

Curriculum Vitae

James S. Clark

*Nicholas Professor in Global Environmental Change
Professor of Statistical Science*

Duke University, Durham, NC 27708

<http://sites.nicholas.duke.edu/clarklab/people/>

Education

Ph.D., Ecology and Behavioral Biology, University of Minnesota (1988)
Fulbright - DAAD Fellow, Universitat Göttingen, West Germany (1984)
M.S., Forestry, University of Massachusetts (1983)
B.S., Entomology, North Carolina State University (1979)

Employment

Professor, Department of Statistical Science, Duke Univ (2006)
Distinguished Professor, Nicholas School of the Environment, Duke Univ (2004)
Distinguished Professor, Dept Biology, Duke Univ (2001-)
Professor, Dept Biology, Duke Univ (1998-)
Associate Professor, Dept Botany, Duke Univ (1995-98)
Assistant Professor, Dept Botany, Duke Univ (1992-95)
Assistant Professor, Dept Botany, Univ Georgia (1990-92)
Senior Scientist, New York State Museum (1988-90)

Awards and Honors

Chief of the Forest Service Science Award, National Drought Assessment (2016)
Best poster award, biennial World Congress of the International Soc Bayesian Analysis (2016)
Fellow of the Ecological Society of America (2012)
ISI Highly Cited Researcher (2010)
American Academy of Arts and Sciences (election 2005)
Distinguished Alumnus, Natural Resources Conservation, Univ Massachusetts (2004)
H.L. Blomquist Distinguished Professor, Duke University (2001)
Smith Fellowship, Duke University (2000)
Leopold Leadership Fellowship, Ecological Society of America (1999)
NSF Presidential Faculty Fellow (1994)
The George Mercer Award, Ecological Society of America (1991)
The William Skinner Cooper Award, Ecological Society of America (1988)
Fulbright-DAAD Scholarship to West Germany (1983-84)

Congressional testimony

25 March, 2004 House Subcommittee on VA HUD and Independent Agencies

Lectureships

Plenary Lecture, Quadrennial 12th Int Congress of Ecology (INTECOL), Beijing (2017)
Plenary Lecture, *Climate Ecology and Tree Growth*, Harvard (2016)
Invited Special Session, *Internat Soc Bayesian Analysis Biennial Conf*, Sardinia (2016)
Plenary Speaker, *US-China Biodiversity Workshop*, NSF, Raleigh (2015)
Plenary lecture, *G70 Celebration of Alan Gelfand's Birthday*, Durham (2015)
Keynote speaker, *Graybill Conference, Amer Stat Assoc Section on Statistics & Environment*, Ft Collins (2014)
Sun Yat-sen Lecture, Guangzhou (2014)
Plenary Speaker, *International Soc Biogeography Symposium*, Miami (2013)
Plenary Speaker, *Next generation climate data products*, NSF/NCAR, Boulder (2013)
Symposium on hierarchical modeling, Ecol Soc Japan, Kanto (2012)
Young Investigators Workshop on Data Assimilation in Global Change Science, NSF Woods Hole (2012)
Inaugural lecture, Distinguished Lecturer Series, Centre for Global Change Science, Univ Toronto (2012)
Distinguished Ecologist Lecture Series, Colorado State Univ (2012)
Invited Speaker, *BayesComp2012, Internat Soc Bayesian Analysis Biennial Meeting*, Tokyo (2012)
Distinguished Ecologist Lecture, Univ Kansas (2011)
Plenary Speaker, *North American Forest Ecology Workshop*, Roanoke, VA (2011)

Plenary Lecture, *Ecology and Control of Invasive Species*, Mathematical Biosciences Inst, Columbus (2011)
Distinguished Seminar Speaker Series, College of ACES, Univ Illinois (2010)
Ecology Program Speaker, Utah State Univ (2009)
 Opening Plenary, *International Statistical Ecology Conf*, St Andrews (2008)
 Keynote speaker, *Annual Ecology Symposium*, Madison (2008)
 Invited speaker, *International Society for Bayesian Analysis*, Hamilton Island (2008)
 Keynote address, *Environmental Information Management*, Albuquerque (2008)
 Special Lecture, *Data Assimilation for the Carbon Cycle*, NCAR (2007)
 Plenary speaker, *Neural Information Processing Systems (NIPS) Conf*, Vancouver (2006)
 Keynote speaker, *1st Annual Ecosystem Informatics Symposium*, Oregon State (2006)
 Keynote address, *Uncertainty in Ecological Analysis*, Mathematical Biosciences Inst, Columbus (2006)
 Plenary Lecture, *Biogeographic responses to global change*, Internat Biogeogr Soc, Shephardstown (2005)
MacConnell Lecture, Univ Massachusetts (2004)
 Plenary Lecture, *Multi-dimensional Forest Structure*, NASA (2003)
 Plenary Lecture, *Interfaces in Environmental Biology*, Univ Kentucky (2003)
 Plenary Lecture, *Dynamics of genetic diversity in forest ecosystems*, European Union, Strasbourg (2002)
 Plenary Lecture, *45th Symp Intern Assoc Veg Sci*, Porto Alegre, Brazil (2002)
 Plenary Lecture, *Gordon Conference: Theoretical Biology & Biomathematics*, Tilton (2002)
University Lecture, Univ Wisconsin, Madison (2001)
 Keynote address, *Flammable Australia: the fire regimes of a continent*, Albury, New South Wales (1997)

Professional activities

NEON Terrestrial Sampling Technical Working Group, chair (2017)
 National Climate Assessment 4, *Forests Chapter* (with D. Peterson, J. Vose, C. Luce, 2017)
 External Review Committee, University of Kansas, Department of Ecology and Evolutionary Biology (2017)
Drought Impacts on U.S. Forests and Rangelands: Translating Science into Management Responses, San Antonio (2017)
 Review Panel Research Infrastructures, German Council of Science and Humanities, Berlin (2016)
 Vegetation Committee, NEON (2014 -)
 Data synthesis workshop: ILTER 1st Open Sci Meeting, Uncertainty Quantification for NEON, Kruger Nat Park (2016)
 Organizer and Convener: *Drought trends and vulnerability of North American forest and rangelands*, AGU, San Francisco (2015)
 Organizing committee: NSF Macrosystems Biology Workshop, Washington DC (2015)
 Organizing committee: NIMBioS Graduate Workshop--Current Issues in Statistical Ecology (2014-15)
 NEON Science Capability Review Team (2014-16)
 Organizer: *Multivariate models for biodiversity and climate change*, SAMSI Working Group (2014-2015)
 Coordinating committee, SAMSI Program on Mathematical and Statistical Ecology (2013-15)
 Co-Director: *National Assessment on Drought and U.S Forests*, US Forest Service (2013-15)
 Organizer, *Emerging methods in global change science*, NSF, Duke University (2013)
 NSF Advisory Panel, *Ecosystems* (2012)
Macrosystems Biology Workshop, NSF, Boulder (2012)
 Organizer, *New Perspectives on Data Assimilation in Global Change Science*, NSF Woods Hole (2012)
Bayesian Ecology Workshop, Amer Statistical Assoc Annual Meeting, Vancouver (2010)
 Research Coordination Network, "Data-model assimilation" NSF (2010-2012)
Summer Inst on Hierarchical Modeling, NAU IGERT (2010)
Coordinated Approaches to Address Long-Term Issues in Global Change Experiments, NSF-DOE (2009)
Improving Ecological Forecasts by Integrating Feedback Mechanisms, FEMMES, Potsdam (2009)
Second Summer Course on Flux Measurements and Advanced Modeling, NSF, Niwot Ridge
Summer Inst on Hierarchical Modeling, NAU IGERT (2009)
Ecology of Infectious Disease Advisory Panel, NSF (2009)
Drivers of population change under threat, Centre for Population Biology, London (2009)
 NEON Global Change Experiment, Design Team, NSF (2007)
 NEON Project Execution Plan Review Panel, NSF (2007-08)
 Prog Comm: "Data-model assimilation in ecology: Techniques and applications" NSF, Norman (2007)
 Prog Comm: "Development/Assessment Complex Computer Models", *Stat & Appl Math Inst*, RTI (2005-2008).
Summer Inst on Hierarchical Modeling, NAU IGERT (2008)
 NSF Review Panel: UCLA's Center for Embedded Network Sensing (CENS) (2006)
 Program Committee: "Control/assimilation wireless networks in global change" *Stat & Appl Math Inst*, RTI (2005-2008).
 Director, *Second NSF Institute on Statistical Computation for Ecological Inference and Prediction* (2006)

High Performance Computing Workshop, NSF, Chicago (2005)
 NEON Design working group (2005)
 Organizing Comm, “Uncertainty in Ecological Analysis”, *Math Biosci Inst*, OSU, (2005-06)
 NEON Climate Change working group, AIBS, Tucson (2004)
 Director, *NSF Institute on Statistical Computation for Ecological Inference and Prediction* (2003-04)
Cedar Creek LTER Review Panel, NSF (2003)
Earth Science Vision Steering Group, NASA (2002)
 Organizer and Editor: *Uncertainty in ecological forecasting*, *Ecology* Special Feature (2001)
 Director, *Ecological Forecasting*, NCEAS workshop, Santa Barbara (2000)
 Faculty Director, *Center for Global Change*, Duke University (2000-2005)
 Co-chair, *Sustainable Biosphere Initiative*, Ecol Soc America (1998-2003)
 Chair, *Research Committee*, Ecol Soc America (1998-2003)
 Planning workshop, *International Program on Ecosystem Change (IPEC)* (1999)
 NSF Advisory Panel, *LTER* (1999)
 Observer, *Millennium Assessment Steering Committee* (1998)
 Vice President of Science & Governing Board, *Ecological Society of America* (1998-2003)
 Organizer, *The role of dispersal in Holocene migrations of trees*, NCEAS wksp, Santa Barbara (1996)
 Science Advisory Board, *National Center for Ecological Analysis and Synthesis* (1995-2000)
 Organizer, *Climate × CO₂ effects on biomes across glacial/interglacial boundaries*, ESA Symp. (1995)
 NSF Advisory Panel, *Earth System History* (1994)
 Director, NATO Adv Sci Wksp, *Biomass burning emissions and global change*, Algarve, Portugal (1994)
 Chair, *Mercer Award Committee*, Ecological Society of America (1993-97)
 NSF Advisory Panel, *Ecology* (1992-97)
 External review panel: *Nimot Ridge, CO Long-Term Ecological Research Site* (1991-92)
 Program Advisory Committee, *Dablen Conference: Fire in Natural Ecosystems* (1990-92)

Editorial

Guest Editor: *Trends in Ecology and Evolution* 20th Anniversary Issue, (with A. Reid) (2006); *Ecology* (2006); *PNAS* (2006);
Ecology Special Feature: *Uncertainty in ecological forecasting*, (2003)
Editorial Boards: *Elementa* (2013 -), *Journal of Agricultural, Biological, and Environmental Statistics* (2010 - 2014); *Trends in Ecology and Evolution* (2006 -); *Ecosystems* (2004 – 2007); *Annual Reviews of Ecology and Systematics* (1998-2003); *Ecology and Ecological Monographs* (1996-99); *Global Change Biology* (1994-2007)

Major Research Funding

NASA-16-AIST16-0052 (\$483,367) “Generative Models to Forecast Community Reorganization with Climate Change” other PIs Jennifer Swenson 2 yr (2017).
 NSF-EF-1550911 \$(266,279) “Collaborative Research EAGER-NEON: Probabilistic Forecasting of Biodiversity Response to Intensifying Drought by Combining NEON, National Climate, Species, and Trait Data Bases” other PIs: Rob Dunn, Alan Gelfand, Roland Kays, Wenhong Li, Diana Nemergut 2 yr (2015)
 NSF-EF-1137364 (\$4,273,484) “Macrosystems: Climate change impacts on forest biodiversity: individual risk to subcontinental impacts”, other PIs: Alan Gelfand, Mike Dietze, Andrew Finley, Sean McMahon, Jackie Mohan, Maria Uriarte, coPIs, 5 yr (2011).
 ONR (\$413,136) “Population Consequences of Acoustic Disturbance for Marine Mammal Populations”, 3 yr (2009).
 DEB-0955904 (\$593,331) “Pathogen mediated diversity and response to climate change”, Rytas Vilgalys, Michelle Hersh, coPIs, 4 yr (2009).
 NSF-LTER (\$225,000) “Southern Appalachia on the Edge –Exurbanization & Climate Interaction in the Southeast” 6 yr (2009).
 NSF-CDI 0940671 (\$1,701,370) “Integrating algorithmic and stochastic modeling techniques for environmental prediction”, Pankaj Agarwal, Alan Gelfand, coPIs (2009).
 USFS (\$165,000) “Remote Sensing Climate-Related Forest Stress: Development of a Real Time Decision Support System for the Southern U.S.” (2009)
 DOE (\$654,845, Duke Budget, \$2,185,451 total) “Effects of warming on tree species’ recruitment in deciduous forests of the eastern United States”. Jerry Mellilo, Jackie Mohan, coPIs. (2008).
 NSF DDDAS 0540347 (\$1,247,845, Duke Budget, \$1,690,000 total) “Collaborative Research: DDDAS-TMRP: Dynamic Sensor Networks - Enabling the measurement, modeling, and prediction of biophysical change in a landscape”. Pankaj Agarwal, Carla Ellis, Paul Flikemma, Alan Gelfand, Kamesh Mungala, Jun Yang, co PI’s, 5 yr (2005).
 NSF DEB-0527070 (\$126,000). “The 2nd Summer Institute: Uncertainty in Ecological Inference, Forecasting, and Decision: Modern Statistical Computation,” Alan Gelfand, Barbara Braatz, Carol Brewer, co-PIs (1 yr) 2005.

