

## Curriculum Vitae

Kathryn Thomas  
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### Research interests

Species distribution modeling, particularly native and non-native, invasive plants; ecological information systems; vegetation distribution mapping and classification; climate change and biota; biogeography and ecology of nitrogen fixing actinorhizal shrubs;

### Education

Doctor of Philosophy in Geography (1996), University of California at Santa Barbara, Santa Barbara, CA. 93106  
‘Vegetation and floristic diversity in the Mojave Desert of California: A regional conservation evaluation’  
Masters of Science, Environmental Horticulture (1986), University of California at Davis, Davis, California  
‘Vegetative propagation and Actinorhizal nodulation of *Ceanothus* spp.’  
Curriculum studies Integrated Pest Management. University of California at Berkeley, Berkeley, California. 1982/83  
Bachelor of Science, Biology (1973), University of Oregon, Eugene, Oregon

### Professional Experience

Plant/landscape ecologist, 3/1995-present, Southwest Biological Science Center, Biological Resources Division, U.S. Geological Survey, Arizona 86011. Develop, design and conduct research and technical projects relating to vegetation distribution and dynamics in the southwest and on habitat conservation.

Assistant Adjunct Professor, Department of Geography, 1997-present, Northern Arizona University, Flagstaff, Arizona 86011. Served on graduate committee for three master's thesis projects.

Research Assistant, 1993-94, University of California at Santa Barbara, Santa Barbara, CA. 93106. Primary responsibility of developing a small scale digital map of vegetation in the Mojave desert of California using existing vegetation data, Landsat TM satellite imagery, field update, and GIS software. I conducted a vegetation conservation evaluation using the digital map.

Landscape Analyst, 1990-1995, University of California at Santa Barbara, Santa Barbara, CA 93106. Participated in the development of a master plan for open space and environmentally sensitive habitat on the UCSB campus. My contribution included data gathering and analysis, vegetation mapping, report preparation and coordination with a campus committee on plan review. The plan is currently being used to guide landscape planting and restoration activities on the USCB campus.

Environmental Consultant, 1990-95, various locations, California. I held various short term assignments that include development of a restoration plan for disturbed coastal sage scrub, field monitoring of a housing development in oak woodland and sycamore riparian areas for permit compliance, field measurements and plan development for conservation of sensitive tarweed, quantitative analysis of transect data and description of vegetation types for EIR and biomass determination of annuals.

Lecturer, 1989/90, University of California at Santa Barbara, Santa Barbara, CA 93106. World Soils, upper division geography course (30 students); Environmental Analysis, upper division Environmental Studies course (150 students).

Field Team Leader, 1988, Biology Department, University of California at Santa Barbara, Santa Barbara, CA. 93106. I was team leader of a field research team of seven that obtained tree measurements in remote areas of the boreal forest of Newfoundland, Quebec, Ontario and Manitoba Canada. Duties included directing both camp and field research activities and arranging travel logistics. The data was used to estimate biomass of boreal forests as part of a global carbon model developed by Dr. Dan Botkin.

Research Assistant, 1987/88, Biology Department, University of California at Santa Barbara, Santa Barbara, CA 93106. I was a member of a research team that studied the biological resources in a 50 sq. mile zone surrounding a hazardous waste facility. My duties included inventorying plant species, making field measurements, mapping vegetation from aerial photography, analyzing field data and assisting with report production. The project was part of a county funded effort to establish a protocol for biological monitoring

of the environments surrounding a hazardous waste facility.

Research Assistant, 1986/87/88, Geography Department, University of California at Santa Barbara, Santa Barbara, CA. 93106. I designed and maintained greenhouse experiments on mycorrhizal inoculation of Central African tree species. Research was exploratory investigations relating to project leader's work in African savannahs. In another project I assisted with field mapping and xylem pressure monitoring of alder, sycamore and coast live oak in Central California arroyos.

Teaching Assistantships, 1986-91, University of California at Santa Barbara, Santa Barbara, CA 93106. Lab lecturer for California Flora and Vegetation, upper division botany course, 2 terms; lab lecturer for Biological Environmental, lower division Environmental Studies course, 2 terms; lab lecturer for Introductory Physical Geography, lower division Geography course, 2 terms; teaching assistant for Environmental Analysis (3 terms), World Soils (1 term), World Population and Food Supply (1 term), Biogeography (1 term), Regional Geography of Australia and New Zealand (1 term) and Climate Change (1 term).

Educational Coordinator, 1986, University of California International Education, Davis, California. I designed and coordinated a series of educational seminars/workshops for landscape horticulturalists from Saudi Arabia.

