

COMMITTEE ON NATURAL RESOURCES
114th Congress Disclosure Form
As required by and provided for in House Rule XI, clause 2(g)(5)

“An Analysis of the Obama Administration’s Social Cost of Carbon”

July 22, 2015

For Individuals:

Name:
Address:
Email Address:
Phone Number:

* * * * *

For Witnesses Representing Organizations:

Name: Patrick J. Michaels, PhD
Name of Organization(s) You are Representing at the Hearing: Cato Institute
Business Address: 1000 Massachusetts Avenue, N.W., Washington DC 20001
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* * * * *

For Nongovernment Witnesses ONLY:

1. Please attach/include current curriculum vitae or resume. Attached.
2. Please list any federal grants or contracts (including subgrants or subcontracts) related to the subject matter of the hearing that were received in the current year and previous two calendar years by you or the organization(s) you represent at this hearing, including the source and amount of each grant or contract.

None.

3. Please list any contracts or payments originating with a foreign government related to the subject matter of the hearing that were received in the current year and previous two calendar years by you or the organization(s) you represent at this hearing, including the amount and country of origin of each contract or payment.

None.

C.V.



EDUCATION

A.B. Biological Sciences, 1971, University of Chicago
S.M. Biology, 1975, University of Chicago
Ph.D. Special Graduate Committee on Ecological Climatology, 1979
University of Wisconsin-Madison
Dissertation: Atmospheric Anomalies and Crop Yields in
North America

PROFESSIONAL EXPERIENCE (Abbreviated)

Center for Climatic Research, University of Wisconsin, 1976-1979.
Research and Project Assistant;
Department of Environmental Sciences
University of Virginia
Assistant Professor, 1980-1986
Associate Professor, 1986-1995
Professor, 1996-2009
Virginia State Climatologist 1980-2007
Senior Fellow in Environmental Studies, Cato Institute, 1992-2012
CEO, New Hope Environmental Services 1995-2012
Visiting Scientist, Marshall Institute, 1996-Present
Visiting Professor, Virginia Tech, 2007-08
Distinguished Senior Fellow, School of Public Policy, George Mason
University, 2009-present
Director, Center for the Study of Science, Cato Institute, 2012-Present

PROFESSIONAL SOCIETIES/AWARDS

Sigma Xi, The Scientific Honor Society (inactive)
American Meteorological Society (inactive)
(Program Chair, Committee on Applied Climatology, 1988-9)
(President, Central Virginia Chapter, 1986-87)
American Association for the Advancement of Science
American Association of State Climatologists (inactive)
(President, 1987-88; Executive Board, 1986-89)
Association of American Geographers (inactive)
Who's Who Worldwide/Platinum 1992-present
American Library Association: "Best Government Publications Worldwide"
award in 1994 for *Virginia Climate Advisory*
Association of American Geographers, 2003, co-author of climate science
"Paper of the Year".

COURSES OF INSTRUCTION

EVSC 100A/USEM 172: The Greenhouse Effect and Public Policy
EVSC 451: Undergraduate Synoptic Analysis
EVSC 447: Applied Climatology
EVAT 794: Climate-Ecosystem Dynamics
EVAT 796: Advanced Climatology

ACADEMIC COMMITTEE SERVICE (Completed or Current Major Professor Only)

Paul J. Knappenberger, MS 1990
David Stooksbury, PhD 1992
Harry Lins, PhD 1992
Peter Schwartzman, PhD 1997
Steven Gawtry, PhD Program

PUBLICATIONS

Senior Author unless otherwise noted

*Refereed Serial Publication, Book, or Book Chapter

**Conference Proceeding with Prescreened Review

***Technical Report

1977. A Predictive Model for Wheat Yield in Sonora, Mexico. University of Wisconsin, Institute for Environmental Studies, Report #73. University of Wisconsin--Madison, 53706. 17pp. ***

1977. An Aggregated National Model for Wheat Yield in India. University of Wisconsin, Institute for Environmental Studies, Report #74. University of Wisconsin--Madison, 53706. 17pp.***

1978. A Predictive Model for Winter Wheat Yield in the U.S. Great Plains. University of Wisconsin, Institute for Environmental Studies, Report #94. University of Wisconsin--Madison, 53706. 44pp.***

1979. A Simple Large Area Crop/Climate Model for United States Winter Wheat. American Meteorological Society, 14th Conf. on Agric. and For. Meteor., Amer. Met. Soc., Minneapolis MN, pp 64-67.**

1981. The Climatic Sensitivity of 'Green Revolution' Wheat Culture in Sonora, Mexico, Envi. Conserv. 8, 307-312.*

1981. Virginia's Climate. University of Virginia News Letter, Vol. 57, no.5, 17-20. (B.P. Hayden, Senior Author)***

1981. Comparison of the Climatic Sensitivity of "Green Revolution" Wheat Culture to that in the United States Great Plains. American Meteorological Society, 15th Conf. on Agric. and For. Meteor., Amer. Met. Soc., Anaheim CA, pp106-109.**

1982. The Response of the 'Green Revolution' to Climatic Variability. Cli. Change 4, 255-271.*

1982. Five Tropical Systems on Similar Tracks. Mon. Wea. Rev. 110, 883-885.*

1982. Atmospheric Pressure Patterns, Climatic Change, and Winter Wheat Yields in North America. Geoforum 13, 263-273.*

1982. Determination of the Climatic Component of Southern Pine Beetle Host Susceptibility with Multivariate Statistical Methods. Progress Report, USDA Cooperative Agreement 59/2513/1/3/006/0. 24pp.***
1982. Statistical-Dynamic Models for Virginia Corn Yields. Final Report, USDA Cooperative Agreement 58/319T/1/0308. 50pp., and addendum of 13pp.***
1983. Weather and the Southern Pine Beetle in Atlantic Coastal and Piedmont Regions. American Meteorological Society, 16th Conf. on Agric. and For. Meteor., Amer. Met. Soc., Fort Collins CO, pp 241-244.**
1983. Statistical-Dynamic Models for Virginia Corn Crops. American Meteorological Society, 16th Conf on Agric. and For. Meteor., Amer. Met. Soc., Fort Collins CO, pp 150-153. (T.J. Smith, Senior Author)**
1983. Improved Specification of the Climatic Component of Southern Pine Beetle Host Susceptibility with Multivariate Statistical Methods. Progress Report, USDA/UVa Cooperative Agreement 5-29309. 15pp.***
1983. Temporal and Spatial Changes in Mesoscale Climatic Patterns. American Meteorological Society, 2nd Conf. on Climatic Variations, Amer. Met. Soc., New Orleans LA, p20.**
1983. Price, Weather and "Acreage Abandonment" in Western Great Plains Wheat Culture. J. Clim. and Appl. Met.22, 1296-1303.*
1983. Climate and High Yielding Variety Wheat Yields. Geoforum 14, 441-446.*
1984. Modification of MOS-Derived Thunderstorm Probabilities over Complex Terrain with Continental Scale Upper Air Data. American Meteorological Society, 10th Conference on Weather Forecasting and Analysis. Amer. Met. Soc., Tampa FL, pp 160-164**.
1984. Estimating the Future Areal Coverage of Pine Beetle Infestations over large areas: An Integrated Approach. Progress Report, USDA IPM Program on Bark Beetles. 23pp.***
1984. Climate and the Southern Pine Beetle in Atlantic Coastal and Piedmont Regions. Forest Science 30, 143-156.*
1984. Statistical Relations between Summer Thunderstorm Patterns and Continental Mid-Tropospheric Heights. Mon. Wea. Rev. 112, 778-789.*
1985. Economic and Climatic Factors in "Acreage Abandonment" over Marginal Cropland. Climatic Change 6, 185-202.*
1985. An Automated Objective Prediction Package for the Spread of Southern Pine Beetle. 17th Conf. on Agric. and For. Meteor., American Meteorological Society, Scottsdale AZ, 70-73.**
1985. Sea-Breeze Induced Mesoscale Systems and Severe Severe Weather. Progress Report to National Aeronautics and Space Administration. 26pp.***
1985. Objective Prediction of Climate-Related Changes in the Distribution of Southern Pine Beetle. IN: Branham, S. J., and R. C. Thatcher, (eds.): Integrated Pest Management Research Symposium: The Proceedings. USDA

Southern Forest Experiment Station General Technical Report SO-56, pp 41-52.***

1985. SPBCMP: An Automated Prediction Package for Southern Pine Beetle. User's Guide. Southern Forest Experiment Station, Pineville, Louisiana. 34pp. (Philip J. Stenger, Senior Author)***

1985. Anomalous Mid-Atmospheric Heights and Persistent Thunderstorm Patterns over Florida. J. Climatol. 5, 529-542.*

1986. Timeliness and Accuracy of a Series of Empirical Crop/Climate Models under Extreme Conditions. Int. Jour. Ecol. and Environ. Stud. 12, 19-34. (T.J. Smith, Senior Author)*

1986. Commentary on "The Cumulative Impacts of Human Activities on the Atmosphere." In Cumulative Environmental Effects: A Binational Perspective, National Research Council, Washington DC, 127-129.***

1986. Climatological Considerations for Siting a Crystalline Repository for High-Level Nuclear Waste in the Commonwealth of Virginia. Report to the Governor's Task Force on the Crystalline Repository Project. 26pp.***

1986. SPBCMP--A Program to Assess the Likelihood of Major Changes in the Distribution of Southern Pine Beetle. S. Jour. App. For. 10, 158-161.*

1986. Southwide Modelling of Southern Pine Beetle Coverage Changes with Temperature and Objective Moisture Status Indicators. Theor. Appl Clim. 37, 39-50.*

1987. Climate and the Eastern Repository for High Level Nuclear Waste. Proceedings, 5th Conf. on Appl. Clim., American Meteorological Society, Baltimore MD, 35-39.**

1987. Surrogate 500mb heights: An Objective Determinant of Climatic Change? Proceedings, 5th Conf. on Appl. Clim., American Meteorological Society, Baltimore MD, 17-20.**

1987. The Predictability of Sea-Breeze Generated Thunderstorms. World Meteorological Society Int'l Workshop on Rain Producing Systems in the Tropics and Extra-Tropics. World Meteor. Org. symp, pp unknown. (R. A. Pielke, Senior Author)**

1987. Hurricanes, Droughts, and Southeastern Crop Yields. Proceedings, Southeastern Drought Symposium, Columbia SC. SC St. Climatology Pub G-30, 14-18 (Paul C. Knappenberger, Senior Author).***

1987. Modelling the Climate Dynamics of Tree Death. Bioscience 37, 603-610.*

1987. Climate and the Eastern Repository: A Comparative Study. Environ. Man. 15, 627-636.*

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1987. Nonthermometric Measurement of Secular Climatic Variability. CO2-Clim. Dial.2, (1). 7pp.*

1988. Nonthermometric Measurement of Recent Temperature Variability over the Coterminous United States, Southern Canada, and Alaska. CIRA Symposium on Climatic Change, Fort Collins, Colorado, 119-133.***

1988. Simulation Models of Forest Succession. In: Rosswall, T., Woodmansee, R.G., and P. G. Risser, Eds., Scales and Global Change, SCOPE #39, J. Wiley, New York, 125-151.(H. Shugart, Senior Author)*

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1988. Origin and Destination of Pollutant-Bearing Airstreams Impacting and Exiting the Commonwealth of Virginia. Final Report to Virginia Air Pollution Control Board. 131pp. Additional Technical Appendix, 1800pp.***

1989. Atmospheric Pollutant Transport: Take it or Leave it. Proceedings, 6th Conference on Applied Climatology, American Meteorological Society, Charleston SC, pp 80-83 (P.J. Stenger, Senior Author).**

1989 Regional 500mb Heights Prior to the Radiosonde Era. Proceedings, 6th Conference on Applied Climatology, American Meteorological Society, Charleston SC, pp 184-187**.

