

**Shraddhanand Shukla, PhD**

Researcher, [Climate Hazards Center](#)

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**A. EDUCATION**

- **Department of Civil and Environmental Engineering-University of Washington**, Seattle, WA  
PhD in Hydrology and Water Resources, (09/2006 – 06/2012)  
Dissertation Title: "Towards the Improvement of Drought Monitoring and Seasonal Drought Prediction in the United States"
- **Indian Institute of Technology**, Kharagpur, India  
Masters in Water Resources Development and Management, (07/2003 – 06/2005)
- **Chandra Shekhar Azad University of Agricultural and Technology**, Kanpur, India  
Bachelors in Technology in Agricultural Engineering, (07/1999 – 06/2003)

**B. ACADEMIC APPOINTMENTS**

- Researcher-I, University of California, Santa Barbara, CA, USA (07/2022-Present)
- Associate Researcher-III, University of California, Santa Barbara, CA, USA (07/2020-Present)
- Associate Researcher-II, University of California, Santa Barbara, CA, USA (07/2018-07/2020)
- Assistant Researcher-IV, University of California, Santa Barbara, CA, USA  
(07/2016-06/2018)
- Assistant Researcher-II, University of California, Santa Barbara, CA, USA  
(08/2014-06/2016)
- UCAR's PACE Postdoctoral Fellow, University of California, Santa Barbara, CA, USA  
(09/2012-08/2014)
- Postdoctoral Research Associate, University of Washington, Seattle, WA, CA, USA  
(06/2012-08/2012)
- Pre-Doctoral Research Associate, University of Washington, Seattle, WA, CA, USA  
(09/2006-06/2012)
- Research Assistant, Ecole Polytechnique Federal de Lausanne, Lausanne, Switzerland.  
(07/2005-06/2006)

**C. EDITORIAL APPOINTMENTS**

- Editor of European Geosciences Union's [Hydrology and Earth System Sciences](#) (2016-Present).
- Associate editor of American Meteorological Society's [Journal of Hydrometeorology](#) (2017-Present)

- Specialty Chief Editor [Frontier's Climate – Climate Services](#) (2021-2024)
- Founding Associate Editor [Frontier's Climate – Climate Services](#) (2019-2021)
- Associate editor of the journal [Advances in Meteorology](#) (2015-2018)

#### **D. COMMITTEE APPOINTMENTS**

- American Geophysical Union Vice Chair for Frontiers in Hydrology Meeting (2024-Present)
- Member of United Nations University's Resource Nexus Analytics, Informatics, and Data (AID) working group (2024-Present)
- Member of [SERVIR West Africa Seasonal forecasting](#) service review committee (2023-2024)
- Member of World Meteorological Organization's Global Hydrological Status and Outlook System (HydroSOS) technical committee (2023-Present)
- University of California, Santa Barbara, Department of Geography Diversity Equity and Inclusion Committee (2023-Present)
- University of California, Santa Barbara, Research Data Management Committee (2023-Present)

#### **E. AWARDS/HONORS**

- Selected for [Fulbright Specialist Roster](#) by U.S. Department of State's Bureau of Educational and Cultural Affairs (ECA) and World Learning (Tenure: 2021-2025)
- NASA and USAID's SERVIR's Applied Science Team (AST) lead for 'Weather and Climate' thematic area. (2019-Present)
- Member of NASA and USAID's [SERVIR's Applied Science Team](#) (2016-2019)
- Panelist to Seasonal prediction of precipitation panel at 14<sup>th</sup> Annual Climate Prediction Applications Science Workshop (CPASW) held in Vermont in March 2016.
- Panelist to Drought Monitoring Panel at AGU Chapman conference on California Drought, in April 2015.
- University Corporation for Atmospheric Research (UCAR)'s 2012 Postdocs Applying Climate Expertise (PACE) Fellowship to pursue Postdoctoral research. (2012-2014)
- Earth System Science Interdisciplinary Center (ESSIC) travel award to attend NOAA's 36th Climate Diagnostics and Prediction Workshop (CDPW) at Fort Worth, TX. (10/03/2011 – 10/06/2011)
- Best student oral presentation award at the Water Center Annual Review of Research, Seattle, WA. (02/2008)
- NOAA student travel grant to attend Climate Diagnostics and Prediction Workshop in 2008.
- Invited by The Abdus Salam International Centre for Theoretical Physics (ICTP) to attend International Summer School on Hydrological Drought & Global Change at Trieste, Italy. (06/21/2008-06/27/2008)

- Departmental student travel grants to attend and present my research work at American Geophysical Union fall meeting in 2007 and 2010.
- Federal Commission Scholarship by the Swiss Government for a nine-month research project at EPFL in Lausanne, Switzerland. (2005-2006)
- Ministry of Human Resources and Development Scholarship by the Indian Government for a Master's degree at the Indian Institute of Technology. (2003-2005)

**F. RESEARCH GRANTS (19 total, >\$20 M awarded as PI or co-PI)**

1. **2015-2017 (\$50,000):** Drought Early Warning for the California (Supported by NOAA-CIMEC)  
**Project Lead:** Dr. Daniel Cayan (UCSD)  
**Role:** UCSB PI
2. **2015-2019 (\$285,001):** Predicting Middle Eastern and African Seasonal Water Deficits using NASA Data and Models (Supported by NASA Water Resources)  
**Project Lead:** Dr. Christa Peters-Lidard (NASA-GSFC)  
**Role:** UCSB PI
3. **2016-2018 (\$50,000):** Drought Early Warning for the California and Nevada Region (Supported by NOAA-CIMEC)  
**Project Lead:** Dr. Daniel Cayan (UCSD)  
**Role:** UCSB PI
4. **2016-2019 (\$600,070):** Enhancing Eastern and Southern Africa climate services by increasing access to remote sensing and model datasets (Supported by NASA and USAID's SERVIR Applied Science Team Program)  
**Role:** UCSB PI and Project Lead
5. **2016-2020 (\$203,350):** Understanding multi-scale resilience options for climate vulnerable Africa (Supported by NSF-INFIEWS)  
**Project Lead:** Dr. Ben Zaitchik (John Hopkins University)  
**Role:** UCSB Co-PI

6. **2017-2018 (\$12,350):** Global Inventory and Comparative Assessment of Drought Risk Modeling Tools  
(Supported by the World Bank)  
**Project Lead:** Prof Dimmie Hendriks, Deltares  
**Role:** UCSB Co-PI
7. **2017-2019: (\$2,856,074):** Drought - Identification of Seasonal and Decadal Drought through Monitoring and Modeling (USGS (via UC Center for Water Resources))  
**Project Lead:** Dr. Greg Husak (UCSB)  
**Role:** UCSB co-PI
8. **2017-2022 (\$1,214,449):** NASA Food Security and Agriculture Consortium (FSAC) (Supported by NASA)  
**Project Lead:** Dr. Inbal Becker-Reshef (UMD)  
**Role:** UCSB Co-PI
9. **2017-2022 (\$200,000):** Constructing Climate Resilient Communities, Landscapes, and Coasts in California and Nevada (Supported by NOAA-RISA)  
**Project Lead:** Dr. Daniel Cayan (UCSD)  
**Role:** UCSB PI
10. **2018-2022 (\$112,052):** Sustaining California's food production through integrated water and energy management (Supported by NSF-INFIEWS)  
**Project Lead:** Dr. Martha Conklin (UC Merced)  
**Role:** UCSB PI
11. **2019-2022 (\$705,142):** Connecting West Africa Users to Cutting Edge Resources: Integrating Satellite Observations and Sub-Seasonal Climate Forecasts to Enhance Agricultural and Pastoral Water-Management Decision-Making Using 21st Century Agro-Pastoral Water Deficit Predictions (Supported by NASA and USAID's SERVIR AST)  
**Project Lead:** S. Shukla (UCSB)  
**Role:** PI

