

Ryan L. Sriver

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I. Personal History and Professional Experience

A. Educational Background

B.S.	Physics	Purdue University	2001
M.S.	Physics	Purdue University	2003
Ph.D.	Earth and Atmospheric Sciences	Purdue University	2008

B. List of Academic Positions since Final Degree

NOAA Climate and Global Change (C&GC) Postdoctoral Research Fellow, Department of Meteorology,
Pennsylvania State University, 2008 – 2010

Research Associate, Department of Geosciences, Pennsylvania State University, 2010 – 2012

Assistant Professor, Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign, 2012 –
2018

Associate Professor, Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign, 2018 –
present

Associate Professor, National Center for Supercomputing Applications (NCSA), University of Illinois at
Urbana-Champaign, 2018 – present

C. Other Professional Employment

Graduate Teaching Instructor, Department of Physics, Purdue University, 2001 – 2004

Research Assistant, Purdue Rare Isotope Measurement Laboratory (PRIME Lab), Purdue University, 2002

Course Developer, Department of Physics, Purdue University, 2002 – 2003

Course Coordinator, Department of Physics, Introductory Calculus-Based Mechanics, Purdue University, 2002
– 2004

Computerized Homework in Physics (CHiP) Programmer, Department of Physics, Purdue University, 2003 –
2004

Purdue Research Foundation Graduate Research Fellow, Department of Earth and Atmospheric Sciences,
Purdue University, 2004 – 2006

Graduate Teaching Instructor, Department of Earth and Atmospheric Sciences, Purdue University, 2006 – 2007

D. Honors, Recognition, and Outstanding Achievements

Purdue Research Foundation (PRF) Graduate Research Fellowship, 2004-2006

A. H. Ismail Interdisciplinary Program Doctoral Research Travel Award, 2007

Ph.D. research published in *Nature* highlighted in *Discover* magazine's Top 100 Science Stories of 2007 (#30 in
January 2008 issue)

Outstanding Graduate Student of the Year, Department of Earth and Atmospheric Sciences, Purdue University, 2008

Yale University Flint Postdoctoral Fellowship in Geosciences, 2008 (*Offered*)

National Oceanic and Atmospheric Administration (NOAA) Climate and Global Change Postdoctoral Fellowship, 2008

AGU 2009 Editors' Citation for Excellence in Refereeing, Geophysical Research Letters

University of Texas Institute for Geophysics (UTIG) Postdoctoral Fellowship, 2010 (*Offered*)

List of Teachers Ranked as Excellent, Fall, 2013, for ATMS 500: Dynamic Meteorology, core graduate course with 11 students enrolled

University of Illinois Campus Research Board Award, 2014

National Center for Supercomputing Applications (NCSA) Faculty Fellowship, 2016

List of Teachers Ranked as Excellent, Spring, 2020, for ATMS 404: Risk Analysis in the Earth Sciences, undergraduate/graduate course with 12 students enrolled

List of Teachers Ranked as Excellent, Fall, 2020, for ATMS 500: Dynamic Meteorology, core graduate course with 13 students enrolled

E. Invited Presentations Since Joining UIUC

Regional and global sea-level rise projections using an Earth system model of intermediate complexity, Landscape and Climate Science and Scenarios Workshop, hosted by Peninsular Florida Landscape Conservation Cooperative (PFLCC) and North Carolina State University, St. Petersburg, FL, June 2012

Improving sea-level projections to inform decision making, National Oceanic and Atmospheric Administration (NOAA) Climate & Global Change Summer Institute, Steamboat Springs, CO, July 2012

Incorporating initial conditions uncertainty into global to regional projections of climate impacts from integrated assessment models, Program on Integrated Assessment Model Development, Diagnostics and Inter-Model Comparisons (PIAMDDI), Stanford University, Palo Alto, CA, December 2012

Characterizing uncertainties surrounding future regional sea-level rise projections to support local coastal management decisions, United States Geological Survey, Raleigh, NC, February 2013

Confronting uncertainties in climate projections, Illinois State Water Survey of the Prairie Research Institute, Urbana, IL, March 2013

Quantifying climate uncertainties for risk analysis and decision-making, National Strategic Maritime Risk Stakeholder Alliance Meeting, Purdue University, West Lafayette, IN, November 2013

CESM connections to integrated assessment and climate impacts, Program on Integrated Assessment Model Development, Diagnostics and Inter-Model Comparisons (PIAMDDI) Annual Meeting, Stanford University, Palo Alto, CA, December 2013

Potential impact of tropical cyclones on equatorial Pacific dynamics and variability, 2014 American Geophysical Union Ocean Sciences Meeting, Honolulu, HI, February 2014

Assessing skill of a low-resolution CESM ensemble, DOE Integrated Climate Modeling Principal Investigator Meeting, Washington DC, May 2014

Analyzing climate impacts using a low-resolution CESM ensemble, 19th Annual Community Earth System Model (CESM) Workshop, Breckenridge, CO, June 2014

Analyzing climate impacts using a low-resolution CESM ensemble, National Oceanic and Atmospheric Administration (NOAA) Climate & Global Change Summer Institute, Steamboat Springs, CO, July 2014

Analyzing decision-relevant uncertainties in large climate ensemble experiments, Department of Earth, Atmospheric and Planetary Sciences, Purdue University, West Lafayette, IN, October, 2014

Analyzing decision-relevant uncertainties in large climate ensemble experiments, Department of Atmospheric Sciences, Texas A&M University, College Station, TX, November, 2014

Earth's changing climate: Observations, models, and uncertainty, Seminar in Energy and Sustainability Engineering, University of Illinois, Urbana Champaign, September, 2015

Analyzing Earth system model ensembles for integrated assessment and regional impacts analysis, Program on Integrated Assessment Model Development, Diagnostics and Inter-Model Comparisons (PIAMDDI) Annual Meeting, Stanford University, Palo Alto, CA, December 2015

Linking climate science to economic impacts, 9th Annual Midwest Graduate Student Summit in Applied Economics, Urban and Regional Studies, Urbana, IL, April 2016

Connecting climate science and impacts analysis: Quantifying decision-relevant uncertainties in climate model ensembles, American Statistical Association (ASA) 2016 Joint Statistical Meetings, Chicago, IL, August, 2016

Earth's changing climate: Observations, models, and uncertainty, Seminar in Energy and Sustainability Engineering, University of Illinois, Urbana Champaign, August, 2016

Uncertainty analysis with the Hector climate model, Joint Global Change Research Institute (JGCRI) Integrated Assessment Workshop and GCAM Community Modeling Meeting, College Park, MD, October 2016

How is Earth's climate changing and what are the impacts? Regional Economics Applications Laboratory (REAL) Seminar Series, University of Illinois at Urbana-Champaign, Urbana, IL, October, 2016

Climate change science, uncertainties, and impacts, Department of Statistics, Purdue University, West Lafayette, IN, November, 2016

How does an improved sampling of known uncertainties influence the tails of climate projections on decision-relevant spatial and temporal scales? Program on Integrated Assessment Model Development, Diagnostics and Inter-Model Comparisons (PIAMDDI) Annual Meeting, Stanford University, Palo Alto, CA, December 2016

Visualizing hurricane-ocean interactions using the Community Earth System Model (CESM), National Center for Supercomputing Applications (NCSA), Urbana, IL, February 2017

Decision-relevant uncertainty quantification using climate model ensembles, Statistical and Dynamical Perspectives on Midwest Regional Climate Change, Purdue University, West Lafayette, IN, May 2017

Analyzing tropical cyclone-climate interactions using the Community Earth System Model (CESM), NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, May, 2017

Assessing the tails in Earth system model ensembles, Department of Statistics, University of Chicago, Chicago, IL, June 2017

The influence of uncertainties on the tails of climate projections on decision-relevant spatial and temporal scales, Energy Modeling Forum (EMF) workshop on modeling integrated energy-water-land systems, Snowmass, CO, July 2017

Development of statistical tools for analyzing temperature and precipitation extremes in Earth system model ensembles, Penn State University, University Park, PA, May 2018

Analyzing tropical cyclone-climate interactions using the Community Earth System Model (CESM), NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, June 2018

Climate Change: Observations, Models, and Uncertainty, Department of Geographic & Atmospheric Science, Northern Illinois University, Sycamore, IL, September 2018

