

CURRICULUM VITAE

Lisa J. Graumlich

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Education

Ph.D., College of Forest Resources, University of Washington, 1985

M.S., Department of Geography, University of Wisconsin-Madison, 1978

B.S., Department of Botany, University of Wisconsin-Madison, 1975

Executive Experience

Dean and Mary Laird Wood Professor, College of the Environment, University of Washington, 2010 - present

- As inaugural dean, established College of the Environment as nation's largest college of its kind with over 220 faculty, 1500 students, and \$125M/yr externally funded research
- Doubled annual private gifts to College of the Environment, reaching halfway point to capital campaign goal of \$325M in three years
- Built programs and put in place policies to increase diversity, access and inclusion in the College of the Environment
- Managed fiscal and human resources for long-term sustainability under decreased state resources and increasing demands

Director, School of Natural Resources and the Environment, The University of Arizona, 2007-2010

- Led transition from applied wildlife management focus to more comprehensive mission including conservation biology and global change
- Strengthened ties with Mexican conservation scientists and initiated new US-Mexico cross border projects
- Responded to cuts in state funding by streamlining management, including merging with Office of Arid Land Studies

Executive Director of Big Sky Institute (formerly Mountain Research Center), Montana State University, 1999 - 2006

- Working closely with Provost, conceived of and launched Big Sky Institute with goal of deepening engagement of MSU scientific community with challenges facing the Greater Yellowstone Ecosystem
- Raised >\$1M private funds for research, education and engagement
- Generated ~\$2M for problem-focused research from competitively funded sources (e.g., NSF, USGS, DoE)
- Raised ~\$2M for K12 and public education, including \$1.8M NSF funded GK12 project

Deputy Director and Dean of the Earth Learning Center, Biosphere 2, Columbia University, 1997 - 1998

- Massive renovation of 3.14 acre biologically diverse, closed ecosystem to transition from "human mission" to carbon cycle observatory

- Developed Earth Semester program for Columbia University undergraduate students; recruited faculty to develop experiential, interdisciplinary curriculum based on Biosphere 2 experiments
- Rebranded Biosphere 2 as informal science education destination for ca. 167,000 visitors per year, including K12 school groups
- Addressed structural budget deficits and massive deferred maintenance issues

Faculty Positions

Virginia and Prentice Bloedel Professor, School of Environmental and Forest Sciences, 2010 – present

Professor School of Natural Resources and the Environment, The University of Arizona 2007 - 2010

Professor, Land Resources and Environmental Sciences, Montana State University, 1999 - 2006

Adjunct Associate Professor, Earth and Environmental Sciences, Columbia University, 1998 - 2000

Director, Institute for the Study of Planet Earth, University of Arizona, 1993 - 1997

Associate Professor, Laboratory of Tree-Ring Research, University of Arizona, 1993 - 1999

Assistant Professor, Laboratory of Tree-Ring Research, University of Arizona, 1988 - 1993

Assistant Professor, Department of Geography, UCLA, 1986-1988

Post-Doctoral Research Associate, Department of Ecology, Evolution and Behavior, University of Minnesota, 1986

Awards

Fellow, Ecological Society of America, 2013

Fellow, American Association for the Advancement of Science, 2004

Fellow, Aldo Leopold Leadership Program, 1999

W.J. Cooper Award, Ecological Society of America, 1998 (for outstanding paper)

Service to Community and Profession (highlights)

Advisory Board, Leopold Leadership Program, 2014 – present

Board of Directors, Washington MESA (Mathematics, Engineering, Science, Achievement), 2014 - present

Washington Marine Resources Advisory Council, appointed by Governor, 2013 - present

Board of Directors, Forterra 2012 – present

Board of Directors, Woodland Park Zoo, 2011- present

Senior Fellow, Integrated History and Future of People on Earth (IHOPE), 2014 - present

Scientific Advisory Board, National Center for Ecological Analysis and Synthesis, 2003-2006

