1 October 2018

**Curriculum Vitae**

George Patrick Malanson

Coleman - Miller Professor Emeritus

Department of Geographical &

Sustainability Sciences

University of Iowa

Iowa City, IA 52242

**Education**:

1968-1972, B.A. Williams College

(Art, w/Williams-in-India) Williamstown, MA

1973, language school U.S. Department of State

(Hindi) Foreign Service Institute

US Army (rank PFC-SP4) Rosslyn, VA

1974-1975, part-time Georgia State University

(Geography) Atlanta, GA

1976-1978, M.S. University of Utah

(Geography) Salt Lake City, UT

(Thesis: "Distribution of plant species in hanging gardens of the Narrows, Zion National Park, Utah" under J. Kay)

1978-1983, Ph.D. University of California

(Geography) Los Angeles, CA

(Dissertation: "A model of post-fire succession in Californian coastal sage scrub" under W.E. Westman)

**Awards and honors:**

2016 Lifetime Achievement Award, American Association of Geographers

2008 Sagarmatha Career Award, AAG Mountain Geography Specialty Group

2007 Henry C. Cowles Award for outstanding publication, with J.A. Kupfer and S.B. Franklin, AAG Biogeography Specialty Group

2006 Henry C. Cowles Award for outstanding publication, with K.J. Alftine, AAG Biogeography Specialty Group

2004 James J. Parsons Distinguished Career Award, AAG Biogeography Specialty Group

2003-present Mary Sue Coleman - F. Wendell Miller Professor, University of Iowa

2003 elected Fellow, American Association for the Advancement of Science

1998-99 Intergraph Professor of Landscape Ecology, Department of Geography, University of Iowa

1990 University of Iowa Faculty Scholar Award

**University employment experience:**

2000-2001 Professor, Dept. of Geography, Southwest Texas State University

1996-present Professor, Dept. of Geography, University of Iowa

1989-96 Associate Professor, Dept. of Geography, University of Iowa

1986-89 Assistant Professor, Dept. of Geography, University of Iowa

1985-86 Visiting Assistant Professor, Dept. of Geography, University of Iowa

1982-84 Visiting Assistant Professor, Dept. of Geography, Oklahoma State University

1980-81 Research assistant, Dept. of Geography, UCLA ( NSF grant to W.E. Westman, PI)

1978-80 Teaching assistant, Dept. of Geography, UCLA

1977-78 Research assistant, Dept. of Geography, University of Utah (NASA grant to M.K. Ridd and R.M. McCoy, PIs)

**Non-university employment experience:**

2014-15 Program Director (Intergovernmental Personnel Act assignment), Population & Community Ecology Cluster, Division of Environmental Biology, National Science Foundation, Arlington, VA

1984-85 Visiting scientist, Section d'Etudes des Systemes Ecologiques, Centre d'Etudes Phytosociologiques et Ecologiques Louis Emberger, Centre National de la Recherche Scientifique, Montpellier, France

1980 Biogeographer, Archaeology Division, ESCA-Tech Corp., Costa Mesa, CA

1976 Cartographic draftsman, Wm. Moore Survey and Mapping Co., Shrewsbury, MA

1974-1975 Illustrator/draftsman, Graphics Branch and Emergency Operations Center, Ft. McPherson, GA (US Army, rank SP4-SP5)

**Membership and service in professional groups:**

American Association for the Advancement of Science

Association of American Geographers

Nystrom Award Committee, 1990 (Chair), 1993, 1997

Biogeography Specialty Group

Chair, 1997-1999; Board of Directors, 1987-89; Student Paper Award Judge, 1992, 1996; Student Research Grants Panel, 1992, 1994

Mountain Geography Specialty Group

Chair 2006-2007, Awards Committee 2002-2005,

Secretary-Treasurer 2005-2006,

Scientific Freedom & Responsibility Committee, 2007-2010

Binghamton Symposium in Geomorphology Steering Committee, 2000-2003

Co-organizer, Mountain Geomorphology, October 2001

Ecological Society of America

Vegetation Section, Vice-chair, 2016 – 2017; Chair, 2017-present

International Association for Landscape Ecology

International Association for Vegetation Science

International Biogeography Society

International Geosphere-Biosphere Program (IGBP)

Task Leader, GCTE Ecosystem structure/Landscape processes/Dispersal modeling, 1997-1999

**Other extramural professional service**:

National Science Foundation, Division of Environmental Biology, program director, 2014-2016

National Science Foundation, Division of Environmental Biology LTER panel, 2013

NIH Social Sciences and Population Studies Study Section, ad hoc 2005, 2006, regular member 2007-2011

National Commission on Science for Sustainable Forestry, research proposals panel, 2004

National Science Foundation, Biocomplexity: Coupled Human & Natural Systems panel, 2002

National Academies/NRC Committee on Research Priorities in Geography at the USGS, 2000-02

NSF Geography & Regional Science Program review panel, 1998-1999

Section editor, Biogeography, *International Encyclopedia of Geography*, 2013-2017

North American Editor, *Progress in Physical Geography*, 2010-2014

Associate Editor for Biogeography, *Physical Geography*, 2006-2014

Associate Editor: *Arctic, Antarctic, and Alpine Research*, 2005-2013

Biogeography Editor, *Geography Compass*, 2008-2009

Other Editorial Boards:

*Journal of Biogeography, 2018-present*

*Annals, Association of American Geographers*, 2000-present

*Physical Geography,* 1994-2006, 2014-present

*Progress in Physical Geography, 2014-present*

*Advances in Water Resources*, 2004-2009

*Geography Compass*, 2006-2007

*Landscape Ecology*, 1997-2005

*Geographical & Environmental Modelling*, 1996-2002

Faculty of 1000 – Biology, Spatial and Landscape Ecology section, 2006-2010, 2015-present

Reviews of manuscripts for many journals; of proposals for NSF, Swiss and Israeli NSF-equivalents, Nature Conservancy, Netherlands Foundation-Advancement Tropical Research, Royal Society of New Zealand, USGS

**Intramural professional service:**

Department:

2011-2014: Director, Undergraduate Studies

2012: Chair, review committee for R. Rajagopal

2010: Chair, promotion committee for M. Linderman

2009: Chair, promotion committee for D. Bennett

2009: Chair, review committee for M. Linderman

2007: Chair, Environmental geography faculty search committee

2006: Chair, Environmental geography faculty search committee

2006: Chair, review committee for R. Rajagopal

2006: Chair, review committee for Rex Honey

2003-05 Search committee chair, remote sensing

1992-98, 2001-2011 Director, Graduate Studies

2002-03 Search committee chair, East Asia environment

2002 acting DEO for Bennett tenure case; DCG for Mutersbaugh tenure case

1999 – 2000 DEO

1996-98 TA/RA allocation committee

1998 Graduate recruitment committee

1980s, 2000s – various terms as Faculty Assembly representative

College:

2011-2012: led development of new major – Environmental Policy & Planning

2003-2007: Dean’s ad hoc committee on named chairs

1996-1999: Interdepartmental Studies Committee

1998: University Honors Council

1998: Dean’s Scholar Review Committee

1996-1998, 2001-2014: Environmental Science Executive Committee/Advisory Panel

1996: Unified-Program Review Committee

1994: College Development Assignment Review Committee

University:

2010-present Faculty, Interdisciplinary Graduate Program in Informatics

2010-2014 Advisory board, Leopold Center for Sustainable Agriculture

2008-2011 Flood Mitigation Task Force

2005-2008, 2009-2010 University Research Council

2006 Jakobsen Graduate Conference, judge

2004, 2006, 2007, etc. CGRER Seed Grant reviews

1999: Organized symposium – *The Science of Global Climate Change* – for the Center for Global and Regional Environmental Research

1990-2000 Center for Global and Regional Environmental Research, executive committee

1994: Carver Scientific Initiative Program, reviewer

1986-1988: Human Subjects Committee D

**Research grants:**

2012-2014 NSF Geography & Spatial Sciences, Multiscale Context for Change in Alpine Tundra, lead PI with D. Fagre and D. Zimmerman, $219,719

2009-2012 NSF Geography & Spatial Sciences, Implications of an Invasive Forest Pathogen for Alpine Treeline Dynamics co-PI with L. Resler and D. Tomback, $439,006

2007 NSF Geography and Regional Science Program, Proposal Development on the Social and Ecological Impacts of the Three Gorges Dam, China; co-I with M.A. Linderman, Z. Shen; $18,320

2006-08 NASA, Modeling Dynamism of Human Settlement Frontiers, co-I, with SJ, Walsh, $42,000 of $178,756

2004-09 USGS, Western Mountain Initiative, Alpine Treeline; lead PI with DR, Butler and SJ, Walsh; $376,000

2004-07 NSF Biocomplexity, Coupled Human and Natural Systems: Virtual Watershed: Agricultural Landscape Evolution in an Adaptive Management Framework, subcontract with Jerry Schnoor on grant to Chris Lant; $130,000 of $450,000

2004-07 NSF Biocomplexity, Coupled Human and Natural Systems: Feedbacks Among Patterns and Processes of Land Use and Land Cover Dynamics in the Northern Ecuadorian Amazon, co-PI with SJ, Walsh; $320,000

# 2002-03 UI Center for Global and Regional Environmental Research, Factors Affecting the Adoption and Conservation Value of Certified Organic Coffee Production in Oaxaca, Mexico, with T. Mutersbaugh, $19,700

