

Renewal Proposal for the Penn State Earth System Science Center, 2020

1. Name of Center: Earth System Science Center (ESSC)

2. Director: Michael E. Mann,
Distinguished Professor of Meteorology and Atmospheric Science with joint appointments in
EESI and Department of Geosciences (CV attached)

3. Participants: There are currently 23 faculty and research staff affiliates of the ESSC as listed below:

Director:

Michael Mann (Dept. of Meteorology and Atmospheric Science; joint appointments in Dept. of Geosciences and EESI)

Associate Director:

Daniel J. Brouillette (Dept. of Meteorology and Atmospheric Science)

Affiliates:

Richard Alley (Dept. of Geosciences)

Sridhar Anandakrishnan (Dept. of Geosciences)

Timothy Bralower (Dept. of Geosciences)

Robert Crane (Dept. of Geography/AESED)

Ken Davis (Dept. of Meteorology and Atmospheric Science)

Jenni Evans (Dept. of Meteorology and Atmospheric Science; Director, Institute for CyberScience)

Steve Feldstein (Dept. of Meteorology and Atmospheric Science, EESI)

Chris Forest (Dept. of Meteorology and Atmospheric Science)

Kate Freeman (Dept. of Geosciences)

José Fuentes (Dept. of Meteorology and Atmospheric Science)

Bernd Haupt (EESI)

Gregory Jenkins (Dept. of Meteorology and Atmospheric Science)

Jim Kasting (Dept. of Geosciences)

Klaus Keller (Dept. of Geosciences)

Lee Kump (Dept. of Geosciences)

Sukyoung Lee (Dept. of Meteorology and Atmospheric Science)

Paul Markowski (Dept. of Meteorology and Atmospheric Science)

Ray Najjar (Dept. of Meteorology and Atmospheric Science)

David Pollard (EESI)

Yvette Richardson (Dept. of Meteorology and Atmospheric Science)

Tim White (EESI)

4. Rationale for Center:

The Penn State Earth System Science Center (ESSC) serves to nurture, develop, and publicize Penn State's historic strength in the area of earth-system science. ESSC interests emphasize climate dynamics, paleoclimate, climate-change research, and public outreach and education. The ESSC mission serves the larger priorities of both the Earth and Environmental Systems Institute (EESI) and Penn State Institutes of Energy and the Environment (PSIEE) to support Penn State's position as a leading institution, both nationally and internationally, in the areas of energy and environmental sciences.

The ESSC seeks to foster interdisciplinary Earth system research through encouraging collaboration among scientists, supporting a seminar series (the ESSC brown bag climate dynamics seminar) that highlights topics at the forefront of climate research and brings together Penn State students, faculty, and researchers engaged in climate research, and leveraging visits from leading scientists in the field. The modest ESSC financial resources have supported several high-profile joint speakers in the ESSC and departmental colloquium series. For example, over the past three years, the ESSC has provided support for talks by Laur Hesse Fisher (Program Director of the Environmental Solutions Initiative at Massachusetts Institute of Technology), Diemut Strebe (Ida Ely Rubin artist-in-residence, Massachusetts Institute of Technology), Ayako Yamamoto (Japan Agency for Marine-Earth Science and Technology), and Manabu Shiraiwa (University of California-Irvine). The Center also supported a lecture by artist Dianna Cohen, who has done work that encourages the re-thinking of plastics use, a critical current issue, at the Penn State Palmer Museum of Arts.

Although the research agenda of the ESSC has adapted over time to address changing needs and priorities of Penn State researchers, the scientific community, and funding agencies, areas of specific focus over the past few years have been:

- Value-added use of existing state-of-the-art simulations:

ESSC scientists have continued to use output from coupled model simulations from the Coupled Model Intercomparison Project (both the fifth and more recently the sixth projects) archive to examine many aspects of the climate system including, but not limited to, the likelihood of recent global temperature records, the expected return rate of damaging storm surges, ocean warming rates over the past several decades, increasing frequency of extreme weather due to jet stream variability, and aspects of internal variability.

- Targeted use of state-of-the-art coupled models:

Dr. David Pollard has continued his work with collaborators, both internal and external to the ESSC, on refining ice-sheet models coupled with climate models to project sea-level rise for both past climates and future climates under various scenarios. His recent sea-level rise projections continue to be used in research by ESSC scientists looking at climate-change impacts and adaptation.

- Downscaling of climate change scenarios for climate change impact assessment: Several affiliates continue involvement in this area of work, which is particularly prescient as the sixth assessment cycle of the International Panel for Climate Change (IPCC) is underway.

- Forecasts of seasonal Atlantic tropical-cyclone activity:

Dr. Michael Mann, Daniel Brouillette, and ESSC alumni Michael Kozar and Sonya Miller have continued to make forecasts of seasonal tropical-cyclone activity in the Atlantic basin. Several cyclones in the last few seasons have garnered significant attention for their high impact on lives, society, and the economy in the United States and nations surrounding the Caribbean Sea.

Leveraging expertise for graduate education:

The ESSC seminars have been offered for graduate credit (METEO 575) for the past several years. Graduate students are able to use these credits toward their degrees. This course is also now required for the dual-degree doctorate program in climate science. Undergraduate students often attend these seminars, as well, either on a for-credit basis or out of personal interest, and reap the educational and professional benefits of interacting with the speakers.

•Public Outreach & Education:

ESSC scientists continue to be featured prominently in public discussions of climate change, especially ESSC director Dr. Michael Mann and Dr. Richard Alley. Dr. Mann has done hundreds of media (TV, Radio, and print) interviews, writes for popular venues as *Scientific American* and the *New York Times*, and does more than 50 public lectures and events every year. He was also to do a speaking tour in Australia and New Zealand this spring, but that has been postponed to February 2021 because of the COVID-19 pandemic. In addition, Dr. Mann has written a number of popular books, including a new one, *How to Win the New Climate War: The Plan to Take Back Our Planet from the Polluters*, due to be published this year. He also edits and writes for the popular *RealClimate* blog, participates in online forums and engages actively in social media-based communication efforts. Dr. Alley frequently participates in media interviews and testifies before Congress. Both individuals are involved in a number of government-funded and private-sector campaigns aimed at educating the public on climate change.

The ESSC web page (<http://www.essc.psu.edu>) averages roughly 1,500 visits per month over the past three years, many of which come from relevant search engine queries. The ESSC also maintains a presence on social media including both Twitter (@PSUClimate, 473 followers) and Facebook (<https://www.facebook.com/PSUClimate>, 212 followers). In addition, many of the participants in the Center have their own individual social-media presence.

5. Funding Opportunities:

The ESSC leverages research-funding opportunities within EESI, individual EMS departments (Meteorology and Atmospheric Science, Geosciences, and Geography), and larger inter-college collaborations in a number of ways. Primary among these is extramural grant funding raised by ESSC principals and affiliates whose research has been leveraged by the interdisciplinary collaborative atmosphere fostered by ESSC activities such as the brown-bag seminar series and support for special joint ESSC/departmental colloquium outside speakers.

Quantifying the precise funding raised by the ESSC is challenging, since the accumulated grant funding raised by all two dozen ESSC affiliates likely overstates the funds solely attributable to ESSC activities. It is, nonetheless, reasonable to state that ESSC activities have directly or indirectly supported many millions of dollars of extramural funding within EESI and EMS over the past decade, including several million dollar-plus grants.

ESSC research efforts remain within core areas of high priority for funding by the major granting agencies including the National Science Foundation (NSF), National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), and the Department of Energy (DOE). Therefore, we have every reason to believe that ESSC research activities will achieve similarly successful levels of extramural funding over the next three years.

6. Center Needs:

ESSC has a long history as a vital unit within EESI and EMS at Penn State. We hope to maintain its status as such for the foreseeable future.

With the current proposal, we seek continued EESI funding for the ESSC for an additional three-year term, with the hope of continuing this in future cycles.

We request a continuing budget at the level of 5K per year. This budget will provide for:

- Roughly 4K to support partial salary of ESSC associate director Daniel J. Brouillette
- Roughly 1K to support ESSC brown-bag refreshment budget and modest travel support for visiting scientists and speakers.

7. Management Structure:

M. Mann serves as director and D. Brouillette serves as associate director of the ESSC.

An Advisory Board consisting of Robert Crane, Jenni Evans, Chris Forest, James Kasting, and David Pollard serves as a sounding board concerning Center and resource allocation.

There are currently 23 EMS faculty and research scientists in total that remain affiliated with the ESSC. This includes individuals from the departments of Meteorology and Atmospheric Science, Geosciences, and Geography, and from EESI. Penn State Ice and Climate Exploration (PSICE) is a separate center that remains directly affiliated with the ESSC.

Significant decisions regarding direction, allocation of resources, etc., are generally put before the Advisory Board during annual/semi-annual meetings, or before the full membership where appropriate.

The EESI weekly 'This Week' email distribution, the ESSC email list, Department email distribution lists, the ESSC twitter and Facebook accounts, and the EESI and ESSC websites all serve as conduits to advertise ESSC talks and events, and to provide announcements to ESSC affiliates and their students and post-docs.

8. Past Budgets and Work:

a. Past Budgets:

2017-2018

Income		Expenses	
EESI	\$5,000.00	Salaries	\$3,998.00
Carryover from 2016/17	\$330.00	Salary Fringe	\$1,627.18
EMS – salary fringe	\$1,627.18	Lecture Support	\$500.00
		Seminar Refreshments	\$563.18
TOTAL for 2017/18			\$6,688.36

Difference \$268.82

2018-2019

Income		Expenses	
EESI	\$5,000.00	Salaries	\$3,698.00
Carryover from 2017/18	\$268.82	Salary Fringe	\$760.62
EMS – salary fringe	\$760.62	Seminar Refreshments	\$744.20
		Group Meal	\$89.50
		Support – Science Policy Society (student org.)	\$500.00
TOTAL for 2018/19			\$6,176.03

Difference \$-146.59

2019-2020 (as of 15 April 2020)

Income		Expenses	
EESI	\$5,000.00	Salaries	\$4,468.00
Carryover from 2018/19	\$-146.59	Salary Fringe	\$1,310.42
EMS – salary fringe	\$1,310.42	Seminar Refreshments	\$308.90
TOTAL for 2019/20			\$6,087.32

Difference \$76.51

b. Past Work:

Key areas of ESSC-sponsored and -facilitated research during the past three years were summarized in section 4 above. A discussion of funding opportunities and successes were described in section 5 above. Resulting publications are listed below.

The ESSC Brown Bag/Climate Dynamics Seminars have continued over the past three years as a mechanism for informal conversations with visiting or local experts as well as opportunities for graduate students to get feedback on research from the wider community. Notable speakers include: Laur Hesse Fisher (Program Director of the Environmental Solutions Initiative at Massachusetts Institute of Technology), Diemut Strebe (Ida Ely Rubin artist-in-residence, Massachusetts Institute of Technology), Ayako Yamamoto (Japan Agency for Marine-Earth Science and Technology), and Manabu Shiraiwa (University of California-Irvine).

In addition, the ESSC has supported implementation of the dual-title doctoral program in climate science over the last three years. The Center also supported a lecture by artist Dianna Cohen, who has done work that encourages the re-thinking of plastics use, a critical current issue, at the Penn State Palmer Museum of Arts.

Selected Publications (past three years):

- Cheng, L., Abraham, J.P., Zhu, J., Trenberth, K.E., Fasullo, J., Boyer, T., Locarnini, R., Zhang, B., Yu, F., Wan, L., Chen, X., Song, X., Liu, Y., Mann, M.E., Record-setting Ocean Warmth Continued in 2019, *Advances in Atmospheric Science* 37, 137-142, 2020.
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- Mann, M.E., Radical reform and the Green New Deal, *Nature*, 573, 340-341, 2019.
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9. Letters of Support:

Letters of support have been provided (attached) from the following individuals:

- Richard Alley, Evan Pugh and Distinguished Professor, Department of Geosciences
- Timothy Bralower, Professor, Department of Geosciences
- David Pollard, Associate Research Professor, EESI

Earth and Environmental Systems Institute
College of Earth and Mineral Sciences
The Pennsylvania State University
University Park, PA 16802

April 16, 2020

Letter of support for Earth Systems Science Center renewal proposal, from David Pollard.

Over the last decade and more, I have benefited tremendously from interactions with faculty and graduate students in EMS, in particular with Michael Mann, Sukyoung Lee and Steve Feldstein for paleoclimate applications, and Richard Alley, Jim Kasting and Lee Kump for ice sheet applications. My paleoclimate modeling efforts have been guided and energized by the opportunities to collaborate with them and to benefit from their world-renowned knowledge and expertise. Many of these interactions were encouraged and initiated by activities within the Earth Systems Science Center.

I am very supportive of a renewed Earth Systems Science Center in EESI that will continue to build on its successes to date, fostering interactions between EESI researchers and EMS faculty, and providing a vehicle to generate collaborative proposals. The time is ripe for these activities as concern over future climate change and sea-level rise continues to mount. Progress in these areas more than ever requires interdisciplinary collaborations involving meteorology, oceanography and glaciology, of the kind that ESSC is capable of instigating.

For these reasons I believe that a continued ESSC would greatly benefit EESI and EMS, providing faculty and students with collaborative opportunities in the areas of research, funding, and education.

Sincerely,

A handwritten signature in black ink that reads "David Pollard". The script is cursive and fluid, with the first letters of the first and last names being capitalized and prominent.

