

JEREMY EVERETT DIEM

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Education

- 2000: Ph.D. (Geography; minor in Remote Sensing and Spatial Analysis), The University of Arizona
Dissertation Title: "A Geographical Analysis of Air Pollution in the Tucson Region"
- 1997: M.A. (Geography), The University of Arizona
Thesis Title: "A Climatological Examination and Modeling of Carbon Monoxide Concentrations in Central Phoenix, Arizona"
- 1994: B.S. (Earth Sciences, minor in Geography), The Pennsylvania State University

Major Fields

Physical Geography, Climatology

Employment

- 2007-present: Associate Professor, Department of Geosciences, Georgia State University
- 2006-2007: Assistant Professor; Department of Geosciences, Georgia State University
- 2001-present: Assistant Professor; Department of Anthropology and Geography, Georgia State University
- 2000-2001: Research Associate; System for the Management, Observation, and GIS Modeling of Air Pollution (SMOGRAM) and Human-Environment Regional Observatory (HERO)
- 1997-2000: Research Assistant; System for the Management, Observation, and GIS Modeling of Air Pollution (SMOGRAM), Department of Geography and Regional Development, The University of Arizona
- 1998-1999 (winter): Instructor; Department of Geography and Regional Development, The University of Arizona
- 1998 (summer): Teaching Assistant; Department of Geography and Regional Development, The University of Arizona
- 1997 (summer): Research Assistant; Ozone Modeling Assessment (OMAS), Department of Geography and Regional Development, The University of Arizona
- 1996-1997: Teaching Assistant; Department of Geography and Regional Development, The University of Arizona
- 1996 (summer): Research Assistant; Phoenix carbon monoxide modeling study, Department of Geography and Regional Development, The University of Arizona
- 1996 (summer): Teaching Assistant; Department of Geography and Regional Development, The University of Arizona

Refereed Publications

- Diem, J.E.** 2007. Detecting summer rainfall enhancement within metropolitan Atlanta, Georgia USA. *International Journal of Climatology*, in press.
- Diem, J.E.**, and D.P. Brown. 2006. Tropospheric moisture and monsoonal rainfall over the southwestern United States. *Journal of Geophysical Research*, 111, D16112, doi:10.1029/2005JD006836.
- Diem, J. E.** 2006. Anomalous monsoonal activity in central Arizona, USA. *Geophysical Research Letters* 33, L16706, doi:10.1029/2006GL027259.
- Diem, J.E.**, C.R. Ricketts, and J.R. Dean. 2006. Impacts of urbanization on land-atmosphere carbon exchange within a metropolitan area in the USA. *Climate Research* 30:201-213.
- Diem, J.E.** 2006. Synoptic-scale controls of summer precipitation in the southeastern United States. *Journal of Climate* 19:613–621.
- Diem, J.E.** 2005. Northward extension of intense monsoonal activity into the southwestern United States. *Geophysical Research Letters* 32:Art.No.L14702.
- Diem, J.E.**, and T.L. Mote. 2005. Inter-epochal changes in summer precipitation in the southeastern United States: Evidence of possible urban effects near Atlanta, Georgia. *Journal of Applied Meteorology* 44:717–730.
- Diem, J.E.** 2004. Explanations for the spring peak in ground-level ozone in the southwestern United States. *Physical Geography* 25:105-129.
- Diem, J.E.**, L.B. Coleman, P.A. DiGirolamo, C.W. Gowens, N.R. Hayden, E.E. Unger, G.B. Wetta, and H.A. Williams. 2004. Comments on "Rainfall modification by major urban areas: Observations from spaceborne rain radar on the TRMM satellite." *Journal of Applied Meteorology* 43:941-950.
- Diem, J.E.**, and D.P. Brown. 2003. Anthropogenic impacts on summer precipitation in central Arizona, USA. *The Professional Geographer* 55:343-355.
- Diem, J.E.** 2003. A critical examination of ozone mapping from a spatial-scale perspective. *Environmental Pollution* 125:369-383.
- Diem, J.E.** 2003. Potential impact of ozone on coniferous forests of the interior southwestern United States. *Annals of the Association of American Geographers* 93:265-280.
- Diem, J.E.** 2002. Remote assessment of forest health in southern Arizona, USA: Evidence for ozone-induced foliar injury. *Environmental Management* 29:373-384.
- Diem, J.E.**, and A.C. Comrie. 2002. Predictive mapping of air pollution involving sparse spatial observations. *Environmental Pollution* 119:99-117.
- Diem, J.E.**, and A.C. Comrie. 2001. Allocating anthropogenic pollutant emissions over space: Application to ozone pollution management. *Journal of Environmental Management* 63:425-447.
- Diem, J.E.**, and A.C. Comrie. 2001. Air quality, climate, and policy: A case study of ozone pollution in Tucson, Arizona. *The Professional Geographer* 53:469-491.
- Diem, J.E.**, and A.C. Comrie. 2000. Integrating remote sensing and local vegetation information for a high-resolution biogenic emissions inventory - application to an urbanized, semi-arid region. *Journal of the Air and Waste Management Association* 50:1968-1979.

