Abstracts of the American Chemical Society 65<sup>th</sup> Southwest Regional Meeting, El Paso, Texas, November 2009, 76067.

\*Peinado, Porfirio, **Thomas E. Gill** and John E. Stout, 2009. Chemistry of airborne particulate matter in the western plains of Texas using PIXE analysis. Abstracts of the American Chemical Society 65<sup>th</sup> Southwest Regional Meeting, El Paso, Texas, November 2009, 75994.

\*Rivera Rivera, Nancy, Kristi A. Gebhart, **Thomas E. Gill**, Jenny L. Hand, David J. Novlan, and Rosa M. Fitzgerald, 2009. Analysis of air transport patterns bringing dust storms to El Paso, Texas. Abstracts of the Fifth NOAA Education and Science Forum, Washington DC, November, 2009, P2.32.

\*Guereque, Mariana, Rosa Fitzgerald, \*Roberto Perea, Vernon Morris, and **Thomas Gill**, 2009. Particle size distributions observed during the AEROSE V Campaign. Abstracts of the Fifth NOAA Education and Science Forum, Washington DC, November, 2009, P1.47.

Fitzgerald, Rosa M., \*Richard Medina, James Slusser, and **Thomas E. Gill**, 2009. Characterization of Aerosols in the El Paso-Juarez Airshed using the TUV Model in Conjunction with Multi-filter Rotating Shadow Band Radiometers. Abstracts of the American Association for Aerosol Research 28<sup>th</sup> Annual Conference, Minneapolis, MN, October 2009, 718.

*Thomas E. Gill, Ph.D.*



Walsh, Elizabeth A., Robert Wallace, and **Thomas E. Gill**, 2009. Invertebrate community assembly and reset in ephemeral, desert rock pools. Abstracts of the International Conference Rotifera XII, Berlin, Germany, August 2009.

Lee, Jeffrey A., and **Thomas E. Gill**, 2009. Causes of wind erosion in the Dust Bowl. Abstracts of the Association of American Geographers, 105<sup>th</sup> Annual Meeting.

\*Velarde, Roberto, Nicole Sikula, and **Thomas E. Gill**, 2009. Preliminary assessment of wind erosion patterns in coppice dune maneuver areas, White Sands Missile Range, New Mexico. Abstracts of the New Mexico Geological Society Spring Meeting, April 2009, Socorro, NM, *New Mexico Geology* 31: 60- 61.

\*Esparza, Angel E., \*Javier Polanco, Rosa M. Fitzgerald, and **Thomas E. Gill**, 2009. Aerosol characterization in a city influenced by both rural and urban regions. Abstracts of the Eighth Symposium on the Urban Environment, American Meteorological Society 89<sup>th</sup> Annual Meeting, Phoenix, Arizona, January 2009, P1.10. (**Winner, Best Student Poster, Eighth Symposium on the Urban Environment**)

\*Rivera Rivera, Nancy I., Kristi A. Gebhart, **Thomas E. Gill**, Jenny L. Hand, David J. Novlan, and Rosa M. Fitzgerald, 2009. Analysis of air transport patterns bringing dust storms to El Paso, Texas. Abstracts of the Joint Symposium on Urban High Impact Weather, American Meteorological Society 89<sup>th</sup> Annual Meeting, Phoenix, Arizona, January 2009, JP2.6.

\*Perez, Adriana E., and **Thomas E. Gill**, 2009. Salt Flat Basin's contribution to regional dust production and potential influence on dry deposition the Guadalupe Mountains (Texas). Abstracts of the 10<sup>th</sup> International Conference on Salt Lake Research, Salt Lake City, Utah, May 2008. *Natural Resources and Environmental Issues* 15: 118- 119.

\*Gilbert, Joel, **Thomas E. Gill**, David Borrok, Bonnie Frey, Terry Hertel, Maria Lane, Max Bleiweiss, Chris Lehmann, David Gay, and Chintalapalle V. Ramana, 2009. Geochemistry and potential playa sources of the January 7, 2008 Southwestern New Mexico "milky rain." Abstracts of the 10<sup>th</sup> International Conference on Salt Lake Research, Salt Lake City, Utah, May 2008. *Natural Resources and Environmental Issues* 15: 120.

\*Gilbert, Joel H., **Thomas E. Gill**, David Borrok, Bonnie Frey, Terry Hertel, Maria Lane, Max P. Bleiweiss, Chris Lehman, and David Gay, 2008. Geochemistry and potential sources of the January 7, 2008 southwestern New Mexico "Milky Rain." Abstracts of the New Mexico Geological Society Spring Meeting, April 2008, Socorro, NM. *New Mexico Geology* 30: 59- 60.

\*Velarde, Robert, Phil Goodell, Minghua Ren, and **Thomas E. Gill**, 2008. Transport of radionuclide bearing dust by aeolian processes, Peña Blanca, Chihuahua, Mexico: preliminary results. Abstracts of the Materials Research Society 2008 Fall Meeting, December 2008, Boston, Massachusetts, Q10.3.

**Gill, Thomas E.**, John E. Stout, and \*Porfirio Peinado, 2008. PIXE's role in understanding emission characteristics and composition of dust aerosols in western Texas (USA). Abstracts of the 20th Conference on Applications of Accelerators in Research and Industry (CAARI 2008), Fort Worth, Texas, August 2008, p. 35.

Peaslee, Graham F., Paul A. deYoung, \*\*James M. Lunderberg, \*Lila Rojo, **Thomas E. Gill**, and Melanie A. Barnes, 2008. PIXE analysis of lake sediment as a complementary technique for ICP analysis. *Geological Society of America Abstracts and Programs* 40(6): 131.

*Thomas E. Gill, Ph.D.*

\*Dominguez Acosta, Miguel, and **Thomas E. Gill**, 2008. Sedimentological and geochemical assessment of dust sources in the Pluvial Lake Palomas Basin. *Geological Society of America Abstracts and Programs* 40(6): 78.

**Gill, Thomas E.**, \*Miguel Dominguez Acosta, and \*Nancy I. Rivera Rivera, 2008. The Lake Palomas basin: dust engine of the Chihuahuan Desert. *Geological Society of America Abstracts and Programs* 40(6): 78.

Lee, Jeffrey A., and **Thomas E. Gill**, 2008. Multiple causes of the Dust Bowl. *Geological Society of America Abstracts and Programs* 40(6): 24.

Lee, Jeffrey A., Kevin R. Mulligan, and **Thomas E. Gill**, 2008. Aeolian dust point sources: the role of vegetation. Abstracts of the Association of American Geographers, 104th Annual Meeting.

\*Floyd, Kevin W., **Thomas E. Gill**, and Dale A. Gillette, 2007. The relationship of land cover to aeolian dust production at the Jornada Basin, New Mexico, USA. *Eos (Transactions, American Geophysical Union)* 88 (52 supp.): NG41C-0669.

**Gill, Thomas E.** and Jeffrey A. Lee, 2007. Spatial variability of wind erosion during dust events. Abstracts of the Multidisciplinary Workshop on Southern South American Dust, Puerto Madryn, Argentina, October 3-5, 2007, published by CENPAT (Centro Nacional Patagonico, Puerto Madryn, Argentina), p. 11.

\*Dominguez, Miguel A., and **Thomas E. Gill**, 2007. PIXE based geochemical characterization of the pluvial Lake Palomas – Samalayuca dunes corridor System, Chihuahua, México. Abstracts and Programs of the 11th International Conference on PIXE and its Analytical Applications, Puebla, Mexico, May 2007, p. 160.

\*Velarde, Roberto, Philip C. Goodell, **Thomas E. Gill**, and Richard Arimoto, 2007. Wind transport of radionuclide-bearing dust, Peña Blanca, Chihuahua, Mexico. *Eos (Transactions, American Geophysical Union)* 88 (Joint Assembly supp.): GS22A-05.

**Gill, Thomas E.**, and David J. Novlan, 2007. Historic monsoon flooding in El Paso, Texas in 2006-impacts and implications. Abstracts of the Association of American Geographers, 103rd Annual Meeting, pp. 470- 471.

**Gill, Thomas E.** and Jeffrey A. Lee, 2006. A critical evaluation of the Dust Bowl and its causes. *Eos (Transactions, American Geophysical Union)* 87 (52 supp.): A44C-06.

**Gill, Thomas E.**, Robert J. Vet, Pierre E. Biscaye, Max P. Bleiweiss, and Michael Shaw, 2006. Recurrent transcontinental dust transport from southwestern North America to Canada. In: Nickling, William G., S. Turner, John A. Gillies and Michael Puddister, editors, Program and Abstracts of the Sixth International Conference on Aeolian Research, Guelph, Canada, July 2006, p. 150.

\*Rojo, Lila, **Thomas E. Gill**, and Dale A. Gillette, 2006. Particle size and chemistry of aeolian dust from Owens (Dry) Lake, California. In: Nickling, William G., S. Turner, John A. Gillies and Michael Puddister, editors, Program and Abstracts of the Sixth International Conference on Aeolian Research, Guelph, Canada, July 2006, p. 149.

Lee, Jeffrey A., **Thomas E. Gill**, Kevin R. Mulligan, \*Miguel Dominguez Acosta, \*Adriana E. Perez, and \*Alfredo Ruiz, 2006. Land use/land cover and point sources of the 15 December 2003 dust storm in

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southwestern North America. In: Nickling, William G., S. Turner, John A. Gillies and Michael Puddister, editors, Program and Abstracts of the Sixth International Conference on Aeolian Research, Guelph, Canada, July 2006, p. 142.

\*Rivera Rivera, Nancy I., **Thomas E. Gill**, Max P. Bleiweiss, and Jenny L. Hand, 2006. Detection and characterization of dust source areas in the Chihuahuan Desert, southwestern North America, through remote sensing. In: Nickling, William G., S. Turner, John A. Gillies and Michael Puddister, editors, Program and Abstracts of the Sixth International Conference on Aeolian Research, Guelph, Canada, July 2006, p. 140.

\*Dominguez Acosta, Miguel, **Thomas E. Gill**, and Robert Schmidt, 2006. The Lake Palomas - Samalayuca dune corridor system, Chihuahua, Mexico. In: Nickling, William G., S. Turner, John A. Gillies and Michael Puddister, editors, Program and Abstracts of the Sixth International Conference on Aeolian Research, Guelph, Canada, July 2006, p.80.

\*Fernald, Katherine, and **Thomas E. Gill**, 2006. System dynamics modeling of dunefield activation and stabilization. In: Nickling, William G., S. Turner, John A. Gillies and Michael Puddister, editors, Program and Abstracts of the Sixth International Conference on Aeolian Research, Guelph, Canada, July 2006, p. 75.

Stout, John E., Andrew Warren, and **Thomas E. Gill**, 2006. Publication trends in aeolian research: an analysis of the Bibliography of Aeolian Research. In: Nickling, William G., S. Turner, John A. Gillies and Michael Puddister, editors, Program and Abstracts of the Sixth International Conference on Aeolian Research, Guelph, Canada, July 2006, p. 13.

\*\*Canalda, Sabrina M., **Thomas E. Gill**, and \*Sonny P. Emmert, 2006. Long-range transport of particles from regional dust storms originating in the Chihuahuan Desert. Abstracts of the New Mexico Geological Society 2006 Spring Meeting, Socorro, April 2006: *New Mexico Geology* 28(2): 59.

\*Emmert, Sonny P., and **Thomas E. Gill**, 2006. Source apportionment and composition of precipitation and wet deposition in the Paso Del Norte airshed. Abstracts of the Eighth Conference on Atmospheric Chemistry, American Meteorological Society Annual Meeting, Atlanta, GA, January 2006, no. J5.2.

\*Rivera Rivera, Nancy I., **Thomas E. Gill**, Max P. Bleiweiss, Jenny L. Hand, \*Miguel Dominguez Acosta, \*Alfredo Ruiz, \*Adriana E. Perez, \*Sonny P. Emmert, Jeffrey A. Lee, and Kevin R. Mulligan, 2005. Detection and preliminary assessment of source areas of the 15 December 2003 dust storm in the Chihuahuan Desert, southwestern North America. *Eos (Transactions, American Geophysical Union)* 86 (52 supp.): H51C-0389.

Cahill, Catherine F., Young Yee, **Thomas E. Gill**, \*Alfredo Ruiz, \*Sonny P. Emmert, Thomas A. Cahill, Fred Wilson, and Edward Ellison, 2005. Springtime dust aerosols at White Sands Missile Range, New Mexico. *Eos (Transactions, American Geophysical Union)* 86 (52 supp.): P22B- 02.

\*Rojo, Lila, **Thomas E. Gill**, Dale A. Gillette, \*Sonny P. Emmert, and Melanie A. Barnes, 2005. Granulometry and geochemistry of aeolian dust during emission from Owens (dry) Lake, California. *Eos (Transactions, American Geophysical Union)* 86 (52 supp.): P22B- 01.

Lee, Jeffrey A., Kevin R. Mulligan, and **Thomas E. Gill**, 2005. Determining source areas for the west Texas dust storm of 15 December 2003. Abstracts of the Association of American Geographers, 101st Annual Meeting.

*Thomas E. Gill, Ph.D.*

**Gill, Thomas E.**, and Thomas A. Cahill, 2005. A dusty future for the Salton Sea? Lessons learned from Mono and Owens Lakes. Abstracts of the Symposium, "A Salton Sea for the 21st Century: Science, Rehabilitation, Management," sponsored by the U.S. Geological Survey Salton Sea Science Office, San Diego State University Center for Inland Waters, California Department of Water Resources and Water Education Foundation, March 30- April 1, 2005, pp. 12- 13.

Biscaye, Pierre E., Aloys J.M. Bory, **Thomas E. Gill**, and Jörgen-Peder Steffensen, 2004. Did dust from the 1930s US dust bowl make it to Greenland? *Eos (Transactions, American Geophysical Union)* 85 (47 supp.): F1245.

\*Rothman, Gabriel S., **Thomas E. Gill**, and Chia-Bo Chang, 2004. Saharan air layer interaction with Hurricane Claudette (2003). *Eos (Transactions, American Geophysical Union)* 85 (47 supp.): F1222.

### **Peer-reviewed book chapters:**

1. Muhs, Daniel A., Joseph M. Prospero, Matthew C. Baddock and **Thomas E. Gill**, 2014. Identifying sources of aeolian mineral dust: past and present. In: Stuut, Jan-Berend and Peter Knippertz (Editors). *Mineral Dust- A Key Player In The Earth System*. Springer, ISBN 940-17-89770, doi: 10.1007/978-94-017-8978-3\_3, pp. 51- 74. (**Invited book chapter**)

2. Leggoe, Jeremy W., Chia- Bo Chang, Stephen B. Cox, Stephen M. Presley, Richard Zartman, and **Thomas Gill**, 2008. Predicting and characterizing threat transport. In: Robert J. Kendall, Stephen M. Presley, Galen P. Austin, and Philip N. Smith (Editors). *Advances in Biological and Chemical Terrorism Countermeasures*, CRC Press/ Taylor and Francis Publishers, ISBN 978-1420076547, pp. 29- 104. (**Invited book chapter**) (*Since arrival at UTEP*)

### **Other publications (not peer reviewed):**

Knox, John A., **Thomas E. Gill**, and David J. Novlan, in press. Bounce House Injuries: The Role of Weather. Proceedings of the Southeast Division Association of American Geographers Annual Meeting. Roanoke, VA, November 2013. (*Since arrival at UTEP*)

**Gill, Thomas E.**, Miguel Dominguez Acosta, Matthew C. Baddock, Catherine F. Cahill and Warren H. White, 2013. The White Sands as a Dust Emission Hotspot. Resource Briefs- White Sands Science Symposium, Learning Center of the American Southwest, USA National Park Service, published online at [http://www.southwestlearning.org/download\\_product/2233/0](http://www.southwestlearning.org/download_product/2233/0) (*Since arrival at UTEP*)

Langford, Richard, \*Slade Jones, and **Thomas E. Gill**, 2013. Sediment Sources and Transport within the White Sands Dune Field. Resource Briefs- White Sands Science Symposium, Learning Center of the American Southwest, USA National Park Service, published online at [http://www.southwestlearning.org/download\\_product/2237/0](http://www.southwestlearning.org/download_product/2237/0) (*Since arrival at UTEP*)

Van Pelt, R. Scott, and **Thomas E. Gill**, 2013. Editorial: Introduction to the International Symposium on Erosion and Landscape Evolution special issue of *Aeolian Research*. *Aeolian Research* 10:1, doi:10.1016/j.aeolia.2013.02.001 (*Since arrival at UTEP*)

Van Pelt, R. Scott, and **Thomas E. Gill** (Guest Editors), 2013. International Symposium on Erosion and Landscape Evolution. *Aeolian Research* 10(1): 1-60.