2002-03 NSF Geography & Regional Science, SGER: Effects of Avalanches on Local Carbon Budgets and Regional Forest Dynamics, with PI with DR, Butler, D. Fagre, and SJ, Walsh; $29,512

2002-03 National Commission on Science for Sustainable Forestry, Forest Fragmentation, with J.A. Kupfer and S. Franklin; $60,000

2000-03 NSF Geography & Regional Science, Uncovering the Spatial Pattern of Feedback Effects at Alpine Treeline; $99,946

1999-03 USGS Biological Resources Division, with D.G. Brown, DR, Butler, D.M. Cairns, D. Fagre, and SJ, Walsh; Invasibility of Alpine Tundra; $416,730

1997-99 NSF, Geography & Regional Science, co-PI with D.G. Brown; Pattern and Process at Alpine Treeline; $204,147

1997-98 NASA, CI with M.P. Armstrong (PI), J.R. Brown and G.R. Carmichael; Project LIVE: Laboratory for the Immersive Visualization of the Environment; $230,000

1997-98 DOE National Institute for Global Environmental Change; Developing rules for transience in DGVMs based on migration rates; $5000

1994-97 DOE National Institute for Global Environmental Change, co-PI with M.P. Armstrong; Spatial Scaling and Maintaining Information in Models of Response to Climatic Change; $111,800

1993-94 Iowa Energy Center, CI with R. Brown (PI) et al.; Biomass Production and Conversion in Iowa; $22,330 of $145,634 total

1991-92 NSF Geography & Regional Science, co-PI with DR, Butler and SJ, Walsh; Topological Relationships at Alpine Treeline; $95,494

1991-92 DOE National Institute for Global Environmental Change, co-PI with M.P. Armstrong; Simulation Experiments of Inertia in Forest Response to Climatic Change; $55,000

1988-90 Subcontracts on EPA grants to W.E. Westman; Modeling the Response of California Shrublands to Climatic Change; $48,800

1988-90 National Science Foundation, Geography & Regional Science; Forest Dynamics of Riparian Corridors; $84,000

1988 Old Gold Award, University of Iowa; $3,500

1988 National Geographic Society, co-PI with DR, Butler; $3975

1987 Old Gold Award, University of Iowa; $3,500

1984-85 Centre National de la Recherche Scientifique and the National Science Foundation, U.S.-France Exchange Award; 70,000 FF +US$1650

1983 Burlington Northern Foundation, with DR, Butler; $10,000

1983 Association of American Geographers, with DR, Butler; $500

1982 Chancellor's Patent Fund, UCLA

1979-81 Graduate Division, UCLA (4 research and travel grants)

1977-78 University of Utah Student Research Grant in Geography (2)

1977 Sigma Xi, the Scientific Research Society of North America

**Other grants:**

1997-99 Center for Global and Regional Environmental Research; $45,000 for Iowa Land Cover - Past and Future: GIS Infrastructure Development

1992 Ford Foundation UI-Grinnell College Bridging Project in International Education; for study group on biodiversity and sustainable development; $20,000

1990 Hewlett-Packard University Equipment Program; for GIS center $275,000

1988 Instructional Improvement Award, University of Iowa Council on Teaching, $500

**Consultancies**:

2007-2012 Consultant on NIH R21, Modeling Household Dynamics and Land Use; NIH R21, Dynamically Integrating Macro and Micro Processes; and NSF DHB: Marginality in a Marginal Environment, all to B. Entwisle, PI.

2004 Consultant on National Park Service geoindicators grant, Correct and Complete Surficial Mapping of Glacier National Park, to DR, Butler

2002-05 Consultant on NASA grant, Modeling the Scale Dependent Drivers of LCLU Dynamics in Northeastern Ecuador, to SJ, Walsh & R.E. Bilsborrow

2001-05 Consultant on NSF-BioComplexity grant, Simulating Complexity in a Dynamic Landscape: Land-Use and Land-Cover Change in Nang Rong, Thailand, to R.R. Rindfuss, SJ, Walsh, & B. Entwisle

**Theses and Dissertations Supervised:**

M.A. Theses:

Hougen, D. 1994. Effects of Accessibility and Isolation on the Structure and Composition of Lakeshore Forest Sites in Voyageurs National Park, Minnesota.

Finley, S.D. 1993. Investigation of Factors Influencing Species Diversity of Remnant Forest Patches in Northeast Iowa.

Craig, M.R. 1992. Colonization on Point Bars by Woody Riparian Species.

Kupfer, J.A. 1991. Structure, Composition, and Successional Dynamics of a Riparian Edge Community

Rex, K.D. 1990. Fractal Analysis of Woodland Patches Along the Iowa and Cedar Rivers.

Ph.D. Dissertations:

Grafius DR. 2011. Distribution and biomass dynamics of the alpine treeline ecotone across the western United States.

Zeng Y. 2010. Modeling complex dynamics at alpine treeline ecotones.

Goshit S. 2009. Synoptic Influence on Winter Temperature and Precipitation in Western Montana.

Yadav V. 2008. Soil Carbon Dynamics in the Big Creek Basin in Southern Illinois, USA.

Wang Q. 2007. Effects of the Representation of Landscape Pattern on Species Dynamics in Colonization-Competition Models.

Alftine KJ. 2002. The Relationship Between Tree Establishment Patterns and Positive Feedback at Alpine Treeline.

Bekker MF. 2002. Effects of Biotic Feedback on the Pattern and Rate of Subalpine Forest Advancement.

Chen G. 2001. Relating Landscape Patterns to Hydrological Processes in a Watershed Hierarchy

Kupfer JA. 1995. The Effects of Edge Vegetation on Interior Gap-Successional Processes.

Liu ZJ. 1995. Impact of Climate and Management Practices on Nitrate Contamination in Groundwater: Spatial and Temporal Analyses in the Big Spring Basin, Iowa.

Cairns DM. 1995. Carbon Balance Modeling at the Alpine Treeline Ecotone in Glacier National Park, Montana.

**Publications**:

**Books:**

National Research Council (WL Graf, BP Buttenfield, C Harden, JR Jensen, GP Malanson, PF McDowell, S McLafferty, R Palm, NP Psuty, HJ Vaux). 2002. *Geography in the Critical Zone: Research Opportunities for the U.S. Geological Survey*. National Academies Press, Washington, 130 pp.

Malanson GP. 1993. *Riparian Landscapes*, Cambridge Studies in Ecology, Cambridge University Press, Cambridge, 296 pp.

**Edited books and special issues:**

Butler DR, Malanson GP, Walsh SJ & Fagre DB, eds. 2009. *The Changing Alpine Treeline: The Example of Glacier National Park, Montana*, *USA*. Elsevier, Amsterdam.

Butler DR, Walsh SJ & Malanson GP. 2003. Mountain Geomorphology – Integrating Earth Systems. Special issue of *Geomorphology*, also published as

Butler DR, Walsh SJ & Malanson GP. 2003. *Mountain Geomorphology – Integrating Earth Systems*. Elsevier, Amsterdam.

Malanson GP. editor. 1989. *Natural Areas Facing Climate Change,* SPB Academic, The Hague.

**Articles in refereed journals, book chapters, and symposia proceedings:**

Malanson GP, Fagre DB, Zimmerman DL. 2018. Scale dependence of diversity in alpine tundra, Rocky Mountains, USA. Plant Ecology 219: 999-1008.

Malanson GP. 2018. Intraspecific variability may not compensate for increasing climatic volatility. Population Ecology 60: 287–295.

Rodriguez N, Malanson GP. 2018. Plant dynamics, birth-jump processes and sharp traveling waves. Bulletin of Mathematical Biology80: 1655–1687.

Malanson GP, Rodriguez N. 2018. Traveling waves and spatial patterns from dispersal on homogeneous and gradient habitats. Ecological Complexity 33: 57-65.

Malanson GP. 2017. Mixed signals of trends in variance in high-elevation tree ring series. Journal of Mountain Science 14: 1961-1968.

Malanson GP, Zimmerman DL, Fagre DB. 2017. Distance and environmental difference in alpine plant communities. Physical Geography 38: 489-505.

Malanson GP. 2017. Interactions and constraints in model species response to environmental heteroscedasticity. Journal of Theoretical Biology 419: 343-349.

Young S, Carrel M, Kitchen A, Malanson GP, Tamerius J, Ali M, Kayali G. 2017. How's the Flu Getting Through? Landscape genetics suggests both humans and birds spread H5N1 in Egypt. Infection, Genetics and Evolution 49: 293-299.

Malanson GP, Resler, LM, Tomback, D. 2017. Ecotone response to climatic variability depends on stress gradient interactions. Climate Change Responses 4:1 DOI: 10.1186/s40665-017-0029-4

Malanson GP, Zimmerman DL, Kinney M, Fagre DB. 2017. Relations of alpine plant communities across environmental gradients: Multilevel versus multiscale analyses. Annals of the American Association of Geographers 107: 41-53.

Young SG, Carrel M, Malanson GP, Ali MA, Kayali G. 2016. Predicting Locations at Risk of Avian Influenza Co-infection with H5N1 and H9N2, Egypt. International Journal of Environmental Research and Public Health 13: #886 doi:10.3390/ijerph130908

Entwisle B, Williams NE, Verdery AM, Rindfuss RR, Walsh SJ, Malanson GP, Mucha PJ, Frizzelle BG, McDaniel PM, Yao X, Heumann BW, Prasartkul P, Sawangdee Y, Jampaklay A. 2016. Climate shocks and migration: an agent-based modeling approach. 38: 47-71

Malanson GP, Resler LM. 2016. A size gradient hypothesis for alpine treeline ecotones. Journal of Mountain Science 13: 1154-1161.