12. **2019-2022 (\$657,433):** Using Earth Observations and Statistical Models to Enhance Drought, Food Security, and Agricultural Outlooks in Eastern and Southern Africa. Supported by NASA and USAID's SERVIR AST)  
**Project Lead:** Frank Davenport (UCSB)  
**Role:** UCSB Co-PI
13. **2019-2022 (\$448,463):** Ag Out – An Enhanced IMERG-based Agricultural Outlook System to Support Food Security and Agriculture in the Developing World. (Supported by NASA)  
**Project Lead:** Chris Funk (UCSB)  
**Role:** UCSB Co-PI
14. **2019-2021 (\$447,372):** High-Expressivity World Modeling. (Supported by: DARPA)  
**Project Lead:** Dr. Frank Davenport  
**Role:** UCSB Co-PI
15. **2019-2024 (\$9,957,755):** Early identification and forecasts of reduced-yield agricultural seasons in the Developing World. (Supported by USAID)  
**Project Lead:** Dr. Greg Husak (UCSB)  
**Role:** UCSB Co-PI
16. **2020-2023 (\$1,098,847):** Improving seasonal scale crop yield forecasting and extended outlook of crop conditions (Supported by USGS)  
**Project Lead:** Dr. Shrad Shukla (UCSB)  
**Role:** PI
17. **2022-2025 (\$299,999): Earth Observation-Based Monitoring of Rangeland Water Resources** (Supported by NASA)  
**Project Lead:** Dr. Kim Slinski (UMD)  
**Role:** UCSB PI
18. **2022-2025 (\$617,907):** Long-lead crop yield forecasting and crop condition outlooks in FEWS NET countries with limited crop yield observations (Supported by USDI Geological Survey (Incl Natl Biological Service)  
**Project Lead:** Dr. Shrad Shukla (UCSB)

**Role:** PI

19. **2023-2026 (\$530,597):** Improving a process-based understanding of how terrestrial water storage can improve S2S hydrologic forecasts skill in data sparse regions (Supported by NASA)

Project Lead: Dr. Shrad Shukla (UCSB)

Role: PI

20. **2024-2029 (\$2,882,626):** New Tools for Forecasting and Monitoring Agroclimatic Conditions in the Developing World. (Supported by USDI Geological Survey (Incl Natl Biological Service))

**Project Lead:** Dr. Greg Husak (UCSB)

**Role:** UCSB Co-PI

21. **2024-2029 (\$2,281,634):** Heat, Equity, and Integrated Resilience in Schools (HEIRS)  
(Supported by UC Office Of The President)

**Project Lead:** Dr. Liz Ackert (UCSB)

**Role:** UCSB Co-PI

## **G. PEER-REVIEWED PUBLICATIONS**

(Total >70, citations: >10K, h-index: 36, i10-Index: 56, according to [Google Scholar](#))

### **Book:**

Chris Funk and **Shraddhanand Shukla**: 2020, Drought Early Warning and Forecasting

Theory and Practice, 1st Edition - June 3, 2020, Paperback ISBN: 9780128140116, eBook ISBN:

9780128140123 (Elsevier), <https://doi.org/10.1016/B978-0-12-814011-6.00017-8>.

<https://www.sciencedirect.com/science/article/pii/B9780128140116000178> (\*1 of the 4 finalists for 2021 PROSE Awards in Earth Science Category)

### **Peer-reviewed journal articles and book chapters:**

#### **2024**

1. Anderson, W., **Shukla, S.**, Verdin, J. *et al.* Preseason maize and wheat yield forecasts for early warning of crop failure. *Nature Communication* **15**, 7262 (2024). <https://doi.org/10.1038/s41467-024-51555-8>.
2. Huning, L.S., Bateni, S.M., Hayes, M. *et al.* Sustainability nexus analytics, informatics, and data (AID): Drought. *SNF* **32**, 18 (2024). <https://doi.org/10.1007/s00550-024-00546-w>
3. **Shraddhanand Shukla**, Fahim Zaheer, Andrew Hoell, Weston Anderson, Harikishan Jayanthi, Greg Husak, Donghoon Lee, Brian Barker, Shahriar Pervez, Kimberly Slinski, Christina Justice, James Rowland, Amy L. McNally, Michael Budde, James Verdin, ENSO-based outlook of droughts and agricultural outcomes in Afghanistan, *Weather and Climate Extremes*, Volume 45, 2024, 100697, ISSN

2212-0947, <https://doi.org/10.1016/j.wace.2024.100697>.

(<https://www.sciencedirect.com/science/article/pii/S2212094724000586>)

4. Davenport, F., Lee, D., **Shukla, S.**, Husak, G., Funk, C., Budde, M., & Rowland, J. (2024). “Testing spatial out-of-sample area of influence for grain forecasting models.” *Environmental Research Letters*, 19(11), 114079. 10.1088/1748-9326/ad845e
5. Seth Peterson, Greg Husak, **Shraddhanand Shukla** and Amy McNally, Crop area change in the context of civil war in Tigray, Ethiopia, *Environmental Research: Food Systems*, **Volume 1**, *Environ. Res.: Food Syst.* **1** 015003, 10.1088/2976-601X/ad3559
6. Kelley CP, **Shukla S**, Grace K (2024) A typology of subseasonal rainfall evolution during the southern Niger monsoon. *PLoS ONE* 19(4): e0299771. <https://doi.org/10.1371/journal.pone.0299771>
7. Donghoon Lee, Frank Davenport, **Shraddhanand Shukla**, Greg Husak, Chris Funk, James Verdin, Contrasting performance of panel and time-series data models for subnational crop forecasting in Sub-Saharan Africa, *Agricultural and Forest Meteorology*, Volume 359, 2024, 110213, ISSN 0168-1923, <https://doi.org/10.1016/j.agrformet.2024.110213>.  
(<https://www.sciencedirect.com/science/article/pii/S0168192324003265>)
8. Cook, B. I., W. Anderson, K. Slinski, **S. Shukla**, and A. McNally, 2024: Investigating the Strength and Variability of El Niño–Southern Oscillation Teleconnections to Hydroclimate and Maize Yields in Southern and East Africa. *J. Hydrometeor.*, **25**, 257–275, <https://doi.org/10.1175/JHM-D-23-0098.1>.  
**2023**
9. Williams, E. L., Funk, C., & **Shukla, S.** (2023). Anthropogenic climate change negatively impacts vegetation and forage conditions in the greater four corners region. *Earth's Future*, 11, e2022EF002943. <https://doi.org/10.1029/2022EF002943>
10. Su, L., Q. Cao, **S. Shukla**, M. Pan, and D. P. Lettenmaier, 2023: Evaluation of Subseasonal Drought Forecast Skill over the Coastal Western United States. *J. Hydrometeor.*, **24**, 709–726, <https://doi.org/10.1175/JHM-D-22-0103.1>.
11. Nina Brooks, Kathryn Grace, Devon Kristiansen, **Shraddhanand Shukla**, Molly E. Brown, Investigating the relationship between growing season quality and childbearing goals, *Global Environmental Change*, Volume 80, 2023, 102677, ISSN 0959-3780, <https://doi.org/10.1016/j.gloenvcha.2023.102677>.
12. Abheera Hazra, Amy McNally, Kimberly Slinski, Kristi R. Arsenault, **Shraddhanand Shukla**, Augusto Getirana, Jossy P. Jacob, Daniel P. Sarmiento, Christa Peters-Lidard, Sujay V. Kumar, Randal D. Koster, NASA’s NMME-based S2S hydrologic forecast system for food insecurity early warning in southern Africa, *Journal of Hydrology*, Volume 617, Part B, 2023, 129005, ISSN 0022-1694, <https://doi.org/10.1016/j.jhydrol.2022.129005>.

## 2022

13. Harrison, L.; Landsfeld, M.; Husak, G.; Davenport, F.; **Shukla, S.**; Turner, W.; Peterson, P.; Funk, C., Advancing early warning capabilities with CHIRPS-compatible NCEP GEFS precipitation forecasts. *Sci Data* **9**, 375 (2022). <https://doi.org/10.1038/s41597-022-01468-2>
14. Lee, E., Koster, R. D., Ott, L. E., Joiner, J., Zeng, F.-W., Kolassa, J., et al. (2022). Skillful seasonal forecasts of land carbon uptake in Northern mid- and high latitudes. *Geophysical Research Letters*, 49, e2021GL097117. <https://doi.org/10.1029/2021GL097117>
15. Donghoon Lee, Frank Davenport, **Shraddhanand Shukla**, Greg Husak, Chris Funk, Laura Harrison, Amy McNally, James Rowland, Michael Budde, James Verdin, Maize yield forecasts for Sub-Saharan Africa using Earth Observation data and machine learning, *Global Food Security*, Volume 33, 2022, 100643, ISSN 2211-9124, <https://doi.org/10.1016/j.gfs.2022.100643>.
16. Adams Emily C., Grace Kathryn, **Shukla Shraddhanand**, Editorial: Gender and social consideration in climate and impacts research and services, *Frontiers in Climate*, VOL(4), 2022 DOI=10.3389/fclim.2022.1038266, ISSN=2624-9553
17. Krell N, Frank Davenport, Laura Harrison, William Turner, Seth Peterson, **Shraddhanand Shukla**, Jessica Marter-Kenyon, Greg Husak, Tom Evans, Kelly Caylor, Using real-time mobile phone data to characterize the relationships between small-scale farmers' planting dates and socio-environmental factors, *Climate Risk Management*, Volume 35, 2022, 100396, ISSN 2212-0963, <https://doi.org/10.1016/j.crm.2022.100396>.

