

# TIMOTHY KITTEL

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## EDUCATION

B.S.	1975	University of California, Davis	Environmental Science, Highest Honors
M.S.	1978	University of California, Davis	Ecology
Ph.D.	1986	University of California, Davis	Ecology

## AREAS OF INTEREST

Vegetation Geography – Distribution of ecosystems at regional and global scales  
Ecological Dynamics – Biotic responses to climate variability and climate change  
Climate Dynamics – Climate system processes controlling regional climate variability  
Global Environmental Change – Issues relating to the conservation of biological communities

## PROFESSIONAL EXPERIENCE

### Current Positions

2002-present *Research Affiliate*, Inst of Arctic and Alpine Research (INSTAAR), Univ of Colorado at Boulder.  
1997-present *Research Scientist*, Natural Resource Ecology Laboratory (NREL), Colorado State Univ, Ft. Collins.  
2000-05, 2007 *Instructor*, Center for Environmental Research and Conservation, Columbia Univ, New York.  
*Forthcoming, June-July 2007*

### Prior Experience

1976 *Lecturer*, Sierra Nevada College, Incline Village, NV.  
1984 *Lecturer*, Dept of Land, Air, and Water Resources, University of California, Davis.  
1985-1986 *Postdoctoral Fellow*, Cooperative Inst for Research in the Atmosphere (CIRA), Colorado State Univ, Ft. Collins.  
1987-1990 *Research Associate*, CIRA, Colorado State Univ, Ft. Collins.  
1987-1997 *Research Associate*, Natural Resource Ecology Laboratory, Colorado State Univ.  
1991-1996 *Deputy Project Scientist*, Climate System Modeling Program, University Corporation for Atmospheric Research (UCAR), Boulder, CO.  
1998-1999/ *Deputy Section Head / Acting Section Head*, Ecosystem Dynamics and the Atmosphere  
1999-2001 *Section*, National Center for Atmospheric Research (NCAR), Boulder, CO.  
1997-2002 *Scientist*, Climate and Global Dynamics Division, NCAR, Boulder, CO.  
2005-2006 *Lecturer*, Dept of Ecology & Evolutionary Biology and Inst of Arctic and Alpine Research, Univ of Colorado, Boulder.  
2006 *Lecturer*, Semester at Sea, Institute for Shipboard Education, Pittsburgh, PA. Fall 2006.

## PROFESSIONAL SERVICE —

### Agency Program Review and Proposal Review Panels

American Institute of Biological Sciences (AIBS) Scientific Peer Review for National Commission on Science for Sustainable Forestry (NCSSF). Panel Member. 2003, 2004.  
DOE National Institute for Global Environmental Change (NIGEC) Regional Centers, NTAC Program Review. 1996, 1997, 1998, 2001, 2002.  
NASA EOS Data Assimilation System (DAS) Program Review. 1997.  
University of Nevada, Reno, Agricultural Experiment Station Hatch Fund. Panel Member. 1989, 1990.

### National and International Committees and Science Teams (18)

### Professional Workshops and Meeting Sessions Organized/Chaired (14)

**SPONSORED RESEARCH (n=17)****Selected Projects as Principal Investigator**

- VEMAP Phase 2 Input Dataset Development and Model Output Synthesis. Vegetation/Ecosystem Modeling and Analysis Project. 1996-2002, NASA Mission to Planet Earth, \$1.5M/6.5y. (PI, with D. Schimel)
- Climate Change in the Colorado Rocky Mountains: Bounding Projected Changes in Regional Climate. USGS Biological Resources Division Global Change Research Program. 1991-1999, \$550K/8y. (PI, with R.A. Pielke, Sr., Colorado State University)
- Projecting Climate and Vegetation Change for the Central Grasslands Region. USGS Biological Resources Division Global Change Research Program. 1992-1999, \$950K/7y. (PI, with W. Reiners, University of Wyoming, R.Neilson, USFS/Corvallis, and R.A. Pielke, Sr., Colorado State University)