Malanson GP, Heumann BW. 2016. Models and data in biogeography and landscape ecology. In N Clifford, M Cope, T Gillespie, S French (eds) Key Methods in Geography, 5th ed. SAGE, London. 470-494.

Malanson GP, Alftine KJ. 2016. Ecological impacts of climate change. In R Sivanpillai (ed) Biological and Environmental Hazards, Risks, and Disasters. Elsevier, Amsterdam, 397-426.

Malanson GP, Zimmerman DL, Fagre DB. 2015. Floristic similarity, diversity, and endemism as indicators of refugia characteristics and needs in the West. Biodiversity 16: 237-246.

Malanson GP. 2015. Diversity differs among three variations of the stress gradients hypothesis in two representations of niche space. Journal of Theoretical Biology 384: 121-130.

Grafius D, Malanson GP. 2015. Biomass distributions in dwarf tree, krummholz, and tundra vegetation in the alpine treeline ecotone. Physical Geography 36: 337-352.

Weiss D, Malanson GP, Walsh SJ. 2015. Multi-scale relationships between alpine treeline elevation and hypothesized environmental controls in the western United States. Annals of the Association of American Geographers 105: 437-453.

Malanson GP, Cheney AB, Kinney M. 2015. Climatic and geographic relations of alpine tundra floras in western North America. Alpine Botany 125: 21-29.

Malanson GP, Walsh SJ. 2015. Agent-based models: Individuals interacting in space. Applied Geography 56: 95-98.

Malanson GP, Resler LM. 2015. Neighborhood functions alter unbalanced facilitation on a stress gradient. Journal of Theoretical Biology 365: 76-83.

Smith-McKenna E, Malanson GP, Resler LM, Carstensen LW, Prisley SP, and Tomback DF. 2014. Cascading effects of feedbacks, disease, and climate change on alpine treeline dynamics. Environmental Modelling & Software 62: 85-96.

Malanson GP, Verdery AM, Walsh SJ, Sawangdee Y, Heumann BW, McDaniel PM, Brian G. Frizzelle BG, Williams NE, Yao X, Entwisle B, Rindfuss RR. 2014. Changing crops in response to climate: virtual Nang Rong, Thailand in an agent based simulation.

Wu R, Long Y, Malanson GP, Garber PA, Zhang S, Li D, Zhao P, Wang L, Duo H. 2014. Optimized spatial priorities for biodiversity conservation in China: a systematic conservation planning perspective. PLoS One, DOI:10.1371/journal.pone.0103783

Resler LM, Shao Y, Tomback DF, Malanson GP, Smith-McKenna EK. 2014. Predicting the functional role of whitebark pine (*Pinus albicaulis*) at alpine treelines: Model accuracy and variable importance. Annals of the Association of American Geographers 104: 703-722.

Ying L-X, Shen Z-H, Piao S-L, Malanson GP. 2014. Terrestrial surface area increment: the effects of topography, DEM resolution, and algorithm. Physical Geography 35: 297-312.

Malanson GP. 2014. Physical geography on the methodological fence: David Stoddart (1965) Geography and the ecological approach. The ecosystem as a geographic principle and method. Progress in Physical Geography 38: 251-258.

Malanson GP, Scuderi L, Moser K, Willmott C, Resler L, Warner T, Mearns LO. 2014. The composite nature of physical geography. Progress in Physical Geography 38: 3-18

Malanson GP. 2014. Biosphere-human feedbacks: A physical geography perspective. Physical Geography 35: 50-75.

Smith-McKenna EK, Resler LM, Tomback DF, Zhang H & Malanson GP. 2013. Topographic influences on the distribution of white pine blister rust in Pinus albicaulis treeline communities. Ecoscience 20: 215-229.

Malanson GP, Fagre DB. 2013. Spatial contexts for temporal variability in alpine vegetation under ongoing climate change. Plant Ecology 214: 1309-1319.

Walsh SJ, Malanson GP, Entwisle B, Rindfuss RR, Mucha PJ, Heumann BW, McDaniel PM, Frizzelle BG, Verdery A, Williams N, Yao X, Ding D. 2013. Design of an agent-based model to examine population-environment interactions in Nang Rong District, Thailand. Applied Geography 39: 183-198.

Malanson GP, Walsh SJ. 2013. A geographical approach to optimization of response to invasive species. In Walsh SJ & Mena C, eds. Science and Conservation in the Galapagos Islands: Frameworks and Perspectives. Springer, New York, 199-215.

Yadav V, Malanson GP. 2013. A spatially explicit scheme for tracking and validating annual landscape scale changes in soil carbon. Applied Geography 37: 101-113.

Rose JP, Malanson GP. 2012. Microtopographic heterogeneity constrains alpine plant diversity, Glacier National Park, MT. Plant Ecology 213: 955-965.

Malanson GP, Bengtson LE, Fagre DB. 2012. Geomorphic determinants of species composition of alpine tundra, Glacier National Park, USA. Arctic, Antarctic, and Alpine Research 44: 197-209.

Grafius DR, Malanson GP, Weiss DJ. 2012. Secondary controls of alpine treeline elevations in the western USA. Physical Geography 33: 146-164.

Peterson DL, Allen, CD, Baron, JS, Fagre, DB, McKenzie, D, Stephenson, NL, Fountain, AG, Hicke, JA, Malanson GP, Tague, CL, van Mantgem PJ. 2011. Response of Western mountain ecosystems to climatic variability and change: A collaborative research approach. In EA Beever, JL Belant (ed) Ecological consequences of climate change: Mechanisms, conservation, and management. CRC Press, Boca Raton FL, 183-190.

Walsh SJ, Malanson GP, Messina JP, Brown DG, Mena CF. 2011. Biocomplexity. In A. Millington, M. Blumler, G. MacDonald, U. Schickhoff, eds. Handbook of Biogeography. Sage, London, 469-487.

Malanson GP. 2011. Simulation. In A. Millington, M. Blumler, G. MacDonald, U. Schickhoff, eds. Handbook of Biogeography. SAGE, London, 454-468.

Malanson GP, Rose JP, Schroeder PJ, Fagre DB. 2011. Contexts for change in alpine tundra. Physical Geography 32: 97-113.

Malanson GP, Resler LM, Bader MY, Holtmeier F-K, Weiss DJ, Butler DR, Fagre DB, Daniels LD. 2011. Mountain treelines: a roadmap for research orientation. Arctic, Antarctic, and Alpine Research 43: 167-177.

Malanson GP. 2011. Ecosystem. In J. Agnew and D. Livinsgtone, eds. Handbook of Geographical Knowledge. Sage, London, 452-464.

Mena CF, Walsh SJ, Frizzelle BG, Yao X, Malanson GP. 2011. Land use change on household farms in the Ecuadorian Amazon: design and implementation of an agent-based model. Applied Geography 31: 210-222.

Yadav V, Malanson GP, Bekele EG, Lant C. 2009. Modeling watershed-scale sequestration of soil organic carbon for carbon credit programs. Applied Geography 29: 488-500.

Grafius DR, Malanson GP. 2009. Precipitation and temperature estimation error at alpine treeline ecotones using the Mountain Climate Simulator model (MT-CLIM). Physical Geography 30: 285-307.

Yadav V, Malanson GP. 2009. Modeling impacts of erosion and deposition on soil organic carbon in the Big Creek Basin of southern Illinois. Geomorphology 106: 304-314.

Butler DR, Malanson GP, Walsh SJ. 2009. The future of treeline. In DR Butler, GP Malanson, SJ Walsh & DB Fagre, eds. The Changing Alpine Treeline: The Example of Glacier National Park, Montana, USA. Elsevier, Amsterdam, 191-194.

Schmid GL, Butler DR, Malanson GP, Resler LM. 2009. Soils and pedogenesis at alpine treeline. In DR Butler, GP Malanson, SJ Walsh & DB Fagre, eds. *The Changing Alpine Treeline: The Example of Glacier National Park, Montana, USA*. Elsevier, Amsterdam, 107-108.

Butler DR, Malanson GP, Walsh SJ. 2009. The future of treeline. In DR Butler, GP Malanson, SJ Walsh & DB Fagre, eds. *The Changing Alpine Treeline: The Example of Glacier National Park, Montana, USA*. Elsevier, Amsterdam, 191-194.

Bekker, MF & Malanson, GP. 2009. Modeling feedback effects on linear patterns of subalpine forest advancement. In DR Butler, GP Malanson, SJ Walsh & DB Fagre, eds. *The Changing Alpine Treeline: The Example of Glacier National Park, Montana, USA*. Elsevier, Amsterdam, 167-190.

Malanson GP, Brown DG, Butler DR, Cairns DM, Fagre DB, Walsh SJ. 2009. Ecotone dynamics: invasibility of alpine tundra by tree species from the subalpine forest. In DR Butler, GP Malanson, SJ Walsh & DB Fagre, eds. *The Changing Alpine Treeline: The Example of Glacier National Park, Montana, USA*. Elsevier, Amsterdam, 35-61.

Tang W, Malanson GP, Entwisle B. 2009. Simulated village locations in Thailand using a multi-scale model including a neural network approach. Landscape Ecology 24: 557-575.

