**New Degree Request - University of Kansas**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Program Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program Identification</td>
<td>Master of Science in Geography</td>
</tr>
<tr>
<td>2. Academic Unit</td>
<td>Department of Geography</td>
</tr>
</tbody>
</table>
| 3. Program Description        | As an interdisciplinary field, geography spans the humanities, physical sciences, and social sciences, often distinctly incorporating spatial and temporal analysis in its understanding of Earth Systems. Although the Geography Department offers B.A., B.G.S., as well as B.S. degrees for undergraduates to reflect this breadth and diversity, it only offers a M.A. degree for graduate students. However, research and professional employment in Physical Geography and GIScience typically require graduate level education with rigorous scientific training.

Several recent changes to the Geography Department have also led to the lack of an M.S. degree becoming an issue. First, the Atmospheric Science program has moved to the Department of Geography. This has doubled the number of undergraduate student majors who are pursuing B.S. degrees. Many of these students have expressed an interest in a graduate program in Physical Geography or GIScience. Second, the funding of the NSF Center for the Remote Sensing of Ice Sheets has led to faculty hires that emphasize fields of study that require M.S. degrees and a need for students with interests in such a degree. Third, the newly developed Bachelor of Science in Interdisciplinary Computing degree at the Department of Electrical Engineering and Computer Science has a Geography concentration and will motivate some undergraduate students in computer science to pursue an M.S. degree in GIScience.

To ensure the required scientific background, to allow undergraduate B.S. degree students a better graduate degree option, and to make graduate students in those subfields more marketable we propose this new M.S. degree option.
4. Demand/Need for the Program

There is a nationwide interest in climate change, earth system science, and GIScience. Graduate study in physical geography and GIScience is quantitative in nature, and forms the core of these fields of study. We are finding that these types of studies are beginning to attract more students presently pursuing undergraduate degrees in engineering, mathematics, computer science and other earth sciences. The M.S. degree proposed here is a more natural continuation after these B.S. degrees, as well as for students presently pursuing the B.S. degree already offered in the Geography department. A M.S. degree in geography would better reflect the nature of students’ training and benefit them in markets where a strong physical science background is required. In a recent survey, 12 (out of 13 responses) current Master graduate students and 3 (out of 4 responses) undergraduate students have expressed the desire to obtain a M.S. instead of a M.A. degree, which would better reflect the nature of these students’ interests. We also had several cases that students didn’t apply for our graduate program once they heard that we don’t offer an M.S. degree.

Federal government agencies and laboratories and state government are increasingly tending to hire people with graduate degrees with a science focus. Both private research and the Bureau of Labor found strong growth in the geospatial market. Kansas City is a major environmental consulting hub in the nation – a M.S. degree would greatly benefit those students who wish to enter this growing environmental job market. In addition, students obtaining an M.S. degree through our program will be well positioned to enter Ph.D. programs in our department or other universities.

5. Comparative/Locational Advantage

Several leading geography programs in the nation offer M.S. degrees. The University of Wisconsin at Madison offers M.S. programs in GIScience. Penn State offers a M.S. in GIS. SUNY Buffalo also offers M.S. programs in GIS and Environmental and Earth Systems sciences. Northwest Missouri State University is the nearest school that offers an on-line M.S. degree in GIS. Several other regional universities also offer M.S. degrees in GIS and physical geography including Michigan State, Indiana University, Northern Illinois University, University of Wisconsin at Milwaukee, and North Texas. In Kansas, no geography program offers M.S. degrees. Our proposed M.S. degree will, therefore, provide a unique program within the state to serve graduate students whose interests are focused on physical and GIScience areas in geography.

6. Curriculum

A minimum of thirty credit hours will be required for the M.S. degree. Students must pass an oral examination and write a thesis. In addition, students are required to take the two-day (non-credit) field trip before classes begin in the fall semester and GEOG980 (Colloquium) for 1 credit hour during each of the first two semesters in residence at KU.

7. Faculty Profile

We have 15 core faculty members for the program. All faculty members involved with the program have Ph.D. degrees and are also involved with the undergraduate program either in geography or the atmospheric science program. Curriculum vitae of all faculty involved are in the Appendix A of the narrative document.
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<table>
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<tbody>
<tr>
<td><strong>8. Student Profile</strong></td>
<td>Students could come from a variety of different backgrounds. As the only program in the state to offer this degree we would expect significant demand from students within the State of Kansas. We anticipate that most of these students would have earned an undergraduate degree in geography (at the University of Kansas or other State institutions) and wish to earn a graduate degree in geography specializing in Physical Geography or GIScience. Students from related disciplines in earth sciences, engineering, computer science and other physical sciences who meet the necessary prerequisite courses form another likely source of participants. People who have moved to Kansas and are employed and now want to earn a graduate degree in geography are another source of students. We also anticipate drawing students from other states, especially states which do not have M.S. graduate programs in geography. In addition, the program could attract international students as the demand for graduate study in the U.S. is high in geography.</td>
</tr>
<tr>
<td><strong>9. Academic Support</strong></td>
<td>The main support services needed by this program are computer technicians and library materials and services, which are already in place in the Geography Department.</td>
</tr>
<tr>
<td><strong>10. Facilities and Equipment</strong></td>
<td>The program will use the current departmental instructional facilities. The geography department and faculty research labs have sufficient facilities for student research. No new equipment will be required.</td>
</tr>
<tr>
<td><strong>11. Program Review, Assessment, Accreditation</strong></td>
<td>This degree program would be reviewed under the College of Liberal Arts and Sciences departmental review and the department of Geography’s self-study and external review that takes place every 7-8 years. The department was reviewed in 2009-2010 and was in strong support of developing this program. Student grades in graduate level courses, quality of student master’s theses and oral presentations of their research, and publication of student research in peer reviewed journals will be used to assess the effectiveness of the program. The department evaluates students annually for awards of fellowships from KU, Graduate Teaching Assistants, and Graduate Research Assistants. No professional organization accredits masters programs in geography. There are no recommendations published by a professional society for minimum requirements for a M.S. program in geography.</td>
</tr>
<tr>
<td><strong>12. Costs, Financing</strong></td>
<td>No new funding is required.</td>
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</tbody>
</table>
CURRICULUM OUTLINE
NEW DEGREE PROPOSALS
Kansas Board of Regents

I. Identify the new degree:

Master of Science in Geography

II. Provide courses required for each student in the major:

<table>
<thead>
<tr>
<th>Course Name &amp; Number</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 805 History of Geographic Thought</td>
<td>2</td>
</tr>
<tr>
<td>GEOG 716 Advanced Geostatistics or an equivalent course in statistics and experimental design</td>
<td>3</td>
</tr>
</tbody>
</table>

Students are required to take the two-day (non-credit) field trip before classes begin in the fall semester and GEOG980 (Colloquium) for 1 credit hour during each of the first two semesters in residence at KU

<table>
<thead>
<tr>
<th>Electives</th>
<th>9-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>One course (500-level or above) in each of the three areas in geography (GIScience, Physical Geography / Atmospheric Sciences, and Regional / Human Geography)</td>
<td></td>
</tr>
<tr>
<td>Three courses (500-level or above) in an approved area of concentration (GIScience or physical geography). For GIScience concentration, a graduate level (500-level or above) computer programming course must be one of the three electives</td>
<td></td>
</tr>
</tbody>
</table>

Research: Thesis: 6

Practica: None

Total: 30
Implementation Year FY 2013

Fiscal Summary for the Proposed Academic Program

Institution: University of Kansas - Lawrence  Proposed Program: Master of Science in Geography

Part I. Anticipated Enrollment

<table>
<thead>
<tr>
<th></th>
<th>Implementation Year</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
<td>A. Headcount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>6</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>Part-Time</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>14</td>
</tr>
</tbody>
</table>

Part II. Program Cost Projection

A. In the implementation year, list all identifiable General Use costs to the academic unit(s) and how they will be funded. In subsequent years, please include only the additional amount budgeted.

<table>
<thead>
<tr>
<th>Base Budget</th>
<th>Implementation Year</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
</tr>
<tr>
<td>OOE</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
</tr>
</tbody>
</table>

Indicate source and amount of funds if other than internal reallocation:
Revised: September, 2003

Approved: _____________________
Basic Program Information

(1) Proposing institution: University of Kansas
(2) Title of proposed program: Geography
(3) Degree(s) to be offered; M.S. in Geography
(4) Anticipated date of implementation: 8/20/2013
(5) Responsible department(s) or unit(s): Geography
(6) Center for Education Statistics (CIP) code associated with the program: 450701

Program Proposal Narrative

a. Program Need and Student Characteristics

(1) Is the program central to the mission of the institution?

The Department of Geography wishes to institute a Master of Science degree in Geography with specializations in physical geography and geographic information science (GIScience). There are several reasons this program should be considered central to the mission of the university. One of the main missions of the Geography Department at KU is to provide instruction on environmental processes, human-environment interactions and on methods for detecting and documenting such processes and interactions. Although classified as a Social Science program in the CIP, the Geography Department at the University of Kansas is a part of the Physical Sciences Division of the College of Liberal Arts and Sciences and actively pursues physical science research related to:

- Atmospheric processes and climate change (Atmospheric Science)
- Studies of earth surface processes and human impacts on hydrologic, geomorphologic and ecological systems, as part of expanding human development (Physical Geography)
- Development and application of computational tools for documenting, mapping and analyzing the processes and the interactions. This includes the development and use of geographic information systems, global positioning system, and remote sensing satellites (GIScience)

As an interdisciplinary field, geography spans the humanities, physical sciences, and social sciences, often distinctly incorporating spatial and temporal analysis in its understanding of Earth Systems. Although the Geography Department offers B.A., B.G.S., as well as B.S. degrees for undergraduates to reflect this breadth and diversity, it only offers a M.A. degree for graduate students. However, research and professional employment in Physical Geography and GIScience careers typically require graduate level education with rigorous scientific training. Therefore, to make graduate students in those subfields more marketable, to ensure the required scientific background, and to allow our undergraduate B.S. degree students a better graduate degree option we propose this new M.S. degree option.
Several recent changes to the KU Geography Department have led to the lack of an M.S. degree becoming an issue. First, the Atmospheric Science program has moved to the Department of Geography. This has doubled the number of undergraduate student majors who are pursuing B.S. degrees. Many of these students have expressed an interest in a graduate program in Physical Geography or GIScience. Second, the funding of the NSF Center for the Remote Sensing of Ice Sheets has led to faculty hires that emphasize fields of study that require M.S. degrees and a need for students with interests in such a degree. Third, the newly developed Bachelor of Science in Interdisciplinary Computing degree at the Department of Electrical Engineering and Computer Science has a Geography concentration and will motivate some undergraduate students in computer science to pursue an M.S. degree in GIScience. In the last few years it has also become apparent that the lack of an M.S. degree is resulting in our inability to attract graduate students with the required research and teaching expertise to support these research activities and for teaching support in the physical geography and GIScience. In addition, ongoing activities in such programs as the Kansas Applied Remote Sensing Program, the Kansas Biological Survey, the Kansas Geological Survey and other GIS and remote sensing activities on campus should greatly benefit from a more science oriented degree in physical geography and GIScience.

(2) What is the student demand for the program?

The M.S. in Geography is of interest to students with a variety of different backgrounds because geography integrates concepts from various disciplines. There is also a nationwide interest in climate change, earth system science, and GIScience. Graduate study in physical geography and GIScience is quantitative in nature, and forms the core of many observational studies related to these fields of study. We are finding that these types of studies are beginning to attract more students presently pursuing undergraduate degrees in engineering, mathematics, computer science and other earth sciences. The M.S. degree proposed here is a more natural continuation after these B.S. degrees, as well as for students presently pursuing the B.S. degree already offered in the Geography department. A M.S. degree in geography would better reflect the nature of students’ training and benefit them in markets where a strong physical science background is required.

The current graduate program in Geography has 97 students. 42 of them are Master students. In a recent survey, 12 (out of 13 responses) current Master graduate students and 3 (out of 4 responses) undergraduate students have expressed the desire to obtain a M.S. instead of a M.A. degree, which would better reflect the nature of these students’ interests. The need for the degree is not only driven by student demand. As more graduate students seek to specialize in the study of the Earth System’s bio-physical components, it is apparent that the advanced skills in quantitative and spatial analytical techniques are at the core requirements for careers in regional and national data analysis and in environmental consulting firms. As an example, NASA graduate fellowships require enrollment in a M.S. program, and a M.A. program is not acceptable. We also had several cases that students didn’t apply for our graduate program once they heard that we
don’t offer an M.S. degree. Based on our survey and these other pieces of evidence, we estimate the number of enrolled students after 3 years will be more than 20.

(3) What is the demand for graduates in this program?

The traditional employer of geography graduates with a science focus is the federal, state, and local governments. Federal government agencies and laboratories (for example, U.S. Geological Survey, National Resource Conservation Service, Oak Ridge National Laboratory and other DOE and DOD laboratories, and National Renewable Energy Laboratory) and state government (Department of Natural Resources, Department of Health and Environment, and Department of Transportation) are increasingly tending to hire people with graduate degrees. Kansas City is a major environmental consulting hub in the nation – a M.S. degree would greatly benefit those students who wish to enter this growing environmental job market. Our students will continue to be at a disadvantage in applying for these positions if they do not have an M.S. degree. In addition, students obtaining an M.S. degree through our program will be well positioned to enter Ph.D. programs in our department or other universities.

Overall employment of physical geography and GIScience is expected to grow in the next few decades. According to private research firm Daratech, the GIS industry grew in the double digits in 2010 and another 8% in 2011. The Bureau of Labor Statistics' 2010-2011 Handbook labeled GIS skilled workers as having "favorable job prospects" and the US Department of Labor's High Growth Industry Profile--Geospatial Technology report found that the geospatial market is "growing at an annual rate of almost 35 percent, with the commercial subsection of the market expanding at the rate of 100 percent each year."

(4) What are the locational and comparative advantages of this program?

Several leading geography programs in the nation offer M.S. degrees. The University of Wisconsin at Madison offers M.S. programs in GIScience. Penn State offers a M.S. in GIS. SUNY Buffalo also offers M.S. programs in GIS and Environmental and Earth Systems sciences. Northwest Missouri State University is the nearest school that offers an on-line M.S. degree in GIS. Several other regional universities also offer M.S. degrees in GIS and physical geography including Michigan State, Indiana University, Northern Illinois University, UW Milwaukee, and North Texas. In Kansas, no geography program offers M.S. degrees. Our proposed M.S. degree will, therefore, provide a unique program within the state to serve graduate students whose interests are focused on physical and GIScience areas in geography.

(5) What are the characteristics of the students who will participate in this proposed program?

Students for this proposed program could come from a variety of different backgrounds. As the only program in the state to offer this degree we would expect significant demand from students within the State of Kansas. We anticipate that most of these students
would have earned an undergraduate degree in geography (at the University of Kansas or other State institutions) and wish to earn a graduate degree in geography specializing in Physical Geography or GIScience. Students from related disciplines in earth sciences, engineering, computer science and other physical sciences who meet the necessary prerequisite courses form another likely source of participants. People who have moved to Kansas and are employed and now want to earn a graduate degree in geography are another source of students. We also anticipate drawing students from other states, especially states which do not have M.S. graduate programs in geography. In addition, the program could attract international students as the demand for graduate study in the U.S. is high in geography.

Entering students are expected to have a B.S. degree in geography or in related physical science, earth science, mathematics, or engineering disciplines. Applicants should have a minimum Grade Point Average (GPA) of 3.0 on a 4.0 scale. Applicants with a GPA of less than 3.0 may be considered for admission on a probationary or provisional status. Entering students will be expected to have studied quantitative methods. Graduate Record Examination scores (verbal, quantitative and analytical) are required of all applicants.

We expect that most students in this program will be funded as graduate teaching assistants or graduate research assistants for at least part of their program. Teaching assistants will learn about presenting geography material to undergraduates. Research assistants will work with faculty, other students and technicians on research projects. The program will be flexible and thus amenable to part time study and we expect that some people who are interested in the degree program will want to continue to work full time, while looking to advance/supplement their careers with this degree.

b. Curriculum of the Proposed Program

(1) What is the curriculum of the proposed program?

We propose to develop an M.S. degree in Geography. The program would require a 30 credit hour minimum. Students must pass an oral examination and write a thesis. In addition, students are required to take the two-day (non-credit) field trip before classes begin in the fall semester and GEOG 980 (Colloquium) for 1 credit hour during each of the first two semesters in residence at KU.

The program will aim to expand the student’s knowledge of how earth systems work and how humans interact with its components. The student will become familiar with how to analyze geographic data both statistically and through models. The student will gain an in depth ability to learn a set of specific skills and use these skills in his/her thesis work. These skills may consist of statistical analysis, numerical modeling, working with laboratory or field instrumentation, or other skills useful for collecting or analyzing geographic data. The students will learn to apply this knowledge and these skills to new problems in geography. The program will be flexible by requiring only a few specific
courses and having a wide variety of acceptable courses for meeting degree requirements. Thus, it will be able to accommodate students with a variety of interests.

When a student is admitted to the department by the Graduate Affairs Committee, the student should have already declared an advisor and the advisor should have agreed to work with the student. Early in the first semester (preferably in the first week of classes), the student should meet with this advisor to outline a tentative program of coursework for the degree. Such programs should be solidified by the time of enrollment for the second semester and submitted to the student’s graduate committee for approval. The student and advisor are then expected to continue to discuss and update programs each semester, bearing in mind that any substantive changes must be approved by the student’s graduate committee. Program sheets are available in the department office and must be filed before the oral examination can be scheduled. The student will have a thesis committee consisting of at least 3 faculty members. At least two of these faculty members must have regular appointments in Geography. All candidates must pass an oral examination and must submit a thesis. The thesis will also be defended in a public presentation.

Required courses

- GEOG 805 History of Geographic Thought
- GEOG 716 Advanced Geostatistics or an equivalent course in statistics and experimental design

Electives

- One course (500-level or above) in each of the three areas in geography (GIScience, Physical Geography / Atmospheric Sciences, and Regional / Human Geography).
- At least three courses (500-level or above) in an approved area of concentration (GIScience or physical geography).
- For the GIScience concentration, a graduate level (500-level or above) computer programming course must be one of the three electives.

c. Program Faculty

(1) *What is the quality of the faculty?*

The following are the core faculty for the program. All faculty involved with the program have Ph.D. degrees. Curriculum vitae of all faculty are in Appendix A.

David Braaten (Professor)
Nathaniel Brunsell (Associate Professor)
Jerry Dobson (Professor)
Stephen Egbert (Associate Professor)
Johannes Feddema (Professor)
Daniel Hirmas (Assistant Professor)
William Johnson (Professor)
Xingong Li (Associate Professor)
George McCleary (Associate Professor)
David Mechem (Assistant Professor)
Margaret Pearce (Assistant Professor)
David Rahn (Assistant Professor)
Terry Slocum (Associate Professor)
Donna Tucker (Associate Professor)
Cornelis van der Veen (Professor)

All the faculty listed above are also involved with the undergraduate program either in geography or the atmospheric science program. Although new faculty would be desirable, we are not proposing any at this time.

(2) *How many graduate assistants will serve the program?*

We presently support 21.5 graduate teaching assistant positions in the Geography program. No new GTA positions will be created, but students in this program will have equal access to GTA positions with those in the M.A. degree. These teaching assistants will teach laboratory sections in various geography courses.

We also anticipate some students will be supported by research assistantships rather than teaching assistantships. The number of these students will vary depending on support available from the research programs of the individual faculty members but we anticipate there would be 6-8 of these students at any one time.

d. **Academic Support**

(1) *What are the academic support services for this program?*

The main support services needed by this program are computer technicians and library materials and services, which are already in place in the Geography Department. The computers themselves will be described in the facilities section of this proposal.

(2) *What new library materials and other forms of academic support are required beyond normal additions?*

The library already has subscriptions to online or paper copies of the key journals in geography. The library also has a large variety of books on geography subjects. In addition this program will benefit from and in turn will benefit the GIS services presently offered by the Library system. Thus, we feel that present library resources and normal additions will be sufficient to support this program.

(3) *What new supporting staff will be required beyond normal additions?*
The department of geography has two full time office staff and one part time office staff. These staff members already support the M.A. degree in geography and we feel they are able to handle the additional workload the M.S. degree in Geography will require. In addition the Department has access to 2 technical support staff through the College of Liberal Arts and Sciences; these positions will be sufficient to support the proposed program.

e. Facilities and Equipment

(1) What are the anticipated facilities requirements?

The M.S. program in Geography will use the current departmental instructional facilities.

(2) What new equipment will be required beyond normal additions?

The geography department and faculty research labs have sufficient facilities for student research. No new equipment will be required.

f. Program Review

(1) What is the program review process or what evaluation methods will be used to review the program?

The College of Liberal Arts and Sciences conducts departmental reviews. The department of Geography was reviewed in 2009-2010 and every 7-8 years thereafter. The review would include both self study and external review. This degree program would be reviewed under this process. Curricula for department courses are reviewed each year during the faculty evaluation process to ensure that they are appropriate for the courses being taught. The department meets annually to decide which students to award Graduate Teaching Assistants to for the following year. At this meeting overall graduate funding is reviewed as the department examines which students have fellowships from KU, which are supported as Graduate Research Assistants, and which have other types of funding. The 2009-2010 review was in strong support of developing this program.

(2) What student learning outcomes measures will be used to assess the program’s effectiveness?

A number of measures of student learning will be used. Student grades in graduate level courses reflect student learning. Quality of student master’s theses and oral presentations of the research show how the student has applied what was learned. Publication of student research in peer reviewed journals will confirm research quality. Quality of student presentations at professional conferences will make the program’s effectiveness clear. We will also examine how long it takes students to finish their degrees. Students
would normally finish their degrees in two years of full time study but we do expect some part time students in this program to take longer.

(3) *What are the institution’s plans regarding program accreditation?*

No professional organization accredits masters programs in geography. There are no recommendations published by a professional society for minimum requirements for a M.S. program in geography.

*Appendix A (next page) – Faculty curriculum vitae*
Curriculum Vitae

DAVID A. BRAATEN

Professor
Geography Department
1475 Jayhawk Blvd.
The University of Kansas
Lawrence, Kansas 66045
Voice: (785) 864-3801
Fax: (785) 864-5378
E-mail: braaten@ku.edu

Deputy Director
Center for Remote Sensing of Ice Sheets (CReSIS)
2335 Irving Hill Road
The University of Kansas
Lawrence, Kansas 66045
Voice: (785) 864-7790

Education

Ph.D., Atmospheric Science 1988, University of California - Davis.
Dissertation Title: Particle resuspension and associated coherent structures in a turbulent boundary layer.

M.S., Meteorology 1981, San Jose State University, San Jose, California.
Thesis Title: Long range transport of visibility reducing pollutants in the southwest U.S.

B.S., Meteorology 1977, State University of New York – Oswego.

Employment

Deputy Director, 2005 - present, Center for Remote Sensing of Ice Sheets (CReSIS), University of Kansas.

Professor, 2006 – present, University of Kansas, Geography Department.
Associate Professor, 1995 - 2006, University of Kansas, Geography Department (Prior to 6/2003, Dept. Physics and Astronomy)
Assistant Professor, 1989 - 1995, University of Kansas, Dept. Physics and Astronomy

Visiting Scientist, 1996-1997, Laboratory for Nuclear and Environmental Chemistry, Paul Scherrer Institute, Switzerland. Academic year sabbatical leave from the University of Kansas.

Postgraduate Researcher V, 1988 - 1989 University of California, Davis, Dept. LAWR.

Meteorologist, 1977-1980, H.D.R., Inc., Sciences Division, Santa Barbara, CA

Courses Taught at the University of Kansas

Introduction to Meteorology  
Air Pollution Meteorology  
Dynamic Meteorology  

Unusual Weather  
Seminar for Seniors  
Advanced Dynamic Meteorology
Professional Society Memberships

American Meteorological Society          American Geophysical Union
IEEE                                      International Glaciological Society
American Polar Society                    Sigma Pi Sigma

Research Activities

• Deputy Director and co-founder of the Center for Remote Sensing of Ice Sheets (CReSIS) at the University of Kansas. CReSIS was one of two Science and Technology Centers established by the National Science Foundation in 2005. The vision of the Center is to understand and predict the role of polar ice sheets in sea-level change.
• Appointed by Kansas Governor Kathleen Sebelius to serve on the Kansas Energy and Environment Policy (KEEP) advisory group, 2008-2010.
• Co-Principal Investigator of an Integrative Graduate Education and Research Traineeship Program (IGERT) grant from the National Science Foundation: C-CHANGE: Climate Change, Humans, and Nature in the Global Environment.
• Managed the outreach program of the Polar Radars for Ice Sheet Measurements (PRISM) project at the University of Kansas.
• Field experience in Antarctica (seven field seasons) and Greenland (four field seasons).
• Chaired a workshop in 1998 on aviation weather hazards at the University of Kansas sponsored by NSF-EPSCoR, FAA and the U.S. Weather Research Program.
• Designed and deployed an instrumentation system called the Microsphere Dispersal System (MDS) which provides a detailed characterization snow accumulation in hostile polar or alpine environments for periods of up to one year. Used the system to characterize snow accumulation processes in Antarctic regions dominated by katabatic winds. Sponsored a high school teacher and student under NSF’s Antarctic Research Experiences Program.

Current Funded Projects


Collaborative Research: GAMBIT - Gamburtsev aerogeophysical mapping of bedrock and ice targets, NSF, D. Braaten, PI, S. Gogineni, co-PI, $597,000., 10/1/07 – 9/30/11.

Science and Technology Center: Center for Remote Sensing of Ice Sheets (CReSIS), NSF, S. Gogineni, PI, D. Braaten, K. van der Veen, C. Leuchen, co-PI’s, $17,976,000., 6/1/10 – 5/31/15.

Science and Technology Center: Ice Sheets and Sea Level Rise, NSF, S. Gogineni, PI, D. Braaten, co-PI, $19,000,000., 6/1/05 – 5/31/10.

**Recent Administrative Committees**

Colloquium Committee, 2009-2010  
Faculty Search Committees (Geology Dept.) 2007-08  
Faculty Affairs Committee, (Geography; Physics & Astro.), 2001 – 2006.  
Chair, Faculty Search Committees (Geography Dept.) 2003-04, 2005-2006.

**Publications**


**Other Publications**


Subglacial Mountains with Aerogeophysical Surveys during the IPY. *IGS Symposium – Glaciology in the IPY*, 27-31 July, 2009, Newcastle, UK


Studinger, M., R.E. Bell, **D. Braaten**, D. Damaske, F. Ferraccioli, C. Finn, S. Gogineni, C.J. Wilson, 2006: Exploring the Gamburtsev Subglacial Mountains with Aerogeophysical Surveys During the IPY. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract U21B-0814.


Braaten, D., and M. Wu, 1999: Assessment of sublimation algorithm parameters on observed snow height changes in Greenland, EOS Transactions, 80, F236.


Braaten, D.A., 1997: The role of winds on the growth of polar ice sheets. Eos (Supplemental Issue), 78 (46).


