

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.
Thesis: *Air Pollution Effects on Marble Weathering in Philadelphia, Pennsylvania.*
- 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.
- Visiting Scientist, National Center for Atmospheric Research, Boulder, Colorado, 1994, 2002-5.
- UCLA Department of Geography Nominee for the Luckman Teaching Award, 1993.
- Student Paper prize, Climate Specialty Group, AAG, 1990.
- Departmental Fellowship, University of Delaware, 1987-1988.

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 Picazo, 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: Willian Heins, 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 Karlik, 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 Saifullah,
Julie Morris

PUBLICATIONS (Refereed)

- Feddema, J. (2007) Contributing Author, Box 11.4: Land Use and Land Cover Change Experiments Related to Climate Change, in Christensen, J.H., B. Hewitson, A. Busuioc, A. Chen, X. Gao, I. Held, R. Jones, R.K. Kolli, W.-T. Kwon, R. Laprise, V. Magaña Rueda, L. Mearns, C.G. Menéndez, J. Räisänen, A. Rinke, A. Sarr and P. Whetton, 2007: Regional Climate Projections. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Mahowald, N. M., J. A. Ballantine, J. Feddema, and N. Ramankutty (2007), Global trends in visibility: implications for dust sources, *Atmospheric Chemistry and Physics Discussions*, 7, 3013–3071.
- Feddema, J.J. (2005) A Revised Thornthwaite Type Global Climate Classification. *Physical Geography*, 26 (6): 442-466.
- Feddema, J.J., K. Oleson, G. Bonan, L.O. Mearns, L. Buja, W.M. Washington, and G. Meehl. (2005). How important is land cover change for simulating future climates? *Science* 310(5754): 1674-1678.
- Feddema J.J., K. Oleson, G. Bonan, L. Mearns, W. Washington, G. Meehl, D. Nychka (2005). A comparison of a GCM response to historical anthropogenic land cover change and model sensitivity to uncertainty in present-day land cover representations, *Climate Dynamics*, 25: 581-609.
- Park, S., J. J. Feddema, S. L. Egbert (2005). MODIS land surface temperature composite data and their relationships with climatic water budget factors in the central Great Plains, *International Journal of Remote Sensing*, 26(6): 1127-1144.
- Feddema, J.J., J. Shields, O. Taylor and D. Bennett (2004): Chapter 23: Simulating the development and migration of the monarch butterfly in *Monarch Butterfly Biology and Conservation*. Eds, K. Oberhauser and M. Solensky. Cornell University Press. pp. 229-240.
- Yu, F, K.P. Price, J. Ellis, and J.J. Feddema (2004). Monitoring the Interannual variations of the grassland boundaries bordering the Eastern edge of the Gobi desert in central Asia with time series NOAA/AVHRR data, *International Journal of Remote Sensing*, 25(2): 327-346.
- Slocum, T.A., D. Cliburn, J.J. Feddema, and J.R. Miller (2003). Evaluating the Usability of a Tool for Visualizing the Uncertainty of the Future Global Water balance. *Cartography and Geography Information Science*, 30(4): 299-317.
- Park, S., J.J. Feddema, and S.L. Egbert. (2003). Impacts of hydrologic soil properties on drought detection with MODIS thermal data, *Remote Sensing of Environment*, 89(1): 53-62.
- Cliburn, D., J.J. Feddema, T.A. Slocum and J.R. Miller (2002): The design and evaluation of a decision support system in a water balance application. *Computers & Graphics*, 26(6): 931 –949.
- Feddema, J.J and S. Freire (2001): Soil degradation, global warming and climate impacts. *Climate Research* 17(2): 209-216.
- Feddema, J.J. (1999): Future African Water Resources: Interactions Between Soil Degradation and Global Warming. *Climatic Change*, 42(3): 561-596.
- Feddema, J.J. (1998): Estimated Impacts of Soil Degradation on the African Water Balance and Climate. *Climate Research*, 10(2): 127-141.

