

CURRICULUM VITAE

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BIRTH: 31 July 1954, Buffalo, New York

EDUCATION: Ph.D. Biology, University of Alaska,
Fairbanks, Alaska (1989)

M.S. Biology, University of Alaska,
Fairbanks, Alaska (1983)

M. Engineering, Electrical Engineering,
Cornell University, Ithaca, New York (1977)

B.S. Electrical Engineering,
Cornell University, Ithaca, New York (1976)

Professional Webpage: http://faculty.iab.uaf.edu/dave_mcguire

Google Scholar Webpage: <http://scholar.google.com/citations?hl=en&user=sS-1Mp0AAAAJ>

PROFESSIONAL EXPERIENCE:

Professor of Ecology in Department of Biology and Wildlife / Institute of Arctic Biology and Assistant Unit Leader-Ecology in the Alaska Cooperative Fish and Wildlife Research Unit at the University of Alaska Fairbanks (July 2003 – present); promoted to Senior Scientist in U.S. Geological Survey in January 2015.

Associate Professor of Biology and Wildlife in Department of Biology and Wildlife / Institute of Arctic Biology and Assistant Unit Leader-Ecology in the Alaska Cooperative Fish and Wildlife Research Unit at the University of Alaska Fairbanks (July 1998 – June 2003).

Assistant Professor of Biology and Wildlife in the Department of Biology and Wildlife / Institute of Arctic Biology and Assistant Unit Leader-Ecology in the Alaska Cooperative Fish and Wildlife Research Unit at the University of Alaska Fairbanks (August 1995 to June 1998).

Research Associate at The Ecosystems Center of the Marine Biological Laboratory studying potential responses of terrestrial ecosystems to global change (October 1992 to August 1995).

Postdoctoral Researcher for the USDA Forest Service in a project with The Ecosystems Center of the Marine Biological Laboratory studying potential responses of net primary production in terrestrial ecosystems to global change (June 1990 to September 1992).

Postdoctoral Researcher at the University of Colorado's Mountain Research Station and the Institute of Arctic and Alpine Research (1989-90 academic year) studying the effects of climate on the reproductive biology of sub-alpine plants in the Rocky Mountains.

Instructor in the Department of Biology and Wildlife (Spring 1989). Taught an introductory course entitled Fundamentals of Biology II. This course is a survey of organismal biology and is a required course for all majors in the biological sciences at the University of Alaska-Fairbanks. Ninety students were enrolled in this course.

Instructor in the Honors Program at the University of Alaska-Fairbanks (Fall 1988). Taught a course entitled Natural History of Alaska to 13 students.

Research Assistant on National Science Foundation Grant BSR 8516864 entitled: Reproductive Interactions and Plant Community Organization on South-facing Bluffs in Interior Alaska (May 1986 - August 1988).

Smithsonian Tropical Research Institute Short-term Fellow studying bee foraging behavior with Dr. David Roubik in Panama (April - June 1984).

Teaching Assistant in Department of Biology and Wildlife at the University of Alaska-Fairbanks. Assisted in courses in botany, ornithology, and introductory biology (Spring 1981 - Fall 1982; Fall 1984 - Spring 1986).

Member of Technical Staff, Bell Telephone Laboratories, Whippany, New Jersey (Aug 1977 - May 1979).

TEACHING:

Graduate Courses Taught:

- Interdisciplinary Modeling of High Latitude Global Change (Biology 676, Fall 2015, 2 students)
- Research Design (Biology/Wildlife 602, Fall 2014, 6 students)
- Research Design (Biology 602, Spring 2014, 9 students)
- Interdisciplinary Modeling of High Latitude Global Change (Biology 676, Fall 2012, 3 students)
- Research Design (Biology 602, Spring 2012, 12 students)
- Interdisciplinary Modeling of High Latitude Global Change (Biology 676, Fall 2010, 7 students)
- Ecological Background for Resilience and Adaptation (Biology 693, Special Topics Course in IGERT Program in Regional Resilience and Adaptation, Fall 2009, 3 students)
- Interdisciplinary Modeling of High Latitude Global Change (Biology 676, Fall 2008, 7 students)
- Ecological Background for Resilience and Adaptation (Biology 693, Special Topics Course in IGERT Program in Regional Resilience and Adaptation, Fall 2007, 4 students)
- Integrative Modeling of Natural and Social Systems (Biology 694, Trial Course in IGERT Program in Resilience and Adaptation, Fall 2006, 6 students)
- Ecological Background for Resilience and Adaptation (Biology 694, Trial Course in IGERT Program in Regional Resilience and Adaptation, Fall 2005, 7 students)
- Integrative Modeling of Natural and Social Systems (Biology 694, Trial Course in IGERT Program in Resilience and Adaptation, Fall 2004, 17 students)
- Ecological Background for Regional Resilience and Adaptation (Biology 694, Trial Course in IGERT Program in Regional Resilience and Adaptation, Fall 2003, 4 students)
- Regional Systems Dynamics and Modeling (Biology 694, Trial Course in IGERT Program in Regional Resilience and Adaptation, Fall 2002, 22 students)

Biological Aspects of Global Change (Biology 683, New Course, Spring 2002, 3 students)
Modeling of Biological Systems (Biology 671, Spring 2001, 6 students)
Biological Aspects of Global Change (Biology 694, Trial Course, Spring 2000, 6 students)
Modeling Soil Moisture (Biology 697, Independent Study, Fall 1999, 1 student)
Modeling of Biological Systems (Biology 671, New Course, Spring 1999, 14 students)
Research Design (Biology 602, Spring 1998, 8 students)
Modeling of Biological Systems (Biology 694, Trial Course, Spring 1997, 9 students)
Research Design (Biology 602, Fall 1995, 8 students)

Undergraduate Courses Taught:

Fundamental of Biology II (Biology 106, Spring 1989, ~90 students)
Natural History of Alaska (Biology 104H, Honors Program, Fall 1988, 13 students)

Graduated Ph.D. Students in the Department of Biology and Wildlife (6):

Jon O'Donnell (December 2010): *The effects of permafrost degradation on soil carbon dynamics in the Alaska's boreal region.* (Co-advised with Dr. Jennifer Harden).
Currently employed with the National Park Service in Fairbanks, Alaska.

Michael Balshi (December 2007): *The role of fire in the carbon dynamics of the boreal forest.* Currently employed with the U.S. Government in Washington D.C.

Colin Beier (August 2007): *Regional climate, federal land management, and the social-ecological resilience of southeastern Alaska.* (Co-advised with Dr. Terry Chapin).
Employed as Assistant Professor in College of Environmental Science and Forestry, State University of New York Syracuse, Syracuse, New York.

Nancy Fresco (August 2006): *Carbon sequestration in Alaska's boreal forest: Planning for resilience in a changing landscape.* (Co-advised with Dr. Terry Chapin).
Employed as Network Coordinator for Scenarios Network for Alaska Planning (SNAP) by University of Alaska Fairbanks, Fairbanks, Alaska.

Catharine Thompson (May 2005): *Vegetation-climate interactions along a transition from tundra to boreal forest in Alaska.* Employed as Ecologist by the National Park Service, Port Angeles, Washington.

Qianlai Zhuang (December 2001): *Modeling the influences of climate change, permafrost dynamics, and fire disturbance on carbon balance of high latitude ecosystems.*
Employed as Assistant Professor in Department of Earth and Atmospheric Sciences, Purdue University, Lafayette, Indiana.

Graduated M.S. Students in the Department Biology and Wildlife (7):

Erin Julianus (August 2016): Moose (*Alces Alces*) browse availability and use in response to post-fire succession on Kanuti National Wildlife Refuge, Alaska (Co-advised with Dr. Teresa Hollingsworth). Currently employed by Bureau of Land Management, Fairbanks, Alaska.

Nicole McConnell (August 2012): Controls on ecosystem respiration along a boreal vegetation and permafrost gradient in interior Alaska (Co-advised with Dr. Jennifer Harden and Merritt Turetsky). Currently employed at Oregon Department of Fish and Game.

Amy Churchill (December 2011): Plant and ecosystem physiological responses to environmental controls on primary production in Alaskan peatlands (Co-advised with Dr. Merritt Turetsky). Currently in a Ph.D. degree program at the University of Colorado.

Isla Myers-Smith (May 2005): *Carbon exchange and permafrost collapse: Implications for a changing climate*. Currently is in a tenure track faculty position at the University of Edinburgh.

Xinxian Zhang (May 2001): *Modeling stand-level canopy maintenance respiration of black spruce ecosystems in Alaska: Implications for spatial and temporal scaling*. Employed as Biostatistician at Alaska Department of Fish and Game in Juneau, Alaska.

Cherie Silapaswan (December 2000): *Land-cover change on the Seward Peninsula: The use of remote sensing to evaluate the potential influences of climate change on historical vegetation dynamics*. Employed as Remote Sensing Specialist by Research Systems International in Boulder, Colorado.

Pamela Seiser (May 2000): *Mechanisms of impact and potential recovery of pigeon guillemots (*Cepphus columba*) after the Exxon Valdez oil spill*. Employed as Biological Technician at Alaska Biological Research in Fairbanks, Alaska.

Graduated Master's Students in the Department of Mathematics (2):

Curt Dulaney (Advisor Kara Nance, December 2000): *Implementing dynamic vegetation in the Terrestrial Ecosystem Model*. Employed by International Business Machines (IBM) in Tucson, Arizona.

James Long (Advisor Mitch Roth, Spring 2000): *A parallel implementation of the Terrestrial Ecosystem Model (TEM)*. Employed by Arctic Region Supercomputer Center in Fairbanks, Alaska.

Post-graduate sponsorship (14):

Dr. Mark Lara (Postdoctoral IAB Research Associate, February 2013 – August 2016). Employed as Postdoctoral Research Associate, University of Illinois, August 2016 to present.

Dr. Yanjiao Mi (Postdoctoral IAB Research Associate, August 2014 – November 2015). Employed in China.

Dr. Helene Genet (Postdoctoral IAB Research Associate, September 2011 – October 2015). Employed as Research Assistant Professor, Institute of Arctic Biology, University of Alaska Fairbanks, October 2015 to present.

Dr. Yujin Zhang (Postdoctoral IAB Research Associate, February 2012 – January 2015). Employed in China.

Dr. Zhaosheng Fan (Postdoctoral IAB Research Associate, January 2011 – March 2012). Employed at Argonne National Laboratory, April 2012 – June 2016; USDA Agricultural Research Service, Boulder, Colorado, June 2016 - present.

Dr. Fengming Yuan (Postdoctoral IAB Research Associate, October 2008 – September 2011). Employed at Oak Ridge National Laboratory, October 2011 - present.

Dr. Kris Johnson (Postdoctoral IAB Research Associate, October 2008 – March 2011). Employed with USDA Forest Service, March 2011 - present.

Dr. Kirsten Barrett (USGS Mendenhall Postdoctoral Fellow, co-sponsored with Carl Markon – USGS Alaska Science Center, June 2008 – September 2010). Employed at USGS Alaska Science Center, September 2010 – 2013; University of Leicester, UK, September 2013 - present.

Dr. Daniel Hayes (Postdoctoral IAB Research Associate, November 2006 – August 2010). Employed at Oak Ridge National Laboratory, August 2010 – August 2015; University of Maine, August 2015 – present.

Dr. Shuhua Yi (Postdoctoral IAB Research Associate, October 2006 – December 2008). Employed at State Key Laboratory of Cryosphere Sciences, Cold and Arid Regions Environmental and Engineering Research Institute, Lanzhou, Gansu, China January 2009 - present.

Dr. Eugenie Euskirchen (Postdoctoral IAB Research Associate, January 2004 – June 2009). Employed as Research Associate Professor, Institute of Arctic Biology, University of Alaska Fairbanks, July 2009 - present.

Dr. Monika Calef (Postdoctoral IAB Research Associate, August 2003 – Sept. 2005). Employed as Assistant Professor at State University of New York Albany, September 2005 – July 2010. Employed at Soka University of America, Aliso Viejo, California, August 2010 – present.

Dr. Julie Maier (Postdoctoral IAB Research Associate, 2001 – 2003). Employed as Instructor at University of Alaska Fairbanks September 2005 – present.

Dr. Roger Dargaville (Postdoctoral IAB Research Associate, July 1999 - June 2000). Employed at NCAR, Boulder, Colorado, 2001 – 2002. Employed at CARBON-Europe, Paris France, 2002 – 2005. Employed at Intergovernmental Oceanographic Commission UNESCO, Paris France, Sept. 2005 – 2008. Research Fellow at University of Melbourne, Melbourne, Australia, 2008 – present.

Graduate Committee Participation (* indicates graduated):

Department of Biology and Wildlife (13): Dave Albert (M.S.)*, Fiona Danks (M.S.)*, Mark Herzog (Ph.D.)*, Jill Johnstone (Ph.D.)*, Dean Kildaw (Ph.D.)*, Dawn Magness (Ph.D.)*, Ed Mallek (M.S.)*, Tina Moran (M.S.)*, Elizabeth (Fleur) Nicklen (Ph.D.), Vijay Patil (Ph.D.), Kevin Petrone (Ph.D.)*, Katie Spellman (Ph.D.)*, Alyse Thurber (M.S.).

School of Agriculture and Land Resource Management (4): Paul Duffy (Ph.D.)*, Matt Macander (M.S.)*, Brian Riordan (M.S.)*, Jason Vogel (Ph.D.)*.

Department of Mathematics (2): Curt Dulaney (Masters)*, James Long (Masters)*.

Interdisciplinary Studies (3): Lijie Zhu (M.S.)*, Collin Macheel (M.S.)*, Archana Bali (Ph.D.)*.

Massachusetts Institute of Technology (1): Eunjee Lee (Ph.D.)*.

Co-Investigator with Principal Investigator Dr. F. Stuart Chapin III on National Science Foundation for Integrative Graduate Education Research Training project titled: Regional resilience and adaptation: Planning for Change. Awarded for 2001 - 2007 (\$2,620,000).

Member of Executive Committee for the Resilience and Adaptation Program (RAP) Interdisciplinary Graduate Program at the University of Alaska Fairbanks (2001 – 2007).

PROFESSIONAL SERVICE:

Member: Board of Editors for *Ecological Applications* (1999 – 2002; 2004 - 2017).

Associate Editor: *Global Biogeochemical Cycles* (2015 – 2017).

Associate Editor: *International Journal of Wildland Fire* (2009 – 2016).

Member: Permafrost Action Team of the Study of Environmental Arctic Change (SEARCH), which is a research activity that is supported through several federal agencies (2016).

Member: Wildfire Implementation Team for the Interagency Arctic Research Policy Committee (2013 – 2016).

Member: Science Steering Committee for the Study of Environmental Arctic Change (SEARCH), which is a research activity that is supported through several federal agencies (2002 - 2015).

Guest Editor: Special Issue of *Environmental Research Letters* on “Changing Permafrost in a Warmer World: Observation and Implication” (2012 – 2014).

Member: Science Definition Team for NASA-led Arctic-Boreal Vulnerability Experiment (ABOVE) (2013 – 2014).

Member: USGS Ecosystems Strategic Science Planning Team (2010 – 2013).

Member: Carbon Cycle Science Working Group to draft new U.S. Carbon Cycle Science Plan (2009 – 2011).

Member: Advisory Committee for the Cooperative Arctic Data and Information Service of the Arctic Observatory Network (2008 – 2011).

Member: Executive Board of the U.S. Long Term Ecological Research (LTER) Network (2008 – 2011).

Review Coordinator: National Academy of Sciences/Polar Research Board Committee Report on *Frontiers in Understanding Climate Change and Polar Ecosystems* (2010 – 2011).

Member: USGS Carbon Sequestration Interagency Science Panel (2009 – 2010).

Member: Interagency Advisory Committee on Department of Transportation Federal Highway Administration Report on *Regional Climate Change Effects: Useful Information for Transportation Agencies* (2009 – 2010).

External Advisor: European Union Sixth Framework Programme CARBO-North Project titled *Quantifying the carbon budget of northern Russia – past, present, and future* (2007 – 2010).

Co-Chair: U.S. Arctic Research Commission study and report titled *Scaling Studies in Arctic System Science and Policy Support: A Call-to-Research* (2007 – 2010).

Member: Carbon Cycle Science Steering Group for the Carbon Cycle Interagency Working Group of the U.S. Climate Change Science Program (2005 – 2010).

Member: Science Steering Committee for the Arctic Community-wide Hydrological Analysis and Monitoring Program (Arctic-CHAMP), which is a program supported through the Arctic System Science (ARCSS) Activity of the National Science Foundation (2002 – 2010).

Member: Search Committee for editor of *Earth Interactions* (2008 – 2010).

Member: Federal Advisory Committee Author Team for U.S. Global Change Research Program Report on *Global Climate Change Impacts in the United States* (2008 – 2009).

Chair: Organizing Committee for the “Scientific Assessment of the Arctic Carbon Cycle”, which is an activity of the Arctic Monitoring and Assessment Program (AMAP) on behalf of the eight countries of the Arctic Council (2006 – 2009).

Co-Chair: Arctic System Science Data-Model Workshop Organizing Committee, which is a workshop that will identify how to better advance synthesis focused research of the Arctic System Science (ARCSS) program of the Office of Polar Programs at the National Science Foundation (2006 – 2008).

Chair: Data Working Group of the Study of Environmental Arctic Change (SEARCH), which is a group to oversee the data management of SEARCH so that it meets the needs of the science and so that it is consistent with International Polar Year data management and the data management policies of the federal agencies involved in SEARCH (2005 – 2008).

Member: External Advisory Committee for the conference “Carbon in Peatlands: State of the Art and Future Research” held in Wageningen, Netherlands, 15-18 April 2007.

Member: Scientific Committee for “The International Conference on Regional Carbon Budgets” which was held in Beijing, China, 16-18 August 2006.

Member: Working Group 8 (Terrestrial Biosphere and Biodiversity) of the Second International Conference of Arctic Research Planning (ICARP II) held in November 2005 (2004 – 2006).

Chair: Program Committee for the International Boreal Forest Research Association (IBFRA) Conference held in Fairbanks in May 2004 (2002 – 2004).

Member: Committee to draft the Implementation Plan for the North American Carbon Program (NACP), which is research activity that is supported through several federal agencies (2003 - 2004).

Member: Committee to draft the Science Plan for the Northern Eurasian Earth System Partnership Initiative (NEESPI), which is to be an international research activity (2003 – 2004)

Member: Science Steering Committee for the Community Arctic Modeling Project (CAMP), which is project operated through the International Arctic Research Center (IARC) as part of a cooperative agreement between the University of Alaska Fairbanks and the National Science Foundation (2002 - 2003)

Other Editorial Work: Guest Editor for focus issue of *Environmental Research Letters* on Changing Permafrost in a Warming World and Feedbacks with the Earth System (published 2013 – 2016); Review Coordinator for National Academy of Sciences/Polar Research Board Committee Report on *Frontiers in Understanding Climate Change and Polar Ecosystems* (published 2011); Guest Editor for special issue of *Canadian Journal of Forest Research* on The Dynamics of Change in Alaska's Boreal Forests: Resilience and Vulnerability in Response to Climate Warming (published 2010); Guest Editor for special issue of *Earth Interactions* reporting the results from the Western Arctic Linkage Experiment (published 2008); Guest Editor for special issue of *Mitigation and Adaptation Strategies for Global Change* associated with 2004 Fairbanks meeting of the International Boreal Forest Research Association (published 2006); Guest Editor for special issue of *Canadian Journal of Forest Research* associated with 2004 Fairbanks meeting of the International Boreal Forest Research Association (published 2005); Organizer for special issue of *Journal of Geophysical Research Atmospheres* on Arctic Transitions in the Land Atmosphere System (published 2003).

Manuscript reviews for refereed journals: *Ecological Applications* (2015[8], 2014[8], 2013 [12], 2012 [13], 2011 [13], 2010 [17], 2009[17], 2008[11], 2007 [5], 2006 [5], 2005 [6], 2002 [12], 2001[8], 2000[11], 1999[4], 1998, 1995, 1993); *Environmental Research Letters* (2013[6]); *Ecological Monographs* (2015, 2014); *International Journal of Wildland Fire* (2015[3], 2014[4], 2013 [2], 2012 [2] 2011 [2], 2010 [5], 2009); *Journal of Climate* (2013, 2012[2]); *Nature Climate Change* (2013); *Environmental Reviews* (2015, 2013); *New Phytologist* (2012); *The Cryosphere* (2012); *Nature* (2011, 2010, 1997); *Ecology* (2011); *Nature Geoscience* (2015, 2014, 2012, 2010); *Current Opinion in*

Environmental Sustainability (2012, 2010); *Earth System Dynamics Discussions* (2010); *Philosophical Transactions of the Royal Society* (2007); *Science* (2007, 2006); *Proceeding National Academy of Sciences* (2015, 2014, 2013, 2009[2], 2006); *Agroborealis* (2009); *Canadian Journal of Forest Research* (2008, 2004, 2003, 2001); *Climatic Change* (2011, 2009, 2003, 2001, 2000); *Earth Interactions* (2006[6], 2004); *Forest Ecology and Management* (2005); *Geophysical Research Letters* (2013, 2006, 2003[2], 2002); *Global Change Biology* (2015, 2013 [2], 2012, 2010 [2], 2009 [2], 2008[2], 2007, 2005, 2004, 2003, 1999[4]); *Global Ecology and Biogeography* (2003, 1999); *Global and Planetary Change* (2004); *Journal of Geophysical Research – Biogeosciences* (2010, 2005); *Journal of Geophysical Research - Atmospheres* (2004, 2003, 2001[3], 1994); *Biogeosciences* (2015[2], 2014, 2013 [2], 2012[2], 2011, 2010, 2009, 2008); *Mitigation and Adaptation Strategies for Global Change* (2003); *BioScience* (2002); *Global Biogeochemical Cycles* (2015[13], 2014[2], 2009[2], 2008, 2007, 2006, 2005, 2004[2], 2002[3], 2001[3], 2000, 1999[3], 1998[5], 1997, 1996); *Tellus* (2002, 1993); *Ecosystems* (2013, 2001, 1999, 1998); *IEEE Transactions on Geoscience and Remote Sensing* (2000); *Annals of Forest Research* (1999); *Biogeochemistry* (2009, 1998); *Rangifer* (1996); *Ecology* (2007, 2006, 1995, 1993); *Climate Research* (1995).

