

David Julius Erickson III

Education

1987

Ph.D. (Chemical Oceanography/Atmospheric Chemistry)
Graduate School of Oceanography
University of Rhode Island
Narragansett, Rhode Island

1982

B. S. (Chemistry)
The College of William and Mary
Williamsburg, Virginia

Professional Experience

2000 - present

Senior Research Staff Member
Computational Earth Sciences Group
Computer Science and Mathematics Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee

2003 – present, Adjunct Professor 2007 – present, Joint Full Professor
Division of Earth and Ocean Sciences Dept. of Civil and Environmental Engineering
Nicholas School of the Environment College of Engineering
Duke University University of Tennessee, Knoxville
Durham, North Carolina Knoxville, Tennessee

1990 - 1999

Scientist
National Center for Atmospheric Research
Boulder, Colorado

1987 - 1990

Post-doctoral Research Fellow
Scripps Institution of Oceanography
University of California, San Diego
La Jolla, California

Appointments, Panel Memberships, Steering Committees

2011 – present

Member, HPC Advisory Panel to National Center for Atmospheric Research (NCAR)
Computational and Information Systems Laboratory (CISL)

2007

BERAC Subcommittee Member, DOE OBER review of Integrated Assessment Research
Program (IARP) for Climate Change

2006 – 2009

Committee Member, National Academy of Sciences (NAS)/ National Research Council
(NRC), Committee on the Potential Impact of High-end Computing on the Fields of
Science and Engineering

2001 - present

Member, Scientific Planning Team, Surface Ocean-Lower Atmosphere Study (SOLAS)

1997 - 1999

Panel Member, National Academy of Sciences (NAS)/ National Research Council
(NRC), Panel on Atmospheric Effects of Aviation

1996 - 2002

Member, Executive Committee, Chairman, Air-sea Interaction Group, Atmospheric
Sciences Section, American Geophysical Union (AGU)

1994 - 1998

Steering Committee Member, International Global Atmospheric
Chemistry Program (IGAC), Reactive Chlorine Inventory

1995 - 2006

Member, Advisory Board, Joint Institute for Caribbean Climate Studies (JICCS),
University of Puerto Rico, Mayaguez, Puerto Rico

1994 - present

Panel Member, United Nations Environment Program
(UNEP), Environmental Effects of Ozone Depletion/Climate Change

April 18, 2012

PUBLICATIONS

Theses

1. Erickson, D. J. III, "Global atmospheric sea-salt deposition," Ph.D dissertation, Graduate School of Oceanography, University of Rhode Island, 186 pp., 1987.

Refereed Articles

1. Erickson, D. J. III, J. T. Merrill, and R. A. Duce, "Seasonal estimates of global atmospheric sea-salt distributions," *J. Geophys. Res.* **91**, 1067-1072 (1986).
2. Erickson, D. J. III, J. T. Merrill, and R. A. Duce, "Seasonal estimates of global oceanic whitecap coverage," *J. Geophys. Res.* **91**, 12,975-12,977 (1986).
3. Erickson, D. J. III and S. M. Dickson, "Global trace element biogeochemistry at the K/T boundary: The oceanic and biotic response to a hypothetical meteorite impact," *Geology* **15**, 1014-1017 (1987).
4. Erickson, D. J. III and R. A. Duce, "On the global flux of atmospheric sea-salt," *J. Geophys. Res.* **93**, 14,079-14,088 (1988).
5. Erickson, D. J. III, "Simulation of the global air-sea transfer velocity field of helium," *Geophys. Res. Lett.* **15**, 1495-1499 (1988).
6. Erickson, D. J. III, "Variations in the global air-sea transfer velocity field of CO₂," *Global Biogeochem. Cycles* **3**, 37-41 (1989).
7. Erickson, D. J. III and J. A. Taylor, "Non-Weibull behavior observed in a model-generated global surface wind speed frequency distribution," *J. Geophys. Res.* **94**, 12,693-12,698 (1989).
8. Oglesby, R. J. and D. J. Erickson III, "Soil moisture and the persistence of North American drought," *J. Climate* **2**, 1362-1380, 1989.
9. Galer, S. J. G., J. D. Macdougall, and D. J. Erickson III, "Pb isotopic tracers of the Cretaceous/Tertiary extinction event," *Geophys. Res. Lett.* **16**, 1301-1304 (1989).
10. Erickson, D. J. III, "Ocean to atmosphere carbon monoxide flux: Global inventory and climate implications," *Global Biogeochem. Cycle* **3**, 305-314 (1989).
11. Erickson, D. J. III, S. Ghan, and J. Penner, "Global ocean to atmosphere dimethyl sulfide flux," *J. Geophys. Res.* **95**, 7543-7552 (1990).
12. Ghan, S., K. E. Taylor, J. E. Penner, and D. J. Erickson III, "Model test of DMS-CCN-Cloud Albedo climate forcing," *Geophys. Res. Lett.* **17**, 607-610 (1990).

13. Erickson, D. J. III, J. J. Walton, S. J. Ghan, and J. E Penner, "Three-dimensional modeling of the global atmospheric sulfur cycle: A first step," *Atmos. Environ.* **25A**, 2513-2520 (1991).
14. Erickson, D. J. III, "Some aspects of ocean-atmosphere CO₂ exchange during the last glacial maximum," *Scientists on Gaia*, MIT Press, 256-260 (1991).
15. Erickson, D. J. III and J. A. Taylor, "3-D atmospheric CO modeling: The possible influence of the ocean," *Geophys. Res. Lett.* **19**, 1955-1958 (1992).
16. Fried, A., L. F. Klinger, and D. J. Erickson III, "Atmospheric carbonyl sulfide exchange in bog microcosms," *Geophys. Res. Lett.* **20**, 129-132 (1993).
17. Erickson, D. J. III, "A stability dependent theory for air-sea gas exchange," *J. Geophys. Res.* **98**, 8471-8488 (1993).
18. Erickson, D. J. III and B. E. Eaton, "Global biogeochemical cycling estimates with CZCS satellite data and general circulation models," *Geophys. Res. Lett.* **20**, 683-686 (1993).
19. Zepp, R., T. V. Callahan, and D. J. Erickson III, "Effects of enhanced solar ultraviolet radiation on biogeochemical cycles," United Nations Environment Program (UNEP), *Environmental effects of ozone depletion: 1994 Assessment*, 1994.
20. Najjar, R. G., D. J. Erickson III, and S. Madronich, "Effects of turbulent mixing and solar ultraviolet radiation on upper ocean carbon cycling: Carbon monoxide and carbonyl sulfide," pp. 107-132, in *The Role of Non-living Organic Matter in the Earth's Carbon Cycle*, ed. by R. G. Zepp and C. Sonntag, Wiley, NY, 1995.
21. Zepp, R., T. V. Callahan, and D. J. Erickson III, "Effects of enhanced solar ultraviolet radiation on biogeochemical cycles," *Ambio* **24**(3), 181-187 (1995).
22. Guenther, A., C. N. Hewitt, D. J. Erickson III, R. Fall, C. Geron, T. Graedel, P. Harley, L. Klinger, M. Lerdau, W. A. McKay, T. Pierce, R. Scholes, R. Steinbrecher, R. Tallamraju, J. Taylor, and P. Zimmerman, "A global model of natural volatile organic compound emissions," *J. Geophys. Res.* **100**, 8873-8892 (1995).
23. Erickson, D. J. III, R. J. Oglesby, and S. Marshall, "Climate response to indirect anthropogenic sulfate forcing," *Geophys. Res. Lett.* **22**, 2017-2020 (1995).
24. Nevison, C., R. Weiss, and D. J. Erickson III, "Global oceanic nitrous oxide emissions," *J. Geophys. Res.* **100**, 15809-15820 (1995).

25. Friedlingstein, P., I. Fung, E. Holland, J. John, G. Brasseur, D. J. Erickson III, and D. Schimel, "On the contribution of the biospheric CO₂ fertilization to the missing sink," *Global Biogeochem. Cycles* **9**, 541-556 (1995).
26. Springer-Young, M., D. J. Erickson III, and T. Carsey, "Carbon monoxide gradients in the marine boundary layer of the Atlantic Ocean," *J. Geophys. Res.* **101**, 4479-4484 (1996).
27. Erickson, D. J. III, P. J. Rasch, P. P. Tans, P. Friedlingstein, P. Ciais, E. Maier-Reimer, K. Kurz, C. A. Fischer, and S. Walters, "The seasonal cycle of atmospheric CO₂: A study based on the NCAR Community Climate Model (CCM2)," *J. Geophys. Res.* **101**, 15079-15097 (1996).
28. Taylor, J. A., P. Zimmerman, and D. J. Erickson III, "A 3-D modelling study of the sources and sinks of atmospheric carbon monoxide," *Ecological Model.* **88**, 53-71 (1996).
29. Law, R. M., P. J. Raynor, A. S. Denning, D. J. Erickson III, I. Y. Fung, M. Heimann, S. C. Piper, M. Ramonet, S. Taguchi, J. A. Taylor, C. M. Trudinger, and I. G. Watterson, "Variations in modeled atmospheric transport of carbon dioxide and the consequences for CO₂ inversions," *Global Biogeochem. Cycles.* **10**, 783-796 (1996).
30. Meehl, G. A., W. Washington, D. J. Erickson III, B. P. Briegleb, and P. Jaumann, "Climate change from increased CO₂ and the direct and indirect effects of sulfate aerosols," *Geophys. Res. Lett.* **23**, 3755-3758 (1996).
31. Marshall, S., J. A. Taylor, R. J. Oglesby, J. W. Larson, and D. J. Erickson III, "Climatic effects of biomass burning," *Environ. Software* **11**, 53-59 (1996).
32. Klinger, L. F and D. J. Erickson III, "Geophysiological coupling of marine and terrestrial ecosystems," *J. Geophys. Res.* **102**, 25,359-25,370 (1997).
33. Zepp, R. G., T. V. Callaghan, and D. J. Erickson III, "Effects of enhanced solar ultraviolet radiation on biogeochemical cycles," *J. Photochem. Photobiol.* **46**, 69-82 (1998).
34. Erickson, D. J. III, C. Seuzaret, W. C. Keene, and S. L. Gong, "A general circulation model based calculation of HCl and ClNO₂ production from sea-salt dechlorination: Reactive Chlorine Emission Inventory," *J. Geophys. Res.* **104**, 8347-8372 (1999).
35. Keene, W. C., M. A. K. Khalil, D. J. Erickson III, A. McCulloch, T. E. Graedel, J. M. Lobert, M. L. Aucott, S.-L. Gong, D. B. Harper, G. Kleiman, P. Midgley, R. M. Moore, C. Seuzaret, W. T. Sturges, C. M. Benkovitz, V. Koropalov, L. A. Barrie, and Y.-F. Li, "Composite global emissions of reactive chlorine from

- anthropogenic and natural sources: Reactive Chlorine Emission Inventory," *J. Geophys. Res.* **104**, 8429-8440 (1999).
36. Khalil, M. A. K., R. M. Moore, D. B. Harper, D., J. M. Lobert,, D. J. Erickson III, V. Koropalov, W. T. Sturges, and W. C. Keene, "Natural emissions of chlorine containing gases: Reactive Chlorine Emmision Inventory," *J. Geophys. Res.* **104**, 8333-8346 (1999).
 37. Erickson, D. J. III, "Nitrogen deposition, terrestrial carbon uptake and changes in the seasonal cycle of atmospheric CO₂," *Geophys. Res. Lett.* **26**, 3313-3316 (1999).
 38. Erickson, D. J. III, R. Zepp, and E. Atlas, "Ozone depletion and the air-sea exchange of greenhouse and climate reactive gases," *Chemosphere - Global Change Science*, 137-149 (2000).
 39. Gabric, A., W. Gregg, R. G. Najjar, D. J. Erickson III, and P. Matrai, "Modeling the biogeochemical cycle of DMS in the upper ocean: A review," *Chemosphere - Global Change Science* **3**, 377-392 (2001).
 40. Pryor, S. C., R. J. Barthelmie, J. T. Schoof, L. L. Sorensen, D. J. Erickson III, "Implications of heterogeneous chemistry for nitrogen deposition to marine ecosystems: Observations and modeling," *J. Water, Air and Soil Pollution, Focus* **1**, 99-107 (2001).
 41. Erickson, D. J. III and J. L. Hernandez, "A global, high resolution, satellite-based model of air-sea isoprene flux," pp. 312-317, in *Gas Transfer at Water Surfaces*, ed. by M. A. Donelan, W. M. Drennan , E. S. Saltzman, and R. Wanninkhof, American Geophysical Union Monograph **127**, 312-317 (2002).
 42. Oglesby, R. J., S. Marshall, D. J. Erickson III, J. O. Roads, and F. R. Robertson, "Thresholds in atmosphere-soil moisture interactions: Results from climate model studies," *J. Geophys. Res.* **107**, D14, 10.1029/20015D001045 (2002).
 43. Zepp, R. G., T. V. Callaghan, and D. J. Erickson III, "Interactive effects of ozone depletion and climate change on biogeochemical cycles," *J. Photochem. Photobiol. B*, 51-61 (2003).
 44. Miller, A. J., M. A. Alexander, G. J. Boer, F. Chai, K. Denman, D. J. Erickson III, R. Frouin, A. Gabric, E. Laws, M. Lewis, Z. Liu, R. Murtugudde, S. Nakamoto, D. J. Neilson, J. R. Norris, C. Ohlmann, I. Perry, N. Schneider, K. Shell, and A. Timmermann, "Potential feedbacks between Pacific Ocean ecosystems and interdecadal climate variations," *Bull. Amer. Meteorolog. Soc.* **84**, 617-633 (2003).
 45. Erickson, D. J. III, J. Hernandez, P. Ginoux, W. Gregg, C. McClain, and J. Christian, "Atmospheric Iron Delivery and surface ocean biological activity in

- the Southern Ocean and Patagonian region," *Geophys. Res. Lett.* **30**(12), 1609, doi:10.1029/2003GL017241 (2003).
46. Branstetter, M. and D. J. Erickson III, "Continental runoff dynamics in the CCSM2.0," *J. Geophys. Res.* **108**(D17), 4550, doi: 10.1029/202JD003212 (2003).
 47. Andrady, A., P. J. Aucamo, A. F. Bais, C. L. Ballare, L. O. Bjorn, J. F. Bornman, M. Caldwell, A. P. Cullen, D. J. Erickson III, F. R. de Gruijl, D.-P. Hader, M. Ilyas, G. Kulandaivelu, H. D. Kumar, J. Longstreth, R. L. McKenzie, M. Norval, H. H. Redhwi, R. C. Smith, K. R. Solomon, Y. Takizawa, X. Tang, A. H. Teramura, A. Torikai, J. C. van der Leun, S. Wilson, R. C. Worrest, and R. G. Zeppl, "Environmental effects of ozone depletion and its interactions with climate change: Progress Report 2003," *Photochem. Photobiol. Sci.* **3**, 1-5 (2004).
 48. Kawa, S. R., D. J. Erickson III, S. Pawson, and Z. Zhu, "Global CO₂ transport simulations using meteorological data from the NASA data assimilation system," *J. Geophys. Res.* **109**(D18), D18312, 10.1029/2004JD004554 (2004).
 49. Chu, S., S. Elliott, M. Multrud, J. Hernandez, and D. J. Erickson III, "Ecodynamics and eddy-admitting dimethyl sulfide simulations in a global ocean biogeochemistry/circulation model," *Earth Interactions* **10**, 1175/1087-3562 (2004).
 50. Hadley, S. W., D. J. Erickson III, J. L. Hernandez, and S. Thompson, "Future U.S. energy use for 2000-2025 as computed with temperatures from a global climate prediction model and energy demand model," *Proceedings of the 24th Annual North American Conference of the USAEE/IAEE*, United States Association for Energy Economics, Cleveland, OH, (2004).
 51. Thompson, S., B. Govindasamy, A. Mirin, K. Caldeira, C. Delire, J. Milovich, M. Wickett, and D. J. Erickson III, "Quantifying the effects of CO₂-fertilized vegetation on future global climate and carbon dynamics," *Geophys. Res. Lett.* **31**, L23211, doi: 10.1029/2004/GL021239, (2004).
 52. Andrady, A., P. J. Aucamp, A. F. Bais, C. L. Ballare, L. O. Bjorn, J. F. Bornman, M. Caldwell, A. P. Cullen, D. J. Erickson III, F. R. de Gruijl, D.-P. Hader, M. Ilyas, G. Kulandaivelu, H. D. Kumar, J. Longstreth, R. L. McKenzie, M. Norval, H. H. Redhwi, R. C. Smith, K. R. Solomon, Y. Takizawa, X. Tang, A. H. Teramura, A. Torikai, J. C. van der Leun, S. Wilson, R. C. Worrest, and R. G. Zeppl, "Environmental effects of ozone depletion and its interactions with climate change: Progress Report 2004," *Photochem. Photobiol. Sci.* (2005).
 53. Hoffman, F. M., W. W. Hargrove, D. J. Erickson III, and W. Oglesby. 'Using clustered climate regimes to analyze and compare predictions from fully coupled general circulation models', *Earth Interactions*, 9, 1-27, (2005).