*Thomas E. Gill, Ph.D.*

\*Alkhatib, Mohammed Q., Sergio D. Cabrera and **Thomas E. Gill**, 2012. Automated Detection of Dust Clouds And Sources in NOAA-AVHRR Satellite Imagery. In: Proceedings of the 10<sup>th</sup> Southwest Symposium on Image Analysis and Interpretation, IEEE (Institute of Electrical and Electronics Engineers), April 2012, Santa Fe, NM, ISBN 978-1-4673-1830-3, pp. 97- 100, doi:10.1109/SSIAI.2012.6202462 (Since arrival at UTEP)

Dominguez Acosta, Miguel, **Thomas E. Gill**, Edith Flores Tavizon, and Sergio Saul Solis, 2012. Tormentas de Arena. *Hoja Tecnica Ambiental de El Colegio de Chihuahua* 7, 12 pp., ISBN 978-607-8214-11-2. (in Spanish) (Since arrival at UTEP)

Cahill, Thomas A., David E. Barnes, \*Roberto Velarde, and **Thomas E. Gill**, 2011. Tracking sources of fugitive dust at Nipomo Mesa, California. In: *Proceedings of the International Symposium on Erosion and Landscape Evolution*, D.C. Flanagan, J.C. Ascough II and J.L. Nieber (Eds.), American Society of Biological and Agricultural Engineers Publication No. 711P0311CD, paper no. 11022., 8 pp. (Since arrival at UTEP)

\*White, Christopher, \*Francisco Alvarez, \*Roberto Velarde, **Thomas Gill**, and Evegny Shafirovich, 2011. Combustible mixtures of lunar regolith simulant JSC-1A with magnesium. In: Proceedings of the 7<sup>th</sup> US National Technical Meeting of the Combustion Institute, Georgia Institute of Technology, Atlanta, GA, March 2011, Publisher: Curran Associates, ISBN 978-1-61782-780-8, Paper 2F11, Vol. 4, pp. 2346-2351. (Since arrival at UTEP)

\*Roberto Velarde and **Thomas E. Gill**, 2011. Wind Erosion Patterns in Coppice Dune Maneuver Areas. Final Report to White Sands Missile Range, U.S. Army, U.S. Department of Defense, Contract Number W912DY-07-2-0047, April 2011, 176 pp. (Since arrival at UTEP)

Dominguez Acosta, Miguel, **Thomas E. Gill**, and \*Porfirio Peinado, 2010. Geochemical Characterization Of An Aeolian Corridor In Northern Chihuahua, Mexico. *Actas del INAGEQ (Instituto Nacional de Geoquímica, Mexico)* 16(1): 198- 209. (Since arrival at UTEP)

**Gill, Thomas E.**, Timothy W. Collins, and David J. Novlan, 2010. Differential impacts of flash flooding across the *Paso del Norte*. *Southwest Hydrology* 9(1): 20-21, 33. (**Invited manuscript**) (Since arrival at UTEP)

Cahill, Thomas A., Geoff Schadlow, David E. Barnes, Bernie Lee, Jonathan Lawton, Nikki Nguyen, Ceci Chen, \*\*Audrey Chow, \*\*Nate Ellebracht, **Thomas E. Gill**, \*Roberto Velarde, and \*Kevin W. Floyd, 2009. Aerosol Measurements for the Nipomo Mesa/ South County Particulate Study- Phase 2. Final Report to the San Luis Obispo Air Pollution Control District (SLO APCD), December 2009, 101 pp. (Since arrival at UTEP)

**Gill, Thomas E.**, 2009. Atmosphere-Lithosphere Interaction Variability and its Possible Health Effects to Residents of the Paso del Norte Region. In: Jenkins, Jorge J. and Gustavo E. Iturralde, Editors. *Climate Variability and Health: United States – Mexico Border*. Pan-American Health Organization, Quito, Ecuador, ISBN 978-9978-92-732, pp. 33- 39. (Since arrival at UTEP)

**Gill, Thomas E.**, Timothy W. Collins, and David J. Novlan, 2009. Flash flooding in the El Paso-Ciudad Juárez (US-Mexico) border metroplex: variable intensity and differential impacts. *Bulletin of the International Association for Urban Climate* 32: 10- 14. (**Invited manuscript**) (Since arrival at UTEP)

\*Janugani, Swapna, \*Vikram Jayaram, Sergio D. Cabrera, Jose G. Rosiles, **Thomas E. Gill**, and \*Nancy I. Rivera Rivera, 2009. Directional filtering and classification techniques for dust storm detection on

*Thomas E. Gill, Ph.D.*

NOAA-AVHRR imagery. In: Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XV, *Proceedings of the SPIE* 7334, 73341G, doi:10.1117/12.820235, 12 pp. (Since arrival at UTEP)

\*Roberto Velarde and **Thomas E. Gill**, 2009. Wind Erosion Patterns in Coppice Dune Maneuver Areas. Report to the Range and Training Land Assessment Program, Integrated Training Area Management Coordination, White Sands Missile Range, U.S. Department of Defense, Contract Number W912DY-07-2-0047, November 2009, 74 pp. (Since arrival at UTEP)

Nicole Sikula, **Thomas E. Gill**, and \*Roberto Velarde, 2009. Fugitive Dust Emissions Study In a Maneuver Area of White Sands Missile Range, New Mexico. Chapter In: Annual Report of the Range and Training Land Assessment Program, Integrated Training Area Management Coordination, White Sands Missile Range, U.S. Department of Defense. November 2009, 23 pp. (Since arrival at UTEP)

**Gill, Thomas E.**, Timothy W. Collins, and David J. Novlan, 2009. Variable impacts and differential response to flash flooding in the *Paso del Norte* metroplex (El Paso, Texas, USA / Ciudad Juárez, Chihuahua, Mexico). *Preprints of the Annual Meeting Joint Symposium on Geographic Influences on Urban Weather and Climate*, American Meteorological Society, Phoenix, AZ, January 2009, paper J5.3, 5 pp. (Since arrival at UTEP)

\*Rivera Rivera, Nancy I., Kristi A. Gebhart, **Thomas E. Gill**, Jennifer L. Hand, David J. Novlan, and Rosa M. Fitzgerald, 2009. Analysis of air transport patterns bringing dust storms to El Paso, Texas. *Preprints of the Annual Meeting Joint Poster Session on Observations/Studies of High-Impact Weather in Urban Regions*, American Meteorological Society, Phoenix, AZ, January 2009, paper JP2.6, 6 pp. (Since arrival at UTEP)

\*Rivera Rivera, Nancy I., Jennifer L. Hand, Kristi A. Gebhart, **Thomas E. Gill**, Max P. Bleiweiss, and Rosa M. Fitzgerald, 2008. Wind modeling of Chihuahuan Desert dust outbreaks. *Proceedings of the Air and Waste Management Association Conference, "Aerosol and Atmospheric Optics: Visual Air Quality and Radiation,"* Moab, Utah, April 2008, Air and Waste Management Association Publication CP173E, Paper No. 51, 5 pp. (Since arrival at UTEP)

**Gill, Thomas E.**, 2008. Water to dust: the case of Mono Lake. In: Correa, Aderbal C., Agnello, Mary Frances, Todd, Reese, and Peterson, Richard, editors, *Water in Arid and Semiarid Lands- Innovative Approaches and Informed Decision-Making, Proceedings of 2006 International Conference, Lubbock, Texas, USA*, International Center for Arid and Semiarid Land Studies Publication 2008-1, pp. 181- 190. (Since arrival at UTEP)

Novlan, David J., Michael Hardiman, and **Thomas E. Gill**, 2007. A synoptic climatology of blowing dust events in El Paso, Texas from 1932-2005. *Preprints of the 16<sup>th</sup> Conference on Applied Climatology*, American Meteorological Society, January 2007, San Antonio, TX, paper J3.12, 13 pp. (Since arrival at UTEP)

**Gill, Thomas E.**, \*Miguel A. Dominguez, \*Nancy I. Rivera Rivera, and \*Adriana E. Perez, 2007. Investigation of Dust Emission Hotspots in Chihuahuan Desert Playa Basins. Final Report to the Southwest Center for Environmental Research and Policy (SCERP) on Contract No. A-05-03, 240 pp. (Since arrival at UTEP)

**Gill, Thomas E.**, 2006. Potential Fractionation of Heavy Metals in Wind Resuspension of Contaminated Soils, Owens Lake, California. Final Report to the U.S. Department of Energy HBCU/MI Environmental

*Thomas E. Gill, Ph.D.*

Technology Consortium on Cooperative Agreement No. DE-FC02-02EW15254, 53 pp. (*Since arrival at UTEP*)

**Gill, Thomas E.**, 2006. Teaching meteorology at the University of Texas, El Paso. *Preprints of the 15<sup>th</sup> Symposium on Education*, American Meteorological Society, January 2006, Atlanta, GA, paper P1.34, 6 pp. (*Since arrival at UTEP*)

\*Rivera Rivera, Nancy I., Max P. Bleiweiss, Jenny L. Hand, and **Thomas E. Gill**, 2006. Characterization of dust storms' sources in southwestern U. S and northwestern Mexico using remote sensing imagery. *Preprints of the 14<sup>th</sup> Conference on Satellite Meteorology and Oceanography*, American Meteorological Society, January 2006, Atlanta, GA, paper P3.9, 17 pp. (*Since arrival at UTEP*)

**Gill, Thomas E.**, 2004. Dust Sources and Dust Transport in the Chihuahuan Desert and Southern Great Plains of Texas, New Mexico, and Mexico. Report to the U.S. Geological Survey on Contract No. 03CRSA0439, 48 pp. (*Since arrival at UTEP*)

**Gill, Thomas E.**, and Yaping Shao (Guest Editors), 2004. Modeling of Wind Erosion and Aeolian Processes. *Environmental Modeling and Software* 19(2).

\*Rothman, Gabriel S., Chia- Bo Chang and **Thomas E. Gill**, 2004. Saharan air layer interaction with Hurricane Claudette (2003). *Preprints of the 26<sup>th</sup> Conference on Hurricanes and Tropical Meteorology*, American Meteorological Society, May 2004, Miami, FL, paper P1.30, 2 pp.

**Gill, Thomas E.**, Chia- Bo Chang, \*Mark R. Conder, \*Gabriel S. Rothman, Richard E. Peterson, \*David Kook, \*Felecia Evans, Wesley S. Burgett, and John L. Schroeder, 2004. Modeling Airborne Transport of Hazards Using Advanced Atmospheric Monitoring Systems and Numerical Techniques, Phase III. Final Report to the United States Department of Defense on Contract No. DAAD13-03-C-0068, 66 pp.

**Gill, Thomas E.**, Chia Bo Chang, Arthur L. Doggett, \*Mark R. Conder, \*Caleb J. Midgley, Richard E. Peterson, and John L. Schroeder, 2003. Modeling Airborne Transport of Hazards Using Advanced Atmospheric Monitoring Systems and Numerical Techniques, Phase II. Final Report to the United States Department of Defense on Contract No. DAAD13-02-C-0068, 47 pp.

Chang, Chia- Bo, **Thomas E. Gill**, and \*Mark Conder, 2003. West Texas Mesonet observations and four dimensional data assimilation for testing MM5 and HPAC. In: Proceedings of BACIMO 2003 (Battlefield Atmospheric and Cloud Impacts on Military Operations) Conference, Monterey, California, September, 2003, *USA Department of Defense Publication Series*, 12 pp.

Van Pelt, Scott, \*Jesus A. Chavez, Michael E. Ketterer, Rich Arimoto, Ted M. Zobeck, and **Thomas E. Gill**, 2003. Sediment deposition in an attic near a region of dust provenance: Implications for historic regional dust, radionuclide, and trace element dispersion and dry deposition patterns. In: Gobran, G.R. and Lepp, N., eds., *Proceedings of the 7th International Conference on the Biogeochemistry of Trace Elements*, Uppsala, Sweden, June 2003, Vol. 1-III, pp. 312- 313.

White, Bruce R., Hyon M. Cho, and **Thomas E. Gill**, 2003. Sand fences for control of wind erosion and dust emission at Owens Lake, CA: 2. Design and wind tunnel testing. *Proceedings of the 11<sup>th</sup> International Conference on Wind Engineering*, Lubbock, TX, June 2003, vol. 2, p.p. 2781-2788.

**Gill, Thomas E.**, Thomas A. Cahill, Scott A. Copeland, and Bruce R. White, 2003. Sand fences for control of wind erosion and dust emission at Owens Lake, CA: 1. Full-scale testing, field deployment,

*Thomas E. Gill, Ph.D.*

and evaluation of effectiveness. *Proceedings of the 11<sup>th</sup> International Conference on Wind Engineering*, Lubbock, TX, June 2003, vol. 2, pp. 2773-2780.

Van Pelt, R. Scott, Ted M. Zobeck, Jerry C. Ritchie, and **Thomas E. Gill**, 2002. Partitioning of <sup>137</sup>cesium in wind eroded sediments: implications for estimating soil loss. *Proceedings of the 17<sup>th</sup> World Congress of Soil Science*, August 2002, Bangkok, Thailand, pp. 835.01-835.10.

Doggett, Arthur L., **Thomas E. Gill**, Richard E. Peterson, Aloys J.M. Bory, and Pierre E. Biscaye, 2002. Meteorological characteristics of a severe wind and dust emissions event: southwestern USA, 6-7 April 2001. *Preprints of the 21<sup>st</sup> Conference on Severe Local Storms*, August 2002, San Antonio, TX, published by the American Meteorological Society, Boston, pp. 78-80.

Van Pelt, R. Scott, Ted M. Zobeck, and **Thomas E. Gill**, 2002. Patterns of sediment deposition in a rectangular attic near a region of dust provenance: implications for regional deposition patterns and history. In: Lee, Jeffrey A., and Zobeck, Ted M., (Editors), *Proceedings of the Fifth International Conference on Aeolian Research (ICAR 5)/Global Change and Terrestrial Ecology – Soil Erosion Network Joint Conference*, Lubbock, TX, July 2002. *International Center for Arid and Semiarid Lands Studies Publication Series 02-2*, pp. 347-351.

\*Winn, Russell T., **Thomas E. Gill**, and Haraldur R. Karlsson, 2002. High-resolution stable isotope geochemistry of dust from Owens Lake, California. In: Lee, Jeffrey A., and Zobeck, Ted M., (Editors), *Proceedings of the Fifth International Conference on Aeolian Research (ICAR 5)/Global Change and Terrestrial Ecology – Soil Erosion Network Joint Conference*, Lubbock, TX, July 2002. *International Center for Arid and Semiarid Lands Studies Publication Series 02-2*, pp. 352-356.

**Gill, Thomas E.**, Douglas A. Smith, Russell R. Carter, and Richard E. Peterson, 2002. A 200-m tall instrumented tower for atmospheric measurements in wind events. In: Lee, J.A., and Zobeck, Ted M., (Editors), *Proceedings of the Fifth International Conference on Aeolian Research (ICAR 5)/Global Change and Terrestrial Ecology – Soil Erosion Network Joint Conference*, Lubbock, TX, July 2002. *International Center for Arid and Semiarid Lands Studies Publication Series 02-2*, pp. 104-107.

Doggett, Arthur L., \*Mark Conder, **Thomas E. Gill**, Chia- Bo Chang, Richard E. Peterson, and John Schroeder, 2002. Observations of localized thunderstorm outflow in an urban area. *Preprints of the 4<sup>th</sup> Symposium on the Urban Environment*, May 2002, Norfolk, VA, published by the American Meteorological Society, Boston, pp. 7-8.

**Gill, Thomas E.**, Arthur L. Doggett, Chia Bo Chang, \*Mark R. Conder, Richard E. Peterson, Wesley S. Burgett, John L. Schroeder, \*David Radell, and \*Maribel Martinez, 2002. Modeling Airborne Transport of Hazards Using Advanced Atmospheric Monitoring Systems and Numerical Techniques. Final Report to the United States Department of Defense on Contract No. DADD13-01-C-0066, 104 pp.

\*Weinbeck, Stephen, and **Thomas E. Gill**, 2001. Development and Utilization of Digital Camera Technology for Observations of Blowing Dust Events. Report to the U.S. Geological Survey on Contract No. 01CRSA0491, 7 pp.

Chang, Chia- Bo, **Thomas E. Gill**, Arthur L. Doggett, and Richard E. Peterson, 2001. Transport of hazardous substances in the urban atmospheric boundary layer. *Proceedings of the 3<sup>rd</sup> International Symposium on Environmental Hydraulics*, Arizona State University, December 2001, Paper No. 152, 6 pp.