Nathaniel A. Brunsell

**Contact Information**
Department of Geography
University of Kansas
417 Lindley Hall
1475 Jayhawk Blvd.
Lawrence, KS 66045-7613 USA
Voice: (785) 864-2021
E-mail: brunsell@ku.edu

**Research Interests**
Biometeorology, scaling processes from leaf to pixel, remote sensing of the surface energy balance, turbulence measurements using large aperture scintillometry and eddy covariance, ecological consequences of regional climate change, surface-precipitation feedbacks, implications of regional climate change on extreme value statistics, application of nonlinear time series analysis to meteorological datasets

**Education**
- **Ph.D.**, Biometeorology, 2003
  Utah State University, Logan UT
  Dissertation: An examination of scale issues involved with remotely sensed data
  University of New Mexico, Albuquerque, NM
  Undergraduate Honors Thesis: The effect of topography on precipitation

**Professional Experience**
- **Associate Professor**, 2010 - Present
  Department of Geography - Atmospheric Sciences Program,
  University of Kansas, Lawrence, KS
- **Visiting Scientist**, 2010 - 2011
  Biospheric Theory and Modelling Group (Sabbatical from KU)
  Max Planck Institute for Biogeochemistry, Jena, Germany
- **Assistant Professor**, 2004 - 2010
  Department of Geography - Atmospheric Sciences Program,
  University of Kansas, Lawrence, KS
- **Postdoctoral Research Associate**, 2002 - 2004
  Department of Civil and Environmental Engineering,
  Duke University, Durham, NC

**Awards**
- **Humboldt Fellowship for Experienced Researchers**. Alexander von Humboldt Foundation. 2010-2011.
- **Lecia Geosystems Award for best scientific paper in remote sensing; Second Place**. American Society for Photogrammetry and Remote Sensing. 2003.
Publications

† indicates a graduate student, ‡ indicates an undergraduate student co-author

Submitted


Published/In-press


[27] Petrie†, M. D., N. A. Brunsell and J. B. Nippert: 2011, Climate change alters growing season flux dynamics in mesic grasslands. Theoretical and Applied Climatology, in press.


Non-peer reviewed publications


Presentations † indicates a graduate student, ‡ indicates an undergraduate student co-author

Invited Presentations


Conference Proceedings and Presentations (Last five years only)


[27] Hirmas, D. R. and N. A. Brunsell: 2011, Application of wavelet and fractal techniques to the analysis to soil structure and color. EGU General Assembly, 4-8 Apr, Vienna, Austria.


[18] Quick‡, A., **N. A. Brunsell** and T. L. Buck†: 2010, Variations in land cover conditions on scalar similarity and correlation of scalar transport by turbulent eddies. 29th Conference on Agricultural and Forest Meteorology, 2-6 Aug, Keystone, CO.


Buck‡, T. A. and N. A. Brunsell: 2008, Soil moisture controls on carbon and water cycling. 28th Conference on Agricultural and Forest Meteorology, 28 Apr-2 May, Orlando, FL.

Ham, J. M., N. A. Brunsell and K. B. Arnold†: 2008, Effect of landscape position on carbon and water fluxes from tallgrass prairie. 28th Conference on Agricultural and Forest Meteorology, 28 Apr-2 May, Orlando, FL.


Brunsell, N. A. and A. R. Jones†: 2007, Determining the spatial variability of water and carbon cycling, First Annual Kansas EPSCoR Ecoforecasting Meeting, 21 Apr, Manhattan, KS.

---

**Funding**

<table>
<thead>
<tr>
<th>Currently Funded Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2011-2013</strong></td>
</tr>
<tr>
<td><strong>2010-2011</strong></td>
</tr>
</tbody>
</table>
### Currently Funded Projects: Collaborative Role

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-2013</td>
<td>IGERT: C-CHANGE: Climate Change, Humans, and Nature in the Global Environment. NSF. $3,200,000. (Teaching Faculty, PI: Joane Nagel)</td>
</tr>
</tbody>
</table>

### Previously Funded Projects

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-2007</td>
<td>Water and heat fluxes in a prairie ecosystem assessed using scintillometry and physically based modeling. KUCR General Research Fund. $7,015.00.</td>
</tr>
<tr>
<td>2005-2006</td>
<td>Assessing multi-scale spatial-temporal variability of surface energy fluxes using scintillometry and remote sensing. KUCR New Faculty General Research Fund. $7,914.56.</td>
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</tbody>
</table>

### Service

#### Editorial Duties

<table>
<thead>
<tr>
<th>Role</th>
<th>Journal</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial board</td>
<td>Agricultural and Forest Meteorology</td>
<td>2008-Present</td>
</tr>
<tr>
<td>Associate editor</td>
<td>International Journal of Agriculture Sciences</td>
<td>2010-Present</td>
</tr>
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</table>

#### Scientific Committees

<table>
<thead>
<tr>
<th>Role</th>
<th>Committee</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td><em>Agricultural and Forest Meteorology Scientific and Technological Activities Commission (STAC)</em> for the American Meteorological Society</td>
<td>2007-2013</td>
</tr>
<tr>
<td>Member</td>
<td>National Ecological Observatory Network (NEON) Domain Science and Education Coordination Committee (DSECC) for Domain 6.</td>
<td>2009-2011</td>
</tr>
<tr>
<td>Representative</td>
<td>KU representative to the Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI) (Alternate)</td>
<td>2008-Present</td>
</tr>
<tr>
<td>Member</td>
<td>Kansas Mesonet Steering Committee</td>
<td>2008-Present</td>
</tr>
<tr>
<td>Member</td>
<td>Science Steering Committee for EPSCoR Track II Project, joint between Kansas and Oklahoma</td>
<td>2009-Present</td>
</tr>
<tr>
<td>Member</td>
<td>DOE Scientific Discovery through Advanced Computing (SCIDAC) proposal review panel</td>
<td>2011</td>
</tr>
<tr>
<td>Member</td>
<td>NSF IGERT Pre-proposal review panel</td>
<td>2010</td>
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</table>

#### Conference Chair and Session Chair

<table>
<thead>
<tr>
<th>Role</th>
<th>Event and Date</th>
<th>Year</th>
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<tbody>
<tr>
<td>Chair</td>
<td>29th conference on Agricultural and Forest Meteorology, 1-6 August 2010, Keystone, CO</td>
<td>2009-2010</td>
</tr>
<tr>
<td>Session chair</td>
<td>“Scaling in biogeoeciences and Earth system science” at the EGU Joint Assembly, 4-8 Apr, Vienna, Austria.</td>
<td>2011</td>
</tr>
<tr>
<td>Session chair</td>
<td>“Scaling issues in land-atmosphere interactions” at the 29th Conference on Agricultural and Forest Meteorology, 1-6 August, Keystone, CO</td>
<td>2010</td>
</tr>
</tbody>
</table>

Session chair “Areal flux averaging measurements and methods” at the 28th Conference on Agricultural and Forest Meteorology, 28 Apr-2 May 2008, Orlando, FL.

Teacher Mentoring

| Mentor | Research Experience for Teachers (Hosted 1 high school and 1 junior college teacher for the Summer) | 2010 |
| Mentor | Middle School Science Educators Research Experience (Hosted 2 middle school teachers for the Summer) | 2008 |

University

| Member | Undergraduate Research Awards | 2010-Present |
| Member | Research Committee of the University Honors Program | 2006-Present |
| Member | Search committee (Kansas Geological Survey, Hydrologist) | 2008-2009 |

College

| Member | College Academic Misconduct Committee | 2006-2009 |
| Member | Faculty search committee (Ecology and Evolutionary Biology, Ecological modeler) | 2006-2008 |

Department

| Member | Faculty affairs committee | 2008-Present |
| Member | Graduate student affairs committee | 2005-2008 |
| Member | Faculty search committee (Geography, Soils/Geomorphologist) | 2007-2008 |
| Member | Faculty search committee (Geography, Atmospheric scientist) | 2006-2007 |
| Member | Faculty search committee (Geography, Glaciologist) | 2005-2006 |
| Member | Undergraduate studies committee | 2004-2005 |

Teaching Experience

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Time</th>
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<tbody>
<tr>
<td>ATMO 731</td>
<td>Atmospheric Turbulence</td>
<td>Sp 2009, 2010</td>
</tr>
<tr>
<td>ATMO/GEOG 521</td>
<td>Microclimatology</td>
<td>Sp 2006, 2008-Present</td>
</tr>
<tr>
<td>EVRN 720</td>
<td>IGERT, Climate and Borders</td>
<td>F (2009)</td>
</tr>
<tr>
<td>GEOG 104</td>
<td>Introduction to Physical Geography</td>
<td>Sp 2007, F 2007</td>
</tr>
<tr>
<td>HNRS 190</td>
<td>State of Fear: Assessing Climate Change</td>
<td>F 2006</td>
</tr>
<tr>
<td>DUKE TIP</td>
<td>State of Fear: Assessing Climate Change (Weekend course for junior high school students at the University of Kansas)</td>
<td>2007</td>
</tr>
</tbody>
</table>
**Graduate Students**

† indicates departmental honors

<table>
<thead>
<tr>
<th>Student</th>
<th>Degree</th>
<th>Date</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y. Zheng</td>
<td>PhD Geography</td>
<td>Current</td>
<td>Advisor</td>
</tr>
<tr>
<td>P. L. Lin</td>
<td>PhD Geography</td>
<td>Current</td>
<td>Advisor</td>
</tr>
<tr>
<td>F. V. Cochran</td>
<td>MA Geography</td>
<td>Current</td>
<td>Advisor</td>
</tr>
<tr>
<td>D. Huber</td>
<td>MS Atmospheric Sciences</td>
<td>Current</td>
<td>Member</td>
</tr>
<tr>
<td>A. Reed</td>
<td>PhD Ecology and Evolutionary Biology</td>
<td>Current</td>
<td>Member</td>
</tr>
<tr>
<td>T. L. Buck</td>
<td>MS Atmospheric Sciences</td>
<td>2010</td>
<td>Advisor</td>
</tr>
<tr>
<td>M. Petrie†</td>
<td>MA Geography</td>
<td>2010</td>
<td>Advisor</td>
</tr>
<tr>
<td>A. R. Jones†</td>
<td>MA Geography</td>
<td>2008</td>
<td>Advisor</td>
</tr>
<tr>
<td>T. Brown</td>
<td>MS Civil, Environmental and Architectural Engineering</td>
<td>2006</td>
<td>Member</td>
</tr>
</tbody>
</table>

**Graduate Student Honors**

A. R. Jones - **2009 College Outstanding Thesis Award**: “Impacts of soil moisture variability on convective precipitation in the Central Plains through land-atmosphere feedbacks”

**Undergraduate Research Advisor**

† indicates that research resulted in a peer-reviewed publication  
‡ indicates presentation at an international/national conference


**Professional Organizations**

American Geophysical Union  
American Meteorological Society  
European Geosciences Union

**Reviewer**

**Proposals**
Department of Energy, National Science Foundation

**Manuscript Reviewer**

CURRENT AFFILIATIONS

University of Kansas (2001-present)
  Professor, Department of Geography (2003-present)
  Chair, Outreach Committee, Department of Geography (2008-2009)
  Restricted Research Committee, Member (2005-2009)
  KU-Ft. Leavenworth Advisory Committee, Member (2004-present)
Research Professor, Kansas Biological Survey (2001-2003)
Adjunct Professor, Department of Geography (2000-2001)

American Geographical Society, President (2002-present)
  Councilor (1997-2002)
  Director of Exploration (1999-present)
  Fellow (1997-present)

National Academy of Sciences
  Jefferson Science Fellow (in perpetuity, starting 2009)

U. S. Department of State

American Association for the Advancement of Science, Fellow (elected 2007)

Royal Geographical Society, Fellow (2004-present)

Association of American Geographers
  Great Plains/Rocky Mountain Division, Chair (2009-present), Vice Chair (2008-2009)
  Honors Committee, Member (2005-2008), Chair (2007-2008)
  Long Range Planning Committee, Member (2000-2004)
Program Committee, Member (1994-1995)

**Geographic Information Systems Specialty Group, Chair** (1990-1991)
Vice Chair (1989), Board of Directors (1987-1989)

**Energy Specialty Group, Co-founder and First Chair** (1979-1982)
Director (1982-1984)

The Professional Geographer, Editorial Board (1985-1987)
Southeastern Division, Professional Careers Development Committee, Chair (1980)

Sigma Xi (2004-2009)

University Consortium for Geographic Information Science,
Lead Delegate for KU (2001-present)
Chair, Interim Research Committee (1994-1995)

**PREVIOUS AFFILIATIONS**

Haskell Indian Nations University, National Science Foundation, Tribal Colleges and University (TCUP) Keystone Grant, External Advisory Committee, Member (2005-2008)

Oak Ridge National Laboratory (1975-2001)
Distinguished Research & Development Staff (2001)
Geographic Information Science and Technology Group, Computational Physics and Engineering Division
Senior Development Staff (1996-2001)
Senior Research Staff (1990-1996)
Research Staff, Computing and Telecommunications Division (1984-1990)
Leader, Resource Analysis Group, Energy Division (1979-1984)
Research Staff Member, Energy Division (1976-1979)
Consultant (1975-1976)

GeoWorld (formerly GIS World) Magazine
Contributing Editor with Regular Column, "The G in GIS" (1990-2004)
Board of Directors (1990-1997)
Scientific Editor, GIS World Sourcebook, 1991-1996


National Center for Geographic Information and Analysis, Varenius Board (1997-1998)
**National Center for Environmental Decision-making Research** (funded by the National Science Foundation), **Research Team Leader** for Information Infrastructure (1995-1997)

**Kansas State University, GIS Steering Committee**, Outside Member, 2004-2008.

**Roane State Community College, Advisory Committee on Geographic Information Technology** (1996-1997)


**National Committee for Digital Cartographic Data Standards, Steering Committee** (1985-1993)

**Applied Geography Conferences**  
- **Steering Committee** (1986-1991)  
- **Co-Director** of Conference (1990)  
- **Co-Host** of Conference (1987)

Geographical Information Systems/Land Information Systems Conference (**GIS/LIS Conference**), **Program Committee** (1988)


**Arizona State University**, Department of Geography, **Visiting Associate Professor** (Fall Semester 1983)


**International Geographic Information Systems Symposium, Program Committee** (1987)

University of Tennessee, Department of Geography, Graduate Teaching Assistant (1971-1974)  
University of Georgia, Department of Geography, Graduate Teaching Assistant (1968-1971)  
Cherokee County, Georgia, Elementary School Teacher (1968-1969)  
Governor’s Task Force on Education for Loudon County, Tennessee, Chair (1985-1986)  
Hospital Advisory Committee, Loudon County, Tennessee (1987)
HONORS AND AWARDS


Jefferson Science Fellow awarded by the National Academies (National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council) and United States Department of State (in perpetuity, starting 2009).

Award of Distinction conferred by the Cartography and Geographic Information Society (CaGIS) (2008). This is the first Distinguished Career Award for Lifetime Achievement ever granted by CaGIS, and the honor will be repeated only at two-year intervals.

Elected Fellow of the American Association for the Advancement of Science (2007).

Special Achievement in GIS Award, 26th ESRI Users Conference (2007), Awarded to the AGS Bowman Expeditions for work conceived and led by Dobson.

Special Achievement in GIS Award, 26th ESRI Users Conference (2006), Awarded to the Geneva International Centre for Humanitarian Demining, for Work Involving FGM Corporation and KU.

Applied Geography Conference Citation Award (1991).


EDUCATION

Ph.D. in Geography, University of Tennessee (1975)

M.A. in Geography, University of Georgia (1972)

A.B. in Geography, University of Georgia (1967)

A.A., Summa Cum Laude, Reinhardt College (1965)

MAJOR PUBLICATIONS
**Refereed Journal Articles:**


**Refereed Monographs and Reports:**


**Invited Cover Story (350,000 circulation worldwide):**


**Invited Journal Articles, Books, and Book Chapters:**


Congressional Testimony, Invited by Representative Albert Gore, Jr.:

MINOR PUBLICATIONS

Commentaries and Replies:


Magazine Articles:


**Book Reviews:**


**Encyclopedia Entries:**


Editorials:


**Conference Proceedings:**


**Ph. D. Dissertation:**

**M. A. Thesis:**


**Project Reports:**


**SELECTED GRANTS AND CONTRACTS**


Department of Defense, Defense Threat Reduction Agency, Oak Ridge National Laboratory, LandScan Demographics, LLC. “Casualty Estimation,” J. E. Dobson, S. Campbell (LandScan Demographics, LLC.), P.I.s, R. W. Peplies (East Tennessee Statue U.), Co-P. I., 2/1/02-8/8/02, $16,750, Funded; 9/1/02-10/04/03, $76,298.


North Atlantic Treaty Organization (NATO), Oak Ridge National Laboratory, LandScan Demographics, LLC. “Support to Operation Able Ally,” J. E. Dobson, S. Campbell (LandScan Demographics, LLC.), P.I., J. J. Feddema, Co-P. I., 9/1/02-8/30/03, $60,000.


Department of Defense, “LandScan Global Population Project,” J. E. Dobson, P.I., E. A. Bright, P. R. Coleman, Co-P.I.s., 10/01/97-8/17/01, $2,120,000.
Department of Energy, Hazardous Materials Transportation, Defense Programs, “LandScanUSA: Houston Prototype,” J. E. Dobson, P.I., E. A. Bright, P. R. Coleman, Co-P.I.s, 1/30/01-8/17/01, $70,000.

Environmental Protection Agency, National Center for Environmental Assessment, “LandScanUSA,” J. E. Dobson, B. L. Bhaduri, P.I.s, E. A. Bright, P. R. Coleman, Co-P.I.s, 1/01-8/17/01, $120,000.


**SUMMARY OF GRANTS AND CONTRACTS 1975-1997**

For 26 years, I worked at a national laboratory where all research is dependent on grants and contracts. As a group leader and project leader I served as P.I. or Co-P.I. on federally funded projects covering myself and two to ten colleagues per year. My responsibility was to design and promote new research initiatives and to lead ongoing projects. Throughout that time, I was one of two principal staff members responsible for financial support of groups ranging from 10 to 40 people. At current FTE rates, my career total prior to 1997 thus amounts to a conservative estimate of more than **$20,000,000 in projects** funded by:

- Department of Energy
- Nuclear Regulatory Commission
- Department of Defense
- Department of State
- National Oceanic and Atmospheric Administration
- National Science Foundation
- Environmental Protection Agency
- Department of Interior
- Water Resources Council
- Other federal agencies.
SELECTED PRESENTATIONS


“The Bowman Expedition to Colombia,” Javeriana University, Bogotá, Colombia, July 10, 2008.

“Restoring Geography in America,” Mackay School of Earth Sciences & Engineering, University of Nevada, Reno, NV, April 2, 2008.


“Restoring Geography in America,” Ridgley Lecture Series, Illinois State University, Normal, IL, November 9, 2007.


“A Proposed New World Standard for Humanitarian Demining Map Symbols” (with J. C. Kostelnick, S. L. Egbert, M. D. Dunbar, and A. Arnold), ESRI Users Conference, San Diego, California, August 9, 2006.


Seven Lectures on the Geography of Alaska, American Geographical Society’s Educational Travel Program on Cruise West’s Spirit of Oceanus, August 1-25, 2005.

“Past President’s Commentary: What’s the Future of UCGIS?” University Consortium for Geographic Information Science, Jackson, WY, June 30, 2005.


“The American Geographical Society: Geography’s Advocate for 152 Years,” Colloquium Lecture, Department of Geography, University of Kansas, Lawrence, KS, November 21, 2003.


“Geography’s Spatial Language,” Course Lecture, SPLH 660 (Speech Class), University of Kansas, February 27, 2003.


Master of Ceremonies and Keynote Speaker, **Globe-Signing Ceremony** Honoring Junko Tabei (First Woman to Climb Mt. Everest), Ann Bancroft (First Woman to Reach the North Pole by Dogsled, 1986, and the South Pole on Skis, 1993), Liv Arneson (With Bancroft, One of the First Women to Ski Across Antarctica, 2001), and Capt. William Anderson (Commander of the Nautilus, First Vessel To Cross the North Pole by Water, 1958), May 25, 2004.

Master of Ceremonies and Keynote Speaker, **Globe-Signing Ceremony** Honoring Bryan Allen (Pilot of the Gossimer Albatross, First Human-Powered Aircraft to Cross the English Channel, 1979), Sylvia Earle (Deepest Unassisted Ocean Dive, 1979), and Edith Ronne (First Woman to Winter Over in Antarctica, 1947), March 31, 2004.

“War is God’s Way of Teaching Geography,” Invited Colloquium Lecture, Texas A & M University, College Station, TX, October 25, 2002.


“GIS in the War on Terror,” Congressional Breakfast (Hosted by University Consortium for Geographic Information Science), February 7, 2002.


Master of Ceremonies, Globe-Signing Ceremony Honoring Neil Armstrong (First Person on the Moon), Don Walsh (Deepest Ocean Dive), Bertrand Piccard and Brian Jones (First to Circumnavigate Earth by Balloon), Bill Ryan (Discover of Mediterranean Sea Inundation and Co-Discoverer of Black Sea Inundation), and Walter Pittman (Co-Discoverer of Black Sea Inundation), New York City, December 11, 2000.


Various topics on geography and GIS, Colloquia Lectures at Numerous Universities, including:
University of South Carolina
University College Cork
University of Wyoming
University of Utah
Appalachian State University
Ohio State University
University of Alaska


Numerous presentations (approximately 25) at the Annual Meetings of the Association of American Geographers, c. 1975-current.
Numerous presentations (approximately 6) at the Applied Geography Conferences, c. 1985-91.


Presentations (approximately 2) at Natural Hazards Workshops.


PROFESSIONAL WORKSHOPS


National Science Foundation and Association of American Geographers, Short Course in Remote Sensing (5 weeks), University of Denver, 1971.

**ORGANIZATIONAL MEMBERSHIP**

American Association for the Advancement of Science

Association of American Geographers.
American Congress on Surveying and Mapping.

American Society for Photogrammetry and Remote Sensing.

American Geographical Society.

National Geographic Society.

Royal Geographic Society.

Sigma Xi.
FOREIGN TRAVEL AND FIELDWORK

For geographers, the earth is our laboratory. Travel is essential. I regard every trip (foreign or domestic, business or personal), as a serious opportunity to study unfamiliar territory. My goal is to have studied every sector of the globe by the time I retire. So far, I’ve visited the following foreign areas:


Mexico 2008, Conference

Colombia 2008, Fieldwork

Jordan 2008, Fieldwork

Mexico 2007, Conference

France 2007, Landmine Project: Train Regional Coordinators

Mexico: Huasteca Region, 2005; Oaxaca Region, 2006, Fieldwork

Italy, 2006, Personal.

Bering Sea and Coast of Russia, 2005 Lecturer.

China, South Korea, and Japan, 2003, Fieldwork

Croatia, Bosnia and Herzegovina, and Slovenia, 2003, Fieldwork

Jordan and Kuwait, 2003, Fieldwork
Colombia and Ecuador, 2002, Fieldwork

Slovenia, 2001, Discuss European Union De-Mining Project for Balkans


Belgium and United Kingdom, 2000, NATO and U. K. Ministry of Defense

Germany, 2000, Geoscope Workshop

Chile, 2000, International Space University

Egypt, 1999, Fieldwork


Ireland and France, 1995, Conferences.

Central Europe, 1995, Conference.

Spain, 1994, International Space University.

Japan and Australia, 1992, International Space University and Fieldwork.

Europe (including Czechoslovakia), Fall 1991, Conference.

Europe (including Czechoslovakia), Spring 1991, Conference.

Europe, 1987, Fieldwork.

Europe, 1986, Conference.

Europe, 1985, Personal.


Europe, 1980, Conference.

Europe, 1968, Personal.
Position: Associate Professor, Department of Geography, University of Kansas
785 864-4252, FAX: 785 864-5378, Email: segbert@ku.edu
Associate Scientist, Kansas Applied Remote Sensing Program
785 864-1507, FAX: 785 864-1534

Education

Ph.D. University of Kansas, 1994. Geography (Honors)
Dissertation: The Design and Testing of An Interactive Choropleth Map Exploration System

M.A. University of Nebraska, 1983. Geography
Thesis: The Resettlement of Nance County, Nebraska: Land Alienation Patterns, 1878-1913

B.S. Brigham Young University, 1980. Geography (Minor: Asian Studies)
B.A. University of Minnesota, 1971. Chinese

Academic Experience and Appointments

Associate Professor
Department of Geography, University of Kansas, Fall 2004 – present

Associate Scientist
Kansas Applied Remote Sensing Program, University of Kansas, Fall 2004 – present

Courtesy Associate Professor
Environmental Studies Program, University of Kansas, Spring 2009 – present

Assistant Professor
Department of Geography, University of Kansas, Fall 1998 – Summer 2004

Assistant Scientist
Kansas Applied Remote Sensing Program, University of Kansas, Fall 1998 – Summer 2004

Courtesy Assistant Professor
Department of Geography, University of Kansas, Fall 1996 - Summer 1998

Research Associate

Postdoctoral Research Associate and Project Manager

Other Related Experience

Digital Imagery Consultant - Seventh U.S. Army Training Command Terrain Visualization Center,
Technical Services International, Grafenwoehr, Germany, September 1995 - December 1995

Digital Image Processing Consultant - Battlefield Visualization Demonstration, with the Topographic Engineer Center (TEC) and the 649th Topographic Engineer Company - Cubic Applications Corporation, Schwetzingen, Germany - November 1994
Professional Memberships

American Society for Photogrammetry and Remote Sensing (ASPRS), 1981 – present
Association of American Geographers (AAG), 1980 – present
International Network of Genocide Scholars (INOGS), 2009 – present

TEACHING

Courses Taught

GEOG 104 Principles of Physical Geography
GEOG 526 Remote Sensing of Environment I
GEOG 571 Topics in Cultural Geography: Geography of Genocide (with Shannon O’Lear)
GEOG 658 Topics in GIScience: Introduction to GPS in Environmental Applications
GEOG 658 Topics in GIScience: Remote Sensing Applications
GEOG 926 Seminar in Remote Sensing: Electro-Optical Systems; Landscape Visualization
GEOG 980 Geography Seminar: Topics in Remote Sensing
  Multispectral Sensors and Data
  Professional Development in Remote Sensing
  Advanced Data Classification Technologies
  GeoWall
  Visual Enhancements for Remotely Sensed Images
  Time-Series Image Analysis
  LIDAR
  Google Earth Applications
GEOG 980 Geography Seminar: Defining Genocide Geographically (with Shannon O’Lear)

Students

Ph.D. Completed
Sunyurp Park – Summer 2003. Dissertation Title: Determination of Thermal Response of Vegetation to Water-Stress and Its Relationship with NDVI in Western-Central Kansas Using MODIS Data. Funded by NASA Earth System Science Fellowship. (Co-advised with Johannes Feddema)
Iwake Masialeti. Spring 2008. (Co-advice with Garth Myers.)
Yoshinori Nakazawa. Summer 2009. (Co-advice with A. Townsend Peterson.)
Matthew Dunbar. Fall 2009. (Co-advice with JerryDobson)

Ph.D. in Progress
Geoffrey Demarest. 2007 – present.
Lynnette Dornak. 2007 – present. (Co-advice with A. Townsend Peterson)
Eunmok Lee. 2010 – present.