Other manuscript reviews: Chapter for Arctic Monitoring and Assessment Program Report (2014); Miscellaneous Book Chapters (2012[3]; 2010[2]; 2009); Encyclopedia of Natural Resources (2012); Book Proposal (2012); World Resources Institute (2006); Book Chapter for IGBP-GCTE Book (2005); Intergovernmental Panel on Climate Change (2006, 2005, 1999); U.S. Global Change Research Program (2012, 1999, 1997[2]); Addison, Wesley, and Longman (1997); NPS Alaska Regional Office Project Report Chapters (2000[3], 1999[2]); USDA Forest Service Southern Global Change Program (1996, 1994); Alaska High School Science Symposium Student Papers (1999[5], 1998[5], 1997[5]).

Member: National Academy of Sciences/Polar Research Board Committee to Review NASA's Polar Geophysical Data Sets (2000).

Panel member for funding agencies: NSF Office of Polar Programs (2006), NSF Ecosystems Panel (2007).

Proposal reviews for funding agencies: USGS Mendenhall Postdoctoral Program (2015[13], 2014[24]), NSF (2015[2], 2013, 2012[2], 2011, 2010[9], 2009[6], 2008[3], 2007[19], 2006[3], 2005[3], 2004[3], 2003[2], 2002, 2000[2], 1999, 1998[4], 1997[2], 1996[2]); U.S. Civilian Research and Development Foundation (2010); DOE (2008, 2006[2]); EPA (2005); NASA (2008[4], 2004, 2003[3], 2002, 1998); NOAA (2008, 2002, 2000); USDA-ARS National Research Initiative Competitive Grants Program (2001, 1999[2], 1995, 1994, 1992); NERC (2001); CFCAS (2006, 2005, 2004 [3], 2001); AGU Monographs Book Proposal (2008); National Fish and Wildlife Foundation (2008); U.S. BRD Global Change Research Program (2008[4]); UAF Center for Global Change and Arctic Systems Research (2005, 2004, 2003[2], 2002, 2001[2], 2000, 1999[5], 1998[2],

1997[1], 1996[2]); University of Alberta Biodiversity Grants Program (1998); USDA Forest Service Northern Global Change Program (1993[3]).

Program reviews for research agencies: USDA Forest Service Rocky Mountain Forest and Range Experiment Station (1996).

UNIVERSITY AND COMMUNITY SERVICE:

Member: Leadership Committee for Bonanza Creek Long-Term Ecological Research Program (2003 – present).

Member: Research Scientist and Affiliate Faculty Committee, Department of Biology and Wildlife (2012 – 2016).

Member: Human Resources Coordinator Search Committee, Institute of Arctic Biology (2012).

Member: Search Committee for faculty position in Ecology (2011 - 2012).

Chair: Panel to rate applications for Assistant Unit Leader Fisheries position (2011).

Member: Science Steering Committee for Scenarios Network for Alaska Planning (SNAP) (2007 – 2011).

Chair: Unit Peer Review Committee to evaluate promotion file of Dr. Mark Wipfli, Alaska Cooperative Fish and Wildlife Research Unit (2010 - 2011).

Member: Executive Committee for the Resilience and Adaptation Program (RAP) Interdisciplinary Graduate Program at the University of Alaska Fairbanks (2001 – 2007).

Chair: Anthropology Program Review (2003 – 2004).

Member: Executive Committee for Bonanza Creek Long-Term Ecological Research Program (1998 – 2003).

Member: Search Committee for Assistant/Associate Professor of Wildlife Ecology (2002 - 2003).

Member: Search Committee for three faculty positions in Bioinformatics (2002 - 2003).

Chair: Subcommittee on Graduate Admissions Procedures in the Department of Biology and Wildlife (2002 - 2003)

Member: Committee on Unit Criteria for Promotion and Tenure in the Department of Biology and Wildlife (2002 - 2003)

Member: Conservation and Resource Ecology (CARE) representative on the Research Advisory Committee (RAC) in the Institute of Arctic Biology (1996 - 2002).

Member: Planning Committee for University of Alaska Statewide Remote Sensing/Data Management Initiative (2000 – 2001).

Faculty contact for the Department of Biology and Wildlife in the Partners in Science Project, a joint project between the Fairbanks North Star Borough School District, the Iditarod School District, and the University of Alaska Fairbanks (1996 to 2000).

Chair: Search Committee for Curator of Herbarium and Assistant Professor of Plant Molecular Systematics at the University of Alaska Fairbanks (1999).

Member: Science Steering Committee for the UAF Center for Global Change and Arctic Systems Research (1996 - 1999).

Member: Examination Committee for Master of Science Comprehensive Exam in the Department of Biology and Wildlife (1997 – 1999).

Chair: University of Alaska Fairbanks Trails Committee (1997 - 1998).

Secretary: University of Alaska Fairbanks Trails Committee (1996 - 1997).

Member: Wildlife Subcommittee of the Science/Technical Committee to review wildlife concerns of the Alaska Forest Resources and Practices Act for the Alaska Board of Forestry (1996 - 1997).

Seminar Coordinator, Life Sciences Seminar Series of the Institute of Arctic Biology and the Department of Biology and Wildlife, University of Alaska Fairbanks (Fall 1996 - Spring 1997).

MEMBERSHIPS IN PROFESSIONAL SOCIETIES:

American Association for the Advancement of Science (1991 - present).

American Geophysical Union (1996 - present).

Ecological Society of America (1982 - present).

International Permafrost Association (2012 – present).

AWARDS and HONORS:

- 2017 Unit Award for Excellence of Service to the U.S. Geological Survey Land Carbon Team. Awarded by the Department of Interior (awarded March 2, 2017).
- 2016 Star (Special Thanks for Achievement) Award for development of a U.S. Geological Survey White Paper on Landscape Ecology (awarded April 2016).
- 2014 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded December 2014).
- 2013 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded January 2014).
- 2012 American Association for Advancement of Science Fellow (inducted February 2013).
- 2012 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded December 2012).
- 2011 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded November 2011).
- 2010 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded November 2010).
- 2009 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded November 2009).
- 2008 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded November 2008).
- 2007 Performance award for improving the understanding of national ecosystems and resources through integrated interdisciplinary assessment. Awarded by the Cooperative Research Units Program of the U.S. Geological Survey (awarded 20 November 2007).

2007 Emil Usibelli Distinguished Research Award (awarded 7 May 2007 by University of Alaska Fairbanks).

2002 Editors' Citation for Excellence in Refereeing for *Global Biogeochemical Cycles*.

1997 Recognition for special dedication to the Partners in Science Project during 1996 (awarded 26 March 1997).

1992 Certificate of Merit for outstanding performance in personal research. Awarded by the USDA Forest Service (awarded September 1992).

CURRENT PROJECTS:

5. Grant from U.S. Geological Survey for project titled: Application of an Integrated Ecosystem Model: A multi-institutional and multi-disciplinary effort to understand potential landscape, habitat, and ecosystem change in Alaska and Northwest Canada. Principal Investigator. Awarded for 2016-2021 (\$1,090,000).
4. Grant from the National Science Foundation Long-Term Ecological Research Program for project titled: Regional consequences of changing climate-disturbance interactions for the resilience of Alaska's boreal forest. Co-Principal Investigator with Principal Investigator Dr. Roger Ruess. Awarded for 2011 – 2018 (\$5,640,000 total budget).
3. Grant from the U.S. Geological Survey Alaska Climate Science Center for project titled: Differential effects of climate-mediated forest change on the habitats of two ungulates important to subsistence and sport hunting economies. Co-Investigator with Principal Investigator Brad Griffith. Awarded for 2014-2019 (\$176,929).
2. Grant from the National Science Foundation for project titled: The roles of plant roots, mycorrhizal fungi and uptake of deep nitrogen in the permafrost carbon feedback to warming climate. Co-Investigator at UAF (Principal Investigator at UAF H el ene Genet; Project leader Dr. Michele Mack at Northern Arizona University). Awarded for 2015-2019 (\$343,284 UAF budget).
1. Grant from the U.S. Geological Survey for project titled: Modeling landscape vulnerability to thermokarst disturbance and its implication for ecosystem services in the Yukon Flats National Wildlife Refuge, Alaska. Co-Investigator with Principal Investigator at H el ene Genet. Awarded 2016-2021 (\$135,752).

COMPLETED PROJECTS:

53. Grant from U.S. Geological Survey for project titled: Process-based model assessment of historical and projected changes in carbon storage in Alaska. Principal Investigator. Awarded for 2013-2017 (\$736,000).
52. Grant from U.S. Geological Survey and U.S. Fish and Wildlife Service for project titled: Development and Application of an Integrated Ecosystem Model for Alaska. Principal Investigator. Awarded for 2011-2016 (\$3,606,685).
51. Grant from the Department of Defense Strategic Environmental Research and Development Program for project titled: Identifying indicators of state change and forecasting future vulnerability in Alaskan boreal ecosystems. Principal Investigator at UAF (Project Leader Dr. Ted Schuur, University of Florida). Awarded for 2011-2016 (\$1,017,766 UAF budget).
50. Grant from Department of Energy Next Generation Ecosystem Experiment – Arctic. Other investigator with PI Larry Hinzman. Awarded for 2011-2015 (\$407,888).
49. Grant from U.S. Fish and Wildlife Service for project titled: Evaluating moose (*Alces alces gigas*) browse and habitat resources and resource use in response to fire dynamics on the Kanuti National Wildlife Refuge, Alaska. Principal Investigator. Awarded for 2013-2015 (\$23,585).
48. Grant from National Aeronautics and Space Administration for project titled: The forest disturbance carbon tracking system: A CMS project. Principal Investigator at UAF (Project Leader Dr. Eric Kasischke, University of Maryland). Awarded for 2012-2014 (\$50,000 UAF budget).
47. Grant from National Science Foundation for project titled: “Research Coordination Network: Vulnerability of Permafrost Carbon”. Principal Investigator at UAF (Project Leader Dr. Ted Schuur, University of Florida). Awarded for 2010-2014 (\$401,487 total budget).
46. Grant from National Science Foundation for project titled: Collaborative Research: Soil Climate and its Control on Wetland Carbon Balance in Interior Boreal Alaska: Experimental Manipulation of Thermal and Moisture Regimes. Principal Investigator at UAF (Project Leader Dr. Merritt Turetsky, Michigan State University). Awarded for 2007 – 2013 (\$285,000 UAF budget).
45. Grant from National Fish and Wildlife Foundation for project titled: Understanding how Arctic herbivores may respond to projected changes in climate in northern Alaska. Co-PI with PI Eugenie Euskirchen. Awarded for 2011-2012 (\$50,704).

44. Grant from the U.S. Geological Survey for project titled: Partitioning of Soil Respiration along Moisture Gradients in Alaskan Landscapes. Principal Investigator at UAF with Project Leader Dr. Jennifer Harden (USGS). Awarded for 2009 – 2012 (\$122,087).
43. Grant from the National Science Foundation Long-Term Ecological Research Program for project titled: The Dynamics of Change in Alaska's Boreal Forests: Resilience and Vulnerability in Response to Climate Warming. Co-Principal Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 2007 – 2011 (\$689,384 of \$3,280,000 budget).
42. Grant from U.S. Fish and Wildlife Service for project titled: Integrated Ecosystem Model for Alaska. Co-Investigator with Principal Investigator T. Scott Rupp. Awarded for 2010-2011 (\$409,999).
41. Grant from the National Science Foundation to IARC for project titled: Circumpolar Synthesis and Integration. Principal Investigator of the Arctic Ecosystems component of the grant. Awarded for 2008 – 2011 (\$461,551).
40. Grant from United States Department of Agriculture for project titled "Assessing the Impacts of Fire and Insect Disturbance on the Terrestrial Carbon Budgets of Forested Areas in Canada, Alaska, and the Western United States". Principal Investigator at UAF (Project Leader Dr. Eric Kasischke, University of Maryland). Awarded for 2008-2011 (\$254,000 UAF budget).
39. Grant from U.S. Geological Survey for project titled "Assessing the role of deep soil carbon in Interior Alaska: Data, models, and spatial/temporal dynamics". Principal Investigator. Awarded for 2008-2011 (\$246,128).
38. Grant from the National Science Foundation for project titled: Biogeochemical Cycling of Chaparral Ecosystems. Principal Investigator at UAF with project leader Dr. Edith Allen (University of California Riverside). Awarded for 2009 – 2011 (\$14,000 subcontract).
37. Grant from the U.S. Geological Survey for project titled: Carbon responses along moisture gradients in Alaska. Principal Investigator at UAF with Project Leader Dr. Jennifer Harden (USGS). Awarded for 2005 – 2010 (\$163,679 Research Work Order).
36. Grant from the National Center of Ecological Analysis and Synthesis for project titled: Towards an adequate quantification of CH₄ emissions from land ecosystems: Integrating field and *in-situ* observations, satellite data, and modeling. Co-Principal Investigator with Principal Investigator Dr. Qianlai Zhuang (Purdue University) and Co-Principal Investigators Dr. Jerry Melillo (Marine Biological Laboratory) and Dr. Ron Prinn (MIT). Awarded 2006 – 2009 (\$133,950 total budget).

35. Grant from National Science Foundation for project titled: Collaborative Research. Synthesis of Arctic System Carbon Cycle Research Through Model-Data Fusion Studies Using Atmospheric Inverse and Process-Based Approaches. Principal Investigator at UAF and Project Leader (Four Institutions). Awarded for 2005 – 2009 (\$299,148 of total \$1.2M budget).
34. Grant from National Aeronautical and Space Administration for project titled: Wildfire consumption of ground-layer organic matter in North American Boreal Forests and Peatlands: Implications for atmospheric trace gas emissions and long-term soil carbon storage. Principal Investigator at UAF with Project Leader Dr. Eric Kasischke (University of Maryland). Awarded for 2005 – 2009 (\$69,112 subcontract).
33. Grant from the National Science Foundation to IARC for project titled: Climate of the Arctic: Modeling and Processes (CAMP). Principal Investigator of the Arctic Biota/Vegetation component of the grant. Awarded for 2004 – 2008 (\$1,022,805).
32. Grant from U.S. Forest Service for project titled: Impact of climate change on vegetation and water supply. Principal Investigator at UAF with Project Leader Dr. Linda Joyce (U.S. Forest Service). Awarded for 2005 – 2007 (\$54,717 Research Work Order).
31. Grant from the National Science Foundation Long-Term Ecological Research Program for project titled: Alaska's Changing Boreal Forest: Resilience and Vulnerability. Co-Principal Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 2005 - 2007 (\$352,252 of total \$1,640,000 budget).
30. Grant from the National Science Foundation through the Marine Biological Laboratory for project titled: Biocomplexity – Feedbacks between ecosystems and the climate system. Principal Investigator at UAF with Project Leader Dr. Jerry Melillo (Marine Biological Laboratory). Awarded for 2001 - 2007 (\$259,800 subcontract).
29. Grant from the National Science Foundation for project titled: Fire-mediated changes in the Arctic System: Interactions of changing climate and human activities. Co-Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 2003 – 2007 (\$285,996 of total \$1,347,857 budget).
28. Grant from National Science Foundation for project titled: Regional resilience and adaptation: Planning for Change. Co-Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 2001 - 2007 (\$2,620,000).
27. Grant from U.S. Forest Service for project titled: Modeling the contribution of belowground carbon allocation and productivity to net carbon storage in the Upper Great Lakes Region. Principal Investigator at UAF with Project Leader Dr. Christian Giardina (U.S. Forest Service). Awarded for 2005 – 2007 (\$23,585 Research Work Order).

26. Grant from the National Science Foundation for project titled: Soil climate and its control on wetland carbon balance in interior Alaska – Experimental manipulation of thermal and moisture regimes. Principal Investigator at UAF and Project Leader (Three Institutions). Awarded for 2004 – 2006 (\$175,000).
25. Grant from U.S. Forest Service for project titled: Carbon dynamics in the US forest sector with and without climate change and carbon sequestration management. Principal Investigator at UAF with Project Leader Dr. Linda Joyce (U.S. Forest Service). Awarded 2004 – 2006 (\$27, 994 Research Work Order).
24. Grant from the National Science Foundation Long-Term Ecological Research Program for project titled: Climate-disturbance interactions in the Alaskan boreal forest. Co-Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 2000 - 2005 (\$111,151 of total \$2,800,000 budget).
23. Grant from the U.S. Geological Survey for project titled: Fate of carbon in Alaska Landscapes. Principal Investigator at UAF with Project Leader Dr. Jennifer Harden (USGS). Awarded for 2000 - 2005 (\$132,821 Research Work Order).
22. Grant from the National Aeronautics and Space Administration for project titled: The role of land-cover change in high latitude ecosystems: Implications for carbon budgets of North America. Principal Investigator at UAF and Project Leader (Three Institutions). Awarded for 2001 - 2005 (\$520,840).
21. Grant from U.S. Forest Service for project titled: Forest sector outcomes with/without climate change and carbon sequestration management. Principal Investigator at UAF with Project Leader Dr. Linda Joyce (U.S. Forest Service). Awarded for 2003 – 2005 (\$26,066 Research Work Order).
20. Grant from National Science Foundation for project titled: Modeling the role of high latitude terrestrial ecosystems in the Arctic System: A retrospective analysis of Alaska as a regional system. Principal Investigator at UAF and Project Leader (Four Institutions). Awarded for 2001 – 2005 (\$314,979 of total \$1,110,000 budget).
19. Grant from the National Science Foundation for project titled: Transitions - A study of the spatial and temporal transitions of climate and ecosystems in the circumpolar Arctic. Co-Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 1998 - 2004 (\$356,250 of total \$1,900,000).
18. Grant from the National Science Foundation through the Marine Biological Laboratory for project titled: The response of carbon cycling in arctic ecosystems to global change - Regional and pan-arctic assessments. Principal Investigator at UAF with Project Leader Dr. John Hobbie (Marine Biological Laboratory). Awarded for 1998 - 2004 (\$140,000 subcontract).

17. Grant from U.S. Fish and Wildlife Service for project titled: Landscape analysis of moose distribution relative to fire history in interior Alaska. Principal Investigator. Awarded for 2001 – 2003 (\$34,564 Research Work Order).
16. Grant from the National Science Foundation through the Marine Biological Laboratory for project titled: Terrestrial biospheric responses to atmospheric deposition and application to integrated assessment. Principal Investigator at UAF with Project Leader Dr. Jerry Melillo (Marine Biological Laboratory). Awarded for 1998 - 2002 (\$70,017 subcontract).
15. Grant from the USDA Forest Service for project titled: Sensitivity of ATLAS to Alternative Climate Change Scenarios and Alternative Assumptions within Climate Change Scenarios. Principal Investigator at UAF with Project Leader Dr. Linda Joyce (USDA Forest Service). Awarded for 2001 - 2002 (\$18,306 Research Work Order).
14. Grant from National Aeronautical and Space Administration through NASA Ames Research Center for project titled: Understanding the effect of land cover change on model estimates of regional carbon cycling in the boreal forest biome. Principal Investigator at UAF with Project Leader Dr. Chris Potter (NASA Ames). Awarded for 2001 - 2002 (\$15,000 subcontract).
13. Grant from the National Science Foundation for project titled: The role of wildfire in Alaska - Experimental and regional approaches to improved understanding of boreal feedbacks to climate (FROSTFIRE). Co-Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 1997 - 2001 (\$258,878 of total \$1,200,000).
12. Grant from the USDA Forest Service for project titled: Development of Forest Disturbance Scenarios for the United States. Principal Investigator at UAF with Co-Investigator Dr. Linda Joyce (USDA Forest Service). Awarded for 1999 - 2001 (\$37,037 Research Work Order).
11. Grant from the National Aeronautics and Space Administration for project titled: The role of land-cover change in high latitude ecosystems: Implications for the global carbon cycle. Principal Investigator. Awarded for 1997 - 2001 (\$520,000).
10. Grant from the National Aeronautics and Space Administration for project titled: Application of the Terrestrial Ecosystem Model to simulate the carbon dynamics of the BOREAS region in 1994, 1995, and 1996: The influence of different land cover maps. Principal Investigator. Awarded for 2000 - 2001 (\$25,000).
9. Grant from Electric Power Research Institute through the Marine Biological Laboratory for project titled: Carbon Cycle Model Linkage Project II – Year 2. Principal Investigator at UAF with Project Leader Dr. Jerry Melillo (Marine Biological Laboratory). Awarded for 2001 (\$20,000 subcontract).

