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Research Interests

Conservation planning and policy; landscape ecology; ecology and management of California chaparral and oak woodlands.

Education

B.A.	1975	Biology	Williams College
Ph.D.	1982	Geography and Environmental Engineering	The Johns Hopkins University

Employment History

2011-present	Director, National Center for Ecological Analysis and Synthesis, UCSB
1996-present	Professor, Donald Bren School of Environmental Science and Management, UCSB
1995-1999	Deputy Director, National Center for Ecological Analysis and Synthesis, UCSB
1997	Acting Director, UCSB Natural Reserve System
1994-present	Professor, Department of Geography, UCSB
1989-1994	Associate Professor, Department of Geography, UCSB.
1983-1989	Assistant Professor, Department of Geography, UC Santa Barbara.

Awards and Honors

1975: Magna Cum Laude, Williams College
1975: Phi Beta Kappa
2001: Aldo Leopold Leadership Fellow
2006: Edward J. Taaffe Distinguished Lecturer, Department of Geography, Ohio State University
2009: Faculty Distinguished Teaching Award, Bren School of Environmental Science and Management
2010: Fellow, American Association for the Advancement of Science
2011: Google Science Communication Fellow

Selected Professional Activity

Member, NASA Topographic Science Working Group, 1985-1988.
Panelist, NASA Earth Observing System Proposal Review, 1989.
Co-Leader, National Center for Geographic Information and Analysis Initiative 12, Remote Sensing and GIS, 1990 – 1992.
Member, Panel for the review of the U.S. Environmental Protection Agency Environmental Monitoring and Assessment Program, Las Vegas, March 1990.
Board of Directors, Center for Natural Lands Management, 1990-93
Member, Panel for the review of U.S Environmental Protection Agency program, "Biospheric feedbacks to climate change: the sensitivity of regional trace gas emissions, evapotranspiration, and energy balance to vegetation redistribution," Corvallis, Oregon, August 1990.
Member, California Board of Forestry Mapping Advisory Committee, 1990-1992
Member, Policy Board of the University of California Wildland Resources Center, 1990-1995.
Peer Review Panel (Chair) for EPA Research Plan, "Simulating climate-biosphere interactions under changing climate conditions," Corvallis Oregon, June 1992.
Technical Advisory Panel, EPA EMAP Landscape Characterization program, Las Vegas, Nevada, December 1992.
National Research Council Committee on the Formation of the National Biological Survey, 1993.
Member, Ecological Society of America Cooper Award Committee, 1993, 1994
Board of Editors, *Conservation Biology*, 1993 – 2000

Science Team, U.S. Forest Service Sierra Nevada Ecosystem Project, 1993 - 1996.
 National Research Council Committee to Review the Department of Interior's Biomonitoring of Environmental Status and Trends (BEST) Program, 1994-95.
 Member, Steering Committee, Geological Society of America USGS/National Biological Survey Workshop, 1996.
 National Research Council Forum on Biodiversity, 1995 - 1998.
 Science Panel Member, Informational Hearing on Strategies for Wildfire Management, California Legislature Assembly Natural Resources Committee, May 1997
 Advisory Panel, National Science Foundation Geography and Regional Science Program, 1996-1997.
 Member, Board of Editors, *Geographical and Environmental Modelling*, 1996 – 2002.
 Member, Data Archiving and Sharing Committee, Ecological Society of America, 1996 – 1998.
 Member, Task Force for IUCN World Commission on Protected Areas, 1998 – 2001.
 Member, Steering Committee, USGCRP California Regional Climate Change Workshop, 1997-1998.
 Member, National Steering Committee, USGS-BRD Gap Analysis Program, 1998-99.
 Member, Union of Concerned Scientists/Ecological Society of America Committee on Ecological Impacts of Climate Change in California, 1998-1999.
 Member, Board of Editors, *Ecology*, 1999 - 2002.
 Chair, External Review Committee, Nicholas School of the Environment, Duke University
 Member, External Science Review Committee for The Nature Conservancy, 2000-2001.
 Member, Science Working Group, County of Placer Legacy Program, 1999-2002.
 Member, Advisory Board for The Nature Conservancy David H. Smith Conservation Research Fellowship Program, 1999-2000.
 Director, Sierra Nevada Network for Education and Research, 1998 – 2000.
 Member, National Research Council Committee on Restoration of the Greater Everglades Ecosystem, 1999-2004.
 Member, Advisory Board, California Policy Research Center, 2001-2005.
 Member, Science Advisors, Trust for Public Land Sierra Checkerboard Project, 2004-2006.
 Member, Board of Trustees, The Nature Conservancy of California, since June 2004.
 Member, Independent Science Advisors, Conservation Biology Institute, Sierra Nevada Fisher Assessment (2006-2007)
 Member, National Research Council Committee for the Independent Scientific Review of the Everglades Restoration Program, 2006-2008.
 Member, Science Review team, Carrizo Plain National Monument, since 2007.
 Member, Board of Directors, Tejon Ranch Conservancy, since 2008.
 Chair, National Research Council Committee for the Independent Scientific Review of the Everglades Restoration Program, 2009-2010.
 Member, Independent Science Advisers, Altamont Pass Wind Resource Area Conservation Plan, since June 2009
 Member, National Research Council Board on Environmental Studies and Toxicology, since 2010
 Member, National Research Council Committee on Science for EPA's Future, since 2011

Public Software

- 2004 Stoms, D. and F. W. Davis (with collaborators from The World Bank and Conservation International). TAMARIN – Toolbox of Applied Metrics and Regional Incentives, Central Atlantic Forest, Bahia, Version 4.3. http://www.biogeog.ucsb.edu/projects/wb/TAMARIN_Manual.pdf
- 1999 Davis, F.W. and Stoms, D. Gap analysis of mainland California: An interactive atlas of terrestrial biodiversity and land management. C D-ROM distributed by California Department of Fish and Game and by the U.S. Government Printing Office. http://www.biogeog.ucsb.edu/projects/gap/gap_cdrom.html
- 1999 Andelman, S.A., I. Ball, D. Stoms and F. W. Davis. SITES: An analytical toolbox for ecoregional conservation planning. <http://www.biogeog.ucsb.edu/projects/tnc/toolbox.html> (obsolete)

Edited Books

- 2006 Scott J.M. D. Goble and F.W. Davis. *The Endangered Species Act at 30 Volume II: Conserving Biodiversity in Human Dominated Landscapes*. Island Press, Washington, D.C.
- 2005 Goble, D., Scott J.M. and F.W. Davis. *The Endangered Species Act at 30 Volume I: Renewing the Conservation Promise*. Island Press, Washington, D.C.
- 1996 Scott, J.M., T. Tear, and F. W. Davis. *Gap Analysis: A Landscape Approach to Conservation Planning*. American Society for Photogrammetry and Remote Sensing, Washington, D.C.

