

CONTACT **Email:** asrivas@ucdavis.edu
INFORMATION **Google Scholar:** <https://scholar.google.com/citations?user=5JAYjt4AAAAJ&hl=en>
Address: Department of Land, Air and Water Resources, 223 Hoagland Hall, 1 Shields Avenue, Davis, CA, 95616.

RESEARCH PROFILE I am an Assistant Project Scientist at the University of California, Davis with more than five years of research experience. I am a co-investigator in a United States Department of Energy funded (project budget \$9 million) multi-institutional (involving 7 US universities, 2 national laboratories, and the National Center for Atmospheric Research) hydroclimate data assessment project. I have been working on a broad range of research areas pertaining to precipitation extremes. Specifically, I have been working on connecting large-scale meteorological processes to local precipitation extremes, detection and attribution of natural and human influences on precipitation extremes, quantifying future changes in precipitation intensity-duration-frequency (IDF) curves, exploring methods to reduce uncertainty in future projections of extremes, and the innovative use of metrics for effective climate model evaluation. My research is decision-relevant and actionable, as it provides decision-support to stakeholders (e.g., civil planners, water managers) for effective planning and action in the face of climate change.

RESEARCH EXPERTISE Statistics of weather and climate extremes, detection and attribution, precipitation extremes, decadal variability and predictability, atmosphere-land-ocean-sea ice interaction, midlatitude dynamics, tropical-extratropical interaction, arctic-midlatitude interaction, aquaplanet simulations, climate change, metric development, climate model evaluation, co-production of actionable climate science.

STATISTICAL AND TECHNICAL EXPERTISE Advanced multivariate statistical methods (discriminant analysis, average predictability time analysis, generalized regression models), extreme value statistics, machine learning, testing hypotheses, clustering analysis, geostatistics, climate modeling, stochastic modeling, R, GrADS, CDO, NCO, Python, MATLAB, shell scripting, NCL, Fortran.

EDUCATION

- Ph.D., Climate Dynamics, George Mason University, Fairfax, VA, USA. 2010-2017.
- M.Sc., Solid State Physics, University of Allahabad, UP, India. 1997-1999.
- B.Sc., Physics, Chemistry, Mathematics, University of Allahabad, UP, India. 1994-1997.

RESEARCH EXPERIENCE

- Assistant Project Scientist, University of California; Davis, CA, USA. Oct 2021–present.
- Postdoctoral Scholar, University of California; Davis, CA, USA. Oct 2017–Sep2021.
- Intern (Postdoctoral), George Mason University, Fairfax, VA, USA. July 2017– Sep 2017.
- Graduate Research Assistant, George Mason University, Fairfax, VA, USA. 2010-2017.

RECENT JOURNAL PUBLICATIONS

10. Jagannathan, K., Buddhavarapu, S., Ullrich, P., Jones, A.D., HyperFACETS project team (**Abhishekh Srivastava**) (2022). Typologies of Actionable Climate Information and its Use. Under review in Global environmental change.
9. Reed, K.A., Goldenson, N., Grotjahn, R., Gutowski, W.J., Jagannathan, K., Jones, A.D., Leung, L.R., McGinnis, S.A., Pryor, S.C., **Srivastava, A.K.** and Ullrich, P.A. (2022). Metrics as tools for bridging climate science and applications. Wiley Interdisciplinary Reviews: Climate Change, p.e799. <https://doi.org/10.1002/wcc.799>.
8. **Srivastava, A. K.**, Grotjahn, R., Ullrich, P. A., & Zarzycki, C. (2022). Evaluation of precipitation indices in suites of dynamically and statistically downscaled regional climate models over Florida. Clim Dyn 58, 1587–1611 (2022). <https://doi.org/10.1007/s00382-021-05980-w>.
7. **Srivastava, A. K.**, Grotjahn, R., Ullrich, P. A., & Sadegh, M. (2021). Pooling Data Improves Multimodel IDF Estimates over Median-Based IDF Estimates: Analysis over the Susquehanna and Florida, Journal of Hydrometeorology, 22(4), 971-995. <https://doi.org/10.1175/JHM-D-20-0180.1>.
6. Rhoades, A. M., Jones, A. D., **Srivastava, A.**, Huang, H., O'Brien, T. A., Patricola, C. M., Ullrich, P.A., Wehner, M., Zhou, Y. (2020). The Shifting Scales of Western US Landfalling Atmospheric Rivers Under Climate Change. Geophysical Research Letters, 47(17), e2020GL089096. <https://doi.org/10.1029/2020GL089096>.
5. **Srivastava, A.**, Grotjahn, R., & Ullrich, P. A. (2020). Evaluation of historical CMIP6 model simulations of extreme precipitation over contiguous US regions. Weather and Climate Extremes, 29, 100268. <https://doi.org/10.1016/j.wace.2020.100268>.
4. **Srivastava, A.**, Grotjahn, R., Ullrich, P. A., & Risser, M. (2019). A unified approach to evaluating precipitation frequency estimates with uncertainty quantification: Application to Florida and California