8. Grant from the National Science Foundation for project titled: The role of high latitude ecosystems in the global carbon cycle. Principal Investigator. Awarded for 1996 - 2000 (\$442,026).
7. Grant from the National Science Foundation Long-Term Ecological Research Program for project titled: Interaction of Multiple Disturbances with Climate in Alaskan Boreal Forests. Co-Investigator with Principal Investigator Dr. F. Stuart Chapin III. Awarded for 1998 - 2000 (\$60,000 of total \$1,400,000 budget).
6. Grant from the Exxon Valdez Oil Spill Trustees Council for project titled: Pigeon guillemots and river otters as bioindicators of nearshore ecosystem health in Prince William Sound. Principal Investigator. Awarded for 1995 - 2000 (\$800,685).
5. Grant from Electric Power Research Institute through the Marine Biological Laboratory for project titled: Vegetation/ecosystem modeling and analysis project phase II. Principal Investigator at UAF with Project Leader Dr. Jerry Melillo (Marine Biological Laboratory). Awarded for 1996 - 1999 (\$77,346).
4. Grant from the USDA Forest Service for project entitled: National projections of forest productivity under climate change. Principal Investigator at UAF with Co-Investigator Dr. Linda Joyce (USDA Forest Service). Awarded for 1998 - 1999 (\$22,641 Research Work Order).
3. Grant from the Bonanza Creek Long Term Ecological Research (LTER) Program for project titled: Modeling structure and function in subarctic ecosystems: Steps in addressing issues of spatial and temporal scales. Co-Investigator with Principal Investigator Dr. F. Stuart Chapin. Awarded for 1996 - 1998 (\$38,000).
2. Grant from the USDA Forest Service for project titled: Transient analysis of forest productivity under climate change at the national and global scales. Principal Investigator at UAF with Co-Investigator Dr. Linda Joyce (USDA Forest Service). Awarded for 1997 - 1998 (\$19,135 Research Work Order).
1. Grant from the USDA Forest Service for project titled: Forest productivity response to climate change at different spatial scales. Principal Investigator at UAF with Co-Investigator Dr. Linda Joyce (USDA Forest Service). Awarded for 1996 - 1997 (\$7575 Research Work Order).

PAPERS IN REFEREED JOURNALS (* indicates papers involving students and sponsored postgraduates):

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200. Chen, G., D.J. Hayes, and **A.D. McGuire**. 2017. Contributions of wildland fire to terrestrial ecosystem carbon dynamics in North America from 1990 – 2012. *Global Biogeochemical Cycles* 31:878-900, doi:10.1002/2016GB005548.
199. Olefeldt, D., E.S. Euskirchen, J. Harden, E. Kane, **A.D. McGuire**, M.P. Waldrop, and M.R. Turetsky. 2017. A decade of boreal rich fen greenhouse gas fluxes in response to natural and experimental water table variability. *Global Change Biology* 23:2428-2440, doi:10.1111/gcb.13612.
198. Xia, J., **A.D. McGuire**, D. Lawrence, E. Burke, G. Chen, X. Chen, C. Delire, C. Koven, A. MacDougall, S. Peng, A. Rinke, K. Saito, W. Zhang, R. Alkama, T.J. Bohn, P. Ciais, B. Decharme, I. Gouttevin, T. Hajima, D.J. Hayes, K. Huang, D. Ji, G. Krinner, D.P. Lettenmaier, P.A. Miller, J.C. Moore, B. Smith, T. Sueyoshi, Z. Shi, L. Yan, J. Liang, L. Jiang, Q. Zhang, and Y. Luo. 2017. Terrestrial ecosystem model performance in simulating productivity and its vulnerability to climate change in the northern permafrost region. *Journal of Geophysical Research – Biogeosciences* 122:430-446, doi:10.1002/2016/JG003384.
197. Barrett, K., T. Loboda, **A.D. McGuire**, H. Genet, E. Hoy, and E. Kasischke. 2016. Static and dynamic controls on fire activity at moderate spatial and temporal scales in the Alaskan boreal forest. *Ecosphere* 7, Article e01572, 21 pages, doi:10.1002/ec2.1572.
196. Olefeldt, D., S. Goswami, G. Grosse, D. Hayes, G. Hugelius, P. Kuhry, **A.D. McGuire**, V.E. Romanovsky, A.B.K. Sannel, E.A.G. Schuur, and M.R. Turetsky. 2016. Circumpolar distribution and carbon storage of thermokarst landscapes. *Nature Communications* 7:13043, 11 pages, doi:10.1038/ncomms13043.
195. Liang, J., T.W. Crowther, N. Picard, S. Wiser, M. Zhou, G. Alberti, E.-D. Schulze, **A.D. McGuire**, F. Bozzato, H. Pretzsch, S. de-Miguel, A. Paquette, B. Herault, M. Scherer-Lorenzen, C.B. Barrett, H.B. Glick, G.M. Hengeveld, G.-J. Nabuurs, S. Pfautsch, H. Viana, A.C. Bibrans, C. Ammer, P. Schall, D. Verbyla, N. Tchbakova, M. Fischer, J.V. Watson, H.Y.H. Chen, X. Lei, M.-J. Schelhaas, H. Lu, D. Gianelle, E.I. Parfenova, C. Salas, E. Lee, B. Lee, H.S. Kim, H. Bruelheide, D.A. Coomes, D. Piotta, T. Sunderland, B. Schmid, S. Gourlet-Fleury, B. Sonke, R. Tavani, J. Zhu, S. Brandl, J. Vayreda, F. Kitahara, E.B. Searle, V.J. Neldner, M.R. Ngugi, C. Baraloto, L. Frizzera, R. Balazy, J. Oleksyn, T. Zawila-Niedzwiecki, O. Bouriaud, F. Bussotti, L. Finer, B. Jaroszewicz, T. Jucker, F. Valladares, A.M. Jagodzinski, P.L. Peri, C. Gonmadje, W. Marthy, T. O'Brien, E.H. Martin, A. Marshall, F. Rovero, R. Bitariho, P.A. Niklaus, P. Alvarez-Loayza, N. Chamuya, R. Valencia, F. Mortier, V. Wortel, N.L. Engone-Obiang, L.V. Ferreira, D.E.

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194. Euskirchen, E.S., A.P. Bennett, A.L. Breen, H. Genet, M.A. Lindgren, T.A. Kurkowski, **A.D. McGuire**, and T.S. Rupp. 2016. Consequences of changes in vegetation and snow cover for climate feedbacks in Alaska and northwest Canada. *Environmental Research Letters* 11, paper 105003, 19 pages, doi:10.1088/1748-9326/11/10/105003.
193. **McGuire, A.D.**, C. Koven, D.M. Lawrence, J.S. Clein, J. Xia, C. Beer, E. Burke, G. Chen, X. Chen, C. Delire, E. Jafarov, A.H. MacDougall, S. Marchenko, D. Nicolsky, S. Peng, A. Rinke, K. Saito, W. Zhang, R. Alkama, T.J. Bohn, P. Ciais, B. Decharme, A. Ekici, I. Gouttevin, T. Hajima, D.J. Hayes, D. Ji, G. Krinner, D.P. Lettenmaier, P.A. Miller, J.C. Moore, V. Romanovsky, C. Schadel, K. Schaefer, E.A.G. Schuur, B. Smith, T. Sueyoshi, and Q. Zhuang. 2016. Variability in the sensitivity among model simulations of permafrost and carbon dynamics in the permafrost region between 1960 and 2009. *Global Biogeochemical Cycles* 30:1015-1037, doi:10.1002/2016GB005405.
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191. Bond-Lamberty, B., D. Epron, J. Harden, M.E. Harmon, F. Hoffman, J. Kumar, **A.D. McGuire**, and R. Vargas. 2016. Estimating heterotrophic respiration at large scales: Challenges, approaches, and next steps. *Ecosphere* 7, Article e01380, 13 pages, doi:10.1002/ecs2.1380.
190. Grosse, G., S. Goetz, **A.D. McGuire**, V.E. Romanovsky, and E.A.G. Schuur. 2016. Changing permafrost in a warming world and feedbacks to the Earth System. *Environmental Research Letters* 11, paper 040201, 10 pages, doi:10.1088/1748-9326/11/4/040201.
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186. Lara, M.J., H. Genet, **A.D. McGuire**, E.S. Euskirchen, Y. Zhang, D.R.N. Brown, M.T. Jorgenson, V. Romanovsky, A. Breen, and W.R. Bolton. 2016. Thermokarst rates intensify due to climate change and forest fragmentation in an Alaskan boreal forest lowland. *Global Change Biology* 22:816-829, doi:10.1111/gcb.13124.
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184. Kelly, R., H. Genet, **A.D. McGuire**, and F.S. Hu. 2016. Paleodata-informed modeling of large carbon losses from recent burning of boreal forests. *Nature Climate Change* 6:79-82, doi:10.1038/nclimate2832.
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367. **McGuire, A.D.**, D. Lawrence, E. Burke, G. Chen, E. Jafarov, C. Koven, A. MacDougall, D. Nikolsky, S. Peng, and A. Rinke. 2015. The Temporal Evolution of Changes in Carbon Storage in the Northern Permafrost Region Simulated by Carbon Cycle Models between 2010 and 2300: Implications for Atmospheric Carbon Dynamics. Fall 2015 Meeting of the American Geophysical Union. Oral Presentation.
366. Genet H., **A.D. McGuire**, Y. He, K. Johnson, B. Wylie, N. Pastick, Q. Zhuang, Z. Zhu, and Y. Zhang. 2015. Identifying the main drivers of soil carbon response to climate change in arctic and boreal Alaska. Fall Meeting of the American Geophysical Union. Poster Presentation.

365. Lara, M.J., H. Genet, **A.D. McGuire**, E.S. Euskirchen, Y. Zhang, D. Brown¹, T. Jorgenson, V.E. Romanovskiy, A.L. Breen, and W.R. Bolton. 2015. Thermokarst rates intensify due to climate change and forest fragmentation in an Alaskan Boreal Forest Lowland. Fall Meeting of the American Geophysical Union. Poster Presentation.
364. Calef, M.P., A. Varvak, L. DeWilde, **A.D. McGuire**, and F.S. Chapin III. 2015. Variability in the geographic distribution of fires in Interior Alaska considering cause, human proximity, and level of suppression. Fall Meeting of the American Geophysical Union. Poster Presentation.
363. Euskirchen, E.S., J.K. Roach, V. Patil, B. Griffith, and **A.D. McGuire**. 2015. Inclusion of Additional Plant Species and Trait Information in Dynamic Vegetation Modeling of Arctic Tundra and Boreal Forest Ecosystems. Fall Meeting of the American Geophysical Union. Oral Presentation.
362. Koven, C.D., E.A.G. Schuur, C. Schadel, T.J. Bohn, E.J. Burke, G. Chen, X. Chen, P. Ciais, G. Grosse, J.W. Harden, D.J. Hayes, G. Hugelius, E.E. Jafarov, G. Krinner, P. Kuhry, D.M. Lawrence, A.H. MacDougall, S.S. Marchenko, **A.D. McGuire**, S.M. Natali, D.J. Nicolsky, D. Olefeldt, S. Peng, V.E. Romanovskiy, K.M. Schaefer, J. Strauss, C.C. Treat, and M. Turetsky. 2015. A simplified, data-constrained approach to estimate the permafrost carbon-climate feedback: The PCN Incubation-Panarctic Thermal (Pinc-PanTher) Scaling Approach. Fall Meeting of the American Geophysical Union. Oral Presentation.
361. Olefeldt, D., S. Goswami, G. Grosse, D. Hayes, G. Hugelius, P. Kuhry, **A.D. McGuire**, V.E. Romanovskiy, A.B.K Sannel, E.A.G. Schuur, and M.R. Turetsky. 2015. Thermokarst terrain: Circumpolar distribution and soil carbon vulnerability. Fall 2015 Meeting of the American Geophysical Union. Oral Presentation. Invited.
360. Turetsky, M., **A.D. McGuire**, and D. Olefeldt. 2015. Assessing the contributions of thermokarst and thermo-erosion in permafrost feedbacks to climate. Fall Meeting of the American Geophysical Union. Oral Presentation. Invited.
359. Marchenko, S., D. Streletskiy, V. Romanovskiy, **A.D. McGuire**, and N. Shiklomanov. 2015. The Vulnerability of Permafrost from 1960 to 2300 Based on Simulations of the Process-Based Model GIPL2 Across the Permafrost Region in the Northern Hemisphere: Implications for Soil Carbon Vulnerability. Fall Meeting of the American Geophysical Union. Poster Presentation.
358. Pastick, N.J., M.T. Jorgenson, B.J. Minsley, B.K. Wylie, D.R.N. Brown, H. Genet, K.D. Johnson, **A.D. McGuire**, M.A. Kass, and J.F. Knight. 2015. Towards a better understanding of the sensitivity of permafrost and soil carbon to climate and disturbance-induced change in Alaska. Fall Meeting of the American Geophysical Union. Poster Presentation.

357. Bolton, W.R., M. Lara, H. Genet, V. Romanovsky, and **A.D. McGuire**. 2015. Conceptualization and Initial Application of the Alaska Thermokarst Model. Fall Meeting of the American Geophysical Union. Poster Presentation.
356. Hayes, D.J., C.E. Smyth, G. Chen, W.A. Kurz, **A.D. McGuire**, and G. Stinson. 2015. Improving the assessment of the State of the Carbon Cycle in North America by integrating inventory- and process- based approaches: A case study for Canada. Fall Meeting of the American Geophysical Union. Poster Presentation.
355. Turetsky, M.R., EAG. Schuur, C. Schadel, **A.D. McGuire**, D. Olefeldt, and G. Hugelius. 2015. Recent synthesis of research on the permafrost carbon feedback. 68th Canadian Geotechnical Conference and 7th Canadian Permafrost Conference. Quebec City, Quebec, Canada. Oral Presentation.
354. Turetsky, M.R., D. Olefeldt, and **A.D. McGuire**. 2015. Pan-arctic trends in lake and wetland thermokarst: Implications for carbon storage and methane fluxes. Goldschmidt 2015 Conference. Prague, Czech Republic. Oral Presentation.
353. **McGuire, A.D.**, Helene Genet, and Members of the Alaska Land Carbon Assessment Team. 2015. A synthesis of carbon balance of Alaska and projected changes in the 21st Century: Implications for climate policy and carbon management at local, regional, national, and international scales. 17th International Boreal Forest Research Association Conference, Rovaniemi, Finland. Oral Presentation.
352. Woodall, C.W., H.E. Andersen, C. Babcock, B. Cook, G. Domke, H. Genet, A. Gray, K. Johnson, S. Jovan, B. McCune, **A.D. McGuire**, D. Morton, R. Pattison, S. Ogle, B. Schulz, J. Smith, R. Smith, and A. Swan. 2015. National Greenhouse Gas Inventories in Boreal Forests: The US Experience in Interior Alaska. 17th International Boreal Forest Research Association Conference, Rovaniemi, Finland. Oral Presentation.
351. Conaway, C., T. Lorenson, C. Johnson, M. Waldrop, **A.D. McGuire**, M. Turetsky, E. Euskirchen, and P.W. Swarzenski. 2015. Application of electrical resistivity tomography in two wetland systems north of the Tanana River, Interior Alaska. Environmental and Engineering Geophysical Society Annual Conference. Poster Presentation.
350. **McGuire, A.D.**, and Members of the Alaska Land Carbon Assessment Team. 2015. A synthesis of terrestrial carbon balance of Alaska and projected changes in the 21st Century: Implications for climate policy and carbon management at local, regional, national, and international scales. North American Carbon Program Meeting. Washington, DC. Poster Presentation.
349. Hayes, D., G. Chen, W. Kurz, G. Stinson, and **A.D. McGuire**. 2015. On the integration of inventory- and process- based approaches to determine Canada's full forest carbon

- budget and the forces that drive it. North American Carbon Program Meeting. Washington, DC. Poster Presentation.
348. Luo, Y., et al. (including **A.D. McGuire**). 2015. Representing soil carbon dynamics in global land models to improve future IPCC assessments. North American Carbon Program Meeting. Washington, DC. Oral Presentation.
347. Loboda, T., Kasischke, E., **McGuire, A.D.**, Genet, H., and Hoy, E. 2015. The Alaska Forest Disturbance Carbon Tracking System. North American Carbon Program Meeting, Washington, DC. Poster Presentation.
346. Genet H., Zhang Y., **McGuire A.D.**, He Y., Johnson K., D'Amore D., Zhou X., Bennett A., Biles F., Bliss N., Breen A., Euskirchen E.S., Kurkowski T., Pastick N., Rupp S., Wylie B., Zhu Z., and Zhuang Q. 2015. The importance of permafrost thaw, fire and logging disturbances as driving factors of historical and projected carbon dynamics in Alaskan upland ecosystems. North American Carbon Program All Scientists Meeting. Washington, DC. Oral Presentation.
345. **McGuire, A.D.**, and Members of the Model Integration Team of the Vulnerability of Permafrost Carbon Research Coordination Network. 2014. The importance of explicitly representing soil carbon with depth over the permafrost region in earth system models: Implications for atmospheric carbon dynamics at multiple temporal scales between 1960 and 2300. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation. Invited.
344. Schuur, E.A.G., **A.D. McGuire**, G. Grosse, J.W. Harden, D.J. Hayes, G. Hugelius, C.D. Koven, P. Kuhry, D.M. Lawrence, S.M. Natali, D. Olefeldt, V.E. Romanovsky, C. Schädel, K. Schaefer, M. Turetsky, C. Treat, and J.E. Vonk. 2014. Climate Change and the Permafrost Carbon Feedback. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation. Invited.
343. Lara, M.J., **A.D. McGuire**, E.S. Euskirchen, H. Genet, V. Sloan, C. Iversen, R. Norby, Y. Zhang, and F. Yuan. 2014. Changes in landscape-level carbon balance of an arctic coastal plain tundra ecosystem between 1970-2100, in response to projected climate change. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
342. Bolton, W.R., V. Romanovsky, **A.D. McGuire**, G. Grosse, and M. Lara. 2014. Initial Conceptualization and Simulation of Arctic Tundra Landscape Evolution Using the Alaska Thermokarst Model. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
341. Birdsey, R., Y. Pan, A.D. McGuire, F. Zhang, and J. Chen. 2014. Past and prospective carbon stocks of United States forests: Implications for research priorities and mitigation

- policies. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
340. Marchenko, S., D. Nicolsky, V. Romanovsky, and **A.D. McGuire**. 2014. The vulnerability of permafrost from 1960 to 2300 based on simulations of the process-based model GIPL2 across the permafrost region in the Northern Hemisphere: Implications for soil carbon vulnerability. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
339. Rawlins, M.A., **A.D. McGuire**, J.S. Kimball, P. Dass, and Members of the Model Integration Team of the Vulnerability of Permafrost Carbon Research Coordination Network. 2014. Assessment of model estimates of land-atmosphere CO₂ exchange across northern Eurasia. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
338. Turetsky, M.R., E.S. Euskirchen, C.I. Czimczik, M.P. Waldrop, D. Olefeldt, Z. Fan, E.S. Kane, **A.D. McGuire**, and J.W. Harden. 2014. Controls on northern wetland methane emissions: insights from regional synthesis studies and the Alaska Peatland Experiment (APEX). Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation. Invited.
337. Tucker, C., E. Euskirchen, H. Genet, and **A.D. McGuire**. 2014. Modeled changes in terrestrial C storage on the Arctic coastal plain of Alaska suggest a mid-century 21st shift from C sink to source. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
336. Genet H., Y. Zhang, **A.D. McGuire**, Y. He, K. Johnson, D. D'Amore, X. Zhou, A. Bennett, F. Biles, N. Bliss, A. Breen, E.S. Euskirchen, T. Kurkowski, N. Pastick, T.S. Rupp, B. Wylie, Z. Zhu, and Q. Zhuang. 2014. The importance of permafrost thaw, fire and logging disturbances as driving factors of historical and projected carbon dynamic in Alaska ecosystems. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
335. Parmentier, F.J.W., W. Zhang, Y. Mi, X. Zhu, P.A. Miller, J. van Huissteden, D. Hayes, Q. Zhang, **A.D. McGuire**, and T.R. Christensen. 2014. Higher methane emissions in regions of sea ice retreat. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
334. Zhang, Y., H. Genet, M. Lara, **A.D. McGuire**, J. Roach, V. Patil, V. Romanovsky, W.R. Bolton, and R. Rutter. 2014. An assessment of thermokarst driven changes in land cover of the Tanana Flats wetland complex of Alaska from 2009-2100 in response to climate warming. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.