Peer-reviewed Journal Articles and Book Chapters

- 2012 Stoms, D.M., **F.W. Davis**, M.W. Jenner, T. Nogeire, and S.R. Kaffka. Modeling wildlife and other trade-offs with biofuel crop production. *Global Change Biology Biofuels* 4: 330-341.
- 2011 **Davis, F.W.**, C.M. Tyler, B. E. Mahall. Consumer control of oak demography in a Mediterranean-climate savanna. *Ecospheres* 2(10):108. [doi:10.1890/ES11-00187.1](https://doi.org/10.1890/ES11-00187.1).
- 2011 Whipple, A.A., R.M. Grossinger and **F. W. Davis**. Shifting baselines in a California oak savanna: Nineteenth Century data to inform restoration scenarios. *Restoration Ecology* 19: 88-101.
- 2011 Stoms, D. M., J. Kreitler and **F. W. Davis**. The power of information for targeting cost-effective conservation investments in multifunctional farmlands. *Environmental Modelling and Software* 26: 8-17.
- 2010 Sork, V.L., **F.W. Davis**, R. Westfall, A. Flint, M. Ikegami, H. Wang and D. Grivet. Gene movement and genetic association with regional climate gradients in California valley oak (*Quercus lobata* Née) in the face of climate change. *Molecular Ecology* 19: 3806–3823.
- 2010 Geyer, R., D. M. Stoms, J. P. Lindner, **F. W. Davis** and B. Wittstock. Coupling GIS and LCA for biodiversity assessments of land use. Part 2: Impact assessment. *International Journal of Life Cycle Assessment* 15: 692-703.
- 2010 Geyer, R., D. M. Stoms, J. P. Lindner, **F. W. Davis** and B. Wittstock. Coupling GIS and LCA for biodiversity assessments of land use. Part 1: Inventory modeling. *International Journal of Life Cycle Assessment* 15:454-467.
- 2010 **Davis, F. W.**, M. Borchert, R. K. Meentemeyer, A. Flint and D. M. Rizzo. Pre-impact forest composition and ongoing tree mortality associated with sudden oak death in the Big Sur region; California. *Forest Ecology and Management* 259: 2342-2354.
- 2009 Pluess, A. R., V. L. Sork, B. Dolan, **F. W. Davis**, D. Grivet, K. Merg, J. Papp, and P. E. Smouse. Short distance pollen movement in a wind-pollinated tree, *Quercus lobata* (Fagaceae). *Forest Ecology and Management* 258:735-744.
- 2009 Stoms, D. M., P. A. Jantz, **F. W. Davis**, and G. DeAngelo. Strategic targeting of agricultural conservation easements as a growth management tool. *Land Use Policy* 26:1149-1161.
- 2008 Grivet, D., V. L. Sork, R. D. Westfall and **F. W. Davis**. Conserving the evolutionary potential of valley oak (*Quercus lobata* Née) in California. *Molecular Ecology* 17:139-156.
- 2008 Tyler, C. M., **F. W. Davis** and B. E. Mahall. The relative importance of factors affecting age-specific seedling survival of two co-occurring oak species in southern California. *Forest Ecology and Management* 255:3063-3074.
- 2008 Borchert, M., **F.W. Davis**, and J. Kreitler. Carnivore use of an avocado orchard in southern California. *California Fish and Game Scientific Journal* 94:61-74.
- 2007 Regan, H. M., **F. W. Davis**, S. J. Andelman, A. Widyanata and M. Freese. Comprehensive criteria for biodiversity evaluation in conservation planning. *Biodiversity and Conservation* 16:2715-2728.
- 2007 Austerlitz, F., C. Dutech, P. E. Smouse, , **F. W. Davis** and V. L. Sork. Estimating anisotropic pollen dispersal: A case study in *Quercus lobata*. *Heredity* 99:193-204.
- 2007 **Davis, F. W.**, C. Seo and W. Zielinski. Regional variation in home range scale habitat models for fisher (*Martes pennanti*) in California. *Ecological Applications* 17:2195-2213
- 2007 Keeley, J.E., and **F.W. Davis**. Chaparral. Pages 339-366 in: M.G. Barbour, T. Keeler-Wolf, and A.A. Schoenherr (eds.), *Terrestrial Vegetation of California*, 3rd edition. University of California Press, Berkeley.
- 2007 Jantz, P., B. Preusser, J. Fujikawa, J. Kuhn, C. Bersbach, J. Gelbard and **F. W. Davis**. Regulatory protection and Conservation. Pp. 297-318 in, M. R. Stromberg, J. D. Corbin and C. M. D'Antonio, eds., *California Grasslands: Ecology and Management*, University of California Press, Berkeley.
- 2006 **Davis, F. W.**, C. Costello and D. Stoms. Efficient Conservation in a Utility-Maximization Framework. *Ecology and Society* 11 (1): 33. [online] URL: <http://www.ecologyandsociety.org/vol11/iss1/art33/>
- 2006 Tyler, C., W. Kuhn, and **F.W. Davis**. Demography and recruitment limitations of three oak species in California. *Quarterly Review of Biology* 81: 127-152.

- 2006 D. Stoms, E. Machado, **F.W. Davis** and J. Kreidler. Prioritizing farmland preservation cost-effectively for multiple objectives. *Journal of Soil and Water Conservation* 61:250-259.
- 2006 Chomitz, K. M., G. A. B. Da Fonseca, K. Alger, D. M. Stoms, M. Honzák, E. Charlotte Landau, T. S. Thomas, W. Wayt Thomas and **F. W. Davis**. Viable reserve networks arise from individual landholder responses to conservation incentives. *Ecology and Society* 11 (2): 40. [online] URL: <http://www.ecologyandsociety.org/vol11/iss2/art40/>
- 2006 Brosi, B. J., G. Daily and **F. W. Davis**. Agricultural and Urban Landscapes. Pp. 256-274 in, Scott, M.J., D. Goble and F.W. Davis, Eds., *The Endangered Species Act at Thirty: Conserving Biodiversity in Human-Dominated Landscapes*, Island Press, Washington, D.C.
- 2006 **Davis, F. W.** and M. Borchert. Central Coast Bioregion. Pp. 321-349 in, J. Fites-Kauffman et al., Eds., *Fire Ecology of California*, University of California Press, Berkeley.
- 2005 Dutech, C. V.L. Sork, A. J. Irwin, P.E. Smouse, and **F.W. Davis**. Gene flow and fine-scale genetic structure in a wind-pollinated tree species, *Quercus lobata* (Fagaceae). *American Journal of Botany* 92:252-261.
- 2005 Chornesky, E.A. A.M. Bartuska, G.H. Aplet, K.O. Britton, J. Cummings-Carlson, **F.W. Davis**, J. Eskow, D.R. Gordon, K. W. Gottschalk, R.A. Haack, A.J. Hansen, R.N. Mack, F.J. Rahel, M. A. Shannon, L.A. Wainger, and T. B. Wigley. Science priorities for reducing the threat of invasive species to sustainable forestry. *Bioscience* 55: 335-348.
- 2005 Green, J.L., A. Hastings, P. Arzberger, F. J. Ayala, K. L. Cottingham, K. Cuddington, **F. W. Davis**, J. A. Dunne, M. Fortin, L. Gerber, And M. Neubert. Complexity in Ecology and Conservation: Mathematical, Statistical, and Computational Challenges. *Bioscience* 55: 501–510.
- 2005 Stoms, D. M., **F.W. Davis**, S.J. Andelman, M.H. Carr, S.D. Gaines, B.S. Halpern, R. Hoenicke, S.D.G. Leibowitz, A. Leydecker, E.M.P. Madin, H. Tallis and R.R. Warner. Integrated coastal reserve planning: making the land-sea connection. *Frontiers in Ecology and the Environment* 8: 429-436.
- 2005 **Davis, F. W.**, D. Goble and J.M. Scott. Renewing the Conservation Commitment. Pages 296-306 in *The Endangered Species Act at Thirty: Renewing the Conservation Promise*, edited by D. Goble, M. J. Scott and F.W. Davis. Island Press, Washington, D.C.
- 2004 Armsworth, P., B. Kendall, and **F.W. Davis**. An Introduction to Biodiversity Concepts for Environmental Economics. *Journal of Energy and Resource Economics* 26: 115-136.
- 2003 Stoms, D.M., K. Chomitz, and **F. W. Davis**. TAMARIN: A landscape framework for evaluating economic incentives for rainforest restoration. *Landscape and Urban Planning* 68: 95-108.
- 2002 Sork, V.L., **F. W. Davis**, P. Smouse, V. Apsit, R. Dyer, J. Fernandez, W. Kuhn. Pollen movement in declining populations of California valley oak, *Quercus lobata*: Where have all the fathers gone? *Molecular Ecology* 11: 1657-1668.
- 2001 Scott, J.M., **F. W. Davis**, G. McGhie, C. Groves. Nature reserves: do they capture the full range of America's biological diversity? *Ecological Applications* 11: 9999 – 1004.
- 2001 D. M. Stoms, J. M. McDonald and **F. W. Davis**. Fuzzy assessment of land suitability for scientific research reserves. *Environmental Management* 29: 545-558.
- 2001 **Davis, F. W.** and Moritz, M. A. Mechanisms of disturbance. In, *Encyclopedia of Biodiversity* (S. A. Levin, Editor-in-Chief), Academic Press, New York.
- 2000 Odion, D. C. and **F. W. Davis**. Fire, soil heating, and the formation of vegetation patterns in chaparral. *Ecological Monographs* 70: 149–169.
- 2000 Stein, B. and **F. W. Davis**. Discovering Planet Earth: tools and techniques of biodiversity inventory. Pp. 19-55 in, *Precious Heritage: The Status of Biodiversity in the United States*, edited by B. Stein et al. Oxford University Press, New York.
- 2000 **Davis, F. W.** and D. Roberts. Stand structure in terrestrial ecosystems. Pp. 7-30 in, *Methods in Ecosystem Science* (O. E. Sala, R. B. Jackson, H. A. Mooney, R. W. Howarth, eds.), Springer, New York.
- 1999 **Davis, F.W.**, D.M. Stoms, and S. Andelman. Systematic reserve selection in the USA: an example from the Columbia Plateau ecoregion. *Parks* 9:31-41.