PUBLICATIONS (Refereed) -- Continued

- Savage, M., Brown P. and J. Feddema, (1996): The Role of Climate in a Pine Forest Regeneration Pulse in the Southwestern United States. *Ecoscience*, 3(3): 310-318.
- Allen A.O., and J.J. Feddema (1996): Wetland Loss and Substitution by the Section 404 Permit Program in Southern California. *Environmental Management*, 20(2): 263-274.
- Raphael, M.R., J.J. Feddema, A.J. Orme and A.R. Orme (1995): The Unusual Storms of February 1992 in Southern California. *Physical Geography*, 15(5): 442-464.
- Willmott, C.J., S.M. Robeson and J.J. Feddema (1994): Estimating Continental and Terrestrial Precipitation Averages from Raingauge Networks. *International Journal of Climatology*, 14: 403-414.
- Feddema, J.J. and J.R. Mather (1992): Hydrologic Impacts of Global Warming over the United States. In *Global Climate Change: Implications, Challenges and Mitigation Measures*. pp. 50-62. Edited by S.K. Majumdar, L.S. Kalkstein, B. Yarnel, E.W. Miller and L.M. Rosenfeld.
- Willmott, C.J. and J.J. Feddema (1992): A More Rational Climatic Moisture index. In *The Professional Geographer*, 44(1): 84-88.
- Willmott, C.J., S.M. Robeson and J.J. Feddema (1991): Influence of Spatially Variable Instrument Networks on Climatic Averages. *Geophysical Research Letters*. 18(12): 2249-2251.
- Mather, J.R. and J.J. Feddema, (1987): Hydrologic Consequences of Increases in Trace Gases and CO₂ in the Atmosphere. In *Effects of Changes in Stratospheric Ozone and Global Climate, Vol. 3, Climate Change*. Edited by J.G. Titus, EPA, Washington D.C., pp. 251-271.
- Feddema, J.J. and T.C. Meierding (1987): Marble Weathering and Air Pollution in Philadelphia. *Atmospheric Environment*, 21(1): 143-157.
- Willmott, C.J., S.G. Ackleson, R.E. Davis, J.J. Feddema, K.M. Klink, D.R. Legates, J. O'Donnell and C.M. Rowe (1985): Statistics for the Evaluation and Comparison of Models. *Journal of Geophysical Research*. 90(C5): 8995-9005.

PAPERS ACCEPTED FOR PUBLICATION

- Oleson, K.W., G.B. Bonan, J. Feddema, M. Vertenstein (2007): An urban parameterization for a global climate model: 1. Formulation and validation, in preparation for *J. Appl. Meteorol. Climatol.* In Press.
- Oleson, K.W., G.B. Bonan, J. Feddema, M. Vertenstein (2007): An urban parameterization for a global climate model: 2. Sensitivity to input parameters and the simulated urban heat island, in prep *J. Appl. Meteorol. Climatol.* In Press

PAPERS SUBMITTED AND IN PREPARATION

- Oleson, K.W., G.B. Bonan, J. Feddema, and M. Vertenstein (2007): Technical Description of an Urban Parameterization for the Community Land Model (CLM), *NCAR Technical Note*, NCAR/TN-XXX+STR, in review, 222 pp. Under review
- Heald C.L., D.K. Henze, L.W. Horowitz, J. Feddema, J.-F. Lamarque, A. Guenther, P.G. Hess, F. Vitt, J.H. Seinfeld, A.H. Goldstein and I. Fung, 2007. Predicted change in global secondary organic aerosol concentrations in response to future climate, emissions, and land-use change. Submitted to *Journal of Geophysical Research*.
- Feddema, J.J., P. Lawrence, J. Bauer, T. Jackson (2007): A global land cover dataset for use in transient climate simulations, in prep *J. Applied Meteorology and Climatology*. In preparation.

PAPERS SUBMITTED AND IN PREPARATION -- Continued

Papers Thornton, P.E., S.C. Doney, K. Lindsay, J. K. Moore, N Mahowald, J. Randerson, I. Fung, J-F. Lamarque, J.J. Feddema, Yen-Huei Lee. 2007. Carbon-nitrogen interactions regulate climate sensitivity of carbon uptake. In Preparation

MONOGRAPHS

Feddema, J.J. (1994): Evaluation of Terrestrial Climate Variability Using a Moisture Index. *Publications in Climatology*, Vol. 47, No. 1. (Refereed)

Feddema, J.J. (1986): Air Pollution Effects on Marble Weathering in Philadelphia, Pennsylvania. *Publications in Climatology*, Vol. 39, No. 1. (Refereed)

PROCEEDINGS PAPERS

J.R. Miller, D.C. Cliburn, J.J. Feddema, T.A. Slocum (2003): Modeling and Visualizing Uncertainty in a Global Water Balance Model. *Proceedings ACM Symposium on Applied Computing (SAC 2003)*, March 9-12, Melbourne, Florida.