**Gill, Thomas E.**, Chia- Bo Chang, Arthur L. Doggett, and Richard E. Peterson, 2001. Mesoscale processes and transport of substances in the urban atmospheric boundary layer. Proceedings of BACIMO 2001 (Battlefield Atmospheric and Cloud Impacts on Military Operations) Conference, Fort Collins, Colorado, July 2001, *USA Department of Defense Publication ARL-SR-01126*, 15 pp.

Doggett, Arthur L., **Thomas E. Gill**, Chia- Bo Chang, and Richard E. Peterson, 2001. Mesoscale numerical models and field observation platforms to evaluate airborne transport of hazardous substances in the boundary layer. *Preprints of the 9<sup>th</sup> Conference on Mesoscale Processes*, July 2001, Fort Lauderdale, FL, published by the American Meteorological Society, Boston, pp. 202-203.

**Gill, Thomas E.**, Douglas L. Westphal, George Stephens and Richard E. Peterson, 2000. Integrated assessment of regional dust transport from west Texas and New Mexico, spring 1999. *Preprints of the 11<sup>th</sup> Joint Conference on the Applications of Air Pollution Meteorology with the Air and Waste Management Association*, January 2000, Long Beach, CA, published by the American Meteorological Society, Boston, pp. 370-375.

Dixon, Kenneth R., Philip W. Smith, James R. Abbott, Chia Bo Chang, **Thomas E. Gill**, Richard E. Peterson, Arthur L. Doggett, Alan L. Graham, and Jeremy W. Leggoe, 2000. Modeling and Simulation of Chemical and Biological Operations in an Urban Terrain. White Paper prepared for the Defense Modeling and Simulation Office, U.S. Department of Defense, 30 pp.

Frame, Lynn T., Catherine Bens, Louis Chiodo, Richard L. Dickerson, **Thomas E. Gill**, Christopher Martin, Edward O' Hair, and 42 others, 1999. A Program of Countermeasures to Chemical and Biological Agents. White Paper prepared for the President of the United States's Special Oversight Board for the Department of Defense Investigations of Gulf War Chemical and Biological Incidents, 14 pp.

**Gill, Thomas E.**, Ted M. Zobeck, John E. Stout, and James M. Gregory, 1999. Fugitive dust generation in the laboratory. *USDA Digital Technical Publication Series –Proceedings of the International Wind Erosion Symposium/ Workshop*, Manhattan, Kansas, June 1997, 9 pp.

Stout, John E., Ted M. Zobeck, and **Thomas E. Gill**, 1999. The ambient dust study at Lubbock Lake Landmark. In: Traylor, Idriss R. Jr., Dregne, Harold, and Mathis, Kary, editors, Desert Development: The Endless Frontier- Proceedings of the Fifth International Conference on Desert Development, Lubbock, TX, August 1996. *International Center for Arid and Semiarid Land Studies, Texas Tech University Publication Series No. 99-2, Vol. II*, pp. 718-726.

Bernier, Scott A., **Thomas E. Gill** and Richard E. Peterson, 1998. Climatology of dust in the Southern High Plains of Texas. In: Busacca, Alan, editor, Proceedings of the International Conference on Dust Aerosols, Loess Soils and Global Change, Seattle, October 1998, *Washington State University College of Agriculture and Home Economics Miscellaneous Publication 190*, pp. 4-7.

Zobeck, Ted M., **Thomas E. Gill**, John E. Stout, Ann C. Kennedy, and James M. Gregory, 1997. Analysis of laboratory-generated dust suspensions derived from soils and roads. *American Society of Agricultural Engineers Paper 972030*, 18 pp.

Watson, John G., Lowell Ashbaugh, Gary Casuccio, Judith C. Chow, Stephen Francis, Patrick Gaffney, Jamie Fine, **Thomas Gill**, John Gillies, Ron Higashi, Philip K. Hopke, Ann Kennedy, Douglas Lowenthal, Karen Magliano, Philip Roth, John Sagebiel, Dale Shimp, Tony Vancuren, Barbara Zielinska, Stephen Ziman, and Ted Zobeck, 1997. The Fugitive Dust Characterization Study (FDCS): Potential Methods And Research Needs For Receptor Methods To Distinguish Among Fugitive Dust Sources.

*Thomas E. Gill, Ph.D.*

Report to the California Air Resources Board, Sacramento, CA, by Desert Research Institute, Reno, NV, July 21, 1997, 34 pp.

Zobeck, Ted M., John E. Stout, **Thomas E. Gill**, and Donald W. Fryrear, 1996. Measurement and analysis of wind erosion from agricultural processes. In: *Proceedings of the First International Conference on Air Pollution from Agricultural Operations*, Kansas City, February 1996, published by Midwest Plan Service, Iowa State University, Ames, IA, pp. 49-56.

Cahill, Thomas A., John J. Carroll, Dave Campbell, and **Thomas E. Gill**, 1996. Air quality. In: Status of the Sierra Nevada. Sierra Nevada Ecosystem Project, Final Report to Congress, vol. II. Centers for Water and Wildland Resources, University of California, Davis, Wildlands Resource Center Report 37 (vol. II, chapter 48). *U.S. Geological Survey Digital Data Series DDS-043:1227-1261*.

Cahill, Thomas A., **Thomas E. Gill**, Scott A. Copeland, Michael S. Taylor, Kyle S. Noderer, Bruce R. White, Hyon M. Cho, Michael A. Patterson, Gregory A. Torres, Mee Ling Yau, Dabrina D. Dutcher, and Tezz Niemeyer, 1995. Mitigation of Windblown Dusts and Reclamation of Public Trust Values, Owens Lake, California: Partial Mitigation of PM<sub>10</sub> Episodes through Control of Saltating Particles and Reduction of Wind Shear. Report to the California State Lands Commission on Contract #SLC-C-9175, 213 pp.

Cahill, Thomas A., **Thomas E. Gill**, Dale A. Gillette, Elizabeth A. Gearhart, Jeffrey S. Reid, and Mee Ling Yau, 1994. Generation, Characterization and Transport of Owens (dry) Lake Dust. Report to the California Air Resources Board on Contract A-132-105, 166 pp.

Cahill, Thomas, **Thomas Gill**, Jeff Reid and Chris Reyes, 1993. Mitigation of Suspended Particulate Matter at Mono Lake. Report to the SURPRISE program, University of California, Davis, July 1993.

Cahill, Thomas A., **Thomas E. Gill** and Elizabeth Gearhart, 1993. Study of Sand Motion on the South Sand Sheet, Owens Lake. Report to the California Lands Commission on Contract # SLC-C-9175, June 1993.

**Gill, Thomas E.** and Cahill, Thomas A., 1992. Playa-generated dust-storms from Owens Lake. In: Hall, Clarence A., Jr., ed., *The History of Water: Eastern Sierra, Owens Valley, White-Inyo Mountains*, proceedings of the Fourth White Mountain Research Station Symposium, Bishop, CA, April 1992, published by the University of California Press, Los Angeles, pp. 63-73.

Kusko, Bruce H., X. Zeng, **Thomas E. Gill** and Thomas A. Cahill, 1992. PIXE Analysis of Modern and Medieval Brass: Testing "Sir Francis Drake's Plate of Brass." Report to the Director, Bancroft Library, University of California, Berkeley.

**Gill, Thomas E.** and Thomas A. Cahill, 1990. Letter to the Editor: Aral Sea. *National Geographic*, vol. 178, no. 9 (unpaginated section).

Cahill, Thomas A., Otto S. Raabe, John J. Carroll, **Thomas E. Gill**, Stephen V. Teague, Tony N. Tanada, and Scott A. Copeland, 1990. Particulate Transport at Toxic Waste Facilities in California. Report to State of California Department of Health Services on Contract #86-T012.

**Gill, Thomas E.**, Bruce H. Kusko, Charles G. Higgins, Thomas A. Cahill and Seymour Howard, 1988. Site variation in provenance studies: the Carrara Marble example. In: Farqhar, Ronald N., Robert G.V. Hancock and Liam A. Pavlish, eds., *Archaeometry '88: Proceedings of the 26<sup>th</sup> International*

*Archaeometry Symposium*, Toronto, May 1988: published by the University of Toronto Press, pp. 211-219.

Tanada, Tony, **Thomas E. Gill**, Thomas A. Cahill and Kenneth J. Bowers, 1988. The “Hawaii 88” Aerosol Monitoring Project. Report to the State of Hawaii Department of Public Health, 26 pp.

Cahill, Thomas A. and **Thomas E. Gill**, 1987. Air Quality at Mono Lake. Report to the State of California Blue Ribbon Panel on Mono Lake. In: Botkin, Daniel B. *et al.*, 1988. The Future of Mono Lake. *University of California Water Resources Center Report 68*: Appendix D, 127 pp.

**Gill, Thomas E.**, 1984. Landslides, Flood Hazards and Bank Erosion in 1983-4 along lower Las Trampas Creek, Lafayette, Contra Costa County, California. Report to Sun Valley Neighborhood Association, Lafayette, California.

**Gill, Thomas E.**, 1983. Quaternary Volcanism in the Mono-Inyo Craters, Eastern California. Research Report, Department of Geography, University of California, Davis.

**Gill, Thomas E.**, Janet Ashmore and Arthur Lowe, 1981. Program Evaluation Survey of Disabled Students at UC Davis. Report to the Chancellor’s Office, University of California, Davis.

#### **PROFESSIONAL PRESENTATIONS (CONFERENCES/LECTURES)**

2014 *Differences in Fine- Coarse Aerosol Ratios in Convective and Non-Convective Dust Events in a Desert City*. American Geophysical Union Fall Meeting, San Francisco, CA. Oral presentation.

2014 *Geochemical and Physical Properties of Dust Source Sediments in the Chihuahuan Desert and Southern High Plains*. Geological Society of America Annual Meeting, Vancouver, Canada. Oral presentation.

2014 *Evaluating global atmospheric transport of plutonium with dust aerosols*. Goldschmidt Conference, Sacramento, CA. Poster presentation.

2014 *Multiple Causes of the Dust Bowl*. Department of Geography, University of Georgia, Athens, GA. Departmental colloquium. Invited presentation.

2014 *Aerosols in the Earth System*. Department of Geography, University of Georgia, Athens, GA. Departmental seminar. Invited presentation.

2013 *The Role of Land Cover, Land Use, and Landforms in Determining the Sources of Dust Storms*. National Institute of Environmental Health Sciences Workshop on Airborne Mineral Dust Contaminants, Tucson, AZ. Oral presentation. Invited presentation.

2013 *Characterization of Dust Sources in the Chihuahuan Desert*. New Mexico Department of Health Southwest Border Symposium on Air Quality and Climate, Las Cruces, NM. Oral presentation. Invited presentation.

2013 *Buen Ambiente-Buena Salud: An Education-Based Program for Addressing Air Quality in a USA-Mexico Border Metroplex*. American Meteorological Society Annual Meeting, Austin, TX. Oral presentation.

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- 2013 *Applications of XRF to Investigate Pleistocene Climate Variability at Hole 1208A, Shatsky Rise, North Pacific Ocean.* Geological Society of America Annual Meeting, Denver, CO. Poster presentation.
- 2012 *On The Multiple Causes of the 1930s North American Dust Bowl.* American Quaternary Association 22nd Biennial Meeting, Duluth, MN. Poster presentation.
- 2012 *Health Impacts: Can Desert Dust Really Make You Sick?* National Weather Service / Arizona Department of Transportation Dust Storm Workshop, Casa Grande, AZ. Oral presentation. Invited presentation.
- 2012 *Analysis of postage stamps by proton-induced X-ray emission spectrometry (PIXE).* First International Symposium on Analytical Philately, National Postal Museum, Smithsonian Institution, Washington, DC. Oral presentation. Invited presentation.
- 2012 *Accommodating Persons with Disabilities in the Geosciences.* 18<sup>th</sup> Biennial National Meeting of Heads and Chairs of Geoscience Departments, Boulder, CO. Panel discussion. Invited presentation.
- 2011 *Tracking sources of fugitive dust at Nipomo Mesa, California.* International Symposium on Erosion and Landscape Evolution, Anchorage, AK. Oral presentation.
- 2011 *Methodologies for Determining The Source Areas and Characteristics of Mineral Dust.* NOAA Center for Atmospheric Sciences Principal Investigators Meeting, La Parguera, Puerto Rico. Oral presentation. Invited presentation.
- 2011 *Aeolian Dust: Causes and Consequences, from Micrometers to Megameters.* Department of Geology and Geophysics, Texas A&M University, College Station, TX. Departmental seminar. Invited presentation.
- 2010 *What really caused the Dust Bowl?* American Meteorological Society Annual Meeting, Atlanta, GA. Oral presentation.
- 2010 *Differential Impacts of Flash Flooding Across the Paso Del Norte.* Environmental Science and Engineering Program, University of Texas at El Paso. Departmental seminar. Invited presentation.
- 2009 *UTEP Research and Investigations on Dust Events: Implications for Department of Defense Numerical Modeling and Assessment of Aerosols.* Annual Meeting of the NATO Military Meteorology Group Working Group on Battlespace Meteorology, Las Cruces, NM. Oral presentation. Invited presentation.
- 2009 *Geomorphology of MODIS-visible dust plumes in the Chihuahuan Desert- preliminary results.* American Geophysical Union Annual Meeting, San Francisco, CA. Poster presentation.
- 2009 *Atmosphere-Lithosphere Interaction Variability and its Possible Health Effects to Residents of the Paso del Norte Region.* Pan-American Health Organization Binational Conference on Climate Variability and Health along the United States – Mexico Border, El Paso, TX. Oral presentation.

- 2009 *Thirty Years Of Aeolian Dust Research at Owens (Dry) Lake, California: What Have we Learned?* Department of Geosciences, University of Nevada- Las Vegas. Departmental seminar. Invited presentation.
- 2009 *Variable impacts and differential response to flash flooding in the Paso del Norte metroplex (El Paso, Texas, USA / Ciudad Juárez, Chihuahua, Mexico).* American Meteorological Society Annual Meeting, Phoenix, AZ. Oral presentation.
- 2008 *Salt Flat Basin's contribution to regional dust production and potential influence on dry deposition the Guadalupe Mountains (Texas).* 10<sup>th</sup> International Conference on Salt Lake Research, Salt Lake City, UT. Oral presentation.
- 2008 *PIXE's role in understanding emission characteristics and composition of dust aerosols in western Texas (USA).* Twentieth International Conference on Applications of Accelerators in Research and Industry, Fort Worth, TX. Oral presentation. Invited presentation.
- 2008 *PIXE analysis of lake sediment as a complementary technique for ICP analysis.* Geological Society of America Annual Meeting, Houston, TX. Poster presentation.
- 2008 *The Lake Palomas basin: dust engine of the Chihuahuan Desert.* Geological Society of America Annual Meeting, Houston, TX. Oral presentation.
- 2008 *Some aspects of dust source geomorphology and sedimentology in southwest North America.* Joint International Quaternary Association/ QUEST (Quantifying the Earth System- International Geosphere/Biosphere Programme) Workshop on Dust and Climate, Villefranche-Sur-Mer, France. Oral presentation. Invited presentation.
- 2007 *Spatial variability of wind erosion during dust events.* Multidisciplinary Workshop on Southern South American Dust, Puerto Madryn, Argentina. Oral presentation. Invited presentation.
- 2007 *Historic monsoon flooding in El Paso, Texas in 2006- impacts and implications.* Association of American Geographers Annual Meeting, San Francisco, CA. Oral presentation.
- 2007 *Analysis of 19th century Mexican postage stamps by PIXE.* Eleventh International Conference on PIXE and its Analytical Applications, Puebla, Mexico. Poster presentation.
- 2007 *A synoptic climatology of blowing dust events in El Paso, Texas from 1932-2005.* American Meteorological Society Annual Meeting, San Antonio, TX. Oral presentation.
- 2006 *Water to dust: the case of Mono Lake.* International Conference Water in Arid and Semiarid Lands, Lubbock, TX. Oral presentation.
- 2006 *Recurrent transcontinental dust transport from southwestern North America to Canada.* Sixth International Conference on Aeolian Research, Guelph, Canada. Poster presentation.
- 2006 *Investigation of Dust Emission Hotspots in Chihuahuan Desert Playa Basins.* Southwest Center for Environmental Research and Policy Annual Technical Meeting, Tucson, AZ. Oral presentation. Invited presentation.
- 2006 *A critical evaluation of the Dust Bowl and its causes.* American Geophysical Union Fall Meeting, San Francisco, CA. Oral presentation.