333. Xia, J., **A.D. McGuire**, D. Lawrence, E. Burke, X. Chen, C. Delire, C. Koven, A. MacDougall, S. Peng, A. Rinke, K. Saito, W. Zhang, R. Alkama, T.J. Bohn, P. Ciais, B. Decharme, I. Gouttevin, T. Hajima, D. Ji, G. Krinner, D.P. Lettenmaier, P.A. Miller, J.C. Moore, B. Smith, T. Sueyoshi, Z. Shi, L. Yan, and Y. Luo. 2014. Terrestrial ecosystem model performance for net primary productivity and its vulnerability to climate change in permafrost regions. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
332. **McGuire, A.D.**, T.S. Rupp, A. Breen, E. Euskirchen, and V. Romanovsky. 2014. The Integrated Ecosystem Model (IEM) for Alaska and Northwest Canada: An interdisciplinary tool to assess the responses of natural resources to climate change. US – International Association of Landscape Ecologists Annual Symposium. Anchorage, Alaska. Invited. Oral Presentation.
331. Lara, M., **A.D. McGuire**, and E.S. Euskirchen. 2014. Century time-scale implications for change in peak growing season carbon flux in ice wedge polygonal tundra on the Barrow, Peninsula. US – International Association of Landscape Ecologists Annual Symposium. Anchorage, Alaska. Invited. Oral Presentation.
330. **McGuire, A.D.**, and Members of the Permafrost Carbon Vulnerability Research Coordination Modeling Working Group. 2014. Retrospective and future assessments of the vulnerability of permafrost and carbon in the earth system: Comparison of dynamics among process-based models. Third Carbon Pools in Permafrost Regions Workshop. Stockholm, Sweden. Invited. Oral Presentation.
329. Parmentier, F.-J.W., W. Zhang, Y. Mi, X. Zhu, P.A. Miller, K. van Huissteden, D. Hayes, Q. Zhuang, **A.D. McGuire**, and T.R. Christensen. 2014. Higher methane emissions in regions of sea ice retreat. European Geophysical Union, Vienna, Austria. Oral Presentation.
328. **McGuire, A.D.**, T.S. Rupp, and W. Kurz. 2013. Challenges in modelling disturbance regimes and their impacts in arctic and boreal ecosystems. Meeting of the American Geophysical Union, San Francisco, California. Invited. Oral Presentation.
327. **McGuire, A.D.**, and Members of the Model Integration Team of the Vulnerability of Permafrost Carbon Research Coordination Network. 2013. The vulnerability of permafrost carbon: A retrospective analysis of changes in permafrost area and carbon storage simulated by process-based models between 1960 and 2009. Meeting of the American Geophysical Union, San Francisco, California. Invited. Oral Presentation.
326. *Genet, H., **A.D. McGuire**, J.F. Johnstone, A.L. Breen, E.S. Euskirchen, M.C. Mack, A.M. Melvin, T.S. Rupp, E.A. Schuur, and F. Yuan. 2013. Modeling post-fire vegetation succession and its effect on permafrost vulnerability and carbon balance. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.

325. *Lara, M.J., **A.D. McGuire**, E.S. Euskirchen, V.L. Sloan, C.M. Iversen, R.J. Norby, H. Genet, Y. Zhang, and F. Yuan. 2013. Modeled change in carbon balance between 1970-2100 of a polygonal arctic tundra ecosystem near Barrow, Alaska. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
324. *Zhang, Y., **A.D. McGuire**, H. Genet, W.R. Bolton, V.E. Romanovsky, G. Grosse, T. Jorgenson, and M. Lara. 2013. Modeling thermokarst dynamics in Alaska ecosystems: Description of the Predisposition and Initiation/Expansion sub-models. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
323. Kelly, R., H. Genet, **A.D. McGuire**, and F. Hu. 2013. Paleodata-model integration reveals uncertain boreal forest carbon balance due to rapid recent fire regime change. Meeting of the American Geophysical Union, San Francisco, California. Oral Presentation.
322. Iversen, C.M., V.L. Sloan, P. Sullivan, E.S. Euskirchen, **A.D. McGuire**, R.J. Norby, A.P. Walker, J. Warren, and S.D. Wullschleger. 2013. Leaves are just the tip of the iceberg: A review of plant roots in arctic Alaska. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
321. Farquharson, L.M., G. Grosse, V.E. Romanovksy, B.M. Jones, C.D. Arp, and **A.D. McGuire**. 2013. Spatial distribution of thermokarst landforms across arctic Alaska. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
320. Kasischke, E.S., H.D. Alexander, K. Barrett, H. Genet, S.J. Goetz, J.W. Harden, E. Hoy, J.F. Johnstone, T. Jorgenson, E.S. Kane, M. Kavenskiy, M.C. Mack, **A.D. McGuire**, S.R. Mitchell, J.A. O'Donnell, and M. Turetsky. 2013. Challenges for understanding the combined impacts of climate change and the 2001-2010 fires on carbon cycling in Alaskan boreal forests. Meeting of the American Geophysical Union, San Francisco, California. Invited. Oral Presentation.
319. Breen, A.L., A. Bennett, R. Hewitt, T. Hollingsworth, H. Genet, E.S. Euskirchen, T.S. Rupp, and **A.D. McGuire**. 2013. Tundra fire and vegetation dynamics: Simulating the effect of climate change on fire regimes in arctic ecosystems. Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
318. Hayes, D.J., G. Chen, G. Stinson, W. Kurz, and **A.D. McGuire**. 2013. The role of disturbance in driving carbon dynamics across the North American Boreal Forest in recent decades. Fall Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
317. He, Y., Q. Zhuang, J.W. Harden, **A.D. McGuire**, Z. Fan, and Y. Liu. 2013. The implications of microbial and substrate limitation for the fates of carbon in different

- organic soil horizon types: A mechanistically based model analysis. Fall Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
316. Yuan, F., P.E. Thornton, **A.D. McGuire**, W.C. Oechel, B. Yang, C.E. Tweedie, A. Rogers, and R.J. Norby. 2013. The role of explicitly modelling bryophytes in simulating carbon exchange and permafrost dynamics of an arctic coastal tundra at Barrow, Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California. Poster Presentation.
315. Liang, J., M. Zhou, P. Tobin, and **A.D. McGuire**. 2013. Biodiversity increases individual productivity: Evidence and mechanism. Society of American Foresters 2013 National Convention, Charleston, South Carolina. Oral Presentation.
314. Hayes, D., G. Stinson, W. Kurz and **A.D. McGuire**. 2013. Multi-factor analysis of the forces driving carbon dynamics in the North American Boreal Forest over recent decades. 16th International Boreal Forest Research Association Conference, Edmonton, Alberta, Canada. Oral Presentation.
313. Euskirchen, E.S., C. Edgar, M.R. Turetsky, M. Waldrop, J.W. Harden, and **A.D. McGuire**. 2013. Patterns in and controls over CO₂ fluxes across a gradient of permafrost thaw in boreal Alaska. 16th International Boreal Forest Research Association Conference, Edmonton, Alberta, Canada. Oral Presentation.
312. *Genet H., K. Barrett, **A.D. McGuire**, E.S. Kasischke, M. Turetsky, S. Rupp, E.S. Euskirchen, and F.M. Yuan. 2013. Modeling the effects of fire severity on soil organic horizons and its effects on permafrost and vegetation composition in Interior Alaska. 16th International Boreal Forest Research Association Conference, Edmonton, Alberta, Canada. Oral Presentation.
311. *Zhang, Y., H. Genet, **A.D. McGuire**, W.R. Bolton, V. Romanovsky, G. Grosse, and T. Jorgenson. 2013. Modeling thermokarst dynamics in Alaskan ecosystems. 16th International Boreal Forest Research Association Conference, Edmonton, Alberta, Canada. Poster Presentation.
310. Euskirchen, E., T.B. Carman, and **A.D. McGuire**. 2013. Vegetation dynamics in a changing Arctic: Improved biogeochemistry response to warming climate through a detailed representation of leaf phenology. Annual Meeting of the Ecological Society of America, Minneapolis, Minnesota. Oral Presentation.
309. *Kelly, R., H. Genet, **A.D. McGuire**, and F.S. Hu. 2013. Model simulations driven by paleo-forcing data reveal large and rapid responses of carbon storage to boreal fire-regime shifts. Annual Meeting of the Ecological Society of America, Minneapolis, Minnesota. Oral Presentation.

308. Goswami, S., D.J. Hayes, P. Kuhry, G. Hugelius, C. Schaedel, D. Olefeldt, G. Grosse, G. Chen, A. Lewkowicz, V. Romanovsky, S. Zubrzycki, S. Gruber, J. Vonk, **A.D. McGuire**, and E.A.G. Schuur. 2013. A regionalization approach to study vulnerability of Pan-Arctic permafrost stock to climate change. Annual Meeting of the Ecological Society of America, Minneapolis, Minnesota. Oral Presentation.
307. Parmentier, F.-J., T.R. Christensen, L.L. Sorensen, S. Rysgaard, **A.D. McGuire**, P.A. Miller, and D.A. Walker. 2013. The impact of a low sea ice extent on arctic greenhouse gas exchange. Annual Meeting of the European Geophysical Union, Vienna, Austria.
306. ***McGuire, A.D.**, D.J. Hayes, T.R. Christensen, A. Heroult, E.S. Euskirchen, J.S. Kimball, C. Koven, P. Laflour, P. Miller, W.C. Oechel, P. Peylin, M.D. Williams, and Y. Yi. 2013. An assessment of the carbon balance of arctic tundra in North America: Comparisons among observations, process models, and atmospheric inversions. Fourth North America Carbon Program All Investigators Meeting, Albuquerque, New Mexico.
305. *Genet, H., K. Barrett, J. Johnstone, **A.D. McGuire**, F. Yuan, E. Euskirchen, E. Kasischke, S. Rupp, and M. Turetsky. 2013. Modeling the effects of changes in fire severity on soil organic horizons and forest composition in interior Alaska. Fourth North America Carbon Program All Investigators Meeting, Albuquerque, New Mexico.
304. Goswami, S., D. Hayes, P. Kuhry, G. Hugelius, **A.D. McGuire**, and E. Schuur. 2013. The Permafrost Regionalization Map (PeRM) for studying the vulnerability of permafrost carbon. Fourth North America Carbon Program All Investigators Meeting, Albuquerque, New Mexico.
303. Hayes, D., D. Kicklighter, A.D. McGuire, Q. Zhuang, J. Melillo, and S. Wullschleger. 2013. The impacts of permafrost thaw on land-atmosphere greenhouse gas exchange. Fourth North America Carbon Program All Investigators Meeting, Albuquerque, New Mexico.
302. Waldrop, M., J. McFarland, E. Euskirchen, M. Turetsky, J. Harden, K. Manies, M. Jones, and **A.D. McGuire**. 2013. CO₂ and CH₄ fluxes and net C storage following permafrost thaw in interior Alaska. Fourth North America Carbon Program All Investigators Meeting, Albuquerque, New Mexico.
301. Euskirchen, E., C. Edgar, M. Waldrop, M. Turetsky, J. Harden, and **A.D. McGuire**. 2013. Quantifying CO₂ fluxes across a gradient of permafrost thaw in boreal Alaska. Fourth North America Carbon Program All Investigators Meeting, Albuquerque, New Mexico.
300. **McGuire, A.D.**, S.T. Rupp, A. Bennett, W.R. Bolton, A. Breen, E.S. Euskirchen, T. Kurkowski, S.S. Marchenko, V.E. Romanovsky, M.P. Waldrop, and F. Yuan. 2012. The Alaska Integrated Ecosystem Model: An interdisciplinary tool to assess the responses of

- natural resources in Alaska to climate change. Meeting of the American Geophysical Union, San Francisco, California.
299. Sloan, V.L., C. Iversen, J. Childs, E.S. Euskirchen, **A.D. McGuire**, and R.J. Norby. 2012. Linking vegetation composition to geomorphic units in a polygonal tundra landscape: A framework for improving estimates of plant functional type coverage in ecosystem models. Meeting of the American Geophysical Union, San Francisco, California.
298. Parmentier, F.W., T.R. Christensen, L. Sorensen, S. Rysgaard, **A.D. McGuire**, P.A. Miller, and D.A. Walker. 2012. The impact of lower sea ice extent on arctic greenhouse gas exchange. Meeting of the American Geophysical Union, San Francisco, California.
297. Zhuang, Q., X. Zhu, C. Prigent, J.M. Melillo, **A.D. McGuire**, R.G. Prinn, and D.W. Kicklighter. 2012. Influence of changes in wetland inundation extent on net fluxes of carbon dioxide and methane in northern latitudes from 1993 to 2004. Meeting of the American Geophysical Union, San Francisco, California.
296. Johnston, C.E., S.A. Ewing, R.K. Varner, J.W. Harden, M.R. Turetsky, and **A.D. McGuire**. 2012. Methane emission through diffusion and ebullition in thaw wetlands in interior Alaska. Meeting of the American Geophysical Union, San Francisco, California.
295. *Genet, H., K.M. Barrett, J.F. Johnstone, **A.D. McGuire**, F. Yuan, E.S., Euskirchen, E.S. Kasischke, S.T. Rupp, and M.R. Turetsky. 2012. Modeling the effects of fire severity on soil organic horizons and forest composition in interior Alaska. Meeting of the American Geophysical Union, San Francisco, California.
294. *Johnson, K.D., J.W. Harden, **A.D. McGuire**, F. Yuan, and M. Clark. 2012. Permafrost degradation and organic layer thickening over a climate gradient in a discontinuous permafrost region. Meeting of the American Geophysical Union, San Francisco, California.
293. *Jafarov, E.E., H. Genet, V.E. Romanovsky, **A.D. McGuire**, and S.S. Marchenko. 2012. The effects of forest fire on the frozen soil thermal state. Meeting of the American Geophysical Union, San Francisco, California.
292. *Zhang, Y. **A.D. McGuire**, H. Genet, W.R. Bolton, V.E. Romanovsky, G. Grosse, M.T. Jorgenson. 2012. Modeling thermokarst dynamics in Alaska ecosystems. Meeting of the American Geophysical Union, San Francisco, California.
291. *Hayes, D.J., D.W. Kicklighter, **A.D. McGuire**, M. Chen, Q. Zhuang, J.M. Melillo, and S.D. Wullschlegel. 2012. The impact of permafrost thaw on land-atmosphere greenhouse gas exchange in recent decades over the northern high latitudes. Meeting of the American Geophysical Union, San Francisco, California.

290. Waldrop, M.P., J. McFarland, E.S. Euskirchen, M.R. Turetsky, J.W. Harden, K. Manies, M. Jones, and **A.D. McGuire**. 2012. Carbon balance and greenhouse gas fluxes in a thermokarst bog in interior Alaska: Positive and negative feedbacks from permafrost thaw. Meeting of the American Geophysical Union, San Francisco, California.
289. Euskirchen, E.S., T.B. Carman, and **A.D. McGuire**. 2012. Modeling leaf phenology variation by groupings within and across ecosystems in northern Alaska. Meeting of the American Geophysical Union, San Francisco, California.
288. Schädel, C., **A.D. McGuire**, J. G. Canadell, J. W. Harden, P. Kuhry, V. E. Romanovsky, M. R. Turetsky, and E.A.G. Schuur. 2012. Vulnerability of permafrost carbon research coordination network. Tenth International Conference on Permafrost. Salekhard, Russia.
287. **McGuire, A.D.** 2012. Importance of Research on Climate Change in the Arctic-Boreal Region. NASA Arctic Boreal Vulnerability Experiment (ABOVE) Workshop. Boulder, Colorado. Invited.
286. Schädel, C., E.A.G. Schuur, **A.D. McGuire**, J. Canadell, J. Harden, P. Kuhry, V. Romanovsky, and M. Turetsky. 2012. Vulnerability of permafrost carbon research coordination network. Annual Meeting of the European Geophysical Union. Vienna, Austria.
285. ***McGuire, A.D.**, T.R. Christensen, D.J. Hayes, A. Heroult, J.S. Kimball, C. Koven, P. Lafleur, P. Miller, W.C. Oechel, S. Sitch, and M.D. Williams. 2011. An assessment of the carbon balance of Arctic tundra: Comparisons among observations, process models, and atmospheric inversions. Fall Meeting of the American Geophysical Union, San Francisco, California. Invited.
284. **McGuire, A.D.** 2011. The importance of representing interactions among permafrost dynamics, soil warming, and fire in modeling soil carbon responses of northern high latitude terrestrial ecosystems to climate change. Fall Meeting of the American Geophysical Union, San Francisco, California. Invited.
283. *F. Yuan, **A.D. McGuire**, S. Yi, E.S. Euskirchen, T.S. Rupp, A.L. Breen, T. Kurkowski, E.S. Kasiskhe, and J.W. Harden. 2011. Effects of future warming and fire regime change on boreal soil organic horizons and permafrost dynamics in interior Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
282. *Fan, Z., **A.D. McGuire**, J.W. Harden, and M.R. Turetsky. 2011. Modeling the production and transport of methane in an Alaska rich fen peatland. Fall Meeting of the American Geophysical Union, San Francisco, California.

281. *McConnell, **A.D. McGuire**, J.W. Harden, and M.R. Turetsky. 2011. Controls on ecosystem respiration in a peat plateau and adjacent collapse formations in interior Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
280. *E.A. Schuur, **A.D. McGuire**, J. Canadell, J.W. Harden, P. Kuhry, V.E. Romanovsky, M.R. Turetsky, and C. Schadel. 2011. Vulnerability of permafrost carbon research coordination network. Fall Meeting of the American Geophysical Union, San Francisco, California.
279. *Klapstein, S.J., M.R. Turetsky, **A.D. McGuire**, J.W. Harden, and J.M. Waddington. 2011. Controls on ebullition and methane emissions in Alaskan peatlands experiencing permafrost thaw. Fall Meeting of the American Geophysical Union, San Francisco, California.
278. *Hayes, D.J., D.P. Turner, G. Stinson, **A.D. McGuire**, Y. Wei, T.O. West, L.S. Heath, B.H. de Jong, B.G. McConkey, R. Birdsey, W.A. Kurz, A.R. Jacobson, D.N. Huntzinger, Y. Pan, W.M. Post, and R.B. Cook. 2011. Reconciling estimates of the contemporary North American carbon balance among an inventory-based approach, terrestrial biosphere models, and atmospheric inversions. Fall Meeting of the American Geophysical Union, San Francisco, California.
277. *Kasishke, E.S., E.S. Kane, J.A. O'Donnell, N.L. Christensen, S.R. Mitchell, M.R. Turetsky, D.J. Hayes, E. Hoy, K.M. Barrett, **A.D. McGuire**, and F. Yuan. 2011. Feedbacks between climate, fire severity, and differential permafrost degradation in Alaskan black spruce forests – implications for carbon cycling. Fall Meeting of the American Geophysical Union, San Francisco, California. Invited.
276. Waldrop, M.P., J. McFarland, C.I. Czimczik, E.S. Euskirchen, T. Amendolara, G.J. Scott, M.R. Turetsky, J.W. Harden, and **A.D. McGuire**. 2011. Changing sources of respiration between a black spruce forest and themokarst bog. Fall Meeting of the American Geophysical Union, San Francisco, California.
275. Euskirchen, E.S., C. Edgar, M.R. Turetsky, J.W. Harden, and **A.D. McGuire**. 2011. Quantifying CO₂ fluxes across a gradient of permafrost in boreal Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
274. **McGuire, A.D.** 2011. Identifying indicators of state change and forecasting future vulnerability in Alaska boreal ecosystems. 2011 Alaska Fire Science Workshop. Fairbanks, Alaska. Invited.
273. **McGuire, A.D.** 2011. DOS-TEM Modeling Perspective. Workshop to identify data needs for improving model representations of soil carbon responses to climate change in permafrost regions. Argonne National Laboratory, Chicago, Illinois. Invited.