1989. Testimony to the U.S. House of Representatives, Subcommittee on Energy and Power. U. S. Government Printing Office, Serial No. 010-31, 78-86.

1989. Testimony to the Committee on Foreign Relations, United States Senate. U.S. Government Printing Office. S. Hrg 101-184, pp 254-262.

1989. The Greenhouse Effect: Chicken Little and our Response to "Global Warming". J. Forestry 87, 35-39.*

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1990. The Science and Politics of the Greenhouse Effect: Collision Course? In Environmental Consequences of Energy Production, University of Illinois, Chicago, IL, 115-138.***

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1993. Global Warming: Facts vs. the Popular Vision. In Boaz, D., and E. H. Crane, Eds: Market Liberalism: A Paradigm for the 21st Century. Cato, Washington DC, 341-362*
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1993. Enhancement of Large-Area Corn Yields by Anthropogenerated Climate Change. 8th Conf. on Applied Climatology, American Meteorological Society, Anaheim CA, 38-40 (D. E Stooksbury, Senior Author).**

1993. Regional and Seasonal Analyses of Ground-Based and Satellite Sensed Temperatures: Where's the Warming? 8th Conf. on Applied Climatology, American Meteorological Society, Anaheim CA, 147-152.**

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1993 (published in 1994) Predicted and Observed Long Night and Day Temperature Trends. In Kukla, G., et al., eds. Asymmetric Change of Daily Temperature Range. U.S. Dept. of Energy, College Park MD, 399-413. **

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1996. Observed Changes in the Diurnal Temperature and Dewpoint Cycles across the United States. Geophysical Research Letters 23, 2637-2640. (P.C. Knappenberger, Senior Author)*
1996. Human Influence on Global Climate? Nature 384, 522-523.
1996. A Closer Look at the Greenhouse "Fingerprint". American Geophys. Union. Fall 1996 meeting, paper U22C-02.**
1996. The United Nations Intergovernmental Panel on Climate Change and the Scientific "Consensus" on Global Warming. Energy & Environment 7, 333-348. Reprint of 1996 Book Chapter cited above.*
1997. Global Warming: Subtle or Sulfates? 8th Symposium on Global Change Studies, American Meteorological Society, Long Beach CA, 178-181.**
1997. Science under Siege. Environment 39, 3-4*
1997. Testimony to the Subcommittee on International Economic Policy, Export and Trade Promotion, of the Foreign Relations Committee, United States Senate, 6/97.
1997. The Search for an Explanation of the Apparent Lack of Dramatic and Damaging Global Warming. Countdown to Kyoto, Monash University, Canberra, Australia.**
- 1997.------(text changed from previous citation), 10th Conf. on Applied Climatology, American Meteorological Society, Reno NV, 244-247**.

1997. Testimony to the Subcommittee on Energy and Environment, Committee on Science, U.S. House of Representatives, 11/97.
1998. The Decline and Fall of Global Warming. Jobs and Capital 6, 6-13.*
1998. Analysis of Winter and Summer Warming Rates in Gridded Temperature Time Series. Climate Research, 9, 175-181. (R.C. Balling, Senior Author)*
1998. Teaching About Climate Change. Energy Exchange, Spring issue, 28--37.***
1998. Analysis of Trends in the Variability of Daily and Monthly Historical Temperatures. Climate Research, 10, 27-33.*
1998. Observed Changes in the Diurnal Dewpoint Cycles across North America. Geophys. Res. Lett. 25, 2265-2268 (P. D. Schwartzman, Senior Author].*
1998. Global Warming: The Political Science of Exaggeration. Prometheus 1, 63-70. Invited for premier issue of journal.*
1999. Greenhouse Warming in Cold Anticyclones. 15th Intl. Cong. on Biometeorology, Sydney, Australia. pp. Forthcoming.**
1999. Decadal Changes in Weather/Human Mortality Relationships in U.S. Cities. 15th. Intl. Cong. on Biometeorology, Sydney, Australia. pp. Forthcoming.**
2000. Overview of Extratropical Cyclones. In Pielke, R.A., Sr. and Jr., eds, Storms. Routledge, 401-426. (R.E. Davis, Senior Author)*
2000. Observed Warming in Cold Anticyclones. Climate Research 14, 1-6.*
2000. The Satanic Gases. Cato Books, Washington DC. 234pp.*
2000. Anticyclonic Warming. 12th Conf. On Applied Climatology, Amer. Met. Soc., Asheville NC, 119-122.**
2000. Decadal Changes in Summer Mortality in the United States. 12th Conf. On Applied Climatology, Amer. Met. Soc., Asheville, NC, 184-187.**
2000. The Way of Warming. Regulation 23 (3), 10-16.*
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2000. Climate Change and Atmospheric Circulation in the Pacific. 81st Ann. Mtg., AAAS Pacific Division, Ashland OR (R.E. Davis, Senior Author).**
2000. Natural Signals in the MSU Lower Tropospheric Temperature Record. Geophysical Research Letters 27, 2905-2908.*
2000. AARST Science Policy Forum, New York. Social Epistemology 14, 133-186. (J.E. Hansen, Senior Author).*
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2000. Decadal Shifts in Summer Weather/Mortality Relationships in the United States by Region, Demography, and Cause of Death. 14th Conf. On Biometeorology and Aerobiology, American Meteorological Society, Davis CA, 250-251.**
- 2001 Development of a Discriminant Analysis Mixed Precipitation (DAMP) Forecast Model for Mid-Atlantic Winter Storms. Weather and Forecasting 16, 248-259. (J. D. Hux, Senior Author)*
- 2001 A Spatial Comparison of Decadal Trends in Weather-Human Mortality Relationships across the Continental United States. Invited Paper, 97th Annual Meeting of the Association of American Geographers, New York. **
- 2001 The Nature of Observed Climate Changes across the United States during The 20th Century. Climate Research 17, 45-53.*
- 2001 Integrated Projections of Future Warming based upon Observed Climate During the Greenhouse Enhancement. 1st Intl. Conf on Global Warming and The Next Ice Age, American Meteorological Society, Halifax NS, 162-167**
- 2001 Global Warming Convergence Melts Down. World and I 16, 68-73.***
- 2001 Global Warming: An Objective Overview. In Eaton, D.J., Ed., Global Warming and the Kyoto Accord. Lyndon Johnson School of Public Affairs, University of Texas-Austin, 17-26.*
- 2002 On Seasonal Differences in weather-related mortality trends in the United States. 13th Conf. On Applied Climatology, American Meteorological Society, Portland OR, 326-330.** (R.E. Davis, Senior Author)
- 2002 Rational Analysis of Trends in Extreme Temperature and Precipitation. 13th Conf. On Applied Climatology, American Meteorological Society, Portland OR, 153-158**
- 2002 Changes in Heat-related Human Mortality in the Eastern United States. Climate Research 22, 175-184.* (R.E. Davis, Senior Author)
- 2002 Revised 21st Century Temperature Predictions. Climate Research 23, 1-9*.
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- 2002 Development of a Discriminant Analysis Mixed Precipitation (DAMP) Forecast Model for mid-Atlantic Winter Storms. 13th Conf. On Applied Climatology, American Meteorological Society, Portland OR, 106-111** (J.D. Hux, Senior Author)
- 2002 Climate Change Adaptations: Trends in Human Mortality Responses to Summer Heat in the United States. 15th conf on Biometeorology, Aerobiology, Kansas City, Paper 9B1.** (R.E. Davis, Senior Author).
- 2002 Spatial Pattern of Human Mortality Seasonality in U.S. Cities since 1964. 15th Conf. Of Biometeorology, Aerobiology, Kansas City, Paper 2B2** (R.E. Davis, Senior Author).