Entwisle B, Edmeades J, Malanson G, Podhisita C, Prasartkul P, Rindfuss RR, Walsh SJ. 2008. Village settlement, deforestation, and the expansion of agriculture in a frontier region: Nang Rong, Thailand. In A. Millington, W. Jepson (eds) Land-Change Science in the Tropics. Springer, New York, 165-179.

Bekker, MF & Malanson GP. 2008. Linear forest patterns in subalpine environments. Progress in Physical Geography 32: 635-653.

Malanson GP. 2008. Extinction debt: origins, developments, and applications of a biogeographic trope. Progress in Physical Geography 32: 277-291.

Entwisle B, Malanson GP, Rindfuss RR, Walsh SJ. 2008. An agent based model of household dynamics and land use change: getting inside the black box. Journal of Land Use Science 3: 73-93.

Yadav V, Del Grosso SJ, Parton WJ, Malanson GP. 2008. Adding ecosystem function to agent-based land use models. Journal of Land Use Science 3: 27-40.

Parker DC, Entwisle B, Rindfuss RR, Van Wey LK, Manson S, Moran E, An L, Deadman P, Evans TP, Linderman M, Rizi SMM, Malanson G. 2008. Case studies, cross-site comparisons, and the challenge of generalization: Comparing agent-based models of land-use change in frontier regions. Journal of Land Use Science 3: 41-72.

Rindfuss RR and 24 coauthors. 2008. Land use change: complexity and comparisons. Journal of Land Use Science 3: 1-10.

Wang Q, Malanson GP. 2008. Spatial hyperdynamism in a post-disturbance simulated forest. Ecological Modelling 215: 337-344.

Walsh SJ, Messina JP, Mena CF, Malanson GP, Page PH. 2008. Complexity theory, spatial simulation models, and land use dynamics in the Northern Ecuadorian Amazon. Geoforum 39: 867-878.

Wang Q, Malanson GP. 2008. Neutral landscapes: bases for exploration in landscape ecology. Geography Compass 2: 319-339.

Yadav V, Malanson GP. 2008. Spatially explicit land use land cover and soil organic carbon transformations in southern Illinois. Agriculture, Ecosystems & Environment 123: 280-292.

Malanson GP, Butler DR. 2007. Introduction – alpine treeline, climate, and environmental changes. Physical Geography 28: 375-377.

Butler DR, Malanson GP, Walsh SJ, Fagre DB. 2007 Influences of geomorphology and geology on alpine treeline in the American West – more important than climatic influences? Physical Geography 28: 434-450.

Malanson GP, Butler DR, Fagre DB, Walsh SJ, Tomback DF, Daniels LD, Resler LM, Smith WK, Weiss DJ, Peterson DL, Bunn AG, Hiemstra CA, Liptzin D, Bourgeron PS, Shen Z, Millar CI. 2007 Alpine treeline of western North America: linking organism-to-landscape dynamics Physical Geography 28: 378-396.

Wang Q, Malanson GP. 2007. Patterns of correlation among landscape metrics. Physical Geography 28: 170-182.

Zeng Y, Malanson GP, Butler DR. 2007. Geomorphic limits to self organization in alpine forest-tundra ecotone vegetation. Geomorphology 91: 378-392.

Yadav V, Malanson GP. 2007. Progress in soil organic matter research: Litter decomposition, modelling, monitoring and sequestration. Progress in Physical Geography 31: 131-154.

Malanson GP, Butler DR, Fagre DB. 2007. Alpine ecosystem dynamics and change: a view from the heights. In T Prato, DB Fagre (eds) Sustaining Rocky Mountain Landscapes: Science, Policy and Management of the Crown of the Continent Ecosystem. Resources for the Future, Washington DC, 85-101.

Malanson GP, Wang Q, Kupfer JA. 2007. Ecological processes and spatial patterns before, during and after simulated deforestation. Ecological Modelling 202: 397-409.

Malanson GP, Zeng Y, Walsh SJ. 2006. Landscape frontiers, geography frontiers: lessons to be learned. Professional Geographer 58: 383-396.

Zeng Y, Malanson GP. 2006. Endogenous fractal dynamics at alpine treeline ecotones. Geographical Analysis 38: 271-287.

Malanson GP, Scott K, Fagre D, Holzer K. 2006. Ordination Context of GLORIA Sites in Glacier National Park, USA. In MF Price (ed) Global Change in Mountain Regions. Sapiens Publishing, Duncow, UK, 154-155 (extended abstract).

Malanson GP, Zeng Y, Walsh SJ. 2006. Complexity at advancing ecotones and frontiers. Environment & Planning A 38: 619-632.

Kupfer JA, Malanson GP, Franklin SB. 2006. Not seeing the ocean for the islands: The mediating influence of matrix-based processes on forest fragmentation effects. Global Ecology & Biogeography 15: 8-20.

Butler DR, Malanson GP. 2005. The geomorphic influences of beaver dams and failures of beaver dams. Geomorphology 71: 48-60.

Resler LM, Butler DR, Malanson GP. 2005. Topographic shelter and conifer establishment and mortality in an alpine environment, Glacier National Park, Montana. Physical Geography 26: 112-125.

Malanson GP, Zeng Y. 2004. Uncovering spatial feedbacks at alpine treeline using spatial metrics in evolutionary simulations. In PM Atkinson, G Foody, S Darby, F Wu (eds) GeoDynamics. CRC Press, Boca Raton FL, 137-150.

Allen TR, Walsh SJ, Cairns DM, Messina J, Butler DR, Malanson GP. 2004. Geostatistics and spatial analysis: characterizing form and pattern at the alpine treeline. In M Bishop, J Shroder (eds) Geographic Information Science and Mountain Geomorphology. Springer, New York, 189-218.

Butler DR, Malanson GP, Resler LM. 2004. Turf-banked terrace treads and risers, turf exfoliation, and possible relationships with advancing treeline. Catena 58: 259-274.

Marion D, Malanson GP. 2004. Ordination of woody vegetation in a Ouachita National Forest watershed. US Forest Service General Technical Report SRS-74, 198-204.

Walsh SJ, Weiss DJ, Butler DR, Malanson GP. 2004. An assessment of snow avalanche paths and forest dynamics using Ikonos satellite data. Geocarto International 19: 85-94.

Kupfer JA, Malanson GP. 2004. The biodiversity crisis. In DG Janelle, B Warf, K Hansen (eds) WorldMinds. Kluwer, Dordrecht, 273-277.

Malanson GP, Butler DR, Walsh SJ. 2004. Ecological response to global climatic change. In DG Janelle, B Warf, K Hansen (eds.) WorldMinds. Kluwer, Dordrecht, 469-473.

Alftine KJ, Malanson GP. 2004. Directional positive feedback and pattern at an alpine tree line. Journal of Vegetation Science 15:3-12.

Kupfer JA, Malanson GP, Franklin SB. 2004. Identifying the Biodiversity Research Needs Related to Forest Fragmentation. National Commission on Science for Sustainable Forestry (www.ncseonline.org/ewebeditpro/items/O62F3754.pdf)

Alftine KJ, Malanson GP, Fagre DB. 2003. Feedback-driven response to multi-decadal climatic variability at an alpine forest-tundra ecotone. Physical Geography 24: 520-535.

Malanson GP. 2003. Dispersal across continuous and binary representations of landscapes. Ecological Modelling 169: 17-24.

Butler DR, Walsh SJ, Malanson GP. 2003. Introduction to the special issue: mountain geomorphology – integrating earth systems, Geomorphology 55: 1-4.

Butler DR, Malanson GP, Bekker MF, Resler LM. 2003. Lithologic, structural, and geomorphic controls on ribbon forest patterns. Geomorphology 55: 203-217.

Walsh SJ, Butler DR, Malanson GP, Crews-Meyer KA, Messina JP, Xiao N. 2003. Mapping, modeling, and visualization of the influences of geomorphic processes on the alpine treeline ecotone, Glacier National Park, Montana, USA. Geomorphology 53: 129-145.

Malanson GP. 2003. Habitats, hierarchical scales, and nonlinearities: an ecological perspective on linking household and remotely sensed data on land-use/cover change. In J Fox, RR Rindfuss, SJ Walsh, V Mishra, eds. People and the Environment. Springer, Boston, 265-283.

Cairns DM, Butler DR, Malanson GP. 2002. Geomorphic and biogeographic setting of the Rocky Mountains. In JS Baron, ed. Rocky Mountain Futures. Island Press, Washington, DC, 27-39.

Malanson GP, Butler DR, Cairns DM, Welsh TE, Resler LM. 2002. Variability in a soil depth indicator in alpine tundra. Catena. 49: 203-215.

Malanson GP. 2002. Extinction debt trajectories and spatial pattern of habitat destruction. Annals, Association of American Geographers 92: 177-188.

Malanson GP. 2002. Effects of spatial representation of habitat in competition-colonization models. Geographical Analysis 34: 141-154.

Malanson GP, Butler DR. 2002. The Western Cordillera. In A Orme, ed. Physical Geography of North America, Oxford University Press, Oxford, 363-379.

Malanson GP. 2001. Complex responses to global change at alpine treeline. Physical Geography 22: 333-342.

Malanson GP, Xiao N, Alftine KJ. 2001. A simulation test of the resource averaging hypothesis of ecotone formation. Journal of Vegetation Science 12: 743-748.