272. **McGuire, A.D.** 2011. An assessment of the carbon balance of arctic tundra: Comparisons among observations, process models, and atmospheric inversions. GreenCyclesII and DEFROST Conference on Ocean-Land Interactions at High Latitudes. Nuuk, Greenland. Invited.
271. *Hayes, D.J., D.P. Turner, G. Stinson, Y Wei, T.O. West, B. deJong, **A.D. McGuire.**, R. Cook, and W.M. Post III. 2011. Towards better-constrained assessments of the carbon balance of North America in the 21st Century: A comparison of recent model and inventory-based estimates. Ecological Society of America Annual Meeting. Austin, Texas.
270. Bali, A., V. Alexeev, R.G. White, D.E. Russell, **A.D. McGuire**, and G.P. Kofinas. 2011. Phenology of mosquito activity within the summer ranges of caribou herds in northern Alaska. 2011 Arctic Ungulate Conference. Yellowknife, Northwest Territories, Canada.
269. *McConnell, N., **A.D. McGuire**, J.W. Harden, E. Kane, and M.R. Turetsky. 2011. Controls on ecosystem and root respiration in an Alaskan peatland. Annual Meeting of the European Geophysical Union. Vienna, Austria.
268. ***McGuire, A.D.**, D.J. Hayes, G. Stinson, D. Turner, Y. Wei, L.S. Heath, W. Kurz, T.O. West, B. McConkey, B. de Jong, D.N. Huntzinger, W.M. Post, R.B. Cook, and NACP Regional Synthesis Participants. 2011. Towards better-constrained assessments of the carbon balance of North America in the 21st Century: A comparison of recent model and inventory-based estimates. Third North American Carbon All-Investigators Meeting. New Orleans, Louisiana.
267. Grosse, G., J. Harden, M.R. Turetsky, **A.D. McGuire**, P. Camill, C. Tarnocai, S. Frohling, T. Schuur, T. Jorgenson, S. Marchenko, and V. Romanovsky. 2011. Vulnerability of high latitude soil carbon in North America to disturbance. Third North American Carbon All-Investigators Meeting. New Orleans, Louisiana.
266. *Yuan, F., S. Yi, **A.D. McGuire**, K.D. Johnson, J. Liang, J. Harden, and E.S. Kasischke. 2011. Dynamical basin-scale responses of taiga forest and soil C stocks to climate changes and wild fire history in the Yukon River Basin during the last century. Third North American Carbon All-Investigators Meeting. New Orleans, Louisiana.
265. Wullschleger, S.D., L.D. Hinzman, **A.D. McGuire**, S.F. Oberbauer, W.C. Oechel, R.J. Norby, P.E. Thornton, E.A. Schuur, H.H. Shugart, J.E. Walsh, and C.J. Wilson. 2010. Climate change experiments in Arctic ecosystems: Scientific strategy and design criteria. Fall Meeting of the American Geophysical Union, San Francisco, California.
264. Hoy, E., E.S. Kasischke, M.R. Turetsky, E.S. Kane, K.M. Barrett, and **A.D. McGuire**. 2010. Drivers of vulnerability of carbon stocks to variations in the fire regime in Alaskan

- boreal forests. Fall Meeting of the American Geophysical Union, San Francisco, California.
263. O'Donnell, J.A., J.W. Harden, **A.D. McGuire**, V.E. Romanovsky, M.Z. Kanevskiy, and T. Jorgenson. 2010. Soil carbon accumulation and loss in Alaska's boreal forest: Exploring the interactive effects of wildfire and permafrost thaw. Fall Meeting of the American Geophysical Union, San Francisco, California.
262. Johnson, K.D., J.W. Harden, **A.D. McGuire**, J. Bockheim, M. Clark, J. O'Donnell, C. Ping, and E.A. Schuur. 2010. Soil carbon storage in Alaska: Results from a new database and a multi-regional landscape approach to spatial distribution assessment. Fall Meeting of the American Geophysical Union, San Francisco, California.
261. Barman, R., A. Jain, M. Liang, and **A.D. McGuire**. 2010. Investigating the interactions between biogeophysical and biogeochemical processes in the northern high latitudes using a land surface model; feedbacks and climatic impacts. Fall Meeting of the American Geophysical Union, San Francisco, California.
260. Waldrop, M.P., J.W. Harden, M.R. Turetsky, D.G. Peterson, **A.D. McGuire**, M.J. Briones, A.C. Churchill, D.H. Doctor, and L.E. Pruett. 2010. Relationships between soil microbial communities and soil carbon turnover along a vegetation and moisture gradient in interior Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
259. Churchill, A.C., T.N. Hollingsworth, **A.D. McGuire**, and M.R. Turetsky. 2010. Response of vegetation structure and function to experimental drought and flooding in an Alaskan fen. Fall Meeting of the American Geophysical Union, San Francisco, California.
258. Kicklighter, D.W., D.J. Hayes, J.W. McClelland, B.J. Peterson, **A.D. McGuire**, and J.M. Melillo. 2010. Relative importance of multiple factors on terrestrial loading of DOC to Arctic river networks. Fall Meeting of the American Geophysical Union, San Francisco, California.
257. McConnell, N.A., **A.D. McGuire**, J.W. Harden, E.S. Kane, and M.R. Turetsky. 2010. Controls on ecosystem and root respiration in an Alaskan peatland. Fall Meeting of the American Geophysical Union, San Francisco, California.
256. **McGuire, A.D.** 2010. Feedbacks of northern high-latitude terrestrial ecosystems to the climate system. Department of Energy Climate Change Workshop on Experiments in High Latitude Ecosystems. Fairbanks, Alaska. Invited.
255. **McGuire, A.D.** and T.R. Christensen. 2010. Regional Carbon Cycle Assessment and Processes: Arctic Tundra. Regional Carbon Cycle Assessment on Lands and Oceans Workshop. Viterbo, Italy. Invited.

254. **McGuire, A.D.** 2010. Recent impacts of climate change in Alaska and other boreal regions. XXIII IUFRO World Congress, Seoul, South Korea. Invited.
253. Churchill, A.C., **A.D. McGuire**, and M.R. Turetsky. 2010. Responses of primary productivity and annual biomass in Alaskan boreal peatlands to changing hydrology and permafrost. Annual Meeting of the Ecological Society of America, Pittsburgh, Pennsylvania.
252. **McGuire, A.D.**, D.J. Hayes, D.W. Kicklighter, Q. Zhuang, M. Chen, K.R. Gurney, J.W. McClelland, J.M. Melillo, B.J. Peterson, and R.G. Prinn. 2010. Analysis of the carbon balance of boreal Asia from 1997 – 2006. International Conference on Environmental Observations, Modeling and Information Systems, Tomsk, Russia. Invited Report.
251. **McGuire, A.D.** 2010. Keynote: Sensitivity of the carbon cycle in the Arctic to climate change. Symposium on Spatio-Temporal Patterns in the Carbon Balance of Northern High Latitude Regions. Stockholm University. Stockholm, Sweden. Invited.
250. **McGuire, A.D.**, D.J. Hayes, D.W. Kicklighter, M. Manizza, Q. Zhuang, M. Chen, M.J. Follows, K.R. Gurney, J.W. McClelland, J.M. Melillo, and B.J. Peterson. 2010. The changing carbon cycle of the Arctic. State of the Arctic Conference, Miami, Florida.
249. Harden, J.W., K.D. Johnson, C.R. Lawrence, K.L. Manies, **A.D. McGuire**, J.A. O'Donnell, and M. P. Waldrop. 2010. Carbon in terrestrial landscapes: Is the past the key to the future? U.S. Geological Survey Global Change Conference. Denver, Colorado.
248. **McGuire, A.D.**, E.S. Euskirchen, D.J. Hayes, M. Balshi, Q. Zhuang, D.W. Kicklighter, and J.M. Melillo. 2009. Assessing the potential effects of northern high latitude terrestrial ecosystems on the climate system. Fall Meeting of the American Geophysical Union, San Francisco, California.
247. **McGuire, A.D.** 2009. Alaska Climate Change Impacts. Fall Meeting of the American Geophysical Union, San Francisco, California.
246. Hayes, D.J., **A.D. McGuire**, D.W. Kicklighter, K.R. Gurney, T.J. Burnside, and J.M. Melillo. 2009. Recent changes in the strength of the CO₂ sink in boreal land regions. Fall Meeting of the American Geophysical Union, San Francisco, California.
245. Hayes, D.J., **A.D. McGuire**, W.M. Post, L.S. Heath, W.A. Kurz, G. Stinson, M.M. Thornton, Y. Wei, T.O. West, and NACP Regional Synthesis Participants. 2009. Towards better-constrained assessments of the carbon balance of North America in the 21st Century: A comparison of recent model and inventory-based estimates. Fall Meeting of the American Geophysical Union, San Francisco, California.

244. Yuan, F., S. Yi, **A.D. McGuire**, K.D. Johnson, J. Liang, E. Kasischke, and J. Harden. 2009. Multiple site evaluation of a dynamic organic soil model for analyzing carbon responses of terrestrial ecosystems to climate change and fire disturbance in interior Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
243. Johnson, K., D. Agarwal, J. Harden, **A.D. McGuire**, C. Swanston, and C. van Ingen. 2009. The Alaska Soil Carbon Database: A powerful database for soil carbon synthesis and modeling. Fall Meeting of the American Geophysical Union, San Francisco, California.
242. Macheel, C.A., R.P. Daanen, D. Misra, **A.D. McGuire**, M. Turetsky, and M. Waddington. 2009. Application of *in-situ* measurements to characterize moisture and thermal dynamics in organic soils. Fall Meeting of the American Geophysical Union, San Francisco, California.
241. Zhuang, Q., J. Tang, Y. Lu, X. Xiong, J. Melillo, R. Prinn, and **A.D. McGuire**. 2009. Evaluating contributions of wetland and lake emissions of methane to atmospheric methane concentrations with models of biogeochemistry and atmospheric chemistry transport in northern high latitudes. Fall Meeting of the American Geophysical Union, San Francisco, California.
240. O'Donnell, J.A., J.W. Harden, V.E. Romanovsky, M.Z. Kanevskiy, M.T. Jorgenson, S.E. Ewing, **A.D. McGuire**, and Y. Shur. 2009. Permafrost controls on soil C storage and turnover in upland black spruce ecosystems of interior Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
239. Shvidenko, A., R.A. Birdsey, **A.D. McGuire**, W. Kurz, D. Schepaschenko, and I. McCallum. 2009. Impact of forests of northern extratropical belt on global carbon cycle. XIII World Forestry Congress, Buenos Aires, Argentina.
238. ***McGuire, A.D.**, J.W. Harden, S. Yi, D.A. Hayes, E. Euskirchen, D.W. Kicklighter, Q. Zhuang, K. Manies, and M. Turetsky. 2009. Meeting challenges in modeling carbon-climate feedbacks of northern high latitude ecosystems. International Conference on the Role and Importance of Peatlands in the Global Carbon Cycle: Past, Present, and Future, Prague, The Czech Republic. Invited.
237. *Churchill, A., **A.D. McGuire**, and M.R. Turetsky. 2009. Plant physiological and environmental controls on primary production in Alaskan peatlands. International Conference on the Role and Importance of Peatlands in the Global Carbon Cycle: Past, Present, and Future, Prague, The Czech Republic.
236. *Macheel, C.A., R. Daanen, D. Misra, **A.D. McGuire**, M. Turetsky, M. Waddington, and E. Kane. 2009. Numerical simulations of variably saturated flow with energy and water phase change in northern latitude peatlands. Annual meeting of the Association of Engineering and Environmental Geologists, Reno, Nevada.

235. **McGuire, A.D.**, D.J. Hayes, D.W. Kicklighter, M. Manizza, Q. Zhuang, M. Chen, M.J. Follows, K.R. Gurney, J.W. McClelland, J.M. Melillo, B.J. Peterson, and R.G. Prinn. 2009. An analysis of the carbon balance of the Arctic Basin from 1997-2006. Eighth International Carbon Dioxide Conference, Jena, Germany.
234. Davis, K., S. Alin, A. Barr, P. Coble, R. Cook, S. Denning, P. Griffith, D. Hayes, L. Heath, D. Huntzinger, A. Jacobson, A. King, W. Kurz, **A.D. McGuire**, S. Ogle, W. Post, B. Raczka, D. Ricciuto, A. Richardson, K. Schaefer, P. Thornton, S. Wofsy, and many data contributors. 2009. Towards well-constrained continental flux estimates: Progress in the North American Carbon Program. Eighth International Carbon Dioxide Conference, Jena, Germany.
233. Zhuang, Q., J. Tang, J. Melillo, M. Chen, Y. Jiang, D. Kicklighter, R. Prinn, and **A.D. McGuire**. 2009. Constraining the uncertainty of carbon dynamics in North America using eddy flux measurements and satellite-based net primary production data. Eighth International Carbon Dioxide Conference, Jena, Germany.
232. **McGuire, A.D.** 2009. The contemporary carbon cycle of the pan-Arctic: Data, models and spatial-temporal dynamics. Annual Meeting of the Ecological Society of America, Albuquerque, New Mexico. Invited.
231. Zhuang, Q., J. Tang, Y. Lu, K. Xu, X. Xiong, J. Melillo, R. Prinn, and **A.D. McGuire**. 2009. Evaluating contributions of wetland and lake emissions of methane to atmospheric methane concentrations with a process-based biogeochemistry model and an atmospheric chemistry transport model and satellite retrieval data in northern high latitudes. 2009. Spring Meeting of the American Geophysical Union, Toronto, Canada.
230. Turetsky, M.R., M.R. Chivers, J.M. Waddington, J.W. Harden, and **A.D. McGuire**. 2009. Climatic and vegetation controls on peatland CO₂ fluxes in Alaska: Early response to ecosystem-scale drought and soil warming manipulations. Spring Meeting of the American Geophysical Union, Toronto, Canada.
229. Kane, E., M. Turetsky, M. Waddington, J. Harden, and **A.D. McGuire**. 2009. Seasonal ice and drainage controls over solute chemistry in a rich boreal fen: A field water table manipulation study in Interior Alaska. Spring Meeting of the American Geophysical Union, Toronto, Canada.
228. Harden, J.W., M.R. Turetsky, M. Conlin, E. Kane, **A.D. McGuire**, and K.L. Manies. 2009. The influence of seasonal thaw and water table dynamics on soil carbon and trace gas flux in an ecosystem gradient in Interior Alaska. Spring Meeting of the American Geophysical Union, Toronto, Canada.
227. Zhuang, Q., J. Melillo, J. Reilly, **A.D. McGuire**, R. Prinn, A. Shvikdenko, N. Tchebakova, A. Sirin, S. Maksyutov, A. Peregona, D. Kicklighter, E. Parfenova, and G. Zhou. 2009.

- Changes of land cover and land use and greenhouse gas emissions in Northern Eurasia. Annual Meeting of the European Geophysical Union.
226. *Yi, S., **A.D. McGuire**, E. Kasischke, J. Harden, and K. Manies. 2008. Simulating the effects of wildfire on permafrost and soil carbon dynamics over the Yukon River Basin using the Terrestrial Ecosystem Model. Fall Meeting of the American Geophysical Union, San Francisco, California.
225. *Hayes, D.J., **A.D. McGuire**, D.W. Kicklighter, K.R. Gurney, T.J. Burnside, and J.M. Melillo. 2008. A recent shift in the carbon balance of high-latitude terrestrial ecosystems in response to changes in climate and disturbance regime. Fall Meeting of the American Geophysical Union, San Francisco, California.
224. *Kasischke, E.S., S.J. Goetz, **A.D. McGuire**, and D.J. Hayes. 2008. An overview of the role of disturbance in the terrestrial carbon budget. Fall Meeting of the American Geophysical Union, San Francisco, California. Invited.
223. *Brehm, N.C., R.P. Daanen, E. Kane, K. Shea, M. Waddington, D. Misra, and **A.D. McGuire**. 2008. Water and energy budget under a manipulated water table of a wetland in interior Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
222. *Manies, K., S. Yi, J. Harden, and **A.D. McGuire**. 2008. Boreal forest organic soil properties: Variation within soil profiles and across landscapes. Fall Meeting of the American Geophysical Union, San Francisco, California.
221. Jain, A., X. Yang, H. Kheshgi, **A.D. McGuire**, and W.M. Post. 2008. Nitrogen attenuation of terrestrial carbon cycle response to global environmental change. Fall Meeting of the American Geophysical Union, San Francisco, California.
220. Kilinc, M., J. Beringer, L. Hutley, N. Tapper, **A.D. McGuire**, K. Kurioka, S. Wood, and N. D'Argent. 2008. Biophysical controls of carbon exchange in old growth Mountain Ash stands. Fall Meeting of the American Geophysical Union, San Francisco, California.
219. Vorosmarty, C.J., **A.D. McGuire**, E. Rastetter, J. Hobbie, K. Farrow, and L. Hinzman. 2008. The United States Arctic Research Commission Scaling Study. First International Symposium on Arctic Research. Tokyo, Japan. Invited.
218. *Euskirchen, E.S., **A.D. McGuire**, T.S. Rupp, F.S. Chapin III, M. Oleson, J.S. Clein, and T. Burnside. 2008. Changes in atmospheric heating and carbon dynamics under future climate scenarios in fire-disturbed northern boreal forests. 14th International Boreal Forest Research Association Conference. Harbin, China.

217. Chapin, F.S. III, **A.D. McGuire**, E.S. Euskirchen, and R.W. Ruess. 2008. The changing global carbon cycle: Linking local plant-soil processes to global consequences. British Ecological Society Annual Meeting. London, England. Invited.
216. *Yi, S., **A.D. McGuire**, and J. Harden. 2008. Simulating the effects of wildfire on permafrost and soil carbon dynamics of black spruce over the Yukon River Basin using a terrestrial ecosystem model. Ninth International Conference on Permafrost. University of Alaska Fairbanks, Fairbanks, Alaska.
215. *O'Donnell, J.A., V.E. Romanovsky, J.W. Harden, K. Yoshikawa, and **A.D. McGuire**. 2008. The effect of soil moisture and ice content on the thermal conductivity of organic soil horizons underlain by discontinuous permafrost. Ninth International Conference on Permafrost. University of Alaska Fairbanks, Fairbanks, Alaska.
214. **McGuire, A.D.** 2008. Integrated regional changes in arctic ecosystem feedbacks: Implications for the global climate system. After the Melt: An International Conference on Ecological Responses to Arctic Climate Change. University of Aarhus, Aarhus, Denmark. Invited.
213. **McGuire, A.D.** 2008. Ecosystem changes/processes in high latitudes. 2008. NASA Carbon Cycle and Ecosystems Joint Science Workshop. University of Maryland, College Park, Maryland. Invited.
212. *Euskirchen, E.S., **A.D. McGuire**, F.S. Chapin III, and S. Yi. 2008. Changes in plant communities in northern Alaska under scenarios of climate change 2003 – 2100: Implications for climate feedbacks. International Geosphere-Biosphere Programme Workshop on Plant Functional Types. Paris, France. Invited.
211. *Hayes, D.J., **A.D. McGuire**, D.W. Kicklighter, and T.J. Burnside. 2008. Effects of climate, natural disturbance, forest management, and land use on dynamics in terrestrial ecosystems of northern Eurasia. First Workshop of the NEESPI Focus Research Center for Biogeochemical Cycles. Max-Planck Institute for Biogeochemistry, Jena, Germany. Invited.
210. *Euskirchen, E.S., **A.D. McGuire**, F.S. Chapin III, and S. Yi. 2007. Changes in plant communities in northern Alaska under scenarios of climate change 2003 to 2100. Fall Meeting of the American Geophysical Union, San Francisco, California.
209. ***McGuire, A.D.**, L. Anderson, T.R. Christensen, S. Dallimore, L. Guo, D. Hayes, M. Heimann, T. Lorenson, R. Macdonald, and N. Roulet. 2007. Sensitivity of the carbon cycle in the Arctic to climate change. Fall Meeting of the American Geophysical Union, San Francisco, California.