watersheds. Journal of Hydrology, 578, 124095. <https://doi.org/10.1016/j.jhydrol.2019.124095>.

3. Manogaran, G., Shakeel, P. M., Priyan R, V., Chilamkurti, N., & **Srivastava, A.** (2019). Ant colony optimization-induced route optimization for enhancing driving range of electric vehicles. International Journal of Communication Systems, e3964. <https://doi.org/10.1002/dac.3964>.
2. **Srivastava, A.**, & DelSole, T. (2017). Decadal predictability without ocean dynamics. Proceedings of the National Academy of Sciences, 114(9), 2177-2182. <https://doi.org/10.1073/pnas.1614085114>.
1. **Srivastava, A. K.**, & DelSole, T. (2014). Robust forced response in South Asian summer monsoon in a future climate. Journal of Climate, 27(20), 7849-7860. <https://doi.org/10.1175/JCLI-D-13-00599.1>.

GRANT/ PROJECT

- Co-Investigator in the US-DOE project “A Framework for Improving Analysis and Modeling of Earth System and Intersectoral Dynamics at Regional Scales”. DOE Award Number: DE-SC0016605. Project budget: \$9 million.

EDITORIAL SERVICES

- Atmosphere (MDPI)- Topic Editor. 2020 – present
- Climate (MDPI)- Special Issue Editor “Extreme Precipitation in a Changing Climate”.

ORGANIZER/ CONVENER

10. High-Impact Weather and Climate Extremes, 28th International Union of Geodesy and Geophysics General Assembly, 2023, Berlin, Germany (Proposed, Primary Convener).
9. Decision-relevant understanding of dry and wet precipitation extremes and their impacts, American Geophysical Union Fall Meeting 2022, Chicago, IL, USA (Primary Convener).
8. Decision-relevant understanding of dry and wet precipitation extremes and their impacts, 19th Asian Oceania Geosciences Society Meeting, 2022, Virtual (Primary Convener).
7. 8th Annual UC Davis Postdoctoral Research Symposium, March 2022, University of California, Davis, CA, USA (Organizer).
6. Decision-relevant understanding of precipitation extremes and their impacts, American Geophysical Union Fall Meeting 2021, New Orleans, LA, USA (Primary Convener).

5. 7th Annual UC Davis Postdoctoral Research Symposium, March 2021, University of California, Davis, CA, USA (Organizer).
4. 6th Annual UC Davis Postdoctoral Research Symposium, April 2020, University of California, Davis, CA, USA (Organizer).
3. Hydrometeorologic and Coastal Extremes in Current and Future Climates, 27th International Union of Geodesy and Geophysics General Assembly, 2019, Montreal, Canada (Convener).
2. High-Impact Weather and Climate Extremes, 27th International Union of Geodesy and Geophysics General Assembly, 2019, Montreal, Canada (Convener).
1. 5th Annual UC Davis Postdoctoral Research Symposium, April 2019, University of California, Davis, CA, USA (Organizer).