M.A. Completed
Joshua Artman. Completed Fall 2000. (Co-advised with Robert Buddemeier)
Matthew Dunbar. Completed Spring 2005. (Co-advised with Mark Jakubauskas)
Willem Helms. Completed Summer 2003. (Co-advised with Mark Jakubauskas)
Elizabeth Montgomery-Anderson. Completed Fall 2008. (Co-advised with Shannon O’Lear)
Elizabeth Montgomery-Anderson. Completed Fall 2008. (Co-advised with Shannon O’Lear)
Sarah Signiski. Completed Fall 1999. (Co-advised with Kevin Price)

M.A. in Progress
Kevin Dobbs. 2006 – present.
Chris Bishop. 2007 – present.
Cara Haas. 2008 – present
Nicole Reiz. 2008 – present. (Co-advise with Shannon O’Lear)

Service on Other Graduate Committees and Undergraduate Honors Committees
Ph.D. Dissertation Committees: 18 completed
M.A. Thesis Committee: 10 completed
B.A./B.S. Honors Committee Chair: 3 completed

Short Courses and Workshops
GIS for Tribal Natural Resource Managers. 2007. Presented modules on remote sensing applications and imagery data resources for natural resources specialists from several tribes in the central and western U.S. Haskell Indian Nations University, Lawrence, KS, May 15-17. (With Kevin Dobbs)
GeoWall in Geographic Education. 2007. Presented a half-day workshop on the GeoWall, a system for 3D stereo visualization of the environment. Annual Meeting of the Association of American Geographers, San Francisco, California, April 16. (With Terry Slocum and Matt Dunbar)
GeoWall in Geographic Education. 2006. Presented a half-day workshop on the GeoWall, a system for 3D stereo visualization of the environment. Annual Meeting of the Association of American Geographers, Chicago, Illinois, March 8. (With Terry Slocum and Matt Dunbar)
GIS for Tribal Natural Resource Managers. 2005. Presented modules on remote sensing applications and imagery data resources for natural resources specialists from several tribes in the central and western U.S. Haskell Indian Nations University, Lawrence, KS, November 17. (With Josh Campbell)
GIS for Tribal Natural Resource Managers. 2004. Presented modules on remote sensing applications and imagery data resources for natural resources specialists from several tribes in the central and western U.S. Haskell Indian Nations University, Lawrence, KS, November 30. (With Brianna Mosiman)
ESIC Science Teachers Workshop. 2004. Presented modules on remote sensing applications and imagery data resources for a nationally selected group of high school and middle school science teachers. University of Kansas, Lawrence, KS, July 15. (With Brianna Mosiman)

ESIC Science Teachers Workshop. 2003. Presented modules on remote sensing applications and imagery data resources for a nationally selected group of high school and middle school science teachers. University of Kansas, Lawrence, KS, June 19. (With Brianna Mosiman)


Geospatial Technologies Workshop. 2002. For faculty of the University of Zambia and geospatial specialists in Zambian government ministries. Held in the School of Mines at the University of Zambia. Lusaka, Zambia, June 3-19. (With Garth A. Myers, Kevin P. Price, Terry A. Slocum, and Brianna N. Mercier)


Introduction and Overview of Satellite Imagery for Agricultural Applications. 1999. Presented to management and staff from Strategic Weather, Inc., a partner in Agrimetrix, Inc. Presented characteristics of polar orbiting satellites, including satellite, sensor, and resolution concepts. Lawrence, Kansas, 27 October. (With Kevin P. Price)

Map Display for Geographic Information Systems. 1991. Geographic Research, Applications, and Information Laboratory (GRAIL), Success with GIS Workshop Series, Department of Geography, University of Kansas. (With Terry A. Slocum)

The Cartographic/GIS Interface. 1990. Mid-America GIS Symposium, Overland Park, KS. (With Terry A. Slocum)

Teaching Honors

Kemper Teaching Fellowship, Fall 2005
Nominated for Byron L. Alexander CLAS Graduate Mentor Award. 2002.
RESEARCH

Research Interests

Most of my earliest research at the Ph.D. level focused on the development and testing of interactive cartographic displays, including both formal and informal analysis of user needs and responses. Subsequently, my focus turned to remote sensing, where I had received extensive training and experience through military service. The broad emphasis of my research currently lies in the application of time-series satellite imagery for land cover mapping, analysis, and modeling. More recently, I have returned to my earlier interest in visualization in cartographic displays. Ongoing and projected research under these and related topics include:

- Development of methods for exploiting information in time-series multi-year composite vegetation index data sets from NASA’s MODIS sensor to characterize and map vegetation dynamics on the Great Plains. Initial investigations using the new generation of decision-tree classifiers have produced very promising results in monitoring crop health and progress.
- Evaluation of geotechnologies to assist in creating spatial databases of minefields. Through funding from the Geneva International Centre for Humanitarian Demining, we are investigating the use of a portable tool (handheld PC, GPS, and laser rangefinder binoculars) to map minefields under a variety of environmental and cultural conditions.
- Evaluation of low-cost stereo 3D technology for visualizing geographical datasets, including those created from satellite imagery and digital elevation models. This is a topic that combines my current research interests with the focus of my dissertation research – the visualization of complex spatial data.

In addition to my tradition research concentration in remote sensing, I have recently begun research into the geographic nature of genocide, mass murder, and related crimes against humanity, which has been a long-time personal interest. The motivation for this research is that the geographic component is often understated or even missing from genocide studies, and I believe that geography has much to offer in this regard.

Funding for my research in the geospatial sciences (over $6,000,000 to date) has come primarily from multi-investigator grants and contracts received from the national and state level. National funding agencies include NASA, NSF, and USGS, while state agencies include the Kansas Department of Wildlife and Parks, the Kansas Department of Agriculture, and the Kansas GIS Policy Board.

Refereed Articles, Book Chapters, and Case Studies – Published or in Press


**Refereed Articles in Review**


**Refereed Articles in Revision or Ready for Submission**

None currently

**Proceedings and Other Articles**


**Abstracts and Conference Presentations** (only those not included under Proceedings)


Dobbs, K., Kastens, J., Egbert, S.L., and Thayn, J. 2009. Real-Time and Forecast Flood Extent Mapping in Eastern Kansas. Accepted as poster presentation for the *Annual Conference of the*


Egbert, S.L. 1983. An Approach to Identifying Urban Areas on Landsat Images of China's Arid Xinjiang Autonomous Region. Midwest Conference on Asian Affairs, University of Kansas, Lawrence, KS.

Abstracts Submitted and in Review


Other Publications: Technical Reports, Highlight Articles, Bulletins, and Maps


Summary of Grant Activity

<table>
<thead>
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<th>Grants</th>
<th>Contracts</th>
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Funding agencies:
- Geneva International Centre for Humanitarian Demining
- National Science Foundation
- National Aeronautics and Space Administration (NASA)
- Department of Defense
- U.S. Geological Survey
- National Park Service
- Kansas Department of Agriculture, Division of Water Resources
- Kansas GIS Policy Board
- University of Kansas

Grants

Funded Grant Proposals


Egbert, S.L. 2005. MODIS Time-Series Datasets for Environmental Modeling. Sub-award from the Biodiversity Research Center (grant FED 36230 from the Department of Defense). 01/01/05 – 06/30/05. $15,000


Grant Proposals Pending

Slocum, T.A. and Egbert, S.L. 2010-2012. Evaluating the Effect of Large-Format Stereoscopic Displays on Student Learning in Introductory College Physical Geography Classes. Submitted to National Science Foundation (Geoscience Education). 09/01/10 – 08/31/12. $147,759.

Contracts

Contracts Funded


Dobson, J.E. and Egbert, S.L. 2008. Contract for Professional Services Between the Geneva International Centre for Humanitarian Demining and The University of Kansas. 01/01/08-12/31/08. $100,000.


Dobson, J.E. and Egbert, S.L. 2007. Contract for Professional Services Between the Geneva International Centre for Humanitarian Demining and The University of Kansas. 01/01/08-12/31/08. $150,000.

Dobson, J.E. and Egbert, S.L. 2006. Contract for Professional Services Between the Geneva International Centre for Humanitarian Demining and The University of Kansas. 01/01/06-12/31/06. $150,000.

Dobson, J.E. and Egbert, S.L. 2005. Contract for Professional Services Between the Geneva International Centre for Humanitarian Demining and The University of Kansas. 01/01/05-12/31/05. $100,000.


ACADEMIC SERVICE

Department, College, and University

Chair, Geography Graduate Studies Committee, 2006 – present
Chair, Geography Department Colloquium Series Committee, 2003 – 2006
GIS Steering Committee, University of Kansas, 2003 – present
Department Ambassador to Center for Teaching Excellence, 2002 – 2005
Faculty Adviser, Mt. Oread Geospatial Technologies Club, 2002 – present
Faculty Committee, Department of Geography, University of Kansas, 2001 – 2003
Systems Analysis and Design Program Committee, College of Liberal Arts and Sciences, University of Kansas, 2001 - 2003
Review Committee, Kansas Biological Survey Director, University of Kansas, 2000 – 2001
Student Affairs Committee, Department of Geography, University of Kansas, 1999 – 2001
Faculty Adviser, Latter-day Saint Student Association (LDSSA), 1999 – 2006
Chair, Curriculum and Academic Programs Committee, Department of Geography, University of Kansas, 1998 - 1999
Search Committee, Cartographic Services Director, Geography, Summer 1998
Chair, GP-RESAC Proposal Development Committee, KARS, Summer 1998
Chair, Search Committee, GP-RESAC Coordinator, KARS, December 1998 – March 1999
Publication Committee, Kansas Land Cover Map and KARS Program Brochure, KARS, 1997

State, National, International

State Director, KansasView Program. Coordinate activities with other consortium members
(uni-versities and colleges, plus state and local government agencies), especially through meetings of the state GIS Policy Board.

Geneva International Centre for Humanitarian Demining. A significant portion of our relationship with GICHD focuses on service functions. In our capacity as field evaluators for the handheld field survey tool, I have conducted site visits to Chile, Albania, Ecuador, and Lebanon, and have conducted geospatial workshops at GICHD headquarters in Switzerland for key personnel.

Professional Societies

Session Chair, Annual Meeting, Association of American Geographers, San Francisco, California, 2007
Session Chair, Annual Meeting, American Society for Photogrammetry and Remote Sensing, Washington, DC, 2000
Session Chair, Annual Meeting, Association of American Geographers, Honolulu, Hawaii, 1999
Session Chair, Annual Meeting, Great Plains – Rocky Mountain Division, Association of American Geographers, Colorado Springs, Colorado, 1999
Session Chair, Annual Meeting, Kansas Academy of Science, Manhattan, Kansas, 1999

Reviewer for Grant Proposals and Professional Journals

NSF, 2003
NASA, 1996, 2000
Annals, Association of American Geographers, 2007
Environmental Protection Agency, 2000
Geoscience Letters, 2007
Great Plains Research, 2002
Landscape Ecology, 2001
Transactions, Kansas Academy of Science, 2008

Book and Software Reviews

Curriculum Vitae

JOHANNES J. FEDDEMA

Department of Geography, University of Kansas
1475 Jayhawk Boulevard, Lawrence, Kansas 66045
Telephone: (785) 864-5534 • Email: feddema@ku.edu

March 2008

EDUCATION

**Ph.D. Climatology**, University of Delaware, Newark, Delaware, December 1990.  
Dissertation: *Evaluation of Terrestrial Climate Variability Using a Moisture Index*.

**M.S. Geography**, University of Delaware, Newark, Delaware, August 1985.  

**B.A. Biology and Geography**, University of Delaware, Newark, Delaware, June 1982.

RESEARCH INTERESTS

- Climate Change
- Environmental Modeling
- Spatial Statistics and GIS
- Bioclimatology
- Human-Environment Interactions
- Hydroclimatology

PROFESSIONAL POSITIONS

- **2007-Present** Professor, Dept. of Geography, University of Kansas, Lawrence, KS.
- **2000-2007** Associate Professor, Dept. of Geography, University of Kansas, Lawrence, KS.
- **2006-Present** Affiliate Scientist, National Center for Atmospheric Research, Boulder, CO
- **1998-2000** Assistant Professor, Dept. of Geography, University of Kansas, Lawrence, KS.
- **1990-1998** Assistant Professor, Dept. of Geography, University of California, Los Angeles, CA.
- **1989-1990** Instructor, Department of Geography, University of Delaware, Newark, DE.
- **1988-1990** Consultant, Duffield Assoc Inc and Tetra Tech Richardson Inc, Newark, DE.
- **1984-1989** Graduate Teaching/Research Assistant, Dept. of Geog., U. of Delaware, Newark, DE.
- **1981** Undergraduate Research Assistant, Dept. of Biology, Univ. of Delaware, Newark, DE.

AWARDS

- Excellence in Undergraduate Advising Award (Dept. award while Undergrad Director), 2004.
- Teaching Excellence Award from the Center for Teaching Excellence, University of Kansas, 2002.
- UCLA Department of Geography Nominee for the Luckman Teaching Award, 1993.
- Student Paper prize, Climate Specialty Group, AAG, 1990.

PROFESSIONAL AFFILIATIONS

- American Geophysical Union
- American Meteorological Society
- Association of American Geographers
  - Climatology Specialty Group, Water Resources Specialty Group, Africa Specialty Group

TRAVEL AND LANGUAGES

- Countries of residence: Netherlands, Kenya, Rwanda, Switzerland, and U.S.A.
- Extended travel to: Pakistan and Tunisia.
- Language Proficiency: Fluent Dutch and English, conversational Frisian and French.
TEACHING EXPERIENCE

GEOG 148/EVRN 148 - Introduction to Environmental Studies, University of Kansas (KU)
GEOG 149/EVRN 149 - Introduction to Environmental Studies, Honors, KU
GEOG 210 - Computers, Maps and Geographic Analysis, KU
GEOG 304 - Environmental Conservation, KU
GEOG 321/ATMO321 - Climate and Climate Change, KU
GEOG 339 - Topics in Physical Geography: Climatology, KU
GEOG 521/ATMO521 - Microclimatology, KU
GEOG 531 - Seminar in Physical Geography: Environmental Issues, KU
GEOG 531 - Seminar in Physical Geography: Climate Change, KU
GEOG 731 - Seminar in Physical Geography: Climate-vegetation interactions, KU.
GEOG 731 - Seminar in Physical Geography: Climate Change Studies, KU.
GEOG 958 - Seminar in GIS, KU
GEOG 5 - People and the Earth's Ecosystems (laboratory course), UCLA
GEOG 104 - Climatology, UCLA
GEOG 128 - World's Ecosystems: Problems and Issues, UCLA
GEOG 129 - Seminar: Environmental Problems, UCLA
GEOG 159d - Problems in Geography (applied/microclimatology), UCLA
GEOG 199 - Directed Independent Study, UCLA
GEOG 204b - Advanced Climatology (Water Balance), UCLA
GEOG 205 - Climatology Seminar, UCLA
GEOG 229 - Seminar: People and Environment, UCLA
G152 - Climate and Life (laboratory course), University of Delaware
G230 - Humans and the Earth's Ecosystems, University of Delaware

Teaching Assistant (Univ. of Delaware) for the following:
Physical Geography, Introductory Meteorology, Air-Photo Interpretation, Climatic Geomorphology,
Computer Cartography (graduate)

Undergraduate Honors advisees: Peter Gogol, Jessica Drees
Undergraduate Honors Committee member: Jeremy Wolf (EECS)

GRADUATE STUDENT COMMITTEES

* = current advisee, † = Advanced to candidacy, ‡ = Co-Chair

Ph.D. Committee Chair: Lin Wu, Aaron Allen, Sun Park†, Christopher Atkinson*
Ph.D. Committee member:
Geography: Jacqueline Gallagher, Mario Picaio, Oxana Marenko, Paul Price, Jeff Harvey, Ivan Cheung,
Mark Kuhlman, Caroline Tepley, Peter Sam, Cameron McCormick, Hugh Howard, John Bauer,
Lister Lanham
Atmospheric Sciences: Jia-yuh Yu, Yurdanur Sezginer, Corrol Hsu, Ning Jiang
Computer Science: Daniel Cliburn
Geology: William Hen, Jeffery Fillipone, Linda Garinger, Marcello Minzoni
Biology: Jose Luis Andrade-Torres, Paula Jackson
Environmental Science and Engineering: Nancy Steele, Michael Benjamin, Eric Stein, Estelle Shiroma,
Doug Meffert, Alice Kwan, John Karlak, Spencer McNeil

M.A. Committee Chair: Aaron Allen, Gary Tilkian, Terry Nakazono, Phelicia Gomes, Jason Shields,
Sergio Friere, Trish Jackson, Tom Baffa*
M.A. Committee Member: Alexander Stege, Janet Fleming, Leonard Tang, Amy Segelin, Janice King,
Linda Fair, Caitlin Dempsey, Travis Hull, Mark Gruber, John Banning, John Bauer, Rachel Safullah,
Julie Morris

Feddema CV
PUBLICATIONS (Refereed)


**PAPERS ACCEPTED FOR PUBLICATION**


**PAPERS SUBMITTED AND IN PREPARATION**


PAPERS SUBMITTED AND IN PREPARATION -- Continued

MONOGRAPHS


PROCEEDINGS PAPERS


REFEREED ABSTRACTS

NON REFEREED PAPERS AND REPORTS
Feddema, J.J., (1999): Assessing the impacts of global warming and landuse change on California water resources. Final report to NIGEC, DOE Grant DE-FC03-90ER61010


GRANTS

2008 • Assessing Climate Change in Kansas. The Land Institute. CoPI with Brunsell $36,012
2006 • NSF grant Collaborative Research: Fire at the Intersection of Global Carbon and Water Cycles. PI Mahowald and 5 Co-Is. $632,689
2005 • NSF Science and Technology Center grant Center for Remote Sensing of Ice Sheets. PIs Gogineni and Braaten, and ~40 Co-Is. $19 Million
2004 • NSF grant Development of historical and future land cover and land use change datasets for the Community Climate System Model. $169,096
2003 • NCAR internal Assessment Initiative grant, Weather and Climate Impact Assessment Science Initiative (Mears and Washington PIs); Feddema KU $167,592
2002 • Support to Operation Able Ally, NATO grant. $13,580
2001 • NSF SGER grant, Development of surface based anthropogenic climate change scenarios for CCSM. With Dobson. $35,640
2000 • US Department of State Linkage Grant between the University of Kansas and the University of Zambia (Myers PI) $142,138
  • KU Research Development Fund (RDF), Coupled Remote Sensing and Climate model for determining Crop productivity. PI with Bennett, Martinko, Price and Slocum $40,578
  • KU Research Development Fund (RDF), Playas (“buffalo wallows”): Environmental Barometers of the Central Great Plains. With Johnson (PI), Bozarth, Logan, Price and Steeples $30,846
  • KU Research Development Fund, Pre-proposal for Digital Libraries consortium: map archival and distribution. With Knoepp (PI), Bennett and Niebaum $101,140
1997 • Intel Corporation, Regional Environmental Assessment Laboratory and GIS (REAL/GIS). Co-PI with Turco and 15 Co-Is. $703,485
  • NASA, Campus-wide Initiative for Inter-disciplinary Study of the Environment with Remote Sensing. With Smith (PI) and Turco. $275,000-UCLA
  • California State Coastal Conservancy, Lower Malibu Creek and Malibu Lagoon Resource Enhancement and Management Project. With Ambrose and Orme (PIs), and 5 Co-PIs. $246,805
  • University of California Institute for Geophysics and Planetary Physics, Application of the UC-LLNL Regional Climate System Model to the Malibu Watershed. With Dracup and Miller (PIs). $26,674
  • Office of Instructional Development, UCLA, Geography 5:Ocean Field trip funding. PI with MacDonald and Muldavin $4,275
  • Academic Senate Grant, UCLA. $2,549
1996 • EPA/NSF Integrated Urban Watershed Analysis: The Los Angeles Basin and Coastal Environment. With Turco (PI), and 19 co-PIs. $1.2 Million
  • Office of Instructional Development (OID), UCLA, Institute of the Environment GE curriculum development. With Suffet and Vance. $600,000-UCLA
  • Office of Instructional Development, UCLA, Geography 5: Laboratory Improvement Grant. $20,000
  • Office of Instructional Development, UCLA, Geography 5: Laboratory Improvement Grant. $7,712
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<td>Academic Senate Grant, UCLA.</td>
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<td>Office of Instructional Development (OID), UCLA, <em>GIS Laboratory.</em> PI with Mills and Ellis.</td>
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<td>1995</td>
<td>Office of Research, UCLA, <em>GIS Laboratory.</em> PI with Mills, Ellis, Zhang and Clark.</td>
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<td>Academic Senate Grant, UCLA.</td>
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<td>1994</td>
<td>National Science Foundation. <em>Water as an integrating theme in landscape change and undergraduate environmental education.</em> With Entikin (PI), Matthews, Mills, Orme, Raphael, Savage and Trimble.</td>
<td>$ 29,782-UCLA</td>
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<td>Academic Senate Grant, UCLA</td>
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<td>$ 2,880</td>
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**INVITED LECTURES** (* = person presenting paper if not first author)


INVITED LECTURES – Continued
INVITED LECTURES – Continued


PRESENTATIONS AT PROFESSIONAL MEETINGS (* = person presenting paper if not first author)


Feddema, J.J. (2005): “Assessing the impacts of land cover change on global climate,” AAG annual meetings, Denver, CO, April 7

Feddema, J.J. (2004): “A Revised Thornthwaite Type Global Climate Classification,” AAG annual meetings, Philadelphia, PA, March 19


WORKSHOP ACTIVITIES


Participant (2007), 11th Annual Community Climate System Model (CCSM) workshop, Sponsored by the National Center for Atmospheric Research (NCAR), Breckenridge, CO, 19-21 June.

Participant (2006), 11th Annual Community Climate System Model (CCSM) workshop, Sponsored by the National Center for Atmospheric Research (NCAR), Breckenridge, CO, 20-22 June.


Participant (2005), 10th Annual Community Climate System Model (CCSM) workshop, Sponsored by the National Center for Atmospheric Research (NCAR), Breckenridge, CO, 21-23 June.


Participant (2004), 9th Annual Community Climate System Model (CCSM) workshop, Sponsored by the National Center for Atmospheric Research (NCAR), Santa Fe, NM, 7-9 July.

Participant (2003), 8th Annual Community Climate System Model (CCSM) workshop, Sponsored by the National Center for Atmospheric Research (NCAR), Breckenridge, CO, 24-26 June.


Participant (2002), 7th Annual Community Climate System Model (CCSM) workshop, Sponsored by the National Center for Atmospheric Research (NCAR), 2000, Breckenridge, CO, 25-27 June.

Participant (2000), 5th Annual Community Climate System Model (CCSM) workshop, Sponsored by the National Center for Atmospheric Research (NCAR) June, Breckenridge, CO, 27-29.

Delegate (2000), representing the University of Kansas to the University Consortium for GIS (UCGIS) Annual Summer Conference, Oregon, June, 21-24.

Co-organizer, discussion leader and participant (1999), NSF sponsored workshop on African Environments:

WORKSHOP ACTIVITIES -- Continued

Participant (1998), AAAS workshop on “ Collaborative Research in Earth System Science – Continental hydrology subgroup,” 18-19 November, Lawrence, KS.

Participant (1993), Indiana Center on Global Change and World Peace workshop on “Changing Environments: How Vulnerable are We?” Bloomington, Indiana, October 14-16.


PROFESSIONAL SERVICE

National and International Service

• Prepared materials for a presentation on “Kansas and Climate Change” to the Kansas Governors’ Kansas Energy Council, presented by Brunsell, February 21, 2008
• Testified on Climate Change in Kansas before the Kansas House of Representatives Committee on HB 2711, February 6, 2008
• Community forum presentation on the impacts of Climate Change on Kansas, for the Energy and Climate Project of the Land Institute, January 23, Topeka, KS.
• Reviewer for the National Science Foundation.
• Reviewer for the Netherlands Research Organization (NWO).
• Outside reviewer for University of Colorado faculty tenure promotion (2006)
• Reviewer, NCAR Opportunity fund proposals (2005)
• Chair: Session of the 1998 Annual meeting of the Rocky Mountains/Great Plains Division of the AAG, Lawrence, Kansas.
• Director of the Climate Specialty group of the AAG (1997-1999).
• Chair: AAG joint Climate Specialty Group and Water Resources Specialty Group Session on Climate Change and Water Resources, at the 1997 Annual AAG meeting in Ft. Worth, Texas.
• Director of the Water Resources Specialty group of the AAG (1994-1997).
• Served on the AAG Climate Specialty Group Honors Committee (1993-1996).
• Chair: AAG Climate Specialty Group Session on Global Climate and Climatic Change, at the 1993 Annual AAG meeting in Atlanta, Georgia.
• Co-organizer (with K.M. Klink): AAG Climate Specialty Group session on large-scale climatology at the 1991 Annual AAG meeting in Miami, Florida.
• Evaluation Consultant for Project Geogram a 6-8th Grade program for introducing Geography into the National K-12 Education System.

University of Kansas

University Service

• Outside member for director search committee: Environmental Studies 2008
• Assessment of General Education Committee (2003-present).
• Coordinator for integrating the Atmospheric Science program into the Geography Department
• Outside member for faculty search committee: Geology 2003
• Served on several Environmental Studies committees (Faculty evaluation and curriculum)
- Marshall at graduation ceremonies

PROFESSIONAL SERVICE – Continued

Department Service
- Associate Chair (2005 – Present)
  - Scheduling officer
  - Initiating M.S. Program in Geography
  - Developed Long Range Plan for the Geography Department
  - Faculty evaluation committee chair
  - Led promotion committees
- Chair, Faculty search committee: Atmospheric Sciences position 2007.
- Faculty search committee: Glaciologist position 2006.
- Initiated and organized annual department graduation ceremonies (2003, 2004 and 2006)
- Organized Geography Department tours for Southwest Middle School science class, Lawrence KS, 2002, 2003, 2005
- Undergraduate Affairs Committee: Chair (2000-2004).
  - Revised B.S. degrees in the Department of Geography
  - Developed undergraduate guide to the Geography Program
  - Incorporated Atmospheric Sciences into the Geography Department
  - Led Advising activities
- Organized Department activities for KU Open House (October 5, 2002)
- Graduate Affairs Committee (1998-2000).
- Faculty search committee: GIS position 2001

University of California, Los Angeles:

University Service
- Committee for Education Development

Department Service
- Graduate Affairs Committee (1994-1995).
- Various promotion committees.

Institute of the Environment
- Steering Committee: The UCLA Consortium for Global Change and Regional Impacts (Became the Institute of the Environment).

Other activities
- Presented commencement address at the UCLA Geography Graduation Ceremony. June 18, 1995
- Developed Department of Geography Computing Plan. With Stephen Matthews.
- Proposed and implemented new graduate and undergraduate computer laboratories in the Department of Geography.

PROFESSIONAL SERVICE – Continued

- Developed a Laboratory manual for Geography 5: People and Earth’s Ecosystems.
- Faculty Sponsor to the UCLA Student Research Program (SRP).
- Faculty Advisor to the UCLA branch of Association of Environmental Professionals (AEP).
- Faculty fellow to Rieber Hall, 1993-94; Faculty fellow to Hedrick Hall, 1991-92 and 1992-93.
University of Delaware:
- Member of the University of Delaware Health Service Student Advisory Board, 1987-1988.
- Feddema, J.J. (Coordinator and Organizer), D.R. Legates, J.K. Titlow, G.H. Henderson, and Y. Schreuder (1986): Small Town Development on the Delmarva Peninsula. Day trip for a group of visiting geography students (led by Dr. P. Lukkes) from the University of Groningen, Netherlands.