Park, S., J.J. Feddema, and S.L. Egbert (2002): Evaluation of MODIS land surface temperature data as a drought detection indicator, *ACSM-ASPRS Conference and Technology Exhibition 2002*, Washington, D.C., April 19-26.

Park, S., J.J. Feddema, and S.L. Egbert (2002): MODIS land surface temperatures and their relationship with hydroclimatological parameters, *Thermosense XXIV*, SPIE's 16th Annual International Symposium on AeroSense, Orlando, FL, April 1-4.

Park, S., J.J. Feddema, and S.L. Egbert (2001): An application of AVHRR thermal response patterns from land surfaces for mapping drought-prone areas in western-central Kansas, In: *ASPRS Technical Papers*, 2001 ASPRS-ACSM Annual Convention, St. Louis, Missouri, April 23-27.

Bennett, D, E*. Martinez-Meyer, and J. Feddema (2000): The Effect of Measurement Error on Habitat Utilization Models. *4th International Conference on Integrating GIS and Environmental Modeling (GIS/EM4): Problems, Prospects and Research Needs*. Banff, Alberta, Canada, September 2 - 8.

Mills, G.M., M.N. Raphael*, J.J. Feddema, and M.A. Savage (1991): Monitoring for Sustainable Development: A Research Design for Santa Cruz Island, California. *Conference Proceedings, American Statistical Association*. August 18-22.

Feddema, J.J. and T.C. Meierding (1989): Marble Deterioration in the Urban Atmosphere. In *Proceedings of the European Symposium on Science, Technology and European Cultural Heritage*. Commission of the European Communities, Bologna, Italy.

REFEREED ABSTRACTS

Park, S., J.J. Feddema, and S.L. Egbert. (2003): Drought response-soil factor relationships based on NDVI, MODIS thermal infrared data, and digital soil database, ASPRS Annual Conference, Anchorage, Alaska, May 5-9.

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

Feddema, J.J. and R. Ambrose (1998): *Southern California Environmental Report Card: Wetlands*. Section of a report published by the UCLA Institute of the Environment, Univ. of CA, Los Angeles, CA.

Feddema, J.J (1998). Section 2.6 of *Lower Malibu Creek and Malibu Lagoon Resource Enhancement and Management Project*. (Ed) R. Ambrose and T. Orme. A report to the city of Malibu and California State Coastal Conservancy.

GRANTS

2008	• Assessing Climate Change in Kansas. The Land Institute. CoPI with Brunsell	\$ 36,012
2006	• NSF grant <i>Collaborative Research: Fire at the Intersection of Global Carbon and Water Cycles</i> . PI Mahowald and 5 Co-Is.	\$ 632,689
2005	• NSF Science and Technology Center grant <i>Center for Remote Sensing of Ice Sheets</i> . PIs Gogineni and Braaten, and ~40 Co-Is.	\$ 19 Million
2004	• NSF grant <i>Development of historical and future land cover and land use change datasets for the Community Climate System Model</i> .	\$ 169,096
2003	• NCAR internal Assessment Initiative grant, <i>Weather and Climate Impact Assessment Science Initiative</i> (Mearns and Washington PIs); Feddema KU	\$ 167,592
2002	• Support to Operation Able Ally, NATO grant.	\$ 13,580
2001	• NSF SGER grant, <i>Development of surface based anthropogenic climate change scenarios for CCSM</i> . 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
1998	• NSF Workshop on <i>African Environments: Technology, Modeling and Political Ecology</i> . CoPI with Garth Meyers.	\$ 29,998
	• KU Research Development Fund (RDF), <i>Coupled Remote Sensing and Climate model for determining Crop productivity</i> . PI with Bennett, Martinko, Price and Slocum	\$ 40,578
	• KU Research Development Fund (RDF), <i>Playas (“buffalo wallows”): Environmental Barometers of the Central Great Plains</i> . With Johnson (PI), Bozarth, Logan, Price and Steeples	\$ 30,846
	• KU Research Development Fund, <i>Pre-proposal for Digital Libraries consortium: map archival and distribution</i> . 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 \$ 223,000
	• 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, <i>Geography 5: Ocean Field trip funding</i> . PI with MacDonald and Muldavin	\$ 4,275
	• Academic Senate Grant, UCLA.	\$ 2,549
1996	• EPA/NSF <i>Integrated Urban Watershed Analysis: The Los Angeles Basin and Coastal Environment</i> . With Turco (PI), and 19 co-PIs.	\$ 1.2 Million \$600,000-UCLA
	• Office of Instructional Development (OID), UCLA, <i>Institute of the Environment GE curriculum development</i> . With Suffet and Vance.	\$ 20,000
	• Office of Instructional Development, UCLA, <i>Geography 5: Laboratory Improvement Grant</i> .	\$ 7,712