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- 2006 *Teaching meteorology at the University of Texas, El Paso.* American Meteorological Society Annual Meeting, Atlanta, GA. Poster presentation.
- 2005 *Springtime Dust Aerosols at White Sands Missile Range, New Mexico.* Battlefield Atmospheric and Cloud Impacts on Military Operations Conference, Monterey, CA. Poster presentation.
- 2005 *Potential Fractionation of Heavy Metals in Wind Resuspension of Contaminated Soils, Owens Lake, California.* U.S. Department of Energy Environmental Technology Consortium Annual Meeting, Washington, DC. Oral presentation.
- 2005 *Granulometry and geochemistry of aeolian dust during emission from Owens (dry) Lake, California.* American Geophysical Union Fall Meeting, San Francisco, CA. Oral presentation.
- 2005 *Deserts and Dust.* El Paso Community College, El Paso, TX. Public lecture. Invited presentation.
- 2005 *A dusty future for the Salton Sea? Lessons learned from Mono and Owens Lakes.* “A Salton Sea for the 21st Century: Science, Rehabilitation, Management,” symposium sponsored by the U.S. Geological Survey, San Diego State University, California Department of Water Resources and Water Education Foundation, San Diego, CA. Oral presentation.
- 2004 *Long-distance dust transport from the Texas- New Mexico- Mexico borderlands.* Department of Geological Sciences Seminar Series, University of Texas- El Paso. Departmental seminar. Invited presentation.
- 2003 *West Texas Mesonet observations and four dimensional data assimilation for testing MM5 and HPAC.* Battlefield Atmospheric and Cloud Impacts on Military Operations Conference, Monterey, CA. Poster presentation.
- 2003 *Sand fences for control of wind erosion and dust emission at Owens Lake, California.* 11<sup>th</sup> International Conference on Wind Engineering, Lubbock, TX. Oral presentation.
- 2003 *Modeling Airborne Transport of Hazards Using Advanced Atmospheric Monitoring Systems and Numerical Techniques: Phase II.* Fourth Annual Meeting of the Consortium for Biological Defense Research, Lubbock, TX. Oral presentation.
- 2002 *Texas Tech University Modeling Program.* Joint Military Forces of Australia, Canada, New Zealand, UK, and USA Technical Panel 9: Chemical-Biological Defense Annual Meeting, Livermore, CA. Oral presentation. Invited presentation.
- 2002 *Observations of localized thunderstorm outflow in an urban area.* American Meteorological Society 4<sup>th</sup> Symposium on the Urban Environment, Norfolk, VA. Poster presentation.
- 2002 *A trans-North-America dust storm 6-7 April 2001: mineral aerosol transport from Mexico and the Southwestern USA to Canada,* American Geophysical Union Fall Meeting, San Francisco, CA. Poster presentation.
- 2002 *A 200-m tall instrumented tower for atmospheric measurements in wind events.* Fifth International Conference on Aeolian Research, Lubbock, TX. Poster presentation.

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- 2001 *Transcontinental Dust Transport Within North America Preceding Dust Transport from Asia to North America, April 2001*. Sino-US Workshop on Dust Storms and Their Effect on Human Health, Raleigh, NC. Oral presentation. Invited presentation.
- 2001 *Mesoscale processes and transport of hazardous substances in the urban atmosphere*. Fifth Transport and Dispersion Modeling Workshop, George Mason University, Fairfax, VA. Oral presentation.
- 2001 *Sources and chemistry of atmospheric aerosol in the Southern High Plains of west Texas, USA*. American Geophysical Union Fall Meeting, San Francisco, CA. Poster presentation.
- 2001 *Modeling Airborne Transport of Hazards Using Advanced Atmospheric Monitoring Systems and Numerical Techniques*. Second Annual Meeting of the Consortium for Biological Defense Research, Tampa, FL. Oral presentation.
- 2001 *Mesoscale processes and transport of substances in the urban atmospheric boundary layer*. Battlefield Atmospheric and Cloud Impacts on Military Operations Conference, Fort Collins, CO. Poster presentation.
- 2001 *Mesoscale processes and transport of hazardous substances in the urban atmosphere*. Fifth Transport and Dispersion Modeling Workshop, Arlington, VA. Oral presentation.
- 2000 *Measurements of current and historic settled dusts in west Texas*. Air and Waste Management Association Annual Meeting, Salt Lake City, UT. Oral presentation.
- 2000 *Integrated assessment of regional dust transport from west Texas and New Mexico, spring 1999*. American Meteorological Society Annual Meeting, Long Beach, CA. Oral presentation.
- 1999 *Present-day aeolian deposition in the Southern High Plains of Texas: first results of a dustfall study*. Geological Society of America South-Central Section Meeting, Lubbock, TX. Poster presentation.
- 1999 *Mineral Aerosol Research Opportunities at a 200-meter Meteorological Tower in a Dusty Region*. International Workshop on Mineral Dust, Fort Collins, CO. Poster presentation.
- 1999 *Implications for Forecasting Spatial and Temporal Variability of Blowing Dust Across the Texas High Plains*. Southern Plains Severe Weather Conference, Lubbock, TX. Poster presentation.
- 1999 *Dust in the Wind: Long-Distance Dust Transport To and From Lubbock, Texas*. Wind Science and Engineering Seminar Series, Texas Tech University, Lubbock. Departmental seminar. Invited presentation.
- 1998 *Sediment texture effect on dust emissions from soils and unpaved roads, Southern High Plains, USA*. Fourth International Conference on Aeolian Research, Oxford, UK. Poster presentation.
- 1998 *Climatology of dust in the Southern High Plains of Texas*. International Conference on Dust Aerosols, Loess Soils and Global Change, Seattle, WA. Poster presentation.
- 1997 *New Techniques for Analysis of Wind Erosion on the Southern High Plains*. Department of Geosciences, Texas Tech University, Lubbock. Departmental colloquium. Invited presentation.

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- 1997 *Laboratory generation and measurement of fugitive dust.* USDA International Wind Erosion Symposium/ Workshop, Manhattan, KS. Poster presentation.
- 1997 *Fatty acid profiles of highly-erodible lands in the Southern High Plains.* American Geophysical Union Fall Meeting, San Francisco, CA. Poster presentation.
- 1997 *Development of Techniques for Distinguishing Among Dust Emission Sources.* California Environmental Protection Agency Regional Particulate Air Quality Study Special Technical Symposium, Sacramento, CA. Oral presentation. Invited presentation.
- 1996 *Microbial fatty acid methyl esters as biomarkers: Application to provenance determination of soil erosion and sediment transport.* Geological Society of America Annual Meeting, Denver, CO. Poster presentation.
- 1996 *Measurement and Analysis of Aeolian Dust Produced by Wind Erosion.* Fifth International Desert Development Conference, Lubbock, TX. Poster presentation.
- 1995 *Testing and evaluation of a fence array system to control dust emission and sand transport on Owens (Dry) Lake.* American Geophysical Union Fall Meeting, San Francisco, CA. Poster presentation.
- 1995 *Dust aerosols from the Aral Sea and Owens (dry) Lake: comparable geophysical aspects of desertification.* American Geophysical Union Fall Meeting, San Francisco, CA. Oral presentation.
- 1994 *Sand motion and PM10 aerosols from Owens (dry) Lake.* International Workshop on Response of Aeolian Processes to Global Change, Zzyzx, CA. Poster presentation.
- 1994 *Eolian sediments generated by desiccation of saline lakes: human impact on the geomorphic system, geomorphic impacts on the human system.* International Workshop on Response of Aeolian Processes to Global Change, Zzyzx, CA. Oral presentation.
- 1994 *Dust storms caused by desiccation of Mono Lake (California).* International Workshop on Response of Aeolian Processes to Global Change, Zzyzx, CA. Poster presentation.
- 1994 *Chemistry of Saltating Grains and Size-Segregated Dust during the Lake Owens Dust Experiment.* International Workshop on the Lake Owens Dust Experiment, Boulder, CO. Oral presentation. Invited presentation.
- 1993 *The Owens Lake Sand Fence Project.* Owens Dry Lake Task Force Annual Meeting, Independence, CA. Oral presentation. Invited presentation.
- 1992 *Playa-generated dust-storms from Owens Lake.* Fourth White Mountain Research Station Symposium, Bishop, CA. Poster presentation.
- 1992 *Geochemistry and Sedimentology of the Owens Lake Playa Deposit.* Symposium on Ecological Remediation of Mono and Owens Lakes, University of California, Davis. Oral presentation. Invited presentation.



- 1992 *Drying saline lake beds: a regionally-significant PM<sub>10</sub> source.* Air and Waste Management Association/ U.S. Environmental Protection Agency International Conference on PM<sub>10</sub> Standards and Nontraditional Particulate Source Controls, Scottsdale, AZ. Oral presentation.
- 1992 *Aerosols on Hawaii island from the eruption of Kilauea.* American Geophysical Union Chapman Conference on Climate, Volcanism and Global Change, Hilo, HI. Poster presentation.
- 1991 *Owens Lake: a natural laboratory for aridification, playa desiccation, and desert dust.* Geological Society of America Annual Meeting, San Diego, CA. Poster presentation.
- 1991 *Geochemical analysis methods used for the search for ancient monuments in Etruria.* Geological Society of America Cordilleran Section Meeting, San Francisco, CA. Poster presentation.
- 1990 *PIXE analysis of tephra erupted during 1988-89 from Lonquimay (Chile).* American Geophysical Union Spring Meeting, Baltimore, MD. Poster presentation.
- 1990 *Future PM<sub>10</sub> Concerns at the Salton Sea.* Salton Sea Interagency Task Force Meeting, El Centro, CA. Oral presentation. Invited presentation.
- 1990 *Eolian dusts generated from playa sediments at Mono Lake, California.* Geological Society of America Cordilleran Section Meeting, Tucson, AZ. Poster presentation.
- 1990 *Effect of Kilauea's ongoing eruption on the air quality of Hawaii.* 30th International Volcanological Congress, Mainz, Germany. Poster presentation. Invited presentation.
- 1989 *Factors related to particulate source strength at Mono Lake.* Southern California Academy of Sciences Annual Meeting, Thousand Oaks, CA. Oral presentation. Invited presentation.
- 1989 *Air quality on Hawaii Island during a Kilauea eruption.* Air and Waste Management Association Annual Meeting, Anaheim, CA. Poster presentation.
- 1988 *Site variation in provenance studies: the Carrara Marble example.* 26<sup>th</sup> International Archaeometry Symposium, Toronto, Canada. Poster presentation.
- 1987 *Particulate episodes at Mono and Owens Lakes, California.* American Geophysical Union Fall Meeting, San Francisco, CA. Poster presentation.
- 1986 *Dust storms at Mono Lake, California.* Binghamton Geomorphology Symposium on Aeolian Geomorphology, Guelph, Canada. Poster presentation.
- 1986 *Air Quality in the Mono Basin.* Meeting of the National Academy of Sciences Blue Ribbon Panel on Mono Lake, Santa Barbara, CA. Oral presentation. Invited presentation.

## **RESEARCH FUNDING**

### **Extramural**

- 2006- 2016 NOAA, "NOAA Cooperative Center for the Atmospheric Sciences" (Role: Institutional Co-I: PI: Morris)

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- 2013- 2015 NASA-National Climate Assessment, “Development and testing of dust activity indicators for the Western United States” (Role: Co-I; PI: Tong)
- 2011- 2013 Stanford Linear Accelerator Center- Beamtime Grant, “Heavy transition metals, rare earths and heavy elements in size in time resolved aerosol samples” (Role: Co-PI; PI: Cahill)
- 2009- 2012 NASA-Hurricane Science, “The Impact of the Saharan Air Layer on Tropical Cyclone Intensification” (Role: Co-I; PI: Chen)
- 2009- 2011 Department of Defense- US Army Corps of Engineers, “Wind Erosion in the Future Combat Systems Maneuver-to-Test Area” (Role: PI)
- 2008- 2011 NSF-MRI, “Acquisition of a LA-ICP-MS for Innovative, Interdisciplinary Research at UTEP: Student Training, Faculty Development, Institutional Excellence” (Role: Collaborator; PI: Borrok)
- 2008- 2011 NIH-NIEHS-ARCH, “Asthma, Dust, and El Paso: Innovative Analysis of Airborne Particulates” (Role: Pilot Project PI; PI: Pingitore)
- 2008- 2011 Texas Higher Education Coordinating Board- Norman Hackerman Advanced Research Projects, “Database Development of Wind Erosion Source Areas in the Southern High Plains and Chihuahuan Desert” (Role: PI)
- 2008- 2011 Southwest Center for Environmental Research and Policy- US EPA, “Investigating the Health Effects of Dust Storms in El Paso, Texas and Ciudad Juárez, Chihuahua” (Role: Co-PI; PI: Grineski)
- 2007- 2009 Department of Defense- US Army Corps of Engineers, “Wind Erosion Patterns in Coppice Dune Maneuver Areas” (Role: PI)
- 2005- 2007 Southwest Center for Environmental Research and Policy- US EPA, “Investigation of Dust Emission Hotspots in Chihuahuan Desert Playa Basins” (Role: PI)
- 2004- 2006 Department of Energy- HBCU/MI, “Potential Fractionation of Heavy Metals in Wind Resuspension of Contaminated Soils” (Role: PI)
- 2003- 2004 US Geological Survey, “Dust Sources and Dust Transport In The Chihuahuan Desert and Southern Great Plains of Texas, New Mexico and Mexico” (Role: PI)
- 2002- 2004 NSF-IGERT, “Multidisciplinary Program in Wind Science and Engineering” (Role: Collaborator; PI: Mehta)
- 2002- 2004 NIST, “Windstorm Mitigation Initiative- Hurricane and Weather Phenomena” (Role: Co-PI; PI: Schroeder)
- 2000- 2004 Department of Defense- US Army Research, Development and Engineering Command, “Modeling Airborne Transport of Hazards using Advanced Atmospheric Monitoring Systems and Numerical Techniques” (Role: PI)

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- 1999- 2004 NIST, “Windstorm Mitigation Initiative- Development of Database with Integrated Testing” (Role: Investigator to Co-PI; PI: Smith)
- 2001 US Geological Survey, “Development and Utilization of Digital Camera Technology for Observations of Blowing Dust Events” (Role: PI)
- 2000- 2002 Texas Higher Education Coordinating Board- Advanced Research Projects, “Geochemical Fractionation of Dust at the Surface of a Wind-Eroding Playa” (Role: PI)
- 1999- 2001 NIST, “Windstorm Mitigation Initiative- Development of Database with Integrated Testing (Role: Investigator; PI: Smith)
- 2000 Texas Higher Education Coordinating Board- Advanced Research Projects, “Supplemental Grant for Employment of High School Science and Mathematics Teachers” (Role: PI)
- 1998- 1999 NIST, “Windstorm Mitigation Initiative- Wind Erosion” (Role: Investigator; PI: Peterson)
- 1998- 1999 NIST, “Windstorm Mitigation Initiative- Integrated Testing for Wind Effects” (Role: Investigator; PI: Smith)
- 1998 California Department of Justice, “Scientific Background for Mitigation of Degraded Sites in the Great Basin” (Role: Investigator; PI: Cahill)
- 1997 San Joaquin Valley Air Quality Consortium, “Development of Techniques for Distinguishing Among Dust Emissions Sources” (Role: Co-PI; PI: Zobeck)
- 1994- 1995 USDA Forest Service- Sierra Nevada Ecosystem Project, “Air Quality in the Sierra Nevada Bioregion” (Role: Investigator; PI: Cahill)
- 1993- 1995 California Lands Commission. “Mitigation of Windblown Dust and Reclamation of Public Trust Values at Owens Lake, California” (Role: Investigator; PI: Flocchini)
- 1991- 1994 California Environmental Protection Agency, “Collaborative Owens Lake Aerosol Study: Generation, Characterization and Transport of Owens (Dry) Lake Aerosols” (Role: Project Manager; PI: Cahill)
- 1988- 1989 Hawaii Department of Health, “Effect of Volcanic Aerosols from Kilauea on the Air Quality of Hawaii Island” (Role: Investigator; PI: Cahill)
- 1987- 1988 California Department of Health Services, “Evaluation of Dust Transport from Toxic Waste Sites” (Role: Project Manager; PI: Cahill)
- 1985- 1987 Community and Organization Research Institute, “Air Quality at Mono Lake” (Role: Project Manager; PI: Cahill)

### **Intramural**

*Thomas E. Gill, Ph.D.*

- 2013- 2014 UTEP Interdisciplinary Research (IDR) Grants, “Assessment of aridland aquatic biodiversity using second generation sequencing” (Role: Co-PI; PI: Walsh)
- 1991- 1992 UC Davis Faculty Research Grants, “Trace Element Analysis of Deposited Dusts in the Great Basin of California” (Role: Investigator; PI: Cahill)
- 1987- 1988 UC Davis Faculty Research Grants, “PIXE Analysis of Volcanic Glass from the Mono-Inyo Craters Region, Eastern California” (Role: Investigator; PI: Bettinger)