- Diem, J.E.** 2000. Comparisons of weekday-weekend ozone: Importance of biogenic volatile organic compound emissions in the semi-arid southwest USA. *Atmospheric Environment* 34:3445-3451.
- Comrie, A.C., and **J.E. Diem**. 1999. Climatological analysis and forecast modeling of carbon monoxide concentrations in Phoenix, Arizona. *Atmospheric Environment* 33:5023-5036.

Preprints and Conference Proceedings

- Diem, J.E. and Comrie, A.C., 2000: Regression-based spatial modeling of ozone in the Tucson region. Proceedings, 93rd Annual Meeting, *Air and Waste Management Association*, Pittsburgh, PA.
- Comrie, A.C. and Diem, J.E., 1999: Development of the System for Management, Observation, and GIS Modeling of Air Pollution (SMOGMAP). Proceedings, Electric Utilities Environmental Conference, Tucson, AZ.
- Diem, J.E. and Comrie, A.C., 1998: Development of a biogenic emissions inventory for a southwestern, semi-arid city. Preprints, 2nd Urban Environment Symposium, *American Meteorological Society*, Boston, MA.
- Comrie, A.C., Adams, D.K., All, J.D., Diem, J.E., Hessl, A.E., Kipfmueller, K.F. and Salzer, M.W., 1998: Seasonal and interannual climate controls on forest and wildland fire in the Southwest. Preprints, 23rd Conference on Agricultural and Forest Meteorology, *American Meteorological Society*, Boston, MA.
- Diem, J.E. and Comrie, A.C., 1998: Estimating biogenic emissions for urban airshed modeling in Tucson, Arizona. Proceedings, 91st Annual Meeting, *Air and Waste Management Association*, Pittsburgh, PA.
- Comrie, A.C., Diem, J.E. and Gutheim, T.L., 1998: Development of a GIS-based air quality planning model for marginal attainment areas. Proceedings, 91st Annual Meeting, *Air and Waste Management Association*, Pittsburgh, PA.
- Diem, J.E. and Comrie, A.C.; 1997: Climatological analysis and modeling of carbon monoxide concentrations in Phoenix, Arizona. Preprints, 10th Conference on Applied Climatology, *American Meteorological Society*, Boston, MA.
- Comrie, A.C. and Diem, J.E., 1997: Development of an operational statistical forecast model for ambient carbon monoxide. Proceedings, Symposium on Measurements of Toxic and Related Air Pollutants with EPA, *Air and Waste Management Association*, Pittsburgh, PA.

Other Published Materials

- Diem, J.E., 2003. Instructor's manual and test bank for *Physical geography: the global environment* by H.J. de Blij, P.O. Muller, and R.S. Williams. Oxford University Press: New York.

Scholarly Presentations

- Anomalous monsoonal activity in central Arizona, USA. Presented at the 61st Annual Meeting of the Southeastern Division of the Association of American Geographers, 19-21 November 2006, Morgantown, WV.

Impacts of urbanization on land-atmosphere carbon exchange within a U.S. metropolitan area. Presented at the 102nd Annual Meeting of Association of American Geographers, 7-11 March 2006, Chicago, IL.

Northward extension of intense monsoonal activity into the southwestern United States. Presented at the 60th Annual Meeting of the Southeastern Division of the Association of American Geographers, 20-22 November 2005, West Palm Beach, FL.