Bekker MF, Malanson GP, Alftine KJ, Cairns DM. 2001. Feedback and pattern in computer simulations of the alpine treeline ecotone. In AC Millington, SJ Walsh, PE Osborne, eds. GIS and Remote Sensing Applications in Biogeography and Ecology. Springer, Boston, 123-138.

Malanson GP, Xiao N, Alftine KJ, Bekker MF, Butler DR, Brown DG, Cairns DM, Fagre DB, Walsh SJ. 2003. Abiotic and biotic controls of spatial pattern at alpine treeline. In BO Parks, KM Clarke, MP Crane, eds. Proceedings of the 4th International Conference on Integrating GIS and Environmental Modeling, Banff, 9 pp.

Malanson GP. 1999. Considering complexity. Annals, Association of American Geographers 89: 746-753.

Malanson GP, Cramer BE. 1999. Landscape heterogeneity, connectivity, and critical landscapes for conservation. Diversity & Distributions 5: 27-40.

Malanson GP, Cramer BE. 1999. Ants in labyrinths: lessons for critical landscapes. Professional Geographer 51: 155-170.

Butler DR, Malanson GP. 1999. Site locations and characteristics of miniature patterned ground, eastern Glacier National Park, Montana, USA. Landform Analysis 2: 45-50.

Cairns DM, Malanson GP. 1998. Environmental variables influencing carbon balance at the alpine treeline ecotone: a modeling approach. Journal of Vegetation Science 9: 679-692.

Butler, DR, Malanson GP, Wilkerson FD, Schmid GL. 1998. Late Holocene sturzstroms in Glacier National Park, Montana, USA. In J Kalvoda, ed. Geomorphological Hazards in High Mountain Areas. Kluwer, Dordrecht, 149-166.

Liu Z-J, Hallberg GR, Malanson GP. 1997. Structural equation modeling of dynamics of nitrate contamination in groundwater. Journal of the American Water Resources Association 33: 1219-1235.

Walsh SJ, Butler DR, Malanson GP. 1997. An overview of scale, pattern, process relationships in geomorphology: a remote sensing and GIS perspective. Geomorphology 21: 183-205.

Cairns DM, Malanson GP. 1997. Examination of the carbon balance hypothesis of alpine treeline location, Glacier National Park, Montana. Physical Geography 18: 125-145.

Malanson GP, Cairns DM. 1997. Effects of dispersal, population delays, and forest fragmentation on tree migration rates. Plant Ecology 131: 67-79.

Pitelka LF and the Plant Migration Workshop Group (Ash J, Berry S, Bradshaw RHW, Brubaker L, Clark JS, Davis MB, Dyer JM, Gardner RH, Gitay H, Hengeveld R, Hope G, Huntley B, King GA, Lavorel S, Mack, R.N., Malanson GP, McGlone M, Prentice IC, Rejmanek M). 1997. Plant migration and climate change. American Scientist 85: 464-473.

Malanson GP. 1997. Simulated responses to hypothetical fundamental niches. Journal of Vegetation Science 8: 307-316.

Malanson GP, Armstrong MP. 1997. Issues in spatial representation: effects of number of cells and between-cell step size on models of environmental processes. Geographical & Environmental Modelling 1: 47-64.

Malanson GP. 1997. Effects of feedbacks and seed rain on ecotone patterns. Landscape Ecology 12: 27-38.

Kupfer JA, Malanson GP, Runkle JR. 1997. Factors influencing species composition in canopy gaps: the importance of edge proximity in Hueston Woods, Ohio. Professional Geographer 49:165-178.

Butler DR, Malanson GP. 1996. A major sediment pulse in a subalpine river caused by debris flows. Zeitschrift fur Geomorphologie 40: 525-535.

Malanson GP. 1996. Modelling forest response to climatic change: issues of time and space. in SK Majumdar, EW Miller, FJ Brenner, eds. Forests - A Global Perspective. Pennsylvania Academy of Sciences, Easton, PA, 200-211.

Schwarz WL, Malanson GP, Weirich F. 1996. Effect of landscape position on the sediment chemistry of abandoned-channel wetlands. Landscape Ecology 11: 27-38.

Malanson GP. 1996. Effects of dispersal and mortality on diversity in a forest stand model. Ecological Modelling 87: 103-110.

Malanson GP, Armstrong MP. 1996. Dispersal probability and forest diversity in a fragmented landscape. Ecological Modelling 87: 91-102.

Malanson GP, Armstrong MP, Bennett DA. 1996. Fragmented forest response to climatic warming and disturbance. in MF Goodchild, LT Steyaert, BO Parks, MP. Crane, C.A. Johnston, DR, Maidment & SJ, Glendinning, eds. GIS and Environmental Modeling : Progress and Research Issues. GIS World Books, Fort Collins, CO 243-247.

Butler DR, Malanson GP. 1995. Sedimentation rates and patterns in beaver ponds in a mountain environment. Geomorphology 13: 255-269

Malanson GP, O'Leary JF. 1995. The coastal sage scrub - chaparral boundary and response to global climatic change. In J Moreno, WC Oechel, eds. Global Change and Mediterranean-type Ecosystems. Springer-Verlag, New York, 203-224.

Malanson GP, Cairns DM. 1995. Effects of increased cloud-cover on a montane forest landscape. Ecoscience 2: 75-82.

Post DP, Malanson GP. 1994. Reinterpretation of relations between vegetation removal and water yield. Geographical Bulletin 36: 94-102.

Butler DR, Malanson GP, Cairns DM. 1994. Stability of alpine treeline in northern Montana, USA. Phytocoenologia 22: 485-500.

Brown DG, Cairns DM, Malanson GP, Walsh SJ, Butler DR. 1994. Remote sensing and GIS techniques for spatial and biophysical analyses of alpine treeline through process and empirical models. In WK Michener, S Stafford, J Brunt, eds. Environmental Information Management and Analysis: Ecosystem to Global Scales. Taylor and Francis, Philadelphia, 453-481.

Walsh SJ, Butler DR, Allen TR, Malanson GP. 1994. Influence of snow patches and snow avalanches on the alpine treeline ecotone. Journal of Vegetation Science 5: 657-672.

Malanson GP, Butler DR. 1994. Tree - tundra competitive hierarchies, soil fertility gradients, and the elevation of treeline in Glacier National Park, Montana. Physical Geography 15: 166-180.

Nealson EN, Malanson GP. 1994. Farm chemicals as indicators of sediment sources in Iowa rivers. Geographical Bulletin 36: 44-49.

Butler DR, Malanson GP. 1994. Canadian landform examples - beaver landforms. Canadian Geographer 38: 76-79.

Craig MR, Malanson GP. 1993. River flow events and the colonization of point bars in Iowa. Physical Geography 14: 436-448.

Malanson GP, Pavlik CE, Ceilley DE. 1993. Introducing students to plant geography: polar ordination applied to hanging gardens. Journal of Geography 92: 129-138.

Butler DR, Malanson GP. 1993. An unusual early-winter flood and its varying geomorphic impact along a subalpine river in the Rocky Mountains of Montana, USA. Zeitschrift fur Geomorphologie 37: 145-155

Kupfer JA, Malanson GP. 1993. Observed and modeled directional change in riparian forest composition at a cutbank edge. Landscape Ecology 8: 185-199.

Kupfer JA, Malanson GP. 1993. Structure and composition of a riparian forest edge. Physical Geography 14: 154-170.

Butler DR, Malanson GP. 1993. Characteristics of two landslide-dammed lakes in a glaciated alpine environment. Limnology and Oceanography 38: 441-445.

Malanson GP, Kupfer JA. 1993. Simulated fate of leaf litter and woody debris at a riparian cutbank. Canadian Journal of Forest Research 23: 582-590

Malanson GP. 1993. Comment on modeling ecological response to climatic change. Climatic Change 23: 95-109.

Malanson GP. 1992. Ecology of fragmented natural landscapes: disturbance intensity and spatial pattern and scale. Ekistics 356: 280-286.

Malanson GP, Westman, WE, Yan Y-L. 1992. Realized versus fundamental niche functions in a model of chaparral response to climatic change. Ecological Modelling 64: 261-277.

Malanson GP, Butler DR, Georgakakos KP. 1992. Nonequilibrium geomorphic processes and deterministic chaos. Geomorphology 5: 311-322.

Walsh SJ, Malanson GP, Butler DR, 1992. Pattern of alpine treeline, Glacier National Park, Montana, USA. in DG Janelle, ed. Geographical Snapshots of North America, Guilford Press, New York, 167-171.

Butler DR, Malanson GP, Walsh SJ, 1992. Snow-avalanche paths: conduits from the periglacial-alpine to the subalpine-depositional zone. In A Abrahams, J Dixon, eds. Periglacial Geomorphology. Wiley, London, 185-202.

Westman WE, Malanson GP. 1992. Effects of climate change on Mediterranean-type ecosystems in California and Baja California. In RL Peters, T Lovejoy, eds. Global Warming and Biological Diversity. Yale University Press, New Haven, 258-276.

Liu Z-J, Malanson GP. 1992. Long-term cyclic dynamics of simulated riparian forest stands. Forest Ecology & Management 48: 217-231.

Butler DR, Malanson GP. 1992. Effects of terrain on excessive travel distance by snow avalanches. Northwest Science 66: 77-85.

Butler DR, Malanson GP, Walsh SJ. 1991. Identification of deltaic wetlands at montane finger lakes. Environmental Professional 13: 352-362.