- 1999 Field, C. B., G. C. Daily, **F. W. Davis**, S. Gaines, P. A. Matson, J. Melack, and N. L. Miller. Confronting climate change in California: ecological impacts on the golden state. Union of Concerned Scientists, Cambridge, MA and Ecological Society of America, Washington, D.C
- 1998 Wang, Y., Paris, J., and **F. W. Davis**. Inclusion of a simple multiscattering model into a microwave canopy backscatter model. *Remote Sensing of Environment* 63:101-111.
- 1998 Stoms, D. M., **F.W. Davis**, K.L. Driese, K.M. Cassidy and M. Murray. Gap analysis of the vegetation of the Intermountain Semi-desert Ecoregion. *Great Basin Naturalist* 58: 199-216.
- 1998 Stoms, D. M., M. J. Bueno, **F. W. Davis**, K. M. Cassidy, K. L. Driese, and J. S. Kagan. Map-guided classification of regional land cover with multi-temporal AVHRR. *Photogrammetric Engineering and Remote Sensing* 64: 831-838.
- 1998 Callaway, R. M. and **F. W. Davis**. Recruitment of *Quercus agrifolia* on central California landscapes. *Journal of Vegetation Science* 9: 647-656.
- 1998 Stoms, D. M., M. I. Borchert, M. Moritz, **F. W. Davis**, and R. L. Church. A systematic process for selecting research natural areas. *Natural Areas Journal* 18: 338-349.
- 1998 Day, J., Y. Wang and **F. W. Davis**. Modeled sensitivity of C- and L-band SAR backscatter to surface roughness and soil moisture in loblolly pine forest. *Remote Sensing of Environment* 66: 331-342.
- 1997 Wang, Y. and **F. W. Davis**. Decomposition of polarimetric synthetic aperture radar backscatter from upland and flooded forests. *International Journal of Remote Sensing* 6: 1319-1322.
- 1997 Stoms, D., M. B. Bueno, and **F. W. Davis**. Balancing multiple objectives in multitemporal AVHRR compositing. *Photogrammetric Engineering and Remote Sensing* 63: 681-689.
- 1997 Gerrard, R. A., R. L. Church, D. M. Stoms, and **F. W. Davis**. Selecting conservation reserves using species covering models: adapting the ARC/INFO GIS. *Transactions in GIS* 2: 45 - 60.
- 1996 **Davis, F. W.** and D. M. Stoms. Sierran vegetation: a gap analysis. Pp. 25-1 to 25-19 in, *Sierra Nevada Ecosystem Project: Final Report to Congress, vol. II, Assessments and Scientific Basis for Management Options*. University of California Centers for Water and Wildland Resources, Davis.
- 1996 **Davis, F. W.**, D. M. Stoms, R. L. Church, B. J. Okin, and K. N. Johnson. Selecting biodiversity management areas. Pp. 26-1 to 26-18 in, *Sierra Nevada Ecosystem Project: Final Report to Congress, vol. II, Assessments and Scientific Basis for Management Options*. University of California Centers for Water and Wildland Resources, Davis.
- 1996 **Davis, F.W.** Comparison of late seral/old growth maps from SNEP versus the Sierra Biodiversity Institute. Pp. 745-757 in, *The Sierra Nevada Ecosystem Project: Final Report to Congress, vol. III, Assessments, Commissioned Reports, and Background Information*, Wildlands Resources Center, University of California at Davis,
- 1996 **Davis, F.W.** and W. A. Reiners. The nature of Gap Analysis. Letter to the Editor in reply to H. L. Short and J. B. Hestbeck, *Bioscience* 45: 535-539. *Bioscience* 46: 74-75.
- 1996 Church, R. L., D. M. Stoms, and **F. W. Davis**. Reserve selection as a maximal covering location problem. *Biological Conservation* 76: 105-112.
- 1996 Stine, P., **F. W. Davis**, B. Csuti and J. M. Scott. Comparative utility of vegetation maps of different resolutions for conservation planning. Pp. 210-220 in, *Biodiversity in Managed Landscapes: Theory and Practice*, edited by R. C. Szaro and D. W. Johnston. Oxford University Press, New York.
- 1996 **Davis, F. W.** and D. M. Stoms. A spatial analytical hierarchy for Gap Analysis. Pp. 15-24 in, *Gap Analysis: A Landscape Approach to Conservation Planning*, edited by J. M. Scott, T. Tear, and F. W. Davis, American Society for Photogrammetry and Remote Sensing.
- 1996 Thomas, K. and **F. W. Davis**. Applications of Gap Analysis data in the Mojave Desert of California. Pp. 209-219 in, *Gap Analysis: A Landscape Approach to Conservation Planning*, edited by J. M. Scott, T. Tear, and F. W. Davis, American Society for Photogrammetry and Remote Sensing.
- 1995 **Davis, F. W.** Mapping and monitoring terrestrial biodiversity using geographic information systems. *Academia Sinica Monograph Series* 14: 461-471.

- 1995 Wang Y., **F.W. Davis**, J.M. Melack, E.S. Kasischke, and N. L. Christensen Jr. The effects of changes in forest biomass on radar backscatter from tree canopies. *International Journal of Remote Sensing* 16: 503-513.
- 1995 **Davis, F. W.**, P. A. Stine, D. M. Stoms, M. I. Borchert and A. D. Hollander. Gap analysis of the actual vegetation of California 1. The Southwestern Region. *Madroño* 42: 40-78.
- 1995 **Davis, F.W.** Information systems for conservation research, policy and planning. *Bioscience Supplement on Science and Biodiversity Policy*: S36-S42.
- 1995 Friedl, M. A., **F. W. Davis**, J. Michaelsen, and M. Moritz. Scaling and uncertainty in the relationship between LAI and NDVI: an analysis using a scene simulation model and data from FIFE. *Remote Sensing of Environment* 54: 233-246.
- 1995 Stoms, D. M. and **F. W. Davis**. Biodiversity in the Southwestern California Region. Pp. 465-466 in, *Our Living Resources: A Report to the Nation on the Distribution, Abundance, and Health of U.S. Plants, Animals and Ecosystems*, edited by E. T. Laroe, G. S. Farris, C. E. Puckett, P. D. Doran, and M. J. Mac. U.S. Department of the Interior, National Biological Service, Washington, D.C.
- 1995 **Davis, F. W.** and J. C. Michaelsen. Sensitivity of fire regime in chaparral ecosystems to global climate change. Pages 435-456 in, *Global Change and Mediterranean-Type Ecosystems*, edited by W. C. Oechel and J. M. Moreno, Springer-Verlag, New York.
- 1995 Stoms, D. M., **F. W. Davis**, and A. D. Hollander. Hierarchical representation of species distributions for biological survey and monitoring. Pp. 445-449 in, *GIS and Environmental Modeling: Progress and Research Issues*, edited by M. F. Goodchild, et al., GIS World Inc., Fort Collins, Colorado.
- 1994 Friedl, M. and **F. W. Davis**. Sources of variation in radiometric surface temperature over a tallgrass prairie. *Remote Sensing of Environment* 48: 1-17.
- 1994 Friedl, M.A., J. Michaelsen, H. Walker and **F.W. Davis**. Estimating grassland biomass and leaf area index using ground and satellite data. *International Journal of Remote Sensing* 15: 1401-1420.
- 1994 Wang, Y., E. S. Kaschiske, J. M. Melack, **F. W. Davis**, and N. L. Christensen. The effects of loblolly pine biomass and soil moisture backscatter on ERS-1 SAR backscatter. *Remote Sensing of Environment* 49: 25-31.
- 1994 Walsh, S. J. and **F. W. Davis**. Applications of remote sensing and geographic information systems in vegetation science: Introduction. *Journal of Vegetation Science* 5: 610-613.
- 1994 **Davis, F. W.**, P. A. Stine and D. M. Stoms. Remote sensing and GIS applied to phytogeographic analysis and conservation planning in southwestern California. *Journal of Vegetation Science* 5: 743-756.
- 1994 Michaelsen, J., D. S. Schimel, M. A. Friedl, **F. W. Davis**, and R. C. Dubayah. Regression tree analysis of satellite and terrain data to guide vegetation sampling and surveys. *Journal of Vegetation Science* 5: 673-686.
- 1994 Hollander, A.D., **F.W. Davis**, D. M. Stoms. Hierarchical representations of species distributions using maps, images, and sighting data. Pages 71-87 in, *Mapping the Diversity of Nature*, edited by R. I. Miller, Chapman and Hall Publishing, London.
- 1994 **Davis, F. W.** and D. A. Burrows. Spatial simulation of fire regime in mediterranean-climate landscapes. Pages 117-139 in, *The Role of Fire in Mediterranean-Type Ecosystems*, edited by M. C. Talens, W. C. Oechel and J. M. Moreno. Springer-Verlag, New York.
- 1993 Scott, J. M., **F. W. Davis**, B. Csuti, R. Noss, B. Butterfield, C. Groves, H. Anderson, S. Caicco, F. D'Erchia, T. C. Edwards, J. Ulliman and R. G. Wright. Gap analysis: a geographic approach to protection of biological diversity. *Wildlife Monographs* 123: 1-41.
- 1993 Stoms, D. M., **F. W. Davis**, C. Cogan, M. Painho, B. Duncan, J. Scepan and M. Scott. Geographic analysis of California condor sighting data. *Conservation Biology* 7: 148-159.
- 1993 Callaway, R.M. and **F.W. Davis**. Vegetation dynamics, fire and the physical environment in central California. *Ecology* 74: 1567-1578.
- 1993 Wang, Y., **F. W. Davis** and J. M. Melack. Simulated and observed backscatter at P-, L-, and C-bands from ponderosa pine stands. *IEEE Transactions on Geoscience and Remote Sensing* 3: 871-879.
- 1993 Wang, Y. J. L. Day, **F. W. Davis** and J. M. Melack. Modeling L-band radar backscatter of Alaskan boreal forests. *IEEE Transactions on Geoscience and Remote Sensing* 31: 1146-1154.