- 2003 Do Facts Matter Anymore? Energy and Environment 14, 323-326.*
- 2003 Science or Political Science? An Assessment of the U.S. National Assessment of the Potential Consequences of Climate Variability and Change. In Gough, M., Ed., *Politicizing Science: The Alchemy of Policymaking*. Hoover, Palo Alto. 313pp.*
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- 2003 Decadal changes in summer mortality in U.S. cities. Inter. Jour Biomet. 47, 166-175* (R. E. Davis, Senior Author).
- 2003 Changing heat-related mortality in the United States. Envir. Health Perspectives 111, 1712-1718.* (R.E. Davis, Senior Author) **Climate Science "Paper of the Year", Association of American Geographers.**
- 2003 Winter mortality, climate, and climate change in U.S. Cities. 37th Canadian Met. And Ocean. Soc. Cong., Ottawa, Ontario, Canada.*** (R.E. Davis, senior author)
- 2004 Trends in Precipitation on the Wettest Days of the Year across the Contiguous United States. Int. J. Climatology 24, 1873-1882.*
- 2004 Meltdown: The Predictable Distortion of Global Warming by Scientists, Politicians and the Media. Cato Books, Washington DC.* 272pp + illustrations.
- 2004 Economic Signals in Global Temperature Histories. 14th Conf. on Applied Climatology, American Meteorological Society, Seattle WA. Paper no. J1.1.
- 2004 A Test for Corrections for Extraneous Signals in Gridded Surface Temperature Data.* (R. McKittrick, Senior Author) Climate Research 26, 159-174.
- 2004 Changing Heatwave Mortality in U.S. Cities.** (R.E. Davis, Senior Author) 14th Conf. on Applied Climatology, American Meteorological Society, Seattle WA. Paper no J8.4.
- 2004 Seasonality of Climate-human Mortality Relationships in U.S. Cities and Impacts of Climate Change.* (R.E. Davis, Senior Author) Climate Research 26, 61-76.
- 2004 Heat Wave Mortality in Large U.S. Cities.** (R.E. Davis, Senior Author) 16th Conf. on Biometeorology and Aerobiology, American Meteorological Society, Vancouver BC. Paper no A6.3.
- 2004 Disparity of Tropospheric and Surface Temperature Trends: New Evidence. (D.H. Douglass, Senior Author) Geophysical Res. Lett. 31 doi: 10.1029/2004GL0212*
- 2005 Extended Comment On: "Impacts of CO2-Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Model and Convective Scheme". *Journal of Climate*, 18, 5179-5182.*

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2006 Global Warming and Atlantic Hurricanes (R.E. Davis, Senior Author). 2006 Annual Meeting, Association of American Geographers, Chicago IL, March 7-11 (conference presentation).

2006 Sea-surface Temperatures and Tropical Cyclones in the Atlantic Basin. *Geophysical Research Letters* 33, L09708, doi: 10.1029/2006GL025757.*

2006 Observed Changes in North Atlantic Hurricane Frequency and Intensity using a Multivariate Model (R.E. Davis, Senior Author). Annual Meeting, Association of American Geographers, San Francisco (conference presentation).

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2007 A Mortality-Based Heat Wave Climatology for U.S. Cities (R.E. Davis, Senior Author). 16th Conference on Applied Climatology, American Meteorological Society, San Antonio TX (conference presentation).

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2008 Evidence for "Publication Bias" Concerning Global Warming in *Science and Nature*. *Energy & Environment* 19, 287-301.

2008 Confronting the Political and Scientific Realities of Global Warming. G-8 Summit Official Venue Publication, Prestige Media, 31-51.

2008 Global Warming: Correcting the Data. *Regulation*, 31 (3), 46-52.

2008 A Reconstructed 1784-2007 Time Series of Greenland Melt Extent. Fall Meeting, *American Geophysical Union*, San Francisco CA (conference presentation).

2008 Inclusive Science. *Harvard International Review*, 30 (3).

2008 Shaky Science: Inconvenient Truths Ignored by EPA in its Proposal to Regulate Carbon Dioxide Emissions.

[http://www.cato.org/pubs/articles/michaels ANPR EPA.pdf](http://www.cato.org/pubs/articles/michaels_ANPR_EPA.pdf) (185pp).

2009 Global Warming and Climate Change. *Cato Handbook for Policymakers*, Cato Institute, Washington DC, 475-485.

2009 Climate of Extremes: Global Warming Science They Don't Want You to Know. Cato Books, Washington. 267pp.

2009 Scientific Shortcomings in the EPA's Endangerment Finding from Greenhouse Gases. *Cato Journal* 29, 497-521.

2009 Inclusive Science. *Harvard International Review* 30.

2010 Reconstructed Greenland Melt Extent for the Past Two and a Quarter Centuries", Association of American Geographers, Washington DC (Oliver Frauenfeld, Senior Author).

2010 Global Warming Science Now Compels EPA to Reopen its Finding of Endangerment. 4th International Conf. on Climate Change, Chicago IL.

2010 Assessing the Consistency between Short-term Temperature Trends in Observations and Climate Model Projections. 4th International Conf. on Climate Change, Chicago IL (Paul Knappenberger, Senior Author).

2011 *Amicus Curiae* brief, *AEP Inc et al. v. State of Connecticut et al.* U.S Supreme Court, 36pp.

2011 A Reconstruction of Annual Greenland Ice Melt Extent, 1784-2009. *J. Geophys.Res.* 16, D08104. 7 pp. (O.W. Frauenfeld, senior author)

2011 Climate Coup: Global Warming's Invasion of our Government and our Lives. Cato Books, Washington. 270pp.

2011. Assessing the Consistency Between short-term Global Temperature Trends in Observations and Climate Model Projections. Center for Nonlinear Studies, Los Alamos National Laboratory. P.C. Knappenberger, Senior Author.

2013. Policy Implications of Climate Models on the Verge of Failure. *American Geophysical Union Science Policy Conference*, Washington DC. Paper CC-15 (P.C Knappenberger, Senior Author)

2014. Review of, *The Bet: Paul Ehrlich, Julian Simon and Our Gamble over Earth's Future*. *Cato Journal* 34, 193-196.

2014. Adaptation to extreme heat in Stockholm County, Sweden. *Nature Climate Change*, 4, 302-303. (P.C. Knappenberger, Senior Author)

2014. Misleading Geophysical Arguments from Uranium Mining in Virginia. *Journal of Research in Environmental and Earth Sciences*, 1, 12-24.

2014. Climate Change, Heat Waves, and Adaptation. *American Geophysical Union Science Policy Conference*, Washington DC, June 17-18, 2014, Paper NH-12. (P.C. Knappenberger, senior author)

2014. Quantifying the Lack of Consistency between Climate Model Projections and Observations of the Evolution of the Earth's Average Surface Temperature since the mid-20th Century. *American Geophysical Union Fall Meeting*, San Francisco CA, Dec 15-19, 2014, Paper A41A-3008.

INVITED LECTURES AND TESTIMONY

Environmental Sciences Department Seminar, 1980, 1986 (Univ. of Virginia)
New Mexico State University, 1981 (Las Cruces NM)
Virginia Farm Bureau, 1981, 1982, 1983
Virginia Small Grains Conference, 1981, 1988 (Fredericksburg, Williamsburg)
Environmental Sciences Undergraduate Seminar, 1982, 1983, 1985, 1987, 1990, 1992 (Univ. of Virginia)
Sigma Xi, University of Virginia, 1982
Economics Honor Society, J. Madison University, 1983 (Harrisonburg)
Colorado State University, Atm. Sci. Dept. Seminar 1983 (Fort Collins CO)
Virginia Tech Short Course on Viticulture, 1984 (Charlottesville)
American Meteorological Society, Central Virginia Chapter, 1984 (Charlottesville)
National Academy of Sciences, Commission on Life Life Sciences, 1985 (Toronto)
University of Virginia Institute of Government, 1985
University of Virginia Blandy Experimental Farm, 1986 (Boyce)
Virginia Mosquito Control Commission, 1986 (Williamsburg)
Virginia Water Resources Research Center, 1986 (2), 1988 (Blacksburg)
Virginia Air Pollution Control Board, 1986 (Virginia Beach)
Virginia Tech Extension Service, 1987, 1988 (Williamsburg)
Cooperative Institute for Research in the Atmosphere, Colorado State University, 1987 (Fort Collins)
Virginia Agricultural Chemical and Soil Fert. Assn. 1988 (Norfolk)
U.S. Geological Survey, Advisory Committee on Water Data, 1988 (New Orleans)
University of Delaware, Geography Dept. Seminar 1988 (Newark DE)
Moderator, U.S. Drought Symposium, The Weather Channel, 1988 (Atlanta)
U.S. National Climate Program, Panel on Climate Trends, 1988 (Washington)
Lynchburg College Special Lecture, 1988 (Lynchburg)

Sigma Xi, U.S. Department of Energy, 1988 (Germantown MD)
American Society of Chemical Engineers, 1988 (Charlottesville)
South Carolina Water Resources Commission, 1988 (Columbia SC)
Virginia Mathematics and Science Center, 1988 (Richmond)
Scripps Institute of Oceanography, 1988 (Lake Arrowhead CA)
Virginia State Air Pollution Control Board, 1989 (Virginia Beach)
Virginia State Feed Association, 1989 (Williamsburg)
U.S. House of Representatives, Subcommittee on Energy and Power, 1989
Brookings Institution, 1989 (Williamsburg)
American Society of Civil Engineers, 1989 (Richmond)
Federal Executive Institute Alumni Association, 1989 (Rosslyn VA)
Executive Board, National Coal Association, 1989 (Phoenix AZ)
U.S. Senate, Committee on Foreign Relations, 1989
U.S. Department of State, Foreign Service Institute, 1989 (Rosslyn VA)
Virginia Department of Agriculture and Consumer Services, 1989
(Richmond)
National Association of Home Builders, 1989 (Washington)
American Meteorological Society, Committee on Broadcast
Meteorology, 1989 (Ft. Lauderdale FL)
Georgia and North Carolina Textile Manufacturing Association, 1989
(Naples FL)
The Eris Society, 1989 (Aspen CO)
University of Texas, Conference on Energy Futures, 1989 (Arlington TX)
Western Fuels Association Annual Meeting, 1989 (Denver)
7th International Pittsburgh Coal Conference, 1989
U. S. Department of State, Seminar on Current Affairs, 1989
(Rosslyn VA)
Edison Electric Institute, 1989. (Washington)
Virginia Soil and Water Conservation Association, 1989
(Charlottesville)
University of Illinois, Annual Energy Conference, 1989 (Chicago)
The Keystone Center, 1989 (Washington)
National Governor's Conference, 1989 (United Nations NY)
Basin Electric Power Cooperative, 1989 (Bismarck ND)
Bennington College, Bennington in New York Seminar, 1989 (New York NY)
Virginia Tech Turkey Days, 1989 (Harrisonburg)
North Carolina State University MEAS Seminar, 1990 (Raleigh NC)
Illinois Power Corporation, 1990 (Decatur IL)
Georgia Southern University, Conference on Global Issues, 1990
(Statesboro GA)
Virginia Division of Forestry, 1990 (Wakefield)
West Richmond's Businessmen's Association, 1990
Southeastern Climate Symposium, 1990 (Charleston SC)
American Meteorological Society, 1990 (Washington)
Virginia Council on the Environment/Virginia Education Association,
1990 (Wakefield)
American Meteorological Society, 1990 (Richmond)
Virginia Mathematics and Science Center, 1990 (Richmond)
Missouri Governor's Conference on Natural Resources, 1990 (Columbia MO)
Consumer Alert, National Press Club, 1990 (Washington)*
Virginia Emergency Services Conference on Severe Weather, 1990
(Roanoke)
North Carolina Coal Institute, 1990 (Southern Pines NC)
The Brookings Institution, 1990 (Williamsburg)
Pacific Research Institute, 1990 (San Francisco CA)
Virginia Soil and Water Conservation Association, 1990 (Winchester)
American Association of State Climatologists, 1990 (Atlantic City NJ)