- NSF SEII 0430693 (\$317,291, Duke budget) “Collaborative Research: SEI\ (BIO)\--Automated Methods for Generating High-Resolution GIS Databases from Remotely Sensed Data for Biodiversity Predictions” Howard Shultz, Thomas Millette, co PIs, 4 yr (2004).
- NSF DEB 0425465 (\$499,907). “Integration of data and models to assess forest biodiversity”. Pankaj Agarwal, co-PI, 3 yr (2004).
- NSF IDEA-0308498 (\$453,474 Duke budget). “Large-Scale Wireless Sensor Networks for In Situ Observation of Ecosystem Processes”. Paul Flikkema, Bruce Hungate, George Koch, Steve Sillette, co-PIs, 5 yr (2003).
- NSF DEB- 0308724 (\$96,000). “Summer Institute on Statistical Computation for Ecological Inference and Prediction”. 1 yr (2003).
- NSF ATM-0212962 (\$234,226, Duke budget) “Collaborative Research: Holocene Drought Cycles and Impacts on the Northern Great Plains”. E. Grimm, J. Donovan, co-PIs , 3 yr (2002).
- NSF subcontract (RR551-080 2401964) (\$220,481, Duke Budget): “Long-term studies of disturbances as they affect ecological processes in landscapes of the southern Appalachians”. 6 yr (2002).
- NSF BDEI: 0131905 (\$93,181) “Computation and uncertainty in ecological forecasting”, P. Agarwal and M. Lavine, co-PIs. 1 yr. (2001)
- NSF DEB-0089769 (\$250,000): “Rates of range expansion in eastern trees based on fossil and molecular data”. J. McLachlan, P Manos, co-PIs. 3 yr. (2001)
- DOE (\$3,2111,960):”Duke Forest Experiment: Continuation”. 10 PIs. 3 yr. (2001)
- NSF DEB-0074705 (\$25,000): “Ecological Forecasting: an emerging imperative”. Workshop. (2000)
- NSF DEB-9981392 (\$480,000): “Experimental and model analysis of large disturbance consequences for forest diversity”. 4 yr (1999)
- DOE (\$297,971): “Forest succession in a CO2 enriched environment”. W.H. Schlesinger, co-PI. 3 yr
- NSF (number pending) (\$66,000): “The role of wildfire in Alaska: experimental and regional approaches to improved understanding of boreal feedbacks to climate”. 3 yr (1997)
- NSF DEB-9632854 (\$214,981, Duke budget): “Long-term studies of disturbances as they affect ecological processes in landscapes of the southern Appalachians”. 5 yr. (1996)
- NSF ATM (\$12,189): “Subdecadal reconstruction of drought patterns in North America’s arid interior: 0 - 2 ka. 1 yr. (1996)
- Presidential Faculty Fellow Award DEB 9453498 (\$500,000). 5 yr. (1995)
- US Fish and Wildlife (\$25,000): “Fire and insect outbreaks on Kenai Peninsula, Alaska”. 1 yr. (1995)
- NSF BSR-9444146 (\$156,000): “Long-term studies of ecosystem response to disturbance along environmental gradients at Coweeta Hydrologic Laboratory”. 2 years. (1994)
- NSF DEB-9419677(\$242,696): “Prehistoric biomass burning at local to regional scales in eastern North America”. E. Grimm, co-PI. 3 yr. (1994)
- NATO/NSF Advanced Workshop Series (\$51,000): “Biomass burning emissions and global change”, Algarve, Portugal, (1994)
- NSF BSR-9107272 (\$195,000): “The role of fire in prehistoric times of rapid climate change”. 3 yr. (1991)
- NSF/LTER (\$150,000): “Long-term studies of ecosystem response to disturbance along environmental gradients at Coweeta Hydrologic Laboratory”. 6 years (1991)
- NSF BSR-8818355 (\$205,000): “Long-term climate change and fire regimes in eastern North America”. H.E. Wright, co-PI. 2 yr. (1989)
- Fulbright-DAAD, “Holocene fire and vegetation dynamics in southwestern Germany”. (1983)

University service

- 2017 Promotion Committee, NSOE
- 2017 Duke Alumni Travel Faculty Representative, Panama/Costa Rica
- 2016 Promotion Committee, NSOE
- 2016 Structure Committee, NSOE
- 2016 - Education Committee, NSOE
- 2016 Duke Alumni Travel Faculty Representative, Amazon basin
- 2015 Promotion Committee, NSOE
- 2014 Promotion Committee, NSOE
- 2014 - *Oosting Lecture committee*, Chair
- 2013 - 2016 Academic Promotion and Tenure Committee
- 2013 Promotion Committee, Biology
- 2013 Promotion Committee, NSOE
- 2012 - 2014 Strategic Priorities Committee, NSOE

2010 - 2012 Life Sciences Faculty, NSOE, Chair
 2011 - Executive Committee, University Program in Ecology
 2010 Ecohydrology cluster hire search committee, Chair, NSOE
 2010 Promotion committee, Biology
 2009 Promotion committee, Chair, NSOE/Inst Genomic Science & Policy
 2008 - 09 Search committee, Chair, NSOE/Inst Genomic Science & Policy
 2008 - 09 Promotion committee, Chair, Biology
 2007 - 09 University Academic Council
 2007 - 10 Graduate Admission Committee, NSOE
 2005 - 2014 Chair, Distinguished Professors Committee, NSOE
 2004 - 10 Promotion Review Committee, Biology
 2002 Provost's Scientific Advisory Committee, Multidisciplinary Sciences Building
 2001-2003 Faculty Director, Center for Global Change
 2001-2004 Advisory Committee on Distinguished Professorships (Chair, Natural Sciences)
 2001 Search Committee, Biology Chair
 2001 Chair of Search committee, Doris Duke Chair of Conservation Biology
 2001 Promotion committee
 2001 Promotion committee
 2001-2004 Duke Forest committee
 2000 Botany Academic Priorities committee
 2000- Biology Graduate committee
 2000 Search committee, Aquatic Biology, NSOE
 2000 - 2002 Computer Committee, Dept Biology
 1999 - 2004 Director of Graduate Studies, Univ Program in Ecology
 1999 Provost's Task Force on Biological Sciences
 1999 Promotion committee
 1999 Promotion committee
 1998 Chair of Search Committee, Evolutionary Biology
 1998 - 2000 Director of Graduate Studies, Botany
 1995 Dean's task force on Biological Sciences
 1993 Search Committee, Landscape ecology, NSOE

Books

- Vose, J.M., J. S. Clark C. H. Luce, T. Patel-Weynand (editors) 2016. *Effects of Drought on Forests and Rangelands in the United States: A Comprehensive Science Synthesis*. [United States Department of Agriculture, Forest Service Gen. Tech. Report WO-93b](#).
- Clark, J.S. 2007. *Models for Ecological Data*. Princeton University Press.
- Clark, J.S. 2007. *Ecological data models with R*. Princeton University Press.
- Clark, J.S. and A. E. Gelfand (eds). 2006. *Hierarchical Modelling for the Environmental Sciences*. Oxford University Press, Oxford, England.
- Clark, J. S., B. J. Stocks, H. Cachier, and J. G. Goldammer (eds). 1997. *Sediment Records of Biomass Burning and Global Change*. Springer Verlag, Berlin, Germany.

Software

Clark, J.S. 2016. gjam: Generalized Joint Attribute Modeling in R, <https://cran.r-project.org/web/packages/gjam/index.html>

Publications

- 1) Fourth National Climate Assessment (NCA4). 2018. Chapter 7: Forests in *Climate Change Impacts in the United States*. *U.S. Global Change Research Program*.
- 2) Clark, J.S. 2017. Mast: Seed and Pollen Fecundity and Dispersal Inference, <http://rpubs.com/jimclark/281413>. Forthcoming on CRAN.
- 3) Clark, J.S., D. Nemergut, B. Seyednasrollah, P. Turner, and S. Zhang. 2017. Generalized joint attribute modeling for biodiversity analysis: Median-zero, multivariate, multifarious data. *Ecological Monographs*, 87, 34–56.

- 4) Clark, J.S., J.M. Vose, and C. Luce. 2016. Forest drought as an emerging research priority. *Global Change Biology*, 22, 2317.
- 5) Clark, J.S. 2016. Why species tell us more about traits than traits about species: Predictive models. *Ecology*, 97, 1979–1993.
- 6) Clark, J.S. and D. Taylor-Rodrigues. 2016. Generalized joint attribute modeling: gjam, <http://rpubs.com/jimclark/242655>. On CRAN: <https://CRAN.R-project.org/package=gjam>.
- 7) Schliep, E., A.E. Gelfand, J.S. Clark, B. Tomasek. 2017. Biomass prediction using density dependent diameter distribution models. *Annals of Applied Statistics*, in press.
- 8) Clark, J.S. and A.E. Gelfand. 2017. Accommodating so many zeros: univariate and multivariate data. in A.E. Gelfand, M. Fuentes, J. Hoeting, and R. Smith (eds) *Handbook of Environmental Statistics*. CRC Press, Boca Rotan, FL. in press.
- 9) Taylor-Rodriguez, D., K. Kaufeld, E. M. Schliep, J. S. Clark, and A. E. Gelfand. 2017. Joint species distribution modeling: dimension reduction using Dirichlet processes. *Bayesian Analysis*, <http://projecteuclid.org/euclid.ba/1478073617>.
- 10) Berdanier, A., C. Miniati, and J.S. Clark. 2016. Predictive models for radial sap flux variation in coniferous, diffuse-porous, and ring-porous temperate trees. *Tree Physiology*, 36: 932-941.
- 11) Berdanier, A. and J.S. Clark. 2016. Divergent reproductive allocation trade-offs with canopy exposure across tree species in temperate forests. *Ecosphere*, DOI:10.1002/ecs2.1313.
- 12) Clark, J.S., L. Iverson, C. W. Woodall, C. D. Allen, D. M. Bell, D. C. Bragg, A. W. D'Amato, F. W. Davis, M. H. Hersh, I. Ibanez, S. T. Jackson, S. Matthews, N. Pederson, M. Peters, M. W. Schwartz, K. M. Waring, and N. E. Zimmermann. 2016. The impacts of increasing drought on forest dynamics, structure, and biodiversity in the United States. *Global Change Biology*, 22, 2329–2352.
- 13) Clark, J.S., L. Iverson, C. W. Woodall, C. D. Allen, D. M. Bell, D. Bragg, A. D'Amato, F. W. Davis, M. Hersh, I. Ibanez, S. T. Jackson, S. Matthews, N. Pederson, M. Peters, M. W. Schwartz, K. Waring, and N. E. Zimmermann. 2016. The impacts of increasing drought on forest dynamics, structure, diversity, and management. In J. Vose, J.M., J. S. Clark C. H. Luce, T. Patel-Weynand (editors) *Effects of Drought on Forests and Rangelands in the United States: A Comprehensive Science Synthesis*. United States Department of Agriculture, Forest Service Gen. Tech. Report WO-93b.
- 14) Berdanier, A. and J.S. Clark. 2016. Multi-year drought-induced morbidity preceding tree death in Southeastern US forests. *Ecological Applications*, 26, 17–23.
- 15) Rolland, R., R. S. Schick, H. M. Pettis, A. R. Knowlton, P. K. Hamilton, J. S. Clark and S. D. Kraus. 2015. Health of North Atlantic right whales (*Eubalaena glacialis*) over three decades: from individual health to demographic and population trends. *Marine Ecology Progress Series*, 542, 265–282. doi: 10.3354/meps11547.
- 16) Bell, D.M. and J.S. Clark 2016. Seed predation and climate impacts on reproductive variation in temperate forests of the southeastern USA. *Oecologia*, 180, 1223–1234.
- 17) Schliep, E.M., A.E. Gelfand, J.S. Clark, and K. Zhu. 2015. Modeling change in forest biomass across the eastern US. *Environmental and Ecological Statistics*, 23, 23–41.
- 18) Ghosh, S., K. Zhu, A. E. Gelfand, and J. S. Clark. 2015. Joint modeling of climate niches for adult and juvenile trees. *Journal of Agricultural, Biological, and Environmental Statistics*, 21, 111–130.
- 19) Oedekoven, C., E. Fleishman, P. Hamilton, J. S. Clark, and R. S. Schick. 2015. Expert elicitation of seasonal abundance of North Atlantic right whales (*Eubalaena glacialis*) in the mid-Atlantic. *Endangered Species Research*, Oedekoven, C. S., Fleishman, E., Hamilton, P., Clark, J. S., & Schick, R. S. (2015). Expert elicitation of seasonal abundance of North Atlantic right whales *Eubalaena glacialis* in the mid-Atlantic. *Endangered Species Research*, 29, 51-58. DOI: 10.3354/esr00699.
- 20) Schliep, E.M., A.E. Gelfand, and J.S. Clark. 2015. Stochastic modeling for velocity of climate change. *Journal of Agricultural, Biological, and Environmental Statistics*, 20, 323-342.
- 21) Bell, D.M., E. J. Ward, C. Oishi, R. Oren, P. Fliikkema, and J. S. Clark. 2015. A state-space modeling approach to estimating canopy conductance and associated uncertainties from sap flux density data. *Tree Physiology*, 35: 792-802.
- 22) Zhu, K., C. Woodall, and J.S. Clark. 2015. Prevalence and strength of density-dependent tree recruitment, *Ecology*, [96:2319–2327](https://doi.org/10.1890/0891-2173-1377).