	• Academic Senate Grant, UCLA.	\$	2,367
1995	• National Institute for Global Environmental Change (DOE), <i>Assessing the impacts of Global Warming on California Water Resources</i> .	\$	77,768
	• Office of Instructional Development (OID), UCLA, <i>GIS Laboratory</i> . PI with Mills and Ellis.	\$	54,000
	• Office of Research, UCLA, <i>GIS Laboratory</i> . PI with Mills, Ellis, Zhang and Clark.	\$	47,500
	• Academic Senate Grant, UCLA.	\$	2,500
1994	• National Science Foundation. <i>Water as an integrating theme in landscape change and undergraduate environmental education</i> . With Entrikin (PI), Matthews, Mills, Orme, Raphael, Savage and Trimble.	\$	29,782
		\$	29,782-UCLA
	• Academic Senate Grant, UCLA	\$	4,200
1993	• Academic Senate Grant, UCLA	\$	2,880
1992	• Academic Senate Grant, UCLA	\$	3,100
1991	• Academic Senate Grant, UCLA	\$	2,830

INVITED LECTURES (* = person presenting paper if not first author)

Feddema, J.J. (2008): "Climate Change and Kansas," Keynote Address to the Kansas Air Quality Seminar, Topeka, KS, March 6.

Feddema, J.J. (2008): "Conveying Science to a Global Audience: Inside the Intergovernmental Panel on Climate Change," Presentation for the Globalization Seminar Series of the Hall Center for Humanities, University of Kansas, March 3.

Feddema, J.J. (2008): "AR5 Land Cover Change Scenarios," Presented at the joint Land and Biogeochemistry working group meetings of the CCSM, Boulder, CO, February 21.

Feddema, J.J. (2007): "Environmental Impacts of Climate Change on Kansas" as part of the Forum on Agriculture's Role in the New Carbon Economy for the Consortium for Agricultural Soils Mitigation of Greenhouse Gases, Manhattan, KS, December 18.

Feddema, J.J. and N Brunsell (2007): "Kansas and Climate change," presented at Kansas E3: Energy, the Environment, & Economics conference, Lawrence, KS, Oct 11.

Feddema, J.J. (2007): "Model System Needs: Global Datasets: Current and Future implementation." NUDAPT workshop (by phone), Salt Lake City, UT, April 19.

Feddema, J.J. (2006): "Land Cover Change Experiments and the Urban Model in CLM," 11th CCSM workshop Climate Change Research Working Group, Breckenridge, CO, June 22.

Feddema, J. (2006): "Urbanizing global models," workshop presentation for Collaborative Project: National urban morphological database and web portal access tool for advanced urban dispersion and air quality modeling, Boulder, CO, May 11.

Feddema, J., K. Oleson and G. Bonan (2006): "Developing a global database for the CLM urban model," Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, Atlanta, GA, February 1.

Oleson, K., G. Bonan and J. Feddema (2006): "Development of an urban parameterization for a global climate model," Sixth Symposium on the Urban Environment, 86th AMS Annual Meeting, Atlanta, GA, January 30.

Feddema, J.J. (2005): "Using GIS to put humans into the CCSM," GIS in Weather, Climate and Impacts Workshop 2005, Boulder, Colorado July 6.