Co-Chair, Land Project Transition Team, International Geosphere Biosphere Program and International Human Dimensions Program, 2000-2003

Vice-Chair, Land Use and Land Cover Change Core Project, International Geosphere Biosphere Program and International Human Dimensions Program, 2000-2005

Member, Steering Committee, Mountain Research Initiative, International Geosphere Biosphere Program and International Human Dimensions Program, 2000-present

Member, Global Energy and Water Cycle Experiment (GEWEX) Panel, National Research Council, 1993-1995

Member, Working Group on Terrestrial Ecosystems and Global Change, subcommittee of Committee on Global Change, National Academy of Science, 1991-1993

Member, Working Group on Earth System History and Modeling, subcommittee of Committee on Global Change, National Academy of Science, 1990-1991

Selected Publications

Peer-reviewed journal articles

- Hart DD, Buizer JL, Foley JA, Gilbert LE, Graumlich LJ, et al. 2016. Mobilizing the power of higher education to tackle the grand challenge of sustainability: Lessons from novel initiatives. *Elem Sci Anth* 4: 000090. doi: 10.12952/journal.elementa.000090
- Pederson GT, Gray ST, Woodhouse CA, Betancourt JL, Fagre DB, Littell JS, Watson E, Luckman BH, **Graumlich LJ**. 2013. Long-term snowpack variability and change in the North American cordillera. *Quaternary International* 310:240.
- Cross MS, Hilty JA, Tabor GM, Lawler JJ, **Graumlich LJ**, and Berger J. 2012. From connect-the-dots to dynamic networks: maintaining and enhancing connectivity to address climate change impacts on wildlife. In: *Wildlife Conservation in a Changing Climate*, JF Brodie, ES Post, EF Doak eds. University of Chicago Press, Chicago IL.
- Cross MS, Zavaleta ES, Bachelet D, Brooks ML, Enquist CAF, Fleishman E, **Graumlich LJ**, Groves CR, Hannah L, Hansen L, Hayward G, Koopman M, Lawler JJ, Malcom J, Nordgren J, Petersen B, Rowland EL, Scott D, Shafer SL, Shaw MR, Tabor GM. 2012. The Adaptation for Conservation Targets (ACT) framework: a tool for incorporating climate change into natural resource management. *Environmental Management* 50:341-351.
- Costanza R, Van der Leeuw S, Hibbard K, Aulenbach S, Brewer S, Burek M, Cornell S, Crumley C, Dearing JA, Folke C, **Graumlich LJ**, Hekbert S, Hegmon M, Jackson, ST, Kubiszewski, I, Scarborough V, Sinclair, P, Sorlin, S and Steffen, W. 2012. Developing an Integrated History and Future of People on Earth (IHOPE). *Current Opinion in Environmental Sustainability* 4: 106-114.
- Davison, JE, **Graumlich, LJ**, Rowland, EL, Pederson, GT, Breshears, DD. 2012. Leveraging modern climatology to increase adaptive capacity across protected area networks, *Global Environmental Change* 22, 268-274.
- Breshears, DD, Lopez-Hoffman, L, and **Graumlich LJ**. 2011. When ecosystem services crash: Preparing for big, fast, patchy climate change. *Ambio* 40: 256-263.
- Pederson GT, Gray ST, Woodhouse CA, Betancourt JL, Fagre DB, Littell JS, Watson E, Luckman BH and **Graumlich LJ**. 2011. The unusual nature of recent snowpack declines in the North American Cordillera. *Science* 333: 332-335.
- Rowland E, Davison JE, and **Graumlich LJ**. 2011. Approaches to evaluating climate change impacts on species: a guide to initiating the adaptation planning process. *Environmental Management* 47: 322-37.
- Pederson GT, **Graumlich LJ**, Fagre DB, Kipfer TF, and Muhlfeld CC. 2010. A century of climate and ecosystem change in Western Montana: what do temperature trends portend? *Climate Change* 98:133-154.
- Schrag, A.M., A. G. Bunn, and **L.J. Graumlich**. 2008. Influence of bioclimatic variables on tree-line conifer distribution in the Greater Yellowstone Ecosystem: implications for species of conservation concern. *Journal of Biogeography* 35 (4): 698-710
- Costanza R, **Graumlich L**, Steffen W, Crumley C, Dearing J, et al. 2007. Sustainability or Collapse: What Can We Learn from Integrating the History of Humans and the Rest of Nature? *AMBIO: A Journal of the Human Environment*: Vol. 36, No. 7 pp. 522-527
- Gray, ST, **Graumlich, LJ**, Betancourt, JL. 2007. Annual precipitation in the Yellowstone National Park region since AD 1173. *Quaternary Research*, 68 (1): 18-27.