### **Pending**

- 2015- 2019 NSF, “Collaborative Research: Water, wind, and earth — partitioning aridland zooplankton biodiversity.” (Role: Co-PI; PI: Walsh)
- 2015- 2017 NASA, “Understanding the interannual variability and trend in dust storm activity in the Western United States” (Role: Co-I; PI: Tong)
- 2015- 2017 USDA-NIFA, “Biological and biochemical evaluation of dust and soil sources: Potential impacts on agronomic and ecological health” (Role: Co-PI; PI: Moore-Kucera)
- 2014- 2020 NSF-MRI, “Acquisition of a 3D X-Ray Microscope to Advance Interdisciplinary Research and Education in Science and Engineering” (Role: Collaborator; PI: Stafford)
- 2014- 2016 Southern Plains Transportation Center, “Impact of Windblown Dust on Highway Safety in the Southern Plains” (Role: Co-PI; PI: Li)
- 2014- 2016 NIH-R21, “Effects of Acute and Chronic Exposure to Volcanic Emissions on Child Cardiovascular and Respiratory Health” (Role: Co-PI; PI: Weigel)

### **TEACHING EXPERIENCE**

- 2004- Associate Professor (tenured since 2009) and Member of the Graduate Faculty; The University of Texas at El Paso, Department of Geological Sciences and Environmental Science and Engineering Doctoral Program.  
*Courses: Undergraduate- Principles of Earth Sciences I, Principles of Earth Sciences I Laboratory, Weather and Climate, Weather and Climate Laboratory, Meteorology; Undergraduate and Graduate (joint)- Climate Science, Climate Science Laboratory, Arid Lands, Topics in Geological Sciences- Meteorology and Atmospheric Processes, Topics in Geological/ Environmental Sciences- Palaeoclimatology; Graduate- Environmental Geology, Atmospheric Processes, Selected Topics in Geological Sciences- Aeolian Processes, Seminar in Environmental Science and Engineering, Seminar in Geological Sciences.*
- 1996- 2006 Adjunct Professor/ Member of the Graduate Faculty; Texas Tech University, Department of Geosciences  
*No organized courses: supervision of graduate student research and theses only.*

## OVERVIEW OF TEACHING LOAD SINCE ARRIVAL AT UTEP IN 2004

| SEMESTER    | COURSE                   | TITLE   | FORMAT                         | ENROLL     | CONTACT<br>(HRS/ WK) |
|-------------|--------------------------|---|--------------------------------|------------|----------------------|
| Fall 2004   | GEOL 1303                | Principles of Earth Sciences I  | Lecture/<br>Laboratory         | 32         | 4                    |
|             | ESE 6396                 | Doctoral Research in<br>Environmental Science and<br>Engineering              | Laboratory                     | 2          | 3                    |
| Spring 2005 | GEOL 4315/<br>5315/ 6315 | Topics in Geological Sciences-<br>Atmospheric and Meteorological<br>Processes | Lecture                        | 15         | 3                    |
|             | ESE 6396                 | Doctoral Research in<br>Environmental Science and<br>Engineering              | Laboratory                     | 3          | 3                    |
|             | GEOL 6296                | Doctoral Research in Geological<br>Sciences                                   | Laboratory                     | 1          | 2                    |
| Summer 2005 | GEOL 6396                | Doctoral Research in Geological<br>Sciences                                   | Laboratory                     | 1          | 3                    |
|             | ESE 6396                 | Doctoral Research in<br>Environmental Science and<br>Engineering              | Laboratory                     | 1          | 3                    |
| Fall 2005   | GEOL 5398                | Thesis  | Laboratory                     | 1          | 3                    |
|             | GEOL 1303                | Principles of Earth Science I   | Lecture/<br>Laboratory         | 26         | 4                    |
|             | GEOG 3306                | Weather and Climate   | Lecture                        | 16         | 3                    |
|             | GEOL 5398                | Thesis  | Laboratory                     | 3          | 3                    |
|             | GEOL 6296                | Doctoral Research in Geological<br>Sciences                                   | Laboratory                     | 1          | 2                    |
|             | GEOL 6396                | Doctoral Research in Geological<br>Sciences                                   | Laboratory                     | 1          | 3                    |
|             | ESE 6396                 | Doctoral Research in<br>Environmental Science and<br>Engineering              | Laboratory                     | 1          | 3                    |
| Spring 2006 | ESE 6398                 | Dissertation  | Laboratory                     | 1          | 3                    |
|             | GEOL 5315/<br>6315       | Selected Topics in Geological<br>Sciences- Aeolian Processes                  | Lecture/<br>Field Trip         | 7          | 3                    |
|             | ESCI 5403/<br>ESE 6405   | Environmental Geology   | Lecture/<br>Field Trip         | 13         | 4                    |
|             | GEOL 5398                | Thesis  | Laboratory                     | 3          | 3                    |
|             | GEOL 6296                | Doctoral Research in Geological<br>Sciences                                   | Laboratory                     | 1          | 2                    |
|             | GEOL 6396                | Doctoral Research in Geological<br>Sciences                                   | Laboratory                     | 1          | 3                    |
|             | Summer 2006              | GEOL 4266   | Directed Study (Undergraduate) | Laboratory | 1                    |
| GEOL 5398   |                          | Thesis  | Laboratory                     | 1          | 3                    |
| GEOL 6321   |                          | Dissertation  | Laboratory                     | 1          | 3                    |
| GEOL 6396   |                          | Doctoral Research in Geological<br>Sciences                                   | Laboratory                     | 1          | 3                    |
| ESE 6396    |                          | Doctoral Research in<br>Environmental Science and<br>Engineering              | Laboratory                     | 1          | 3                    |
| ESE 6398    |                          | Dissertation  | Laboratory                     | 1          | 3                    |

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|             |                          |  |                        |    |   |
|-------------|--------------------------|--|------------------------|----|---|
| Fall 2006   | GEOL 1303                | Principles of Earth Sciences I                             | Lecture/<br>Laboratory | 31 | 4 |
|             | GEOG 3306                | Weather and Climate  | Lecture                | 21 | 3 |
|             | GEOL 4366                | Directed Study (Undergraduate)                             | Lecture                | 1  | 3 |
|             | GEOL 5289                | Graduate Research in Geological Sciences                   | Laboratory             | 1  | 2 |
|             | GEOL 5399                | Thesis   | Laboratory             | 2  | 3 |
|             | GEOL 6296                | Doctoral Research in Geological Sciences                   | Laboratory             | 1  | 2 |
|             | GEOL 6396                | Doctoral Research in Geological Sciences                   | Laboratory             | 2  | 3 |
|             | ESE 6396                 | Doctoral Research in Environmental Science and Engineering | Laboratory             | 1  | 3 |
|             | ESE 6398                 | Dissertation   | Laboratory             | 1  | 3 |
| Spring 2007 | GEOP 5306/<br>GEOL 6315  | Atmospheric Processes                                      | Lecture                | 10 | 3 |
|             | ESCI 5403/<br>ESE 6405   | Environmental Geology                                      | Lecture/<br>Field Trip | 10 | 4 |
|             | ESCI 5101/<br>ESE 6107   | Graduate Seminar   | Seminar                | 26 | 1 |
|             | GEOL 4366                | Directed Study (Undergraduate)                             | Lecture                | 1  | 3 |
|             | GEOL 5289                | Graduate Research in Geological Sciences                   | Laboratory             | 2  | 2 |
|             | GEOL 5389                | Graduate Research in Geological Sciences                   | Laboratory             | 1  | 3 |
|             | GEOL 5399                | Thesis   | Laboratory             | 2  | 3 |
|             | GEOL 6320                | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 6396                | Doctoral Research in Geological Sciences                   | Laboratory             | 1  | 3 |
|             | ESE 6396                 | Doctoral Research in Environmental Science and Engineering | Laboratory             | 1  | 3 |
| Summer 2007 | ESE 6398                 | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 5162                | Directed Study (Graduate)                                  | Laboratory             | 1  | 3 |
|             | ESE 6396                 | Doctoral Research in Environmental Science and Engineering | Laboratory             | 2  | 3 |
| Fall 2007   | GEOL 1311                | Principles of Earth Sciences I                             | Lecture/<br>Laboratory | 25 | 4 |
|             | GEOG 3306                | Weather and Climate  | Lecture                | 16 | 3 |
|             | GEOL 5389                | Graduate Research in Geological Sciences                   | Laboratory             | 1  | 3 |
|             | GEOL 5398                | Thesis   | Laboratory             | 1  | 3 |
|             | GEOL 5399                | Thesis   | Laboratory             | 1  | 3 |
|             | ESE 6396                 | Doctoral Research in Environmental Science and Engineering | Laboratory             | 4  | 3 |
|             | GEOL 6321                | Dissertation   | Laboratory             | 1  | 3 |
| Spring 2008 | ESCI 5403/<br>ESE 6405   | Environmental Geology                                      | Lecture/<br>Field Trip | 13 | 4 |
|             | GEOG 4307 /<br>GEOL 5315 | Arid Lands (jointly taught with Richard Langford)          | Lecture/<br>Field Trip | 26 | 3 |
|             | GEOL 5399                | Thesis   | Laboratory             | 1  | 3 |
|             |                          |  |                        |    |   |

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|             |  |  |                        |    |   |
|-------------|--|--|------------------------|----|---|
|             | GEOL 6396                              | Doctoral Research in Geological Sciences                   | Laboratory             | 2  | 3 |
|             | ESE 6396                               | Doctoral Research in Environmental Science and Engineering | Laboratory             | 2  | 3 |
|             | GEOL 5389                              | Graduate Research in Geological Sciences                   | Laboratory             | 2  | 3 |
| Summer 2008 | ESE 6396                               | Doctoral Research in Environmental Science and Engineering | Laboratory             | 2  | 3 |
|             | GEOL 6321                              | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 6396                              | Doctoral Research in Geological Sciences                   | Laboratory             | 1  | 3 |
| Fall 2008   | GEOG 3306                              | Weather and Climate  | Lecture                | 11 | 3 |
|             | GEOG 3107                              | Weather and Climate Laboratory                             | Laboratory             | 4  | 2 |
|             | ESE 6396                               | Doctoral Research in Environmental Science and Engineering | Laboratory             | 2  | 3 |
|             | GEOL 6396                              | Doctoral Research in Geological Sciences                   | Laboratory             | 2  | 3 |
|             | GEOL 5399                              | Thesis   | Laboratory             | 1  | 3 |
|             | ESE 6399                               | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 6321                              | Dissertation   | Laboratory             | 1  | 3 |
| Spring 2009 | GEOP 5306/<br>GEOL 6315                | Atmospheric Processes                                      | Lecture                | 13 | 3 |
|             | ESCI 5403/<br>ESE 6405                 | Environmental Geology                                      | Lecture/<br>Field Trip | 11 | 4 |
|             | ESE 6399                               | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 5362                              | Directed Study (Graduate)                                  | Lecture                | 1  | 3 |
|             | GEOL 6296                              | Doctoral Research in Geological Sciences                   | Laboratory             | 1  | 2 |
|             | GEOL 6321                              | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 6396                              | Doctoral Research in Geological Sciences                   | Laboratory             | 1  | 3 |
| Summer 2009 | ESE 6399                               | Dissertation   | Laboratory             | 1  | 2 |
|             | GEOL 6321                              | Dissertation   | Laboratory             | 1  | 3 |
|             | ESE 6396                               | Doctoral Research in Environmental Science and Engineering | Laboratory             | 1  | 3 |
| Fall 2009   | GEOG 3306                              | Weather and Climate  | Lecture                | 13 | 3 |
|             | GEOG 3107                              | Weather and Climate Laboratory                             | Laboratory             | 7  | 2 |
|             | GEOL 5101/<br>6115                     | Graduate Seminar   | Seminar                | 37 | 1 |
|             | ESE 6396                               | Doctoral Research in Environmental Science and Engineering | Laboratory             | 3  | 3 |
|             | GEOL 6296                              | Doctoral Research in Geological Sciences                   | Laboratory             | 1  | 2 |
|             | ESE 6399                               | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 6321                              | Dissertation   | Laboratory             | 1  | 3 |
| Spring 2010 | ESCI 4315/<br>GEOL 4315/<br>5315/ 6315 | Climate Science  | Lecture                | 29 | 3 |
|             | ESCI 4166/                             | Climate Science Laboratory                                 | Laboratory             | 8  | 2 |

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|             |  |  |            |    |   |
|-------------|--|--|------------|----|---|
|             | GEOL 4166/<br>5115                                   |  |            |    |   |
|             | GEOL 5101/<br>6115                                   | Graduate Seminar   | Seminar    | 43 | 1 |
|             | ESE 6396   | Doctoral Research in<br>Environmental Science and<br>Engineering | Laboratory | 3  | 3 |
|             | ESE 6398   | Dissertation   | Laboratory | 1  | 3 |
|             | GEOL 6296  | Doctoral Research in Geological<br>Sciences                      | Laboratory | 1  | 2 |
| Summer 2010 | ESE 6399   | Dissertation   | Laboratory | 2  | 3 |
|             | GEOL 5389  | Graduate Research in Geological<br>Sciences                      | Laboratory | 1  | 3 |
|             | ESE 6396   | Doctoral Research in<br>Environmental Science and<br>Engineering | Laboratory | 1  | 3 |
| Fall 2010   | GEOG 3306  | Weather and Climate  | Lecture    | 9  | 3 |
|             | GEOL 5101/<br>6115                                   | Graduate Seminar   | Seminar    | 44 | 1 |
|             | GEOL 4166  | Directed Study (Undergraduate)                                   | Laboratory | 1  | 2 |
|             | ESE 6396   | Doctoral Research in<br>Environmental Science and<br>Engineering | Laboratory | 2  | 3 |
|             | ESE 6399   | Dissertation   | Laboratory | 1  | 3 |
|             | GEOL 6321  | Dissertation   | Laboratory | 1  | 3 |
|             | GEOL 6396  | Doctoral Research in Geological<br>Sciences                      | Laboratory | 1  | 3 |
|             | GEOL 6296  | Doctoral Research in Geological<br>Sciences                      | Laboratory | 2  | 2 |
|             | GEOL 5399  | Thesis   | Laboratory | 1  | 1 |
| Spring 2011 | GEOL 5101/<br>6115                                   | Graduate Seminar   | Seminar    | 48 | 1 |
|             | ESCI 4315/<br>5315/ GEOG<br>3341/ GEOL<br>5315/ 6315 | Climate Science  | Lecture    | 57 | 3 |
|             | GEOP 5306/<br>GEOL 6315                              | Atmospheric Processes  | Lecture    | 9  | 3 |
|             | ESE 6396   | Doctoral Research in<br>Environmental Science and<br>Engineering | Laboratory | 1  | 3 |
|             | ESE 6398   | Dissertation   | Laboratory | 1  | 3 |
|             | GEOL 6321  | Dissertation   | Laboratory | 1  | 3 |
|             | GEOL 6396  | Doctoral Research in Geological<br>Sciences                      | Laboratory | 1  | 3 |
| Summer 2011 | GEOL 4366  | Directed Study (Undergraduate)                                   | Lecture    | 1  | 3 |
|             | GEOL 6321  | Dissertation   | Laboratory | 1  | 3 |
|             | GEOL 6396  | Doctoral Research in Geological<br>Sciences                      | Laboratory | 1  | 3 |
| Fall 2011   | GEOG 3306  | Weather and Climate  | Lecture    | 16 | 3 |
|             | GEOG 3107  | Weather and Climate Laboratory                                   | Laboratory | 4  | 2 |
|             | ESE 6398   | Dissertation   | Laboratory | 1  | 3 |
|             | ESE 6399   | Dissertation   | Laboratory | 1  | 3 |
|             | GEOL 5289  | Graduate Research in Geological                                  | Laboratory | 2  | 2 |