54. Andrady, A., P. J. Aucamp, A. F. Bais, C. L. Ballare, L. O. Bjorn, J. F. Bornman, M. Caldwell, A. P. Cullen, D. J. Erickson III, F. R. de Gruijl, D.-P. Hader, M. Ilyas, G. Kulandaivelu, H. D. Kumar, J. Longstreth, R. L. McKenzie, M. Norval, H. H. Redhwi, R. C. Smith, K. R. Solomon, Y. Takizawa, X. Tang, A. H. Teramura, A. Torikai, J. C. van der Leun, S. Wilson, R. C. Worrest, and R. G. Zepp, "Environmental effects of ozone depletion and its interactions with climate change: Progress Report 2004," *Photochem. Photobiol. Sci.*, 5, 13-24, (2006).
55. Hadley, S. W., D. J. Erickson, III, J. L. Hernandez, C. T. Broniak, and T. J. Blasing, "Responses of energy use to climate change: A climate modeling study", *Geophys. Res. Lett.*, 33, L17703, doi:10.1029/2006GL026652, (2006).
56. Hoffman, F., I. Fung, J. Randerson, P. Thornton, J. Foley, C. Covey, J. John, S. Levis, W. Post, M. Vertenstein, R. Stockli, S. Running, F. Heinsch, D. J. Erickson III and J. Drake, "Terrestrial biogeochemistry in the community climate system model (CCSM)", *J. Physics.: Conf.Ser* , 46, 363-369, doi:10.1088/1742-6596/46/1/051, (2006).
57. Hernandez, J. L., J. Srikishen, D. J. Erickson III, R. J. Oglesby and D. Irwin , "A regional climate study of Central America using the MM5 modeling system: results and comparison to observations", *International J. of Climatology*, 26, 2161-2179, doi: 10.1002/joc.1361, (2006).
58. Khan, S., A. R. Ganguly, S. Bandyopadhyay, S. Saigal, D. J. Erickson, III, V. Protopopescu, and G. Ostrouchov, "Nonlinear statistics reveals stronger ties between ENSO and the tropical hydrological cycle", *Geophys. Res. Lett.*, 33, L24402, doi:10.1029/2006GL027941, (2006).
59. Elliott, S. M., S. Chu, and D. J. Erickson III, "Contours of simulated marine dimethylsulfide distributions under variation in a Gabric mechanism, " *Environ. Software and Modeling*, 22(3), 349-358, (2007).
60. Angeles, M. E., J. E. Gonzalez and D. J. Erickson III, "The impacts of climate changes in the renewable energy resources in the Caribbean region", *Proc. Of AMSE International Solar Energy Conf.*, 467-481, (2007).
61. Zepp, R. G., D. J. Erickson III, N. D. Paul and B. Sulzberger, "Interactive effects of solar UV radiation and climate change on biogeochemical cycling", *Photochem. Photobiol. Sci.*, 6, 3, B700021A, 286-300, (2007).
62. Erickson, III, D.J., "Climate/Biogeochemical Implications of Sea-Air Gas Transfer: Background and Computational Testing", In: Zannetti, P., Rouson, D., and S. Elliott (Eds.), Environmental Science and Environmental Computing Volume III, Fiatlux and the Envirocomp Institute, (2007).

63. Khan, S., G. Kuhn, A. R. Ganguly, D. J. Erickson, III, and G. Ostrouchov , “Spatio-temporal variability of daily and weekly precipitation extremes in South America”, *Water Resour. Res.*, 43, W11424, doi:10.1029/2006WR005384., (2007).
64. Angeles, M. E., J. E. Gonzalez, D. J. Erickson III and J. L. Hernandez, ‘Predictions of future climate change in the Caribbean region using global circulation models’, *Int. J. of Climatology*, 27:5, 555-569, doi: 10.1002/joc1416, (2007).
65. Larson, J. W., A. P. Craig, J. B. Drake, D. J. Erickson III, M. L. Branstetter and M. W. Ham, ‘A massively parallel dynamical core for continental-to-global-scale river transport, *Proceedings of the International Congress on Modeling and Simulation*, (ModSim 2007), L. Oxley and D. Kulasiri (eds.), 532-538 (2007).
66. Khan, S. J., S. Bandyopadhyay, A. R. Ganguly, S. Saigal, D. J. Erickson III, V. Protopopescu and G. Ostrouchov, “Relative performance of mutual information estimation methods for quantifying the dependence among short and noisy time series”, *Physical Review E*, 76, 026209, (2007).
67. Elliott, S., S. Chu, C. Dean, and D.J. Erickson III, “TRACEGAS_MOD: Geochemical processing for low concentration volatiles in the CCSM ocean”, In: Zannetti, P., Rouson, D., and S. Elliott (Eds.), *Environmental Science and Environmental Computing Volume III*, Fiatlux and the Envirocomp Institute, (2007).
68. Chu, S., S. M. Elliott and D. J. Erickson III, “Basin Scale Carbon Monoxide Distributions in the Parallel Ocean Program”, *Earth Interactions*, 11, 22, p.1-30, (2007).
69. Andrade, A., P. J. Aucamp, A. F. Bais, C. L. Ballare, L. O. Bjorn, J. F. Bornman, M. Caldwell, A. P. Cullen, D. J. Erickson III, F. R. de Gruijl, D.-P. Hader, M. Ilyas, G. Kulandaivelu, H. D. Kumar, J. Longstreth, R. L. McKenzie, M. Norval, H. H. Redhwi, R. C. Smith, K. R. Solomon, Y. Takizawa, X. Tang, A. H. Teramura, A. Torikai, J. C. van der Leun, S. Wilson, R. C. Worrest, and R. G. Zepp, “Environmental effects of ozone depletion and its interactions with climate change: Progress Report 2008,” *Photochem. Photobiol. Sci.*, 8, 1, 13-22, (2008).
70. Erickson, D. J., III, R. T. Mills, J. Gregg, T. J. Blasing, F. M. Hoffman, R. J. Andres, M. Devries, Z. Zhu, and S. R. Kawa (2008), “An estimate of monthly global emissions of anthropogenic CO₂: Impact on the seasonal cycle of atmospheric CO₂”, *J. Geophys. Res.*, 113, G01023, doi:10.1029/2007JG000435, (2008).
71. Erickson, D. J. III, R.J. Oglesby, S. Elliott, W. Steffen and G. Brasseur, Challenges in Earth System Modeling: Approaches and Applications. In: A.J.Jakeman et al.,

- editors, *Developments in Integrated Environmental Assessment*, vol. 3. Amsterdam: Elsevier, p. 297, ISBN: 978-0-08-056886-7, (2008).
72. Kim, S. J., T. J. Crowley, D. J. Erickson III, B. Govindasamy, P. B. Duffy and B. Y. Lee, "High-resolution climate simulation of the last glacial maximum, *Climate Dynamics*, 31, 1, 1-16, (2008).
73. Hoffman, Forrest M., William W. Hargrove, Richard T. Mills, Salil Mahajan, David J. Erickson III, and Robert J. Oglesby. July 2008. "[Multivariate Spatio-Temporal Clustering \(MSTC\) as a Data Mining Tool for Environmental Applications.](#)" Miquel Sàncchez-Marrè, Javier Béjar, Joaquim Comas, Andrea E. Rizzoli, Giorgio Guariso (Eds.), *Proceedings of the iEMSs Fourth Biennial Meeting: International Congress on Environmental Modelling and Software (iEMSs 2008)*, ISBN 978-84-7653-074-0, International Environmental Modeling and Software Society, Barcelona, Catalonia, Spain.
74. Sisneros, R., M. Glatter, B. Langley, J. Huang, F. Hoffman and D. J. Erickson III, 'Time-varying multivariate visualization for understanding terrestrial biogeochemistry', *J. Phys.: Conf. Ser.*, 125, 12093 (6pp) doi: 10.1088/1742-6596/125/1/012093, (2008).
75. Washington, W. M., J. Drake, L. Buja, D. Anderson, D. Bader, R. Dickinson, D. J. Erickson III, P. Gent, S. Ghan, P. Jones and R. Jacob, 'The use of the Climate-science Computational End Station (CCES) development and grand challenge team for the next IPCC assessment: an operational plan, *J. Phys.: Conf. Ser.*, 125, 012024 (5pp) doi:10.1088/1742-6596/125/1/012024, (2008).
76. Unterman, M. B., T. J. Crowley, K. I. Hodges, S. J. Kim, and D. J. Erickson, III: Paleometeorology: visualizing mid-latitude dynamics at the synoptic level during the Last Glacial Maximum, *Clim. Past Discuss.*, 5, 1883-1899, (2009).
77. Liu, Z., B. L. Otto-Bliesner, F. He, E. Brady, R. Tomas, P. U. Clark, A. Carlson, J. Lynch-Stieglitz, W. Curry, E. Brook, D. J. Erickson III, R. Jacob, J. Kutzbach and J. Cheng, "Transient climate simulation of the last deglaciation towards Bolling-Allerod warming", *Science*, 325, 310, (2009); DOI:10.1126/science.1171041, (2009).
78. Ganguly, A. R., K. Steinhaeuser, D. J. Erickson III, M. Branstetter, E. S. Parish, N. Sing, J. B. Drake and L. Buja, "Higher trends but larger uncertainty and geographic variability in 21st century temperature and heat waves", *Proceedings of the National Academy of Sciences of the United States*, 10.1073/pnas.0904495106, (2009).
79. Erickson III, D. J., D. Jamison, M. Allen, A. Ganguly, F. Hoffman, S. Pawson, L. Ott, E. Neilson, "Data Mining Geophysical Content from Satellites and Global

- Climate Models," Data Mining Workshops, 2009. *ICDMW '09. IEEE International Conference on Data Mining*, vol., no., pp. 214-216, 6-9 Dec. (2009).
80. Oglesby, R. J., T. L. Sever, W. Saturno, D. J. Erickson, III, and J. Srikishen (2010), "Collapse of the Maya: Could deforestation have contributed?", *J. Geophys. Res.*, 115, D12106, doi:10.1029/2009JD011942, (2010).
 81. Angeles, M. E., J. E. Gonzalez, D. J. Erickson III and J. L. Hernandez, "The impacts of climate changes in the renewable energy resources in the Caribbean region", *J. Solar Energy Engineering Transactions of the ASME*, Vol. 132, 3, 0310091, (2010).
 82. Long, M. S., W. C. Keene, D. J. Kieber, D. J. Erickson III and H. Maring, "A sea-state based source function for size and composition resolved marine aerosol", *Atmos. Chem. Phys.*, 11, 1-14, www.atmos-chem-phys.net/11/1/2011doi:105194/acp-11-1-2011, (2011).
 83. Cameron-Smith, P., S. Elliott, M. Maltrud, D. J. Erickson III, and O. Wingenter (2011), "Changes in dimethyl sulfide oceanic distribution due to climate change", *Geophys. Res. Lett.*, 38, L07704, doi:10.1029/2011GL047069, (2011).
 84. Zepp, R. G., D. J. Erickson III, N. D. Paul and B. Sulzberger, "Effects of solar UV radiation and climate change on biogeochemical cycling: Interactions and feedbacks", *Photochem. Photobiol. Sci.*, (2011), 10, 261-279, doi:10.1039/c0pp90037k, (2011).
 85. Kendall, W., J. Wang, M. Allen, T. Peterka, J. Huang, D. J. Erickson III, "Simplified Parallel Domain Traversal", Proc. of SC'11 (Intl. Conference for High Performance Computing, Networking, Storage and Analysis), *SuperComputing 2011*, November 2011, Seattle, WA (2011). (**Won best student paper at SC2011**).
 86. Unterman, M. B., K. I. Hodges, T. J. Crowley, S. J. Kim, D. J. Erickson III, S. F. B. Tett, "Paleometeorology: High resolution Northern Hemisphere wintertime mid-latitude dynamics during the Last Glacial Maximum", *Geophys. Res. Lett.*, 38, L23702, doi: 10.1029/2011GL049599, (2011).
 87. Andres, R. J., T. A. Boden, F.-M. Breon, P. Ciais, S. Davis, D. J. Erickson III, J. S. Gregg, A. Jacobson, G. Marland, T. Oda, J. Oliver, M. Raupach, P. Rayner and K. Treanton, "A synthesis of carbon dioxide emissions from fossil fuel combustion", *Biogeosciences*, 9, 1845–1871, 2012 www.biogeosciences.net/9/1845/2012/, (2012).

88. Allen, M., D. J. Erickson III, W. Kendall, J. Fu, L. Ott and S. Pawson, "The Influence of Internal Model Variability in GEOS-5 on Interhemispheric CO₂ Exchange", *J. Geophys. Res.*, 117, D10107, doi:10.1029/2011JD017059, (2012).
89. Steed, C. A., G. Shipman, P. Thornton, D. Ricciuto, D. J. Erickson III and M. Branstetter, "Practical Application of Parallel Coordinates for Climate Model Analysis", Third Workshop on Data Mining in Earth System Science (DMESS), 9, 877-886, *Procedia Computer Science*, <http://dx.doi.org/10.1016/j.procs.2012.04.094>, (2012).
90. Long, M.S., R., Easter, W. C. Keene, R. Sander, A. Kerkweg, D. J. Erickson III, X. Liu, S. Ghan, "Implementation of the chemistry module MECCA (v2.5) in the modal aerosol version of the Community Atmosphere Model component (v3.6.33) of the Community Earth System Model", *Geosci. Model Dev. Discuss.*, 5, 1483-1501, 2012, www.geosci-model-dev-discuss.net/5/1483/2012/ doi:10.5194/gmdd-5-1483-2012, (2012).
91. Kodra, E., E. S. Parish, D. Kumar, S.-C. Kao, K. Steinhaeuser, A. Sorokine, M. L. Branstetter, D. J. Erickson III, N. Singh and A. R. Ganguly, "Cascade of uncertainty in freshwater availability assessments from climate and population change", Submitted, (2012).
92. Long, M.S., R., Easter, W. C. Keene, R. Sander, A. Kerkweg, D. J. Erickson III, X. Liu, S. Ghan, "Sensitivity of tropospheric composition and climate to halogen-radical chemistry using a fully coupled GCM/size-resolved multiphase chemical system in CESM I: Halogen distributions, aerosol composition, and sensitivity of climate-relevant gases", Submitted, (2012).
93. Oglesby, R. J., D. J. Erickson III, A. Ganguly, M. Allen, E. Parrish, M. Branstetter and L. Buja, "The summertime response of the hydrologic cycle over the US to the A1FI greenhouse gas emission scenario", Submitted, (2012).
94. Erickson, D. J. III, R. J. Andres, M. S. Long, F. M. Hoffman, M. L. Branstetter and M. R. Allen, "Monthly fossil fuel CO₂ fluxes: Impact on atmospheric CO₂ seasonal cycles and implications for models of the terrestrial biosphere", Submitted, (2012).
95. Ganguly, A. R., S.-C Kao, K. Steinhaeuser, E. Kodra, E. S. Parish, A. Sorokine, M. L. Branstetter, D. J. Erickson III and N. Singh, "Evaluation of hydrometeorological projections from earth system models", Submitted, (2012).
96. Hoffman, F. M., W. W. Hargrove, R. T. Mills, S. Mahajan, D. J. Erickson III and R. J. Oglesby, "Environmental applications of multivariate spatio-temporal clustering (MSTC)", In prep., (2012).
97. Blasing, T. J., D. J. Erickson III, S. Hadley, C. Broniak, and G. Marland, "Global warming may increase carbon emissions from the United States," In prep., (2012).