David Pollard.
Research professor, Earth and Environmental Systems Institute.



Dr. Susan Brantley, Director
Earth and Environmental Systems Institute
Penn State Campus

15th April, 2020

Dear Sue:

This letter is in support of Dr. Michael Mann's proposal to continue the Earth System Science Center under EESI. ESSC serves a critical purpose in the College, assembling and integrating timely research and education of a multitude of topics, concerning both modern and ancient climate that takes place in the Meteorology, Geoscience, Geography and EME Departments.

I have not been an active participant in the center activities, however, I keep up with seminars and events and it is clear that ESSC has been doing its job, bringing folks together to collaborate and stimulating scientific discussion and discovery with a vibrant agenda.

But the largest impact ESSC has is clearly external. Through Michael Mann's leadership, the ESSC is the most visible program within EESI and the College, promoting the correct interpretation of climate data at a time when such expertise is in dire need. Mike is one a handful of scientists who is actively providing a clear message related to climate change at the highest government levels today and more broadly through his popular books and active presence on Twitter. If you Google *Earth System Science Center at Penn State* and tag *News* you'll discover the amazingly frequent outreach of the center across the nation and the world. There is no more critical time for research and education in the climate field than the present (I know I said close to the same thing three, six and nine years ago, but it is even more true now!).

I am very much in support of continued funding for the Earth System Science Center.

Sincerely,

Timothy Bralower
Professor
Department of Geosciences



Department of Geosciences, and PSICE
(Penn State Ice & Climate Exploration Center)
517 Deike Building
The Pennsylvania State University
University Park, PA 16802, USA
Ph. (814) 863-1700; Fax (814) 863-7823
Email rba6@psu.edu

April 15, 2020

Dr. Susan Brantley, Professor
Director, Earth and Environmental Systems Institute
The Pennsylvania State University
University Park, PA 16802

Dear Director Brantley:

The Earth System Science Center, under the direction of Prof. Michael Mann, continues to serve an important role in generating collaboration among Institute-affiliated faculty and others interested in climate change.

The speaker series brings in fascinating people, and promotes interactions. The enhanced modeling effort is welcome.

Climate change is a long-standing strength of Penn State in general, and of EESI in particular. ESSC strengthens our position, our recruiting, and our interactions.

I've enjoyed interactions informally, and these have helped lead to formal interactions on thesis committees and in other ways.

For these and additional reasons, I am happy to support the application from Director Mann for continuation of the ESSC. Should you require further information, please contact me.

Yours truly,

Richard B. Alley
Evan Pugh University Professor of Geosciences

Curriculum Vitae

Michael E. Mann

Pennsylvania State University, Department of Meteorology & Atmospheric Science
University Park, PA 16802

Tel: (814) 863-4075; FAX (814) 865-9429; email: mann@psu.edu

Website: <http://www.michaelmann.net>

Education

- 1998 Ph.D. Yale University, Department of Geology & Geophysics (defended 1996)
- 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

- 2020 Louis J. Battan Author's Award, American Meteorological Society (AMS), for "The Tantrum that Saved the World"
- 2019 Honorary Doctorate of Science, McMaster University
- 2019 Certification of Recognition, Mayor Eric Garcetti on behalf of the City of Los Angeles
- 2019 Top 100 Influencers in Sustainability, *Analytica*
- 2019 Praxis Award in Professional Ethics, Villanova University
- 2019 World's 100 Most Influential People in Climate Policy (Top 20), *Apolitical*
- 2019 Tyler Prize for Environmental Achievement
- 2018 Climate Communication Prize, American Geophysical Union (AGU)
- 2018 Bronze medal in the "Environmental" category, Moonbeam Children's Book Awards, for "The Tantrum that Saved the World"
- 2018 Honorary Member, Societa Meteorologica Italiana
- 2018 Climate Education Award, Citizen's Climate Lobby West Virginia
- 2018 *Best Schools* list of "Top 15 climate change scientists"
- 2018 Elected Fellow of the Geological Society of America (GSA)
- 2018 Award for Public Engagement with Science, American Association for the Advancement of Science (AAAS)
- 2018 Elected Fellow of the Committee for Skeptical Inquiry, Center for Skeptical Inquiry
- 2017 Stephen H. Schneider Award for Outstanding Climate Science Communication, Climate One & The Commonwealth Club
- 2017 Citation for "Outstanding" book, the University Press Books Committee of the American Association of University Professors, for "The Madhouse Effect"
- 2017 James H. Shea Award of the National Association of Geoscience Teachers (NAGT)
- 2017 Inducted into International Green Industry Hall of Fame
- 2017 September 23rd proclaimed "Climate Change and Green Jobs Day" in honor of Michael E. Mann by Charlotte North Carolina Mayor Jennifer Watson Roberts
- 2017 Honorary Doctorate of Science, Green Mountain College

- 2017 Profiled in *Protecting the Planet: Environmental Champions from Conservation to Climate Change* (Prometheus Books)
- 2016 Elected Vice Chair, Topical Group on Physics of Climate (GPC), American Physical Society (APS) [transitions to Chair-Elect in 2017 and Chair in 2018]
- 2016 Ocean Buoy named in my honor by the Southern Ocean Carbon and Climate Observations and Modeling (SOCCOM) project
- 2015 Elected Fellow of the American Association for the Advancement of Science (AAAS)
- 2015 Honorary Doctorate of Humane Letters, Le Moyne College
- 2015 *Business Insider* list of 50 “scientists who are changing the way we see the world”
- 2014 *Economia Magazine* list of 50 Leading Finance Leaders, Influencers and Innovators
- 2014 Pongo Award, Orang Utan Republik Foundation
- 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* 40th 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
- 2011 Elected Member-at-Large of Section W (Atmospheric & Hydrospheric Sciences), American Association for the Advancement of Science (AAAS)
- 2010 *CollegeStats* list of 25 “most famous college professors teaching today”
- 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 Atmospheric Science*, Pennsylvania State University
 2009-13 *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

SDG Academy (UN SDSN)(2019-)

Climate Change: The Science and Global Impact (online MOOC via EdX) (total enrollment 10K+ as of 12/19)

Penn State University (2005-):

EARTH 2	<i>The Earth System and Global Change</i>
EM SC 100S	<i>Climate Change and Potential Societal Impacts (1st 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 575/GEOSCI 597B	<i>Climate Dynamics Seminar</i>

University of Virginia (1999-2005):

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 & 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 (1998):

GEO 591	<i>Data Analysis & Climate Change</i>
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Mentoring

Program Coordinator:

Dual Title Ph.D. program in Climate Science, Penn State University, 2018-

Postdoctoral Researchers:

Penn State University Dept. of Meteorology (2005-):

- *Palash Sinha* (joint w/ J. Fuentes), 2013-15
- *Ryan Sriver* (NOAA Postdoctoral Fellow), 2008-2009
- *Byron Steinman* (NSF Postdoctoral Fellow), 2012-2014
- *Zhihua Zhang*, 2005-2009

University of Virginia Dept. of Environmental Sciences (1999-2005):

- *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 Dept. of Meteorology (2005-):

- *Aviva Braun*, M.S. 2009: committee member, 2008-09
- *Daniel Brouillette*, M.S. 2015: major adviser, 2012-15
- *Fangxing Fan*, Ph.D. 2011: major adviser, 2005-11
- *Sreece Dawn Goldberger*, M.S. 2015: major adviser, 2013-15
- *Maria Herrmann*, Ph.D. 2010: committee member, 2008-10
- *Holly Hamilton*, Ph.D. 2015: committee member, 2012-15
- *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, 2013-14
- *Michael Kozar*, M.S. 2011: major adviser, 2010-11
- *Liang Ning*, Ph.D. 2012: major adviser, 2008-12
- *Andrew Ross*, M.S./Ph.D candidate: committee member, 2012-17
- *Andra Reed*, Ph.D. 2016: major adviser, 2012-16
- *Michelle Ricciardi*, M.S. 2011: committee member, 2011
- *Thomas Sabbatelli*, M.S. 2009 (AMS Graduate Fellow): co-adviser, 2008-09
- *Steven Simon*, M.S. 2015: major adviser, 2011-15
- *Vanessa Vanyo*, M.S. candidate: major adviser, 2013-15
- *Amanda Walker*, M.S. candidate: co-adviser, 2015-17

Penn State University Dept. of Geosciences (2005-):

- *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

Penn State University Dept. of Geography (2005-):

- *Weiming Hu*, Ph.D. candidate: committee member, 2018-
- *Chris Karmosky*, Ph.D. 2012: committee member, 2009-12

Penn State University Dept. of Civil and Environmental Engineering (2005-):

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

Other:

- *Penn State Intellectual Decisions on Environmental Awareness Solutions ("I.D.E.A.S") undergraduate club*, Faculty Sponsor/Adviser, 2017-

- *Penn State Science Policy Society* (Graduate Student Organization), Faculty Sponsor/Adviser, 2014-
- *Dual Title Graduate Program in Climate Science* (Department of Meteorology and Atmospheric Science), Program Coordinator 2016-

University of Virginia Dept. of Environmental Sciences (1999-2005):

- *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, 2002-2005
- *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 Dept. of Geosciences (1997-1999):

- *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 Dept. of Meteorology (2005-):

- *Anson Hill-Yu Cheung*, 2015 (NSF REU summer student from U. Arizona)
- *Nathan Lis*, 2015
- *Greg Drelich*, 2012
- *Michael Kozar*, 2009-2010
- *Thomas Sabbatelli*, 2005-2008

University of Virginia Dept. of Environmental Sciences (1999-2005):

- *Michelle L'Heureux*, 2001-2004

Primary Research Interests

(1) Climate model/data comparisons; (2) Climate change impacts; (3) Climate modeling; (4) Climate signal detection and climate change attribution; (5) Statistical and time series analysis methods; (6) High-resolution paleoclimate reconstruction

Research Grants

2018-2021 *Improved Characterization of Internal Decadal-Multidecadal Climate Variability Using Paleoclimate Archives, Observational Climate Data and Model Simulations*, NSF-

- 2016-2019 Paleoclimate Program (Award #1748097) [Principal Investigators: M.E. Mann (Penn State Univ.), B. Steinman (Univ. of Minnesota-Duluth)] PSU award (M.E. Mann): \$474,083
The Power of Many: Ensemble Toolkit for Earth Sciences, NSF- ICER (“EarthCube”) Program (Award #1639707) [Principal Investigators: S. Jha (Rutgers Univ), G. Cervone (Penn State Univ.), M.E. Mann (Penn State Univ.)] PSU award (M.E. Mann and G. Cervone): \$391,000
- 2015-2018 *Quantitative Reconstruction of Past Drought Patterns in Western North America Using Lakes, Stable Isotopes, and Modeling*, NSF-P2C2 Program (Award #1446329) [Principal Investigators: B. Steinman (Univ. of Minnesota-Duluth), M. Abbott (Univ. of Pittsburgh), M.E. Mann (Penn State Univ.)] PSU award (M.E. Mann): \$145,002
- 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 (Award #1204666) [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 (Award #1103316) [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) (Award #NA11OAR4310101 [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 (Award #NA10OAR4310111[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 (Award #1043284) [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 (Award #0914384) [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 (Award #0902133) [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 (Award #EEM-A-00-06-00014) [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 (Award #0542356) [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 (Grant #NA06OAR4310116) [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 (Award #0548962) [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 (Award #NA03OAR4310145) [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) (Award #NA16GP2913) 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 (Award #0125670) [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 (Award #NA96GP0404) [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