**PUBLICATIONS****Selected Publications (total refereed articles 45, chapters 23)**

- Fuentes, M., T.G.F. Kittel, and D. Nychka. 2006. Sensitivity of ecological models to spatial-temporal estimation of their climate drivers: Statistical ensembles for forcing. *Ecological Applications* 16:99–116.
- Bachelet D., J. Lenihan, R. Neilson, R. Drapek, and T. Kittel. 2005. Simulating the response of natural ecosystems and their fire regimes to climatic variability in Alaska. *Canadian Journal of Forest Research* 35: 2244–2257.
- Kittel, T.G.F., et al. 2004. The VEMAP Phase 2 bioclimatic database. I: A gridded historical (20th century) climate dataset for modeling ecosystem dynamics across the conterminous United States. *Climate Research* 27:151-170.
- Kittel, T.G.F., P.E. Thornton, J.A. Royle, and T.N. Chase. 2002. Climates of the Rocky Mountains: Historical and Future Patterns. Pages 59-82, in: J. Baron (ed.). *Rocky Mountain Futures: An Ecological Perspective*. Island Press, Covelo, CA.
- Greenland, D., and T.G.F. Kittel. 2002. Temporal variability of climate at the US Long-Term Ecological Research (LTER) sites. *Climate Research* 19:213–231.
- Schimel, D., T.G.F. Kittel, S. Running, R. Monson, A. Turnipseed, and D. Anderson. 2002. Carbon sequestration in the mountains of the Western US. *Eos, Transactions, American Geophysical Union* 83 (40): 445, 449.
- Kittel, T.G.F., W.L. Steffen, and F.S. Chapin, III. 2000. Global and regional modeling of arctic-boreal vegetation distribution and its sensitivity to altered forcing. *Global Change Biology* 6 (Suppl. 1):1-18.
- Melillo, J., A. Janetos, D. Schimel, and T. Kittel. 2000. Vegetation and biogeochemical scenarios. Chapter 2 (pp. 73-91), in: *Climate Change Impacts for the United States: The Potential Consequences of Climate Variability and Change. Foundation Document*. National Assessment Synthesis Team (eds.). US Global Change Research Program, Washington, DC. Cambridge University Press, Cambridge, UK.
- Schimel, D., J. Melillo, H. Tian, A.D. McGuire, D. Kicklighter, T. Kittel, N. Rosenbloom, S. Running, P. Thornton, D. Ojima, W. Parton, R. Kelly, M. Sykes, R. Neilson, and B. Rizzo. 2000. Contribution of increasing CO<sub>2</sub> and climate to carbon storage by ecosystems of the United States. *Science* 287:2004-2006.
- Yates, D.N., T.G.F. Kittel, and R.F. Cannon. 2000. Comparing the correlative Holdridge model to mechanistic biogeographical models for assessing vegetation distribution response to climatic change. *Clim. Change* 44:59-87.
- Kittel, T.G.F. 1998. Effects of climatic variability on herbaceous phenology and observed species richness in temperate montane habitats, Lake Tahoe Basin, Nevada. *Madroño* 45:75-84.
- Kittel, T.G.F., F. Giorgi, and G.A. Meehl. 1998. Intercomparison of regional biases and doubled CO<sub>2</sub>-sensitivity of coupled atmosphere-ocean general circulation model experiments. *Climate Dynamics* 14:1-15.
- Kittel, T.G.F., N.A. Rosenbloom, T.H. Painter, D.S. Schimel, and VEMAP Modeling Participants. 1995. The VEMAP integrated database for modeling United States ecosystem/vegetation sensitivity to climate change. *Journal of Biogeography* 22: 857-862.
- Kittel, T., G. Meehl, and D.S. Schimel (eds.). 1995. Results from the Model Evaluation Consortium for Climate Assessment (MECCA). *Global and Planetary Change* (Special Issue), vol. 10 (nos. 1-4).
- Campbell, G.G., T.G.F. Kittel, G.A. Meehl, and W.M. Washington. 1995. Low-frequency variability and CO<sub>2</sub> transient climate change. Part 2: EOF analysis of CO<sub>2</sub> and model-configuration sensitivity. *Global and Planetary Change* 10:201-216.
- VEMAP Members. 1995. Vegetation/Ecosystem Modeling and Analysis Project (VEMAP): Comparing biogeography and biogeochemistry models in a continental-scale study of terrestrial ecosystem responses to climate change and CO<sub>2</sub> doubling. *Global Biogeochemical Cycles* 9:407-437.