Synoptic-scale controls of warm-season wet periods and dry periods in the southeastern United States. Presented at the 101st Annual Meeting of Association of American Geographers, 5-9 April 2005, Denver, CO.

The Norcross anomaly: Evidence of possible urban effects on precipitation near Atlanta, Georgia. Presented at the 59th Annual Meeting of the Southeastern Division of the Association of American Geographers, 21-23 November 2004, Biloxi, MS.

The Norcross anomaly: Proof of urban effects downwind of Atlanta, Georgia? Presented at the 100th Annual Meeting of Association of American Geographers, 14-19 March 2004, Philadelphia, PA.

A critical review of ozone-mapping research. Presented at the 58th Annual Meeting of the Southeastern Division of the Association of American Geographers, 23-25 November 2003, Charlotte, NC.

The stratosphere as a source of atmospheric pollution in the southwestern United States. Presented at the 99th Annual Meeting of Association of American Geographers, 5-8 March 2003, New Orleans, LA.

Human impacts on summer precipitation in central Arizona, USA. Presented at the 57th Annual Meeting of the Southeastern Division of the Association of American Geographers, 23-26 November 2002, Richmond, VA.

A conceptual model of ozone-induced foliar injury in southern Arizona's "sky islands." Presented at the 98th Annual Meeting of Association of American Geographers, 19-23 March 2002, Los Angeles, CA.

An enhanced summertime moisture signal in central Arizona. Presented at the 98th Annual Meeting of Association of American Geographers, 19-23 March 2002, Los Angeles, CA.

Air quality and climate: a case study of ozone pollution in Tucson, Arizona. Presented at the 97th Annual Meeting of Association of American Geographers, February 27 – March 3, 2001, New York, NY.

Regression-based spatial modeling of ozone in the Tucson region. Presented at the 93rd Annual Meeting and Exhibition of the Air and Waste Management Association, 19-22 June 2000, Salt Lake City, UT.

Spatial modeling of ambient ozone in the Tucson region. Presented at the 96th Annual Meeting of Association of American Geographers, 4-7 April 2000, Pittsburgh, PA.

Spatial allocation of pollutant emissions in the Tucson region. Presented at 95th Annual Meeting of Association of American Geographers, 24-27 March 1999, Honolulu, HI.

Development of the System for Management, Observation and GIS Modeling of Air Pollution (SMOGMAP). Presented at the Electric Utilities Environmental Conference, 11-13 January 1999, Tucson, AZ.

Seasonal and interannual climate controls on forest and wildland fire in the Southwest. Presented at the American Meteorological Society's 23rd Conference on Agricultural and Forest Meteorology, 2-6 November 1998, Albuquerque, NM.

Development of a biogenic emissions inventory for a southwestern, semi-arid city. Presented at the American Meteorological Society's 2nd Urban Environment Symposium, 2-6 November 1998, Albuquerque, NM.

Estimating biogenic emissions for urban airshed modeling in Tucson, Arizona. Presented at the 91st Annual Meeting and Exhibition of the Air and Waste Management Association, 14-18 June 1998, San Diego, CA.

Development of a biogenic emissions inventory for urban airshed modeling in Tucson, Arizona. Presented at the 94th Annual Meeting of Association of American Geographers, Boston, MA, 25-29 March 1998, Boston, MA.

Development of a biogenic emissions inventory for the Tucson region. Presented at the Pima Association of Governments' Regional Symposium on Air Quality Monitoring/Modeling in the Tucson Region, 9-10 February 1998, Tucson, AZ.

SMOGMAP (System for the Management, Observation, and GIS Modeling of Air Pollution). Presented at the Pima Association of Governments' Regional Symposium on Air Quality Monitoring/Modeling in the Tucson Region, 9-10 February 1998, Tucson, AZ.

Climatological analysis and modeling of carbon monoxide concentrations in Phoenix, Arizona. Presented at the American Meteorological Society's 10th Conference on Applied Climatology, 19-23 October 1997, Reno, NV.

Carbon monoxide climatology and forecast model development for Phoenix, Arizona. Tucson Environmental Planning Advisory Committee, 7 July 1997, Phoenix, AZ.

