

## **BRUCE T. ANDERSON**

**Professor & Associate Chair**, 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 monitoring and forecasting

## **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:**

2015-Present Associate Chair, Dep't. of Earth and Environment, Boston University  
2019-Present Associate Chair, BU Marine Program, Boston University  
2014-Present Professor, Dep't. of Earth and Environment, Boston University  
2014-Present Visiting Fellow, The Frederick S. Pardee Center for the Study of the Longer-Range Future, Boston University  
2012-2014 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*)**

#### **2021-Present**

- (1) Han, Q., Liu, Z., Jia, J., **Anderson, B. T.**, Xu, W., & Shi, P. (2022). Web-Based Data to Quantify Meteorological and Geographical Effects on Heat Stroke: Case Study in China.. *Geohealth*, 6(8), e2022GH000587. doi:10.1029/2022GH000587
- (2) Pivotti, V., **Anderson, B. T.**, Cherchi, A., & Bellucci, A. (2022). North Pacific trade wind precursors to ENSO in the CMIP6 HighResMIP multimodel ensemble. *Climate Dynamics*. doi:10.1007/s00382-022-06449-0
- (3) Rogers, M.H. §, Furtado, J.C. & **Anderson, B.T.** The pacific decadal precession and its relationship to tropical pacific decadal variability in CMIP6 models. *Clim Dyn* (2023). <https://doi.org/10.1007/s00382-021-06114-y>
- (4) Pivotti, V. § and **B.T. Anderson**, 2021. Transition between Forced and Oscillatory ENSO Behavior over the last Century. *Journal of Geophysical Research*. <https://doi.org/10.1029/2020JD034116>
- (5) Chakravorty, S. §, Perez, R. C., **Anderson, B. T.**, Larson, S. M., Giese, B. S., & Pivotti, V. (2021). Ocean Dynamics are Key to Extratropical Forcing of El Niño. *Journal of Climate*, 34(21), 8739-8753. doi:10.1175/jcli-d-20-0933.1
- (6) Chakravorty, S. §, Perez, R. C., Gnanaseelan, C., & **Anderson, B. T.** (2021). Revisiting the Recharge and Discharge Processes for Different Flavors of El Niño. *Journal of Geophysical Research: Oceans*, 126(11). doi:10.1029/2020jc017075

#### **2016-2020**

- (7) Chakravorty, S. §, Perez, R. C., **Anderson, B.T.**, Giese, B., Larson, S., & Pivotti, V., 2020. Testing the trade wind charging mechanism and its influence on ENSO variability. *Journal of Climate*. doi:10.1175/JCLI-D-19-0727.1