Malanson GP, Butler, DR. 1991. Floristic variation among gravel bars in a subalpine river, Montana, USA. Arctic & Alpine Research 23: 273-278.

Malanson GP, Westman WE. 1991. Climatic change and the modeling of fire effects in coastal sage scrub and chaparral. in S.C. Nodvin & T.A. Waldrop, eds. Fire and the Environment: Ecological and Cultural Perspectives. U.S. Forest Service General Technical Report SE-69, 91-96.

Butler DR, Walsh SJ, Malanson GP. 1991. GIS applications to the indirect effects of forest fires in mountainous terrain. in S.C. Nodvin & T.A. Waldrop, eds. Fire and the Environment: Ecological and Cultural Perspectives. U.S. Forest Service General Technical Report SE-69, 202-211.

Butler DR, Malanson GP, Oelfke JG. 1991. Potential catastrophic flooding from landslide-dammed lakes, Glacier National Park, Montana, USA. Zeitschrift fur Geomorphologie (supplementband) 83: 195-209.

Malanson GP, Westman WE. 1991. Modeling interactive effects of climate change, air pollution, and fire on a California shrubland. Climatic Change 18: 363-376.

Malanson GP, Butler DR, Walsh SJ. 1990. Chaos theory in physical geography. Physical Geography 11: 293-304.

Rex KD, Malanson GP. 1990. The fractal shape of riparian forest patches. Landscape Ecology 4: 249-258.

Malanson GP, Armstrong MP. 1990. Improving environmental simulation models to assess climate change impacts. University of Iowa, Department of Geography Discussion Paper No. 43, 35 pp.

Butler DR, Malanson GP. 1990. Non-equilibrium geomorphic processes and patterns on avalanche paths in the northern Rocky Mountains, U.S.A. Zeitschrift fur Geomorphologie 34: 257-270.

Malanson GP, Butler, DR, 1990. Woody debris, sediment, and riparian vegetation of a subalpine river, Montana, USA. Arctic & Alpine Research 22: 183-194.

Hanson JS, Malanson GP, Armstrong MP. 1990. Landscape fragmentation and dispersal in a model of riparian forest dynamics. Ecological Modelling 49: 277-296.

Hanson JS, Malanson GP, Armstrong MP. 1989. Spatial constraints on the response of vegetation to climate change. in GP Malanson, ed. Natural Areas Facing Climate Change. SPB Academic, The Hague, 1-23.

Walsh SJ, Bian L, Brown DG, Butler DR, Malanson GP. 1989. Image enhancement of Landsat thematic mapper digital data for terrain evaluation, Glacier National Park, Montana, USA. Geocarto International 4: 55-58.

Butler DR, Malanson GP. 1989. Periglacial patterned ground, Waterton-Glacier International Peace Park, Canada and USA. Zeitschrift fur Geomorphologie 33: 43-57.

Malanson GP, Trabaud L. 1988. Computer simulations of fire behavior in garrigue in southern France. Applied Geography 8: 53-64.

Malanson GP, Trabaud L. 1988. Vigour of post-fire resprouting by Quercus coccifera L. Journal of Ecology 76: 351-365.

Malanson GP, Trabaud L. 1987. Post-fire development of canopy structure in a mediterranean shrub, Quercus coccifera L. Physical Geography 8: 266-274.

Malanson GP, Trabaud L. 1987. Ordination analysis of components of resilience of Quercus coccifera garrigue. Ecology 68: 463-473.

Malanson GP. 1987. Diversity, stability, and resilience: effects of fire regime. In L Trabaud, ed. Role of Fire in Ecological Systems. SPB Academic, The Hague, pp. 49-63.

Butler DR, Malanson GP, Oelfke JG. 1987. Historic rockfall avalanches, northeastern Glacier National Park, Montana, USA. Mountain Research and Development 6: 261-271.

Butler DR, Malanson GP, Oelfke JG. 1987. Tree-ring analysis and natural hazard chronologies: minimum sample sizes and index values. Professional Geographer 39: 41-47.

Malanson GP, Butler DR, 1986. Floristic patterns on avalanche paths in the northern Rocky Mountains, USA. Physical Geography 7: 231-238.

Butler DR, Malanson GP. 1985. A history of high-magnitude snow avalanches, southern Glacier National Park, Montana, USA. Mountain Research & Development 5: 175-182.

Malanson GP. 1985. Spatial autocorrelation and distributions of plant species on environmental gradients. Oikos 45: 278-280.

Butler DR, Malanson GP. 1985. A reconstruction of snow avalanche characteristics in Montana, USA, using vegetative indicators. Journal of Glaciology 31: 185-187.

Malanson GP, Butler DR. 1985. Ordinations of species and fuel arrays and their use in fire management. Forest Ecology & Management 12: 65-71.

Malanson GP. 1985. Fire management in coastal sage scrub, southern California, USA. Environmental Conservation 12: 141-146.

Malanson GP, O'Leary JF. 1985. Effects of fire and habitat on regeneration in Mediterranean-type ecosystems: Ceanothus spinosus chaparral and coastal sage scrub. Oecologia Plantarum 6: 183-195.

Malanson GP, Westman WE. 1985. Post-fire succession in Californian coastal sage scrub: the role of continual basal sprouting. American Midland Naturalist 113: 309-318.

Malanson GP. 1985. The rise and fall of the Uintah Valley Indian Reservation: perception and policy. In MD Picard, ed. Geology and Energy Resources, Uinta Basin of Utah. Salt Lake City: Utah Geological Association Publication 12: 11-15.

Malanson GP. 1985. Simulation of competition between alternative shrub life history strategies through recurrent fires. Ecological Modelling 27: 271-283

Malanson GP, Butler, DR, 1984. Avalanche paths as fuel breaks: implications for fire management. Journal of Environmental Management 19: 229-238.

Malanson GP, Butler DR. 1984. Transverse pattern of vegetation on avalanche paths in the northern Rocky Mountains, Montana. Great Basin Naturalist 44: 453-458.

Malanson GP. 1984. Fire history and patterns of Venturan subassociations of Californian coastal sage scrub. Vegetatio 57: 121-128.

Malanson GP. 1984. Intensity as a third factor of disturbance regime and its effect on species diversity. Oikos 43: 411-413.

Malanson GP. 1984. Linked Leslie matrices for the simulation of succession. Ecological Modelling 21: 13-20.

Malanson GP. 1982. Modeling postfire succession in coastal sage scrub. In CE Conrad, WC Oechel, eds. Dynamics and Management of Mediterranean-type Ecosystems. U.S. Forest Service General Technical Report PSW-58, 616.

Malanson GP, O'Leary JF. 1982. Post-fire regeneration strategies of Californian coastal sage shrubs. Oecologia 53: 355-358.

Malanson GP. 1982. The assembly of hanging gardens: effects of age, area, and location. American Naturalist 119: 145-150.

Westman WE, O'Leary JF, Malanson GP. 1981. The effects of fire intensity, aspect, and substrate on postfire growth of Californian coastal sage scrub. In NS Margaris, HA Mooney, eds. Components of Productivity of Mediterranean Regions.W. Junk, The Hague, 151-179.

Rogers GF, Travis RW, Malanson GP. 1980. An insular geography approach to equilibrium number of physician specialties across urban centers. Social Science & Medicine 14D: 45-54.

Malanson GP, Kay J. 1980. Flood frequency and the assemblage of dispersal types in hanging gardens of the Narrows, Zion National Park, Utah. Great Basin Naturalist 40: 365-371.

Malanson GP. 1980. Habitat and plant distributions in hanging gardens of the Narrows, Zion National Park, Utah. Great Basin Naturalist 40: 178-182.

**Letters:**

Malanson GP. Other climate changes. Letter to the editor, *New York Times*, 12/8/97, p. A22.

**Book reviews:**

"Geographical Population Analysis: Tools for the Analysis of Biodiversity." Brian A. Maurer. *American Scientist* 83: 576, 1995.

"Faith in a Seed." Henry David Thoreau. *Annals, Association of American Geographers* 84: 746-747, 1994.

"A Systems Analysis of the Global Boreal Forest." H.H. Shugart, R. Leemans, and G.B. Bonan, eds. *Geographical Analysis* 25: 171-175, 1993.

"Biogeomorphology." Heather Viles, ed. *Annals, Association of American Geographers* 80: 481-483, 1990.

"Woodland Conservation and Management." George Peterken. *Environmental Professional* 8: 179-184, 1986.

**Encyclopedia entries:**

Malanson GP. 2017. Biome. In D. Richardson, ed. *International Encyclopedia of Geography*. American Association of Geographers, Washington.

Malanson GP. 2017. Ecosystem. In D. Richardson, ed. *International Encyclopedia of Geography*. American Association of Geographers, Washington.

Malanson GP. 2017. Mediterranean-type Ecosystems. In D. Richardson, ed. *International Encyclopedia of Geography*. American Association of Geographers, Washington.

Butler DR, Malanson GP, Walsh SJ. 2007. Glacier National Park, Montana (US). In P. Robbins, ed. *Encyclopedia of Environment & Society*. Sage Publications, Thousand Oaks, CA, 770-771.

**Presentations and published abstracts:**

2018: Malanson GP, Tomback DF, Resler LM. Concept for range limits with *Pinus albicaulis*. ESA, New Orleans

2018: Malanson GP, Fagre DB, Asebrook J, Hintz J, Damm C. Changing alpine tundra, Glacier National Park. IAVS, Bozeman

2016: Tomback DF, Resler LM, Malanson GP: Forest health threats cascade upward: Whitebark pine treeline communities and ecosystem functions in the Rocky Mountains. North American Forest Insect Work Conference, Washington.