## Publications

- In press Langs, L. A., **K. A. Thomas**, J. Prior-Magee, J. H. Lowry and K. Schulz. (In Press). A Gap Analysis of Land Cover for the Colorado Plateau: Results and Inference from the Southwest Regional Gap Analysis Project. C. Van Riper III and M. Sogge (Eds). In: The Colorado Plateau III. The University of Arizona Press. Tucson, Arizona.
- In press J. Lowry, R. Ramsey, **K. Thomas**, D. Schrupp, T. Sajwaj, J. Kirby, E. Waller, S. Schrader, S. Falzarano, L. Langs, G. Manis, C. Wallace, K. Schulz, P. Comer, K. Pohs, W. Rieth, C. Velasquez, B. Wolk, W. Kepner, K. Boykin, L. O'Brien, D. Bradford, B. Thompson, and J. Prior-Magee. (In Press). Mapping moderate-scale land cover over very large geographic areas within a collaborative framework: A case study of the Southwest Regional Gap Analysis Project (SWReGAP). Remote Sensing of Environment.
- In press **Thomas, K.A.**, M.L. Hansen, and K. A. Schulz. (In Press). Vegetation of Petrified Forest National Park. C. Van Riper III and M. Sogge. (Eds). In: The Colorado Plateau III. The University of Arizona Press. Tucson, Arizona.
- In press R. H. Webb, J. Belnap, and **K.A. Thomas**. (In press). Natural Recovery of Severely Disturbed Landscapes in the Mojave Desert. Proceedings of the Mojave Desert Science Symposium.
- 2007** **Thomas, K.A.**, L. Gass, T. Esque, R Webb, and D. Miller. Choices and Challenges for Spatial Habitat Models: Predicting Desert Tortoise Habitat (Poster). In: A. Frondorf (Ed). Proceedings of the first all-USGS modeling conference, November 14-17, 2005. Scientific Investigations Report 2006-5308. U.S. Geological Survey. Available on-line: <http://pubs.usgs.gov/sir/2006/5308/>
- 2006** **Thomas, K.A.**, K.A. Schulz, and K. Boykin. 2006. A gap perspective of the Sonoran Desert Ecoregion. Halvorson, W., C. van Riper III, and C. Schwalbe (Eds). In: Borders, boundaries, and time scales: Extended abstracts of the sixth annual conference on research and resource management in Southwest Deserts. University of Arizona Press. Tucson, Arizona.
- 2006 Thomas, K.A. Death Valley National Park Travertine Springs Complex Vegetation. US Geological Survey Southwest Biological Science Center. Technical Report.
- 2006** M. L. Hansen and **K. A. Thomas**. The flora of a unique badland and arid grassland environment: Petrified Forest National Park, Arizona. Ed. W. G. Parker and P.A. Thompson. A century of research at Petrified Forest National Park 1906-2006. Museum of Northern Arizona Bulletin 63. Flagstaff, Arizona
- 2005** **Thomas, K.A.**, J. Franklin, T. Keeler-Wolf, and P. Stine. Central Mojave Vegetation Database. U.S. Geological Survey Fact Sheet. USGS FFS-2005-3098, 4 p.
- 2005** Falzarano, S., **K.A. Thomas** and J. Lowry. Using Decision Tree Modeling in Gap Analysis Land Cover Mapping: Preliminary Results for Northeastern Arizona. In: van Riper III, C. and D.J. Mattson. The Colorado Plateau II: Biophysical, socioeconomic, and cultural research. University of Arizona Press, Tucson, Arizona.

- 2005 **Thomas, K.A.** and R. Stevens. Invasive species data management support tools for cooperative weed management areas. Final report to The Nature Conservancy. U.S. Geological Survey Southwest Biological Science Center, unpublished report.
- 2004 Hansen, M., J. Coles and **K.A. Thomas**. Vegetation of Sunset Crater National Monument. U.S. Geological Survey, Southwest Biological Science Center, Colorado Plateau Research Station, Flagstaff, Arizona. Final report to the USGS-NPS Vegetation Mapping Program.
- 2004 Hansen, M., J. Coles and **K.A. Thomas**. Vegetation of Walnut Canyon National Monument. U.S. Geological Survey, Southwest Biological Science Center, Colorado Plateau Research Station, Flagstaff, Arizona. Final report to the USGS-NPS Vegetation Mapping Program.
- 2004 Hansen, M., J. Coles and **K.A. Thomas**. Vegetation of Wupatki National Monument. U.S. Geological Survey, Forest and Rangeland Ecosystem Science Center, Colorado Plateau Field Station, Flagstaff, Arizona. Final report to the USGS-NPS Vegetation Mapping Program.
- 2004 Pohs, K. and **K. Thomas**. Digital Aerial Photograph Interpretation: Examples And Techniques From Arizona and The Southwest Regional GAP Analysis Program. Gap Bulletin #12.
- 2004 **Thomas, K.A.**, T. Keeler-Wolf, J. Franklin, and P. Stine. Mojave Desert ecosystem program: Central Mojave vegetation mapping database, U.S. Geological Survey, Western Regional Science Center, 251 p.
- 2004 **Thomas, K.A.**, R. Hunt, and M. Ostrowski. Petrified Forest National Park Weed Inventory and Mapping Project: Annual Report 2003. Report to National Park Service Intermountain Region. U.S. Geological Survey Southwest Biological Science Center, unpublished report, 47 p.
- 2003 Webb, R.H., Murov, M.B., Esque, T.C., Boyer, D.E., DeFalco, L.A., Haines, D.F., Oldershaw, D., Scoles, S.J., **Thomas, K.A.**, Blainey, J.B., and Medica, P.A. Perennial vegetation data from permanent plots on the Nevada Test Site, Nye County, Nevada: U.S. Geological Survey Open-File Report 03-336, 251 p.
- 2003 Falzarano, S.R., A. Taylor, and **K.A. Thomas**. USGS and Hopi Tribal Perspectives on Research Collaborations, in van Riper, C., III, and K. Cole, editors, *Proceedings of the Sixth Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ, Nov 5-8, 2001*.
- 2003 Falzarano, S.R. and **K.A. Thomas**. Fuzzy set and spatial analyses of thematic accuracy of a land cover map. In: R. Lunnetta and J.G. Lyon, editors, *Proceedings of the Remote Sensing and GIS Accuracy Assessment Symposium, Las Vegas, NV, Dec 11-13, 2001*.
- 2003 **Thomas, K.A.** and M. Hansen. Vegetation of Petrified Forest National Monument. Final report to Petrified Forest National Park. U.S. Geological Survey, Southwest Biological Science Center, Colorado Plateau Field Station, Flagstaff, Arizona.
- 2003 Webb, R.H. and **K.A. Thomas**. Recoverability of Severely Disturbed Soils and Vegetation in the Mojave Desert California, U.S.A. In: A.S. Alsharhan, W.W. Wood, A.S. Goudie, A. Fowler and E. Abdellatif. Desertification in the Third Millennium. A.A. Balkema/Swets & Zeitlinger, Rotterdam, The Netherlands.
- 2003 Hansen, M., **K. Thomas** and P. West. Part II: Revised flora of Petrified Forest National Park, Arizona. Final report to Petrified Forest National Park. U.S. Geological Survey, Southwest Biological Science Center, Colorado Plateau Field Station, Flagstaff, Arizona.
- 2003 **Thomas, K.A.**, B.D. Anderson, and R. Hunt. Petrified Forest National Park Weed Inventory and Mapping Project: Annual Report 2002. Report to National Park Service Intermountain Region. U.S. Geological Survey Southwest Biological Science Center, unpublished report, 92 p.
- 2002 **Thomas, K.A.**, P. Chavez, S. Jacobs, and Miguel Velasco. Open space change and big game ungulate habitat in Yavapai and southern Mohave Counties, Arizona. Final report to the Arizona Department of Game and Fish, Kingman, Arizona. Final report to Petrified Forest National Park. U.S. Geological Survey, Southwest Biological Science Center, Colorado Plateau Field Station, Flagstaff, Arizona.
- 2002 Murov, M.B., Webb, R.H., and **Thomas, K.A.** Recovery of perennial vegetation in ghost towns of the Mojave Desert, [abs.]: 87th Annual Meeting of the Ecological Society of America and the 14th Annual International Conference of the Society for Ecological Restoration, Tucson, Arizona.
- 2001 Halvorson, W., **K. Thomas**, and L. Graham. The Arizona Gap Project Final Report. Special Technical