## 2021

18. **Shukla S**, Husak G, Turner W, Davenport F, Funk C, Harrison L, et al. (2021) A slow rainy season onset is a reliable harbinger of drought in most food insecure regions in Sub-Saharan Africa. *PLoS ONE* 16(1): e0242883. <https://doi.org/10.1371/journal.pone.0242883> (\*Featured by outlets such as World Economic Forum, AAAS, Science Magazine, Futurity among several others)
19. **Shukla S**, Macharia Denis, Husak Gregory J., Landsfeld Martin, Nakalembe Catherine Lilian, Blakeley S. Lucille, Adams Emily Caitlin, Way-Henthorne Juliet, 2021: Enhancing Access and Usage of Earth Observations in Environmental Decision-Making in Eastern and Southern Africa Through Capacity Building, *Frontiers in Sustainable Food Systems*, Volume=5, Pages=67, doi=10.3389/fsufs.2021.504063, issn=2571-581x <https://www.frontiersin.org/article/10.3389/fsufs.2021.504063>
20. Funk, C. C., Peterson, P., Huffman, G. J., Landsfeld, M. F., Peters-Lidard, C., Davenport, F., **Shukla, S.**, Peterson, S., Pedreros, D. H., Ruane, A. C., Mutter, C., Turner, W., Harrison, L., Sonnier, A., Way-Henthorne, J., & Husak, G. J. (2021). Introducing and evaluating the Climate Hazards center IMERG with Stations (CHIMES) - Timely station-enhanced Integrated Multi-satellite Retrievals for Global

Precipitation Measurement, Bulletin of the American Meteorological Society (published online ahead of print 2021). Retrieved Nov 28, 2021, from <https://journals.ametsoc.org/view/journals/bams/aop/BAMS-D-20-0245.1/BAMS-D-20-0245.1.xml>

21. Frank M Davenport, **Shraddhanand Shukla**, William Turner, Chris Funk, Natasha Krell, Laura Harrison, Greg Husak, Donghoon Lee and Seth Peterson: (2021), Sending out an SOS: using start of rainy season indicators for market price forecasting to support famine early warning. Environmental Research Letters, Volume 16, Number 8, 084050. <https://iopscience.iop.org/article/10.1088/1748-9326/ac15cc>
22. Catherine Nakalembe, Inbal Becker-Reshef, Rogerio Bonifacio, Guangxiao Hu, Michael Laurence Humber, Christina Jade Justice, John Keniston, Kenneth Mwangi, Felix Rembold, **Shraddhanand Shukla**, Ferdinando Urbano, Alyssa Kathleen Whitcraft, Yanyun Li, Mario Zappacosta, Ian Jarvis, Antonio Sanchez, (2021) A review of satellite-based global agricultural monitoring systems available for Africa, Global Food Security, Volume 29, 2021, 100543, ISSN 2211-9124, <https://doi.org/10.1016/j.gfs.2021.100543>.
23. Cao, Q., **Shukla, S.**, DeFlorio, M. J., Ralph, F. M., & Lettenmaier, D. P. (2021). Evaluation of the Subseasonal Forecast Skill of Floods Associated with Atmospheric Rivers in Coastal Western U.S. Watersheds, *Journal of Hydrometeorology*, 22(6), 1535-1552. Retrieved Nov 28, 2021, from <https://journals.ametsoc.org/view/journals/hydr/22/6/JHM-D-20-0219.1.xml>

## 2020

24. **Shukla Shraddhanand**, Landsfeld Martin, Anthony Michelle, Budde Michael, Husak Gregory J., Rowland James, Funk Chris, 2020: Enhancing the Application of Earth Observations for Improved Environmental Decision-Making Using the Early Warning eXplorer (EWX), *Frontiers in Climate*, Volume=2, Pages=34, doi=10.3389/fclim.2020.583509, ISSN=2624-9553, <https://www.frontiersin.org/article/10.3389/fclim.2020.583509>.
25. **Shukla, S.**, Arsenault, K. R., Hazra, A., Peters-Lidard, C., Koster, R. D., Davenport, F., Magadzire, T., Funk, C., Kumar, S., McNally, A., Getirana, A., Husak, G., Zaitchik, B., Verdin, J., Nsadisa, F. D., and Becker-Reshef, I.: Improving early warning of drought-driven food insecurity in southern Africa using operational hydrological monitoring and forecasting products, *Nat. Hazards Earth Syst. Sci.*, 20, 1187–1201, <https://doi.org/10.5194/nhess-20-1187-2020>, 2020.
26. Funk C., Pete Peterson, Martin Landsfeld, Frank Davenport, Andreas Becker, Udo Schneider, Diego Pedreros, Amy McNally, Kristi Arsenault, Laura Harrison, **Shraddhanand Shukla**, 2020 Algorithm and Data Improvements for Version 2.1 of the Climate Hazards Center's InfraRed Precipitation with Stations Data Set. In: Levizzani V., Kidd C., Kirschbaum D., Kummerow C.,

Nakamura K., Turk F. (eds) Satellite Precipitation Measurement. Advances in Global Change Research, vol 67. Springer, Cham. [https://doi.org/10.1007/978-3-030-24568-9\\_23](https://doi.org/10.1007/978-3-030-24568-9_23)

27. Arsenault, K., **S. Shukla**, A. Hazra, A. Getirana, A. McNally, S. Kumar, R. Koster, C. D. Peters-Lidard, B. Zaitchik, H. Badr, H. C. Jung, B. Narapusetty, M. Navari, S. Wang, D. Mocko, C. Funk, L. Harrison, G. Husak, A. Adoum, G. Galu, T. Magadzire, J. Roningen, M. Shaw, J. Eylander, K. Bergaoui, R. A. McDonnell, and J. P. Verdin., 2020: The NASA Hydrological Forecast System for Food and Water Security Applications. *Bull. Amer. Meteor. Soc.*, 101, E1007–E1025.
28. Getirana, A., Jung, H. C., Arsenault, K., Shukla, S., Kumar, S., Peters-Lidard, C., et al. (2020). Satellite gravimetry improves seasonal streamflow forecast initialization in Africa. *Water Resources Research*, 56, e2019WR026259. <https://doi.org/10.1029/2019WR026259>

## 2019

29. Davenport, F., L. Harrison, **S. Shukla**, G. Husak, C. Funk, and A. McNally: What is the Best Earth Observation Product for Predicting Regional Grain Yields in Food Insecure Countries? *Environmental Research Letters* (Accepted)
30. Emily Williams; Chris Funk; **S. Shukla**; Daniel McEvoy: Quantifying Human-Induced Temperature Impacts on the 2018 United States Four Corners Hydrologic and Agro-Pastoral Drought. *Bull. Amer. Meteor. Soc.* (Accepted)
31. Blum Annalise G., Zaitchik Ben, Alexander Sarah, Wu Shu, Zhang Ying, **Shukla S.**, Alemneh Temesgen, Block Paul: A Grand Prediction: Communicating and Evaluating 2018 Summertime Upper Blue Nile Rainfall and Streamflow Forecasts in Preparation for Ethiopia's New Dam. Volume (1). <https://doi.org/10.3389/frwa.2019.00003> (in press)
32. Funk, C., **S. Shukla**, W.M. Thiaw, J. Rowland, A. Hoell, A. McNally, G. Husak, N. Novella, M. Budde, C. Peters-Lidard, A. Adoum, G. Galu, D. Korecha, T. Magadzire, M. Rodriguez, M. Robjhon, E. Bekele, K. Arsenault, P. Peterson, L. Harrison, S. Fuhrman, F. Davenport, M. Landsfeld, D. Pedreros, J.P. Jacob, C. Reynolds, I. Becker-Reshef, and J. Verdin, 2019: Recognizing the Famine Early Warning Systems Network: Over 30 Years of Drought Early Warning Science Advances and Partnerships Promoting Global Food Security. *Bull. Amer. Meteor. Soc.*, 100, 1011–1027. <https://doi.org/10.1175/BAMS-D-17-0233.1>
33. Harrison, L., C. Funk; A. McNally, **S. Shukla**, G. Husak, 2019: Pacific Sea Surface Temperature Linkages with Tanzania's Multi-season Drying Trends. *International Journal of Climatology*. 39(6), 3057-3075. <https://doi.org/10.1002/joc.6003>
34. Funk C., P. Peterson, S. Peterson, **S. Shukla**, F. Davenport, J. Michaelson, K.R. Knapp, M. Landsfeld, G. Husak, L. Harrison, J. Rowland, M. Budde, A. Meiburg, T. Dinku, D. Pedreros, and N. Mata, 2019: A

