BRUCE T. ANDERSON

Associate Professor, Department of Earth and Environment, Boston University
685 Commonwealth Avenue, Boston, MA 02215

RESEARCH INTERESTS:

Global and regional climate variability and change; Atmospheric dynamics and hydrology; Large-scale ocean/atmosphere interactions; Climate/land-surface/vegetation interactions and monitoring

DEGREES:

Ph.D. 1998 Scripps Institution of Oceanography, La Jolla, CA
Major Field: Ocean Sciences

B.S. 1994 University of California, Santa Barbara, CA
Major Field: Physics (with Highest Honors)

EMPLOYMENT:

2012-Present	Associate Professor, Dep't. of Earth and Environment, Boston University
2006-2012	Associate Professor, Dep't. of Geography and Environment, Boston University
2008, 2009	Visiting Fellow, Grantham Institute of Climate Change, Imperial College London
2007	Royal Society Visiting Scientist, Space and Atmospheric Physics Group, Dep't. of Physics, Imperial College London
2001-2006	Assistant Professor, Dep't. of Geography and Environment, Boston University
1998-2000	NOAA Postdoctoral Fellow in Global and Climate Change
1994-1998	Graduate Student, Scripps Institution of Oceanography, UC, San Diego

RESEARCH

Publications: (§ *- advisee*)

2011-Present:

(1) **Anderson, B.T.**, R. Perez, and A. Karspeck, 2013: Triggering of El Niño onset through the trade-wind induced charging of the equatorial Pacific, *Geophys. Res. Lett.*. DOI:10.1002/grl.50200.
(2) **Anderson, B.T.**, J.C. Furtado, E. Di Lorenzo, and K. Cobb, 2013: Extratropical forcing of El Niño/Southern Oscillation asymmetry, *Geophys. Res. Lett.*. DOI: 10.1002/grl.50951
(3) Xu. L§, R.B. Myneni, **B.T. Anderson**, et al., 2013: Diminishing seasonality over northerly lands from anthropogenic forcing of climate, *Nature-Geoscience*. DOI:10.1038/nclimate1836.
(4) Gianotti, D.§, **B.T. Anderson**, and G.D. Salvucci, 2013: What do rain gauges tell us about rainfall's predictability? *J. Climate* doi: http://dx.doi.org/10.1175/JCLI-D-12-00718.1
(5) Pal, I.§, **B.T. Anderson**, G.D. Salvucci, and Gianotti, D. 2013: Magnitude and significance of observed trends in precipitation frequency over the U.S. *Geophys. Res. Lett.*. doi: 10.1002/grl.50760
(6) Di Lorenzo, E., H. Zhang, A. Clement, B. Anderson, and A. Fedorov, 2013: Extra-tropical precursors of ENSO flavors. US CLIVAR Variations, ed. Antonietta Capotondi, Vol.11, No.2, p.14-18
(7) **Anderson, B.T.**, J.R. Knight, M.A. Ringer, J.-H. Yoon, and A. Cherchi, 2012: Testing for the possible influence of unknown climate forcings upon global temperature increases from 1950-2000, *J.Climate*, DOI: http://dx.doi.org/10.1175/JCLI-D-11-00645.1.
(8) **Anderson, B.T.**, J.R. Knight, M.A. Ringer, C. Deser, A.S. Phillips, J.-H. Yoon, and A. Cherchi, 2012: Climate forcings and climate sensitivities diagnosed from atmospheric global circulation models, *Clim. Dyn.*, DOI: 10.1007/s00382-010-0798-y.
(9) **Anderson, B.T.** 2012: Intensification of seasonal extremes given a 2°C global warming target, *Climatic Change*. DOI 10.1007/s10584-011-0213-7
(10) Furtado, J.C.§, E. Di Lorenzo, **B.T. Anderson**, and N. Schneider, 2012: Linkages between the North Pacific Oscillation and central tropical Pacific SSTs at low frequencies, *Clim. Dyn.*, DOI: 10.1007/s00382-011-1245-4
(11) **Anderson, B.T.** 2011: Near-term increase in frequency of seasonal temperature extremes prior to the 2 °C global warming target, *Climatic Change Letters*. DOI 10.1007/s10584-011-0196-4.

2006-2010:

(12) **Anderson, B.T.**, Hayhoe, K., and X.-Z. Liang, 2010: Anthropogenic-induced changes in 21st Century summertime hydroclimatology of the Northeastern U.S., *Climatic Change*. **99**, 403-423

(13) **Anderson, B.T.**, J. Wang[§], G. Salvucci, S.Gopal, and S. Islam, 2010: Observed trends in summertime monsoon precipitation over the southwestern United States, *J. Climate* **23**, 1937–1944.

(14) Zhang, P.[§], **B.T. Anderson**, and R. B. Myneni, 2010: Application of a satellite-based climate-variability impact index for crop yield forecasting in drought-stricken regions, *African J. of Plant Sci*. **4**, 82-94.

(15) Samanta, A. [§], **B.T. Anderson**, R. Nemani, and R. Myneni, 2010: Physical climate response to a reduction of anthropogenic climate forcing, *Earth Interactions*, **14**, 1–11. doi: 10.1175/2010EI325.1

(16) Di Lorenzo, E., K.M. Cobb, J.C. Furtado, N. Schneider, **B.T. Anderson**, A. Bracco, M.A. Alexander, and D. Vimont 2010: Central Pacific El Niño and decadal climate change in the North Pacific, *Nature – Geophys*., **3**, 762

(17) **Anderson, B.T.**, C. Reifen[§] and R. Toumi, 2009: Identification of non-linear behavior in transient climate change projections of soil moisture over the United States, *Earth Interactions*. **13**, DOI: 10.1175/2008EI269.1.