- 23) Clark, J.S., A.E. Gelfand, C.W. Woodall, and K. Zhu. 2014. More than the sum of the parts: forest climate vulnerability from joint species distribution models. *Ecological Applications*, 24:990–999.
- 24) Clark, J.S., J. Melillo, J. Mohan, and C. Salk. 2014. The seasonal timing of warming that controls onset of the growing season. *Global Change Biology*, 20:1136-1145.
- 25) Schick, R.S., J. J. Roberts, S. A. Eckert, P. N. Halpin, H. Bailey, F. Chai, L. Shi and J. S Clark. 2014. Pelagic movements of Pacific leatherback turtles (*Dermochelys coriacea*) highlight the role of prey and ocean currents. *Movement Ecology*, 1:11, DOI: 10.1186/10.1186/2051-3933-1-11.
- 26) Clark, J.S., J. Melillo, J. Mohan, and C. Salk. 2014. Tree phenology responses to winter chilling, spring warming, at north and south range limits. *Functional Ecology*, 28, 1344-1355.
- 27) Ghosh, S., D.M. Bell, J.S. Clark, A.E. Gelfand, P.G. Flikkema. 2014. Process modeling for soil moisture using sensor network data. *Statistical Methodology* 17, 99-112.
- 28) New, L.F., J. S. Clark, D. P. Costa, E. Fleishman, M. A. Hindell, T. Klanjšček, D. Lusseau, S. Kraus, C. R. McMahon, P. W. Robinson, R. S. Schick, L. K. Schwarz, S. E. Simmons, L. Thomas, P. Tyack and J. Harwood. 2014. Using short-term measures of behaviour to estimate long-term fitness of southern elephant seals. *Marine Ecology Progress Series*, 496:99-108.
- 29) Wu, W., Clark, J.S., and J. Vose. 2014. Response of hydrology to climate change in the southern Appalachian Mountains using Bayesian inference. *Hydrologic Processes*, 28, 1616-1626.
- 30) Clark, J.S., D.M. Bell, M.C. Kwit, and K. Zhu. 2014. Competition-interaction landscapes for the joint response of forests to climate change. *Global Change Biology*, 20, 1979-1991.
- 31) Zhu, K, C. W. Woodall, S. Ghosh, A. E. Gelfand, J. S. Clark. 2014. Dual impacts of climate change: forest migration and turnover through life history. *Global Change Biology*, 20:251-264.
- 32) Benitez, S.B., M. Hersh, R. Vilgalys, and J.S. Clark. 2014. Pathogen regulation of plant diversity via effective specialization. *Trends in Ecology and Evolution*, 12: 705-711.
- 33) Bugalho, M.N., I. Ibáñez, and J.S Clark. 2013. The effects of deer herbivory and forest type on tree recruitment vary with plant growth stage. *Forest Ecology and Management*, 308, 90–100.
- 34) Clark, J.S., D. M Bell, M. Kwit, A. Powell, And K. Zhu. 2013. Dynamic inverse prediction and sensitivity analysis with high-dimensional responses: application to climate-change vulnerability of biodiversity. *Journal of Biological, Environmental, and Agricultural Statistics*, 18:376-404.
- 35) Valle, D. and J.S. Clark. 2013. Improving the modeling of disease data from the government surveillance system: a case study on malaria in the Brazilian Amazon. *Plos Computational Biology*, 9: e1003312. doi:10.1371/journal.pcbi.1003312.
- 36) Schick, R.S., L. F. New, L. Thomas, D. P. Costa, M. A. Hindell, C. R. McMahon, P. W. Robinson, S. E. Simmons, M. Thums, J. Harwood, and J. S. Clark. 2013. Estimating resource acquisition and at-sea body condition of a marine predator with implications for population health. *Journal of Animal Ecology*, 82: 1300–1315.
- 37) Schick, R.S., S. D. Kraus, R. M. Rolland, A. R. Knowlton, P. K. Hamilton, H. M. Pettis, R. D. Kenney, and J. S. Clark. 2013. Using hierarchical Bayes to understand movement, health, and survival in critically endangered marine mammals. *PLOS One*, 8: e64166. doi:10.1371/journal.pone.0064166.
- 38) Ghosh, S., D. M. Bell, J.S. Clark, A.E. Gelfand, and P. Flikkema. 2013. Process modeling for soil moisture using sensor network data. *Statistical Methodology*, in press.
- 39) Gelfand, A.E., S. Ghosh and J. S. Clark. 2013. Scaling integral projection models for analyzing size demography. *Statistical Science*, 28, 641-658.
- 40) New, L. F., J. Harwood, L. Thomas, C. Donovan, J. S. Clark, G. Hastie, P. M. Thompson, B. Cheney, L. Scott-Hayward and D. Lusseau. 2013. Modelling the biological significance of behavioural change in coastal bottlenose dolphins in response to disturbance. *Functional Ecology* 27, 314–322.
- 41) Valle, D. and J.S. Clark. 2013. Conservation efforts may increase malaria burden in the Brazilian Amazon. *PLoS One* 8: e57519. doi:10.1371/journal.pone.0057519
- 42) Ward, E.J., D.M. Bell, J.S. Clark and R. Oren. 2012. Hydraulic time constants for transpiration of loblolly pine at Duke FACE. *Tree Physiology*, 33, 123-134.
- 43) Ward, E.J., R. Oren, D.M. Bell, J.S. Clark, H.R. McCarthy, H. Seok-Kim and J.-C. Domec. 2012. The effects of long-term elevated CO₂ and nitrogen fertilization on stomatal conductance estimated from scaled sap flux measurements at Duke FACE. *Tree Physiology*, 33, 135-151.

- 44) Moran E.V. and J.S. Clark 2012. Between-site differences in the scale of dispersal and gene flow in red oak. *PLoS ONE* 7: e36492. doi:10.1371/journal.pone.0036492.
- 45) Rapp, J.M., M. R. Silman, J. S. Clark, C.A. J. Girardin, D. Galiano, and R. Tito. 2012. Intra- and inter-specific tree growth across a long altitudinal gradient in the Peruvian Andes. *Ecology*, 93:2061-2072.
- 46) Clark, J.S., B.D. Soltoff, A.S. Powell, and Q.D. Read. 2012. Evidence from individual inference for high-dimensional coexistence: long term experiments on recruitment response. *PLoS One*, 7 e30050. doi:10.1371/journal.pone.0030050.
- 47) Moran, E.V. and J.S. Clark. 2012. Causes and consequences of unequal seed production in forest trees: a case study in red oaks. *Ecology*, 93:1082-1094.
- 48) Ghosh, S., A.E. Gelfand, K. Zhu, and J.S. Clark. 2012. The k-ZIG: flexible modeling for zero-inflated counts. *Biometrics*, 68:878-85.
- 49) Clark, J.S. 2012. The coherence problem with the Unified Neutral Theory of Biodiversity. *Trends in Ecology and Evolution*, 27:198-202.
- 50) Hersh, M.H., J.S. Clark, and R. Vilgalys. 2012. Evaluating the impacts of fungal seedling pathogens on temperate forest seedling survival. *Ecology*, 93: 511-520.
- 51) Moran, E.V., J. Willis, and J.S. Clark. 2012. Genetic evidence for hybridization in red oaks. *American Journal of Botany*, 99, 92-100.
- 52) Clark, J.S., D. M. Bell, M. Kwit, A. Powell, R. Roper, A. Stine, B. Vierra, and K. Zhu. 2012. Individual scale inference to anticipate climate change vulnerability of biodiversity. *Philosophical Transactions of the Royal Society B*, 367, 236-246.
- 53) Uriarte M., J. S. Clark, J. K. Zimmerman, L. S. Comita, J. Forero-Montaña, and J. Thompson. 2012. Multi-dimensional tradeoffs in species responses to disturbance: Implications for diversity in a subtropical forest. *Ecology*, 93:191–205.
- 54) Evans, L., J.S. Clark, A. Whipple, and T. Whitham. 2012. The relative influences of host plant genotype and yearly abiotic variability in determining herbivore abundance. *Oecologia*, 168:483-489.
- 55) Ghosh, S., A. E. Gelfand, and J. S. Clark. 2012. Inference for size demography from point pattern data using integral projection models. *Journal of Agricultural, Biological and Environmental Statistics*, 17, 641-677.
- 56) Zhu, K., C.W. Woodall, and J.S. Clark. 2012. Failure to migrate: lack of tree range expansion in response to climate change. *Global Change Biology*, 18, 1042–1052.
- 57) Wu, W., Clark, J.S., and J.M. Vose. 2012. Application of a full hierarchical Bayesian model in assessing streamflow response to a climate change scenario at the Coweeta Basin, NC, USA. *Journal of Resources and Ecology*, 3, 118-128.
- 58) Valle D., Clark J.S., Zhao K. 2011. Enhanced understanding of infectious diseases by fusing multiple datasets: a case study on malaria in the western Brazilian Amazon Region. *PLoS ONE* 6(11): e27462. doi:10.1371/journal.pone.0027462
- 59) Colchero, F. and J.S. Clark. 2011. Bayesian inference on age-specific survival for censored and truncated data. *Journal of Animal Ecology* 80 DOI: 10.1111/j.1365-2656.2011.01898.x
- 60) Clark, J.S., D.M. Bell, M.H. Hersh, M. Kwit, E. Moran, C. Salk, A. Stine, D. Valle, and K. Zhu. 2011. Individual-scale variation, species-scale differences: inference needed to understand diversity. *Ecology Letters* 14, 1273–1287.
- 61) Luo, Y. K. Ogle, C. Tucker, S. Fei, C. Gao, S. Ladeau, J. S. Clark, and D. S. Schimel. 2011. Ecological forecasting and data assimilation in a data-rich era. *Ecological Applications* 21, 1429–1442.
- 62) Agarwal, P., T. Mohave, H. Yu, and J. S. Clark. 2011. *Exploiting temporal coherence in forest dynamics simulation. SCG '11 Proceedings of the 27th Annual Symposium on Computational Geometry*, Paris, France.
- 63) Clark, J.S., P. Agarwal, D.M. Bell, P. Flikkema, A. E. Gelfand, X. Nguyen, E. Ward, and J. Yang. 2011. Inferential ecosystem models, from network data to prediction. *Ecological Applications*, 21, 1523–1536.
- 64) Luo Y.Q., J. Melillo, S.L. Niu, C. Beier, J.S. Clark, A.T. Classen, E. Davidson, J.S. Dukes, R.D. Evans, C.B. Field, C.I. Czimczik, M. Keller, B.A. Kimball, L. Kueppers, R.J. Norby, S.L. Pelini, E. Pendall, E. Rastetter, J. Six, M. Smith, M. Tjoelker, M. Torn. 2011. Coordinated approaches to quantify long-term ecosystem dynamics in response to global change. *Global Change Biology*, 17, 843-854, DOI: 10.1111/j.1365-2486.2010.02265.x.

- 65) Clark, J.S., D.M. Bell, M.H. Hersh, and L. Nichols. 2011. Climate change vulnerability of forest biodiversity: climate and resource tracking of demographic rates. *Global Change Biology*, 17, 1834–1849.
- 66) Wu, W., J.S. Clark, and J. Vose. 2010. Assimilating multi-source uncertainties of a parsimonious conceptual hydrological model using hierarchical Bayesian modeling, *Journal of Hydrology*, 394, 436–446.
- 67) Moran, E.V. and J.S. Clark. 2010. Estimating seed and pollen movement in a monoecious plant: a hierarchical Bayesian approach integrating genetic and ecological data. *Molecular Ecology*, 20, 1248–1262.
- 68) Clark, J.S., D. Bell, C. Chu, B. Courbaud, M. Dietze, M. Hersh, J. HilleRisLambers, I. Ibanez, S. L. LaDeau, S. M. McMahon, C.J.E. Metcalf, J. Mohan, E. Moran, L. Pangle, S. Pearson, C. Salk, Z. Shen, D. Valle, and P. Wyckoff. 2010. High dimensional coexistence based on individual variation: a synthesis of evidence. *Ecological Monographs*, 80, 569–608.
- 69) Clark, J.S. 2010. Individuals and the variation needed for high species diversity. *Science* 327:1129–1132.
- 70) Vieilledent, G., B. Courbaud, G. Kunstler, J.-F. Dhote, and J.S. Clark. 2010. Individual variability in tree allometry determines light resource allocation in forest ecosystems: a hierarchical Bayesian approach. *Oecologia*, 163: 759–773.
- 71) Clark, J.S., D. Bell, M. Dietze, M. Hersh, I. Ibanez, S. LaDeau, S. M. McMahon, C.J.E. Metcalf, E. Moran, L. Pangle, and M. Wolosin. 2010. Models for demography of plant populations. Pages 431 - 481 in T. O'Hagan and M. West (eds) *Handbook of Bayesian Analysis*, Oxford University Press.
- 72) Clark, J.S. and M. H. Hersh. 2009. Inference in incidence, infection, and impact: Co-infection of multiple hosts by multiple pathogens. *Bayesian Analysis* 4:337 - 366, DOI:10.1214/09-BA413.
- 73) Schick, R.S., P. N. Halpin, A. J. Read, C. K. Slay, S. D. Kraus, B. R. Mate, M. F. Baumgartner, J. J. Roberts, B. D. Best, C. P. Good, S. R. Loarie, and J. S. Clark. 2009. Striking the right balance in right whale conservation. *Canadian Journal of Fisheries and Aquatic Sciences* 66:1399–1403.
- 74) Way, D.A., S. L. LaDeau, H. R. McCarthy, J. S. Clark, R. Oren, A. C. Finzi and R. B. Jackson. 2009. Greater seed production in elevated CO₂ is not accompanied by reduced seed quality in *Pinus taeda* L. *Global Change Biology*, 16, 1046–1056.
- 75) Clark, J.S. 2009. Beyond neutral science. *Trends in Ecology and Evolution*, 24:8–15.
- 76) Metcalf, C.J.E., J. S. Clark, and S. M. McMahon. 2009. Overcoming data sparseness and parametric constraints in modeling of tree mortality: a new non-parametric Bayesian model. *Canadian Journal of Forest Research*, 39, 1677–1687.
- 77) McMahon, S. M., M. C. Dietze, M. H. Hersh, E. V. Moran, and J. S. Clark. 2009. A predictive framework to understand forest responses to global change. Pages 221–236 in R. Ostfeld and W.H. Schlesinger (eds) *Year in Ecology and Conservation Biology 2009*.
- 78) Vieilledent, G., B. Courbaud, G. Kunstler, J.-F. Dhôte, and J. S. Clark. 2009. Biases in the estimation of size dependent mortality models: advantages of a semi-parametric approach. *Canadian Journal of Forest Research*, 39, 1430–1443.
- 79) Colchero, F., R. A. Medellin, J. S. Clark, R. Lee, and G. G. Katul. 2009. Predicting population survival under future climate change: density dependence, drought and extraction in an insular bighorn sheep. *Journal of Animal Ecology*, 78:666–673.
- 80) Metcalf, C.J.E., J. S. Clark, and D. A. Clark. 2009. Tree growth inference and prediction when the point of measurement changes: modelling around buttresses in tropical forests. *Journal of Tropical Ecology*, 25:1–12.
- 81) Ibáñez, I., Clark, J.S. and Dietze, M. 2009. Estimating performance of potential migrant species. *Global Change Biology*, 15:1173–1188.
- 82) Cressie, N., C. A. Calder, J. S. Clark, J. M. Ver Hoef, and C. K. Wikle. 2009. Accounting for uncertainty in ecological analysis: the strengths and limitations of hierarchical statistical modeling. *Ecological Applications*, 19:553–570.
- 83) Schick, R.S., S.R. Loarie, F. Colchero, B.D. Best, A. Boustany, D.A. Conde, P.N. Halpin, L.N. Joppa, C.M. McClellan, and J.S. Clark. 2008. Understanding movement data and processes: emerging techniques. *Ecology Letters*, 11:1338–1350.
- 84) Ibáñez, I., Clark, J.S. and Dietze, M. 2008. Evaluating the sources of potential migrant species: Implications under climate change. *Ecological Applications*, 18:1664–1678.
- 85) Dietze, M., M. Wolosin, J. S. Clark. 2008. Tree allometries: capturing diversity using a hierarchical Bayes approach. *Forest Ecology and Management* 256:1939–1948.