2016: Malanson GP, Resler, LM, Tomback, DF: A size-growth gradient hypothesis model for alpine treeline ecotones with climatic variation and extremes. American Association of Geographers, San Francisco.

2015: Malanson GP, Zimmerman, DL, Kinney M, Fagre DB: Distance within scales: explaining landscape and regional variation in alpine tundra. IALE World Congress, Portland.

2014: Tomback DF, Resler LM, Malanson GP, Smith-McKenna EK, Blakeslee SC, Pyatt JC. White pine blister rust alters facilitation interactions at treeline: Implications for treeline communities and response to climate change.  IUFRO Joint Conference: Genetics of Five-Needle Pines, Rusts of Forest Trees, and Strobusphere, Fort Collins.

2014: Malanson GP, Resler LM: Neighborhood functions alter unbalanced facilitation in an alpine treeline simulation. AGU Fall Meeting, San Francisco.

2013: Malanson GP: *Progress in Physical Geography* lecture: Missing links. Annual Meeting of the AAG, Los Angeles

2012: Malanson GP, Fagre DB: Glacier National Park GLORIA sites in regional context. MtnClim2012, Estes Park, CO (poster)

2011: Malanson GP, Shen Z: Topography and epistemology: review and prospect. International Association for Landscape Ecology, Beijing.

2010: Malanson GP, Rose JP: Neutral vs. niche context for change in alpine tundra. Annual Meeting of the AAG, Washington

2009: Rose J, Nathanson R, Malanson GP: Providing context for alpine tundra response to global climatic change. Association of American Geographers, Las Vegas.

2009: Malanson GP: Biogeography; Progress in Physical Geography Panel on Earth Systems Science. Association of American Geographers, Las Vegas (invited).

2009: Malanson GP, Honey R: Water towers, the metaphor. Association of American Geographers, Las Vegas.

2009: Goshit S, Malanson GP: Synoptic influence on daily temperature and precipitation in western Montana. Association of American Geographers, Las Vegas.

2009: Bekker MF, Malanson GP: Feedback and linear forest patterns in subalpine environments: a global view. Association of American Geographers, Las Vegas.

2008: Malanson GP, Walsh SJ, Atkinson RJ, Milsted WB: Detection and control protocols for invasive plant species in the Galapagos Islands. Association of American Geographers, Boston.

2008: Bekker MF, Malanson GP: Linear vegetation patterns in subalpine forests. Association of American Geographers, Boston.

2007: Zeng Y, Malanson GP: Coupling climate change with complex alpine treeline dynamics. Association of American Geographers, San Francisco.

2007: Wang Q, Malanson GP: Analysis of effects of landscape pattern on species dynamics using colonization-competition models. Association of American Geographers, San Francisco.

2007: Goshit S, Malanson GP, McGinnis DL: Patterns of winter precipitation variability in western Montana. Association of American Geographers, San Francisco.

2006: Walsh SJ and the Ecuadorian Amazon LULC Team. Pattern-process relations in coupled human-natural systems: modeling LULC dynamics in the Ecuadorian Amazon. NASA Science Teams Meeting, Brasilia, Brazil.

2006: Malanson GP, Shen Z, Butler DR*:* Dynamic geomorphology affects ecological pattern and process. Association of American Geographers, Chicago.

2006: Malanson GP and the Alpine Treeline Workshop Group. Treeline dynamics and climate change. MTNCLIM2006, Mt. Hood, OR

2006: Goshit S, Malanson GP: Synoptic climatology and winter precipitation variability in western Montana. MTNCLIM2006, Mt. Hood, OR

2005: Walsh SJ, Bilsborrow RE, Mena CF, Erlien CM, Barbieri AF, Messina JP, Medina F, Malanson GP. 2005. Modeling deforestation and agricultural extensification in the Ecuadorian Amazon. NASA Science Team Meeting, São Paulo, Brazil.

2005: Malanson GP: Complexity and dynamics in biogeography. Association of American Geographers, Denver.

2005: Malanson GP, Scott K, Fagre D, Holzer K: Ordination Context of GLORIA Sites in Glacier National Park, USA. Global Change in Mountain Regions Open Science Conference, Perth, Scotland

2005: Malanson GP, Bennett DA: Why is land use/land cover change biocomplex? AAG West Lakes Division, Iowa City.

2005: Butler DR, Malanson GP:Active frost processes and fine-scale polygonal patterned ground on turf-banked terrace treads, eastern Glacier National Park, Montana. Association of American Geographers, Denver.

2004: Zeng Y, Malanson GP, Walsh SJ: Searching for complexity on landscapes. Association of American Geographers, Philadelphia.

2004: Weiss DJ, Walsh SJ, Hammer, ES, Butler DR, Malanson GP: An assessment of snow avalanche paths using Ikonos satellite data and LAI field data. Association of American Geographers, Philadelphia.

2004: Tang W, Malanson GP, Walsh SJ: Agent-Based Simulation of Pattern Formation of Village Territory in Thailand. Association of American Geographers, Philadelphia.

2004: Malanson GP, Zeng, Y, Walsh SJ: Frontiers as frontiers. Association of American Geographers, Philadelphia.

2004: Malanson GP, Zeng Y, Butler DR, Resler LM: Advance of trees and krummholz into alpine tundra. American Geophysical Union, San Francisco

2004: Malanson GP, Brown DG, Butler DR, Cairns DM, Fagre DF, Walsh SJ: Advance of tree species into alpine tundra. International Association for Vegetation Science, Kona, HI.

2004: Malanson GP, Alftine KJ, Bekker MF, Brown DG, Butler DR, Cairns DM, Fagre DF, Resler LM, Schmid GL, Walsh SJ, Zeng Y: Advance of trees into alpine tundra. Mountain Climate Sciences Symposium, North Beach, CA.

2004: Butler, DR, Resler, L., Malanson GP: Turf-banked terrace treads and risers, turf exfoliation, and possible relationships with advancing treeline. Association of American Geographers, Philadelphia.

2003: Zeng, Y & Malanson GP, Evolutionary computation of nonlinear feedback in alpine treeline advance. Association of American Geographers, New Orleans.

2003: Tang W, Malanson GP, Entwisle B: Agent-based modeling of village location in Thailand. Association of American Geographers, New Orleans.

2003: Malanson GP: Land-use/land-cover change. UNESCO MAB Mountain Research Initiative Workshop, Sörenborg, Switzerland.

2003: Malanson GP, Walsh SJ, Butler DR, Reardon B, Fagre DB, McKnight S: Effects of avalanches on local carbon budgets and regional forest dynamics Association of American Geographers, New Orleans.

2003: Malanson GP, Zeng Y: Uncovering spatial feedbacks at alpine treeline using spatial metrics in evolutionary simulations. GeoComputation ’03, Southampton, UK.

2003: Butler DR, Malanson GP, Walsh SJ, Reardon B, Fagre DB: Tree-ring dating of high magnitude snow-avalanche winters and their relationship with Snow-Water Equivalence (SWE). Association of American Geographers, New Orleans.

2002: Zeng Y, Malanson GP: Genetic programming to explore alpine treeline advance. US – International Association for Landscape Ecology, Lincoln, NE.

2002: Tang W, Malanson GP: Representations of habitat and specialization in competition-colonization models. US – International Association for Landscape Ecology, Lincoln, NE.

2002: Resler LM, Butler DR, Malanson GP: The role of microtopography in conifer establishment at the alpine treeline ecotone, Glacier National Park, Montana. SWAAG, Laredo

2002: Malanson GP: An ecological perspective on linking household and remotely sensed data on land-use change. Linking Households and Remotely Sensed Data, January 2002, East-West Center, Honolulu.

2002: Malanson GP, Messina JP, Walsh SJ, Entwisle B, Rindfuss RR: Linking households and parcels in models of land-use change. US – International Association for Landscape Ecology, Lincoln, NE.

2002: Butler DR, Malanson GP: The geomorphic influences of beaver dams and beaver-dam failure. 33rd Annual Binghamton Geomorphology Symposium, Bloomsburg, PA.

2001: Malanson GP, Butler DR, Welsh TE, Cairns DM: Variability of soil depth in alpine tundra and possible effects on tree advance. Association of American Geographers, New York.

2001: Butler DR, Malanson GP, Bekker M, Resler L: Lithologic, structural, and geomorphic controls on ribbon forest patterns. 32nd Binghamton Symposium in Geomorphology, Chapel Hill, NC.

2000: Walsh SJ, Butler DR, Malanson GP, Crews-Meyer KA, Messina JP, Xiao N: Mapping, Modeling, and visualization of the influences of geomorphic processes on the alpine treeline ecotone, Glacier National Park, Montana, USA. 31st Binghamton Symposium in Geomorphology, Binghamton, NY

2000: Malanson GP: Discrete and continuous representations of habitat quality in ecological simulations. SWAAG, College Station.

2000: Malanson GP, Xiao N , Alftine KJ, Bekker MF, Butler DR, Brown DG, Cairns DM, Fagre DB, Walsh SJ: Abiotic and biotic controls of spatial pattern at alpine treeline. 4th International Conference on Integrating GIS and Environmental Modeling, Banff.

2000: Malanson GP: Simulations of the resource averaging hypothesis for alpine treeline. Association of American Geographers, Pittsburgh.