- 2019 Provided testimony to U.S. House of Representatives (Oversight Committee, Environment Subcommittee hearing, Jun 25)
- 2019- Board of Directors, *National Center for Science Education*
- 2018 Co-convenor/organizer (w/ G. Stone and R. Mandel), Session on “Accelerating Rates of Change Forewarn of Catastrophic Impacts”, *GSA Annual Meeting*
- 2018 Co-convenor/organizer, Invited session on “Energy Flows in the Climate System”, *APS March Meeting*
- 2018 Chair, Topical Group on Physics of Climate (GPC), *American Physical Society (APS)*
- 2017- Judge, *Roddenbery Foundation Fellowship Program*
- 2017- Board of Directors, *PennFuture*
- 2017 Co-convenor/organizer (w/ J.M. Byrne, R. Alley), Session on “Climate Solutions: Policy, Planning, Science and Engineering in Uncertain Political and Economic Times”, *AGU Fall Meeting*
- 2017 Provided testimony to U.S. House of Representatives (Science & Technology Committee hearing, Mar 29)
- 2017 Chair-Elect, Topical Group on Physics of Climate (GPC), *American Physical Society (APS)*
- 2016- Chair, Scientific Advisory Board, Climate Science Legal Defense Fund (CSLDF)
- 2016- Editorial Board, Palgrave Series in Environmental Sustainability
- 2016 Vice Chair, Topical Group on Physics of Climate (GPC), *American Physical Society (APS)*
- 2015 Invited Science Foo Camp ("Sci Foo") participant, event organized by *Nature*, O'Reilly Media, and Google, GooglePlex, Mountain View, CA, Jun 26-28, 2015.
- 2015 Co-convenor/organizer (w/ S. Hassol), Science Communication Workshop, Global Change Center/Interfaces of Global Change Interdisciplinary Graduate Education Program, Virginia Tech, Blacksburg, VA, Mar 20, 2015.
- 2015 Co-convenor/organizer (w/ D. J. Wuebbles and M. Wehner), Session on “Severe Weather in a Changing Climate: Informing Risk”, *AAAS Annual Meeting*, Feb 13, 2015.
- 2015- Committee on Academic Freedom and Tenure, *American Association of University Professors (AAUP)*
- 2013 Co-convenor/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-convenor/organizer (w/ J.M. Byrne, S.D. Donner, P.J. Rasch), Session on “Climate Change Adaptation and Mitigation”, *AGU Fall Meeting*
- 2013 Co-convenor/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*
- 2012-16 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 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. Meko, 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: 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-convener/organizer (w/ G. Stone, A. Buddington), Session on “Exposing Myths and Misrepresentations of Climate Change and Evolution Science”, *GSA Annual Meeting*
- 2009 Co-convener/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*
- 2007-08 Associate Editor, *G-Cubed*, special issue on “Tropical Cyclone-Climate Interactions on All Time Scales”
- 2007 Co-convener/organizer (w/ P. Jones), IAMAS session on “The Holocene-Anthropocene Transition: From Natural to Human-Dominance of the Earth System”, *IUGG 24th General Assembly*
- 2007-08 Member of steering committee, “post-Earth Systems History” workshop, NSF
- 2007 Co-convener/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session “Climate of the last millennium”, 4th General Assembly, *European Geophysical Union*
- 2006 Co-convener/organizer (w/ K. Emanuel, M. Huber, J. Gille, 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-convener/organizer (w/ J. Jouzel, P. Jones, W. Dullo), special session “Climate of the last millennium”, 3rd General Assembly, *European Geophysical Union*
- 2005-08 Editorial advisory board, *The Holocene*
- 2005-06 Expert Reviewer, Working Group I report, *Intergovernmental Panel on Climate Change (IPCC)*, Fourth Assessment Report
- 2005 Co-convener/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
- 2002-05 IAMAS delegate for U.S./International Commission on Climate (ICCL)
- 2002 Organizing committee, National Academy of Sciences *Frontiers of Science* symposium
- 2002 Co-convenor/organizer (w/ H. Von Storch, R. Brazdil), theme session ``Understanding the Late Maunder Minimum climate anomaly'', Annual Spring meeting, *American Geophysical Union*
- 2002 Co-convenor/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-convenor/organizer (w/ J. Jouzel, P. Jones), special session `` Climate of the past millennium'', 26th General Assembly, *European Geophysical Society*
- 2001 Co-convenor/organizer, *NASA/IPRC/CLIVAR workshop on Decadal Climate Variability*, Manoa, Hawaii, Jan 8-12, 2001.
- 2000-04 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-convenor (w/ J. Jouzel, P. Jones), special session `` Climate of the past millennium'', 25th General Assembly, *European Geophysical Society*
- 1999 Co-convenor/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-convenor (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; Nature Climate Change; Nature Geoscience; Nature Communications; Scientific Reports; 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; QJRM; National Research Council/National Academy of Sciences; IPCC AR5; NSF, NOAA, DOE grant programs; U.S. CCSP; numerous books and/or book chapters.*

Public Outreach:

- Popular Media (500+ interviews/quotes/cites per year):
Films & Documentaries: *BBC: Climategate-Science of a Scandal* (Nov 2019); *HBO: Ice on Fire* (May 2019); *BBC: Climate Change - The Facts* (April 2019); *From Paris to Pittsburgh* (December, 2018); *State of Denial – Fault Lines* (April, 2017); *Bill Nye: Science Guy* (March, 2017); *The Doubt Machine: Inside The Koch Brothers' War on Climate Science* (October, 2016); *Before The Flood* (September, 2016), *Disobedience* (April, 2016), *How to Let Go of the World and Love All the Things Climate Can't Change* (January, 2016), *Normal Is Over* (January, 2016), *Merchants Of Doubt* (March, 2015), *Last Hours* (October, 2013), *Greedy Lying Bastards* (March 2013).
Television: *CBS Evening News, NBC Evening News, ABC Evening News, NBC Today Show, NBC New York; Real Time with Bill Maher (HBO); Years Of Living Dangerously (Showtime), PBS, PBS News Hour, CNN, CNN headline news, CNN (Lou Dobbs show), CNN (Campbell Brown Show), CNN Special "Global Warning", CNN Special "All the President's Lies", MSNBC, MSNBC ("Up with Chris Hayes"), MSNBC ("Morning Joe"), 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"), MSNBC ("MSNBC Live With Thomas Roberts"); MSNBC ("MSNBC Live With Katy Tur"), MSNBC ("Velshi and Ruhle"), MSNBC ("The Last Word with Lawrence O'Donnell",)ABC Nature's Edge (with Bill Blakemore); PBS ("Charlie Rose Show"); Democracy Now; BBC; CBC News; CBC ("The Hour" with George Stroumbouloupoulos); Current TV ("The Young Turks" with Cenk Uygur); Current TV ("The War Room" with Jennifer Granholm); 60 Minutes (Australia); The Project (Australia); ABC (Q&A; Australia); ABC News (Lateline Show; Australia); ABC News (News Breakfast; Australia); Bloomberg Television; RT Network ("The Big Picture with Thom Hartmann"); The Agenda with Steve Paikin (TVO); The Rubin Report; Al Jazeera English ("Inside Story"); Al Jazeera America ("Inside Story"); PBS NOVA; TruTV ("Adam Ruins Everything"); The Weather Channel, The Weather Channel "Weather Gone Viral" series, The History Channel, Earth: The Climate Wars, Volatile Earth (TV mini-series, UK), The Research Channel, Accuweather (and numerous local television news programs)
Theater: *Rap Guide to Climate Chaos "TalkBack", Soho Playhouse, New York, NY, 5/14/16; Extreme Whether, Theater for the New City, New York, NY, 10/2/14-10/26/14**

Radio and podcast: 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”, “The World”); Fox News (“Alan Colmes Show”), Michael Smerconish show, Al Franken Podcast, Voice of America, CBC Radio (“The Current”); ABC News Radio (Australia); 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); WHYY radio (Radio Times with Marty Moss-Coane); KTRH radio (Houston), WPSU, Radio PA (Harrisburg), WWL Radio News (New Orleans), WFAE (“Charlotte Talks”, Charlotte)/ TalkRadio (UK) (and numerous others)

Print (weekly/monthly): Time, Newsweek, Life, US News & World Report, New Republic, The Atlantic, Economist, Rolling Stone, Vanity Fair, Esquire, The New Yorker, 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, Scholastic SuperScience (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, Time, National Geographic, LiveScience, The Conversation (and numerous others)

Interactive Online Events: Guardian live blog; Huffington Post Live; Reddit, Fire Dog Lake, Daily Kos, Allegheny Front

Profiles: Scientific American, Discover, Fortune, New Scientist, Mother Jones, Audubon Magazine, Harrisburg Patriot-News, Williamsport Guardian, TRT World, The Centre Daily Times; The Tribune-Democrat; The Daily Collegian (Penn State Student paper), The Independent (UK), Le Monde (France), Die Zeit (Germany), Eos (American Geophysical Union), Yale Alumni Magazine, Penn Stater (Penn State Alumni Magazine), Catalyst (Union of Concerned Scientists Newsletter), The Lion’s Roar (Penn State)

- Op-Eds/Commentaries (print): The Guardian (Feb 6, 2020); The Guardian (Feb 3, 2020); The Guardian (Jan 2, 2020); Tampa Bay Times (Nov 12, 2019); Lexington Herald-Leader (Oct 2, 2019); Time Magazine (Sep 12, 2019); The Guardian (Sep 4, 2019); Hartford Courant (Aug 25, 2019); Spektrum (Germany)(Jun 19, 2019); USA Today (Jun 3, 2019); Courier-Journal (May 16, 2019); Observer-Reporter (Apr 28, 2019); Harrisburg Patriot-News (Mar 25, 2019); New Zealand Herald (Mar 5, 2019); The Guardian (Mar 20, 2019); The Observer/Guardian (Feb 3, 2019); Politico (Nov 29, 2018); Hartford Courant (Nov 3, 2018); Washington Post (Nov 2, 2018); The Guardian (Sep 14, 2018); New Scientist (Feb 21, 2018); New York Times (Feb 5, 2018); The Bend Bulletin (Jan 2, 2018); The Bend Bulletin (Oct 25, 2017); The Guardian (Aug 28, 2017); The Colorado Springs Gazette (Aug 13, 2017); The San Diego Union-Tribune (Jul 7, 2017); The Roanoke Times (Jun 11, 2017); New Scientist (Feb 10, 2017); Centre Daily Times (Dec 23, 2016); Washington Post (Dec 16, 2016); Le Monde (Nov 29, 2016); Washington Post (Sep 18, 2016); Regina Leader-Post (Jul 19, 2016); Prescott Daily Courier (May 28, 2016); Centre Daily Times (May 26, 2016); Columbia Basin

Herald (Mar 24, 2016); *Harrisburg Patriot-News* (Feb 25, 2016); *Knoxville News-Sentinel* (Feb 7, 2016); *New York Times* (Dec 7, 2015); *The Union* (Oct 10, 2015); *The Union* (Sep 23, 2015); *Providence Journal* (Dec 11, 2014); *Philadelphia Inquirer* (Dec 5, 2014); *Allentown Morning Call* (Jul 30, 2014); *Centre Daily Times* (Mar 20, 2014); *The Pittsburgh Post-Gazette* (Feb 23, 2014); *Mark News* (Feb 21, 2014); *New York Times* (Jan 19, 2014); *The Virginian-Pilot* (Jan 8, 2014); *Scranton Times-Tribune* (Dec 20, 2013); *Richmond Times-Dispatch* (Aug 24, 2013); *Centre Daily Times* (Jun 27, 2013), *Harrisburg Patriot-News* (Jun 13, 2013); *The Scientist* (Mar 27, 2013); *Popular Science* (Dec 12, 2012); *Pittsburgh Post-Gazette* (Sep 12, 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 Trentonian* (April 13, 2012), *Orange Country Register* (Mar 16, 2012), *BBC Knowledge* (Feb 2012), *BBC Focus* (Dec 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)

- Commentaries (online only): *Newsweek* (Jan 14, 2020); *The Conversation* (Jan 10, 2020); *Newsweek* (Nov 14, 2019); *Newsweek* (Oct 29, 2019); *Times Higher Education* (Sep 27, 2019); *Newsweek* (Sep 24, 2019); *Newsweek* (Aug 22, 2019); *Newsweek* (Aug 15, 2019); *Newsweek* (Aug 6, 2019); *Newsweek* (Jun 6, 2019); *Newsweek* (May 21, 2019); *Newsweek* (May 10, 2019); *Newsweek* (Apr 24, 2019); *National Geographic* (Apr 22, 2019); *Newsweek* (Apr 5, 2019); *Pittsburgh Tribune-Review* (Mar 29, 2019); *Newsweek* (Mar 28, 2019); *Newsweek* (Apr 5, 2019); *Huffington Post* (Dec 11, 2018); *Newsweek* (Nov 28, 2018); *Virgin Racing* (Aug 6, 2018); *The Hill* (Jun 13, 2018); *Scientific American* (Apr 20, 2018); *Climate Reality* (Jan 4, 2018); *CNN* (Nov 7, 2017); *Scientific American* (Sep 8, 2017); *Washington Post* (Sep 7, 2017); *Washington Post* (Jul 12, 2017); *Common Dreams* (Jul 10, 2017); *Foreign Affairs* (Apr 21, 2017); *Time* (Apr 8, 2017); *Undark Magazine* (Feb 10, 2017); *The Guardian* (Feb 6, 2017); *The Hill* (Jan 31, 2017); *Columbia Univ/LDEO Voices* (Jan 9, 2017); *Alternet* (Oct 14, 2016); *Huffington Post/Ecowatch* (Oct 3, 2016); *Huffington Post/Ecowatch* (Sep 19, 2016); *The Hill* (Sep 14, 2016); *Huffington Post/Ecowatch* (Jul 15, 2016); *Huffington Post/Ecowatch/Planet Experts* (Mar 28, 2016); *LiveScience/Huffington Post* (Jan 25, 2016); *Huffington Post/Ecowatch/Planet Experts* (Dec 23, 2015); *Huffington Post* (Dec 13, 2015); *Huffington Post/Ecowatch/Planet Experts* (Sep 21, 2015); *Huffington Post/Ecowatch* (Sep 11, 2015); *The Guardian* (Aug 11, 2015); *Ecowatch* (Jun 5, 2015), *Australian Broadcasting Corporation* (Apr 8, 2015), *Huffington Post/Planet Experts/Ecowatch* (Feb 26, 2015); *The Guardian* (Jan 31, 2015); *EcoWatch* (Jan 30, 2015); *Huffington Post/Ecowatch* (Dec 8, 2014); *The Conversation* (Oct 21, 2014); *Huffington Post* (Oct 17, 2014); *Huffington Post* (Oct 10, 2014); *Huffington Post/EcoWatch* (Oct 3, 2014); *Huffington Post/EcoWatch* (Sep 19, 2014); *Huffington Post/EcoWatch* (Aug 7, 2014); *Ecowatch* (Aug 6, 2014); *Huffington Post* (Jun 9, 2014); *Huffington Post* (May 18, 2014); *The Guardian* (May 6, 2014); *EcoWatch* (Mar 27, 2014); *LiveScience* (Feb 25, 2014); *Huffington Post* (Feb 9, 2014); *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); *Huffington Post* (May 13, 2013); *Australian Broadcasting Corporation* (Apr 12, 2013); *Huffington Post* (Feb 4, 2013); *Huffington Post* (Sep 24, 2012); *Australian Broadcasting Corporation* (Aug 7, 2012); *The Mark News* (April 20, 2012); *The Daily Climate* (Aug 6, 2012); *CNN* (March 28, 2012); *Politico* (Mar 8, 2011),