- 1993 Schimel, D.S., **F. W. Davis** and G. T. Kittel. Spatial information for extrapolation of canopy processes: examples from FIFE. Pages 21-38 in, *Scaling Physiological Processes: Leaf to Globe*, edited by J. R. Ehleringer and C. B. Fields. Academic Press, New York.
- 1993 **Davis, F. W.** Introduction to spatial statistics. Pages 16-26 in, *Patch Dynamics*, edited by S. Levin, T. Powell and J. Steele. Springer-Verlag *Lecture Notes in Biomathematics*, New York.
- 1993 **Davis, F. W.** and D. A. Burrows. Modeling fire regime in mediterranean landscapes. Pages 247- 259 in, *Patch Dynamics*, edited by S. Levin, T. Powell and J. Steele. Springer-Verlag *Lecture Notes in Biomathematics*, New York.
- 1992 Stoms, D., **F. W. Davis** and C. Cogan. Sensitivity of wildlife habitat models to uncertainties in GIS data. *Photogrammetric Engineering and Remote Sensing* 58: 843-850.
- 1992 **Davis, F. W.**, D. S. Schimel, M. Friedl, R. Dubayah, T. G. F. Kittel and J. Dozier. Covariance of biophysical data with digital topographic and landuse maps over the FIFE site. *Journal of Geophysical Research* 97(D17): 19,009-19,021.
- 1991 **Davis, F. W.**, D. Quattrochi, M. Ridd, N. S. Lam, S. J. Walsh, J. C. Michaelsen, J. Franklin, D. A. Stowe, C. J. Johannsen, C. A. Johnston. Environmental analysis using integrated GIS and remotely sensed data: some research needs and priorities. *Photogrammetric Engineering and Remote Sensing* 57: 689-697.
- 1991 Star, J. L., J. E. Estes and **F. W. Davis**. Improved integration of remote sensing and Geographic Information Systems: a background to NCGIA Initiative 12. *Photogrammetric Engineering and Remote Sensing* 57: 643-645.
- 1991 Franklin, J., **F. W. Davis** and P. Lefebvre. Thematic Mapper analysis of tree cover in semiarid woodlands using a model of canopy shadowing. *Remote Sensing of Environment* 36: 189-202.
- 1991 Borchert, M., **F. W. Davis** and B. Allen-Diaz. Environmental relationships of herbs in blue oak (*Quercus douglasii*) woodlands of central coastal California. *Madroño* 38: 249-266.
- 1991 Pregill, G., R. I. Crombie, D. W. Steadman, L. K. Gordon, **F. W. Davis**, and W. B. Hilgartner. Living and late Holocene fossil vertebrates and the vegetation of the Cockpit Country, Jamaica. *Atoll Research Bulletin* 353: 1-19.
- 1991 Scott, J. M., J. E. Estes, J. Scepan, **F. W. Davis** and D. M. Stoms. An information system approach to the preservation of biological diversity. Pages 283-293 in, *GIS Applications in Natural Resources*, edited by M. Heit and A. Shortreid. GIS World Inc., Fort Collins, Colorado.
- 1991 Scott, J. M., B. Csuti and **F. W. Davis**. Gap analysis: an application of Geographic Information Systems for wildlife species. Pages 167-180 in, *Challenges in the Conservation of Biological Resources: A Practitioner's Guide*, edited by D. J. Decker, M. E. Krasny, G. R. Goff, C. R. Smith and D. W. Gross. Westview Press, Boulder, Colorado.
- 1991 **Davis, F. W.** and D. S. Simmonett. GIS and remote sensing. Pages 191-213 in, *Geographical Information Systems: Principles and Applications*, edited by D. J. Maguire, M. F. Goodchild and D. W. Rhind. Longman Scientific and Technical, United Kingdom.
- 1990 **Davis, F. W.**, D. Stoms, J. Scepan, J. Estes and M. Scott. An information systems approach to the preservation of biological diversity. *International Journal of Geographic Information Systems* 4: 55-78.
- 1990 **Davis, F. W.** and S. Goetz. Modeling vegetation pattern using digital terrain data. *Landscape Ecology* 4: 69-80.
- 1990 **Davis, F. W.** and J. Dozier. Information analysis of a spatial database for ecological land classification. *Photogrammetric Engineering and Remote Sensing* 56: 605-613.
- 1990 Dubayah, R., J. Dozier and **F. W. Davis**. Topographic distribution of clear-sky radiation over the Konza Prairie, Kansas, USA. *Water Resources Research* 26: 679-690.
- 1989 **Davis, F. W.**, M. Borchert and D. Odion. Establishment of microscale vegetation pattern in maritime chaparral after fire. *Vegetatio* 84:53-67.
- 1988 Harvey, L. E., **F. W. Davis** and N. Gale. The analysis of class dispersion patterns using matrix comparisons. *Ecology* 69: 537-542.
- 1988 Haston, L., **F. W. Davis** and J. Michaelsen. Climate response functions for big-cone spruce: a mediterranean climate conifer. *Physical Geography* 9: 81-97.

- 1988 **Davis, F. W.**, D. Hickson and D. Odion. Composition of maritime chaparral related to fire history and soil, Burton Mesa, California. *Madroño* 35:169-195.
- 1988 Borchert, M., **F. W. Davis**, J. Michaelsen and L. Oyler. Interactions of factors affecting seedling recruitment of blue oak (*Quercus douglasii*) in California. *Ecology* 70:389-404.
- 1987 Michaelsen, J., L. Haston and **F. W. Davis**. 400 years of Central California precipitation variability reconstructed from new tree-ring chronologies. *Water Resources Bulletin* 23:809-818.
- 1986 Michaelsen, J., **F. W. Davis** and M. Borchert. Non-parametric hierarchical models for analyzing ecological data. *Coenoses* 1:39-48.
- 1985 **Davis, F. W.** Historical changes in submerged aquatic macrophyte communities of upper Chesapeake Bay. *Ecology* 66: 981-993.
- 1985 **Davis, F. W.**, W. Hilgartner and D. Steadman. Notes on the diets of *Geotrygon montana* and *Columba caribaea* in Jamaica. *Bulletin of the British Ornithological Club* 105: 130-134.
- 1984 Brush, G. and **F. W. Davis**. Stratigraphic evidence of human disturbance in an estuary. *Quaternary Research* 22: 91-108.

Conference Proceedings

- 2008 Sork, V. L., **F. W. Davis** and D. Grivet. Incorporating genetic information into conservation planning for California Valley Oak. In, A. Merenlender, D. McCreary, Douglas, K. Purcell, Tech. eds. *Proceedings of the Sixth California Oak Symposium*, USDA Forest Service Pacific Southwest Research Station General Technical Report PSW-GTR-217:497-509.
- 2008 Tyler, C. M., B. E. Mahall and **F. W. Davis**. Influence of Winter-Spring livestock grazing on survival and growth of *Quercus lobata* and *Q. agrifolia* seedlings. In, A. Merenlender, D. McCreary, Douglas, K. Purcell, Tech. eds. *Proceedings of the Sixth California Oak Symposium*, USDA Forest Service Pacific Southwest Research Station General Technical Report PSW-GTR-217:105-113.
- 2004 **F. W. Davis**, C. Costello, D. Stoms, E. Machado and J. Metz. A framework for setting land conservation priorities in the Sierra Nevada. Proceedings of the Sierra Nevada Science Symposium, USDA Forest Service Gen. Tech. Report PSW-GTR-193, pp. 195-206.
- 2002 Tyler, C. M., B.E. Mahall, **F. W. Davis**, and M. Hall. Factors limiting recruitment in valley and coast live oak. *Proceedings of the Fifth Symposium on Oak Woodlands*, USDA Forest Service General Technical Report PSW-GTR-184, pp.565-572
- 2002 Sork, V. L., **F. W. Davis**, R.J. Dyer, and P.E. Smouse. Mating patterns in a savanna population of valley oak, *Quercus lobata* Neé. *Proceedings of the Fifth Symposium on Oak Woodlands*, USDA Forest Service General Technical Report PSW-GTR-184, pp.427-439
- 2001 **Davis, F. W.** and D. M. Stoms. Spatial decision support systems for wildlife conservation planning. *Proceedings, International Seminar on the Wildlife Habitat Suitability Mapping and Management*, Seoul National University, Seoul, Korea, pp. 14-31.
- 2000 Church, R. L., D. Stoms, **F. W. Davis**, and B. J. Okin. Planning management activities to protect biodiversity with a GIS and an integrated optimization model. *Proceedings of the Third International Conference/Workshop on Integrating GIS and Environmental Modeling*.
- 1997 Friedl, M. A., **F. W. Davis**, J. Michaelsen, and M. Moritz. Modeling sources of uncertainty in satellite-based estimates of Leaf Area Index using a scene simulation model. *Proceedings IGARSS'97:972-974*.
- 1997 M.A. Moritz, D.M. Stoms, M.I. Borchert, and **F.W. Davis**. A proposed protocol for identifying potential research Natural Areas with Gap Analysis data. *Proceedings 1997 ESRI Users Conference*, Palm Springs, CA.
- 1997 M.A. Moritz and **F. W. Davis**. A method of examining patterns in mapped fire histories: identification of homogeneous fire landscapes. *Proceedings of Fire in California Ecosystems: Integrating Ecology, Prevention, and Management*.
- 1996 **Davis, F. W.** Classification and information systems. *Proceedings of the East Mojave Desert Symposium*, Natural History Museum of Los Angeles County Technical Report 10, pp. 63-64.
- 1995 Wang, Y., **F. W. Davis** and E. S. Kasischke. Effects of variation in soil moisture on ERS-1 SAR backscatter. *Proceedings IGARSS'94* 1475-1477.

