

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 (Biological Ecology)
Ph.D.	1986	University of California, Davis	Ecology (Physical Ecology)

AREAS OF INTEREST

Conservation Practice and Climate Change – Climate change and conservation science
Ecological Dynamics – Biotic responses to climate variability and climate change
Vegetation Geography – Distribution of vegetation at regional and global scales
Climate Dynamics – Climate system processes controlling regional climate variability

PROFESSIONAL EXPERIENCE

Research–

2002-present *Research Affiliate/Research Associate*, Institute of Arctic and Alpine Research (INSTAAR), Univ of Colorado at Boulder
2007-present *Affiliate Scientist*, Natural Resource Ecology Laboratory (NREL), Colorado State University, Ft. Collins
2002-2007 *Research Scientist III*, Natural Resource Ecology Laboratory, Colorado State University
1997-2002 *Scientist II*, Climate and Global Dynamics Division, National Center for Atmospheric Research (NCAR), Boulder, CO
1998-1999/ *Deputy Section Head / Acting Section Head*, Ecosystem Dynamics and the Atmosphere
1999-2001 *Section*, National Center for Atmospheric Research, Boulder, CO
1991-1996 *Deputy Project Scientist*, Climate System Modeling Program, University Corporation for Atmospheric Research (UCAR), Boulder, CO
1987-1997/ *Research Associate / Research Scientist I*, Natural Resource Ecology Laboratory, Colorado
1997-2002 *State University*
1985-1986/ *Postdoctoral Fellow / Research Associate*, Cooperative Inst for Research in the Atmosphere
1987-1990 *(CIRA)*, Colorado State University, Ft. Collins.

Teaching–http://culter.colorado.edu/~kittel/Teaching_Exp.htm

2010-present *Faculty Director/Instructor*, Study Abroad Programs, University of Colorado, Boulder
2000-present *Instructor*, Center for Environmental Research & Conservation (CERC), Columbia Univ, NY
2005-present *Lecturer*, Mountain Research Station, University of Colorado, Boulder
2010-present *Lecturer*, University of Nevada, Las Vegas
2007 *Lecturer*, Dept of Geography, University of Colorado, Boulder
2006 *Lecturer*, Semester at Sea, Institute for Shipboard Education, Pittsburgh, PA
2005 *Lecturer*, Dept of Ecology & Evolutionary Biology, University of Colorado, Boulder
1984 *Lecturer*, Dept of Land, Air, and Water Resources, University of California, Davis
1976 *Lecturer*, Sierra Nevada College, Incline Village, NV

SPONSORED RESEARCH (n=18) —

Grants as Principal Investigator – Including NASA-EOS, NOAA, USGS-Global Change Research Program, National Park Service, USDA Forest Service, EPRI, DOE.

INTERNATIONAL AND NATIONAL PROFESSIONAL SERVICE —**Agency Program Review and Proposal Review Panels (n=8) –**

Including – NASA-EOS, DOE-NIGEC, DOI-National Park Service,
British Columbia Ministries of Environment and of Forests and Range, Canada.

Committees and Science Teams (21) – Including –

Rocky Mountain Climate Working Group, Greater Yellowstone Network and Rocky Mountain Network, US
National Park Service Inventory and Monitoring Program. 2009-2010.

British Columbia Central Interior Ecoregional Assessment, Nature Conservancy of Canada, Victoria, BC. Team
Lead, Climate Change Working Group; Member, Core Team. 2007-2011.

Professional Workshops and Meetings Organized/Chaired (17) – Including –

Greater Yellowstone & Rocky Mountain Networks Climate Data Analysis Workshop, Bozeman, MT. April 2009.
National Park Service Inventory and Monitoring Program. (Organizer, with Stacey Ostermann-Kelm)

Invited Professional Talks and Seminars (62) – Including –

NatureServe, Western Regional Office, Boulder, CO. “Conservation Planning in the Face of Climatic Uncertainty: A
Vulnerability-Based Strategy Implemented for the British Columbia Central Interior.” April 2011. Invited seminar.
College of Environmental Conservation and Sustainability (ESCAS), Instituto de Pesquisas Ecológicas, Nazaré
Paulista, São Paulo, Brazil. “Climate Change and Conservation.” Aug 2009, May 2011. Guest lecture.

PUBLICATIONS (peer-reviewed articles and chapters 80; total publications = 160) – Including –

Kittel, T.G.F., S.G. Howard, H. Horn, G.M. Kittel, M. Fairbarns, and P. Iachetti. 2011. A vulnerability-based
strategy for incorporating climate change in regional conservation planning: Framework and case study for the
British Columbia Central Interior. *BC Journal of Ecosystems and Management* 12(1):7-35.

<http://journals.sfu.ca/forrex/index.php/jem/article/view/89>

Kittel, T. 2011. *The Development and Analysis of Climate Datasets for National Park Science and Management: A
Guide to Methods for Making Climate Records Useful and Tools to Explore Critical Questions*. Natural
Resource Report NPS/IMD/NRR-2010/xxx. National Park Service, Inventory & Monitoring Program. *In press*.

Kittel, T.G.F., B.B. Baker, J.V. Higgins, and J.C. Haney. 2010. Climate vulnerability of ecosystems and landscapes
on Alaska’s North Slope. *Regional Environmental Change*. Published online Nov 2010, in print March 2011:
11(Suppl 1):S249–S264. doi: 10.1007/s10113-010-0180-y

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 Appl.* 16:99–116. doi: 10.1890/04-1157

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.
doi: 10.3354/cr027151

Kittel, T.G.F., P.E. Thornton, J.A. Royle, and T.N. Chase. 2002. Climates of the Rocky Mountains: Historical and
Future Patterns. Chapter in: J. Baron (ed.). *Rocky Mountain Futures: An Ecological Perspective*. Island Press.

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. doi: 10.3354/cr019213

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. doi:
10.1046/j.1365-2486.2000.06011.x

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 CO₂ and
climate to carbon storage by ecosystems of the United States. *Science* 287:2004-2006. doi:
10.1126/science.287.5460.2004

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 CO₂-sensitivity of
coupled atmosphere-ocean general circulation model experiments. *Climate Dynamics* 14:1-15. doi:
10.1007/s003820050204

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).