

# Curriculum Vitae

## Michael E. Mann

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### Education

- 1998 Ph.D. Yale University, Department of Geology & Geophysics (defended 1996)
- 1993 M.Phil. Yale University, Department of Geology & Geophysics
- 1991 M.Phil. Yale University, Department of Physics
- 1991 M.S. Yale University, Department of Physics
- 1989 A.B. (double), University of California-Berkeley, Applied Math, Physics (Honors)

### Honors and Awards

- 2014 Named Highly Cited Researcher, Institute for Scientific Information (ISI)
- 2014 Friend of the Planet Award, National Center for Science Education
- 2014 Article [Mann, M.E. *et al*, Northern Hemisphere Temperatures During the Past Millennium: Inferences, Uncertainties, and Limitations, *Geophysical Research Letters*, 26, 759-762, 1999] selected by American Geophysical Union for inclusion in *GRL* 40<sup>th</sup> anniversary collection.
- 2014 Profiled in *Contemporary Authors* (Gale Publishing)
- 2013 National Conservation Achievement Award, National Wildlife Federation
- 2013 Bloomberg News list of 50 Most Influential People
- 2013 Honorable mention, Green Book Awards, for “The Hockey Stick and the Climate Wars”
- 2013 Appointed Distinguished Professor, Pennsylvania State University
- 2013 Elected Fellow of the American Meteorological Society
- 2012 Hans Oeschger Medal, European Geosciences Union
- 2012 Elected Fellow of the American Geophysical Union
- 2008 Profiled in *American Environmental Leaders From Colonial Times to the Present*
- 2008 Website “RealClimate.org” (co-founded by M. Mann) chosen as one of top 15 “green” websites by *Time Magazine* (April 2008)
- 2007 Contributed (with other IPCC report authors) to the award of the 2007 Nobel Peace Prize
- 2006 American Geophysical Union Editors’ Citation for Excellence in Refereeing (for ‘*Geophysical Research Letters*’)
- 2005 Website “RealClimate.org” (co-founded by M. Mann) chosen as one of top 25 “Science and Technology” websites by *Scientific American*
- 2005 John Russell Mather Paper award for 2005 by the Association of American Geographers [for article: Frauenfeld, O., Davis, R.E., and Mann, M.E., A Distinctly Interdecadal Signal of Pacific Ocean-Atmosphere Interaction, *Journal of Climate* 18, 1709-1718, 2005]
- 2002 Named by *Scientific American* as one of 50 leading visionaries in science and technology
- 2002 Outstanding Scientific Paper award for 2002 by NOAA Office of Oceanic and Atmospheric Research (OAR) [for article: Delworth, T.L., Mann, M.E., Observed and Simulated Multidecadal Variability in the Northern Hemisphere, *Climate Dynamics*, 16, 661-676, 2000]
- 2002 Article [Mann et al, "Global-scale temperature patterns and climate forcing over the past six centuries", *Nature*, 392, 779-787, 1998] selected for 'fast moving fronts' by Institute for Scientific Information (ISI)
- 2002 Selected as one of 10 'Mead Honored Faculty', University of Virginia

- 1998 Council of Graduate Schools' Distinguished Dissertation Award, nominated  
 1997 Phillip M. Orville Prize for outstanding dissertation in the earth sciences, Yale University  
 1996 Alexander Hollaender Distinguished Postdoctoral Fellowship (DOE)  
 1989 Josiah Willard Gibbs Prize for outstanding research and scholarship in Physics, Yale University

### **Professional Experience (1996-present)**

- 2013- *Distinguished Professor of Meteorology*, Pennsylvania State University  
 2009- *Professor*, Pennsylvania State University, Department of Meteorology [joint appointments in Department of Geosciences and Earth and Environmental Systems Institute (EESI)]  
 2005-09 *Associate Professor*, Pennsylvania State University, Department of Meteorology [joint appointments in Department of Geosciences and Earth and Environmental Systems Institute (EESI)]  
 2005- *Director*, Earth System Science Center (ESSC), Pennsylvania State University  
 1999-05 *Assistant Professor*, University of Virginia, Department of Environmental Sciences  
 1998-99 *Research Assistant Professor*, University of Massachusetts, Department of Geosciences  
 1997-98 *Adjunct Assistant Professor*, University of Massachusetts, Department of Geosciences  
 1996-98 *Alexander Hollaender Distinguished Postdoctoral Research Fellow* (DOE)

### **Courses Taught**

#### Penn State University:

EARTH 2	<i>The Earth System and Global Change</i>
EM SC 100S	<i>Climate Change and Potential Societal Impacts (1<sup>st</sup> year seminar)</i>
ENNEC 472	<i>Quantitative Analysis in the Earth Sciences</i>
METEO 469	<i>From Meteorology to Mitigation: Understanding Global Warming</i>
METEO 470	<i>Climate Dynamics</i>
METEO 523	<i>Climate Modeling</i>
METEO 597B/GEOSCI 597B	<i>Climate Dynamics Seminar</i>

#### University of Virginia:

EVSC 181	<i>Climate Change: Past and Future</i>
EVSC 350	<i>Atmosphere and Weather</i>
EVSC 495	<i>Capstone Seminar: The Arctic</i>
EVCS 494/495/EVAT795	<i>Data Analysis &amp; Climate Change</i>
EVSC 494/EVAT 796	<i>Climate and the History of Human Culture</i>
EVAT 554	<i>Ocean-Atmosphere Dynamics</i>
EVAT 793	<i>Statistical Climatology</i>
EVAT 795	<i>Modeling of Climate Variability</i>

#### University of Massachusetts:

GEO 591	<i>Data Analysis &amp; Climate Change</i>
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### **Mentoring**

#### **Postdoctoral Researchers:**

##### **Penn State University (2005-)**

Dept. of Meteorology:

- *Palash Sinha* (joint w/ J. Fuentes), 2013-
- *Ryan Sriver* (NOAA Postdoctoral Fellow) 2008-2009
- *Byron Steinman* (NSF Postdoctoral Fellow), 2012-2014
- *Zhihua Zhang*, 2005-2009

## **University of Virginia (1999-2005)**

Dept. of Environmental Sciences:

- *Feinbao Ni* (joint w/ M. Hughes, University of Arizona), 2002-2003
- *Pedro Ribera*, (Visiting postdoctoral research fellow, University of Vigo, Spain), 2000
- *Scott Rutherford*, 2000-2003
- *Mei-Yu* (joint w/ H. Epstein), 2002-2003

## **Graduate Students:**

### **Penn State University (2005-)**

Dept. of Meteorology:

- *Aviva Braun*, M.S. 2009: committee member, 2008-09
- *Daniel Brouillette*, M.S. candidate: major adviser, 2012-
- *Fangxing Fan*, Ph.D. 2011: major adviser, 2005-11
- *Screece Dawn Goldberger*, M.S. candidate: major adviser, 2013-
- *Maria Herrmann*, Ph.D. 2010: committee member, 2008-10
- *Holly Hamilton*, Ph.D. candidate: committee member, 2012-
- *Brandon Katz*, M.S. 2009: co-adviser, 2006-09
- *Muge Komercu*, Ph.D. candidate: co-adviser, 2006-08
- *Alexander Kowaleski*, M.S. candidate: committee member, 2013-
- *Michael Kozar*, M.S. 2011: major adviser, 2010-11
- *Liang Ning*, Ph.D. 2012: major adviser, 2008-12
- *Andrew Ross*, M.S. 2011: committee member, 2012-
- *Andra Reed*, Ph.D. candidate: major adviser, 2012-
- *Michelle Ricciardi*, M.S. 2011: committee member, 2011
- *Thomas Sabbatelli*, M.S. 2009 (*AMS Graduate Fellow*): co-adviser, 2008-09
- *Steven Simon*, Ph.D. candidate: major adviser, 2011-
- *Vanessa Vanyo*, M.S. candidate: major adviser, 2013-

Dept. of Geosciences:

- *Patrick Applegate*, Ph.D. 2009: committee member, 2005-09
- *Joshua Dorin*, M.S. 2008: committee member, 2006-08
- *John Mischler*, M.S. 2008: committee member, 2007-08

Dept. of Geography:

- *Chris Karmosky*, Ph.D. 2012: committee member, 2009-12

Dept. of Civil and Environmental Engineering

- *Kathryn van Werkhoven*, Ph.D. 2008: committee member, 2007-08

### **University of Virginia (1999-2005)**

Dept. of Environmental Sciences:

- *Julian Adams*, M.S. 2003: major adviser, 2000-2003
- *Kaycie Billmark*, Ph.D. 2003: committee member, 1999-2003
- *Joel Carr*, M.S. 2002: committee member, 2000-2002
- *Peter Cleary*, M.S. 2004: co-adviser, 2002-2004
- *Benjamin Cook*, M.S. 2004; Ph.D. 2007: co-adviser, 2001-2005
- *Dan Druckenbrod*, Ph.D. 2003: committee member, 1999-2003
- *Oliver Frauenfeld* Ph.D. 2003: committee member, 2001-2003
- *Ian German-Mesner*, M.S. candidate: major adviser, 2002-
- *Kevin Jones*, M.S. 2002: committee member, 2001-2002
- *Courtenay Strong*, Ph.D. 2005: committee member, 2003-2005
- *Tana Wood*, M.S. 2002; Ph.D. 2005: committee member, 2001-2005
- *Zhihua Zhang*, Ph.D. 2006: major adviser, 2000-2006

## **University of Massachusetts (1997-1999)**

Dept. of Geosciences:

- *Caspar Ammann*, Ph.D. 2000: co-adviser, 1998-2000
- *Anne Waple*, Ph.D. 1999: co-adviser and committee member, 1997-1999
- *Bo-Min Sun*, Ph.D. 1999: committee member, 1998-1999

## **External Committee Member (2001-)**

- *Phil Lane*, Ph.D. 2001: external committee member, MIT, 2010-11
- *Heidi Cullen*, Ph.D. 2001: external committee member, Columbia University, 2000-01
- *Silvia Venegas*, Ph.D. 2001: external committee member, University of Copenhagen, 2000-01

## **Undergraduates:**

### **Penn State University (2005-)**

Dept. of Meteorology:

- *Greg Drelich*, 2012
- *Michael Kozar*, 2009-2010
- *Thomas Sabbatelli*, 2005-2008

### **University of Virginia (1999-2005)**

Dept. of Environmental Sciences:

- *Michelle L'Heureux*, 2001-02.

## **Primary Research Interests**

(1) Climate signal detection and climate change attribution; (2) Statistical and time series analysis methods; (3) High-resolution paleoclimate reconstruction; (4) Study of forced and internal variability in coupled ocean-atmosphere models; and model/data intercomparison; (5) Coupled ocean-atmosphere modeling; (6) Use of climate scenarios to drive process-oriented models of environmental phenomena

## **Funded Proposals**

- 2012-2017 *WSC-Category 2 Collaborative: Robust decision-making for South Florida water resources by ecosystem service valuation, hydro-economic optimization, and conflict resolution modeling*, NSF-Water Sustainability & Climate Program [Multi-institution award (Univ. of Central Florida/Univ. of Florida/Univ. of Hawaii/Michigan Tech. Univ./Univ. South Florida/Univ. of Miami/Univ. of Penn/Penn State Univ). Principal Investigator (Penn State Univ): J.D. Fuentes; Co-Investigator (Penn State Univ.): M.E. Mann] PSU award (J.D. Fuentes/M.E. Mann): \$300,514
- 2011-2014 *Megadrought: Local vs Remote Causal Factors for Medieval North America*, NSF-Paleo Perspectives on Climate Change Program [Principal Investigator: S. Feng (Univ. of Nebraska); Co-Investigators: Q. Hu, R.J. Oglesby, C.M. Rowe (Univ. of Nebraska), M.E. Mann (Penn State Univ.)] PSU award (M.E. Mann): \$151,755
- 2011-2014 *Advanced Regional And Decadal Predictions Of Coastal Inundation for the U.S. Atlantic and Gulf Coasts*, NOAA-Improving NOAA's Climate Services for the Coastal Zone (Special Competition) [Principal Investigators: B. Horton (Univ. of Pennsylvania), J. Donnelly (WHOI), Reide Corbett (East Carolina Univ.), A. Kemp (Yale University), K. Lindeman (Florida Inst. Tech.), M.E. Mann (Penn State Univ.), D. Peltier (Univ. of Toronto, Canada), S. Rahmstorf (University of Potsdam, Germany)] PSU award (M.E. Mann): \$120,463
- 2011-2014 *Climate and Society – Innovative and Sustainable Collaboration with Senegal*, Penn State University-AESED program [Principal Investigator: J.D. Fuentes; Co-Investigators: P. Tschakert, J. L. Evans, A. M. Thompson, and M.E. Mann] PSU internal award: \$75,000

- 2010-2013 *Development of a Northern Hemisphere Gridded Precipitation Dataset Spanning the Past Half Millennium for Analyzing Interannual and Longer-Term Variability in the Monsoons*, NOAA-Climate Change Data & Detection (CCDD) Program [Principal Investigators: Q. Hu, S. Feng, R.J. Oglesby (Univ. of Nebraska), M.E. Mann (Penn State Univ.)] PSU award (M.E. Mann): \$249,800
- 2010-2012 *Climate Literacy Zoo Education Network*, NSF-Arctic Research & Education [Principal Investigators: A. Grajal (Chicago Zoological Society), S.R. Goldman (Univ. of Illinois-Chicago), M.E. Mann (Penn State Univ.)] PSU award (M.E. Mann): \$32,733
- 2009-2013 *Quantifying the influence of environmental temperature on transmission of vector-borne diseases*, NSF-EF [Principal Investigator: M. Thomas; Co-Investigators: R.G. Crane, M.E. Mann, A. Read, T. Scott (Penn State Univ.)] \$1,884,991
- 2009-2012 *Toward Improved Projections of the Climate Response to Anthropogenic Forcing: Combining Paleoclimate Proxy and Instrumental Observations with an Earth System Model*, NSF-ATM [Principal Investigator: M.E. Mann; Co-Investigators: K. Keller (Penn State Univ.), A. Timmermann (Univ. of Hawaii)] \$541,184
- 2008-2011 *A Framework for Probabilistic Projections of Energy-Relevant Streamflow Indices*, DOE [Principal Investigator: T. Wagener; Co-Investigators: M. Mann, R. Crane, K. Freeman (Penn State Univ.)] \$330,000
- 2008-2009 *AMS Industry/Government Graduate Fellowship (Anthony Sabbatelli)*, American Meteorological Society [Principal Investigator: M.E. Mann (Penn State Univ.)] \$23,000
- 2006-2009 *Climate Change Collective Learning and Observatory Network in Ghana*, USAID [Principal Investigator: P. Tschakert; Co-Investigators: M.E. Mann, W. Easterling (Penn State Univ.)] \$759,928
- 2006-2009 *Analysis and testing of proxy-based climate reconstructions*, NSF-ATM [Principal Investigator: M.E. Mann (Penn State Univ.)] \$459,000
- 2006-2009 *Constraining the Tropical Pacific's Role in Low-Frequency Climate Change of the Last Millennium*, NOAA-Climate Change Data & Detection (CCDD) Program [Principal Investigators: K. Cobb (Georgia Tech Univ.), N. Graham (Hydro. Res. Center), M.E. Mann (Penn State Univ.), Hoerling (NOAA Clim. Dyn. Center), Alexander (NOAA Clim. Dyn. Center)] PSU award (M.E. Mann): \$68,065
- 2006-2007 *Acquisition of high-performance computing cluster for the Penn State Earth System Science Center (ESSC)*, NSF-EAR [Principal Investigator: M.E. Mann, Co-Investigators: R. Alley, M. Arthur, J. Evans, D. Pollard (Penn State Univ.)] \$100,000
- 2003-2006 *Decadal Variability in the Tropical Indo-Pacific: Integrating Paleo & Coupled Model Results*, NOAA-Climate Change Data & Detection (CCDD) Program [Principal Investigators: M.E. Mann (U.Va), J. Cole (U. Arizona), V. Mehta (CRCES)] U.Va award (M.E. Mann): \$102,000
- 2002-2005 *Reconstruction and Analysis of Patterns of Climate Variability Over the Last One to Two Millennia*, NOAA-Climate Change Data & Detection (CCDD) Program [Principal Investigator: M.E. Mann, Co-Investigators: S. Rutherford, R.S. Bradley, M.K. Hughes] \$315,000
- 2002-2005 *Remote Observations of Ice Sheet Surface Temperature: Toward Multi-Proxy Reconstruction of Antarctic Climate Variability*, NSF-Office of Polar Programs, Antarctic Oceans and Climate System [Principal Investigators: M.E. Mann (U. Va), E. Steig (U. Wash.), D. Weinbrenner (U. Wash)] U.Va award (M.E. Mann): \$133,000
- 2002-2003 *Paleoclimatic Reconstructions of the Arctic Oscillation*, NOAA-Cooperative Institute for Arctic Research (CIFAR) Program [Principal Investigators: Rosanne D'Arrigo, Ed Cook (Lamont/Columbia); Co-Investigator: M.E. Mann] U.Va subcontract (M.E. Mann): \$14,400
- 2002-2003 *Global Multidecadal-to-Century-Scale Oscillations During the Last 1000 years*, NOAA-Climate Change Data & Detection (CCDD) Program [Principal Investigator: Malcolm