- Pederson, GT, S.T. Gray, D.B. Fagre, and L.J. **Graumlich**. 2006. Long-Duration Drought Variability and Impacts on Ecosystem Services: A Case Study from Glacier National Park, Montana USA. *Earth Interactions* 10: 1-28
- Brown, K., A.J. Hansen, R.E. Keane, and L.J. **Graumlich**. 2006. Complex interactions shaping aspen dynamics in the Greater Yellowstone Ecosystem. *Landscape Ecology* 21 (6): 933-951.
- Sankey, TT, Montagne, C, **Graumlich, LJ**, Lawrence, R. and Nielsen, J. 2006. Twentieth century forest-grassland ecotone shift in Montana under differing livestock grazing pressure. *Forest Ecology and Management*, 234 (1-3): 282-292.
- Sankey, TT, Montagne, **Graumlich, LJ**, Lawrence, R, Nielsen, J. 2006. Lower forest-grassland ecotones and 20th Century livestock herbivory effects in northern Mongolia. *Forest Ecology And Management*, 233 (1): 36-44.
- Bunn, AG; Waggoner, LA; **Graumlich, LJ**. 2005. Topographic mediation of growth in high elevation foxtail pine (*Pinus balfouriana* Grev. et Balf.) forests in the Sierra Nevada, USA. *Global Ecology and Biogeography*, 14 (2): 103-114
- Graumlich, LJ**; Sugita, S; Brubaker, LB; Card, VM. 2005. Paleoperspectives in ecology. *Ecology*, 86 (7): 1667-1668.
- Bunn, A.G., L.J. **Graumlich**, and D.L. Urban. 2005. Interpreting the climatic significance of trends in twentieth-century tree growth at high elevations. *The Holocene* 15(4): 481-488.
- Millar, C.I., R.D. Westfall, D.L. Delany, J.C. King, and L.J. **Graumlich**. 2004. Response of subalpine conifers in the Sierra Nevada, USA, to twentieth century warming and decadal climate variability. *Arctic, Antarctic, and Alpine Research*, 36, 181-200.
- Gray, S.T., L.J. **Graumlich**, J.L. Betancourt, and G.T. Pederson. 2004. A tree-ring based reconstruction of the Atlantic Multidecadal Oscillation since 1567 A.D. *Geophysical Research Letters*, 31, No. 12, L12205 10.1029/2004GL019932
- Bunn, A.G., L.A. Waggoner, and L.J. **Graumlich**. 2004. Topographic mediation of growth in high elevation foxtail pine (*Pinus balfouriana* Grev. et Balf.) forests in Sierra Nevada, USA. *Global Ecology and Biogeography* 14: 103-114.
- Pederson, G.T., D.B. Fagre, S.T. Gray and L.J. **Graumlich**. 2004. Decadal-scale climate drivers for glacial mass balance in Glacier National Park, Montana, USA. *Geophysical Research Letters* 31, L12203 10.1029/2004GL019770
- Bunn, A.G., T.J. Sharac, and L.J. **Graumlich**. 2004. Using a simulation model to compare methods of tree-ring detrending and to investigate the detectability of low-frequency signals. *Tree-Ring Research* 60, 77-90.
- Sheppard, P.R., Tarasov, P.E. **Graumlich, L.J.**, Heussner, K.-U., Wagner, M. Osterle, H. and Thompson, L.G. 2004. Annual precipitation since 515 BC reconstructed from living and fossil juniper growth of northeastern Qinghai Province, China. *Climate Dynamics*, 23, 869-881.
- Graumlich, L.J.**, M.F.J. Pisaric, L.A. Waggoner, J.S. Littell, and J.C. King. 2003. Upper Yellowstone River flow and teleconnections with Pacific basin climate variability during the past three centuries. *Climatic Change* 59, 245-262.
- Bunn, A. G., R.L. Lawrence, G.J. Bellante, L.A. Waggoner, and L.J. **Graumlich**. 2003. Spatial variation in distribution and growth patterns of old growth strip-bark pines. *Arctic, Antarctic and Alpine Research* 35:323-330.
- Diaz, HF, M. Grosjean, and L.J. **Graumlich**. 2003. Climatic variability and change in high elevation regions: Past, present and future. *Climatic Change* 59, 1-4.