INVITED LECTURES – Continued

- Feddema, J.J. (2005): “Land Cover Change,” 10th CCSM workshop Land Surface Working Group, Breckenridge, CO, June 22.
- Feddema, J.J. (2005): “Land use Change in the CCSM,” CCSM Biogeochemistry Working Group Meeting, Boulder, CO, April 1.
- Feddema, J.J. (2004): “Putting People into the CCSM,” Institute for the Study of Society and Environment. NCAR, Boulder, CO, December 7.
- Feddema, J.J. (2004): “Land Cover Forcing from the SRES Scenarios in Climate Models,” Progress report for the *Weather and Climate Impact Assessment Science Initiative*. NCAR, Boulder, CO, Aug 3.
- Feddema, J.J. (2004): “Land Cover Change Simulations in CCSM,” 9th CCSM workshop Land Surface Working Group, Breckenridge, CO, June 22.
- Feddema, J.J. (2004): “GCM Simulations of the Impacts of Anthropogenic Land Cover Change on Climate,” Department of Geography, University of Delaware, Newark, DE, April 23.
- Feddema, J.J. (2003): “Simulating the impacts of anthropogenic land cover change on climate,” Department of Geography, Kansas State University, Geography Awareness Week lecture, Manhattan KS, November 21.
- Feddema, J.J. (2003): “Simulating Anthropogenic Land Cover Change in Global Circulation Models,” presentation to the Terrestrial and Sciences Section, Climate and Global Dynamics Division, National Center for Atmospheric Research, Boulder, CO, July 17.
- Feddema, J.J. (2003): “Results from Land Surface Change Experiments and an Update on Future Directions,” 7th CCSM workshop Climate Change Working Group, Breckenridge, CO June 26.
- Feddema, J.J. (2003): “Using Tombstones to Measure the Impact of Air Pollution on Marble Weather,” School of Mines, University of Zambia, Lusaka, Zambia, January 10.
- Feddema, J.J. (2002): “Simulating Anthropogenic Land Cover Change in Global Circulation Models,” Department of Geography, University of Iowa, Iowa City, September 19.
- Feddema, J.J. (2002): “Climate variability and change: from scenarios to adaptation,” Presentation at the workshop on *GIS in Weather, Climate and Impacts*. National Center for Atmospheric Research, Boulder, Colorado, 12-14 August.
- Feddema, J.J. (2002): “Past and Future Land Cover Change,” CCSM workshop Land Surface Working Group, Breckenridge, CO, June 27.
- Feddema, J.J. (2002): “Status of Land Use Change Dataset Preparation and Experiments,” CCSM workshop Climate Change Working Group, Breckenridge, CO, June 26.
- Feddema, J.J. (2002): “The Value of GIS to Human Induced Surface Change Scenario Development,” GIS seminar Series, National Center for Atmospheric Research, Boulder CO, March, 6.
- Feddema, J.J. (2002): “Developing GCM surface change scenarios using GIS, a population model and soil degradation data,” Department of Geography, University of Colorado, Boulder, CO, April 12.
- Feddema, J.J. (1997): “Impacts of Desertification on African Water Resources,” Paper presented to the Department of Geography, University of Utah, January 27.
- Feddema, J.J. (1997): Panel member for the Water Resources Specialty Group session on hydroclimatology. Session held at the 1997 AAG Annual Meeting, Ft. Worth, Texas.

INVITED LECTURES – Continued

- Feddema, J.J. (1994): “Projected African Climate Change,” Paper presented to the Department of Geography, University of Colorado, Boulder, CO, November, 18.
- Feddema, J.J. (1993): “Materials Damage in an Urban Environment,” Joint Seminar presentation to the Environmental Science and Engineering Program and the Environmental Health Sciences Department, School of Public Health, UCLA, October 21.
- Feddema, J.J. (1993): “Global Warming: Can Tropical Africa be Neglected?” Paper presented as part of a Workshop Program “Changing Environments: How Vulnerable are We?” Bloomington Indiana, October 14-16.
- Feddema, J.J., C.J. Willmott, and S.R. Robeson (1993): “Influence of Spatially Variable Observation Networks on Detecting Climatic Change,” Paper presented at the annual meeting of the Southern California Academy of Sciences, June 4.
- Feddema, J.J. (1993): “Marble Weathering in Philadelphia, Pennsylvania: Using a Geographical Approach,” Seminar presentation to the Department of Geography, University of California, Los Angeles.
- Feddema, J.J. (1993): “Current Research Topics in Climatology,” Seminar presentation to the Department of Geography, California State University, Northridge, March 3.
- Feddema, J.J. (1992): “Detecting Global Climate Change,” Seminar presentation to the Department of Geography, University of Southern California.
- Feddema, J.J. and M.N. Raphael (1991): “A Geographer's perspective on Global Warming,” Presentation to the Friends of Geography, Department of Geography, UCLA, December 7.