Published Abstracts

1. Dickson, S. M. and D. J. Erickson III, "Meteoritic trace element toxification and the terminal Mesozoic mass extinction," Geological Society of America, Fall Meeting, Orlando, FL., Oct. 28-31, 1985.
2. Erickson, D. J. III and S. M. Dickson, "Paleochemical perturbations from volcanic and meteoritic trace element aerosol fluxes to the global ocean: The biological response," Poster session, Second International Conference on Paleoceanography, Woods Hole Oceanographic Institution, Woods Hole, MA, Sept. 6-13, 1986.
3. Erickson, D. J. III, and S. M. Dickson, "Selective trace element toxification of marine biota: A new mechanism for preferential mass extinctions," Poster session, Norman Watkins Symposia on the Environmental Effects of Volcanism, Graduate School of Oceanography, University of Rhode Island, Narragansett, R. I., Mar. 13-14, 1986.
4. Erickson, D. J. III, J. T. Merrill, and R. A. Duce, "On the annual budget of atmospheric sea-salt," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 8, 1986.
5. Erickson, D. J. III, "On the global distribution and flux of atmospheric sea-salt," Dissertations Symposium on Chemical Oceanography, Honolulu, HI, Feb. 7-14, 1987.
6. Erickson, D. J. III, "Simulating the global transfer velocity fields of trace gases," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 7, 1987.
7. Erickson, D. J. III, "Variations in the global transfer velocity fields of trace gases: Biogeochemical importance," Ocean Sciences Meeting, American Geophysical Union, New Orleans, LA, Jan. 18, 1988.
8. Erickson, D. J. III, "Air-sea exchange of CO₂: Climatic implications," Chapman Conference on Gaia Hypothesis, San Diego, CA, Mar. 7-11, 1988.
9. Oglesby, R. J. and D. J. Erickson III, "Surface Moisture and the persistence of mid-latitude drought: A GCM study," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 6-11, 1988.
10. Galer, S. J. G., J. D. Macdougall, and D. J. Erickson III, "Pb isotopic composition of sediments across the Cretaceous/Tertiary boundary, DSDP Site 577A," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 6-11, 1988.

11. Szak, C. and D. J. Erickson III, "Some factors related to the ocean-to-atmosphere flux of carbon monoxide," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 6-11, 1988.
12. Erickson, D. J. III, "Ocean-atmosphere CO₂ exchange: The last glacial," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 6-11, 1988.
13. Erickson, D. J. III, "Global atmospheric biogeochemical cycling: Simulating the oceanic source of trace gases to the atmosphere," International Conference on Global and Regional Environmental Atmospheric Chemistry, Beijing, China, May 3-10, 1989.
14. Kreidenweis, S. M., J. E. Penner, D. J. Erickson, Y. Yin, and J. H. Seinfeld, "The effects of dimethyl sulfide fluxes upon marine aerosol concentrations," Fall Meeting, American Assoc. for Aerosol Research, Reno, NV, Oct. 9-13, 1989.
15. Ghan, S., K. E. Taylor, J. E. Penner, and D. J. Erickson III, "Marine CCN concentration and cloud distributions," Fall Meeting, American Assoc. for Aerosol Research, Reno, NV, Oct. 9-13, 1989.
16. Erickson, D. J. III, J. E. Penner, and S. J. Ghan, "Global ocean-to-atmosphere dimethyl sulfide flux," Fall Meeting, American Assoc. for Aerosol Research, Reno, NV, Oct. 9-13, 1989.
17. Erickson, D. J. III, J. J. Walton, S. J. Ghan, and J. E. Penner, "3-D modeling of the global atmospheric sulfur cycle: The origin of cloud condensation nuclei over the North Atlantic region," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 4-9, 1989.
18. Erickson, D. J. III, J. J. Walton, S. J. Ghan, and J. E. Penner, "3-D modeling of the global atmospheric sulfur cycle: The origin of cloud condensation nuclei," Annual Meeting, American Meteorlogical Society, Anaheim, CA, Feb. 6, 1990.
19. Ghan, S., D. J. Erickson III, J. J. Walton, and J. E. Penner, "A simple 3-D model of the global atmospheric sulfur cycle," Third Workshop on the CCM, National Center for Atmospheric Research, Boulder, CO, July 16-20, 1990.
20. Dignon, J., J. E. Penner, C. S. Atherton, J. J. Walton, S. J. Ghan, D. J. Erickson III, S. Kreidenweis, and S. Hameed, "Tropospheric chemistry: A study of sources, distributions, transport, and climatic effects," U.S./P.R.C. Atmospheric Chemistry Workshop, Shanghai, China, Aug. 1-4, 1990.
21. Erickson, D. J. III, "Numerical modeling of the atmospheric sulfur cycle with inferences about volcanic influences on climate," Norman Watkins Symposia on

Volcanism and Climate, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, Sept. 21, 1990.

22. Erickson, D. J. III and J. A. Taylor, "Oceanic CO flux to atmosphere influences tropospheric chemistry," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 3-7, 1990.
23. Erickson, D. J. III, "A stability dependent model for air-sea gas exchange," NATO ASI on the Carbon Cycle, Il Chiocho, Italy, Sept. 8-20, 1991.
24. Erickson, D. J. III, "The influence of increased UVB radiation on global biogeochemical cycles," SCOPE Workshop, Effects of increased UV radiation on biological systems, Budapest, Hungary, Feb. 17-22, 1992.
25. Erickson, D. J. III, "Simulation of biogeochemical fluxes at the ocean-atmosphere interface: Satellite and 3-D model results," European Geophysical Society Annual Meeting, Edinburgh, Scotland, April 6-10, 1992.
26. Erickson, D. J. III and R. J. Oglesby, "Sensitivity tests of climate models to perturbations on cloud albedo from anthropogenic sulfur," American Geophysical Union Spring Meeting, Montreal, Canada, May 1-7, 1992.
27. Erickson, D. J. III and R. J. Oglesby, "General circulation model response to perturbations in cloud albedo from anthropogenic sulfur," Second International Conference on Modeling of Global Climate Change and Variability, Max-Planck Institut fur Meteorologie, Hamburg, Germany, Sept. 7-11, 1992.
28. Erickson, D. J. III, "Global biogeochemical flux calculations: The merging of CZCS data with 3-D general circulation models," Fall Meeting, American Geophysical Union, San Francisco, CA, Dec. 7-12, 1992.
29. Erickson, D. J. III, "Ocean-atmosphere trace gas biogeochemistry and climate related global atmospheric effects," First International Global Atmospheric Chemistry Conference, Eilat, Israel, April 18-22, 1993.
30. Guenther, A., 6 others, D. Erickson, 27 others, "Global natural VOC emissions: A GEIA Inventory and assessment of uncertainties," First International Global Atmospheric Chemistry Conference, Eilat, Israel, April 18-22, 1993.
31. Erickson, D. J. III, P. J. Rasch, P. P. Tans, and P. Friedlingstein, "A global 3-D atmospheric CO₂ model," Chemical Oceanography Gordan Conference, Meridan, NH, Aug. 16-20, 1993.
32. Erickson, D. J. III and 14 others, "A new three-dimensional global carbon cycle model," 4th International CO₂ Conference, Carqueiranne, France, Sept. 13-17, 1993.

33. Friedlingstein, P., I. Fung, E. Holland, G. Brasseur, D. J. Erickson III, and D. Schimel, "Is CO₂ fertilization of the biosphere a candidate for the missing sink? Results from a new modeling approach", 4th International CO₂ Conference, Carqueiranne, France, Sept. 13-17, 1993.
34. Erickson, D. J. III, "Air-sea gas exchange in polar oceans: The merging of CZCS data with GCMs," **INVITED**, 1994 Ocean Sciences/AGU Meeting, San Diego, CA, Feb. 21-25, 1994.
35. Randel, W. J. and D. J. Erickson III, "Carbon dioxide variability in a GCM associated with baroclinic waves," Conference on lifecycles of extra-tropical cyclones, Bergen, Norway, June 27-July 1, 1994.
36. Erickson, D. J. III, R. J. Oglesby, and S. Marshall, "Aerosol-climate interactions: Assessing the indirect climate effect with a general circulation model," **INVITED**, AGU Western Pacific Meeting, Hong Kong, July 25-29, 1994.
37. Erickson, D. J. III, "Air-sea exchange on the global scale: Coupled chemistry-climate atmospheric GCM requirements," AGU Western Pacific Meeting, Hong Kong, July 25-29, 1994.
38. Najjar, R. G., R. F. Keeling, and D. J. Erickson III, "A global seasonal climatology of oxygen in the surface ocean," AGU Western Pacific Meeting, Hong Kong, July 25-29, 1994.
39. Najjar, R. G., D. J. Erickson III, and S. Madronich, "Modeling of the upper ocean CO and OCS cycles and the influence of stratospheric ozone depletion," AGU Spring Meeting, Baltimore, MD, June 25-29, 1994.
40. Erickson, D. J. III and P. Ciais, "Stable isotopic constraints on the distributions and fluxes of CO₂: A global 3-D GCM study using the NCAR CCM2," Second IGAC Scientific Conference, Fuji-Yoshida, Japan, Sept. 5-9, 1994.
41. Guenther, A., G. Brasseur, D. J. Erickson III, S. Fally, and E. Favenne, "Impact of changing natural volatile organic compound emissions on global tropospheric chemistry," Second IGAC Scientific Conference, Fuji-Yoshida, Japan, Sept. 5-9, 1994.
42. Erickson, D. J. III and C. A. Fischer, "Global emission inventory estimates of the ocean source of NMHC: A modeling approach," AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 1994.
43. Erickson, D. J. III, "Global atmospheric modeling of CO₂," **INVITED**, NOPACCS International Symposium on the Global Carbon Cycle, Osaka, Japan, Jan. 10-11, 1995.

44. Marshall, S., R. J. Oglesby, J. A. Taylor, and D. J. Erickson III, "Climatic effects of biomass burning," Chapman Conference on Biomass Burning and Global Climate, Williamsburg, VA, Mar. 13-17, 1995.
45. Marshall, S., J. A. Taylor, S. D. Prager, R. J. Oglesby, J. W. Larson, and D. J. Erickson III, "Climatic effects of biomass burning," MODSIM 95 (International Congress on Modeling and Simulation 1995), **INVITED**, New Castle, New South Wales, Australia, Nov. 27-30, 1995.
46. Erickson, D. J. III, R. J. Oglesby, and S. Marshall, "Assessing the climate response to the indirect climate forcing with a general circulation model," IUGG, Boulder, CO, July 2-14, 1995.
47. Erickson, D. J. III, P. J. Rasch, P. P. Tans, P. Friedlingstein, P. Ciais, G. P. Brasseur, E. Maier-Reimer, K. Kurz, D. Schimel, C. A. Fischer, and S. Walters, "Global 3-D modeling of atmospheric $^{12}\text{CO}_2$ and $^{13}\text{CO}_2$," IUGG, Boulder, CO, July 2-14, 1995.
48. Erickson, D. J. III and G. P. Brasseur, "Global systems integration: atmospheric chemistry and the climate response of Earth system models," First GIAM Scientific Conference, Garmisch-Partenkirchen, Germany, Sept. 25-29, 1995.
49. Erickson, D. J. III, "Numerical experiments with biogeochemical cycles and Earth system models," WMO-IGAC Conference on the Measurement and Assessment of Atmospheric Composition Change, Beijing, China, Oct. 9-13, 1995.
50. Erickson, D. J. III, P. J. Rasch, S. L. Thompson, D. Pollard, C. Fischer, and J. L. Caron, "Global climate system modeling," AGU Western Pacific Geophysics Meeting, Brisbane, Australia, July 23-27, 1996.
51. Erickson, D. J. III, R. J. Oglesby, S. Marshall, G. Meehl, W. Washington, and C. Fischer, "Climate and atmospheric sulfate aerosol: 3-D GCM simulations assessing the chemically induced physical response," **INVITED**, AGU Western Pacific Geophysics Meeting, Brisbane, Australia, July 23-27, 1996.
52. Lee, J. M., J. F. Muller, G. P. Brasseur, S. C. Doney, and D. J. Erickson III, "Modeled distribution of methyl bromide in a 3-D coupled ocean-atmosphere study," AGU Fall Meeting, San Francisco, CA, Dec. 15-20, 1996.
53. Klinger, L. F. and D. J. Erickson III, "Biogeochemical coupling of marine and peatland ecosystems," AGU Fall Meeting, San Francisco, CA, Dec. 15-20, 1996.
54. Keene, W. C., D. J. Erickson III, A. A. P. Pszenny, R. Sander, C. Seuzaret, and S.-L. Gong, "Chemical processes involving sea-salt: A global perspective," **INVITED**, Symposium on Heterogeneous and Homogeneous Processes in

Atmospheric Chemistry, American Chemical Society National Meeting,
Las Vegas, NV, Sep. 12, 1997.

55. Erickson, D. J. III, C. Seuzaret, W. Keene, and S. L. Gong, "A GCM-based model of HCl and ClNO₂ production from sea-salt dechlorination: The reactive chlorine emissions inventory," AGU Fall Meeting, San Francisco, CA, Dec. 8-12, 1997.
56. Matrai, P., D. J. Erickson III, K. R. Rivera, C. Seuzaret, and M. Vernet, "Modeling DMS production in the Barents Sea region," **INVITED**, AGU Fall Meeting, San Francisco, CA, Dec. 8-12, 1997.
57. Keene, W. C., M. A. K. Khalil, D. J. Erickson III, and 15 others, "Composite global emissions of reactive chlorine from natural and anthropogenic sources: Reactive chlorine emissions inventory," AGU Fall Meeting, San Francisco, CA, Dec. 8-12, 1997.
58. Erickson, D. J. III and W. W. Gregg, "Global air-sea trace gas flux estimates with NASA SeaWiFS data and assimilated meteorological fields," Surface Ocean Lower Atmosphere Study (SOLAS) Science Conference, Damp, Germany, Feb. 20-24, 2000.
59. Erickson, D. J. III, "Global ocean to atmosphere isoprene flux," **INVITED**, AGU Spring Meeting, Washington, DC, May 31, 2000.
60. Erickson, D. J. III, "Global air-sea trace gas flux estimates with NASA SeaWiFS data and assimilated observation-based meteorological fields," 4th International Symposium on Gas Transfer at Water Surfaces, Miami Beach, FL, June 5-8, 2000.
61. Erickson, D. J. III, "Global modeling of air-sea gas flux," Air-sea Interaction Workshop, Tropical Atmospheric Science Center, University of Puerto Rico, La Parguera, Puerto Rico, July 31-Aug. 3, 2000.
62. Erickson, D. J. III, J. L. Hernandez, P. Ginoux, W. Gregg, S. R. Kawa, W. Esaias, C. McClain, and J. Christian, "The correlation between atmospheric dust deposition to the surface ocean and SeaWiFS ocean color: A global satellite-based analysis," **INVITED**, AGU Fall meeting, San Francisco, CA, Dec. 15-22, 2000.
63. Oglesby, R. J., S. Marshall, D. J. Erickson III, F. R. Robertson, J. O. Roads, F. Hoffman, and W. Hargrove, "Soil moisture and snow cover: Active or passive elements of climate?," 4th International Scientific Conference on the Global Energy and Water Cycle, Paris, France, 10-14, Sept. 2001.
64. Kawa, S. R., Z. Zhu, D. J. Erickson III, and S. Pawson , "Model simulations of CO₂ transport using assimilated meteorological fields," AGU Fall meeting, San Francisco, CA, Dec. 11-14, 2001.