- Hessl, A. and L.J. **Graumlich**, 2002. Interactive effects of human activities, herbivory, and fire on quaking aspen (*Populus tremuloides*) age structures in western Wyoming. *Journal of Biogeography* 29, 889-902.
- Gorham, E., G.S. Brush, L.J. **Graumlich**, M.L. Rosenzweig, and A.H. Johnson. 2001. The value of paleoecology as an aid to monitoring ecosystems and landscapes, chiefly with reference to North America. *Environmental Reviews* 9, 99-126.
- Dickinson, Robert E., Shaikh, Muhammad, Bryant, Ross, **Graumlich**, Lisa. 1998. Interactive Canopies for a Climate Model. *Journal of Climate* 11: 2823-2836
- Kang, X., **Graumlich**, L.J., Sheppard, P.R. 1997. A 1,835 year tree-ring chronology and its preliminary analyses in Dulan region, Qinghai. *Chinese Science Bulletin* 42(13): 1122-1124.
- Sheppard, P.R., Holmes, R.L., **Graumlich**, L.J. 1997. The "Many Fragments Curse:" A special case of the segment length curse. *Tree-Ring Bulletin* 54: 1-9.
- Lloyd, A.H. and L.J. **Graumlich**. 1997. Holocene dynamics of treeline forests in the Sierra Nevada. *Ecology* 78, 1199-1210.
- Sheppard, P.R., L.J. **Graumlich** and L.E. Conkey. 1996. Long-term trends in summer temperature for Maine inferred from tree-ring data. *The Holocene* 6, 62-68.
- Frellich, L.E. and L.J. **Graumlich**. 1994. Age class distribution and spatial patterns in an old-growth hemlock-hardwood forest. *Canadian Journal of Forest Research* 24, 1939-1947.
- Graumlich**, L.J. 1994. High resolution pollen analysis provides new perspective on catastrophic elm decline. *Trends in Ecology and Evolution* 8, 387-388.
- Graumlich**, L.J. 1993. A 1000-year record of temperature and precipitation in the Sierra Nevada. *Quaternary Research* 39, 249-255.
- Graumlich**, L.J. and M.B. Davis. 1993. Holocene variation in spatial scales of vegetation pattern in the Upper Great Lakes. *Ecology* 74, 826-839.
- Graumlich**, L.J. 1993. Response of tree growth to climatic variation in the mixed conifer and deciduous forests of the Upper Great Lakes region. *Canadian Journal of Forest Research* 23, 133-143
- Graumlich**, L.J. 1991. Subalpine tree growth, climate, and increasing CO₂: an assessment of recent growth trends. *Ecology* 72: 1-11.
- Graumlich**, L.J., L.B. Brubaker and C.C. Grier. 1989. Long-term trends in forest net primary productivity: Cascade Mountains, Washington. *Ecology* 70, 405-410.
- Graumlich**, L.J. 1987. Precipitation variation in the Pacific Northwest (1675-1975) as reconstructed from tree rings. *Annals, Association of American Geographers* 77, 19-29.
- Brubaker, L.B., L.J. **Graumlich**, and P.M. Anderson. 1987. Classification of *Picea* pollen grains in Alaska using maximum likelihood discriminant analysis. *Canadian Journal of Botany* 65, 899-906.
- Spaulding, W.G. and L.J. **Graumlich**. 1986. The last pluvial climatic episode in the deserts of southwestern North America. *Nature* 319, 441-444.
- Graumlich**, L.J. and L.B. Brubaker. 1986. Reconstruction of annual temperature (1590-1979) for Longmire Washington derived from tree rings. *Quaternary Research* 25, 223-234.