- (8) Gianotti, D., Salvucci, G., & **Anderson, B.T.**, 2020. Separating weather and climate using a spatially-scalable precipitation model with optimized subseasonal-to-seasonal statistics. *Earth and Space Science Open Archive*. doi:10.1002/essoar.10503866.1
- (9) **Anderson, B. T.**, 2019: Empirical Evidence Linking the Pacific Decadal Precession to Kuroshio Extension Variability. *Journal of Geophysical Research: Atmospheres*, 124(23), 12845-12863. doi:10.1029/2019jd031163
- (10) **Anderson, B.T.**, N. Feldl and B.R. Lintner, 2018: Emergent behavior of Arctic precipitation in response to enhanced Arctic warming, *J. Geophys. Res.* DOI: 10.1002/2017JD026799
- (11) **Anderson, B.T.**, J.C. Furtado, E. Di Lorenzo and D.J. Gianotti<sup>§</sup>, 2017: Tracking the Pacific Decadal Precession. *J. Geophys. Res.* DOI:10.1175/JCLI-D-15-0635.1
- (12) **Anderson, B.T.**, P. Hassanzadeh and R. Caballero, 2017: Persistent anomalies of the extratropical Northern Hemisphere wintertime circulation as an initiator of El Niño/Southern Oscillation events, *Sci. Report*. doi:10.1038/s41598-017-09580-9
- (13) Nicole F., **B.T. Anderson**, and S. Bordoni, 2017: Atmospheric eddies mediate lapse rate feedbacks and Arctic amplification, *Geophys. Res. Lett.* DOI: 10.1175/JCLI-D-16-0706.1
- (14) Liu., Z.<sup>§</sup>, **B.T. Anderson**, K. Yan, W. Dong, H. Liao and P. Shi, 2017: Global and regional changes in exposure to extreme heat and the relative contributions of climate and population change, *Sci. Reports*, doi:10.1038/srep43909.
- (15) Douglas, E. et al., 2017: Progress and challenges in incorporating climate change information into transportation research and design, *J. Infrastructure Syst.*, doi: 10.1061/(ASCE)IS.1943-555X.0000377
- (16) **Anderson, B.T.**, D.J. Gianotti<sup>§</sup>, J.C. Furtado, and E. Di Lorenzo, 2016: A decadal precession of atmospheric pressures over the North Pacific. *Geophys. Res. Lett.* DOI: 10.1002/2016GL068206
- (17) **Anderson, B.T.**, D.J. Gianotti<sup>§</sup>, G. D. Salvucci and J.C. Furtado, 2016: Dominant timescales of potentially predictable precipitation variations across the continental United States. *J. Climate*. DOI:10.1175/JCLI-D-15-0635.1
- (18) Lintner, B.R., B. Langenbrunner, J.D. Neelin, **B.T. Anderson**, M.J. Niznik, G. Ki, and S.P. Xie, 2016: Characterizing CMIP5 model spread in simulated rainfall in the Pacific Intertropical Convergence and South Pacific Convergence Zones, *J. Geophys. Res.* DOI:10.1002/2016JD025284
- (19) Boehm, R., Cash, S.B., Anderson, B.A., Ahmed, S., Griffin, T.S., Robbat, Jr., A., Stepp, J.R.; Han, W., Hazel, M., Orians, C.M., 2016: Association between Empirically Estimated Monsoon Dynamics and Other Weather Factors and Historical Tea Yields in China: Results from a Yield Response Model, *Climate*, doi:10.3390/cli4020020.

#### 2011-2015

- (20) **Anderson, B.T.**, D.J. Gianotti<sup>§</sup>, and G. D. Salvucci, 2015: Characterizing the potential predictability of station-based seasonal extremes in precipitation accumulations and dry-spell durations. *J. Hydrometeor.*, **16**, 843–856
- (21) **Anderson, B.T.**, D.J. Gianotti<sup>§</sup>, and G. D. Salvucci, 2015: Detectability of historical trends in station-based precipitation characteristics over the Continental United States. *J. Geophys. Res.* DOI: 10.1002/2014JD022960
- (22) **Anderson, B.T.** and R. Perez, 2015: ENSO and Non-ENSO induced charging and discharging of the equatorial Pacific, *Clim. Dyn.*, doi:10.1007/s00382-015-2472-x
- (23) **Anderson, B.T.**, B.R. Lintner, B. Langenbrunner, J.D. Neelin, E. Hawkins, J. Syktus, 2015: Sensitivity of terrestrial precipitation trends to the structural evolution of sea-surface temperatures, *Geophys. Res. Lett.* DOI: 10.1002/2014GL062593
- (24) Di Lorenzo, E., G. Liguori, J. Furtado, N. Schneider, B. T. Anderson, and M. Alexander (2015), ENSO and Meridional Modes: a null hypothesis for Pacific climate variability, *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL066281.
- (25) Fahey, T.J., P.H. Templer, **B.T. Anderson**, et al., 2015. The promise and peril of intensive-site-based ecological research: Insights from the Hubbard Brook Ecosystem Study. *Ecology*, **96**, 885–901.
- (26) Langenbrunner, B., J.D. Neelin, B.R. Lintner, **B.T. Anderson**, 2015: Patterns of precipitation change and climatological uncertainty among CMIP5 models, with a focus on the midlatitude Pacific storm track, *J. Climate*. doi: <http://dx.doi.org/10.1175/JCLI-D-14-00800.1>