- Report, USGS Sonoran Desert Field Station, University of Arizona, Tucson.
- 2001** **Thomas, K.**, T. Keeler-Wolf, J. Franklin. A Comparison of Fine and Coarse Resolution Environmental Variables toward Predicting Vegetation Distribution in the Mojave Desert. *In* Scott, J.M., P.J. Heglund, M. Morrison, M. Raphael, J. Haufler, B. Wall (Eds.) Predicting species occurrences: issues of scale and accuracy. Island Press. Covello, Ca.
- 2001** C. van Riper III, **K.A. Thomas**, and M.A. Stuart (Eds). Proceedings of the Fifth Biennial Conference of Research on the Colorado Plateau. U.S. Geological Survey/FRESC Report Series USGSFRESC/COPL/2001/24.
- 2001** Jacobs, S.R., **K.A. Thomas**, and C.A. Drost. Mapping land cover and animal species for conservation planning: An overview of the Southwest Regional Gap Analysis Program in Arizona. Pages 159-172 in C. van Riper III, K.A. Thomas, and M.A. Stuart (eds.) Proceedings of the Fifth Biennial Conference of Research on the Colorado Plateau. U.S. Geological Survey/FRESC Report Series USGSFRESC/COPL/2001/24.
- 2001** Franklin, J., T. Keeler-Wolf, **K. Thomas**, D. Shaari, P. Stine, J. Michaelsen, J. Miller. Stratified sampling for field survey of environmental gradients to define vegetation alliances in the Mojave Desert Ecoregion. Pages 229-253 *in* Eds. Millington, A., S. Walsh, P. Osborne (eds), GIS and Remote Sensing applications in Biogeography and Ecology.
- 2000** **Thomas, K.A.** and J.J. Wynne. The Southwest Exotic Plant Mapping Program (SWEMP), collaborator's manual: Year 2000. USGSFRESC/COPL/2000/21. U.S. Geological Survey. U.S. Department of Interior.
- 2000** **Thomas, K.A.** and S. Jacobs. Analysis of land cover map accuracy in northern Arizona. Final report to the USGS National Gap Analysis Program. Department of Interior. U.S. Geological Survey. Colorado Plateau Field Station, Flagstaff, Arizona. 31 pg. <http://www.gap.uidaho.edu/handbook/pdf/appendix6.pdf>
- 1998** **Thomas, K.A.** Vegetation. In S. Thybony. Coconino Plateau Babbitt Ranches Biological Assessment. Babbitt Ranches, Flagstaff, Arizona.
- 1998** **Thomas, K. A.**, K. Wright, and T. Arundel. Appendix: Benchmark Study. In: S. Thybony. Coconino Plateau Babbitt Ranches Biological Assessment. Babbitt Ranches, Flagstaff, Arizona.
- 1998** Davis, F. W., D. M. Stoms, A. D. Hollander, **K. A. Thomas**, P. A. Stine, D. Odion, M. I. Borchert, J. H. Thorne, M. V. Gray, R. E. Walker, K. Warner, and J. Graae. *The California Gap Analysis Project--Final Report*. University of California, Santa Barbara, CA. [[http://www.biogeog.ucsb.edu/projects/gap/gap\\_rep.html](http://www.biogeog.ucsb.edu/projects/gap/gap_rep.html)]
- 1997** **Thomas, K.A.**, P. Christ and B.C. Thompson. The Four-Corners Project: Assessing the contribution of protected areas with ecoregional gap analysis. Pages 415-419 in D. Harmon (ed.), Making Protection Work, Proceedings of the 9<sup>th</sup> Conference on Research and Resource Management in Parks and on Public Lands. Weber & Sons, Park Falls, WI. 493 pg.
- 1997** Zimmerman, J.C., K. Wright and **K. Thomas**. Exotic plant species of the Colorado Plateau: A profile of the status and threat of some invasive aliens in the Southwest. In D. Harmon (ed). Making Protection Work, Proceedings of the 9<sup>th</sup> Conference on Research and Resource management in Parks and on Public Lands. Weber & Sons, Park Falls, WI. 439 pg.
- 1996** **Thomas, K. A.** and F. W. Davis. Applications of gap analysis data in the Mojave Desert of California. Pages 209-219 *in* J.M. Scott, T.H. Tear and F. Davis (eds.), A Gap Analysis: A landscape approach to biodiversity planning. Proceedings of the ASPRS/GAP Symposium, February 27- March 2, 1995, Charlotte, North Carolina. The American Congress on Surveying and Mapping and the American Society for Photogrammetry and Remote Sensing, Bethesda, MD.
- 1996** **Thomas, K. A.** Vegetation and Floristic Diversity in the Mojave Desert of California: A regional conservation evaluation. Dissertation. University of California, Santa Barbara, California.
- 1995** Ferren, W. R. and **K. A. Thomas**. University of California, Santa Barbara Natural Areas Plan: Classification, inventory, and management guidelines. Museum of Systematics and Ecology, Department of Biological Sciences, University of California, Santa Barbara, CA 93106. 438 pg.