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|             |                                       |  |                        |    |   |
|-------------|---------------------------------------|--|------------------------|----|---|
|             | Sciences                              |  |                        |    |   |
| Spring 2012 | GEOL 5399                             | Thesis   | Laboratory             | 3  | 3 |
|             | GEOL 4307                             | Arid Lands (jointly taught with Richard Langford)                  | Lecture/<br>Field Trip | 12 | 3 |
|             | GEOG 3341/<br>GEOL 5315/<br>6315      | Climate Science  | Lecture                | 13 | 3 |
|             | GEOL 4166                             | Directed Study (Undergraduate)                                     | Laboratory             | 1  | 2 |
|             | ESE 6396                              | Doctoral Research in Environmental Science and Engineering         | Laboratory             | 1  | 3 |
|             | ESE 6399                              | Dissertation   | Laboratory             | 2  | 3 |
|             | GEOL 5289                             | Graduate Research in Geological Sciences                           | Laboratory             | 1  | 2 |
|             | GEOL 5399                             | Thesis   | Laboratory             | 2  | 3 |
| Summer 2012 | GEOL 6396                             | Doctoral Research in Geological Sciences                           | Laboratory             | 1  | 3 |
| Fall 2012   | GEOG 3306                             | Weather and Climate  | Lecture                | 10 | 3 |
|             | GEOL 1311                             | Principles of Earth Sciences I                                     | Lecture/<br>Laboratory | 76 | 2 |
| Spring 2013 | ESCI 4366/<br>GEOL 4366/<br>GEOL 5362 | Directed Study (Undergraduate)/<br>Directed Study (Graduate)       | Lecture                | 3  | 3 |
|             | ESE 6399                              | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 5399                             | Thesis   | Laboratory             | 1  | 3 |
|             | GEOG 3308/<br>GEOL 5315               | Climate Science  | Lecture                | 24 | 3 |
|             | GEOP 4306/<br>5306/<br>GEOL 6315      | Meteorology/<br>Atmospheric Processes                              | Lecture                | 6  | 3 |
|             | ESE 6399                              | Dissertation   | Laboratory             | 1  | 3 |
|             | GEOL 5289                             | Graduate Research in Geological Sciences                           | Laboratory             | 1  | 2 |
|             | GEOL 5389                             | Graduate Research in Geological Sciences                           | Laboratory             | 1  | 3 |
| Fall 2013   | GEOL 6296                             | Doctoral Research in Geological Sciences                           | Laboratory             | 1  | 2 |
|             | GEOL 6396                             | Doctoral Research in Geological Sciences                           | Laboratory             | 1  | 3 |
|             | GEOG 3306                             | Weather and Climate  | Lecture                | 15 | 3 |
|             | GEOL 1211                             | Principles of Earth Sciences I                                     | Lecture                | 26 | 2 |
|             | GEOL 1111                             | Principles of Earth Sciences I Lab.                                | Laboratory             | 52 | 2 |
|             | GEOL 6115                             | Doctoral Seminar   | Seminar                | 5  | 1 |
|             | GEOL 5362                             | Directed Study (Graduate)  | Lecture                | 2  | 3 |
|             | GEOL 5289                             | Graduate Research in Geological Sciences                           | Laboratory             | 1  | 2 |
| Spring 2014 | GEOL 5389                             | Graduate Research in Geological Sciences                           | Laboratory             | 1  | 3 |
|             | GEOL 6296                             | Doctoral Research in Geological Sciences                           | Laboratory             | 1  | 2 |
|             | GEOG 3308/<br>GEOL 5315               | Climate Science  | Lecture                | 28 | 3 |
|             | GEOL 4315/<br>ESCI 5315               | Topics in Geological Sciences/<br>Selected Topics in Environmental | Lecture/<br>Laboratory | 12 | 3 |

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|           |  |            |    |   |
|-----------|--|------------|----|---|
|           | Science: Paleoclimatology                |            |    |   |
| GEOL 6115 | Doctoral Seminar                         | Seminar    | 13 | 1 |
| GEOL 5289 | Graduate Research in Geological Sciences | Laboratory | 1  | 2 |
| GEOL 6396 | Doctoral Research in Geological Sciences | Laboratory | 1  | 3 |

## **CURRICULUM DEVELOPMENT**

### **GEOL 4315/5315/6315- Atmospheric and Meteorological Processes (Spring 2005)**

I initially designed and implemented a new course in the atmospheric sciences for senior undergraduate and graduate students. The focus of this course was to present a scientifically rigorous (calculus, physics, and chemistry based) course on the fundamental aspects of atmospheric science applicable to students at UTEP majoring in geophysics, environmental science, and engineering. The course used principles of fluid mechanics, gas chemistry, and electromagnetic radiation to provide an overview of the physical structure, dynamics, chemistry, radiative balance, geological history, and biogeochemical effects of the Earth's atmosphere. Students were assessed through regular problem sets, examinations, and required to present a conference-style oral presentation and short-review-article-style written manuscript. Enrollment in the course included upper-division and graduate students in Geology, Biology, Environmental Science, Interdisciplinary Science, and ESE (Environmental Science & Engineering doctoral program). This course led directly to the development of the courses GEOP 4306 and GEOP 5306 described below.

### **GEOG 3306- Weather and Climate (Fall 2005)**

I completely revised and redeveloped UTEP's undergraduate Weather and Climate course. This course is a survey of meteorology, weather, and climate, with a focus on practical understanding of the atmosphere, weather and climate phenomena of El Paso and the Southwest. The course is based on the American Meteorological Society (AMS)'s "Weather Studies" curriculum and the AMS Weather Studies Diversity Project for minority-serving institutions: after originally attending AMS Weather Studies implementation workshops as a participant, I now regularly serve as a peer mentor to other instructors teaching their curriculum nationwide. Although the class is based on the AMS' turnkey curriculum package and I utilize their textbook and assignments, all lectures and examinations are individually prepared and designed myself. Since the target audience is UTEP Environmental Science and Geology majors (and is a required course in many Environmental Science degree plans), I add extra emphasis on mountain and desert weather, weather impacts on water supply, ecosystems, geological processes, and environmental management, as well as how to make and understand weather observations and the geological history of the atmosphere. In some years, the course is taken by students seeking a social science teaching certification: in those cases, I weave elements "the history of weather, and weather's impact on history" into the course. Guest lectures are presented each term by practicing meteorologists from the National Weather Service and/or broadcast media. The course has always been delivered partially online, and is now a fully hybrid course. Beyond its target audience, the course has consistently attracted students from Biological Sciences, and other majors as diverse as Electrical Engineering, Physics, Chemistry, Business, History, and Communications. It is offered every Fall semester.

### **GEOG 3107- Weather and Climate Laboratory (Fall 2008)**

This was a two-hour-weekly optional laboratory for students concurrently enrolled in GEOG 3306 (see above). Students learned how to make and interpret weather observations and weather maps, measured microclimatic variations across the UTEP campus, performed laboratory experiments related to weather and climate, and completed computer-based lessons related to atmospheric science. Although offered several times, most students enrolled in GEOG 3306 did not enroll in this lab course and indicated

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through surveys that if it were required for co-enrollment in the lecture course, they would not sign up for either. In addition, lack of qualified Teaching Assistants for this course with sufficient background in weather/meteorology has hindered its ability to be offered on a regular basis in recent years.

**GEOL 5315/6315- Aeolian Processes (Spring 2006)**

This was a seminar-style course for graduate students in Geological Sciences and Environmental Science and Engineering pursuing thesis/dissertation research related to aeolian processes. Dr. Richard Langford and I developed and implemented the course together. The class used lectures, readings from the scientific literature, and field trips to explore topics including aeolian landforms and sand dune types; the detection and interpretation of aeolian sediments in the rock record; the mechanics of generation and transport of aeolian dust and sand; remote sensing and modeling of aeolian processes; aerosol science principles applied to mineral dust; the environmental, biogeochemical, and climatic impacts of aeolian sediments; measurement and management of agricultural and industrial wind erosion; and human impacts on and of aeolian processes. Students were required to complete regular short writing assignments and a rigorous written and oral presentation. The course so far has been offered only once, but could be offered again should enrollment warrant.

**ESCI 5403/ ESE 6405- Environmental Geology /Environmental Geoscience (Spring 2006)**

I was assigned responsibility for this core course in the Ph.D. in Environmental Science and Engineering and M.S. in Environmental Science degree programs, whose students predominantly have a strong background in science or engineering but little or no previous experience in the geosciences. I revised and redeveloped the course to initially ground the students in key paradigms of the geosciences (including plate tectonics, deep time, earth as a system geosphere-hydrosphere-atmosphere-biosphere + human impacts); show how the predominantly field-based practice of geoscience research is sometimes similar but often different from the controlled, easily-measured laboratory-based experimental protocols of other disciplines; and familiarize the students with methods for obtaining geoscience data and searching and understanding the geoscience literature. From there, we reviewed and discussed topics such as mass wasting, soil conservation, waste management, seismic and volcanic hazards, groundwater and surface water supply and quality, global climate change, coastal hazards, land use planning, energy and mineral resources, and geochemical pollution- all from the perspective of human interactions with the earth system. Case studies and field trips, as available, were used to illustrate and investigate these topics. Guest lectures were presented each term by practicing environmental geoscientists in government or the private sector. Students were assessed through regular individual and team assignments and a rigorous semester-long project culminating in oral and written presentations co-assessed by their peers. Several student presentations from this course were presented at international conferences or published in the scientific literature. I taught the course annually until I developed the Climate Science course (see below) and the ES and ESE graduate degree plans changed to de-emphasize required courses, although I am prepared to teach it again.

**GEOP 5306- Atmospheric Processes (Spring 2007)/ GEOP 4306- Meteorology (Spring 2013)**

After the publication of the long-awaited second edition of the classic textbook “*Atmospheric Science: An Introductory Survey*” by Wallace and Hobbs, I immediately developed and implemented this course as a mathematically, physically, and chemically rigorous introduction to the atmospheric sciences for UTEP science and engineering graduate students without a previous background in the topic. The course is summarized as “an investigation of fundamental geophysical and chemical principles guiding the motions and nature of Earth’s atmosphere at multiple scales, including radiation and energy balance, thermodynamics, fluid motion, boundary layers, balance of forces in the atmosphere, gas chemistry, and their interactions to create weather and atmospheric phenomena.” The course also uses supplemental readings from the scientific literature to emphasize the relationship of atmospheric science to the other geophysical sciences, via case studies of concepts including the Precambrian faint young sun paradox, Snowball Earth hypothesis, greenhouse climate warming, Martian weather and climate, effect of

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evolution on atmospheric chemistry, and plate tectonic effects on the general circulation of the atmosphere. Guest lectures are presented each term by practicing meteorologists from the National Weather Service and/or Department of Defense. Assessment is conducted through regular problem sets, completion of COMET (Comprehensive Online Meteorological Education and Training) modules and quizzes, written examinations, and a semester-long project culminating in a conference-style oral presentation and review-article-style written manuscript. The course is taught every three to four semesters, and students have regularly enrolled not only from the Geophysics, Geological Sciences, Environmental Science, and ESE graduate programs, but also various Engineering majors, Ecology and Evolutionary Biology, and Physics.

With the development of UTEP's new Atmospheric Physics undergraduate major in the Physics Department, I was asked to develop an undergraduate version of this class (GEOP 4306) to serve as a core course in that curriculum. In addition, with increased restrictions on UTEP undergraduates receiving credit for graduate-level courses, offering GEOP 4306 allows the material to be more easily offered to upper-division undergraduates in other majors (Geophysics, Electrical Engineering, etc.) with sufficient physics and mathematics background.

#### **GEOP 4307/ GEOL 5315- Arid Lands (Spring 2008)**

This course was jointly developed, implemented, and taught by Richard Langford and myself. The class is a thorough overview of the physical geography of the Earth's drylands, designed as an elective for seniors and graduate students in the geological and biological sciences. The course is delivered through lectures, discussions of case studies and scientific literature, and field trips taking advantage of the Chihuahuan Desert surroundings. After beginning with how drylands are defined and characterized and a continent-by-continent overview of terrestrial deserts, individual topics are studied in depth. Included are desert climate and weather phenomena, dryland hydrology, desert lakes, arid-land weathering and soils, fluvial and aeolian geomorphology of drylands, desert ecosystems and biomes, evolutionary adaptations of plants and animals to dry environments, human energy/natural-resource and land management in drylands, desertification, and human cultures of arid lands. Students are assessed through weekly individual or group assignments, regular quizzes and examinations, and an end-of-semester oral and/or written presentation. The course has attracted a wide enrollment of students from undergraduate and graduate Geology and Environmental Science majors, as well as graduate students in ESE, Ecology and Evolutionary Biology, and the Master of Arts in Science Teaching program. The course has been offered twice to date, and will be offered again in Fall 2014 and every three to four semesters thereafter.

#### **GEOP 3308/ GEOL 5315- Climate Science (Spring 2010)**

After developing and implementing my Weather and Climate (GEOP 3306) course (see above), I was regularly asked by students and colleagues to consider an additional class dedicated to climate and climate change, and I pressed my colleagues in the American Meteorological Society's Education program to consider developing a climate curriculum to add to their weather and ocean studies courses, especially if it could be incorporated into their curricula targeted to minority-serving institutions. When such a course was developed, I eagerly offered to be one of the first instructors to "beta test" it: as with the Weather Studies curriculum, I now regularly attend AMS workshops as a peer mentor for other Climate Studies instructors nationwide. The course builds a comprehensive understanding of the basic elements, dynamics, and interactions of climate from an earth systems perspective, leading to understanding of natural and anthropogenic causes of climate change and implications of climate change to human society. Although the class is based on the AMS' turnkey curriculum package and I utilize their textbook and assignments, all lectures and examinations are individually prepared and designed myself. Since the target audience includes UTEP Geology, Environmental Science and Science Teaching majors, I add extra emphasis on paleoclimatology, desert climates, climate's effect on water resources in the Southwest, and societal and cultural aspects of climate and climate change. Guest lectures are presented each term by practicing climatologists from government agencies. Students in UTEP's Master of Arts in

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Science Teaching (MAT) program may take the course for graduate credit: to do so, they are required to read additional books and scientific literature, complete additional weekly assignments, and individually or in groups design a grade-level-appropriate lesson or classroom activity illustrating a principle of climate science. The course is taught in a partially online format. Originally offered as a “special topics” class, it has proven extremely popular, been institutionalized as Geography 3308 for the past two years, and is offered each Spring semester.

#### **GEOL 4315/ ESCI 5315- Paleoclimatology (Spring 2014)**

Having been invited by the Ocean Leadership Consortium and Integrated Ocean Drilling Program to attend “School of Rock 2012 - Introduction to Curriculum on Climate History for Minority Serving Institution Faculty,” I was inspired to develop and teach a course on Paleoclimatology, designed as a capstone class for senior Geology and Environmental Science students (though also open to graduate students). It was offered for the first time this past semester. In the course, students investigate the methodologies and data used to reconstruct Earth's climate history from a geological perspective. Unlike most palaeoclimate courses which focus predominantly on the Quaternary, this class evaluates climate's sedimentary record (especially marine sediments, lacustrine sediments, and/or ice cores) throughout the Cenozoic. Case studies include the Paleocene- Eocene Thermal Maximum, the glacial history of Antarctica, the sedimentary record of Milankovitch cyclicality, and how Anthropocene climate change would be studied from a sedimentological perspective. The course is presented primarily as an interactive discussion and demonstration between myself and the students, with individual and group assignments, reading and discussion from the scientific literature, and a web-enhanced workbook-style textbook written by the “School of Rock” instructors. Critical thinking skills, developing evidence-based hypotheses, interpreting peer-reviewed literature, and integrating data from multiple sources to synthesize a “big picture” is emphasized, keeping in mind that almost all the students would soon begin or had recently begun thesis research as graduate students or employment as geoscientists in the energy industry. Even though my heavy administrative responsibilities precluded me from obtaining actual core samples for the students to analyze and interpret as part of the course (as I had originally intended), the class was well-received. I plan to offer it every three to four semesters in the future.