65. Hernandez, J. L. and D. J. Erickson III, "Sea surface heat flux in the Northern tropical Atlantic and mineral aerosol distribution," AGU Fall meeting, San Francisco, CA, Dec. 11-14, 2001.
66. Oglesby, R. J., S. Marshall, D. J. Erickson III, F. R. Robertson, J. O. Roads, F. M. Hoffman, and W. Hargrove, "Soil moisture and snow cover: Active or passive elements of climate?" American Meteorological Society (AMS) Meeting, May 12, 2002.
67. Hoffman, F. M., W. W. Hargrove, D. J. Erickson, and R. J. Oglesby, "Animations and Early Clustering Results Using PCM Model Output," Community Climate System Model (CCSM) Annual Meeting, Climate Change and Assessment Working Group, Breckenridge, CO, June 25-28, 2002.
68. Branstetter, M. L., D. J. Erickson III, and J. B. Drake, "Continental runoff dynamics in the CCSM2.0 control simulation," Community Climate System Model (CCSM) Annual Meeting, Breckenridge, CO, June 25-28, 2002.
69. Hoffman, F. M., W. W. Hargrove, D. J. Erickson III, and R. J. Oglesby, "Data mining with multivariate Spatio-temporal clustering," INVITED, C. Warren Neel Conference on the New Frontiers of Statistical Data Mining and Knowledge Discovery, Knoxville, TN, June 22-25, 2002.
70. Hoffman, F. M., W. W. Hargrove, D. J. Erickson, and W. Oglesby, "Using clustering to establish climate regimes from a global climate model," U.S. Department of Energy, Office of Biological and Environmental Research Seminar, Germantown, MD, September 6, 2002.
71. Hernandez, J. L., D. J. Erickson III, P. Ginoux, W. Gregg, C. McClain, and J. Christian, "Atmospheric iron flux and surface chlorophyll in the South Atlantic Ocean: A case study near Patagonia," AGU Fall meeting, San Francisco, CA, Dec. 6-10, 2002.
72. Hoffman, F. M., W. W. Hargrove, D. J. Erickson III, and R. Oglesby, "Using clustering to establish climate regimes from PCM output," AGU Fall meeting, San Francisco, CA, Dec. 6-10, 2002.
73. Sale, M. J., M. L. Branstetter, F. Pan, F. M. Hoffman, W. W. Hargrove, and D. J. Erickson III, "Regional water cycle studies: Models and observations," US-Japan Workshop on the Water Cycle, Irvine, CA, Jan. 20-22, 2003.
74. Branstetter, M. L., D. J. Erickson III, and J. B. Drake, "Interannual variability and continental runoff in the CCSM2 Control simulation," American Meteorological Society Annual Meeting, Long Beach, CA, Feb. 9-13, 2003.

75. Hoffman, F. M., W. W. Hargrove, D. J. Erickson III, and R. Oglesby, "Using clustered climate regimes for understanding water cycle variability," American Meteorological Society Annual Meeting, Long Beach, CA, Feb. 9-13, 2003.
76. Branstetter, M.L. and D.J. Erickson III, "Improved representation of rivers in climate models," 7th SIAM Conference on Mathematical and Computational Issues in the Geosciences, Society for Industrial and Applied Mathematics, Austin, TX, March 17, 2003.
77. Branstetter, M. L., M.A. Wolinsky, D.J. Erickson III, R. Oglesby, and S. Marshall, "CCSM2 sensitivity to a single global soil moisture perturbation," CCSM2 Workshop, Breckenridge, CO, June 26, 2003.
78. Branstetter, M. L., D. J. Erickson III, M. Wolinsky, R. Oglesby, and S. Marshall, "Soil moisture sensitivity in CCSM2," Land Model Working Group Meeting, CCSM2 Workshop, Breckenridge, CO, June 27, 2003.
79. Erickson, D. J. III, "Global climate modeling in a tera-scale computational environment," **INVITED**, American Physical Society (Southeastern section), Annual Meeting, Wrightsville Beach, NC, Nov. 4, 2003.
80. Hoffman, F. M., W. W. Hargrove, D. J. Erickson III, and R. Oglesby, "A novel method for analyzing and interpreting GCM results using clustered climate regimes," AGU Fall Meeting, San Francisco, CA, Dec. 8-12, 2003.
81. Branstetter, M. L., D. J. Erickson III, J. B. Drake, and S. J. Ghan, "High resolution river routing in the CCSM2 climate system model," AGU Fall meeting, San Francisco, CA, Dec. 8-12, 2003.
82. Oglesby, R. J., D. J. Erickson III, and F. R. Robertson, "Modeling intra-seasonal to interannual variability of precipitation over Central America," AGU Fall Meeting, San Francisco, CA, Dec. 8-12, 2003.
83. King, A. W., W. M. Post, S. D. Wullschleger, L. Gu, D. J. Erickson III, and S. L. Thompson, "Temperature acclimation in the terrestrial biosphere and implications for global climate-carbon cycle feedbacks," AGU Fall meeting, San Francisco, CA, Dec. 8-12, 2003.
84. Branstetter, M. L., D.J. Erickson III, and J. Drake, "Climate science research at ORNL," CCSM3 Workshop, Santa Fe, NM, July 6-9, 2004.
85. King, A. W., W. M. Post, S. D. Wullschleger, L. Gu, D. J. Erickson III, and S. L. Thompson, "Temperature acclimation in the terrestrial biosphere and implications for global climate-carbon cycle feedbacks," CCSM3 Workshop, Santa Fe, NM, July 6-9, 2004.

86. King, A. W., W. M. Post, M. L. Tharp, D. J. Erickson III, and S. L. Thompson, “The influence of biospheric temperature acclimation and choice of temperature response function on feedbacks in coupled climate-carbon cycle models,” AGU Fall Meeting, San Francisco, CA, Dec. 13-20, 2004.
87. Oglesby, R. J., D. J. Erickson III, J. Hernandez, and D. Irwin, “Modeling and evaluating the impact of deforestation on precipitation over Central America,” AGU Fall Meeting, San Francisco, CA, Dec. 13-20, 2004.
88. Elliott, S., M. Maltrud, S. Chu, and D. J. Erickson III, “A marine trace gas cycling module for community climate system simulations,” Los Alamos National Laboratory Technical Report LA-UR-04-8200, 2004a.
89. Elliott, S., M. Maltrud, S. Chu, and D. J. Erickson III, “Trace gas module, Los Alamos National Laboratory Open Source Computer Code LA-CC-04-150, 2004b, October, 2004.
90. Moises-Angeles, J. E. Gonzalez, P. Mulero, D. J. Erickson III and J. Hernandez, “Assesment of PCM results for predictions of climate change in the Caribbean”, 85th Meeting of the American Meteorological Society, San Diego, CA, Jan. 11-15, 2005.
91. Kawa, S. R., A. S. Denning, D. J. Erickson III, J. C. Collatz, and S. Pawson, “Modeling atmospheric CO₂ processes to constrain the missing sink,” OCO Workshop, JPL/CalTech, Pasadena, CA, March 15-17, 2005.
92. Matrai, P. A., J. Dacey, G. DiTullio, D. J. Erickson III, A. Gabric, W. Gegg, D. Kieber, R. Najjar, and R. Simo, “Complex molecular to global interactions and feedbacks in the marine DMS cycle: I. Subtropical gyre,” Biocomplexity PIs Meeting, National Science Foundation, Washington, DC, March 21-23, 2005.
93. Ganguly ,A, S. Khan, D. J. Erickson III, R. W. Katz, G. Ostrouchov, V. A. Protopopescu, S. Bandyopadhyay, and S. Saigal, “Multivariate dependence in complex systems,” 5th Symposium on Understanding Complex Systems with the Focus on Computational Complexity and Bioinformatics, University of Illinois, Urbana-Champaign, IL, May 16 -19, 2005.
94. Matrai, P. A., J. Dacey, G. DiTullio, D. J. Erickson III, A. Gabric, W. Gegg, D. Kieber, R. Najjar, and R. Simo, “Complex molecular to global interactions and feedbacks in the marine DMS cycle: I. Subtropical gyre,” ASLO Summer Meeting, Compesta, Spain, June 19-24, 2005.
95. Ganguly, A. R., T. Hsing, R. Katz, D. J Erickson III, G. Ostrouchov, T. Wilbanks, and N. Cressie, “Multivariate dependence among extremes, abrupt change and anomalies in space and time for climate applications,” KDD Workshop, July 10, 2005.

96. Elliott, S., M. Maltrud, S. Chu, and D. J. Erickson III, "TRACEGAS_MOD: Processing for volatiles in the community climate system model ocean," Los Alamos National Laboratory Technical Report LA-UR-05-0673, 2005a.
97. Elliott, S., M. Maltrud, S. Chu, and D. J. Erickson III, "Dissolved sulfur gas module," Los Alamos National Laboratory Open Source Computer Code LA-CC-05-027, 2005b, March 2005.
98. Branstetter, M. L., D. J. Erickson III, and S. Ghan, "Hydrology results from CCSM3 control and select IPCC simulations," CCSM3 Workshop, Breckenridge, CO, June 21-23, 2005.
99. Hoffman, F., A. Mirin, J. Foley, W. Post, D. J. Erickson III, B. Govindasamy, and A. King, "CCSM3-IBIS: Initial testing of a terrestrial dynamic global ecosystem model fully coupled to CCSM3," CCSM3 Workshop, Breckenridge, CO, June 21-23, 2005.
100. Oglesby, R. J., D. J. Erickson III, J. L. Hernandez and D. Irwin, "Coupled Global-Regional climate model simulations of future changes in hydrology over Central America", AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2005.
101. Erickson, D. J. III, M. Branstetter and R. J. Oglesby, "Non-linear feedbacks in the future hydrologic cycles", AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2005.
102. Kim, S., T. J. Crowley, D. J. Erickson III, B. Govindasamy and P. B. Duffy, "High-resolution simulation of the global climate and Asian monsoon at 6000 years BP", AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2005.
103. Barry, J. P., E. E. Adams, R. Bleck, K. Caldeira, K. Carman, D. J. Erickson III, J. P. Kennett, J. L. Sarmiento and C. Tsouris, "Ecosystem and societal consequences of ocean versus atmosphere carbon storage", AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2005.
104. Erickson, D. J. III, J. Foley, F. M. Hoffman, A. W. King, and A. Mirin. "[Global Coupled Climate-Carbon Models: CCSM3 Coupled with the Integrated Biosphere Simulator \(IBIS\)](#)." American Association for the Advancement of Science (AAAS) Annual Meeting, St. Louis, Missouri, Feb. 20, 2006.
105. Chu, S., S. M. Elliott and D. J. Erickson III, 'Carbon Monoxide in the Parallel Ocean Program', AGU Ocean Sciences Meeting, Honolulu, Hawaii, Feb. 23-27, 2006.
106. Elliott, S. M., S. Chu, M. Maltrud and D. J. Erickson III, 'Sulfur cycling in the parallel ocean program', 4th International symposium on biological and

environmental chemistry of DMS(P) and related compounds, School of Environmental Sciences, University of East Anglia, May 2-6, 2006.

107. Erickson, D. J. III et al., 'A coupled biogeochemistry – physical climate simulation', CCSM3 Workshop, Breckenridge, CO, June 20-22, 2006.
108. Hoffman, F. M. et al., 'Terrestrial biogeochemistry in CCSM', CCSM3 Workshop, Breckenridge, CO, June 20-22, 2006.
109. Branstetter, M. et al., 'Hydrology in the IPCC simulations', CCSM3 Workshop, Breckenridge, CO, June 20-22, 2006.
110. Erickson III, D. J., R. J. Oglesby, S. Elliott and F. M. Hoffman, 'Peta-scale climate modeling: Biogeochemical and financial feedbacks', Proceedings of the 3rd Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs), Summit on Environmental Modelling and Software, Burlington, VT, July 10-14, 2006.
111. Hoffman, F. M., I. Fung, W. M. Post, and D. J. Erickson III, "Recent Results From Coupled Climate/Carbon-Cycle Models in CCSM3, Proceedings of the 3rd Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs), Summit on Environmental Modelling and Software, Burlington, VT, July 10-14, 2006.
112. Oglesby, R. J., D. J. Erickson III, D. Irwin and T. Sever, 'Human-induced land use changes: What can Earth system models tell us about climatic implications?', Proceedings of the 3rd Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs), Summit on Environmental Modelling and Software, Burlington, VT, July 10-14, 2006.
113. Erickson, D. J. III, T. J. Blasing, R. T. Mills, F. M. Hoffman, M. T. DeVries, Z. Zhu and S. R. Kawa, 'Monthly global emissions of anthropogenic CO₂: Atmospheric CO₂ transport calculations based on NASA data assimilation', Joint workshop on NASA Biodiversity, Terrestrial Ecology and Related Applied Sciences, University of Maryland, Adelphi, MD, Aug. 21-25, 2006.
114. Kawa, S. R., A. S. Denning, G. J. Collatz, D. J. Erickson III, 'Progress in Modeling Global Atmospheric CO₂ Fluxes and Transport', Joint workshop on NASA Biodiversity, Terrestrial Ecology and related Applied Sciences, University of Maryland, Adelphi, MD, Aug. 21-25, 2006.
115. Fuller, C. T., A. Sabesan, S. Khan, A. R. Ganguly, D. J. Erickson III and G. Ostrouchov, 'Quantification and visualization of the human impacts of anticipated precipitation extremes in South America', AGU Fall Meeting, San Francisco, CA, Dec. 11-15, 2006.

116. Erickson, D. J. III, T. J. Blasing, R. T. Mills, F. M. Hoffman, M. T. DeVries, Z. Zhu and S. R. Kawa, ‘Monthly global emissions of anthropogenic CO₂: Atmospheric CO₂ transport calculations based on NASA data assimilation’, AGU Fall Meeting, San Francisco, CA, Dec. 11-15, 2006.
117. Hadley, S. W., D. J. Erickson III, J. L. Hernandez, C. T. Broniak and T. J. Blasing, ‘Responses of energy use to climate change: A climate modeling study’, AGU Fall Meeting, San Francisco, CA, Dec. 11-15, 2006.
118. Hoffman, F. M., I. Fung, J. Randerson, P. Thornton, R. Stockli, F. Heinsch, S. Running, K. Hibbard, J. John, C. Covey, J. Foley, W. M. Post, W. W. Hargrove, D. J. Erickson III and N. Mahowald, ‘Preliminary results from the CCSM Carbon-Land Model Intercomparison Project (C-LAMP)’, AGU Fall Meeting, San Francisco, CA, Dec. 11-15, 2006.
119. Kawa, S. R., G. J. Collatz, A. S. Denning and D. J. Erickson III, ‘Progress in modeling global atmospheric CO₂ fluxes and transport’, U.S. North American Carbon Program Investigators Meeting, Colorado Springs, CO, Jan. 22-24, 2007.
120. Erickson, D. J. III and J. Gunson, ‘Comprehensive Earth System Modeling: Air-sea flux treatments and climate impacts’, Surface Ocean-Lower Atmosphere Study (SOLAS) Open Science Meeting, Xiamen, China, March 6-9, 2007.
121. Blasing, T. J., D. J. Erickson III, J. Gregg, F. Hoffman and R. Kawa, ‘Monthly global anthropogenic CO₂ flux estimates’, ESRL, NOAA Global Monitoring Annual Conference, Boulder, CO, May 2-3, 2007.
122. Branstetter, M. L., D. J. Erickson III, A. Ganguly, G. Kuhn, S. Khan and C. T. Fuller, ‘Extreme hydrologic events in CCSM3’, CCSM Workshop, Breckenridge, CO, June 18-22, 2007.
123. Kawa, S. R., G. J. Collatz, A. S. Denning, D. J. Erickson III, S. C. Wofsy and A. E. Andrews, ‘Evaluating the capacity of global CO₂ flux and atmospheric transport models to incorporate new satellite observations’, AGU Fall Meeting, San Francisco, CA, Dec. 10-14, 2007.
124. Oglesby, R. J., C. B. Rowe and D. J. Erickson III, ‘Transitioning from corn to switchgrass in the US Great Plains: Implications for climate and water resources’, AGU Fall Meeting, San Francisco, CA, Dec. 10-14, 2007.
125. Ganguly, A. R., S. Khan, Y. Fang, D. J. Erickson III, M. L. Branstetter and G. Ostrouchov, ‘Climate change, rainfall extremes and population at risk,’ 22nd Conference on Hydrology, American Meteorological Society Meeting, Jan. 20-24, 2008.