High-Resolution 1983–2016 Tmax Climate Data Record Based on Infrared Temperatures and Stations by the Climate Hazard Center. J. Climate, 32, 5639–5658. <https://doi.org/10.1175/JCLI-D-18-0698.1>

35. McNally A, Kristine Verdin, Laura Harrison, Augusto Getirana, Jossy Jacob, **S. Shukla**, Kristi Arsenault, Christa Peters-Lidard and James P. Verdin: Acute Water-Scarcity Monitoring for Africa. Water 2019, 11(10), 1968; <https://www.mdpi.com/538844>

## 2018

36. Chris Funk, Laura Harrison, **S. Shukla**, Catherine Pomposi, Gideon Galu, Diriba Korecha, Gregory Husak, Tamuka Magadzire, Frank Davenport, Chris Hillbruner, Gary Eilerts, Benjamin Zaitchik and James Verdin, 2018: Examining the role of unusually warm Indo-Pacific sea surface temperatures in recent African droughts. Quarterly Journal of the Royal Meteorological Society. Volume 144, Issue S1, Pages 360-383 <https://doi.org/10.1002/qj.3266>
37. Pomposi, C., Funk, C., **Shukla, S.**, Harrison, L., and T. Magadzire, 2018: Distinguishing Southern Africa precipitation response by strength of El Niño events and implications for decision-making. Environ. Res. Lett. 13 074015. <http://iopscience.iop.org/article/10.1088/1748-9326/aacc4c/meta>.
38. Funk, C., F. Davenport, L. Harrison, T. Magadzire, G. Galu, G. A Artan, **S. Shukla**, D. Korecha, M. Indeje, C. Pomposi, Denis Macharia, G. Husak, F. D. Nsadisa, 2018: Anthropogenic Enhancement of Moderate-to-Strong El Niño Events Likely Contributed to Drought and Poor Harvests in Southern Africa During 2016. Bulletin of the American Meteorological Society. 99 (1) S91-S96. <https://journals.ametsoc.org/doi/pdf/10.1175/BAMS-D-17-0112.1>.

## 2017

39. **Shukla, S.**, Daniel McEvoy, Mike Hobbins, Greg Husak, Justin Huntington, Chris Funk, Denis Macharia and James Verdin: Examining the value of global seasonal reference evapotranspiration forecasts to support FEWS NET's food insecurity outlooks, 56:11, 2941-2949. *Journal of Applied Meteorology and Climatology*. (<http://journals.ametsoc.org/doi/abs/10.1175/JAMC-D-17-0104.1>)
40. Davenport F, K. Grace, C. Funk, **S. Shukla**, 2017: Child health outcomes in sub-Saharan Africa: A comparison of changes in climate and socio-economic factors, Global Environmental Change, Volume 46, September 2017, Pages 72-87, ISSN 0959-3780, <https://doi.org/10.1016/j.gloenvcha.2017.04.009> (<http://www.sciencedirect.com/science/article/pii/S0959378016302667>)
41. Amy McNally, Kristi Arsenault, Sujay Kumar, **S. Shukla**, Pete Peterson, Shugong Wang, Chris Funk, Christa D. Peters-Lidard & James P. Verdin: A land data assimilation system for sub-Saharan Africa food and water security applications. Scientific Data 4, Article number: 170012, [doi:10.1038/sdata.2017.12](https://doi.org/10.1038/sdata.2017.12)

42. A Hoell, AE Gaughan, **S Shukla**, T Magadzire: The Hydrologic Effects of Synchronous El Niño Southern Oscillation and Subtropical Indian Ocean Dipole Events over Southern Africa. *Journal of Hydrometeorology*. <https://doi.org/10.1175/JHM-D-16-0294.1>

## 2016

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<https://www2.ametsoc.org/ams/index.cfm/publications/bulletin-of-the-american-meteorological-society-bams/explaining-extreme-events-from-a-climate-perspective/toc/16-assessing-the-contributions-of-east-african-and-west-pacific-warming-to-the-2014-boreal-spring-east-african-drought/>

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## Proceedings

1. **Shukla, S.**, M. Damodhara Rao, N.S. Raghuwanshi, and R. Singh. 2006. A simple mathematical model for simulating water flow in furrow irrigation. International Conference in University of Agriculture, Faisalabad, Pakistan.
2. Mishra, V., N.S. Raghuwanshi, **S. Shukla**, J. Cullmann, and G.H. Schmitz. 2006. Understanding runoff generation process through scaling of flood peaks. International Conference in University of Agriculture, Faisalabad, Pakistan.
3. **Shukla, S.**, M. Damodhara Rao, R. Singh, N.S. Raghuwanshi, G.H. Schmitz, and F. Lennartz. 2005. Modeling temporal variation of soil erosion in furrow irrigation. Proceedings of International Symposium on Recent Advances in Water Resources Development and Management, IIT-Roorkee, India, 2005.
4. Mishra, V., N. S. Raghuwanshi, **S. Shukla**, and G. H. Schmitz. 2005. Regional flood frequency analysis of Freiburger Mulde catchment by L-moments. Proceedings of International Symposium on Recent Advances in Water Resources Development and Management. IIT-Roorkee, India, 2005.

## **H. PRESENTATIONS/POSTERS**

### **Invited Presentations or panel participations**

**(Total 23, 18 as a first or presenting author)**

1. **Shukla et al.**, Improving prediction of subseasonal-to-seasonal scale hydrometeorological extremes in data-sparse regions to support food insecurity early warning (invited). AGU Fall Meeting 2024, San Francisco, USA.
2. Topic expert panelist for panel on WMO HydroSOS (Hydrological Status and Outlook Systems) framework for drought management. Drought Resilience +10 conference, 30 September – 02 October 2024, Geneva, Switzerland.
3. Abdou Ali and **Shukla S.**, Food security early warning and disaster risk reduction by AGRHYMET, with the support of SERVIR -WA. [Strengthening Local Capacity of Geo-Enabling Technologies](#), webinar organized by USAID's Agrilinks & Resilience. October 2023.
4. **Shukla S.**, Application of subseasonal scale climate forecasts in supporting food-insecurity early warning in West Africa, [ICTforAg 2022](#) sponsored by USAID's Feed the Future and the German Federal Ministry for Economic Cooperation and Development (BMZ).
5. **Shukla S.**, The state of the art in seasonal climate forecasting, [Climate Conference 2022](#) in West Africa, organized by the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) and regional partners and sponsored by the European Union and USAID
6. **Shukla S.**, Advances in operational drought forecasting to support food insecurity early warning

[2nd Regional Knowledge Forum](#) on Drought and Climate Services for Food Security and Agricultural Decision Making in South and Southeast Asia, organized by NASA and USAID's SERVIR's Mekong and SERVIR Hindukush hubs.