#### **MASTER'S THESES AND DOCTORAL DISSERTATIONS DIRECTED**

- 2013- Daniela Spade- Candidate for MS in Environmental Science (UTEP, Summer 2013)  
*Project: Improving Digital Terrain and Land Use Representation in a Mesoscale Atmospheric Model*
- 2013- Joe Collins- Advanced to candidacy for PhD in Geological Sciences (UTEP, Spring 2013)  
*Project: Paleoenvironmental Investigations of the Harney Basin, Eastern Oregon*
- 2007- 2013 Porfirio Peinado Coronado- completed PhD in Environmental Science & Engineering (UTEP, Spring 2013)  
*Project: Geochemical Characterization of Mineral Dust Sources in the Chihuahuan Desert and Southern High Plains Regions*
- 2007- 2012 Nancy Rivera Rivera- completed PhD in Environmental Science & Engineering (UTEP, Fall 2012) [jointly advised with Dr. Rosa Fitzgerald]  
*Project: Analysis and Modeling of Dust Event Data from El Paso, Texas*
- 2009- 2012 Mariana Güereque- completed MS in Geological Sciences (UTEP, Spring 2012) [jointly advised with Dr. Rosa Fitzgerald]

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*Project: Aerosol Particle Size Distributions Observed During AEROSE V Campaign*

- 2011- 2012 Lisa Anaya- MS in Geological Sciences (UTEP): left program prior to advancing to candidacy, for full-time employment with Federal government
- 2008- 2011 Joel Gilbert- MS in Geological Sciences (UTEP): failed to advance to candidacy
- 2005- 2011 Roberto Velarde- completed PhD in Geological Sciences (UTEP, Summer 2011) [jointly advised with Dr. Phil Goodell]  
*Project: Evaluating Suspended Dust Particulate Matter From Anthropogenically-Altered Lands*
- 2005- 2010 Sonny Emmert- completed MS in Environmental Science (UTEP, Fall 2010)  
*Project: The Composition of Wet Deposition in El Paso, Texas*
- 2004- 2010 Analila Rojo Lucero- completed PhD in Environmental Science & Engineering (UTEP, Summer 2010)  
*Project: Granulometry and Geochemistry of Dust Emission from Owens (Dry) Lake, California*
- 2005- 2009 Miguel Dominguez Acosta- completed PhD in Geological Sciences (UTEP, Spring 2009)  
*Project: The Pluvial Lake Palomas/ Samalayuca Dunes System*
- 2005- 2009 Katherine Howard Fernald- PhD in Environmental Science & Engineering (UTEP): failed to advance to candidacy
- 2005- 2008 Alfredo Ruiz- PhD in Geological Sciences (UTEP): changed advisor and project
- 2005- 2008 Adriana Perez- completed PhD in Geological Sciences (UTEP, Spring 2008) [jointly advised with Dr. Nicholas Pingitore and Dr. Randy Keller]  
*Project: Application of Integrated Remote Sensing and GIS Technologies to Geo-Environmental Issues in Far West Texas and Southern New Mexico*
- 2005- 2007 Yvette Villegas Waychus- completed MS in Geological Sciences (UTEP, Fall 2007) [jointly advised with Dr. Richard Langford]  
*Project: Characterization and Examination of Geologic Factors Influencing the Geomorphic Development of Playas Within Fort Bliss, Texas and New Mexico*
- 2004- 2006 Nancy Rivera Rivera- completed MS in Environmental Science (UTEP, Fall 2006)  
*Project: Detection and Characterization of Dust Source Areas in the Chihuahuan Desert, Southwestern North America (Awarded Outstanding Master's Thesis at UTEP for 2006)*
- 2004- 2006 Brissa Quiroz- PhD in Environmental Science & Engineering (UTEP): changed advisor and project
- 2003- 2005 Gregory Crabtree- completed MS in Atmospheric Science (Texas Tech University, Spring 2005) [jointly advised with Dr. Richard Peterson]  
*Project: Dustfall in the Southern High Plains*  
*(Note: I was Mr. Crabtree's thesis advisor at Texas Tech University in 2003- 2004. After moving to UTEP in 2004 I remained co-chair of Mr. Crabtree's thesis committee as Adjunct Professor at Texas Tech, until he completed his thesis in 2005)*

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- 2001- 2004 Gabriel Rothman- completed MS in Atmospheric Science (Texas Tech University, Spring 2004) [jointly advised with Chia-Bo Chang]  
*Project: Saharan Air Layer Interaction with Hurricane Claudette (2003)*
- 2000- 2003 Russell Winn- completed MS in Geology (Texas Tech University, Spring 2003) [jointly advised with Haraldur Karlsson]  
*Project: Stable Isotope Geochemistry of Aeolian Dust from Owens Lake, California*

## **OTHER GRADUATE STUDENT RESEARCH MENTORING**

- 2014 Brenda Perry- M.F.A. candidate (School for Visual Arts, New York) (*M.F.A. completed Spring 2014*)
- 2012- Ross Thomas- Ph.D. student, Environmental Management (Simon Fraser University)
- 2012- 2013 Elise Farah- M.S. student, Interdisciplinary Studies (UTEP) (*M.S.I.S. completed Spring 2013*)
- 2012 Samaneh Tabrizi- M.S. student, Geographical Information Science (Texas Tech University)
- 2011- 2012 David Lerach- Ph.D. candidate, Atmospheric Science (Colorado State University) (*Ph.D. completed Spring 2012*)
- 2008- 2012 Mbongowo Joseph Mbuh- M.S. student, Geographical Information Science (Texas Tech University and Missouri State University) and Ph.D. student, Geography and Geoinformation Sciences (George Mason University) (*M.S. completed at Missouri State University Fall 2011, currently Ph.D. student at George Mason University*)
- 2009- 2011 Pablo Rivas Perea- Ph.D. candidate, Electrical & Computer Engineering (UTEP) (*Ph.D. completed Summer 2011*)
- 2007- 2010 Kevin Floyd- Ph.D. student, Environmental Science & Engineering (UTEP)
- 2009 Alberto Antonio Espinoza Guzman- Ph.D. candidate, Earth Sciences (Universidad Nacional Autonoma de Mexico) (*Ph.D. completed Spring 2013*)
- 2009 Angel Esparza- Ph.D. candidate, Environmental Science & Engineering (UTEP) (*Ph.D. completed Fall 2011*)
- 2008- 2009 Kerri Pratt- Ph.D. candidate, Chemistry (University of California, San Diego) (*Ph.D. completed 2009*)
- 2008- 2009 Yanlei Peng- M.S. candidate, Mathematical Sciences (UTEP) (*M.S. completed Summer 2009*)
- 2008- 2009 Ricardo Medina Calderon- M.S. candidate, Physics (UTEP) (*M.S. completed Summer 2009*)
- 2006- 2009 Rudy Sookbirsingh- Ph.D. candidate, Environmental Science & Engineering (UTEP) (*Ph.D. completed Fall 2009*)
- 2006- 2008 Thomas Parham- Ph.D. candidate, Geosciences (Iowa State University) (*Ph.D. completed 2009*)
- 2007 Bradley Busby- M.S. student, Geography (Arizona State University) (*M.S. completed Spring 2008*)
- 2006 Sharon Stewart Cole- Ph.D. candidate, Management (Capella University) (*Ph.D. completed 2006*)
- 2005- 2006 Lizette Roldan Otero- Ph.D. candidate, Atmospheric Sciences (Howard University) (*Ph.D. completed 2006*)
- 2005- 2006 Shelley Scalzo- M.P.H. student (San Diego State University) (*M.P.H. completed 2006*)
- 2005- 2006 David Rachal- M.A. student, Geography (New Mexico State University) (*MA completed 2007*)

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- 2003- 2004 David Kook- M.S. student, Atmospheric Science (Texas Tech University) (*M.S. completed Spring 2006*)
- 2001- 2004 Mark Conder- Ph.D. student, Geosciences (Texas Tech University) (*Ph.D. completed Spring 2005*)
- 2002- 2003 Caleb Midgley- M.S. student, Atmospheric Science (Texas Tech University) (*M.S. completed Summer 2003*)
- 2001- 2002 Maribel Martinez- M.S. student, Atmospheric Science (Texas Tech University) (*M.S. completed Fall 2003*)
- 2000- 2001 Stephen Weinbeck- Ph.D. student, Geosciences (Texas Tech University) (*Ph.D. completed Spring 2005*)
- 2001 David Radell- M.S. student, Atmospheric Science (Texas Tech University) (*M.S. completed Summer 2001*)

### **SERVICE ON OTHER GRADUATE STUDENT COMMITTEES**

- 2014- Rachel Slank; UTEP M.S. student, Geological Sciences
- 2014- Esther Salinas; UTEP Ph.D. student, Environmental Science & Engineering
- 2013- Lennox Thompson; UTEP Ph.D. student, Geological Sciences (*Advanced to candidacy Fall 2013*)
- 2013- Ezer Patlan; UTEP Ph.D. student, Geological Sciences (*Advanced to candidacy Fall 2013*)
- 2013- Mariana Güereque; UTEP Ph.D. student, Environmental Science & Engineering (*Advanced to candidacy Summer 2013*)
- 2012- Syprose Nyachoti; UTEP Ph.D. student, Geological Sciences (*Advanced to candidacy Spring 2013*)
- 2012- Byron Cross; UTEP Ph.D. student, Environmental Science & Engineering
- 2012- Jose Rivas; UTEP Ph.D. student, Ecology & Evolutionary Biology
- 2011- Eric Kappus; UTEP Ph.D. student, Geological Sciences (*Advanced to candidacy Fall 2013*)
- 2005- Alfredo Ruiz; UTEP Ph.D. student, Geological Sciences (*Advanced to candidacy Spring 2009*)
- 2013- 2014 Hanlie Liebenberg-Enslin; University of Johannesburg Ph.D. student, Geography (External Examiner) (*Ph.D. completed Spring 2014*)
- 2011- 2014 Linda Armour; UTEP Ph.D. student, Geological Sciences (*Ph.D. completed Summer 2014*)
- 2011- 2014 Aline Jaimes; UTEP Ph.D. student, Environmental Science and Engineering (*Ph.D. completed Spring 2014*)
- 2011- 2014 Jennifer Bell; University of Alaska- Fairbanks Ph.D. student, Chemistry (*Ph.D. completed Spring 2014*)
- 2010- 2014 Sunay Palsole; UTEP Ph.D. student, Geological Sciences (*Ph.D. completed Summer 2014*)
- 2012- 2013 Christine Laney; UTEP Ph.D. student, Environmental Science & Engineering (*Ph.D. completed Fall 2013*)
- 2012- 2013 Maura Hahnenberger; University of Utah Ph.D. student, Atmospheric Science (*Ph.D. completed Summer 2013*)
- 2012- 2013 Douglas Lynne; UTEP M.S. student, Geophysics (*Did not complete thesis*)
- 2011- 2013 Sandra Villarreal; UTEP Ph.D. student, Biological Sciences (*Ph.D. completed Summer 2013*)
- 2012 Fernando Becerra Davila; UTEP Ph.D. student, Environmental Science & Engineering (*Ph.D. completed Fall 2012*)

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2012 Shane Carley; UTEP M.S. student, Geophysics (*M.S. completed Fall 2012*)

2011- 2012 Abdul Odonmbaku; UTEP Ph.D. student, Environmental Science & Engineering (*Ph.D. completed Fall 2012*)

2009- 2012 Slade Jones; UTEP M.S. student, Geological Sciences (*M.S. completed Fall 2012*)

2007- 2012 Eugenia Shekhter; UTEP Ph.D. student, Environmental Science & Engineering (*Ph.D. completed Fall 2012*)

2005- 2012 Roene Neu; UTEP Ph.D. student, Geological Sciences (*Did not complete dissertation*)

2011 Mohammed Alkhatib; UTEP M.S. student, Electrical and Computer Engineering (*M.S. completed Fall 2011*)

2011 Libia Gonzalez; UTEP M.S. student, Environmental Science (*M.S. completed Fall 2011*)

2010- 2011 Fernanda de la Cerda; UTEP M.S. student, Environmental Science (*M.S. completed Summer 2011*)

2008- 2010 Chika Yamaguchi; UTEP Ph.D. student, Environmental Science & Engineering (*Ph.D. completed Fall 2010*)

2010 William Sherriff; UTEP M.S. student, Geological Sciences (*M.S. completed Fall 2010*)

2010 Stevan Benker; UTEP Ph.D. student, Geological Sciences (*Ph.D. completed Spring 2010*)

2008- 2009 Monika Gaytan; UTEP M.P.H. student (*M.P.H. completed Fall 2009*)

2008- 2009 Swapna Janugani; UTEP M.S. student, Electrical and Computer Engineering (*M.S. completed Spring 2009*)

2007- 2009 James Wolf; UTEP M.S. student, Environmental Science (*Did not complete thesis*)

2006- 2008 Jeffrey Langman; UTEP Ph.D. student, Geological Sciences (*Ph.D. completed Fall 2008*)

2006- 2008 Eduardo Gomez; UTEP Ph.D. student, Environmental Science & Engineering (*Changed field of study and major*)

2006- 2008 Olienka De La O Fernandez; UTEP Ph.D. student, Environmental Science & Engineering (*Changed field of study and major*)

2006- 2008 Stephanie Martini; UTEP M.S. student, Environmental Science (*Failed to advance to candidacy*)

2006- 2007 Chima Nzewunwah; UTEP Ph.D. student, Geological Sciences (*Ph.D. completed Spring 2007*)

2005- 2006 Ye Shi; UTEP Ph.D. student, Environmental Science & Engineering (*Ph.D. completed Fall 2006*)

2005- 2006 Luqman Adams; UTEP Ph.D. student, Geological Sciences (*Ph.D. completed Spring 2006*)

2005- 2006 Jessica Rose; UTEP Ph.D. student, Geological Sciences (*M.S. completed Spring 2006*)

2003- 2004 Felecia Evans; Texas Tech University M.S. student, Atmospheric Science (*M.S. completed Spring 2004*)

2000- 2002 Richard A. VanCuren; University of California- Davis Ph.D. student, Geography (*Ph.D. completed Spring 2002*)

## **UNDERGRADUATE RESEARCH PROJECTS DIRECTED**

2014- Demetre Flores; UTEP undergraduate student (*Senior thesis in Geology*)

2012- 2014 Jessica Camacho; UTEP undergraduate student (*EPA Border Air Quality Program*)

2012- 2013 Joshua McKeon; James Madison University undergraduate student (*Senior thesis external mentor: currently M.A. student in Science Education at James Madison University*)

2012 Stephanie Ray; UTEP undergraduate student

2011- 2012 Nessler Torres; UTEP undergraduate student (*currently employed by City of El Paso*)

2010- 2011 Astrid Lozano; UTEP undergraduate student (*THECB-NHARP grant*)

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- 2010 Ashley Lopez; UTEP undergraduate student (*THECB-NHARP grant*) (*currently medical student at University of Rochester*)
- 2009- 2010 Christina Pietrowski; UTEP undergraduate student (*Pathways to the Geosciences*)
- 2006- 2007 Alejandro Juarez; UTEP undergraduate student
- 2005- 2006 Sabrina Canalda (*Pathways to the Geosciences*) (*completed M.S. at UTEP in 2009*)
- 2004- 2005 Jorge Ramos (*Pathways to the Geosciences*) (*currently Ph.D. candidate at Arizona State University*)
- 2004 Sonny Emmert (*Pathways to the Geosciences*) (*completed M.S. at UTEP in 2010*)
- 1993- 1995 Dabrina Dutcher; University of California- Davis undergraduate student (*currently Assistant Professor of Chemical Engineering at Bucknell University*)
- 1993- 1995 Kara O'Keefe; University of California- Davis undergraduate student
- 1993- 1995 Chris Reyes; University of California- Davis undergraduate student

### **PROFESSIONAL DEVELOPMENT ACTIVITIES**

- 2013- Attend UTEP Interdisciplinary Research seminars
- 2007- Attend Jornada Experimental Range/LTER annual meetings, Las Cruces, NM
- 2014 Invited Participant, "Full Access to the Geology of the Sea to Sky Highway," Field Trip, Geological Society of America Annual Meeting, Vancouver, Canada
- 2014 Participant "Current Topics in Atmospheric Sciences" Graduate Seminar, Howard University, Washington DC
- 2012 Invited Participant, US-Mexico Border 2012 Program Air Policy Forum Air Monitoring Working Group Workshop, U.S. Environmental Protection Agency, El Paso, TX
- 2012 Invited Participant, "School of Rock 2012 - Introduction to Curriculum on Climate History for Minority Serving Institution Faculty," Consortium for Ocean Leadership and Integrated Ocean Drilling Program, College Station, TX
- 2011 Participant, First International Workshop on the Long-Range Transport and Impacts of African Dust on the Americas, International Association of Meteorology and Atmospheric Sciences (IAMAS) and the International Geosphere- Biosphere Programme (IGBP), San Juan, PR
- 2011 Short Course/ Field Tour, Engineering and Environmental Geology of Cook Inlet, Association of Engineering and Environmental Geologists, Anchorage, AK
- 2011 Scientific Journal Editor's Training Course, Elsevier Editorial System, Elsevier Science Publishers (online)
- 2010 Invited Participant, "Teaching Climate Studies- National Pilot Project Training Workshop," American Meteorological Society Annual Meeting, Atlanta, GA
- 2010 Invited Participant, "Workshop on Best Practices for Teaching Weather and Climate at Minority-Serving Institutions," American Meteorological Society Annual Meeting, Atlanta, GA
- 2010 Attend "A Day with NIH" workshop on grantsmanship and funding opportunities, UTEP
- 2006- 2010 Participant, Project InVEST, NSF- funded program led by Dr. Cinzia Cervato (Iowa State University) in Earth System Science education: its focus is on the evaluation of learning and on the application of modern multimedia technology to enhance learning in large introductory classes
- 2005- 2009 Attend 2<sup>nd</sup> through 6<sup>th</sup> UTEP Border Security Conferences
- 2009 Invited Participant, "AMS Geoscience Diversity Project, Training Workshop for Faculty Teaching Weather and Ocean Studies at Minority- Serving Institutions," American Meteorological Society Annual Meeting, Phoenix, AZ
- 2009 Invited Participant, USDA CSREES Grantsmanship Workshop, Kansas City, MO
- 2008 Meet with NASA personnel regarding funding opportunities, El Paso, TX