- Letters published: *The Boston Globe* (Mar 18 2020); *The Eagle-Tribune* (Nov 30 2019); *The Aspen Times* (Jul 2 2019); *The Guardian* (Apr 3 2019); *Centre Daily Times* (Sep 9, 2018); *The Daily Item* (Aug 24, 2018); *StateCollege.com* (Aug 20, 2018); *Wall Street Journal* (May 22, 2018); *Asheville Citizen-Times* (Jan 16, 2018); *Transylvania Times* (Jan 15, 2018); *San Luis Obispo New Times* (Aug 10, 2017); *New Times Findlay Courier* (Jun 20, 2017); *Curry Pilot* (Jun 14, 2017); *New Haven Register* (Apr 12, 2017); *Litchfield County Times* (Apr 12, 2017); *Santa Clarita Valley Signal* (Apr 11, 2017); *Del Mar Times* (Feb 23, 2017); *Trentonian/Pottstown Mercury* (Feb 1, 2017); *Los Angeles Times* (Jan 19, 2017); *Des Moines Register* (Dec 23, 2016); *Manchester Union Leader* (Nov 23, 2016); *Sun Community News* (Jul 1, 2016); *St. Albert Gazette* (Jun 29, 2016); *Times-News* (May 3, 2016); *Centre Daily Times* (May 2, 2016); *Conway Daily Sun* (Apr 29, 2016); *Lakeland Times* (Jan 8, 2016); *Crossville Chronicle* (Jan 6, 2016); *Lakeland Times* (Dec 18, 2015); *Lakeland Times* (May 22, 2015); *St John's Telegram* (Apr 17, 2015); *Waterbury Republican-American* (Sep 14, 2014); *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 several others).
- Book Reviews: *On Fire* by Naomi Klein (Nature, Sep 18 2019); *Atmosphere of Hope* by Tim Flannery (Los Angeles Review of Books, Oct 6, 2015); *Agenda 21* by Glenn Beck (Popular Science, Dec 12, 2012); *Language Intelligence* by Joe Romm (RealClimate, Aug 20, 2012); *Climate Cover Up* by James Hoggan and Richard Littlemore (RealClimate, Oct 20, 2009); *Unscientific America* by Chris Mooney and Sheril Kirshenbaum (RealClimate, Jul 8, 2009); *Storm World* by Chris Mooney (RealClimate, Jun 8, 2007); *Paleoclimate, Global Change, and the Future* by Ray Bradley (*Eos*, Oct 7, 2003)
- Review quotes (books): *Cranky Uncle: Cranky Uncle vs. Climate Change: How to Understand and Respond to Climate Science Deniers* by John Cook (2020); *The Triumph of Doubt* by David Michaels (2020); *Mississippi River: Headwaters and Heartland to Delta and Gulf* by David Freese and Simon Winchester (2020); *How to Talk to Your Kids About Climate Change* by Harriet Shugarman (2020); *The Future We Choose: Surviving the Climate Crisis* by Christiana Figueres and Tom Rivett-Carnac (2020); *The Weathermaker* by Glenn Schwartz (2020); *The Triumph of Doubt* by David Michaels (2020); *The Citizen's Guide to Climate Success* by Mark Jaccard (2019); *The Climate Crisis and Corrupt Politics* by Larry Schweiger (2019); *Watershed* by H.N. Deeb (2019); *Irma Was Here* by Diandra Jone (2019); *Why Trust Science* by Naomi Oreskes (2019); *From What Is to What If* by Rob Hopkins (2019); *The Future of Academic Freedom* by Henry Reichman (2019); *Renewable Energy: A Primer for the Twenty-First Century* by Bruce Usher (2019); *Sudden Spring: Stories of Adaptation in a Climate-Changed South* by Rick Van Noy (2019); *The World of Thermo* by Guy Walton (2018); *The Memory We Could Be: Overcoming Fear to Create Our Ecological Future* by Daniel Macmillen Voskoboynik (2018); *The Universe as It Really Is: Earth, Space, Matter, and Time* by Thomas R. Scott and James Powell (2018); *A New Reality: Human Evolution for a Sustainable Future* by Dr. Jonas Salk and Jonathan Salk (2018); *The Drawdown Agenda* (podcast, 2018); *The Skeptics Guide to the Universe* by Steven Novella (2018); *Climate Change in Human History* by Benjamin Lieberman and Elizabeth Gordon (2018); *Negan the Stardust* by K.C. Land (2017); *Tales of an Ecotourist* by Mike Gunter Jr. (2017); *Everything All at Once* by Bill Nye (2017); *The Climate Majority* by Leo Barasi (2017); *Being The Change* by Peter Kalmus (2017); *Not A Scientist* by Dave Levitan (2017); *Gaia and the Golden Toad* by Joan Muller (2016); *The Cure for Catastrophe* by Robert Muir-Wood (2016); *War On Science* by Shawn Otto (2016); *The Truthful Art*

by Alberto Cairo (2016); *How The World Breaks* by Stan and Paul Cox (2016); *When The Wind Blows* by Stacy Clark (2015); *Harnessing Science to Change the World* by Bill Nye (2015); *Climate Change and Society: Sociological Perspectives* by Riley E. Dunlap and Robert J. Brulle (2015); *Climate Change, Capitalism and Corporations: Processes of Creative Self-destruction* by Christopher Wright and Daniel Nyberg (2015); *Please Don't Paint Our Planet Pink* by Gregg Kleiner and Laurel Thompson (2015); *Your Life as Planet Earth* by Howard Lee (2014); *Virginia Climate Fever* by Stephen Nash (2014); *Climate Peril* by John J. Berger (2014); *The Big Pivot* by Andrew Winston (2014); *The Collapse of Western Civilization: A View from the Future* by Naomi Oreskes and Erik Conway (2014); *Fore and the Future of Practically Everything* by Richard L. Handy (2013); *Banned on the Hill* by Franke James (2013); *The Zero Footprint Baby* by Keya Chatterjee (2013); *The Year of the Bad Decision* by Charles Sobczak (2013); *Rising Seas: Past, Present, Future* by Vivien Gornitz (2013); *Rising Sea Levels: An Introduction to Cause and Impact* by Hunt Janin and Scott A. Mandia (2013); *Overheated* by Andrew Guzman (2013); *The Aviator* by Gareth Renowden (2012); *Snowcial: An Antarctic Social Network Story* by Chelsea Prince (2012); *Navigating The Perfect Moral Storm: Climate Ethics* by Donald Brown (2012); *The Evolution of Everything* by Mark Sumner; *Storm World* by Chris Mooney (2008); *Climate Change: What it Means for Us, Our Children, and Our Grandchildren*, edited by Joseph Dimento and Pamela Doughman (2007)

- Review quotes (other): *Changing the Digital Climate: How Climate Change Web Content is Being Censored Under the Trump Administration* by The Environmental Data & Governance Initiative (EDGI) (report, 2018); *Being The Change* (film, 2017); *A Burning Question* (film, 2012)
- Press Conferences: American Geophysical Union (12/12/17); American Association for the Advancement of Science (2/13/15); Healthy Environment Alliance of Utah (5/14/14); PennEnvironment (6/5/13); Truman National Security Project, PennFuture, Mid-Atlantic Renewable Energy Coalition & selected members of the Pennsylvania General Assembly (1/14/13); European Geophysical Union (4/26/12); Prism Public Affairs (11/18/10); PennEnvironment (9/8/10); National Wildlife Federation (8/25/10); American Geophysical Union (12/17/09); Resource Media (11/24/09); National Science Foundation (8/11/09); European Geophysical Union (4/23/09); American Geophysical Union (5/30/02)
- Guest contributor to: *One Degree* (The Weather Channel); *Seed Magazine*; *Climate One* (The Commonwealth Club), *The Weather Underground*, *Climate Reality*
- Co-founder and contributor, climate science website "*RealClimate.org*" (founded 12/04)
- Advisory boards/councils: *EcoAthletes*, 2019-, *Science Debate*, 2019-, *One Earth*, 2018-, *End Climate Silence*, 2018-, *Cover Climate*, Public Citizen, 2018-, Climate Action Platform, 2018-, Climate Leadership Engagement Opportunities (CLEO), 2018-, Virgin Racing/Richard Branson's *Race Against Climate Change*, 2017-, *Being The Change* film, 2017-18, *RENEW* Institute, SUNY-Buffalo, 2017-, Tidewater Security Project, 2016-, *ClimateTruth.org*, 2015-, *Planet Experts*, 2014, California Climate Breakthrough Initiative, 2014-, National Center for Science Education (NCSE), 2014-19, 314PAC 2014-15, *Climate Accountability Institute*, 2014-, Climate Hawks Vote PAC, 2013-, *Climate Communication*, 2011-, *Polar Bears International*, 2010-, *Climate Change Communication Network*, 2010-, *OurEarth.org*, 2008-, *ISky*, 2008-11, *Climate Solutions Project*, Bowman Group, 2007-10
- Secretary of Science and Environment, "Shadowing Trump" shadow cabinet, 2017-
- Climate Advisory Committee, Hillary Clinton Presidential Campaign, 2016
- Science Advisor for film *Bill Nye: Science Guy*, 2015-17
- Virginia Governor's Climate Change and Resiliency Commission, 2014-15
- Senior Science Advisor for *Green World Rising* (Leonardo DiCaprio Foundation), 2014-15

- Adviser, Project Drawdown, 2014-
- Science Advisor for Showtime series, *Years of Living Dangerously*, 2013-15
- Advisory Committee, “CLUES” (museum/community partnership of the *Franklin Institute Science Museum*, Phila. PA), 2009
- Adviser to California Attorney General/Governor Jerry Brown, 2007-18
- Assisted with *Museum of Modern Art (New York)* exhibit “Design and the Elastic Mind”, Fall 2007
- Our findings (Kemp et al, 2011) cited in “State of the Union” address by President Barack Obama (Jan 20, 2015).
- Our findings (Mann et al 1999) cited in “State of the Union” address by President William Clinton (Jan 27, 2000).
- Advisor to numerous other policy makers, public policy experts, opinion leaders, governmental and non-governmental organizations (1999-)
- Online Course on *Climate Science*, United Nations Sustainable Development Solutions Network (SDSN) SDG Academy/EdX (beginning Fall 2019)

Books:

- **Mann, M.E.** and Toles, T., *The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*, Columbia University Press (paperback edition with additional chapter), 240 pp, 2018.
- Herbert, M. and **Mann, M.E.**, *The Tantrum That Save The World*, World Saving Books, 34 pp, 2018 (published translations: Italian).
- **Mann, M.E.** and Toles, T., *The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*, Columbia University Press, 208 pp, 2016 (published translations: Italian, German).
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- **Mann, M.E.**, Schmidt, G., Steig, E., Tree Rings and Climate: Some Recent Developments, *RealClimate.org*, July 8, 2012.
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- Schmidt, G., **Mann, M.E.**, Decrease in Atlantic Circulation? *RealClimate.org*, November 30, 2005.
- **Mann, M.E.**, The False Objectivity of Balance, *RealClimate.org*, November 18, 2005.
- **Mann, M.E.**, Q&A: Global Warming, *RealClimate.org*, October 14, 2005.

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- **Mann, M.E.**, Rahmstorf, S., Schmidt, G., Steig, E., Connolley, W., Senator Inhofe on Climate Change, *RealClimate.org*, January 10, 2005.
- **Mann, M.E.**, On yet Another False Claim by McIntyre and McKittrick, *RealClimate.org*, January 6, 2005.
- **Mann, M.E.**, Michael Crichton’s State of Confusion II: Return of the Science, *RealClimate.org*, December 15, 2004.
- **Mann, M.E.**, Schmidt, G., Climate Change Disinformation, *RealClimate.org*, December 11, 2004.
- **Mann, M.E.**, Weren’t temperatures warmer than today during the “Medieval Warm Period”? *RealClimate.org*, December 10, 2004.
- **Mann, M.E.**, OK, But we Know it was Warmer than Present 6000 Years Ago, Don’t We? *RealClimate.org*, December 10, 2004.
- **Mann, M.E.**, Temperature Variations in Past Centuries and the so-called “Hockey Stick”, *RealClimate.org*, December 10, 2004.
- **Mann, M.E.**, Myth vs. Fact Regarding the “Hockey Stick”, *RealClimate.org*, December 10, 2004.
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Invited & Public Lectures, Panels, Workshops and Events

- Panel discussion, *The impacts of climate change on institutional investors with Michael Mann*, Centre for Corporate Sustainability and Environmental Finance, Macquarie University/University of New South Wales, Sydney Australia, Mar 19 2020.
- Keynote presentation and panel discussion, *Our House is on Fire: How Universities Can Become Advocates for Climate Action*, University of Sydney Business School/Sydney Environment Institute, Sydney Australia, Mar 3 2020.
- Keynote presentation and panel discussion, *Industry, Climate Change, Business and Finance: What Is the Latest Science and How Worried Should We Be?*, University of Sydney Business School/Sydney Environment Institute/Lendlease Group, Sydney Australia, Mar 2 2020.
- Sydney Skeptics special dinner – *Dr Michael Mann on climate change*, Australian Skeptics, Sydney Australia, Feb 29 2020.
- Business meeting with Macquarie Group “Green Investment Team”, Sydney Australia, Feb 28 2020.
- Panel discussion, *Questions of Management and Policy Amidst Australia’s Bushfire Crisis*, University of Sydney Business School/Sydney Environment Institute, Sydney Australia, Feb 26 2020.
- Lecture, “*The Physics of Climate Change*”, School of Physics lecture series, University of New South Wales, Sydney Australia, Feb 24 2020.
- Speaker, *Sydney Environment Institute Researchers Welcome Lunch*, University of Sydney, Sydney Australia, Feb 24 2020.

