

CURRICULUM VITAE

March 2010

Paul A. Knapp

Department Geography
University of North Carolina Greensboro
Greensboro, NC 27402
(336) 334-3737
paknapp@uncg.edu

Education

- 1985-1989 University of Georgia
Department of Geography
Doctor of Philosophy degree in Geography
Dissertation Title: *Soil and Vegetation Dynamics in Abandoned Montana Mining Towns.*
Major Professor: Kathleen C. Parker.
- 1983-1985 University of Arizona
Department of Geography
Master of Arts degree in Geography
Thesis Title: *The Use of Large-Scale Aerial Photography for Detecting Changes of an Arid Rangeland in Southwestern Arizona.*
Major Professor: Charles F. Hutchinson.
- 1979-1983 University of Colorado, Boulder
Department of Geography
Bachelor of Arts degree in Geography

Academic Experience

- 2005- University of North Carolina Greensboro
Department of Geography
Professor and Director, Carolina Tree-Ring Science Laboratory
- 2002-2005 Georgia State University
Department of Anthropology and Geography
Professor
- 2002 Portland State University
Department of Geography
Visiting Research Professor

1996-2002 Georgia State University
Department of Anthropology and Geography
Associate Professor and Graduate Director

1993-1996 Georgia State University
Department of Geography
Assistant Professor and Graduate Director

1989-1993 University of Nevada, Reno
Department of Geography
Assistant Professor

Research Interests

Arid/Semiarid Lands
Bioclimatology
Biogeography
Climatology
Dendrochronology
Pacific Northwest

Teaching Interests

Biogeography
Synoptic Climatology
Dendroecology
Environmental Conservation
Field School

Publications

2010 Increasing water-use efficiency and age-specific growth responses of old-growth ponderosa pine trees in the Northern Rockies. **Global Change Biology** doi: 10.1111/j.1365-2486.2010.02209.x

2008 Knapp, P. A., and Soulé, P.T. Use of atmospheric CO₂-sensitive trees may influence dendroclimatic reconstructions. **Geophysical Research Letters** 35: L24703 doi:10.1029/2008GL035664.

2008 Soulé, P.T. and Knapp, P.A. Does an August singularity exist in the Northern Rockies of the United States? **Journal of Applied Meteorology and Climatology** 47:1845-1850.

- 2007 Knapp, P. A., and Soulé, P.T. Trends in midlatitude cyclone frequency and occurrence during fire season in the Northern Rockies: 1900-2004. **Geophysical Research Letters** 34: L20707 doi:10.1029/2007GL031216.
- 2007 Soulé, P.T. and Knapp, P.A. Topoedaphic and morphologic complexity of foliar damage and mortality within western juniper (*Juniperus occidentalis* var. *occidentalis*) woodlands related to an extreme meteorological event. **Journal of Biogeography** 34:1927-1937.
- 2006 Soulé, P.T. and Knapp, P.A. Radial growth rate increases in naturally-occurring ponderosa pine trees: a late 20th century CO₂ fertilization effect? **New Phytologist** 171:379-390.
- 2005 Knapp, P.A. and Soulé, P.T. Impact of an extreme early season freeze event in the interior Pacific Northwest (October 30th- November 3, 2002) on Western Juniper Woodlands. **Journal of Applied Meteorology** 44:1152-1158.
- 2004 Knapp, P.A. Window of opportunity: The climatic conditions of the Lewis and Clark expedition of 1804-1806. **Bulletin of the American Meteorological Society** 85:1289-1303.
- 2004 Knapp, P.A., Soulé, P.T., and Grissino-Mayer, H.D. Occurrence of sustained droughts in the interior Pacific Northwest (AD 1733-1980) inferred from tree-ring data. **Journal of Climate** 17:140-150.
- 2004 Soulé, P.T., Knapp, P.A., and Grissino-Mayer, H.D. Human agency, environmental drivers, and western juniper establishment history during the late Holocene. **Ecological Applications** 14:96-112.
- 2003 Soulé, P.T., Knapp, P.A., and Grissino-Mayer, H.D. Comparative rates of western juniper afforestation in south-central Oregon and the role of anthropogenic disturbance. **The Professional Geographer** 55:43-55.
- 2002 Knapp, P.A., Grissino-Mayer, H.D., and Soulé, P.T. Climatic regionalization and the spatio-temporal occurrence of extreme single-year drought events (1500-1998) in the interior Pacific Northwest, USA. **Quaternary Research** 58:226-233.
- 2001 Knapp, P.A., Soulé, P.T., and Grissino-Mayer, H.D. Detecting potential regional effects of increased atmospheric CO₂ on growth rates of western juniper. **Global Change Biology** 7:903-917.