- (27) Gianotti, D. J.<sup>§</sup>, **B.T. Anderson**, and G. D. Salvucci, 2014: The potential predictability of precipitation occurrence, intensity, and seasonal totals over the continental United States. *J.Clim.*, **27**, 6904–6918.
- (28) Hawkins, E., **B.T. Anderson** et al. 2014: Uncertainties in the timing of unprecedented climates. *Nature*, **511**, <http://dx.doi.org/10.1038/nature13523>.
- (29) **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.
- (30) **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
- (31) Xu, L.<sup>§</sup>, 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.
- (32) Gianotti, D.<sup>§</sup>, **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>
- (33) Pal, I.<sup>§</sup>, **B.T. Anderson**, G.D. Salvucci, and Gianotti, D. 2013: Shifting seasonality and increasing frequency of precipitation in wet and dry seasons across the U.S. *Geophys. Res. Lett.*. doi: 10.1002/grl.50760
- (34) 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
- (35) **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>.
- (36) **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.
- (37) **Anderson, B.T.** 2012: Intensification of seasonal extremes given a 2°C global warming target, *Climatic Change*. DOI 10.1007/s10584-011-0213-7
- (38) Furtado, J.C.<sup>§</sup>, 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
- (39) **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:

- (40) **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
- (41) **Anderson, B.T.**, J. Wang<sup>§</sup>, G. Salvucci, S.Gopal, and S. Islam, 2010: Observed trends in summertime monsoon precipitation over the southwestern United States, *J. Climate* **23**, 1937–1944.
- (42) Zhang, P.<sup>§</sup>, **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.
- (43) Samanta, A.<sup>§</sup>, **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
- (44) 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
- (45) **Anderson, B.T.**, C. Reifen<sup>§</sup> 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.
- (46) **Anderson, B.T.**, C. Reifen<sup>§</sup> and R. Toumi, 2009: Consistency in global climate change model predictions of regional precipitation trends, *Earth Interactions*. **13**, DOI: 10.1175/2009EI273.1
- (47) **Anderson, B.T.** and Wang, J.<sup>§</sup>, 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.
- (48) **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.

- (49) 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
- (50) **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
- (51) 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
- (52) **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
- (53) **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
- (54) Wang, W.<sup>§</sup>, **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
- (55) Wang, J.<sup>§</sup>, **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.
- (56) 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
- (57) Sciré Scappuzzo, F.<sup>§</sup>, **B.T. Anderson**, B. Buerki, and H.-G. Kahle, 2007: Non-hydrostatic GPS Data Corrections for Mount Jungfrau (CH) Using Theoretical and Numerical Modeling Data and Meteorological Observations, Proceedings of the 63rd annual meeting of the Institute of Navigation, Cambridge, MA, April 23-25, 2007
- (58) **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
- (59) **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.
- (60) Zhang, P.<sup>§</sup>, **B.T. Anderson**, B. and R. B. Myneni, 2006: Monitoring 2005 corn-belt yields from space, *EOS*, **87** (15), 150.
- (61) Wang, W.<sup>§</sup>, **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
- (62) Wang, W.<sup>§</sup>, **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
- (63) Wang, J.<sup>§</sup>, **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
- (64) Ozdogan, M.<sup>§</sup>, 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:

- (65) **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.
- (66) Zhang, P.<sup>§</sup>, **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 Meteorol.*, **131**, 344-358.
- (67) Lotsch, A.<sup>§</sup>, 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
- (68) D. Gochis, **B.T. Anderson**, et al., 2005: The Water Cycle Across Scales, *Bull. Amer. Meteor. Soc.*, **86**, 1743-1746.
- (69) Sciré Scappuzzo, F.<sup>§</sup>, **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