7. **S. Shukla:** Multi-stage Drought Prediction to Support Food Insecurity Early Warning, Fall 2021: Hydrologic Sciences and Water Resources Engineering Seminar Series, Colorado University, September, 2021.
8. **S. Shukla**, Chris Funk, Laura Harrison, Gregory Husak and Juliet Way-Henthorne, 2021: Multi-stage and multi-scale drought prediction to support food insecurity early warning, USAID Forecasting group, July 2021.
9. **S. Shukla**, 2021: Multi-stage and multi-scale drought prediction to support food insecurity early warning, IRI, Columbia University monthly webinar, June 2021.
10. **S. Shukla**, Kristi Arsenault, Abheera Hazra, Kimberly Slinski, Chris Funk, Christa Peters-Lidard, Amy McNally, Greg Husak, 2021: Multi-stage and multi-scale drought prediction to support food insecurity early warning, Predictive modelling for food security, virtual F4SG conference, June 2021, <https://www.f4sg.org/>
11. **S. Shukla:** Improving food security: new techniques, EGU virtual press conference, April 2021. <https://www.egu.eu/gamedia/2021/press-conferences/#food>
12. **S. Shukla**, K. Arsenault, A. Hazra, K. Slinski, C. Funk, C. Peters-Lidard, A. McNally, and G. Husak, 2021: Multistage and Scale Drought Prediction to Support Food Insecurity Early Warning, 101st American Meteorological Society Annual Meeting, (*Virtual*), January, 2021.
13. **S. Shukla**, D. Macharia, G.J. Husak, C. Funk, M.F. Landsfeld, and M. N. Kimani, 2019: Enabling access and usage of earth observations in environmental decision making in Eastern and Southern Africa through capacity building, AGU Fall Meeting 2019, San Francisco, CA, USA.
14. G. Husak, **S. Shukla** and L. Harrison, 2019: The Climate Hazards Center: Predicting the Factors that Influence Food Security in Vulnerable Regions. Webinar hosted by USAID Bureau for Food Security. May 2019. <https://www.agrilinks.org/event/climate-hazards-center-predicting-factors-influence-food-security-vulnerable-regions-0>
15. **Shukla S.** Inventory and assessment of drought forecasting and monitoring products. World Bank Headquarters (Washington D.C., 2019)
16. **Shukla S.** 2017: NMME Skill in CA-NV, First Annual CA-NV DEWS Coordination Workshop, DRI, Reno, Nevada.
17. **Shukla S.** 2017: Improving Drought Risk Management through improved early warning and capacity building, NASA's Jet Propulsion Laboratory, Pasadena, CA, USA.

18. **Shukla S.** 2017: North American Multi-Model Ensemble (NMME) based outlook and sub-seasonal forecast products, 2017: CA DWR and NIDIS's Winter Outlook Workshop, February, 2017.
19. **Shukla S.** 2017: Drought & Climate Outlook. NIDIS's California-Nevada Drought & Climate Outlook Webinar - May 30, 2017.
20. Amir AghaKouchak, Shahrbanou Madadgar, **S. Shukla**, Linyin Cheng, Kuo-lin Hsu, 2016: Seasonal drought prediction in California by combining statistical and dynamical models. American Geophysical Union Fall Meeting, San Francisco, CA.
21. Chris C Funk, James P Verdin, Gideon Galu, Denis Macharia, **S. Shukla**, Laura Harrison, Amy McNally, Christa D Peters-Lidard, Franklin R Robertson, Jason B Roberts, Diego H Pedreros, Gregory J Husak, Pete Peterson, Seth Peterson, Greg Ederer, Martin Francis Landsfeld, 2016: Advancing Integrated African Early Warning Science and Climate Services. American Geophysical Union Fall Meeting, San Francisco, CA.
22. James Verdin, Christa Peters-Lidard, Amy McNally, Kristi Arsenault, Shugong Wang, Sujay Kumar, **S. Shukla**, Chris Funk, Greg Fall, Logan Karsten, 2015: Land Surface Modeling Applications for Famine Early Warning. American Geophysical Union Fall Meeting, San Francisco, CA.
23. **Shukla, S.** 2015: Incorporating stakeholders' feedback in drought monitoring products. *Drought Monitoring Panel*, AGU Chapman Conference on California Drought, Irvine, California, April 2015.
24. Chris C Funk, Andrew Hoell, **S. Shukla**, Colin P Kelley, Laura Harrison, 2015: Recent potentially predictable droughts associated with the west Pacific warming mode and ENSO. American Geophysical Union Fall Meeting, San Francisco, CA.
25. Colin P Kelley, Chris C Funk, Amy McNally, **S. Shukla**, 2015: Climate Change And Hydrologic Instability In Yemen. American Geophysical Union Fall Meeting, San Francisco, CA.
26. **Shukla, S.** and A. W. Wood. 2008. Application of a land Surface model for drought monitoring and prediction in Washington State. The Water Center Annual Review of Research, Seattle, WA, Feb. 2008.

**Other Presentations (current until December 2024)** (\*\* Since 2023, only including presentations where I was a presenter, co-equal contributor or primary supervisor of the presenter)

1. **Shraddhanand Shukla**, Weston B Anderson, Benjamin Cook, Frank Davenport, Kimberly Slinski, Abheera Hazra, and Amy McNally, Improving prediction of subseasonal-to-seasonal scale hydrometeorological extremes in data-sparse regions to support food insecurity early warning (Invited). AGU Fall Meeting 2024, San Francisco, USA
2. **Shukla S.**, Frank Davenport, Barnali Das, Donghoon Lee, Weston B Anderson, Abheera Hazra, Kimberly Slinski, Amy McNally, Karyn M. Tabor, Laura Harrison and Gregory J Husak, From Agricultural Drought Risks to Crop Production Shocks: Enhancing Food Insecurity Early Warning

through the Application of Remotely Sensed and Modeled Soil Moisture. AGU Fall Meeting 2024, San Francisco, USA

3. Barnali Das, **Shraddhanand Shukla**, Frank Davenport, Donghoon Lee, Laura Harrison, Gregory J Husak, Karyn M. Tabor, James Rowland, Michael E Budde and James Verdin, Evaluating Crop Yield Prediction Models in Sub-Saharan Africa: Biophysical vs. Agro-climatic predictors. AGU Fall Meeting 2024, San Francisco, USA
4. **Shukla, S.**, Slinski, K., Senay, G. B., Rowland, J., Budde, M. E., McNally, A., & Adoum, A. (2024). Subseasonal Scale Forecasting of Water Level in Ephemeral Ponds In Rangeland Areas of Africa to Support Early Warning Of Drought And Food Insecurity. *WaterSciCon24, June 2024*.
5. **Shukla, S.**, Davenport, F., Yoon, E., Das, B., Anderson, W., Hazara, A., ... & McNally, A. L. (2024). Enabling long-lead forecasting of agriculture production shocks with soil moisture monitoring and forecasting products to support food insecurity early warning (No. EGU24-21136). Copernicus Meetings, EGU General Assembly, 2024.
6. Turner, William, **Shraddhanand Shukla**, and Greg Husak. NMME Experimental Subseasonal Precipitation Forecasts (SubX) provide enhanced predictions of end-of-season water balance over Sub-Saharan Africa. No. EGU24-13863. Copernicus Meetings, EGU General Assembly, 2024.
7. **Shraddhanand Shukla**, Frank Davenport, Donghoon Lee, Weston B Anderson, Eric Yoon, Kimberly Slinski, Abheera Hazra, Amy McNally, Enabling long-lead crop yield forecasting with remotely sensed and modeled soil moisture and seasonal scale forecasts to support food insecurity early warning, Chapman Conference on Remote Sensing of the Water Cycle. AGU, Feb 2024.
8. Weston Anderson, **Shraddhanand Shukla**, Christina Jade Justice, Brian Barker, Andrew J Hoell, Nathan Lenssen, Kimberly Slinski, Jiale Lou, Benjamin Cook, Amy McNally, Multiyear ENSO-Based Crop Yield Forecasts for Early Warning, AGU Fall Meeting 2023, held in San Francisco, CA, 11-15 December 2023.
9. Will Turner, **Shraddhanand Shukla**, Gregory J Husak, Chris C Funk, Kathy Baylis, Charles Jones, From Start to Finish—NMME Experimental Subseasonal Precipitation Forecasts (SubX) provide enhanced early-season certainty of end-of-season WRSI forecasts over Sub-Saharan Africa, AGU Fall Meeting 2023, held in San Francisco, CA, 11-15 December 2023.
10. **Shraddhanand Shukla**, Andrew Hoell, Fahim Zaheer, Weston B Anderson, Harikishan Jayanthi, Gregory J Husak, Donghoon Lee, Brian Barker, Md Shahriar Pervez, Kimberly Slinski, Christina Jade Justice, James Rowland, Amy McNally, Michael E Budde, James P Verdin, Understanding ENSO driven risks of drought and adverse agricultural outcomes in Afghanistan to support early warning of food insecurity. AGU Fall Meeting 2023, held in San Francisco, CA, 11-15 December 2023.