- Hughes (Univ. of Arizona); Co-Investigators: M.E. Mann; J. Park (Yale University)] U.Va subcontract (M.E. Mann): \$20,775
- 2001-2003 *Resolving the Scale-wise Sensitivities in the Dynamical Coupling Between Climate and the Biosphere*, University of Virginia-Fund for Excellence in Science and Technology (FEST) [Principal Investigator: J.D. Albertson; Co-Investigators: H. Epstein, M.E. Mann] U.Va internal award: \$214,700
- 2001-2002 *Advancing predictive models of marine sediment transport*, Office of Naval Research [Principal Investigator: P. Wiberg (U.Va), Co-Investigator: M.E. Mann] \$20,775
- 1999-2002 *Multiproxy Climate Reconstruction: Extension in Space and Time, and Model/Data Intercomparison*, NOAA-Earth Systems History [Principal Investigator: M.E. Mann (U.Va), Co-Investigators: R.S. Bradley, M.K. Hughes] \$381,647
- 1998-2000 *Validation of Decadal-to-Multi-century climate predictions*, DOE [Principal Investigator: R.S. Bradley (U. Mass); Co-Investigators: H.F. Diaz, M.E. Mann]
- 1998-2000 *The changing seasons? Detecting and understanding climatic change*, NSF-Hydrological Science [Principal Investigator U. Lall (U. Utah); Co-investigators: M.E. Mann, B. Rajagopalan, M. Cane] \$266,235K
- 1996-1999 *Patterns of Organized Climatic Variability: Spatio-Temporal Analysis of Globally Distributed Climate Proxy Records and Long-term Model Integrations*, NSF-Earth Systems History [Principal Investigator: R.S. Bradley (U. Mass); Co-Investigators: M.E. Mann, M.K. Hughes] \$270,000
- 1996-1998 *Investigation of Patterns of Organized Large-Scale Climatic Variability During the Last Millennium*, DOE, Alexander Hollaender Postdoctoral Fellowship [M.E. Mann] \$78,000

## Professional Activities

- 2014- Advisory Council, National Center for Science Education (NCSE)
- 2013 Co-convener/organizer (w/ T.S. Ledley, F.Niepold, E. Maibach), Union Session on “Climate Literacy: The Role of the AGU Scientific Community in Climate Change Communication and Engagement”, *AGU Fall Meeting*
- 2013 Co-convener/organizer (w/ J.M. Byrne, S.D. Donner, P.J. Rasch), Session on “Climate Change Adaptation and Mitigation”, *AGU Fall Meeting*
- 2013 Co-convener/organizer (w/ S.D. Donner, J.M. Byrne, P.J. Rasch), Session on “Cutting-Edge Challenges in Climate Change Science”, *AGU Fall Meeting*
- 2013 Co-convener/organizer (w/ J. Evans), Penn State PSIEE/EESI/EMS Workshop “Climate Change and Impacts Downscaling”, Bald Eagle State Park, PA, Aug 27-29, 2013.
- 2012 Co-convener/organizer (w/ G. Stone, S. Riggs, and A. Buddington), Session on “Rapid sea-level rise: past, present and future”, *GSA Annual Meeting*
- 2012- Hans Oeschger Medal Committee, European Geophysical Union
- 2011-12 Expert Reviewer, Working Group I report, *Intergovernmental Panel on Climate Change (IPCC)*, Fifth Assessment Report
- 2011-12 Co-organizer (w/ G. Schmidt, V. Masson-Delmotte, M. Kageyama, E. Guilyardi, A. Timmermann), Workshop on using paleo-climate model/data comparisons to constrain future projections, *PAGES/CLIVAR*, Honolulu, Hawaii, Mar 1-3, 2012.
- 2011-15 Elected Member-at-Large of Section W (Atmospheric & Hydrospheric Sciences), *American Association for the Advancement of Science (AAAS)*
- 2010-11 Editor for series (volumes 1-10): *Confronting Global Warming*, Greenhaven Press, Detroit.
- 2011 Co-convener/organizer (w/ F. Mekik, S. Mitra, R. Sriver, C. Whitlock, J. Zhu, A. Zimmer), Session on “Using Paleo and Modern Observations to Improve Understanding of Climate Projections, Environmental Change, and Biomass Burning”, *AGU Fall Meeting*
- 2011 Co-convener/organizer (w/ G. Stone, A. Buddington, and M. Chandler), Session on “Extreme Climate and Weather Events: Past, Present, and Future”, *GSA Annual Meeting*

- 2010 Invited Science Foo Camp ("Sci Foo") participant, event organized by *Nature*, O'Reilly Media, and Google, GooglePlex, Mountain View, CA, July 30-Aug 1, 2010
- 2010 Co-convenor/organizer (w/ G. Stone, A. Buddington), Session on "Exposing Myths and Misrepresentations of Climate Change and Evolution Science", *GSA Annual Meeting*
- 2009 Co-convenor/organizer (w/ G. Stone, A. Buddington), Pardee Keynote Symposium on "Crisis In The Cryosphere", *GSA Annual Meeting*
- 2009- Guest Editor, *Proceedings of the National Academy of Sciences*
- 2009 Panel Discussion Participant, "Communicating Climate Change", National Science Foundation, Arlington VA, 2009, January 8
- 2007-08 Associate Editor, *G-Cubed*, special issue on "Tropical Cyclone-Climate Interactions on All Time Scales"
- 2007 Co-convenor/organizer (w/ P. Jones), IAMAS session on "The Holocene-Anthropocene Transition: From Natural to Human-Dominance of the Earth System", *IUGG 24<sup>th</sup> General Assembly*
- 2007-08 Member of steering committee, "post-Earth Systems History" workshop, NSF
- 2007 Co-convenor/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session "Climate of the last millennium", 4th General Assembly, *European Geophysical Union*
- 2006 Co-convenor/organizer (w/ K. Emanuel, M. Huber, J. Gullledge, P. Webster), theme session "Tropical Cyclone-Climate Interactions on All Time Scale", Annual Fall meeting, *American Geophysical Union*
- 2006 Provided testimony to U.S. House of Representatives ('Energy and Commerce' Committee hearing, July 27)
- 2006 Co-chair, Workshop on "Past Millennia Climate Variability", Wengen Switzerland
- 2006 Co-convenor/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session "Climate of the last millennium", 3rd General Assembly, *European Geophysical Union*
- 2005- Editorial advisory board, *The Holocene*
- 2005-06 Expert Reviewer, Working Group I report, *Intergovernmental Panel on Climate Change (IPCC)*, Fourth Assessment Report
- 2005 Co-convenor/organizer (w/ J. D. Gong and Luterbacher), special session "Explaining the Climates of Historic Times: Detection and Attribution of Anthropogenic Influences", Biennial Assembly of *IAMAS*
- 2005 Co-convenor/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session "Climate of the last millennium", 2nd General Assembly, *European Geophysical Union*
- 2004 Co-convenor/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session "Climate of the past millennium", 1st General Assembly, *European Geophysical Union*
- 2003-04 Member, National Academy of Sciences/National Research Council *Committee on Radiative Forcing Effects on Climate*
- 2003 Provided testimony to U.S. Senate ('Environment and Public Works' Committee hearing, July 29)
- 2003 Chair of organizing committee, National Academy of Sciences *Frontiers of Science* symposium
- 2003 Co-convenor/organizer (w/ P. Jones, V. Masson-Delmotte), IAMAS session on "Climate of the Holocene", *IUGG*
- 2003 Co-convenor/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session "Climate of the past millennium", 28th General Assembly, *European Geophysical Society*
- 2003-05 Advisory board member for *Scientific American* 'Scientific American 50'
- 2003 Invited Participant, *Workshop on Estimating Climate Sensitivity*, National Academy of Sciences
- 2003-06 Member of steering committee, NSF Marine Earth Systems History (MESH) Panel
- 2003-05 Committee on Probability & Statistics, American Meteorological Society
- 2002- IAMAS delegate for U.S./International Commission on Climate (ICCL)
- 2002 Organizing committee, National Academy of Sciences *Frontiers of Science* symposium

- 2002 Co-convener/organizer (w/ H. Von Storch, R. Brazdil), theme session "Understanding the Late Maunder Minimum climate anomaly", Annual Spring meeting, *American Geophysical Union*
- 2002 Co-convener/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session "Climate of the past millennium", 27th General Assembly, *European Geophysical Society*
- 2001-02 Member, advisory board, *Earth Interactions* (American Geophysical Union)
- 2001 Chair/Organizer, session on "Climate Change Detection/Attribution", National Academy of Science *Frontiers of Science* annual symposium, Irvine, California, Nov 8-10, 2001.
- 2001 Organizer and Host, *PAGES/CLIVAR workshop on Reconstructing Late Holocene Climate*, Charlottesville, Virginia, April 17-20, 2001.
- 2001 Co-convener/organizer (w/ J. Jouzel, P. Jones), special session "Climate of the past millennium", 26th General Assembly, *European Geophysical Society*
- 2001 Co-convener/organizer, *NASA/IPRC/CLIVAR workshop on Decadal Climate Variability*, Manoa, Hawaii, Jan 8-12, 2001.
- 2000- Member of Working Group, *International PAGES/CLIVAR*
- 2000-04 Panel member, *NOAA Climate Change Data and Detection Program*
- 2000-02 Editor, *Journal of Climate*
- 2000 Co-convener (w/ J. Jouzel, P. Jones), special session "Climate of the past millennium", 25th General Assembly, *European Geophysical Society*
- 1999 Co-convener/organizer (w/ J. Jouzel), special session "Data and model studies of climate changes over the last millennium", 24th General Assembly, *European Geophysical Society*
- 1999 Invited adviser, *NOAA Global Change and Climate Panel*, Boulder, CO
- 1999 Guest editor, special issue of *Climatic Change*
- 1999 Co-convener (w/ J. Overpeck), *PAGES/CLIVAR workshop on multiproxy climate reconstruction*, Boulder, CO
- 1998-00 Lead author, Chapter 2, *Intergovernmental Panel on Climate Change (IPCC)*, Third Assessment Report
- 1998-00 Contributing author, Chapters 7,8,12, *Intergovernmental Panel on Climate Change (IPCC)*, Third Assessment Report
- 1997 Co-convener/organizer (w/ E. Cook, H. Pollack, D. Chapman), theme session "Multiproxy Climate Reconstruction...", Annual Fall meeting, *American Geophysical Union*

- Memberships: *American Meteorological Society; American Geophysical Union; European Geophysical Society; Geological Society of America; American Physical Society; American Association for the Advancement of Science; Sigma Xi; ; American Association of University Professors; Authors Guild*
- Reviewer for: *Nature; Science; PNAS; Geology; Climatic Change; Geophysical Research Letters; Journal of Climate; JGR-Ocean; JGR-Atmospheres; Paleoceanography; Climate Dynamics; Eos; Int. J. Climatol.; Water Resources Research; Holocene; GSA Today; Climate of the Past; Earth and Planetary Science Letters; Global & Planetary Change; Water Resources Research; Atmospheric & Solar-Terrestrial Physics; Climate Research; PLoS Biology; National Research Council/National Academy of Sciences; IPCC AR5; NSF, NOAA, DOE grant programs; U.S. CCSP; several books.*

### Public Outreach:

- Popular Media (interviewed/quoted/cited):  
Movies/Documentaries: *Greedy Lying Bastards* (March 2013), *Last Hours* (October, 2013), *Years Of Living Dangerously* (Showtime Series, Spring 2014)  
Television: *CBS Evening News, NBC Evening News, ABC Evening News, NBC Today Show, PBS, CNN, CNN headline news, CNN (Lou Dobbs show), CNN (Campbell Brown Show), MSNBC, MSNBC ("Up with Chris Hayes"), MSNBC ("All In with Chris Hayes"), MSNBC ("Now with Alex Wagner"), MSNBC ("Hardball with Chris Matthews"), MSNBC ("Andrea Mitchell Reports"),*



MSNBC (“The Reid Report”); MSNBC (“Weekends with Alex Witt”), ABC Nature’s Edge (with Bill Blakemore); PBS (“Charlie Rose Show”); PBS; BBC; CBC; CBC Television (George Stroumboulopoulos Show); Current TV (“The Young Turks” with Cenk Uygur); Current TV (“The War Room” with Jennifer Granholm); ABC (Lateline Show; Australia); RT Network (Thom Hartmann Show); Al Jazeera English (“Inside Story”); Al Jazeera America (“Inside Story”); The Weather Channel, The Research Channel, Accuweather (and numerous local television news programs)

Radio: BBC, NPR (“All Things Considered”; “Talk of the Nation”; “Earth and Sky”; “Science Friday”; “Diane Rehm Show”; “On Point with Tom Ashbrook”), PRI (“To The Point”, “Living On Earth”, “The Takeaway”); Fox News (“Alan Colmes Show”), Michael Smerconish show, Voice of America, CBC Radio (“The Current”); Stand Up! With Pete Dominick (Sirius/XM radio), Majority Report with Sam Seder, Ring of Fire with Robert F. Kennedy Jr., Thom Hartmann show, “Explorations in Science” with Michio Kaku; WCBS, WAMU radio (Kojo Nnamdi show), On the Green Front with Betsy Rosenberg (Progressive Radio Network); KTRH radio (Houston), WPSU, Radio PA (Harrisburg), WWL Radio News (New Orleans), WFAE (“Charlotte Talks”, Charlotte) (and numerous others)

Print (weekly/monthly): Time, Newsweek, Life, US News & World Report, New Republic, The Atlantic, Economist, Rolling Stone, Vanity Fair, Mother Jones, American Prospect, The Nation, Chronicle of Higher Education, Miller-McCune, Macleans (and numerous others)

Print (weekly/monthly, scientific): Scientific American, New Scientist, National Geographic, Discover, Science News, Science, Nature, Popular Science, Seed, Cosmos, Geotimes, Weekly Reader (“current science”), Audubon Magazine (and numerous others)