Extreme temperature in downscaled climate model products, Penn State University, University Park, PA, May 2019

The response of tropical cyclone activity to increasing CO₂ in the Community Earth System Model (CESM), NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, June 2019

The influence of uncertainties on the tails of climate projections, NOAA CLIVAR Data Science Working Group Webinar Series, August 31, 2020

F. Memberships and Offices Held in Professional Societies

Member of American Geophysical Union (AGU) since 2003
Member of American Meteorological Society (AMS) since 2013
Member of American Statistical Association (ASA) since 2016

G. Editorships of Journals or Other Learned Publications

Associate Editor, *Journal of Climate*, American Meteorological Society, 2016 – present

Co-editor of a special issue of the peer-reviewed journal *Water* on extreme floods and droughts under future climate scenarios, spring 2019 – https://www.mdpi.com/journal/water/special_issues/floods_droughts

II. Publications and Creative Works

- # Denotes any publication derived from a candidate's thesis
- * Denotes any publication that has undergone stringent editorial review by peers
- + Denotes any publication that was invited and carries special prestige and recognition
- ^ Denotes any publication with lead author being candidate's student

A. Doctoral Thesis Title

#* Sriver, R. L. (2008), The relationship between tropical cyclones and the upper ocean: Investigating possible climate feedbacks, Ph.D. Dissertation, Department of Earth and Atmospheric Sciences, Purdue University, IN, 150 pp.

B. Books Authored or Co-Authored

Not Applicable

C. Books Edited or Co-Edited

Not Applicable

D. Chapters in Books

1. Applegate, P., and Sriver, R. L. (2015) Fitting a second-order polynomial to sea-level data, chapter in *Risk Analysis in the Earth Sciences: A lab manual with Exercises in R*, an open source e-textbook, ed. Applegate, P. and Keller, K. <https://leanpub.com/raes>
2. Applegate, P., Sriver, R. L., and Keller, K. (2015) Performing a simple bootstrap with sea-level data, chapter in *Risk Analysis in the Earth Sciences: A lab manual with Exercises in R*, and open source e-textbook, ed. Applegate, P. and Keller, K. <https://leanpub.com/raes>

E. Monographs

Not Applicable

F. Articles in Journals

1. *#Sriver, R. L., and Huber, M. (2006), Low frequency variability in globally integrated tropical cyclone power dissipation, *Geophysical Research Letters*, 33, L11705. <https://doi.org/10.1029/2006GL026167>
2. *#Sriver, R. L., and Huber, M. (2007), Observational evidence for an ocean heat pump induced by tropical cyclones, *Nature*, 447, 577-580. <https://doi.org/10.1038/nature05785>

3. *Sriver, R. L., and Huber, M. (2007), Reply to comment by R. N. Maue and R. E. Hart on “Low frequency variability in globally integrated tropical cyclone power dissipation”, *Geophysical Research Letters*, 34, L11704. <https://doi.org/10.1029/2007GL029413>
4. *Sriver, R. L., Huber, M., and Nusbaumer, J. (2008), Investigating tropical cyclone-climate feedbacks using the TRMM Microwave Imager and the Quick Scatterometer, *Geochemistry, Geophysics, Geosystems*, 9, Q09V11. <https://doi.org/10.1029/2007GC001842>
5. *Warnaar, J., Bijl, P. K., Huber, M., Sloan, L., Brinkhuis, H., Rohl, U., Sriver, R. L., and Visscher, H. (2009), Orbitally forced climate changes in the Tasman sector during the Middle Eocene, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 280, 361-370. <https://doi.org/10.1016/j.palaeo.2009.06.023>
6. Done, J., Hu, A., Farmer, E. C., Yin, J., Bates, J., Frappier, A. B., Halkides, D. J., Kilbourne, K. H., Sriver, R. L., and Woodruff, J. (2009), The Thermohaline circulation and tropical cyclones in past, present, and future climates, *Bulletin of the American Meteorological Society*, 90, 1015-1017. <https://doi.org/10.1175/2009BAMS2762.1>
7. *Sriver, R. L., and Huber, M. (2010), Modeled sensitivity of upper thermocline properties to tropical cyclone winds and possible feedbacks on the Hadley circulation, *Geophysical Research Letters*, 37 L08704. <https://doi.org/10.1029/2010GL042836>
8. *Sriver, R. L., Goes, M., Mann, M. E., and Keller, K. (2010), Climate response to tropical cyclone-induced ocean mixing in an Earth system model of intermediate complexity, *Journal of Geophysical Research-Oceans*, 115, C10042. <https://doi.org/10.1029/2010JC006106>
9. +Sriver, R. L. (2010), Climate Change: Tropical cyclones in the mix, *Nature*, 463, 1032-1033. <https://doi.org/10.1038/4631032a>
10. *Woodruff, J. D., Sriver, R. L., and Lund, D. C. (2011), Tropical cyclone activity and western North Atlantic stratification over the last millennium: A comparative review with viable connections, *Journal of Quaternary Science*. <https://doi.org/10.1002/jqs.1551>
11. +Sriver, R. L. (2011), Climate Change: Man-made cyclones, *Nature*, 479, 50-51. <https://doi.org/10.1038/479050a>
12. *Olson, R., Sriver, R. L., Goes, M., Urban, N. M., Matthews, H. D., Haran, M., and Keller, K. (2012), A climate sensitivity estimate using Bayesian fusion of instrumental observations and an Earth System model, *Journal of Geophysical Research-Atmospheres*, 117, D04103. <https://doi.org/10.1029/2011JD016620>
13. *Irvine, P., Sriver, R. L., and Keller, K. (2012), Tension between reducing sea-level rise and global warming through solar radiation management, *Nature Climate Change*, 2, 97-100. <https://doi.org/10.1038/nclimate1351>
14. *Tuana, N., Sriver, R. L., Svoboda, T., Tonkonojenkov, R., Irvine, P., Haqq-Misra, J., and Keller, K. (2012), A research agenda for an integrated ethical and scientific analysis of geoengineering proposals, *Ethics, Policy, & Environment*, 15(2). <https://doi.org/10.1080/21550085.2012.685557>
15. *Lempert, R., Sriver, R. L., and Keller, K. (2012), Characterizing uncertain sea level rise projections to support infrastructure investment decisions, California Energy Commission, Publication Number: CEC-500-2012-056. <https://ww2.energy.ca.gov/2012publications/CEC-500-2012-056/CEC-500-2012-056.pdf>
16. *Wang, J.-W., Han, W., and Sriver, R. L. (2012), Impact of tropical cyclones on the ocean heat budget in the Bay of Bengal during 1999, Part I: Model configuration and evaluation, *Journal of Geophysical Research-Oceans*, 117, C9. <https://doi.org/10.1029/2012JC008372>
17. *Wang, J.-W., Han, W., and Sriver, R. L. (2012), Impact of tropical cyclones on the ocean heat budget in the Bay of Bengal during 1999, Part II: Processes and interpretations, *Journal of Geophysical Research-Oceans*, 117, C9. <https://doi.org/10.1029/2012JC008373>
18. *Sriver, R. L., Urban, N. M., Olson, R., and Keller, K. (2012), Toward a physically plausible upper bound of sea-level projections. *Climatic Change*, 115, 893-902. <http://doi.org/10.1007/s10584-012-0610-6>
19. *Sriver, R. L., Huber, M., and Chafik, L. (2013), Excitation of equatorial Kelvin and Yanai waves by tropical cyclones in an ocean general circulation model, *Earth System Dynamics*, 4, 1-10. <http://doi.org/10.5194/esd-4-1-2013>