11. Alex S Mayer, Elizabeth Marie Andrews, John P Gannon, Diana L Karwan, Elise Miller, Jordan S Read, **Shraddhanand Shukla**, Why do we need a distinct AGU meeting on water science? AGU Fall Meeting 2023, held in San Francisco, CA, 11-15 December 2023.
12. Donghoon Lee, Frank Davenport, **Shraddhanand Shukla**, Alkhalil Adoum, Gregory J Husak, Michael E Budde, James Rowland, James Verdin, Laura Harrison, Chris C Funk, Utilizing Earth Observation for Enhanced Crop Production Forecasting in West Africa, AGU Fall Meeting 2023, held in San Francisco, CA, 11-15 December 2023.
13. Donghoon Lee, Frank Davenport, **Shraddhanand Shukla**, Laura Harrison, Greg Husak, Chris Funk, Michael Budde, James Rowland, Amy McNally, James Verdin, Leveraging Hydroclimate and Earth Observation to Predict Grain Production in Sub-Saharan Africa, EGU23, the 25th EGU General Assembly, held 23-28 April, 2023 in Vienna, Austria and Online.
14. Patrese Anderson, Frank Davenport, Kathy Baylis, **Shraddhanand Shukla**, Using domestic weather disturbances and price transmission for maize price predictions in Southern Africa, EGU23, the 25th EGU General Assembly, held 23-28 April, 2023 in Vienna, Austria and Online.
15. Patrese Anderson, Kathy Baylis, Frank Davenport, **Shraddhanand Shukla**, Combining machine learning and market integration to improve maize price predictions in sub-Saharan Africa, 2023 Agricultural & Applied Economics Association, Annual Meeting, Washington DC; July 23-25, 2023.
16. **Shraddhanand Shukla**, Frank Davenport, Kathryn Grace, Seydou Tinni, Abdou Ali, Alkhalil Adoum, Bako Mamane, Colin P Kelley, Daniel McEvoy, Gregory J Husak, Mansour Mahamane, Emil A Cherrington, Rebekke Muench, Jacob Abramowitz, Using subseasonal climate variability at the community-level to advance place-based early warning systems in West Africa, AGU Fall Meeting 2022, held in Chicago, IL, 12-16 December 2022.
17. Donghoon Lee, Frank Davenport, **Shraddhanand Shukla**, Laura Harrison, Gregory J Husak, Chris C Funk, Michael E Budde, James Rowland, Amy McNally, James Verdin, In-season Operational Forecasts of Subnational Grain Production in Sub-Saharan Africa, AGU Fall Meeting 2022, held in Chicago, IL, 12-16 December 2022.
18. P Anderson, F Davenport, K Baylis, **S Shukla**, Using earth observation products to improve maize price predictions in sub-Saharan Africa, EGU22, the 24th EGU General Assembly, held 23-27 May, 2022 in Vienna, Austria and Online.
19. **Shraddhanand Shukla**, William Turner, Greg Husak, Daniel McEvoy, Seydou Tinni, Adoum Alkhalil, Abdou Ali, Bako Mamne, Ibrah Sanda, Kathryn Grace, Emil Cherrington, Rebekke Muench, Improving early warning of droughts near onset and middle of a growing season, EGU22, the 24th EGU General Assembly, held 23-27 May, 2022 in Vienna, Austria and Online.

20. **S. Shukla**, Daniel McEvoy, Seydou Tinni, William A Turner, Alkhalil Adoum, Abdou Ali, Bako Mamane, Ibrah Sanda, Kathryn Grace, Laura Harrison, Christina Jade Justice, Brian Barker, Emil A Cherrington, Rebekke Muench, Gregory J Husak, Application of subseasonal scale climate forecasts in supporting food-insecurity early warning, AGU Fall Meeting 2021, December, New Orleans.
21. Eunjee Lee, Randal D Koster, Lesley E Ott, Joanna Joiner, Jana Kolassa, Rolf H Reichle, Kristi R Arsenault, Abheera Hazra, **S. Shukla**, 2021: Contributing Mechanisms to Skillful Seasonal Forecasts of Spring Carbon Uptake, AGU Fall Meeting 2021, December, New Orleans.
22. Martin Francis Landsfeld, Laura Harrison, Gregory J Husak, William A Turner, Chris C Funk and **S. Shukla**, 2021: The Updated CHIRPS-GEFS Precipitation Data Set Description, Assessment, and Usage in Food-Security Analysis, AGU Fall Meeting 2021, December, New Orleans.
23. Donghoon Lee, Frank Davenport, **S. Shukla**, Gregory J Husak and Chris C Funk, 2021: An operational crop yield forecasting system for Sub-Saharan Africa using earth observation and machine learning, AGU Fall Meeting 2021, December, New Orleans.
24. **S. Shukla**, Kathryn Grace, Abdou Ali, Daniel McEvoy, William Turner, Adoum Alkhalil, Seydou Tinni, Issaka Lona, Ibrah Sanda, Emil A Cherrington, Rebekke Muench, Greg Husak, 2021: Forecasting agropastoral water deficits in West Africa to support food insecurity early warning, EGU General Assembly, April 2021 (*Virtual*).
25. Donghoon Lee, Frank Davenport, **S. Shukla**, Greg Husak, Chris Funk, 2021, Maize yield forecast using earth observation data and machine learning for Sub-Saharan Africa, EGU General Assembly, April 2021 (*Virtual*).
26. Chris Funk, P. Peterson, G. J. Huffman, M. Landsfeld, F. Davenport, S. Peterson, D. Pedreros, A. Ruane, C. Mutter, **S. Shukla**, W. Turner, and A. Sonnier, 2021: Introducing and Evaluating AgMERG—Timely Station-Enhanced Integrated Multisatellite Retrievals for Global Precipitation Measurement, 101st American Meteorological Society Annual Meeting, (*Virtual*), January, 2021.
27. Abheera Hazra, A. McNally, K. Slinski, K. Arsenault, S. S. Shukla, A. Getirana, C. Peters-Lidard, S. V. Kumar, and R. D. Koster, 2021: NASA's NMME-Based Seasonal Hydrological Forecast System for Food Insecurity Early Warning in Africa, 101st American Meteorological Society Annual Meeting, (*Virtual*), January, 2021.
28. **Shraddhanand Shukla**, Kathryn Grace, Colin P Kelley, Lona Issaka, Alkhalil Adoum, Seydou Tinni, Daniel McEvoy, Frank Davenport, Gregory J Husak, 2020: Subseasonal scale climate variability and food insecurity in West Africa, AGU Fall Meeting 2020 (*Virtual*).
29. Chinaporn Meechaiya, Miguel Laverde, Lam Hung Son, Khem Sothea, Arjen Haag, Martijn Kwant, Poortinga Ate, Amanda Weigel Markert, **Shraddhanand Shukla**, Martin Francis Landsfeld, Gregory J Husak, Farrukh Chishtie, Peeranan Towashiraporn, David S Saah, 2020: Towards more Accurate

Riverine Flood Forecasting over the Lower Mekong Basin: Assessment of the Rainfall Forecast CHIRPS-GEFS for the Mekong River Commission, AGU Fall Meeting 2020 (*Virtual*).

