

BIOGRAPHICAL SKETCH

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Date of Birth: 12/25/48

Research Interests: Interdisciplinary partnerships in GIS-based planning support tools for biodiversity and farmland conservation planning and ecosystem-based management in coastal habitats, spatial variation in valuation of ecosystem services, multicriteria analysis for environmental decision making, environmental impacts of biofuels, site-dependent Life Cycle Assessment, and spatial database design for campus sustainability.

Professional Preparation:

- Ph.D. Geography, 1991, University of California, Santa Barbara.
- M.A. Geography, 1986, University of California, Santa Barbara.
- B.A. Architecture, 1970, Rice University.

Professional Experience:

- UCSB. 2003-present. Associate Researcher. Manager of the Biogeography Lab.
- UCSB. 2005-present. Instructor, Bren School of Environmental Science and Management for GIS and Multicriteria Analysis.
- UCSB. 1995-2003. Assistant Researcher. Manager of the Biogeography Lab.
- UCSB. 1992-1994. Post-doctoral Researcher. Manager, California Gap Analysis Project.
- US Forest Service, Lake Tahoe Basin. 1975-84. Community Planner.

Memberships:

- Ecosystem-Based Management Tools Network, International Association for Landscape Ecology, Society for Conservation Biology, Society for Conservation GIS

Awards:

- 1993 ESRI Award for Best Scientific Paper in Geographic Information Systems, 2nd Place.
- Four performance awards between 1980 and 1985 with the U. S. Forest Service.

Recent Research Sponsors: California Department of Forestry and Fire Protection, California Energy Commission, University of California Energy Institute, Environmental Protection Agency, IBM Environmental Research Program, USDA, US Forest Service, The Nature Conservancy, NatureServe, USGS Biological Resources Division, World Bank

Public Service Activities: Editorial Board of *Environmental Management* and *Journal of Conservation Planning*. Review panels for EPA Science Advisory Board for GIS tools on vulnerability indicators. Working Group co-leader, National Center for Ecological Analysis and Synthesis, Valuation of coastal habitats to inform Ecosystem-based management of land-sea interfaces.

Synergistic Activities: Published an interactive CD-ROM with an atlas of California's biodiversity, based on the California Gap Analysis Project database. Published ArcView-based planning support system for rainforest restoration incentives (TAMARIN).

Co-authors and collaborators, past 48 months: Keith Alger, Sandy Andelman, Shankar Aswani, David Bael, Ed Barbier, Mark Carr, Ken Chomitz, Pat Comer, Chris Costello, Lori Cramer, Patrick Crist, Gustavo

da Fonseca, Frank Davis, Andy Dobson, Dan Faith, Trevon Fuller, Steve Gaines, Elise Granek, Dennis Grossman, Sally Hacker, Ben Halpern, Lee Hannah, Rainer Hoenicke, Miroslav Honzák, Chris Kennedy, Evamarie Koch, Jason Kreitler, Patrick Jantz, Charlotte Landau, Scott Leibowitz, Al Leydecker, Elia Machado, Elizabeth Madin, Christopher Margules, Alexander Moffett, Gerardo Perillo, Steve Polasky, Robert Pressey, Jurgenne Primavera, Denise Reed, Sahotra Sarkar, Eric Seabloom, Chang Wan Seo, Brian Silliman, Daniel Slayback, Heather Tallis, Tim Thomas, Wayt Thomas, Jim Thorne, Joshua Viers, Robert Warner, John W. Williams, Kristen Williams, Paul Williams, Kerrie Wilson, Eric Wolanski.

Graduate and Post-Doctoral Advisees, past 5 years: Ethan Inlander (MA 2002, UCSB Geography); Amy Jewel, Dawn Hock, Erin Claybaugh (MESM 2007, UCSB Bren School)

Doctoral Advisor: John E. Estes, University of California, Santa Barbara

Post-Doctoral Advisor: Frank W. Davis, University of California, Santa Barbara

Selected Publications:

Barbier, E. B., S. Aswani, D. Bael, L. A. Cramer, M. Erdman, E. Granek, S. Hacker, B. Halpern, C. Kappel, C. Kennedy, E. W. Koch, S. Polasky, J. Primavera, D. J. Reed, B. Silliman, D. Stoms, and E. Wolanski. In preparation. Of mud and mangroves: Coastal ecosystem based management in a non-linear world. To be submitted to *Science*.

Kramer, L., A. McKerrow, L. Pearlstine, D. Stoms, and R. D. Ramsey. GIS and Decision Making: The GAP Analysis Program. In preparation. In M. Madden, editor-in-chief, *Manual of Geographic Information Systems*. American Society for Photogrammetry and Remote Sensing, Bethesda, MD.

Machado, E. A., D. M. Stoms, F. W. Davis, and J. Kreitler. 2006. Prioritizing farmland preservation cost-effectively for multiple objectives. *Journal of Soil and Water Conservation* 61: 250-258.

Sarkar, S., R. L. Pressey, D. P. Faith, C. R. Margules, T. Fuller, D. M. Stoms, A. Moffett, K. A. Wilson, K. J. Williams, P. H. Williams and S. Andelman. 2006. Biodiversity conservation planning tools: Present status and challenges for the future. *Annual Review of Environment and Resources* 31: 123-159.

Davis, F. W., C. J. Costello and D. M. Stoms. 2006. Efficient conservation in a utility-maximization framework. *Ecology and Society* 11: 33. <http://www.ecologyandsociety.org/vol11/iss1/art33/>.

Stoms, D. M., F. W. Davis, S. J. Andelman, M. H. Carr, S. D. Gaines, B. S. Halpern, R. Hoenicke, S. G. Leibowitz, A. Leydecker, E. M. P. Madin, H. Tallis and R. R. Warner. 2005. Integrated coastal reserve planning: making the land-sea connection. *Frontiers in Ecology and the Environment*. 3: 429-436.

Stoms, D. M., K. M. Chomitz, and F. W. Davis. 2004. TAMARIN: A landscape framework for evaluating economic incentives for rainforest restoration. *Landscape and Urban Planning* 68: 95-108.

Stoms, D. M. and W. W. Hargrove. 2000. Potential NDVI as a baseline for monitoring ecosystem functioning. *International Journal of Remote Sensing* 21: 401-407.

Church, R. L., D. M. Stoms, and F. W. Davis. 1996. Reserve selection as a maximal covering location problem. *Biological Conservation* 76: 105-112.

Stoms, D. M., and J. E. Estes. 1993. A remote sensing research agenda for mapping and monitoring biodiversity. *International Journal of Remote Sensing* 14: 1839-1860.

Stoms, D. M., F. W. Davis, and C. B. Cogan. 1992. Sensitivity of wildlife habitat models to uncertainties in GIS data. *Photogrammetric Engineering and Remote Sensing* 58: 843-850. (1993 ESRI Award for Best Scientific Paper in Geographic Information Systems, 2nd Place)