208. **McGuire, A.D.**, J. Melillo, D. Kicklighter, and L. Joyce. 2007. The role of nitrogen dynamics in the response of terrestrial carbon dynamics to changes in atmospheric carbon dioxide, climate, and land use. Fall Meeting of the American Geophysical Union, San Francisco, California. Invited.
207. Turetsky, M., J. Harden, **A.D. McGuire**, M. Waddington. 2007. Controls on feedbacks between northern wetlands and the climate system. Fall Meeting of the American Geophysical Union, San Francisco, California. Invited.
206. *Kasischke, E., M.R. Turetsky, E.S. Kane, C. Treat, J.W. Harden, K. Manies, R.D. Ottmar, **A.D. McGuire**, and S. Yi. 2007. Landscape and climate controls on fire severity in Alaskan black spruce forests. Fall Meeting of the American Geophysical Union, San Francisco, California. Invited.
205. *Balshi, M., **A.D. McGuire**, P. Duffy, M. Flannigan, J. Walsh, D. Kicklighter, and J. Melillo. 2007. The vulnerability of carbon storage in boreal North America during the 21st Century to increases in wildfire activity. Fall Meeting of the American Geophysical Union, San Francisco, California.
204. *Yi, S., **A.D. McGuire**, J. Harden, E. Kasischke, K. Manies, L. Hinzman, A. Liljedahl, V. Romanovsky, and S. Marchenko. 2007. A dynamic soil layer model for assessing the effects of wildfire on high latitude terrestrial ecosystems. Fall Meeting of the American Geophysical Union, San Francisco, California.
203. *Euskirchen, E.S., **A.D. McGuire**, F.S. Chapin III, and S. Yi. 2007. Changes in plant communities in northern Alaska under scenarios of climate change, 2003-2100. AAAS Arctic Division Meeting, Anchorage, Alaska.
202. *Yi, Shuhua, **A.D. McGuire**, J. Harden, and E. Kasischke. 2007. A dynamic soil layer model for assessing the effects of wildfire on high latitude terrestrial ecosystem dynamics. AAAS Arctic Division Meeting, Anchorage, Alaska.
201. *Balshi, M.S., and **A.D. McGuire**. 2007. The vulnerability of carbon storage in boreal North America during the 21st Century in response to increases in wildfire activity. AAAS Arctic Division Meeting, Anchorage, Alaska.
200. Chapin, F.S., III, J. Randerson, **A.D. McGuire**, J. Foley, and C. Field. 2007. Changing feedbacks in the ecosystem-climate system. Annual Meeting of the Ecological Society of America. San Jose, California. Invited.
199. *Balshi, M.S., **A.D. McGuire**, Q. Zhuang, J. Melillo, D.W. Kicklighter, E. Kasischke, C. Wirth, M. Flannigan, J. Harden, J.S. Clein, T.J. Burnside, J. McAllister, W.A. Kurz, M. Apps, and A. Shvidenko. 2007. The role of historical fire disturbance in the carbon

- dynamics of the pan-boreal region: A process-based analysis. 6th International Conference on Disturbance Dynamics in Boreal Forests, Fairbanks, Alaska.
198. Kasischke, E.S., M.R. Turetsky, **A.D. McGuire**, J. Harden, K. Manies, R. Ottmar, E.S. Kane, and N.H.F. French. 2007. Recent changes in climate and the fire regime increase depth of burning of the surface organic layer in Alaskan black spruce forests. 6th International Conference on Disturbance Dynamics in Boreal Forests, Fairbanks, Alaska.
197. *Myers-Smith, I., J. Harden, M. Wilmsking, C. Fuller, **A.D. McGuire**, and F.S. Chapin III. 2007. The influence of disturbance on wetland succession in a permafrost collapse, Fairbanks, Alaska. 1st International Symposium on Carbon in Peatlands, Wageningen, Netherlands.
196. Turetsky, M.R., M. Flannigan, J. Harden, E. Kasischke, **A.D. McGuire**, D. Vitt, and K. Wieder. 2007. Peatland C responses to changing hydrology and disturbance regimes: Perspectives from boreal North America. 1st International Symposium on Carbon in Peatlands, Wageningen, Netherlands.
195. Conlin, M.R., M.R. Turetsky, J.W. Harden, and **A.D. McGuire**. 2007. Soil climate controls on C cycling in an Alaskan fen: Responses to water table mediated by vegetation. 1st International Symposium on Carbon in Peatlands, Wageningen, Netherlands.
194. ***McGuire, A.D.**, E.S. Euskirchen, F.S. Chapin III, M. Balshi, Q. Zhuang, J. Melillo, D. Kicklighter, J. Walsh, and C. Wirth. 2007. Integrated regional changes in arctic climate feedbacks: Implications for the global climate system. CLASSIC Workshop on Land-Atmosphere Interactions in the Arctic, Abisko, Sweden. Invited.
193. ***McGuire, A.D.**, F.S. Chapin III, J. Walsh, C. Wirth, Q. Zhuang, and E. Euskirchen. 2007. Arctic feedbacks to the carbon-climate system. AAAS Annual Meeting, San Francisco, California. Invited.
192. *Balshi, M.S., **A.D. McGuire**, Q. Zhuang, J.M. Melillo, D.W. Kicklighter, E.S. Kasischke, C. Wirth, M. Flannigan, J. Harden, J.S. Clein, T. Burnside, J. McAllister, W. Kurz, M. Apps, and A. Shvidenko. 2006. The role of fire disturbance in the carbon dynamics of the pan-boreal region: A process-based analysis. Fall Meeting of the American Geophysical Union, San Francisco, California.
191. *Euskirchen, S.E., **A.D. McGuire**, and F.S. Chapin III. 2006. Energy feedbacks to the climate system due to reduced high latitude snow cover during 20th Century warming. Fall Meeting of the American Geophysical Union, San Francisco, California.
190. Conlin, M.R., M.R. Turetsky, J.W. Harden, and **A.D. McGuire**. 2006. Moisture controls on CO₂ fluxes from boreal wetlands: Integration of experimental and gradient-based

- measurements at the Bonanza Creek LTER, Interior Alaska. Fall Meeting of the American Geophysical Union, San Francisco, California.
189. Treat, C., M.R. Turetsky, J.W. Harden, and A.D. McGuire. 2006. Soil climate controls on methane fluxes in boreal peatlands: Experimental manipulation of soil temperature and water table position in an Alaskan rich fen. Fall Meeting of the American Geophysical Union, San Francisco, California.
188. Turetsky, M.R., B. Amiro, M. Flannigan, J. Harden, E. Kasischke, and **A.D. McGuire**. 2006. Peatlands and wildfire regimes in the North American boreal forest region: Implications for pyrogenic emissions. International Fire Congress, San Diego, California.
187. Kasischke, E.S., J. Allen, N.H.F. French, E. Hoy, R. Jandt, **A.D. McGuire**, K.A. Murphy, T.S. Rupp, M.R. Turetsky, and D.L. Verbyla. 2006. Satellite assessment of fire severity in Alaska's boreal forest. International Fire Congress, San Diego, California.
186. Chapin, F.S., III, S.F. Trainor, A. Lovecraft, P. Baer, L. DeWilde, H. Huntington, O. Huntington, **A.D. McGuire**, D. Natcher, J. Nelson, T.S. Rupp, and E. Zavaleta. 2006. Fire-mediated changes in the Alaska boreal forest: Interactions of changing climate and human activities. International Fire Congress, San Diego, California.
185. *Euskirchen, S.E., **A.D. McGuire**, and F.S. Chapin III. 2006. Energy feedbacks to the climate system due to reduced high latitude snow cover during 20th Century warming. Earth System Science Partnership Open Science Conference, Beijing, China.
184. *Calef, M., **A. D. McGuire**, F.S. Chapin III, and L. DeWilde. 2006. Human influence on fire at the regional scale in Alaska. XIV International Conference of the Society for Human Ecology, Bar Harbor Maine.
183. Chapin, F.S., III, S.F. Trainor, A. Lovecraft, **A.D. McGuire**, T.S. Rupp, N. Fresco, H. Huntington, and D.C. Natcher. 2006. Impacts of global and national processes on local human-fire interactions in interior Alaska: Constraints on future options. XIV International Conference of the Society for Human Ecology, Bar Harbor Maine.
182. *Euskirchen, S.E., **A.D. McGuire**, and F.S. Chapin III. 2006. Energy feedbacks to the climate system due to reduced high latitude snow cover during 20th Century warming. AAAS Arctic Division Meeting, Fairbanks, Alaska.
181. *Balshi, M.S., **A.D. McGuire**, Q. Zhuang, J.M. Melillo, D.W. Kicklighter, E.S. Kasischke, C. Wirth, M. Flannigan, J. Harden, J.S. Clein, T. Burnside, J. McAllister, W. Kurz, M. Apps, and A. Shvidenko. 2006. The role of fire disturbance in the carbon dynamics of the pan-boreal region: A process-based analysis. AAAS Arctic Division Meeting, Fairbanks, Alaska.

180. Trainor, S.F., F.S. Chapin III, M. Bifelt, M. Calef, L. DeWilde, N. Fresco, **A.D. McGuire**, H. Huntington, O. Huntington, A. Lovecraft, D.C. Natcher, J. Nelson, T.S. Rupp, A. Starfield, and E. Zavaleta. 2006. Human-Fire interactions in the boreal forest of Alaska. AAAS Arctic Division Meeting, Fairbanks, Alaska.
179. ***McGuire, A.D.**, E. Euskirchen, F.S. Chapin III, M. Balshi, Q. Zhuang, J. Melillo, D. Kicklighter, J. Walsh, and C. Wirth. 2006. Integrated regional changes in boreal forest climate feedbacks: Implications for the global climate system. 13th International Boreal Forest Research Association. Umea, Sweden.
178. Turetsky, M.R., B. Amiro, M. Flannigan, J. Harden, E. Kasischke, and **A.D. McGuire**. 2006. Peatlands and wildfire regimes in the North American boreal forest region: Implications for pyrogenic emissions. Wetlands 2006 Symposium. Traverse City, Michigan. Invited.
177. *Calef, M.P., **A.D. McGuire**, and F.S. Chapin III. 2006. When fire suppression fails: A GIS-based analysis. Annual Meeting of the Ecological Society of America. Memphis, Tennessee.
176. Zhuang, Q., J.M. Melillo, B.S. Felzer, D.W. Kicklighter, **A.D. McGuire**, and R.G. Prinn. 2006. A modelling analysis of impact of fire disturbances on net carbon exchanges in boreal terrestrial ecosystems. Annual Meeting of the Ecological Society of America. Memphis, Tennessee.
175. Kicklighter, D.W., J.M. Melillo, R.G. Prinn, **A.D. McGuire**, B.S. Felzer, and Q. Zhuang. 2006. Importance of DOC exports on estimates of terrestrial carbon sequestration. Annual Meeting of the Ecological Society of America. Memphis, Tennessee.
174. Conlin, M.R., M.R. Turetsky, J.W. Harden, and **A.D. McGuire**. 2006. Moisture controls on CO₂ fluxes from boreal wetlands: Integration of experimental and gradient-based measurements at the Bonanza Creek LTER, interior Alaska. BIOGEOMON 2006 5th International Symposium on Ecosystem Behavior. Santa Cruz, California.
173. ***McGuire, A.D.**, E. Euskirchen, F.S. Chapin III, M. Balshi, Q. Zhuang, J. Melillo, D. Kicklighter, J. Walsh, and C. Wirth. 2006. Integrated regional changes in boreal forest climate feedbacks: Implications for the global climate system. USGS Global Change Workshop. Denver, Colorado.
172. **McGuire, A.D.** 2006. Integrated regional changes in boreal forests: Implications for the global climate system. International Institute for Applied Systems Analysis. Laxenburg, Austria. Invited.

171. Kicklighter, D.W., J.M. Melillo, R.G. Prinn, **A.D. McGuire**, B.S. Felzer, and Q. Zhuang. 2006. Relative importance of multiple stresses on terrestrial carbon sequestration. Spring Meeting of the American Geophysical Union. Baltimore, Maryland.
170. *Balshi, M.S., and **A.D. McGuire**. 2006. The role of fire disturbance in the response of historical carbon dynamics in the boreal forest from 1950-2002. Annual Meeting of the European Geophysical Union. Vienna, Austria.
169. Harden, J., K. Manies, and **A.D. McGuire**. 2006. Resilience of Alaskan Boreal Systems: The mechanistic role of soil temperature in fractal geometry of fire scars. Annual Meeting of the European Geophysical Union. Vienna, Austria.
168. *Euskirchen, E.S., **A.D. McGuire**, and F.S. Chapin III. 2006. The relative influences of the responses of albedo and the exchange with the atmosphere of carbon storage in high latitude terrestrial ecosystems on the climate system. Annual Meeting of the European Geophysical Union. Vienna, Austria.
167. Turetsky, M., N. Millar, M. Conlin, J. Harden, **A.D. McGuire**, and D. Misra. 2005. The Alaska Peatland Experiment (APEX): An experimental approach to peatland carbon cycling at the Bonanza Creek LTER site. Fall Meeting of the American Geophysical Union, San Francisco, California.
166. Zhuang, Q., J.M. Melillo, R.G. Prinn, **A.D. McGuire**, D.W. Kicklighter, B.S. Felzer, A. Sokolov, M.C. Sarofim, P.A. Steudler, and S. Hu. 2005. Net methane exchanges between the atmosphere and land ecosystems in the northern high latitudes over the 21st Century. Fall Meeting of the American Geophysical Union, San Francisco, California.
165. *Euskirchen, S.E., **A.D. McGuire**, D.W. Kicklighter, Q. Zhuang, J.S. Clein, R.J. Dargaville, D.G. Dye, J.S. Kimball, K.C. McDonald, J.M. Melillo, V.E. Romanovsky, and N.V. Smith. 2005. Importance of recent shifts in soil thermal dynamics on growing season length, productivity, and carbon sequestration in terrestrial high-latitude ecosystems. Seventh International Carbon Dioxide Conference. Boulder, Colorado.
164. *Joyce, L.A., **A.D. McGuire**, D.P. Coulson, J. Clein, and T. Burnside. 2005. Historical changes in carbon storage of the eastern United States: Uncertainties associated with forest harvest and agricultural land use activities. Seventh International Carbon Dioxide Conference. Boulder, Colorado.
163. **McGuire, A.D.** 2005. Modeling responses of high latitude terrestrial ecosystems to global change. Annual Meeting of the Ecological Society of America. Montreal, Canada.
162. Turetsky, M., J. Harden, **A.D. McGuire** and E. Kasischke. 2005. Altered hydrology in boreal peatlands: Pervasive drought and the erosion of carbon stocks in high latitudes. Annual Meeting of the Ecological Society of America. Montreal, Canada.

161. *Calef, M.P., **A.D. McGuire**, F.S. Chapin and La'Ona DeWilde. 2005. The human footprint on wildfire in the boreal forest of interior Alaska. Annual Meeting of the Ecological Society of America. Montreal, Canada.
160. *Myers-Smith, I.H., **A.D. McGuire**, J.W. Harden, and F.S. Chapin. 2005. The influence of disturbance on carbon exchange and succession in a permafrost collapse. Annual Meeting of the Ecological Society of America. Montreal, Canada.
159. Kicklighter, D.W., J.M. Melillo, R.G. Prinn **A.D. McGuire**, B.S. Felzer, and Q. Zhuang. 2005. Relative importance of multiple stresses on terrestrial carbon sequestration. Annual Meeting of the Ecological Society of America. Montreal, Canada.
158. Zhuang, Q., J.M. Melillo, B.S. Felzer, D.W. Kicklighter, **A.D. McGuire**, A. Sokolov, R.G. Prinn, MC. Sarofim, P.A. Steudler, and S. Hu. 2005. Modelling CH₄ and CO₂ fluxes in northern high latitudes under contemporary climate conditions. Annual Meeting of the Ecological Society of America. Montreal, Canada.
157. **McGuire, A.D.**, and the IGBP High Latitude Transect Working Group. 2005. Responses of high latitude ecosystems to global change: Potential consequences for the climate system. Annual Meeting of the European Geophysical Union. Vienna, Austria. Invited.
156. ***McGuire, A.D.**, L.A. Joyce, J.S. Clein, D.P. Coulson, T.J. Burnside, and J.F. Gentry. 2004. Historical changes in carbon storage of the eastern United States: Uncertainties associated with forest harvest and agricultural activities. Fall Meeting of the American Geophysical Union. San Francisco, California.
155. *Joyce, L., **A. McGuire**, D. Coulson, J. Clein, T. Burnside, and J. Gentry. 2004. Historical Land use modeling of agriculture and forestry. Fall Meeting of the American Geophysical Union. San Francisco, California.
154. *Euskirchen, S., **A.D. McGuire**, D.W. Kicklighter, Q. Zhuang, J.S. Clein, K.C. McDonald, N.V. Smith, J.S. Kimball, R.J. Dargaville, and D.G. Dye. 2004. Importance of recent shifts in soil thermal dynamics on growing season length, productivity, and carbon sequestration in terrestrial high-latitude ecosystems. Fall Meeting of the American Geophysical Union. San Francisco, California.
153. *Calef, M.P., **A.D. McGuire**, F.S. Chapin, and L. DeWilde. 2004. Human impacts on wildfires in interior Alaska. Fall Meeting of the American Geophysical Union. San Francisco, California.
152. *Myers-Smith, I.H., **A.D. McGuire**, F.S. Chapin, and J.W. Harden. 2004. CO₂ and CH₄ exchange in interior Alaska: Interactions between fire, water, soils and vegetation. Fall Meeting of the American Geophysical Union. San Francisco, California.

151. *M.S. Balshi, **A.D. McGuire**, and P.A. Duffy. 2004. Modeling the dynamics of wildfire in the North American boreal forest. Fall Meeting of the American Geophysical Union. San Francisco, California.
150. Zhuang, Q., J. Melillo, **A. McGuire**, D. Kicklighter, R. Prinn, P. Steudler, B. Felzer, and S. Hu. 2004. Methane emissions and the greenhouse gas budget in Alaska for the past and 21st Centuries. Fall Meeting of the American Geophysical Union. San Francisco, California.
149. Kasischke, E.S., M.R. Turetsky, **A.D. McGuire**, and N.H. French. 2004. Variations in the fire regime in the North American boreal forest between 1990 and 2004 and their potential impacts on terrestrial carbon storage. Fall Meeting of the American Geophysical Union. San Francisco, California.
148. Hinzman, L.D., N. Bettez, W.R. Bolton, F.S. Chapin, M.B. Dyurgerov, C.L. Fastie, B. Griffith, R.D. Hollister, A. Hope, H.P. Huntington, A.M. Jensen, G.J. Jia, T. Jorgenson, D.L. Kane, D.R. Klein, G. Kofinas, A.H. Lynch, A.H. Lloyd, **A.D. McGuire**, F.E. Nelson, M. Nolan, W.C. Oechel, T.E. Osterkamp, C.H. Racine, V.E. Romanovsky, R.S. Stone, D.A. Stow, M. Sturm, C.E. Tweedie, G.L. Vourlitis, M.D. Walker, D.A. Walker, P.J. Webber, J. Welker, K.S. Winker, and K. Yoshikawa. 2004. Evidence and implications of recent climate change in northern Alaska and other Arctic Regions. Fall Meeting of the American Geophysical Union. San Francisco, California.
147. ***McGuire, A.D.**, L.A. Joyce, J.S. Clein, D.P. Coulson, and T.J. Burnside. 2004. Historical changes in carbon storage of the eastern United States: Uncertainties associated with forest harvest and agricultural activities. Annual meeting of the Ecological Society of America. Portland, Oregon.
146. *Thompson, C., J. Beringer, **A.D. McGuire**, and F.S. Chapin III. 2004. Carbon exchange along a gradient from arctic tundra to boreal treeline. Annual meeting of the Ecological Society of America. Portland, Oregon.
145. *Zhuang, Q., J.M. Melillo, D.W. Kicklighter, B.S. Felzer, **A.D. McGuire**, A. Sokolov, R.G. Prinn, P.A. Steudler, and S. Hu. 2004. The global warming potential budget of net methane and carbon dioxide exchanges in northern high latitudes. Annual meeting of the Ecological Society of America. Portland, Oregon.
144. *Chapin, F.S., III, L. DeWilde, S. Trainor, M. Calef, **A.D. McGuire**, and T.S. Rupp. 2004. Vulnerability and resilience in a directionally changing world: Interactions of social and ecological variables governing the fire regime in interior Alaska. Annual meeting of the Ecological Society of America. Portland, Oregon.