Grand Rounds, Western State Hospital, 1990 (Staunton)
Penn Ag Industries Annual Meeting, 1990 (State College PA)
Kentucky Coal Operators Association, 1990 (Pikeville KY)
Council of Industrial Boilermakers, 1990 (Orlando FL)
Chemical Manufacturers Association, 1990 (Washington)
Maryland Chemical Industry Council, 1990 (Baltimore)
American Water Resources Association, 1990 (Denver)
Hillsdale College, 1990 (Hillsdale MI)
National Coal Association, 1990 (Washington)
Virginia Division of Forestry, 1991 (Luray)
American Meteorological Society, 1991 (Richmond)
Virginia Coal Council, 1991 (Richmond)
Virginia Tech, Corn and Soybean Conference, 1991 (Williamsburg)
Virginia Mosquito Control Association, 1991 (Williamsburg)
National Press Club, 1991 (Washington)*
American Association for the Advancement of Science, 1991 (Washington)
U.S. House of Representatives, Subcommittee on Health and the
Environment, 1991
Brookings Institution, 1991 (Williamsburg)
Strategy Europe, 1991 (London, England)
U.S. Senate, Committee on the Environment and Public Works, 1991
U.S. Geological Survey, Annual Global Change Meeting, 1991 (Reston)
Virginia Tech, Horticulture Department Seminar, 1991 (Blacksburg)
Lynchburg College, 1991 (Lynchburg)
U. Of Nevada, Distinguished Civil Engineering Lecture, 1991 (Reno)
Resource Data International, 1991 (Myrtle Beach SC)
Smithsonian Institution, 1991 (Edgewater MD)
Chesapeake Bay Environmental Association, 1991 (Annapolis MD)
U.S. Environmental Protection Agency, 1991 (Washington)
Cato Institute, 1991 (Washington)
Nova Scotia Minister's Task force on Clean Air, 1991 (Halifax, NS)
North Carolina Coal Institute, 1991 (Myrtle Beach SC)
National Rural Electric Cooperative Association, 1991 (Washington DC)
AMAX Energy Corporation, 1991 (French Lick IN)
Virginia, Maryland, Delaware Assn. of Electric Cooperatives, 1991
(Hot Springs VA)
Consolidation Coal Corporation, 1991 (Hidden Valley PA)
United Nations Intergovernmental Panel on Climate Change, 1991
(Asheville NC)
American Meteorological Society, Comm. on Applied Climatology, 1991
(Salt Lake City UT)
Brookings Institution, 1991 (Williamsburg)
Cincinnati Gas and Electric, 1991 (Lexington KY)
Doctors for Disaster Preparedness, 1991 (Las Vegas NV)
Virginia Mining and Reclamation Association, 1991 (Powell Valley)
Chief Executive Conference on Global Warming, 1991 (Minneapolis)
Southern Minnesota Municipal Power, Annual Meeting, 1991 (Minneapolis)
AMAX Energy Corporation Executive Conference, 1991 (Sheridan WY)
West Virginia Coal Conference, 1991 (Charleston WV)
Virginia State Corporation Commission, 1991 (Williamsburg)
American Meteorological Society, Raleigh, 1991
North Carolina Science Teachers Association, 1991 (Raleigh NC)
Norfolk International Coal Conference, 1991
AMAX Energy Corporation Executive Conference (Indianapolis IN)
National Association of Manufacturers, 1991 (New Orleans)*
Science Museum of Western Virginia, 1991 (Roanoke)
Norfolk Southern Corporation Executive Conference, 1992 (Charleston SC)

University of Arizona, College of Law, 1992 (Tucson)
Chief Operating Executive Conference on Global Warming, 1992
(Phoenix AZ)
National Aerosol Association, 1992 (Naples FL)
United Ski Industries Association, 1992 (1) Mt. Snow VT, 2) Squaw
Creek CA)
National Association of Manufacturers, 1992 (Naples FL)*
Dartmouth College, Seminar on Environmental Issues, 1992
North Dakota State University, National Agromarketing Association,
1992 (Fargo)
Massie Coal Corporation, Executive Conference, 1992 (Charleston WV)
American Feed Grain Association Annual Meeting, 1992 (Palm Springs CA)
Blue Ridge Community College Horticulture Seminar, 1992
National Rural Electric Cooperative Association, 1992 (Hilton Head SC)
Indiana Coal Mining Institute, 1992 (Owensboro KY)
Arizona Electric Power Cooperative, 1992 (Tucson AZ)
U.S. Chamber of Commerce, 1992 (Washington DC)*
Virginia Petroleum Council, 1992 (Richmond)
Society of American Foresters, 1992 (Waynesboro VA)
Eastern Fuel Buyers Association, 1992 (Williamsburg)
U.S. House of Representatives, Subcommittee on the Environment, 1992
American Farm Bureau Annual Meeting, 1992 (Washington)
Economic Club of Detroit 1992*
Illinois Chamber of Commerce, 1992 (Chicago)
Experimental Aircraft Association, 1992 (Staunton VA)
U.S. House of Representatives, Republican Study Group, 1992
Heritage Foundation, 1992 (Washington DC)
American Legislative Exchange Council, 1992 (Harrisburg PA)
Pacific Northwest Grain and Feed Association, 1992 (Spokane WA)
Wyoming Mining Association, 1992 (Jackson WY)
Teachers on the Bay Program, 1992 (Tappahannock VA)
IEEE Nuclear Effects Conference, 1992 (New Orleans)
West Virginia University/Dept. of Energy, 1992 (Morgantown WV)
Norfolk Southern Corporation, 1992 (Norfolk VA)
National Park Service, Seminar on Global Change Research
Strategies, 1992, UVa
Virginia Power, 1992 (Richmond)
University of North Dakota, Energy and Environment Research Center,
1992 (Bismarck ND)
Amax Energy Corporation, 1992 (Evansville IN)
Pennsylvania Highway User's Council, 1992 (Harrisburg)
American Electric Power, 1992 (Columbus OH)
Indiana Energy Forum, 1992 (Indianapolis)
Burlington Northern Industries Executive Conference, 1992 (Fort
Worth TX)
Association of American Railroads, Legislative Conference, 1992
(Palm Beach FL)
Sand County Foundation, 1992 (Baraboo WI)
Society of Professional Journalists, Section on Environmental
Journalism, 1992 (Baltimore)
Edison Electric Institute, 1992 (Washington)
Cato Institute, 1992 (Washington)
Alabama Electric Power Cooperative, 1/93 (Orange Beach AL)
American Policy Center, 2/93 (Washington)
Cato Institute, Annual Benefactors Meeting, 2/93 (Palm Springs CA)
World Coal Conference, 2/93 (New Orleans)
American Public Power Association, 2/93 (Washington DC)

Virginia Tech Bordeaux Seminar 3/93 (Charlottesville)
Washington University 4/93 (St. Louis)
American Mining Congress 4/93 (Pittsburgh)
Maine Conservation Rights Institute 4/93 (Bangor)
American Legislative Exchange Council 4/93 (Orange Beach AL)
Millers National Federation 5/93 (Williamsburg)
James Madison University 5/93
University of North Dakota 5/93 (St. Louis MO)
Cato Institute 5/93 (Washington)
Mid-America Regulatory Conference 6/93 (Austin TX)
European Academy of Ecology 6/93 (Mannheim, Germany)
Summit University, 7/93 (Corwin Springs, MT)
Virginia Forage and Grassland Council, 7/93 (Blacksburg)
American Legislative Exchange Council, 8/93 (Traverse City MI)
Virginia Tech, Department of Geology and Geophysics, 9/93
The Federalist Society, 9/93 (Washington DC)
Undergraduate Seminar, University of Virginia, 9/93
5th Natural Gas Industry Forum, 9/93 (Quebec City)
Minimax Conference, U.S. Dept of Commerce, 9/93 (College Park MD)
University of Delaware, Geography Department, 9/93
National Order of Women Legislators, 10/93 (New York)
Commonwealth of Virginia, Department of Environmental Quality,
10/93 (Richmond)
Virginia Division of Forestry, 10/93 (Charlottesville)
Annual Meeting, Amvest Corporation, 10/93 (Charlottesville)
Virginia Association of Science Teachers, 11/93 (Williamsburg)
Kentucky Mining Institute, 11/93 (Lexington)
Denver Coal Club, 11/93
Annual Meeting, Ashland Oil Corporation, 11/93 (Cincinnati)
American Legislative Exchange Council, National Orientation
Seminar, 12/93 (Washington)
Virginia Tech, Department of Crop and Soil Environmental Sciences,
12/93
Virginia Tech, Science and Technology Studies, 12/93
Committee on the Environment, Missouri General Assembly, 1/94
(Jefferson City)
Virginia Feed Association, 1/94 (Williamsburg)
Global Climate Coalition, 1/94 (Washington)
Kansas State Corporation Commission, 2/94 (Topeka)
Indiana Mineral Aggregates Association, 2/94 (Indianapolis)
Virginia Corn and Soybean Association, 2/94 (Williamsburg)
Richmond Astronomical Society, 3/94
Illinois Commerce Commission, 3/94 (Springfield)
Air and Waste Management Association, 4/94 (Phoenix)
Reinhardt College, 4/94 (San Antonio)
American Legislative Exchange Council, 4/94 (San Antonio)
New College, University of Virginia, 4/94
American Feed Industries Association, 5/94 (San Antonio)
National Association of Regulatory Utility Commissioners, 5/94
(Kalispell MT)
Virginia Legislative Tour, 6/94
Virginia Governor's School, 7/94 (Richlands)
Purdue University, Air Conditioning and Refrigeration Institute, 7/94
American Legislative Exchange Council, 8/94 (Tampa)
Eris Society, 8/94 (Aspen)
National Generation and Transmission Managers Association, 8/94
(Kansas City)