20. *Olson, R., Sriver, R. L., Chang, W., Haran, M., Urban, N. M., and Keller, K. (2013), What is the effect of unresolved internal climate variability on climate sensitivity estimates? *Journal of Geophysical Research-Atmospheres*, 118, 4348-4358. <https://doi.org/10.1002/jgrd.50390>
21. +Sriver, R. L. (2013), Observational evidence supports the role of tropical cyclones in regulating climate, *Proceedings of the National Academy of Sciences of the United States of America*, 110, 15173-15174. <https://doi.org/10.1073/pnas.1314721110>
22. *Sriver, R. L., Timmermann, A., Mann, M. E., Keller, K., and Goosse, H. (2014), Improved representation of tropical Pacific ocean-atmosphere dynamics in an intermediate complexity climate model, *Journal of Climate*. <https://doi.org/10.1175/JCLI-D-12-00849.1>
23. *Urban, N. M., Holden, P. B., Edwards, N. R., Sriver, R. L., Olson, R., and Keller, K. (2014), Historical and future learning about climate sensitivity, *Geophysical Research Letters*, 41, 7, 2543-2552. <https://doi.org/10.1002/2014GL059484>
24. * Cheng, L., Zhu, J., and Sriver, R. L. (2015), Global representation of tropical cyclone-induced short-term ocean thermal changes using Argo data, *Ocean Science*, 11, 719-741. <https://doi.org/10.5194/os-11-719-2015>
25. * Sriver, R. L., Forest, C. E., and Keller, K. (2015), Effects of initial conditions uncertainty on regional climate variability: An analysis using a low-resolution CESM ensemble, *Geophysical Research Letters*, 42, 5468-5476. <https://doi.org/10.1002/2015GL064546>
26. ^* Li, H., Sriver, R. L., and Goes, M. (2016), Modeled sensitivity of the Northwestern Pacific upper-ocean response to tropical cyclones in a fully-coupled climate model with varying ocean grid resolution, *Journal of Geophysical Research-Oceans*, 121, 586-601. <https://doi.org/10.1002/2015JC011226>
* *Ogura award recipient for best student paper in DAS (April, 2016)*
27. ^* Janssen, E., Sriver, R. L., Wuebbles, D. J., and Kunkel, K. E. (2016), Seasonal and regional variations in extreme precipitation event frequency using CMIP5, *Geophysical Research Letters*, 43, 5385-5393. <https://doi.org/10.1002/2016GL069151>
28. ^* Li, H. and Sriver, R. L. (2016), Effects of ocean grid resolution on tropical cyclone-induced upper ocean responses using a global ocean general circulation model, *Journal of Geophysical Research-Oceans*, 121, 8305-8319. <https://doi.org/10.1002/2016JC011951>
* *Paper highlighted by journal editor*
* *Ogura award runner-up for best student paper in DAS (April, 2017)*
29. ^* Huang, A., Li, H., Sriver, R. L., Fedorov, A. V., and Brierley, C. M. (2017), Regional variations in the ocean response to tropical cyclones: Ocean mixing versus low cloud suppression, *Geophysical Research Letters*, 44, 1947-1955. <https://doi.org/10.1002/2016GL072023>
30. ^* Hogan, E. E. and Sriver, R. L. (2017), Analyzing the effect of ocean internal variability on depth-integrated steric sea-level rise trends using a low-resolution CESM ensemble, *Water*, 9, 483. <https://doi.org/10.3390/w9070483>
31. ^* Vega-Westhoff, B., and Sriver, R. L. (2017), Analysis of ENSO's response to unforced variability and anthropogenic forcing using CESM, *Nature Scientific Reports*, 7, 18047. <https://doi.org/10.1038/s41598-017-18459-8>
* *Ogura award runner-up for best student paper in DAS (April, 2018)*
32. ^* Li, H. and Sriver, R. L. (2018), Tropical cyclone activity in the high-resolution Community Earth System Model and the impact of ocean coupling, *Journal of Advances in Modeling Earth Systems*, 10, 165-186. <https://doi.org/10.1002/2017MS001199>
33. * Sriver, R. L., Lempert, R. J., Wilkman-Svahn, P., and Keller, K. (2018), Characterizing uncertain sea level rise projections to support infrastructure investment decisions, *Plos One*, 13(2), e0190641. <https://doi.org/10.1371/journal.pone.0190641>
34. * Haugen, M. A., Stein, M. L., Moyer, E. J., and Sriver, R. L. (2018), Estimating changes in temperature distributions in a large ensemble of climate simulations using quantile regression, *Journal of Climate*, 31, 8573-8588, doi:10.1175/JCLI-D-17-0782.1. <https://doi.org/10.1175/JCLI-D-17-0782.1>

35. ^* Li, H. and Srivier, R. L. (2018), Impact of tropical cyclones on the global ocean: Results from multi-decadal global ocean simulations isolating tropical cyclone forcing, *Journal of Climate*, 31, 8761-8784. <https://doi.org/10.1175/JCLI-D-18-0221.1>
36. ^* Huang, A., Vega-Westhoff, B., and Srivier, R. L. (2019), Analyzing El Nino-Southern Oscillation predictability using long-short-term-memory models, *Earth and Space Science*, 6, 212-221. <https://doi.org/10.1029/2018EA000423>
37. ^* Hogan, E. E., and Srivier, R. L. (2019), The effect of internal variability on ocean temperature adjustment in a low-resolution CESM initial conditions ensemble, *Journal of Geophysical Research-Oceans*, 124, 1063-1073. <https://doi.org/10.1029/2018JC014535>
38. ^* Hogan, E. E., Nicholas, R., Keller, K., Eilts, S. and Srivier, R. L. (2019), Representation of US warm temperature extremes in global climate model ensembles, *Journal of Climate*, 32, 2591-2603. <https://doi.org/10.1175/JCLI-D-18-0075.1>
39. * Haugen, M. A., Stein, M., L., Srivier, R., L., and Moyer, E. L. (2019), Future climate emulations using quantile regressions on large ensembles, *Advances in Statistical Climatology, Meteorology, and Oceanography*, 5, 37-55. <https://doi.org/10.5194/ascmo-5-37-2019>
40. ^* Li, H., and Srivier, R. L., (2019), Impact of air-sea coupling on the simulated global tropical cyclone activity in the high-resolution Community Earth System Model (CESM), *Climate Dynamics*, 53, 3731–3750. <https://doi.org/10.1007/s00382-019-04739-8>
41. ^* Vega-Westhoff, B., Srivier, R. L., Hartin, C. A., Wong, T. E., and Keller, K. (2019), Impacts of observational constraints related to sea level on estimates of climate sensitivity, *Earth's Future*, 7, 677-690. <https://doi.org/10.1029/2018EF001082>
42. Markus, M., Cai, X., and Srivier, R. L. (2019), Extreme floods and droughts under future climate scenarios, *Water*, 11, 1720. <https://doi.org/10.3390/w11081720>
43. * Schwarber, A. K., Smith, S. J., Hartin, C. A., Vega-Westhoff, B. A., and Srivier, R. (2019), Evaluating climate emulation: fundamental impulse testing of simple climate models, *Earth System Dynamics*, 10, 729–739. <https://doi.org/10.5194/esd-10-729-2019>
44. ^* Vega-Westhoff, B., Srivier, R. L., Hartin, C. A., Wong, T. E., and Keller, K. (2020), The role of climate sensitivity in extreme sea-level rise projections, *Geophysical Research Letters*, 47, e2019GL085792. <https://doi.org/10.1029/2019GL085792>
45. ^* Lafferty, D. C., Srivier, R. L., Haqiqi, I., Hertel, T. W., Keller, K., and Nicholas, R. E. (Submitted), Statistically bias-corrected and downscaled climate models underestimate the severity of U.S. maize yield shocks.
46. * Tebaldi, C., Rasmussen, DJ, Vega-Westhoff, B., Srivier, R. L., Kopp, R. E., Ranasinghe, R., Kirezci, E., Vousdoukas, M., and Mentaschi, L. (Submitted), Extreme sea levels at different global warming levels.
47. ^* Li, H., Chen, N., Singer, C., and Srivier, R. L. (In Revision), Decision-Making and Climate Modeling with Geo-engineering: Using a Climate Action Game Experiment to Inform Climate Decisions, *Climatic Change*.