Print (daily): USA Today, New York Times, New York Times “Science Times”, New York Daily News, Washington Post, Wall Street Journal, National Journal, Boston Globe, Los Angeles Times, San Francisco Chronicle, Seattle Times, Houston Chronicle, Chicago Tribune, International Herald Tribune, Philadelphia Inquirer, Pittsburgh Tribune-Review, Pittsburgh Post-Gazette, Miami Herald, Washington Times, Christian Science Monitor; National Post (Canada); London Times (UK), The Guardian (UK), Die Welt (Germany), Le Monde (France), Pravda (Russia) (and numerous others)

Print (daily, syndicated): AP, UPI, Reuters, Scripps Howard, Knight Ridder, McClatchy, Ascribe, Greenwire

Online: Huffington Post, Salon, Slate, Discovery Channel online, National Geographic online, LiveScience (and numerous others)

Interactive Online Events: Reddit, Fire Dog Lake, Daily Kos

Profiles: Scientific American, Discover, Fortune, New Scientist, Mother Jones, Audubon Magazine, Yale Alumni Magazine, Harrisburg Patriot-News, Williamsport Guardian, The Independent (UK), Le Monde (France), Die Zeit (Germany)

Other: Museum of Modern Art (New York), assistance with exhibition on “Design and the Elastic Mind”, Fall 2007

- Op-Eds/Commentaries published: *The Morning Call* (Jul 30, 2014); *Huffington Post* (Jun 9, 2014); *Huffington Post* (May 18, 2014); *The Guardian* (May 6, 2014); *EcoWatch* (Mar 27, 2014); *Centre Daily Times* (Mar 20, 2014); *LiveScience* (Feb 25, 2014); *The Pittsburgh Post-Gazette* (Feb 23, 2014); *Mark News* (Feb 21, 2014); *Huffington Post* (Feb 9, 2014); *The Guardian* (Jan 31, 2014); *EcoWatch* (Jan 30, 2014); *The New York Times* (Jan 19, 2014); *The Virginian-Pilot* (Jan 8, 2014); *Scranton Times-Tribune* (Dec 20, 2013); *Huffington Post* (Nov 21, 2013); *EcoWatch* (Nov 16, 2013); *Huffington Post* (Oct 31, 2013); *The Guardian* (Sep 28, 2013); *Australian Broadcasting Corporation* (Sep 27, 2013); *Huffington Post* (Sep 27, 2013); *LiveScience* (Sep 26, 2013); *Richmond Times-Dispatch* (Aug 24, 2013); *Centre Daily Times News* (Jun 27, 2013), *Harrisburg Patriot-News* (Jun 13, 2013), *Huffington Post* (May 13, 2013), *Australian Broadcasting Corporation* (Apr 12, 2013), *The Scientist* (Mar 27, 2013), *Huffington Post* (Feb 4, 2013), *Popular Science* (Dec 12, 2012), *Huffington Post* (Sep 24, 2012), *Pittsburgh Post-Gazette* (Sep 12, 2012), *Australian Broadcasting Corporation* (Aug 7, 2012), *The Daily Climate* (Aug 6, 2012), *The Vancouver Sun* (June 7, 2012),

- World Financial Review* (May/June, 2012), *The Reporter* (May 14, 2012), *The Helsinki Times* (May 9, 2012), *The Mark News* (April 20, 2012), *The Trentonian* (April 13, 2012), *CNN* (March 28, 2012), *Orange Country Register* (Mar 16, 2012), *BBC Knowledge* (Feb 2012), *BBC Focus* (Dec 2011), *Politico* (Mar 8, 2011), *New Scientist* (Nov 2, 2010), *Milwaukee Journal Sentinel* (Oct 9, 2010), *Washington Post* (Oct 8, 2010), *Minneapolis Star-Tribune* (Jul 29, 2010), *Voices of Central Pennsylvania* (Feb 2010), *Washington Post* (Dec 18, 2009; reprinted in *Miami Herald* 12/19/09, *Salt Lake Tribune* 12/18/09, and *Monterey Herald* 12/21/09), *Harrisburg Patriot-News* (Feb 11, 2007), *St Louis Post-Dispatch* (Feb 23, 2006), *The Press* (NJ; Feb 7, 2006), *Roanoke Times* (Feb 7, 2006), *Middleton Times-Herald* (NY; Feb 7, 2006), *Akron Beacon Journal* (Feb 6, 2006), *Anniston Star* (AL; Feb 5, 2006), *Newark Star-Ledger* (Feb 5, 2006), *Salt Lake Tribune* (Feb 3, 2006), *Post Standard* (NY; Feb 2, 2006), *Providence Journal* (Oct 3, 2003), *Seattle News-Tribune* (Aug 10, 2003)
- Letters published: *Louisville Courier-Journal* (Jan 21, 2014); *Richmond Times-Dispatch* (Aug 5, 2013); *Bismarck Tribune* (Sep 15, 2012); *The Garden Island* (Sep 14, 2012); *U-T San Diego* (Aug 30, 2012); *Wall Street Journal* (Mar 22, 2012); *Pittsburgh Post-Gazette* (Feb 28, 2012); *The Australian* (Feb 3, 2012); *Wall Street Journal* (Feb 1, 2012); *Wall Street Journal* (Dec 5, 2011); *Scientific American* (Oct 2011); *Newsweek* (Mar 15, 2010); *Wall Street Journal* (July 15, 2010); *Wall Street Journal* (Dec 31, 2009); *Washington Post* (Dec 1, 2009); *Harrisburg Patriot-News* (Oct 18, 2009); *New York Times* (Mar 20, 2007) (and numerous others)
  - Review quotes: *Climate Peril* by John J. Berger (book, 2014); *The Big Pivot* by Andrew Winston (book, 2014); *The Collapse of Western Civilization: A View from the Future* by Naomi Oreskes and Erik Conway (book, 2014); *Fore and the Future of Practically Everything* by Richard L. Handy (book, 2013); *Banned on the Hill* by Franke James (book, 2013); *The Zero Footprint Baby* by Keya Chatterjee (book, 2013); *The Year of the Bad Decision* by Charles Sobczak (book, 2013); *Rising Seas: Past, Present, Future* by Vivien Gornitz (book, 2013); *Rising Sea Levels: An Introduction to Cause and Impact* by Hunt Janin and Scott A. Mandia (book, 2013); *Overheated* by Andrew Guzman (book, 2013); *The Aviator* by Gareth Renowden (book, 2012); *Snowcial: An Antarctic Social Network Story* by Chelsea Prince (book, 2012); *Navigating The Perfect Moral Storm: Climate Ethics* by Donald Brown (book, 2012); *A Burning Question* (film, 2012); *The Evolution of Everything* by Mark Sumner (book, 2010); *Storm World* by Chris Mooney (book, 2008); *Climate Change: What it Means for Us, Our Children, and Our Grandchildren*, edited by Joseph Dimento and Pamela Doughman (book, 2007)
  - Press Conferences: American Geophysical Union (5/30/02); European Geophysical Union (4/23/09); National Science Foundation (8/11/09); Resource Media (11/24/09); American Geophysical Union (12/17/09); National Wildlife Federation (8/25/10); PennEnvironment (9/8/10); Prism Public Affairs (11/18/10); European Geophysical Union (4/26/12); Truman National Security Project, PennFuture, Mid-Atlantic Renewable Energy Coalition & selected members of the Pennsylvania General Assembly (1/14/13); PennEnvironment (6/5/13); Healthy Environment Alliance of Utah (5/14/14)
  - Guest contributor to: *One Degree* (The Weather Channel); *Seed Magazine*; *Climate One* (The Commonwealth Club), *The Weather Underground*
  - Co-founder and contributor, climate science website, "*RealClimate.org*" (founded 12/04)
  - Science Advisor for Showtime series, *Years of Living Dangerously*, 2013-
  - Scientific Advisor for *Polar Bears International*, 2010-
  - Science Advisory Board Member, *Climate Change Communication Network*, 2010-
  - Science advisor for Climate Communication, 2011-
  - Advisory Board, *OurEarth.org*, 2008-
  - Science Advisory Council, *ISky*, 2008-
  - Content Committee, *Climate Solutions Project*, Bowman Group, 2007-
  - Advisory Committee, "CLUES" (museum/community partnership of the *Franklin Institute Science Museum*, Phila. PA), 2009-

- Virginia Governor's Climate Change and Resiliency Commission, 2014-
- Advisor to numerous policy makers, public policy experts, governmental and non-governmental organizations (1999-)

### Books:

- Mann, M.E., *The Hockey Stick and the Climate Wars: Dispatches From the Front Lines* (paperback edition with new foreword and additional chapter), Columbia University Press, 423 pp, 2013.
- Mann, M.E., *The Hockey Stick and the Climate Wars: Dispatches From the Front Lines*, Columbia University Press, 352 pp, 2012.
- Mann, M.E. and Kump, L.R., *Dire Predictions: Understanding Global Warming*, Pearson/DK, 208 pp, 2008.

### Refereed Journal Articles:

[cited articles = 137, citations = 8673, H index = 44 (ISI)  
cited articles = 270, citations = 16453; H index = 54 (Google Scholar)]

- Paaijmans, K.P., Blanford, J.I., Crane, R.G., **Mann, M.E.**, Ning, L., Schreiber, K.V., Thomas M.B., Downscaling reveals diverse effects of anthropogenic climate warming on the potential for local environments to support malaria transmission, *Climatic Change* (early online edition), doi: 10.1007/s10584-014-1172-62014, 2014.
- Rutherford, S., **Mann, M.E.**, Missing tree rings and the AD 774-775 radiocarbon event, *Nature Climate Change*, 4, 648-649, 2014.
- **Mann, M.E.**, Steinman, B.A., Miller, S.K., On Forced Temperature Changes, Internal Variability and the AMO, *Geophys. Res. Lett.*, 41, 3211-3219, doi:10.1002/2014GL059233, 2014.
- Singh, R., Wagener, T., Crane, R., **Mann, M.E.**, Ning, L., A stakeholder driven approach to identify critical thresholds in climate and land use for selected streamflow indices – application to a Pennsylvania watershed, *Water Resources Research*, 50, 3409-3427, doi: 10.1002/2013WR014988, 2014.
- Steinman, B.A., Abbott, M.B., **Mann, M.E.**, Ortiz, J.D., Feng, S., Pompeani, D.P., Stansell, N.D., Anderson, L., Finney, B.P., Bird, B.W., Ocean-atmosphere forcing of centennial hydroclimate variability in the Pacific Northwest, *Geophys. Res. Lett.*, 41, 2553-2560, doi:10.1002/2014GL059499, 2014.
- Schmidt, G.A., Annan, J.D., Bartlein, P.J., Cook, B.I., Guilyardi, E., Hargreaves, J.C., Harrison, S.P., Kageyama, M., LeGrande, A.N., Konecky, B., Lovejoy, S., **Mann, M.E.**, Masson-Delmotte, V., Risi, C., Thompson, D., Timmermann, A., Tremblay, L.-B., Yiou, P., Using paleo-climate comparisons to constrain future projections in CMIP5, *Clim. Past*, 10, 221-250, 2014.
- Sriver, R.L., Timmermann, A., **Mann, M.E.**, Keller, K., Goosse, H., Improved representation of tropical Pacific ocean-atmosphere dynamics in an intermediate complexity climate model, *J. Climate*, 27, 168-187, 2014.
- Kozar, M.E., **Mann, M.E.**, Emanuel, K.A., Evans, J.L., Long-term Variations of North Atlantic Tropical Cyclone Activity Downscaled from a Coupled Model Simulation of the Last Millennium, *J. Geophys. Res.*, 118, 13383-13392, doi:10.1002/2013JD020380, 2013.
- **Mann, M.E.**, Rutherford, S., Schurer, A., Tett, S.F.B., Fuentes, J.D., Discrepancies Between the Modeled and Proxy-Reconstructed Response to Volcanic Forcing over the Past Millennium: Implications and Possible Mechanisms, *J. Geophys. Res.*, 118, 7617-7627, doi:10.1002/jgrd.50609, 2013.

- Schurer, A., Hegerl, G., **Mann, M.E.**, Tett, S.F.B., Phipps, S.J., Separating forced from chaotic climate variability over the past millennium, *J. Climate*, 26, 6954–6973, 2013.
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- Emile-Geay, J., Cobb, K.M., **Mann, M.E.**, Wittenberg, A.T., Estimating Central Equatorial Pacific SST variability over the Past Millennium. Part 2: Reconstructions and Uncertainties, *J. Climate*, 26, 2329–2352, 2013.
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- Feng, S., Hu, Q., Wu, Q., **Mann, M.E.**, A Gridded Reconstruction of Warm Season Precipitation for Asia Spanning the Past Half Millennium, *J. Climate*, 26, 2192–2204, 2013.
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### **Invited & Public Lectures, Workshops, Panels, and Events**

- Keynote lecture, “*The Battle to Communicate Climate Change*”, Environment California Spring Event, Culver City, CA, Jun 8, 2014.
- Introductory lecture, “*Dire Predictions: Understanding Global Warming*”, Penn State Research Experience for Undergraduates (REU) on Climate Science, University Park, PA, Jun 5, 2014.
- Invited presentation, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Momentus Leadership Summit, Chicago, IL, May 22, 2014.
- Keynote lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Healthy Environment Alliance of Utah 11<sup>th</sup> Annual Spring Breakfast, University of Utah, Salt Lake City, UT, May 14, 2014.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Polar Center Talks Series, Penn State University, University Park, PA, May 9, 2014.
- Keynote lecture, “*Dire Predictions: Understanding Global Warming*”, Leadership Centre County Environment Day, State College, PA, May 7, 2014.
- Invited lecture, “*The Physics of Climate Change*”, Department of Physics, Fordham University, New York, NY, Apr 30, 2014.

- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Atmospheric and Oceanic Sciences, University of Wisconsin, Madison, WI, Apr 18, 2014.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Fifth Annual Robock Lecture, University of Wisconsin, Madison, WI, Apr 17, 2014.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Earthweb Foundation Annual Symposium, Rollins College, Winter Park, FL, Apr 12, 2014.
- Keynote Plenary lecture, “*Dire Predictions: Understanding Global Warming*”, Association of American Geographers, Tampa, FL, Apr 10, 2014.
- Featured banquet lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, American Meteorological Society West Central Florida Chapter annual meeting, Tampa, FL, Apr 7, 2014.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Annual Kirkland/Spizuoco Memorial Science Lectureship, Shippensburg University, Shippensburg, PA, Apr 2, 2014.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Sustainability Summit and Exposition, Milwaukee, WI, Mar 26, 2014.
- Invited lecture and event, *Climate Wars: Global Warming and the Attack on Science*, University of Pennsylvania, Mar 19, 2014.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, *Climate Science and Policy through the Looking Glass*, UC Santa Cruz, Mar 1, 2014.
- James H. Lemon Lecture, Distinguished Lecture Series, Northwest Missouri State University, Maryville, MO, Feb 19, 2014.
- Invited Panel discussion, “A Conversation on the Latest Climate Science Projections and Implications”, Climate Leadership Conference, San Diego, CA, Feb 26, 2014.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, James H. Lemon Lecture, Distinguished Lecture Series, Northwest Missouri State University, Maryville, MO, Feb 19, 2014.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Scholarship and Research Ethics talk series, Office for Research Protection, Penn State University, Feb 10, 2014.
- Panel Discussion, “Right Now!” fundraiser event, presented by *We Are Music*, Somerville MA, Feb 1, 2014.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Astronomy and Astrophysics, Penn State University, University Park, PA, Jan 29, 2014.
- Invited presentation “*IPCC AR5 Science Update*”, South Florida Water Sustainability and Climate Project 2014 Annual Meeting, Haines City, FL, Jan 19, 2014.
- Invited lecture, “*The Physics of Climate Change*”, Department of Physics, Case Western Reserve University, Cleveland, OH, Jan 16, 2014.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Cleveland Natural History Museum, Cleveland, OH, Jan 15, 2014.
- Panel discussion, “Facing legal attack, scientists tell their story”, *AGU Fall Meeting* Dec 12, 2013.
- Invited presentation (co-authors M.E. Kozar, K. Emanuel), *AGU Fall meeting*: “Relationships Between Basin-Wide and Landfalling Atlantic Tropical Cyclones: Comparing Long-term Simulations with Paleoevidence”, San Francisco, CA, Dec 11, 2013.
- Presentation “Challenges of effectively communicating climate change science to lay audiences”, Physical Geography Focus Group, Oxford University Press, *AGU Fall Meeting*, Dec 11, 2012.
- Book signings, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, *AGU Fall Meeting*, San Francisco, CA, Dec 10 & Dec 12, 2013.