- Panel discussion, *Climate Emergency Roundtable*, Global Compact Network Australia, UTS Business School, Sydney Australia, Feb 20 2020.
- Keynote address, Australian Museum Foundation Annual President's Circle Dinner, Deutsche Bank Tower, Sydney Australia, Feb 19 2020.
- Meeting with Zali Steggall, Independent M.P. for Warringah, Manly Australia, Feb 17 2020.
- Panelist, *Ecosystems in Collapse: The Biodiversity and Ecological Emergency*, National Climate Emergency Summit, Melbourne Australia, Feb 14 2020.
- Keynote address, *The New Climate Reality Check: What's the Emergency?*, National Climate Emergency Summit, Melbourne Australia, Feb 14 2020.
- Presentation to a Australian fund managers and institutional investors, *A Discussion with Michael Mann*, hosted by Paradice Investment Management, Melbourne Australia, Feb 13 2020.
- Presentation to a Australian fund managers and institutional investors, *A Discussion with Michael Mann*, hosted by Paradice Investment Management, Sydney Australia, Feb 12 2020.
- Invited presentation, *Climate Change - Past, Present and Future. How much do we know and how do we know it?*, Science & Technology Series, Australian Club, Sydney Australia, Feb 6 2020.
- Lecture, "*Absence of Internal Multidecadal and Interdecadal Oscillations in the Climate System*", CCRC Seminar, University of New South Wales, Sydney Australia, Jan 29 2020.
- Invited panel discussion, AGU Fall meeting: "Governor Jerry Brown in Conversation with AGU Scientists: Protecting Earth's climate for the next 100 years", San Francisco CA, Dec 11 2019.
- Panel discussion, "*Beyond Climate Denial: Exposing the Fossil Fuel Industry's Latest Tactics*", Center for Biological Diversity, Children's Creativity Museum, San Francisco CA, Dec 10 2019.
- Invited presentation, AGU Fall meeting: "*Absence of Internal Multidecadal and Interdecadal Oscillations in the Climate System*", San Francisco CA, Dec 10 2019.
- Invited panel discussion, AGU Fall meeting: "Aligning U.S. Energy Policy with a 1.5°C Climate Limit: How to Design and Manage a Fossil Fuel Extraction Phaseout and an Equitable Energy Transition" San Francisco CA, Dec 9 2019.
- Invited presentation, AGU Fall meeting: "*Emissions Reductions Required to Avoid Breaching Paris Limits*", San Francisco CA, Dec 9 2019.
- Lecture and book-signing, "*Leaving the Madhouse: The Path to Climate Action*", Ruth Pauley Lecture Series, Sandhills Community College, Pinehurst NC, Dec 5 2019.
- Climate change discussion with students, Pinecrest High School, Southern Pines North Carolina, Dec 5, 2019.
- Invited lecture and book-signing, "*Dire Predictions: Understanding Climate Change and its Impacts on Florida*", Leif Nissen Social Justice Lecture, Leif Nissen Foundation, Temple Beth-El, St. Petersburg FL, Nov 15 2019.
- Panel Discussion and event (with Emily Edmonds-Langham and Amy Schatz, moderated by Faith Salie), "*How To Talk to Your Child About Climate Change*", American Museum of Natural History, New York NY, Nov 13 2019.
- Meeting with U.S. Senator Robert Casey Jr. (D-PA), Russell Senate Building, Washington DC, Oct 29 2019.
- Invited lecture and book-signing, "*Urgency and Agency in the Battle to Avert a Climate Crisis*", Capital One, Henrico VA, Oct 28 2019.
- Climate Dialogue with Michael Mann, Delaware Environmental Institute, University of Delaware, Newark DE, Oct 21 2019.
- Keynote lunchtime lecture and book-signing, "*How to Win the New Climate War: The Plan to Take Back Our Planet from Polluters*", Center for Inquiry Annual CSIcon conference, Las Vegas NV, Oct 18 2019.

- Invited lecture, “*How to Win the New Climate War: The Plan to Take Back Our Planet from Polluters*”, 350.Org Australia”, Sydney Australia, Oct 14 2019.
- Invited lecture, “*Dire Predictions: Understanding Climate Change*”, Investor Group on Climate Change Summit, Sydney Australia, Oct 14 2019.
- Panel Discussion, “*Why is climate change so hard?*”, Investor Group on Climate Change Summit, Sydney Australia, Oct 13 2019.
- Invited lecture, “*Return to the Madhouse: Climate Change Denial in the Age of Trump*”, Barack President’s Distinguished Lecture, University of Vermont, Burlington VT, Oct 10 2019.
- Invited lecture, “*Dire Predictions: Understanding Climate Change*”, Windrows Retirement Community, Princeton NJ, Oct 5 2019.
- Presentation and panel discussion, The 'Human' between History and Science: "Questions of Scale, Questions of Value", Department of History/Department of Asian Studies/Humanities Institute, Penn State University, University Park PA, Oct 3 2019.
- Presentation and discussion, *Countering Common Climate Myths with Dr. Michael E. Mann and Tim Guinee*, Climate Reality (webinar), Sep 27 2019.
- Speaker, *Strong Climate Friendly Travel Dinner*, The Climate Group/SDG Partners/Climate Week NYC, Explorers Club, New York NY, Sep 24 2019.
- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Mid-Atlantic Renewable Energy Association (MAREA), Breinigsville, PA (via internet), Sep 24, 2019.
- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Indiana University of Pennsylvania, Indiana PA, Sep 19 2019.
- Guest discussion, FYE 11: *People and the Planet*, Lebanon Valley College (via internet), Annville PA, Sep 13, 2019.
- Guest lecture on “The Hockey Stick and the Climate Wars: The Battle Continues”, ENGRI 1160: *Climate Change and You, the Engineer*, Cornell University (via internet), Ithaca NY, Sep 10, 2019.
- Panel Discussion, “*The Youth Climate Movement Could Save the Planet*”, 2019 Hamptons Institute series of topical panel discussions, Guild Hall, East Hampton NY, Aug 5 2019.
- Participant, Envision Virgin Racing “Race Against Climate Change” panel, Brooklyn NY, Jul 12 2019.
- Convocation Speaker, McMaster University, Hamilton OT, Jun 13 2017.
- Presentation, “*Dire Predictions: Understanding Climate Change*”, Workshop on Ethics of Climate Change, Penn State Sustainability Institute, Penn State University, University Park PA, May 9 2019.
- Lecture and panel discussion, “*Climate Change: The Battle Continues*”, Tyler Prize Laureate Lecture, San Francisco CA, May 2 2019.
- Panel Discussion, “*Urgency and Agency: As the Climate Threat Mounts, A Call for Public Engagement and Action*”, Empowering Capable Climate Communicators Symposium, The CLEO Institute, Miami FL, Apr 26 2019.
- Workshop for Media & Meteorologists, Empowering Capable Climate Communicators Symposium, The CLEO Institute, Miami FL, Apr 26 2019.
- Keynote Lecture, “*Urgency and Agency: As the Climate Threat Mounts, A Call for Public Engagement and Action*”, Empowering Capable Climate Communicators Symposium, The CLEO Institute, Miami FL, Apr 26 2019.
- Keynote Lecture, “*Urgency and Agency: Can Law Save Us From Climate Change? A Call for Public Engagement & Action*”, The Third National Conference of Lawyers Committed to Addressing the Climate Emergency, Philadelphia PA, Apr 18 2019.
- Invited lecture, “*Urgency and Agency: As the Climate Threat Mounts, A Call for Public Engagement and Action*”, 2019 Jones Lecture, Lafayette College, Easton PA, Apr 16, 2019.

- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, 2019 Praxis Award Ceremony, Villanova University, Villanova PA, Apr 11, 2019.
- Invited presentation, “*The Role of the Thermohaline Circulation in Climate Variability and Climate Change: The Legacy of Suki Manabe*”, Mini-Symposium in honor of Syukuro Manabe for his great contributions to climate science, Department of Meteorology and Atmospheric Science/ADAPT, Penn State University, Apr 10 2019.
- Invited lecture, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Annual Asprey CCAS Engaging Science Book Club lecture, Vassar College, Poughkeepsie NY, Apr 8, 2019.
- “*Conversation about climate change*”, Environmental Systems Engineering Society, Penn State University, University Park PA, April 2 2019.
- “*A Climate Conversation with Michael E. Mann*”, Climate Reality Project, Ashokan Center, Olivebridge NY, Mar 30 2019.
- Invited lecture and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Penn Science Policy & Diplomacy Group and 314 Action, University of Pennsylvania, Philadelphia PA, Mar 23 2019.
- Discussion, “*Q/A Session with Dr. Michael Mann*”, World Campus Sustainability Club, Penn State University (webinar), Mar 21 2019.
- Lead off speaker, *Climate Crisis Hearing*, sponsored by Pennsylvania State Auditor General Eugene DePasquale, Penn State University, Mar 14 2019.
- Invited lecture and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Starr Forum, Massachusetts Institute of Technology, Cambridge MA, Mar 6 2019.
- Invited lecture and book-signing, “*Dire Predictions: Understanding Climate Change*”, University of Massachusetts-Boston, Boston MA, Mar 5 2019.
- Panel discussion, *What makes Science “Science”*, Penn State University Science Policy Society, Schlow Library, State College PA, Feb 26 2019.
- Presentation, *Dire Predictions: Understanding Climate Change*, Faculty Networking Lunch, Smeal College of Business, Penn State University, University Park PA, Feb 25 2019.
- Presentation, “*Quantum Mechanics, Waveguides, Climate Change & Extreme Weather*”, Inaugural Nerd Nite State College event, Webster’s Books & Café, State College PA, Feb 13 2019.
- Presentation to U.S. Senate Climate Change Task Force (including U.S. Senators Cardin, Markey, Schatz, Stabenow, Whitehouse), Capitol Building, Washington DC, Jan 29 2019.
- Presentation and discussion, *Outside the Green Choir: Reaching Alternative Audiences and Addressing Common Climate Myths – with Dr. Michael Mann and Tim Guinee*, Climate Reality (webinar), Jan 24 2019.
- Invited presentation, AGU Fall meeting: “*Explaining Climate Change to Politicians and Children*”, Washington DC, Dec 10 2018.
- Invited presentation (co-authors S. Rahmstorf, Kornhuber, K, Steinman, B.A., Miller, S.K., Coumou, D., Petri, S.), AGU Fall meeting: “*Climate Change and Extreme Summer Weather Events*”, Washington DC, Dec 10 2018.
- Panel discussion, *Science to Policy: Effective Communication with Policy Decision Makers*, American Geophysical Union Student and Early Career Scientist Conference, Washington DC, Dec 9 2018.
- Public event “*A Conversation with Michael Mann*”, Woods Institute for the Environment, Stanford University, Palo Alto, Nov 30 2018.
- Guest discussion (web), 7th Grade Science Class, Springfield Renaissance Middle School, Springfield MA, Nov 19, 2018.

- Invited presentation, “*Dire Predictions: Understanding Climate Change*”, Climate Change Science Unfiltered, Distinguished Lecture Series, University of Alabama Huntsville, Huntsville AL, Nov 15, 2018.
- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Philosophy and Climate Change Colloquium, Hobart and William Smith Colleges, Geneva NY, Nov 12, 2018.
- Panel discussion, *Climate Change Workshop*, Supporting Women in Geography at Penn State, Penn State University, University Park PA, Nov 9 2018.
- Climate Change Informational Webinar, Affirmative Investment Management, Nov 9 2018.
- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Department of Economics Seminar Series, Wesleyan University, Middletown CT, Oct 25, 2018.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Center for Climate and Energy Decision Making, Carnegie Mellon University, Pittsburgh PA, Oct 22 2018.
- 2018 Beckman-Brown Interdisciplinary Lecture, “*Dire Predictions: Understanding Climate Change*”, Beckman Institute, University of Illinois, Urbana-Champaign IL, Oct 15 2018.
- Invited presentation, “*Dire Predictions: Understanding Climate Change*”, Telling Climate Change Stories that Matter: From Impacts to Solutions, Society of Environmental Journalists, Annual Meeting of the Society of Environmental Journalists, Flint MI, Oct 3 2018.
- Public lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Crosslands Retirement Community, Kennett Square PA, Sep 29, 2018.
- Panel discussion, *Renewable 2050 Town Hall*, Ezra Nanes for Pennsylvania State Senate 34th District, State College PA, Sep 24 2018.
- Webinar and discussion, “*Dire Predictions: Understanding Climate Change*”, PennFuture, Sep 24 2018.
- Keynote Presentation, “*Climate Change and Extreme Summer Weather Events*”, Ny-Ålesund Symposium 2018: *Navigating Climate Risk*, Ny-Ålesund, Svalbard, Sep 17 2018.
- Invited presentation, “*Warning Washington: The Public Policy Legacy of Warren Washington*”, Warren Washington Legacy Symposium, Department of Meteorology and Atmospheric Science, Penn State University, Sep 6 2018.
- Climate change panel discussion featuring distinguished Penn State alumnus Dr. Warren M. Washington, Penn State Institutes of Energy and the Environment, Penn State University, University Park PA, Sep 5 2018.
- Public Lecture, “*Dire Predictions: Understanding Climate Change*”, Sustainability Showcase, Sustainability Institute, Penn State University, University Park PA, Aug 31 2018.
- Keynote Lecture, “*Dire Predictions: Understanding Climate Change*”, 10th Annual Research Experience for Undergraduates/Research Experience for Teachers Summer Symposium, Penn State University of South Florida and the West Central, Aug 2 2018.
- Keynote Lecture, “*The Madhouse Effect: Climate Denial in the Age of Trump*”, Ninth Annual Rhode Island Energy, Environmental and Oceans Leaders Day Conference, Providence RI, Jul 20 2018.
- Keynote Lecture, “*Dire Predictions: Understanding Climate Change*”, Weather, Climate, and Society Research Experience for Undergraduates (REU), University of South Florida and the West Central Florida Chapter of the American Meteorological Society (webinar), Jun 5 2018.
- Participant, DS Virgin Racing “Race Against Climate Change” event, New York NY, Jul 14, 2018.
- Participant, DS Virgin Racing “Race Against Climate Change” panel, Brooklyn NY, Jul 13, 2018.
- Keynote Speaker, Roundtable on Climate Change, Sea Level Rise & Environment Issues with Andy Kim, Philadelphia PA, Jun 27 2018.

- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Università Degli Studi di Torino, Torino Italy, Jun 22 2018.
- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Università Ca Foscari, Venice Italy, Jun 20 2018.
- Public Lecture and interview, “*La Terra Brucia - Incontro con Michael E. Mann*”, Museo delle Scienze, Trent Italy, Jun 18 2018.
- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Conference: The monumental challenge of climate change after the Paris Agreement, Politecnico di Melano, Milan Italy, Jun 18, 2018.
- La Terra Brucia (“The Madhouse Effect”) panel, Radio Popolare Festival, Milan Italy, Jun 16 2018.
- Panel discussion and book-signing, *Climalteranti* 10th anniversary celebration, Lodi Italy, Jun 15 2018.
- Presentation and panel discussion, *Conversations on Climate Change*, sponsored by Spilman Thomas & Battle LLC, University of Charleston, Charleston WV, Jun 12 2018.
- Speaker and guest of honor, “Celebrate Climate Science!” event, Citizens Climate Lobby West Virginia, Charleston WV, Jun 12 2018.
- Keynote Lecture, “*Dire Predictions: Understanding Climate Change*”, Penn State Research Experience for Undergraduates (REU) on Climate Science, Penn State University, University Park PA, Jun 5 2018.
- Presentation and panel discussion, *Perspectives on Global Climate Change*, National Academy of Engineering Topical Meeting, Case Western Reserve University, Cleveland OH, May 24 2018.
- Book club discussion, “*The Madhouse Effect*”, Council of Science Editors Annual Meeting, New Orleans LA, May 7, 2018.
- Keynote Lecture and book-signing, “*The Hockey Stick and the Climate Wars*”, Council of Science Editors Annual Meeting, New Orleans LA, May 7, 2018.
- Presentation, panel discussion and book-signing, *Annapolis Book Festival*, The Key School, Annapolis MD, Apr 28 2018.
- Keynote Lecture and book-signing, “*The Madhouse of Climate Denial*”, “Preserving and Cherishing the Earth” Earth Day event, OM Sanctuary, Asheville NC, Apr 22, 2018.
- Presentation and panel discussion, *Atlantic Currents: Winds, Waters, and Migrations*, Carnegie Nexus, Carnegie Museum of Art, Pittsburgh PA, Apr 19 2018.
- Community Conversation with Dr. Michael Mann, in conjunction with 2018 Berkshire Earth Expo/Environmental Action Fair, The Stationary Factory, Dalton MA, Apr 14, 2018.
- Lecture and book-signing, “*The Madhouse Effect: A Post-Election Climate Change Update*”, Berkshire Community College, Pittsfield MA, Apr 14, 2018.
- Lecture and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Institute for Sustainability, Energy, and Environment and Center for Advanced Study, University of Illinois, Urbana-Champaign IL, Apr 6, 2018.
- Lecture and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, The City Club of Cleveland, Cleveland OH, Mar 30, 2018.
- Invited lecture, “*Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Events*”, Taylor Fest 2018 (honoring Professor Philip Taylor on his 80th birthday), Department of Physics, Case Western Reserve University, Cleveland OH, Mar 29, 2018.
- Public lecture and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Ohio University, Athens OH, Mar 28, 2018.
- Panel Discussion, *Academic Freedom – In and Out of The Classroom*, Penn State University AAUP Chapter, University Park PA, Mar 23, 2018.

- Invited lecture, “*The Dangers of Climate Change Denial*”, Program in Environmental & Sustainability Studies, Vanderbilt University, Nashville TN, Mar 20, 2018.
- Book Reading & Discussion for “*The Tantrum That Saved the World*”, Mt. Nittany Middle School, Boalsburg PA, Mar 1, 2018.
- Screening and panel discussion for “*Chasing Coral*”, Center for Marine Science and Technology at Penn State, Penn State University, University Park PA, Feb 28, 2018.
- Panel Discussion, *Michael Mann in conversation with Kim Hill*, Pacific Climate Change Conference 2018, Wellington NZ, Feb 22, 2018.
- Keynote Lecture, “*Dire Predictions: Understanding Climate Change*”, Pacific Climate Change Conference 2018, Wellington NZ, Feb 21, 2018.
- Discussant, *AAAS Annual meeting*, session on “Understanding and Responding to Climate Change Denial”, Austin TX, Feb 17, 2018.
- Panel Discussion, *Climate Change and Policy: An Expert Q&A*, 314 Action Central Texas, Austin TX, Feb 16, 2018.
- Lecture and Discussion, “*The Madhouse Effect: How Climate Denial Threatens our Planet, People & Politics*”, Harvard Kennedy School, Cambridge MA, Feb 14, 2018.
- Lecture and book-signing, “*A Return to the Madhouse: Climate Change Denial in the Age of Trump*”, Geography Speaker Series, Ohio State University, Columbus OH, Feb 9, 2018.
- Invited lecture, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Lebanon Valley College, Annville PA, Feb 6, 2018.
- Featured speaker and guest of honor, The Seventh Annual Stephen H. Schneider Award for Outstanding Climate Science Communication, *Climate One*, Commonwealth Club, San Francisco CA, Jan 16, 2018.
- Invited presentation (co-authors S. Rahmstorf, Kornhuber, K, Steinman, B.A., Miller, S.K., Coumou, D.), *AGU Fall meeting: “Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Events”*, New Orleans, LA, Dec 14, 2017.
- Invited panel discussion, *The ‘Doomed Earth’ Controversy*, Kavli Conversations on Science Communication, NYU School of Journalism, New York NY, Nov 30, 2017.
- Invited faculty seminar, “*A Return to The Madhouse: Climate Change Denial in the Age of Trump*”, Bentley University, Waltham MA, Nov 17, 2017.
- Public lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Bentley University, Waltham MA, Nov 16, 2017.
- Invited guest lecture, “*Dire Predictions: Understanding Climate Change* Bentley University, Waltham MA, Nov 16, 2017.
- Invited presentation, “*Dire Predictions: Understanding Climate Change*”, Annual Westbrook Lecture, Wagner Free Institute of Science, Philadelphia PA, Nov 11, 2017.
- Invited presentation, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Center for Inquiry Annual CSIcon conference, Las Vegas NV, Oct 27, 2017.
- Featured speaker, Climate change discussion, YPO Gold-Los Angeles Chapter, Greystone Mansion, Beverly Hills CA, Oct 26, 2017.
- Invited presentation (M. Mann; co-authors: A. Schurer, E. Hawkins, S. Tett, G. Hegerl), *GSA annual meeting: “Importance of the pre-industrial baseline in determining the likelihood of exceeding the Paris limits”*, Seattle WA, Oct 24, 2017.
- Invited presentation, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Annual Rothermal Lecture, Rothermal Foundation, New Bern NC, Oct 22, 2017.
- Featured speaker and panelist *Climate Reality Project* Leadership Corp Training Conference, David L. Lawrence Convention Center, Pittsburgh PA, Oct 18, 2017.

- Featured speaker, “What's Up with the Weather? A conversation w/ Dr. Michael Mann”, The Barking Dog, Bethesda MD, Oct 14, 2017.
- Invited presentation (and receipt of award) “*Dire Predictions: Understanding Climate Change*”, International Green Industry Hall of Fame Annual Conference & Induction Ceremony, Clovis CA, Oct 6, 2017.
- Featured speaker, “Climate Change Cliff Notes”, La Brea Tar Pits Museum, Los Angeles CA, Oct 5, 2017.
- Invited presentation, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, 2017 Davis, Markert, and Nickerson Academic Freedom Lecture, University of Michigan, Ann Arbor MI, Oct 3, 2017
- Featured speaker, “The Count Down to Climate Change”, North Carolina Climate Change Solutions Coalition, Charlotte NC, Sep 23, 2017.
- Facebook Live Q&A on Hurricanes and Climate with Jeff Berardelli of CBS 12 Television News WPEC, Southern Florida, Sep 21, 2017.
- Panel discussion and book-signing, *Global Warming is not a Chinese Hoax*, Natural Science & Mathematics Colloquium series, St. Mary's College, St. Marys City MD, Sep 12, 2017.
- *PennFuture* Fireside Chat on Climate Change, Nature Inn, Bald Eagle State Park PA, Sep 11, 2017.
- Invited presentation, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Faculty Invitational Lecture Series, Penn State University Lehigh Valley, Center Valley PA, Sep 8, 2017.
- Invited presentation, “*Dire Predictions: Understanding Climate Change*”, Sustainability Showcase, Sustainability Institute, Penn State University, University Park PA, Sep 1, 2017.
- Invited presentation, “*Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Events*”, CCRC Seminar, University of New South Wales, Sydney, Australia, Aug 17, 2017.
- Presentation, panel discussion and book-signing, “*The Madhouse Effect: What is Stopping Action on Climate Change*”, UNSW Grand Challenges Event, Sydney Opera House, Sydney Australia, Aug 16, 2017.
- Presentation and panel discussion, “*Dire Predictions: Understanding Climate Change*”, Cli-Fi: Big Ideas for the Small Screen, UNSW/ABC/JUNGLE, Sydney Australia, Aug 16, 2017.
- Participant, “Climate Crisis” Town Hall event with Al Gore, hosted by Anderson Cooper, CNN, Aug 1, 2017.
- Screening and Audience Q&A for “*Before The Flood*”, summer New York Wild Film Festival Event, Southampton NY, Jul 29, 2017.
- Speaker, Virgin© Innovation Summit, hosted by Sir Richard Branson, Brooklyn Naval Yard, Brooklyn NY, Jul 14, 2017
- Keynote lecture and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Sustainability Curriculum Consortium Faculty Conference, Penn State Sustainability Institute, Philadelphia PA, Jun 27, 2017
- Interview with PBS host Alexander Heffner, “*The Future of our Climate*”, Nature Week Program, Mohonk Mountain House, New Paltz NY, Jun 16, 2017.
- Screening and Audience Q&A for “*Bill Nye: Science Guy*”, Human Rights Watch Film Festival, New York NY, Jun 10, 2017.
- Invited presentation, “*Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Events*”, 6th International Summit on Hurricanes and Climate Change, Crete, Greece, Jun 8, 2017.

- Introductory lecture, “*Dire Predictions: Understanding Climate Change*”, Penn State Research Experience for Undergraduates (REU) on Climate Science, Penn State University, University Park, PA, May 31, 2017.
- Panel discussion, “*Perspectives on Climate Change and Clean Energy*”, 2017 Pittsburgh Energy Forum Series, hosted by the Pittsburgh Post-Gazette, Heinz History Center, Pittsburgh PA, May 22, 2017.
- Commencement Speaker, Green Mountain College, Poultney VT, May 13, 2017.
- Presentation and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, University of Nebraska-Omaha, Omaha NE, May 7, 2017.
- Speaker, Berkshire-Hathaway annual Shareholders meeting, Omaha Nebraska, May 7, 2017.
- Invited presentation, “*U.S. Climate Science, Challenges, and Opportunities*”, National Climate Seminar, Bard Center for Environmental Policy (teleconference), Bard College, May 3, 2017
- Invited Presentation and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, University at Buffalo, Buffalo NY Apr 28, 2017.
- Guest video lecture, Journalism and Society (instructor Seth Borenstein), NYU Journalism School Washington DC, Apr 26, 2017.
- Featured speaker, *The March for Science*, Washington DC, Apr 22, 2017.
- Keynote lecture and book-signing “*Exiting The Madhouse: The Legacy of Massachusetts v. EPA*”, University of Connecticut Law School, Hartford CT, Apr 21, 2017.
- Online Q&A, Reddit Science “Ask Me Anything” (AMA) Series, Apr 17, 2017.
- Invited lecture, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Foxdale Village, State College PA, Apr 13, 2017.
- Panel discussion, “*The Real Story of Fake News*”, Coalition of Concerned Faculty at Penn State, Penn State University, University Park PA, Apr 10, 2017.
- Climate change discussion with students, Christopher Dock Mennonite High School, Apr 3, 2017.
- Presentation and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Milwaukee Public Museum, Milwaukee WI, Mar 16, 2017.
- Invited presentation, “*Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Event*”, American Physical Society March Meeting, New Orleans LA, Mar 14, 2017.
- Invited presentation, “*Dire Predictions: Understanding Climate Change*”, Spring 2017 EarthTalks series, Earth and Environmental Systems Institute, Penn State University, University Park PA, Feb 27, 2017.
- Screening and Audience Q&A for “*Before The Flood*”, New York Wild Film Festival, New York NY, Feb 25, 2017.
- Invited presentation, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, SustainableUX online conference, Feb 16 2017.
- Presentation and book-signing, “*The Madhouse Effect: Climate Change Denial in the Age of Trump*”, Sydney Environmental Institute, University of Sydney, Sydney Australia, Feb 8, 2017.
- Keynote Speaker and Workshop Participant, “*Climate Change and Climate Politics: Where to Now?*”, Sydney Environment Institute, University of Sydney, Sydney Australia, Feb 7 2017.
- Presentation and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Webster’s Bookstore Café, State College PA, Jan 29, 2017.