Dixy Lee Ray Memorial Symposium, 8/94 (Seattle)
Accuracy in Media, 9/94 (Tyson's Corner)
Southern Minnesota Municipal Power, Annual Meeting, 10/94 (Rochester)
Ciba Foundation, 10/94 (London)
Virginia Soil and Water Conservation Society, 10/94 (Edinburg)
American Water Works Association, Virginia Section, 10/94
(Charlottesville)
U.S. Department of Commerce Interactive Conf. on Global Change,
11/94 (Williamsburg)
Ethics and Public Policy Center, 11/94 (Washington)
American Legislative Exchange Council Task Force on Environment,
12/94 (Washington)
American Legislative Exchange Council Annual Orientation Meeting,
12/94 (Washington)
George Mason University, Center for Market Processes, 12/94
(Alexandria)
Electric Power Research Institute, 12/94 (Menlo Park CA)
American Legislative Exchange Council Task Force on Environment
2/95 (Washington)
Minnesota Legislature, ALEC (2/95)
Jefferson Regional Council on Sustainable Development (2/95)
Virginia Military Institute (2/95)
United States Navy Environmental Health Center 3/95 (Hampton VA)
Campbell University Assembly Seminar (3/95)
American Policy Foundation, 3/95 (Washington DC)
Virginia Mining Association, 4/95 (Norton)
Minnesota Citizens League, 5/95 (Minneapolis)
Woodbury Forest Student Assembly, 5/95 (Orange VA)
Koch Industries, 5/95 (Minneapolis)
American Nuclear Society, 6/95 (Philadelphia)
University of Sydney, Global Change Seminar 7/95 (Sydney, Australia)
The Independent Institute 7/95 (Sydney)
CSIRO General Seminar 7/95 (Melbourne)
Tasman Institute 7/95 (Melbourne)
Western Fuels Association Annual Meeting 7/95 (Baton Rouge)
American Legislative Exchange Council, Annual Meeting 8/95 (San Diego)
National Forum on Global Warming 9/95 (Columbus OH)
Tennessee Association of Manufacturers 10/95, [Nashville]
Institute of Economic Affairs 10/95 [London]
Texas Coal Conference 11/95 [Austin]
Averett College 11/95 [Danville VA]
Colorado School of Mines 11/95 [Golden CO]
Denver Businessmen's Association 11/95
U.S. House of Representatives, Subcommittee on the Environment 11/95
University of Virginia Environmental Sciences Seminar 11/95
University of Virginia Engineering Honor Society 11/95
Virginia Soil and Water Conservation Association 12/95 [Roanoke]
World Bank 12/95 [Airlie VA]
Dark Ages Weekend 12/95 [Miami FL]
Marshall Institute Science Roundtable 1/96 [Washington]
Western Mining Association 2/96 [Denver]
Wyoming Legislators, ALEC 2/96 [Cheyenne]
U.S. House of Representatives, Committee on Science 3/96
Virginia Institute of Marine Sciences, Institute Seminar 3/96
Environmental Conservation Organization Annual Meeting 3/96 [Kansas
City]
North Carolina Coal Institute 3/96 (Lake Lanier GA)

U.S. Naval Academy 4/96
Association of American Geographers, Plenary Address 4/96 [Charlotte]
Edmund Burke Society, U .S. Environmental Protection Agency 4/96
[Washington]
Lynchburg College, Senior Seminar 4/96
Eastern Snow Conference, Keynote Address 5/96
New Zealand Business Roundtable 5/96 [Wellington]
New Zealand Academy of Sciences 5/96 [Wellington]
New Zealand General Ministerial Seminar 5/96 [Wellington]
New Zealand National Institute of Water and Atmospheric Research 5/96
[Auckland]
Auckland University, Department of Geography Seminar [Auckland]
Australian Coal Conference 5/96 (Gold Coast, Queensland)
Australian Department of Foreign Affairs 5/96 (Canberra)
Australian Department of Industry and Primary Energy 5/96 [Canberra]
Public Lecture, Australian Museum of Science 5/96 [Canberra]
Australian Environment Ministry 5/96 [Canberra]
Commonwealth Industrial and Scientific Organization 5/96 [Aspendale,
Victoria, Australia]
The Tasman Institute 5/96 [Melbourne]
Institute of Economic Affairs, 6/96 [London]
Cato Institute Policy Forum 6/96 (Washington)
Governor's School for Science and Mathematics 8/96 [Lynchburg]
Minnesota Environment and Labor Coalition 8/96 [Mille Lacs, MN]
Keynote Speaker, Virginia Air Board Annual Meeting 10/96 [Virginia Beach]
Society of Environmental Journalists Annual Meeting 10/96 [St. Louis]
Southern Legislative Conference 11/96 [Lewisburg WV]
Danville Tuesday Club 11/96
U.S. Naval Academy 11/96 [Annapolis]
University of Virginia Retired Faculty Association (1/97)
Department of Environmental Sciences Undergraduate Seminar (1/97)
Tuckahoe Women's Club 1/97 (Richmond)
American Meteorological Society 2/97 (Long Beach)
Virginia Gypsy Moth Association 2/97 (Luray)
U.S. Naval Academy 3/97 (Annapolis)
Colgate Darden School, University of Virginia, Ruffin Lectures 4/97
Employers Reinsurance Conference on Extreme Events, 4/97 (Miami)
Eastern Fuel Buyers Association, 5/97 (Williamsburg)
phex Society, Lynchburg, 5/97
Extreme Events Workshop, National Climatic Data Center, 6/97 (Asheville)
Foreign Relations Committee, U .S. Senate, 6/97
People for the West, 6/97 (Spokane)
Energy Daily Environment Conference, 6/97 (Washington DC)
Competitive Enterprise Institute Kyoto Conference, 6/97 (Washington DC)
Cato Institute, Benefactors Summit, 7/97 (Fort Garland CO)
overnor's Science School, Lynchburg College, 7/97
Monash University, 8/97 (Canberra)
Western Australia Chamber of Commerce and Industry, 8/97 (Perth)
Cato Institute, 9/97 (Dallas)
Washington Explorer's Club, 9/97
Virginia Division of Forestry, 9/97 (Douthat)
Burlington Northern Santa Fe Headquarters, 10/97 (Fort Worth TX)
Koch Industries Headquarters, 10/97 (Wichita KS)
Koch Industries, 10/97 (Houston TX)
U.S. Naval Academy, 11/97
Basin Electric, Annual Meeting, 11/97
Virginia Coal Council, 11/97

Virginia Senate Committee on Energy, 11/97
Duke University School of the Environment School Seminar, 11/97
National Energy Education Program, 1/98 [Washington DC]
George Mason University, Seniors Program, 2/98
Virginia Tech, Annual Corn and Soybean Conference, 2/98 (Williamsburg)
International Insect Disease Vector Conference, 2/98 [Williamsburg]
Corning Corporation, 3/98 [Corning, NY]
American Feed Industry Association, 3/98 [Las Vegas]
North Carolina Hurricane Conference, 3/98 [Morehead City]
University of Delaware, Geography Department Seminar, 3/98
North Carolina Coal Institute, 4/98 [Greenville SC]
Charlottesville Woman's Club, 4/98
The Philadelphia Society, 4/98 (Chicago)
Lynchburg College Senior Seminar, 4/98
National Regulatory Conference, 5/98 [Williamsburg]
Charlottesville Rotary, 5/98
Amherst Rotary, 5/98
Applied Insurance Research, Inc, 5/98 [Colorado Springs]
Annual Meeting, Society for Scientific Exploration, 5/98 [Charlottesville]
Committee on Small Business, U.S. House of Representatives, 7/98
Governor's School for Mathematics and Science, Lynchburg College, 7/98
American Association of State Climatologists, 8/98 [Duluth MN]
Committee on Economic and Environmental Development, 9/98 [Abingdon VA]
Energy Daily Annual Conference, 9/98 [Washington DC]
Association of Urban Foresters, 9/98 [Charlottesville]
Bucknell University, Department of Geology, 10/98
Fundacion Republica, 10/98 [Buenos Aires]
Universidad de Della, 10/98 [Buenos Aires]
Air and Waste Management Association, 10/98 [Arlington VA]
Southern Coal Conference, 10/98 [Cincinnati]
Virginia Assn. General Contractors, 10/98 [Charlottesville]
Basin Electric, Annual Shareholders Meeting, 11/98 [Bismarck ND]
Annual Meeting, National Communication Association, 11/98
Virginia Farm Bureau, Annual Meeting, 11/98 [Roanoke]
Tennessee Feed and Grain Association, 12/98 [Memphis TN]
Lynchburg College, Senior Seminar, 12/98
Winter Weather Conference, National Weather Service 12/98 [Wakefield]
Hope College Senior Tour, 1/99 [Washington]
Charlottesville Retired Professional Association, 1/99
Virginia Crop Production Association, 1/99 [Williamsburg]
Congressional Forum on Global Change, Pennsylvania State University, 1/99
Competitive Enterprise Institute, 2/99 [Washington DC]
Virginia Agricultural Extension Service, 2/99 [Harrisonburg]
U.S. Department of Defense, National Security Study Group, 2/99 [Arlington VA]
Hampden-Sydney College, Presidential Debate Series, 2/99
North American Millers Association, 3/99 [Sanibel FL]
Blue Ridge Community College, 3/99
Virginia Severe Weather Conference, 3/99 [Williamsburg]
Maine Conservation Association, 3/99 [Bangor]
Randolph-Macon College, Environment Day Seminar, 4/99
Louisiana State University, President's Distinguished Lecture Series, 4/99
National Center for Policy Analysis, 5/99 [Washington DC]
Leaf Tobacco Association, 6/99 [Greenbrier WV]
Bright Belt Leaf Association, 6/99 [Hilton Head SC]
Wyoming Mining Association, 6/99 [Casper]
Virginia Tech, Piedmont Research Station Field Day, 8/99 [Orange]