126. Oglesby, R. J., C. Rowe and D. J. Erickson III, 'Transitioning from corn to switchgrass in the US great plains: Implications for climate and water resources', Geophysical Research Abstracts, European Geosciences Union, General Assembly 2008, Vienna, Austria, April 13-18, 2008.
127. Hoffman, F., J. T. Randerson, I. Fung, P. Thornton, J. Lee, G. Bonan, S. Running, D. J. Erickson III and J. B. Drake, 'The carbon-land intercomparison project: A protocol and metrics for global biosphere models', NASA Carbon Cycle and Ecosystems Joint Science Workshop, University of Maryland, April 28 – May 2, 2008.
128. Erickson, D. J. III, M. L. Branstetter, T. J. Wilbanks, A. R. Ganguly, F. M. Hoffman, A. W. King, L. Buja and T. S. Panwar, 'Global climate simulations with the A1F1 scenario for 2000-2100: Meltwater, temperature and river flow impacts in India', *Eos, Trans., AGU*, 89(23), AGU Jt. Assem. Suppl., U33C-01, Ft. Lauderdale, FL, May 26-30, 2008.
129. Hoffman, F. M., J. T. Randerson, I. Fung, P. Thornton, J. Lee, C. Covey, D. J. Erickson III, G. Bonan, and S. Running, 'The Carbon-Land Model Intercomparison Project (C-LAMP): A Protocol and Metrics for Model-Data Comparison', CCSM Workshop, Breckenridge, CO, June 16-19, 2008.
130. Huang, J. M. Glatter, W. Kendall, B. Langley, J. New, R. Sisneros, F. Hoffman, and D. J. Erickson III, 'Time-Varying Multivariate Visualization for Understanding the Climate Science of the Terrestrial Biosphere', CCSM Workshop, Breckenridge, CO, June 16-19, 2008.
131. Erickson, D. J. III, T. J. Blasing, R. T. Mills, F. M. Hoffman, M. T. DeVries, Z. Zhu and S. R. Kawa, 'Monthly global emissions of anthropogenic CO₂: The impact on a NASA transport model', CCSM Workshop, Breckenridge, CO, June 16-19, 2008.
132. Long, M., W. C. Keene and D. J. Erickson III, 'An inter-comparison of marine aerosol production parameterizations in CAM 3.5', CCSM Workshop, Breckenridge, CO, June 16-19, 2008.
133. Branstetter, M. and D. J. Erickson III, 'Hydrology in the CCSM3', CCSM Workshop, Breckenridge, CO, June 16-19, 2008.
134. Liu, Z., B. Otto-Blienscher, F. He, E. Brady, P. Clark, A. Carlson, D. J. Erickson III and R. Jacob, 'Transient simulation of climate evolution over the last 21,000 years', Invited presentation, PAGES Global Monsoon 2008 Symposium, - Global Monsoon and Low-Latitude Processes: Evolution and Variability, Shanghai, China, Oct. 29-31, 2008.

135. Erickson III, D. J. A. Ganguly, K. Steinhaeuser, M. Branstetter, R. Oglesby, F. Hoffman and L. Buja, ‘Extreme climate event trends: The data mining and evaluation of the A1FI scenario for 2000-2100’, **Invited**, AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2008.
136. Ganguly, A. R., M. L. Branstetter, K. J. Steinhaeuser, D. J. Erickson III, E. S. Parish and N. Singh, ‘Global warming impacts on regional hydrology and water resources’, AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2008.
137. Otto-Bliesner, B. L., Z. Liu, F. He, E. Brady, P. Clark, A. Carlson, R. Tomas, D. J. Erickson III and R. Jacob, ‘Transient Simulation of Climate Evolution over the Last 21,000 years (TraCE-21,000): First Results’, AGU Fall Meeting, San Francisco, CA, Dec. 15-19, 2008.
138. Ganguly, A. R., E. S. Parish, N. Singh, K. Steinhaeuser, D. J. Erickson III, M. Branstetter, A. W. King and E. J. Middleton, ‘Regional and decadal analysis of climate change induced extreme hydro-meteorological stresses informs adaptation and mitigation policies’, 21st Conference on Climate Variability and Change, 89th Annual Meeting of the American Meteorological Society, Phoenix, AZ, Jan. 11-15, 2009.
139. Unterman M, T. Crowley, K. Hodges, and D. J. Erickson III, ‘Paleometeorology: Visualizing Ice Age Dynamics at the Synoptic Level’. *University of Edinburgh PG2009 Conference, Poster Session 1, University of Edinburgh.* , Edinburgh, Scotland, March 24-25, 2009. (Won best student contribution: Awarded by Sir Keith O’Nions).
140. Otto-Bliesner, B. L., Z. Liu, F. He, E. Brady, P. Clark, A. Carlson, R. Tomas, D. J. Erickson III, R. Jacob, ‘Transient Simulation of Climate over the Last 21,000 years (TraCE-21,000): Deglacial Evolution and Abrupt Changes’, AGU Chapman Conference on abrupt climate change, Ohio State University, Columbus, OH, June 15-19, 2009.
141. Branstetter, M., J. Drake, D. J. Erickson III and M. Allen, ‘A river routing data set at 1 km resolution: An update’, CCSM Workshop, Breckenridge, CO, June 16-19, 2009.
142. Liu, Z., Otto-Bliesner, B. L., F. He, E. Brady, P. Clark, A. Carlson, J. M. Lynch-Stieglitz, W. Curry, D. J. Erickson III, R. Jacob, J. Kutzbach and J. Cheng, ‘Transient Climate Simulation of the last deglaciation in CCSM3’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
143. Branstetter, D. J. Erickson III, J. Drake and M. Allen, ‘High resolution river routing in the Community Climate System Model’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.

144. Oglesby, R. J., C. M. Rowe, K. A. Maasch, D. J. Erickson III and C. Hays, ‘Evaluating climate models: Should we use weather or climate observations?’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
145. Hoffman, F. M., J. T. Randerson, P. E. Thornton, G. B. Bonan, B. J.. Brooks, D. J. Erickson III and I. Fung, ‘An international land-biosphere model benchmarking activity for the IPCC Fifth Assessment Report (AR5)’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
146. Long, M. S., W. C. Keene, D. J. Kieber, D. J. Erickson III and H. B. Maring, ‘Size-resolved parameterization of primary organic carbon in fresh marine aerosols’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
147. Erickson D. J. III, S. Pawson, J. Daniel, M. Allen, L. E. Ott, A. Ganguly, E. Nielsen and F. Hoffman, ‘Atmospheric CO₂ simulation inside GEOS-5: Data mining, evaluation and treaty verification’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
148. Knox, R., Y. Kim, M. Longo, D. Medvигy, J. Wang, P. Moorcroft, A. Ganguly, D. J. Erickson III and R. Bras, ‘Response of South American ecosystems to precipitation variability’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
149. Brooks, B. J., F. M. Hoffman, R. T. Mills, D. J. Erickson III and T. J. Blasing, ‘The effect of anthropogenic emissions corrections on the seasonal cycle of atmospheric CO₂’, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
150. Maasch, K., R. J. Oglesby, C. M. Rowe, D. J. Erickson III and C. Hays, ‘How important is spatial resolution: Case studies at 48, 12 and 4 km for the U.S., Latin America and Southern Asia, AGU Fall Meeting, San Francisco, CA, Dec. 14-18, 2009.
151. Ganguly, A. R., K. Steinhaeuser, S.-C. Kao, E. S. Parish, M. Branstetter, A. Sorokine, D. J. Erickson III and A. W. King, ‘Trends and geographical variability in hydro-meteorological extremes for the 21st century from a climate model, 3rd International Perspective on Current and Future State of Water Resources and the Environment, EWRI/American Society of Civil Engineers (ASCE), Chennai, India, Jan. 5-7, 2010.
152. Erickson, D. J. III, R. Andres, A. Allen, M. Branstetter, G. Butler, ‘The impact of monthly anthropogenic CO₂ emissions on the atmospheric CO₂ seasonal cycle in CAM4.1’, 12th Symposium of the International Commission on Atmospheric Chemistry and Global Pollution (iCACGP) and 11th Science Conference of the International Global Atmosphere Chemistry (IGAC) Project, Halifax, Nova Scotia, Canada, July 11-16, 2010.

153. Erickson, D. J. III, R. R. Vatsavai, M. S. Long, S. Pawson, M. Allen, F. Hoffman and V. Chandola, ‘Atmospheric CO₂ simulations using GEOS-5: Data assimilation, data fusion and treaty verification’, A-Train symposium/NASA, New Orleans, LA, Oct. 25-28, 2010.
154. Long, M. S., W. C. Keene, D. J. Erickson III, X. Liu; S. J. Ghan, R. C. Easter, “Production and physicochemical evolution of size-resolved marine aerosol in the NCAR Community Atmosphere Model: Implications for oxidation processes, radiative transfer, and climate”, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
155. Cameron-Smith, P. J., J. F. Lamarque, S. M. Elliott, D. J. Bergmann, C. Chuang, D. J. Erickson III, M. E. Maltrud, A. A. Mirin, R. L. Jacob, J. Tithof, “Earth System Modeling of Ozone, Methane, and DMS”, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
156. Allen, M. R., D. J. Erickson III, R. J. Andres, F. M. Hoffman, M. L. Branstetter, “Monthly Anthropogenic CO₂ fluxes: Impacts on the atmospheric CO₂ seasonal cycle and implications for models of the terrestrial biosphere”, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
157. Erickson, D. J. III, S. J. Fernandez, O. Omitaomu, M. L. Branstetter, G. Butler, A. R. Ganguly, R. Oglesby, K. Steinhaeuser, E. Kodra, S. Gray, “Climate Impacts on US Energy Infrastructure: A New High Resolution Model, Policy Implications and Feedbacks”, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
158. Rowe, C. M., K. A. Maasch, R. J. Oglesby, R. Mawalagedera, B. O. Grigholm, D. J. Erickson III, “Resolving the Effects of Complex Topography on Regional Climate and Climate Change: The Need for Very High Spatial Resolution”, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
159. Das, D., E. Kodra, K. Steinhaeuser, S. Kao, A. R. Ganguly, M. L. Branstetter, D. J. Erickson III, R. Flanery, M. M. Gonzalez, C. Hays, A. W. King, W. Lenhardt, R. Oglesby, R. M. Patton, C. M. Rowe, A. Sorokine, C. Steed, “Uncertainty and extremes analysis to evaluate dynamical downscaling of climate models”, AGU Fall Meeting, San Francisco, CA, Dec. 13-17, 2010.
160. Ross, B. A., A. King, A. Ganguly, D. J. Erickson III, C. Lenhardt, “Climate science support for the 2010 Quadrennial Defense Review (QDR): Projection and analysis of climate change impacts on defense interests,” Symposium on Environment, Energy, and Sustainability, National Defense Industries Association (NDIA), New Orleans, LA, May 9-12, 2011.
161. Erickson, D. J. III, R. Andres, F. Hoffman, M. Branstetter, M. Long and M. Allen, “Fossil fuel seasonality impacts on atmospheric CO₂ concentrations”, CESM Workshop, Breckenridge, CO, June 20-23, 2011.

162. Branstetter, M. L., D. J. Erickson III, R. Jacob, M. Maltrud, P. Cameron-Smith, D. Bergmann, and S. Elliott, "Analysis of DMS and SO₄ in a coupled chemistry-climate simulation using CCSM: Using optical depth and radiative forcing proxies", CESM Workshop, Breckenridge, CO, June 20-23, 2011.
163. Erickson, D. J. III, "Data mining, exa-scale workflow and financially germane carbon/climate weather", **Invited Lecture**, The First Workshop on Understanding Climate Change from Data (NSF), University of Minnesota, Minneapolis, MN, Aug.15-16, 2011.
164. Branstetter, M., D. J. Erickson III, P. Cameron-Smith, S. Elliott, D. Bergman, C. Chuang, R. Jacob, M. Maltrud and A. Mirin, "The impact of increasing CO₂ concentrations on ocean pH, ocean mixed layer depth and the sulfur cycle using the Community Earth System Model, DOE/Climate and Earth System Modeling PI Meeting, Washington, DC, Sep. 19-22, 2011.
165. Erickson, D. J. II, J. Andres, M.S. Long, F. M. Hoffman, M.L. Branstetter and M. R. Allen, "Monthly fossil fuel CO₂ fluxes: Impact on atmospheric CO₂ seasonal cycles and implications for models of the terrestrial biosphere", DOE/Climate and Earth System Modeling PI Meeting, Washington, DC, Sep. 19-22, 2011.
166. Erickson, D. J. III, A. Ganguly, R. Oglesby, E. Kodra, D. Das, A. King, C. Hays, C. Steed, R. Patton and C. Lenhardt, "Scale Dependency in Dynamical Downscaling of Extreme Climate Events over Complex Topography", AGU Fall Meeting, San Francisco, CA, Dec. 5 - 9, 2011.
167. Erickson, D. J. III, M. Allen, A. Ganguly, M. Long and M. Branstetter, "Regional and local greenhouse gas and reactive atmospheric chemistry and the evolving physical climate system", AGU Fall Meeting, San Francisco, CA, Dec. 5 - 9, 2011.
168. Cameron-Smith, P. J., S. M. Elliott, D. Bergman, M. Branstetter, C. C. Chuang, D. J. Erickson III, R. L. Jacob, M. E. Maltrud and A. A. Mirin, "The impact of the ocean sulfur cycle on climate using the Community Earth System Model (CESM)", AGU Fall Meeting, San Francisco, CA, Dec. 5 - 9, 2011.
169. Allen, M. R., Y. Gao, W. J. Kendall, J. S. Fu and D. J. Erickson III, "21st century changes in regional species transport due to climate change in RCP 4.5 and 8.5 scenarios", AGU Fall Meeting, San Francisco, CA, Dec. 5 - 9, 2011.

Invited Meetings, Workshops, Symposia, National and International Panel Service

1. ONR Marine Microlayer Project workshop, Scripps Institution of Oceanography, La Jolla, CA, July 14, 1987.
2. Second workshop on the CCM (Community Climate Model), National Center for Atmospheric Research, Boulder, CO, July 27-August 7, 1987.
3. U. S. Scientific Advisory Committee Workshop, Global Ocean Processes and the Paleoceanographic Record, Oregon State University, Corvallis, OR, June 6-8, 1989.
4. Global Tropospheric Chemistry Workshop, National Center for Atmospheric Research, Boulder, CO, Dec. 11-12, 1989.
5. **Invited Lecture**, EPA/NOAA Global Climate Change Workshop, TX Institute of Oceanography, Galveston, TX, Jan. 8-9. 1990.
6. Third workshop on the CCM (Community Climate Model), National Center for Atmospheric Research, Boulder, CO, July 16-20, 1990.
7. **Invited Lecture**, “Numerical modeling of the atmospheric sulfur cycle with inferences about volcanic influences on climate,” Norman Watkins Symposia on Volcanism and Climate, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, Sept. 21, 1990.
8. World Climate Research Program Workshop, Numerical Modeling in Atmospheric Chemistry, St. George, Bermuda, Dec. 10-14, 1990.
9. Chairperson for Biogeochemical Cycles Section at SCOPE Workshop on “Effects of increased UV radiation on biological systems,” Budapest, Hungary, Feb. 17-22, 1992.
10. IGBP/SCOR Workshop on the Global Oceanic Euphotic Zone Study (GOEZS), James Rennell Centre, Southampton, England, June 17-19, 1993.
11. NCAR/USDA Forest Service Workshop on “The implications of climatic change: The case of the boreal forests,” National Center for Atmospheric Research, Boulder, CO, Oct. 26-28, 1993.
12. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Buenos Aires, Argentina, March 6-9, 1994.
13. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Akita, Japan, Aug. 29-Sept. 3, 1994.