COMMUNITY SERVICE
- Led several ecology and weather discussion for Cub Scout Pack 3072, Lawrence KS. 2003-2005
- Led weather discussion in 2nd grade class, Foothill Elementary School, Boulder, CO, 2005
- Assisted community groups opposed to the placement of a Wal-Mart store across from Free State High School in Lawrence KS. Attended city planning and city commission meetings and created a GIS database and map of households opposing the development
- Assisted local neighborhood to develop a traffic-calming plan on Harvard Road. Used GIS and aerial photos to develop and present plans to Lawrence, KS City Commission. The proposal was funded and implemented.

MEDIA ACTIVITIES
- Fox and KCEP TV appearances and numerous media stories about climate change and proposed Holcomb coal power plant construction (2008)
- Multiple newspaper and web news source interviews for land cover change studies (2005/6)
- Interview with KC Channel 5 TV (2005)
- Interviewed for a research article on global change by the Daily News (London), 2000
- Television interview with T.C. Meierding on air pollution for the Science and Technology section of the CNN Headline News program, May 1989.
- Radio Interview on atmospheric pollution, WLIM Radio, Wilmington, DE, 11/22/88.
- Tombstone Erosion Reveals History of Air Pollution; Article in the Wilmington News Journal/The Morning News (DE), November 21, 1988 (portions of this article were released on the AP newswire and published nation wide including, The New York Times (12/4/88), The Los Angeles Times (11/28/88), The Chicago Tribune (11/24/88), and numerous other news papers.
Daniel R. Hirmas

Department of Geography
University of Kansas
1475 Jayhawk Blvd., Lindley Hall, Room 415A
Lawrence, KS 66045-7613
Office: 785.864.5542, Lab: 785.864.4194, Fax: 785.864.5378
E-mail: hirmas@ku.edu
Website: http://web.ku.edu/~soil

EDUCATION

• Ph.D. in Soil and Water Sciences, University of California - Riverside, June 2008
  Dissertation: Surface Processes, Pedology, and Soil-Landscape Modeling of the Southern Fry Mountain Bolson, Mojave Desert, California

• M.S. in Soil Science, Texas Tech University, 2003
  Thesis: Degradation of Pedogenic Calcretes in West Texas

• B.A. in Biology, Texas A&M University, 1999

ACADEMIC APPOINTMENTS

• Courtesy Assistant Professor, Environmental Studies Program, University of Kansas, Lawrence, KS, 2009-Present.

• Assistant Professor, Department of Geography, University of Kansas, Lawrence, KS, 2008-Present.

PUBLICATIONS

Articles (italics indicate students)


• **Platt, B.F.**, S.T. Hasiotis, and **D.R. Hirmas**. 2012. Empirical determination of physical controls on megafaunal footprint formation through neoichnological experiments with elephants. PALAIOS. (Accepted with minor revisions)


**Book Chapters**


**Conference Abstracts and Proceedings**


Manuscripts in Preparation


Highlighted Contributions


PRESENTATIONS

Invited Research Presentations

• Quantifying soil architecture: Application of structured-light scanning to soil morphology from the horizon to pit scale. Natural Resources Conservation Service—National Soil Survey Center. 8 Aug 2012.

• Soil geomorphology and biogeochemistry of an arid mountain bolson, Mojave Desert, USA. Kansas Biological Survey, University of Kansas Ecosystems Research Group. 24 Sep. 2010.

• Land-use effects on soil architecture and near-surface hydrology in eastern Kansas. Iowa State University, Department of Geological and Atmospheric Sciences, Seminar. 10 Sep. 2010.


• Soil Geomorphology of an Arid Mountain Bolson, Mojave Desert, USA. Kansas State University, Department of Geography, Seminar. 11 Sep. 2009.

• Geomorphology, pedology, and soil-landscape modeling of the southern Fry Mountain bolson, Mojave Desert, USA. Rutgers University, Department of Environmental Sciences. 30 Jun. 2009.

• Surface processes, pedology, and soil-landscape modeling, Mojave Desert, California. University of Kansas, Department of Geography, Colloquium Series. 25 Feb. 2008.

• Spatial distribution of inorganic carbon storage in an arid landscape. UCR Department of Environmental Sciences, Soil and Water Sciences Program, Riverside, CA, Seminar. 3 Dec. 2007.

Invited Teaching Presentations

• Soil and paleosol geochemistry. University of Kansas, Department of Geology, Paleopedology guest lecture. 23 Apr. 2012.

• Soil and paleosol geochemistry. University of Kansas, Department of Geology, Paleopedology guest lecture. 28 Apr. 2010.


• What is soil science? Rancho Buena Vista High School, Vista, CA, Four class periods of 10th-grade Integrated Science guest lectures. 22 Feb. 2007.

Volunteered Research Presentations


• Mapping the effects of seating location and stereoscopic displays on learner outcomes in an introductory physical geography class. AAG Annu. Meet. 24-28 Feb. 2012.

• Application of wavelet and fractal techniques to the analysis of soil structure and color. EGU General Assembly 2011 3-8 Apr. 2011.


• Characterization of soil structure and pore architecture from the aggregate to horizon scale. ASA-CSSA-SSSA Intern. Annu. Meet. 1-4 Nov. 2009.

• Links between land surface characteristics and near-surface accumulations of dust, soluble salts, nitrate-nitrogen, and carbonate in the southern Fry Mountains, Mojave Desert, USA. GSA/ASA-CSSA-SSSA/GCAGS/HGS Joint. Annu. Meet. 5-9 Nov. 2008.


• Spatial distribution of inorganic carbon storage in an arid landscape. ASA-CSSA-SSSA Intern. Annu. Meet. 4-8 Nov. 2007.

• Soil-geomorphic classification of an arid mountain range, Mojave Desert, USA. AAAS Pacific Division Annu. Meet. 17-21 June 2007.


• Soil surface properties of Mojave Desert landforms. IUSS 18th World Congress of Soil Science. 9-15 July 2006.


GRANTS, AWARDS AND HONORS

External Research Grants

• National Science Foundation: NSF 10-544, Developing virtual and physical models to enhance conceptualization of soil and biogenic structures in undergraduate geoscience classes, Principle Investigator, 2012-2015 ($199,999)
• Kansas Water Resources Institute/USGS, Investigation of recharge to the High Plains Aquifer, Northwestern, Kansas, Co-Investigator, 2012-2014 ($30,000)

• National Science Foundation: NSF 05-550, Facilities to Enhance Research and Teaching at the University of Kansas Field Station, Co-Investigator, 2011-2014 ($329,890)


• Kearney Foundation of Soil Science Graduate Fellowship, 2004-2006 ($64,965)

Internal Research and Teaching Grants

• KU General Research Fellowship, 2012-2013 ($2,596)

• KU Center for Teaching Excellence, Faculty Seminar Participant, 2011 ($1,000)

• KU General Research Fellowship, 2011-2012 ($3,656)

• KU Center for Teaching Excellence, BPI Faculty Facilitator, 2011 ($1,000)

• KU New Faculty General Research Program Grant, 2010-2011 ($7,950)

• KU Center for Teaching Excellence, Best Practices Institute, 2010 ($700)

• KU Field Station Small Grants Program, 2010 ($250)

• Frank T. Bingham Memorial Fellowship, 2006-2007 ($2,000)

• Albert Marsh Environmental Sciences Scholarship, 2006-2007 ($400)

• UCR Graduate Dean’s Dissertation Research Grant, 2006 ($1,000)

• UCR Dean’s Fellowship, 2003-2004 ($33,527)

Travel Grants

• KU College of Liberal Arts and Sciences Faculty Travel Award, 2011 ($700)

• KU College of Liberal Arts and Sciences Faculty Travel Award, 2010 ($700)

• KU College of Liberal Arts and Sciences Faculty Travel Award, 2009 ($700)

• KU College of Liberal Arts and Sciences Faculty Travel Award, 2008 ($900)

• Stolzy-Letey Environmental Science Travel Scholarship, 2007 ($750)

• AAAS Pacific Division Student Travel Award, 2007 ($150)

• UCR Academic Senate Omnibus Field Research Travel Grant, 2006 ($500)

• UCR Graduate Student Association Conference Travel Grants, 2004-2007 ($2180 in total)

Awards and Honors

• AAAS Pacific Division J. Thomas Dutro, Jr. Geosciences Award, 2007 ($275)

• Western Soil Science Society/AAAS Pacific Division 1st Place Poster Award, 2007 ($150)

• Sigma Gamma Epsilon Geological Honor Society: Alpha Beta Chapter, Texas Tech University, 2002-2003
COURSES TAUGHT

- GEOG 104 Principles of Physical Geography, KU, Spring 2009, Fall 2009, 11-12.
- GEOG 331 Regional Geomorphology of the United States, KU, Fall 2008.
- GEOG 335 Introduction to Soil Geography, KU, Fall 2009-12.
- GEOG 535 Soil Geography, KU, Fall 2008-12.
- GEOG 538 Environmental Soil Physics and Chemistry, KU, Spring 2010, 12
- GEOG 735 Soil Geomorphology, KU, Spring 2010, 12.
- GEOG 935 Soil Geography Seminar, KU, Spring 2009.

GRADUATE COMMITTEES

Committees Chaired

- Timothy Bents (M.A., Geography, in progress)
- Kim Drager (M.A., Geography, in progress; co-chair with Prof. Stephen Hasiotis)
- Dennis Eck (M.A., Geography, in progress)
- Eric Zautner (M.A., Geography, in progress)

Committee Member

- Mark Bowen (Ph.D., Geography, completed March 2011)
- Tyler Buck (M.S., Atmospheric Science, completed June 2010)
- Ryan Callihan (M.A., Geography, in progress)
- Kathryn Clark (M.S., Atmospheric Science, in progress)
- Erin Dempsey (Ph.D., Anthropology, completed, April 2012)
- Rubina Firdous (Ph.D., Geology, in progress, ABD)
- Patrick Green (M.A., Anthropology, completed January 2012)
- Andrew Gottsfield (Ph.D., Anthropology, ABD)
- Alan Halfen (Ph.D., Geography, completed, April 2012)
- Daniel Keating (M.A., Anthropology, completed January 2012)
- Benjamin Keil (Ph.D., Philosophy, in progress)
- Scott Klopfenstein (M.A., Geography, in progress)
- Aaron Koop (M.A., Geography, in progress)
- Anthony Layzell (Ph.D., Geography, in progress)
- Pei-Ling Lin (Ph.D., Geography, in progress, ABD)
- Laura Murphy (Ph.D., Anthropology, in progress)
- Brian Platt (Ph.D., Geology, completed, April 2012)
• Karen Willey (Ph.D., Geography, completed July 2009)
• Garrett Welch (M.A., Anthropology, completed January 2012)
• Kristopher West (M.A., Anthropology, in progress)
• Terri Woodburn (Ph.D., Geography, in progress, ABD)

PROFESSIONAL SERVICE

International
• Reviewer, Cambridge University Press, 2011.
• Reviewer, SEPM Special Publication, 2011.
• Reviewer, The Professional Geographer, 2011.
• Reviewer, Plant and Soil, 2011.
• Editorial Board Member, Open Journal of Soil Science (OJSS), 2011–2012.

National
• Member, Soil Micromorphology Committee, Soil Science Society of America, 2011–2013. This committee works to facilitate the planning and organization of soil micromorphology workshops and practicum at the annual meetings.
• Presenter and Participant, Two iQuest camp panels to engage learning among underrepresented and economically disadvantaged 7th and 8th grade students (primarily Hispanic, African American, Native American, and women) for the NSF ITEST program, 15 & 22 July 2010.
• Presenter and Participant, iQuest camp panel to engage learning among underrepresented and economically disadvantaged middle-school students (primarily Hispanic and Native American) for the NSF ITEST program 16 July 2009.
• Co-Administrator, Algorithms for Quantitative Pedology (AQP) R-Forge Project. (http://r-forge.r-project.org/projects/aqp/)
• Presiding Officer, Mineralogical Controls on Soil Physical, Chemical, and Biological Processes, Div. S09, ASA-CSSA-SSSA, New Orleans, LA, 4-8 Nov. 2007.
• Presiding Officer, Pedologic Progress, Philosophy, and Perspectives, Div. S05, ASA-CSSA-SSSA, Indianapolis, IN, 12-16 Nov. 2006.
Institutional

- Member, Atmospheric Science Search Committee, KU Department of Geography, 2011–2012.
- Member, Curriculum Committee, KU Department of Geography, 2011–2012.
- Member, Executive Committee, KU Field Station, Kansas Biological Survey, 2010–2011.
- Member, Honors Committee, KU Department of Geography, 2010–2011.
- Member, Outreach Committee, KU Department of Geography, 2009–2010.
- Member, Curriculum Committee, KU Department of Geography, 2008–2009.

PROFESSIONAL ADVANCEMENT

- Geological Society of America Annual Meeting, 2008
- Western Society of Soil Science/AAAS Pacific Division, 2007
- Desert Project Tour, 2007
- World Congress of Soil Science, 2006
- Friends of the Pleistocene, Pacific Cell, 2005
- International Salinity Forum, 2005
- Learning ArcGIS 9, Online Course, UCR Extension/ESRI, 2005
- Mojave Desert Science Symposium, 2004
- International Conference on Aeolian Research (ICAR-5), 2002
- Nematode Identification Short Course, Clemson University, 2000

PROFESSIONAL AFFILIATIONS

- European Geosciences Union (EGU), 2011–Present
- Association of American Geographers (AAG), 2009–Present
- American Geophysical Union (AGU), 2002–Present
- Soil Science Society of America (SSSA), 2001–Present
Curriculum Vitae

WILLIAM CHARLES JOHNSON
Professor of Geography
Neogene, Quaternary and Archaeological Geologist

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Lawrence, Kansas 66045-7613

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785.864.5143 (dept. office)
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wcj@ku.edu

http://web.ku.edu/~soil
http://www2.ku.edu/~geography/peoplepages/Johnson_W.shtml

Advanced Education

Doctor of Philosophy (1976)
Department of Geography, University of Wisconsin-Madison
Dissertation: The Impact of Environmental Change on Fluvial Systems: Kickapoo River, Wisconsin (James Knox, advisor)

Master of Science (1971)
Department of Geography, Northern Illinois University (with Honors)
Thesis: Discrimination of Stagnation Moraine from End and Ground Moraine on the Missouri du Coteau and Coteau des Prairies of North Dakota

Bachelor of Science (1968)
Department of Earth Sciences, Northern Illinois University (with Honors)
Majors (2): Geology and Meteorology/Climatology

Academic Appointments

Courtesy Professor
Department of Geology, The University of Kansas 4/10-present

Geoarchaeologist
Center for Environmental Management of Military Lands (CO State U) 3/03-present

Research Associate
Kansas Geological Survey, The University of Kansas 8/06-present

Associate Chair
Department of Geography, The University of Kansas 1/99-8/05

Full Professor
Department of Geography, The University of Kansas 8/97-present

Research Affiliate
Civil and Environmental Engineering, MIT 11/95-5/02

Associate Professor
Department of Geography, The University of Kansas 8/8/1-7/97

Assistant Professor
Department of Geography-Meteorology, The University of Kansas 8/77-8/81

Assistant Professor
Department of Geography, University of Oklahoma 8/76-5/78

Lecturer
Department of Geography, University of Wisconsin - Milwaukee 8/75-5/76

Curricula

Biogeography Palynology Quaternary Stratigraphy
Field Camp Plant Geography Research Methods
Field Mapping Methods Principles of Physical Geography River Systems
Geomorphology Late Quaternary Paleoclimatology Rock Magnetic Analysis
Geoarchaeology Late Quaternary Environments Seminar (many topics)

Research Themes

Geologic mapping of Neogene and Quaternary deposits: field mapping and development of large-scale digital maps of surface and near-surface geology for selected areas of central and western Kansas

Quaternary stratigraphy: litho-, chrono-, pedo-, bio-, and magnetostratigraphy of eolian deposits (loess and sand) in the central Great Plains, and environmental (flora, fauna, climate) reconstruction

Geoarchaeology: paleoenvironmental conditions and landscape evolution in the central Great Plains, as related to prehistoric peoples; modeling the distribution of surface and buried cultural materials

Stable isotope geochemistry: application of stable isotopes (δ13C, δ15N, δ18O) to soil-vegetation-climate relationships in modern soils and paleosols of the central Great Plains

Fluvial geomorphology: stream system response to late-Quaternary (middle-late Pleistocene and Holocene) climatic variation, and development of alluvial chronostratigraphies
2011-2015

Extracting the first lacustrine (lake) record of prehistoric drought history in the central Great Plains: The University of Kansas General Research Fund, $3410, 7/12-6/13.


Evaluating the impacts of land use and climate change on playa form and function and effectiveness of grass buffers to mitigate these impacts: Playa Lakes Joint Venture ConocoPhillips Fund, $12,705, 6/12-5/13

(Bowen and Johnson)

Oldest sand dunes in the North American Great Plains: The University of Kansas General Research Fund, $2,000, 7/11-6/12.


FY10 Funding for University of Kansas Research and Educational Support for U.S. Army Programs and Initiatives at Fort Leavenworth, Kansas: U.S. Army Research Office, $1,940,000, 1/1/11-12/31/12. (Lewis et al.)

(Water Resources & Landscape Modeling--$431,504)

2006-2010

Field sampling services for National Aquatic Resource Surveys: Central Plains Center for BioAssessment (CPCB): US Environmental Protection Agency, $73,280 (KU subcontract), 5/11-9/11. (Huggins et al.)

Evaluating the effect of large-format stereoscopic displays on student learning in introductory college physical geography classes: NSF—OCE Geoscience Education, $147,759, 9/10-8/12. (Slocum et al.)

Holocene Megadroughts of the Central Great Plains: NSF Doctoral Dissertation Improvement—Geography and Spatial Sciences Program, $11,970, 8/10-1/12. (Johnson and Halfen)

University of Kansas Research and Educational Support for U.S. Army Programs and Initiatives at Fort Leavenworth, Kansas: U.S. Army Research Office, $1,900,000, 2/10-2/12. (Lewis et al.) (Landscape modeling $66,000)


Database development: Playa basin occurrence on the High Plains of Kansas: Kansas GIS Policy Board, 33,904, 8/07-6/08.

Undergraduate Research Assistantship Fund: The University of Kansas Center For Research, $2500, 7/07-8/07.

Timing and Environment of the Last Interglacial Period in the Central North American Continent: The University of Kansas General Research Fund, 55,000, 7/07-6/08.


Geologic mapping in Reno County, McPherson County, Dickinson County, Miami County, and Morris County, Kansas: U.S. Geological Survey STATEMAP Program, $153,798, 5/07-4/08. (Ludvigson et al.)

Mapping and characterization of playa basins on the High Plains of western Kansas and development of a regional subclass-specific guidebook for applying the hydrogeomorphic (HGM) approach to assessing wetland functions of playa basin depressional wetlands: U.S. Environmental Protection Agency,
Soil development and carbon sequestration along the east-west climatic gradient of the central Great Plains—forest/prairie ecotone of central Missouri to the foothills of the Colorado Rockies: The University of Kansas General Research Fund, $1,780, 7/06-6/07.

Mapping surface geology in Republic County, Kansas (Year 1): U.S. Geological Survey EDMAP Program, $12,000, 5/06-4/07.


2001-2005

Detection and mapping of the Santa Fe Trail in the Kansas City Green Way Project Zone: Challenge Grant Program, National Park Service Long Distance Trails Group, $5,000, 6/05.


Geologic mapping and compilation of digitized county data bases in Geary, Washington, Norton, and Dickinson Counties, Kansas: USGS STATEMAP Program, $82,288, 5/05-4/06. (McCauley et al.)

Mass spectrometry laboratory facility for stable isotope analysis: W.M. Keck Foundation, $492,000, 7/04. (Gonzalez et al.)

National Register of Historic Places Evaluation of the Caenen and Paul Sites, Stranger Creek Valley, Leavenworth County, Kansas: Kansas State Historical Society, $66,171, 5/04-4/05. (Logan and Johnson)

Vertical distribution of SOM δ^{13}C values in upland soils from ungrazed watersheds with 1-, 2-, 4-, and 20-year burn frequencies: Kansas State University Konza LTER Project (NSF-funded), $2,000, 1/04-12/04.


Acquisition of isotopic ratio mass spectrometers and related peripherals for geologic, paleoenvironmental and environmental research at The University of Kansas: NSF-EAR MRI Program, $629,301, 9/03-8/06 (Gonzalez et al.)

A key to the prehistory of the central Great Plains: microfossil remains from the depths of Big Basin, Clark County, Kansas: The University of Kansas General Research Fund, $6,390, 7/03-6/04.


Mapping surface geology in Morton County, Kansas (Year 1): U.S. Geological Survey EDMAP Program, $11,000, 5/02-5/03.

Relationship of soil chemistry and mineralogy to Cs, Pb, and PGE distribution, and implications to erosion evaluation models: U.S. Army Engineer Research & Development Center (BAA Program), $200,000, 3/02-3/04. (Johnson and Macpherson)

Geologic mapping and compilation of digitized county data bases in Saline, Crawford, Pawnee and Edwards Counties, Kansas; and compilation of a digital geologic map base from existing maps in a portion of Wabaunsee County, Kansas: U.S. Geological Survey STATEMAP Program, $150,516, 5/02-4/03. (Brady et al.)

Doctoral Dissertation Research: Modeling the effect of climate on erosion and deposition events in the loess canyons of the Breaks, Cheyenne County, Kansas: NSF-G&RS, $10,000, 8/01-7/03. (for K.L. Willey)

Geologic mapping and compilation of digitized county data bases in Barber, Crawford, and Gray-Hodgeman Counties, Kansas; and compilation of a digital geologic map base from an existing map in Pottawatomie County, Kansas: U.S. Geological Survey, STATEMAP Program, $172,254, 5/01-4/02. (Brady et al.)


1996-2000

Relationships of soil chemistry and mineralogy to $^{137}$Cs, $^{210}$Pb and Platinum Group Elements distribution: U.S. Army, BT-25 Program (Environmental Quality Basic Research), $25,000, 11/00-10/02. (Johnson and...
Macpherson
Relationships of soil chemistry and mineralogy to $^{137}$Cs, $^{210}$Pb and Platinum Group Elements distribution: U.S. Army, BT-25 Program (Environmental Quality Basic Research), $5,000, 11/00-10/02. (Johnson and Macpherson)

Cynomys sp. (prairie dog) and Spermophilous sp. (ground squirrel) bone-derived carbon ($\delta^{13}$C) and oxygen ($\delta^{18}$O) isotopic values as proxies of past climates in the central Great Plains: The University of Kansas General Research Fund, $4,762, 7/00-6/01.

Geologic mapping and compilation of digitized county data bases in Barber, Crawford, and Gray-Hodgeman Counties, Kansas; and compilation of a digital geologic map base from an existing map in Pottawatomie County, Kansas: U.S. Geological Survey, STATEMAP Program, $60,839, 5/00-4/01. (Brady, Johnson, West, McCauley, and Collins)


Geologic mapping and compilation of digitized county data bases in Barber, Crawford, and Gray Counties, Kansas and compilation of digital geologic map bases from existing maps in Johnson, Franklin, Osage, and Shawnee Counties, Kansas: U.S. Geological Survey, STATEMAP Program, $50,000, 5/99-4/00 (Brady et al.)


Reconstruction of past climates using the microbotanical record contained within loess deposits of the central Great Plains: The University of Kansas General Research Fund, $6,938, 7/98-6/99.


The magnetic and carbon isotope record of climate as derived from loess deposits of the central Great Plains: NSF-G&RS, 8/96-7/98, $119,968. (M.R. Farr, co-PI)

A proposal submitted to the STATEMAP Program of the U.S. Geological Survey, Department of the Interior, for completion of work in Greenwood and Bourbon Counties, Kansas, and new work in Comanche-Hamilton, and Kearny Counties, Kansas, to support field mapping and compilation of digitized data bases leading to a revised geologic map of Kansas: U.S. Geological Survey, 5/96-4/97, $70,000. (Brady et al.)

1991-1995

High-resolution climatic reconstruction in the central Great Plains: a pilot study: The University of Kansas General Research Fund, 7/95-6/96, $5,505.

Reconstruction of late Quaternary paleoclimates of the central Great Plains using magnetic and nonmagnetic parameters: NSF-G&RS, 6/95-5/96, $8,490.

A proposal submitted to the STATEMAP Program of the U.S. Geological Survey for continuation of work in Greenwood, Clark, Comanche, and Bourbon Counties, Kansas, and new work in Ford County, Kansas, to support field mapping and compilation of a digitized data base leading to a revised geologic map of Kansas: U.S. Geological Survey, 9/93-8/94, $64,385. (Maples et al.)

Approximation of age, extent, and risk potential of late-Quaternary faulting along the Chadron-Cambridge Arch in south-central Nebraska using geomorphic and shallow seismic-reflection techniques: U.S. Geological Survey (NEHRP), 4/93-3/95, $71,625. (Johnson et al.)

Paleoenvironments and desertification of a large sand sheet in the central Great Plains: National Aeronautics and Space Administration, 8/92-95, $66,000.

Reconstruction of Glacial Age climates in the central Great Plains, The University of Kansas Office of Research, Graduate Studies and Public Service, 7/90-6/91, $6,160.

W.C. Johnson - 4
Pre-1991

Detailed mapping and dating of Quaternary-age deposits in Phillips County, Kansas: Dane G. Hansen Foundation, 7/89, $2,000.
Radiocarbon dating of soil humate fractions in late-Quaternary paleosols: NSF-G&RS, 2/89-8/90, $12,000.
Ranching culture and the Cimarron River: Hall Center for the Humanities, The University of Kansas, 4/88, $380.
Enhancement of Palynology Laboratory Facilities: Exxon Education Foundation, 9/85, $5,000.
A 620,000-year opal phytolith record from the loess of central Nebraska: National Geographic Society, 10/85-10/86, $6,900.
Development of a pollen-analysis laboratory for the study of Quaternary environments of the central Great Plains: The University of Kansas Office of Research, Graduate Studies and Public Service, 7/81-7/84, $89,757. (W. Dort, Jr. et al.)
Reconstruction of past environments on the central Great Plains: The University of Kansas Office of Research, Graduate Studies and Public Service, 8/81-5/82, $4,523.
The impact of Prehispanic Maya agriculture on the physical environment: the Pulltrouser Swamp archaeological site of northern Belize: Tinker Foundation and The University of Kansas Center of Latin American Studies, 3/81, $7,500.
Funds for establishing a fossil-pollen extraction laboratory: The University of Kansas College of Liberal Arts and Sciences, and Office of Research, Graduate Studies, and Public Service, 6/80, $2,000.
Accurate prediction of river sediment loads: The University of Kansas Office of Research, Graduate Studies, and Public Service, 7/80-6/81, $4,005.
Recent climatic variation in the highlands of western Honduras: The University of Kansas Office of Research, Graduate Studies, and Public Service, 1979-80, $4,000.

Contracts

2006-2012

Activation history and geoarchaeology of the Tanana River Lowlands dunes, central Alaska: Center for Management of Military Lands (Colorado State University), $12,400, 7/10-6/11.
Geomorphology and environmental reconstruction at the Donnelly Training Area archaeological sites, Fort Greely, Alaska: U.S. Army & Center for Management of Military Lands (Colorado State University), $20,000, 7/09-6/10.
Geoarchaeology of the McCormick Road Area of the Republican River Valley, Fort Riley, Kansas: U.S. Army & Center for Management of Military Lands (Colorado State University), $6,850, 1/09-12/09.
Geoarchaeology of buried Paleoindian sites (14RY6175 & 6176), Fort Riley, Kansas: U.S. Army & Center for Management of Military Lands (Colorado State University), $17,000, 3/06-12/06.