(18) **Anderson, B.T.**, C. Reifen[§] and R. Toumi, 2009: Consistency in global climate change model predictions of regional precipitation trends, *Earth Interactions*. **13**, DOI: 10.1175/2009EI273.1

(19) **Anderson, B.T.** and Wang, J.[§], S. Gopal, and G. Salvucci 2009: Influence of daily rainfall characteristics upon regional summertime precipitation over the southwestern U.S. *J. Hydrometeor*., **10**, 1218-1230.

(20) **Anderson, B.T.**, A. Ruane, M. Kanamitsu, and J.O. Roads, 2009: Estimating the influence of evaporation and moisture-flux convergence upon seasonal precipitation rates. Part II: An analysis for North America based upon the NCEP–DOE Reanalysis II Model, *J. Hydrometeor*, **10**, 893-911.

(21) Caballero, R. and **B.T. Anderson**, 2009: Impact of midlatitude stationary waves on regional Hadley cells and ENSO, *Geophys. Res. Lett*., **36**, DOI: 10.1029/2009GL039668

(22) **Anderson, B.T.**, G. Salvucci, A. Ruane, M. Kanamitsu, and J.O. Roads, 2008: A new metric for estimating the influence of evaporation upon seasonal precipitation rates, *J. Hydrometeor*. **9**, 576-588

(23) Hayhoe, K., C.P. Wake, **B.T. Anderson**, et al.. 2008. Regional climate change projections for the Northeast U.S., *Mitigation and Adaptation Strategies for Global Change*, **13**, 425-436

(24) **Anderson, B.T.**, 2007: Intra-seasonal atmospheric variability in the extra-tropics and its relation to the onset of tropical Pacific sea-surface temperature anomalies, *J. Climate*, **20**, 1593-1599

(25) **Anderson, B.T.**, 2007: On the joint role of subtropical atmospheric variability and equatorial subsurface heat content anomalies in initiating the onset of ENSO events, *J. Climate*, **20**, 926-936

(26) Wang, W.[§], **B.T. Anderson**, D. Entekhabi, D. Huang, R. K. Kaufmann, C. Potter, and R. B. Myneni, 2007: Intraseasonal interactions between temperature and vegetation over the Boreal Forests. *Earth Interactions*, **11**, Art. No. 18

(27) Wang, J.[§], **B.T. Anderson**, and G. Salvucci, 2007: Stochastic modeling of daily summertime rainfall over the southwestern U.S. Part II: Intraseasonal variability, *J. Hydrometeor*. **8**, 938-951.

(28) Hayhoe, K., C. Wake, **B.T. Anderson** et al., 2007: Past and future changes in climate and hydrological indicators in the U.S. Northeast, *Clim. Dyn*. DOI 10.1007/s00382-006-0187-8

(29) Sciré Scappuzzo, F. [§], **B.T. Anderson**, B. Buerki, and H.-G. Kahle, 2007: Non-hydrostatic GPS Data Corrections for Mount Jungfraujoch (CH) Using Theoretical and Numerical Modeling Data and Meteorological Observations, Proceedings of the 63st annual meeting of the Institute of Navigation, Cambridge, MA, April 23-25, 2007

(30) **Anderson, B.T.**, H, Kanamaru, and J.O. Roads, 2006: Variations in the summertime atmospheric hydrologic cycle associated with seasonal precipitation anomalies over the southwestern US, *J. Hydrometeor*. **7**, 788-807

(31) **Anderson, B.T.** and E. Maloney, 2006: Interannual tropical pacific sea-surface temperatures and preceding sub-tropical North Pacific sea level pressure anomalies in the NCAR CCSM2.0, *J. Climate*, **19**, 998-1012.

(32) Zhang, P.[§], **B.T. Anderson**, B. and R. B. Myneni, 2006: Monitoring 2005 corn-belt yields from space, *EOS*., **87** (15), 150.

(33) Wang, W.[§], **B.T. Anderson**, D. Entekhabi, D. Huang, R. K. Kaufmann, C. Potter, and R. B. Myneni, 2006: Feedbacks of vegetation on Summertime climate variability over North American grasslands: 1. Statistical analysis. *Earth Interactions*, **10**, Art. No. 17

(34) Wang, W.[§], **B.T. Anderson**, N. Phillips, D. Entekhabi, R. K. Kaufmann, D. Huang, C. Potter, and R. B. Myneni, 2006: Feedbacks of vegetation on Summertime climate variability over North American grasslands: 2. A Coupled stochastic model. *Earth Interactions*, **10**, Art. No. 16
(35) Wang, J.[§], **B.T. Anderson**, and G. Salvucci, 2006: Stochastic modeling of daily summertime rainfall over the southwestern U.S. Part I: interannual variability, *J. Hydrometeor*. **7**, 739-754
(36) Ozdogan, M.[§], G. Salvucci, and **B.T. Anderson**, 2006: Examination of the Bouchet-Morton complementary relationship using a mesoscale climate model and observations under a progressive irrigation scenario, *J. Hydrometeor*., **7**, 235-251.