- 86) Clark, J.S., M. Dietze, P. Agarwal, S. Chakraborty, I. Ibanez, S. LaDeau, and M. Wolosin. 2007. Resolving the biodiversity debate. *Ecology Letters*, 10: 647–662.
- 87) Gugger, P.F., J.S. Mclachlan, P.S. Manos, and J.S. Clark. 2008. Inferring long-distance dispersal and topographic barriers during postglacial colonization from the genetic structure of red maple (*Acer rubrum* L.) in New England. *Journal of Biogeography* 35, 1665–1673.
- 88) Dietze, M., and J.S. Clark. 2008. Rethinking gap dynamics: the impact of damaged trees and sprouts. *Ecological Monographs* 78:331-347.
- 89) Clark, J.S., M. Wolosin, M. Dietze, I. Ibanez, S. LaDeau, M. Welsh, and B. Kloeppel. 2007. Tree growth inference and prediction from diameter censuses and ring widths. *Ecological Applications*, 17, 1942-1953.
- 90) Ibáñez, I., J.S. Clark, S. LaDeau, and J. Hille Ris Lambers 2007. Exploiting temporal variability to understand tree recruitment response to climate change, *Ecological Monographs*, 77:163-177.
- 91) Govindarajan, S. M. Dietze, P. Agarwal, and J.S. Clark. 2007. A scalable algorithm for dispersing populations. *Journal of Intelligent Information Systems*, DOI 10.1007/s10844-006-0030-z.
- 92) Flikkema, P.G., P.J. K. Agarwal, J. S. Clark, C. Ellis, A. Gelfand, K. Munagala, and J. Yang. 2007. From data reverence to data relevance: Model-mediated wireless sensing of the physical environment. Pages 988–994 in Y. Shi et al. (Eds.): *ICCS 2007*, Part I, LNCS 4487.
- 93) Mohan, J.E., J. S. Clark, and W. H. Schlesinger. 2007. Long-term CO₂ enrichment of an intact forest ecosystem: implications for temperate forest regeneration and succession. *Ecological Applications*, 17:1198-1212.
- 94) Flikkema, P.G., P.K. Agarwal, J.S. Clark, C. Ellis, A. Gelfand, K. Munagala, and J. Yang. 2006. Model-driven dynamic control of embedded wireless sensor networks. *Proc. 6th International Conference on Computational Science*, Workshop on Dynamic Data Driven Application Systems, Reading, UK.
- 95) Clark, J.S. and A. E. Gelfand. 2006. A future for models and data in ecology. *Trends in Ecology and Evolution*, 21, 375-380.
- 96) LaDeau, S.L. and J.S. Clark. 2006. Elevated CO₂ and tree fecundity: the role of tree size, interannual variability, and population heterogeneity. *Global Change Biology*, 12:822-833.
- 97) Mohan, J. E., L. H. Ziska, R. B. Thomas, R. C. Sicher, K. George, J. S. Clark, W. H. Schlesinger. 2006. Biomass and toxicity responses of poison ivy (*Toxicodendron radicans*) to elevated atmospheric CO₂. *Proceedings of the National Academy of Sciences*. 103 (24): 9086.
- 98) Carlin, B., J.S. Clark, and A. Gelfand. 2006. Elements of Bayesian Inference. Pages 3-24 in J.S. Clark and A. Gelfand (eds). *Hierarchical Models of the Environment*. Oxford University Press.
- 99) LaDeau, S. and J.S. Clark. 2006. Pollen production by *Pinus taeda* L.(Pinaceae) growing in elevated atmospheric CO₂. *Functional Ecology*, 20:541-547.
- 100) Ibáñez, I., J. S. Clark, M. C. Dietze, K. Feeley, M. Hersh, S. LaDeau, A. McBride, N. E. Welch, and M. S. Wolosin. 2006. Predicting biodiversity change: Outside the climate envelope, beyond the species-area curve. *Ecology*, 87:1896-1906.
- 101) Clark, J.S. and S.L. LaDeau. 2006. Synthesizing ecological experiments and observational data with Hierarchical Bayes. Pages 41 – 58 in J.S. Clark and A. Gelfand (eds). *Hierarchical Models of the Environment*. Oxford University Press.
- 102) Lewis, M.A., Neubert, M.G., Caswell, H., Clark, J.S., and Shea, K. 2006. A guide to calculating discrete-time invasion rates from data. Pages 169-192 in M. W. Cadotte, S. M. McMahon and T. Fukami (eds) *Conceptual ecology and invasions biology: Reciprocal approaches to nature*. Springer, Dordrecht, The Netherlands.
- 103) Clark, J.S. 2005. Why environmental scientists are becoming Bayesians. *Ecology Letters* 8:2-14.
- 104) Brown K.J., Clark J.S. Grimm E.C., Donovan J.J., and Mueller PG. 2005. Fire cycles in North American interior grasslands and their relation to prairie droughts. *Proceedings of the National Academy of Sciences*, 102: 8865-8870.
- 105) Beckage, B., M. Lavine, and J.S. Clark. 2005. Estimating variability in seedling survival from count data. *Journal of Ecology*, 93: 1177-1184.
- 106) Clark, J.S., G. Ferraz, N. Oguge, H. Hays, and J. DiCostanzo. 2005. Hierarchical Bayes for structured and variable populations: from capture-recapture data to life-history prediction. *Ecology* 86:2232-2244.
- 107) HilleRisLambers, J. and J.S. Clark. 2005. The benefits of seed banking for *Acer rubrum*: maximizing seedling recruitment. *Canadian Journal of Forest Research* 35: 806-813.

- 108) Beckage, B. and J.S. Clark. 2005. Do seed and seedling predation contribute to the coexistence of three co-occurring tree species? *Oecologia*, 143:458-469.
- 109) McLachlan, J.S., J.S. Clark, and P.S. Manos. 2005. Molecular indicators of tree migration capacity under rapid climate change. *Ecology*, 86:2088-2098.
- 110) Hille Ris Lambers, J., J.S. Clark., and M. Lavine. 2005. Seed banking in temperate forests: Implications for recruitment limitation. *Ecology*, 86:85-95.
- 111) Govindarajan, S., M. Dietze, P. Agarwal, and J.S. Clark. 2004. A scalable model of forest dynamics. *Proceedings of the 20th Symposium on Computational Geometry SCG*, 106-115.
- 112) McLachlan, J.S. and J.S. Clark. 2004. Reconstructing historical ranges with fossil data at continental scales. *Forest Ecology and Management*, 197:139-147.
- 113) Wyckoff, P. and J.S. Clark. 2005. Comparing predictors of tree growth: the case for exposed canopy area. *Canadian Journal of Forest Research* 35:13-20.
- 114) Clark, J.S. and O. Bjornstad. 2004. Population time series: Process variability, observation errors, missing values, lags, and hidden states. *Ecology*, 85:3140-3150.
- 115) Clark, J.S., S. LaDeau, and I. Ibanez. 2004. Fecundity of trees and the colonization-competition hypothesis, *Ecological Monographs*, 74:415-442.
- 116) Clark, J.S. and J.S. McLachlan. 2004. Neutral theory (communication arising): The stability of forest biodiversity. *Nature* 427, 696 – 697.
- 117) Mohan, J. E., J.S. Clark, and W. H. Schlesinger. 2004 Genetic variation in germination, growth, and survivorship of red maple in response to subambient through elevated atmospheric CO₂. *Global Change Biology* 10, 233-247
- 118) Lynch, J.A., J.S. Clark, and B. J. Stocks. 2004. Charcoal production, dispersal and deposition from the Fort Providence Experimental Fire: Interpreting fire regimes from charcoal records in boreal forests. *Canadian Journal of Forest Research*, 34: 1642–1656.
- 119) Clark, J.S. 2004. Reid's Paradox: Tree migration capacity and rapid climate change. In T. Lovejoy (ed) *Conservation and Global Change*. Yale University Press.
- 120) Clark, J.S. and J.S. McLachlan. 2003. Stability of forest diversity. *Nature*, 423: 635-638.
- 121) Higgins, S.I., J. S. Clark, R. Nathan, T. Hovestadt, F. Schurr, J. M. V. Fragoso, M. R. Aguiar, E. Ribbens, and S. Lavorel. 2003. Forecasting plant migration rates: managing uncertainty for risk assessment. *Journal of Ecology*, 91:341-347.
- 122) Hille Ris Lambers, J. and J.S. Clark. 2003. Effects of dispersal, shrubs, and density-dependent mortality on seed and seedling distributions in temperate forests. *Canadian Journal of Forest Research* 33: 783-795.
- 123) Beckage, B. and J.S. Clark. 2003. Seedling survival and growth in Southern Appalachian forests: Does spatial heterogeneity maintain species diversity? *Ecology* 84:1849-1861.
- 124) Clark, J.S., M. Lewis, J.S. McLachlan, J. Hille Ris Lambers. 2003. Estimating population spread: what can we forecast and how well? *Ecology* 84:1979-1988.
- 125) Calder, K. M. Lavine, P. Mueller, and J.S. Clark. 2003. Incorporating multiple sources of stochasticity in population dynamic models. *Ecology* 84:1395-1402.
- 126) Clark, J.S. 2003. Uncertainty in ecological inference and forecasting. (*Special Feature*). *Ecology* 84:1349-1350.
- 127) Clark, J.S. 2003. Uncertainty in population growth rates calculated from demography: the hierarchical approach. *Ecology* 84:1370-1381.
- 128) Lynch, J.A., B. Bigelow, J.S. Clark, M. Edwards, and B. Finney. 2003. Spatial and temporal variation in boreal fire. *Journal of Geophysical Research*, 108: 8152 (17 pp).
- 129) Clark, J. S., J. Mohan, M. Dietze, and I. Ibanez. 2003. Coexistence: how to identify trophic tradeoffs. *Ecology*, 84:17-31.
- 130) Hille Ris Lambers, J. S. Clark, and J., B. Beckage. 2002. Density dependent mortality and the latitudinal gradient in species diversity. *Nature*, 417:732–735.
- 131) Wyckoff, P.H. and J.S. Clark. 2002. Growth and mortality for seven co-occurring tree species in the southern Appalachian Mountains: implications for future forest composition. *Journal of Ecology*, 90:604–615.