2001-2005

Phil Site Phase IV data recovery, analysis and report preparation: Bureau of Reclamation, $80,330, 9/05-6/06. (Logan and Johnson)
Phase IV excavation of the Phil site (14JW48), Lovewell Reservoir, Jewell County, Kansas: Bureau of Reclamation, $69,506, 10/04-9/06. (Logan and Johnson)
National Register of Historic Places evaluation of three archaeological sites at Lovewell Reservoir, Jewell County,
Kansas: Bureau of Reclamation, $78,406, 7/04-3/05. (Logan and Johnson)  
Data recovery and mitigation (site 41CV595) for Fort Hood, Texas: Center for Environmental Management of Military Lands—Colorado State University, $23,067, 1/03-12/03.  
Temporal archaeological model for Fort Hood, Texas: Center for Environmental Management of Military Lands—Colorado State University, $10,641, 2/03-12/03.  
3-D GIS visualization of the Kirwin National Wildlife Refuge: Bureau of Reclamation, $1,452, 9/02-5/03. (Logan and Johnson)  
Archaeological survey of Kirwin Reservoir, Phillips County, KS: Bureau of Reclamation, $30,000, 5/02-12/03. (Logan and Johnson)  
Geoarchaeology of the Kirwin Reservoir area, Phillips County, Kansas: The University of Kansas Office of Archaeological Research, $10,000, 5/01-3/02.  

1996-2000  
GIS modeling of landform evolution, Fort Riley, Kansas: Strategic Environmental Research and Development Program, $20,000, 1/00-7/00.  
Geoarchaeology of the DB site, Ft. Leavenworth, Kansas-mitigation phase: U.S. Army Corps of Engineers-Kansas City District, 6/96-8/97, $35,867. (Logan and Johnson)  

1991-1995  
Geoarchaeology of the DB Site, Ft. Leavenworth, Kansas-testing phase: U.S. Army Corps of Engineers-Kansas City District, 6/95-12/95, $3,892.  
An integrated hillslope and channel evolution model as an investigation and prediction tool: U.S. Army Construction Engineering Research Laboratories, 9/95-8/98, $467,787. (Bras et al.)  
Archaeological investigations at State Route 87, Saguaro Lake Road to Gila County Line: Statistical Research, Inc., 3/95-10/95, $1,250.  
Surficial geologic mapping of Republic County, Kansas: Kansas Geological Survey, 5/93-8/95, $12,000.  
Sand Prairies geoarchaeological survey, central and southwestern Kansas: Kansas State Historical Society, 6/92-6/93, $79,964. (Logan and Johnson)  
Paleoenvironmental overview of the Central Plains: U.S. Army Corps, 1/92-12/94, $65,000. (Hofman et al.)  
Investigation of Anasazi/Cohonina cultigen use at AZI:2:11 near Cameron, Arizona: Arizona Department of Transportation and Statistical Research (Tucson), 11/91-3/92, $4,400.  

Pre-1991  
Documentation of cultigen use via pollen and opal phytolith analysis of prehistoric fields, Roosevelt Reservoir Rural Sites Study (AZ): Bureau of Reclamation, 8/90-8/91, $21,000.  
Surficial geologic mapping of Finney County, Kansas: Kansas Geological Survey, 5/90, $9,500.  
Stratigraphy and Quaternary geology of Phillips County, Kansas: Kansas Geological Survey, 5/89, $7,000.
Age and extent of the shallow confining silt layer in the Great Bend Prairie: Kansas Groundwater Management District 5, 5/89, $2,450.
Impact of increasing groundwater withdrawal on riparian vegetation and stream channel morphology: Arkansas and Cimarron Rivers, Kansas: Kansas Fish and Game Commission, 10/85-7/86, $13,700.
Geomorphology and paleoecology of Eglin Air Force Base, Florida: New World Research, Inc. (National Park Service Award), 1/82-1/86, $40,000.
Abandoned Mined Lands Inventory Prototype Study: Office of Surface Mining, 1/80, $91,000. (Mandel et al.)

Journal Articles and Notes

2001 to Present

Halfen, A.F., Johnson, W.C., Hanson, P.R., Spencer, J.Q.G., Young, A.R., n.d., Dune activation during MIS 3 in the central Great Plains: Geology (in preparation)


Knox, J.C., Fitzpatrick, F.A., Johnson, W.C., n.d., Channel erosion and deposition responses to land-use change, climate and floods, Driftless Area, Wisconsin: Geology (in review)


Hanson, P.R., Arbogast, A.F., Johnson, W.C., Joeckel, R.M., Young, A.R., 2010, Megadroughts and late Holocene Dune activation at the eastern margin of the Great Plains, north-central Kansas: Aeolian Research 1:101-110


Mason, J.A., Miao, X-D., Hanson, P.R., Johnson, W.C., Jacobs, P.M., Goble, R.J., 2008, Loess record of the Last Glacial-Interglacial transition on the northern and central Great Plains: Quaternary Science Reviews 27: 1772-1783


1996-2000


1991-1995


Martin, C.W. and Johnson, W.C., 1995, Variation in Radiocarbon Ages of Soil Organic Matter Fractions from Late

Pre-1991

Johnson, W.C., 1983, The Physical Setting: Northern Belize and Pulltrouser Swamp ( Chap. 2) and Further Comments on Soils and Raised Fields ( Chap. 5): in B.L. Turner and P.D. Harrison (eds.) *Pulltrouser Swamp: Ancient Maya Habitat, Agriculture, and Settlement in Northern Belize*, University of Texas Press, pp. 8-20, 91-93 ( Chap. 2 and 5, resp.).
Geologic Maps


Johnson, W.C., and 9 others, n.d., Geology and Geomorphology of the Kansas River Corridor: Kansas Geological Survey Map Series—in cartographic production


Books and Book Chapters


Reports of Investigation and Databases

2006-2008

Sherman, S.A., and Johnson, W.C., 2006, National Register Evaluation and Geoarchaeological Analysis of the Mandel (14RY6175) and Hall (14RY6176) Sites and Shovel Testing of Site 14RY5175 at Fort Riley, Kansas: Center for Environmental Management of Military Lands TPS 06-13, Colorado State

2001-2005


1996-2000


1991-1995


Johnson, W.C., 1992, Geomorphology (Chap. 5): in Phase 3 Mitigation Data Recovery at the F.M. Hall Site, 9EB44, a Multi-Component Site in Elbert County, Georgia, J. Meyer et al. (eds.), New World Research Report of Investigations No. 199.


1986-1990


Johnson, W.C., 1990, Field Methods and Results (Chap.4): in Data Recovery at 16VN791: a Multi-Component Prehistoric Site in the Birds Creek Drainage, Fort Polk Military Reservation, Fort Polk, Louisiana, L.J. Campbell et al.(eds.), New World Research Report of Investigations No. 188.

Johnson, W.C., 1990, Geomorphology of the Perry Lake Project Area and Site Description: in Archaeological Investigations in the Perry Lake Project Area, Northeastern Kansas - National Register Evaluation of 17 Sites, B. Logan (ed.), U.S. Army Corps of Engineers (Kansas City District).


Johnson, W.C., 1989, Stratigraphy and Late-Quaternary Landscape Evolution: in Archaeological Investigations at the North Cove Site, Harlan County Lake, Harlan County, Nebraska, M.J. Adair, (ed.), U.S. Army Corps of Engineers (Kansas City District).


Pre-1986


Crowley, J.F., and Johnson, W.C., 1978, Land Management Transfer Assessment: Public Lands on the Little River and Hog Creek Arms of Lake Thunderbird-Norman, Oklahoma: Oklahoma Department of Tourism and Recreation and Bureau of Reclamation.


**Contributed Abstracts**


**Reviews**


Oral and Poster Presentations
(int'l, nat'l, reg. meetings; all abstracts published)

2012


Johnson, W.C., Mein, A. R., Dobbs, K.E., Macpherson, G.L., Landscape setting of ancient karez irrigation systems in southern Afghanistan: Society for American Archaeology, Memphis, April

Gaines, E.P., Johnson, W.C., Halfen, A.F., Depositional history of archaeological sites in eolian dune contexts, Tanana Flats, Central Alaska: Society for American Archaeology, Memphis, April


2011


Halfen, A.F., Johnson, W.C., Morphology, chronology, and evolution of alluvial terraces within the Kansas River valley, Kansas, USA: American Geophysical Union Fall Meeting, San Francisco, December 2011.


Halfen, A.F., Johnson, W.C., Evidence of Late-Holocene megadrought activity in dunefields of the United States Central Great Plains: Minerva Gentner Symposium on Aeolian Processes, Ben Gurion University, Eilat, Israel, October, 2011.


Payton, B.W., Johnson, W.C., Terwilliger, V., Geiss, C., Magnetic analysis of fluvial soils may aid in reconstruction of Ethiopian paleoenvironments: Geological Society of America, Denver, October 2010.


Halfen, A.F., Johnson, W.C., Hanson, P.R., Spencer, J.Q.G., Woodburn, T.L., Young, A.R., Rapid climate shifts, dune activity, and megadroughts in the central Great Plains around the Medieval Climatic Anomaly and Little Ice Age: Association of American Geographers, Seattle, April, 2011.


2010


Halfen, A.F., Johnson, W.C., Hanson, P.R., Spencer, J.Q.G., Woodburn, T.L., Young, A.R., A new high-resolution chronology of megadrought following the Medieval Climatic Anomaly and Little Ice Age in the central Great Plains: American Geophysical Union Fall Meeting, San Francisco, December 2010.

Halfen, A.F., Johnson, W.C., Hanson, P.R., Spencer, J.Q.G., Young, A.R., New ages of dune activity during and following the Medieval Climatic Anomaly on the eastern margin of the Great Plains: Geological Society of America, Denver, October-November 2010.


Bowen, M.W., Johnson, W.C., Late-Quaternary paleoenvironment and playa-lunette system evolution on the central Great Plains: Great Plains-Rocky Mountains Section of the Association of American Geographers, Lawrence, KS, October 2010.


2009


Bowen, M.W., and Johnson, W.C., Playa Lake Response to Rapid Climate Changes during the Late-Pleistocene and Holocene on the Kansas High Plains: Geological Society of America, Portland (OR), October 2009.


2008


Hanson, P.R., Joeckel, R.M., Johnson, W.C., Young, A., and Arbogast, A.F., Dune activation in the eastern Great Plains of Nebraska and Kansas: Geological Society of America, Houston, October 2008.


Johnson, W.C., Mason, J.A., Miao, X.-D., Hanson, P.R., Jacobs, P.M., and Goble, R.J., Loess chrono- and chemostratigraphy of the last glacial-interglacial transition on the central and northern Great Plains, USA: American Quaternary Association, Pennsylvania State University, June 2008.


2007


Johnson, W.C., Stable isotope reconstruction of Quaternary climates recorded within sedimentary sequences of the Central Great Plains: American Chemical Society, Boston, August 2007.


Johnson, W.C., Dort, W., Jr., and Bozarth, S.R., Holocene Bignell Loess chronology, stratigraphy and paleoenvironmental reconstructions from within a loess table, Southwestern Nebraska: Geological Society of America North-Central/South-Central Meeting, Lawrence, KS, April 2007.


2006


2005

Johnson, W.C., and Woodburn, T.L., Late Pleistocene to early Holocene climatic change recorded in fill of a dissolution collapse feature within the central Great Plains: Geological Society of America, Salt Lake City, October 2005.


Johnson, W.C., Temporal and spatial isotopic patterns in modern soils and buried paleosols of the central Great Plains and hemispheric-scale linkages: Geological Society of America—North-Central Section, Minneapolis, May 2005.

Johnson, W.C., Isotopic signals in soils on the Konza LTER site: Annual Konza LTER Workshop, Manhattan (KS), March 2005.

2004


2003


2002

Johnson, W.C., and Campbell, J.S., Distribution and prehistory of playa basins in Kansas: Kansas Playa Study Workshop, NRCS, Salina, 12/02.


2001


2000


1999

Johnson, W.C., Modeling the potential for buried prehistoric archaeological remains on the Fort Riley military installation, Kansas: North-Central Section meeting, Geological Society of America, Champaign, April, 1999.

1998

Johnson, W.C., Late-Pleistocene-Early Holocene climatic change on the central Great Plains: Great Plains/Rocky Mountain Division meeting, Association of American Geographers, Lawrence, September, 1998.

Johnson, W.C., Evidence for dramatic environmental change derived from the Late Pleistocene-Early Holocene Brady soil of the central Great Plains: American Quaternary Association, Puerto Vallarta (Mexico), September, 1998.

1997


Johnson, W.C., Rock magnetics as a tool for environmental reconstruction: examples from the Great Plains: Great Plains/Rocky Mountains Division meeting, Association of American Geographers, Bozeman, September, 1997.

Johnson, W.C., Late-Quaternary environments and archaeological geology of the loess-mantled terrain in northeastern Kansas: Geological Society of America, Salt Lake City, October, 1997.


Johnson, W.C., Investigation of late-Quaternary faulting at the Bone Cove site, south-central Nebraska: Association of American Geographers, Fort Worth, April, 1997.

1996


1995


Johnson, W.C., Lithostratigraphy, chronostratigraphy, and environmental reconstructions of the middle and late Wisconsinan loess deposits in Kansas and adjacent Nebraska: North-Central meeting, Geological Society of America, Lincoln, April, 1995.

Park, K., Johnson, W.C., and Farr, M.R., Regional variations of rock magnetic parameters in the loess deposits of the central Great Plains: North-Central meeting, Geological Society of America, Lincoln, April, 1995.


1994


1993


Johnson, W.C., Park, K., Diekmeyer, E., and Muhs, D.R., Chronology, Stratigraphy, and Paleoenvironment of the Late Wisconsin (Peoria) loess of Kansas and Nebraska: Geological Society of America, Boston, October Park, K., Farr, M.R., and Johnson, W.C., Magnetic susceptibility record of two Quaternary loess sections, Nebraska: American Geophysical Union, Baltimore, April, 1993


Johnson, W.C., May, D.W., and Valastro, S., A 36,000-year Chrono-, Bio-, and Magnetostratigraphic Record from Loess of South-central Nebraska: Association of American Geographers, Atlanta, April, 1993


1992


Johnson, W.C., Some Geomorphic and Palynologic Approaches to Deciphering the Pre-Columbian Cultural Environment: keynote address at the International Geographical Congress, Washington, August, 1992.


1991


Feng, Z-D., and Johnson, W.C., Loess Depositional History and the Climatic Implications During the Last 400,000 years in Central Kansas: Institute for Tertiary and Quaternary Studies, Lawrence, February-March, 1991.


1990


Johnson, W.C., Biogeography and Geomorphology of late Pleistocene Megafaunal Remains and Potential


**1985-1989**


*Johnson, W.C.*, and Dort, W., Jr., Paleochannels of the Arkansas River, Western Kansas, and Hydrologic Implications: Association of American Geographers, Phoenix, April, 1988


Fredlund, G.G., *Johnson, W.C.*, and McClain, T.J., Correlation of Late Quaternary Eolian Deposits with Cheyenne Bottoms Stratigraphy, Central Kansas: North Central meeting, Geological Society of America, Lawrence, March, 1988


*Johnson, W.C.*, and Dort, W., Jr., Post Glacial History of the Kansas River System: Kansas Academy of Science, Emporia, April, 1986


*Johnson, W.C.*, Revision of Terrace Chronologies Along the Kansas River and Tributaries: Institute for Tertiary and Quaternary Studies, Lawrence, October, 1985.


1980-1984

Johnson, W.C., and Martin, C.W., Historical Channel Changes in the Cimarron River System, Panhandle
Oklahoma: West Lakes/Great Plains-Rocky Mountain Regional Meeting, Association of American
Geographers, Lawrence, November, 1984.

Fredlund, G.G., Johnson, W.C., and Dort, W., Jr., Evidence for Late Wisconsinan Sagebrush Steppe on the

Johnson, W.C., and Fredlund, G.G., Two Holocene Pollen Records From the Southeastern Pine Forest in the

Fredlund, G.G., Johnson, W.C., and Dort, W., Jr., A 620,000-year Opal Phytolith Record from the Central

Fredlund, G.G. and Johnson, W.C., Problems in the Simultaneous Extraction of Pollen and Phytoliths: First

Johnson, W.C., Spores as Paleoenvironmental Indicators: An Archaeological Example: special session

for a Pine Parkland in Central and Western Kansas and Adjacent Nebraska during Mid- and Late-
Wisconsinan Time: Institute for Tertiary and Quaternary Studies, Lincoln, October, 1983

Fredlund, G.G., Johnson, W.C., and Dort, W., Jr.)A Preliminary Analysis of Pollen and Phytoliths from the Eustis
Pit, Frontier County, Nebraska: Institute for Tertiary and Quaternary Studies, Lincoln, October, 1983.

Johnson, W.C., Soil-Geomorphic Relationships and Prehispanic Land Use Patterns in Northern Nebraska:
Association of American Geographers, Denver, April, 1983.

Johnson, W.C., and K. Rice)The Utilization of Remote Sensing and Field Techniques in Revegetation
Assessment of Abandoned Mined Lands, Southeast Kansas: West Lakes Meeting, Association of
American Geographers, Terre Haute, December, 1982

Johnson, W.C. and Fredlund, G.G., Preliminary Pollen Analysis of a 110,000-year Faunal Sequence, Natural Trap
Cave, Wyoming: Great Plains-Rocky Mountains Meeting, Association of American Geographers, Laramie,
September, 1982.

Johnson, W.C., A dendrochronological Study of Pinus oocarpa Shiede in Western Honduras: Association of

Johnson, W.C., Palynological Interpretation of Late Quaternary Pond Sediments Near Gilmore, Lemhi Mountains,

Dort, W., Jr. and Johnson, W.C., Diversity of Channel Patterns, Kansas River: Geological Society of America -
North Central Section, Ames, April, 1981.

Johnson, W.C., Geomorphic and Archaeologic Evidence of Late Holocene Stream System Change in the Central

Johnson, W.C., Cultural Response to River Change: the Ancient Maya of Copan Honduras: Association of
American Geographers, Louisville, April, 1980.

Johnson, W.C., The Use of Geomorphic Techniques in Paleoenvironmental Reconstruction: Flint Hills/Osage Hills

Pre-1980

Johnson, W.C., Holocene Climatic Variation and River Activity on the Central Great Plains: Great Plains Rocky

Johnson, W.C., Historical Trends in Sediment Movement Within Stream Systems of the Midwestern United

Sorenson, C.J., Johnson, W.C., and Davis, A.M., Evidence for Holocene Bioclimatic Stability Northern
Labrador/Quebec: Eighth Annual Eastern Canadian Arctic Workshop, Institute for Arctic and Alpine

Johnson, W.C., Accelerated Erosion and Sedimentation During the Ancient Maya and Modern Periods:

Johnson, W.C., Contemporary Patterns of Interaction Among Fluvial Variables Within Mid-Western Stream

Johnson, W.C., Holocene-Age Paleosols Within Valley Alluvium of Southwestern Wisconsin: Association of
American Geographers, Salt Lake City, April, 1977.

Johnson, W.C., Stream Channel and Flood plain Response to Historical Changes in Land Use: Western Social

Johnson, W.C., Thresholds in Fluvial Systems and Holocene Climatic Variations: special sessions in geomorphic
Hesler, J.L., and Johnson, W.C., Quantitative Discrimination among Hummocky Stagnation Moraine, End
Moraine, and Ground Moraine: the Sixth Annual Meeting, North-Central Section, Geological Society of
America, DeKalb (IL), May, 1972

Educational Materials

Johnson, W.C., and Woodburn, T.L., 2008, Image collection from the Smoky Hills and High Plains of Kansas:
Kansas Geological Survey Educational Resources—Photographic Library.
Publisher.
produced by The University of Kansas Division of Continuing Education.
University of Kansas Continuing Education course workbook and materials

Continuing Education

Site/Structure Scanning Workshop and Related Positioning: Society for American Archaeology Workshop,
Memphis, 04/12.
Teaching about Earth’s Climate History-A workshop for geoscience faculty: Geological Society of America Short
Course, Minneapolis, 2011.
Terrestrial Laser Scanning (Ground-based LiDAR) methods and applications in geologic research and education:
SEPM Short Course Number 15: Recognizing continental trace fossils in outcrop and core: Geological Society of
America Short Course, Lawrence, KS, 4/07.
Abrupt Climate Changes, Geological Society of America Short Course, Denver, 10/02
Recent Archeological Prospection Advances for Non-destructive Investigations in the 21st Century: National
Park Service workshop, Vancouver, WA, 5/02
KUCR-NSF State EPSCoR Funding Forum, The University of Kansas, 2/01
Regional Grants Conference: NSF, The University of Kansas, 10/98
Geomorphic Application of In-Situ Produced Cosmogenic Isotopes, Geological Society of America Short Course,
New Orleans, 11/95
International Quaternary Association Paleopedology Symposium: University of Illinois, 8/93
Paleosol Short course: Department of Geology, The University of Kansas, 3/92
Paleoenvironmental Interpretation of Paleosols: Geological Society of America Penrose Conference, University of
Oregon, 9/87
Short course on Fungal Palynomorphs: American Association of Stratigraphic Palynologists, Louisiana State
University, 10/81
Laboratory of Tree-Ring Research Workshop: University of Arizona, 4/79
Third Inter-Agency Sedimentation Conference: Denver, 3/79

Service Activities

Profession

Associate Editor for Aeolian Research 2012-
Panel member, USGS EDMAP Program 2006-2010
Newsletter editor and web page manager, Geological Society of America-
Quaternary Geology and Geomorphology Division 1999-2003
Councilor, American Quaternary Association 1998-2002
Panel member, NSF, Anthropology Program (MRI) 1998-1999
Chair and Vice Chair, AAG, Rocky Mountain-Great Plains Region 1996-1998
Secretary/Treasurer, Geological Society of America-Archaeological Geology Division 1996-2001
Geological Society of America
Webmaster and Newsletter editor, Geological Society of America-
Archaeological Geology Division, Geological Society of America 1996-2001
Archaeological Geology Division Awards Committee (chair) 1991-1994
Kansas Geological Survey Committee on Stratigraphic Names 1992-present
Editorial Board for Current Research - Kansas Geological Survey 1992-present
Association of American Geographers Geomorphology Specialty Group (Chair) 1992-present
Geological Society of America Archaeological Geology Division Awards Committee 1991-1994
Nomination Committee for R. Rapp Award, Geological Society of America 1991-1994
Panel member, NSF, Geography and Regional Science Program 1988-1993
Organizer, leader, and/or co-leader for field trips for NSF, Friends of the Pleistocene,
Association of American Geographers, Geological Society of America,
American Quaternary Association, and International Quaternary Association 1986-present
Organizer, chair and co-chair of several special/topical sessions at national meetings
(Geological Society of America and the Association of American Geographers) 1984-present

Department
Curriculum Committee
Colloquium Planner
Undergraduate Advisor
Honors Coordinator
Study Abroad Advisor
Associate Chair
Faculty Affairs Committee (chair and member)
Faculty Search Committees (chair and member)
Geography 104 & 105 (coordination, management, teaching materials production, and supervision of GTAs)
Student Affairs Committee (chair and member)

College
Disciplinary Board
Promotion and Tenure Review Committee
Chair Review Committees
Sabbatical Leaves Committee (chair and member; two terms)
Graduate Research Fund (member and departmental representative)
Faculty Search Committees (Anthropology, Museum of Anthropology, Geology)

University
Current Research in Earth Sciences (Kansas Geological Survey)-advisory board member
Staff Search Committees—Kansas Geological Survey (4)
School of Education Reaccreditation Committee (member)
Environmental Studies Advisory Board (member)
Summer Orientation Advisement

Awards and Recognition
Steeples Service to Kansans Award 2012
Byron A. Alexander Graduate Mentor Award 2008
Fellow, Geological Society of America 2003
Big 12 Faculty Fellowship 2002
Institute for Rock Magnetism Fellowship—NSF/University of Minnesota 2000, 2002
Intra-University Visiting Professorship 1987-88
Tinker Foundation Research Fellowship 1981
Junior Faculty Summer Research Fellowship (U Oklahoma) 1977
NDEA IV Fellowship (U Wisconsin) 1971-72

Professional Affiliations

American Chemical Society
(Geochemistry Group)
American Geophysical Union
American Quaternary Association
Kansas Soil Classifiers Association
Association of American Geographers

Geological Society of America
(Archaeological Geology Division)
American Quaternary Association
(Quaternary Geology and Geomorphology Division)
Society for American Archaeology
Sigma Xi

05/2012
Xingong Li

Department of Geography
University of Kansas  phone: (785) 864-5545
1475 Jayhawk Blvd   fax: (785) 864-5378
Lawrence, KS 66045 USA  E-Mail: lixi@ku.edu

Education

Ph.D.  Geography, University of South Carolina, 2000
M.S.  Geography, Nanjing University (China), 1992
B.S.  Geology, Nanjing University (China), 1989

Academic Appointments

Assistant Professor  Department of Geography, University of Kansas, 2003-present.
Assistant Professor  Dept. of Geography & Planning, Appalachian State University, 2000-2002.
Research Scientist  State Key Laboratory of Resources and Environment Information System, Chinese Academy of Sciences, 1992-1996.

Refereed Publications


**Other Publications**


**Manuscripts under Review**
Scholarly Presentations

Bentlage, B., A.T. Peterson, X. Li, A.G. Collins, and P. Cartwright, Biogeography of open ocean jellyfishes: integrating ecological niche modeling and phylogeography in a 3D environment, the 10th International Congress of Ecology (INTECOL), Brisbane, Australia, August, 2009.

Li, X., (invited) Snow-/glacier-melt water in southern Xinjiang, China, Conference of the opening of western China: problems and prospects, University of Kansas, Lawrence, April, 2009.


**Research Grants**

Sea level rise effects on coastal ecosystem distributions and biodiversity status in the U.S. Middle Atlantic region, **PI**, DoE, $125,000, 04/01/09 – 8/31/10.

Geographic and cartographic assistance to the Geneva International Centre for Humanitarian Demining, **co-PI**, Geneva International Centre for Humanitarian Demining, $80,000, 3/15/09-12/31/09.


Snowmelt runoff modeling in the Sierra-Nevada watersheds, **PI**, University of Kansas Faculty General Research Fund, $7409, 07/01/2008—06/30/2009.

Developing NEXRAD-based precipitation datasets for the Cheney Lake watershed for use in water quality models, **PI**, USDA, $19,685, 05/01/2007 – 01/31/2008.
NSF Science and Technology Center: Center for Remote Sensing of Ice Sheets, Participating Faculty, NSF, $19,000,000, 08/01/2005--07/31/2010.

Conservation Evaluation and Assessment Project for the Cheney Reservoir Watershed, PI, USDA, $18,000, 09/01/2005 – 05/31/2006.

Understanding snow and glacier runoff processes in an arid mountain watershed, PI, University of Kansas Faculty General Research Fund, $4,438, 07/01/2005—06/30/2006.