PEER REVIEW So far, I have performed around 61 reviews of more than 44 manuscripts submitted to the following journals:

18. Nature Communications (Nature). Impact Factor:17.69.
17. Climate Dynamics (Springer). Impact Factor:4.90.
16. Earth and Space Science (American Geophysical Union). Impact Factor: 3.68
15. Natural Hazards and Earth System Sciences (European Geophysical Union). Impact Factor: 4.58
14. Atmosphere (MDPI). Impact Factor: 3.11
13. Geoscientific Model Development (European Geophysical Union). Impact Factor: 6.89
12. International Journal of Climatology (Royal Meteorological Society). Impact Factor: 3.65
11. Journal of Hydrology (Elsevier). Impact Factor: 6.70
10. Weather and Forecasting (American Meteorological Society). Impact Factor: 3.37
9. Journal of Applied Meteorology and Climatology (American Meteorological Society). Impact Factor: 3.55
8. Natural Hazards (Springer). Impact Factor: 3.15
7. Scientific Data (Nature). Impact Factor: 8.50
6. Climate (MDPI). Cite Score: 4.7
5. Water (MDPI). Impact Factor: 3.53
4. Geophysical Research Letters (American Geophysical Union). Impact Factor: 5.58

3. Journal of Climate (American Meteorological Society). Impact Factor: 5.38
2. Climatic Change (Springer). Impact Factor: 5.17
1. Sustainability (MDPI). Impact Factor: 3.89

JUDGING
ACTIVITIES

I have volunteered to judge the abstracts and scientific presentations (oral and poster) in the following meeting/ conferences. The volunteer Judges are sought by the international geoscientific meeting s organizers.

- The 19th Asian Oceania Geosciences Society Meeting, 2022, Virtual.
- American Geophysical Union’s Fall Meeting Outstanding Student Poster Award (OSPA) for the years 2018, 2019, 2020 & 2021.
- 8th Annual UC Davis Postdoctoral Research Symposium, March 2022, University of California, Davis, CA, USA.
- “Decision-relevant understanding of precipitation extremes and their impacts” session, American Geophysical Union Fall Meeting 2021, New Orleans, LA, USA .
- Hydrometeorologic and Coastal Extremes in Current and Future Climates, 27th International Union of Geodesy and Geophysics General Assembly, 2019, Montreal, Canada.
- High-Impact Weather and Climate Extremes, 27th International Union of Geodesy and Geophysics General Assembly, 2019, Montreal, Canada.
- 7th Annual UC Davis Postdoctoral Research Symposium, March 2021, University of California, Davis, CA, USA.
- 6th Annual UC Davis Postdoctoral Research Symposium, April 2020, University of California, Davis, CA, USA.
- 5th Annual UC Davis Postdoctoral Research Symposium, April 2019, University of California, Davis, CA, USA.

TALK/
PRESENTATION

15. Evaluation of Precipitation Indices in Suites of Dynamically and Statistically Downscaled Regional Climate Models over Florida. American Geophysical Union Fall Meeting 2022, Chicago, IL, USA.
14. Pooling data improves multimodel IDF estimates over median-based IDF estimates: Analysis over Susquehanna and Florida. American Geophysical Union Fall Meeting 2021, New Orleans, USA.
13. Large Scale Meteorological Patterns Associated with Extreme Precipitation Events Over Northern California. American Geophysical Union Fall Meeting 2021, New Orleans, LA, USA.
12. From storylines to anthologies – Systematically examining the implications of climate change on known weather extremes and their multisectoral impacts (**Invited**, coauthor). American Geophysical Union Fall Meeting 2021, New Orleans, LA, USA.