G. Creative Works (Exhibitions, Commissions, Competitions, Performances, Designs, Art or Architecture Executed)

Not Applicable

H. Patents

Not Applicable

I. Bulletins, Reports, or Conference Proceedings

1. Basumallik, A., Zhao, C. X., Sriver, R. L., and Huber, M. (2007), A community climate system modeling portal for the TeraGrid, *Proceedings of the TeraGrid 2007 Conference*, Madison, WI, June4-8, 2007
2. Applegate, P. J., Sriver, R. L., and Keller, K. (2013), Uncertainty quantification using Monte Carlo perfect model experiments, and bootstrapping of time series: a tutorial, SCRiM (Sustainable Climate Risk Management) Summer School, Penn State University, State College, PA, August 26-30, 2013
3. Sriver, R. L. and Li, H. (2015), Scaling the CESM to ultra-high resolutions for analyzing tropical cyclone-climate feedbacks, Blue Waters 2015 Annual Report – Sustained Petascale in action: Enabling Transformative Research
4. Sriver, R. L. and Li, H. (2016), Analyzing tropical cyclone-climate interactions using the Community Earth System Model (CESM), Blue Waters 2016 Annual Report – Sustained Petascale in action: Enabling Transformative Research
5. Sriver, R. L. and Li, H. (2017), Impact of ocean coupling on simulated tropical cyclone activity in the high-resolution Community Earth System Model, Blue Waters 2017 Annual Report – Sustained Petascale in action: Enabling Transformative Research
6. Bock, D., Li, H. and Sriver, R. L. (2017), Simulation and visual representation of tropical cyclone-ocean interactions, The International Conference for High Performance Computing, Networking, Storage and Analysis (SC17), Denver, CO
7. Bock D., Li, H. and Sriver, R. L. (2017), Visualization of tropical cyclone-ocean interactions, PEARC17: Proceedings of the Practice and Experience in Advanced Research Computing 2017 on Sustainability, Success and Impact, July 2017, Article No. 79, Pages 1-3, <https://doi.org/10.1145/3093338.3104149>
8. Sriver, R. L. and Li, H. (2018), The response of tropical cyclone activity to global warming in the Community Earth System Model (CESM), Blue Waters 2018 Annual Report – Sustained Petascale in action: Enabling Transformative Research
9. Li, H. and Sriver, R. L. (2018), Analyzing Tropical Cyclone–Climate Interactions using the High-Resolution Community Earth System Model, Blue Waters 2018 Annual Report – Sustained Petascale in action: Enabling Transformative Research
10. Bates, S. and Sriver, R. L. (2018), How atmospheric rivers may change over the 21st Century, Blue Waters 2018 Annual Report – Sustained Petascale in action: Enabling Transformative Research

J. Abstracts

1. #Sriver, R. L., and Huber, M., Tropical cyclone-induced sea surface temperature anomalies and potential climatic feedbacks, Environmental Sciences and Engineering Institute, West Lafayette, IN, April 2004.
2. Huber, M., and Sriver, R. L., Construction of ‘deep’ paleoclimate Community Climate System Model (CCSM) simulations, National Center for Atmospheric Research CCSM Annual Meeting, Santa Fe, New Mexico, June 2004.
3. #Sriver, R. L., and Huber, M., Tropical cyclone activity and climate, Purdue Climate Change Research Center (PCCRC) Workshop, West Lafayette, IN, November 2004.
4. #Sriver, R. L., and Huber, M., Tropical cyclone-induced ocean mixing and ocean heat transport, American Geophysical Union Fall Meeting, San Francisco, CA, December 2004.
5. #Sriver, R. L., and Huber, M., Estimating ocean heat transport attributable to tropical cyclone activity using ERA-40, American Geophysical Union Fall Meeting, San Francisco, CA, December 2005.
6. #Huber, M., and Sriver, R. L., Tropical cyclones as climate drivers: Lessons from the past and future directions, American Geophysical Union Fall Meeting, San Francisco, CA, December 2006.
7. #Sriver, R. L., and Huber, M., Tropical cyclone-induced ocean mixing, ocean heat transport, and potential for climatic feedbacks, American Geophysical Union Fall Meeting, San Francisco, CA, December 2006.
8. Basumallik, A., Zhao, L., Song, C. X., Lee, W., Sriver, R. L., and Huber, M., Push-button Community Climate System Model on the TeraGrid, International Conference for High Performance Computing, Networking, Storage and Analysis, Reno, NV, November, 2007.

9. Basumallik, A., Zhao, L., Song, C. X., Srivier, R. L., and Huber, M., A community climate system modeling portal for the Teragrid, Teragrid Annual Conference, Madison, WI, June, 2007.
10. #Srivier, R. L. and Huber, M., Climatic feedbacks between tropical cyclones, temperature and vertical ocean mixing, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2007.
11. #Srivier, R. L., Huber, M., and Nusbaumer, J., Applying TMI retrievals of sea surface temperature and surface winds to understanding tropical cyclone-induced climatic feedbacks, The Third NASA/JAXA International TRMM Science Conference, Las Vegas, NV, February, 2008.
12. #Srivier, R. L. and Huber, M., Effect of tropical cyclone winds on the upper ocean, NCAR/UCAR Junior Faculty Forum on Future Scientific Directions, Boulder, CO, July, 2008.
13. #Huber, M., Nusbaumer, J., and Srivier, R. L., Importance of changes in extreme weather events for the maintenance of past warm climates, AGU Chapman Conference on Atmospheric Water Vapor and Its Role in Climate, Kailua-Kona, HI, October, 2008.
14. #Srivier, R. L., and Huber, M., The effect of tropical cyclone winds on the upper ocean, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2008.
15. #Huber, M. and Srivier, R. L., Investigating tropical cyclone-induced feedbacks using an ocean general circulation model, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2008.
16. Srivier, R. L., Mann, M. E., Goes, M. P., and Keller, K., Climate response to tropical cyclone-induced ocean mixing in an Earth system model of intermediate complexity, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2009.
17. Srivier, R. L., Mann, M. E., Huber, M., Goes, M., and Keller, K., New insights into tropical cyclone-climate interactions using climate models of varying complexity, NOAA Climate & Global Change Summer Institute, Steamboat Springs, CO, July, 2010.
18. Srivier, R. L., Goes, M. P., Mann, M. E., and Keller, K., Recent advances in understanding tropical cyclone-climate interactions using climate models of varying complexity, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2010.
19. Goldner, A. P., Huber, M., and Srivier, R. L., Is the future of North American hydroclimatology controlled by tropical cyclones and the evolution of El Nino? American Geophysical Union Fall Meeting, San Francisco, CA, December, 2010.
20. Woodruff, J. D., Srivier, R. L., and Lund, D. C., Tropical cyclone activity and western North Atlantic stratification over the last millennia and potential connections, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2010.
21. Srivier, R. L., Li, W., Forest, C. E., and Keller, K., Towards probabilistic projections of climate change for integrated assessment modeling research using CESM, Climate and Earth System Modeling Principal Investigators' Meeting sponsored by the U.S. Department of Energy, Office of Biological and Environmental Research, Washington D.C., September, 2011.
22. Lempert, R., Keller, K., Srivier, R. L., Hackbarth, A., and Han, B., Managing extreme sea level rise scenarios, Los Angeles, CA, September 6, 2011.
23. Lempert, R., Keller, K., and Srivier, R. L., Informing robust infrastructure investment decisions in the face of deeply uncertain sea level rise: A case study for the Port of Los Angeles, Los Angeles, CA, October 25, 2011.
24. Srivier, R. L., Urban, N., Olson, R., and Keller, K., Towards a physically plausible upper bound of sea-level projections, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011.
25. Keller, K., Srivier, R. L., Timmermann, A., Laurian, A., Mann, M. E., ENSO variability under parametric uncertainty in an Earth system model of intermediate complexity, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011.
26. Haqq-Misra, J., Tuana, N., Keller, K., Srivier, R. L., Svoboda, T., Olson, R., and Irvine, P. J., Ethics as an integral component of geoengineering analysis, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011.