Peer-reviewed books and book chapters

- Costanza, R., **Graumlich, L.**, and W. Steffan (eds.). 2007. *Sustainability or Collapse: Integrated history and future of people on earth*. Boston, MIT Press.

- Ramankutty, N., L. **Graumlich**, F. Achard, D. Alves, A. Chhabra, R. DeFries, J. Foley, H. Geist, R. Houghton, K.K. Goldewijk, E. Lambin, A. Millington, K. Rasmussen, R. Reid, and B.L. Turner II. 2007. Global Land Cover Change: Recent Progress, Remaining Challenges, in *Land Use and Land Cover Change: Local Processes, Global Impacts*, edited by E. Lambin, and H. Geist, Springer Verlag, New York.
- Graumlich**, L.J., L.A. Waggoner and A.G. Bunn. 2005. Detecting Global Change at Alpine Treeline: Coupling Paleoecology with Contemporary Studies. In *Global Change and Mountain Regions: A State of Knowledge Overview* (Huber and Buggman, eds., Kluwer,), pp. 501-508.
- Graumlich**, L.J. 2000. Global change and wilderness areas: Disentangling natural and anthropogenic changes. In *Proceedings: Wilderness Science in a Time of Change*. Proc. RMRP=P-000. Ogden UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Center.
- Graumlich**, L.J. and M. Ingram. 2000. Drought in the context of the last 1000+ years: some surprising implications. In *Drought: A Global Assessment*, D. Wilhite, ed., Routledge Press, New York.
- Hughes, M.K. and L.J. **Graumlich**. 1996. Multimillennial dendroclimatic records from the western United States. In *Climatic Variations and Forcing Mechanisms of the last 2000 Years*, R.S. Bradley, P.D. Jones, and J. Jouzel. NATO Advanced Studies Workshop Series. Springer-Verlag.
- Graumlich**, L.J. and L.B. Brubaker. 1995. Long-term records of growth and distribution of conifers: Integration of Paleoecology and Physiological Ecology. In *Ecophysiology of Coniferous Forests*, W.K. Smith and T.M. Hinckley, eds., Academic Press, New York, pp. 37-62.
- Graumlich**, L.J. 1994. Long-term vegetation change in mountain environments: Paleoecological insights into modern vegetation dynamics. In *Mountain Environments in Changing Climates*, M. Beniston, ed., Routledge, London, pp. 167-179.

Grants And Contracts

Grants awarded while at The University of Arizona (2007- 2010)

National Science Foundation, Climate-Induced Shifts in Alpine Diatom Communities: Past Mechanisms and Future Predictions under Enhanced Nitrogen Deposition, \$533,179, 3/1/07 – 2/28/10 (Graumlich is co-I)

DoE NICCR, Climatic and biotic co-limitation of conifer establishment at treelines: addressing uncertainty in bio-climatic model forecasts of forest change, \$461,585, 7/07-6/10 (Graumlich is co-I)

US Forest Service, Research and Tools to Assess Risk From Climate Change, \$182,494, 8/08-01/12

Grants awarded while at Montana State University (1999-2006)