A climatological analysis and modeling of carbon monoxide concentrations in Phoenix, Arizona. Presented at the 93rd Annual Meeting of Association of American Geographers, 1-5 April 1997, Fort Worth, TX.

Climatological analysis of carbon monoxide concentrations in Phoenix, Arizona. Presented at the Western Geography Graduate Student Conference, 14-16 February 1997, Tucson, AZ.

Public Lectures

The Norcross Anomaly: Proof of Urban Effects on Precipitation Downwind of Atlanta, Georgia?. Presented as part of the 2005/2006 Randolph W. Chapman colloquium series sponsored by the Department of Earth Sciences at the University of New Hampshire, 2 February 2006.

Local Anthropogenic Impacts on Warm-Season Precipitation in Central Arizona, USA. Presented as part of the 2003/2004 colloquium series sponsored by the Department of Geography and Regional Development at The University of Arizona, 3 October 2003.

Meteorologists and a Case of Problematic Conclusions: Arguments for Employing a Geographical Approach When Studying Precipitation-Enhancement in the Atlanta Area. Presented as part of 2002/2003 colloquium series sponsored by the Department of Geography at The University of Georgia, 31 January 2003.

The Carbon Cycle. Presented at Biosphere 2 Earth Semester Program, February 1998, Biosphere 2 Center, Oracle, AZ.

Honors and Awards

- Remote Sensing Mini-Grant, GeorgiaView, 2005.
- Writing Across the Curriculum Course-Development Grant, Georgia State University, 2003.
- Research Initiation Grant, Georgia State University, 2003.
- Travel Grant, The University of Arizona Graduate and Professional Student Council, 2000.
- Third Place, Regional Scholarship Competition, Grand Canyon Section of Air and Waste Management Association, 1999.
- Second Place, Climate Specialty Group Student Paper Competition, 95th Annual Meeting of Association of American Geographers, Honolulu, HI, 1999.
- Travel Award, Association of American Geographers Climate Specialty Group, 1999.
- First Place, National Scholarship Competition, Air and Waste Management Association, 1999.
- Travel Grant, The University of Arizona Graduate and Professional Student Council, 1999.
- Second Place, Excellence in Student Presentation, 2nd Annual American Meteorological Society Urban Environment Symposium, Albuquerque, NM, 1998.
- Graduate Scholarship, Southern Arizona Environmental Management Society, 1998.
- Honorable Mention, Climate Specialty Group Student Paper Competition, 94th Annual Meeting of Association of American Geographers, Boston, MA, 1998.
- Third Place, National Scholarship Competition, Air and Waste Management Association, 1998.
- Travel Grant, The University of Arizona Graduate and Professional Student Council, 1998.
- Scholarship, Tucson Women's Transportation Seminar, 1996.
- University Fellowship, Department of Geography and Regional Development, The University of Arizona, 1995.
- Second Place, William Grundy Haven Student Paper Competition, College of Earth and Mineral Sciences, The Pennsylvania State University, 1995.

External-Funding Proposals

- 2006: National Science Foundation. Collaborative Research: Understanding the spatiotemporal complexity of monsoonal activity within the Lower Colorado River Basin. (not funded)
- 2006: National Science Foundation. CAREER: Land-atmosphere exchange of carbon within a rapidly urbanizing region (not funded)
- 2005: GeorgiaView grant proposal: Land-cover classification of the Atlanta Region. (funded)
- 2004: National Science Foundation CAREER grant proposal: Land-Atmosphere Exchanges of Carbon Dioxide within an Urban Ecosystem. (not funded; given status of fund with medium priority)
- 2003: National Science Foundation CAREER grant proposal: Environmental impacts on land-atmosphere exchanges of a greenhouse gas within an urban ecosystem (not funded)

- 2002: National Science Foundation grant proposal: Investigating the link between air pollution and the health of coniferous forests in southern Arizona, USA. (not funded)
- 2002: Subcontractor on Southeastern Air Resource Managers Visibility Improvement - State and Tribal Association of the Southeast grant proposal. (not funded)
- 2000: National Science Foundation grant proposal: Investigating spatio-temporal relationships between ozone, climate, and forest injury in the southwestern United States (not funded)

Collaborations

- 2003-2007. Stallins, J.A., Bentley, M., Konrad, C., and Diem, J. "Complex Controls on Distribution of Lightning Characteristics and Property Damage in an Urbanized Region". National Science Foundation Geography and Regional Science Program.