- 132) Clark, J.S., E.C. Grimm, J. J. Donovan, S.C. Fritz, D.R. Engstrom, and J.E. Almendinger. 2002. Drought cycles and landscape responses to past aridity on prairies of the Northern Great Plains, USA. *Ecology*, 83:595-601.
- 133) Clark, J.S., B. Beckage, J. HilleRisLambers, I. Ibanez, S. LaDeau, J. MacLachlan, J. Mohan, and M. Rocca. 2002. Dispersal and plant migration. Pages 81-93 in H. Mooney and J. Canadell (eds) *Encyclopedia of Global Environmental Change*, Vol 3, Wiley, Chichester, England.
- 134) Clark, J.S., A. M. Gill, and A. P. Kershaw. 2002. Spatial variability in fire regimes: its effects on recent and past vegetation, Pages 125-144 in R. A. Bradstock, J.E. Williams, and A.M. Gill (eds) *Flammable Australia: the Fire Regimes and Biodiversity of a Continent*, Cambridge University Press, Cambridge, England.
- 135) Kershaw, A.P., Clark, J.S., A. M. Gill, and D.M. D'Costa. 2002. A history of fire in Australia, Pages 3-25 in R. Bradstock and A.M. Gill (eds) *Flammable Australia: the Fire Regimes and Biodiversity of a Continent*, Cambridge University Press, Cambridge, England.
- 136) Lavine, M., B. Beckage, and J.S. Clark. 2002. Statistical modeling of seedling mortality. *Journal of Agricultural, Biological, and Environmental Statistics*, 7: 21-41.
- 137) Clark, J.S. S. R. Carpenter, M. Barber, S. Collins, A. Dobson, J. Foley, D. Lodge, M. Pascual, R. Pielke, Jr, W. Pizer, C. Pringle, W. V. Reid, K. A. Rose, O. Sala, W. H. Schlesinger, D. Wall, and D. Wear. 2001. Ecological forecasts: an emerging imperative. *Science* 293:657-660.
- 138) Camill, P., J.A Lynch, J.S. Clark, J.B. Adams and B. Jordan. 2001. Changes in biomass, aboveground NPP, and peat accumulation following permafrost thaw in the boreal peatlands of Manitoba, Canada. *Ecosystems*, 4:461-478.
- 139) LaDeau, S. and J.S. Clark. 2001. Rising CO₂ and the fecundity of forest trees, *Science* 292:95-98.
- 140) Clark, J.S., Lewis, M., and L. Horvath. 2001. Invasion by extremes: variation in dispersal and reproduction retards population spread. *American Naturalist* 157:537-554.
- 141) Clark, J.S., L. Horvath, and M. Lewis. 2001. On the estimation of spread for a biological population. *Statistics and Probability Letters* 51:225-234.
- 142) Schlesinger, W.H., J.S. Clark, J. E. Mohan and C. D. Reid. 2001. Global environmental change: effects on biodiversity. 2001. Pages 175-224 in G. Orians and M. Soule. *Research Priorities for Conservation Biology*, Island Press.
- 143) Clark, J.S., E.C. Grimm, J. Lynch, and P.J. Mueller. 2001. Effects of Holocene climate change on the C₄ grassland/woodland boundary in the Northern Central Plains. *Ecology* 82:620-636.
- 144) Clark, J.S. and M. Lavine. 2001. Bayesian statistics in ecology. Pages 327 – 346 in S.M. Scheiner and J. Gurevitch (eds) *Design and Analysis of Ecological Experiments* Oxford Univ Press, Oxford, England.
- 145) Beckage, B., J.S. Clark, B.D. Clinton, and B.L. Haines. 2000. A long-term study of tree seedling recruitment in southern Appalachian forests: the effects of canopy gaps and shrub understories. *Canadian Journal of Forest Research* 30: 1617-1631.
- 146) Camill, P. and J.S. Clark. 2000. Complex long-term climate responses of North American boreal forest and savanna. *Ecosystems*3:534-544.
- 147) Wyckoff, P.H. and J.S. Clark. 2000. Predicting tree mortality from diameter growth: a comparison of maximum likelihood and Bayesian approaches. *Canadian Journal of Forest Research*, 30: 156-167.
- 148) Knoepp, J.D., D.C. Coleman, D.A. Crossley, and J.S. Clark. 2000. Biological indices of soil quality: an ecosystem case study of their use. *Forest Ecology and Management* 138:357-368.
- 149) Clark, J.S., B. Beckage, P. Camill, B. Cleveland, J. Hille Ris Lambers, J. Lichter, J. MacLachlan, J. Mohan, and P. Wyckoff. 1999. Interpreting recruitment limitation in forests. *American Journal of Botany*, 86:1-16.
- 150) Clark, J.S., M. Silman, R. Kern, E. Macklin, and J. Hille Ris Lambers. 1999. Seed dispersal near and far: generalized patterns across temperate and tropical forests. *Ecology*80:1475-1494.
- 151) Clark, J. S., C. Fastie, G. Hurtt, S. T. Jackson, C. Johnson, G. King, M. Lewis, J. Lynch, S. Pacala, I.C. Prentice, E. W. Schupp, T. Webb III, and P. Wyckoff. 1998. Reid's Paradox of rapid plant migration. *BioScience*, 48:13-24.
- 152) Clark, J. S., J. Lynch, and B. J. Stocks. 1998. Relationships between charcoal particles in air and sediments in west-central Siberia. *The Holocene* 8:19-30.
- 153) Clark, J. S., E. Macklin, and L. Wood. 1998. Stages and spatial scales of recruitment limitation in southern Appalachian forests. *Ecological Monographs* 68:213-235.

- 154) Camill, P. and J. S. Clark. 1998. Climate change disequilibrium of boreal permafrost peatlands caused by local processes. *American Naturalist* 151:207-222.
- 155) Collatz, G.J., J.A. Berry, and J. S. Clark. 1998. Effects of climate and atmospheric CO₂ partial pressure on the global distribution of C₄ plants: past, present, and future. *Oecologia*, 114:441-454.
- 156) Clark, J.S. 1998. Why trees migrate so fast: Confronting theory with dispersal biology and the paleo record. *American Naturalist*, 152: 204-224.
- 157) Clark, J.S. 1997. Introduction to sediment records of biomass burning and global change. Pages 1-9. in J.S. Clark, H. Cachier, J.G. Goldammer, and B.J. Stocks, editor. *Sediment Records of Biomass Burning and Global Change*. Springer Verlag, Berlin, Germany.
- 158) Clark, J. S., and W. A. Patterson. 1997. Background and local charcoal in sediments: scales of fire evidence in the paleorecord. Pages 23-48. in J.S. Clark, H. Cachier, J.G. Goldammer, and B.J. Stocks, editor. *Sediment Records of Biomass Burning and Global Change*. Springer Verlag, Berlin, Germany.
- 159) Clark, J.S. 1997. Facing short-term extrapolation with long-term evidence: Holocene fire in the north-eastern US forests. *Journal of Ecology*, 85: 377-380.
- 160) Pitelka, L. F., J. Ash, S. Berry, R.H.W. Bradshaw, L. Brubaker, J.S. Clark, M.B. Davis, J.M. Dyer, R.H. Gardner, H. Gitay, G. Hope R. Hengeveld, B. Huntley, G.A. King, S. Lavorel, R.N. Mack, G.P. Malanson, M. McGlone, I.R. Noble, I.C. Prentice, M. Rejmanek, A. Saunders, A.M. Solomon, S. Sugita, and M.T. Sykes. 1997. Plant migration and climate change. *American Scientist*, 85:464-473.
- 161) Clark, J. S., and T. C. Hussey. 1996. Estimating the mass flux of charcoal from sediment records: the effect of particle size, morphology, and orientation. *The Holocene* 6:129-144.
- 162) Clark, J. S. 1996. Baseline biomass burning emissions of eastern North America. Pages 750-757. in J.S. Levine, editor. *Biomass Burning and Global Change*. MIT Press, Cambridge, Massachusetts, USA.
- 163) Clark, J. S., and P. J. H. Richard. 1996. The role of paleofire in boreal and other cool-coniferous forests. Pages 65-89 in J.G. Goldammer and V.V. Furyaev (eds). *Fire in Ecosystem of Boreal Eurasia*, Kluwer, Dordrecht, The Netherlands.
- 164) Clark, J. S., T. C. Hussey, and P. D. Royall. 1996. Presettlement analogs for Quaternary fire regimes in eastern North America. *Journal of Paleolimnology* 16: 79-96.
- 165) Clark, J. S., and P. D. Royall. 1996. Local and regional sediment charcoal evidence for fire regimes in presettlement northeastern North America. *Journal of Ecology* 84, 365-382.
- 166) Clark, J. S., P. D. Royall, and C. Chumbley. 1996. The role of fire during climate change in an eastern North American forest at Devil's Bathtub, New York. *Ecology* 77, 2148-2166.
- 167) Clark, J.S., B.J. Stocks, and P. J.H. Richard. 1996. Climate implications of biomass burning since the 19th century in eastern North America. *Global Change Biology*, 2:433-458.
- 168) Clark, J.S. 1996. Testing disturbance theory with long-term data: alternative life history solutions to the distribution of events. *American Naturalist*, 148:976-996.
- 169) Contributor to IPCC: 1996. Terrestrial biotic responses to environmental change and feedbacks to climate. Pages 445-482. in J.T. Houghton, L. G. Meira Filho, B.A. Callander, N. Harris, A. Kattenberg, and K. Maskell, editor. *Climate Change 1995: The Science of Climate Change*. Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge, England.
- 170) FIRESCAN. 1996. Fire in ecosystems of boreal Eurasia: the Bor Forest Island Fire Experiment Fire Research Campaign Asia - North (FIRESCAN). Pages 848-873. in J.S. Levine, editor. *Biomass Burning and Global Change*. MIT Press, Cambridge, Massachusetts, USA.
- 171) Weiss, K. F., J. G. Goldammer, J. S. Clark, D. A. Livingstone, and M. O. Andreae. 1996. Reconstruction of prehistoric fire regimes in East Africa by lake sediment analysis. J.S. Levine, editor. *Biomass Burning and Global Change*. MIT Press, Cambridge, Massachusetts, USA.
- 172) Clark, J. S., and Y. Ji. 1995. Fecundity and dispersal in plant populations: implications for structure and diversity. *The American Naturalist*, 146:72-111.
- 173) Clark, J. S., and P. D. Royall. 1995. Transformation of a northern hardwood forest by aboriginal (Iroquois) fire: charcoal evidence from Crawford Lake, Ontario, Canada. *The Holocene* 5:1-9.
- 174) Clark, J. S. 1995. Climate and Indian effects on southern Ontario forests: forum. *The Holocene*, 5:371-379.
- 175) Clark, J. S., and P. D. Royall. 1995. Particle-size evidence for source areas of charcoal accumulation in Late Holocene sediments of eastern North American lakes. *Quaternary Research* 43:80-89.

- 176) Wright, H. E., and J. S. Clark. 1995. Charcoal analysis of varved lake sediments. In S. Hicks, U. Miller, and M. Saarnito (eds). *Laminated Sediments and Archaeology, Journal of the European Study Group on Physical, Chemical, Mathematical and Biological Techniques Applied to Archaeology.*, Rixensart, Belgium 41, 125-130.
- 177) FIRESCAN 1994. Fire in boreal ecosystems of Eurasia: first results of the Bor Forest Island Fire Experiment, Fire Research Campaign Asia-North (FIRESCAN). *Journal of World Resources Review*, 6:499-519.
- 178) Clark, J. S., and P. D. Royall. 1994. Pre-industrial particulate emissions and carbon sequestration from biomass burning in North America. *Biogeochemistry* 23:1-17.
- 179) Clark, J.S. 1993. Sensitivity of forest communities to global climate change. Pages 315-332 in P. Kareiva, J.G. Kingsolver, and R.B. Huey (eds.) *Biotic Interactions and Global Change*, Sinauer, Sunderland, MA.
- 180) Clark, J.S. 1993. Functional groups and ecological consistencies: population perspectives on regional forest dynamics. Pages 255-286 in J. Ehleringer and C. Field (eds) *Scaling Processes between Leaf and Landscape Levels*, Academic Press. New York, NY.
- 181) Clark, J.S. and J. Robinson. 1993. Paleocology of Fire. Pages 193-214 in P. Crutzen and J. Goldammer (editors). *Fire in the Environment: its Ecological, Climatic, and Atmospheric Chemical Importance*. Dahlem Conference, Wiley.
- 182) Clark, J.S. 1993. Fire, climate, and forest processes during the last 2000 yr. Pages 295-308 in W.E. Dean and J.P. Bradbury (eds.) *Ecology and Paleocology of Elk Lake*. Geological Society of America.
- 183) Clark, J.S. 1993. Shifting mosaic population dynamics. Pages 224-246 In S. Levin, T.M. Powell, and J.H. Steele (eds) *Patch Dynamics*, Springer Verlag, New York, New York.
- 184) Binkley, D., P. Becker-Heidman, J.S. Clark, P.J. Crutzen, P. Frost, A.M. Gill, A. Granström, F. Mack, J.-C. Menaut, R.W. Wein, and B. van Wilgren. 1993. Impacts of fires on ecosystems. Pages 359-374 in P. Crutzen and J. Goldammer (editors). *Fire in the Environment: its Ecological, Climatic, and Atmospheric Chemical importance*. Dahlem Conference, Wiley.
- 185) Clark, J.S. 1993. Scale relationships in boreal forest. *Trends in Ecology and Evolution* 8: 220.
- 186) Clark, J. S. and Reid, C. D. 1993. Sensitivity of unmanaged ecosystems to global change. Pages 53-89 in Darmstadter, J.; Toman, M. A., editors. *Non-linear Responses to Global Change*, Resources for the Future, Washington, D.C.
- 187) Clark J.S. 1992. Disturbance, climate change, and forest rehabilitation. Pages 165-186 in M. Wali (ed.) *Ecosystem Rehabilitation: Preamble to Sustained Development*. SPB Academic Publishing, The Hague, Netherlands.
- 188) Clark, J.S. 1992. Implications of individual plant growth for landscape patterns of age structure, net primary production, and resource availabilities. Pages 421-454 in D. DeAngelis and L. Gross (eds) *Populations, Communities, and Ecosystems: an Individual Perspective*, Chapman and Hall, New York, NY.
- 189) Clark, J.S. 1992. Validating model predictions of climate and vegetation change. Pages 423-440 in D. Ojima (ed) *Earth System Modeling*, OIES Global Change Institute, Boulder, CO.
- 190) Clark, J.S. 1992. Density-independent mortality, density compensation, and gap formation in plant populations. *Theoretical Population Biology* 42:172-198.
- 191) Morris, L.A., P.B. Bush, and J.S. Clark. 1992. Ecological impacts and risks associated with forest management. Pages 153-214 in J. Cairns, B.R. Niederlehner, and D.R. Orvos (eds). *Predicting Ecosystem Risk*. Princeton Scientific Publishing Co, Princeton, NJ.
- 192) Clark, J.S. 1991. Ecosystem sensitivity to climate change and complex responses. Pages 65-98 in R. Wyman (ed.) *Global Change and Life on Earth*. Chapman and Hall, New York, New York.
- 193) Clark, J.S. 1991. Forest-tree growth rates and probability of gap origin—a comment. *Ecology* 72:1166-1169.
- 194) Clark, J.S. 1991. Disturbance and tree life history on the shifting mosaic landscape. *Ecology* 72:1102-1118.
- 195) Clark, J.S. 1991. Disturbance and population structure on the shifting mosaic landscape. *Ecology* 72:1119-1137.
- 196) Clark, J.S. 1990. Fire and climate change during the last 750 years in northwestern Minnesota. *Ecological Monographs* 60:135-159.
- 197) Clark, J.S. 1990. Integration of ecological levels: individual plant growth, population mortality, and ecosystem dynamics. *Journal of Ecology* 78:275-299.
- 198) Clark, J.S. 1990. Effects of 20th century climate change and fire suppression on forest production and decomposition in northwestern Minnesota. *Canadian Journal of Forest Research* 20:219-232.