- Invited speaker, “*The Imperative for Taking Action on Climate Change*”, Virginia Interfaith Center for Public Policy” (webinar), Nov 25, 2013.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Annual E.T. York Distinguished Guest Lecture, University of Florida, Gainesville, FL, Nov 19, 2013.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, 29th Annual Brossman Foundation and Ronald E. Frisbie Science Lectureship, Millersville University, Millersville, PA, Nov 7, 2013.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, 29th Annual Brossman Foundation and Ronald E. Frisbie Science Lectureship, Millersville University, Millersville, PA, Nov 7, 2013.
- Introduced President William J. Clinton and Virginia Gubernatorial Candidate Terry McAuliffe at McAuliffe Campaign Event, Paramount Theater, Charlottesville, VA, Oct 30, 2013.
- Moderated public question-and-answer session, “Climate Change and American Values”, 2013 E. James Holland University Symposium on American Values, Angelo State University, San Angelo, TX, Oct 28, 2013.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, 2013 E. James Holland University Symposium on American Values, Angelo State University, San Angelo, TX, Oct 28, 2013.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Sagan National Colloquium, Ohio Wesleyan University, Delaware, Ohio, Oct 22, 2013.
- Invited lecture and book signing, “*The Battle to Communicate Climate Change*”, A Conversation About Climate with Senator Angus King, The Natural Resources Defense Council of Maine, Portland, ME, Oct 16, 2013.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Bowdoin College, Brunswick, ME, Oct 16, 2013.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Symposium on Climate Science and Climate Communication, University of Iceland, Reykjavik, Iceland, Oct 5, 2013.
- Invited lecture “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Conference on Cinema and Climate Change, Reykjavik, Iceland, Oct 3, 2013.
- Award Ceremony followed by Lecture and book signing for “*The Hockey Stick and the Climate Wars*”, PennFuture 15th Anniversary Event: The Science and Psychology of Climate Change, Harrisburg, PA, Sep 25, 2013.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Atmospheric & Oceanic Science, University of Maryland, College Park, MD, Sep 19, 2013.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, West Virginia University, Morgantown, WV, Sep 17, 2013.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Division of Forestry and Natural Resources, West Virginia University, Morgantown, WV, Sep 17, 2013.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, School of Forestry and Environmental Studies, Yale University, New Haven, CT, Sep 4, 2013.
- Co-Convener, Penn State PSIEE/EESI/EMS Workshop “Climate Change and Impacts Downscaling”, Bald Eagle State Park, Howard, PA, Aug 27-29, 2013.
- Invited Panel discussion, “Credibility, Trust, Goodwill & Persuasion”, Science Online Climate, Washington, DC, Aug 16, 2013.
- Invited presentation, “*The Battle to Communicate Climate Change: Lessons from The Front Lines*”, Science Online Climate, Washington, DC, Aug 16, 2013.

- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, The Amazing Meeting (James Randi Foundation), Las Vegas, NV, Jul 13, 2013.
- Book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, NetRoots Nation, San Jose, CA, Jun 21, 2013.
- Invited Panel discussion, “Science Under the Rug: How Government and Industry Hide Research and How to Fight Back”, NetRoots Nation, San Jose, CA, Jun 21, 2013.
- Invited presentation, “*The Battle to Communicate Climate Change: Lessons from The Front Lines*”, AGU Chapman Conference on Communicating Climate Science, Granby, Colorado, Jun 9, 2013.
- Invited presentation, “*Dire Predictions: Understanding Global Warming*”, The Truth, The Whole Truth, And Nothing But The Truth: Our Global Climate And The Insurance Industry’s Response.”, Loss Executives Association annual meeting, Philadelphia, PA, Jun 6, 2013.
- Invited keynote lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, “Scientifically Speaking” Gala Fundraiser Event & Auction, The Science Factory, Eugene, OR, May 30, 2013.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, Edison International Elementary School, Eugene, OR, May 30, 2013.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, The Cosmos Club, Washington, DC, May 16, 2013.
- Discussion and book signing, “*A Conversation with Climate Scientist Michael Mann*”, Climate Desk Live, Washington, DC, May 15, 2013.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, City University of New York Graduate Center, New York, NY, May 9, 2013.
- Invited public lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Sigma Public Lecture series, NASA Langley Research Center, Hampton, VA, May 7, 2013.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, NASA Langley Research Center, Hampton, VA, May 7, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Mid-Atlantic Renewable Energy Association (MAREA), Breinigsville, PA, Apr 30, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Dickinson College, Carlisle, PA, Apr 22, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Lynchburg College, Lynchburg, VA, Apr 8, 2013.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, Senior Symposium, Lynchburg College, Lynchburg, VA, Apr 8, 2013.
- Invited presentation, *ORI at 20: Reassessing Research Integrity: “The Hockey Stick and the Climate Wars*”, Baltimore, MD, Apr 3, 2013.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, Kiski School, Saltsburg, PA, Apr 1, 2013.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, College of Wooster, Wooster, OH, Mar 28, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, College of Wooster, Wooster, OH, Mar 27, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Appalachian State University, Boone, NC, Mar 21, 2013.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, Appalachian State University, Boone, NC, Mar 21, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Iowa State University, Ames, IA, Mar 7, 2013.

- Keynote lecture, “*Dire Predictions: Understanding Global Warming*”, Sustainability Summit and Exposition, Milwaukee, WI, Mar 6, 2013.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, School of Earth and Ocean Sciences, University of Victoria, Victoria, BC, Mar 5, 2013.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, University of Victoria, Victoria, BC, Mar 4, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Oklahoma State University, Stillwater, OK, Feb 22, 2013.
- Keynote Panel discussion, “Conducting Research on Politically Sensitive Issues: Climate Change and Climate Change Denial”, 2013 Annual Sociology Symposium, Oklahoma State University, Stillwater, OK, Feb 21, 2013.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Physics Department, Penn State University, University Park, PA, Jan 31, 2013.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Sports Turf Managers Association Annual Meeting, Daytona Beach, FL, Jan 18, 2013.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Valencia College, Orlando, FL, Jan 17, 2013.
- Invited presentation (co-authors A. Schurer, G. Hegerl, S. Tett, S. Phipps), *AGU Fall meeting*: “Separating forced from chaotic climate variability over the last millennium”, San Francisco, CA, Dec 5, 2012.
- Invited presentation, *AGU Fall meeting*: “The Past as Prologue: Learning from the Climate Changes in Past Centuries”, San Francisco, CA, Dec 5, 2012.
- Invited presentation, *AGU Fall meeting*: “Using Blogs and Social Media in the Battle to Communicate Climate Change: Lessons from The Front Lines”, San Francisco, CA, Dec 4, 2012.
- Invited presentation, *AGU Fall meeting*: “The Battle to Communicate Climate Change: Lessons from The Front Lines”, San Francisco, CA, Dec 4, 2012.
- Panel discussion, “Political Science” at *ClimateOne Stephen Schneider Climate Science Communication Award* event, Commonwealth Club, San Francisco, CA, Dec 4, 2012.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Earth and Ocean Sciences seminar series, Duke University, Durham, NC, Nov 9, 2012.
- Invited presentation (co-authors M.E. Kozar, K. Emanuel), *GSA Annual meeting*: “Relationships Between Basin-Wide and Landfalling Atlantic Tropical Cyclones: Comparing Long-term Simulations with Paleoevidence”, Charlotte, NC, Nov 7, 2012.
- Invited presentation, *GSA Annual meeting*: “The Battle to Communicate Climate Change: Lessons From the Front Lines”, Charlotte, NC, Nov 6, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars*”, Fairchild Lecture, Meliora Weekend, University of Rochester, Rochester, NY, Oct 12, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Union College, Schenectady, NY, Oct 10, 2012.
- Lecture and panel discussion, “*Leaving Your Comfort Zone: a Scientist and a Journalist Take Risks to Address Climate Change*”, Fourth Annual Climate Change Teach-In, University of Massachusetts-Lowell, Lowell, MA, Oct 9, 2012.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Geography, Texas A&M University, College Station, TX, Oct 5, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Texas A&M University, College Station, TX, Oct 4, 2012.
- Book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, SXSW-Eco Conference, Austin, TX, Oct 3, 2012.
- Panel discussion, “The Science Communicators”, SXSW-Eco Conference, Austin, TX, Oct 3, 2012.

- Panel discussion, “A Conversation with Mike Mann: Dispatches from the Front Line”, SXSW-Eco Conference, Austin, TX, Oct 3, 2012.
- Invited public lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, University of Texas-Austin, Austin, TX, Oct 1, 2012.
- Guest lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Geological Sciences, University of Texas-Austin, Austin, TX, Oct 1, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, St. Lawrence University, Canton, NY, Sep 25, 2012.
- Round-table climate change discussion with honors students, Keystone College, La Plume, PA, Sep 20, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, King’s College, Wilkes Barre, PA, Sep 19, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Rutgers University, New Brunswick, NJ, Sep 6, 2012.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Earth and Planetary Sciences, Rutgers University, New Brunswick, NJ, Sep 6, 2012.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Communicating controversial science: A symposium honoring Rudy M. Baum, American Chemical Society Annual Meeting, Philadelphia, PA, Aug 21, 2012.
- Plenary lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Astronomical Society of the Pacific Annual Meeting, Tucson, AZ, Aug 9, 2012.
- Book presentation and signing for “*The Hockey Stick and the Climate Wars*”, Harvard COOP, Cambridge, MA, Jun 28, 2012.
- Invited presentation, *Workshop on Coastal Inundation Science and Planning Needs in the Northeast US*, “Dire Predictions: Understanding Global Warming”, Woods Hole Oceanographic Institution, Woods Hole, MA, Jun 27, 2012.
- Coastal Inundation Science and Planning Needs in the Northeast US
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Florida Atlantic University, Boca Raton, FL, Jun 22, 2012.
- Summary keynote presentation, Risk and Response: 2012 Sea Level Rise Summit, Florida Center for Environmental Studies at Florida Atlantic University, Boca Raton, FL, Jun 22, 2012.
- Invited presentation, *AGU Chapman Conference on Volcanism and the Atmosphere*, “Underestimation of Volcanic Cooling in Tree-Ring Based Reconstructions of Hemispheric Temperature”, Selfoss, Iceland, Jun 14, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, University of Iceland, Reykjavik, Iceland, Jun 13, 2012.
- Book signing for “*The Hockey Stick and the Climate Wars*”, Book Expo America, New York, NY, Jun 5, 2012.
- Invited key note lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Annual meeting of the American Association of University Professors (AAUP; Michigan Chapter), University of Michigan, Ann Arbor, MI, May 25, 2012.
- Book presentation and signing for “*The Hockey Stick and the Climate Wars*”, Nicola’s Books, Ann Arbor, MI, May 24, 2012.
- Invited public lecture and book signing, “*The Dangers of Climate Change Denial*”, Tom Ridge Environmental Center, Presque Isle, PA, May 21, 2012.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, The 5<sup>th</sup> Annual Orange County Water Summit, Anaheim, CA, May 18, 2012.

- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, The Science, Politics, and Ethics of Climate Change, FEMMSS4, Penn State University, University Park, PA, May 12, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Suffolk County Community College, Selden, NY, May 8, 2012.
- Invited speaker and panel participant, “*Changing the Moral Climate on Climate Change*”, Penn State University, University Park, PA, Apr 30, 2012.
- Invited lecture, “The Past as Prologue: Learning from the Climate Changes in Past Centuries”, Oeschger Medal Lecture, EGU General Assembly, Vienna, Austria, April 24, 2012.
- Invited lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, 2012 Sustainable Operations Summit, New York, NY, Apr 19, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, School of Public and Environmental Affairs, Indiana University, Bloomington, IN, Apr 17, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Department of Geology and Planetary Science, University of Pittsburgh, Pittsburgh, PA, Apr 13, 2012.
- Invited lecture, “*Past as Prologue: What we can Learn About our Future from Studying the Climate Changes of Past Centuries*”, Department of Environmental Sciences, University of Virginia, Charlottesville, VA, April 6, 2012.
- Invited lecture, “*The Climate Wars*”, Cooperative Institute for Climate and Satellites, NOAA National Climate Data Center, Asheville, NC, April 4, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Warren Wilson College, Asheville, NC, Apr 3, 2012.
- Invited public lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, University of North Carolina-Asheville, Asheville, NC, Apr 3, 2012
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Edwin Way Teale Lecture Series, University of Connecticut, Storrs, CT, Mar 29, 2012.
- Book presentation and signing for “*The Hockey Stick and the Climate Wars*”, Virginia Festival of the Book, Charlottesville, VA, Mar 24, 2012.
- Invited presentation, “*Dire Predictions: Understanding Global Warming*”, Bishop O’Connell High School, Arlington, VA, Mar 16, 2012.
- Book presentation and signing for “*The Hockey Stick and the Climate Wars*”, Politics & Prose bookstore, Washington, DC, Mar 15, 2012.
- Book signing for “*The Hockey Stick and the Climate Wars*”, Ben McNally’s books, Toronto, CA, Mar 12, 2012.
- Invited panel participant, “*Climate Change, Wise Energy, and Regular Folks*”, Fourth Street Forum event, Milwaukee Public Television, Frontier Airlines Center, Milwaukee, WI, Mar 8, 2012.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, 2012 Green Energy Summit and Exposition, Frontier Airlines Center, Milwaukee, WI, Mar 8, 2012.
- Invited poster, “*Using paleo-climate model/data comparisons to constrain future projections: Workshop summary*”, Gavin A. Schmidt, Valérie Masson-Delmotte, Michael Mann, Masa Kageyama, Eric Guilyardi, Axel Timmermann, WCRP Workshop on Coupled Model Intercomparison Project Phase 5 (CMIP5) Model Analysis, Honolulu, Hawaii, Mar 5, 2012.
- Invited participant, Workshop on using paleo-climate model/data comparisons to constrain future projections, The Bishop Museum, PAGES/CLIVAR, Honolulu, Hawaii, Mar 1-3, 2012.
- Invited presentation, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Suzuki Foundation, Vancouver, BC, Feb 20, 2012.