14. **Invited** Lecture, “Global atmospheric modeling of CO₂,” NOPACCS International Symposium on the Global Carbon Cycle, Osaka, Japan, Jan. 10-11, 1995.
15. Lecture, “Global oceanic emission inventories: A status report,” IGAC/GEIA Meeting, Goteburg, Sweden, July 1-3, 1995.
16. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Beijing, China, Oct. 15-20, 1995.
17. Lecture, ACACIA, Sulfate Aerosol Workshop, Boulder, CO, Feb. 26-28, 1996.
18. Session Chair, Aerosols, Radiation and Climate, AGU Western Pacific Geophysics Meeting, Brisbane, Australia, July 23-27, 1996.
19. Session Chair, Climate and Global Change, AGU Western Pacific Geophysics Meeting, Brisbane, Australia, July 23-27, 1996.
20. NASA DMS Workshop, Bigelow Institute for Ocean Sciences, West Boothbay Harbor, ME, Aug. 5-6, 1996.
21. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Queenstown, New Zealand, Oct. 6-11, 1996.
22. Panel Meeting, Atmospheric Effects of Aviation, National Academy of Sciences/National Research Council, Washington, DC, July 21-23, 1997.
23. Review Panel Member, PRAXIS XXI Climate Scientific Funding Agency, Lisbon, Portugal, July, 1997.
24. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Erlangen, Germany, Sept. 1-6, 1997.
25. Panel Meeting, Atmospheric Effects of Aviation, National Research Council, Irvine, CA, Nov. 1-4, 1997.
26. Session Chair, Air-sea Interaction, AGU Fall Meeting, San Francisco, CA, Dec. 8-12, 1997.
27. Advisory Board Meeting, Tropical Atmospheric Science Center (TASC), University of Puerto Rico, January 22-23, 1998.

28. Panel Meeting, Atmospheric Effects of Aviation, National Research Council, Washington, DC, January 25-28, 1998.
29. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Pretoria, South Africa, Feb. 23-27, 1998.
30. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Oahu, Hawaii, August 9-16, 1998.
31. Session Chair, El Nino Signatures in Physical and Biogeochemical Systems, AGU Fall Meeting, San Francisco, CA, Dec. 6-10, 1998.
32. Panel Meeting, Atmospheric Effects of Aviation, National Research Council, Irvine, CA, Feb. 10-12, 1999.
33. Advisory Board Meeting, Tropical Atmospheric Science Center (TASC), University of Puerto Rico, March 20-24, 1999.
34. Panel Meeting, Atmospheric Effects of Aviation, National Academy of Sciences/National Research Council, Woods Hole, MA, May 19-21, 1999.
35. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Kumamoto, Japan, Sept. 26-Oct. 1, 1999.
36. Member, NASA IDS Review Panel, University of Maryland, College Park, MD, Nov. 30-Dec. 1, 1999.
37. Advisory Board Meeting, Tropical Atmospheric Science Center (TASC), University of Puerto Rico, March 4-8, 2000.
38. Program Committee Member, 4th International Symposium on Gas Transfer at Water Surfaces, Miami, Florida, June 5-8, 2000.
39. Air-sea Interaction Workshop, Tropical Atmospheric Science Center, University of Puerto Rico, La Parguera, Puerto Rico, July 31-Aug. 3, 2000.
40. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Abisko, Sweden, Aug. 21-26, 2000.
41. Member, NASA Oceanography/air-sea Exchange Review Panel, Pentagon City, Arlington, VA, Sep. 26, 2000.

42. Member, National Science Foundation (NSF) Workshop on Biocomplexity, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME, November 9-12, 2000.
43. 1999 - 2000 Visiting Senior Scientist, Laboratory for Atmospheres, NASA/Goddard Space Flight Center, Universities Space Research Association, (USRA), Greenbelt, Maryland.
44. Panel Member, National Science Foundation (NSF) Review Panel on ITR-Geofluids, Arlington, VA, January 29-30, 2001.
45. External Reviewer, INCCA Project, LDRD, Lawrence Livermore National Laboratory, Livermore, CA, March 28, 2001.
46. CCSM Biogeochemistry Working Group Meeting, Berkeley, CA, March 29-30, 2001.
47. Bio-Climate Feedbacks Workshop, Scripps Institution of Oceanography, La Jolla, CA, April 18-20, 2001.
48. US Surface Ocean Lower Atmosphere Study (SOLAS) Planning meeting, Potomac, MD, May 16-18, 2001.
49. ORNL/CCS – NASA/MSFC Climate Modeling Workshop, Oak Ridge, TN, June 4-5, 2001.
50. 6th Annual Community Climate System Model (CCSM) Workshop, Breckenridge, CO, June 26-28, 2001.
51. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Wellington, New Zealand, March 1-5, 2002.
52. External Reviewer, INCCA Project, LDRD, Lawrence Livermore National Laboratory, Livermore, CA, March 21, 2002.
53. CCSM Biogeochemistry Working Group Meeting, Boulder, CO, March 26-28, 2002.
54. Chair, External Review Board, Climate Modeling Project, University of Puerto Rico, April 24-27, 2002.
55. Member, Panel Review, NOAA Carbon Cycle Program, Silver Springs, MD, June 3-5, 2002.

56. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Park City, UT, Sep. 14-22, 2002.
57. **Invited reviewer**, National Academy of Sciences (NAS), Ocean Science Board, review of “Atmospheric Composition – Chapter 5,” Climate Change Science Program (CCSP), Strategic Plan, November 19, 2002.
58. **Invited lecturer**, Workshop on Climate Change Mitigation, USAID, Panama City, Panama, Jan. 20-24, 2003.
59. Scientific Overview of Biogeochemistry, CCPP/SCIDAC Workshop, Charleston, SC, March 17-19, 2003.
60. Member, NASA IDS Review Panel, Arlington, VA, March 25-28, 2003.
61. Member, External Review Board, Climate Modeling Project (Joint Institute of Caribbean Climate Studies (JICCS), University of Puerto Rico, April 10-11, 2003.
62. Mentor, and Contributor, Surface Ocean Lower Atmosphere Study (SOLAS) Summer School, Corsica, France, June 28-July 7, 2003.
63. ORNL Representative, DOE Computational Sciences Graduate Fellowship (CSGF) Program, Washington, DC, July 15, 2003.
64. United Nations Environment Program (UNEP), Invited author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Edinburgh, Scotland, Sep. 13-21, 2003.
65. **Invited Lecturer**, Workshop on Climate Change Mitigation, USAID/NASA, San Salvador, El Salvador, Feb. 3-6, 2004.
66. Member, External Review Board, Climate Modeling Project (Joint Institute of Caribbean Climate Studies (JICCS), University of Puerto Rico, Mayaguez, April 1-2, 2004.
67. 2001 – 2005, Member, Editorial Board, [Chemosphere: Global Change Science](#)
68. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Kunming, China, Aug. 22 - Sep. 5, 2004.
69. NSF Biocomplexity – DMS Project Workshop, National Academy of Sciences Keck Center, Washington, DC, Feb. 9-11, 2005.

70. Biogeochemistry Overview (SCIDAC), Argonne National Laboratory, Argonne, IL, March 17, 2005.
71. SCIDAC Overview, Biogeochemistry Working Group, Boulder, CO, March 31-April 1, 2005.
72. Member, External Review Board, Climate Modeling Project (Joint Institute of Caribbean Climate Studies (JICCS), University of Puerto Rico, Arecibo, Puerto Rico, April 26-27, 2005.
73. Participant, DOE Ocean Carbon Sequestration Project Workshop, Belmont Manor House and Conference Center, Elkmont, MD, May 26-27, 2005.
74. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Chalkidiki, Greece, Sep. 14-20, 2005.
75. Expert Panel Leader, Oak Ridge Center for Advances Studies (ORCAS) Workshop on ‘Climate change impacts at the regional scale: How good is the science?’, Oak Ridge, TN, Oct. 3-4, 2005.
76. Session convener, Nonlinear data sciences for finite observations with noise and periodicity, AGU Fall Meeting, San Francisco, CA, Dec. 5-9, 2005.
77. National Leadership Class Computational Facility (NLCF) Climate End Station organizational meeting, NCAR, Boulder, CO, Jan. 12, 2006.
78. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Alexandra, New Zealand, Feb. 22-March 4, 2006.
79. Co-Chair session on ‘Earth System Modeling’, 3rd Biennial Meeting of the International Environmental Modelling and Software Society (iEMSs), Summit on Environmental Modelling and Software, Burlington, VT, July 10-14, 2006.
80. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Niagara Falls, Ontario, Canada, Sep. 13-23, 2006.
81. Temporally resolved anthropogenic CO₂ fluxes, NASA Carbon Data Analysis Science Team Meeting, Jan. 29-30, 2007.
82. Global and regional climate modeling and economic impacts, Presentation to SunGrant Initiative and Regional Feedstocks Partnerships, Oak Ridge National Laboratory, Oak Ridge, TN, Feb. 6, 2007.

83. BERAC Subcommittee Member and meeting, DOE OBER review of Integrated Assessment Research Program (IARP) for Climate Change, Washington, DC, Feb. 19-20, 2007.
84. Session Chair, ‘Comprehensive Earth System Modeling: Air-sea flux treatments and climate impacts’, Surface Ocean-Lower Atmosphere Study (SOLAS) Open Science Meeting, Xiamen, China, March 6-9, 2007.
85. Energy, Ecological Sustainability and Global Security, (E3SGS), DOE Town Hall Meeting, LBL, Berkeley, CA, April 17-18, 2007.
86. National Academy of Sciences/National Research Council, Committee on the potential impact of high end computing on science and engineering, Washington, DC., May 6-8, 2007.
87. NASA Science Team Meeting, MAPS, Scripps Institution of Oceanography, UCSD, La Jolla, CA, May 12-15, 2007.
88. Energy, Ecological Sustainability and Global Security, (E3SGS), DOE Town Hall Meeting, ORNL, Oak Ridge, TN, May 17-18, 2007.
89. Energy, Ecological Sustainability and Global Security, (E3SGS), DOE Town Hall Meeting, ANL, Argonne, IL, May 31 – June 1, 2007.
90. **Invited participant**, MIT Forum on Global Change, Cambridge, MA, June 19-23, 2007.
91. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Penang, Malaysia, Aug. 22-30, 2007.
92. **Session Chair, Invited Lecturer**, Fall Creek Falls Conference, ‘Key challenges in computational science at the Petascale’, Climate modeling Overview, Nashville, TN, Sep. 24-26, 2007.
93. **Invited Expert Panelist**, ‘The impact of climate change on the corporation’, NEC-India Today Joint Conference, New Delhi, India, Oct. 30-31, 2007.
94. **Invited presenter**, Climate-Decision Support Research needs workshop, Oak Ridge Center for Advances Studies (ORCAS), Oak Ridge, TN, Nov. 27, 2007.
95. CCSM Chemistry-Climate Working Group Meeting, Boulder, CO, Feb. 10-12, 2008.
96. **Invited Panel Reviewer**, DOE/GCEP, Global Change Education Program, Gaithersburg, MD, March 2-4, 2008.

97. Breakout Session Co-Chair, Grand Challenges in Climate Change Science, DOE/HQ, Crystal City/Arlington, VA, March 24-27, 2008.
98. NASA Carbon Cycle and Ecosystems Joint Science Workshop, University of Maryland, Adelphi, Maryland, April 28 – May 2, 2008.
99. **Invited Keynote Speaker**, NSF-USDA International Workshop on Supercomputing Applications in Climate Sciences and Remote Sensing, Cairo, Egypt, May 13-16, 2008.
100. 2008 Joint BSD-ESD Advisory Committee Meeting, Oak Ridge, TN, May 15, 2008.
101. **Invited participant**, Center for a New American Security, Clout and Climate Test War Gaming, DC, July 10, 2008.
102. **Invited participant**, Modeling Uncertainty in Integrated Assessment Models, Argonne National Laboratory/University of Chicago, Chicago, IL, July 21-22, 2008.
103. **Invited participant**, Center for a New American Security and Climate Change Consortium, International Climate Change War Game, Washington, DC, July 27-30, 2008.
104. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycles,” Joinville, Brasil, Aug. 24-31, 2008.
105. NASA PI project meeting, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, CA, Oct. 30-31, 2008.
106. **Invited participant**, Extreme scale computing workshop, Challenges in climate change science and the role of computing at the extreme scale, DOE, Washington, DC., Nov. 6-7 , 2008.
107. Panel member, Cyber-Enabled Discovery and Innovation, National Science Foundation (NSF), Preliminary Proposal Panel, Arlington, VA, Feb. 22-25, 2009.
108. **Invited participant**, 11th International Specialist Meeting, The Next Generation Models on Climate Change and Sustainability for Advanced High-Performance Computing, Oak Ridge National Laboratory, March 16-18, 2009.
109. Participant, BioCounsel briefing, United States Department of Agriculture, Animal and Plant Health Inspection Service, Riverdale, MD, March 24, 2009.

110. Attendee, Larry Gates Symposium, Bethesda, MD, April 6, 2009.
111. Participant, Climate Change Prediction Program (CCPP) Science Team Meeting, Bethesda, MD, April 7-10, 2009.
112. Member, Program Committee, 3rd International Workshop on Knowledge Discovery from Sensor Data (SensorKDD-2009), Paris, France, June 28-July 1, 2009.
113. Participant, "NASA Earth System Science at 20: Accomplishments, Plans, and Challenges" Symposium, NAS, Washington, D. C., June 22-24, 2009.
114. United Nations Environment Program (UNEP), **Invited** author for effects section on "Increased UVB fluxes and global biogeochemical cycles," Utrecht, The Netherlands, Sep. 1-5, 2009.
115. **Invited participant**, "High Performance Computing in the Atmospheric Sciences", Lac Annecy, France, Sep. 12-17, 2009.
116. United Nations Environment Program (UNEP), **Invited** author for effects section on "Increased UVB fluxes and global biogeochemical cycles," Kobe, Japan, Feb. 13-21, 2010.
117. Member, Onsite Review Panel, DOE Graduate Science Fellowship, Arlington, VA, March 10-12, 2010.
118. **Invited Review Panel Member**, Cool Roofs Road Map and Strategy Workshop, U. S. Department of Energy, Forrestal Building, Washington, D. C., Aug. 9-10, 2010.
119. United Nations Environment Program (UNEP), **Invited** author for effects section on "Increased UVB fluxes and global biogeochemical cycle interaction with climate change," Lancaster, England, UK, Aug. 28 - Sep. 6, 2010.
120. **Invited Keynote Speaker, Gordon Research Conference**, Sustainability and the role of visualization, Visualization in Science and Education, Transformation by visualization: Radical effects on Learning in Sciences and Across Education, "Global climate change, sustainability and visualization of atmospheric CO₂", Bryant University, Smithfield, R. I., July 13-17, 2011.
121. Member, Program Committee, 5th International Workshop on Knowledge Discovery from Sensor Data (SensorKDD-2011), San Diego, CA, Aug. 21, 2011.
122. Invited lecture, Climate-Energy Modeling, Presentation to Dr. Rick Duke, Bob Marlay et al., Office of Climate Change Policy and Technology, Department of Energy, Oak Ridge National Laboratory, Oak Ridge, TN, Aug. 24, 2011.

123. **Invited Keynote Lecture**, Eawag-UNEP Symposium: Stratospheric ozone depletion, solar UV radiation and climate change: Interactive effects and feedbacks, Forum Chriesbach, C20, Eawag Dubendorf, Switzerland, Aug. 30, 2011.
124. United Nations Environment Program (UNEP), **Invited** author for effects section on “Increased UVB fluxes and global biogeochemical cycle interaction with climate change,” Basel, Switzerland, Aug. 24-Sep. 1, 2011.
125. Panel member meeting, HPC Advisory Panel to National Center for Atmospheric Research (NCAR) Computational and Information Systems Laboratory (CISL), CHAP, NCAR, Boulder, CO, Oct. 5-7, 2011.

Presentations/Lectures (Exclusive of Abstracted Presentations, Invited Meetings, Workshops, Symposia, National and International Panel Service listed above)

1. “Seasonal estimates of the global atmospheric sea-salt distribution and oceanic whitecap coverage distribution,” Searex Annual Meeting, Narragansett, RI, Nov. 13-16, 1984.
2. “Seasonal estimates of the global atmospheric sea-salt distribution and oceanic whitecap coverage,” Poster session, NATO Advanced Study Institute, Sea-air exchange in biogeochemical cycling, Bombannes, France, Sep. 16-27, 1985.
3. “The role of oceanic trace elements in the K/T boundary mass extinctions,” Earth and Environmental Science Colloquia, Wesleyan University, Middletown, CT, Feb. 26, 1986.
4. “Selective trace element toxification of marine biota: A new mechanism for preferential mass extinctions,” Marine Chemistry Seminar Series, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, Mar. 28, 1986.
5. “Global atmospheric sea-salt and oceanic whitecap distribution,” Microlayer Workshop, Office of Navel Research, American Meteorological Society, Boston, MA, Apr. 23, 1986.
6. “Selective trace element toxification of marine biota: A new mechanism for preferential mass extinctions,” Geology and Geophysics Seminar Series, Woods Hole Oceanographic Institution, Woods Hole, MA, May 27, 1986.
7. “Atmospheric chemistry: An overview,” Guest Lecture, Introductory Oceanography, University of Rhode Island, Kingston, RI, June 24, 1986.