MSU Research

USGS-Biological Research Division. Sierra Nevada Forest Dynamics: Pattern, Pace and Mechanism of Change, , 1999-2003, \$140,454

*NASA, Monitoring Forest Response to Past and Future Global Change in Greater Yellowstone, (PI: A. Hansen, Co-I: Lisa Graumlich, Warren Cohen, Michael Lefsky), 2000-2002, \$349,999

US Dept. of Agriculture NRI, Dynamics of Climate, Fire, and Land Use in the Greater Yellowstone Ecosystem, 2000-2002, \$65,000

- Montana Space Grant Consortium, Assessing Sensitivity of Alpine Treeline, 2001-2003, \$39,000
- National Park Foundation, Canon National Park Scholars Program (support for Ph.D. student Andy Bunn), 2001-2004, \$75,000
- Department of Energy, Climatic Variations: Tree Ring Based Climate Reconstruction near the Fremont Glacier, Wind River Range, 2001-2002, \$16,775
- National Science Foundation, Earth System History Program, Precipitation variability in the Greater Yellowstone Region as inferred from 1000+ tree-ring records, 2000-2002, \$239,000 plus \$5000 Research Education for Undergraduate supplement.
- USGS, Climatic Variation in Glacier National Park: Evaluating the Evidence for Decade to Centennial Variability in Climate, 2000-2001, \$40,000
- National Science Foundation, Biocomplexity in the Environment, Global Change, Globalization, and the Vulnerability of Mountain Systems, 2001-2003, \$80,000
- US Forest Service, Fire Management Strategies in Wilderness Areas 2001-2003, \$91,914
- National Science Foundation, The Big Sky Institute: Accessing and Understanding the Greater Yellowstone Ecosystem, 2002-2004, \$17,216
- US Agency for International Development, Managing National Parks in the Context of Changing Human Populations and Economies, 2003-2005, \$171,861
- National Science Foundation, Effects of Mountain Resort Development on Water Quality: Importance of Spatial Location of Land use / Land Cover Change, 2005-2006, \$34,297 (B. McGlynn, PI; Graumlich, Patten, Gardner and Shanley co-I)
- *Department of Energy, Big Sky Regional Carbon Sequestration Partnership PHASE II, 2005-2009 (PI: S. Capalbo; BSI/Graumlich subcontract \$501,463)
- National Science Foundation, A novel approach for improving records of long-term, multi-scale snowpack variability in Western North America, 2006-2007, \$97,000
- US Geological Survey, Linking Long Term Local and Regional Records of Climate Variability, 2004-2005, \$62,000

MSU-Big Sky Institute Education and Outreach

NASA Space Grant Program, TIMES-Teacher Integrating Math and Environmental Science, 2002-2004, \$27,620

Montana Department of Fish, Wildlife, and Parks, Enhancing Wildlife Education, 2002-2003, \$25,000

National Science Foundation, Lone Mountain Retreat: Anticipating the Role of Emerging Technologies in Science Education -- A Conference by NSTA and the Big Sky Institute of the University of Montana, June, 2004; 2004-2005, \$63,243 (PI G. Wheeler, in collaboration with National Science Teachers Association)

US Environmental Protection Agency, Wildlife Education in Big Sky, 2004-2005, \$41,765

National Science Foundation, Track 1, GK-12 Science and Society Fellows: Partnering with Rural Schools in the Greater Yellowstone Ecosystem, 2005-2007, \$1,767,487

NOAA, Mountain Climate Workshop, 2005-2006, \$10,040

NOAA, Mountain Climate Workshop, 2006-2007, \$10,000

National Park Service, Program Support for NPS, 2002-2006, \$173,500

US Geological Survey, NBII Mountain Prairie Information Node Website and Base Operations, 2002-2006, \$396,959

National Park Service, 7th Biennial Conference on Greater Yellowstone Ecosystem, 2003-2005, \$13,075