143. **McGuire, A.D.** 2004. Climate disturbance interactions in boreal forest ecosystems. Opening presentation for 12th Conference of the International Boreal Forest Research Association. Fairbanks, Alaska.
142. *Chapin, F.S., III, L. DeWilde, P. Duffy, T.S. Rupp, **A.D. McGuire**, E. Kasischke, D. Mann, D. Verbyla, S. Trainor, and M. Calef. 2004. Scale-dependency of human-fire interactions in the Alaskan Boreal Forest. 12th Conference of the International Boreal Forest Research Association. Fairbanks, Alaska. Invited.
141. *Calef, M.P., **A.D. McGuire**, and T.S. Rupp. 2004. Human impacts on fire in the Western Arctic: A statistical assessment at the regional scale. 12th Conference of the International Boreal Forest Research Association. Fairbanks, Alaska.
140. *Beier, C.M., G.P. Juday, P.E. Hennon, D.D'Amore, **A.D. McGuire**, and F.S. Chapin III. 2004. Dendroclimatology of declining *Chamaecyparis nootkatensis* (Yellow Cedar) forests in Southeast Alaska. 12th Conference of the International Boreal Forest Research Association. Fairbanks, Alaska.
139. *Balshi, M., D. Verbyla, and **A.D. McGuire**. 2004. Evaluating the influence of historical wildfire scars and climate on regional NDVI changes in Alaska. 12th Conference of the International Boreal Forest Research Association. Fairbanks, Alaska.
138. *Zhuang, Q., J.M. Melillo, D.W. Kicklighter, B.S. Felzer, A. Sokolov, R.G. Prinn, **A.D. McGuire**, P.A. Steudler, and S. Hu. 2004. The relationship of global warming potentials to methane and carbon dioxide exchanges in northern high latitudes estimated with a process-based biogeochemistry model. 12th Conference of the International Boreal Forest Research Association. Fairbanks, Alaska. Invited.
137. **McGuire, A.D.** 2003. Progress and challenges in modeling soil carbon dynamics of high latitude ecosystems: Temporal and spatial perspectives. Fall Meeting of the American Geophysical Union. San Francisco, California. Invited.
136. *Zhuang, Q., J. Melillo, D. Kicklighter, R. Prinn, **A.D. McGuire**, P. Steudler, B. Felzer, and S. Hu. 2003. Methane emissions from the terrestrial ecosystems of northern high latitudes during the 20th Century: A retrospective analysis with a process-based biogeochemistry model. Fall Meeting of the American Geophysical Union. San Francisco, California.
135. Thompson, C., J. Beringer, **A.D. McGuire**, and F.S. Chapin III. 2003. Carbon exchange along a vegetation gradient from arctic tundra to boreal forest. Fall Meeting of the American Geophysical Union. San Francisco, California.
134. **McGuire, A.D.** 2003. Progress and challenges in modeling soil carbon dynamics of high latitude ecosystems: Temporal and spatial perspectives. International Symposium on

- Boreal Forest Disturbance and Its Effects to Global Warming. Hokkaido University, Sapporo, Japan. Invited.
133. Shvidenko, A., M. Apps, F.S. Chapin III, M. Fukuda, **A.D. McGuire**, and S. Nilsson. 2003. Disturbances and disturbance regimes in boreal forests: A system-analytical view. International Symposium on Boreal Forest Disturbance and Its Effects to Global Warming. Hokkaido University, Sapporo, Japan. Invited.
 132. ***McGuire, A.D.**, J.S. Clein, and Q. Zhuang. 2003. Modeling modes of variability in carbon exchange between high latitude terrestrial ecosystems and the atmosphere: A synthesis of progress and identification of challenges. Study of Environmental Change in the Arctic (SEARCH) Open Science Meeting.
 131. *Thompson, C., J. Beringer, F.S. Chapin III, and **A.D. McGuire**. 2003. Relationship of structural complexity to land-surface energy exchange along a gradient from arctic tundra to forest. 54th AAAS Arctic Science Conference. Fairbanks, Alaska.
 130. Maier, J.A.K., J. Ver Hoef, **A.D. McGuire**, H.A. Maier, L. Saperstein, and R.T. Bowyer. 2003. Are data on fire history and landscape useful for predicting density and distribution of moose and enhancing management of populations in Interior Alaska? 54th AAAS Arctic Science Conference. Fairbanks, Alaska.
 129. *Myers-Smith, I., **A.D. McGuire**, J. Harden, and F.S. Chapin III. 2003. Carbon exchange along a soil moisture gradient after fire. 54th AAAS Arctic Science Conference. Fairbanks, Alaska.
 128. *Balshi, M., D. Verbyla, and **A.D. McGuire**. 2003. Modeling the response of satellite data to disturbance: Investigating the influence of historical wildfire scars and climate on NDVI in Alaska. LTER All Scientists Meeting. Seattle, Washington.
 127. Chapin, F.S., III, T.S. Rupp, A. Lovcraft, A. Starfield, L. DeWilde, and **A.D. McGuire**. 2003. Planning for resilience: Modeling change in human-fire interactions in the Alaskan boreal forest. LTER All Scientists Meeting. Seattle, Washington.
 126. Zhuang, Q., J.M. Melillo, D.W. Kicklighter, R.G. Prinn, P.A. Steudler, **A.D. McGuire**, B.S. Felzer, and S. Hu. 2003. Modeling methane consumption and emission between the terrestrial biosphere and the atmosphere. Ecological Society of America Annual Meeting. Savannah, Georgia.
 125. Harden, J., M. Turetsky, J. Carrasco, K. Manies, **A.D. McGuire**, J. Neff, M. Pavich, N. Rosenbloom, S. Trumbore, and Q. Zhuang. 2003. Towards Understanding long-term terrestrial carbon: Mechanisms, modern tools, and modeling of soil systems. XVI INQUA Congress. Reno, Nevada.

124. **McGuire, A.D.** 2003. Modeling analyses of circumpolar carbon responses to global change: Approaches and issues. Synthesis workshop of “Current and future status of carbon storage and ecosystem-atmosphere exchange in the circumpolar north: Processes, budgets, and projections. Skogar, Iceland. Invited.
123. **McGuire, A.D.** 2003. Climate change and tundra and boreal communities. A public forum and workshop on “Early warning from Alaska: Global warming’s front line” hosted by the Alaska Conservation Foundation. Washington, DC. Invited.
122. **McGuire, A.D.** 2003. Effects of increasing temperature and atmospheric CO₂ on regional and global C storage. Terrestrial Ecosystems Responses to Atmospheric and Climatic Change (TERACC) workshop on “Interactions between increasing CO₂ and temperature in terrestrial ecosystems. Lake Tahoe, California. Invited.
121. **McGuire, A.D.** 2003. Scaling plant gas exchange (photosynthesis, respiration): Modeling interactions between increasing temperature and atmospheric carbon dioxide. Terrestrial Ecosystems Responses to Atmospheric and Climatic Change (TERACC) workshop on “Interactions between increasing CO₂ and temperature in terrestrial ecosystems. Lake Tahoe, California. Invited.
120. **McGuire, A.D.** and D. Zamolodchikov. 2003. Status of modeling the location and timing of carbon sources and sinks in Northern Eurasia. Northern Eurasian Earth System Partnership Initiative (NEESPI) Science Plan Workshop. Suzdal, Russia. Invited.
119. **McGuire, A.D.** 2003. Landscape analysis of moose distribution relative to fire history in Interior Alaska. Second Biennial Alaska Refuge Biologist Conference. Cooper Landing, Alaska. Invited.
118. *Zhuang, Q., J.M. Melillo, **A.D. McGuire**, R.J. Dargaville, D.W. Kicklighter, J.S. Clein, R.B. Myneni, J. Dong, V.E. Romanovsky, J. Harden, J.E. Hobbie. 2002. Effects of soil thermal dynamics on carbon cycling in extratropical terrestrial ecosystems of the Northern Hemisphere. Fall Meeting of the American Geophysical Union. San Francisco, California.
117. *Chapin, F.S. III, J. Beringer, C. Copass, H. Epstein, A. Lloyd, A. Lynch, **A.D. McGuire**, M. Sturm. 2002. Vegetation Feedbacks Explain Recent High-latitude Summer Warming in Alaskan Arctic and Boreal Ecosystems. Fall Meeting of the American Geophysical Union. San Francisco, California. Invited.
116. Hinzman, L.D., N. Bettez, F.S. Chapin, M. Dyurgerov, C. Fastie, D.B. Griffith, A. Hope, H.P. Huntington, A. Jensen, D.L. Kane, G. Kofinas, A. Lynch, A. Lloyd, **A.D. McGuire**, F.E. Nelson, T. Osterkamp, W.C. Oechel, C. Racine, V.E. Romanovsky, J. Schimel, D. Stow, M. Sturm, C.E. Tweedie, G. Vourlitis, M. Walker, P.J. Webber, J. Welker, K. Winker, K. Yoshikawa. 2002. Evidence and Implications of Recent Climate Change in

Terrestrial Regions of the Arctic. Fall Meeting of the American Geophysical Union. San Francisco, California.

115. *Harden, J.W., **A.D. McGuire**, J. Neff, K.P. O'Neill, B.J. Stocks, and Q. Zhuang. 2002. Soil carbon of northern latitudes and their potential for CO₂ exchange. USDA Symposium on Natural Resource Management to Offset Greenhouse Gas Emissions. Raleigh, North Carolina. Invited.
114. **McGuire, A.D.** 2002. Carbon cycling in extratropical ecosystems of the Northern Hemisphere during the 20th Century: A modeling analysis of the influences of soil thermal dynamics. IGBP/GCTE-LUCC Transect Meeting. Guangzhou, China. Invited.
113. ***McGuire, A.D.** and the IGBP High Latitude Transect Working Group. 2002. Environmental variation, vegetation distribution, and carbon dynamics in high latitudes. International Boreal Forest Research Association XI International Conference: Boreal Forests and the Environment: Local, Regional and Global Scales. Krasnoyarsk, Russia. Invited.
112. Shvidenko, A.Z., Schullius, Ch., Apps, M., Bergen, K., Cihlar, J., Efremov, D.F., Houghton, R.A., **McGuire, A.D.**, Nilsson, S., Pleshikov, F.I., Rozhkov, V.A., Vaganov, E.A., Steffen, and W., Schultze, D.-E. 2002. On an integrated project on estimating the role of northern Eurasia forests in global biogeochemical cycles. International Boreal Forest Research Association XI International Conference: Boreal Forests and the Environment: Local, Regional and Global Scales. Krasnoyarsk, Russia. Invited.
111. *Calef, M. P., **A.D. McGuire**, T.S. Rupp, E.M. Debevec, H.E. Epstein, and H.H. Shugart. 2002. Land cover change in the Western Arctic: Development of a logistic regression model. Annual Meeting of the Ecological Society of America. Tucson, Arizona.
110. *Zhuang, Q., J.S. Clein, **A.D. McGuire**, R.J. Dargaville, V.E. Romanovsky, J. Harden, D.W. Kicklighter, J.M. Melillo, J.E. Hobbie, and E.B. Rastetter. 2002. Modeling the effects of soil thermal dynamics on the seasonality of carbon fluxes across northern temperate and high latitude regions. Annual Meeting of the Ecological Society of America. Tucson, Arizona.
109. *Copass, C.D., J. Beringer, F.S. Chapin III, **A.D. McGuire**, and D.A. Walker. 2002. Relationship of structural complexity to land surface exchange along a gradient from arctic tundra to forest. Annual Meeting of the Ecological Society of America. Tucson, Arizona.
108. Chapin, F.S., J. Beringer, W. Eugster, A. Lloyd, A. Lynch, J. McFadden, **A.D. McGuire**, and M. Sturm. 2002. Vegetation feedbacks to climate warming in Alaskan arctic and boreal ecosystems. Annual Meeting of the Ecological Society of America. Tucson, Arizona.

107. Joyce, L.A., D.P. Coulson, **A.D. McGuire**, R. Birdsey, and B. Smith. 2002. Harvesting disturbances on forestland from 1600 to present. Annual Meeting of the Ecological Society of America. Tucson, Arizona.
106. **McGuire, A.D.** 2002. The role of atmospheric carbon dioxide, climate, and disturbance in the carbon balance of the terrestrial biosphere in the twentieth century: Global and regional perspectives. Workshop on Terrestrial Ecosystems Responses to Atmospheric and Climatic Change (TERACC). Durham, New Hampshire. Invited.
105. **McGuire, A.D.** 2002. Environmental variation, vegetation distribution, and carbon dynamics in high latitudes. Annual Research Review of the Alaska Cooperative Fish and Wildlife Research Unit. Fairbanks, Alaska.
104. **McGuire, A.D.** 2001. Environmental variation, vegetation distribution, and carbon dynamics in high latitudes. Fall Meeting of the American Geophysical Union. San Francisco, California. Invited.
103. *Dargaville, R.J., **A.D. McGuire**, and P.J. Rayner. 2001. Uncertainties in high-latitude net CO₂ fluxes, seasonality and interannual variability from a Bayesian inversion. Fall Meeting of the American Geophysical Union. San Francisco, California. Invited.
102. *Zhuang, Q., J.S. Clein, **A.D. McGuire**, R.J. Dargaville, D.W. Kicklighter, J.M. Melillo, J.E. Hobbie, and E.B. Rastetter. 2001. Modeling the effects of soil thermal dynamics on the seasonality of carbon fluxes across northern temperate and high latitude regions. San Francisco. Fall Meeting of the American Geophysical Union. San Francisco, California.
101. *Copass, C.D., F.S. Chapin III, **A.D. McGuire**, and S. Zimov. 2001. Carbon storage in successional landscapes following disturbance by fire in the Cherskii region, northeast Siberia. Fall Meeting of the American Geophysical Union. San Francisco, California.
100. Walsh, J.E., C. Elfring, C.J. Vorosmarty, and **A.D. McGuire**. 2001. Enhancing NASA's contribution to arctic terrestrial hydrology and the study of polar change. Fall Meeting of the American Geophysical Union. San Francisco, California.
99. Joyce, L.A., D. Coulson, **A.D. McGuire**, and B. Smith. 2001. U.S. timber harvest from 1750 to 1997. Fall Meeting of the American Geophysical Union. San Francisco, California.
98. Heimann, M., I.C. Prentice, J. Foley, T. Hickler, D.W. Kicklighter, **A.D. McGuire**, J.M. Melillo, N. Ramankutty, and S. Sitch. Carbon Cycle Model Linkage Project (CCMLP): Evaluating biogeochemical process models with atmospheric measurements and field experiments. Fall Meeting of the American Geophysical Union. San Francisco, California. Invited.

97. **McGuire, A.D.** 2001. Monitoring the Biosphere. Study of Environmental Arctic Change (SEARCH) Workshop on large-scale atmosphere/cryosphere observations. Seattle, Washington. Invited.
96. ***McGuire, A.D.**, and the IGBP High Latitude Transect Working Group. 2001. Environmental variation, vegetation distribution, and carbon dynamics in high latitudes. International Symposium on Arctic Feedbacks to Global Change, Rovaniemi, Finland.
95. ***McGuire, A.D.**, and the IGBP High Latitude Transect Working Group. 2001. Environmental variation, vegetation distribution, carbon dynamics, and water/energy exchange in high latitudes. Annual Meeting of the Ecological Society of America. Madison, Wisconsin.
94. *Zhuang, Q., **A.D. McGuire**, J. Harden, K.P. O'Neill, V.E. Romanovsky, and J. Yarie. 2001. Modeling the carbon dynamics of a fire chronosequence in interior Alaska. Annual Meeting of the Ecological Society of America. Madison, Wisconsin.
93. *Copass, C.D., J. Beringer, F.S. Chapin III, **A.D. McGuire**, and D.A. Walker. 2001. Functional type contributions to production, biomass and carbon flux along a structural gradient from tundra to forest at treeline in Council, Alaska. Annual Meeting of the Ecological Society of America. Madison, Wisconsin.
92. Ramankutty, N., **A. McGuire**, and Carbon Cycle Model Linkage Project Participants. 2001. The effects of historical changes in global agricultural land on the terrestrial carbon cycle. International Geosphere-Biosphere Programme Global Change Open Science Conference. Amsterdam, The Netherlands.
91. Kicklighter, D., M. Webster, M. Sarofim, **A. McGuire**, J. Melillo, J. Reilly, R. Prinn, and H. Tian. 2001. Potential responses of terrestrial carbon storage to increasing atmospheric CO₂ concentration and variable climate: Sensitivity to changes in vegetation nitrogen concentration. International Geosphere-Biosphere Programme Global Change Open Science Conference. Amsterdam, The Netherlands.
90. Melillo, J., H. Tian, **A. McGuire**, and D. Kicklighter. 2001. Nitrogen controls on carbon sequestration. International Geosphere-Biosphere Programme Global Change Open Science Conference. Amsterdam, The Netherlands.
89. Tian, H., J. Melillo, D. Kicklighter, S. Pan, J. Liu, **A. McGuire**, B. Moore III. 2001. Regional carbon dynamics in monsoon Asia and its implications to the global carbon cycle. International Geosphere-Biosphere Programme Global Change Open Science Conference. Amsterdam, The Netherlands.
88. Neilson, R., S. Running, D. Schimel, D. Bachelet, T. Hickler, A. King, D. Kicklighter, T. Kittel, J. Lenihan, **D. McGuire**, J. Melillo, D. Ojima, W. Parton, W. Post, I. Prentice, M.

- Sykes, P. Thornton, and H. Tian. 2001. Potential impacts of climate change on carbon sequestration and ecosystems in the conterminous U.S.: Analyses from six VEMAP models. International Geosphere-Biosphere Programme Global Change Open Science Conference. Amsterdam, The Netherlands.
87. **McGuire, A.D.** 2001. Interactions between arctic terrestrial ecosystems and the climate system. The Arctic Forum 2001. Arlington, Virginia. Invited.
86. **McGuire, A.D.** 2001. Effects of Climate Change on the Function and Structure of Ecosystems in Alaska. Committee on Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope, National Research Council, National Academy of Sciences. Fairbanks, Alaska. Invited.
85. ***McGuire, A.D.**, R.A. Meier, Q. Zhuang, M. Macander, T.S. Rupp, E. Kasischke, D. Verbyla, D.W. Kicklighter, and J.M. Melillo. 2000. The role of fire disturbance, climate, and atmospheric carbon dioxide in the response of historical carbon dynamics in Alaska from 1950 to 1995: The importance of fire history. Fall Meeting of the American Geophysical Union. San Francisco, California.
84. Chapin, F.S. III, **A.D. McGuire**, and J. Randerson. 2000. Feedbacks from high-latitude ecosystems to climate. Fall Meeting of the American Geophysical Union. San Francisco, California. Invited.
83. *Copass, C.D., J. Beringer, **A.D. McGuire**, F.S. Chapin III, and D.A. Walker. 2000. Characterization of vegetation biomass and structure along a gradient from tundra to forest at treeline in Council, Alaska. Fall Meeting of the American Geophysical Union. San Francisco, California.
82. *Beringer, J., F.S. Chapin III, C.D. Copass, and **A.D. McGuire**. 2000. A comparison of surface energy exchanges across a structural transition of arctic vegetation. Fall Meeting of the American Geophysical Union. San Francisco, California.
81. *Clein, J.S., **A.D. McGuire**, R.J. Dargaville, D.W. Kicklighter, J.M. Melillo, J.E. Hobbie, and E.B. Rastetter. 2000. Modeling the effect of snowmelt dynamics on the seasonality of carbon fluxes across northern temperate and high latitude regions. Fall Meeting of the American Geophysical Union. San Francisco, California.
80. *Silapaswan, C.S., D.L. Verbyla, and **A.D. McGuire**. 2000. Land cover change on the Seward Peninsula: The use of remote sensing to evaluate the potential influences of climate change on historical vegetation dynamics. Fall Meeting of the American Geophysical Union. San Francisco, California.

79. Chambers, S.D., M.L. Durant, F.S. Chapin III, and **A.D. McGuire**. 2000. Post-fire net carbon exchange of Alaskan boreal forests. Fall Meeting of the American Geophysical Union. San Francisco, California.
78. *Zhuang, Q., **A.D. McGuire**, J. Harden, K.P. O'Neill, and J. Yarie. 2000. Modeling the carbon dynamics of a fire chronosequence in interior Alaska. Fall Meeting of the American Geophysical Union. San Francisco, California.
77. *Meier, R., J. Harden, C. Silapaswan, D. Swanson, Q. Zhuang, and **A.D. McGuire**. 2000. Characterization of soil drainage classes for the study of soil carbon storage in Alaska. Fall Meeting of the American Geophysical Union. San Francisco, California.
76. *Zhang, X., **A.D. McGuire**, R.W. Ruess. 2000. Maintenance respiration of black spruce ecosystems in Alaska: Implications for spatial and temporal scaling. Fall Meeting of the American Geophysical Union. San Francisco, California.
75. Kicklighter, D.W., M.D. Webster, **A.D. McGuire**, H.Tian, J.M. Reilly, J.M. Melillo, and R.G. Prinn. 2000. Potential responses of terrestrial net primary production and carbon storage to increasing atmospheric carbon dioxide concentration and variable climate: Sensitivity to changes in vegetation nitrogen concentration. Fall Meeting of the American Geophysical Union. San Francisco, California.
74. Melillo, J.M., H. Tian, D.W. Kicklighter, **A.D. McGuire**, B. Moore III, and C.J. Vorosmarty. 2000. Ecological constraints on carbon sequestration in North America. Fall Meeting of the American Geophysical Union. San Francisco, California.
73. Harden, J.W. and **A.D. McGuire**. 2000. The biogeochemistry of fire: Modeling and measuring the impact of fire on carbon, nutrients, and atmospheric emissions. U.S. Geological Survey Wildland Fire Workshop. Oct. 31-Nov. 3, Los Alamos, New Mexico.
72. **McGuire, A.D.** October, 2000. The role of atmospheric carbon dioxide, climate, and disturbance in the carbon balance of the terrestrial biosphere in the twentieth century: Global and regional perspectives. Center for Climate and Global Change Research. McGill University, Montreal, Canada. Invited.
71. ***McGuire, A.D.**, R.A. Meier, Q. Zhuang, M. Macander, T.S. Rupp, E. Kasischke, D. Verbyla, D.W. Kicklighter, and J.M. Melillo. 2000. The role of fire disturbance, climate, and atmospheric carbon dioxide in the response of historical carbon dynamics in Alaska from 1950 to 1995. Annual Meeting of the Ecological Society of America. Snowbird, Utah.
70. *Clein, J.S., **A.D. McGuire**, X. Zhuang, D.W. Kicklighter, J.M. Melillo, S.C. Wofsy, and P.G. Jarvis. 2000. The role of nitrogen dynamics in modeling historical and projected carbon balance of black spruce ecosystems across North America: Comparisons with

CO₂ fluxes measured in the Boreal Ecosystem Atmosphere Study (BOREAS). Annual Meeting of the Ecological Society of America. Snowbird, Utah.