- 1994 Friedl, M. A., **F. W. Davis**, J. Michaelsen, and M. Moritz. Modeling sources of uncertainty in satellite-based estimates of leaf area index using a scene simulation model. *Proceedings IGARSS'94*:1826-1828
- 1994 Hess, L. L., J. M. Melack and **F. W. Davis**. Mapping floodplain inundation with multi-frequency polarimetric SAR: use of a tree-based model. *Proceedings IGARSS'94*:1072-1073.
- 1994 Wang, Y., **F. W. Davis** and J. M. Melack. Effects of variation in soil moisture on ERS-1 backscatter from loblolly pine forests. *Proceedings IGARSS'94*:1475-1477.
- 1992 Scott, J. M., B. Csuti, D. Stoms and **F. W. Davis**. Remote Sensing for nongame wildlife habitat management. *Transactions of the 56th North American Wildlife and Natural Resources Conference*, pp. 134-140.
- 1992 Wang, Y., **F. W. Davis** and J. Melack. Comparison of modeled backscatter with SAR data at P-Band. Summaries of the Third Annual Airborne Geoscience Workshop, June 1-5, 1992, Volume 3, AIRSAR Workshop. NASA Jet Propulsion Laboratory Publication 92-14, pp. 9-11.
- 1992 Day, J. L. and **F. W. Davis**. SAR backscatter from coniferous forest gaps. *Summaries of the Third Annual Airborne Geoscience Workshop, June 1-5, 1992, Volume 3, AIRSAR Workshop*, NASA Jet Propulsion Laboratory Publication 92-14, pp. 12-14.
- 1992 **Davis, F. W.** and D. M. Stoms. Gap analysis of biodiversity in California. *Symposium on Biodiversity of northern California* (H. M. Kerner, ed.). Wildland Resources Center Report 29, University of California, Berkeley, pp. 23-29.
- 1992 Odion, D. C., R. M. Callaway, W. R. Ferren and **F. W. Davis**. Vegetation of Fish Slough, an Owens Valley wetland ecosystem. In *The history of water: eastern Sierra Nevada, Owens Valley, White-Inyo Mountains* (Hall, C. A. et al., eds.). White Mountain Research Station Volume 4, University of California, Los Angeles, pp.171-197.
- 1992 Haller, J. R., W. R. Ferren, R. M. Callaway, D. C. Odion and **F. W. Davis**. A phytogeographic comparison of the vascular flora of the wetlands of Fish Slough with the floras of neighboring desert basins. In *The history of water: eastern Sierra Nevada, Owens Valley, White-Inyo Mountains* (Hall, C. A. et al., eds.). White Mountain Research Station Volume 4, University of California, Los Angeles, pp. 211-222.
- 1992 Stoms, D. M., **F. W. Davis**, P. A. Stine and M. Borchert. Beyond the traditional vegetation map towards a biodiversity database. *Proceedings GIS/LIS'92*:718-726.
- 1992 Walker, R. E., D. M. Stoms, **F. W. Davis** and J. van Wagtenonk. Modeling potential natural vegetation from a topographic gradient in the southern Sierra Nevada, California. *Proceedings GIS/LIS'92*:794-803.
- 1992 Wang, Y., **F. W. Davis** and J. Melack. Modeled response of L-band radar backscatter from conifer woodland to changes in tree canopy volume. *Proceedings IGARSS '92*:776-778.
- 1991 Friedl, M. A., **F. W. Davis** and J. Michaelsen. Correspondence of surface temperatures and terrain variables over a tallgrass prairie. *Proceedings IGARRS'91*:1913-1916.
- 1991 **Davis, F. W.**, M. I. Borchert, L. E. Harvey and J. C. Michaelsen. Factors affecting seedling survivorship of blue oak (*Quercus douglasii* H. & A.) in central California. *Proceedings of Oak Woodlands and Hardwood Rangeland Management: a Research Symposium*. USDA Forest Service General Technical Report PSW-126, pp.81-86.
- 1991 Lefebvre, P., **F. W. Davis** and M. Borchert. Thematic Mapper analysis of blue oak (*Quercus douglasii*) in central California. *Proceedings of Oak Woodlands and Hardwood Rangeland Management: a Research Symposium*. USDA Forest Service General Technical Report PSW-126, pp. 198-201.
- 1991 Brown, R. and **F. W. Davis**. Historic mortality of valley oak in the Santa Ynez Valley, Santa Barbara County, 1933-1989. *Proceedings of Oak Woodlands and Hardwood Rangeland Management: a Research Symposium*. USDA Forest Service General Technical Report PSW-126, pp. 202-207.
- 1991 **Davis, F. W.** Processing of GIS and remotely sensed data for environmental analysis. *Proceedings: The Integration of Remote sensing and Geographic Information Systems. Special session of the Annual Meeting of the American Society of Photogrammetry and Remote Sensing*, pp. 137-150. American Society for Photogrammetry and Remote Sensing, Bethesda, Maryland.
- 1990 Estes, J., J. Scepan, **F. W. Davis**, D. M. Stoms and J. M. Scott. The use of information systems in the preservation of biological diversity. *Proceedings of the 23rd International Symposium on Remote Sensing of Environment*, pp. 709-723.

- 1990 Stoms, D., **F. W. Davis**, J. Scepan and J. Estes. Assessing biological diversity: a Geographic Information Systems approach. *Global Natural Resource Monitoring and Assessments: Preparing for the 21st Century. Proceedings of the International Conference and Workshop*. American Society for Photogrammetry and Remote Sensing, pp. 432-442.
- 1990 **Davis, F. W.**, J. Michaelsen, R. Dubayah and J. Dozier. Optimal terrain stratification for integrating ground data from FIFE. *American Meteorological Society Proceedings of the Symposium on the First ISLSCP Field Experiment (FIFE)*, pp. 11-15.
- 1990 Stoms, D., **F. W. Davis**, C. Cogan, M. Painho, B. Duncan and J. Scepan. Sensitivity of habitat models to uncertainties in GIS data: a California Condor case study. *Proceedings of GIS/LIS '90*: 69-78.
- 1990 Duncan, B., M. Painho and **F. W. Davis**. Utilizing GIS technology for combining regional vegetation maps. *Proceedings of GIS/LIS '90*: 773-779.
- 1989 **Davis, F. W.**, E. Keller, A. Parikh and J. Florsheim. Recovery of the chaparral riparian zone after wildfire. *Proceedings of the California Riparian Systems Conference*. U.S. Forest Service General Tech. Report PSW-110, pp. 194-203.
- 1989 **Davis, F. W.**, R. Dubayah, J. Dozier and F. Hall. Covariance of greenness and terrain variables over the Konza Prairie. *Proceedings IGARSS '89, IEEE 89CH27680*:1322-1325.
- 1989 Dubayah, R., J. Dozier and **F. W. Davis**. The distribution of clear-sky radiation over varying terrain. *Proceedings IGARSS '89, IEEE 89CH2768-0*: 885-888.
- 1987 Scepan, J., **F. W. Davis** and L. Blum. A geographic information system for managing California Condor habitat. *Proceedings of the 2nd Geographic Information Systems Conference and Workshops*, San Francisco, California.
- 1987 **Davis, F. W.** Thematic Mapper analysis of coast live oak in Santa Barbara County. *Proceedings of the Symposium on Multiple-Use Management of California Hardwoods*. U.S. Forest Service General Tech. Report PSW-100, pp. 317-324.
- 1985 **Davis, F. W.**, S. Goetz and J. Franklin. The use of digital satellite and elevation data in chaparral ecosystems research. *Proceedings of the Chaparral Ecosystem Research Conference*, California Water Resources Center Report No. 62: 19-27.
- 1985 Parikh, A. and **F. W. Davis**. Terrestrial vegetation of Rattlesnake Canyon. *Proceedings of the Chaparral Ecosystem Research Conference*, California Water Resources Center Report No. 62: 13-18.

National Research Council Reports (Committee Member and Contributing Author)

- 2010 National Research Council. Progress towards restoring the Everglades: The third biennial review – 2010. National Academy Press, Washington, D.C.
- 2008 National Research Council. Progress towards restoring the Everglades: The second biennial review – 2008. National Academy Press, Washington, D.C.
- 2007 National Research Council. Progress towards restoring the Everglades: The first biennial review – 2006. National Academy Press, Washington, D.C.
- 2005 National Research Council. Re-engineering water storage in the Everglades: Risks and Opportunities. National Academy Press, Washington, D.C.
- 2004 National Research Council. Does water flow influence Everglades landscape patterns? National Academy Press, Washington, D.C.
- 2003 National Research Council. Progress Towards Adaptive Monitoring And Assessment For The Comprehensive Everglades Restoration Plan. National Academy Press, Washington, D.C.
- 2002 National Research Council. Regional Issues in the Aquifer Storage and Recovery for Everglades Restoration. National Academy Press, Washington, D.C.
- 2002 National Research Council. Florida Bay Research Programs and their Relation to the Comprehensive Everglades Restoration Plan. National Academy Press, Washington, D.C.
- 2001 National Research Council. Aquifer Storage and Recovery in the Comprehensive Everglades Restoration Plan. National Academy Press, Washington D.C.