- 199) Clark, J.S. 1990. Population and evolutionary consequences of being a coastal plant: long-term evidence from the North Atlantic coasts. *Aquatic Science Reviews* 2:509-533.
- 200) Clark, J.S. 1990. Landscape interactions among nitrogen mineralization, species composition, and long-term disturbance. *Biogeochemistry* 11:1-22.
- 201) Clark, J.S. 1989. Water balance and fire occurrence during the last 160 years in northwestern Minnesota. *Journal of Ecology* 77:989-1004.
- 202) Clark, J.S. 1989. Forests are for burning. *Natural History* 1:50-53.
- 203) Clark, J.S., Merkt, J., and Müller, H. 1989. Post Glacial fire, vegetation, and cultural history of the northern Alpine forelands, southwest Germany. *Journal of Ecology* 77:897-925.
- 204) Clark, J.S. 1989. Ecological disturbance as a renewal process: theory and application to fire history. *Oikos* 56:17-30.
- 205) Clark, J.S. 1988. Effects of climate change on fire regime in northwestern Minnesota. *Nature* 334:233-235.
- 206) Clark, J.S. 1988. Stratigraphic charcoal analysis on petrographic thin sections: recent fire history in northwestern Minnesota. *Quaternary Research* 30:81-91.
- 207) Clark, J.S. 1988. Particle motion and the theory of charcoal analysis: source area, transport, deposition, and sampling. *Quaternary Research* 30:67-80.
- 208) Clark, J.S. and Patterson, W.A. 1987. Dating of the organic deposits. in S.P. Leatherman, (ed.) "Geomorphic Development of Long Island's South Shore Barriers", *National Park Service Technical Report*, Boston, Massachusetts.
- 209) Clark, J.S. 1986. Dynamism in the barrier-beach vegetation of Great South Beach, New York. *Ecological Monographs* 56:97-126.
- 210) Clark, J.S. 1986. Late Holocene vegetation and coastal processes at a Long Island tidal marsh. *Journal of Ecology* 74:561-578.
- 211) Clark, J.S. 1986. Coastal forest tree populations in a changing environment, southeastern Long Island, New York. *Ecological Monographs* 56:259-277.
- 212) Clark, J.S., Overpeck, J., Webb, T., and Patterson, W.A. 1986. Pollen stratigraphic correlation and dating of barrier-beach peat sections. *Review of Palaeobotany and Palynology* 47, 145-168.
- 213) Clark, J.S. 1986. Vegetation and land-use history of the William Floyd Estate, Fire Island National Seashore, New York. *National Park Service, Office of Scientific Studies Technical Report OSS 86-3*, Boston, Massachusetts.
- 214) Clark, J.S. and Patterson, W.A. 1985. The development of a tidal marsh: upland and oceanic influences. *Ecological Monographs* 55, 189-217.
- 215) Clark, J.S. 1984. Chronologies for recent sediments in coastal environments. *Proceedings of the 12th Nordic Symposium on Sediments*, Skallingen, Denmark 12:76-81.
- 216) Clark, J.S. and Patterson, W.A. 1984. Pollen, ²¹⁰Pb, and opaque spherules: an integrated approach to dating and sedimentation in the intertidal environment. *Journal of Sedimentary Petrology* 54:1249-1263.

Invited talks—seminars, symposia, and conferences

- 2017 Plenary Lecture, *12th Int Congress of Ecology* (INTECOL), Beijing
 Ecology, Univ Tennessee
Drought Impacts on U.S. Forests and Rangelands: Translating Science into Management, USFS (San Antonio)
 Ecology and Evolution, Stony Brook University
 Forestry and Natural Resources, Purdue University
 NIMBioS Investigative Workshop: *Species' Range Shifts in a Warming World* (Knoxville)
 Invited Session, *Functional Traits and Ecological Communities across Climate Gradients*, Ecol Soc America (Portland)
- 2016 Invited symposium on *Global scale patterns of invasion*, Annual Meeting, Int Assoc Landscape Ecol, Asheville
 Plenary Lecture, *Climate Ecology and Tree Growth*, Harvard
 Invited session ILTER *First Open Science Meeting*, Kruger Nat Park, S Africa
 Workshop: ILTER *First Open Science Meeting*, Uncertainty Quantification for LTER and NEON, Kruger Nat Park
 Invited Special Session, *Internat Soc Bayesian Analysis Biennial Conf*, Sardinia
- 2015 Global Ecology, Stanford-Carnegie
 Plenary Speaker, *US-China Biodiversity Workshop*, NSF, Raleigh
 Invited session: *Dynamic species distribution models*, ESA annual meeting

- The Macrosystems Biology Program*, NSF, Washington DC
National Institute for Environmental Science and Research, Grenoble
 Multivariate models in ecology, *Statistics and Appl Math Sci Institute*, Res Tri Park
 Plenary lecture, *G70 Celebration of Alan Gelfand's Birthday*, Durham
- 2014 *Symp on Climate Change and Biodiversity in the SE*, East Carolina Univ
 Earth Sciences, Boston Univ
Graybill Conference, Amer Stat Assoc Section on Statistics & Environment, Ft Collins
Bayesian Analysis for ecological Data, Beijing
 Scripps Oceanographic Inst, La Jolla
- 2013 Agric, Forest, & Environm Sci, Clemson
 Plenary *International Soc Biogeography Symposium*, Miami
Next Generation Climate Data Products, NCAR
 Biology, East Carolina Univ
Ecological Theory, ETH/Univ Zurich
 Biology, Marine Biological Lab, Woods Hole
- 2012 Ecology, Penn State University
NSF workshop on Data assimilation, Woods Hole
Symposium on hierarchical modeling, *Ecol Soc Japan*, Kanto
Inaugural lecture, Distinguished Lecturer Series, Centre for Global Change Science, Univ Toronto
 Invited Speaker, *BayesComp2012, Internat Soc Bayesian Analysis Biennial Meeting*, Tokyo
Distinguished Ecologist Lecture Series, Colorado State Univ
- 2011 *Challenges to Ecological Modelling and Theory in a Changing World*, Berlin
 Ecology/Forestry, Michigan State University
 Plenary Lecture, Ecology and Control of Invasive Species, Math Biosci Inst, Columbus
 Distinguished Ecologist Lecture, Univ Kansas
 Plenary Lecture, North Amer Forest Ecology Workshop
 Conservation Biology, Univ Michigan
- 2010 Ecology, Univ Georgia
 Ecology, McGill Univ
 Ecology Center, Utah State Univ
Population Consequences of Acoustic Disturbance to Marine Mammals, Office of Naval Research
 Ecology, Univ Connecticut
Distinguished Seminar Speaker Series, College of ACES, Univ Illinois
 Ecology, Univ Utah
- 2009 Plant Ecology & Nature Conservation, Univ Potsdam
Second Summer Course on Flux Measurements and Advanced Modeling, NSF, Niwot Ridge
 Paleoecology, Univ Minnesota
 IGERT Short Course, NAU, *Hierarchical modeling in ecology*
Coordinated Approaches to Address Long-Term Issues in Global Change Experiments, NSF-DOE
Population change under different threat scenarios, Univ London, Silwood Park
Improving Ecological Forecasts by Integrating Feedback Mechanisms, FEMMES, Potsdam
Population Consequences of Acoustic Disturbance to Marine Mammals, Office of Naval Research
 Ecology, Notre Dame
- 2008 Invited speaker, *International Society for Bayesian Analysis*, Hamilton Island
 Experimental Forest Research Conference, USFS, Shepardstown
 Keynote speaker, *Annual Spring Ecology Symposium*, Madison
 Keynote address, *Environmental Information Management*, Albuquerque
Ecological Forecasting: Applications of model-data fusion techniques, ESA Symposium, Milwaukee.
 Opening plenary, *International Statistical Ecology Conf*, St Andrews
 Biomathematics, NCSU
 CEMAGREF, Grenoble
Prediction of biome boundary shifts in regional and global dynamic vegetation models, Yokohama
 Inst Ecosystem Studies, Millbrook
- 2007 *Statistics in ecological and climate modeling*, Invited Session, Joint Stat Meetings, Salt Lake City
Mathematical Challenges / Opportunities in Sensor Networking, Inst Pure & Appl Math, UCLA
Uncertainty in age estimation, Max Plank Inst Demography, Rostock
 Transition workshop, *Complex computer models*, Res Tri Park.

- Center for Forest Ecosystem Assessment, Alabama A&M
Data-Model Assimilation in Ecology, NSF Workshop, Norman
 Ecology, UC Santa Barbara
 Special Seminar, *Data Assimilation for the Carbon Cycle*, NCAR
- 2006 Botany, North Carolina State University
2nd International Research Workshop of Evolutionary Demography, Max Plank Inst Demography, Rostock
 Tutorial, *Complex Computer Models*, Stat & Appl Math Inst, Research Triangle Park
 Ecology, Univ North Carolina Chapel Hill
 Keynote speaker, *1st Annual Ecosystem Informatics Symposium*, Oregon State
 Ecology, Wake Forest University
 Plenary speaker, *Neural Information Processing Systems (NIPS) Conf*, Vancouver
 Center for Integrating Statistical and Environmental Science, Univ Chicago
 Ecology, McGill University
 Population Research Institute Colloquium, Duke Univ
 Keynote Address, *Uncertainty in Ecological Analysis*, Math Biosci Inst, Columbus
- 2005 *Biogeographic responses to global change*, Internat Biogeogr Soc, Shepardstown, WV
Frontiers of Environ Change Research: Climate Change Drivers, Impacts, and Policy, Brown Univ
 Biology, Harvard
 Ecology, Univ Tennessee
 Ecology, Univ Montana
 TERRAC: *Modeling Ecosystem Responses to Global Change*, Sanibel, FL
How to succeed in Ecology, ESA panelist
Testing hypotheses with the Paleorecord, ESA speaker.
 Ecology, Penn State
 Botany, Univ Vermont
 TERRAC: *Global Environmental Change and Biodiversity*, Paris.
Stony Brook World Environmental Forum, SUNY Stony Brook, NY
- 2004 Ecology, Univ Georgia
Winemiller Symp: New Developments of Stat Anal in Ecol Res, Univ Missouri
CIEMAS Dedication ceremony: Sensor technology for environmental protection, Duke Univ
Landscapes, Genomics and Transgenic Conifers, Nicholas Environ Leadership Forum, Durham
 Biological Sciences, Univ Illinois Chicago
Earth System Science Pathfinder Mission Concept planning meeting, JPL, Pasadena
NEON Climate Change planning workshop, Tucson
 Ecology, Ohio Univ
Mathematical Models for Biological Invasions, Banff Int Res Station, Math Innovation
Computational Environmetrics Environ Sect, Am Stat Assoc/Int Stat Environm Sci, Univ Chicago
 Ecology/Math, Colorado State Univ
Models for estimating population size, Environm Sec, Joint Statistical Meetings, Toronto
 Ecology, Northern Arizona Univ
 Geography, Univ North Carolina
Interagency Climate Change Science Program (CCSP) Ecosystems Workshop, Washington DC
- 2003 Ecology, Cornell University
 Biology, Univ Miami
 Keynote lecture, *Interfaces in Environmental Biology*, Univ Kentucky
 Biology, Univ Illinois
Multi-dimensional Forest Structure, NASA Workshop
 Research Prospects of NSF BDEI Program
 Morrison Institute, Stanford University
 Biology, Rutgers Univ
- 2002 Gordon Conference: *Theoretical Biology & Biomathematics*, Tilton, NH
 NSF Digital Government Conference, Los Angeles
 IUFRO: *Dynamics of genetic diversity in forest ecosystems*, European Union, Strasbourg
 Millennium Assessment Wrkshp: *Conceptual Tools for Biodiversity Scenarios*, Trinidad
 Biology, Univ Nebraska
Climate Change Impacts and Integrated Assessment Wrkshp, Snowmass, CO
 Biology, Bowdoin College