- 1994** **Thomas, K.A.** An initial checklist of the flora of Sedgwick Ranch. UCSB Herbarium Report.
- 1994** Nisbet, R. and **K. Thomas**. 1994. Appendix VI. Geographic information analysis. In: Botkin, D. et. al. Status and future of anadromous fish of western Oregon and Northern California: Findings and options. Report #8. Center for the Study of the Environment.
- 1990** **Thomas, K.A.**, W.A. Ferren, and D. Pritchett. Botanical resources of the Casmalia Study Area. UCSB Herbarium Report.
- 1990** **Thomas, K.A.** Environmental Analysis Lab Manual. Department of Environmental Studies, University of California, Santa Barbara. 125 pg.
- 1989** **Thomas, K. A.** and A. M. Berry. 1989. Internal and external nitrogen inhibition of nodulation on *Ceanothus griseus* var. *horizontalis*, Plant and Soil 118:181-87.

#### Published Maps, Digital Databases and Web Sites

- 2006** **Thomas, K. A.**, H. Folger, and P. Guertin. SWEMP 2006 Regional Database (.mdb). Available at: <http://www.usgs.nau.edu/SWEPIC/swemp/swempA5.asp>. Metadata at: <http://www.usgs.nau.edu/SWEPIC/downloads/SWEMP06A.txt>
- 2004** Hansen, M. and K. Thomas. Wupatki National Monument: Accuracy Assessment Database. A MS Access database. U. S. Geological Survey.
- 2004** Dale, B., M. Hansen and K. Thomas. Accuracy Assessment Points: Wupatki National Monument. A digital spatial database (ArcInfo). U.S. Geological Survey.
- 2004** Hansen, M. and K. Thomas. Wupatki National Monument: Field Relevé Plots. A MS Access database. U.S. Geological Survey.
- 2004** Hansen, M. and K. Thomas. Field Relevé Plots: Wupatki National Monument Vegetation Mapping Project. A digital spatial database (ArcInfo). U.S. Geological Survey.
- 2004** Hansen, M. and K. Thomas. Walnut Canyon National Monument: Accuracy Assessment Database. A MS Access database. U. S. Geological Survey.
- 2004** Dale, B., M. Hansen and K. Thomas. Accuracy Assessment Points: Walnut Canyon National Monument. A digital spatial database (ArcInfo). U.S. Geological Survey.
- 2004** Hansen, M. and **K. Thomas**. Walnut Canyon National Monument: Field Relevé Plots. A MS Access database. U.S. Geological Survey.
- 2004** Hansen, M. and **K. Thomas**. Field Relevé Plots: Walnut Canyon National Monument Vegetation Mapping Project. A digital spatial database (ArcInfo). U.S. Geological Survey.
- 2004** Hansen, M. and **K. Thomas**. Sunset Crater National Monument: Accuracy Assessment Database. A MS Access database. U. S. Geological Survey.
- 2004** Dale, B., M. Hansen and **K. Thomas**. Accuracy Assessment Points: Sunset Crater National Monument. A digital spatial database (ArcInfo). U.S. Geological Survey.
- 2004** Hansen, M. and **K. Thomas**. Sunset Crater National Monument: Field Relevé Plots. A MS Access database. U.S. Geological Survey.
- 2004** Hansen, M. and **K. Thomas**. Field Relevé Plots: Sunset Crater National Monument Vegetation Mapping Project. A digital spatial database (ArcInfo). U.S. Geological Survey.
- 2003** **Thomas, K.A.**, M. Ostrowski, and J. Busco. SWEMP 2003 Regional Database (.mdb) and metadata.
- 1998-06** **Thomas, K.** Content developer. Southwest Exotic Information Clearinghouse. <http://server01.usgs.nau.edu/swemp/>
- 2002** **Thomas, K.**, J. Franklin, T. Keeler-Wolf and P. Stine. Central Mojave Vegetation Map. A Digital spatial database (ArcInfo). US Geological Survey.
- 2002** **Thomas, K.**, T. Keeler-Wolf, and J. Thorne. Central Mojave Field Data. A digital database (Access). US Geological Survey.

- 2002** **Thomas, K.** Central Mojave Plots Map. A digital spatial database (ArcInfo). US Geological Survey.
- 2002** Mullen, G. and **K. Thomas.** Central Mojave Special Features Map. A digital spatial database (ArcInfo). US Geological Survey.
- 2001** Halvorson, W., **K. Thomas** and L. Graham. Arizona Gap Analysis Project Vegetation Map. A digital coverage. U.S. Geological Survey Sonoran Desert Field Station, University of Arizona, Tucson, Arizona.
- 2000** **Thomas, K.** and H. Davis. 2000. Southwest Exotic Plant Mapping Program – 2000 Regional Database. U.S. Geological Survey.
- 1999** **Thomas, K.** and H. Davis. 1999. Southwest Exotic Plant Mapping Program – 1999 Regional Database. U.S. Geological Survey.
- 1998** **Thomas, K.** and J.J. Wynn. 1998. Southwest Exotic Plant Mapping Program – 1998 Regional Database. U.S. Geological Survey.