- 1995 National Research Council. A Review of the Biomonitoring of Environmental Status and Trends Program: The Draft Detailed Plan. National Academy Press, Washington, D.C.
- 1993 National Research Council. A Biological Survey for the Nation. National Academy Press, Washington, D.C.

Book Reviews

- 2002 GIS and Remote Sensing Applications in Biogeography and Ecology. by A. C. Millington, S. J. Walsh, and P. E. Osborne (Boston: Kluwer, 2001), ISBN 0-7923-7454-1 [Pp 333]. *International Journal of Geographic Information Systems* 17:293-294.

Contract Reports

See <http://www.biogeog.ucsb.edu/pubs/>. A full list and reprints are available upon request

Selected Presentations, Workshops and Symposia

- Chairman, Biogeography Session- Endangered Species and Ecosystems, Association of American Geographers Annual Meeting, Detroit, April 1985.
- Participant, National Science Foundation Workshop on the Use of Array Processors in Ecology, Fort Collins, Colorado, September 1986.
- Participant, National Center for Geographic Information and Analysis Workshop on the Accuracy of Spatial Databases, December 1988.
- Panelist, Commercial software for spatial econometric analyses, Annual Meeting, Association of American Geographers, Baltimore, Maryland, March 1989.
- Invited speaker, "Ecological modeling using geographic information systems," Department of Geography, University of Toronto, April 1989.
- Participant, Species Information Workshop, World Conservation Monitoring Center, Kew, England, November 1989.
- Invited Faculty Lecturer, "Interactions between fire and landscape patterns and processes: applications of remote sensing and Geographic Information Systems," Universidad Internacional Menéndez Pelayo Course on The Role of Fire in Mediterranean Ecosystems, Valencia, Spain, June 1990.
- Session organizer, "Data processing and flow," NCGIA Symposium on Remote Sensing and GIS," Annual Meeting of the American Society for Photogrammetry and Remote Sensing, Baltimore, Maryland, March 1991.
- Invited speaker and participant, "Sierra Global Change/Forest Dynamics Workshop," Giant Forest, Sequoia National Park, May 1991.
- Invited speaker and participant, "Digital geographic data for assessing effects of global climate change on BLM lands," Bureau of Land Management Workshop on Global Change Research, Fort Collins, Colorado, June 1991.
- Workshop organizer and participant, "Gap Analysis Workshop," U.S. Fish and Wildlife Service Workshop for Gap Analysis investigators, Santa Barbara, California, June 1991.
- Invited speaker and participant, "Modeling geographic patterns of species richness at the landscape level," SCOPE Workshop on Biodiversity and Ecosystem Function in Mediterranean California, Occidental College, Los Angeles, February 1992.
- Participant, Investigators Workshop for the Sequoia 2000 Project on Large Capacity Object Servers for Global Change Research, Lake Tahoe, March 1992.
- Participant, "National Park Service Sierra Global Change Workshop," El Portal, Yosemite National Park, April 1992.
- Participant, "2nd Annual Gap Analysis Workshop," U.S. Fish and Wildlife Service workshop for Gap Analysis investigators, Logan, Utah, July 1992.
- Invited speaker and participant, "Sensitivity of fire regime in chaparral ecosystems to global climate change," for Workshop on Anticipated Effects of a Changing Global Environment on Mediterranean-Type Ecosystems, Valencia, Spain, September 1992.
- Invited speaker and participant, Eastern Mojave Deser Symposium, Riverside, California, November 1992.
- Session Organizer (with David Stoms), "Integration of Spatial Technologies for Environmental Modeling," GIS/LIS'92, San Jose, California, November 1992.
- Invited speaker and participant, International Workshop on Biodiversity Surveys, Inventories and Data Organization. Smithsonian Institution, Washington, D.C., January 1993.

- Workshop co-organizer and speaker, "Managing natural landscapes for the conservation of biodiversity." San Diego, California, January 1993.
- Symposium Organizer (with J. M. Scott and T. Tear), "Gap Analysis: A Landscape Approach to Conservation Planning," Annual Meeting of the American Society for Photogrammetry and Remote Sensing, 1995.
- Participant and invited speaker, Computational Ecology Workshop, San Diego Supercomputer Center, September 1995.
- Conference Organizer (with W. Murdoch and M. Goodchild), "Spatio-Temporal Dynamics in Ecological Systems Conference," National Center for Ecological Analysis and Synthesis, Santa Barbara, February 1996.
- Presenter, "Local tree cover dynamics in foothill woodland of Santa Barbara County, 1943-1989," Symposium on Oak Woodlands: Ecology, Management and Urban Interface Issues, San Luis Obispo, California, March 1996.
- Invited speaker, "Application of gap analysis and optimal siting models to regional conservation planning," National Biological Service Southern Science Center, Lafayette, Louisiana, April 1996.
- Workshop Participant, "Developing the Conceptual Basis for Restoration Biology," National Center for Ecological Analysis and Synthesis, Santa Barbara, April 1996.
- Presenter, "The Sierra Nevada Ecosystem Project," 6th Annual GAP Principal Investigators Meeting, Key Largo, Florida, June 1996.
- Workshop Participant, "Workshop on Scenarios of Future Biodiversity: Causes, Patterns and Consequences," National Center for Ecological Analysis and Synthesis, Santa Barbara, June 1996.
- Presenter, "Vegetation and Gap Analysis," Sierra Nevada Ecosystem Project Public Conference, Placerville, California, July 1996.
- Presenter, "Accessing SNEP data and information" Sierra Nevada Ecosystem Project Public Conference, Placerville, California, July 1996.
- Invited speaker, "Representativeness assessment for regional conservation planning," Western Regional Conference of The Nature Conservancy, Steamboat Springs, Colorado, October 1996
- Presenter, "A spatial analysis and decision support system for conservation of biological diversity," IBM International Conference on Information Technology for Environmental Solutions, San Jose, California, October 1996.
- Program reviewer and speaker, The Nature Conservancy Conference on Ecoregion-Based Conservation, Orlando Florida, January 1997.
- Invited speaker, "Yielding to uncertainty in environmental data" and "Biodiversity management and alternative future conditions for the Sierra Nevada of California," Department of Botany, University of Wyoming, Laramie, April 1997.
- Workshop participant, "Universal phenomena in ecology," Santa Fe Institute, May 1997.
- Invited testimony, "Strategies for wildland fire management," Hearing of the California Legislature Assembly Natural Resources Committee, May 20, 1997.
- Presenter, "Selecting biodiversity management areas for the Sierra Nevada," The Wilderness Society Sierra Nevada Ecosystem Project Workshop, Placerville, California, June 1997.
- Workshop participant, "Data management for the ecological sciences," National Center for Ecological Analysis and Synthesis, July 1997.
- Working Group Member, "Designing and assessing the viability of nature reserve systems at regional scales: integration of optimization, heuristic and dynamic models," National Center for Ecological Analysis and Synthesis, since July 1997.
- Symposium co-organizer (with O. J. Reichman), "Research at the National Center for Ecological Analysis and Synthesis," Annual Meeting of the Ecological Society of America, Albuquerque, August 1997.
- Presenter, "Modeling alternative portfolios of conservation sites for the Columbia Plateau Ecoregion," Annual Meeting of the Ecological Society of America, Albuquerque, New Mexico, August 1997.
- Presenter, "California GAP interactive atlas CD-ROM demonstration," 7th Annual Gap Analysis Principal Investigators Meeting, Reston, Virginia, August 1997.
- Presenter, "Mapping and analyzing patterns of land management," 7th Annual Gap Analysis Principal Investigators Meeting, Reston, Virginia, August 1997.
- Presenter, "Gap analysis of the Intermountain Semi-Desert Region," 7th Annual Gap Analysis Principal Investigators Meeting, Reston, Virginia, August 1997.