2000-2005:
(37) **Anderson, B.T.** and H, Kanamaru, 2005: The diurnal cycle of the summertime atmospheric hydrologic cycle over the southwestern US, *J. Hydrometeor*, **6**, 219-228.
(38) Zhang, P.[§], **B.T. Anderson**, B. Tan, D. Huang and R. B. Myneni, 2005: Potential monitoring of crop yield using a satellite-based climate variability impact index, *Agricultural and Forest Meteor*., **131**, 344-358.
(39) Lotsch, A.[§], M.A. Friedl, **B.T. Anderson**, and C.J. Tucker, 2005: Response of terrestrial ecosystems to recent Northern Hemispheric drought, *Geophys. Res. Lett*. **32**, L06705, doi:10.1029/2004GL022043
(40) D. Gochis, **B.T. Anderson**, et al., 2005: The Water Cycle Across Scales, *Bull. Amer. Meteor. Soc*., **86**, 1743-1746.
(41) Sciré Scappuzzo, F.[§], **B.T. Anderson**, B. Buerki, and H.-G. Kahle, 2005:Analysis of the effect upon GPS measurements arising from deviations from hydrostatic equilibrium in areas affected by severe weather, Proceedings of the 61st annual meeting of the Institute of Navigation, Cambridge, MA, June 27-29, 2005
(42) **Anderson, B.T.**, H, Kanamaru, and J.O. Roads, 2004: The summertime atmospheric hydrologic cycle over the southwestern US, *J. Hydrometeor*, **5** (4): 679-692
(43) **Anderson, B.T.**, 2004: Investigation of a large-scale mode of ocean/atmosphere variability and its relation to tropical Pacific sea-surface temperature anomalies, *J. Climate*, **17**, 4089-4098
(44) Zhang, P.[§], **B.T. Anderson**, M. Barlow, B. Tan, and R. B. Myneni, 2004: Climate related vegetation characteristics derived from MODIS LAI and NDVI, *J. Geophys. Res*., **109**, D20105, doi:10.1029/2004JD004720
(45) Wang, W.[§], **B. T. Anderson**, R. K. Kaufmann, and R. B. Myneni, 2004: The relation between the North Atlantic Oscillation and SSTs in the North Atlantic basin. *J. Climate*, **17**, 4752-4759
(46) **Anderson, B.T.**, 2003: Tropical Pacific sea-surface temperatures and preceding sea-level pressure anomalies in the subtropical North Pacific, *J. Geophys. Res*. **108**, Art. No. 4732
(47) Buermann, W.[§] and **Anderson, B.T**., C.J. Tucker, R.E. Dickinson, W. Lucht, C.S. Potter, and R.B. Myneni, 2002: Interannual covariability in Northern Hemisphere air temperatures and greenness associated with El Nino-Southern Oscillation and the Arctic Oscillation, *J. Geophys. Res*. **108**, Art. No. 4396.
(48) Lotsch, A.[§], M.A. Friedl, **B.T. Anderson**, and C.J Tucker, 2003: Coupled vegetation-precipitation variability observed from satellite and climate records. *Geophys. Res. Lett*., **30**, 10.1029/2003GL017506
(49) **Anderson, B.T.**, 2002: Regional simulation of intraseasonal variations in the summertime hydrologic cycle over the southwestern United States. *J. Climate*, **15**, 2282-2300.
(50) **Anderson, B.T.** and J.O. Roads, 2002: Regional simulation of summertime precipitation over the southwestern United States, *J. Climate*, **15**, 3321-3342.
(51) **Anderson, B.T.**, J.O. Roads, and S-C. Chen, 2001: Model dynamics of summertime low-level jets over northwestern Mexico, *J. Geophys. Res*., **106**(D4), 3401-3413.
(52) **Anderson, B.T.** and J.O. Roads, 2001: Summertime moisture divergence over the southwestern US and northwestern Mexico, *Geophys. Res. Lett*., **28** (10): 1973-1976.
(53) **Anderson, B.T.**, J.O. Roads, S.-C. Chen, and H.-M.H. Juang, 2000: Regional simulation of the low-level monsoon winds over the Gulf of California and southwestern United States, *J. Geophys. Res.,* **105**(D14), 17,955-17,969.
(54) **Anderson, B.T.**, J.O. Roads, and S-C. Chen, 2000: Large-scale forcing of summertime monsoon surges over the Gulf of California and southwestern United States, *J. Geophys. Res*. **105**(D19), 24,455-24,467.

Funded/Pending Proposals:

Anderson, B.T. (PI): Observationally-constrained estimates of historical drought predictability (PENDING): NOAA OGP/MAPP, with G. Salvucci (co-PI)	9/14-8/17
Anderson, B.T. (co-PI): Collaborative Research EaSM-3: Determining the Potential Predictability of Interannual-to-Decadal Regional Climate Impacts (PENDING): NSF-INSPIRE with M. Newman (PI - NOAA)	9/14-8/18
Anderson, B.T. (co-PI): Development of Conditional Averaging Techniques to estimate Land Surface Parameters for Climate Models (PENDING): NASA, with G. Salvucci (PI)	9/14-8/17
Anderson, B.T. (co-PI): RCN-SEES: Engineering Research Collaboratory for Sustainable Infrastructure in a Changing Climate: NSF, with J. Jacobs (PI - UNH)	10/12-9/16
Anderson, B.T. (PI): Detection of historical and future precipitation variations and extremes over the continental United States: DOE, with G. Salvucci (co-PI)	9/11-8/14
Anderson, B.T. (PI): Inherent predictability of observed seasonal mean precipitation variations over the continental United States: NSF/AGM, with G. Salvucci (co-PI)	9/10-8/13
Anderson, B.T. (co-PI): Pacific Decadal Variability and Central Pacific Warming El Niño in a Changing Climate: DOE, with E. Di Lorenzo (PI - GT)	9/10-8/13
Anderson, B.T. (co-PI): NSF GK-12 Graduate STEM Fellows in K-12 Education "Glacier- Global Change Initiative-Education & Research: NSF, with S. Gopal (PI)	6/10-5/15
Anderson, B.T. (PI): Anthropogenic and oceanic climate forcing in numerical models and observations: Royal Society Visiting Scientist Fellowship, with A. Czaja (co-PI)	9/07-11/07
Anderson, B.T. (PI): Proposal to perform event-based studies of interannual variations in Summertime precipitation over the southwestern United States: NOAA OGP PACS Program, with G. Salvucci (co-PI)	11/03-11/07
Anderson, B.T. (co-PI): Real Time Estimation and Assimilation of Remotely Sensed Surface Properties for Numerical Weather Prediction Models: NOAA/NEDI with M. Friedl (PI)	6/04-6/06
Anderson, B.T. (co-PI): Retrieval of time-varying land cover and vegetation properties from MODIS in support of the NCEP-WRF land surface model: NOAA/NEDI with M. Friedl (PI)	6/03-6/04
Anderson, B.T. (co-PI): Tracing Causality and Feedback Relations between Land Surface Temperatures and Vegetation Activity: NASA/Earth System Science Fellowship, with W. Wang (graduate student)	4/03-8/07
Anderson, B.T. (co-PI): The effects of agricultural expansion on regional hydrology in southeastern Turkey, NASA Office of Earth Science, with G. Salvucci (PI)	10/01-10/05
Anderson, B.T. (PI): The Summertime Atmospheric Hydrologic Cycle over the Southwestern US and Northwestern Mexico, NOAA OGP PACS Program, with J. Roads (PI)	7/01-7/04
Anderson, B.T. (PI): Regional Modeling of the Hydrologic Cycle, NOAA OGP Global and Climate Change Visiting Scientist Program	11/98-11/00
Anderson, B.T. (co-PI): Modeling the Gulf of California summertime hydrologic cycle, NOAA OGP PACS Program, with J. Roads (PI)	7/98-7/01

ACADEMIC

Courses: (§ *- developed and taught exclusively by Prof. Anderson*)

GE101 – The Atmosphere: An introduction to weather and climate. Topics include the controls of weather and climate, severe storms, climates of the world and climatic change (*lower-division undergraduate course*)

WR/GE 150§ – Extreme Weather and Climate. Topics include dynamics of extreme weather and climate events, impacts of such events both upon individuals and societies, and the description and investigation of these impacts within historical/research writing (*lower-division undergraduate writing course*)

GE310§ – Climate and the Environment. Topics include atmospheric and surface energy balances; atmospheric dynamics and the general circulation; local wind systems and air pollution; ocean dynamics; climate change (*upper-division undergraduate course*).

GE504§ – Physics of Climate. Topics include atmospheric composition and thermodynamics; radiative transfer; the global energy balance; land-surface energy balance; the global hydrologic cycle; atmospheric dynamics and the general circulation; ocean dynamics; climate feedbacks and forcings (*graduate course*).

GE/ES 507§ – Dynamical Oceanography. Topics include physical properties of seawater; major current systems and water masses; overview of essential ocean dynamics; simple waves; deepwater formation and the thermohaline circulation; and the coupled atmosphere-ocean system and its interaction with climate variability (*graduate course*).

GE830§ – Climate Seminar: Data resources for the climate sciences. Topics include data resource availability, utility of disparate data for climate change and environmental science research, presentation and scientific communication techniques (*graduate course*)

Post-doctoral Advisor:

Indrani Pal (2012) –Boston University, Department of Geography and Environment

Ph.D Thesis Advisor:

Daniel Gianotti (2011-Present) – Ph.D. Boston University, Department of Earth and Environment

Zaichun Zhu (2011-Present) – Ph.D. Beijing Normal University, Department of Earth and Environment (Joint with R. Myneni)

Toby Fusco (2009-Present) – Ph.D. Boston University, Department of Geography and Environment

Francesca Scire Scappuzzo (2004-2009) – Ph.D. ETH/Switzerland, Department of Civil, Environmental, and Geomatics Engineering

Jingyun Wang (2003-2007) – Ph.D. Boston University, Department of Geography and Environment

Ping Zhang (2002-2007) – Ph.D. Boston University, Department of Geography and Environment

Weile Wang (2002-2006) – Ph.D. Boston University, Department of Geography and Environment

Thesis Committee:

Rebecca Nemac (Expected) – Ph.D., Tufts University, Friedman School of Nutrition Science and Policy

Liang Xu (2013) – Ph.D. Boston University, Department of Geography and Environment

Meghan Salmon (2012) – Ph.D. Boston University, Department of Geography and Environment

Catherine Reifen (2012) – M.S. Imperial College London, Department of Physics

Jian Sun (2011) – Ph.D. Boston University, Department of Geography and Environment

Giacomo Masato (2010) – Ph.D. Reading University, Department of Meteorology

Arindam Samanta (2010) – Ph.D. Boston University, Department of Geography and Environment

Jason Furtado (2011) – Ph.D. Georgia Institute of Technology, School of Earth & Atmospheric Sciences