Dixy Lee Ray Memorial Symposium, 8/99 [Washington DC]
Society of Environmental Journalists, 9/99 [Los Angeles]
Arthur Laffer Associates, 9/99 [Washington DC]
Southern Minnesota Municipal Power Association, 9/99 [Rochester]
U.S. House of Representatives, Committee on Government Oversight, 10/99
American Road and Transportation Builders Association, 10/99 [Roanoke]
North American Millers Association, 10/99 [Amelia Island FL]
Geological Society of America, 10/99 [Denver]
Cooler Heads Coalition, 11/99 [Washington DC]
International Society for Biometeorology, 11/99 [Sydney; Presented by R. Davis]
University Seminar, Mary Baldwin College, 12/99
Winter Weather Conference, 12/99 [Wakefield]
Virginia Foundation for Public Policy, 1/00 [Richmond]
Retired Officer's Association, 1/00 [Charlottesville]
Navy Environmental Health Center, 2/00 [Norfolk]
Westvaco Corporation, 2/00 [Covington VA]
Tennessee Road Builders Association, 2/00 [Palm Beach FL]
University of Texas, Lyndon Johnson Institute. 3/00 [Austin]
American Rose Society, 3/00 [Staunton VA]
Virginia Association of Economists, 3/00 [Roanoke]
Virginia Emergency Management Conference, 3/00 [Williamsburg]
Applied Insurance Research, 4/00 [Tucson]
University of Washington, Dept. of Atmospheric Science, 4/00 [Seattle]
American Meteorological Society, 5/00 [Asheville NC]
North Carolina Coal Institute. 7/00 [Myrtle Beach SC]
Western Fuels Association Annual Meeting, 7/00 [Vail CO]
Arkansas Electric Cooperative Association, 7/00 [Eureka Springs AR]
Virginia Department of Fish and Game, 8/00 [Radford]
Rice University, James K. Baker Institute, 9/00 [Houston TX]
ENO Transportation Forum, 9/00 [Washington DC]
Cato Institute City Seminar, 9/00 [Houston TX]
University of Virginia Envi. Sci. Undergraduate Seminar, 10/00
Pocahontas Coal Association, 10/00 [Bluefield WV]
Milliken University Distinguished Lecture, 11/00 [Decatur IL]
Virginia Soil and Water Conservation Association, 11/00 [Warrenton]
Virginia Tech Turfgrass Management Conference 11/00 [Virginia Beach]
University of Rochester, Department of Physics Seminar, 1/01
Environmental Science Organization, University of Virginia 2/01
Cato Institute, Benefactors Summit, 2/01 [Cancun]
The Washington Club, Washington DC, 3/01
College of William and Mary, Senior Seminar, 3/01 [Williamsburg]
Patrick Henry Supper Club, 5/01 [Richmond]
American Society of Mechanical Engineers, 6/01 [New Orleans]
John Locke Society, 7/01 [Raleigh]
American Association of State Climatologists, 8/01 [Omaha]
American Meteorological Society, 8/01 [Halifax NS]
Lynchburg College, 10/01
North Carolina State University, Anniversary Symposium, 10/01 [Raleigh]
Maryland Association of Republican Women, 10/01 [Columbia MD]
Frontiers of Freedom Foundation, 11/01 [Washington DC]
Air and Waste Management Association Annual Meeting 11/01 [Richmond]
Pennsylvania State University Hazleton, 1/02
Pennsylvania State University, Schuylkill, 1/02
Virginia Tech, Forage and Grassland Council 2/02 [Raphine VA]
Wyoming Legislature [Cheyenne] 2/02
Colorado Mining Association [Denver] 2/02

Sweet Briar College 3/02
Georgia Legislature [Atlanta] 3/02
University of Toledo, College of Law 3/02
Pennsylvania Legislature [Harrisburg] 3/02
Virginia Military Institute Environment Conference 4/02
American Legislative Exchange Council Environment Summit [Las Vegas] 4/02
Annual Drought Conference, National Climatic Data Center [Asheville] 4/02
American Meteorological Society [Portland OR] 4/02
Virginia Tech Small Grains Conference [Warsaw VA] 5/02
National League of Cities [Miami FL] 5/02
ALEC Illinois Legislative Briefing [Chicago] 5/02
California Legislature [Sacramento] 7/02
Cato Congressional Forum [Washington] 7/02
U.S. House of Representatives, Sbcmt. on Oversight and Invest. 7/02
UVa Department of Envi. Sci. Undergraduate Seminar 9/02
DePaul University, Conference on 21st Century Challenges [Chicago] 9/02
Cato Institute Club 200 Summit [Carmel CA] 9/02
American Society of Civil Engineering [Charlottesville] 10/02
U.S. Environmental Protection Agency Public Outreach 10/02
National Press Club, Canada [Ottawa] 11/02
Climate Change Science Program, Planning Meeting [Washington] 12/02
Debates Canada [Ottawa] 12/02
American Legislative Exchange Council [Denver] 1/03
Southeastern Regional Climatologist Conference [Tallahassee] 1/03
Virginia Tech, Virginia Forage and Grassland Council [Dublin VA] 2/03
Maine Legislature [Augusta ME] 3/03
Montana Legislature [Helena MT] 3/03
Virginia Community College Science Teachers Association [Roanoke] 4/03
George Mason University, Department of Envi. Sci. and Policy 4/03
American Legislative Exchange Council Annual Energy Summit [Miami] 4/03
Atmospheric Science Seminar, University of Virginia 5/03
Millersville University (PA) 5/03
U.S. House of Representatives, Capitol Hill Briefing 7/03
American Legislative Exchange Council, Annual Meeting [Washington] 7/03
American Association of State Climatologists [Portland OR] 8/03
Virginia Christmas Tree Growers Association [Natural Bridge] 8/03
Michigan Attorney General Staff [Lansing] 9/03
University of Virginia College Republicans 9/03
American Legislative Exchange Council [Boston] 9/03
Virginia Tech, Commonwealth Governor's School [Orange] 10/03
Virginia Tech, Department of Forestry Seminar 11/03
German Academy of Engineering [Koln] 11/03
Ball State University, Geography Week Keynote [11/03
Virginia Coastal Commission [Williamsburg] 12/03
Cato Institute [Washington DC] 12/03
American Legislative Exchange Council [San Francisco] 1/04
University of Virginia School of Engineering and Applied Science 1/04
Shenandoah Valley Regional Governor's School 2/04
Connecticut Legislature [Hartford] 2/04
Virginia State Feed Association [Charlottesville] 2/04
Connecticut Legislature [Hartford] 3/04
Staff Briefing, U.S. House of Representatives 3/04
Randolph-Macon University [Ashland VA] 4/04
Competitive Enterprise Institute [Washington DC] 6/04
American Association of State Climatologists [Ithaca NY] 8/04
Eris Society [Aspen CO] 8/04
Virginia Manufacturers Association [Richmond] 12/04

Cato Institute Book Forum [Washington DC] 12/04
Virginia Corn Growers Association [New Kent VA] 1/05
Virginia Dairymen's Association [Staunton] 1/05
Duquesne University School of Law [Pittsburgh] 1/05
American Legislative Exchange Council [Seattle] 2/05
Western Reforestation Association [Coeur d' Alene ID] 2/05
Cato Institute Club 200 [Grand Cayman] 2/05
United Nations Association [Washington DC] 3/05
James Madison University [Harrisonburg VA] 3/05
National Generation and Transmission Managers [Pinehurst NC] 4/05
Fundacion Rafael de Pino [Madrid] 5/05
Oxford Union Debating Society [Oxford] 5/05
HBSC Bank Leadership Forum [London] 6/05
Virginia Forest Products Association [Hot Springs VA] 7/05
Virginia Maryland Delaware Electric Cooperative Association [Norfolk] 7/05
Tennessee Farm Bureau [Nashville] 8/05
HSBC Bank Leadership Forum [London] 9/05
Salisbury University, Distinguished Speaker Series [Salisbury MD] 10/05
Bridgewater College, Distinguished Speaker Series 10/05
Washington and Lee University, School of Law 10/05
Virginia Governor's School for Arts and Sciences [Staunton] 11/05
Western Business Roundtable [Carefree AZ] 11/05
Virginia Tech, Program in Natural Resources [Alexandria VA] 2/06
American University, Issues Forum [Washington] 2/06
Marshall Institute Briefing, House of Representatives 2/06
Piedmont Master Gardeners [Charlottesville] 3/06
University of North Carolina College Republicans [Chapel Hill] 3/06
North Carolina Climate Commission [Raleigh] 3/06
John Locke Foundation [Raleigh] 3/06
HSBC Bank Leadership Forum [London] 4/06
JLT Insurance Institute [Lugano, Switzerland] 5/06
Virginia Academy of Sciences Negus Lecture 5/06
Albemarle County Farm Bureau 8/06
Bavarian-American Exchange Program [Washington] 8/06
Virginia Manufacturers Association [Richmond] 9/06
Heritage Foundation [Washington] 9/06
Cato Institute, Club 200 Seminar [Greenbrier WV] 9/06
Heritage Foundation [Washington] 10/06
Oberlin College General Lecture Series [Oberlin OH] 10/06
Richmond Rotary 10/06
North Carolina Forestry Association [Southern Pines NC] 10/06
University of Georgia, Geography Department Seminar [Athens GA] 11/06
Western Business Roundtable [Beaver Creek CO] 11/06
Chesapeake Bay Foundation [Edgewater MD] 12/06
Virginia Crop Production Association [Richmond] 1/07
World Affairs Council [Richmond] 2/07
James Madison University Washington Semester [Washington] 2/07
Minnesota Property Rights Coalition [Minneapolis] 3/07
Heartland Institute Legislative Summit [Chicago] 3/07
Ferrum College Evening Lecture Series [Ferrum VA] 3/07
U.S Department of State Brazil Exchange [Washington] 4/07
Capitol Hill Briefing, Cato Institute 4/07
Leadership Program of the Rockies [Parker CO] 4/07
Committee for a Constructive Tomorrow [Madison WI] 4/07
Texas Alliance of Energy Producers [Wichita Falls] 4/07
Indiana Coal Association [Evansville] 5/07
North Carolina Electric Utility Association [Pinehurst] 5/07