- American Meteorological Society, RTP
 ESA Symposium: *Uncertainty in ecological estimation and forecasting*
 Biology, Rice University
 Statistics, NC State University
- 2001 NCEAS Workshop: *A new synthesis of demography and dispersal*, Santa Barbara
 Ecology, Michigan State Univ
 Inst Statistics & Decision Sci, Duke University
 ESA Symposium: *Extreme Event Analysis in Ecology*
 ESA Symposium: *Long distance dispersal*
 Workshop: *Seed dispersal and migration modeling*, Montpelier
 University lecture, Univ Wisconsin
 Univ Program Ecology, Duke University
- 2000 Planning workshop: *International Program on Ecosystem Change (IPEC)*. Paris
 Workshop: *Ecological Forecasting: an Emerging Imperative*, Santa Barbara
 Ecology and Evol Biology, Princeton University
 Ecology and Evol Biology, Univ of Arizona
- 1999 GTCE Workshop: *Evolutionary and ecological responses to environmental change*, Reno.
 Keynote address, *Flammable Australia: the fire regimes of a continent*, Albury, New South Wales
 Biology, Wake Forest Univ
 Biology, Louisiana State Univ
 Environmental Science, Frostburg Univ
 Steering committee observer, *The Millennium Assessment*, Washington DC
- 1998 Ecology, Univ Minnesota
 Limnological Res Cent, Univ Minnesota
 Ecology, Stony Brook
 Plant Biology, CSIRO, Canberra
 Geography, Univ Monash
 Biology, Univ North Carolina
- 1997 Bodega Marine Lab, UC
 Symposium: *Long-term Environmental Dynamics*, Wengen, Switzerland
 Workshop: *Global Change and Terrestrial Ecosystems - Landscape scale processes*, San Diego
- 1996 Botany, Univ Vermont
 Workshop: *The role of dispersal in the Holocene expansion of forest trees*, Santa Barbara
 Workshop: *Plant dispersal and migration in response to climate change*, Bateman's Bay, Australia
- 1995 NASA Conference: *Biomass burning and global change* (Williamsburg)
 Forestry, Penn State
- 1994 Amer Quaternary Assoc: *Models in Quaternary Paleorecords* (Mpls)
 Environm Sci, Univ VA
- 1993 Ecology, Univ Illinois
 Symposium: *Extending long-term ecological monitoring into the past* (ESA, Madison)
- 1992 Biology, McGill Univ
 Biology, Univ Quebec
 Botany, Duke Univ
Dahlem Conference: Fires in natural ecosystems (Berlin)
 Stichting Mathematisch Centrum, Univ Amsterdam
 Biology, UNC-Chapel Hill
 Savanna River Ecol Lab
 Symposium: *Testable models of ecological dynamics?* (ESA, Honolulu)
 Workshop: *The role of ecological models in earth system modeling*. (UCAR, Boulder)
- 1991 Geology, Univ. Georgia
Special Year in Theoretical and Computational Biology (Cent Appl Math, Cornell)
 Institute of Ecology, Univ Georgia
 Symposium: *Patch Dynamics in Terrestrial, Marine, and Freshwater Ecosys* (Cornell)
 Symposium: *Consequences of global change for communities* (Univ Wash)
- 1990 Biology, Univ Wis-Milwaukee
 Public Lecture Series on Global Climate Change, Univ Maine
 Botany, Univ Georgia

- Symposium: *Populations, Communities, & Ecosystems: an Individual Perspective*, Knoxville
Oak Ridge Nat Lab, Oak Ridge
- Symposium: *Biotic indicators of global change*, Friday Harbor
- Workshop: *Earth Syst Modeling* (Global Change Inst, Univ Corp Atm Res, Snowmass)
Geography, Univ Georgia
Dept Biology, Clemson
Limnol Res Center, Univ Minnesota
- 1989 Symposium: *Scaling processes between Leaf and Landscape Levels* (Snowbird, UT)
Ecosystem Res Center, Cary Arboretum
Biology, SUNY Albany
Sect Ecol & Syst, Cornell Univ
- Symposium: *Global Climate Change and Life on Earth*, New York State Ed Dept
AIBS Symposium: *Environmental Impact of Global Climate Change*, Toronto
- 1988 Biol Survey, New York State Museum
Div Biol Science, Kansas State Univ
Botany, Univ Maine
Quaternary Inst, Univ Maine
Workshop: *Wildfire and Global Clim Change*, Nat Cen Atmosph Res & US For Serv
Dept Bot, Univ Toronto

Presentations at annual meetings

- Bell, D.M., E. J. Ward, J. S. Clark, and R. Oren. 2009. Can differences in stomatal regulation explain competitive differences among tree species? Ecological Society of America Annual Meeting.
- Hersh, M.H. and J.S. Clark. 2009. Why generalist fungi may matter in shaping plant diversity: Parsing out fungal function in a multispecies context. Ecological Society of America Annual Meeting.
- Moran, E.V. and J. S. Clark. 2009. Contrasting patterns of dispersal and gene flow in two populations of red oak (*Quercus rubra*). Ecological Society of America Annual Meeting.
- Rapp, J.M., M. R. Silman, and J. S. Clark. 2009. Diameter growth across an altitudinal gradient in the cloud forest tree genus *Weinmannia*. Ecological Society of America Annual Meeting.
- McMahon, S., J.S. Clark, P. K. Agarwal, and M. Dietze. 2009. Forest biodiversity is not maintained by the immigration-extinction balance. Ecological Society of America Annual Meeting.
- Way, D.A., S. L. LaDeau, H. R. McCarthy, J. S. Clark, R. Oren, A. C. Finzi, and R. B. Jackson. 2009. Greater seed production in elevated CO₂ is not accompanied by reduced seed quality in loblolly pine. Ecological Society of America Annual Meeting.
- Clark, J.S. and M. Hersh. 2009. When multiple pathogens infect multiple hosts: Inference for incidence, infection, and impact. Ecological Society of America Annual Meeting.
- McMahon, S., J. S. Clark, P. K. Agarwal, and H. Yu. 2008. Simulating future forests: Process uncertainty, individual differences, and the importance of frailty to predicting forest community dynamics. Ecological Society of America Annual Meeting.
- Moran, E., J.S. Clark, and J. Willis. 2008. Spatial genetic structure in two populations of northern red oak (*Quercus rubra*): Implications for seed and pollen movement and demographic processes. Ecological Society of America Annual Meeting.
- Metcalf, J.E., and J.S. Clark. 2008. Tree growth inference when the point of measurement changes: Modeling around buttresses in tropical forests. Ecological Society of America Annual Meeting.
- Clark, J.S., M. C. Dietze, R. W. Lucas, A. M. Latimer, S. McMahon, and J. Metcalf. 2008. A network platform for understanding biodiversity change: Data and models to maximize learning.
- Hersh, M.H., R. Vilgalys, and J.S. Clark. 2008. Generalist fungal pathogens and seedling recruitment in a temperate mixed hardwood forest. Ecological Society of America Annual Meeting.
- McMahon, S. M., J. S. Clark, P. Agarwal, and H. Yu. October 2007. (Poster.) Putting the forest together again: simulating forest dynamics from data. NSF workshop on Data-Model Assimilation. Norman, OK.
- McMahon, S. M. and J. S. Clark. March, 2007. Modeling the trees for the forest: a computer simulation of a terrestrial ecosystem. A course for the Terrestrial Modeling component of the Statistical and Applied Mathematical Sciences Institute (SAMSI) Education and Outreach Program for 2006-2007. Research Triangle, NC.
- Salk, C.F.* and J.S. Clark. 2007. Sprouting ability of diverse tropical tree species depends on environmental conditions. Ecological Society of America Annual Meeting.

- Colchero, F. * and J.S. Clark. 2007. Estimation of age-specific survivorship when age is unknown. Ecological Society of America Annual Meeting.
- Moran, E.V. * and J. S. Clark 2007. Simultaneous parentage and dispersal estimation in monoecious plants: A Bayesian approach, combining genetic and spatial data. Ecological Society of America Annual Meeting.
- Wu, W. * and J.S. Clark. 2007. Applying Bayesian inference on a conceptual hydrological model
- Hersh, M.H.*, J. S. Clark, and R. Vilgalys. 2007. Effects of fungal and oomycete pathogens on seedling recruitment in a temperate mixed hardwood forest. Ecological Society of America Annual Meeting.
- Clark, J.S.*, M. C. Dietze, M. H. Hersh, I. Ibanez, S. L. LaDeau, J. Mohan, M. Wolosin. 2007. Interacting life history schedules of trees: Implications for biodiversity. Ecological Society of America Annual Meeting.
- Mohan, J.*, Melillo, J., Schlesinger, W., Clark, J.S. 2006. Global change impacts on temperate forests: increased temperature and CO₂. Ecological Society of America Annual Meeting.
- Wolosin, M., Clark, J.S., Dietze, M., Chakraborty, S., Agarwal, P. 2006. The three dimensional structure of canopy trees: how to model crowns for light-driven growth. Ecological Society of America Annual Meeting
- Salk, C.F.*, Augspurger, C., Clark, J.S. 2006. Projections of climate change driven shifts in temperate trees' budbreak and leaf expansion dates. Ecological Society of America Annual Meeting
- Beckage, B.*, Clark, J.S. 2006. Fires, hurricanes, and tree mortality: multi-factor natural experiments as a model selection problem. Ecological Society of America Annual Meeting
- Flikkema*, P.G., PK Agarwal, JS Clark, C Ellis, A Gelfand, K Munagala and J Yang .The Precision and Energetic Cost of Snapshot Estimates in Wireless Sensor Networks. IEEE Symposium on Computing and Communications (ISCC 2006), Pula-Cagliari, Italy, June 2006.
- Dietze, M*, Clark, J.S. 2006. Regeneration dynamics in large forest gaps: assessing the importance of resprouting. Ecological Society of America Annual Meeting.
- Grimm EC*, Brown KJ, Clark JS, and Donovan JJ. 2005. Fire, Drought, and Vegetation cycles on the Northern Great Plains. Fire History and Climate Synthesis in the western United States workshop sponsored by Western Mountain Initiative, USGS Global Change Program and the International Geosphere Biosphere Program.
- Brown KJ*, Clark JS, Grimm EC, and Donovan JJ. 2005. A 4,500 year record of aridity cycles on the Northern Great Plains, USA. PAGES Abstracts.
- Brown KJ*, Clark JS, Grimm EC, and Donovan JJ. 2005. A Holocene record of climate-fuel-fire cycles in the Northern Great Plains, USA. LaSys Workshop, Denmark.
- Brown KJ*, Clark JS, Grimm EC, and Donovan JJ. 2005. A 4,500 year record of aridity cycles on the Northern Great Plains, USA. INYS Workshop, Sweden.
- Clark, JS*, Flikkema, P, Hungate, B, Koch, G, Sillett, S. 2005. Wireless networks for modeling of canopy and soil processes in forests. ESA invited symposium.
- Dietze, M*, Agarwal, P, Chakraborty, S, Clark, J, Govindarajan, S, McBride, A, Wolosin, M. 2005. Data assimilation, inference, and prediction in a hierarchical forest model. ESA Program and Abstracts (talk).
- Ibáñez, I*, Clark, JS, Dietze, M. 2005. Predicting tree seedling recruitment of resident and potential immigrant species under climate change. ESA Program and Abstracts (talk).
- Hersh, M*, Vilgalys, R, Clark, J. 2005. Molecular analysis of arbuscular mycorrhizal fungi associated with two Southeastern tree species. ESA Program and Abstracts (talk).
- Bugalho, M*, Ibáñez, I, Clark, JS. 2005. Deer herbivory and tree seedling coexistence at two different forest types. ESA Program and Abstracts (poster).
- Brown, K.J.*, J. S. Clark, E.C. Grimm, J.J. Donovan, and P. Mueller. 2004. Fire cycles on the northern Great Plains and their relation to prairie drought. AGU (talk).
- Brown KJ*, Clark JS, Grimm EC, and Donovan JJ. 2005. A Holocene record of climate-fuel-fire cycles in the Northern Great Plains, USA. BES Abstracts.
- Ibáñez, I. *, Clark, J. S., LaDeau, S. 2004. Regional and temporal variability on habitat suitability for seedling establishment. ESA Program and abstracts (poster).
- Clark, J.S. *, Bjornstad, O. 2004. Population time series with errors, missing values, and time lags. ESA Program and abstracts (talk).
- LaDeau, S. *, Clark, J.S. 2004. Fecundity and fine-scale genetic structure in a population of loblolly pine. ESA Program and abstracts (poster).
- Hersh, M. *, Vilgalys, R., Clark, J. S. 2004. Host specificity of arbuscular mycorrhizal fungi inhabiting two forest tree species. ESA Program and abstracts (poster).
- McLachlan, J. *, Clark, J.S., Manos, P. 2004. The importance of small populations in the postglacial dynamics of eastern forests. ESA Program and abstracts (talk).
- Brown, K. *, Clark, J.S., Grimm, E., Donovan, J., Mueller, P. 2004. On-again off-again charcoal deposition in northern Great Plains lakes and its relation to prairie drought. ESA Program and abstracts (talk).