- Invited speaker, "A method for examining patterns in mapped fire histories: identification of homogeneous fire landscapes," Fire in California Ecosystems: Integrating Ecology, Prevention and Management, San Diego, California, November 1997.
- Presenter, "Information, technologies, and analytic methods," Ecological Assessments Workshop, Annual Meeting of the Ecological Society of America, Albuquerque, New Mexico, August 1997. Invited speaker, "GIS analysis of 20th Century wildlifres in central coastal California," Scientific Seminar Series, Archbold Biological Station, October 1997.
- Invited speaker and panelist, "Impacts of development patterns on biodiversity," Business meeting of the California Biodiversity Council, Davis, November 1997.
- Workshop Participant, "Universal Phenomena in Ecology," Santa Fe Institute, March 1997.
- Workshop participant and speaker, Theoretical and empirical approaches to the study of gene flow in fragmented and managed populations, National Center for Ecological Analysis and Synthesis, January 1998.
- Invited speaker and workshop leader, "Natural Capital," Conference on California's Environment and the Economics of Sustainability, Santa Barbara, April 1998.
- Invited speaker and panelist, "Status and trends of oaks in Santa Barbara County, Workshop on Funding Souces and Techniques for Preservation and Propagation of Santa Barbara County's Oaks," Los Olivos, June 1998.
- Conference host and speaker, Eighth Annual Gap Analysis Program Principal Investigators Meeting, Santa Barbara, July 1998.
- Presenter, "Overview of NCEAS Research Activities," The Resources Agency of California Research Coordination Committee, Sacramento, February 1998.
- Invited speaker, "Case study: the Sierra Nevada Ecoregion," The Nature Conservancy Workshop on Community Conservation Planning, Estes Park, Colorado, June 1998.
- Presenter, "Status of oak woodlands in Santa Barbara County" Workshop on Santa Barbara County's oaks, Buellton, California, June 1998.
- Presenter, "How well does management status predict vulnerability of regional biota?" Annual Meeting of the National Gap Analysis Program, Santa Barbara, July 1998.
- Presenter, "Applications of GAP data and findings in California," Annual Meeting of the National Gap Analysis Program, Santa Barbara, July 1998.
- Invited speaker, "Informatics for wildfire planning," Alliance for a Fire Safe California Second Partnership Event, Irvine, California, January 1999.
- Presenter, "Nature reserves in California," AAAS Annual Meeting, Anaheim, January 1999.
- Presenter, "Selecting regional systems of nature reserves for biotic representation and viability," Annual Meeting, Association of American Geographers, Honolulu, March 1999.
- Session Organizer and Chair, Spatial analysis in ecology: regional ecological models for conservation planning, Annual Meeting of the Association of American Geographers, Honolulu, March 1999.
- Invited speaker, "Valley oak in California: status, trends and impacts," A Future for Valley Oaks, UC Cooperative Extension Workshop, Visalia, California, June 1999.
- Invited speaker, "Securing California's biodiversity: findings and applications of the California Gap Analysis Project" UCLA Geography Colloquium, June 1999.
- Invited panelist, "The future of multi-species conservation planning," Society for Environmental Journalists 9th National Conference, San Diego, California, September 1999.
- Invited speaker, "Nature reserves in California," University of California Natural Reserve System: Managing Resources, Preparing for the Future, Orange City, January 2000.
- Colloquium speaker, "Potential ecological consequences of climate change in California" Bren School of Environmental Science and Management, UCSB, January 2000.
- Invited speaker, "Overview and status of habitat types and distribution," Planning for Biodiversity: Bringing Research and Management Together, A Symposium of the California Southcoast Ecoregion, Pomona, February 2000.
- Keynote speaker, "Confronting climate change and its potential ecological consequences," Association of Environmental Professionals/CAL-NAEP Conference, Santa Barbara, May 2000.
- Workshop participant, Biological Inventories for the Santa Monica Mountains National Recreational Area, Thousand Oaks, California, June 2000.

- Invited participant and discussant, Yosemite National Park Research Symposium, Yosemite Valley, March 2001.
- Workshop Participant, "Working Session on Science for Sustainable Conservation," The Nature Conservancy, San Francisco, April 2001.
- Participant and Paper Discussant, "Economics of Biodiversity Workshop," National Center for Ecological Analysis and Synthesis, Santa Barbara, May 2001
- Invited speaker, "Land use history and ecological palimpsests of central coastal California," Landscape Legacies: a forum for managing landscapes in the context of human history and ecosystem change, Duke University, January 2001.
- Invited speaker, "Spatial decision support systems for wildlife conservation planning," International Seminar on the Wildlife Habitat Suitability Mapping and Management, Seoul National University, Seoul, Korea, August 2001.
- Invited speaker, "The California Gap Analysis Project," International Seminar on Wildlife Habitat Suitability Mapping and Management, Seoul National University, Seoul, Korea, August 2001.
- Invited speaker, "Spatial models for multispecies conservation planning," CEA-CREST Third Annual Environmental Science Conference, Pasadena California, May 2002.
- Presenter, "Landscape patterns of pollen movement in declining populations of California valley oak, *Quercus lobata*" Annual Sedgwick Research Workshop, Santa Ynez, California, May 2002.
- Session chair and discussant, "Overview of recent trends in conservation planning," 2002 Bell Conference, U.C. Santa Barbara, July 2002.
- Invited speaker, "A framework for setting conservation regional and statewide conservation priorities," Sierra Nevada Science Symposium, Lake Tahoe, October 2002.
- Invited speaker, "A Synthetic Approach to Conservation Planning and its implementation in California" Environmental Forum, Stanford University, January 2003.
- Invited speaker, "An integrated framework for setting conservation priorities and its implementation in California," Institute for Environmental Studies, University of Pennsylvania, March 2003.
- Workshop Participant, National Science Foundation Workshop in Quantitative Environmental and Integrative Biology, San Diego Supercomputer Center, UC San Diego, December 2003.
- Presenter, "A new synthetic approach to conservation planning," 17th Annual Meeting of the Society for Conservation Biology, Duluth, Minnesota, June 2003.
- Invited speaker, "Setting conservation priorities in the Sierra Nevada," Tallac Vista Conference Center, South Lake Tahoe, July 2003.
- Conference co-organizer and host, "The Endangered Species Act at Thirty," Santa Barbara, California, November 2003.
- Presenter, "The Endangered Species Act at 30," U.S. Fish and Wildlife Service Regional Office, Portland, Oregon, December 2003.
- Workshop Participant, National Science Foundation Workshop in Quantitative Environmental and Integrative Biology, San Diego Supercomputer Center, UC San Diego, December 2003.
- Invited speaker, "Planning to conserve California's biodiversity," Mildred Mathias Research Symposium, Bodega Marine Laboratory, February 2004.
- Invited speaker and panelist, "Conserving biodiversity under rapid environmental change," International Sustainability Days Conference, Stanford University, October 2004.
- Working Group Leader, National Center for Ecological Analysis and Synthesis, "Conservation planning for Coupled Terrestrial and Marine Ecosystems," September 2003-October 2004.
- Workshop Participant, The Nature Conservancy Conservation Data Management Workshop, Arlington, VA, February 2005.
- Invited speaker, "Introduction to landscape ecology," ESRI International Users Conference, San Diego Convention Center, July 2005.
- Workshop participant, Preserving Wild California, The Resources Legacy Fund, Sacramento, CA, November, 2005.
- Invited speaker, "Setting conservation priorities in human dominated ecosystems" Edward J. Taaffe Colloquium Series Distinguished Lecturer, Department of Geography, Ohio State University, Columbus, February 2006.

- Workshop participant, National Council for Science and the Environment, Wildlife Habitat Policy Research Program, Research Options Workshop, Annapolis, MD, March 14-16, 2006.
- Invited speaker, “Regional variation in home range scale habitat models for the fisher (*Martes pennanti*) in California,” University of Idaho Department of Fish and Wildlife Resources, Moscow, April 2006.
- Policy advisor and workshop participant, International Summit on Evolutionary Change in Human-altered Environments, UCLA Institute for the Environment, February 2007.
- Invited speaker and workshop participant, “Conservation snapshot: California and Baja California,” International Workshop on Increasing the Pace, Scale and Effectiveness of Conservation in the Mediterranean Biome, The Nature Conservancy, Monterey, CA, March 2007.
- Presenter, “Analysis of the priorities, obstacles and opportunities for implementing U.S. State Wildlife Action Plans,” National Council for Science and the Environment Wildlife Habitat Policy research Program, San Francisco, April 2008.
- Invited speaker, “Saving biodiversity on California rangeland and farmland,” Board of Trustees, Environmental defense Fund, February 2009.
- Invited presentation, “Climate projections at biologically relevant scales,” National center for Ecological Analysis and Synthesis, October 2009.
- Invited plenary speaker, “Cross-disciplinary collaboration in ecology and environmental science,” Conference on Enhancing Communication in Cross-disciplinary research, Coeur d’Alene, Idaho, September 2010.
- Invited speaker, “Terrestrial biodiversity of the northern Sierra Nevada,” The Northern Sierra Partnership, Menlo Park, California, November 2010.
- Invited talk, “Modeling plant species distributions under future climates: how fine-scale do climate models need to be?” American Geophysical Union Fall Meeting, San Francisco, December 2010.
- Presenter, “Assessing resource conditions at the right scale,” Bay Area Natural Resource and Science Symposium, San Francisco, February 2011.
- Invited talk, “Modeling species distributions to support conservation planning,” Joint U.S./Iran Workshop on Wildlife Conservation and Habitat Management, Irvine, California, April 2012.

Postdoctoral Researchers Sponsored

Robert Harrington (1985-1987)

David Stoms (1990-1992)

Ragan Callaway (1989-1990)

Yong Wang (1993-1995)

Dennis Odion (1990-1991)

Claudia Tyler (1993-1994)

Chang-Wan Seo (2003-2005)

Lydia Ries (2007-2009)

Maki Ikegami (2009-2012)

Lynn Sweet (2011-present)

Graduate Training Initiatives

1994-1999 Co-Principal Investigator on National Science Foundation Research Training Grant (RTG) for an interdisciplinary Ph.D. program in The Dynamics of Spatially Structured Ecological Systems (William Murdoch, PI).

2002 – 2007 Co-Principal Investigator on National Science Foundation Grant for integrative graduate education and research training (IGERT) in economics and environmental science (Charles Kolstad, PI).