30. Kathryn Grace, **Shraddhanand Shukla**, Devon Kristiansen, Molly Elizabeth Brown, Philip Anglewicz, Elizabeth Gummerson, Elizabeth Heger Boyle, 2020, Combining Remotely Sensed Data and Health Surveys to Investigate Food Insecurity and Women's Reproductive Health in West Africa, AGU Fall Meeting 2020 (*Virtual*).
31. A Hazra, A McNally, K Slinski, KR Arsenault, **S Shukla**, A Getirana, C Peters-Lidard, SV Kumar, RD Koster, 2020: NASA's seasonal hydrologic forecasting system for food insecurity warning in Africa, AGU Fall Meeting 2020 (*Virtual*).
32. Eunjee Lee, Fan-Wei Zeng, Lesley Ott, Randal Koster, **Shraddhanand Shukla**, A Hazra, KR Arsenault, Joanna Joiner, 2020: Dynamical Forecasts of Tropical Terrestrial Carbon Fluxes with the NASA S2S Retrospective Forecast System, 100th American Meteorological Society Annual Meeting, Boston, January, 2020.
33. KR Arsenault, A Hazra, **Shraddhanand Shukla**, Amy McNally, Augusto Getirana, Christa D Peters-Lidard, Sujay V Kumar, Randal Koster, Benjamin F Zaitchik, Kimberly Slinski, Chris C Funk, JP Verdin, 2020: NASA's Seasonal Hydrological Forecast System for Improved Food Insecurity Early Warning in Africa, 100th American Meteorological Society Annual Meeting, Boston, January, 2020.
34. **S. Shukla**, A. Adoum, G.J. Husak, F. Davenport, W. A. Turner, K. Grace, and C. Funk, 2019: Application of subseasonal climate forecasts for improving food insecurity early warning in West Africa. AGU Fall Meeting 2019, San Francisco, CA, USA.
35. GJ Husak, **S. Shukla**, A. McNally, and C. Funk, 2019: An Analysis of Bias-corrected Monthly Forecasts-Potential Perils and Improvements. AGU Fall Meeting 2019, San Francisco, CA, USA.
36. M Safeeq, B Livneh, R.R. Bart<sup>+</sup>, CK Singh, and **S. Shukla**, 2019: Assessment of hydrologic impacts of climate change in the Sierra Nevada: comparisons between radiative change and CO<sub>2</sub> fertilization, AGU Fall Meeting 2019, San Francisco, CA, USA.
37. N. Krell, F. Davenport, S. Peterson, **S. Shukla**, G.J. Husak, W. Turner, and C.C. Funk, 2019: To What Extent Does Climate Variability Explain Farmers' Planting Decisions in Central Kenya? AGU Fall Meeting 2019, San Francisco, CA, USA.
38. F. Davenport, **S. Shukla**, G.J. Husak, C.C. Funk, N. Krell, and W. Turner, 2019: What is the Relationship between Late Start of Season and Grain Prices in African Countries? AGU Fall Meeting 2019, San Francisco, CA, USA.
39. **S. Shukla** and co-authors, 2019: Enhancing Eastern and Southern Africa Climate Services by Increasing Access to Remote Sensing and Model Data Sets, SERVIR Annual meeting, NASA Headquarters, Washington D.C., 2019.

40. A. K. Whitcraft<sup>†</sup>, G. Husak, C. Nakalembe, **S. Shukla**, C. Justice, I. Becker-Reshef, and C. O. Justice, 2019: Enhancing the Integration of Earth Observations and Agrometeorological Data for Agriculture and Food Security Assessments. 2019 Joint Satellite Conference, Boston, MA.
41. **S. Shukla**, K. R. Arsenault, A. Hazra, A. McNally, A. Getirana, S. Kumar, C. Peters-Lidard, R. D. Koster, B. Zaitchik, L. Harrison, T. Magadzire, A. Adoum, G. Galu, and J. Verdin, 2019: Supporting food and water insecurity early warning in Africa through a recently developed seasonal scale multimodel hydrologic forecasting system, European Geophysical Assembly Union Meeting, Vienna, Austria, 2019.
42. P. Block, S. Wu, B. Zaitchik, **S. Shukla**, A. Blum, S. Alexander, and Y. Zhang, 2019: Uncovering a regime shift in Ethiopian highland summertime precipitation with implications for seasonal prediction, European Geophysical Assembly Union Meeting, Vienna, Austria, 2019.
43. **S. Shukla**, Gregory J Husak, Daniel McEvoy, Kristi R Arsenault, Will Turner, Laura Harrison, Frank Davenport, Martin Francis Landsfeld, Amy McNally, Christopher Funk and Christa D Peters-Lidard, 2018: [Early warning of food insecurity in Sub-Saharan Africa: Exploring predictors beyond traditionally used seasonal rainfall forecasts](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
44. **S. Shukla**, Gregory J Husak, Denis Macharia, Michael Ngugi Kimani, Martin Francis Landsfeld, Emily Caitlin Adams and Christopher Funk: 2018: [Enabling access and usage of earth observations in environmental decision making in Eastern and Southern Africa through web-services, training and development of novel datasets](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
45. Catherine Pomposi, **S. Shukla** and Chris C Funk, 2018: [Seasonal variability of early and late onset monsoon seasons in the Sahel](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
46. Kristi R Arsenault, **S. Shukla**, Abheera Hazra, Augusto Getirana, Sujay Kumar, Christa D Peters-Lidard, Randal D Koster, Amy McNally, Ben M Zaitchik, Hamada S Badr and Hahn Chul Jung, 2018: [Seasonal Scale Drought Forecasting in Africa and the Middle East](#).
47. Laura Harrison, Amy McNally, **S. Shukla**, Narcisa GABRIELA Pricope, Chris C Funk, Gideon Galu and Gregory J Husak, 2018: [Recent Water Availability Trends and Mid-21st Century Projections in East Africa](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
48. Martin Francis Landsfeld, Christopher Funk, Laura Harrison, William A Turner, Gregory J Husak and **S. Shukla**, 2018: [The CHIRPS-GEFS Precipitation Dataset for Improved Food Security Forecasts and Analysis in Africa](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
49. Mike Hobbins, Laura Harrison, Sari Lucille Blakeley, Candida Dewes, Gregory J Husak, **S. Shukla**, H. Jayanthi, Amy McNally, Daniel Sarmiento and James Verdin, 2018: [Drought in Africa: Understanding](#)

- [and Exploiting the Demand Perspective Using a New Evaporative Demand Reanalysis](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
50. Gregory J Husak, **S. Shukla**, Chris C Funk, and Mike Hobbins: 2018: [Investigating the Inputs to SPEI and Their Importance in Identifying Agroclimatic Hazards](#).
  51. Christa D Peters-Lidard, Sujay Kumar, David M Mocko, Amy McNally, Kristi R Arsenault, **S. Shukla**, Abheera Hazra, Augusto Getirana, Randal D Koster, Hahn Chul Jung, Ben M Zaitchik and Hamada S Badr, 2018: [The role of land surface feedbacks in drought monitoring and forecasting](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
  52. Chris C Funk, Scott Power, Samantha Stevenson, David W Lea, Andrew Hoell, Balaji Rajagopalan, **S. Shukla**, 2018: [Consistent with recent observations, a climate change meta-ensemble robustly projects 2020-2039 climate hazards associated with El Nino and La-Nina related sea surface temperature extremes](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
  53. Annalise G Blum, Ben M Zaitchik, Shu WU, Ying Zhang, Sarah Alexander, **S. Shukla**, Paul J Block and Temesgen A. Yimanie, 2018: [Forecast for Blue Nile river flow in 2018: evaluation and regional responses](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
  54. Frank Davenport IV, Laura Harrison, **S. Shukla**, Gregory J Husak, Chris C Funk and Amy McNally, 2018: [What is the Best Earth Observation Product for Predicting Regional Grain Yields in Food Insecure Countries?](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
  55. Paul J Block, Shu WU, Ben M Zaitchik, **S. Shukla**, Annalise G Blum, Sarah Alexander, Ying Zhang, 2018: [Uncovering a regime shift in Ethiopian highland summertime precipitation with implications for seasonal prediction](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
  56. Abheera Hazra, Kristi R Arsenault, **S. Shukla**, Sujay Kumar, Christa D Peters-Lidard, Randal D Koster, Amy McNally: 2018. [Evaluating NASA's GEOS-5 S2S Versions for Drought Forecasting in Africa](#). American Geophysical Union Fall Meeting, Washington DC, December, 2018.
  57. Hamada S Badr, Benjamin F Zaitchik, Kristi R Arsenault, **S. Shukla** and Christa D Peters-Lidard, 2018: [To What Extent Does High-Resolution Dynamical Downscaling Improve Seasonal Forecasts over the Ethiopian Highlands?](#), American Geophysical Union Fall Meeting, Washington DC, December, 2018.
  58. **S. Shukla**: "Are Dynamical Sub-Seasonal Scale Forecasts Useful for Predicting Extreme Precipitation and Heat Wave Events in California and Nevada?", 2018: NOAA's 43rd Climate Diagnostics & Prediction Workshop, Santa Barbara, California, 23-25 October, 2018.
  59. C. Funk, **S. Shukla**, L. Harrison, G. Husak, C. Pomposi and F. Davenport, A Climate Hazards Perspective on Attributing and Predicting ENSO Related Droughts. 2018: NOAA's 43rd Climate Diagnostics & Prediction Workshop, Santa Barbara, California.

