

Dr. Redina L. Herman

Assistant Professor, Department of Geography
Western Illinois University
1 University Circle, Macomb, IL 61455
office: 309-298-1764 fax: 309-298-3003
RL-Herman@wiu.edu

Education

Ph.D., Atmospheric Sciences, University of Illinois, October 2003

Dissertation title: Gravity wave/Large-scale Flow Interactions: A Comparison of Model Prediction and Observation.

B.S. (with High Honors), Physics, Florida Institute of Technology, 1995

Relevant Research

Assistant Professor, Western Illinois University, Department of Geography scholarly activities (August 2005 – present).

- *Environmental Impact of Aircraft Emissions: Collaboration with University of Illinois Urbana-Champaign, Department of Atmospheric Sciences:* Worked with Dr. Steve Baughcum at the Boeing Company in Seattle, WA. The project was done in collaboration with Dr. Donald Wuebbles at the University of Illinois, Department of Atmospheric Sciences. This research is part of the continuing studies related to the impact of aircraft emissions on the environment using the UIUC Radiative Transfer Model. (July 22 – August 6, 2006)
- *Currently working on the following relevant projects:*
 - Survey study to examine how incoming students at WIU receive, interpret and react to hazardous weather alerts; study will also examine level of understanding incoming students have about hazardous weather in the Midwest
 - Survey project to examine how the general public receives, interprets and reacts to hazardous weather alerts
 - Examination of students' perception of the impact of weather on the environment through the use of the Earth Gauge service learning project in the GEOG 120 (Introduction to Weather and Climate) classes
 - Pursuing grant opportunities for the analysis and mapping of the potential for profitable locations for wind energy turbines in Illinois
 - Pursuit of grant opportunities to implement a computer lab for the general education Geography courses and to analyze knowledge retention changes due to the implementation of the computer lab

Postdoctoral Associate, University of Illinois, Department of Atmospheric Sciences (August 2003 – August 2005)

- Performed studies related to the impact of aircraft emissions on the environment, including: improvements to and studies using the University of Illinois Radiative Transfer Model, case studies using MOZART3 3-D chemical transport model and evaluation of relative humidity as depicted by global climate models in the upper troposphere and lower stratosphere for contrail studies. Supervised one undergraduate student (2003-2004 academic year), one post-doctoral associate (2004-2005 academic year) and one graduate student (2004-2005 academic year).

Science-education research at the University of Illinois, Department of Atmospheric Sciences (August 1998-present)

- Studied content knowledge retention and developed innovative technology-based course materials to improve student understanding and knowledge retention.

Service/Volunteer Work

Volunteer at local schools to teach various science topics.

- Lincoln Elementary School, Macomb, IL: Have planned and will plan activities for segments on physics, chemistry, geology, geography, and weather to 2nd grade classes over the November 2006 – May 2007 time period. (November 2006 – present)

- Macomb Junior/Senior High School, Macomb, IL: Talked to juniors and seniors about careers in meteorology. (December 9, 2005)
- Robeson Elementary School, Champaign, IL: Taught topics including water cycle (kindergarten), water in the atmosphere (1st grade), clouds (1st grade), atmospheric optics (kindergarten and 1st grade), volcanoes (4th grade). (August 2000 – May 2004)

Invited Speaker/Participant

- *Invited presenter at the Western Illinois University – M.G. Kellogg Science Education Center preK-8 Science Update Conference: Leaving No Child Behind – In Science:* The presentation entitled “Teaching Hazardous Weather Awareness” will present hands-on activities and lessons that can be used to teach students about hazardous weather and weather safety. (April 20, 2007)
- *Invited speaker to the Sustainability Brown Baggers seminar series sponsored by the Institute for Environmental Studies and the Illinois Institute of Rural Affairs at Western Illinois University:* The presentation entitled “Service Learning through Earth Gauge” talked about using the Eyes on the Environment: Earth Gauge program as a service learning activity in introductory level weather and climate classes. (February 27, 2007)
- *Invited participant at the “Impact of Aviation on Climate Change” workshop in Boston, MA sponsored by the Federal Aviation Administration and the National Aeronautics and Space Administration:* The purpose of this workshop was to assess the state of understanding of the impact of aviation on climate change, to suggest future research endeavors and to prioritize proposed research endeavors. The report derived from this meeting was published August 31, 2006. (June 7-9, 2006)
- *Invited speaker to the Western Illinois University’s Environment Sustainability: Research and Applications Brown Bag Seminar Series:* The presentation entitled “Atmospheric Pollution from Airplane Emissions” talked about the environmental impact of aircraft emission and how my research is used to gauge this impact. (March 21, 2006)
- *Invited speaker to the Western Illinois University’s Science Journal Club:* Presented a talk entitled “A Discussion of Scientific Issues Surrounding Global Warming” (October 14, 2005)
- *Invited panelist on the “Hurricane Katrina: Environment, Poverty and Race Politics in 21st Century America”:* Invited by the Department of African American Studies to discuss the environmental issues surrounding the Hurricane Katrina disaster. (September 21, 2005)

Awards, Honors and Certifications

- *Human Participants Protection Education for Research Teams Certification of Completion* for the online course sponsored by the National Institute of Health (NIH) (March 24, 2007)
- *Nation Weather Service Davenport Certificate of Training* for the Basic and Advanced Severe Weather Spotter Training Course (March 17, 2007)
- *Selected by the Western Illinois University’s University Research Council to participate in the Faculty Grant Writing Workshop:* I was selected to participate based on my proposal idea to create establish and maintain a computer lab for the laboratory components accompanying the introductory general education courses taught in the Geography department was selected. (May 22-23, 2006)