**Honors and Awards**

University of Kansas Big 12 Faculty Fellowship, 2009
University of Kansas Big 12 Faculty Fellowship, 2007
University of Kansas Team Award, 2003-2004

**Teaching Experience**

**2003-present  Department of Geography, University of Kansas**
- Principles of Geographic Information Systems (GIS): introductory GIS
- Intermediate GIS: upper division/graduate GIS
- GIS Application Programming: upper division/graduate GIS
- Geographic Information Science: upper division/graduate GIS
- Seminar in GIS: graduate seminar in GIS

**2000-2002  Department of Geography & Planning, Appalachian State University**
- Physical Geography: introductory physical geography
- Introduction to GIS: introductory GIS
- Advanced GIS: upper division/graduate GIS
- GIS Application Programming: upper division/graduate GIS
- Remote Sensing Digital Image Processing: upper division/graduate remote sensing
Graduate Committees

Committees Chaired
Keith French (M.S. geography)
Tom Overly (M.S. geography)
Justin Penka (M.S. geography)
Tingting Xu (M.S. geography, defended thesis in September 2009)
Matt Harman (M.S. geography, graduated in May 2005)

Committee Member
Iwake Masialleti (Ph.D. geography)
Joshua S. Campbell (Ph.D. geography)
Willy Rittase (Ph.D. geology)
Corinne Emanuelle (Ph.D. geology)
Bastian Bentlage (Ph.D. EEB)
Sarah Bodbyl (Ph.D. EEB)
David McLeod (Ph.D. EEB)
Jeet Sukumaran (Ph.D. EEB)
Arpi S. Nyari (Ph.D. EEB)
Justin Busboom (M.S. geography)
Amber Reynolds (M.S. geography),
Andrew Gottsfield (M.S. anthropology)
Rohith Kumar Gali (M.S. Biological and Agricultural Engineering, KSU)
Matt Dunbar (Ph.D. geography, graduated in August 2009)
Yoshi Nakazawa (Ph.D. geography, graduated in August 2009)
Monica Papes (Ph.D. EEB, graduated in May 2009)
Simeon Rabbani (M.S. geography, graduated in May 2007)
Matt Dunbar (M.S. geography, graduated in May 2006)
Joshua Campbell (M.S. geography, graduated in May 2006)
Monica Papes (M.S. EEB, graduated in May 2006)
Rex Rowley (M.S. geography, graduated in May 2005)
Patrick Taylor (M.S. geography, graduated in May 2005)

Service
Department and University Service
Department Curriculum Committee, 2008-present
Department Internship Coordinator, 2006-present
University Graduate Council, 2006-present
Department Faculty Search Committee, 2007-2008
University Campus GIS Server Committee, 2007-2008
Department Faculty Affairs Committee, 2006-2008
Department GIS Day Event Committee, 2003-2009
University Standing Committee on Scholarship and Fellowship, 2006-2007
Department Undergraduate Studies Committee, 2005-2006
Department KU Edwards GIS degree-completion program Committee, 2004-2005
University Chinese Student Association Faculty Advisor, 2004-2005
Department Graduate Studies Committee, 2003-2005,
Department Instructional Technology Funds Committee, 2003-2005
Department Geography-Urban Planning Joint MA Degree Committee, 2003

National Service
Session Chair of AAG annual conference, 2008
Member of the Advisory Council of the Department of Geography, Northwest Missouri State University, 2006-2007.
GIS course evaluation for the Geosciences and Urban Planning departments at the University of Missouri, Kansas City, 2008
Session Chair of ASPRS annual meeting, 2004
KU delegate to the University Consortium for Geographic Information Science (UCGIS), 2003-2005

Journal and Grant Reviewer

Professional Affiliations

Association of American Geographers (AAG)
American Society for Photogrammetric Engineering and Remote Sensing (ASPRS)
George F. McCleary, Jr.

Education

A. B. (cum laude), Yale University, 1959
M. S. (Geography), University of Wisconsin, 1963
Ph. D. (Geography), University of Wisconsin, 1969

Additional Education

Ohio State Statistics Summer Course, 1975
Harvard Seminar for Seminar Leaders, 1972
KU Short Course in Remote Sensing, 1980

Awards

Yale University Library Map Prize, 1959
Antarctica Service Medal, 1965
National Defense Education Act Fellow in Geography-Cartography, University of Wisconsin, September 1961 to June 1964
Dissertation Completion Fellowship, University of Wisconsin, Summer 1967
Award of Merit, Felathe District, Boy Scouts of America, 1980

Silver Beaver, Heart of America Council, Boy Scouts of America, 1989
Citation from the State Legislature (BBSP)
---with the Map Associates, Honorable Mention for Thematic Mapping, American Congress on Surveying and Mapping, Map Design Competition, for "Tribal Territories on the Great Plains"
Shirt Design Award (Orienteer Kansas)

Positions Held

Cartographer, U. S. Navy Hydrographic Office, Chart Maintenance Branch, June to August 1961
Project Assistant, University of Wisconsin Cartographic Laboratory, June to August 1962
Research Assistant in Geography, University of Wisconsin, July 1964 to August 1965
Assistant, Geography-Geology Library, University of Wisconsin, January 1966 to July 1966
Technical Assistant, State of Wisconsin, Department of Resource Development, June 1964 to August 1966 (part-time)
Assistant Professor of Geography, Clark University, 1966-1972
Instructor, NDEA Summer Institute in Political Geography, Clark University, Summer 1967

Instructor, NSF-AAG Enrichment Program for Geography Students of Selected Small Colleges, Clark University, Summer 1967
Associate Professor of Geography, Clark University, 1972-1974
Instructor, Clark University Evening College, 1971, 1973, and 1974
Instructor, Summer School, Clark University, 1970, 1972, 1973 and 1974
Visiting Associate Professor of Geography, University of Kansas, 1972-1973
Associate Professor of Geography, University of Kansas, 1974-
Adjunct Professor, Union Graduate School, 1976-1977
Visiting Associate Professor, University of Maryland, Summer 1978
Seminar Leader, Harvard University Laboratory for Computer Graphics and Spatial Analysis, 1979
Intra-University Professor, Department of Design, University of Kansas, 1983-1984

Academic Responsibilities

Director, Clark University Cartographic Laboratory, 1966-1974
Cartographic Editor, Economic Geography, 1966-1972
Member, University Data Processing Committee, 1967-1969
Chairman, School of Geography Committee on Space, Facilities and Equipment, 1967-1972
Member, School of Geography Graduate Admissions Committee, 1971-1972 and 1973-1974
Member, University Committee on Equipment Grants, 1968-1971

Member, Faculty Senate Research Committee Subcommittee, 1975
Member, Department of Geography Administrative Committee, 1974-1975
Member, Department of Geography Search Committee, 1974-1975, 1990-1991
Member, Department of Geography Program and Operations Committee, 1975-1976
Member, Department of Geography Curriculum and Academic Planning Committee, 1976-1977, 1991-1992
Member, University Parking and Traffic Court, 1976-1977
Faculty Advisor, Orienteer Kansas, 1977-1984
George F. McCleary, Jr.

Member, Department of Geography Student Affairs Committee, 1977-1982 and 1989-1990; Chairman, 1978-1979
Member, Department of German Review Committee, 1980-1981
Fresnen-Sophomore Advisor, College of Liberal Arts and Sciences, 1981-1990
Member, Department of Geography Staff Committee, 1982-1983, 1994-1995
Member, Jenkins Scholarship Committee, 1987
Member, Search Committee, University of Kansas Libraries, 1986-1987

Member, Architecture-Design-Cartography Computer Committee, 1987-1990
Marshall for Commencement, 1989-
Member, Department of Geography Curriculum Committee, 1991-1992, 1997-
Member, Department of Geography Grade Appeals Committee, 1993-1994
Member, Commencement (Logistics) Committee, 1990; Chairman, 1994-
Member, Commencement Traditions Committee, 1994-
Member, Department of Geography Evaluation Procedures Committee, 1994-1995
Member, Convocation Committee, 1996-

Other Professional Activities

Consultant (road map and atlas design), Rand McNally Company, 1969
Consultant (computer mapping), Project IMPRESS, Dartmouth College, 1970
Member, Local Arrangements Committee for the 1971 Annual Meeting, Association of American Geographers, 1970-1971
Member, Committee on Thematic Cartography, American Congress on Surveying and Mapping, 1970-1971
Member, Committee on Translations in Cartography, American Congress on Surveying and Mapping, 1970-1971
Test Examiner (Cartography), New York State Department of Civil Service, 1971, 1976, 1980 and 1984
Member, Editorial Board of Cartographica, 1971-1977
Editorial Consultant (manuscript review), Annals, Association of American Geographers, 1972
Organizer and Leader, SURFACE 0: Meades Ranch, March 1973
Consultant (manuscript review), Prentice-Hall, Inc., 1974 and 1980
Evaluator, Boston University, Department of Geography, 1976
Member, Mapping Committee, U. S. Orienteering Federation, 1977-1979
Organizer (with Howard T. Fish), Sessions on Cartographic Design at Harvard Computer Graphics Week, 1978
Chairman, Andrew McNally Award Committee of the American Congress on Surveying and Mapping, 1978; Member, 1977-1981 and 1985-1987
Organizer, Sessions on Cartographic Design at Harvard Computer Graphics Week, 1979
Consultant (manuscript review and editing), Methuen, Inc., 1979
Consultant (map design and production), THEEnterprises, 1979-1980
Member, National Science Foundation Evaluation Panel, Instructional Scientific Equipment Program, 1980 and 1981; Chairman, 1980
Consultant (manuscript review), Kendall-Hunt Publishing Company, 1981
Editorial Consultant (manuscript review), The Professional Geographer, 1981
Member, Editorial Board, Computer Graphics for Management, 1981-1984
Member, Product Development Board, FINGRAPH, 1982-1983
Organizer (with Maurice T. Wildgen and others), Workshop on Computer-Assisted Cartography at Annual Meeting of the Association of American Geographers (Denver), 1983
Consultant (manuscript review), Charles E. Merrill Publishing Company, 1983
Consultant (publication program), University of Pennsylvania Press, 1984
Organizer (with Robert T. Aangeenbrug), Sessions on the Relationship between Cartography and Computer Graphics at the Meeting of the National Computer Graphics Association, 1984
Consultant, St. Mary's Medical Center, 1984-1985
American Congress on Surveying and Mapping Member-at-Large to the International Geographical Union, 1984-1985
Member, Editorial Board, The American Cartographer, 1984-1987
Member, Board of Directors, National Computer Graphics Association, 1984-1986
Consultant, Kansas City Chiefs Gridiron Geography Program, 1984-
Organizer and Director, The Map Associates, 1985-
Editor, Image Info (Newsletter of the Kansas City Chapter of the National Computer Graphics Association), 1987-1989
Consultant, Division of the Census, Kansas Secretary of State, 1987-1989  
Member, Advisory Committee, Kansas State Census, 1987-1988  
Member, Editorial Board, Meridian, 1988-1989  
Consultant (manuscript review), Harper and Row, 1990  
Consultant (manuscript review), Childrens Environmental Quarterly, 1989  
Consultant, National Center for Health Statistics, 1991-1992  
Editor, Meridian, 1990-1992  
Consultant (GIS), Office of the Mayor of Kansas City, Missouri, 1992  
Consultant (manuscript review), American Cartographer, 1992  

Service Activities  
Member, Worcester 1970 Census Tract Committee, 1966-1970  
Member, Worcester Area Chamber of Commerce Research Committee, 1970-1972  
Member, Worcester Regional Environmental Council, 1972-1973; Board of Directors, 1972-1973  
Roundtable Commissioner (Webelos), Petalthe  

Fellowships and Grants  
Research Grant, U. S. Office of Education: Place Perception Project (OEG-0-8-080772-4493-010), 1968-1971 (with James M. Blaut and David Sta, $150,000.00)  
Research Grant, University of Kansas General Research Fund: Maps and Their Users (3848-5038), 1974-1975 ($1350)  
Small Research Grant, University of Kansas Research Fund: Asante Mapping (3967-5038), Summer 1975 (with Thomas J. Lewis, $375)  
Research Grant, University of Kansas General Research Fund: The Effect of Color in Quantitative Map Symbol Estimation (3189-X038), 1977-1978 ($2100)  
Small Research Grant, University of Kansas Research Fund: The Effects of Color in Quantitative Map Symbol Estimation (3189-0038), ($150)  
Research Grant, University of Kansas General Research Fund: Measurement-Level Association for Texture Patterns in Cartography (3415-X038), 1980-1981 ($4234)  
Innovation in Instruction Grant, University of Kansas: Development of a Laboratory for Microcomputers in Design, 1985-1988 ($15,000, with Richard L. Branham)  
Research Grant, University of Kansas General Research Fund; Texture Patterns for Visual Display (especially maps) and their "Efficiency" (3154-xx-0038), 1985-1986 ($5776)  
Professional Services Grant, Legislative Coordinating Council of the State of Kansas, Block Boundary Suggestion Project for the 1990 Census (5443-0705), 1985-1989 ($105,000)  
Professional Services Grant, Kansas Department of Education, Census Mapping for the Board of Education, 1990-1991 ($18,330) (with supplementary work for individual school districts, totalling about $4000)  
----with K. P. Price and others, NSF Equipment Grant: "Enhancing the Analytical and Physical Geography Curriculum at the University of Kansas, 1993 ($90,700)  
Research Grant, University of Kansas General Research Fund: Operational Innovations in Map Design, 1993 ($1482)
Publications: Papers

Three Centuries and the West River Valley, Unpublished Senior Honors Thesis; New Haven: Yale University, 1959.


---- with James M. Blau and America S. Blau, "Environmental Mapping in Young Children." Environment and Behavior 3 (1970), 335-349

"Beyond Simple Psychophysics: Approaches to the Understanding of Map Perception." Technical Papers, American Congress on Surveying and Mapping, 1970, 189-209

"A Course for the Forgotten Cartographer." Technical Papers, American Congress on Surveying and Mapping, 1972, 70-74


---- with Nicholas Westbrook, "Recreational and Recreational Mapping," Worcester: Clark University Cartographic Laboratory, 1974, 20 pages


Translation: "Positioning Names on Maps" by Eduard Imhof. The American Cartographer 2 (1975), 128-144


Computer Graphic Design for Effective Communications. National Computer Conference (Houston, 1982). 74 pages


Geography 311: Map Conception and Development. Laboratory Projects and Supplementary Course Materials. 1982, 119 pages


"Dasyomorphic Mapping." In Map Making to 1900: An Historical Glossary (International Cartographic Association, in press)


1987, "Discovering Cartography as a Behavioral Science" Journal of Environmental Psychology, 7, 347-355


1989, "Overlooking China: A Perspective from Several Dozen Atlases." Meridian 3, 25-34

1990, "Pursuing the Cheyenne: Mapping Tribes, Trails, the 1857 Expedition and the Battle of Solomon's Fork" Meridian 4, 3-28

1990, with R. L. Brancah, "Maps and Spatial Data in the Information Age" Meridian 5, 35-36

1991, with O. F. Jenkins and S. R. Ellis, "Cartography and Map Displays" in S. R. Ellis, editor, Pictorial Communication (London: Tylor and Francis)


"Surveying" in The Academic American Encyclopedia, 1993

Publications: Maps


--- with Carolyn C. Weiss, Norman T. Carpenter, and others, Numerous figures (maps and charts) accompanying articles in Economic Geography, 1968-1972


--- with Norman T. Carpenter and Donna J. Loomis, 25 figures (maps and charts) in David Ward, Cities and Immigrants -- A Geography of Change in Nineteenth Century America (New York: Oxford University Press, 1971)

--- with Norman T. Carpenter, "Old Sturbridge Village." (1:2500, 1973; four-color and monochromatic versions)


--- with Craig Davies and Brad C. Raley, "Camp Bromelsick." (1:5000, 1978)

--- with David Lihticum and Robert B. McMaster, "Perry Lake Kansas: Slough Creek Public Use Area." (1:10000, 1979; two-color)

--- with Norman T. Carpenter, "Land Use and Human Occupance" (eight continental maps, various scales, four-color), "Antarctica" (1:40,000,000, two-color), and "The Water Planet" (1:200,000,000, two-color). In Cultural Geography, by David Kromm (Philadelphia: W. B. Saunders Company, 1982)

--- with David Lihticum and others, "Clinton State Park and Camp Bromelsick: An Orienteering Map" (1:10,000, 1982)

--- with Ted Olson, Johnna Jones, Denise Lathrop and others, "Lawrence, Kansas" (1:60,000) and "Downtown Lawrence" (1:7,000), for the Convention and Visitors Bureau of the Lawrence Chamber of Commerce, 1984

--- with the Map Associates, "Washington," "Missouri," and six other maps in the Gridiron Geography Program of the Kansas City Chiefs. 1986, with the Map Associates, "Camp Jayhawk" (1:5000, Boy Scouts of America, Jayhawk Council)

1988, in Social Education, cover and eight maps for a special section on "The Emerging Pacific: Reshaping World Politics" (52, 3, March)


1988, map for the cover of the newsletter of the Division of Continuing Education (Fall issue)

1988, with the Map Associates, map for the brochure of the Department of Geology

1988, with Brian Yodler, cover design and logo for Meridian

1989, with Dennis Albers, Nancy Fightmaster and Michael Kemppainen, and John B. McCleary, twelve maps in Cheyennes and Horse Soldiers, by William Y. Chalfant (University of Oklahoma Press)

1990, "Nuclear Proliferation: Political Issues" (Samuel Totten and Milton Kleg, editors, Social Education 54,3): Eight maps and graphs (and the cover) with some technical assistance by the Map Associates.

1990, with Nikolas Huffman, "Feeding China's Millions" (Robert W. McColl and Youguan Kou, Geographical Review 80, 4, 434-443: three maps

1990, with Nikolas Huffman, "Blacks in Boston" (a publication of the Museum of Afro-American History, three maps)

1991, with Neil Allen, David Halliday and John Trickett, "Guide to the Arkansas River, Kansas Wildlife and Parks, May/June, 30-31


--- with David Carttar, Guide to the Missouri River, Kansas Wildlife and Parks, 1993

--- with Darin Grauberger, monochrome map for the Hazardous Materials Division of the Atchison, Topeka and Santa Fe Railroad, 1993


--- with Rodney Odom, monochrome map for the University of Kansas Commencement brochure (Commencement Committee and the Department of Continuing Education), 1993

Monochrome map, for the International Quaternary Association, "INQUA Paleoecology Field Excursion," 1993
   ----with Darin Grauberger and Keith Cunningham, "Taney County (and Branson), Missouri: 911 Map", 1994
   ----with the Map Associates, maps and diagrams in Bayonets Before Bullets, by Bruce W. Menning (Indiana University Press, 1992)
   ----with Darin Grauberger, 21 maps in When Titans Clash (by David Glantz and Jonathan House, University Press of Kansas, 1995)
   "The Sunflower Ordnance Works -- A Wetlands Analysis" (for the Kansas Biological Survey, Kelly Kindscher), 1995
   "The Flint Hills" (for Kelly Kindscher, in The Conservation Journal) 1995
   ----with Darin Grauberger and Michael Noll, Maps and brief articles in the Holocaust issue of Social Education, 1995

An Orienteering Map for Camp Piercing Arrow (Bartle Scout Reservation), 1995
Orienteering Map -- Hidden Valley Camp, 1995 and 1996
   ----with Kelly Babbit, Lawrence (color) (for the Lawrence Convention and Visitors Bureau Guide), 1995
   (also, with Darin Grauberger, monochrome, 1995)
   revised 1996 and 1997
   ----with Darin Grauberger, Douglas County (color) (for the Lawrence Convention and Visitors Bureau Guide), 1995
   (also monochrome, 1995), revised 1996 and 1997
   Water in Willow Springs, for Dennis Domer in the Kansas Historical Magazine, 1996
   West Campus: An Orienteering Map, 1996
   Two maps of Siberia, for Mikkelsen and Winslow (Northwestern University Press), 1996
   ----with Peter DeVincentis and Darin Grauberger, Map for the Student Assistance Center (revised and redeveloped, 1997)
   ----with Karen Cook, Darin Grauberger and others, Historic Trails of Douglas County, Kansas, brochure for the Lawrence Convention & Visitors Bureau, 1997
   ----with Darin Grauberger and others, Quantrill's Raid: The Lawrence Massacre, brochure for the Lawrence Convention & Visitors Bureau, 1997
   ----with Darin Grauberger and others, House Styles of Old West Lawrence, brochure for the Lawrence Convention & Visitors Bureau, 1997

Publications: Abstracts

   "Psychophysics and Cartography." Technical Papers, American Congress on Surveying and Mapping, Fall 1977, 101
   ----with John R. Parsons and Susan P. Waldorf, "Maps for Recreation: User-Related Factors and Their Relationship to Design." Technical Papers, American Congress on Surveying and Mapping, Fall 1977, 97
   "The User as the Focus for Cartographic Instruction." Program Abstracts, Association of American Geographers (New Orleans), 1978, 136
   "Dissecting the Dot Map: Reader Differentiation of Density Differences." Technical Papers, American Congress on Surveying and Mapping, 1978, 60

Publications:  Reviews

John P. Snyder, Flattening the Earth: Two Thousand Years of Map Projections (1993), Meridian

Professional Papers Presented

"The Indicatrix," Geography 191, University of Wisconsin (A. H. Robinson), February 1965
"Cartography for Planners" (an eight-session seminar) Department of Urban and Regional Planning, University of Wisconsin (March-April 1965)
"Dasyometric Mapping: Concepts and Principles." Department of Geography, Michigan State University, Spring 1966
"Dasyometric Mapping: Methodology for Environmental Research." Department of Geography, Southern Illinois University, Spring 1966
"The Dasymetric Method." University of Wisconsin, Geography 621 (R. Chung), August 1967
"Methods and Materials for Cartography in the Junior High School." Shrewsbury, Massachusetts, Junior High School, September 1971
"Cartography at Clark." Keene State College, New Hampshire, Department of Geography, November 1971
"The Map as a Medium for Communication." U. S. Army Natick Laboratories (Natick, MA, January 1967)
"Communications and Cartography — The Idea, the Map and the Reader." Central Massachusetts Association of Land Surveyors and Civil Engineers (Paxton, MA, May 1971)
"Problems of Reproducing Maps in Libraries: The Reader's Point of View." Special Libraries Association, Geography and Map Division Workshop Panel (Boston, 6 June 1972)
"Cartography at Clark: Instruction and Research and the Library Resources." Special Libraries Association, Geography and Map Division, June 1962
"Tourists and Mental Maps." Know America Project, Clark University (Worcester, July 1974)
"What Cartography is About." Know America Project, Clark University (Meades Ranch, Kansas, August 1974)
"The Personal Side of Mapping." American Congress on Surveying and Mapping, Heart of America Council (Kansas City, October 1975)
"Map: Conception, Process, and Impact." University of Kansas, Geography 106 (V. Tayloe) (November 1974)
"Maps and the Changing Image of the Physical Environment." University of Kansas, Geography 106 (R. E. Nunley) (December 1974)
"Maps for the City and its Citizens." Conference on Urban Mapping (Lawrence, February 1975)
--- with Jane Eldredge, Nancy Hambleton and Richard McClanathan, "Where in the Hell do We Put the City Garage." Conference on Urban Mapping (Lawrence, February 1975)
"Analyzing the Physical Landscape." University of Kansas, Leavenworth, Geography 106 (R. P. Cotti) (April 1975)
"Tourists and Their Maps." Know America Project, Clark University (Lawrence, July 1975)
"Principles and Procedures of Cartographic Psychophysics" and "How Maps are Read: A Status Report." Interdisciplinary Seminar on Cartographic Research, University of Kansas (March 1977)
"Asante Cosmography: A Comparison with the Western World View." University of Kansas, Philosophy 512 (D. Pennington) (April 1976)
"Psychophysics and Cartography" (poster). Association of American Geographers (Salt Lake City, April 1977) and American Congress on Surveying and Mapping (Little Rock, October 1977)
"Dissecting the Dot Map: Reader Differentiation of Density Differences." American Congress on Surveying and Mapping (Washington, February 1978)
"The Map User as the Focus for Cartographic Instruction." Association of American Geographers (New Orleans, April 1978)
"Maps: Process: Concept to Behavior." Special Libraries Association, Geography and Map Division (Lawrence, June 1978)
"TIPS: Teaching Information Processing System." University of Kansas, Seminar on Computer-Assisted Instruction (Lawrence, May 1979)
"Maps, Images, Reality -- and Behavior." Ohio University, Department of Geography (Athens, May 1979)
"The New Independence and Dependences of Cartography." Ohio University, Department of Geography, Graduate Seminar (Athens, May 1979)
"Visual Variables: The Key to Effective Cartographic Representation." University of Nebraska, Geography 317 (Lincoln, October 1979)
"Recent Advances in American Cartography." University of Nebraska, Department of Geography Seminar (Lincoln, October 1979)
"Maps in Behavioral Systems." Geography 688, University of Kansas (April 1980)
"Maps and Machines -- Perspectives for the Computer User." St. Mary College (Leavenworth, 1982)
"Images and Artifacts." University of South Carolina, Geography 412, May 1985
George F. McCleary, Jr.

"Cartography as A Behavioral Science." Colloquium, Department of Geography, University of South Carolina, May 1985
--with Carol Brown, "I Believe in You" Association of American Geographers, Minneapolis, May 1986
--with Richard Miller, "Political Boundaries, the Census and Problems." Joint Committee on Reapportionment, Kansas Legislature, July 1986
"Human Factors and Cartography" Association of American Geographers, Portland, 1987
"The Multidimensional World of Cartography" Poster, NASA Conference on Spatial Displays and Spatial Instruments, Asilomar, 1987
"Geography, Numbers and Maps" American Statistical Association, New Orleans, 1988
Seminar, Villanova University, 1988
Workshop: Maps as an Integral and Integrating Element in the Curriculum, Kaw Valley In-Service Day, Lawrence 1987
"The Deadly Sins of Cartography and a Map for Salvation" Intergraph Graphics Users Group, Huntsville, May 1990
URISA National Conference Workshop on GIS and Cartographic Design, San Francisco, August 1991 (with S. P. Waldorf and others, 2 days)

May 1992, Cartographic Design, 4 hours at Mid-America GIS meetings, Kansas City
Ling Bian, GEOG 758, "Cartographic Principles and Procedures for GIS," April 1993
Robert Nunley, GEOG 102, "Map Basics," March 1994
UBPL 502/802 (Donna Luckey), Summer 1992
"Fundamental Concepts Underlying the Graphic Structure of Maps" (Department of Geography, Southwest Texas State University, March 1994)
"Fundamentals of Design for Urban (Large-Scale) Resource Maps" (Department of Geography, Portland State University, 1994)
Workshop, Mid-American GIS Conference (Kansas City, April 1994) (with Bob Shultz and Dennis Fitzsimons) (4 hours)
Workshop, GISLIS 1994 (Phoenix, 1994) -- with Dennis Fitzsimons (8 hours)
NACIS, Cartographic Conversations, San Antonio, 1996, with Dennis Fitzsimons
Kansas Association of Mappers, Manhattan, 1996, Short seminar on design
Kansas Association of Mappers, Lawrence, 1997, Short seminar on Projections and Coordinate Systems
Kansas Association of Mappers, Lawrence, 1997, with others, Maps, Mapping and Cartography at the University of Kansas
Fort Worth AAG, 1997, "Recreational and Re-Creation Mapping: Quantrill in Lawrence, August 1863"

Public Service Presentations

"Science in Antarctica." Parent-Teachers Association, District Heights, Maryland, March 1960
"The Navy and Science in Antarctica." Naval Reserve Unit, Bethesda, MD, January 1961
"The Role Of the Navy in Antarctica." Naval Reserve Unit, CC5-59, Alexandria, VA, May 1961
"People and Antarctica." Fourth Grade, Sherman School, Madison, WI, December 1963
"Maps and Landscapes." Manchester, Connecticut, High School Earth Science classes, November 1965
"Thematic Mapping: Tools and Products." Worcester, Massachusetts, South High School, Drafting Department, October 1971
"Environment and the Eye of the Beholder." Earth Sciences Program, Marion High School, Worcester, Massachusetts, March 1972

"The Map Maker and the Mapping Problem." Broken Arrow School, Fifth and Sixth Grades, Lawrence, Kansas, April 1973
"Maps and History: Fact and Fiction." Shrewsbury, MA, Junior High School, March 1974
"Making Maps" and "Surveying." Fourth Grade, Sunset Hill School (Lawrence, October 1974)
"Making and Using Maps." Broken Arrow School, Fifth Grade, Lawrence, KS (May 1975)
"Studying the Earth." Sunset Hill School, Fourth Grade, Lawrence, KS, (November 1975)
---- with Rick L. Dulas and Jill Marino, "How Maps are Made." Broken Arrow School, Fourth Grade (Lawrence, December 1976)
"Looking at the World." Broken Arrow School, Fifth Grade (May 1977)
"What is the Real United States?" Broken Arrow School, Fifth Grade (Lawrence, May 1977)
"Reality and its Maps -- Purpose and Perspective." West Junior High School, Seventh Grade Social Studies (Lawrence, October 1979)
"Maps and Environment." Cordley School, Sixth Grade (May, 1981)
---- with Jill Holley and others, "The Cartographic Process: Conventional and Automated." Workshop,
George F. McCleary, Jr.