11. Evaluation of historical CMIP6 model simulations of extreme precipitation over contiguous US regions. American Geophysical Union Fall Meeting 2020, Virtual.
10. The Shifting Scales of Western US Landfalling Atmospheric Rivers Under Climate Change. American Geophysical Union Fall Meeting 2020, Virtual.
9. A Multimodel Technique for Estimating Future Changes in Extreme Precipitation, American Geophysical Union Fall Meeting 2019, San Francisco, CA, USA.
8. Analysis of extreme precipitation over Florida in regional climate model simulations, International Union of Geodesy and Geophysics General Assembly 2019, Montreal, Canada.
7. Decision-relevant metrics for regional hydroclimate phenomena (**Invited**, coauthor), American Geophysical Union Fall Meeting 2018, Washington DC, USA.
6. Assessment of Observational Uncertainties and Model Performance in Mean and Extreme Precipitation Characteristics, American Geophysical Union Fall Meeting 2018, Washington DC, USA.
5. Assessment of observational uncertainties and model performances in precipitation metrics in selected watershed regions of the US, Asia Oceania Geosciences Society (AOGS) meeting 2018, Hawaii, USA.
4. Decadal Predictability without Ocean Dynamics, American Geophysical Union Fall Meeting 2016, San Francisco, CA, USA.
3. Decadal Predictability without Ocean Dynamics, Dynamical Core Model Intercomparison Project (DCMIP) workshop, June 2016, National Center for Atmospheric Research (NCAR), Boulder, Colorado, USA.
2. Can we forecast the next couple of years w/o Ocean circulation?, GMU Earth Week's Lightning Talks, April 20, 2016, George Mason University, Fairfax, VA, USA.
1. Monsoon in a Changing Climate, Targeted Training Activity: ENSO Monsoon in the Current and Future Climate, August 2012, The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy.

WORKSHOP

12. Crash Course in Supercomputing, Lawrence Berkeley National Laboratory, virtual, June 11, 2021.
11. Machine Learning and Deep Learning for Environmental and Geosciences, virtual, American Geophysical Union Fall Meeting 2020.
10. NOAA/CPO/ESSM - DOE/ESSD Precipitation Processes and Predictability Workshop, virtual, Nov 30-Dec 2, 2020.
9. Multivariate Modeling in Hydrology, Climatology, and Geosciences: Copulas, Multihazard Analysis, and Probabilistic Prediction, American Geophysical Union Fall Meeting 2018, Washington DC, USA.
8. Climate & Weather Extremes Tutorial 2018, National Center for Atmospheric Research (NCAR), Boulder, USA.
7. Model Hierarchies Workshop, Princeton University, November 2016, New Jersey, USA.
6. Dynamical Core Model Intercomparison Project (DCMIP) workshop, June 2016, National Center for Atmospheric Research (NCAR), Boulder, Colorado, USA.
5. Shukla Symposium on Predictability in the Midst of Chaos, April 2015, Rockville, Maryland, USA.
4. Workshop on the Nature of MJO, June 2013, George Mason University, Fairfax, VA, USA.
3. Targeted Training Activity: ENSO Monsoon in the Current and Future Climate, July 2012, ICTP, Trieste, Italy.
2. NCEP CFSv2 Evaluation Workshop, April 2012, College Park, Maryland, USA.
1. Targeted Training Activity: Statistical Methods in Seasonal Prediction, August 2010, ICTP, Trieste, Italy.

PROFESSIONAL American Geophysical Union, American Meteorological Society
MEMBERSHIP

AWARDS AND **Student Awards** — George Mason University, Fairfax, VA, USA
SCHOLARSHIP • Presidential Scholarship, 2010–2012.

Travel Awards

- Dynamical Core Model Intercomparison Project (DCMIP) workshop, National Center for Atmospheric Research (NCAR), Boulder, Colorado, USA. June 5-18, 2016.

- Targeted Training Activity: ENSO Monsoon in the Current and Future Climate, The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy. July30 - August 10, 2012.
- Targeted Training Activity: Statistical Methods in Seasonal Prediction, The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy. August 2-13, 2010.

TEACHING Guest Teacher, ATM 10, University of California, Davis.
 EXPERIENCE Lecturer in Physics, Jan 2008 - June 2010, United College of Engineering and Research, Allahabad, U.P., India.

REFERENCES • Dr. Paul Ullrich, Professor, University of California, Davis, CA, USA; email: paulullrich@ucdavis.edu; phone: 530-400-9817.
 • Dr. Timothy DelSole, Professor, Department of Atmospheric, Oceanic, and Earth Science, George Mason University, Fairfax, VA, USA; email: tdelsole@gmu.edu, phone: 703-993-5715.