**Presentations (Invited presentations and conference presentations)**

- 2006** **Thomas, K.A.** and P. Guertin. Invasive plant inventory: Observations from a novel sampling design at Petrified Forest National Park. 33<sup>rd</sup> Annual Natural Areas Conference. Flagstaff, Arizona.
- 2006** **Thomas, K.A.** and P. Guertin. The Southwest Exotic Plant Mapping Project (SWEMP): The 2006 regional mapping status for Arizona. Southwest Vegetation Management Association annual meeting. Gila Bend, Arizona.
- 2006** **Thomas, K.A.** and M. Hansen. Vegetation of southern Colorado Plateau National Parks. 33<sup>rd</sup> Annual Natural Areas Conference. Flagstaff, Arizona.
- 2006** **Thomas, K.A.,** K. Schulz, K. Boykin and T. Arundel. A Gap perspective of the Sonoran Desert ecoregion. Sixth Conference on Research and Resource management in the Southwestern Desert: Borders, Boundaries and Time Scales Conference, Tucson, Arizona.
- 2006** **Thomas, K.A.** Computer Tools for Weed Management and Data Sharing in the Southwest. Southeast Arizona Cooperative Weed Management Area, Safford, Arizona. (Invited Speaker)
- 2006** **Thomas, K.A.** and B. Orr. Tools for Weed Management and Data Sharing in the Southwest. Joint meeting of Hopi and Navajo Weed Management Areas (in development). Kykotsmovi, Arizona. (Invited Speaker).
- 2006** **Thomas, K.A.** Tools for Weed Management and Data Sharing in the Southwest. 13<sup>th</sup> Annual Southwest Noxious Weed Shortcourse. Farmington, New Mexico (Invited speaker).
- 2006** Hansen, M. and **K.A. Thomas.** The Flora and Vegetation of a Unique Badland and Arid Grassland Environment: Petrified Forest National Park. Petrified Forest National Park Centennial Anniversary Symposium. Petrified Forest National Park, Arizona.
- 2005** **Thomas, K.** and B. Orr. New Tools for Mapping, Data Management and Data Sharing. Southwest Vegetation Management Association. Phoenix, Arizona. (Invited Speaker).
- 2005** **Thomas, K.** Patterns in Invasive Non-Native Plant Distribution and Land Cover in Arizona. National Gap Analysis Conference and Interagency Symposium. Reno, Nevada.
- 2005** **Thomas, K.,** L. Langs, J.J. Wynne. Gap Analysis: Results and Inference in the Southwest. National Gap Analysis Conference and Interagency Symposium. Reno, Nevada.
- 2005** **Thomas, K.** Invasive Species Networks: Challenges for the Colorado Plateau. 8th Biennial Conference of Research on the Colorado Plateau. Flagstaff, Arizona. (Invited Speaker)
- 2005** **Thomas, K.,** J. Lowry, and K. Schulz. Ecological Systems of the Colorado Plateau. 8th Biennial Conference of Research on the Colorado Plateau. Flagstaff, Arizona.
- 2005** **Thomas, K.** and R. Hunt. A grid-based survey method for non-native invasive plants. George Wright Biennial Conference on Parks, Protected Areas, and Cultural Sites. Philadelphia, Pennsylvania.
- 2005** **Thomas, K.** Invasive Plants and Climate Change. Workshop on Climate Variability and Ecosystem Impacts in Southwestern Forests and Woodlands. Sedona, Arizona. (Invited Speaker)
- 2005** **Thomas, K.** and R. Stevens. Overview of web based computer tools on Southwest Exotic Plant Information Clearinghouse. Sonoran Desert Invasive Species Council Biennial Workshop. Gila Bend, Arizona.
- 2005** **Thomas, K.** Invasive Plant Data Sharing: SWEMP, SWEPIIC, and other tools. Sonoran Desert Regional Monitoring Partnership. Elgin, Arizona. (Invited Speaker).
- 2005** **Hansen, M.** and K. Thomas. Where problems arise in vegetation classification: USGS-NPS Vegetation Mapping Program. George Wright Biennial Conference on Parks, Protected Areas, and Cultural Sites.

Philadelphia, Pennsylvania.

2004. Wynne, J.J., C. A. Drost, and **K. A. Thomas**. A comparison of approaches for verifying Southwestern Regional Gap Vertebrate habitat distribution models. The 19th Annual Symposium International Association for Landscape Ecology United States Regional Association. Las Vegas, Nevada. [<http://www.usiale.org/lasvegas2004/forms/program.abstract.pdf>]
2004. **Thomas, K.A.** Gap analysis: GIS, maps and a new view of regional conservation. The 19th Annual Symposium International Association for Landscape Ecology United States Regional Association. Las Vegas, Nevada. [<http://www.usiale.org/lasvegas2004/forms/program.abstract.pdf>]
- 2004 **Thomas, K.** and K. Boykin. Southwest Regional Gap Analysis Project: Keeping common species common in the Madrean Archipelago. Connecting Mountain Islands and Desert Seas: Biodiversity and Management of the Madrean Archipelago II and 5th Conference on Research and Resource Management in the Southwestern Deserts.
- 2004 Boykin, K. G. and **K. Thomas**. Southwest Regional Gap Analysis Project: Keeping common species common. 37th Joint Annual Meeting of The Wildlife Society (Arizona and New Mexico Chapters) and the American Fisheries Society. Safford, AZ.
- 2003 **Thomas, K.A.** Update on the Southwest Exotic Mapping Program. 10th Annual Southwestern Noxious/Invasive Weed Short Course. Farmington New Mexico. (Invited Speaker)
- 2003 **Thomas, K.** Sharing non-native invasive plant data and information in the Southwest. Invasive Plants in Natural and Managed Systems: Linking Science and Management and 7th International Conference on the Ecology and Management of Alien Plant Invasions. Fort Lauderdale, Florida.
- 2003 **Thomas, K.** Vegetation recovery on linear disturbances in the Mojave Desert. 2003 Arid Southwest Lands Habitat Restoration Conference, Palm Springs, Ca.
- 2003 Hansen, M. and **K. Thomas**. Vegetation in the Parks: Sunset Crater, Walnut Canyon, and Wupatki National Monument. The George Wright Society Biennial Conference. San Diego, Ca.
- 2003 **Thomas, K.** Arizona GAP and SWReGAP. Research briefing to Bureau of Land Management Colorado Plateau Science Committee. (Invited presenter)
- 2003 **Thomas, K.** Adventures in SWEMP. Socio-cultural concerns involved in inter-agency control of biological invasions in terrestrial systems. UC Davis 2003 Biological Invasions and Bicultural Diversity Symposium. (Invited speaker)
- 2003 **Thomas, K.A.,** Webb, R.H., and Anderson, B.D., 2003, Spatial modeling of vegetation recovery in the Mojave National preserve and Nevada Test Site, [abs.]: 2003 Arid Southwest Lands Habitat Restoration Conference, Palm Springs, California. [<http://www.dmg.gov/resto-pres/tues-04-thomas.pdf>]
- 2003 Webb, R.H., Haines, D.F., Esque, T.C., DeFalco, L.A., **Thomas, K.A.,** Murov, M.B., and Medica, P.A., Changes in undisturbed perennial vegetation in the northern Mojave Desert, [abs.]: 2003 Arid Southwest Lands Habitat Restoration Conference, Palm Springs, California. [<http://www.dmg.gov/resto-pres/tues-01-webb.pdf>]
- 2003 Wynne, J. J., C.A. Drost and **K. A. Thomas**. GAP habitat modeling of Arizona vertebrates: strengths and weaknesses of regional, literature-based models. 7th Biennial Conference of Research on the Colorado Plateau, Flagstaff, Arizona.
- 2003 Hansen, M. and **K. Thomas**. Describing vegetation communities using the National Vegetation Classification: Wupatki National Monument. 7th Biennial Conference of Research on the Colorado Plateau, Flagstaff, Arizona.
- 2003 Hansen, M. and **K. Thomas**. Distribution of vegetation communities in and around the Three Flagstaff Parks. Environmental research on Coconino National Forest and adjacent lands workshop. **Flagstaff, Arizona.**
- 2003 Hansen, M. and **K. Thomas**. Vegetation in the parks; Sunset Crater, Walnut Canyon, and Wupatki National Monuments. George Wright Biennial Conference on Parks, Protected Areas, and Cultural Sites. San Diego, California.