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

- Feddema, J.J. (2007): “Simulating Urban Systems in a GCM.” AAG annual meetings, San Francisco, CA, April 20.
- Feddema, J., K. Oleson, G. Bonan, L. Mearns, G. Meehl, W. Washington (2006): “Simulating Human Land Cover Change in the NCAR GCMs,” (solicited) EGU General Assembly, Vienna, Austria, Apr 5
- Feddema, J., K. Oleson, G. Bonan (2006): “Incorporating urban systems into global climate models: part 1, model description,” AAG annual meetings, Chicago, IL, March 9
- Jackson, T., P-L. Lin, J. Bauer, and J. Feddema (2006): “Incorporating urban systems into global climate models: part 2, parameterization,” AAG annual meetings, Chicago, IL, March 9
- Feddema, J., L. Mearns*, K. Oleson, G. Bonan, L. Buja, G. Meehl, and W. Washington (2006): “How important is land cover change for simulating future climates?” 86th AMS Annual Meeting, Atlanta, GA, January 31.
- 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
- Yu, F., K P. Price, J. Ellis, J.J. Feddema, and P. Shi, (2001): Impacts of Regional Climate Variation on Vegetation Green-up Patterns in Central Asia (1982-1990). 2001 ASPRS Annual conference, St. Louis, MO, April 23-27.

PRESENTATIONS AT PROFESSIONAL MEETINGS -- Continued

- Feddema, J.J. (2002): "Development of surface based anthropogenic climate change scenarios for GCMs," AAG annual meetings, Los Angeles, CA, March 23
- Feddema, J.J. (2000): "Impacts of Soil Degradation on the African Water Balance and Climate," Paper presented at the 2000 AAG Annual Meeting, Pittsburgh, Pennsylvania.
- Feddema, J.J. (1998): "Future African Water Resources: Interactions between Soil Degradation and Global Warming," Poster Presentation at the 1998 AAG Annual Meeting, Boston, MA.
- Feddema, J.J. (1997): "Impacts of Global Warming on California Water Resources," Paper presented at the 1997 AAG Annual Meeting, Ft. Worth, Texas.
- Feddema, J.J. (1996): "Terrestrial Precipitation and Temperature Variability and Their Use in Evaluating GCMs," Paper presented at the 1996 AAG Annual Meeting, Francisco, California.
- Feddema, J.J. (1994): "Seasonal Impacts of Global Warming in Africa," Paper presented at the 1994 AAG Annual Meeting, San Francisco, California.
- Feddema, J.J. (1993): "Hydroclimatic impacts of Global Warming in Africa," Paper presented at the 1993 AAG Annual Meeting, Atlanta, Georgia.
- Mendel, A. C. and J.J. Feddema (1993): "Historical Analysis of the Precipitation Patterns Associated with Los Angeles Flood Events," Paper Presented at the 1993 AAG Annual Meeting, Atlanta, Georgia.
- Feddema, J.J. (1992): "Hydroclimatic Changes Under Double CO₂ Conditions in the United States," Paper presented at the 1992 AAG Annual Meeting, San Diego, California.
- Feddema, J.J. (1992): "The Unusual Storms of Winter 1992 in Southern California," with M.N. Raphael, A.J. Orme, L. Haston, A.R. Orme, and J. Michaelsen. Special session at the 1992 AAG Annual Meeting, San Diego, California.
- Feddema, J.J. (1991): "Detecting Global Climate Change: The Neglected Arid Lands," Paper presented at the 1991 AAG Annual Meeting, Tucson, Arizona.
- Feddema, J.J. (1991): "Analysis of Moisture Regimes over the Conterminous United States," Paper presented at the 1991 AAG Annual Meeting, Miami, Florida.
- Feddema, J.J. (1990): "Evaluation of Terrestrial Climate Sensitivity Using a Moisture Index," Paper presented at the 1990 AAG Annual Meeting, Toronto, Canada.
- Mather J.R., J.J. Feddema, and M.J. Mack (1989): "Poster presentation on Applications of the Water Budget in Environmental Analysis," in honor of the 25th Anniversary of the Water Resources Institute Program, Washington D.C.
- Feddema, J.J. and T.C. Meierding (1989): "Poster Presentation on Marble Deterioration in the Urban Atmosphere," at the European Symposium on Science, Technology and European Cultural Heritage, Bologna, Italy.
- Feddema, J.J. (1989): "A Water Budget Approach to Global Climate Change," Paper presented at the 1989 AAG Annual Meeting, Baltimore, Maryland.
- Feddema, J.J. and T.C. Meierding (1986): "Marble Deterioration in the Urban Atmosphere," Paper presented at the 1986 AAG Annual Meeting, Minneapolis, Minnesota.
- Feddema, J.J. and T.C. Meierding (1984): "Rates of Marble Tombstone Weathering from Pollution in the Philadelphia Region," Paper presented at the 1984 AAG Annual Meeting, Washington, D.C.