- Invited public lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Pacific Institute for Climate Solutions, Vancouver, BC, Feb 19, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Aquarium of the Pacific, Long Beach, CA, Feb 15, 2012.
- Invited presentation and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Climate Resolve LA, Los Angeles, CA, Feb 14, 2012.
- Invited public lecture and book signing, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Emmett Center on Climate Change and the Environment, School of Law, University of California Los Angeles, Los Angeles, CA, Feb 13, 2012.
- Invited public lecture and book signing, “*Confronting the Climate Change Challenge*”, ‘Penn State Forum Speaker Series, Penn State University, University Park, PA, Feb 9, 2012.
- Invited public lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, ‘EarthTalks’ Seminar Series, Earth and Environmental Systems Institute, Penn State University, University Park, PA, Jan 23, 2012.
- Invited public lecture, “*Dire Predictions: Understanding Global Warming*”, Rector’s Forum, St. Marks Church, Amherst, VA, Jan 18, 2012.
- Book presentation and signing for “*Dire Predictions: Understanding Global Warming*”, University of Virginia, Charlottesville, VA, Jan 17, 2012.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Enviroday Research Symposium, University of Virginia, Charlottesville, VA, Jan 17, 2012.
- Invited presentation, *AGU Fall meeting*: “The Hockey Stick and the Climate Wars: Dispatches From The Front Lines”, San Francisco, CA, Dec 6, 2011.
- “Town Hall” participant, *AGU Fall meeting*: “Directions in Climate Change Education and Communication”, San Francisco, CA, Dec 5, 2011.
- Invited presentation, *AGU Fall meeting*: “Communicating Climate Change to the Public: The Challenges and Potential Pitfalls”, San Francisco, CA, Dec 5, 2011.
- Speaker at *TEDxPSU*: “The Hockey Stick and the Climate Wars”, Penn State University, University Park PA, Nov 13, 2011.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*”, Transatlantic Policy Consortium, George Mason University, Arlington, VA, Oct 31, 2011.
- Invited public lecture, “*The Hockey Stick: On the Front Line in the Climate Wars*”, St. Mary’s College, St. Marys City, MD, Oct 26, 2011.
- Invited panel participant, “*Catastrophe and the Development of Environmental Law*”, State Bar of California Environmental Law Conference, Yosemite, CA, Oct 22, 2011
- Invited presentation, *GSA Annual meeting*: “Climate Scientists In The Public Arena: Who’s Got Our Backs?”, Minneapolis, MN, Oct 12, 2011.
- Invited lecture, “*Climate Change: What We Can Learn from The Climate Changes of Past Centuries*”, Program in Atmospheres, Oceans, and Climate, Massachusetts Institute of Technology, Cambridge, MA, Oct 3, 2011.
- Invited public lecture and book signing, “*Dire Predictions: Understanding Global Warming*”, University of Dayton, Dayton, OH, Sep 22, 2011.
- Invited Speaker, *Summer Institute on Sustainability and Energy (SISE)*, University of Illinois at Chicago, Chicago, IL, Aug 8, 2011.
- Invited presentation, *7th International Congress on Industrial and Applied Mathematics (ICIAM)*, “Climate Global Signatures of the “Little Ice Age” and “Medieval Anomaly””, Vancouver, BC, Canada, July 20, 2011.
- Invited public lecture and book signing, “*Dire Predictions: Understanding Global Warming*”, Cary Institute of Ecosystem Studies, Milbrook, NY, July 15, 2011.

- Featured event speaker, “*Climate Change: Learning From Centuries Past*”, Earth Science Teacher Workshop on Ancient Climate Change, State College, PA, June 16, 2011.
- Invited plenary luncheon lecture, “*On the Front Lines in the Climate Wars*”, Annual meeting of the American Association of University Professors (AAUP), Washington, DC, June 10, 2011.
- Invited lecture, “*Climate Change: What We Can Learn from Past Centuries*”, NOAA Geophysical Fluid Dynamics Laboratory, Princeton, NJ, May 19, 2011.
- Featured event speaker, “*The Role of Meteorology in Climate Change*”, Chi Epsilon Pi, Penn State University Chapter, Forty-second Annual Spring Banquet, Penn State University, State College, PA, April 26, 2011.
- Invited public lecture, “*The Hockey Stick: On the Front Lines in the Climate Wars*”, Five Colleges Geology Lecture Series, Mt. Holyoke College, South Hadley, MA, April 21, 2011.
- Invited lecture, “*Climate Change: What We Can Learn from Past Centuries*”, Stout Lecture Series, Department of Earth and Atmospheric Sciences, University of Nebraska, Lincoln, NE, April 8, 2011.
- Invited public lecture and book signing, “*Dire Predictions: Understanding Global Warming*”, School of Natural Resources Public Lecture Series, University of Nebraska, Lincoln, NE, April 7, 2011.
- Keynote lecture, “*Dire Predictions: Understanding Global Warming*”, Joint Annual Meeting of the Pennsylvania Academy of Science and Pennsylvania Wildlife Society, Penn State-Altoona, Altoona, PA, April 2, 2011.
- Invited participant, NASA-NOAA-NSF Climate Change Education Principal Investigators Meeting, George Mason University, Fairfax, VA, Feb 28-Mar 2, 2011.
- Invited presentation, *AGU Fall meeting*: “Climate Scientists In The Public Arena: Who's Got Our Backs?”, San Francisco, CA, Dec 16, 2010.
- Invited presentation, *AGU Fall meeting*: “Weathering the Climate Change Communication Storm”, San Francisco, CA, Dec 16, 2010.
- Panel discussion on climate change and polar bears (webcast) sponsored by Polar Bears International (for Pittsburgh Zoo), Churchill, MB, Canada, Nov 13, 2010.
- Invited presentation, “*Climate Research, Politics, and Communicating Science*”, New Horizons in Science, Council For the Advancement of Science Writing, New Haven, CT, Nov 7, 2010
- Invited presentation, “*Beyond the Hockey Stick*”, National Climate Seminar, Bard Center for Environmental Policy, (teleconference) Bard College, Nov 3, 2010
- Invited presentation, *GSA Annual meeting*: “Fighting A Strong Headwind: Challenges in Communicating the Science of Climate Change”, Denver, CO, Nov 2, 2010.
- Invited public lecture and book signing, “*Dire Predictions: An Evening with Michael Mann*”, Briar Bush Nature Center, Abington, PA, Oct 14, 2010
- Invited public lecture, “*Dire Predictions: Understanding Global Warming*”, Libraries Fall Public Program, Temple University, Philadelphia, PA, Oct 13, 2010.
- Invited presentation, *Symposium: The Medieval Warm Period Redux - Where and when was it warm?*, Lisbon Portugal, Sep 22-24, 2010.
- Invited presenter, Polar Bears International Panel Discussion, Annual Meeting of the Association of Zoos and Aquariums (AZA), Houston, TX, Sep 13, 2010.
- Invited plenary presentation, *11<sup>th</sup> International Meeting on Statistical Climatology*, “Global Signatures of the ‘Little Ice Age’ and ‘Medieval Climate Anomaly’ and Plausible Dynamical Origins”, University of Edinburgh, Edinburgh, Scotland, July 13, 2010.
- Invited Panel Member, “Climate Science in an Impolitic World”, *Climate & Sustainability: Moving by Degrees*, Marketplace from American Public Radio, Pasadena, CA, Jun 9, 2010.
- Invited public lecture, “*Dire Predictions: Understanding Global Warming*”, Jane Claire Dirks-Edmunds lecture in ecology, Department of Biology, Linfield College, McMinnville, OR, May 11, 2010.

- Invited public lecture and book signing, “*The Facts Behind Global Warming*”, PennFuture’s Global Warming Conference: “Creating a Climate for Justice”, Pittsburgh, PA, May 2, 2010.
- Invited public lecture, “*Dire Predictions: Understanding Global Warming*”, “*Current Issues*” series, Foulkeways, Gwynedd, PA, Apr 23, 2010.
- Invited lecture, *Learning About Climate Dynamics Using Paleoclimate Information From Past Centuries*, Eighth Atmospheric Science Symposium, UC Berkeley Atmospheric Sciences Center (BASC), UC Berkeley, Berkeley, CA, Feb 26, 2010.
- Invited lecture, “*Climate Change: What Can We Learn From Past Centuries?*” Dept. of Geography, Penn State University, University Park, PA, Feb 12, 2010.
- Invited presentation, *American Meteorological Society 22nd Conference on Climate Variability and Change*, “Global Signatures of the ‘Little Ice Age’ and ‘Medieval Climate Anomaly’ and Plausible Dynamical Origins”, Atlanta, GA, Jan 19, 2010.
- Invited presentation, *AGU Fall meeting*: “Global Signatures of the “Little Ice Age” and “Medieval Climate Anomaly” and Plausible Dynamical Origins”, San Francisco, CA, Dec 18, 2009.
- Invited presentation, *AGU Fall meeting*: “Communicating Climate Change”, San Francisco, CA, Dec 17, 2009.
- Invited presentation, *Conference on Climates and Humans*: “Climate of the past millennium”, Cité des Science, Paris, France Nov 21 2009
- Invited presentation, *Geology & Geophysics Alumni Conference*: “Climate Change Insights from the Paleoclimate Record of Past Centuries”, Yale University, New Haven, CT, Nov 7, 2009.
- Session introduction, Pardee Keynote Symposium: "Crisis in the Cryosphere", *Geological Society of America (GSA) Joint Annual meeting*, Portland, Oregon, Oct 21, 2009.
- Keynote lecture and book signing, “*Dire Predictions: Understanding Global Warming*”, *Stewardship or Sacrifice? Religion & the Ethics of Climate Change*, Penn State University, University Park, PA, Oct 7, 2009.
- Invited presentation, *Plant-Soil Interactions in Future Climates* (17<sup>th</sup> Penn State Plant Biology Symposium): “Climate Change: The science, projected impacts, and possible solutions”, University Park, PA, May 19, 2009.
- Invited participant, “*Ocean on The Edge: Top Ocean Issues*”, Aquarium of the Pacific, May 12-14 2009.
- Invited public lecture and book signing, “*Dire Predictions: Understanding Global Warming*”, *Virginia Festival of the Book*, Charlottesville, VA, Mar 20, 2009.
- Invited presentation (co-authors R. Bradley, E. Crespin, H. Goosse, M.K. Hugues, S. Rutherford, D. Shindell, Z. Zhang) “Towards Understanding Patterns of Climate Change in Past Centuries”, *Joint IPCC-WCRP-IGBP Workshop: New Science Directions and Activities Relevant to the IPCC AR5*, Honolulu, HI, Mar 3, 2009.
- Invited public lecture, “*Dire Predictions: Understanding Global Warming*”, ISET NOAA Cooperative Institute, North Carolina A&T university, Greensboro, NC, Feb 24, 2009.
- Invited presentation, *AGU Fall meeting*: “Fighting A Strong Headwind: Challenges in Communicating the Science of Climate Change”, San Francisco, CA, Dec 17, 2008.
- Invited presentation (co-authors R. Bradley, E. Crespin, H. Goosse, M.K. Hugues, S. Rutherford, D. Shindell, Z. Zhang), *AGU Fall meeting*: “Towards Understanding Patterns of Climate Change in Past Centuries”, San Francisco, CA, Dec 16, 2008.
- Invited presentation, *Conference on New Methodologies and Interdisciplinary Approaches in Global Change Research* (European Science Foundation): “Climate Change: Past and Future”, Porquerolles, France, Nov 7, 2008.
- Invited presentation, *Geological Society of America (GSA) Joint Annual meeting*: “Global Climate Change: The Science, Likely Impacts, and Possible Solutions”, Houston, TX, Oct 7, 2008.
- Invited lecture, “*Projections of Future Climate Change*”, CIDD Seminar Series, Huck Institutes of the Life Sciences, Penn State University, PA, Sep 26, 2008.



- Invited public lecture, “*Dire Predictions: Understanding Global Warming*”, 2008 Honors Colloquium, University of Rhode Island, RI, Sep 23, 2008.
- Invited public lecture, “*The Science of Climate Change*”, Bruce Museum, Greenwich, CT, Sep 21, 2008.
- Invited participant, *Workshop on Tree Rings and Modeling of Asian Monsoon Climate Dynamics*, Lamont Doherty Earth Observatory/Columbia University, Palisades, NY, Sep 10-11, 2008.
- Invited guest lecture, *Summer Institute on Hydrological Change During the Colonial Era*, Massachusetts Institute of Technology, Jul 3, 2008.
- Invited guest lecture, Elderhostel course on *Future of Technology*, Penn State University, State College, PA, Jun 26 2008.
- Invited panelist, *Liberty and Environmentalism*, Orlando FL, The Liberty Fund, Jun 19-21, 2008.
- Invited lecture, “*Climate Change: The Science, The Likely Impacts, and Possible Solutions*”, Winton Lecture Series, Winton Group, Oxford, UK, Jun 13 2008.
- Invited presentation, *Workshop on Reducing and Representing Uncertainties in High-Resolution Proxy Data*: “Impacts of Proxy Uncertainties on Multiproxy Reconstructions”, International Center for Theoretical Physics (ITCP), Trieste, Italy, Jun 9, 2008.
- Invited lecture, “*The Past and Future of Global Warming*”, Penn State University, Brandywine Campus, Media, PA, Apr 25, 2008.
- Invited presentation, *Workshop on Reconciling ENSO Chronologies for the Past 500 Years*: “The Importance of Dynamical Responses to Forcing in Understanding Climate Changes Over the Past Millennium”, Moorea, French Polynesia, Apr 3, 2008.
- Invited lecture, “*Paleoclimate reconstructions over the past millennium and how can they inform our understanding of climate dynamics*”, Institut d'Astronomie et de Géophysique, Université Catholique de Louvain, Louvain la Neuve, Belgium, Mar 12, 2008.
- Invited lecture, “*The Importance of Dynamical Responses to Forcing in Understanding Climate Changes Over the Past Millennium*”, Centre for Global Change Science Seminar Series, University of Toronto, Toronto, Canada, Feb 26, 2008.
- Invited public lecture, “*Global Climate Change: The Predictions, The Likely Impacts, and Possible Solutions*”, Le Moyne College, NY, Jan 31, 2008.
- Invited lecture, “*The Physics of Climate Change*”, Department of Physics, Penn State University, PA, Jan 17, 2008.
- Invited exhibition, “*Climate change adaptation in Africa*”, 3th Conference of the Parties to the UN Framework Convention on Climate Change, Bali, CCLONG project members (M. Mann one of project members), Bali, Indonesia, Dec 3, 2007.
- Invited public lecture, “*Climate Change: Is it for Real and What Does it Mean for You*”, Penns Valley Conservation Association, Spring Mills, PA, Nov 14, 2007.
- Invited lecture, “*Climate Change What can the Past tell us about the Future?*”, Department of Geological Sciences, University of North Carolina, Chapel Hill, NC, Nov 9, 2007.
- Invited public lecture, “*Global Climate Change: The impacts, the urgency, and likely consequences to humanity*”, Annual Carolina Climate Change Seminar Series, Institute for the Environment, University of North Carolina, Chapel Hill, NC, Nov 8, 2007.
- Invited lecture, “*Paleoclimate reconstructions over the past millennium and how they can inform our understanding of climate dynamics*”, Ocean and Climate Physics Seminar Series, Lamont Doherty Earth Observatory/Columbia Univ., Palisades, NY, Nov 2, 2007.
- Invited public lecture, *Global Warming and its likely societal impacts*, Environmental Studies Speaker Series, Alfred University, Alfred, NY, Oct 26, 2007.
- Invited lecture, “*The Importance of Dynamical Responses to Forcing in Understanding Climate Changes in Past Centuries*”, NOAA/NCEP/NWS/CPC, Camp Springs, MD, Oct 12 2007.