- 2002 **Thomas, K.**, L. Howery and E. Northam. How does noxious, invasive plant management work in Arizona? Arizona Noxious, Invasive Plant Summit. Tucson, Arizona. (Invited speaker)
- 2002 **Thomas, K.** Response of semi-arid vegetation to predicted climate change: A project update. Predicting hydrologic, geologic and biologic responses to a drier and warmer climate in the desert Southwest. Tucson, Arizona. (Invited speaker)
- 2002 Murov, M.B., Webb, R.H., and **Thomas, K.A.**. Recovery of perennial vegetation in ghost towns of the Mojave Desert, [abs.]: 87th Annual Meeting of the Ecological Society of America and the 14th Annual International Conference of the Society for Ecological Restoration, Tucson, Arizona.
- 2002 **Thomas, K.A.**, and Webb, R.H., 2002, Natural recovery of perennial vegetation in severely disturbed sites in the Mojave Desert, [abs.]: 87th Annual Meeting of the Ecological Society of America and the 14th Annual International Conference of the Society for Ecological Restoration, Tucson, Arizona, Abstracts, p. 51. [<http://abstracts.co.allenpress.com/pweb/esa2002/document/?ID=4583>]
- 2002 Webb, R.H., Esque, T.C., **Thomas, K.A.**, Haines, D., Murov, M.B., DeFalco, L.A., and Medica, P.A., 2002, Long-term changes in perennial vegetation in permanent plots of the northern Mojave Desert, [abs.]: 87th Annual Meeting of the Ecological Society of America and the 14th Annual International Conference of the Society for Ecological Restoration, Tucson, Arizona, Abstracts, p. 54. [<http://abstracts.co.allenpress.com/pweb/esa2002/document/?ID=5938>]
- 2002 Webb, R.H., Turner, R.M., **Thomas, K.A.**, Esque, T.C., and Berry, K.H., Climatic fluctuations and desert vegetation response in the southwestern United States, [abs.]: 27th Annual Meeting and Symposium of the Desert Tortoise Council, Palm Springs, California. [<http://www.deserttortoise.org/abstract/abstracts2002/2002abs45.html>]
- 2001 **Thomas, K.A.** The Southwest Exotic Plant Mapping Program. Managing Invasive Weeds in the Sonoran Desert. Joint TNC/Society for Ecological Restoration/Sonoran Institute Workshop. (Invited speaker).
- 2001 **Thomas, K.** Southwest Exotic Plant Information Clearinghouse. USGS/CalEPPC workshop. San Diego, Ca. (Invited speaker)
- 2001 **Thomas, K.A.**, 2001, Response of semi-arid vegetation to climate change: Symposium on Predicting Hydrologic, Geologic, and Biologic Responses to a Drier and Warmer Climate on the Desert Southwest, Tucson, Arizona. (Invited speaker)
- 2001 Webb, R.H., **Thomas, K.A.**, Medica, P.A., Esque, T.C., DeFalco, L.A., and Murov, M.B., 2001, Carbon sequestration in arid and semiarid ecosystems of the southwestern United States: implications for predicted warmer and drier conditions in the next 20 years: Symposium on Predicting Hydrologic, Geologic, and Biologic Responses to a Drier and Warmer Climate on the Desert Southwest, Tucson, Arizona
- 2001 **Thomas, K.A.** SWEMP: A project update. Southwestern Noxious Weed Short Course. Farmington, New Mexico. (Invited speaker)
- 2000 **Thomas, K.A.** Southwest Exotic Plant Mapping Program Update. Southwestern Noxious Weed Short Course. Farmington, New Mexico. (Invited speaker)
- 2000 **Thomas, K.A.** Southwest Cooperative Mapping. Western Rangeland Noxious Weed Workshop. Phoenix, Arizona. (Invited speaker)
- 1999 **Thomas, K.** and P. Stine. Mojave Desert Ecosystem Program: Mojave vegetation mapping project. Mojave Desert Science Symposium. Las Vegas, Nevada.
- 1999 **Thomas, K.A.** Southwest Exotic Plant Mapping Program Update. Southwest Noxious Weed Short Course. Farmington, New Mexico. (Invited speaker)
- 1998 **Thomas, K.A.** Southwest Exotic Plant Mapping Program Update. Southwest Noxious Weed Short Course. Farmington, New Mexico. (Invited speaker).
- 1997 **Thomas, K.A.** Gap Analysis Accuracy Assessment in Northern Arizona. Ecology field Methods Class. Prescott College, Prescott, Arizona. (Invited speaker)
- 1997 **Thomas, K.A.** The Exotics Map Project. The New Mexico Vegetation Management Association. Albuquerque, New Mexico. (Invited speaker).