Sunset Hill School, Fourth Grade Gifted Program (April-October 1982)
"Making Maps -- a Workshop." Woodlawn School, Sixth Grade (May, 1984).
"Map Resources for the Classroom" Kansas City Chiefs Gridiron Geography Program Seminar, 1989
"Expanding the Horizons" Kansas City Chiefs Quail Run sixth grade with Karen Trifonoff, Cartography and Social Studies (4 sessions), 1991

Chiefs Seminar Resources for the Geography Curriculum 1989
Chiefs Raymore-Peculiar Workshop, 1991, with Amy Rok and Mary Prante
"Maps and Cartography" (Lawrence Central Junior High, 1994)
The Fifteenth Street Connection: Maps and Cartography for the Quail Run Sixth Grade 1996 and 1997

Students

Doctoral Students

- Bloemer, Hubertus H. L.: 1977, Union Graduate School, Map Making for Orienteering: Mapping the Environment for Sport and Recreation
- Corny, James: 1975 (with M. S. Monmonier), Clark, Scenic Analysis
- Dent, Borden D.: 1970, Clark, Perceptual Organization and Thematic Map Communication: Some Principles for Effective Map Design with Special Emphasis on the Figure-Ground Relationship
- Dornbach, John E.: 1967 (with S. B. Cohen and H. J. Warman), Clark, An Analysis of the Map as an Information System Display
- Fitzsimons, Dennis: 1981, Kansas, The Role of Base Data in Information Retrieval from Maps
- Ho, Ming-Chyun: 1992, Kansas -- Human Factors (with R. L. Branhman)
- Lindenberg, Richard W., The Influence of Color on the Size Estimation of Graduated Point Symbols on Maps
- Moore, Ralph

- In process: Chen

Masters Students -- Non-Thesis: Advisor

- Beets, John: 1980, Kansas
- Berte, Mark: 1976, Kansas
- Biggar, Patrick: 1994, Kansas
- Brewer, John: 1994, Kansas
- Cole, James D. Flanga: 1982, Kansas
- Dulas, Rick L.: 1978, Kansas
- Dumler, James: 1980, Kansas
- El-Awshar, Othman: 1982, Kansas
- Eldridge, Peter: 1981, Kansas
- Hutchinson, John A.: 19xx, Kansas
- Lucellen, Thomas: 1978, Kansas
- McMillan, Lois: 1993, Kansas
- Podolny, Michael: 1994, Kansas
- Reber, Jeffrey: 1981, Kansas
- Skridulis, Kevin: 1993, Kansas
- Wall, Roy D.: 1992, Kansas

- In process: Michael Kelly

Masters Students -- Thesis Option: Advisor

- Campbell, Willa: 1994, Kansas
- Chen, Chen-Hsiung: 1992, Kansas (M. F. A. in Design, with R. L. Branhman)
- Dickson, Margaret
- Dronsick, David: 1975, Clark, Problems in Choropleth Mapping
- Linthicum, David: The Map in Orienteering: An Analysis of the System
- MacEachren, Alan M.: 1976, Kansas, Cognitive Distance in the Urban Environment

Senior Honors Students: Advisor

- Biggar, Patrick: 1978, Kansas
- Cotti, Robert P.: 1972, Clark
- Cox, Carleton W.: 1972, Clark
- Goodman, Ami D.: 1973, Clark
- Meek, Norman C.: 1982, Kansas

Doctoral Students: Reader or Examiner

- Anderson, Nicholas (1970, Clark)
- Barrias, Nicholas (1968, Clark)
- Beaudeau, Paul (1968, Clark)
- Bennett, Gordon (1978, Kansas)
George F. McCleary, Jr.

Carolan, William (1967, Clark)
Chang, Kang-tung (1971, Clark)
Cunningham, Keith (1997, Kansas)
Dobson, Michael (1977, Kansas)
Downey, George (1967, Clark)
Gilmartin, Patricia (1980, Kansas)
Glasgow, Jon (1971, Clark)
Hastings, Andrew (1968, Clark)
Hyland, Gerard (1971, Clark)
Jacobs, John (1971, Clark)
Lavin, Steven (1977, Kansas)
Lennon, Ralph (1970, Clark)
McCutchion, Henry (1970, Clark)
McDermott, Dennis (1980, Kansas-Psychology)
Natoli, Salvatore (1970, Clark)
Oltavaro, Nelson (1994, Kansas-Psychology)
Prante, Mary (1997, Kansas)
Radford, John (1971, Clark)
Ritter, Frederick (1968, Clark)
Rockston, Sue (1996, Kansas-Geology)
Sage, Joseph (1971, Clark)
Sawyer, Stephen (1974, Clark)
Shortridge, Barbara G. (1977, Kansas)
Slocum, Terry (1980, Kansas)
Smolski, Chester (1968, Clark)
Steinke, Theodore (1979, Kansas)
Traylor, Tim (1979, Kansas)
Trifonoff, Karen (1995, Kansas)
Warner, Bruce (1992, Kansas-Psychology)
Zube, Ervin (1971, Clark)

Masters Students: Reader and/or Examiner

Allen, John L. 1966, Clark
Amstutz, Marley 1978, Kansas
Baxter, Carol 1995, Kansas
Bosowski, Elaine F. 1973, Clark
Buttenfield, Barbara 1977, Kansas
Carpenter, Norman 1969, Clark
Chen, Peng-Jen 1992, Kansas-Design
Clark, William Z. 1971, Clark
Coronado-Gonzalez, Jose-Maria, 1997, Kansas-Design
Cotti, Robert P. 1975, Kansas
Emerson, William 1971, Clark
Crawford, Nicholas 1972, Clark
Hart, Roger 1971, Clark
Hembree, Gregory 1978, Kansas
Herre, Jeffrey 1970, Clark
Hinzmann, Gordon A. 1969, Clark
Hobart, Stephen 1971, Clark
Holley, Jill 1983, Kansas
Jacobs, John 1967, Clark
Leach, J. Alan 1969, Clark
Lee, David 1980, Kansas
MacCormack, Andrew 1976, Kansas
Marcus, Alan 1972, Clark
Marino, Jil S. 1978, Kansas
Massey, Perry 1972, Clark
Meger, Terence B. 1980, Kansas
Meier, Larry 1978, Kansas
Miner, Joseph 1971, Clark
Muir, Alan 1970, Clark

Pourrabas, Ali A. 1968, Clark
Prince (Taylor), Vicki 1977, Kansas
Schnieder-Wilson, Nancy 1995, Kansas-Fine Arts
Simpson, Robert A. 1975, Kansas
Skeet, Bill 1994, Kansas-Special Studies
Smith, David A. 1969, Clark
Soergel, Marilyn 1970, Clark
Takauchi, Sam 1970, Clark
Tangen, Paul 1997, Kansas-Special Studies
Tappan, Grey 1980, Kansas
Thompson, Robert W. 1967, Clark
Vetter, Steve 1976, Kansas
Williamson, Glen 1980, Kansas
Wood, Denis 1970, Clark
Zirbel, Marion 1978, Kansas
David B. Mechem

Atmospheric Science Program
Department of Geography
University of Kansas
1475 Jayhawk Blvd., Room 213
Lawrence, KS 66045-7613
Phone: 785-864-5707 Fax: 785-864-5378
Email: dmechem@ku.edu

Education
2003  Ph.D.  Atmospheric Sciences  University of Washington
1993  B.S.  Meteorology with Mathematics minor, summa cum laude  University of Oklahoma

Professional Experience
08/2007–present  Assistant Professor, Department of Geography, University of Kansas
01/2011–present  Adjunct Assistant Professor, Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC
07/2003–08/2007  Research Scientist, Cooperative Institute for Mesoscale Meteorological Studies, Norman, OK
01/2004-05/2004  Adjunct Instructor, School of Meteorology (Physical Meteorology II), University of Oklahoma, Norman, OK
01/2001–07/2003  Research Associate, Cooperative Institute for Mesoscale Meteorological Studies, Norman, OK
01/1999–12/2000  Research Associate, Coastal Meteorology Research Program, Norman, OK
09/1993–12/1998  Research Assistant, Department of Atmospheric Sciences, University of Washington, Seattle, WA
09/1989–08/1993  Meteorological Technician, National Severe Storms Laboratory, Norman, OK

Field Project Participation
07/2001  Dynamics and Chemistry of Marine Stratocumulus (DYCOMS-II)
12/1995  Coastal Observation and Simulation with Topography Experiment (COAST-II)

Funded Proposals
“Collaborative Research: Cloudiness transitions within shallow marine clouds near the Azores” [PI, 9/15/2011–9/14/2014, Department of Energy, Office of Biological and Environmental Research, Climate and Environmental Sciences Division, $329,071]

“Improving mesoscale prediction of shallow convection and cloud regime transitions in NRL COAMPS” [PI, 8/1/2011–7/31/2014, Office of Naval Research, $279,860]
“Assessing Regional Scale Variability in Extreme Value Statistics Under Altered Climate Scenarios” [co-PI, 1/2011–12/2013, Department of Energy, Office of Biological and Environmental Research, Climate and Environmental Sciences Division, $510,554]


"Regional modeling infrastructure for assessing precipitation feedbacks in climate change scenarios" [PI, 4/2009-2011, New Faculty General Research Fund, University of Kansas, $7870.70]


Professional Societies and Service

Member, American Meteorological Society
Member, American Geophysical Union


Reviewer for National Science Foundation proposals

Reviewer for Oxford University Press

Session chair: Fifth Conference on Coastal Atmospheric and Oceanic Prediction and Processes, 6-8 Aug. 2003, Seattle, WA, American Meteorological Society

Session chair: 13th Conference on Mesoscale Processes, 17-20 August 2009, Salt Lake City, UT, American Meteorological Society

Session chair: 12th Conference on Cloud Physics, 28 June–2 July 2010, Portland, OR, American Meteorological Society
Member, AMS Committee on Cloud Physics (Scientific and Technologies Activities Commission)

J. Michael Young award for academic advising in the College of Liberal Arts and Sciences (2009)

Center for Teaching Excellence Teaching Achievement Recognition (2010)

**Formal publications**

*In review*


*Published*


**Informal publications (Selected)**

*Includes extended abstracts, posters, and oral presentations*


Clark, K. R., and D. B. Mechem, 2011: Interactive precipitation feedbacks in an unforced single-column model. WCRP Open Science Conference, Denver, CO, World Climate Research Programme, C33/W249A.


Mechem, D. B., 2011: Improving mesoscale prediction of shallow convection and cloud
regime transitions in Navy prediction systems. *ONR DRI Workshop on Unified Parameterization*, Monterey, CA.


Mechem, D. B., and Y. L. Kogan, 2008a: Scalings for precipitation and coalescence scavenging obtained from simulations of trade cumulus. Preprints, *15th


**Supervision of graduate students (chair or co-chair of committee)**

- **David Huber**
  M.S. Atmospheric Science (Completed summer 2011)
  Thesis title: Effects of Great Plains irrigation on regional climate

- **Kathryn Clark**
  M.S. Atmospheric Science (2010–present)

- **Halley Holmes**
  M.S. Atmospheric Science (2010–present)

- **Prescott Bishop**
  M.S. Atmospheric Science (2011–present)

- **Lei Cai**
  M.S. Atmospheric Science (2011–present)

- **Oluseun Idowu**
  Ph.D. Geosciences, University of Missouri — Kansas City (2011–present)
Margaret Wickens Pearce
margaret.pearce@ku.edu
Department of Geography
University of Kansas
Lawrence, KS 66044
785-864-7874

EDUCATION
Ph.D., Geography, Clark University, Worcester, Massachusetts, received 1998.
Fields of study: Cartography, Cultural Geography, and Native and non-Native Relations during
Colonization. Dissertation title: *Native and Colonial Mapping in Western Connecticut Land Records*
B.A., Hampshire College, Amherst, Massachusetts, 1989.

ACADEMIC AND PROFESSIONAL EXPERIENCE
Assistant Professor, Department of Geography, University of Kansas, 2010–present.
Assistant Professor, Department of Geography, Ohio University, 2005–2010.
Director, Ohio University Cartographic Center, 2005–2010.
Founder, Journey Cake, 2004. [Sole proprietor map company emphasizing cultural and historical geography]
Adjunct Assistant Professor, Department of Geography, Western Michigan University, 2001–2004.
Assistant Professor, Department of Geography, Humboldt State University, 1998–2001.
Acting Director, Guy H. Burnham Map & Aerial Photograph Library, Clark University, 1995–96.

PUBLICATIONS
Books

Cartography
*They would not take me there: People, places, and stories from Champlain’s travels in Canada, 1603-1616.*
Orono, Me.: Canadian American Center, University of Maine, 2008. [4-color, 34 x 58 inches] Third Place,
Best Thematic Map, CaGIS Map Design Competition, 2008.

*The intricacy of these turns and windings: A voyageur’s map.* Marshall, Mich.: Journey Cake, 2005. [7-color, 25 x

Peer-reviewed Articles
M. Pawling, M. Pearce, and D. Soctomah. Native mapping in Maine. In S. J. Hornsby and R. W. Judd, eds. *The
Geography*, Elsevier 2009.
M. Pearce. Framing the days: Place and narrative in cartography. *Cartography and Geographic Information
M. Pearce. The holes in the grid: reservation surveys in Lower Michigan. *Michigan Historical Review* 30 no. 2
(Fall 2004), 135–66.
M. Pearce. Encroachment by word, axis, and tree: mapping techniques from the colonization of New England.
*Cartographic Perspectives* 48 (Spring 2004), 24–38.

*Non-peer-reviewed Articles*


**BOOK REVIEWS**

**INVITED TALKS AND WORKSHOPS**
“Indigenous cartographies of the earthworks,” The Newark Earthworks and World Heritage: One Site, Many Contexts. Invited presenter and participant for national symposium. The Ohio State University at Newark, May 2011.
“Rethink the Reader: Toward Cartographic Design to Engage, Inspire, and Empower,” Invited colloquium speaker, Bucknell University, March 2011.
“Place and the Language of Cartography,” Geography & Anthropology Colloquium, University of Southern Maine, April 2006.
CONFERENCE PRESENTATIONS

Papers Presented
“Place codes: Narrative and dialogical strategies for cartography,” International Cartography Conference, Santiago, Chile, November 2009.
“They would not take me there: Mapping the people, places, and stories of Champlain’s travels in Canada 1603-1616,” Canadian Association of Geographers, Quebec City, 2008. Co-presented with Michael Hermann.

Posters Presented

Presentations on Panels
“Cartographic Engagement and the Social Life of Maps,” discussant, Association of American Geographers,

Exhibits
The Intricacy of These Turns & Windings: A Voyageur’s Map. Selected for Mark Dion installation and gallery exhibition Collections Collected, Kennedy Museum of Art, Ohio University, September 24-November 29, 2009.

GRANTS AND FELLOWSHIPS
Franklin Research Grant, American Philosophical Society, $6,000. Project Title: Native Place Names Mapping: Developing Best Practices. 2011.
Athens Foundation, Athens, Ohio, $6,100. Project Title: Southeast Ohio Bicycle Map. With Athens Bicycle Club. Principal Investigator, NSF Course, Curriculum, and Laboratory Improvement — Adaptation & Implementation Grant, $180,348, for project 1999–2001 (NSF DUE 9972511). Project Title: Creation of a Cartography and Visualization Laboratory at Humboldt State University. See www.humboldt.edu/~kosmos/Pages/CCL1.shtml.

COURSES TAUGHT
GEOG 911 Mapping Place, University of Kansas, 2011
GEOG 102 Principles of Human Geography, University of Kansas, 2011
GEOG 601/801 & GINS 801 Indigenous Peoples of the World, University of Kansas, 2010
GEOG 210 Maps, Computers, & Geographic Analysis, University of Kansas, 2010

GEOG 260 Maps, Ohio University, 2005-2006
GEOG 268 GIS and Mapping Sciences, Ohio University, 2008-2009
GEOG 360/560 Cartography I, Ohio University, 2005-2009
GEOG 361/561 Cartography II, Ohio University, 2006-2010
GEOG 468/568 Cartography III, Ohio University, 2006-2010
GEOG 687 Critical Cartographies, Ohio University, Fall 2006
GEOG 687 Mapping Place, Ohio University, Fall 2008

GRADUATE THESES CHAIRED
Ana Mojica, “Multiple-scenario interface for visualizing urban structure models: the case of the Salvadoran cities of San Salvador and Santa Tecla” (M.A. 12/08)
**STUDENT AWARDS** *(Cartography awards won by students under my supervision)*

**PROFESSIONAL SERVICE**
*International & National*
Reviewer and Panelist, Division of Undergraduate Education CCLI grants, National Science Foundation, Arlington, VA, July, 2000.

*University of Kansas*
Open Access Liaison, 2010–present.
Colloquium committee, 2010–present.
David A. Rahn
Atmospheric Science Program
Department of Geography
University of Kansas
201 Lindley Hall
1475 Jayhawk Blvd.
Lawrence, KS 66045-7613 USA
Email: darahn@ku.edu

Education
Ph.D., 2008: Atmospheric Science, University of Wyoming, Laramie, WY
Dissertation Topic: Forcing mechanisms of coastally trapped wind reversals

M.S., 2006: Atmospheric Science, University of Wyoming, Laramie, WY
Thesis Topic: Modification of the coastal jet by Cape Mendocino

B.S., 2003: Atmospheric and Oceanic Science, University of Wisconsin, Madison, WI

Professional Positions
8 / 2012 - Present: Assistant Professor, Department of Geography, University of Kansas, Lawrence, Kansas

9 / 2008 - 9 / 2012: Postdoctoral Research Associate, University of Chile, Santiago, Chile

9 / 2004 - 8 / 2008: Graduate Research Assistant and Teaching Assistant, Department of Atmospheric Sciences, University of Wyoming, Laramie, Wyoming

Research Interests
Coastal meteorology (including coastally trapped wind reversals, coastal lows, and low level jets), synoptic and large scale influences on the marine atmospheric boundary layer, and aircraft instrumentation.

Refereed Publications


**Other Non-peer reviewed Publications**


**Participation in Scientific Meetings**


Rahn, D. A., and R. D. Garreaud, 2011: Climatology of the 10-m wind along the west coast of South America from 30 years of high-resolution reanalysis. *Segundo Congreso de Oceanografía Física, Meteorología y Clima*, Coquimbo, Chile.


Rahn, D. A., 2009: Variabilidad sinóptica de la capa límite marina durante VOCALS-REx (primavera 2008) [Synoptic variability of the marine boundary layer during VOCALS-REx (spring 2008)]. Primer Congreso de Oceanografía Física, Meteorología y Clima, Concepción, Chile.


Current Projects:
NSF Grant: AGS-1034862, 2012-2014
Title: PREcision Atmospheric Marine Boundary Layer Experiment (PREAMBLE)
PIs: David A. Rahn and Thomas R. Parish

FONDECYT Grant: 3110100, 2010-2012
Title: Synoptic Influence on the subtropical Marine Boundary Layer in the Southeast Pacific: The SIMBL Experiment
PI: David A. Rahn

Field Work
May/June 2012: PREcision Atmospheric Marine Boundary Layer Experiment (PREAMBLE). Directed aircraft missions that investigated a variety of coastal meteorological phenomena in southern California. Total flight hours: 34.5

September 2011: Synoptic Influence on the subtropical Marine Boundary Layer (SIMBL). Radiosondes were launched twice daily for two weeks from Robinson Crusoe Island (archipelago Juan Fernández), ~700 km west of the central Chilean coast.

December 2009 – January 2011: VOCALS-CUpEx. Flew missions measuring the coastal jet along the coast of Chile. Total flight hours: 9.3.


Past Projects:
FONDECYT Grant: 1090412
Title: Dynamics of the Atmospheric Marine Boundary Layer off Subtropical Chile
Role: Post-doctoral researcher and technical support
2009-2010
FONDECYT Grant: 1090492
Title: Variabilidad Climática en Chile: Evaluación, Interpretación y Proyecciones (ACT19/R19)
Role: Post-doctoral researcher
2008-2009

ONR Grant N000140510720 and NSF Grant ATM-0332202
Title: Dynamics and Microphysics in Marine Stratocumulus (DMIMS)
Role: Research assistant (Ph. D. Student)
2006-2008

NSF Grant: ATM-0332202
Title: An Application of Airborne Global Positioning System (GPS) Measurements to Studies of Atmospheric Dynamics
Role: Research assistant (Masters Student)
2005-2006

Teaching Experience
ATMO105 – Introductory Meteorology, University of Kansas (Fall 2012)

ATMO505 – Weather Forecasting, University of Kansas (Fall 2012)

ATSC 2000 Lab – Introduction to Meteorology, Lab Instructor, Department of Atmospheric Science, University of Wyoming (Fall 2005, Fall 2006, Spring 2007, and Fall 2007).

ATSC 2000 Lecture – Introduction to Meteorology, Co-lecturer, Department of Atmospheric Science, University of Wyoming (Fall 2006 and Fall 2007).

Professional Activities
2012 – present: Undergraduate Affairs Committee
2006 – 2008: Member, University of Wyoming Flight Safety Committee

Professional Affiliations
2004 – present: American Meteorological Society
2007 – present: American Geophysical Union
2010 – present: European Geophysical Union

Computer Skills and Proficiency
UNIX, Windows, IDL, MatLab, GEMPAK, GrADS, IDV, VAPOR, WRF

Languages
English (native), Spanish
Terry A. Slocum
Curriculum Vitae, March 2010

Department of Geography
University of Kansas
Lawrence, Kansas 66045
Phone: 785-864-5146
E-mail: t-slocum@ku.edu

I. EDUCATION

Ph.D. (1980) University of Kansas
   Major field of study: Cartography
   Secondary field: Quantitative Methods

M.A. (1976) State University of New York at Albany
   Areas of Study: Cartography and Quantitative Methods

   Major: Geography  Minor: Mathematics

II. ACADEMIC EMPLOYMENT

   Chair, Department of Geography, University of Kansas       2003-present
   Associate Professor, University of Kansas                  1986-present
   Assistant Professor, University of Kansas                  1981-1986
   Assistant Professor, University of Maryland                1980-1981
   Consultant to Robert Aangeenbrug, Chair, 4th
      International Conference on Computer-Assisted
      Cartography (AUTO-CARTO IV)
   Systems Analyst for GBFDMI project, Lawrence, Kansas       1978
   Teaching Assistant, University of Kansas                   1977-1978
   Assistant for University of Kansas Cartographic Services   1976-1977
   Teaching and Research Assistant in cartography,            1974-1976
      State University of New York at Albany

III. GRANTS

   National Science Foundation, $1,060,747, 2001-2005.
      “Extending Scientific Inquiry through Geographic Information
      Systems” (with Joseph Heppert (PI), Dennis Lane, Thomas Baker,
      and Steven Case).

   US Department of State Bureau of Educational and Cultural Affairs,
   $142,138, 2000-2004. “Partnership between the University of Kansas
   and the University of Zambia: Enhancing Technological
   Capabilities in Environmental Science Teaching and Research,”.
      (Senior Personnel with Garth Myers (PI) and other faculty at KU).

   National Center for Geographic Information and Analysis, $3000, 1999.
      “A Preliminary Evaluation of MapTime”

   KU Research Development Fund, $40,577.82, 1999.
      Project to incorporate a water balance model with the Green Report
      (http://maps.kansasgis.org/kars/) (with Johan Peddema (PI), David
      Bennett, Ed Martinko, and Kevin Price).
"Enhancing Analytical and Physical Geography Curriculum at the University of Kansas" (with Kevin Price (PI) and others).

"Exploring Time-Based Data for Choropleth Maps."

National Science Foundation, $50,000, 1987-1990.
"Developing and Analyzing an Information System for Choropleth Maps."

New Faculty Research Grant, $4500, 1982.
"Regionalization on Automated and Non-Automated Choropleth Maps."

IV. PUBLICATIONS

Books


Articles and Book Chapters Published (* refereed; + invited)


* 2002  Daniel Cliburn, Johan Feddema, James Miller, and **Terry A. Slocum.**


+ 1994  **Terry A. Slocum.** "Visualization Software Tools," in *Visualization in Modern Cartography*, eds. Alan M. MacEachren and D.R. Fraser Taylor. Oxford: Pergamon Press, pp. 91-122. (Numerous co-authors were involved, but I was the lead author and editor.)


* 1990  **Terry A. Slocum**, Susan H. Robeson and Stephen L. Egbert.


**Conference Proceedings**


1982  **Derek Thompson and Terry A. Slocum.** "A Geographic Information System for Political Redistricting in Maryland," *Proceedings of Applied Geography Conferences*, 5, pp. 73-87.

**In-House Departmental Publications**


**Book Reviews**


V. PRESENTATIONS

Papers Presented


2009 Terry A. Slocum. "History of Thematic Cartography, 1900-2000," Department of Geography Brownbag Series, University of Kansas, Lawrence, KS.


2000 Terry A. Slocum. "Cognitive and Usability Issue in Geovisualization," Commission on Visualization, International Cartographic Association, Melbourne, Australia, June 14-16 (This presentation involved a series of lectures and discussions over a two-day period.)

1999  **Terry A. Slocum.** "Cognitive Issues in Visualization", Commission on Visualization, International Cartographic Association, Ottawa, Canada, August 22-23 (This presentation involved a series of lectures and discussions over a two-day period.)


1994  **Terry A. Slocum.** "Using Visual Basic to Teach Concepts of Visualizing Spatial Data," Department of Geography, University of South Carolina.

1993  **Terry A. Slocum, John C. Davis and Stephen L. Egbert.** "Developing Software for Exploring Temporal Spatial Data," GIS/LIS '93, Minneapolis, MN.