- Invited public lecture, "*Global Climate Change: Past and Future*", Cornell University, Ithaca, NY, Sep 28, 2007.
- Invited public lecture, "*The Science of Climate Change*", 'EarthTalks' Seminar Series, Earth and Environmental Systems Institute, Penn State University, University Park, PA, Sep 17, 2007.
- Invited public lecture, "*Global Climate Change: Past and Future*", Straub Environmental Lecture Series, Salem, OR, May 31, 2007.
- Invited lecture, "*The Scientific Cause for Climate Change and its Causation*", Foster Hewitt lecture, Lehigh University, Lehigh, PA, Apr 6, 2007.
- Invited lecture, "*Modern Climate Trends in the Context of the Late Holocene*", University of Southern California, Los Angeles, CA, Mar 26, 2007.
- Invited public lecture, "*The Past and Future of Global Warming*", Sierra Club Moshannon Group, State College, PA, Mar 6, 2007.
- Invited lecture, "*Global Climate Change: Past and Future*", Environmental Protection Agency (Region III Office), Philadelphia, PA, Feb 23, 2007.
- Invited public lecture (w/ D. Easterling, L. Thompson, B. Santer), "*Multiple Lines of Evidence: The Scientific Case for Global Warming and its Causation*", American Meteorological Society's Environmental Science Seminar Series, Washington, DC, Jan 31, 2007.
- Invited presentation, *CLIVAR Meeting on Multidecadal to Centennial Global Climate Variability: "The AMO Signal in Proxy and Instrumental Observations"*, Honolulu, Hawaii, Nov 15, 2006.
- Invited presentation, *XIII Venezuelan Geophysical Congress: "Climate Change: Past and Future"*, Honolulu, Hawaii, Oct 23, 2006.
- Invited public lecture, "*Global Climate Change: Past and Future*", Pennsylvania Consortium for Interdisciplinary Environmental Policy, Harrisburg, PA, Oct 5, 2006.
- Invited lecture, *The Atlantic Multidecadal Oscillation, Climate Change, and Atlantic Hurricanes*, Dept. of Geography, Penn State University, University Park, PA, Sep 25, 2006.
- Invited lecture, "*Global Climate Change: Past and Future*", 3M Corporation, Saint Paul, MN, Aug 3, 2006.
- Invited presentation, *HOLIVAR open science meeting: "Climate over the Past Two Millennia"*, London, England, Jun 14, 2006.
- Invited presentation, *Workshop on Past Millennia Climate Variability: Proxy based reconstructions, modeling and methodology Synthesis and Outlook: "Climate over the Past Millennium"*, Wengen, Switzerland, Jun 8, 2006.
- Invited public lecture, "*Global Climate Change: Past and Future*", UC Santa Cruz, Santa Cruz, CA, May 10, 2006.
- Invited lecture, "*Climate over the Past Millennium*", Earth Sciences Department, UC Santa Cruz, Santa Cruz, CA, May 9, 2006.
- Invited lecture, "*Climate over the Past Millennium*", UC Irvine, Irvine, CA, May 3, 2006.
- Invited lecture, "*Large-scale Climate Influences on Drought: Past, Present, and Future*", Water Resources Engineering group, Penn State University, State College, PA, Apr 21, 2006.
- Invited public lecture, "*Global Climate Change: Past and Future*", Margolin lecture in environmental affairs, Middlebury College, Middlebury VT, Mar 7, 2006.
- Invited lecture, "*Climate over the Past Millennium*", Middlebury College, Middlebury, VT, Mar 6, 2006.
- Invited presentation, "*Climate over the Past 1-2 Millennia*", U.S. National Academy of Sciences, Washington DC, Mar 3, 2006
- Invited lecture, "*Climate over the Past Millennium*", Princeton Plasma Physics Laboratory, Princeton, NJ, Feb 20, 2006.
- Invited public lecture, "*Global Climate Change: Past and Future*", Le Moyne college, Syracuse, NY, Feb 3, 2006.

- Invited lecture “*Climate over the Past Millennium*”, Natural Science Seminar Series, Le Moyne college, Syracuse, NY, Feb 3, 2006.
- Invited lecture, “*Detecting Human Induced Climate Change: Insights from the Paleoclimate Record*”, University of New Mexico, Dept. of Physics and Astronomy, Albuquerque, NM, Oct 8, 2005.
- Invited presentation, *Past Global Changes (“PAGES”) 2<sup>nd</sup> Open Science Meeting*: “Insights from Comparing Empirically-estimated and Modeled Climate Change in Past Centuries”, Beijing, China, Aug 10, 2005.
- Invited participant, *Past Global Changes (“PAGES”) 2<sup>nd</sup> Open Science Meeting*, Panel Discussion on “Temperature history of the last 2000 years – what do we know?”, Beijing China, Aug 10, 2005.
- Invited presentation, 9<sup>th</sup> International Association of Meteorology and Atmospheric Sciences (IAMAS) Scientific Assembly: “Dynamical Mechanisms of Solar Climate Forcing in Past Centuries”, Beijing China, Aug 10, 2005.
- Invited presentation, 9<sup>th</sup> International Association of Meteorology and Atmospheric Sciences (IAMAS) Scientific Assembly: “Insights from Comparing Empirically-Estimated and Modeled Climate Change in Past Centuries”, Beijing China, Aug 5, 2005.
- Invited presentation, *Workshop on Solar Variability and Planetary Climates*: “Comparisons of model simulations and proxy-based climate reconstructions over the past two millennia”, International Space Science Institute (ISSI), Bern, Switzerland, Jun 6, 2005.
- Invited participant, *Workshop on Science Communications and the Media*, Lamont Doherty Earth Observatory/Columbia University, Palisades, NY, Jun 1-3, 2005.
- Invited presentation, *Symposium on Energy for the 21st Century*: "Climate Change and Global Warming", Amherst, MA, Apr 9, 2005.
- Invited lecture, Blue Ridge Community College, Harrisonburg, VA, Apr 5, 2005.
- Invited lecture, Pennsylvania State University, Dept. of Geosciences, State College, PA, Mar 29, 2005.
- Invited lecture, Spring meeting of the American Statistical Association, Philadelphia Chapter (ASAP), Philadelphia, PA, Mar 24, 2005.
- Invited lecture, Purdue University, Dept. of Earth & Atmospheric Sciences, West Lafayette, IN, Mar 3, 2005.
- Invited presentation, *Symposium on Whole Earth Systems* (honoring Stephen Schneider): "Climate over the Past Millennium Or So", Palo Alto, CA, Feb 10, 2005.
- Invited presentation, *Meeting on Decadal Variability in the Sun and Climate*, Solar Radiation and Climate Experiment (SORCE) annual meeting, Oct 28, 2004.
- Invited presentation, *Workshop on Historical Reconstruction of Climate Variability in Mediterranean Regions*, Bologna, Italy, Oct 6, 2004.
- Invited lecture, University of Arizona, Atmospheric Sciences Department, Tucson, AZ, Jul 1, 2004.
- Invited presentation, *First International CLIVAR Science Conference*: "Comparisons of Observed Paleoclimate and Model-Based Studies of Climate Changes Over the Past Two Millennia" (co-author: K. Briffa), Baltimore, MD, Jun 23, 2004.
- Invited lecture, Ohio State University, Geology Department, Columbus, OH, May 6, 2004.
- Invited lecture, Ohio State University, Physics Department, Columbus, OH, May 4, 2004.
- Invited presentation, *EGU General Assembly*: “Volcanic and Solar Forcing of El Nino Over the Past 1000 Years” (co-authors: M.A. Cane, S. E. Zebiak, A. Clement), Nice, France, Apr 27, 2004.
- Invited lecture, University of North Carolina, Carolina Environmental Program (CEP), Chapel Hill, NC, Apr 16, 2004.
- Invited presentation, *Meeting on Tree Rings and Climate*, Tucson, AZ, Apr 6, 2004.
- Invited presentation, *GSA Northeastern Section meeting*, McLean, VA, Mar 27, 2004.
- Invited lecture, Pennsylvania State University, Dept. of Meteorology, State College, PA, Mar 4, 2004.

- Invited presentation, *NASA/CLIVAR/IPRC workshop on Decadal Climate Variability*, Kona, Hawaii, Feb 23, 2004.
- Invited presentation (co-authors B. Adams, C. Ammann, R. Miller, S. Rutherford, G. Schmidt, D. Shindell), *AGU Fall meeting*: “Spatially- and seasonally-specific responses to forcing as detected in paleoclimate reconstructions of past centuries”, San Francisco, CA, Dec 12, 2003.
- Invited presentation, 30th session of the *International Seminars on Planetary Emergencies*, World Federation of Scientists, Erice, Italy, Aug 20, 2003.
- Invited presentation, *AGU/EGS Joint Spring meeting*: “Ground vs. Surface Temperature Trends: Implications for Borehole Surface Temperature Reconstructions” (co-author: G. Schmidt), Nice, France, Apr 10, 2003.
- 'Vetlesen' distinguished lecturer, Graduate School of Oceanography, University of Rhode Island, Narragansett, Rhode Island, Mar 5, 2003.
- Invited presentation (co-authors G. Schmidt, D. Shindell), *AGU Fall meeting*: “Climate Changes during the Past Millennium”, San Francisco, CA, Dec 8, 2002.
- Invited lecture, Geophysical Fluid Dynamics Laboratory, Princeton, NJ, Oct, 17, 2002.
- Invited lecture, Goddard Institute for Space Studies, New York, NY, Oct 10, 2002
- Invited presentation, Chapman conference on *Volcanism and the Earth's Atmosphere*, Santorini Greece, Jun 20, 2002.
- Invited lecture, University of Copenhagen, Copenhagen, Denmark, Jun 11, 2002.
- Invited presentation, *EGS Spring meeting*: “Climate Change and Forcing over the Past 500 years” (co-authors: S. Rutherford, R. Bradley, M. Hughes), Nice, France, Apr 23, 2002.
- Invited participant, Waxter Environmental Forum, Sweet Briar College, Mar 14, 2002.
- Invited lecture, College of Marine Science, University of South Florida, Mar 8, 2002.
- Invited lecture, Center for Coastal Physical Oceanography (CCPO), Old Dominion University, Feb 18, 2002.
- Invited lecture, INSTAAR, University of Colorado, Jan 28, 2002.
- Invited lecture, Department of Geological Sciences, University of Colorado, Jan 25, 2002.
- Invited lecture, Department of Geology, University of North Carolina, Jan 18, 2002.
- Invited presentation, *AGU Fall meeting*: “Climate Reconstruction using Pseudoproxies”, San Francisco, CA, December 11, 2001.
- Invited lecture, Department of Earth & Ocean Sciences, Duke University, Nov 29, 2001.
- Session introduction, Invited session on "Climate Change Detection/Attribution", National Academy of Sciences *Frontiers of Science* annual symposium, Irvine, California, Nov 9, 2001.
- Invited lecture, *Richard Foster Flint Symposium Honoring the Memory of Barry Saltzman*, Nov 3, 2001.
- Invited lecture, DCESS, University of Copenhagen, Copenhagen, Denmark, Aug 13, 2001.
- Invited presentation, *Global Change Open Science Conference*: “Variability in El Nino and the Global ENSO Phenomenon in Past Centuries”, Amsterdam, Netherlands, Jul 11, 2001.
- Invited lecture, Courant Institute, New York University, New York, NY, Apr 4, 2001.
- Invited presentation, *EGS Spring meeting*: “Comparison of Large-Scale Proxy-Based Temperature Reconstructions over the Past Few Centuries” (co-authors: S. Rutherford, T. Osborn), Nice, France, March 29, 2001.
- Invited lecture, Turner Lecture Series, Department of Geological Sciences, University of Michigan, Ann Arbor, MI, Mar 16, 2001.
- Invited presentation, *NASA/CLIVAR/IPRC workshop on Decadal Climate Variability*, Honolulu, Hawaii, Jan 8, 2001.
- Invited presentation, *AGU Fall meeting*: “Use of Proxy Climate Data in Climate Change Detection”, San Francisco, CA, Dec 16, 2000.

- Invited presentation, *CLIVAR Decadal Climate Predictability Workshop*, La Jolla, California, Oct 4, 2000.
- Invited presentation, *5th EPA NHEERL symposium on Indicators in Health and Ecological Risk Assessment*, Jun 7, 2000.
- Invited presentation, AMQUA annual meeting, Fayetteville Arkansas, May 22, 2000.
- Invited presentation, *EGS Spring meeting*: “Seasonal Proxy-Reconstructed Surface Temperature Patterns in Past Centuries”, Nice, France, Apr 22, 2000
- Invited public lecture, Smithsonian Environmental Research Center (SERC), Edgewater Maryland, Mar 15, 2000.
- Invited participant and speaker, workshop on *El Niño: Past Present and Future*, Seabrook Island South Carolina, Feb 28-Mar 2, 2000.
- Invited guest introductions, *US Global Change Research Program Seminar Series*, Dirksen Senate Office Building, Capitol Hill, Washington DC, Nov 23, 1999.
- Invited participant and speaker, *PAGES/CLIVAR workshop on Climate of the Last Millennium*, Venice Italy, Nov 8 - 12, 1999
- Invited lecture, Geophysical Fluid Dynamics Laboratory, Princeton, NJ, Oct, 21, 1999.
- Invited lecture, NASA Goddard Institute for Space Studies, New York, NY, Oct 15, 1999.
- Invited lecture, Colloquium on Regional Modeling and Detection, International Center for Theoretical Physics (ICTP), Trieste, Italy, Jun 9, 1999.
- Invited presentation, *US Global Change Research Program Seminar Series*, Dirksen Senate Office Building, Capitol Hill, Washington DC, May 17, 1999.
- Invited lecture, Physical Oceanography Seminar Series, Woods Hole Oceanographic Institute, Woods Hole, MA, Mar 2, 1999.
- Invited lecture, Department of Environmental Sciences, University of Virginia, Charlottesville, VA, Feb 18, 1999.
- Invited lecture, School of Marine and Atmospheric Science, University of Miami, Coral Gables, FL, Nov 13, 1998.
- Invited lecture, Department of Mathematics & Statistics, University of Massachusetts, Amherst, MA, Nov 2, 1998.
- Invited presentation, *NASA workshop on Decadal Climate Variability*, Williamsburg, VA, Sep 22-25, 1998
- Invited presentation, *US Global Change Research Program Seminar Series*, Dirksen Senate Office Building, Capitol Hill, Washington DC, Jul 20, 1998
- Invited presentation, *AGU Spring meeting*: “Low-frequency Variations in Midwestern U.S Precipitation: Diagnosing ENSO and Anthropogenic effects”, Boston, MA, May 1998
- Invited lecture, NOAA-CDC/ERL/CIRES, Boulder, Colorado, May 13, 1998
- Invited lecture, Graduate School of Oceanography, University of Rhode Island, Narragansett, Rhode Island, Mar 6, 1998
- Invited lecture, Oceanography Department, Texas A&M university, College Station, Texas, Dec 4, 1997
- Invited lecture, Geology Department, West Virginia University, Morgantown, West Virginia, Nov 14, 1997
- Invited talk, conference on *Transformations of Middle Eastern Natural Environments: Legacies and Lessons*, Council on Middle East Studies, Yale Center for International and Area Studies, Yale University, New Haven, Oct 30-Nov 1, 1997
- Invited lecture, Hadley Centre of the United Kingdom Meteorological office, Bracknell, UK, Oct 14, 1997
- Invited presentation, *The Cross-Validation of Proxy Climate Data and the Instrumental Record*, Joint Institute for the Study of Atmosphere and Ocean, University of Washington, Seattle, Jun 23-25, 1997