- Invited lecture, “*How to Heal Earth’s Climate*”, The 2017 Penn State Lectures on the Frontiers of Science, Penn State University, University Park PA, Jan 21, 2017.
- Presentation and Q &A, Science On Tap event, Penn State Science Policy Society, State College, PA, Jan 17, 2017.
- Virtual Town Hall event, Association of Climate Change Officers, Jan 17, 2017.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, School of Earth & Ocean Sciences, University of Victoria, Victoria BC, Canada, Jan 4, 2017.
- Keynote lecture, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, American Geophysical Union/Climate Science Legal Defense Club Joint Symposium on Law And Science, San Francisco CA, Dec 14, 2016.
- Speaker, Press Conference & Rally to Stand Up For Science, The Natural History Museum/ClimateTruth.org/Greenpeace USA/Sierra Club, SF Bay Chapter, San Francisco CA, Dec 13, 2016.
- Panel discussion, “*Is Climate Denial Destroying Our Planet*”, Climate One, Commonwealth Club, San Francisco CA, Dec 12, 2016.
- Invited participant, *Climate Impact on National Security*, Institute on Science for Global Policy (ISGP), U.S. Army War College, Carlisle PA, Nov 28-Dec 1, 2016.
- Book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, National Press Club annual book fair, Washington DC, Nov 19, 2016.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Fisher Colloquium, Georgetown University, Washington DC, Nov 15, 2016.
- Book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Berkshire International Film Festival special event, Great Barrington MA, Nov 6, 2016.
- Screening and Audience Q&A for “*Before The Flood*”, Berkshire International Film Festival special event, Great Barrington MA, Nov 6, 2016.
- Screening and Panel Discussion for “*Before The Flood*”, College of Earth and Mineral Sciences, Penn State University, University Park PA, Nov 2, 2016.
- Panel discussion and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Politics and Prose Bookstore, Washington DC, Oct 30, 2016.
- Presentation and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Climate Mobilization/350.org, Silver Spring MD, Oct 30, 2016.
- Presentation and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Center for Inquiry Annual CSIcon conference, Las Vegas NV, Oct 28, 2016.
- Book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Climate Strategies Forum, Association of Climate Change Officers, San Diego CA, Oct 20, 2016.
- Panel discussion on *The Politics of Climate Change*, Climate Strategies Forum, Association of Climate Change Officers, San Diego CA, Oct 20, 2016.
- Town Hall event “Science-Citizen: Science Policy in the Age of Promise and Peril” with AAAS CEO Rush Holt, Michael E. Mann, and Peter Hudson, moderated by Associated Press science writer Seth Borenstein, Penn State Institutes of Energy and the Environment, Penn State Earth System Science Center and other institutes and centers, Pennsylvania State University, University Park PA, Oct 13, 2016.

- Panel discussion on science and policy with AAAS CEO Rush Holt, Science Policy Society, Pennsylvania State University, University Park PA, Oct 13, 2016.
- Webinar, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Citizens Climate Lobby-Wisconsin/University of Wisconsin-Stevens Point, Stevens Point WI, Oct 10, 2016.
- Panel discussion and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, University of Pennsylvania Bookstore, Philadelphia PA, Oct 5, 2016.
- Presentation and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Climate Science Legal Defense Fund Event, Columbia University Law School, New York NY, Sep 30, 2016.
- Panel discussion and book-signing for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, American Museum of Natural History, New York NY, Sep 29, 2016.
- Invited lecture and book-signing, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Penn State Great Valley, Malvern PA, Sep 28, 2016.
- Invited lecture and book-signing, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Fossil Free MIT, Massachusetts Institute of Technology, Cambridge MA, Sep 26, 2016.
- Invited lecture and book-signing, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Newton Community Education Speakers Series, Newton MA, Sep 26, 2016.
- Invited lecture and book-signing, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, California University of Pennsylvania, California PA, Sep 23, 2016.
- Invited lecture and book-signing, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, St. Mary College of Maryland, St. Mary’s City MD, Sep 21, 2016.
- Webinar, “*Strategies for combating scientist harassment*”, Union of Concerned Scientists, Sep 19, 2016.
- Book party for “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Hosted by Patrick Fitzgerald, Joe Romm, and Juleanna Glover, Washington DC, Sep 17, 2016.
- Invited presentation and book-signing, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Sierra Club Virginia Chapter, Charlottesville VA, Sep 15, 2016.
- Reading and book-signing for “*The Madhouse Effect*”, U.S. Climate Leadership Conference, EcoAmerica, Washington DC, Sep 14, 2016.
- Invited presentation, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, U.S. Climate Leadership Conference, EcoAmerica, Washington DC, Sep 14, 2016.
- Invited lecture and book-signing, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Debate 2016 Lecture Series, Hofstra University, Sep 12, 2016.
- Invited presentation, “*Dire Predictions: Understanding Global Warming*”, Green Corps classroom training program, Boston, MA (via remote link), Aug 17, 2016.

- Panel discussion on *The Psychology of Climate Denial and Skepticism*, Climate Strategies Forum, Association of Climate Change Officers, Arlington, VA, Jul 19, 2016.
- Facebook Live Public Chat, Office of Strategic Communications, Penn State University, University Park, PA, July 15, 2016.
- Panel discussion following HBO premier of *How to Let Go of the World and Love All the Things Climate Can't Change*, HBO building, New York, NY, Jun 21, 2016.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Citizens Climate Lobby 2016 Conference, Washington, DC, Jun 20, 2016.
- Provided testimony, Democratic Party Platform Drafting Committee Hearing, Phoenix AZ, Jun 17, 2016.
- Introductory lecture, “*Dire Predictions: Understanding Climate Change*”, Penn State Research Experience for Undergraduates (REU) on Climate Science, Penn State University, University Park, PA, Jun 7, 2016.
- Invited lecture, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”: The Past, the Future. How Fast, How Far? University of Iceland, Reykjavik Iceland, May 27, 2016.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”: The Past, the Future. How Fast, How Far? University of Iceland, Reykjavik Iceland, May 27, 2016.
- Invited lecture, “*Dire Predictions: Understanding Climate Change*”: The Past, the Future. How Fast, How Far? University of Iceland, Reykjavik Iceland, May 27, 2016.
- Invited lecture, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”: Projecting Climate Change: Workshop with Academics, Documentary Filmmakers and Writers, University of Iceland, Reykjavik Iceland, May 26, 2016.
- Invited lecture and book signing, “*Dire Predictions: Understanding Climate Change*”, Rotary Club of State College, State College, PA, May 17, 2016.
- Invited lecture, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Northeastern Conference on Science and Skepticism (NECSS), New York, NY, May 15, 2016.
- “Talk-back” discussion with Baba Brinkman, *Rap Guide to Climate Chaos*, Soho Playhouse, New York, NY, May 14, 2016;
- Moderated discussion (with Wayne Balta of IBM), *The Changing Climate of Business Scientific and Market-Based Perspectives on Climate Change*, Smeal College of Business, Penn State University, University Park, PA, Apr 27, 2016.
- Webinar, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Climate Matters Series, Climate Central, Apr 26, 2016.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Environments in Motion Lecture Series, Division of Arts & Humanities & Scripps Institution for Oceanography, University of California-San Diego, La Jolla, CA, Apr 22, 2016.
- Invited lecture and book signing, “*Dire Predictions: Understanding Climate Change*”, Washington and Jefferson College, Washington, PA, Apr 20, 2016.
- Invited lecture, “*The Madhouse Effect: How Climate Change Denial is Threatening our Planet, Destroying our Politics, and Driving us Crazy*”, Lehigh Valley Chapter Sigma Xi Annual Banquet, Lehigh University, Bethlehem, PA, Apr 14, 2016.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Levitt Center Speaker Series, Hamilton College, Clinton, NY, Apr 4, 2016.

- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Senior Seminar, Hamilton College, Clinton, NY, Apr 4, 2016.
- Public lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Penn State University Women's Club Book & Play Review Group, Schlowl Library, State College, PA, Mar 28, 2016.
- Discussion session with undergraduate student group (“Engineers for a Sustainable World”), Penn State University, University Park, PA, Mar 23, 2016.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Tony Haymet 60th Birthday Symposium, Scripps Institution of Oceanography, La Jolla, CA, Mar 13, 2016.
- Presentation, Mini-Symposium on Research on Africa, Penn State Engagement in Africa (AESEDA), University Park, PA, Feb 22, 2016.
- Invited lecture, “*The Physics of Climate Change*”, Department of Physics, University of Virginia, Charlottesville, VA, Feb 5, 2016.
- Webinar, “*Communicating Science Through Social Media*”, Center for Science Advocacy, Penn State University, Jan 15, 2016.
- Invited presentation, *AGU Fall meeting: “Communicating the Signal of Climate Change in The Presence of Non-Random Noise*”, San Francisco, CA, Dec 16, 2015.
- Invited presentation (M. Mann and K. Peacock), *AGU Fall meeting: “Professional Ethics for Climate Scientists*”, San Francisco, CA, Dec 14, 2015.
- Invited keynote lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Montana State University Extension Climate Science Conference, Bozeman, MT, Dec 10, 2015.
- Lunch lecture, “*Dire Predictions: Understanding Climate Change*”, Montana State University Extension Climate Science Conference, Bozeman, MT, Dec 10, 2015.
- Closing speech, Fossil Free Penn State Rally, Nov 19, 2015.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Stonecipher lecture, Tennessee Tech University, Cookeville, TN, Nov 16, 2015.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Sierra Club of Pennsylvania, Philadelphia, PA, Nov 9, 2015.
- Joint discussion session (with Naomi Oreskes) with students, Bucknell University, Lewisburg, PA, Nov 6, 2015.
- Panel discussion following screening of *Merchants of Doubt*, Bucknell University, Lewisburg, PA, Nov 5, 2015.
- Keynote lecture and book signing, “*Dire Predictions: Understanding Climate Change*”, 2015 Rising Seas Summit, Association of Climate Change Officers, Boston, MA, Nov 4, 2015.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Le Moyne College, Syracuse, NY, Nov 2, 2015.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Woods Lecture Series, Butler University, Indianapolis, IN, Oct 27, 2015.
- Presentation and panel discussion, Penn State Symposium on the Arctic, Penn State Law School, University Park, PA, Oct 20, 2015.
- Invited lecture and book signing, “*Dire Predictions: Understanding Climate Change*”, Chestnut Hill College, Philadelphia, PA, Oct 19, 2015.
- Guest lecture on “*The Hockey Stick and the Climate Wars*”, First year seminar class, Dickinson College, Carlisle, PA, Oct 14, 2015.

- Presenter and participant, “Climate Change and Coastal Impacts: Workshop for Media Professionals”, October 9-10, 2015, N.C. Center for the Advancement of Teaching, Ocracoke, NC, Oct 9-10, 2015.
- Round-table climate change discussion with honors students, Keystone College, La Plume, PA, Oct 2, 2015.
- Invited lecture, “*Dire Predictions: Understanding Climate Change*”, Energy and the Environment Skype Lecture Series, Youngstown State University, Youngstown PA, Sep 30, 2015.
- Keynote Presentation on *Climate Change and the Earth System Science Center*, GEMS Earth and Environmental Systems Institute Showcase Event, Obelisk Weekend, College of Earth and Mineral Sciences, Penn State University, University Park PA, Sep 25, 2015.
- Invited lecture, “*Dire Predictions: Understanding Climate Change*”, Nuclear Engineering Seminar Series, Penn State University, University Park, PA, Sep 24, 2015.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Solutions and You lecture series, Simon Fraser University, Vancouver BC, Canada, Sep 17, 2015.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Atmospheric and Oceanic Sciences, Simon Fraser University, Burnaby BC, Canada, Sep 16, 2015.
- Panel discussion following screening of *Merchants of Doubt*, State Theatre, State College, PA, Sep 9, 2015.
- Invited participant, *Workshop on Frontiers in Decadal Climate Variability*, National Academy of Sciences, Woods Hole, MA, Sep 3-4, 2015
- Invited presentation, *Climate Downscaling 201* (with applications to Florida precipitation), USGS-FAU Precipitation Downscaling Technical Meeting, Florida Atlantic University-Davie, Davie, FL, Jun 22, 2015.
- Introductory lecture, “*Dire Predictions: Understanding Climate Change*”, Penn State Research Experience for Undergraduates (REU) on Climate Science, Penn State University, University Park, PA, Jun 9, 2015.
- Invited lecture, “*Dire Predictions: Understanding Climate Change*”, Junior Academy Program (Vienna region High Schools), Vienna, Austria, May 28, 2015.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Suess Lecture, Austrian Academy of Sciences, Vienna, Austria, May 27, 2015.
- Guest video lecture, Journalism and Society (instructor Seth Borenstein), NYU Journalism School Washington DC, May 13, 2015.
- Keynote lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, American Association of University Professors (AAUP) Centennial Celebration, Johns Hopkins University, Baltimore, MD, Apr 25, 2015.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Virginia Tech, Blacksburg, VA, Mar 20, 2015.
- Invited lecture and book signing, “*Understanding Global Warming and Envisioning Local Impacts*”, Florida International University, Miami, FL, Mar 16, 2015.
- Panel discussion (w/ B. Inglis and K. Hayhoe) following premier of *Merchants of Doubt*, Landmark E Street Cinema, Washington DC, Mar 13, 2015.
- Invited lecture “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Bucknell University, Lewisburg, PA, Mar 4, 2015.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Florida Atlantic University, Boca Raton, FL, Feb 27, 2015.