- (70) **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
- (71) **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
- (72) Zhang, P.<sup>§</sup>, **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
- (73) Wang, W.<sup>§</sup>, **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
- (74) **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
- (75) Buermann, W.<sup>§</sup> 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.
- (76) Lotsch, A.<sup>§</sup>, 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
- (77) **Anderson, B.T.**, 2002: Regional simulation of intraseasonal variations in the summertime hydrologic cycle over the southwestern United States. *J. Climate*, **15**, 2282-2300.
- (78) **Anderson, B.T.** and J.O. Roads, 2002: Regional simulation of summertime precipitation over the southwestern United States, *J. Climate*, **15**, 3321-3342.
- (79) **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.
- (80) **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.
- (81) **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.
- (82) **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): Collaborative Research: Improving our Process-level Understanding of Pacific Decadal Precession Variability and Impacts using Observations and Numerical Model Experiments (PENDING): NSF with J. Furtado (PI – Univ. of Oklahoma)	4/22-3/25
Anderson, B.T. (co-PI): NNA Incubator: Collaborative Research: Historical Ecology of the Pacific Cod Fishery: NSF with C. West (PI - BU)	10/22-10/24
Anderson, B.T. (co-PI): Mission Earth: Fusing GLOBE with NASA Assets to Build Systemic Innovation in STEM Education: NSF-STC with P. Garik (PI - BU)	1/21-12/25
Anderson, B.T. (co-I): NRT: Boston UniverCity – Partnering Graduate Students with Cities to Tackle Urban Environmental Challenges : NSF with P.Templar (PI - BU)	9/17-8/22
Anderson, B.T. (PI): Collaborative Research: Extratropical Triggering of ENSO Events Through the Trade-Wind Charging Mechanism: NSF-CLD with R.Perez (co-PI - NOAA)	7/16-6/19
Anderson, B.T. (co-PI): Mission Earth: Fusing GLOBE with NASA Assets to Build Systemic Innovation in STEM Education: NSF-STC with P. Garik (PI - BU)	1/16-12/20

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

#### **Awards:**

*American Meteorological Society's Journal of Climate Editor's Award – 2014/2015*

*Visiting Scientist Fellowship, Grantham Institute for Climate Change, Imperial College – 2008/9*

*Royal Society Visiting Scientist Fellowship - 2007*

*National Research Council Summer Faculty Fellowship - 2001*

*NOAA Visiting Scientist Fellowship, Postdoctoral Program in Climate and Global Change- 1998*



## **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:**

Nishchitha Etige (2019-Present) – Ph.D. Boston University, Department of Earth and Environment

Valentina Pivotti (2017-2022) – Ph.D. Boston University, Department of Earth and Environment

Qinmei Han (2018-2020) – Ph.D. Beijing Normal University, Department of Earth and Environment

Yuan Gao (2017-2019) – Ph.D. Beijing Normal University, Department of Earth and Environment

Zhao Liu (2015-2017) – Ph.D. Beijing Normal University, Department of Earth and Environment

Daniel Gianotti (2011-2016) – Ph.D. Boston University, Department of Earth and Environment

Toby Fusco (2009-2015) – M.A. Boston University, Department of Geography and Environment

Zaichun Zhu (2011-2015) – Ph.D. Beijing Normal University, Department of Earth and Environment  
(Joint with R. Myneni)

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:**

Chloe Anderson (Expected) – Ph.D., Boston University, Department of Earth and Environment

Kathryn Wheeler (2022) – Ph.D., Boston University, Department of Earth and Environment

Rebecca Nemas (2017) – Ph.D., Tufts University, Friedman School of Nutrition Science and Policy

Nicoletta Leonardi (2015) – Ph.D., Boston University, Department of Earth and Environment

Michelle Gilmore (2015) – M.A. Boston University, Department of Earth and Environment

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  
Lila Brady – Phillips 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**

Research Team Leader – *Joint Boston University/Beijing Normal University (BU/BNU) Center for Global Change Risk Assessment*: 2017-2021  
Research Advisory Group Team Leader – *City of Boston's Climate Ready Boston Project*: 2015-Present  
Steering Committee Member – *Infrastructure and Climate Network (ICNet)*: 2012-2018  
Expert Advisory Panel Member – *American Institute of Architects Workshop: Climate Resilient Codes and Standards*: Boston, MA: 2017-Present  
Expert Facilitator – *MISSION EARTH Teacher Development Workshops*: Providence, RI: 2017-Present  
Expert Advisory Panel Member – *Climate Change Vulnerability Assessment*: Cambridge, MA: 2012-2015  
Steering Committee Member - *US CLIVAR* and Co-Chair - *Prediction, Predictability, and Applications Interface Panel*: 2012-2015  
Contributing Author – *IPCC 5<sup>th</sup> Assessment Report*: Working Group I: 2012-2013  
Associate Deputy Editor – *Climatic Change*: 2011-Present  
Session Chair – *AGU Fall Meeting*: Climate Teleconnection from Extratropics to Tropics: 2016  
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:**