WORKSHOP ACTIVITIES

- Participant (2008): Joint CCSM Land Model Working Group and Biogeochemistry Working Group Meeting, Boulder, Colorado, February 20-22.
- Participant (2008): Energy Modeling Forum sponsored workshop for the Integrated Assessment Modeling Consortium on developing the new IPCC Scenarios, Washington DC, February 5-7.
- Participant (2007): IPCC Expert meeting on New Scenarios , Noordwijkerhout, The Netherlands, September 19-22.
- 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): GIS in Weather, Climate and Impacts Workshop, Boulder, Colorado July 6-8.
- 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 (2005): CCSM Land Model Working Group Meeting. Boulder, Colorado, March 14-15.
- 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.
- Conducted a workshop (2003) on the “Water budget, Remote Sensing and GIS and environmental analysis” at the University of Zambia, Lusaka, Zambia, January 8-10.
- Participant (2002), “Water Quality Protection in Agroecosystems: Integrating Science, Technology and Policy,” as part of the “Technology Focus Group,” University of Iowa, Iowa City, September 22-23.
- Member advisory panel and Chair of Working group A: GIS applications (2002). At The NCAR GIS Initiative Workshop: “GIS in Weather, Climate and Impacts,” Boulder, Colorado, August 12-14, 2002.
- Participant (2007): IPCC Expert meeting on New Scenarios , Noordwijkerhout, The Netherlands, September 19-22.
- Participant (2002), Workshop on a Design for a Prototype CitySat, "Imaging Regional Urban/Industrial Environmental Footprints," Boulder, Colorado, August 7-8.
- Participant (2002), US Workshop on Climate Projections, Uncertainty and Scenarios for Impacts Assessment, Boulder, Colorado, July 17-19.
- 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*:

Technology, Modeling, and Political Ecology, Sept 8-11.

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.

Participant and discussion leader (1991), NATO Advanced Research Workshop: Channel Islands Study, Lake Arrowhead, CA, November 11-17.

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 following journals (various times):
Annals of the AAG, Cartographic and Geographic Information Science, Climate Dynamics, Climate Research, Climatic Change, Environmental Management, International Journal of Remote Sensing, Journal of Paleolimnology, Physical Geography, Professional Geographer, Society & Space: Environment and Planning D, Urban Atmosphere,
- 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
- Curriculum Committee (1998-2003)
- 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

- Computer Committee (1992-1998); Chair (1993-1994, 1995-1997).
- Graduate Affairs Committee (1994-1995).
- Undergraduate Affairs Committee (1991-1994).
- Colloquium Committee (1990-1991).
- Various promotion committees.

Institute of the Environment

- Research Committee (1995-1998).
- Curriculum Committee (1995-1998).
- GIS/Remote Sensing Committee (1995-1998).
- Council on Educational Development (1992-1995).
- 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:

- President of the University of Delaware Cosmopolitan Club (International Student Soc.), 1986-1988.
- 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.
- Feddema, J.J. (Organizer), D.C. Lomis (Moderator), J.L. Burmeister, I. Stakgold, K. Schneider, D.R. Legates, and B. Marthi (1986): Foreign Teaching Assistants in American Universities, Panel Discussion, In Praise of Teaching: A Conference on Instruction for Faculty and Teaching Assistants, Newark, Delaware.

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
- AAG sponsored press release on Hydroclimatic Impacts of Global Warming in Africa, 1993.
- Radio Interview on global warming for KPCC Radio (NPR), Pasadena, Nov 4, 1991.
- Television interview with T.C. Meierding on air pollution for the *Science and Technology* section of the *CNN Headline News* program, May 1989.
- Television interview for the WCAU Channel 10 News (CBS), Philadelphia, March, 1989.
- Television: Coverage in the weekly PBS show *Science Journal*, 1988.
- 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.
- Tombstones: A vanishing Past; Article in *The Philadelphia Inquirer*, April 5, 1987.