- Invited lecture, “*Internal and Forced Low-Frequency Surface Temperature Variability at Global and Regional Scales*”, Department of Geosciences, Florida Atlantic University, Boca Raton, FL, Feb 27, 2015.
- Invited presentation, *AAAS Annual meeting: “The Hockey Stick & the Climate Wars: The Battle Continues”*, San Jose, CA, Feb 14, 2015.
- Panel discussion, “Severe Weather in a Changing Climate: Informing Risk”, AAAS Annual Meeting, San Jose, CA, Feb 13, 2015.
- Invited presentation, *AAAS Annual meeting: “On the Front Lines in the Legal Battles Over Climate Change”*, San Jose, CA, Feb 13, 2015.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Trinity College, Dublin, Ireland, Jan 19, 2015.
- Invited participant, European Observatory of the New Human Condition Workshop, Trinity College, Dublin, Ireland, Jan 18-19, 2015.
- Keynote Speaker, Climate Science Legal Defense Fund (CSLDF) Benefit Dinner, San Francisco, CA, Dec 18, 2014.
- Invited presentation (co-authors B.A. Steinman, S.K. Miller), *AGU Fall meeting: “Internal and Forced Low-Frequency Surface Temperature Variability at Global and Regional Scales”*, San Francisco, CA, Dec 17, 2014.
- Invited presentation, *AGU Fall meeting: “Fighting a Headwind: Communicating the Science of Climate Change in a Hostile Environment”*, San Francisco, CA, Dec 16, 2014.
- Invited presentation (K. Peacock & M.E. Mann), *AGU Fall meeting: “Professional Ethics for Climate Scientists”*, San Francisco, CA, Dec 15, 2014.
- Keynote lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Pennsylvania Environmental Research Consortium (PERC) Annual Conference, Penn State University, University Park PA, Nov 12, 2014.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, Climate Change and the Archaeological Record: Implications for the 21st Century, Society for Pennsylvania Archaeology, State Museum of Pennsylvania, Harrisburg PA, Nov 8, 2014.
- Invited lecture, panel discussion and book signing, *Tackling Climate Change Nationally and Globally* (Hammer Forum), Hammer Museum, University of California-Los Angeles, Los Angeles CA, Oct 23, 2014.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, CAPR Brown Bag seminar, Department of Political Science, Penn State University, University Park PA, Oct 13, 2014.
- Invited lecture and book signing, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Fifth Annual Robock Lecture, University of Minnesota, Duluth, MN, Oct 10, 2014.
- Invited lecture, “*The Past as Prologue: Learning from the Climate Changes in Past Centuries*”, Department of Atmospheric and Oceanic Sciences, University of Minnesota, Duluth MN, Oct 10, 2014.
- Invited participant, Penn State PSIEE/EESI Workshop on Science Communication, Penn State University, Bald Eagle State Park, Howard, PA, Oct 3 2014.
- Invited lecture and panel discussion, *Climate Wars: Propaganda, Debate, and the Propaganda of Debate*, Queens Museum, Queens NY, Sep 27, 2014.
- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Cabot Institute Lecture/Bristol Festival of Ideas, University of Bristol, Bristol UK, Sep 23, 2014.
- Invited participant, Workshop on Responding and adapting to climate change, University of Bristol, Bristol, UK, Sep 22-23, 2014.

- Invited lecture, “*The Hockey Stick and the Climate Wars: The Battle Continues*”, Cabot Institute Lecture/Bristol Festival of Ideas, University of Bristol, Bristol UK, Sep 23, 2014.
- Invited lecture, “*Dire Predictions: Understanding Global Warming*”, Bryn Mawr College & Philadelphia Geological Society, Bryn Mawr PA, Sep 18, 2014.
- Invited presentation, “*Dire Predictions: Understanding Global Warming*”, Green Corps classroom training program, Boston, MA (via remote link), Aug 7, 2014.
- 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 11th 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 panel discussion, *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.
- Panel discussion, “A Conversation on the Latest Climate Science Projections and Implications”, Climate Leadership Conference, San Diego, CA, Feb 26, 2014.
- Online Q&A, Reddit Science “Ask Me Anything” (AMA) Series, Feb 21, 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 5th 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, *11th 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* (17th 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.
- Panel Discussion, *Communicating Climate Change*, National Science Foundation, Arlington VA, Jan 8, 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 Millennium 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") 2nd 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") 2nd Open Science Meeting*, Panel Discussion on "Temperature history of the last 2000 years – what do we know?", Beijing China, Aug 10, 2005.
- Invited presentation, 9th 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, 9th 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

Other Talks and Abstracts

- Salinger, J.M., Fuentes, J.D., **Mann, M.E.**, Afforestation versus Reforestation in New Zealand: Effects on Regional Climate, Session 1B Land Use and Land Cover Change—Interactions with Weather and Climate, 33rd Conference on Climate Variability and Change, American Meteorological Society Annual Meeting, Jan 13, 2020.
- Restrepo, J.M., **Mann, M.E.**, Cheung, A., Mann, M., Frankcombe, L., England, M., Steinman, B., Miller, M., Internal Interdecadal Variability in CMIP5 Control Simulations, AGU Fall meeting, San Francisco, CA, December, 2015, AGU Fall meeting, San Francisco, CA, December, 2019.

- **Mann, M.E.**, Quantum Mechanics, Waveguides, Climate Change & Extreme Weather, Frank Talks Series, Department of Meteorology, Penn State University, Feb 14 2018
- Gaudet, B.J., **Mann, M.E.**, Wherley, M., Meteorology and Mitigation: Online Climate Change Courses at Penn State University, AGU Fall meeting, Washington DC, December 2018.
- Shaw, T., Horton, B.P., Kemp, A., Cahill, N., Engelhart, S.E., Brain, M., **Mann, M.E.**, Clear, J., Corbett, D.R., Nikitina, D., Walker J.S., Barbieri, G., Mechanisms of late Holocene relative sea-level variability in the Chesapeake Bay, AGU Fall meeting, Washington DC, December 2018.
- **Mann, M.E.**, *GSA Annual meeting: "Climate Change and Extreme Summer Weather Events"*, Indianapolis, IN, Nov 5 2018.
- **Mann, M.E.**, Climate Downscaling and Extreme Weather Events, Environmental Effects on Pollinators Workshop, Huck Institutes of the Life Sciences, Penn State University, Oct 1 2018.
- **Mann, M.E.**, Climate Change and Extreme Summer Weather Events, Earth System Science Center, Penn State University, Sep 5 2018.
- **Kornhuber, K.**, Petoukhov, V., Petri, S., **Mann, M.**, Rahmstorf, S., Coumou, D., The dynamics of synchronized weather extremes: Planetary wave-resonance and circumglobal teleconnections, EGU General Assembly, Vienna, Austria, Apr 9, 2018.
- **Mann, M.E.**, Projected Changes in Persistent Extreme Summer Weather Events: The Role of Quasi-Resonant Amplification, Climate Dynamics Seminar Series, Earth System Science Center, Penn State University, Jan 24, 2018.
- **Mann, M.E.**, Schurer, A., Hawkins, E., Tett, S., Hegerl, G., Importance of the pre-industrial baseline in determining the likelihood of exceeding the Paris limits, AGU Fall meeting, New Orleans, LA, December 2017.
- Shaw, T., Horton, B., Kemp, A., Cahill, N., **Mann, M.**, Engelhart, S., Kopp, R., Brain, M., Clear, J., Corbett, R., , R., Nikitina, , Garcia-Artola, A., Walker, J., Climate-related relative sea-level changes from Chesapeake Bay, U.S. Atlantic coast, EGU General Assembly, Vienna, Austria, April 2017.
- Garner, A., **Mann, M.**, Emanuel, K., Kopp, R., Lin, N., Alley, R., Horton, B., DeConto, R., Donnelly, J., Pollard, D., The Changing Risk of Coastal Flooding in New York City from 850 CE to 2300 CE, EGU General Assembly, Vienna, Austria, April 2017.
- Garner, A. J., **Mann, M.E.**, Emanuel, K.A., Kopp R., Lin, N., Alley, R.B., Horton, B.P., DeConto, R., Donnelly, J.P., Pollard, D., The Changing Threat of Coastal Flooding Associated with Tropical Cyclones in New York City, From the Past Millennium to 2300 C.E., AAG Annual Meeting, Boston, MA, April 2017.
- **Mann, M.E.**, Influence of Anthropogenic Climate Change on Planetary Wave Resonance and Extreme Weather Events, Climate Dynamics Seminar Series, Earth System Science Center, Penn State University, Mar 1, 2017.
- Kornhuber, K., Coumou, D., Petoukhov, V., Petri, S., Huntingford, C., Mitchell, D., **Mann, M.E.**, Karoly, D.J., Rahmstorf, S., Quasi-Resonant Amplification of Planetary Waves in Observations, Models and Projections, AGU Fall Meeting, San Francisco, CA, December 2016.
- Jacobs, P., Hausfather, A., Cowtan, K., Hawkins, E., **Mann, M.**, Miller, S., Steinman, B., Way, R., Stolpe, M., Robust Comparison of Climate Models with Observations Using Blended Land Air and Ocean Sea Surface Temperatures, AGU Fall meeting, San Francisco, CA, December, 2015.
- Cheung, A., **Mann, M.**, Frankcombe, L., England, M., Steinman, B., Miller, M., Internal Interdecadal Variability in CMIP5 Control Simulations, AGU Fall meeting, San Francisco, CA, December, 2015.
- Reed, A., **Mann, M.**, Emanuel, K., Lin, K., Horton, B., Kemp, A., Alley, R., Past, Present, and Future Threat of Tropical Cyclones and Coastal Flooding in New York City, AGU Fall meeting, San Francisco, CA, December 2015 (solicited).

- Rahmstorf, S., Box, J., Feulner, G., **Mann, M.**, Robinson, A., Rutherford, S., Schaffernicht, E., Exceptional 20th-Century slowdown in Atlantic Ocean overturning circulation, Our Common Future Under Climate Change International Scientific Conference, Paris, France, July 8, 2015.
- **Mann, M.E.**, A scientist's perspective on Capitol Hill, communicating with policy makers, and science policy, Center for Science Advocacy Club, Penn State University, May 18, 2015.
- Novak, A., Harris, K., Alley, R., **Mann, M.**, Titley, D., Climate Change: Ethics and Collective Responsibility, 15th National Conference And Global Forum on Science, Policy, and the Environment, National Council for Science and the Environment, Washington, DC, Jan 27, 2015.
- **Mann, M.E.**, The AMO, the PDO and Northern Hemisphere Temperatures, Climate Dynamics Seminar Series, Earth System Science Center, Penn State University, Sep 3, 2014.
- **Mann, M.E.**, How Likely WAS the 2014 Global Temperature Record?, Earth System Science Center, Penn State University, Feb 18, 2014.
- Reed, A., **Mann, M.E.**, Emanuel, K., An Analysis of North Atlantic Tropical Cyclones and Their Impacts on Coastal Inundation in New York and New Jersey during the Last Millennium, AGU Fall meeting, San Francisco, CA, Dec 19, 2014.
- Brown, M.B., **Mann, M.E.**, Peacock, K., Lewandowsky, S., Climate Change: Ethics and Collective Responsibility, AGU Fall meeting, San Francisco, CA, Dec 18, 2014.
- Schreiber, K.V., Paaijmans, K.P., Blanford, J.I., Crane, R.G., **Mann, M.E.**, Ning, L., Thomas, M.B., Improvements in Estimation of Malaria Transmission Potential Modeling with Anthropogenic Climate Warming, 20th International Congress of Biometeorology, International Society of Biometeorology, Cleveland, OH, Sep 29, 2014.
- **Mann, M.E.**, The AMO, the PDO and Northern Hemisphere Temperatures, Climate Dynamics Seminar Series, Earth System Science Center, Penn State University, Sep 3, 2014.
- **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 4th 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., Cresspin, 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., Cresspin, 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.
- Cresspin, E., Goosse, H., Fichefet, 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, 3rd 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, 3rd International Summit on Hurricanes and Climate Change, Rhodes, Greece, June 2011.
- Goosse, H., Cresspin, 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.
- Srivier, 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.
- Srivier, 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.
- Srivier, 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, 2nd 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., Fichefet, 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 21st 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, 38th 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 9th 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).
- Cane, M., 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, Hafslo, Norway, August 2003.
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