*The Frederick S. Pardee Center for the Study of the Longer-Range Future* Visiting Fellow  
*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**

Panel Review of Proposals for DOE Biological and Environmental Research Early Career Research Program, \$24m in funding distributed, Washington, DC – 2/1-2/2017  
Panel Review of Proposals for DOE Biological and Environmental Research, \$12m in funding distributed, Washington, DC – 6/1-2/2016  
Panel Review of Proposals for NOAA Climate Program Office, \$10m in funding distributed, Washington, DC – 11/11-12/2015  
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:**

- 2012-2015 *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
- 2005-2010 *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:**

- 2015-Present Associate Chair, Dep't. of Earth and Environment, Boston University
- 2019-2022 Associate Chair, BU Marine Program, Boston University
- 2017-2021 Chair, Inclusion and Diversity Steering Committee, Dep't. of Earth and Environment, Boston University
- 2014-2015 Faculty Search Committee, Dep't. of Earth and Environment, Boston University
- 2013-2015 Curriculum Committee, Dep't. of Earth and Environment, Boston University
- 2012-2014 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)**

#### 2021-Present:

- (1) Silva Etige, N. and Anderson B. (2022). A Link between Kuroshio Extension Variations, Northeast Pacific Marine Heatwaves, and Marine Ecosystems in the Gulf of Alaska. In *AGU*. Chicago, IL.
- (2) Silva Etige, N. and Anderson B. (2022). Influence of Kuroshio Extension Variations on the Formation of Marine Heatwaves in the Gulf of Alaska. *AGU Ocean Sciences*. Remote.
- (3) Silva Etige, N. and Anderson B. (2022). Kuroshio Extension's Role on Influencing Downstream Atmosphere & the Northeast Pacific Marine Environment. *University of Massachusetts Dartmouth's School for Marine Science & Technology*. New Bedford, Massachusetts.
- (4) Emerald Necklace Conservancy - Fenway, MA (*Invited*) Climate Change: Its Causes and Consequences. Feb., 2022
- (5) Anderson, B. (2021). North Pacific Marine Heatwaves Their Causes and Consequences. In Symposium on Circumpolar Change, Resource Management, and Applied Archeology. Boston University's Pardee Center for the Study of the Longer Range Future.
- (6) Garik, P., Anderson, B., DeRosa, D., Farny, C., Johnson, K., & Kaufman, M. (2021). How Urban Teachers in a High Need School District Use GLOBE and Environmental Study to Satisfy Literacy and Next Generation Science Standards. In American Geophysical Union Fall Meeting 2021. online poster session

#### 2016-2020:

- (7) Greater Boston Reach Advisory Group. UMass-Boston, Boston MA (*Invited*) Changing Marine Environments in the Greater Boston Region. Dec. 2020
- (8) Harvard University - Earth and Planetary Science Colloquium. Cambridge, MA (*Invited*). The Pacific Decadal Precession: What is it, how does it work, and why do we care?. Feb. 2020
- (9) AGU Fall Meeting, San Francisco, CA. Supporting Map Literacy for Grades K-12 in a High Need School District. Dec., 2020
- (10) AGU Fall Meeting, San Francisco, CA<sup>§</sup>. The Impact of Extratropical Atmospheric Variability on El Niño: Contrasting Thermodynamic versus Dynamic Coupling. . Dec., 2020