National Park Service, Monitoring Protocols for the Greater Yellowstone Network Inventory and Monitoring, 2004-2006, \$130,221

National Park Service, Renovation of Northern Range Streams to Prevent ESA Listing of Yellowstone Cutthroat Trout, 2005-2006, \$46,389

US Geological Survey, Regional Assessment of Historic Physical and Ecosystem Processes in the Northern Rockies, 2005-2006, \$67,560

National Park Service, Monitoring Protocols, Inventory, 2005-2009, \$185,500

National Park Service, Developing Strategies for Informal Education, Glacier National Park, 2004-2005, \$4,512

National Science Foundation, 2007-2010, IRES: U.S.-Norway: Globalizing Perspectives on Climate Change and Ecosystem Health--Opportunities for Undergraduate Participation in Science and Policy, \$165,852; Graumlich was co-I and resigned to move to UA

National Science Foundation, 2006-2010, ADVANCE Leadership Award: Big Sky Leadership Initiative to Advance Women Into Careers in Research Leadership; PI Capalbo; \$299,222; Graumlich was co-I and resigned to move to UA

Grants awarded while at The University of Arizona (1988-1999)

National Science Foundation, Climatic Implications of Holocene Changes in the Mixed Conifer/Hardwood Forest, 1988-1990. \$69,712.

Universities Space Research Association, University-based cooperative program in Earth System Science Education, 1990-1993. \$76,363. (PI: Graumlich; Co-PIs: R.E. Dickinson, A. Huete, M.K. Hughes, J.T. Parrish, and S. Sorooshian)

National Science Foundation, Establishing the chronologic and climatic correlates of late Holocene cultural development in northwest and northern Alaska, 1991-1992. \$53,732. (PI, S. Craig Gerlach, University of Alaska; Co-PI; Graumlich; note: Gerlach's scope of work reduced by funding agency and, as a result, PI/Co-PI status does not reflect level of effort or funding)

Western Regional Center, National Institute for Global Environmental Change, Interactive vegetation for climate models over the seasonal cycle, 1991-1992. \$78,653 (PI: R.E. Dickinson; Co-PI: L.J. Graumlich)

- National Park Service, Global Change Program, Tree-ring evidence of climatic variation and vegetation response, 1991-1997, \$427,457 (PI: Graumlich; Co-PI: M.K. Hughes).
- National Science Foundation, Climate Dynamics Program, Dendroclimatic Reconstruction For Western China Using Enhanced-Video Image Analysis, 1992-1995, \$189,000. (Graumlich)
- National Geographic Society, Dendroclimatic reconstruction for western China using enhanced-video image analysis, 1992-1994, \$19450.
- Western Regional Center, National Institute for Global Environmental Change, Interactive vegetation for climate models over the seasonal cycle, 1992-1993, \$88,650 (PI: R.E. Dickinson; Co-PI: L.J. Graumlich)
- National Science Foundation, Instrumentation and Laboratory Improvement Program, Undergraduate Laboratory Improvement for Earth System Science and Global Change, 1993-1995, \$33,215 (PI: R. Bales; Co-PI: L.J. Graumlich)
- National Park Service, Late Holocene Climatic Variation in Northwestern Alaska as Reconstructed From Tree Rings, 1993-1995, \$94,017
- National Science Foundation, Dynamics and history of treeline in the southern Sierra Nevada, 1994-1996, \$9000 (Dissertation Improvement Grant for Andrea H. Lloyd).
- National Science Foundation, Course and Curriculum Development Program, General Education Course Development for Earth System Science and Global Change, 1995-1997, \$100,000 (PI: Graumlich; Co-PI: R. Bales, K. Hirschboeck, S. Leavitt)
- InterAmerican Institute for Global Change Research, Vegetation History from Fossil Rodent Middens in Mid-Latitude American Deserts, 1996-1998, \$206,419 (PI: Julio Betancourt; Co-PI: Vera Markgraf, L. Graumlich)