Angela Martin (2005) – M.S. Boston University, Department of Geography

Mutlu Ozdogan (2004) – Ph.D. Boston University, Department of Geography

Joseph Santanello (2004) – Ph.D. Boston University, Department of Geography

Jennifer Saleem (2004) – Ph.D. Boston University, Department of Geography

Alex Lotsch (2003) – Ph.D. Boston University, Department of Geography

Wolfgang Buermann (2002) – Ph.D. Boston University, Department of Geography
Hideki Kanamaru (2002) – Ph.D. Boston University, Department of Geography
Rongqian Yang (2002) – Ph.D. Boston University, Department of Geography

Undergraduate Research Opportunity Program/Work with Distinction

Jenny Ahlen – B.A.
Katie Swanson – B.A
Kellene Isom – B.A.
Hally Stone – B.A
Josh Cantor – B.S.
Curt Ganges – B.U. Academy

Undergraduate Advisor:

B.A. Environmental Science, Boston University:

Delatsiky, Michael
Dolby, Andrew
Doiron, Meghan
Drell, Stephanie
Estabrook, Samuel
Hammer, Julia
Hartz, Laura
Holmberg, Anders
Hughes, Ashley
Isom, Kellene
Maxwell, Yael
Pasquarella, Valerie
Schaub, Jessica C.
Sgrignuoli, Jessica
Vanaria, Janie-Lynn
Vincent, Derek
Wheatley, Susan

B.A. Physical Geography, Boston University:

Angiolillo, Nick
Fortin, Jeffrey
Fajkowski, Anna
Knutson, Ingrid
Read, Lauren
Ryan, Megan
Vincent, Derek
Zaremba, Adam

B.A. Other (Mathematics, Earth Sciences, International Relations, Biology, Psychology)

Angiolillo, Nicholas
Dolby, Greer
Hayden, Benjamin
Molomut, Rachel
Ponton, Amanda
Resnick, Stephanie

SERVICE

Professional Committees/Offices

Steering Committee Member - *US CLIVAR* and Co-Chair - *Prediction, Predictability, and Applications Interface Panel*: 2012-Present

Steering Committee Member – *Infrastructure and Climate Network* (ICNet): 2012-Present

Expert Advisory Panel Member –*Climate Change Vulnerability Assessment:* Cambridge, MA: 2012-Present

Contributing Author – *IPCC 5th Assessment Report*: Working Group I: 2012-Present

Associate Deputy Editor – *Climatic Change*: 2011-Present

Session Chair – *AGU Fall Meeting*: Understanding and Assessing Natural and Societal Impacts of Decadal Climate Variability: 2013

Invited Participant - *AgMIP-ERS Workshop*: Integrating Water Scarcity into Future Agricultural Assessment, 2013

American Meteorological Society Membership Committee: 2005-2008

Visiting Scientist Fellowships:

Grantham Institute for Climate Change Visiting Fellow

Royal Society Visiting Scientist

National Research Council Summer Faculty Fellowship

NOAA Visiting Scientist Fellowship, Postdoctoral Program in Climate and Global Change

Professional Memberships

American Geophysical Union: 1998-Present American Meteorological Society: 2005-Present

Textbook Development:

Anderson, B.T. and Strahler, A., 2008: *Visualizing Weather and Climate*, John Wiley & Sons, 500pp. – An investigation of climate and weather phenomenon for use in non-math based introductory courses

Anderson, B.T., 2009: *Climate and the Environment*, 215pp. - An advanced undergraduate/introductory graduate level text for use in Physical Climatology courses; presently in use in draft form

Foresman, T. and Strahler, A., 2012: *Visualizing Physical Geography*, Second Edition, John Wiley & Sons, 590 pp. – Contributor: Chapters 2-7

Review Committees

Tenure and Promotion External Reviewer: College of Agriculture and Natural Resources, University of Connecticut

Panel Review of U. S. Department of Energy Climate Change Research Scientific Focus Area Science Plan Proposal - Lawrence Livermore National Laboratory, $25m in funding distributed, Jul., 2012

Panel Review of U. S. Department of Energy and UCAR Cooperative Agreement for the Climate Change Prediction Program, $25m in funding distributed, Jun., 2012

Panel Review of U. S. Department of Energy and UCAR Cooperative Agreement for the Climate Change Prediction Program, $21m in funding distributed, Aug., 2011

Panel Review of Proposals for NSF/USDA/DOE for Earth System Model Program, $25m in funding distributed, Washington, DC – 8/29/2010-9/1/2010

Panel Review of Proposals for DOE Regional and Global Climate Modeling Program, $15m in funding distributed, Washington, DC – 5/26-27/2010

Panel Review of Proposals for NOAA Office of Global Programs/Warm Season Precipitation Program, $4m in funding distributed, Washington, DC – 10/28-29/2003

Research Consulting:

2012-Present *Impact of Climate Variability on Tea Quality*: Provide input regarding data resources for determining impact of climate variability and change upon tea production in China; help assess economic impacts of climate-induced changes in tea production and quality

2005-Present *Union of Concerned Scientists*: Provide input regarding research design for regional integrated assessment of future global climate change impacts upon socio-economic sectors in the Northeast US; Analyze regional model predictions of Northeast US climate under differing global change scenarios (http://www.climatechoices.org/ne/index.html)

University Committee/Administrative:

2013-Present Curriculum Committee, Dep't. of Earth and Environment, Boston University
2012-Present Academic Policy Committee Member, Boston University
2011-2012 Communication & Collaboration Governance Committee Member, Boston University
2009-2012 Director of Undergraduate Studies, Dep't. of Geography and Environment, BU
2006-2009 Associate Chair, Dep't. of Geography and Environment, Boston University
2006-2007 Chair, Natural Sciences Curriculum Committee, Boston University
2004-2007 Natural Sciences Curriculum Committee Member, Boston University
2003-2006 Academic Conduct Board Member, Boston University

Scientific Presentations: (§ *- contributor*)

2011-Present:

(1) SUNY-Stony Brook School of Marine and Atmospheric Sciences: Topics in Atmospheric and Oceanic Sciences (*Invited*), SUNY-Stony Brook, Stony Brook NY – Extratropical Triggering of El Niño Events Through the Trade-Wind Charging Mechanism, September 2013
(2) Lamont-Doherty Earth Observatory Seminar Series (*Invited*), Columbia University, Palisades NY – Pinging the tropical Pacific: Atmospheric blocking as a mechanism for charging equatorial Pacific heat content, March 2013
(3) GLACIER Fellows Colloquium (*Invited*), Boston, MA – What Caused Recent Global Warming: Narrowing the Field of Hypotheses, March 2013
(4) Director's Seminar§, NASA Goddard, Greenbelt, MD - Increased temperatures and changed vegetation seasonality over northern high latitudes, March 2013
(5) CLIVAR ENSO Diversity Workshop, Boulder, CO - Influence of extra-tropical sea-level pressure variations on the longitudinal location of ENSO events, February 2013
(6) Regional Spectral Modeling Workshop (*Invited*), Scripps Institution of Oceanography, San Diego CA - Historical expansion of the summertime monsoon over the southwestern United States: What can regional models tell us about its causes? November 2012
(7) Climate Diagnostics and Prediction Workshop§, Fort Collins, CO - Establishing Potential Predictability of U.S. Precipitation Using Rain Gauge Data, October 2012
(8) Climate Diagnostics and Prediction Workshop§, Fort Collins, CO - Magnitude and significance of observed trends in precipitation frequency over the U.S., October 2012
(9) Boston University, Boston MA - High-altitude Atmospheric Waves and their Influence on the Tropical Pacific: Transient disturbances along the tropopause and their coupling to interannual variations in the thermocline, October 2012
(10) AER (*Invited*), Lexington, MA - From the Intraseasonal to Interannual and from the Tropopause to the Thermocline: Atmospheric wave breaking and its influence on the El Nino/Southern Oscillation, July 2012
(11) Hubbard Brook Committee of Scientists Meeting (*Invited*), Hubbard Brook NH – Climate change responses in Hubbard Brook, July 2012
(12) WCRP Workshop on CMIP5 Model Analysis (*Invited*), Honolulu HI – Sensitivity of projected precipitation trends to inter-model differences in the global ocean response, March 2012
(13) AMS First Conference on Atmospheric Biogeosciences, Boston MA – A new metric for estimating the influence of evaporation and moisture-flux convergence upon seasonal precipitation rates, May 2012
(14) WCRP Open Science Conference, Denver CO – Detection of historical summertime monsoon precipitation variations and trends over the southwestern United States, October 2011
(15) Department of Energy Principal Investigators Meeting, Washington DC – Detection of historical precipitation variations and trends over the continental United States, September 2011
(16) Department of Energy Principal Investigators Meeting§, Washington DC – Pacific Decadal Variability and Central Pacific Warming El Niño in a Changing Climate , September 2011
(17) AGU Fall Meeting, San Francisco, CA - Intensification of seasonal temperature extremes prior to the 2°C global warming target, December 2011
(18) AGU Fall Meeting§, San Francisco, CA - Stochastic and deterministic aspects of observed seasonal-mean precipitation variations and extreme event occurrences over the U.S., December 2011
(19) AGU Fall Meeting§, San Francisco, CA - Seasonal to interannual variations in the North Subsurface Countercurrent of the Equatorial Pacific, December 2011

2006-2010:

(20) Utah State University (*Invited*), Logan UT – Human-induced changes in 21st Century regional climates: Is a 2°C global warming "safe"? October 2010
(21) 16th Annual Community Climate Systems Model (CCSM) Workshop (*Invited*), Breckenridge, CO - On the radiative quasi-equilibrium between global temperatures and anthropogenic climate forcing, June 2010
(22) Arizona State University (*Invited*), Phoenix, AZ – Intraseasonal to Decadal Scale Ocean-Atmosphere Coupling in the Extratropics and Tropics, March 2010
(23) University College Dublin (*Invited*), Dublin Ireland – Intraseasonal to Decadal Scale Ocean-Atmosphere Coupling in the Extratropics and Tropics, March 2010
(24) Imperial College (*Invited*), London, UK – Wherefore El Niño: The impact of extra-tropical atmospheric circulations upon the tropical Pacific, August 2009
(25) Reading University (*Invited*), Reading, UK – The North Pacific Oscillation and El Niño/Southern Oscillation: Coupling between the Extra-tropics and Tropics, November 2009
(26) Georgia Institute of Technology (*Invited*), Atlanta, GA – The North Pacific Oscillation and its impact upon the tropical Pacific, December 2009
(27) Boston University (*Invited*), Boston, MA – Potential Climate Change Impacts upon the Northeast, December 2009
(28) AGU Fall Meeting, San Francisco, CA - The impact of midlatitude stationary waves on the Hadley cell and ENSO, December 2009
(29) Imperial College (*Invited*), London, UK – Non-linear changes in Regional climate responses to 21st century anthropogenic forcing, February, 2008
(30) 1st Annual North American Regional Climate Change Assessment Program (NARCCAP) Users Workshop, Boulder, CO, February 2008
(31) Hadley Centre (*Invited*), Exeter, UK – Climate Sensitivity and Ocean Heat Uptake of Anthropogenic Forcing: What can we learn from atmospheric general circulation models, March, 2008
(32) School of Medicine, Imperial College (*Invited*), London, UK - Remote Sensing and the Monitoring and Mitigation of Disease and Human Health, June 2008
(33) Boston University (*Invited*), Boston, MA – Identification of non-linear and linear regional climate responses to 21st century anthropogenic forcing, October 2008
(34) Boston University (*Invited*), Boston, MA – Uncertainties in climate sensitivity and climate forcing: What can we learn from atmospheric general circulation models? October 2008
(35) 4th ICTP Workshop on the Theory and Use of Regional Climate Models, Trieste, IT – Identification of non-linear regional climate responses to 21st century anthropogenic forcing, March 2008
(36) 8th International Regional Spectral Model Workshop, Trieste, IT – Anthropogenic-induced changes in the 21st Century Spring/summer hydroclimatology of the Northeastern US, March 2008
(37) AGU Fall Meeting§, San Francisco, CA - Development and Analysis of Global, High-Resolution Diagnostic for Vegetation Monitoring, Yield Estimation and Famine Mitigation, December 2008
(38) AGU Fall Meeting, San Francisco, CA - Consistency in Global Climate Change Model Forecasts of Regional Precipitation Trends, December 2008
(39) AGU Fall Meeting, San Francisco, CA - Identification of Non-linear Behavior in Transient Climate Change Projections of Soil Moisture over the United States, December 2008
(40) Imperial College (*Invited*), London, UK – Influences of Anthropogenic and Oceanic Forcing on Top-of-atmosphere Radiative Fluxes and Tropospheric Temperatures, February 2007
(41) Northeast Sustainable Energy Association BuildingEnergy07 (*Invited*), Boston, MA – Our Changing Northeast Climate, March 2007
(42) The Environmental Protection Commissioner's Forum on Regional Greenhouse Gas Initiative (*Invited*), Augusta, ME, February 2007
(43) AGU Fall Meeting§, San Francisco, CA - Potential predictability of summertime rainfall extremes over the southwestern US, December 2007
(44) AGU Fall Meeting, San Francisco, CA - Anthropogenic-induced changes in the 21st Century summertime hydroclimatology of the Northeastern US, December 2007
(45) The Massachusetts Dep't. of Environmental Protection Retreat (*Invited*), Wachusett, MA, - Climate Change in Northeast US, October 2006

(46) 11th Annual Community Climate Systems Model Workshop (*Invited*), Breckenridge, CO - Use of CCSM3 and CAM3 Historical Runs: Estimation of Natural and Anthropogenic Climate Variability and Sensitivity, June 2006
(47) NAME Workshop (*Invited*), Tucson, AZ - Identification of potentially-predictable summertime rainfall anomalies and their relation to climate variability, July 2006
(48) AGU Spring Meeting, Baltimore, MD - Large-scale circulation variations and their role in altering the summertime atmospheric hydrologic cycle over the southwestern US – May 2006
(49) AGU Spring Meeting, Baltimore, MD - Tropospheric temperature changes and their relation to increasing greenhouse gases and sea surface temperatures: Can we find a distinguishing "fingerprint" for either in the observational record – May 2006

1998-2005:
(50) Regional Spectral Modeling Workshop, Lamont Doherty Earth Observatory, NY - The effects of irrigation on the regional hydro-climatology of southeastern Turkey, July 2005
(51) 10th Annual Community Climate Systems Model Workshop (*Invited*), Breckenridge, CO - Ocean/atmosphere variability related to the development of tropical Pacific sea-surface temperature anomalies in the CCSM3.0, June 2005
(52) AGU Spring Meeting (*Invited*), New Orleans, LA - Stochastic modeling of daily summertime rainfall over the southwestern US and its relation to the potential predictability of interannual variations, May 2005
(53) National Center for Atmospheric Research (*Invited*), Boulder, CO - Ocean/atmosphere variability related to the development of tropical Pacific sea-surface temperature anomalies in the CCSM2.0, April 2005
(54) AAG Spring Meeting, Denver, CO - Atmospheric Moisture Cycling Over the Southwestern United States, April 2005
(55) Scripps Institution of Oceanography (*Invited*), San Diego, CA - Extra-tropical ocean/atmosphere variability related to the development of tropical Pacific sea-surface temperature anomalies, January 2005
(50-52) AGU Fall Meeting, San Francisco, CA (3 papers) – December 2005
(53-55) AMS Winter Meeting, San Diego, CA (3 papers) – January 2005
(56) Massachusetts Institute of Technology (*Invited*), Cambridge, MA – Atmospheric moisture cycling over the southwestern United States, November 2004
(57) Rutgers University (*Invited*), New Brunswick, NJ – Extra-tropical ocean/atmosphere variability related to the development of tropical Pacific sea-surface temperature anomalies, April 2004
(58) AGU Fall Meeting, San Francisco, CA (1 paper) – December 2004
(59) PACS PI Workshop, Boulder, CO – September 2003
(60) UCAR/NCAR Junior Faculty Forum on Future Scientific Directions (*Invited*), Boulder, CO – June 2003
(61) Potsdam Institute for Climate Impact Research – May 2003
(62) AGU Fall Meeting, San Francisco, CA – December 2004
(63) AGU Fall Meeting, San Francisco, CA – December 2002
(64) NASA Ames Research Center, - December 2002
(65) NOAA's Monsoon Applications and Human Dimensions Workshop and Initiative (*Invited*), Tucson, AZ – June 2001
(66) Climate Diagnostics Workshop, Scripps Institution of Oceanography, La Jolla – October 2001
(67) Regional Spectral Modeling Workshop, Maui, HI, - Synoptic Control of Fire Weather Danger for The Islands of Hawaii, August 2000
(68) Regional Spectral Modeling Workshop, Maui, HI, Regional Simulation of Summertime Precipitation over the Southwestern US, August 2000
(69) NOAA Visiting Scientist Workshop (*Invited*), Steamboat Springs, CO, - A Shift in Global Response to Tropical Sea-Surface Temperature Anomalies, May 2000
(70) Climate Diagnostics Workshop, Lamont-Doherty Earth Observatory, NY - 11/00
(71) PACS PI Workshop, Baltimore, MD, - Regional simulation of summertime precipitation over the southwestern United States, July 2000
(72) Regional Spectral Modeling Workshop, Maui, HI, Continuous Regional Simulations of Summertime Precipitation over the Gulf of California and Southwestern, August 1999