8. "On the global flux field of atmospheric sea-salt," Marine Chemistry Seminar Series, Scripps Institution of Oceanography, La Jolla, CA, Dec. 5, 1986.
9. "Trace element geochemistry at the K/T boundary," Marine Chemistry Seminar Series, Scripps Institution of Oceanography, La Jolla, CA, Dec. 5, 1986.
10. "On the global flux field of atmospheric sea-salt," Climate Club Seminar Series, National Center for Atmospheric Research, Boulder, Co., Dec. 15, 1986.
11. "Paleochemical perturbations from volcanic and meteoritic trace element aerosol fluxes to the global ocean: The biological response," Climate Club Seminar Series, National Center for Atmospheric Research, Boulder, Co., Dec. 15, 1986.
12. "Global trace element aerosol fluxes at the K/T boundary: The oceanic response," Department of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA, Jan. 30, 1987.
13. "The global flux of atmospheric sea-salt," Marine Chemistry Seminar Series, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, Mar. 13, 1987.
14. "Global air-sea particle and gas exchange," Institute of Marine Resources Seminar Series, Scripps Institution of Oceanography, May 21, 1987.
15. "Biotic extinctions at the K/T boundary," COSOD II, Strausbourg, France, Jul. 6-8, 1987.
16. "Simulating the global transfer velocity fields of trace gases," Marine Chemistry Seminar Series, Scripps Institution of Oceanography, La Jolla, CA, Sep. 25, 1987.
17. "Studies of the isotopic composition and residence time of surface microlayers," Office of Naval Research Microlayer Workshop, Arlington, Va., Jan. 14, 1988.
18. "Simulating air-sea gas exchange," Climate Group Seminar Series, Scripps Institution of Oceanography, La Jolla, CA, Jan. 28, 1988.
19. "Simulating air-sea CO₂ exchange," Geophysical Sciences Seminar Series, Lawrence Livermore National Laboratory, Livermore, CA, Feb. 25, 1988.
20. "Simulating air-sea gas exchange," Oceanography Seminar Series, Jet Propulsion Laboratory, CA Institute of Technology, Pasadena, CA, June 15, 1988.
21. "Simulating the global biogeochemical system," Environmental Research Lab Seminar Series, NOAA, Boulder, CO, June 28, 1988.

22. "Towards a chemical climatology of the Earth's atmosphere and ocean," Climate Group Seminar Series, National Center for Atmospheric Research, Boulder, CO, July 5, 1988.
23. "Simulating the air-sea exchange of trace gases: CO₂, DMS and ³He," Geochemistry Seminar Series, Lamont-Doherty Geological Observatory of Columbia University, Palisades, NY, July 19, 1988.
24. "Simulating the CO₂ cycle," Geochemistry and Geophysical Fluid Dynamics Seminar Series, Department of Geology and Geophysics, Yale University, New Haven, CT, July 20, 1988.
25. "Simulating the air-sea exchange of trace gases," Chemical Oceanography Seminar Series, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, July 22, 1988.
26. "Simulating global biogeochemical cycles," Bigelow Laboratory for the Ocean Sciences, Boothbay Harbor, ME, July 28, 1988.
27. "Toward a chemical climatology of the Earth's ocean and atmosphere," Physical Oceanography Seminar Series, Scripps Institution of Oceanography, La Jolla, CA, Aug. 17, 1988.
28. "Air-sea gas exchange with GCM's," INCOR Meeting, Los Alamos National Laboratory, Los Alamos, NM, Sept. 15, 1988.
29. "The atmospheric CO₂ system," Guest Lecture, Introduction to Meteorology, San Diego State University, San Diego, CA, Nov. 3, 1988.
30. "Ocean to atmosphere DMS flux," INCOR Meeting, Lawrence Livermore National Laboratory, Livermore CA, Mar. 7, 1989.
31. "Geochemical climate simulations of present and past atmospheres and oceans," Climate and Remote Sensing Seminar Series, Scripps Institution of Oceanography, La Jolla, CA, Mar. 29, 1989.
32. "Simulating the oceanic source of climate-reactive gases to the atmosphere," Climate Group Seminar Series, National Center for Atmospheric Research, Boulder, CO, July 7, 1989.
33. "Global atmospheric sulfur modeling," INCOR meeting, Scripps Institution of Oceanography, La Jolla, CA, Sep. 27, 1989.
34. "Numerical geochemistry: Does oceanic dimethyl sulfide influence climate?," Marine Geochemistry Seminar Series, Scripps Institution of Oceanography, La Jolla, CA, Oct. 2, 1989.

35. "Numerical geochemistry: Does oceanic dimethyl sulfide influence climate?," Marine Chemistry Seminar Series, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI, Oct. 19, 1989.
36. "Numerical geochemistry: Does oceanic dimethyl sulfide influence climate?," Geochemistry and Geophysical Fluid Dynamics Seminar Series, Department of Geology and Geophysics, Yale University, New Haven, CT, Jan. 4, 1990.
37. "Numerical modeling of global biogeochemical systems," Earth System Science Center Seminar Series, Pennsylvania State University, State College, PA, March 6, 1990.
38. "Numerical modeling of climate reactive gases," Dept. of Applied Sciences, Brookhaven National Laboratory, Upton, NY, March 20, 1990.
39. "3-D numerical modeling of climate reactive gases," Atmospheric Chemistry Seminar Series, National Center for Atmospheric Research, Boulder, CO, May 10, 1990.
40. "Atmospheric sulfur and 3-D climate modeling," Service D'Aeronomie, Universite de Paris, Paris, Sept. 5, 1991.
41. "The influence of increased UVB radiation on global biogeochemical cycles," SCOPE Workshop, Effects of Increased UV Radiation on Biological Systems, Budapest, Hungary, Feb. 17-22, 1992.
42. "Numerical experiments in biogeochemistry," Atmospheric Chemistry Division Seminar, NCAR, Boulder, CO, May 15, 1992.
43. "Numerical biogeochemistry and climate," Dept. of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA, Aug. 27, 1992.
44. "Numerical biogeochemistry and climate," Depts. of Biogeochemistry and Air Chemistry, Max-Planck Institute fur Chemie, Mainz, Germany, Sept. 1, 1992.
45. "The global carbon cycle," Global Carbon Cycle Modeling (GCCM) Update, NCAR, Boulder, CO, May 19, 1993.
46. "A global carbon cycle model," NOAA/CMDL/Carbon cycle group, Boulder, CO, June 7, 1993.
47. "3-D numerical models of biogeochemistry: The CO₂ cycle," Dept. of Atmospheric Sciences, Colorado State University, Ft. Collis, CO, Oct. 7, 1993.

48. "Global three dimensional modeling of biogeochemical systems: The C and S cycles," NOAA/CMDL, Boulder, CO, Oct. 28, 1993.
49. "Numerical biogeochemistry: The NCAR global CO₂ cycle model," Climate and Global Dynamics Seminar Series, National Center for Atmospheric Research, Boulder, CO, Nov. 9, 1993.
50. "Modeling natural VOC fluxes from the ocean," IGAC/GEIA Workshop, NCAR, Boulder, CO, Nov. 30, 1993.
51. "Global emission inventories: A modelers perspective," IGAC/GEIA Workshop, NCAR, Boulder, CO, Dec. 1, 1993.
52. "Numerical biogeochemistry: Modeling the global carbon cycle with a GCM," Global Change Seminar, School of Oceanography, University of Washington, Seattle, WA, Feb. 16, 1994.
53. "Numerical modeling of global air-sea gas exchange," Chemical Oceanography Seminar, University of Washington, Seattle, WA, Feb. 18, 1994.
54. "Air-sea exchange of climate reactive gases," Tropical Atmospheric Science Center, University of Puerto Rico, Ponce, Puerto Rico, Feb. 25, 1995.
55. "Numerical experiments in biogeochemistry and climate: carbon and sulfur," ACD Seminar Series, NCAR, Boulder, CO, Feb. 16, 1995.
56. "A simple atmospheric chemistry formulation for climate system models," Scientific Advisory Committee meeting, Climate System Modeling, NCAR, Boulder, CO, Dec. 7, 1995.
57. "Climate system modeling," CRES, Australian National University, Canberra, Australia, July 17, 1996.
58. "Global climate system modeling," NIWA, Wellington, New Zealand, Oct. 1, 1996.
59. "A simple atmospheric chemistry formulation for use in CSM," Earth System Modeling Workshop, NCAR, Boulder, CO, Aug. 18-19, 1997.
60. "Global oceanic and atmospheric chemistry: Quantitative linkages and simulation," Department of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution, Woods Hole, MA, March 24, 1998.
61. "The Reactive Chlorine Emissions Inventory (RCEI): An overview," IGAC Meeting, Seattle, WA, Aug. 19, 1998.

62. "Interdisciplinary studies of global biogeochemistry within a general circulation model framework," Nicholas School of the Environment, Duke University, Durham, NC, Feb. 23, 1999.
63. "Interdisciplinary studies of global biogeochemistry within a general circulation model dynamical framework," Department of Environmental Sciences, University of Virginia, Charlottesville, VA, March 5, 1999.
64. "Interdisciplinary studies of global biogeochemistry within a general circulation model dynamical framework," Department of Meteorology, Texas A&M University, College Station, TX, April 22, 1999.
65. "Numerical modeling in climate and atmospheric science research," Division of Environmental Sciences, Oak Ridge National Laboratory, Oak Ridge, TN, Aug. 31, 1999.
66. "Global biogeochemical simulation within a general circulation model dynamical framework," Goddard Laboratory for Atmospheres, NASA/GSFC, Greenbelt, MD, Dec. 2, 1999.
67. "Global biogeochemical simulation including an explicit treatment of air-ocean gas flux," Goddard Laboratory for Hydrospheric Processes, NASA/GSFC, Greenbelt, MD, Jan. 19, 2000.
68. "Global biogeochemical simulation and air-sea gas flux," Goddard Laboratory for Hydrospheric Processes, NASA/Wallops, Wallops Island, VA, Mar. 17, 2000.
69. "Global biogeochemical simulation within a general circulation model (GCM) framework," Department of Earth Sciences, University of CA, Santa Cruz, CA, May 15, 2000.
70. "The global atmospheric carbon cycle," USRA/NASA Summer Student Lecture Series, NASA/GSFC, Greenbelt, MD, Jun. 28, 2000.
71. "Global biogeochemical simulation: The impact of air-sea gas exchange," Air-sea Flux Workshop, University of New Hampshire, Durham, NH, July 26, 2000.
72. "Global simulation of climate and atmospheric chemistry," Computer Science and Mathematics Division, Oak Ridge National Laboratory, Oak Ridge, TN, July 17, 2000.
73. "A global numerical model of halogen generation in the marine boundary layer," Department of Meteorology, University of Maryland, College Park, MD, Oct. 6, 2000.

74. "Global biogeochemical simulation within a GCM dynamical framework," Goddard Institute for Space Studies (GISS), NASA/Columbia University, New York, NY, October 20, 2000.
75. "Global C, S, N and Fe biogeochemistry inside general circulation models: Linkages and satellite constraints," Invitational Seminar Series, College of Marine Studies, University of Delaware, Lewes, DE, February 20, 2001.
76. "High performance computing at Oak Ridge National Laboratory," Sigma Xi Initiation and Awards Banquet, University of Alabama in Huntsville Chapter, Huntsville, AL, April 27, 2001.
77. "Computational climate research at ORNL," DOE On-site Review, Oak Ridge National Laboratory, Oak Ridge, TN, Aug. 8, 2001.
78. "A numerical model of halogen generation in the marine boundary layer," Atmospheric Chemistry Seminar Series, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, Feb. 6, 2002.
79. "Global climate modeling and numerical biogeochemistry science in a Tera-scale computational environment," Division of Earth and Ocean Sciences Seminar Series, Duke University, Durham, NC, November 8, 2002.
80. "Numerical biogeochemistry science inside next generation global coupled climate models," Institute for Geophysics and Planetary Physics, Los Alamos National Laboratory, Los Alamos, NM, Jan. 8, 2003.
81. "Regional and global climate modeling at ORNL," Workshop on Climate Change Mitigation, USAID, Panama City, Panama, Jan. 20-24, 2003.
82. "Global numerical climate modeling: Why is T getting larger?," Department of Physics Colloquia, University of Tennessee, Knoxville, TN, April 21, 2003.
83. "Global and regional climate modeling," USAID Planning Meeting, Washington, DC, April 23-25, 2003.
84. "Next generation climate models," Presentation to DOE Headquarters (Patrinos, Elwood, Farrell, Amthor), May 14, 2003.
85. "Biogeochemistry in CCSM2," Presentation at SCIDAC Climate Annual Meeting, Breckenridge, CO, June 23, 2003.
86. "Global climate modeling," Presentation to Virginia Tech Delegation, July 24, 2003.

87. “Global numerical climate modeling,” Department of Geography, University of Tennessee, Knoxville, TN, Sep. 4, 2003.
88. “Global climate modeling with massive computers,” Day of Science, Oak Ridge National Laboratory, Oak Ridge, TN, Nov. 17, 2003.
89. “Next generation global climate models: Biogeochemical and financial impacts,” Department of Geology and Geophysics, Yale University, New Haven, CT, Feb. 12, 2004.
90. “Next generation global climate models: Biogeochemical and financial impacts,” Geophysical Fluid Dynamics Institute (GFDI) Colloquium, Florida State University, Tallahassee, FL, March 15, 2004.
91. “Global numerical climate modeling,” Lecture in the course *Environmental modeling with GIS*, Graduate level course, University of Tennessee, Knoxville, TN, April 6, 2004.
92. “Extending global climate models across disciplines: Biogeochemical and financial feedbacks,” Department of Atmospheric Sciences, University of Illinois, Urbana-Champaign, IL, May 5, 2004.
93. “Future US energy use for 2000-2025 as computed with temperatures from a global climate prediction model and an energy demand model,” Environmental and Societal Impacts Group (ESIG) Seminar Series, National Center for Atmospheric Research, Boulder, CO, May 17, 2004.
94. “Next generation global climate models: Impacts of air-sea fluxes,” COAPS Seminar Series, Florida State University, Tallahassee, FL, Dec. 1, 2004.
95. “Global numerical climate modeling: Physical, geological and biogeochemical applications and constraints,” Dept. of Earth and Planetary Sciences, University of Tennessee, Knoxville, TN, Feb. 3, 2005.
96. “Next generation numerical global climate modeling: Biogeochemical and financial impacts,” Dept. of Physics, Astrophysics and Geology, East Tennessee State University, Johnson City, TN, Feb. 8, 2005.
97. “Next generation global climate modeling: Biogeochemical and financial impacts,” School of Earth Sciences, Stanford University, Stanford, CA, Jan. 24, 2006.
98. ‘Global Earth system modeling: SCIDAC update’, CCSM Biogeochemistry Working Group, Boulder, CO, March 29, 2006.