- 1997 **Thomas, K. A.** P. Crist, and B. Thompson. The Four Corners Ecoregional Project. Southwest Gap Analysis Principle Investigators Meeting. Gallup, New Mexico. (Invited speaker)
- 1997 **Thomas, K.A.** Gap Analysis in Arizona. Ecoregional Short Course, Northern Arizona University. Flagstaff, Arizona. (Invited speaker)
- 1997 **Thomas, K.A.** Ecological Landscapes of the Mojave, USGS Regional Office Colloquia. Menlo Park, California. (Invited speaker)
- 1997 **Thomas, K.A.** the Exotics Map Project for the Four-Corners of the Southwest. Workshop on Databases for Nonindigenous Plants. USGS-BRD, Gainesville, Florida. (Invited speaker).
- 1997 **Thomas, K.A.** The Four Corners Project: Assessing the Contribution of Protected Areas with Ecoregional Gap. 9<sup>th</sup> Annual George Wright Society Conference. Albuquerque, New Mexico.
- 1997 **Thomas, K.A.** and K.S. Estes. The Exotics Map Project: A Prototype for Mapping Exotic Plants. 4<sup>th</sup> Biennial Conference on Research on the Colorado Plateau. Flagstaff, Arizona.
- 1997 **Thomas, K.** and T. R. Arundel. *Status of GAP analysis in Arizona and the Southwest*. 4th Biennial Conference on Research on the Colorado Plateau, September 15, 1997, Flagstaff, Arizona.
- 1996 **Thomas, K.A.** and P.Stine. The Mojave mapping project. BLM Public Advisory Group. Rainbow Bridge, California. (Invited speaker)

### Poster Presentations

- 2006 **Thomas, K.** and P. Guertin. SWEMP and SWEPIC: Web resources for invasive plant maps and management. Southwest Vegetation Management Association annual meeting. Gila Bend, Arizona.
- 2006 **Thomas, K.A.** and P. Guertin. Grid sampling: A novel sampling design for invasive non-native plant surveys. Southwest Vegetation Management Association annual meeting. Gila Bend, Arizona.
- 2006 **Thomas, K.A.** and P. Guertin. Grid sampling: A novel sampling design for invasive non-native plant surveys. 33<sup>rd</sup> Annual Natural Areas Conference. Flagstaff, Arizona.
- 2006 **Thomas, K.A.,** Documenting Invasive Non-Native Plant Occurrences Regionally. Sixth Conference on Research and Resource management in the Southwestern Desert: Borders, Boundaries and Time Scales Conference, Tucson, Arizona.
- 2006 Wallace, C. S.A., **K. A. Thomas,** and R. H. Webb. Mapping Perennial and annual vegetation cover in the Mojave Desert using MODIS-EVI data. Sixth Conference on Research and Resource management in the Southwestern Desert: Borders, Boundaries and Time Scales Conference, Tucson, Arizona.
- 2005 Hansen, M. and **K.A. Thomas.** Vegetation Communities of Sunset Crater, Walnut Canyon, and Wupatki National Monuments. 8th Biennial Conference of Research on the Colorado Plateau. Flagstaff, Arizona.
- 2005 **Thomas, K.** SWEMP: Documenting Invasive Non-Native Plant Occurrences Regionally. 8th Biennial Conference of Research on the Colorado Plateau. Flagstaff, Arizona.
- 2005 **Thomas, K.,** L. Gass, T. Esque, R. Webb, and D. Miller. Choices and Challenges for Spatial Habitat Models: Predicting Desert Tortoise Habitat. All-USGS Modeling Conference. Olympic Institute, Washington.
- 2005 Vogel, J., **K. Thomas,** and S. Robinson. Estimating vegetation cover in arid environments from aerial photography using the Feature Analyst ArcGIS extension. George Wright Biennial Conference on Parks, Protected Areas, and Cultural Sites. Philadelphia, Pennsylvania.
- 2005 Gass, L., T. Esque, K. Thomas, R. Webb, and D. Miller. Predicting Desert Tortoise Habitat in the Mojave Desert. Thirtieth Annual Symposium of the Desert Tortoise Council. Tucson, Arizona,
- 2005 Gass, L., T. Esque, **K. Thomas,** R. Webb, and D. Miller. Predicting Desert Tortoise Habitat in the Mojave Desert. Resource Management Tools & Geospatial Conference. Phoenix, Arizona.
- 2004 Gass, L., T. Esque, **K. Thomas,** R. Webb, and D. Miller. Predicting Desert Tortoise Habitat in the Mojave Desert. Mojave Desert Science Symposium. University of Redlands, California.
- 2004 Wallace, C.S.A., K.A. Thomas, R.H. Webb. Mapping Perennial Vegetation Cover in the Mojave Desert using MODIS-EVI Data. Presented at the Mojave Desert Science Symposium. 16-18 November. University of Redlands, CA. [Poster with Abstract]

- 2003** **Thomas, K.** A cooperative weed management area data management system for the Southwest. Invasive Plants in Natural and Managed Systems: Linking Science and Management and 7th International Conference on the Ecology and Management of Alien Plant Invasions. Fort Lauderdale, Florida.
- 2003** **Thomas, K.,** C. Wallace, P. Chavez, M. Velasco, and B. Anderson. Use of satellite images to monitor seasonal and interannual vegetation change in the Mojave National Preserve. 2003 Arid Southwest Lands Habitat Restoration Conference. Palm Springs, California.
- 2003** **Thomas, K. A.,** J. Franklin, T. Keeler-Wolf, P. Stine, and B. Anderson. The Mojave Vegetation Map: Central Mojave. 2003 Arid Southwest Lands Habitat Restoration Conference.
- 2003** Franklin, J., **K.A. Thomas,** T. Keeler-Wolf and P. Stine. 1999. The Mojave Vegetation Mapping Project: Vegetation classification, modeling and mapping. 5<sup>th</sup> World Congress International Association for Landscape Ecology. Snowmass Village, Colorado.
- 2003** Falzarano, S. and **K. Thomas.** Preliminary Results of Vegetation Mapping for the Grand Canyon Area. National Gap Analysis Conference. Shepherdstown, West Virginia.
- 2002** Falzarano, S., **K. A. Thomas** and M. Tweiten. Sonoran Desert Vegetation: Preliminary Results of the Southwest Regional Gap Analysis Project in Arizona. National Gap Analysis Conference.
- 1999** Wynn, J.J. and **K. A. Thomas.** 1999. Southwest Exotic Plants Mapping Program: Alien Plant Occurrences in Yavapai County.
- 1997** Arundel, T.R. and **K. Thomas.** *Sampling design for selecting Arizona GAP Accuracy Assessment sampling points using Arc/Info.* 7th Annual National GAP Analysis Meeting, August 4, 1997, Reston, Virginia. (Poster Presentation)
- 1997** Arundel, T.R. and **K. Thomas.** *Sampling design for selecting Arizona GAP Accuracy Assessment sampling points using Arc/Info.* 17th Annual ESRI User Conference, July 8, 1997, San Deigo, California.
- 1997** Arundel, T.R. and **K. Thomas.** *Sampling design for selecting Arizona GAP Accuracy Assessment sampling points using Arc/Info.* 4th Biennial Conference on Research on the Colorado Plateau, September 15, 1997, Flagstaff, Arizona.
- 1997** **Thomas, K.A.** and F.W. Davis. Vegetation of the Mojave Desert of California: Gap Analysis and Floristic Description. Ecological Society of America Annual Conference. Providence, Rhode Island.
- 1996** **Thomas, K.A.,** E. Deshler, and T.R. Arundel. Arizona Gap Analysis Program: Accuracy Assessment in the Central Arizona Highlands. Central Arizona Highlands Conference. Prescott, Arizona.