27. Cheng, L., Zhu, J., and Srivier, R. L., Estimation of air sea heat fluxes and ocean mixing climatology caused by tropical cyclones on basin and annual scales, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011.
28. Nicholas, R. E., Srivier, R. L., Olson, R. and Keller, K., Bayesian model averaging of heterogeneous climate model ensembles, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011.
29. Olson, R., Srivier, R. L., Goes, M. P., Urban, N., Matthews, M., Haran, M., and Keller, K., Quantifying key climate parameter uncertainties using and Earth system model with a dynamic 3D ocean, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011.
30. Wang, J.-W., Han, W., and Srivier, R. L., Impact of tropical cyclones on the ocean heat budget in the Bay of Bengal during 1999: Processes and Interpretations, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2012.
31. Urban, N. M., Srivier, R. L., Olson, R., Keller, K., Holden, P. B., and Edwards, N. R., Learning about climate sensitivity, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2012.
32. Olson, R., Srivier, R. L., Haran, M., Chang, W., Urban, N., and Keller, K., Quantifying the uncertainty in climate sensitivity due to random realizations of unresolved climate noise, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2012.
33. Srivier, R. L., Forest, C. E., and Keller, K., Characterizing the effect of initial conditions uncertainty on climate projections, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2013.
34. Srivier, R. L., Potential impact of tropical cyclones on equatorial Pacific dynamics and variability, 2014 American Geophysical Union Ocean Sciences Meeting, Honolulu, HI, February 2014
35. Srivier, R. L., Forest, C. E., and Keller, K., Assessing skill of a low-resolution CESM ensemble, DOE Integrated Climate Modeling Principal Investigator Meeting, Washington DC, May 2014
36. Srivier, R. L., Forest, C. E., and Keller, K., Analyzing climate impacts using a low-resolution CESM ensemble, 19th Annual Community Earth System Model (CESM) Workshop, Breckenridge, CO, June 2014
37. ^Hogan, E., and Srivier, R. L., The effect of internal climate variability on spatial and temporal patterns of sea-level rise variations and projections, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2014.
38. Srivier, R. L., Forest, C. E., and Keller, K., Quantifying decision-relevant climate uncertainties in climate model ensembles across multiple spatial and temporal scales, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2014.
39. ^Li, H., and Srivier, R. L., Modeled sensitivity of the upper-ocean response to tropical cyclones in the Northwestern Pacific using a fully-coupled climate model with varying ocean resolution, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2014.
40. Srivier, R. L., Forest, C. E., and Keller, K., Quantifying decision-relevant uncertainties in climate model ensembles across multiple spatial and temporal scales, 95th American Meteorological Society Annual Meeting, Phoenix AZ, January, 2015.
41. ^Li,H., Srivier, R. L., and Goes, M. Analyzing the sensitivity of the northwestern Pacific upper ocean's response to tropical cyclones in a fully-coupled climate model, The 5th International Summit on Hurricanes and Climate Change, Crete, Greece, June 2015.
42. ^Li, H., and Srivier, R. L., Analyzing the effect of tropical cyclones on the upper ocean using an ocean general circulation model with varying horizontal grid resolution, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
43. Forest, C. E., Libardoni, A., Tsai, C.-Y., Sokolov, A., Monier, E., Srivier, R. L., and Keller, K., Towards quantifying robust uncertainty information for climate change decision-making, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
44. Srivier, R. L., and Li, H., Tropical cyclone-ocean interactions in a fully-coupled high resolution Earth system model, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
45. ^Vega-Westhoff, B., and Srivier, R. L., Analyzing effects of unforced natural variability and anthropogenic forcing on ENSO variability using the Community Earth System Model (CESM), American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.

46. ^Hogan, E., and Sriver, R. L., Evaluating depth-integrated steric contributions to sea-level trends and variability in Earth system model ensembles, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
47. ^Huang, A., and Sriver, R. L., Tropical cyclone-induced sea surface temperature anomalies in the northeastern Pacific, American Meteorological Society Annual Meeting, New Orleans, LA, January, 2016
48. ^Li, H., and Sriver, R. L., Analyzing tropical cyclone-climate interactions using the high resolution Community Earth System Model, 2016 Blue Waters Annual Symposium, Sunriver, OR, May 2016.
49. Sriver, R. L., Connecting climate science and impacts analysis: Quantifying decision-relevant uncertainties in climate model ensembles, American Statistical Association (ASA) 2016 Joint Statistical Meetings, Chicago, IL, August 2016
50. Sriver, R. L., and Vega Westhoff, B., Uncertainty analysis with the Hector climate model, Joint Global Change Research Institute (JGCRI) Integrated Assessment Workshop and GCAM Community Modeling Meeting, College Park, MD, October 2016
51. Sriver, R. L., and Li, H., Analyzing tropical cyclone-climate interactions using the Community Earth System Model (CESM), NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, May, 2017
52. Fedorov, A. V., Huang, A., Li, H., Sriver, R. L., and Brierley, C., Regional variations in the ocean response to tropical cyclones: cooling by ocean mixing, warming by low cloud suppression, 6th International Summit on Hurricanes and Climate Change: From Hazard to Impact, Crete, Greece, June 2017
53. ^Li, H., and Sriver, R. L., Impact of ocean coupling on simulated tropical cyclone activity in the high-resolution Community Earth System Model, 6th International Summit on Hurricanes and Climate Change: From Hazard to Impact, Crete, Greece, June 2017
54. ^Vega Westhoff, B., and Sriver, R. L., Hector enhancements: New energy balance and sea-level rise components and their Bayesian calibration, 2017 GCAM Community Modeling Meeting, College Park, MD, October 2017
55. ^Li, H., and Sriver, R. L., Interactions between tropical cyclones and the global ocean on seasonal to interannual timescales using the high resolution Community Earth System Model, AGU Ocean Sciences Meeting, Portland, OR, February 2018
56. Sriver, R. L., and Li, H., Analyzing tropical cyclone-climate interactions using the Community Earth System Model (CESM), NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, June, 2018
57. Bates, S., and Sriver, R. L., High-Resolution Earth system modeling for international climate assessment, NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, June, 2018
58. ^Vega Westhoff, B., and Sriver, R. L., Hector, sea-level rise and probability, 2018 GCAM Community Modeling Workshop, College Park, MD, October 2018
59. Sriver, R. L., Vega-Westhoff, B., Hartin, C., Wong, T., and Keller, K., Pinning the Tails on HECTOR: Recent Model Developments and Bayesian Calibration using Global Sea-level Rise Information, DOE Modeling PI meeting, Washington DC, November, 2018
60. Sriver, R. L., Hogan, E., Nicholas, R., and Keller, K., Influence of uncertainties on the tails of climate projections on decision-relevant spatial and temporal scales, DOE Modeling PI meeting, Washington DC, November, 2018
61. Sriver, R. L., Haqiqi, I., Hertel, T. W., Schlenker, W., Assessing the Suitability of NASA Earth Exchange Global Daily Downscaled Projections (NEX-GDDP) Dataset for Coupled Human-Environment Analysis, DOE Modeling PI meeting, Washington DC, November, 2018
62. ^Vega-Westhoff, B., Pasqualini, D., Urban, N. M., Sriver, R. L., and Li, H., Exploring the dependence of tropical cyclone characteristics on environmental indices under different climate regimes using high-resolution, coupled CESM, American Geophysical Union Fall Meeting, Washington DC, December, 2018
63. ^Li, H., and Sriver, R. L., Sensitivity of global TC activity to ocean-atmosphere coupling and atmospheric CO₂ using the high-resolution Community Earth System Model (CESM), American Geophysical Union Fall Meeting, Washington DC, December, 2018

64. Haugen, M. A., Stein, M., Moyer, E. J., and Sriver, R. L., Estimating changes in temperature distributions in a large ensemble of climate simulations using quantile regression, American Geophysical Union Fall Meeting, Washington DC, December, 2018
65. Sriver, R. L., Vega Westhoff, B., Hartin, C., Wong, T., and Keller, K., Effect of climate uncertainties on global and local sea-level rise projections, US CLIVAR Workshop on Sea Level Hotspots from Florida to Maine: Drivers, Impacts, and Adaptation, Norfolk, VA, April 2019
66. Li, H. and Sriver, R. L., Impact of air-sea coupling on the simulated global tropical cyclone activity in the high-resolution Community Earth System Model (CESM), NCSA Blue Waters Symposium for Petascale Science and Beyond, Sunriver, OR, June 2019
67. ^Vega Westhoff, B., Sriver, R. L., Hartin, C., Wong, T. E., and Keller, K., Global to local sea-level rise uncertainty using Hector-Brick, 2019 GCAM Community Modeling Workshop, College Park, MD, November 2019
68. ^Lafferty, D. C., Sriver, R. L., Haqiqi, I., Hertel, T. W., Schlenker, W., Nicholas, R., and Keller, K., Climate uncertainty in agricultural modeling: The effects of downscaling and bias-correction, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2019
69. ^Vega Westhoff, B., Sriver, R. L., Hartin, C., Wong, T. E., and Keller, K., What is the role of climate sensitivity in extreme sea-level rise scenarios?, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2019
70. ^Murphy, J., and Sriver, R., Midlatitude geopotential height trends across the continental United States during the summer circulation, AMS 100th Annual Meeting, Boston, MA, January, 2020
71. ^Li, S., Sriver, R. L., Miller, D., and Wang, L., Skillful prediction of UK seasonal energy consumption based on climate information, AMS 101 Meeting, 12th Conference on Weather, Climate, and the Energy Economy, New Orleans, LA, January, 2021