- 2001 Knapp, P.A., Soulé, P.T., and Grissino-Mayer, H.D. Post-drought growth responses of western juniper (*Juniperus occidentalis* var. *occidentalis*) in central Oregon. **Geophysical Research Letters** 28:2657-2660.
- 2000 Soulé, P.T. and Knapp, P.A. *Juniperus occidentalis* (western juniper) establishment on two minimally disturbed research natural areas in central Oregon. **Western North American Naturalist** 60:26-33.
- 1999 Knapp, P.A. and Soulé, P.T. Geographical distribution of an 18th-century heart rot outbreak in western juniper (*Juniperus occidentalis* ssp. *occidentalis* Hook.). **Journal of Arid Environments** 41:247-256.
- 1999 Soulé, P.T., and Knapp, P.A. Western juniper expansion on adjacent disturbed and near-relict sites. **Journal of Range Management** 52:525-533.
- 1999 Yin, Z.Y., and Knapp, P.A. Winter temperature variability during warming and cooling periods in the conterminous United States: 1947-1992. **Theoretical and Applied Climatology** 62:109-124.
- 1998 Knapp, P.A., and Soulé, P.T. Recent western juniper (*Juniperus occidentalis*) expansion on a protected site in central Oregon. **Global Change Biology** 4:357-367.
- 1998 Knapp, P.A. Spatio-temporal characteristics of large Intermountain West grassland fires. **Global Ecology and Biogeography Letters** 7:259-273.
- 1997 Knapp, P.A. Spatial characteristics of regional wildfire frequencies in Intermountain West grass-dominated communities. **The Professional Geographer** 49:39-51.
- 1996 Knapp, P.A., and Soulé, P.T. Vegetation change and the role of atmospheric CO₂ enrichment on a relict site in central Oregon: 1960-1994. **Annals, Association of American Geographers** 86:387-411.
- 1996 Knapp, P.A. *Bromus tectorum* L. (Cheatgrass) dominance in the Great Basin Desert: History, persistence, and influences to human activities. **Global Environmental Change** 6:37-52.
- 1996 Soulé, P.T., and Knapp, P.A. The influence of vegetation removal by western harvester ants (*Pogonomyrmex owyheei*) in a relict area of sagebrush-steppe in central Oregon. **American Midland Naturalist** 136:336-345.

- 1996 Soulé, P.T., and Knapp, P.A. *Pogonomyrmex owyheeii* nest site density and size on a minimally impacted site in central Oregon. **Great Basin Naturalist** 56:162-166.
- 1996 Knapp, P.A., and Yin, Z.Y. Relationships between geopotential heights and temperature in the southeastern United States during wintertime warming and cooling periods. **International Journal of Climatology** 16:195-211.
- 1995 Knapp, P.A. Intermountain West lightning-caused fires: Climatic predictors of area burned. **Journal of Range Management** 48:85-91.
- 1994 Knapp, P.A. Seasonal associations between mid-tropospheric pressure patterns and precipitation in the western Great Basin. **Climate Research** 4:75-78.
- 1994 Knapp, P.A. and Thompson, J.M. Lessons in biogeography: Simulating evolution using playing cards. **Journal of Geography** 93:96-100.
- 1993 Knapp, P.A.; Lancaster, J.; Bishop, K.; and Taylor, R.L. Use of GIS in optimizing timber-thinning strategies in the eastern Sierra Nevada. **The Professional Geographer** 45:323-331.
- 1992 Knapp, P.A. Soil loosening processes following the abandonment of two arid western Nevada townsites. **Great Basin Naturalist** 52:149-154.
- 1992 Knapp, P.A. Correlation of 700 mb height data with seasonal temperature trends in the Great Basin: 1947-1987. **Climate Research** 2:65-71.
- 1992 Knapp, P.A. Secondary plant succession and vegetation recovery in two western Great Basin ghost towns. **Biological Conservation** 60:81-89.
- 1991 Knapp, P.A. The response of semiarid vegetation assemblages following the abandonment of mining towns in south-western Montana. **Journal of Arid Environments** 20:205-222.
- 1991 Knapp, P.A. The effects of long-term soil and vegetation recovery in five Montana ghost towns. **The Professional Geographer** 43:486-499.
- 1990 Knapp, P.A.; Warren, P.L.; and Hutchinson, C.F. The use of large-scale aerial photography to inventory and monitor arid rangeland vegetation. **Journal of Environmental Management** 31:29-38.

1989 Knapp, P.A. Natural recovery of compacted soils in semiarid Montana. **Physical Geography** 10:175-185.

External Grants

2010-2011 Knapp, P.A. (PI) and W.P. Tyminski (coPI). **National Science Foundation** Award BCS-1003402. *Doctoral Dissertation Research: Use of Tree-Ring Data to Reconstruct and Predict Maple Syrup Production in New York.* **\$6930.**

2009–2012 Knapp, P.A. (PI) and P.T. Soulé (PI). **National Science Foundation**, Award BCS-0851081. *Collaborative Research: Radial growth responses among naturally occurring western U.S. conifers under changing environmental conditions.* **\$342,995.**

2008–2011 Knapp, P.A. (PI) and K.S. Hadley (PI). **National Science Foundation**, Award BCS-0750026. *Collaborative Research: The occurrence of severe Pacific Northwest windstorms: A multi-century dendroclimatic assessment of their ecological impacts.* **\$259,997.**