69. Chapin, F.S., S. Chambers, J. Beringer, D. Dissing, D. Verbyla, A. Lynch, and **A.D. McGuire**. 2000. Effects of landscape structure and heterogeneity on terrestrial feedbacks to regional climate. Annual Meeting of the Ecological Society of America. Snowbird, Utah. Invited.
68. *Zhuang, Q., V.E. Romanovsky, J.S. Clein, **A.D. McGuire**, J.M. Melillo, D.W. Kicklighter, and S. Wofsy. 2000. Modeling permafrost and carbon dynamics in an old black spruce ecosystem. Annual Meeting of the Ecological Society of America. Snowbird, Utah.
67. Tian, H., J.M. Melillo, D.W. Kicklighter, **A.D. McGuire**, and B. Moore III. 2000. Terrestrial carbon dynamics of North America from 1860 to 1992: Quantifying mechanisms responsible for carbon sinks. Annual Meeting of the Ecological Society of America. Snowbird, Utah.
66. ***McGuire, A.D.**, R.A. Meier, Q. Zhuang, M. Macander, T.S. Rupp, E. Kasischke, D. Verbyla, D.W. Kicklighter, and J.M. Melillo. 2000. The role of fire disturbance, climate, and atmospheric carbon dioxide in the response of historical carbon dynamics in Alaska from 1950 to 1995: A process-based analysis with the Terrestrial Ecosystem Model. International Boreal Forest Research Association X International Conference: The Role of Boreal Forests and Forestry in the Global Carbon Budget. Edmonton, Canada. Invited.
65. *Dargaville, R.J., **A.D. McGuire**, P. Rayner, and CCMLP Participants. 2000. Comparison of high latitude large scale flux estimates from ecosystem models and an inversion of atmospheric CO₂ measurements. International Boreal Forest Research Association X International Conference: The Role of Boreal Forests and Forestry in the Global Carbon Budget. Edmonton, Canada.
64. Chapin, F.S., M.L. Gotholdt, S. Rupp, E. Zaveleta, R. Naylor, A.M. Starfield, **A.D. McGuire**, and D. Verbyla. 2000. Interaction of vegetation and human controls over fire regime in the Alaskan boreal forest. International Boreal Forest Research Association X International Conference: The Role of Boreal Forests and Forestry in the Global Carbon Budget. Edmonton, Canada.
63. **McGuire, A.D.**, and CCMLP Participants. 1999. The response of terrestrial carbon storage between 1980 and 1989 to changes in atmospheric carbon dioxide, climate, and agricultural land use: A comparison among terrestrial biosphere models of the Carbon Cycle Model Linkage Project (CCMLP). Fall Meeting of the American Geophysical Union. San Francisco, California.
62. *Copass, C., **A.D. McGuire**, F.S. Chapin III, and D. Walker. 1999. Potential for vegetation change in the Alaskan Arctic based on observations and modeling. Arctic Division

Science Conference of the American Association for the Advancement of Science.
Fairbanks, Alaska.

61. Beringer, J., F.S. Chapin III, A. Lynch, **A.D. McGuire**, and V. Romanovsky. 1999. Potential impacts of vegetation changes in Arctic tundra on Alaskan regional climate. Arctic Division Science Conference of the American Association for the Advancement of Science. Fairbanks, Alaska.
60. *Zhuang, Q., V.E. Romanovsky, **A.D. McGuire**, J.S. Clein, and X. Zhang. 1999. A coupled model of soil thermal and biogeochemical dynamics for application to boreal forest ecosystems: Evaluation of temporal and spatial scaling performance. Arctic Division Science Conference of the American Association for the Advancement of Science. Fairbanks, Alaska.
59. *Zhang, X., **A.D. McGuire**, R.W. Ruess. 1999. The distribution of canopy nitrogen in Alaskan black spruce ecosystems. Arctic Division Science Conference of the American Association for the Advancement of Science. Fairbanks, Alaska.
58. ***McGuire, A.D.**, J.S. Clein, J.M. Melillo, and D.W. Kicklighter. 1999. The sensitivity of simulated net ecosystem production in mature black spruce (*Picea mariana*) to two different formulations of soil nitrogen transformations in the Terrestrial Ecosystem Model. Annual Meeting of the International Society of Ecological Modeling. Spokane, Washington. Invited.
57. *Clein, J.S., B.L. Kwiatkowski, **A.D. McGuire**, J.E. Hobbie, and E.B. Rastetter. 1999. Modeling carbon response of tundra ecosystems to historical and projected climate: A comparison of a regional- and a global-scale ecosystem model applied to the Kuparuk Basin. Annual Meeting of the Ecological Society of America. Spokane, Washington.
56. **McGuire, A.D.**, and F. S. Chapin III. 1999. The Alaska Transect: Historical research background, present research activities, and future research opportunities. GCTE-IGBP Global Change Transects Workshop. Darwin, Australia. Invited.
55. ***McGuire, A.D.**, F.S. Chapin III, J.S. Clein, J.W. Harden, M. Heimann, T. Kaminski, D.W. Kicklighter, R.A. Meier, J.M. Melillo, J.T. Randerson, and E.B. Rastetter. 1999. The role of high latitude ecosystems in the global carbon cycle: Insights and uncertainties identified from retrospective analyses at large spatial scales. Conference sponsored on behalf of GCTE-IGBP: "How nutrient cycles constrain carbon balances in boreal forests and arctic tundra". Abisko, Sweden. Invited.
54. *Clein, J.S., **A.D. McGuire**, X. Zhang, J.M. Melillo, D.W. Kicklighter, S. Wofsy, and P. Jarvis. 1999. The role of nitrogen dynamics in modeling historical and projected carbon balance of black spruce ecosystems across North America: Comparisons with CO₂ fluxes measured in the Boreal Ecosystem Atmosphere Study (BOREAS). Conference sponsored

on behalf of GCTE-IGBP: "How nutrient cycles constrain carbon balances in boreal forests and arctic tundra". Abisko, Sweden.

53. **McGuire, A.D.** 1998. Spatially explicit data for impact studies of global change in Alaska: A description of the Alaska-VEMAP historical and future climate data sets. Workshop on assessing the consequences of climate change for Alaska and the Bering Sea Region. Fairbanks, Alaska. Invited.
52. *Clein-Curley J., **A.D. McGuire**, J.E. Hobbie, B. Kwiatkowski, E.B. Rastetter, J.M. Melillo, and D.W. Kicklighter. 1998. Modeling annual carbon responses of tundra ecosystems in the Kuparuk Basin to historical and projected climate: A comparison of a regional- and a global-scale ecosystem model. Arctic Division Science Conference of the American Association for the Advancement of Science. Denali National Park, Alaska.
51. *Zhang, X., **A.D. McGuire**, and J. Clein-Curley. 1998. Modeling carbon balance of an old black spruce ecosystem in northern Manitoba, Canada. Arctic Division Science Conference of the American Association for the Advancement of Science. Denali National Park, Alaska.
50. *Zhuang, Q., V.E. Romanovsky, and **A.D. McGuire**. 1998. Modeling soil temperature of Alaskan black spruce forests. Arctic Division Science Conference of the American Association for the Advancement of Science. Denali National Park, Alaska.
49. ***McGuire, A.D.**, J.M. Melillo, D.W. Kicklighter, M. Heimann, J.S. Clein-Curley, R.A. Meier, W. Sauf, and J. Helfrich. 1998. Modeling seasonal heterotrophic respiration across high latitudes: Comparison with measurements of atmospheric carbon dioxide. Joint meeting of the American Society of Limnology and Oceanography and the Ecological Society of America. St. Louis, Missouri. Invited.
48. **McGuire, A.D.** 1998. The role of arctic ecosystems in the global carbon cycle. Workshop on Climate Change and Arctic Biomes: Structure, Function and Modelling. Potsdam Institute for Climate Impact Research. Potsdam, Germany. Invited.
47. Pan, Y., **A.D. McGuire**, D.W. Kicklighter, J.M. Melillo, S. Sitch, I.C. Prentice, R.A. Birdsey, and J. Hom. 1998. Simulation of interactive vegetation dynamics and biogeochemical cycles in temperate ecosystems of the conterminous United States. GCTE-LUCC Open Science Conference in Global Change. Barcelona, Spain.
46. Sitch, S., **A.D. McGuire**, and other CCMLP Participants. 1998. Impacts of CO₂, climate and land use on the carbon budget of the terrestrial biosphere during the historical period 1860-1995. GCTE-LUCC Open Science Conference in Global Change. Barcelona, Spain.
45. Tian, H., J.M. Melillo, D.W. Kicklighter, J. Helfrich, and **A.D. McGuire**. 1998. Net carbon exchange of the biosphere-atmosphere in the tropics: The roles of climate variability,

increasing atmospheric CO₂, and land-use change. GCTE-LUCC Open Science Conference in Global Change. Barcelona, Spain.

44. Xiao, X., J.M. Melillo, D.W. Kicklighter, **A.D. McGuire**, H. Tian, Y. Pan, C.J. Vorosmarty, and Z. Yang. 1998. Transient climate change and potential croplands of the world in the 21st Century. GCTE-LUCC Open Science Conference in Global Change. Barcelona, Spain.
43. ***McGuire, A.D.**, P.E. Seiser, L.K. Duffy, G. Golet, M.A. Litzow, and D.D. Roby. 1998. Mechanism of impact and potential recovery of pigeon guillemots (*Cepphus columba*) from the *Exxon Valdez* oil spill. 1998 *Exxon Valdez* Oil Spill Trustees Restoration Workshop. Anchorage, Alaska.
42. ***McGuire, A.D.**, J.M. Melillo, D.W. Kicklighter, and J. Helfrich. 1997. Modeling soil carbon fluxes at the global scale: Comparison with measurements of atmospheric carbon dioxide. Annual Meeting of the Soil Science Society of America. Anaheim, California. Invited.
41. Kicklighter, D.W., M. Bruno, S. Donges, G. Esser, M. Heimann, J. Helfrich, F. Ift, F. Joos, J. Kaduk, G.H. Kohlmaier, **A.D. McGuire**, J.M. Melillo, R. Meyer, B. Moore III, A. Nadler, I.C. Prentice, W. Sauf, A.L. Schloss, S. Sitch, U. Wittenberg, and G. Wurth. 1997. A first order analysis of the potential of CO₂ fertilization to affect the global carbon budget: A comparison of four terrestrial biosphere models. Fifth International CO₂ Meeting. Cairnes, Australia.
40. Kicklighter, D.W., J.M. Melillo, **A.D. McGuire**, X. Xiao, H. Tian, Y. Pan, and J. Helfrich. 1997. Transient responses of net primary production and carbon storage in natural ecosystems to historical changes in atmospheric CO₂ concentration: The role of nitrogen. Annual Meeting of the Ecological Society of America. Albuquerque, New Mexico.
39. Xiao, X., J.M. Melillo, D.W. Kicklighter, **A.D. McGuire**, R.G. Prinn, P.H. Stone, C. Wang, and A. Sokolov. 1997. Sensitivity of carbon fluxes of the terrestrial biosphere to transient climate changes in the 21st Century. Annual Meeting of the Ecological Society of America. Albuquerque, New Mexico.
38. Tian, H., J.M. Melillo, D.W. Kicklighter, **A.D. McGuire**, Y. Pan, X. Xiao, and J. Helfrich. 1997. Transient responses of terrestrial carbon flux and storage at the continental scale to changes in atmospheric CO₂ and temperature from 1854 to 1990. Annual Meeting of the Ecological Society of America. Albuquerque, New Mexico.
37. **McGuire, A.D.** 1997. Carbon Storage and Sensitivity. Land-Atmosphere-Ice Interactions (LAI) 1997 Synthesis Workshop. Orcas Island, Washington.

36. **McGuire, A.D.** 1997. The role of seasonal and inter-annual variation of net ecosystem production in high latitude ecosystems in the global carbon cycle. Extrapolation of Arctic and Boreal Processes that Feedback to Climate Workshop II: Changes in Trace Gas Fluxes. National Center for Ecological Analysis and Synthesis. Santa Barbara, California. Invited.
35. **McGuire, A.D.**, D.W. Kicklighter, J.M. Melillo, and J. Helfrich. 1997. Simulation of historical patterns of net ecosystem production in high latitude ecosystems. Arctic System Science Land-Atmosphere-Ice Interactions 1997 Science Workshop. Seattle, Washington.
34. **McGuire, A.D.** 1997. Mechanisms of impact and potential recovery of pigeon guillemots from the *Exxon Valdez* oil spill. Annual Research Review of the Alaska Cooperative Fish and Wildlife Research Unit. Fairbanks, Alaska.
33. Holland-Bartels, L., T. Bowyer, T. Dean, **A.D. McGuire**, B. Ballachey, D. Esler, and J. Bodkin. 1997. Nearshore Vertebrate Predator Project. 1997 *Exxon Valdez* Oil Spill Trustees Restoration Workshop. Anchorage, Alaska.
32. **McGuire, A.D.**, presenter for the participants of the Carbon Cycle Model Linkage Project (CCMLP). 1996. The evaluation of terrestrial carbon cycle models through simulations of the seasonal cycle of atmospheric CO₂: Comparisons at northern CO₂ monitoring stations. Annual Meeting of the Arctic Division of the American Association for the Advancement of Science. Girdwood, Alaska.
31. **McGuire, A.D.**, J.M. Melillo, D.W. Kicklighter, Y. Pan, and X. Xiao. 1996. The role of the nitrogen cycle in the global response of net primary production and carbon storage to doubled atmospheric carbon dioxide. Annual Meeting of the Ecological Society of America. Providence, Rhode Island.
30. Xiao, X., J.M. Melillo, D.W. Kicklighter, Y. Pan, **A.D. McGuire**, and J. Helfrich. 1996. Equilibrium responses of terrestrial net primary production in China to changes in climate and atmospheric CO₂ concentration. Annual Meeting of the Ecological Society of America. Providence, Rhode Island.
29. Pan, Y., S. Sitch, J.M. Melillo, I.C. Prentice, D.W. Kicklighter, **A.D. McGuire**, and J. Helfrich. 1996. Simulating stand vegetation dynamics coupled with biogeochemical processes. Annual Meeting of the Ecological Society of America. Providence, Rhode Island.
28. Nungesser, M.K., L.A. Joyce, and **A.D. McGuire**. 1996. The effect of spatial aggregation error on forest net primary production estimates under climate change. Annual Meeting of the Ecological Society of America. Providence, Rhode Island.

27. **McGuire, A.D.** 1996. Global climate change and the equilibrium responses of carbon storage in arctic and subarctic regions. Annual Research Review of the Alaska Cooperative Fish and Wildlife Research Unit. Fairbanks, Alaska.
26. **McGuire, A.D.** and J.E. Hobbie. 1996. Global climate change and the equilibrium responses of carbon storage in arctic and subarctic regions. Arctic System Science Modeling Workshop. Boulder, Colorado. Invited.
25. **McGuire, A.D.**, J.M. Melillo, B. Moore III, D.W. Kicklighter, Y. Pan, A.L. Schloss, C.J. Vorosmarty, and X. Xiao. 1995. The role of the nitrogen cycle in the global response of net primary production and carbon storage to doubled atmospheric carbon dioxide. First Global Analysis, Interpretation, and Modeling Science Conference of the International Geosphere-Biosphere Programme. Garmish, Germany.
24. **McGuire, A.D.**, presenter for VEMAP Participants. 1995. The responses of net primary production (NPP) and total carbon storage for the continental United States to changes in atmospheric CO₂, climate and vegetation. Arctic Division Science Conference of the American Association for the Advancement of Science. Fairbanks, Alaska.
23. **McGuire, A.D.**, presenter for VEMAP Participants. 1995. The responses of net primary production (NPP) and total carbon storage for the continental United States to changes in atmospheric CO₂, climate, and vegetation. Annual meeting of the Ecological Society of America. Snowbird, Utah.
22. Xiao, X., D.W. Kicklighter, J.M. Melillo, **A.D. McGuire**, P.H. Stone, and A.P. Sokolov. 1995. Assessing the impact of elevated atmospheric CO₂ and climate change scenarios of two and three dimensional general circulation models on primary production and total carbon storage of terrestrial ecosystems. Annual meeting of the Ecological Society of America. Snowbird, Utah.
21. Pitelka, L.F., presenter for VEMAP Participants (including **A.D. McGuire**). 1995. The Vegetation/Ecosystem Modeling and Analysis Project: An introduction. Annual meeting of the Ecological Society of America. Snowbird, Utah.
20. Kittel, T.G.F., presenter for VEMAP Participants (including **A.D. McGuire**). 1995. The VEMAP integrated dataset for simulation of ecological responses to global change: Current climate and climate change scenarios. Annual meeting of the Ecological Society of America. Snowbird, Utah.
19. Haxeltine, T.G.F. and R.P. Neilson, presenter for VEMAP Participants (including **A.D. McGuire**). 1995. Intercomparison of three biogeography models: BIOME2, MAPSS and DOLY. Annual meeting of the Ecological Society of America. Snowbird, Utah.

18. Ojima, D.S., presenter for VEMAP Participants (including **A.D. McGuire**). 1995. The impact of climate and CO₂ on ecosystem dynamics of the continental United States. Annual meeting of the Ecological Society of America. Snowbird, Utah.
17. Pan, Y., presenter for VEMAP Participants (including **A.D. McGuire**). 1995. Sensitivity of terrestrial ecosystems to elevated atmospheric CO₂: Comparison of model simulation studies to CO₂ effects. Annual meeting of the Ecological Society of America. Snowbird, Utah.
16. **McGuire, A.D.**, J.M. Melillo, L.A. Joyce, and D.W. Kicklighter. 1994. Equilibrium responses of soil carbon to climate change: Issues of parameterization. Annual meeting of the Ecological Society of America. Knoxville, Tennessee.
15. Pan, Y., D.W. Kicklighter, J.M. Melillo, and **A.D. McGuire**. 1994. The climatic sensitivity of NPP estimates by the Terrestrial Ecosystem Model for the coterminous United States. Annual meeting of the Ecological Society of America. Knoxville, Tennessee.
14. **McGuire, A.D.**, J.M. Melillo, and D.W. Kicklighter. 1994. Equilibrium responses of soil carbon to climate change: Issues of parameterization. First Global Change in Terrestrial Ecosystems (GCTE) Science Conference. Woods Hole, Massachusetts.
13. Kicklighter, D.W., J.M. Melillo, C.L.H. Thomson, **A.D. McGuire**, and Y. Pan. 1994. Effects of agriculture on carbon stocks and fluxes at the global scale. First Global Change in Terrestrial Ecosystems (GCTE) Science Conference. Woods Hole, Massachusetts.
12. Joyce, L., J. Mills, L. Heath, **A.D. McGuire**, R. Haynes, and R. Birdsey. 1994. Forest sector impacts from changes in forest productivity under climate change. First Global Change in Terrestrial Ecosystems (GCTE) Science Conference. Woods Hole, Massachusetts.
11. **McGuire, A.D.**, J.M. Melillo, L.A. Joyce, and D.W. Kicklighter. 1993. Equilibrium carbon storage in North American ecosystems as estimated by the Terrestrial Ecosystem Model for pre-industrial CO₂: soil C storage along gradients of temperature, moisture, and texture. Annual meeting of the Ecological Society of America. Madison, Wisconsin.
10. **McGuire, A.D.**, L.A. Joyce, D.W. Kicklighter, J.M. Melillo, and G. Esser. 1992. NPP response of climax temperate forests to elevated CO₂ and temperature: A North American comparison between two global models. Annual meeting of the Ecological Society of America. Honolulu, Hawaii.
9. **McGuire, A.D.**, L.A. Joyce, D.W. Kicklighter, J.M. Melillo, and G. Esser. 1991. Estimates of potential net primary productivity for ecosystems in North America: Comparisons between two global models. Annual Meeting of the Ecological Society of America. San Antonio, Texas.

8. **McGuire, A.D.** 1990. Interactions for pollination that maintain simultaneous blooming in two *Hedysarum* species (Fabaceae) that occur sympatrically in interior Alaska. Annual Meeting of the Ecological Society of America. Snowbird, Utah.
7. **McGuire, A.D.** and W.S. Armbruster. 1989. Organized flowering times in guilds of insect-pollinated plants on south-facing bluffs in interior Alaska: Evaluation of hypotheses. Annual Meeting of the Botanical Society of America. Toronto, Canada.
6. **McGuire, A.D.** and W.S. Armbruster. 1988. A test for reproductive interactions between two sequentially blooming *Saxifraga* species on south-facing bluffs in interior Alaska. Annual meeting of the Ecological Society of America. Davis, California.
5. **McGuire, A.D.** and W.S. Armbruster. 1988. The organization of flowering times in guilds of insect-pollinated plants on south-facing bluffs in interior Alaska. AAAS, Arctic Division Meetings. Fairbanks, Alaska.
4. **McGuire, A.D.**, and W.S. Armbruster. 1985. Phenological structuring of the flora on south-facing bluffs: experimental tests of mechanisms. AAAS, Arctic Division Meetings. Fairbanks, Alaska.
3. Armbruster, W.S. and **A.D. McGuire**. 1985. Environmental controls over the development of steppe vegetation on south-facing bluffs in interior Alaska. AAAS, Arctic Division Meetings. Fairbanks, Alaska.
2. Juday, G.P., A. Batten, and **A.D. McGuire**. 1985. The south-facing Volkmar Bluff Meadows: Composition and setting. AAAS, Arctic Division Meetings. Fairbanks, Alaska.
1. **McGuire, A.D.** 1984. Phenotypic plasticity vs. genetically based changes in breeding parameters in a population of Red-winged Blackbirds (*Agelaius phoeniceus*) at the northwest edge of the range in North America. Annual meeting of the American Ornithologists' Union. Lawrence, Kansas.