Professional Development

- Geography Faculty Development Alliance (GFDA) workshop, 19-26 June 2004, Boulder, CO
- Partnership for Reform in Science and Mathematics (PRISM) Institute, 23-24 April 2004, Atlanta, GA

Selected Service

Outreach

- Reviewer: *Annals of the Association of American Geographers, Atmospheric Environment, Climate Research, Energy and Fuels, Environmental Management, Environmental Modelling and Software, Environmental Pollution, Environmental Research, Environmental Science & Technology, International Journal of Climatology, Journal of Applied Meteorology, Journal of Applied Meteorology and Climatology, Journal of Arid Environments, Journal of Geophysical Research – Atmospheres, Journal of Hydrometeorology, Journal of Regional Science, Journal of the Air and Waste Management Association, Meteorologische Zeitschrift, Physical Geography, Science of the Total Environment, The Professional Geographer, Theoretical and Applied Climatology*
- 2005-2007: "Meteorology Event" coordinator for the Science Olympiad Regional Competition
- 2004: Guest lecturer for Integrated Science program of the College of Education
- 2002-2003: "Road Scholar" coordinator for the Science Olympiad Regional Competition
- 1998: Presenter at the Pima College Summer Academy
- 1997: Guest Lecturer, Third Annual Environmental Awareness Conference at Coronado Middle School (Tucson, AZ)

Intramural

- 2007: Search committee chair for two positions in physical geography in the Department of Geosciences at Georgia State University
- 2007-present: Representative from the Department of Geosciences in the faculty senate at Georgia State University

2006-present: Undergraduate director in the Department of Geosciences at Georgia State University

2006-present: Executive committee for Department of Geosciences at Georgia State University

2006-present: Pullen Library faculty liaison for Department of Geosciences at Georgia State University

2006-present: Coordinator of learning-outcomes assessment for Department of Geosciences

2004-2005: Coordinator of critical-thinking assessment member for Department of Anthropology and Geography

2004-2005: Coordinator of learning-outcomes assessment for Department of Anthropology and Geography

2004: Georgia State University representative for GeorgiaView

2004: Faculty search committee (Physical Geography) for Department of Anthropology and Geography at Georgia State University

2004: Faculty search committee (GIS/Public Health) for Department of Anthropology and Geography at Georgia State University

2004: Reviewer of Georgia State University dissertation grant proposal

2003-2005: Executive committee for Department of Anthropology and Geography at Georgia State University

2002: Faculty search committee for Department of Anthropology and Geography at Georgia State University

2002-2003: Coordinator of colloquium series for Department of Anthropology and Geography at Georgia State University

2001-2005: Pullen Library faculty liaison for Department of Anthropology and Geography at Georgia State University

1999: Graduate student representative on faculty search committee for Department of Geography and Regional Development at The University of Arizona

1997: Undergraduate Student Writing Task Force, College of Social and Behavioral Sciences, The University of Arizona

Memberships

Editorial Board of *Environmental Pollution*

Southeastern Division of the Association of American Geographers

Association of American Geographers

Courses Taught

Introduction to Physical Geography (Lecture): The University of Arizona

Introduction to Physical Geography (Climatology lab): The University of Arizona

Introduction to Physical Geography (Geomorphology lab): The University of Arizona

Introduction to Weather and Climate (Lecture): Georgia State University

Advanced Weather and Climate (Lecture): Georgia State University

Environmental Climatology (Seminar): Georgia State University

Quantitative Spatial Analysis (Lecture): Georgia State University

Climatic Variability and the Carbon Cycle (Seminar): Georgia State University

Introduction to Remote Sensing (Lecture): Georgia State University

Graduated Advisees

2005: Diane Styers, M.A., “Ozone Damage Potential to Loblolly Pine Ecosystems in Metropolitan Atlanta, Georgia”

2005: Edward Unger, M.A., “The Relationship between High Ozone Days and Atmospheric Patterns in Atlanta, Georgia”