Energy and Transportation Study Group [Detroit] 7/07
American Association of State Climatologists [Coeur d'Alene ID] 7/07
Heartland Institute Legislative Summit [Providence RI] 8/07
Georgia Legislature Environment Committee 8/07
Florida Women's Republicans [Orlando] 8/07
Georgia Tech, Dept Earth and Atmospheric Sciences 9/07
American Academy of Environmental Engineers [Hampton VA] 9/07
US Department of Agriculture Graduate School 9/07
East Texas Baptist University-wide seminar [Marshall] 10/07
California State University-Fullerton University Seminar 10/07
National Association of Homebuilders [San Juan PR] 10/07
Hanover College Capstone Series [Hanover IN] 11/07
State Policy Network [Washington] 12/07
International Regulatory Conference [Berlin] 12/07
Leadership Program of the Rockies [Colorado Springs] 2/08
Capitol Hill Briefing, U.S. House of Representatives 2/08
Heartland Conference on Climate Change [New York] 3/08
Canadian Oil Drilling Contractors [Calgary AL] 3/08
International Arctic Mining Symposium [Fairbanks] 3/08
University of Alaska, Geophysical Institute 3/08
IBMEC Sao Paulo [Brasil] 3/08
Friends of Science [Calgary AL] 5/08
Colorado College Washington Seminar 5/08
Hampden Sydney Alumni College 6/08
Hudson Institute 9/08
American Association of Petroleum Geologists 10/08 [Pittsburgh]
Fundacion Rafael del Pino [Madrid] 10/08
Ethical Council, Sweeden [Washington DC] 11/08
Capitol Hill Briefing, U.S. House of Representatives 1/09
University of Michigan, Sponsored Speaker [Ann Arbor] 2/09
U.S. House of Representatives, Subcommittee on Oversight and
Investigations 2/09
Dartmouth College, Sponsored Speaker 2/09
Maryland House of Delegates, Republican Caucus 2/09
U.S. Chamber of Commerce, Dinner Commentator [Washington] 2/09
Eaton Vance Corporation, Global Warming Briefing [Washington] 2/09
Sarasota Institute of Lifelong Learning 3/09
Cato Institute, Benefactors Summit, [Playa del Carmen, Mex] 3/09
Heartland Conference on Climate Change [New York] 3/09
Book Forum, "Climate of Extremes", Cato Institute 3/09
Independence Institute [Golden CO] 3/09
Oregon House of Representatives, Republican Caucus [Salem OR] 3/09
Cascade Policy Institute [Portland OR] 3/09
James Madison University, College Republicans [Harrisonburg VA] 4/09
Cato Institute, City Seminar [New York] 4/09
Heartland Institute, Washington Policy Conference 6/09
Patrick Henry College, Washington Seminar 7/09
Washington Policy Center [Seattle] 6/09
Consilium Australia [Queensland] 8/09
Center for Independent Studies [Sydney AU] 8/09
Institute for Policy Analysis [Melbourne AU] 8/09
The Steamboat Institute [Steamboat Spgs CO] 8/09
U.S. Department of State Global Issues 9/09
Huntington Chamber of Commerce [Huntington KY] 10/09
George Mason University, School of Public Policy 11/09
Washington Times Forum 11/09
Capitol Hill Briefing, U.S. House of Representatives 11/09

Charleston WV Rotary 12/09
University of Charleston [Charleston WV] 12/09
Detroit Auto Show Forum 1/10
Students for Liberty [Washington] 1/10
Dairy Businessmen's Association [Green Bay WI] 1/10
Virginia Institute for Public Policy [Richmond] 2/10
Imagine Solutions [Naples FL] 2/10
Keynote Address, Kansas State University Cattlemen's Day[Manhattan KS]3/10
National Rural Electric Cooperatives Association [Arlington VA] 3/10
Brazil Cattle and Agriculture Organization [Sao Paulo] 3/10
Jones, Day [Washington] 4/10
Young President's Association [New Orleans] 5/10
Sandhills Cattlemen's Association [Broken Bow NE] 5/10
Field Museum Board of Directors [Chicago] 6/10
Heritage Foundation 8/10
Future of American Dream Foundation [Orlando] 9/10
TuCare Annual Conference [Sonora CA] 10/10
Subcommittee on Science and Technology, U.S. House of Representatives 11/10
Wharton School, University of Pennsylvania 1/11
Member Briefing, House Subcommittee on Science and Technology 2/11
Students for Liberty National Meeting [Washington] 2/11
Swarthmore College 4/11
West Virginia Coal Council [Charleston] 1/12
Virginia Crop Association [Richmond] 1/12
Students for Liberty Annual Meeting [Washington] 2/12
John Locke Foundation [Raleigh] 3/12
Crop Life America [Washington] 5/12
Washington American Legion 5/12
Heartland Institute [Chicago] 5/12
Texas Association of Business 6/12
Cato Book Forum, Cato Institute 6/12
University of Missouri Journalism Tour [Washington] 7/12
American Legislative Exchange Council [Salt Lake City] 7/12
Americans for Tax Reform [Washington] 9/12
Cato Club 200 [Asheville NC] 9/12
Howard Community College [Howard County MD]10/12
North Carolina Coal Institute [Pinehurst NC] 10/12
Philadelphia Friends Select School 11/12
State Policy Network [Jacksonville FL] 11/12
Taiwan Executive Leadership Program [Washington] 12/12
Virginia Tech VALOR program [Harrisonburg VA] 1/13
PowerSouth Annual Meeting [Panama City FL] 1/13
Students for Liberty Annual Meeting [Washington] 2/13
Ohio Oil and Gas Association [Columbus] 3/13
CPAC annual meeting [Washington] 3/13
National Center for Policy Analysis [Dallas] 3/13
Georgia Legislature Briefing [Washington] 5/13
Meridian Center [Washington] 5/13
American Exploration and Production Council [Washington] 5/13
California Independent Petroleum Association [Monterey] 6/13
Cato Hill Briefing with Richard Lindzen 10/13
Bayou Preservation Association [Houston] 10/13
Annual Meeting Iowa Land Investment Group 1/14
Cato Hill Briefing with Edward Calabrese 1/14
Cato City Seminar Naples FL 2/14
Energy Bar Association [Washington]2/14
Athenaeum Lecture, Claremont McKenna College 2/14

Hill Briefing Social Cost of Carbon 2/14
Science Seminar, U.S. Chamber of Commerce 3/14
Institute of Public Affairs [Perth WA Australia] 4/14
Institute of Public Affairs [Melbourne VIC Australia] 5/14
Australian Libertarian Society Friedman Conference [Sydney] 5/14
(Two presentations)
Australian Taxpayer Foundation [Sydney] 5/14
Center for Independent Studies [North Sydney] 5/14
Institute of Public affairs [Brisbane QLD Australia] 5/14
Georgia Legislature Briefing [Washington] 5/13
Centre for Policy Studies Margaret Thatcher Conference [London] 6/14
University of Buckingham seminar series [Buckingham UK]
Heartland Institute International Conf Climate Change [Las Vegas] 7/14
(Keynote Address and regular presentation)
Tower Club, Denver 9/14
Oberlin College, Oberlin OH, 10/14
International Students for Liberty, Washington DC, 2/15
Wake Forest University, School of Business, 5/15
Georgia Legislature Briefing [Washington] 5/15
Heartland Institute International Conf Climate Change [Washington] 6/15
Heritage Foundation [Washington] 6/15

*Top Ten Speaking Platforms in the U.S. (According to Fortune 250 CEOs)

THE VIRGINIA CLIMATE ADVISORY

The Advisory is a quarterly publication of the State Climatology Office, targeted for Education, Governmental Agencies, and the educated layman. Current circulation is approximately 4,000. In 1993, the Advisory was selected by the American Library Association as one of the 60 "best government information sources" in the world.

1980. 4 (1) Degree-days and energy usage in Virginia. 27pp.
 1980. 4 (2) Modelling soybean/climate relationships. 24pp.
 1980. 4 (3) History of tropical cyclones in Virginia. 33pp.
 1981. 4 (4) History of drought in Virginia. 27pp.
1981. 5 (1) Satellite climatology. 26pp.
 1981. 5 (2) Acid rainfall in Virginia. 26pp.
 1981. 5 (3) Winter severity over Virginia. 26pp.
 1982. 5 (4) Coastal cyclogenesis. 26pp.
1982. 6 (1) History of tornadoes in Virginia. 26pp.
 1982. 6 (2) Lightning and damaging thunderstorms in Virginia. 26pp.
 1982. 6 (3) Thunderstorm patterns over Virginia. 26pp.
1983. 6 (4) Virginia wind patterns. 26pp.
1983. 7 (1) Virginia fog frequency and distribution. 26pp.
 1983. 7 (2) Origin and distribution of summertime haze over Virginia. 26pp.
 1983. 7 (3) Mountain temperature regimes. 26pp.
 1984. 7 (4) The Carbon Dioxide controversy. 26pp.
1984. 8 (1) Precipitation and Elevation. 30pp.
 1984. 8 (2) Improvements for Virginia Thunderstorm Forecasts. 30pp.
 1984. 8 (3) Vineyard Microclimate. 30pp.
 1985. 8 (4) Objective Improvement of Local Temperature Forecasts. 30pp.
1985. 9 (1) Radar Climatology of Piedmont Thunderstorms. 30pp.
 1985. 9 (2) Cumulus Clusters. 30pp.
 1985. 9 (3) Hurricane Gloria. 30pp.
 1986. 9 (4) Winter History since 1890. 30pp.
1986. 10 (1) Climate and High-Level Nuclear Waste Disposal. 30pp.
 1986. 10 (2) Carbon Dioxide/Climate Revisited. 30pp.
 1986. 10 (3) Virginia Acid Rain Research. 30pp.
 1987. 10 (4) Hurricanes, Drought, and Va Agriculture. 30pp.
1987. 11 (4) The Ozone Hole and Nuclear Winter. 30pp.
 1987. 11 (2) Virginia Evaporation Regimes. 30pp.
 1987. 11 (3) Virginia Snow Phobia. 30pp.
 1988. 11 (4) Updated Climatic History. 30pp.
1988. 12 (1) Historical Floods. 30pp.
 1988. 12 (2) Acid Precipitation Trajectories. 30pp.
 1988. 12 (3) Eastern Shore Hurricane History. 30pp.
 1989. 12 (4) Eastern Shore Northeaster History. 30pp.
1989. 13 (1) Testimony on Greenhouse Effect. 30pp.
 1989. 13 (2) Hurricane Camille. 30pp.
 1989. 13 (3) Hurricane Hugo. 30pp.
1990. 14 (2) Scales of Temperature Variation. 30pp.
 1990. 14 (3) Climate of Saudi Arabia. 30pp.
 1990. 14 (4) Sleet and Freezing Rain in Virginia. 30pp.
1991. 15 (1) Virginia Growing Season Trends. 30pp.