1988  **Terry A. Slocum, Stephen L. Egbert, Mary Catherine Prante, and Susan H. Robeson.** "Developing an Information System for Choropleth Maps," Third International Symposium on Spatial Data Handling, Sydney, Australia.

1988  **Terry A. Slocum.** "Developing an Information System for Choropleth Maps," Association of American Geographers, Phoenix, AZ.


1987  **Terry A. Slocum.** "Developing an Information System for Choropleth Maps," Department of Geography, University of Kentucky.


Poster Presentations


Invited Discussant

1987 Terry A. Slocum. For the session "Recent Research on the Cartographic Use of Color," Association of American Geographers, Portland, OR.

VI. COURSES TAUGHT

Undergraduate

104 - Introductory Physical Geography

Upper-division Undergraduate and Graduate

316 - Introduction to Quantitative Methods in Geography
(basic use of statistics in geography through simple correlation and regression)

358 - Principles of Geographic Information Systems
(an introduction to the principles of GIS)

514 - Visualizing Spatial Data
(an analysis of techniques for visualizing spatial data and their implementation in a programming language)

516 - Applied Multivariate Analysis in Geography
(the use of multivariate data analysis methods geography)

517 - Data Handling and Map Symbolization
(focuses on the quantitative and perceptual aspects of map symbolization)

Graduate Courses

806 Basic Seminar
(largely MA thesis proposal development)
911 Seminar in Cartography (Visualization)
(research issues in geographic visualization)

VII. RESEARCH SUPERVISED

Dissertation Committees Chaired


Karen Trifonoff, 1994, "Using thematic maps in the early elementary grades."

Stephen L. Egbert, 1994, "The design and evaluation of an interactive map exploration system."

Masters Thesis Committees Chaired


Yadav-Pauletti, Sunita, 1996, "MIGMAP, A data exploration application for visualizing U.S. Census migration data."

Douglas Greenfield, 1994, "Animating point symbols for cartographic display."

Linus L. Smith, 1988, "Improving the cartographic quality of geomorphic lines displayed on low-resolution computer screens."

Stanley J. Gerber, 1987, "Assessing the value of shaded relief to road map users."

Steven R. Miller, 1986, "Local context effects on obtaining tabular information from choropleth maps."

Masters Non-thesis Committees Chaired


VIII. PROFESSIONAL SERVICE

Editorial Work

Member, Editorial Board, Cartography and Geographic Information Science, 2006-present.


Served on a committee to select the best article appearing in the publications of the American Congress on Surveying and Mapping (1982-1985).

Organizational Officer


Vice President, Cartography and Geographic Information Society, 2010.

Workshops and Short Courses Taught


"Map Display for GIS", with Stephen L. Egbert, for the GRAIL spring workshop series, University of Kansas, 1991.


Miscellaneous

Member, Advisory Board for an NEH start-up grant "Visualizing the Past: Tools and Techniques for Understanding Historical Processes," 2008-2009.

IX. DEPARTMENTAL SERVICE

Chair, 2003-present.
Graduate Director, 1993-2002.
Member, Committee to evaluate in-house GRF proposals, 1994
Chair, Search Committee for Computer Technician, 1991
Chair, Staff Committee (1990-1991)
Chair, Student Affairs Committee, 1989-90
Search Committee for GIS, 1988-1989
Search Committee for GIS/Physical, 1987-1988
Search Committee for Remote Sensing/GIS, 1987
Co-Chair, Student Affairs Committee, 1988-1989
Chair, Student Affairs Committee, 1986-1988
Student Affairs Committee, 1985-1986
Computer Committee, 1985-1986
Staff Committee, 1981-1985
Ad Hoc Cartographic Services Committee, 1983
Cartographic Services Projects Committee, 1982

X. UNIVERSITY SERVICE

Planning Committee for the Center for Analysis of Data, 2007-2008.
CGS (Committee on Graduate Studies), 2001-3, Chair 2002-2003.
First-Level Review Committee, General Research Fund 1990-1991
CGS (Committee on Graduate Studies), 1988-1991; Chair 1989-1990
CUSA (Committee on Undergraduate Studies and Advising), 1985-1987
Graduate Council and the Standing Committee on Graduate Faculty Appointments, 1982-1985
Advised for summer orientation, 1983-1984

XI. AWARDS

Teacher Appreciation Award, Center for Teaching Excellence (CTE), 2007.
Teacher Appreciation Award, Center for Teaching Excellence (CTE), 1998.

XII. Membership in Professional Organizations

Association of American Geographers
Canadian Cartographic Association
Cartography and Geographic Information Society
North American Cartographic Information Society
The British Cartographic Society
XIII. References

Pete Shortridge
Department of Geography
University of Kansas
Lawrence, KS 66045

Johannes Feddema
Department of Geography
University of Kansas
Lawrence, KS 66045

Stephan Egbert
Department of Geography
University of Kansas
Lawrence, KS 66045

Keith Clarke
Department of Geography
University of California
Santa Barbara, California 93106-4060
DONNA F. TUCKER

Current Addresses

Office: Department of Geography
1475 Jayhawk Blvd.
213 Lindley Hall
University of Kansas
Lawrence, Kansas 66045
(785) 864-4738
(785) 864-5378 (fax)

E-Mail: dtucker@ku.edu

Education


M.S. Atmospheric Science, Colorado State University, 1982.

B.S. Atmospheric Science, Cornell University, 1980.

Professional Experience

Associate Professor, Department of Geography, University of Kansas, 2003- present

Associate Professor, Department of Physics and Astronomy, University of Kansas, 2000-2003.

Assistant Professor, Department of Physics and Astronomy, University of Kansas, 1994-2000

Lecturer, Department of Physics and Astronomy, University of Kansas, 1993-1994

Assistant Professor, Department of Atmospheric Sciences, Creighton University, 1990-1994.

College Assistant Professor, Department of Earth Sciences, New Mexico State University, 1989.

Instructor, Department of Earth Sciences, New Mexico State University, 1988.


Teaching Experience:

<table>
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<th>Introductory</th>
<th>Advanced Undergraduate/Graduate</th>
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<tr>
<td>Severe and Unusual Weather</td>
<td>Cloud Physics and Dynamics</td>
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<td>Computer Programming in Atmospheric Sciences</td>
<td>Boundary Layer Meteorology</td>
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<tr>
<td>Mountain Meteorology</td>
<td>Dynamic Meteorology I</td>
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<tr>
<td>Introduction to Atmospheric Science</td>
<td>Dynamic Meteorology II</td>
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<td>Introduction to Meteorology</td>
<td>Advanced Synoptic Meteorology</td>
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<td>Synoptic Meteorology</td>
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<td></td>
<td>Microclimatology</td>
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<td></td>
<td>Aviation Meteorology</td>
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<td>(Internet)</td>
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</tbody>
</table>

Graduate

Atmospheric Dynamics
Mountain Meteorology
Numerical Weather Prediction
General Circulation, Colorado State University, TA, 1983

Professional Affiliations

American Meteorological Society
American Geophysical Union
National Weather Association
Association of American Geographers
Professional Service

President, El Paso-Las Cruces Chapter of the American Meteorological Society, 1989-1990


Nominating Committee, 1992-1994, National Weather Association

Board of Meteorological and Oceanographic Education in the Universities of the American Meteorological Society, since 1994; Chair of committee on the bachelor's degree in meteorology or atmospheric science 1997-1999.

National Science Foundation, Lower Atmosphere Division, Committee of Visitors, 1995


Committee of Judges for Undergraduate Awards, American Meteorological Society, 2001-2005, currently chair

Unidata Users Committee, 2002-2005


Selection committee, Unidata Equipment Awards, 2003, 2004

National Weather Association Aviation Meteorology Committee 2006-presents

NSF Review Panel, Unidata, June 2008

Grants Received:


COMET/UCAR, "Eta model performance for warm season heavy rainfall events across the Central United States", 8/94 - 8/95, $4909.

NSF, "Development of a computer-based synoptic and mesoscale meteorology laboratory", 10/94 - 9/95, $20,000 (matched by KU).

University of Kansas/GRF "Initiation of Mesoscale Convective Complexes", 1/1/95 - 6/30/96, $5000.


University of Kansas/GRF "Effect of a Local Moisture Source on the Precipitation Produced by Convective Systems", 7/1/96 - 6/30/97, $9,000.

National Center for Atmospheric Research, Orogenic Mesoscale Convective Systems, 7/1/96-8/31/98, 175 GAU of computer time

NSF, "Summer Plateau Circulation Systems of Western North America", 5/1/96-11/30/97, $75,000.

University of Kansas/GRF " Effect of Wind Regimes on the Initiation Point of Large Convective Systems", 7/1/97-6/30/98, $4,281.

Wolf Creek Nuclear Operating Corporation, Compilation of a Set of Site-Specific Screening Criteria to be Used for Meteorological Data Verification and Validation, 7/15/97-1/1/98, $3,783.
University of Kansas/GRF, Aviation Weather Hazard Characterization and Verification, 7/1/99-6/30/00, $5000.


COMET/UCAR, “Terminal Area Forecasts for Kansas City”, 7/1/99-6/30/01, $60,888.

NSF, “New Directions for a Meteorology Laboratory in Research and Education”, 11/1/99-10/31/00, $10,500 (matched by KU).


Sprint-Nextel, “Robust Wireless Mesh Networking Research: Extension to 23GHz” 10/15/2007-10/14/2008, $140,000

Invited Presentations

“Numerical Model Forecasts of Convective Orographic Precipitation” seminar presented at the Program for Regional Observing and Forecasting Services (PROFS), on 22 October 1986.

“Moisture Convergence and Convective Storms in Complex Terrain” seminar presented at New Mexico Institute of Mining and Technology, Socorro, NM, 25 January 1990.


“Women in Science” presented jointly with Holly Harris and Janet Seger to the Philosophy and History of Science Forum at the University of Nebraska at Omaha, April 3, 1992.

“Orographic Influence on Precipitation in South Central New Mexico” presented to Geography Department, University of Kansas, Feb. 2, 1994.


"Forecasting Heavy Precipitation using the ETA Model and GEMPAK", presented to the COMET Cooperative Regional Workshop, St. Louis. MO Nov. 12, 1996.


"Will El-Nino Bring Floods to Kansas this Spring?" Presented to the Kansas Society of Civil Engineers, Emporia, KS, Jan. 8, 1998

"The Bachelor’s Degree in Atmospheric Science", Presented at the 11th Meeting of the Heads and Chairs of Atmospheric Sciences Programs

"What is a Monsoon?" Presented at Indian Institute of Technology, Kanpur, India, Jan. 4, 1999.


"Summer Convective Precipitation Patterns in the Western United States”, Presented at CSIRO, Aspendale, Australia, May 29, 2000
"High Plains Thunderstorms: The Rocky Mountain Connection"  
Presented at the University of Missouri - Columbia, March 14, 2001

"Initiation of Thunderstorms in the Rocky Mountains".  
Presented at Western Michigan University, April 8, 2004


"Thunderstorm Initiation in the Rocky Mountains: A Case Study". Expanding the Use of Models as Educational Tools in the Atmospheric and Related Sciences, Unidata, UCAR, Boulder CO, Jul. 10-14, 2006

"Causes of preferred places for thunderstorm initiation in the mountainous regions" presented at State Key Laboratory of Severe Weather, Chinese Academy of Meteorological Sciences, Beijing, China, May 21, 2007.

"Thunderstorm Initiation in the Rocky Mountain Region" presented to the Department of Geography, University of Oklahoma, Feb. 27, 2008.


Refereed Publications


Other Publications


Tucker, D.F., 1999: The bachelor’s degree in atmospheric science - revision of the 1995 AMS statement. 8th Symposium on Education, Jan. 10-12, 1999, Dallas, TX, American Meteorological Society


C. J. VANDER VEEN

PROFESSOR, DEPARTMENT OF GEOGRAPHY

UNIVERSITY OF KANSAS

Education:

1986 Ph.D., State University of Utrecht, Physics
    Thesis topic: “Ice sheets, atmospheric CO₂ and sea level”.

1982 M.S., (“doctoraal”) State University of Utrecht, Physical Oceanography and Meteorology.
    Thesis topics: “The energy budget of the tidal currents in the southern North Sea” and
                “Numerical modelling of the ocean mixed layer in shallow seas with tidal friction”.

1978 B.S., (“kandidaats”) State University of Utrecht, Physics.

Positions held:

2009-present Professor, Department of Geography, University of Kansas

2006-2009 Associate Professor, Department of Geography, University of Kansas

2003-2006 Visiting Associate Professor, Department of Geological Sciences, The Ohio State University

1999 Interim Director, Byrd Polar Research Center, The Ohio State University

1997-2006 Research Scientist, Byrd Polar Research Center, The Ohio State University

1992-2006 Adjunct Assistant Professor, Department of Geography, The Ohio State University

1990-1997 Senior Research Associate, Byrd Polar Research Center, The Ohio State University

1987-1990 Research Associate, Byrd Polar Research Center, The Ohio State University

1986-1987 Post doctoral Fellow, Byrd Polar Research Center, The Ohio State University

1982-1986 Ph.D. student at the State University of Utrecht.
Service:

2010  Chief Scientific Editor for the Annals of Glaciology, Proceedings of the IGS symposium on “Earth vanishing ice” to be held in Columbus, OH (September)

2009  Co-organizer Summer School on “Ice sheet models for the 21st Century” held in Portland, OR (August 3-14).

2008  Co-convenor Workshop on “Improving Ice-Sheet Models” held in St. Petersburg, Russia (July 5-7, 2008).

2008  Member of the NASA ROSES Cryosphere proposal review panel.


2006  Co-convenor AGU Fall Meeting session C14, “Advances in observations of ice sheets and glaciers: mass balance and beyond” held in San Francisco, California (December, 2006).

2005  Co-convenor AGU Fall Meeting session C41 “The Dynamics of Glacier System Response: tidewater glaciers and the ice streams and outlet glaciers of Greenland and Antarctica” held in San Francisco, California (December, 2005).


2003-present  Member of the Publications Committee of the International Glaciological Society.


2000  Member of the NSF Polar Glaciology Program Antarctic proposal review panel.


1999  Interim Director, Byrd Polar Research Center.

1999-2006  Editor Polar Geography.


1996-2003  Chair of the Executive Committee of the Byrd Polar Research Center.

1994  Member of the NSF Polar Glaciology Program Antarctic proposal review panel.

1994  Associate editor for the Annals of Glaciology, Vol. 21, Proceedings of the IGS symposium on “The Role of the Cryosphere in Global Change”, held in Columbus, Ohio (August 7-12, 1994).

1994  Member of the local organising committee for the IGS symposium on “The Role of the Cryosphere in Global Change”, held in Columbus, Ohio (August 7-12, 1994).
1985 Main organizer of a three-day workshop on “The dynamics of the West Antarctic Ice Sheet” held in Utrecht (May 6-8, 1985).

1984 - 1987 Member, Special Committee, reporting to the Dutch government on the possible effects of a CO₂-induced climatic warming.

Field experience:

6 / 2004 Glacial geology fieldwork near the ice margin, Kangerlussuaq, West Greenland (Byrd Polar Research Center and University of Illinois at Chicago expedition)

7 / 2003 Glacial geology fieldwork near the ice margin, Jakobshavn Isbrae, West Greenland (Byrd Polar Research Center expedition).


5 - 6 / 1987 Glaciology fieldwork in Central Greenland (Byrd Polar Research Center expedition).


5 - 6 / 1980 Member of two, two-week expeditions with the Dutch oceanographical research vessel Tyro, to collect data for M.S. research.

5 / 1979 Joined a one-month cruise of the Dutch weather ship to the northern Atlantic Ocean to perform oceanographical observations.

Courses taught (University of Kansas):

Spring 2010 Topics in Environmental Studies: Climate change in Greenland and the Arctic
ENVR 720 (3 credit hours) (together with David Braaten, Sharon Billings, and Joane Nagel)

Spring 2010 Principles of Physical Geography
Geography 104 (3 credit hours)

Fall 2009 Geography of the Energy Crisis
Geography 556 (3 credit hours)

Spring 2009 State of the Planet
Geography 531/731 (3 credit hours)

Spring 2009 Principles of Physical Geography
Geography 104 (3 credit hours)

Fall 2008 Glaciers and Landscape
Geography 332 (3 credit hours)

Summer 2008 Teaching Climate & Cryosphere
Geography 731 (3 credit hours) (workshop for teachers)

Spring 2008 Understanding Climate Change Science
Geography 531/731 (3 credit hours) (together with Johannes Feddema)
Spring 2008  Advanced Geostatistics Geography 716  (3 credit hours)
Fall 2007  Geography of the Energy Crisis Geography 556  (3 credit hours).
Spring / Summer 2007  Introduction to Glacier Dynamics Geography 531  (3 credit hours) (webcast to the University of Stockholm, with auditing students at Penn State, Ohio State University and the University at Buffalo).
Spring 2007  Advanced Dynamic Meteorology ATMO 660  (3 credit hours).
Fall 2006  Glaciers and Landscape Geography 531  (3 credit hours).

Courses taught (Ohio State University):

Spring 2006  Glaciers and Pleistocene Geology Geological Sciences 650  (5 credit hours)
Winter 2006  Fueling our economy after Peak Oil Arts and Sciences 137.11  (2 credit hours) (together with Garry McKenzie)
Winter 2006  Global change and sustainability in the Earth System Geological Sciences 663  (5 credit hours) (together with Garry McKenzie and Lonnie Thompson)
Fall 2005  Sustainability and Peak Oil: exploring pathways for our future Geological Sciences 694  (3 credit hours) (together with Garry McKenzie)
Fall 2005  Earth Systems I: Geologic Environment Geological Sciences 100N  (5 credit hours)
Spring 2005  Glaciers and Pleistocene Geology Geological Sciences 650  (5 credit hours)
Winter 2005  Computational Geology Geological Sciences 245  (5 credit hours)
Fall 2004  Earth Systems I: Geologic Environment Geological Sciences 100N  (5 credit hours)
Fall 2004  Quaternary and Precambrian glacial deposits of the central Great Lakes Geological Sciences 850  (3 credit hours – 6 day fieldtrip) (together with Garry McKenzie)
Spring 2004  Earth Systems I: Geologic Environment Geological Sciences 100N  (5 credit hours)
Winter 2004  Computational Geology Geological Sciences 245  (5 credit hours) (together with John Olesik)
Winter 2004  Glaciers and Pleistocene Geology  
Fall 2003  Seminar in Geophysics  
Spring 2003  Global Climate and Environmental Change: Individuals Matter  
Fall 2001  Glaciers and Pleistocene Geology  
Spring 2001  Geographical Analysis II  
Winter 2001  Geographical Analysis I

Publications:


¹ Published in 2006
² Published in 2003
³ Published in 2002


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*Published in 2001
*Published in 2000


Van der Veen, C. J., Numerical modelling of ice shelves and ice tongues. *Annales Geophysicae*, 4(B), 45-54.


**In Press:**

**In Review:**


Nick, F.M., C.J. van der Veen, A. Vieli and D.I. Benn, A physically based calving model applied to marine outlet glaciers and implications for their dynamics. *Journal of Glaciology.*

**Books:**


**Book chapters:**


Non-refereed publications:


1997 Van der Veen, C.J., Letter to the Editor: California traffic has been making kinematic waves since fifties. *Physics Today*, 50(10), 140-141.


Abstracts:


Internal Reports:

2006 Van der Veen, C.J., *Oil’s History of Booms and Busts: Towards the Ultimate Downturn*. BPRC Report No. 21, Byrd Polar Research Center, The Ohio State University, Columbus, Ohio, 46 pp.


1995 Van der Veen, C.J., *Controls on calving rate and basal sliding: observations from Columbia Glacier, Alaska, prior to and during its rapid retreat, 1976-1993*. BPRC Report No. 11, Byrd Polar Research Center, The Ohio State University, Columbus, Ohio, 72 pp.


**Grants received:**

2009 Leuschen, C.J. (PI), D.A. Braaten, S.P Gogineni, S.A. Seguin, and C.J. van der Veen (co-PIs), *MRI: Development of an anechoic chamber and instrumentation for remote sensing of polar regions and transportation interdisciplinary research and education*. NSF-ARC, $1,374,617 (5 years).

2008 Leuschen, C.J. (PI) and C.J. van der Veen (co-PI), *Collaborative Research: Subglacial water intrusion in Greenland*. NSF-ARC, $161,016 (2 years).

2007 Van der Veen, C.J. (PI), *Collaborative Research: IPY: POLENET/Greenland: using bedrock geodesy to constrain past and present day changes in Greenland’s ice mass*. NSF – The Ohio State University, $22,812 (2 years).

2006 Van der Veen, C.J. (PI), *Long-term mass balance of the Pacific Ocean Sector of Antarctica based on multisensor fusion*. NASA – University at Buffalo, $19,992 (3 years).

2005 Jezek, K.C. (PI), E. Mosley-Thompson, L.G. Thompson, C.J. and van der Veen (Co-PIs), *Science and Technology Center: Ice sheets and sea level rise*. NSF – University of Kansas, $2,281,157; matching funds (OSU), $2,965,504 (5 years).


2004 Van der Veen, C.J. (PI) and B.M. Csatho (co-PI), *Pilot study for using ASTER images to map glacial geomorphology*. NASA, $14,442 (1 year).


2000  Van der Veen, C.J. (PI) and A.F. Schenk (Co-PI), *Greenland surface velocities and flow features from high resolution visible satellite imagery.* NSF-OPP, $239,527 (3 years). (OPP-9911981; RF-739360).


1990  Whillans, I.M. (PI) and C.J. van der Veen (Co-PI), *Mass balance and ice-stream mechanics in West Antarctica.* NSF-DPP, $405,000 (3 years). (OPP-9020760; RF-725115).

1990  Van der Veen, C.J. (PI), *Numerical studies on the onset of, and controls on fast streaming flow.* NSF-DPP, $90,000 (2 years). (DPP-9017445; RF-724857).


1988  Van der Veen, C.J. (PI), *An anisotropic flow law for ice.* OSU Board of Regents’ Research Challenge Program Investigator’s Fund, $3,225 (2 months).
Meetings, Conferences, etc.: (Presentations are marked *)

2009  *Summer School on “Ice sheet models for the 21st century”, Portland State University, Portland, OR (August 3-14).  (Co-organizer)
2008  SCAR/IASC IPY Open Science Conference.  St. Petersburg, Russia (July 8-11).
2008  *Workshop on “Improving Ice Sheet Models.”  St. Petersburg, Russia (July 5-7).
2008  *Eighth Annual Center for Atmosphere and Ocean Science winter Workshop on “Predicting sea level in the 21st century: the role of ice-ocean interaction.” New York University, NY (February 22-23).  (Invited)
2007  *American Geophysical Union – Fall Meeting, San Francisco, CA (December 10-14).  (Invited)
      Future Climate Change Research and Observations: GCOS, WCRP and IGBP learning from the IPCC Fourth Assessment Report (AR4).  Sydney, Australia (October 4-6).  (Invited)
*Department of Meteorology, Stockholm University (June 23-30).
*Canadian Geophysical Union – Annual Meeting, St. John’s, Newfoundland (May 29-June 1).  (Invited).
2006  *American Geophysical Union – Fall Meeting, San Francisco, CA (December 11-15).
      *University of Kansas, Lawrence, KS (March 2-3).
*Texas A&M, College Station, TX (February 12-14).
2004  *American Geophysical Union – Fall Meeting, San Francisco, CA (December 13-17).
      *European Geophysical Union – 1st General Assembly, Nice, France (April 25-30).  (Invited).
2001  Global Change Open Science Conference “Challenges of a Changing Earth”, Amsterdam, the Netherlands (July 10-13, 2001).
2000  *PARCA Meeting, Granlibakken, Tahoe City CA (September 22-23).
      Workshop on “Scientific Applications of Synthetic Aperture Radar (SAR) Satellites”, Los Angeles, California (June 26-28).
*PARCA Meeting, Boulder CO (February 10-11).
1999  International Symposium on “The Verification of Cryospheric Models”, Zurich, Switzerland (August 16-20).  (Poster).
      Workshop on “Satellite Measurements and Monitoring of Glaciers and Ice Sheets”, Zurich, Switzerland (August 14-15).
      IPCC workshop on “Rapid Non-Linear Climate Change”, Noordwijkerhout, The Netherlands (March 31 - April 2).  (Invited).
1997  *EISMINT workshop on “Rheology and anisotropy”, Grindelwald, Switzerland (September 28-30).  (Invited).
      Third EISMINT workshop on “Model Intercomparison”, Grindelwald, Switzerland (September 25-27).  (Invited).
      *Workshop on “Tidewater Glaciers”, Mohican State Park (Columbus), Ohio (February 28 - March 2).
      International Symposium on “The Role of the Cryosphere in Global Change”, Columbus, Ohio (August 7-12).  (Poster).
Midwestern Glaciologists Meeting, Columbus, Ohio (April 22-23).
1993  Fifth International Symposium on Antarctic Glaciology (VISAG), Cambridge, England (September 5-10).  (Poster).
      *EISMINT workshop on “Model Intercomparison”, Brussels, Belgium (June 16-18).  (Invited).
1990  *AGU Fall Meeting, San Francisco, California (December 3-6).
      *Sea Level Workshop, Woods Hole, Massachusetts (May 2-4).  (Invited).
1989  *Alfred-Wegener-Institut für Polarforschung, Bremerhaven, Germany (July 27).
1988  *AGU spring meeting, Baltimore, Maryland (May 20).
      *Glaciology and Geophysical Institute, University of Copenhagen, Copenhagen, Denmark (September 15-16).
      *Fourth International Symposium on Antarctic Glaciology, Bremerhaven, West Germany (September 7-12).
1986  *Department of Geophysical Sciences, University of Chicago, Chicago, Illinois (November 21).
      *Geology Department, University of Illinois at Chicago, Chicago, Illinois (November 20).
1985/86 Institute of Polar Studies, The Ohio State University, Columbus, Ohio (October 16, 1985-March 4, 1986, including fieldwork in Antarctica).
1985  Workshop on “Hydraulic effects at the glacier bed”, Interlaken, Switzerland (September 16-21).
      *Workshop on “Dynamics of the West Antarctic Ice Sheet”, Utrecht, the Netherlands (May 6-8).
      NATO Advanced Study Institute course on “Large-scale transports in the atmosphere and ocean”, Les Houches, France (February 11-22).
      *10th Annual Meeting of the European Geophysical Society, Louvain-La-Neuve, Belgium (July 30-August 3).
      *Glaciology and Geophysical Institute, University of Copenhagen, Copenhagen, Denmark (May 7-8).
      Alfred-Wegener-Institut für Polarforschung, Bremerhaven, Federal Republic of Germany (May 4).
1983  Department of Geological Sciences, Northwestern University, Evanston, Illinois (December 16).
      Geophysical and Polar Research Center, University of Wisconsin, Madison, Wisconsin (December 13-15).
Meeting of north-western glaciologists, University of Washington, Seattle, Washington (December 1-2).
*Department of Geophysics and Astronomy, University of British Columbia, Vancouver, Canada (November 30).
Department of Geophysics, University of Arizona, Tempe, Arizona (November 21).
Institute for Quaternary Research, University of Maine, Orono, Maine (November 9-12).
*Institute of Polar Studies, The Ohio State University, Columbus, Ohio (September 13- November 8).

1982 Second School on climatology: CO$_2$ and climate changes, Erice, Sicily, Italy (July 16-26).