#### **Graduate thesis/dissertations**

- 2003** Wynne, J. J. Landscape-scale modeling of vegetation land cover and songbird habitat, Pinalenos mountains, Arizona (Committee Member)
- 200?** Jacobs, S., 1999. A Fuzzy Spatial View of Accuracy of a Northern Arizona Land Cover Map. (Committee member)

#### **Other Professional Services**

- 2005/06** USGS Mentorship Program Mentor.
- 2003** Committee member Arizona interagency committee to develop strategic plan for invasive, non-native plant species
- 2003** Panel member CALEPPC/SWVMA criteria committee to develop statewide ranking for invasive nonnative plant species
- 2002-04** Member Ecological Society of America subpanel on vegetation classification
- 2002** Coconino County Regional Plan Science Advisory Group
- 2002** Committee member. NAU Environmental Science Masters. J.J. Wynn
- 2001** Technical advisory committee. DOD/DOE project 'diagnostic tools and reclamation technologies for mitigating impacts of activities of the DOD and DOE in arid areas. SERDP.

- 2001/02** Information Technology Specialist Selection Committee Chair, U.S. Geological Survey
- 2001-04** Safety coordinator for Colorado Plateau Field Station, U.S. Geological Survey
- 2001** Co-coordinator USGS Workshop. Integrating Remote Sensing and Ground Based Measurements for Inventory, Assessment and Monitoring of Southwest Ecosystems. Las Cruces, New Mexico.
- 2001** Invited panel member of Northern Colorado Plateau National Park Network scoping meeting to prepare for vegetation mapping in this network. Moab, Utah.
- 2001** Invited participant in workshop convened by National Park Service Intermountain Region to plan for conducting surveys of exotic plant species in park networks. Salt Lake City, Utah.
- 2001/0** Reviewer for USGS-Geologic Division workshop series.
- 1999** Conference chair 5<sup>th</sup> Biennial Conference of Research on the Colorado Plateau. A four day conference attended by 150 land managers and scientists.
- 1999** Technical advisory team for Bechtel Nevada's Strategic Environmental Research and Development Project. Las Vegas, Nevada.
- 1998** Vital Signs Workshop for Lake Mead National Recreational Area. Vegetation Subgroup Panel Member. Las Vegas, Nevada.
- 1998** Directed masters thesis. NAU Geography Dept. Masters. S. Falzarano (nee Jacobs).
- 1997** Invited participant in The Nature Conservancy Experts Conservation Workshop for the Arizona/New Mexico Highlands, Albuquerque, New Mexico.
- 1997** Provided technical advise and field assistance for accuracy assessment of vegetation maps at Joshua Tree National Park, California, and Tuzigoot National Monument, Arizona.
- 1996** NASA-Sharp Plus Mentorship Program. Directed intern activities.

### **Honors and Awards**

- 2006** USGS Star Award for outstanding service
- 2005** Ten year service certificate
- 2004** USGS Star Award for work on SWReGAP
- 2003** USGS Star Award for fostering inter-disciplinary collaboration between USGS disciplines.
- 2002** USGS Star Award for contributions to development and hiring of new IT Specialist position.
- 1999** USGS Star Award for outstanding efforts overseeing 5<sup>th</sup> Biennial Conference of Research on the Colorado Plateau.
- 1997** USGS Star Award for outstanding achievement
- 1985** Elected member of Phi Alpha Xi, Alpha-Epsilon Chapter UC Davis for scholarship and achievement in Horticulture, Landscape and Ornamental Horticulture

### **Training**

- 2006** Introduction to ArcGIS II. (24 hrs.)
- 2006** University of Arizona Time Management for the Busy Professional (8 hr.)
- 2006** Exsys Corvid Training (3 day)
- 2006** USGS Supervisory Challenge (5 day)
- 2004** USGS Leadership Intensive. Menlo Park, California. (2 day)
- 2004** Time Management and Organization (8hr.)
- 2004** Introduction to ArcGIS
- 2003** Bechtel Nevada General Employee Radiological Training
- 2001** Northern Arizona University Computer Training Center Introduction to Access (13 hours)
- 1998** ESRI Working with ArcView Spatial Analyst (24 hours)
- 1998** ESRI ArcInfo Database Design (40 hrs)
- 1998** How to supervise people (8 hr.)
- 1997** FGDC Metadata (8 hrs.)
- 1997** NPS Application of the National Vegetation Classification Standard (24 hr.)
- 1997** Measurement and Monitoring of Vegetation (24 hr.)
- 1997** Conflict resolution; Your attitude is your success (4 hr. each)

**Professional Memberships**

Ecological Society of America  
International Association for Landscape Ecology  
Arizona Native Plant Society

**Avocational interests**

Canine search and rescue, walking, exploring, environmental history, music