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- 2008 Invited Participant, QUEST Working Group on Dust Workshop, British Natural Environment Research Council, Villefranche-Sur-Mer, France.
- 2007 Invited Participant, “AMS Geoscience Diversity Project, Training Workshop for Faculty Teaching Weather and Ocean Studies at Minority- Serving Institutions,” American Meteorological Society Annual Meeting, San Antonio, TX
- 2006 Invited Participant, “AMS Geoscience Diversity Project, Training Workshop for Faculty Teaching Weather and Ocean Studies at Minority- Serving Institutions,” American Meteorological Society Annual Meeting, Atlanta, GA
- 2006 Participant, Chihuahuan Desert Network- National Park Service, El Paso, TX
- 2006 Participant, NIH-NIEHS Workshop on Grantsmanship in Environmental Health, UTEP
- 2005 Invited Participant, “Teaching Online Weather Studies: Training Workshop for Faculty at Minority- Serving Institutions,” National Weather Service Training Center, Kansas City, MO
- 2005 Participant, “On the Cutting Edge - Professional Development for Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career,” Williamsburg, VA
- 2005 Meet with U.S. Army Research Laboratory personnel regarding funding opportunities, El Paso, TX
- 2005 Meet with NSF (Geochemistry) Program Director regarding funding opportunities, Washington, DC
- 2005 Invited Participant, US Department of Energy HBCU-MI Environmental Technology Consortium Annual Meeting, Washington, DC
- 2005 Participant, “Improving Science Communication- Training on Working with the News Media,” National Science Board/Universities of California and Texas, El Paso, TX
- 2003 Meet with NSF (Atmospheric Sciences) Program Director regarding funding opportunities, Washington, DC
- 2002 Participant, Defense Technology Information Center Annual Users Meeting and Training, Crystal City, VA
- 2001 Participant, Dispersion and Transport Model Users’ Training, George Mason University, Fairfax, VA
- 1999- 2004 Meet various times with Department of Defense personnel regarding funding opportunities, Washington, DC and other localities
- 1999 Participant, “Biological Warfare and Terrorism: Military and Public Health Response Training Course,” U.S. Centers for Disease Control and Prevention (satellite broadcast to Texas Tech University Health Sciences Center, Lubbock)
- 1996 Noncommercial Pesticide Applicator Training, Texas A&M University Extension, Lubbock, TX

## **PROFESSIONAL AND COMMUNITY SERVICE ACTIVITIES**

- 2006- Answer student questions about weather and climate at various elementary and high schools in El Paso County, Texas
- 2006- American Meteorological Society (Teaching mentor/instructional advisor to faculty at various colleges and universities teaching the AMS Climate Studies and Weather Studies curricula, including Kentucky State University, Lewis and Clark College, Aaniiih Nakoda College, St. Thomas University, and others)
- 2005- Assist local students with science fair projects
- 2005- Participant, American Association for the Advancement of Science “Science and Human Rights Action Network”

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- 2005- Contributor to the International Society for Salt Lake Research (ISSLR) Salt Lake Research Bibliography (<http://www.isslr.org/biblio/biblio.htm>)
- 1998- Pro bono adviser/information provider to broadcast meteorologists in El Paso and Lubbock media markets
- 1998- Answer questions/inquiries from the public about weather, climate, earth and environmental sciences
- 1991- Member of the Robert and Patricia Switzer Foundation Environmental Fellowship Network
- 1986- Interviews for various stories and programs, related to my research and expertise, by news media including KCRA-TV, KFOX-TV, KDBC-TV, KVIA-TV, KINT-TV, KOAT-TV, KTSM-TV, KTEP-FM, KSFR-FM, high school student newspapers in El Paso, San Antonio Express-News, Lubbock Avalanche-Journal, Austin American-Statesman, Houston Chronicle, Albuquerque Journal, Las Cruces Sun-News, Silver City Sun-News, Silver City Daily Press, El Diario de Ciudad Juarez, Los Angeles Weekly, Baltimore Sun, New York Times, High Country News, A Very Spatial Podcast, Earth and Sky Radio Program, Scientific American, Claims Journal, NASA Earth Science News Team, British Broadcasting Corporation, CBS News, ABC News, NBC News (including The Today Show), The Associated Press, Wired.com, Public Radio International, Make Magazine, Physics World, and other news organizations
- 2014 Presentation Judging Committee, NOAA Educational Partnership Program Forum, Salisbury, MD
- 2014 External reviewer for professional staff merit review, USDA Agricultural Research Service
- 2014 External reviewer for research scientist promotion application, University of California-Davis.
- 2012 External reviewer for faculty promotion application, New Mexico State University
- 2012 External reviewer for faculty promotion application, University of Alaska-Fairbanks
- 2011 Co-organizer, NASA science and technology education outreach event, Montwood High School, El Paso.
- 2006- 2011 Admissions Committee, UTEP chapter, Society of Sigma Xi
- 2009- 2010 American Meteorological Society (assistance in developing and implementing a new national undergraduate curriculum on Climate Studies)
- 2009 Provide data and technical expertise, U.S. Environmental Protection Agency Office of Pesticide Programs
- 2009 Help developed interpretive display “Blowin’ In The Wind” for Hueco Tanks State Park
- 2004- 2009 Recruit and introduce UTEP students and faculty to be guest speakers to monthly meetings of the El Paso-Trans Pecos Audubon Society at the UTEP Centennial Museum
- 2008 External reviewer for professional staff promotion application, USDA Agricultural Research Service
- 2008 External reviewer for professional staff promotion application, University of California-Davis
- 2007 Provide written material by invitation of the Defense Advanced Research Projects Agency (DARPA)
- 2007 Public Testimony, Texas Commission on Environmental Quality, Best Available Retrofit Technology for Regional Haze State Implementation Plan
- 2006 Public Testimony, U.S. Environmental Protection Agency, Proposed Revisions to the National Ambient Air Quality Standards for Particulate Matter
- 2006 Work with the El Paso City-County Health and Environmental District to develop a “Sand Storm Safety” brochure
- 2006 Provide written material by invitation of the NATO Battle-area Meteorological Systems and Sensors (BMSS) Working Group

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- 2006 Provide written material by invitation of the National Research Council- National Academy of Sciences Steering Committee for Earth Science Applications from Space – Panel on Solid- Earth Hazards, Resources and Dynamics Decadal Survey on "Remote Sensing Planning for New Missions and Space-Based Observations"
- 2005 Provide materials and expertise to the Texas Commission on Environmental Quality for the formulation of a "Natural Events Action Plan" for El Paso
- 1986- 1995 Provide data, comments and reports to the State of California Blue Ribbon Panel on Mono Lake and National Academy of Sciences Panel on Mono Lake: California Air Resources Board Proposed Regulation on Particulate Lead: Great Basin Unified Air Pollution Control District State Implementation Plan for PM-10 in Owens Valley: U.S. Environmental Protection Agency Proposed Classification of Mono Basin as PM-10 Nonattainment Area: Environmental Impact Reports/Statements for Redwood National Park, Mono Basin National Forest Scenic Area, Inyo National Forest, and Bureau of Land Management California Desert Conservation Area.
- 1987- 1994 Public written and oral testimony, Sacramento County Superior Court and California Water Resources Control Board re. Decision 1631, Decision and Order Amending Water Right Licenses to Establish Fishery Protection Flows in Streams Tributary to Mono Lake and to Protect Public Trust Resources at Mono Lake and in the Mono Lake Basin: and Mono Basin Comprehensive Environmental Impact Report.

Editorial Board Member:

- 2011- Aeolian Research  
 2005- Annals of Improbable Research  
 2008- 2014 Sciences in Cold and Arid Regions

Journal Referee:

Aeolian Research; Aerosol and Air Quality Research; Aerosol Science and Technology; Agricultural and Forest Meteorology; Air and Waste Management Association Transactions Series; Air Quality, Atmosphere and Health; American Society of Agronomy Special Publications; American Water Resources Association- Water Resources Bulletin; Arid Soil Research and Rehabilitation; Atmospheric and Climate Science; Atmospheric Chemistry and Physics; Atmospheric Environment; Atmospheric Pollution Research; Boletín de la Sociedad Geológica Mexicana; Earth Surface Processes and Landforms; Ecological Applications; Encyclopedia of Quaternary Science; Encyclopedia of Water Science; Environmental Geosciences; Environmental Modeling and Software; Environmental Monitoring and Assessment; Environmental Research; Environmental Science and Technology; Geochimica et Cosmochimica Acta; Geology; Geomorphology; Geophysical Research Letters; Geosphere; Global and Planetary Change; Hydrological Processes; International Journal of Environment and Pollution; International Journal of PIXE; International Journal of Vehicle Design; Journal of Applied Meteorology; Journal of Arid Environments; Journal of Environmental Quality; Journal of Environmental Science of the Chinese Academy of Science; Journal of Geophysical Research- Atmospheres; Journal of Geophysical Research- Earth Surface; Journal of Hazardous Materials; Journal of Sedimentary Research; Journal of Soil and Water Conservation; Journal of the Air and Waste Management Association; Journal of the Oceanographic Society of Japan; Kuwait Journal of Science and Engineering; Natural Hazards; Nature; Nuclear Instruments and Methods in Physics Research; Open Atmospheric Science Journal; Proceedings of the 11<sup>th</sup> International Conference on PIXE and its Analytical Applications; Progress in Physical Geography; Remote Sensing; Revista Mexicana de Ciencias Geológicas; Science; Sedimentology; Sensors; Soil Carbon Sequestration and Global Change, 2<sup>nd</sup> Edition; Soil Science Society of America Journal; Soil Science Society of America Special Publications; Transactions of the American Society of Agricultural Engineers; Treatise on Geomorphology; U.S. Geological Survey Water-Resources Investigations; Water Research; X-Ray Spectrometry; Zeitschrift für Geomorphologie.

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Proposal Reviewer:

Agencia Nacional de Promoción Científica y Técnica de Argentina; American Chemical Society Petroleum Research Fund; British Joint Infrastructure Fund; Canada Foundation for Innovation; Canadian Foundation for Climate and Atmospheric Sciences; Civilian Research and Development Foundation (US Department of State); Environment and Health Fund of Israel; International Science and Technology Center (U.S. Department of State); Kearney Foundation of Soil Science; Korea Research Foundation; Kuwait Institute for Scientific Research; National Aeronautics and Space Administration (USA); National Science Foundation (USA) (Geomorphology & Land Surface Dynamics, Geography, Geochemistry, Atmospheric Science, Environmental Engineering/ Bioengineering, Ecology and Evolutionary Biology); U.S. Army Corps of Engineers; U.S. Department of Agriculture; U.S. Department of Energy; U.S. Environmental Protection Agency (Review Panel Member, SBIR- Air Monitoring and Remote Sensing, 2007: Review Panel Member, STAR Fellowships- Physical Geography, 2004); U.S.- Israel Binational Science Foundation; UTEP University Research Institute Grant Program.

**UNIVERSITY SERVICE ACTIVITIES (at UTEP unless specified otherwise)**

University- Level Service:

2014- Faculty Senate representative for Department of Geological Sciences  
2013- Faculty affiliate, Border Biomedical Research Center  
2012- Assist with teaching CE 4107, Maymester course on Air Quality and Air Pollution  
2011- Faculty Steering Committee member, "Buen Ambiente-Buena Salud," U.S. EPA funded university-wide air quality student training and internship program  
2010- Assist the Campus Office of Emergency Management to make and certify UTEP as a "Storm Ready Campus," and serve as severe weather consultant/advisor  
2009- Intercollege X-Ray Diffraction Laboratory Steering Committee  
2008- QA/QC manager for selected US EPA grants through Center for Environmental Resource Management  
2005- Recruit various guests for the *Science Studio* radio program on KTEP-FM, serve as occasional guest co-host for the program  
2011- 2014 Alternate member, Graduate Council  
2014 Disability Awareness Week Steering Committee  
2011 Organize SOARS/RESESS/UNAVCO Internship Recruiting Event  
2008- 2010 Environmental Science and Engineering Ph.D. Program Executive Committee  
2009 Brief visiting delegation from White Sands Missile Range  
2007- 2009 Organize academic exchanges between UTEP and Universidad Nacional Autonoma de Mexico  
2005- 2008 Faculty Senate Committee on Research  
2006- 2007 Coordinator, Environmental Science and Engineering Seminar Series  
2006 Speak to the NSF-funded UTEP GK-12 Summer Institute for Science and Engineering Fellows about the causes of flash flooding on August 2, 2006, the day after a 500-year flood hit El Paso  
2005 Develop new curriculum materials and taught for two weeks ENGL 5238, "Writing About The Environment," while the instructor of record was overseas  
2003- 2005 Faculty Affiliate, Center for Dispersive Processes, Texas Tech University  
1999- 2004 Member, West Texas Mesonet Steering Committee, Texas Tech University  
1979- 1992 Member of University of California- Davis Chancellor's Administrative Advisory Committees on Disability Programs, Transportation, Physical Planning, News Media, Arts and Lectures, and Affirmative Action.  
1983- 1984 Cabinet of the Student Body President, Associated Students of the University of California- Davis

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1983- 1984      President, Abled-Disabled Student Union, University of California- Davis

College- Level Service:

2011- 2012      College of Science Graduate Curriculum Committee  
2011- 2012      Assist with advocacy, development, and implementation of the new Atmospheric Physics  
B.S. degree concentration  
2007              Organize special seminar for ESE 6301, "Environmental Law and Policy"  
2006              Develop and teach a laboratory on weather and climate for SCI 1100

Department- Level Service

2013-              Give lectures on Air Quality/Air Pollution to Environmental Science Senior Seminar  
2010-              Geological Sciences Department representative to Center for Environmental Resource  
Management ASARCO Remediation Student Internship Committee  
2010-              Geological Sciences Department Space Committee  
2005-              Geological Sciences Department Graduate Studies Committee  
2004-              Contribute to public events in the Geological Sciences Department including Earth  
Science Week, departmental open houses, mentoring graduate and undergraduate  
students presenting in the annual Geological Sciences Colloquium, giving briefings and  
leading tours of the Geological Sciences Department to visiting groups and officials from  
the U.S. Army Research Laboratory, National Oceanic and Atmospheric Administration,  
and National Aeronautics and Space Administration  
2004-              Facilitate/host numerous guest speakers in the Geological Sciences Department Seminar:  
Seminar Coordinator, 2009- 2011  
2012- 2013      Geological Sciences Department *ad hoc* Committee for THECB Graduate Program Re-  
Accreditation  
2009- 2012      Geological Sciences Department Personnel Committee  
2006- 2011      Develop and teach weather and atmosphere-related laboratory and field activities for the  
Pathways to the Geosciences High School Summer Program  
2005- 2011      Geological Sciences Department Undergraduate Curriculum Committee  
2005- 2010      Geological Sciences Department Liaison to the Center for Environmental Resource  
Management  
2007- 2009      Geological Sciences Department *ad hoc* Strategic Planning Committee on Faculty  
Development  
2007- 2009      Geological Sciences Department *ad hoc* Strategic Planning Committee on Students  
2005- 2008      Geological Sciences Department Library Liaison  
2007              Participant, NSF-funded UTEP GK-12 Environmental Science Panel  
2007              Guest lecture on environment, climate and weather to Dr. Laura Serpa's MAT class  
2007              Organize and implement a field trip including underground site tour to the Waste  
Isolation Pilot Plant low-level nuclear waste repository in New Mexico, a joint field trip  
of my Environmental Geology class and Dr. Phil Goodell's Nuclear Waste Disposal  
class: this was one of the first such tours approved for a non-VIP (Governor, Senators,  
etc.) group since the terrorist attacks of September 11, 2001.  
2006- 2007      Geological Sciences Department Faculty Search Committee (Remote Sensing/ GIS)  
2006- 2007      Geological Sciences Department John and Vida White Award Committee  
2006- 2007      Geological Sciences Department *ad hoc* Geography Curriculum Committee  
2005- 2006      Geological Sciences Department Faculty Search Committee (Earth System Science)  
2005- 2006      Participant, "Curriculum Development and Enhancement of Outreach in Environmental  
Sciences at the University of Texas at El Paso," NOAA funding to Diane Doser  
2001- 2003      Department of Geosciences Instrumentation Committee, Texas Tech University

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