- Invited lecture, Geophysical Fluid Dynamics Laboratory, Princeton University, Princeton, New Jersey, Mar 4, 1997
- Invited lecture, Department of Atmospheric Sciences, University of California Los Angeles, Feb 14, 1997
- Invited presentation, *SST reconstruction from Proxy data and Optimal Network Design Strategy For Corals and other Annual Records from Tropical Systems (ARTS)* , Lamont Doherty Earth Observatory, Columbia University, Jan 15-16, 1997
- Invited lecture, Lamont Doherty Earth Observatory, Columbia University, Dec 4, 1996
- Invited lecture, Department of Physics, University of Bern, Bern Switzerland, Oct 26, 1996
- Invited presentation, *Links between Variations in Solar Activity, Atmospheric Conductivity, and Clouds: An Informal Workshop*, Los Alamos National Laboratory, Los Alamos, New Mexico, Jun 20-21, 1996
- Invited participant, *Application of Statistics to Modeling the Earth's Climate System*, National Center for Atmospheric Research, Boulder, Colorado. Jul 6-19, 1994
- Invited lecture, United States Geological Survey, *USGS Global Change seminar series*, Reston Virginia, Apr 12, 1993
- Invited lecture, Geology Dept., Brown University, Providence, Rhode Island, Mar 10, 1993
- Invited lecture, Dept. of Chemistry, University of Utah, Jul 14, 1989

## Abstracts and Talks

- **Mann, M.E.**, Fun with Energy Balance Models, Climate Dynamics Seminar Series, Earth System Science Center, Penn State University, Jan 29, 2014.
- Reed, A. J., **Mann, M. E.**, Lin, N., Kemp, A. C., Emanuel, K. A., Impacts of sea-level rise, tropical cyclones, and climate change on coastal inundation in New York and New Jersey, AGU Ocean Sciences Meeting, Honolulu, HI, February 2014.
- Horton, B., Corbett, D.R., Donnelly, J.P., Kemp, A., Lin, N., Lindeman, K., **Mann, M.E.**, Peltier, W.R., Rahmstorf, S., Advanced Regional and Decadal Predictions of Coastal Inundation for the U.S. Atlantic and Gulf Coasts, AGU Fall meeting, San Francisco, CA, December 2013 (solicited).
- Simon, S.M., **Mann, M.E.**, Steinman, B.A., Feng, S., Zhang, Y., Miller, S.K., Simulations of Western North American Hydroclimate during the Little Ice Age and Medieval Climate Anomaly, AGU Fall meeting, San Francisco, CA, December 2013.
- Brouillette, D.J., **Mann, M.E.**, Miller, S.K., Rutherford, S.D., Steinman, B.A., Reconstruction of Precipitation in North America Over The Last Millennium Using Multiple Proxies, AGU Fall meeting, San Francisco, CA, December 2013.
- Singh, R., Wagener, T., Crane, R.G., **Mann, M.E.**, Ning, L., Considering uncertainty in climate change projections through a new decision-centric approach to global change impact assessment on water resources tested in a Pennsylvania watershed, AGU Fall meeting, San Francisco, CA, December 2013.
- Steinman, B.A., **Mann, M.E.**, Miller, S.K., Emanuel, K., Assessment of forced and internal variability in the AMO through analyses of SST data from CMIP5 historical simulations and observations, AGU Fall meeting, San Francisco, CA, December 2013.
- Kelly, L.D., Grajal, A., Luebke, J.F., Clayton, S., Saunders, C.D., Matiassek, J., Stanoss, R., Goldman, S.R., **Mann, M.E.**, Karazsia, B.T., Positive Affective Connections to Animals and Behaviors that Address Climate Change among Public Audiences, AGU Chapman Conference on Communicating Climate Science, Granby, Colorado, June, 2013.
- Rahmstorf, S., Schaffernicht, E., Feulner, **Mann, M.**, Evidence for a sudden slowdown in Atlantic overturning around 1970, EGU General Assembly, Vienna, Austria, April, 2013.

- Singh, R., Wagener, T., van Werkhoven, K., **Mann, M.E.**, Crane, R., Ning, L., A robust decision making framework for identifying dominant controls on indicators of hydrologic alteration under environmental change, EGU General Assembly, Vienna, Austria, April, 2013.
- Abbott, M.B., Steinman, B.A., **Mann, M.E.**, Anderson, L., Ortiz, J.D., Finney, B.P., Preliminary Findings from Lake Sediment Studies of Changing Water Availability in Western North America During the Holocene, Pacific Climate (PACLIM 2013) Workshop, Asilomar Conference Center, Pacific Grove, CA, March, 2013.
- Steinman, B.A., Abbott, M.B., **Mann, M.E.**, Ortiz, J.D., Anderson, L., Finney, B.P., Closed lake oxygen isotope records of drought in the Pacific Northwest spanning the common era, Pacific Climate (PACLIM 2013) Workshop, Asilomar Conference Center, Pacific Grove, CA, March, 2013.
- Schurer, A., Hegerl, G., Tett, S., **Mann, M.**, Phipps, S., The importance of external forcing on the climate of the last millennium, PAGES 4<sup>th</sup> Open Sciences Meeting, Goa, India, February, 2013.
- **Mann, M.E.**, Hurricanes and Climate Change, PSUBAMS Talk series, Department of Meteorology, Penn State University, University Park, PA, February, 2013.
- Singh, R., Werkhoven, K.V., Wagener, T., **Mann, M.E.**, Crane, R., Ning, L., When does model parameter nonstationarity matter? Insights from the applications of a novel trading space-for-time framework across the US and South Africa, AGU Fall meeting, San Francisco, CA, December, 2012.
- Steinman, B., Abbott, M.B., **Mann, M.E.**, Ortiz, J.D., Hydroclimate of the Pacific Northwest during the Little Ice Age and Medieval Climate Anomaly, AGU Fall meeting, San Francisco, CA, December, 2012.
- Schurer, A., Hegerl, G., Tett, S., **Mann, M.**, Causes of Northern Hemispheric temperature change over the last millennium, 3rd International Conference on Earth System Modelling, Hamburg, Germany, September, 2012.
- Magerman, J., Najjar, R., **Mann, M. E.**, Cronin, T. M., Late-Holocene North Atlantic Sea-Surface Temperature Variability, AGU 2012 Ocean Sciences Meeting, Salt Lake City, UT, February, 2012.
- Singh, R., Wagener, T., Werkhoven, K.V., **Mann, M.E.**, Crane, R., Shortle, J., Probabilistic predictions of hydrologic services in ungauged basins and under global change, AGU Fall meeting, San Francisco, CA, December, 2011.
- Goosse, H., Crespin, E., Dubinkina, S., Loutre, M.-F., **Mann, M.E.**, Renssen, H., Sallaz-Damaz, Y., Shindell, D.T., The Role of Forcing and Internal Dynamics in Explaining the “Medieval Climate Anomaly”, AGU Fall meeting, San Francisco, CA, December, 2011.
- Emile-Geay, J., Cobb, K.M., **Mann, M.E.**, Rutherford, S.D., Wittenberg, A.T., Coherent anti-phasing between solar forcing and tropical Pacific climate over the past millennium: derivation and implications, AGU Fall meeting, San Francisco, CA, December, 2011.
- Keller, K., Srivier, R.L., Timmermann, A., Laurian, A., **Mann, M.E.**, ENSO variability under parametric uncertainty in an Earth System model of intermediate complexity, AGU Fall meeting, San Francisco, CA, December, 2011.
- Fan, F., **Mann, M.E.**, Lee, S., Evans, J.L., Changes in the South Asian Summer Monsoon: An Analysis of the CMIP3 Multi-Model Projections, AGU Fall meeting, San Francisco, CA, December, 2011.
- **Mann, M.E.**, Climate change impacts on Atlantic tropical cyclone activity: Insights from the paleoclimate record, GSA Annual meeting, Minneapolis, MN, October, 2011.
- Kemp, A.C., Horton, B.P., Donnelly, J.P., **Mann, M.E.**, Vermeer, M., Rahmstorf, S., Climate related sea-level variations over the past two millennia, XVIII INQUA Congress, Bern, Switzerland, July, 2011.
- Goosse, H., Crespin, E., Dubinkina, S., Loutre, M.-F., **Mann, M.E.**, Renssen, H., Sallaz-Damaz, Y., The Medieval Climate Anomaly in simulations with data assimilation, XVIII INQUA Congress, Bern, Switzerland, July, 2011.

- Goosse, H., Guiot, J., **Mann, M.E.**, Dubinkina, S., Sallaz-Damaz, Y., The medieval climate anomaly in Europe: comparison of the summer and annual mean signals in two reconstructions and in simulations with data assimilation, XVIII INQUA Congress, Bern, Switzerland, July, 2011.
- Crespin, E., Goosse, H., Fichet, T., Mairesse, A., Sallaz-Damaz, Y., Dubinkina, S., **Mann, M.E.**, Arctic climate over the past 1500 years: response to external forcing and internal variability, XVIII INQUA Congress, Bern, Switzerland, July, 2011.
- Kozar, M.E., **Mann, M.E.**, Emanuel, K.A., Analysis of Atlantic Tropical Cyclone Counts Over the Past Millennium, 3<sup>rd</sup> International Summit on Hurricanes and Climate Change, Rhodes, Greece, June 2011.
- **Mann, M.E.**, Kozar, M.E., Emanuel, K.A., Relationships Between Basin-Wide and Landfalling Atlantic Tropical Cyclones: Analysis of Long-Term Simulation Results, 3<sup>rd</sup> International Summit on Hurricanes and Climate Change, Rhodes, Greece, June 2011.
- Goosse, H., Crespin, E., Dubinkina, S., Loutre, M.-F., **Mann, M.E.**, Renssen, H., Sallaz-Damaz, Y., Shindell, D., The Medieval Climate Anomaly: mechanisms beyond a direct radiative forcing, EGU General Assembly, Vienna, Austria, April, 2011.
- Kozar, M.E., **Mann, M.E.**, Camargo, S.J., Kossin, J.P., Statistical Modeling of Atlantic Tropical Cyclone Counts, 91st Annual Meeting, American Meteorological Society, January 2011.
- Singh, R., Wagener, T., Werkhoven, K.V., **Mann, M.E.**, Crane, R., Ning, L., Trading Space for Time: A non-stationary approach to probabilistic flow predictions in a changing climate, AGU Fall meeting, San Francisco, CA, December, 2010.
- Srivler, R.L., Goes, M.P., **Mann, M.E.**, Huber, M., Keller, K., Recent Advances in Understanding Tropical Cyclone-Climate Interactions Using Climate Models of Varying Complexity, AGU Fall meeting, San Francisco, CA, December, 2010.
- Reisman, J.P., **Mann, M.E.**, Climate Science Communications - Video Visualization Techniques, AGU Fall meeting, San Francisco, CA, December, 2010.
- **Mann, M.E.**, Of Random Walks and Global Temperature, “Frank Talks” series, Department of Meteorology, Penn State University, September 2010.
- Srivler, R.L., **Mann, M.E.**, Huber, M., Goes, M.P., Keller, K., New Insights into Tropical Cyclone-Climate Interactions using Climate Models of Varying Complexity, NOAA Climate & Global Change Postdoctoral Fellowship Program Summer Institute, Steamboat Springs, CO, July, 2009.
- Fan, F., **Mann, M.E.**, Lee, S., Observed and Modeled Changes in the South Asian Summer Monsoon over the Historical Period, AGU Fall meeting, San Francisco, CA, December, 2009.
- Srivler, R.L., **Mann, M.E.**, Goes, M.P., Keller, K., Climate Response to Tropical Cyclone-Induced Ocean Mixing in an Earth System Model of Intermediate Complexity, AGU Fall meeting, San Francisco, CA, December, 2009.
- Emile-Geay, J., Cobb, K.M., **Mann, M.E.**, Rutherford, S.D., Wittenberg, A.T., Low-Frequency Tropical Pacific Sea-Surface Temperature over the Past Millennium: Reconstruction and Error Estimates, AGU Fall meeting, San Francisco, CA, December, 2009.
- **Mann, M.E.**, Woodruff, J.D., Donnelly, J., Zhang, Z., El Nino, tropical Atlantic warmth, and Atlantic hurricanes during the past 1500 years, 2<sup>nd</sup> International Summit on Hurricanes and Climate Change, Corfu, Greece, June 2009.
- Goosse, H., Crespin, E., **Mann, M.E.**, Renssen, H., Timmermann, A., A dynamically consistent reconstruction of surface temperature changes during the last 600 years based on climate model simulations using data assimilation, EGU General Assembly, Vienna, Austria, April 2009 (solicited).
- Crespin, E., Goosse, H., Fichet, T., **Mann, M.E.**, Did fluctuations of the thermohaline circulation in the North Atlantic play a role during Arctic warm episodes of the past millennium? EGU General Assembly, Vienna, Austria, April 2009.
- **Mann, M.E.**, Bradley, R.S., Crespin, E., Goosse, H., Hughes, M.K., Rutherford, S., Shindell, D., Zhang, Z., Towards Understanding Patterns of Climate Change in Past Centuries, EGU General Assembly, Vienna, Austria, April 2009.



- Crespin, E., Goosse, H., Fichefet, T., **Mann, M.E.**, Potential causes of 15th century Arctic warming using coupled model simulations with data assimilation, EGU General Assembly, Vienna, Austria, April 2009.
- Katz, B.G., Najjar, R.G., **Mann, M.E.**, Potential impact of changing sea level and streamflow on salinity of the upper Delaware Bay, 3rd Delaware Estuary Science and Environmental Summit, Cape May, NJ, January 2009.
- Sabbatelli, T., **Mann, M.E.**, S.K. Miller, Semi-Empirical Projections of Future Atlantic Tropical Cyclone Activity, 8th Annual AMS Student Conference, Phoenix, AZ, January 2009
- Crespin, E., Goosse, H., Fichefet, T., **Mann, M.E.**, Causes of 15th century warming event in the Arctic in a coupled climate model including data assimilation, AGU Fall meeting, San Francisco, CA, December, 2008.
- Emile-Geay, J., Cobb, K.M., **Mann, M.E.**, Rutherford, S., Low-Frequency Tropical Pacific Sea-Surface Temperature over the Past Millennium: Reconstruction and Error Estimates, AGU Fall meeting, San Francisco, CA, December, 2008.
- Sabbatelli, T.A., **Mann, M.E.**, Miller, S.K., Evans, J.L., Semi-Empirical Projections of Future Atlantic Tropical Cyclone Activity, AGU Fall meeting, San Francisco, CA, December, 2008.
- Crespin, E., Goosse, H., Fichefet, T., **Mann, M.E.**, Simulating the climate of the Arctic during the last millennium in a coupled climate model including data assimilation, EGU General Assembly, Vienna, Austria, April 2008.
- Emile-Geay, J.E. , Cobb, K.M., **Mann, M.E.**, Experimental reconstructions of tropical Pacific sea-surface temperature over the past millennium, EGU General Assembly, Vienna, Austria, April 2008
- Steig, E.J., Schneider, D.P., Rutherford, S.D., **Mann, M.E.**, Comiso, J.C., Shindell, D.T., Significant warming of West Antarctica in the last 50 years, EGU General Assembly, Vienna, Austria, April 2008.
- Katz, B.G., Najjar, R.G., Cronin, T.M., **Mann, M.E.**, Rayburn, J.A., Duration and magnitude of freshwater floods during the 13 KA and 11.4 KA BP events in the Paleo-Champlain Sea, GSA Northeastern Section, Buffalo, NY, March 2008.
- Najjar, R., Graham, S., Hilton, T., Katz, B., Li, M., **Mann, M.**, Patterson, L., Zhong, L., Climate Forcing of Mid-Atlantic Estuaries in the 21<sup>st</sup> Century, Ocean Sciences Meeting, Orlando, Florida, March 2008.
- Crespin, E., Goosse, H., Fichefet, T., **Mann, M.E.**, Simulating the climate of the Arctic during the last millennium in a coupled climate model including data assimilation, 38<sup>th</sup> International Arctic Workshop, Boulder, CO, March 2008.
- **Mann, M.E.**, Fan, F., Zhang, Z, Ammann, C., Shindell, D., Schmidt, G., The Importance of Dynamical Responses to Forcing in Understanding Climate Changes Over the Past Millennium, AGU Fall meeting, San Francisco, CA, December, 2007.
- Fan, F., **Mann, M.E.**, Ammann, C., , Changes in the Asian Summer Monsoon over the Past Millennium, AGU Fall meeting, San Francisco, CA, December, 2007.
- Goosse, H., **Mann, M.E.**, Renssen, H., Timmerman, A., Data assimilation over the last millennium using a large ensemble of simulations, AGU Fall meeting, San Francisco, CA, December, 2007.
- Najjar, R., T. Hilton, B. Katz, L. Zhong, M. Li and **M. Mann**, Is there a signal of sea-level rise in the salinity of mid-Atlantic estuaries. Presentation at the annual meeting of the Estuarine Research Federation, Providence, RI, November 8, 2007.
- Fan, F., **Mann, M.E.**, Ammann, C., Natural Forcing of the Asian Summer Monsoon Over the Past Millennium, 3rd Alexander von Humboldt International Conference on The East Asian Monsoon, past, present, Beijing China, August, 2007.
- Goosse, H., **Mann, M.E.**, Renssen, H., Timmerman, A., Reconstructing temperature changes over the past millennium using both model results and observations, Second International Conference on Earth System Modelling, Hamburg Germany, August, 2007.