- (11) AMS Ocean Sciences Meeting. San Diego CA Testing the trade wind charging mechanism and its influence on ENSO variability. Feb. 2020
- (12) AGU Fall Meeting, San Francisco, CA<sup>§</sup>. Testing the trade wind charging mechanism and its influence on ENSO variability. Dec., 2019
- (13) AGU Fall Meeting, San Francisco, CA<sup>§</sup>. Using GLOBE Hydrology Protocols for Culturally Responsive Teaching and Socioscientific Issues in a High Need Urban District. Dec. 2019
- (14) Research on Tap: Coastal Cities, People, and Waterways. Boston University, Boston MA (*Invited*). Is 50 Years Enough to Prepare Boston for the Rising Seas? May 2019
- (15) Emerald Necklace Conservancy - Fenway, MA (*Invited*) Climate Change: Its Causes and Consequences. April 2019
- (16) AGU Fall Meeting, San Francisco, CA. Building Bundles of GLOBE Activities: Facilitating Urban Teachers Implementation of Project Based Learning. Dec., 2018
- (17) CUNY Stony Brook, NY (*Invited*) The Pacific Decadal Precession: What we know about this newly revealed mode of climate variability, June 2018.
- (18) Beijing Normal University, Beijing China (*Invited*). Human-induced changes to regional climates: Is a 2°C global warming target “safe”? April 2018
- (19) Chinese Academy of Science's Institute of Atmospheric Physics Beijing China (*Invited*). Human-induced changes to regional climates: Is a 2°C global warming target “safe”? April 2018
- (20) Chinese Academy of Science Institute of Geographical Science and Natural Resource Research, Beijing China (*Invited*). Human-induced changes to regional climates: Is a 2°C global warming target “safe”? April 2018.
- (21) The Frederick S. Pardee Center for the Study of the Longer-Range Future, Boston University, Boston MA (*Invited*) – Climate Change, Sea Level Rise, and Migration in Bangladesh, February 2017
- (22) The Frederick S. Pardee Center for the Study of the Longer-Range Future, Boston University, Boston MA (*Invited*) – Public Health Impacts of Climate Change in India, April 2016

#### 2011-2015:

- (23) MIT Atmospheric Science Seminar Series, Cambridge, MA (*Invited*) – Can high latitude blocking events Charge the equatorial Pacific, November 2015
- (24) South Central Climate Science Center Workshop, Fort Worth , TX. The Pacific Decadal Precession and its links to US Climate, October 2015
- (25) US CLIVAR Annual Summit, Tucson AZ (*Invited*) - ENSO precursors and building an operational ENSO monitoring system, August 2015
- (26) AGU Chapman Conference on California Drought: Causes, Impacts, and Policy, Irvine CA<sup>§</sup>. California Drought, Weather Variability, and Climate Variability, April 2015
- (27) Boston University Biogeoscience Seminar Series, Boston, MA (*Invited*) – Uncertainties in the timing of unprecedented climates, November 2014
- (28) AGU Fall Meeting, San Francisco, CA<sup>§</sup> - Stochastic analysis of California's recent precipitation drought in the context of the last one hundred years, December 2014
- (29) AGU Fall Meeting, San Francisco, CA<sup>§</sup> - Characterizing weather and climate variability for precipitation: A data-based stochastic modeling framework, December 2014
- (30) AGU Fall Meeting, San Francisco, CA<sup>§</sup> - Exploring regional patterns of uncertainty over precipitation change among CMIP5 models using empirical mode techniques, with a focus on the midlatitude Pacific storm track region, December 2014
- (31) Agricultural and Applied Economics Association Annual Meeting, Minneapolis, MN<sup>§</sup> - Climate Change, Monsoon Dynamics, and Tea Production in China, July 2014
- (32) Department of Energy Principal Investigators Meeting, Washington DC – Detection of historical precipitation variations and trends over the continental U.S, May 2014
- (33) 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
- (34) Northeastern Agricultural and Resource Economics Association Annual Meeting, Ithaca, NY<sup>§</sup> - Quantifying the economic impact of climate change on tea production from 1984 to 2011 across China's major tea producing provinces , June 2013