K. Book Reviews
Not Applicable

L. Other
Not Applicable

III. Resident Instruction

A. Summary of Instruction

1. Descriptive Data

Term	Offering Dept	Course	Selection	Class	IU's	Students	Hours	#Instructors	
SP13	1-253	ATMS	491	LEC	C	54	18	3	1
FA13	1-253	ATMS	500	LCD	C	48	12	3	1
FA13	1-253	ATMS	599	IND	I	7	2	3	1
SP14	1-253	ATMS	597	LAB	C	24.9	12	2	1
SP14	1-253	ATMS	597	LEC	C	24.9	12	2	1
SP14	1-253	ATMS	599	IND	I	4	1	15	1
SU14	1-253	ATMS	599	IND	I	14	2	4	1
FA14	1-253	ATMS	500	LCD	C	36	9	3	1
FA14	1-253	ATMS	591	CNF	C	172	43	1	1
FA14	1-253	ATMS	599	IND	I	19	3	6	1
SP15	1-253	ATMS	591	CNF	C	136	34	1	1
SP15	1-253	ATMS	597	LAB	C	24.1	12	1	1
SP15	1-253	ATMS	597	LEC	C	24.1	12	1	1
SP15	1-253	ATMS	599	IND	I	13	3	15	1
SU15	1-253	ATMS	599	IND	I	20	3	4	1
FA15	1-253	ATMS	491	DIS	C	28	7	3	1
FA15	1-253	ATMS	599	IND	I	21	3	9	1
SP16	1-253	ATMS	491	LEC	C	32	8	3	1
SP16	1-253	ATMS	599	IND	I	32	3	15	1
SU16	1-253	ATMS	599	IND	I	26	4	4	1
FA16	1-253	ATMS	491	DIS	C	12	3	3	1
FA16	1-253	ATMS	599	IND	I	27	4	8	1
SP17	1-253	ATMS	404	LEC	C	58	19	3	1
SP17	1-253	ATMS	599	IND	I	32	4	15	1
SU17	1-253	ATMS	599	IND	I	20	3	5	1
FA17	1-253	ATMS	571	LEC	C	12	12	1	1
FA17	1-253	ATMS	591	CNF	C	184	46	1	1
FA17	1-253	ATMS	492	CNF	C	36	9	2	1
FA17	1-253	ATMS	599	IND	I	32	4	8	1
SP18	1-253	ATMS	404	LEC	C	106	33	3	1
SP18	1-253	ATMS	591	CNF	C	156	39	1	1
SP18	1-253	ATMS	492	CNF	C	48	12	3	1
SP18	1-253	ATMS	599	IND	I	36	4	15	1
FA18	1-253	ATMS	500	LCD	C	32	8	3	1

FA18	1-253	ATMS	599	IND	I	8	1	8	1
SP19	1-253	ATMS	507	LCD	C	60	15	3	1
SP19	1-253	ATMS	599	IND	I	8	2	15	1
SU19	1-253	ATMS	599	IND	I	12	2	5	1
FA19	1-253	ATMS	599	IND	I	12	2	8	1
SP20	1-253	ATMS	404	LEC	C	37	12	3	1
SP20	1-253	ATMS	490	IND	I	3	1	4	1
SP20	1-253	ATMS	599	IND	I	12	2	15	1
SU20	1-253	ATMS	140	ONL	C	48	16	1	1
SU20	1-253	ATMS	599	IND	I	12	2	5	1

2. Supervision of Graduate Students

Past Students

Hui Li	M.S. 2014, Department of Atmospheric Sciences, UIUC, “Modeled sensitivity of the northwestern Pacific upper-ocean responses to tropical cyclones in a fully-coupled climate model with varying ocean grid resolution” Ph.D., 2018, Department of Atmospheric Sciences, UIUC, “Analyzing tropical cyclone-climate interactions using the high-resolution Community Earth System Model (CESM)” Current position: Project Scientist at the National Center for Atmospheric Research, Boulder CO
Ben Vega-Wethoff	M.S. 2016, Department of Atmospheric Sciences, UIUC, “Analyzing the effects of unforced natural variability and anthropogenic forcing on ENSO variability using CESM” Current position: Ph.D. student in my group
Emily Hogan	Ph.D., 2018, Department of Atmospheric Sciences, UIUC, “The importance of ocean internal variability for coupled climate modeling” Current position: Data research scientist at Agribile Inc, Champaign, IL
Andrew Huang	M.S. 2018, Department of Atmospheric Sciences, UIUC, “Analyzing El Nino-Southern Oscillation predictability using Long-Short-Term-Memory models” Current position: Data and Visualization Analyst at the Naval Research Laboratory, Monterey, CA

Current Students

Ben Vega-Westhoff	Ph.D. student, Spring 2017 – present - Anticipated graduation date Fall 2020
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David Lafferty	Ph.D. student, Spring 2019 – present
Spencer Guerrero	Ph.D. student, Fall 2020 – present
Antonio Elizondo	M.S. student, Fall 2020 – present

Supervisory/Examining Committees

Daniel Harnos	Ph.D. 2014, Department of Atmospheric Sciences, UIUC, “Characterization of the role of precipitation in tropical cyclone intensification, Currently a contract scientist at Innovim, Silver Springs, Maryland
Prasanth Meiyappan	Ph.D. 2016, Department of Atmospheric Sciences, UIUC, “Humans, land use and carbon emissions: An integrated assessment”, Currently a research scientist at Amazon.com
Gan Zhang	Ph. D. 2017, Department of Atmospheric Sciences, UIUC, “Extratropical impacts on Atlantic tropical cyclone activity: Rossby wave breaking and remote impacts”, Currently a postdoctoral researcher at the Geophysical Fluid Dynamics Laboratory (GFDL), Princeton, NJ
Emily Janssen	Ph. D. 2017, Department of Atmospheric Sciences, UIUC, “Investigating severe weather under a changing climate”
Dereka Carroll-Smith	Ph. D. 2018, Department of Atmospheric Sciences, UIUC, “If it happened again: A pseudo-global warming assessment of tropical cyclone tornadoes”, Currently a lecturer at Jackson State University, Jackson, MS
Yan Ge	Ph. D. 2018, Department of Civil and Environmental Engineering, UIUC, “Detection of mean and extreme changes in hydro-climatology and assessment of the impacts on water resources and agriculture”
Swarnali Sanyal	Ph. D. 2019, Department of Atmospheric Sciences, UIUC, “Evaluating Long – Range Transport of Air Pollutant In North Atlantic Free Troposphere And U.S. Air Quality Management Under Changing Climate”
Jeff Curtis	Ph. D. 2019, Department of Atmospheric Sciences, UIUC, “Particle-resolved aerosol modeling on the regional scale – Insights into importance of capturing aerosol mixing”, Currently a postdoctoral researcher at University of Illinois
Chuan-Chieh Chang	Ph. D. Candidate, Department of Atmospheric Sciences, UIUC, “Extratropical impacts on prediction of Atlantic tropical cyclones from seasonal to decadal time scales”, Preliminary Exam completed Spring 2019, Final Defense anticipated May 2021
Jeffrey Thayer	Ph. D. Candidate, Department of Atmospheric Sciences, UIUC, “Tropical cyclone interactions with westerly wind bursts and downstream impacts on MJO convection in the Indian Ocean”, Preliminary Exam completed Spring 2019, Final Defense anticipated May 2021
Jun Zhang	Ph. D. Student, Department of Atmospheric Sciences, UIUC, “Potential effects of subsonic and supersonic aircraft emissions on ozone and climate”, Preliminary Exam completed Spring 2019, Final Defense anticipated May 2021