- 1991 15 (2) Heat Stress. 30pp.
 1991 15 (3) Autumn Color Change. 30pp.
 1992 15 (4) 15 Years of the Advisory . 30pp.
- 1992 16 (1) Northeasters. 30pp.
 1992 16 (2) Lightning. 30pp.
 1992 16 (3) Hurricane Andrew. 30pp.
 1993 16 (4) Annual Temperature Regimes. 30pp.
- 1993 17 (1) Blizzard of 1993. 30pp.
 1993 17 (2) Tree Mortality. 30pp.
 1993 17 (3) Cyclones and Climate Change. 30pp.
 1993 17 (4) Regional Visibility. 30pp.
- 1994 18 (1) Rainfall Recurrence Intervals. 30pp.
 1994 18 (2) United Nations Climate Treaties. 30pp.
 1994 18 (3) Anticyclonic History. 30pp.
- 1995 19 (1) Improving Ice Storm Forecasts. 30pp.
 1995 19 (2) Hot Weather Mortality. 30pp.
 1995 19 (3) Internet Weather. 30pp.
 1996 19 (4) Forecast Model on Internet. 30pp.
- 1996 20 (1) Winter of 1996. 30pp.
 1996 20 (2) Annual Rainfall Climatology. 30pp.
 1996 20 (3) Annual Snowfall Climatology. 30pp.
 1997 20 (4) Extreme Temperatures in Virginia. 30pp.
- 1997 21 (1) Extratropical Cyclones. 30pp.
 1997 21 (2) Regional Rainfall Extremes. 30pp.
 1997 21 (3) Lack of El Nino influence in Virginia. 30pp.
 1998 21 (4)
- 1998 22 (1)
 1998 22 (2)
 1998 22 (3)
 1999 22 (4) Snowfall and Winter History. 30pp.
- 1999 23 (1) Indications of Climate Change. 30pp.
 1999 23 (2) 1999 Drought in Perspective
- 1999 Virginia Climate Advisory Online, beginning December, 1999.

2000 Online:

Weather vs. Infrastructural Droughts
 Virginia Climate: 1999 in Perspective
 Book Review: The Global Stupidstorm
 The Current Wisdom (Recent research in climate science)
 Cherry Blossoms in DC
 Growing Climate Concern
 Just the Facts Please (Spring weather history)
 A Closer Look at Visibility
 A Careful Look at the New National Assessment
 Not-so-hot
 Wet, Cool Weather Doesn't Bug Asian Tiger Mosquito
 Record Cold Comparison
 October Sets All-Time Record Low for Precipitation
 Cold Turkey (Cold Thanksgiving History)

Luke-Cold Leftover Turkey (2000 in Perspective)
Dreaming of a White Christmas?
Inaugural Weather

2001 Online

Too Cool for Words (Historical Perspective on Winter Cold)
Energy Usage vs. Cold Winters
Drought Task Force Makes Rain
Doppler Radar and Local Moisture Monitoring
National Academy Report on Global Warming
The Current Wisdom
Urbanization vs. True Warming in Virginia Records
Long Range Forecast Models
Precipitation and Water Shortages in Perspective

2002 Online

(Virginia Drought Emergency in 2002 shifted Advisories to Drought Updates)
1932: The Year Without a Winter
Drought Report from the State Climatology Office: 3/12, 4/10, 5/1
Summer of 1930: Harbinger of 2002?
Drought Report from the State Climatology Office
6/3, 7/2, 8/16, 8/19, 9/23, 10/22, 11/21.

2003 Online

Snowfall Records
New Plant Hardiness Zones
Twenty Days and Twenty Nights—excessive rain days
In a Rainy Daze?
Isabel and Virginia's Vegetation Problem
Record Annual Virginia Rainfall

VIDEO CLIMATE ADVISORY

In January, 2003, the State Climatology Office switched largely to video Advisories, broadcast statewide on Public Television, Local Access, and Commercial broadcast (the last as PSA's). Spots vary between 1.5 and 2.5 minutes. Advisories are produced by the Virginia Farm Bureau.

2003:

Sleet and Freezing Rain in the Mid Atlantic (Jan)
El Nino/La Nina (Feb)
Transitional Season Weather (Mar)
Tornadoes in Virginia (Apr)
Moisture and Temperature (May)
Hurricane Season Forecasts (Jun)
Dew Point Temperatures (Jul)
Wet Start to 2003 (Aug)
History of Excessive Virginia Precipitation (Sep)
Jet Stream and Precipitation (Oct)
Isabel Damage (Nov)
White Christmas Probability (Dec)

2004:

The Farmer's Almanac (Jan)
Precipitation Records in 2003 (Feb)
Virginia Temperature Histories (Mar)
Virginia Crop Yields (Apr)

Virginia Precipitation Histories (May)
Trends in Extreme Temperatures (Jun)
Hurricane Season Outlook (Jul)
Home Weather Instrumentation (Aug)
Summer Temperature Departures (Sep)
Summer Precipitation (Oct)
Perceived Winter Cold (Nov)
Record-Breaking Hurricane Season (Dec)

2005:

Heating Degree Days (Jan)
Snowfall and North Atlantic Oscillation (Feb)
Late Season Snows (Mar)
Late Spring Frost (Apr)
Spring Moisture Status (May)

THE SOUTHEASTERN CLIMATE REVIEW

The Southeastern Climate Review is a technical and public service publication of the Southeast Regional Climate Center. Circulation is approximately 4,500.

1989 1 (1) Background on Climatic Change. 30pp.
1989 1 (2) Hurricane Camille. 30pp.
1989 1 (3) Hurricane Hugo. 30pp.
1989 1 (4) Severe Cold Outbreaks. 30pp.

1990 2 (1) Drought Preparedness. 30pp.
1990 2 (2) 1990 Atlantic Hurricane Recap. 30pp.
1990 2 (3) El Nino and Florida Wildfires. 30pp.
1991 2 (4) Southeastern Growing Seasons. 30pp.

1992 3 (1) Heavy Rainfall Events. 30pp.
1992 3 (2) Climate Change and Fishery Harvest. 30pp.

WORLD CLIMATE REVIEW

A quarterly national publication with a circulation of 15,000 reviewing current science and policy trends relating to Global Climatic Change. Publication began in Fall, 1992, and terminated in Spring, 1995. Each issue averaged 26 pages.

GOVERNMENT ADVISORY SERVICE

Governor's Inquiry--1980 drought
Governor's Inquiry--1981 drought
Virginia Farm Bureau--1983 drought
Virginia Department of Agriculture and Consumer Services--Avian Influenza, 1983-4
Virginia Air Pollution Control Board--Acid Precipitation, 1984-1987
Governor's Task Force the Disposal of High-Level Nuclear Waste, 1986.
Governor's Task Force on Drought, 1986-present

Virginia Office of Economic Development, 1986-present
Virginia Film Office, 1986-present
Virginia Division of Forestry, 1982-1987
Virginia Water Resources Research Center, 1986
U.S. Environmental Protection Agency Global Change Initiative, 1987
U.S. Geological Survey, 1988, 1991
United Nations, Intergovernmental Panel on Climate Change
(Reviewer, 1990; Contributor and Reviewer, 1992; Contributor, 1995
pdate)
Governor's Representative, Southern Appalachian Mountains Initiative
Virginia Cooperative Extension Service
Virginia Institute of Marine Science
Virginia State Police
Virginia Department of Mines, Minerals and Energy
Virginia State Viticulturalist
Virginia Department of Transportation
Virginia Division of Emergency Services
Virginia Department of Health
Virginia Medical Examiner's Office
Virginia Museum of Natural History
Governor's Cabinet
Virginia Department of Commerce and Resources
Virginia Disaster Assistance Program
Various Commonwealth's Attorney Offices
Virginia Department of Game and Inland Fisheries
James Madison University
Henrico County Police Department
Chesterfield County Police Department
Richmond Police
Cities of Charlottesville and Newport News
For Further listings, see Annual Reports on file at University of Virginia

EXTRAMURAL ACADEMIC RESEARCH SUPPORT (OVER \$10,000)

United States Department of Agriculture, Forest Service.
Prediction models for Southern Pine Beetle Outbreaks. \$133,000.
1981-1982. United States Department of Agriculture, Economics Research
Service. Statistical-Dynamic Models for Virginia Corn and Soybean Yields.
\$25,000.
1982-1984. United States Department of Commerce, National Oceanic and
Atmospheric Administration, Sea Grant Program. High Resolution Weather
Forecasts for Chesapeake Bay and Estuarine Virginia. \$84,000.
1983-1985. National Aeronautic and Space Administration. Sea
Breeze-Induced Mesoscale Systems and Severe Weather. \$26,000.
1985-1986. United States Department of Agriculture, Forest Service.
Historical fluctuations of Gypsy Moth Populations and Climate. \$18,000.
1986-1987. National Oceanic and Atmospheric Administration. Objective
Characterization of the Relationship between Seasonal Wind Regimes and the
Recruitment of Croaker and Flounder. \$41,000
1986-1988. Commonwealth of Virginia, State Air Pollution Control Board.
Origin and Destination of Pollutant-bearing Airstreams Entering and Exiting
the Commonwealth of Virginia. \$140,000.
1989-1990. Jet Stream Alterations Induced by Anthropogenerated Sulfur
Emissions. Cyprus Minerals Company. \$40,000.
1989-1993 U.S. Department of Commerce/Southeastern Regional Climate

Center. Research Publication for the Southeastern Climate Center. \$135,000.
1991-1992. Anonymous. Research Support for Climatic Change. \$50,000.
1992-1995. Edison Electric Institute. Literature Review of Climatic Change
and Updates. \$25,000
1992-1993. Western Fuels Association. Research on Global Climatic Change.
\$63,000
1994-96. Gesamtverband des Deutschen Stenkohlenbergbaus, Fed. Rep. of
Germany, \$98,000
1995-2000. Commonwealth of Virginia, Department of Environmental Quality.
Research on science and policy on global warming. \$195,000
1996-1999. U.S. Department of Commerce. Cold Air Volume and Persistence in
the Mid-Atlantic Region. \$90,000.
1996-1998. U.S. Department of Energy. Greenhouse Influences on Diurnal
Warming and Cooling Rates. \$100,000
1998-2000. Virginia State Air Pollution Control Board. Development of
Operational Ozone Forecasts for the Commonwealth of Virginia. \$35,986.
1998-2000. Cato Institute. Support for writing of The Satanic Gases. \$78,000
2001-2003. Virginia Department of Environmental Quality. Atmospheric
Transport and Concentrations of Mercury in Virginia Fish Samples. \$75,400
2003-2005. High Resolution Drought Impact Monitoring. Virginia Department of
Environmental Quality \$99,471
2004-2005. Integrated Climatic Database for Shenandoah National Park. \$40,826
2006-2007. Air Quality Climatology for Shenandoah National Park. NOAA SHENAIR
Program, Subcontract from James Madison University \$100,505