Media and Public Presentations:

2011-Present:

Kaleidoscope 2013 Speaker, Phillips Academy, Andover MA – "Super Wicked Problems: The Complexities of Climate and Energy Issues", 9/26/2013
NSF GLACIER Summer Workshop for K-12 Teachers, Boston MA – "The global warming gamble", 8/15/2013
Newspaper Interview and Video, BU Today – "Why is the Earth Warming?" 3/25/2013
NSF GLACIER Summer Workshop for K-12 Teachers, Boston MA – "Potential Climate Change Impacts upon the Northeast", 8/8/2012
Phillips Academy, Andover MA – "Global Engagement: A Greener Blue" Panel, 6/9/2012
New England TV interview, CBS Boston – "What causes extreme weather?", 11/9/11
Society of Physics Students, Worcester MA – "Atmospheric wave breaking and its influence on ocean-atmosphere coupling in the extratropics and tropics", 10/13/2011
NSF GLACIER Summer Workshop for K-12 Teachers, Boston MA – "Confronting Climate Change in Massachusetts: An Assessment of Climate Impacts upon the Northeast", 8/2/2011
Phillips Academy, Andover MA - "The Global Warming Gamble", 1/18/2011

2006-2010:

Phillips Academy, Andover MA - "Informal Conversation about Climate Change", 10/30/2010
NSF GLACIER Summer Workshop for K-12 Teachers, Boston MA – "Potential Climate Change Impacts upon the Northeast", 8/9/2010
Phillips Academy, Andover MA - "Putting a Face on Climate Change: An Assessment of Impacts upon the Northeast", 11/6/2009
National Caucus of Environmental Legislators - "Potential Climate Change Impacts upon the Northeast", 11/2/2009
Massachusetts Dep't. of Agricultural Resources Climate Change Conference - "Historical and Future Climate Changes: An Assessment of Impacts upon Massachusetts Forests and Farms", 3/28/2009
National Newspaper interview – Earth Magazine, February 2009
Boston Cares, Boston, MA - "Confronting Climate Change in Massachusetts: An Assessment of Climate Impacts upon the Northeast", 9/15/2008
Center for Talented Youth's Science and Technology Series at Boston University, Boston, MA - "Weather and Climate Change in the Northeast An Assessment of Climate Impacts upon the Northeast", 11/26/2008
Medfield Climate Change Action Committee Forum on Climate Change Panelist, 5/11/2007
Mass. State Senate Committee on Global Warming and Climate Change Testimony, 4/25/2007
Regional-area Newspaper interview – Bangor Daily News, 2/8/2007
Boston-area Newspaper interview – North Andover Eagle-Tribune, 12/4/2006
National Newspaper interview – Reuters, 10/3/2006
National Newspaper interview - Discovery Channel News, 4/20/06
National Newspaper interview - Washington Post, 4/28/06
Boston-area Newspaper interview – Daily Free Press, 10/3/2006

2002 - 2004:

New England TV interview – Comcast CN8 Newsmakers, 8/04
Boston-area Newspaper interview – The Salem News, 4/2/03
National Newspaper interview – The Boston Globe, 6/12/03
Boston University's LERNet ScienceLab Program in Advanced Geographic Technologies
Boston-area Newspaper interview – BU Bridge
Boston-area radio interview – KBUR

Reviewer

2011-Present:

23 Refereed Journal Article Reviews (*J. Climate; Int. J. of Climatology; Geophys. Res. Lett.; Clim.Dyn.; Climatic Change*)
3 Laboratory Reviews – DOE
7 Refereed Proposal Reviews – NSF, DOE

2006-2010:

25 Refereed Journal Article Reviews (*J. Climate; J. Hydromet.; Int. J. of Climatology; J. Geophys. Res.; Geophys. Res. Lett.; Clim.Dyn.; Glob. Planet. Change; Met Zeit.*)

28 Refereed Proposal Reviews – NSF/ATM, NSF/OCE, DOE, NERC

2000-2005:

13 Refereed Journal Article Reviews (*J. Climate; J. Hydrometeor.; Int. J. of Climatology; Water Resour. Res.*; *Wea. and Forecasting*)

7 Refereed Proposal Reviews – NSF, NOAA, NASA