- **Mann, M.E.**, Zhang, Z, Rutherford, S., Bradley, R., Hughes, M., Proxy-based Reconstructions of Past Hemispheric and Global Mean Surface Temperature Variations, *IUGG* 24th General assembly, Perugia, Italy, July, 2007.
- **Mann, M.E.**, Zhang, Z, Rutherford, S., Bradley, R., Hughes, M., Proxy-based Reconstructions of Past Hemispheric and Global Mean Surface Temperature, AGU Fall meeting, San Francisco, CA, December, 2006.
- Rutherford, S., **Mann, M.E.**, Wahl, E.R., Ammann, C., Test of Climate Field Reconstruction Performance Using Pseudoproxies, AGU Fall meeting, San Francisco, CA, December, 2006.
- Emanuel, K., **Mann, M.E.**, Hurricanes and the Atlantic Multidecadal Oscillation, AGU Fall meeting, San Francisco, CA, December, 2006.
- Goosse, H., Renssen, H., Timmermann, A, Bradley, R.S., **Mann, M.E.**, Using paleoclimate proxy-data to select optimal realisations in an ensemble of simulations of the climate of the past millennium, EGU General Assembly, Vienna, Austria, April 2006.
- **Mann, M.E.**, Global Warming, the AMO, and North Atlantic Tropical Cyclones, ESSC Brownbag Seminar, Penn State University, University Park, PA, March, 2006.
- Knight, J., Allan, R., Folland, C., Vellinga, M., **Mann, M.**, A Signature of Persistent Natural Thermohaline Circulation Cycles in Observed Climate, AGU Fall meeting, San Francisco, CA, December, 2005 (solicited).
- Cook, B.I., Epstein, H.E., Smith, T.M., **Mann, M.E.**, Arctic Oscillation Induced Warming and Terrestrial Responses, AGU Fall meeting, San Francisco, CA, December, 2005.
- Emile-Geay, J.B., Cane, M.A., **Mann, M.E.**, Seager, R., ENSO response to radiative forcing over the Holocene: a model perspective, AGU Fall meeting, San Francisco, CA, December, 2005.
- Knight, J., Scaife, A., Allan, R., Folland, C., Vellinga, M., **Mann, M.**, The Atlantic Multidecadal Oscillation: a signature of thermohaline circulation cycles in observed climate, IAMAS 9<sup>th</sup> Scientific Assembly, Beijing, China, August 2005.
- Goosse, H., Renssen, H., Timmermann, A., Bradley, R., **Mann, M.**, Using paleoclimate proxy-data to select an optimal realisation in an ensemble of simulations of the climate of the past millennium, EGU General Assembly, Vienna, Austria, April 2005 (solicited).
- Graham, N., Ammann, C., Tomas, R., Hoerling, M., Xu, T., Hughes, M., **Mann, M.**, Understanding late Holocene climate transitions in the Pacific: Results from proxy-guided AGCM experiments, EGU General Assembly, Vienna, Austria, April 2005 (solicited).
- Cook, E.; Herweijer, C.; Seager, R.; **Mann, M.**, Long-term drought variability over North America and its connection to global and tropical Pacific SST forcing, EGU General Assembly, Vienna, Austria, April 2005.
- Emile-Geay, J., Cane, M., **Mann, M.**, Bond, G., Radiative forcing of El Niño-Southern Oscillation over the Holocene: a model perspective, EGU General Assembly, Vienna, Austria, April 2005.
- Cook, E., Cane, M., Seager, R., **Mann, M.**, Tropical Pacific Links to Long-Term Aridity Changes in the Western United States, Chapman conference on Tropical-Extratropical Teleconnections, Honolulu, HI, February 2005 (solicited).
- M. Cane, Emile-Geay, J., Seager, R., Clement, A. **Mann, M.**, Solar Influence on ENSO and the Tropics?, AGU Fall meeting, San Francisco, CA, December, 2004 (solicited).
- Cook, B.I., Smith, T.M., **Mann, M.E.**, The North Atlantic Oscillation and Regional Phenology Prediction Over Europe, AGU Fall meeting, San Francisco, CA, December, 2004.
- Steig, E.J., Schneider, D.P., **Mann, M.E.**, Rutherford, S.J., van Ommen, T., Winebrenner, D.P., Antarctic Temperatures since 1856, Western Antarctic Ice Shelf meeting, September 2004.
- Cronin, T.M., Willard, D.A., Thunell, Dwyer, G.S., **Mann, M.E.**, Seager, C., Climate Variability from Estuarine Sediments: A Case Study of Chesapeake Bay, First International CLIVAR Science Conference, June 2004.

- Jones, P.D., **Mann, M.E.**, "Comparisons of millennial reconstructions of Northern Hemisphere (NH) temperatures from proxy data with coupled-GCM integrations" , EGU General Assembly, Nice, France, April 2004.
- Luterbacher, J., Xoplaki, E, Fischer, E., Pauling, A., Gonzalez-Rouco, F.J., Garcia Herrera R., Guiot, J., Zorita, E., Jacobeit, J., Mariotti, A., Rimbu, N., Felis, T., Rodrigo F., Barriendos, M., **Mann, M.E.**, Touchan, R., Past mediterranean climate variability – present knowledge and Scientific Challenges For Future Research, EGU General Assembly, Nice, France, April 2004.
- Saenger, C.P., Cronin, T.M., Thunell, R. Vann, C., Dwyer, G., Seal, R. II, **Mann, M.E.**, Eastern U.S. Holocene Climate Variability from Chesapeake Bay Sediments, Geological Society of America Annual Northeastern Section meeting, March 2004.
- Hughes, M.K., Ni, F., **Mann, M.E.**, Park, J., Global Multidecadal to Century-Scale Climate Oscillations During the Last 1000 Years, AGU Fall meeting, San Francisco, CA, December, 2003.
- Shindell, D.T, Schmidt, G.A., **Mann, M.E.**, Miller, R.L., Northern Hemisphere Regional Climate Change during the Last Millennium, AGU Fall meeting, San Francisco, CA, December, 2003.
- Schmidt, G.A., Shindell, D.T., Miller, R.L., and **Mann, M.E.**, External forcing of climate change during the Holocene, IMAGES Holocene Working Group Meeting, Hafslø, Norway, August 2003.
- **Mann, M.E.**, Rutherford, S., Jones, P.D., Schmidt, G.A., Shindell, D., Climate changes during the past millennium, IUGG Meeting, Sapporo, Japan, July, 2003.
- Knight, R.G., Folland, C.K., Vellinga, M., **Mann, M.E.**, The Atlantic Multidecadal Oscillation and the Thermohaline Circulation: A Global-Scale Ocean-Atmosphere Mode Simulated in a 1400 Year Coupled Model Calculation, IUGG Meeting, Sapporo, Japan, July, 2003.
- Wiberg, P., Cleary, P., **Mann, M.E.**, Coupling wave and meteorological observations with bottom-boundary-layer models to investigate spatial and temporal variability in continental-shelf sediment transport, International Geological Congress, Florence, Italy, June, 2003.
- Knight, R.G., Folland, C.K., Vellinga, M., **Mann, M.E.**, The Atlantic Multidecadal Oscillation and the Thermohaline Circulation: A Global-Scale Ocean-Atmosphere Mode Simulated in a 1400 Year Coupled Model Calculation, Conference of the Royal Meteorological Society, June, 2003.
- D'Arrigo, R.D., Cook, E.R., **Mann, M.E.**, Jacoby, G.C., Tree-ring Reconstructions of Arctic Oscillation Indices Since AD 1650, ARCUS 15th Annual Meeting And Arctic Forum, Arlington, VA, April 2003.
- Shindell, D.T., Schmidt, G.A., Miller, R., **Mann, M.E.**, "Volcanic and Solar Forcing of Global and Regional Climate During the Preindustrial Era" , AGU/EGS Joint Spring meeting, Nice, France, April 2003.
- Zhang, Z., **Mann, M.E.**, Cook, E.R., A Revised Set of Dendroclimatic Reconstructions of Summer Drought over the Conterminous U.S., AGU Fall meeting, San Francisco, CA, December, 2002.
- Rutherford, S., **Mann, M.E.**, Bradley, R., Briffa, K., Hughes, M., Jones, P., Osborn, T., Proxy-Based Reconstruction of Surface Temperature Variations in Past Centuries, AGU Fall meeting, San Francisco, CA, December, 2002.
- Cook, B.I., **Mann, M.E.**, Smith, T., A Statistical Resampling Technique for Conditioning Simulated Daily European Surface Temperatures on the North Atlantic Oscillation Index, AGU Fall meeting, San Francisco, CA, December, 2002.
- Adams, B., Ammann, C.M., **Mann, M.E.**, Using Paleoclimatic Reconstructions of ENSO Variability During the Past Few Centuries to Re-Examine the 'Volcano-ENSO' Hypothesis, AGU Fall meeting, San Francisco, CA, December, 2002.
- Rutherford, S., **Mann, M.E.**, Proxy-Based Reconstructions of Surface Temperature Patterns During the Maunder Minimum, AGU Spring meeting, Washington, DC, May 2002.
- Shindell, D.T., Schmidt, G.A., **Mann, M.E.**, Rind, D, Waple, A., Miller, R., Solar and Volcanic Forcing of Climate Change during the Maunder Minimum, AGU Spring meeting, Washington, DC, May 2002.

- Shindell, D., Schmidt, G., **Mann, M.**, Rind, D., Waple, A., Long-term Solar Forcing of the Arctic Oscillation/North Atlantic Oscillation, AGU Fall meeting, San Francisco, CA, December, 2001.
- Druckenbrod, D.L., **Mann, M.E.**, Stahle, D.W., Cleaveland, M.K., Therrell, M.D., Shugard, H.H., James Madison and a Shift in Precipitation Seasonality, AGU Fall meeting, San Francisco, CA, December, 2001.
- Cook, E.R., D'Arrigo, R.D., **Mann, M.E.**, A well-verified multiproxy reconstruction of the winter North Atlantic Oscillation index Since AD 1400, U.S CLIVAR Atlantic meeting, Boulder, CO, June 14, 2001
- Brigham-Grette, J., Rittenour, T.M., **Mann, M.E.**, Drainage history of glacial Lake Hitchcock and Paleoclimate Implications of Late Quaternary Sediments and Terraces in the Central Connecticut Valley, New England, GSA Northeastern Section, 36th Annual Meeting, Burlington, VT, March 12, 2001.
- Rutherford, C.M., **Mann, M.E.**, Schneider, T., Delworth, T., Stouffer, R., Climate Field Reconstruction Under Stationary and Non-Stationary Forcing, AGU Fall meeting, San Francisco, CA, December, 2000.
- Rittenour, T.M., Brigham-Grette, J., **Mann, M.E.**, El Nino-like Climate Teleconnections in New England During the Late Pleistocene: Insights from a 4000-year Glacial Varve Chronology, AGU Fall meeting, San Francisco, CA, December, 1999.
- **Mann, M.E.**, Variability in El Nino And the Global ENSO Phenomenon in Past Centuries, AGU Fall meeting, San Francisco, CA, December, 1999.
- Ammann, C.M., **Mann, M.E.**, Bradley, R.S., Explosive Volcanism and ENSO: Search for a Relationship in a Multi-century Global Climate Reconstruction, AGU Fall meeting, San Francisco, CA, December, 1999.
- Waple, A.M., **Mann, M.E.**, Bradley, R.S., Proxy and model-based analysis of patterns of temperature associated with solar irradiance over the last several centuries, *IUGG* annual meeting, Birmingham, UK July, 1999.
- D'Arrigo, R., Cook, E., Cullen, H., **Mann, M.E.**, Reconstructions of North Atlantic Oscillation Indices, *IUGG* annual meeting, Birmingham, UK, July, 1999.
- Folland, C.K., Allan, R.J., **Mann, M.E.**, Power, S.B., Patterns of large-scale climatic variability in the instrumental era, *IUGG* annual meeting, Birmingham, UK, July, 1999.
- **Mann, M.E.**, Northern Hemisphere temperatures during the past millennium, *Annales Geophysicae, Supplement II*, EGS, 17, Den Haag, Netherlands, April 1999.
- Waple, A.M., **Mann, M.E.**, Bradley, R.S., Proxy and Model-Based Analysis of Patterns of Temperature Associated with Solar Irradiance From 1650 to 1850, AGU Fall meeting, San Francisco, CA, December, 1998.
- Lall, U., Rajagopalan, B., **Mann, M.**, Cook, E., Explaining Upper Mississippi River Droughts and Wet Spells in Terms of Hemispheric Changes in Atmospheric Circulation, *GCIP* conference, St Louis, Mississippi, June, 1998.
- Jain, S., Lall, U., **Mann, M.**, Rajagopalan, B., Interannual to Secular Trends in Midwestern Precipitation: Insights on Greenhouse Gas and ENSO Forcing from a Coupled Ocean-Atmosphere Model, *GCIP* conference, St Louis, Mississippi, June, 1998.
- Jain, S., Lall, U., **Mann, M.E.**, Rajagopalan, B., Changes in the Midwestern U.S. Precipitation: Observations and Modeled Greenhouse Warming Scenarios, *7th International Meeting on Statistical Climatology*, Whistler, BC, May, 1998.
- Park, J, **Mann, M.E.**, ENSO Episodes and Shifts in Global Temperature: A Wavelet Correlation Approach, AGU Fall meeting, San Francisco, CA, December 1997.
- **Mann, M.E.**, Bradley, R.S., Hughes, M.K, Northern Hemisphere Temperature During the Past Half-Millennium: Implications for External Forcing and Natural Variability of the Climate, AGU Fall meeting, San Francisco, CA, December, 1997.

- **Mann, M.E.**, Multi-Proxy based reconstructions of large-scale surface temperature patterns during the past several centuries, AGU Spring meeting, Baltimore MD, May 1997.
- Jain, S., Lall, U., **Mann, M.E.**, Trends in N. Hemisphere Surface Temperature Gradients (Equator-to-Pole and Land-Ocean Contrast): Volcanic Effects and Secular Variations, AGU Fall meeting, San Francisco, CA, December 1996.
- **Mann, M.E.**, A comparison of Observed and Modeled Climate Variability on Interdecadal and Century Timescales, AGU Fall meeting, San Francisco, CA December 1996.
- **Mann, M.E.**, Bradley, R.S., The detection of spatiotemporal signals in long-term proxy climate data: prospects for improved climate model validation, *Workshop on High Resolution Climate Modeling*, Wengen, Switzerland, September 23-26, 1996.
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