99. ‘Fully integrated Earth System Modeling in a Petaflop world: Financial feedbacks and beyond’, T. Mylan Stout Lecture, Department of Geosciences, University of Nebraska, Lincoln, Oct. 6, 2006.
100. ‘Extending Earth System Modeling Across Disciplines: Biogeochemical and Financial Feedbacks’, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, Mass., April 3, 2007.
101. ‘Climate modeling as an engineering problem’, Department of Civil and Environmental Engineering, University of Tennessee, Knoxville, TN, March 12, 2008.
102. ‘Global climate and policy simulation in a Peta-scale computational environment’, Argonne National Laboratory/University of Chicago Seminar Series, Argonne, IL, July 23, 2008.
103. ‘Global climate modeling: Physics, Satellites, Law, Energy Prediction and Treaty Verification’, Vanderbilt University School of Law, (Host: Prof. M. Vandenburg), Nashville, TN, April 29, 2009.
104. ‘Global climate modeling: Physics, Satellites, Chemistry, Energy Prediction and Treaty Verification’, Friends of Oak Ridge National Laboratory (FORNL), Oak Ridge, TN, May 20, 2009.
105. ‘Global climate modeling: Physics, Satellites, Law, Energy and Treaty Verification’, Department of Geosciences, The University of Edinburgh, Edinburgh, Scotland, Sep. 9, 2009.
106. ‘Numerical and high performance computing challenges in global climate modeling’, School of Mathematics, The University of Edinburgh, Edinburgh, Scotland, Sep. 10, 2009.
107. ‘Next Generation Challenges in Data Mining: Extracting Geophysical Content from Satellites and Global Climate Models that Yield Peta-bytes of Data per Wall Clock Day’, Next Generation Data Mining Summit ’09 (NGDM09), Energy Crisis, Greenhouse Emissions and Transportation Challenges, Columbia, MD, Oct. 1-3, 2009.
108. ‘The basics of climate modeling’, Lecture #1, Oak Ridge Institute for Continued Learning (ORICL), Class 554, Global Climate Modeling and Impacts, Oct. 7, 2009.
109. ‘Trends in climate observations and predictions’, Lecture #2, Oak Ridge Institute for Continued Learning (ORICL), Class 554, Global Climate Modeling and Impacts, Oct. 14, 2009.

110. ‘Impacts and implications of climate change’, Lecture #3, Oak Ridge Institute for Continued Learning (ORICL), Class 554, Global Climate Modeling and Impacts, Oct. 21, 2009.
111. **Invited Keynote Lecture**, ‘Challenges in Climate Change Science and the Role of Computing at the Extreme Scale’, Workshop on High Performance Computing in Weather and Climate, Organizers: CRAY, CHPC, Altair, Beijing, China, March 22, 2010.
112. **Invited Keynote Lecture**, ‘Global climate and policy simulation in a Peta-scale computational environment’, The 12th International Specialist Meeting on the Next Generation Models on Climate Change and Sustainability for Advanced High Performance Computing Facilities, EPOCHAL, Tsukuba, Ibaraki, Japan, March 24-26, 2010.
113. **Invited**, ‘Earth System Models, Energy use prediction and Treaty verification at the Peta-scale’, Climate and Global Dynamics Seminar, National Center for Atmospheric Research (NCAR), Boulder, CO, April 27, 2010.
114. **Invited Keynote Lecture**, ‘Ecotoxicology in a changing climate: Global climate modeling at the extreme scale’, Society of Environmental Toxicology and Chemistry’ (SETAC), Seville, Spain, May 23-28, 2010.
115. **Invited**, ‘Global and regional climate modeling at the peta-scale’, DOE/HQ sponsored Global Change Environment Program (GCEP) fellowship program, Crowne Plaza, Knoxville, TN, June 8, 2010.
116. ‘The impact of monthly anthropogenic CO₂ fluxes on atmospheric CO₂ in CAM4.1’, CESM Biogeochemistry Working Group Session, Breckenridge, CO, June 30, 2010.
117. ‘Constraining the terrestrial biosphere CO₂ fluxes via anthropogenic CO₂ emission seasonality’, CESM/Biogeochemistry/Climate-Chemistry Working Group meeting, NCAR, Boulder, CO, March 14-18, 2011.
118. **Invited**, ‘Earth system modeling beyond the peta-scale’, DOE/HQ sponsored Global Change Environment Program (GCEP) fellowship program, Crowne Plaza, Knoxville, TN, August 9, 2011.

ORNL Internal Service (Partial):

Proposal Review Committee, ORNL Seed Money Fund, April 1, 2001- March 31, 2003.

“Climate modeling at ORNL,” presentation to Dr. R Orbach, Director, Office of Science, Department of Energy, August 12, 2002.

“Climate drivers and feedbacks in the climate system,” LDRD presentation, Oak Ridge National Laboratory, Oak Ridge, TN, August 28, 2002.

ORNL Climate Modeling Overview, Global Change Review, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, Sep. 12, 2002.

Climate modeling Overview, Briefing for Dr. T. Karrsberg, Professional Staff Member, US House of Representatives, Committee on Science, Energy Subcommittee, Feb. 20, 2003.

Mentor, Computational Sciences Graduate Fellowship Program, Matthew Wolinsky, Duke University, June 15-August 15, 2003.

Climate Modeling Overview, Briefing for Dr. S. Ito, Japanese Earth Simulator Representative, Aug. 12, 2003.

Climate Modeling Overview, Science Writers Conference, Oak Ridge, TN, Oct. 27, 2003.

Panel Member, DOE-Office of Science Review, Nov. 7, 2003.

Climate Modeling Overview to Dr. A. Bamzai (DOE/OBER), Sep. 9, 2004.

Climate Modeling Overview to Albert Gore, March 9, 2005.

Climate Modeling Overview to Thomas Sterling, April 7, 2005.

Climate Modeling Overview to Samuel Bodman, August 1, 2005.

Climate modeling Overview to HBCU partners for RAM program, Dec. 12, 2005.

Climate modeling Overview to T. Pyke, Feb. 7, 2006.

IPCC/Noble Prize Event with Congressman Zach Wamp (R-TN), Jan. 30, 2008.

Climate modeling/conflict prediction/treaty verification overview, National Security Directorate, Battle Captains Meeting, Oak Ridge National Laboratory, March 30, 2009.

Peer journal reviewer:

Atmospheric Environment
Atmospheric Chemistry and Physics
Chemosphere: Global Change Science
Geophysical Research Letters
Global Biogeochemical Cycles
Science
Journal of Atmospheric Chemistry
Journal of Climate
Journal of Geophysical Research (Atmospheres)
Journal of Geophysical Research (Oceans)
Journal of Geophysical Research (Biogeosciences)
Water Resources Research
Journal of Marine Research
Journal of Marine Systems
Journal of Photochemistry and Photobiology
Journal of Physical Oceanography
Limnology and Oceanography
Marine Chemistry
Tellus
Dynamics of Atmospheres and Oceans
Environmental Modeling & Software
Atmospheric Chemistry and Physics Discussions
2nd IEEE ICDM Workshop on Knowledge Discovery from Climate Data

Peer proposal reviewer:

Earthwatch
NASA
National Science Foundation (NSF)
EPA
Natural Environment Research Council (NERC) (UK)
NOAA
U. S. Department of Energy (DOE)
NIWA (New Zealand)

MS/PhD Committee/Formal advisor

PhD Gerhard Gross	Portland State University
PhD Shiraj Khan	University of South Florida
PhD Michael Long	University of Virginia
MS Matthew Unterman	Duke University
MS Melissa Allen	University of Tennessee, Knoxville

Students Informally advised

Cindy Nevison	Stanford University
Christophe Seuzaret	NCAR
Atul Saran	Stanford University
Matthew Wolinsky	Duke University
Wes Kendall	University of Tennessee, Knoxville
George Butler	University of Tennessee, Knoxville
Stephen Gray	University of Tennessee, Knoxville

Post-doctoral students

Jose Hernandez	NASA/ORNL
Marcia Branstetter	ORNL
Mike Long	University of Virginia

Collaborations

Robert Oglesby	University of Nebraska
Cindy Nevison	NCAR/UCSD
Mike Long	Harvard University
Ray Najjar	Penn State University
William Keene	University of Virginia
Pati Matrai	Bigelow Laboratory for Ocean Sciences
Warren Washington	NCAR
Jerry Meehl	NCAR
Alex Guenther	NCAR
Steven Pawson	NASA
Randy Kawa	NASA
Watson Gregg	NASA
Auroop Ganguly	Northeastern University

Public Service

Interview and feature article, *L. A. Times Magazine*, May 20, 1989.

Interview, Global Warming, KNOS Radio, July 10, 1989.

Interview, Global Warming, San Diego Channel 8, Nov. 12, 1989.

- Interview, "Futures in Mathematics," PBS, Feb. 22, 1990.
- Public lecture, "Global warming and climate change," Chula Vista Nature Interpretive Center, April 21, 1990.
- Interview and article, "Numerical modeling of the atmospheric chemistry system," *R&D Magazine*, July 18, 1990.
- Lecture on global warming, East Denver Elementary School, Denver, CO, March 12, 1991.
- Interview and article, *Columbus Dispatch*, Columbus, OH, Oct. 11, 1992.
- Lecture, "Numerical simulations of Earth chemistry and climate," Central European Environmental Journalism Program, NCAR, Boulder, CO, May 11, 1993.
- Lecturer, Project LEARN, NCAR, Boulder, CO, July 12-28, 1993.
- Interview, "Global carbon cycle issues," Marian Wigand, Cologne, Germany, Freelance Science Writer, Boulder, CO, Sept. 23, 1993.
- Discussion, Abt Associates on behalf of the Federal Coordinating Council for Science, Engineering and Technology (FCCSET), NCAR, Boulder, CO, Dec. 6, 1993.
- Interview, Frank Barnas, Greenspun School of Communication, University of Nevada, Las Vegas, NV, Global warming, May 13, 1994.
- Interview, Dr. von Arb, Swiss Embassy Attache for Science and Technology, Oct. 20, 1994.
- Interview, Frank Barnas, Greenspun School of Communication, University of Nevada, Las Vegas, NV, Global warming, Oct. 27, 1994.
- Lecture, Project LEARN, NCAR, Boulder, CO, Feb. 4, 1995.
- Interview and filming, Frank Barnas, Greenspun School of Communication, University of Nevada, Las Vegas, NV, Global warming, March 2, 1995.
- Panel member, "Global warming implications," Southern Hills Middle School, Boulder, CO, April 18, 1995.
- Interview, *US News and World Report*, November 12, 1996.
- Interview, *Newsweek*, August 4, 1998.

Interview, *EarthWatch Radio*, Dec. 3, 1999.

Lecture, "The global carbon cycle: Atmospheres," NASA/GSFC Instruction for EAPS course MIT 12.421, Physical Principles of Remote Sensing, January 20, 2000.

Lecture, "The global carbon cycle: Atmospheres," NASA/GSFC Instruction for University of Maryland graduate course, Physical Principles of Remote Sensing, March 24 , 2000.

Interview, Kris Christen, *Environmental Science and Technology Magazine*, "Numerical modeling of iron fluxes and NASA satellite data," January 22, 2001.

Magazine article, *Environmental Science and Technology Magazine*, "Linking iron with carbon sequestration," March 1, Vol. 35, pp.98-99, 2001.

Lecture, "Computational climate science at ORNL," AVS Society Meeting, Knoxville. TN, Nov. 15, 2001.

Interview, *The Oak Ridger*, Nov. 17, 2002.

Interview, Kevin Gainer, *Energy Magazine/WritersNet*, Aug. 4, 2006.

Interview, Kim Krieger, *ScienceNOW Daily News*, Aug. 4, 2006

Interview, Dan Vergano, *USA Today*, Aug. 4, 2006.

Interview, Bette Hileman, *Chem. Eng. News*, Aug. 4, 2006.

Interview, Sid Perkins, *Science News*, Aug. 9, 2006.

Interview, Matt Shafer, WUOT, NPR, Aug. 15, 2006.

Interview, Angela Hardin, Aug. 16, 2006.

Interview, TV presentation, Robin Murdoch, WBIR, Knoxville, TN, Sep. 12, 2006.

Quotation on climate modeling, *Oak Ridger*, Oak Ridge, TN, Sep. 15, 2006.

Quotation on climate modeling, *Live Wire*, Sep. 17, 2006.

Quotation on climate modeling, WBIR.com, Knoxville, TN, Sep. 16, 2006.

Quotation on climate modeling, *MetroPulse*, Knoxville, TN, Sep. 18, 2006

Inclusion in article in *Knoxville News Sentinel*, Jan. 31, 2008.

Inclusion in article in *Oak Ridger*, Jan. 31. 2008.

Inclusion and appearance in ABC Special Climate:2100, May 29, 2009.

Interview, and inclusion in press release, PRNewswire-USNewswire/ – Knoxville-Oak Ridge Innovation Valley, Feb. 21, 2011

Awards:

United States Environmental Protection Agency (EPA), Scientific and Technological Achievement Award, Level III, for Innovative Assessment of Current Research on the Effects of Ozone and Climate Changes on Biogeochemical Cycles, 2008.

OSCAR, SCIDAC 2009 Achievement Award for Visualization of “NASA GEOS-5 CO₂ Simulations on Jaguar”, San Diego, CA, June 15, 2009. (With Jamison Daniel).

Best Science Visualization Videos of 2009, Wired, Aug. 19, 2009. (With Jamison Daniel)

Top 3 Best Science Visualization Videos of 2009, GIZMODO, Aug. 21, 2009. (With Jamison Daniel)

Significant Event Award (ORNL), for “Ganguly, A. R., K. Steinhaeuser, D. J. Erickson III, M. Branstetter, E. S. Parish, N. Sing, J. B. Drake and L. Buja, “Higher trends but larger uncertainty and geographic variability in 21st century temperature and heat waves”, *Proceedings of the National Academy of Sciences of the United States*, 10.1073/pnas.0904495106, (2009)”, Nov. 23, 2010.

Laboratory and Field Work

- 1981 Laboratory Tech 'A', Virginia Institute of Marine Science, College of William and Mary. Analytical techniques applied to elemental and molecular properties of Chesapeake Bay water. Williamsburg, VA.
- 1983 Participated in SEAREX field program, collecting aerosol, wet and dry deposition samples. Ninety-Mile Beach, North Island, New Zealand.
- 1984 Developed near-real time flow through wet deposition collection system, and interfaced with various electrochemical techniques. Narragansett, RI.
- 1985 Designed, constructed and operated field program obtaining aerosol, wet and dry deposition samples. Oahu, Hawaii.

1987 ONR microlayer field program collecting microlayer samples for isotopic analysis and estimation of residence time. May and September in Damariscotta, ME.

1988 Flourescence scanning of seawater samples treated with UV oxidation and various permutations of Pt and Ti catalysts. Film pressure measurements of natural sea-surface microlayers. Scripps Institution of Oceanography, UCSD, La Jolla, CA.

Analytical Techniques

Neutron activation of aerosols and foraminifera

Atomic absorption

Electrochemical sensors

Newsletters, Reports and Letters

1. Erickson, D. J. III, J. T. Merrill, and R. A. Duce, "Seasonal estimates of global atmospheric sea-salt distributions," *Searex Newsletter*, 13-17, May, 1985.
2. Erickson, D. J. III, "Elements of extinction," Letters, *Science News* **129**, 67, 1986.
3. Erickson, D. J. III, J. T. Merrill, and R. A. Duce, "Seasonal estimates of global oceanic whitecap coverage," *Searex Newsletter*, 10-18, May, 1986.
4. Erickson, D. J. III and R. A. Duce, "On the global transfer velocity field of gases with a Schmidt number of 600," *Searex Newsletter*, 7-10, January, 1987.
5. Erickson, D. J. III, K. J. Robertson, and P. M. Williams, "Isotopic composition and residence time estimates of sea-surface microlayers," Report to the Office of Naval Research, 29 p., 1988.
6. Erickson, D. J. III, "Ocean-atmosphere CO₂ exchange," EPRI Conference, *Interactions of the global carbon and climate systems*, Lake Arrowhead, CA, Oct. 21-26, 1988.
7. Lal, D., M. Laffoon, and D. J. Erickson III, "Inferences about climatic changes based on ¹⁴C, ¹³C, CaCO₃, pCO₂ and ¹⁰Be," EPRI Conference, *Interactions of the global carbon and climate systems*, Lake Arrowhead, CA, Oct. 21-26, 1988.
8. Erickson, D. J. III, S. Ghan, and J. Penner, "Global ocean to atmosphere dimethyl sulfide flux," INCOR Annual Report, 1989.
9. Erickson, D. J. III, "Experiments in numerical atmospheric chemistry," INCOR Annual Report, 1990.
10. Erickson, D. J. III and 10 others, "A global carbon model," CMAP document, 1991.
11. 1991- present, Numerous annual reports, status reports, white papers, program plans, strategic plans, institutional plans, plan plans, etc.