Graduate Courses Taught

Foundations of Biogeography

Quantitative Biogeography

Natural Vegetation: Classification, Inventory and Dynamics

Classification and Clustering in Geographical Data Analysis

Mathematical Models in Physical Geography

Biophysical and Biogeochemical Processes

Conservation Planning Landscape Ecology

Ecological Principles
 Ecology of Managed Ecosystems
 Conservation Planning
 Landscape Ecology
 Case Studies in Environmental Science and Management
 Case Study in Interdisciplinary Environmental Problem Solving
 Biodiversity Survey and Monitoring

Undergraduate Courses Taught

Physical Geography
 The Human Species: Problems of Survival
 Environmental Pollution
 Surface Climate Relations of Vegetation and Soils
 Physical Geography of the Tropics
 Foundations of Biogeography
 Natural Vegetation: Classification, Inventory and Dynamics

Graduate Theses Supervised

M.A. Theses

Negri, Deborah, M.A., 1985. Landsat MSS mapping of dry tropical woodland in Dodoma Region, Tanzania.
 Ackerson, Vivian, M.A., 1985. Multistage variable probability sampling of tropical dry woodlands for fuelwood resource assessment.
 Hickson, Diana E., M.A., 1987. The role of fire and soil in the dynamics of Burton Mesa chaparral, Santa Barbara, California.
 Goetz, Scott, M.A., 1987. Predictive mapping of Coast live oak in California using digital terrain data.
 Burrows, David, M.A., 1988. The REFIRE (REgional FIRE REgime Simulation) Model: a C program for regional fire simulation.
 Shanks, Robert, M.A. 1989. Use of a geographic information system in hazardous waste site monitoring, Casmalia, California.
 Duncan, Brean W., M. A. 1990. Utilizing GIS technology to combine regional physiognomic and floristic vegetation maps.
 Brown, Rodney, M. A. 1991. Historical mortality of valleyoak in the Santa Ynez Valley, Santa Barbara County.
 Bueno, Michael J., M.A. 1992. Quantification of cartographic generalization in land cover maps using spatial pattern index measurements derived from digital satellite imagery.
 Day, John L. M.A. 1993. Imaging coniferous forest gaps with synthetic aperture radar.
 Cogan, Christopher B. M.A. 1993. Quantitative analysis of habitat use by the California condor.
 Gray, Melanie V. M.A. 1994. A digital multipurpose vegetation map for the Colorado Desert of California.
 Saleta, Jose. M.A. 1995. Stand discrimination in a western coniferous forest using AIRSAR data.
 Thorne, James, M.A. 1997. Gap Analysis of the Vegetation of Northwest California.
 Pyke, Christopher, M.A. 1999. Floristic variation across a Climatic Gradient in a Neotropical Forest.
 Goldstein, Noah. M.A. 2000. The Predictive Modeling of Endangered Plant Species in the Santa Monica Mountains Using a Knowledge Base Approach.

Ph.D. Theses

Parikh, Anuja, Ph.D. 1989. Factors affecting the distribution of three riparian tree species in southern California.
 Harvey, L. Edward, Ph.D. 1989. Spatial and temporal dynamics of Blue oak (*Quercus douglasii*) populations in San Luis Obispo County, California.
 Painho, Marco A., Ph.D. 1992. Modeling errors in digital landuse/landcover maps.

- Friedl, Mark. Ph.D. 1993. Correspondence between remotely sensed data and land surface energy balance over a tallgrass prairie.
- Wang, Yong, Ph.D. 1992. Radar backscatter modeling and applications in forested environments.
- Stine, Peter A. Ph.D. 1995. A multi-scale conservation assessment of plant communities in southern California.
- Odion, Dennis C. Ph.D. 1995. Effects of variation in soil heating during fire on patterns of plant establishment and regrowth in maritime chaparral.
- Thomas, Kathryn. Ph.D. 1996. Vegetation and floristic diversity in the Mojave Desert of California: a regional conservation evaluation.
- Hollander, Allan D., Ph.D. 1999. A GIS Framework for Modeling Wildlife Species Distributions.
- Moritz, Max A. Ph.D. 1999. Controls on disturbance regime dynamics. Fire in the Los Padres National Forest.
- Day, John L. Ph.D. 2000. Variability of backscatter from loblolly forest.
- Walker, Richard M. Ph.D. 2000. Investigations in vegetation map rectification, and the remotely sensed detection and measurement of natural vegetation changes.
- Pyke, Christopher C. Ph.D. 2002. Modeling vernal pool hydrologic regimes and assessing their sensitivity to climatic and land-use change.
- Jennings, Michael D. Ph.D. 2003 Vegetation Alliances: Composition and function.
- Taylor, Robert., Ph.D. 2004. A Natural History of Coastal Sage Scrub in Southern California.
- Kuhn, Bill, Ph.D., 2010. Road Systems, Land Use, and Related Patterns of Valley Oak (*Quercus lobata* Nee) Populations, Seedling Recruitment, and Herbivory.
- Kreitler, Jason. Ph.D. 2011. Ecosystem Services and Cost-effective Conservation Planning.
- Nogreire, Theresa, Ph.D. 2011. Wildlife Habitat Use in Agriculture-Dominated Landscapes.

Current Ph.D Students

Oliver Soong, Patrick Jantz, Lorena Vieli

Selected examples of participation in campus and UC governance

Chair, UCSB Campus Wetlands Committee, 1985-1990
 Chair, UCSB Coal Oil Point Reserve Committee, 1986-1992
 Chair, UCSB Carpenteria Salt Marsh Reserve Committee, 1987-1992
 Member, UCSB Campus Committee on Undergraduate Courses, 1988-1990
 Member, UCSB Campus Natural Reserves Committee, 1990-1997
 Faculty Manager, Sedgwick Ranch Reserve, 1990-2001
 Member, UCSB Campus Committee on Capitol Projects, 1991-93
 Member, UC Natural Reserve System Advisory Committee, 1992-1994
 Member, Campus Sexual Harassment Advisory Panel, 1993-94
 Assistant Director, Institute for Computational Earth System Science, 1993-1996
 UCSB Campus Charges Officer, 1995-1999
 Chair, UC Merced Research Advisory Committee (1998-1999)
 Member, UCSB Graduate Council (2001-2002)
 Member, UCSB Council for Planning and Budget (2002 – 2005)
 Member, Devereux Planning Committee (2007-present)
 Chair, Faculty Executive Committee, Bren School of Environmental Science and Management 2008-2010.

Current Research Support

Project/Proposal Title: Preparing of Natural Resources Condition Assessment for Santa Monica Mountains NRA, Pinnacles NM, and John Muir NHS.

Principal Investigators: Davis

Source of Support: Department of Interior

Total Award Amount: 143,350.00

Total Award Period Covered: 8/31/08-3/31/11

Location of Project: UCSB

Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 0.38

Project/Proposal Title: Climate and Land Use Change
 Principal Investigators: Davis
 Source of Support: Conservation International
 Total Award Amount: 109,527.00
 Total Award Period Covered: 11/1/08-5/31/11
 Location of Project: UCSB
 Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 0.00

Project/Proposal Title: Spatially-explicit Life Cycle Assessment Tools for Environmental Sustainability.
 Principal Investigators: Geyer, Davis, Stoms
 Source of Support: National Science Foundation
 Total Award Amount: 218,120.00
 Total Award Period Covered: 10/1/09-9/30/11
 Location of Project: UCSB
 Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 0.50

Project/Proposal Title: Santa Barbara County Oak Restoration Project
 Principal Investigators: Tyler, Davis
 Source of Support: Santa Barbara County
 Total Award Amount: 140,000.00
 Total Award Period Covered: 8/7/05-8/6/12
 Location of Project: UCSB
 Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 0.00

Project/Proposal Title: Advanced Modeling of the Biological Effects of Climate Change in California
 Principal Investigators: Davis, Hannah, Stoms
 Source of Support: California Energy Commission
 Total Award Amount: 300,000.00
 Total Award Period Covered: 6/1/09-12/30/12
 Location of Project: UCSB
 Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 0.33

Project/Proposal Title: How Abiotic Processes, Biotic Processes, and their Interactions Sustain Habitat Characteristics and Functions in River Channels and their Floodplains: An Investigation of the Response of how a Reach of the Merced River Responds to Restoration.
 Principal Investigators: Dunne, Davis, Lenihan
 Source of Support: CalFed Bay-Delta Program
 Total Proposal Amount: 1,400,000.00
 Total Award Period Covered: 6/1/06-6/30/11
 Location of Project: UCSB
 Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 0.75

Project/Proposal Title: Cumulative Biological Impacts Framework for Solar Energy Projects in the California Desert.
 Principal Investigators: Davis, Stoms
 Source of Support: California Energy Commission
 Total Proposal Amount: 383,787.00
 Total Award Period Covered: 7/1/10-6/30/12
 Location of Project: UCSB
 Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 0.50

Project/Proposal Title: Collaborative Research: Do microenvironments govern macroecology?
 Principal Investigators: Davis
 Source of Support: National Science Foundation
 Total Proposal Amount: 2,237,903.00.00 Total Award Period Covered: 4/15/11-4/14/16
 Location of Project: UCSB
 Person Months Per Year Committed to the Project: Cal: 0.00 Acad: 0.18 Sumr: 1.00