- (35) 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
- (36) GLACIER Fellows Colloquium (*Invited*), Boston, MA – What Caused Recent Global Warming: Narrowing the Field of Hypotheses, March 2013
- (37) Director's Seminar<sup>§</sup>, NASA Goddard, Greenbelt, MD - Increased temperatures and changed vegetation seasonality over northern high latitudes, March 2013
- (38) Student Research Conference<sup>§</sup>, Friedman School of Nutrition Science and Policy, Tufts University - Quantifying the economic impact of climate change on tea production from 1984 to 2011 across China's major tea producing provinces, March 2013
- (39) CLIVAR ENSO Diversity Workshop, Boulder, CO - Influence of extra-tropical sea-level pressure variations on the longitudinal location of ENSO events, February 2013
- (40) 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
- (41) Climate Diagnostics and Prediction Workshop<sup>§</sup>, Fort Collins, CO - Establishing Potential Predictability of U.S. Precipitation Using Rain Gauge Data, October 2012
- (42) Climate Diagnostics and Prediction Workshop<sup>§</sup>, Fort Collins, CO - Magnitude and significance of observed trends in precipitation frequency over the U.S., October 2012
- (43) 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
- (44) 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
- (45) Hubbard Brook Committee of Scientists Meeting (*Invited*), Hubbard Brook NH – Climate change responses in Hubbard Brook, July 2012
- (46) 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
- (47) 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
- (48) WCRP Open Science Conference, Denver CO – Detection of historical summertime monsoon precipitation variations and trends over the southwestern United States, October 2011
- (49) Department of Energy Principal Investigators Meeting, Washington DC – Detection of historical precipitation variations and trends over the continental United States, September 2011
- (50) Department of Energy Principal Investigators Meeting<sup>§</sup>, Washington DC – Pacific Decadal Variability and Central Pacific Warming El Niño in a Changing Climate, September 2011
- (51) AGU Fall Meeting, San Francisco, CA - Intensification of seasonal temperature extremes prior to the 2°C global warming target, December 2011
- (52) AGU Fall Meeting<sup>§</sup>, San Francisco, CA - Stochastic and deterministic aspects of observed seasonal-mean precipitation variations and extreme event occurrences over the U.S., December 2011
- (53) AGU Fall Meeting<sup>§</sup>, San Francisco, CA - Seasonal to interannual variations in the North Subsurface Countercurrent of the Equatorial Pacific, December 2011

#### 2006-2010:

- (54) Utah State University (*Invited*), Logan UT – Human-induced changes in 21st Century regional climates: Is a 2°C global warming “safe”? October 2010
- (55) 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
- (56) Arizona State University (*Invited*), Phoenix, AZ – Intraseasonal to Decadal Scale Ocean-Atmosphere Coupling in the Extratropics and Tropics, March 2010
- (57) University College Dublin (*Invited*), Dublin Ireland – Intraseasonal to Decadal Scale Ocean-Atmosphere Coupling in the Extratropics and Tropics, March 2010
- (58) Imperial College (*Invited*), London, UK – Wherefore El Niño: The impact of extra-tropical atmospheric circulations upon the tropical Pacific, August 2009