- Grimm EC, Brown KJ, Clark JS, and Donovan JJ. 2004. Forest demise, prairie development, and drought cycles on the Northern Great Plains. AMQUA Abstracts.
- Brown KJ, Clark JS, Grimm EC, Donovan JJ, and Mueller PG. 2003. The history of fire on the northern plains, USA, and its response to Holocene drought-cycles. AGU Abstracts.
- McLachlan, J.S.*, J.S. Clark and P.S. Manos. 2003. Conservation lessons from the Last Glacial Maximum. ESA Program and abstracts (talk).
- Ibáñez, I.*, J.S. Clark and S.L. Ladeau. 2003. Climate variability and tree species recruitment, implications on species coexistence. ESA Program and abstracts (poster).
- Clark, J.S.*, M. Dietze, S. Govindarajan and P.K. Agarwal. 2003. Stabilizing biodiversity with random individual effects. ESA Program and abstracts (talk).
- Wolosin, M.S.*, J.S. Clark, S. Ladeau and M.C. Dietze. 2003. Canopy area, growth, and fecundity in a mixed-hardwood forest. ESA Program and abstracts (poster).
- Ladeau, S.L.* and J.S. Clark. 2003. Maternal and paternal fecundity of trees growing in an elevated CO₂ atmosphere. ESA Program and abstracts (poster).
- Dietze, M.C.*, S. Govindarajan, P.K. Agarwal and J.S. Clark. 2002. Computational methods for ecological forecasting: Spatial models and Algorithms ESA Program and abstracts (talk).
- HillerisLambers, J.* and J.S. Clark. 2002. Seed banking in temperate forests: implications for recruitment Limitation. ESA Program and abstracts (talk).
- Ibáñez, I.*, J.S. Clark, M.L. Lavine and M.C. Dietze. 2002. Role of environmental gradients on tree species recruitment: Comparisons within and between sites. ESA Program and abstracts (poster).
- Ladeau, S.L.* and J.S. Clark. 2002. Comparisons of male and female reproductive effort in temperate tree species. ESA Program and abstracts (poster).
- McLachlan, J. S.; Clark, J. S.; Manos, P. S. 2002. Tree migration capacity under rapid climate change: evidence from the early Holocene. *Dynamics and conservation of genetic diversity in forest ecosystems* (talk).
- Calder, K. J. S. Clark, P. Mueller, and M. Lavine. 2001. Incorporating observational error in density dependence population models. ESA Program and abstracts (talk).
- Clark, J.S., M. Lewis, J. McLachlan, and J. HilleRisLambers. 2001. Estimating population spread based on dispersal data: what can we forecast and how well? ESA Program and abstracts (talk).
- LaDeau, S. L., J.S. Clark, J. HilleRisLambers, and I. Ibanez. 2001. Fecundity schedules for forest trees. ESA Program and abstracts (talk).
- Wyckoff, P. and J.S. Clark. 2001. Measuring tree growth as a function of light using low-level aerial photography. ESA Program and abstracts (talk).
- Ibanez, I. and J. S. Clark. 2001. The role of seed fall patterns vs. environmental resources in the spatial distribution of tree seedlings. ESA Program and abstracts (talk).
- McLachlan, J.S., J. S. Clark, and P. S. Manos. 2001. The role of extreme dispersal in plant migration: estimation and prediction. ESA Program and abstracts (talk).
- Mohan, J., W.H. Schlesinger, and J.S. Clark. 2001. How will increased atmospheric CO₂ and mammalian herbivory affect forest succession? ESA Program and abstracts (talk).
- HilleRisLambers, J., J. S. Clark, P. H. Wyckoff and S. LaDeau. 2001. Trade-offs in growth and reproduction of temperate forest tree species. ESA Program and abstracts (talk).
- Dietze, M., S. Govindarajan, J.S. Clark, and P.K. Agarwal. 2001. The extinction debt revisited: population dynamics in a continuous space model. ESA Program and abstracts (talk).
- McLachlan, J.S., P.S. Manos and J.S. Clark. 2000. Holocene migration patterns of eastern North American trees: Evidence from molecular markers. ESA Program and abstracts (talk).
- Clark, J.S., E.C. Grimm, J. Donovan, S. Fritz, and D. Engstrom. 2000. Drought cycles and prairie responses with past aridity in the northern Plains. ESA Program and abstracts (talk).
- HilleRisLambers, J. and J.S. Clark. 2000. Disentangling the effects of dispersal, distance- and density-dependent mortality on distributions of trees. ESA Program and abstracts (talk).
- Mohan, J.E., J. S. Clark, and W. H. Schlesinger. 2000. Can the future elevated CO₂ responses of forests plants be predicted? ESA Program and abstracts (talk).
- LaDeau, S., I. Ibanez, and J.S. Clark. 2000. Reproductive Response of *Pinus taeda* in a Free-Air Carbon Dioxide Enrichment Experiment. ESA Program and abstracts (talk).
- Ibanez, I., J. S. Clark, and S. LaDeau. 2000. Effects of seed rain and fecundity variability on the successional dynamics of neighboring communities. ESA Program and abstracts (poster).
- Lynch, J.A., J. S. Clark, P. Camill, J. B. Adams. 2000. Changes in short- and long-term carbon storage following permafrost thaw in the boreal peatlands of Manitoba, Canada. ESA Program and abstracts (talk).

- Beckage, B. and J.S. Clark. 2000. Tree seedling survival and growth in southern Appalachian forests: Effects of canopy gaps, understory removal, trenching and fertilization. ESA Program and abstracts (talk).
- Grimm, E.C. and J.S. Clark. 1999. Fossil pollen and charcoal evidence for drought intensity and variability in the Northern Great Plains. Amer Geophys Union abstract.
- Mohan, J.E., W.H. Schlesinger, and J.S. Clark. 1999. Evolutionary consequences of global change for a common temperate tree species. ESA Program and abstracts (talk).
- Lynch, J.A. and J.S. Clark. 1999. The importance of wild fires in the western boreal forest of the United States and Canada: Implications of future climate change. ESA Program and abstracts (poster).
- HilleRisLambers, J. and J.S. Clark. 1999. Controls on soil seed densities in a southern Appalachian forest. ESA Program and abstracts (talk).
- Kloppel, B.D., N.R. Hayden, J.S. Clark, M.D. Hunter, and B.C. Reynolds. 1999. Aboveground forest biomass, net primary productivity, and nitrogen content across a complex gradient at Coweeta Hydrologic Laboratory, North Carolina. ESA Program and abstracts (talk).
- Lewis, M.A. and J.S. Clark. 1999. Limits to migration: Discrete migration estimators based on dispersal data. ESA Program and abstracts (talk).
- Mohan, J.E., J.S. Clark, W.H. Schlesinger. 1998. Will elevated atmospheric CO₂ change the succession and composition of future forests? ESA Program and abstracts (talk).
- Grimm, E.C. and J. S. Clark. 1998. Holocene vegetation and climate change in the Great Plains: Evidence from pollen and charcoal studies. GSA Program and abstracts (talk).
- Beckage, B. and J.S. Clark. 1998. Seed and seedling predation reduces establishment of shade tolerant species more than intolerant species in the southern Appalachians. ESA Program and abstracts (talk).
- Macklin, E.A. and J.S. Clark. 1998. Testing theories of species coexistence: stochastic seed dispersal in a temperate forest. ESA Program and abstracts (talk).
- Clark, J.S., E. Grimm, and J. Lynch. 1998. Consequences of drought cycles and longer-term climatic change for the northern Central Plains. ESA Program and abstracts (talk).
- HilleRisLambers, J. and J.S. Clark. 1998. Response of red maple ecotypes to temperature: implications for climate change. ESA Program and abstracts (talk).
- Beckage, B. and J.S. Clark. 1997. "Canopy gaps, *Rhododendron maximum*, and tree recruitment in the southern Appalachians." ESA Program and abstracts (talk).
- Camill, P. and J.S. Clark. 1997. "Complex dynamics of boreal permafrost peatlands across a climate gradient caused by landscape structure, vegetation, and fire." ESA Program and abstracts (talk).
- Clark, J. S. 1997. "Rapid tree migration: confronting theory with dispersal biology and the paleo record." ESA Program and abstracts (talk).
- HilleRisLambers, J. and J.S. Clark. 1997. "Variability within early life history stages of temperate forest trees". ESA Program and abstracts (talk).
- Mohan, J.E., Clark, J.S., and W.H. Schlesinger. 1997. "Forest succession in a CO₂ enriched world: results from the FACTS-1 study in the Duke Forest." ESA Program and abstracts (talk).
- Wyckoff, P.H., and J.S. Clark. 1997. "Improved mortality functions alter the predictions of a gap-type forest model." ESA Program and abstracts (talk).
- Wyckoff, P. H. and J. S. Clark. 1997. Species-specific variation in the growth-mortality relationship for southern Appalachian trees: implications for forest development. US-IALE, Durham, NC.
- Lynch, J.A. and J.S. Clark. 1996. "The effect of fire on 20th century recovery forests of the Southern Appalachians USA. ESA Program and abstracts (talk).
- Camill, P. and J.S. Clark. 1996. "Relative contributions of local autogenic vs regional climatic processes on the succession of boreal permafrost: implications of rapid climate change. ESA Program and abstracts (talk).
- Clark, J.S. and T. Hussey. 1995. "Effects of temperature change on fire importance in Siberian boreal forest". ESA Program and abstracts (talk).
- Macklin, E. and J.S. Clark. 1995. "Local vs regional time scales: a synthesis of life history and physiological tradeoffs leading to coexistence". ESA Program and abstracts (talk).
- Clark, J.S., L. Wood, and P. Camill. 1994. "Recruitment limitation in forests: evidence from seed production and dispersal in closed stands". ESA Program and abstracts (poster).
- Imm, D. and J.S. Clark. 1992. "Climate sensitivity of eastern deciduous forests". *ESA Program and Abstracts* (talk by Imm).
- Overpeck, J.T., E. Cook, K. Gajewski, and J.S. Clark. 1992. "Assessing the potential of fossil pollen data for reconstructing annual to century-scale climatic change". *AMQUA Abstracts* 12:19.
- Clark, J.S. 1991. "Climate change and fire occurrence in eastern North America".

- Clark, J.S. 1990. "The length and direction of forest succession along a fertility gradient." *ESA Program and Abstracts* (talk and abstract).
- Clark, J.S. 1989. "The relative importance of resource competition and disturbance in old-growth forests of northwestern Minnesota." *ESA Program and Abstracts* (talk and abstract).
- Clark, J.S. 1988. "Stratigraphic charcoal analysis on petrographic thin sections: theory, methods, and results". *AMQUA Abstracts* 59 (poster).
- Clark, J.S. 1988. "Long-term tree population dynamics in northwestern Minnesota". *ESA Program and Abstracts* (talk and abstract).
- Clark, J.S. 1987. "Climate, fire, and forest dynamics during the last 400 yr at Itasca State Park, northwestern Minnesota". *ESA Abstracts* (talk and abstract).
- Clark, J.S. 1984. "Chronologies for recent sediments in coastal environments". *12th Nordic Symposium on Sediments*, Skallingen, Denmark (talk and abstract).
- Clark, J.S., Merkt, J., and Muller, H. 1984. "Post-Glacial fire and vegetation history at Schleinsee, SW Germany". *AMQUA Abstracts* 23 (poster).
- Clark, J.S. and Patterson, W.A. 1982. Post-settlement changes in Fresh Pond Marsh and adjacent upland environments on the north coast of Long Island, New York. *AMQUA Abstracts* 81 (poster).

Teaching

Regular courses:

Biodiversity Science and Application	Annually, fall semester
Ecological Models and Data	Annually, spring semester

Current advisees: David Bell, Fernando Colchero, Michelle Hersh, Emily Moran, Carl Salk

Former PhDs

- Aaron Berdanier (2016, postdoc Duke University): water use and tree competition
- Kai Zhu (2014, postdoc Stanford): climate impacts on biodiversity
- Denis Valle (2013, Assist Prof, Univ Florida): Land cover, climate and malaria in the western Amazon
- Dave Bell (2011: USFS Research Scientist) Effects of climate change on recruitment dynamics
- Carl Salk (2010: postdoc, Univ Colorado) Experimental warming and phenology
- Emily Moran (2009: Assist Prof, UC Merced) Population genetics of oaks
- Michelle Hersh (2009, Assistant Professor, Eastern Michigan University): Fungal pathogen effects on tree diversity
- Fernando Colchero (2007, Assistant Professor, Univ Southern Denmark): Demography and aging of Sooty terns
- Ines Ibanez (2006, Assist Prof, Univ Michigan): Climate change and tree recruitment.
- Mike Wolosin (2006, Pew Center for Climate Change): Forest canopy dynamics
- Mike Dietze (2006, Assistant Prof, Boston University): Gap dynamics and forest stand response.
- Shannon LaDeau (2005, Assistant Professor, Cary Institute): Fecundity of trees under elevated CO₂.
- Jason McLachlan (2003: Associate Prof, Notre Dame). Late Quaternary molecular biogeography of forest tree populations.
- Jacqueline Mohan (2002: Assistant Prof, Univ Georgia). Elevated CO₂ and forest succession.
- Janneke HilleRisLambers (2001: Associate Prof, Univ Washington): Dispersal through space and time: dispersal and seed dormancy.
- Jason Lynch (2001: USEPA, Washington DC): Long-term trends in fire frequency, forest dynamics, and paleohydrology in the western boreal forest of Canada and Alaska
- Brian Beckage (2000: Associate Prof, Univ Vermont): Seedling recruitment in southern Appalachian forests: Does spatial heterogeneity maintain species diversity?
- Phil Camill (1999; Associate Prof, Bowdoin College): Succession and carbon dynamics of boreal permafrost peatlands during rapid climate warming
- Pete Wyckoff (1999; Associate Prof, Univ Minnesota, Morris): Life history and demography of southern Appalachian trees: growth and mortality
- Eric Macklin (1997; Massachusetts General Hospital): Seed dispersal in gap-dynamic forests: effects on population and community dynamics.

Current Postdocs

Erin Schliep
 Ryan Kelly
 Robert Taylor

Former Postdocs

Kendrick Brown, Danish Geological Survey
 John Lichter, Associate Professor, Bowdoin College
 Sean McMahon, Research Scientist, SERC
 Jessica Metcalf, Assistant Professor, Princeton University
 Wei Wu, Assistant Professor, Univ Southern Mississippi
 Brantlee Richter, University of South Florida
 Rob Schick, University of St Andrews
 Erin Schliep, University of Missouri
 Soledad Ponce, University of N Dakota
 Souparno Ghosh, Texas Tech University
 Daniel Taylor-Rodriques, Michigan State University

Current PH.D. Committees

Matt Bowers	Ecology
Alissa Brown	Ecology, UNC
Michelle D'Aguillo	Biology
Maria de Oca	NSOE
Xue Feng	Engineering
Rachel Hillyer	Biology, Wake Forest
David Honig	Ecology
Dohyoung Kim	NSOE
Kahled Gannam	NSOE
Matt Kwit	Ecology
Lindsay Leverett	Biology
Kendra Kaiser	NSOE
Ksenia Kyzuyurova	Statistics
Chase Nunez	NSOE
Maria d'Oca	NSOE
Alejandro Pietrek	Ecology
Aspen Reese	Ecology
Amanda Schwantes	NSOE
Bijan Seyednasrollah	NSOE
Shinichiro Shirota	Statistics
Robert Shriver	Biology
Ashley Sobel	Biology
Brad Tomasek	Ecology
Shay Viehmann	NSOE

Advisor

Nowacek
 Peet, White
 Donahue
 Halpin
 Poporato
 Silman
 Van Dover
 Oren
 Katul
 Clark
 Donahue
 McGlynn
 Gelfand
 Poulson
 Barber
 Morris
 Wright
 Swenson
 Clark
 Gelfand
 Morris
 Koelle
 Clark
 Halpin

MEM advisees

Xiaou Cen