1999: Malanson GP: Complex responses to global change at alpine treeline. Plenary session. Southwest Division, Association of American Geographers, San Marcos.

1999: Malanson GP, Alftine KJ, Bekker, M: Finding simplicity in simulations of the alpine treeline ecotone. Association of American Geographers, Honolulu.

1998: Malanson GP: Simulation of phase changes in ecotone patterns. Association of American Geographers, Boston.

1998: Malanson GP: Plant dispersal and migration across fragmented landscapes. IGBP GCTE/LUCC Open Science Conference, Barcelona.

1997: Walsh SJ, Butler DR, Malanson GP: Issues of scale in mountain research in Glacier National Park, Montana. USGS-BRD workshop on Human-Induced Environmental Change in the Rocky Mountains, Polson, MT.

1997: Malanson GP: MAUP in a simulation of forest dynamics. Association of American Geographers, Ft. Worth

1997: Malanson GP: Landscape diversity and landscape function: heterogeneity of conduits. MEDECOS VIII Conference, San Diego.

1997: Malanson GP: Effects of landscape pattern on species migration under changing climates. IGBP-GCTE Focus 2, Activity 2 workshop, San Diego.

1997: Butler DR, Malanson GP: Repeat photography of the physical landscape, Glacier National Park, MT. US - International Association for Landscape Ecology, Durham

1997: Butler DR, Malanson GP: Repeat photography of physical geography, Glacier National Park, MT. Association of American Geographers, Ft. Worth

1996: Malanson GP: Treeline as pattern on an environmental gradient. Association of American Geographers, Charlotte.

1996: Malanson GP: Effects of feedback and seed rain on ecotone patterns. Spatio-Temporal Dynamics in Ecological Systems Conference. National Center for Ecological Analysis and Synthesis, Santa Barbara.

1996: Butler DR, Cairns DM, Walsh SJ, Malanson GP: Climatic implications of treeline establishment dates, eastern Glacier National Park, Montana. Association of American Geographers, Charlotte.

1995: Malanson GP, Cairns DM: Calibrating dispersal in a simulation of fragmented forest dynamics. U.S. Landscape Ecology Symposium, Minneapolis.

1995: Kupfer JA, Runkle JR, Malanson GP: Early gap successional pathways in Hueston Woods Nature Preserve, Ohio: patterns and determinants. Association of American Geographers, Chicago.

1995: Butler DR, Malanson GP: Sedimentation rates and patterns in beaver ponds in a mountain environment. 26th Binghamton Symposium in Geomorphology, Charlottesville, VA.

1995: Butler DR, Malanson GP: Sedimentation patterns and rates in beaver ponds. Association of American Geographers, Chicago.

1994: Malanson GP, Driessen CA, Butler DR: Pattern of riparian environments of different geomorphic origin. Association of American Geographers, San Francisco.

1994: Malanson GP, Armstrong MP: Dispersal probability affects forest richness with climatic change. Global Change II: A Midwest Perspective. Iowa City.

1994: Butler DR, Malanson GP: Beaver geomorphology and lacustrine sedimentation in Glacier National Park, Montana. Association of American Geographers, San Francisco.

1993: Malanson GP: Scaling issues in a spatially explicit model of ecological response. International Geosphere-Biosphere Program Workshop on Global Change and Landscape Dynamics in Mediterranean Systems. Toledo, Spain

1993: Malanson GP, Butler DR, Walsh SJ, Brown DG: Hierarchical modeling of the position and pattern of alpine treeline. Association of American Geographers, Atlanta.

1993: Malanson GP, Cairns DM: Effects of cloudiness on vegetation processes modeled at two scales. West-Lakes Division, AAG, Milwaukee.

1993: Kupfer JA, Malanson GP: Forest-stream ecotones: structure, composition, and carbon dynamics along Midwestern cutbank edges. Association of American Geographers, Atlanta.

1993: Butler DR, Malanson GP: Nearest neighbor analysis of miniature polygonal patterned ground, eastern Glacier National Park, Montana. Association of American Geographers, Atlanta.

1992: O'Leary JF, Malanson GP: Patterns and controls on vegetation distribution and composition of coastal sage scrub. Symposium on Anticipated Effects of a Changing Global Environment on Mediterranean-type Ecosystems. Valencia, Spain.

1992: Malanson GP: Consequences of secondary effects of global climatic change on California shrublands. 19th Natural Areas Conference, Bloomington, IN.

1992: Malanson GP: Niche functions and plant community response to climatic change. Association of American Geographers, San Diego.

1992: Malanson GP, Butler, DR, Georgakakos KP: Nonequilibrium geomorphic processes and deterministic chaos. 23rd Binghamton Symposium in Geomorphology, Oxford, OH.

1991: Malanson GP, Yan Y-L, Westman WE: The realized niche of plant species and modeling their response to climatic change. Ecological Society of America, San Antonio.

1991: Kupfer JA, Malanson GP: Vegetational structure, composition and successional dynamics of a riparian forest edge. International Association of Landscape Ecology, Ottawa.

1991: Craig MR, Malanson GP: Riparian forest colonization on point bars. International Association of Landscape Ecology, Ottawa.

1991: Butler DR, Malanson GP, Walsh SJ: Snow-avalanche paths: conduits from the periglacial-alpine to the subalpine-depositional zone. 22nd Binghamton Symposium in Geomorphology, Buffalo, NY.

1990: Malanson GP, Westman WE: Modeling the response of California shrublands to change in climate and fire regime. Fire and the Environment Symposium, Knoxville.

1990: Malanson GP, Westman WE: Modeling the response of California shrublands to climate change. Association of American Geographers, Toronto.

1990: Butler DR, Walsh SJ, Malanson GP: Inclusion of temporal and spatial data on forest fires in a geographic information system for potential erosion hazards analysis: an example from Glacier National Park. Fire and the Environment Symposium, Knoxville.

1989: Malanson GP, Westman WE: Modelling interactive effects of climate change, air pollution, and fire on California shrublands. Ecological Society of America, Toronto

1989: Butler DR, Malanson GP, Oelfke JG: Potential catastrophic flooding from landslide-dammed lakes, Glacier National Park, Montana, USA. Second International Conference on Geomorphology, Frankfurt.

1988: Malanson GP: Processes in riparian forests. Association of American Geographers, Phoenix.

1988: Hanson JS, Malanson GP: Spatial constraints on the response of vegetation to climate change. West-Lakes Division, AAG, St. Paul.

1988: Butler DR, Malanson GP: Periglacial patterned ground, Glacier National Park, Montana. Association of American Geographers, Phoenix.

1987: Westman WE, Malanson GP: Effects of climate change on Mediterranean-type ecosystems in California and Baja California. World Wildlife Fund Symposium, Washington, DC.

1987: Malanson GP: Space in simulations of forest dynamics. Association of American Geographers, Portland.

1986: Malanson GP: Diversity: effects of fire regime and ecological resilience. Association of American Geographers, Minneapolis.

1986: Malanson GP: Diversity and resilience: effects of fire regime. Ecological Society of America and International Congress of Ecology, Syracuse.

1984: Malanson GP, Butler, DR: The role of avalanche paths in forest fire behavior. Association of American Geographers, Washington.

1984: Butler DR, Malanson GP: Tree-ring dating of high magnitude snow avalanches, Glacier National Park, Montana. Association of American Geographers, Washington.

1983: Malanson GP: Analyzing Gaussian distributions of species importance values. Association of American Geographers, Denver.

1983: Malanson GP: A critique of ecological similarity indices. Southwest Division, AAG, Hot Springs, AR.

1982: Malanson GP: Simulation of post-fire succession in Californian coastal sage scrub. Association of American Geographers, San Antonio.

1982: Malanson GP: Post-fire succession in Californian coastal sage scrub. Ecological Society of America, University Park, PA.

1982: Malanson GP, Westman WE: Fire management in Californian coastal sage scrub. Association of Pacific Coast Geographers, Long Beach.

1981: Malanson GP: Modeling post-fire succession in coastal sage scrub. USFS Symposium on dynamics and management of Mediterranean type ecosystems, San Diego

1981: Malanson GP: A multiple pathway model of post-fire succession in Californian coastal sage scrub. Association of American Geographers, Los Angeles.

1980: Malanson GP: Simulation of species importance values in succession. Association of American Geographers, Louisville.

1979: Travis RW, Rogers GF, Malanson GP: An insular geography approach to equilibrium numbers of physician specialties across urban centers. Association of American Geographers, Philadelphia.

1979: Malanson GP: Perception of the Uintah Valley Indian Reservation. Association of Pacific Coast Geographers, Santa Barbara.

1978: Van Pelt NS, Malanson GP, Petersen JF: Ecological studies in the Utah canyonlands: a review and appraisal. Association for Arid Lands Studies, Denver.

1978: Malanson GP: Dissimilarity of hanging garden communities. Association of American Geographers, New Orleans

**Invited departmental presentations at:**

UC Santa Barbara, Memphis State Univ, Univ Colorado, Univ Oklahoma, Univ Connecticut, SUNY Albany, Univ Kansas, Univ Georgia, Univ North Carolina, Pennsylvania State Univ, Michigan State Univ, Univ Arizona, Iowa State Univ (3), UC San Diego, Southwest Texas State Univ, Univ Minnesota; Peking University (2); Univ Nevada-Las Vegas, Kansas State Univ, Univ Northern Illinois, National Science Foundation, Univ Maryland; Virginia Tech