Enoch Jo	Ph. D. Student, Department of Atmospheric Sciences, UIUC, Preliminary Exam completed Spring 2020, Final Defense anticipated May 2021
Arka Mitra	Ph. D. Student, Department of Atmospheric Sciences, UIUC, Preliminary Exam anticipated Summer 2020
Chenghao Ding	Ph. D. Student, Department of Nuclear, Plasma and Radiological Engineering, UIUC, Preliminary Exam anticipated Fall 2020
Matthew Woods	M. S. Student, Department of Atmospheric Sciences, UIUC, Final Defense anticipated Spring 2022
Rylan Housenga	M. S. Student, Department of Atmospheric Sciences, UIUC, Final Defense anticipated Spring 2022

Other Special Assignments

Undergraduates supervised for Capstone Project:

Jacqueline Costello, Fall 2012, “Eastern Pacific surface warming due to tropical cyclones”
 Abigail Peterson, Spring 2013, “Analyzing spatial variations in sea-level rise due to ocean warming”,
 Andrew Huang, Fall 2015 – Spring 2016, “The influence of tropical cyclones on eastern equatorial Pacific ocean temperatures”
 Lydia Jaja, Spring 2018, “Tornado trends and variability”
 Stephanie Eilts, Spring 2018, “Extreme temperatures in climate models”
 Sarah Thunberg, Fall 2018 - Spring 2019, “Polar variability and climate change”
 Paul Tisch, Spring 2019, “Arid expansion in the US under climate change”
 Victoria Wilson, Fall 2020, “Extreme wind events and climate change”

Other Supervision of Undergraduate and Graduate Research:

Andrew Huang (Undergrad), Summer 2015, “Tropical cyclone-induced surface fluxes in the eastern Pacific”
 Thor Bates (Undergrad), Spring 2018, “Potential changes in surface wind variability under global warming”
 Shuaiqi Wu (Grad), Fall 2018, “Climate impacts on the shipping industry”
 John Murphy (Undergrad), Fall 2019 – Spring 2020, “Regional US trends and variability in summer-time atmospheric thickness”
 William Crawford (Undergrad), Spring 2020, “Tropical cyclone track statistics in CESM with increased CO₂”
 Sam Li (Undergrad), Summer 2020, “Seasonal Prediction of Winter Energy Demand Over Northeastern United States and Western Europe”

Student Awards Earned Under Candidate’s Supervision:

Antonio Elizondo – UIUC Graduate College Master’s Fellowship, \$20,000 (2020)
 Emily Hogan – Ogura Outstanding Undergraduate Research Award (2014); Best Student Research Poster Award (2nd place), SESE Research Review (2015)
 Andrew Huang – Naval Research Laboratory Summer Internship (2018); Ogura Outstanding Teaching Award (2017); Climate Prediction Center Summer Internship (2017); Ogura Outstanding Undergraduate Research Award (2016)
 Hui Li – Best Student Research Poster Award (1st place), SESE Research Review (2015); NSF Student Travel Award, Aegean Conference (2015); Best Student Presentation, Aegean Conference (2015); Ogura Outstanding Student Research Paper (2016); Ogura Outstanding Student Research Paper Runner-Up (2017); UIUC Graduate College Dissertation Completion Fellowship, \$20,000 (2017)
 Sam Li – UIUC Campus Honors Program, Summer, \$2500 (2020)
 Ben Vega Westhoff – Summer Internship at Los Alamos National Laboratory (2018); Ogura Outstanding Student Research Paper Runner-Up (2018); Outstanding oral presentation (1st place), Midwest Student Conference on Atmospheric Research (2019)

3. Other Contributions to Instructional Programs

ATMS 571 - Professional Development in the Atmospheric Sciences: Provided guest lectures on topics related to my group's research, Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2018, Fall 2019.

ATMS 491 - General Circulation of the Atmosphere and Ocean (Offered Spring 2013): Developed new elective class for undergraduate/graduate students in the Atmospheric Sciences.

ATMS 597 - Risk Analysis in the Earth Sciences (Offered Spring 2014; Spring 2015): Developed entirely new elective course for graduate students within physical sciences and engineering programs.

Participant in the College of Liberal Arts & Sciences (LAS) Teaching Academy Workshop: Using Problem-Based Learning in Large Courses, May 1, 2015

ATMS 491 - Physical Oceanography (Offered Fall 2015; Fall 2016): Developed new elective class for undergraduate/graduate students in physical sciences and engineering programs.

ENG 471, Seminar in Energy and Sustainability Engineering: Guest Lecturer on Climate Change Science and Global Warming, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019

NPRE 201, Energy Systems: Guest Lecturer on Climate Change Science and Challenges, Fall 2015, Fall 2016

Participant in the Graduate College Workshop: Mentoring Graduate Students Using Individual Development Plans, October 27, 2015

Participant in the Graduate College Workshop: Managing Conflict Effectively in Advising Relationships, April 1, 2016

ATMS 404 - Risk Analysis in the Earth Sciences (Introduced Spring 2017) Developed upper-level undergraduate course in Risk Analysis cross-listed with the Geology Department

Participant in UIUC focus group meeting: Campus Conversation on Undergraduate Research, February 16, 2017

Developed Risk Analysis curriculum for a new Online Master's Degree in Weather and Climate Data Analysis, Fall 2018 – Spring 2021

ATMS 140 – Climate and Global Change, Led online instruction, Summer 2020

Participant in the UIUC Office of the Provost Workshop: Thriving as an Associate Professor seminar series: Planning for Promotion: Strategies, Tips, and Resources, September 15, 2020

Participant in UIUC Office of Inclusion and Intercultural Relations Workshop: Enhancing Stereotype Awareness, October 28, 2020

Participant in Sloan UCEM workshop: Fundamentals – Equity in Graduate Admissions webinar, November 30, 2020

ATMS 391, Professional Development for Undergraduate Majors in Atmospheric Sciences: Guest presenter on graduate school opportunities and preparation, February 3, 2021

IV. Service (Public Engagement, Professional/Disciplinary, and University)

A. Summary of Service

1. Public Engagement

Interviewed by *Live Science* on tropical cyclones and climate change, May 2006

Interviewed by *Science Daily* on tropical cyclones and climate, June, 2007

Interviewed by *Time Magazine* on tropical cyclones and El Nino, February 2010

Interviewed by *Deutschlandfunk* (German Public Radio) on tropical cyclones and monsoons, November, 2011

Interviewed by *Science News* on the Indian monsoon and aerosol pollution, December 2011

K/1 University Primary School weather demonstration, Champaign, IL, October 2012

First School Kindergarten weather demonstration, Mahomet, IL, April 2013

Interviewed by *Live Science* on natural variability and anthropogenic climate change, February 2015

Contributor to “Climate Feedback Project”, a community of scientists providing feedback on the scientific credibility of climate research articles appearing in the peer-reviewed literature (beginning Fall 2015)

Interviewed by *Philadelphia Inquirer* on extreme precipitation events and climate change, August 2016

Next Generation Preschool weather demonstration, Champaign, IL, April 2017

Lincoln Trail Elementary (3rd Grade) Weather/Climate Presentation, Mahomet, IL, February 2017

Interviewed by *Chicago Magazine* on recent warm temperatures in the Midwestern US, March 2017

Interviewed by *Chicago Magazine* on impacts of global warming, October 2017

Interviewed by *Daily Illini* on Temperature extremes, February 2018

Interviewed by *Daily Illini* on the National Climate Assessment Report, November 2018

Interviewed by *News Gazette* on Climate Change and Earth Day, April 2019

Interviewed by NCSA Public Affairs on tropical cyclones and climate change using Blue Waters, June 2019

Press Release: http://www.ncsa.illinois.edu/news/story/simulating_hurricanes_with_blue_waters

Youtube: <https://www.youtube.com/watch?v=IDumvh3q-t0;>

Facebook: <https://www.facebook.com/watch/?v=702827210154450>

Interviewed by *Daily Illini* on effects of Daylight Savings Time, November 2019

Interviewed by WCIA TV about E-Learning and remote teaching, March 2020

Provided commentary on Op-Ed article on climate alarmism for *Climate Feedback*, July 2020

<https://climatefeedback.org/evaluation/article-by-michael-shellenberger-mixes-accurate-and-inaccurate-claims-in-support-of-a-misleading-and-overly-simplistic-argumentation-about-climate-change/>