- (59) Reading University (*Invited*), Reading, UK – The North Pacific Oscillation and El Niño/Southern Oscillation: Coupling between the Extra-tropics and Tropics, November 2009
- (60) Georgia Institute of Technology (*Invited*), Atlanta, GA – The North Pacific Oscillation and its impact upon the tropical Pacific, December 2009
- (61) Boston University (*Invited*), Boston, MA – Potential Climate Change Impacts upon the Northeast, December 2009
- (62) AGU Fall Meeting, San Francisco, CA - The impact of midlatitude stationary waves on the Hadley cell and ENSO, December 2009
- (63) Imperial College (*Invited*), London, UK – Non-linear changes in Regional climate responses to 21st century anthropogenic forcing, February, 2008
- (64) 1<sup>st</sup> Annual North American Regional Climate Change Assessment Program (NARCCAP) Users Workshop, Boulder, CO, February 2008
- (65) 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
- (66) School of Medicine, Imperial College (*Invited*), London, UK - Remote Sensing and the Monitoring and Mitigation of Disease and Human Health, June 2008
- (67) Boston University (*Invited*), Boston, MA – Identification of non-linear and linear regional climate responses to 21st century anthropogenic forcing, October 2008
- (68) Boston University (*Invited*), Boston, MA – Uncertainties in climate sensitivity and climate forcing: What can we learn from atmospheric general circulation models? October 2008
- (69) 4<sup>th</sup> 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
- (70) 8<sup>th</sup> International Regional Spectral Model Workshop, Trieste, IT – Anthropogenic-induced changes in the 21st Century Spring/summer hydroclimatology of the Northeastern US, March 2008
- (71) AGU Fall Meeting<sup>§</sup>, San Francisco, CA - Development and Analysis of Global, High-Resolution Diagnostic for Vegetation Monitoring, Yield Estimation and Famine Mitigation, December 2008
- (72) AGU Fall Meeting, San Francisco, CA - Consistency in Global Climate Change Model Forecasts of Regional Precipitation Trends, December 2008
- (73) 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
- (74) Imperial College (*Invited*), London, UK – Influences of Anthropogenic and Oceanic Forcing on Top-of-atmosphere Radiative Fluxes and Tropospheric Temperatures, February 2007
- (75) Northeast Sustainable Energy Association BuildingEnergy07 (*Invited*), Boston, MA – Our Changing Northeast Climate, March 2007
- (76) The Environmental Protection Commissioner's Forum on Regional Greenhouse Gas Initiative (*Invited*), Augusta, ME, February 2007
- (77) AGU Fall Meeting<sup>§</sup>, San Francisco, CA - Potential predictability of summertime rainfall extremes over the southwestern US, December 2007
- (78) AGU Fall Meeting, San Francisco, CA - Anthropogenic-induced changes in the 21st Century summertime hydroclimatology of the Northeastern US, December 2007
- (79) The Massachusetts Dep't. of Environmental Protection Retreat (*Invited*), Wachusett, MA, - Climate Change in Northeast US, October 2006
- (80) 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
- (81) NAME Workshop (*Invited*), Tucson, AZ - Identification of potentially-predictable summertime rainfall anomalies and their relation to climate variability, July 2006
- (82) 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
- (83) 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:

- (84) Regional Spectral Modeling Workshop, Lamont Doherty Earth Observatory, NY - The effects of irrigation on the regional hydro-climatology of southeastern Turkey, July 2005

- (85) 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
- (86) 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
- (87) 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
- (88) AAG Spring Meeting, Denver, CO - Atmospheric Moisture Cycling Over the Southwestern United States, April 2005
- (89) 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:**

#### 2016-Present:

Phillips Academy, Andover MA – “Climate Change Impacts in the Northeast”, 5/2/2018

Emerald Necklace Conservancy, Boston MA – “Climate Change: Its Causes and Consequences”, 1/9/2018

Phillips Academy, Andover MA – “Climate Change Impacts in the Northeast”, 4/16/2017

NSF GLACIER Summer Workshop for K-12 Teachers, Boston MA – “Potential Climate Change Impacts upon the Northeast”, 8/2/016

Phillips Academy, Andover MA – “Climate Change Impacts in the Northeast”, 5/18/2016

Association of Climate Change Officers Training, Boston MA – “Understanding Climate Science & the Latest Projections”, 1/5-6/2016

#### 2011-2015:

Phillips Academy, Andover MA – “Climate Change Impacts in the Northeast”, 4/16/2015  
 UMass Lowell Climate Teach-in, Lowell, MA - “The Global Warming Gamble”, 10/07/2014  
 NSF GLACIER Summer Workshop for K-12 Teachers, Boston MA – “Potential Climate Change Impacts upon the Northeast”, 8/13/2014  
 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**

##### 2016-Present:

17 Refereed Journal Article Reviews (*J. Climate*; *Int. J. of Climatology*; *Geophys. Res. Lett.*; *Clim.Dyn.*; *Climatic Change*; *J. Geophys. Res.*)  
 16 Refereed Proposal Reviews – NOAA, DOE



2011-2015:

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