2004–2007 Soulé P.T. (PI) and P.A. Knapp (CoPI). **USDA NRI Competitive Grant Program (Plant Adaptations to the Environment)** Award #2005-35100-15226. *Anomalous 20th century ponderosa pine growth and potential CO₂ fertilization in naturally-occurring stands the interior West, USA.* **\$150,000.**

1998–2001 Knapp, P.A. (PI), Soulé, P.T. (CoPI), and Grissino-Mayer, H.D. (CoPI). **National Science Foundation**, Award SBR-9809245. *Historic expansion of western juniper on near-relict sites: A dendroecological approach.* **\$190,376.**

1997–1998 Knapp, P.A. (PI) and Soulé, P.T. (CoPI). **Bureau of Land Management**, Prineville District, Prineville, Oregon. Challenge Cost-Share Program. *Western Juniper (*Juniperus occidentalis*) expansion on minimally-impacted sites in central Oregon: Periods of establishment and probable cause(s).* **\$30,764.**

Awards

2010 *Research Honors Award*, Southeastern Division of the Association of American Geographers.

**Directorship of Dissertations,
Theses, and Practicums**

- 2008 Ortegren, Jason T. *Tree-Ring Based Reconstruction of Multi-Year Summer Droughts in Piedmont and Coastal Plain Climate Divisions of the Southeastern U.S. 1690-2006*. Dissertation, Department of Geography, University of North Carolina Greensboro, 112 pp.
- 2006 Manangan, Arie. *Influenza Prevalence in the US Associated with Climatic Factors, Analyzed at Multiple Spatial and Temporal Scales*. Master of Arts Thesis, Department of Anthropology and Geography, Georgia State University, 96 pp.
- 2005 Williams, Heather A. *Spatial Precipitation Variability, Snowfall, and Historical Bison Occurrence in the Northwest United States*. Master of Arts Thesis, Department of Anthropology and Geography, Georgia State University, 64 pp.
- 2004 Tigges, Anja. *The Effects of Increased Florida Coast Development on the Female Loggerhead Sea Turtle (Caretta caretta): 1979-1995*. Master's Research Practicum, Department of Anthropology and Geography, Georgia State University, 30 pp.
- 2004 Hughes, Chris. *A Spatial Assessment of Exotic Plant Species in Kennesaw Mountain National Battlefield Park, Georgia*. Master's Research Practicum, Department of Anthropology and Geography, Georgia State University, 45 pp.
- 2003 Knight, Troy. *Ice Storm Reconstruction Using Tree-ring Data in Northwest Georgia*. Master of Arts Thesis, Department of Anthropology and Geography, Georgia State University, 148 pp.
- 2003 Gowens, Colin. *Locating Old-growth Oak Forests in the Southern Appalachian Mountains Using Landsat Mapping Imagery and a Digital Elevation Model*. Master's Research Practicum, Department of Anthropology and Geography, Georgia State University, 52 pp.
- 2003 Rolle, Terrilyn. *Climatological Conditions Promoting Ozone Non-Attainment Days in Atlanta, Georgia*. Master of Arts Research Practicum, Department of Anthropology and Geography, Georgia State University, 49 pp.

- 2001 Thompson, Stacy. *The Relationship Between El Niño/Southern Oscillation and Snowfall Amounts in the Southern United States*. Master of Arts Research Practicum, Department of Anthropology and Geography, Georgia State University, 35 pp.
- 2000 Herrmann, Betsy. *Forest Decline in the Southern Appalachian Mountains: A Dendroecological Examination of Table Mountain Pine (Pinus pungens)*. Master of Arts Thesis, Department of Anthropology and Geography, Georgia State University, 72 pp.
- 2000 Graham, Shannon. *Assessing Post-Fire Revegetation in Yellowstone National Park using Landsat Mapper Data*. Master of Arts Research Practicum, Department of Anthropology and Geography, Georgia State University, 40 pp.
- 2000 Eldridge, Kimberly. *A Comparison of Mean Sensitivities of Three Oak Species in Floyd County, Georgia*. Master of Arts Research Practicum, Department of Anthropology and Geography, Georgia State University, 20 pp.
- 1999 Green, Cherry. *A Comparison of Historical and Present Day Wetlands: Focusing on the Altamaha River Basin, McIntosh County, GA*. Master of Arts Research Practicum, Department of Anthropology and Geography, Georgia State University, 31 pp.
- 1997 Lamb, Scott. *The Distribution and Structure of Atlantic White Cedar Wetlands in West-Central Georgia*. Master of Arts Thesis, Department of Anthropology and Geography, Georgia State University, 105 pp.
- 1998 Bibb, Kelly. *An Evaluation of the Concept of Keystone Species*. Master of Arts Research Practicum, Department of Geography, Georgia State University, 27 pp.
- 1996 Edwards, Leslie. *A Century of Change: Using Repeat Photography to Analyze Vegetation Change in Tallulah Gorge, Georgia*. Master of Arts Thesis, Department of Geography, Georgia State University, 149 pp.