Provided commentary on *Breitbart* news article on climate change and impacts, February 2021

<https://climatefeedback.org/evaluation/breitbart-article-makes-numerous-false-claims-about-the-impacts-of-climate-change-based-on-global-warming-policy-foundation-post-delingpole-goklany/>

Co-Organized and co-hosted a community-wide virtual workshop on Confronting Climate Change, sponsored by NSF’s Institute for Mathematical and Statistical Innovation, March 1-5, 2021

2. Service to Disciplinary and Professional Societies or Associations

Chaired session on “Tropical cyclones in the global climate system” at the American Geophysical Union Fall Meeting, San Francisco, CA, December, 2010

Judge – Outstanding Student Presentation Award (Oral/Poster), American Geophysical Union (AGU) Fall Meeting, 2010-2014; 2017; 2020

Chaired session on “Using paleo-information to improve climate projections” at the American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011

Invited panelist at the 2012 Landscape and Climate Science and Scenarios Workshop, hosted by Peninsular Florida Landscape Conservation Cooperative (PFLCC) and North Carolina State University, St. Petersburg, FL, June 2012

Reviewer for Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), Working Group I, 2012

Invited panelist at the 2013 National Strategic Maritime Risk Stakeholder Alliance Meeting, hosted by the Visual Analytics for Command, Control, and Interoperability Environments (VACCINE) and the Department of Homeland Security, Purdue University, West Lafayette, IN, November 2013

Invited panelist for (Climate and Ocean Variability, Predictability, and Change) working group meeting on tropical cyclones and climate, American Meteorological Society (AMS) Tropical Meeting, San Diego, CA, April, 2014

Interviewed by science writing staff at the American Geophysical Union (AGU) on El Nino and Climate Change, November, 2015

Chaired session on “Tropical cyclones and climate on all timescales” at the American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, December, 2015

Invited panelist at special session on Statistics and the Environment, American Statistical Association (ASA) 2016 Joint Statistical Meetings, Chicago, IL, August, 2016

American Geophysical Union (AGU) point of contact for press inquiries on tropical cyclones and climate change, 2017

Contributor to SciLine, a service sponsored by the American Association for the Advancement of Science (AAAS) to enhance journalistic coverage and public understanding of health, science, and related issues, Fall 2017

Interviewed for a department promotional video for the 2019 American Geophysical Union (AGU) Fall Meeting: <https://www.youtube.com/watch?v=ypWtboc7U0A>

Contributor to US Government review of Chapter 2 of the IPCC Working Group 1 Sixth Assessment Report (AR6) – Changing State of the Climate System, March 2020

Founding Member of the Department of Energy (DOE) Multi-Sectoral Dynamics working group on Uncertainty Quantification and Scenario Development, 2020 – Present

Reviewed for:

Funding Agencies:

CRDF Global
Department of Defense (DOD)
Department of Energy (DOE)
Marsden Fund Council, New Zealand
National Aeronautics and Space Administration (NASA)
National Oceanic and Atmospheric Administration (NOAA)
National Science Foundation (NSF)
Natural Environment Research Council of the UK (NERC)

Book Publishers:

Cambridge University Press
Columbia University Press
Princeton University Press

Peer-Reviewed Journals:

Advances in Atmospheric Sciences
African Journal of Environmental Science and Technology
Applied Ocean Research
Atmosphere
Atmospheric Science Letters
Climate
Climate Dynamics
Climate of the Past
Climatic Change
Dynamics of Atmospheres and Oceans
Earth Science Reviews
Earth's Future
Ecological Indicators
Environmental Modelling and Software
Eos, Transactions, American Geophysical Union
Geophysical Research Letters
Geosciences
Geoscientific Model Development
International Journal of Climatology
Journal of Advances in Modeling Earth Systems
Journal of Agricultural Science and Technology
Journal of Climate
Journal of Geophysical Research – Atmospheres
Journal of Geophysical Research – Oceans
Journal of Hydrology
Journal of Hydrometeorology
Journal of Marine Systems
Journal of Physical Oceanography
Meteorology and Atmospheric Physics
Monthly Weather Review
Nature
Nature Climate Change
Nature Communications
Nature Geoscience
Ocean Dynamics
Ocean Modelling
Paleoceanography and Paleoclimatology

Proceedings of the National Academy of Sciences
Remote Sensing
Science
Science Advances
Scientific Reports
SN Applied Sciences
Sustainability
Urban Climate
Water

3. University/Campus Service

University

Member of the “Grad Mentoring @ Illinois” program, 2012 – 2013
Reviewer for the Campus Research Board, Fall 2013
Reviewer for the Prairie Research Institute, Matching Research Awards Program (MRAP), 2014
Elected to the Faculty Senate of the University of Illinois at Urbana-Champaign 2015
Continuing ATMS department senate representative through May 2018
Participated in study with Prof. Christie Wiley (Engineering Research Data Services Librarian) to improve UIUC research data management services, Fall 2015
Hosted special cross-disciplinary seminar series on “Climate Change Policies and Geoengineering” with the Department of Political Science and the Department of Nuclear, Plasma, and Radiological Engineering, Spring 2016
Poster Presentation Judge at the UIUC Undergraduate Research Symposium, April 21, 2016
Invited panelist at the 9th Midwest Graduate Student Summit in Applied Economics, Urban and Regional Studies (AERUS), Urbana, IL, April, 2016
Oral Presentation Judge at the UIUC Undergraduate Research Symposium, April 27, 2017
Member of search committee for a Mesoscale Climatologist, Illinois State Water Survey, Spring 2018
Reviewer for the Campus Research Board, Fall 2018
Co-organizer of a special joint seminar series on climate change with Prof. Vera Mikyoung Hu (Math) and Prof. Bo Li (Statistics), Spring 2019
Invited seminar speaker in the Math Department on “Climate change impacts and uncertainties”, February 6, 2019
Member of search committee for the Illinois State Climatologist, Summer 2019
Hosted Prof Vera Mikyoung Hur (UIUC, Dept. Math) for a LAS Fellowship in a Second Discipline in Atmospheric Sciences, 2020-2021
Reviewer for the Campus Research Board, Spring 2020
Reviewer for the National Center for Supercomputing Applications (NCSA) Faculty Fellowship, Spring 2020
Contributed commentary to the UIUC Program in Arms Control & Domestic and International Security (ACDIS), Sea-Level Rise and Coastal Flood Risks, April 2020
Member of the LAS Faculty Appeals Committee, Fall 2021 -- present

School

Research Poster Judge, School of Earth, Society, and Environment Research Review, 2013-2020
Invited speaker at the Twelfth Annual SESE Research Review, March 2013
Marshall of the spring convocation for the School of Earth, Society, and Environment, 2013; 2014

Department

Member of Department Graduate Admissions Committee, 2012 - 2014
Member of the Ogura Student Paper Competition Selection Committee, 2013; 2014
Chair of Department Graduate Student Affairs Committee, 2013 – 2015
Member of search committee for senior level faculty position, Fall 2013 - Spring 2014
Seminar Coordinator for the Department of Atmospheric Sciences, Fall 2014 - Spring 2015
Led project to redesign guidelines/requirements for M.S./Ph.D. programs, effective Fall 2015
Presented overview of my research to new DAS graduate student recruits, Spring, 2015
Member of Curriculum Committee, Fall 2015 – Spring 2019
Member of Graduate Affairs Committee, Fall 2016 – Present
DAS Undergraduate Capstone Research coordinator, Fall 2017- Spring 2018
Seminar Coordinator for the Department of Atmospheric Sciences, Fall 2017 – Spring 2018
Invited Session Chair at the 1st Annual Midwest Student Conference on Atmospheric Research (MSCAR) hosted at University of Illinois, October 7, 2017
Member of Committee to develop an online Master's degree in Weather and Climate Data Analysis, Spring 2018 – Present
Chair of the Graduate Admissions Committee, Fall 2020 - Present
Led statistical programming and data analysis workshop at the 2020 Midwest Student Conference on Atmospheric Research (MSCAR), September 27, 2020
Co-Hosted DAS “virtual booth” at the 2021 American Meteorological Society (AMS) Career Fair, January 9-11, 2021
Organized and Hosted the 2021 DAS Virtual Graduate Student Recruiting Event, February 26, 2021