60. Kristi R Arsenault, **S. Shukla**, Augusto Getirana, Christa D Peters-Lidard, Sujay Kumar, Amy McNally, Benjamin F Zaitchik, Hamada S Badr, Chris C Funk, Randal D Koster, Bala Narapusetty, Hahn Chul Jung and Jeanne M Roningen, 2017: Using Satellite Data and Land Surface Models to Monitor and Forecast Drought Conditions in Africa and Middle East, American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
61. Huilin Gao, Shuai Zhang, Bart Nijssen, Tian Zhou, Nathalie Voisin, Justin Sheffield, Kyungtae Lee, **S. Shukla** and Dennis P Lettenmaier, 2017: Characterizing the utility of the TMPA real-time product for hydrologic predictions over global river basins across scales, American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
62. Aneesh C Subramanian, David Lavers, Mio Matsueda, **S. Shukla**, Daniel R Cayan and Marty Ralph, 2017: Evaluating sub-seasonal skill in probabilistic forecasts of Atmospheric Rivers and associated extreme events. American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
63. Gregory J Husak, William Turner, Amy McNally, **S. Shukla** and Chris C Funk, 2017: Comparison of Agricultural Drought Indicators over West Africa. American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
64. Laura Harrison, Sari Lucille Blakeley, Mike Hobbins, Candida Dewes, Chris C Funk, **S. Shukla** and Gregory J Husak, 2017: Drivers of atmospheric evaporative demand during African droughts, American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
65. Catherine Pomposi, Chris C Funk, **S. Shukla**, and Tamuka Magadzire, 2017: Distinguishing Southern Africa precipitation response by strength of El Niño events, American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
66. Amy McNally, Laura Harrison, **S. Shukla**, Narcisa GABRIELA Pricope and Christa D Peters-Lidard, 2017: Hydrologic modeling for monitoring water availability in Eastern and Southern Africa, American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
67. Christa D Peters-Lidard, Kristi R Arsenault, **S. Shukla**, Augusto Getirana, Amy McNally, Randal D Koster, Benjamin F Zaitchik, Hamada S Badr, Jeanne M Roningen, Sujay Kumar and Chris C Funk, 2017: Seasonal scale water deficit forecasting in Africa and the Middle East using NASA's Land Information System (LIS), American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
68. Chris C Funk, James Verdin, Wassila Mamadu Thiaw, Andrew Hoell, Driba Korecha, Amy McNally, **S. Shukla**, Kristi R Arsenault, Tamuka Magadzire, Nicholas Novella, Christa D Peters-Lidard, Miliaritiana Robjohn, Catherine Pomposi, Gideon Galu, James Rowland, Michael E Budde, Martin Francis Landsfeld, Laura Harrison, Frank Davenport, Gregory J Husak and Endalkachew Endalkachew, 2017: Enhancing

- Famine Early Warning Systems with Improved Forecasts, Satellite Observations and Hydrologic Simulations, American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
69. Frank Davenport IV, Laura Harrison, **S. Shukla**, Gregory J Husak and Chris C Funk, 2017: What is the Best Model Specification and Earth Observation Product for Predicting Regional Grain Yields in Food Insecure Countries? American Geophysical Union Fall Meeting, New Orleans, LA, December, 2017.
  70. **Shukla S.**, A. M. Sheffield, D. Cayan, J. Kalansky, and K. Redmond, 2017: Seasonal to Sub-Seasonal Skill in NMME Forecasts of Extreme Precipitation and Heat Waves in California and Nevada. 97th AMS Annual Meeting, Seattle, WA, January, 2017.
  71. Amy McNally, H. C. Jung, S. Pervez, **S. Shukla**, N. Pricope, L. S. Harrison, and C. D. Peters-Lidard, 2017: Monitoring Water Availability in Africa with Land Surface Models and Remote Sensing. 97th AMS Annual Meeting, Seattle, WA, January, 2017.
  72. **Shukla, S**; Arsenault, Kristi R.; Getirana, Augusto; Kumar, Sujay V.; Roningen, Jeanne; Zaitchik, Ben; McNally, Amy; Koster, Randal D.; Peters-Lidard, Christa: Seasonal scale water deficit forecasting in Africa and the Middle East using NASA's Land Information System (LIS). EGU General Assembly, Vienna, Austria, April, 2017.
  73. **Shukla, S**; Funk, Chris; Peterson, Pete; McNally, Amy; Dinku, Tufa; Barbosa, Humberto; Paredes-Trejo, Franklin; Pedreros, Diego; Husak, Greg: The Climate Hazards group InfraRed Precipitation with Stations (CHIRPS) dataset and its applications in drought risk management. EGU General Assembly, Vienna, Austria, April, 2017.
  74. **Shukla, S.**, Mike Hobbins, Daniel McEvoy, Gregory J Husak, Candida Dewes, Amy McNally, Justin L Huntington, Chris C Funk, James P Verdin, 2016: Monitoring and Forecasting Reference Evapotranspiration for Food Security Assessments, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2016.
  75. Md Shahriar Pervez, Amy McNally, **S. Shukla**, 2016: Evaluation of Famine Early Warning Systems Network (FEWS NET) Land Data Assimilation System (FLDAS) and application in East Africa, American Geophysical Union Fall Meeting, San Francisco, CA, December, 2016.
  76. Amy McNally, Hahn Chul Jung, Md Shahriar Pervez, **S. Shukla**, Narcisa GABRIELA Pricope, Laura Harrison, Christa D Peters-Lidard, 2016: Hydrologic Modeling for Monitoring Water Availability in Africa. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2016.
  77. Mike Hobbins, **S. Shukla**, Amy McNally, Daniel McEvoy, Justin L Huntington, Gregory J Husak, Chris C Funk, Gabriel B Senay, James P Verdin, Timen Jansma, Candida Dewes, 2016: What role does evaporative demand play in driving drought in Africa? American Geophysical Union Fall Meeting, San Francisco, CA, December, 2016.

78. Gregory J Husak, Frank Davenport, **S. Shukla**, Amy McNally, William Turner, 2016: Identifying Food Insecurity in Africa Using Remote Sensing Datasets. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2016.
79. **Shukla, S.**, and D. Cayan and F. M. Ralph, 2016: Sub-seasonal to Seasonal Scale Skill Assessment of NMME Models in Forecasting Precipitation in California. 96th AMS Annual Meeting, New Orleans, LA, January, 2016.
80. **Shukla, S.**, C. C. Funk, B. F. Zaitchik, B. Narapusetty, K. R. Arsenault, and C. Peters-Lidard, 2016: Seasonal Scale Water Deficit Forecasting in East Africa and the Middle East Region Using the NMME Models Forecasts. 96th AMS Annual Meeting, New Orleans, LA, January, 2016.
81. **Shukla, S.**, Chris C Funk, Benjamin F Zaitchik, Bala Narapusetty, Kristi R Arsenault, Christa D Peters-Lidard, 2015: Seasonal Scale Water Deficit Forecasting in East Africa and the Middle East Region Using the NMME Models Forecasts. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
82. **Shukla, S.**, Gregory J Husak, Chris C Funk, James P Verdin 2015: Incorporating Medium-Range Weather Forecasts in Seasonal Crop Scenarios over the Greater Horn of Africa to Support National/Regional/Local Decision Makers. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
83. Kristi R Arsenault, **S. Shukla**, Mike Hobbins, Christa D Peters-Lidard, James P Verdin, 2015: Evaluation and inter-comparison of modern day reanalysis datasets over Africa and the Middle East. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
84. Pete Peterson, Chris C Funk, Martin F Landsfeld, Diego H Pedreros, **S. Shukla**, Gregory J Husak, Laura Harrison, James P Verdin 2015: The Climate Hazards Group InfraRed Precipitation with Stations (CHIRPS) v2.0 Dataset: 35 year Quasi-Global Precipitation Estimates for Drought Monitoring. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
85. Saleh Satti, Benjamin F Zaitchik, Sauleh Siddiqui, Hamada S Badr, **S. Shukla**, Christa D Peters-Lidard, 2015: Value versus Accuracy: application of seasonal forecasts to a hydro-economic optimization model for the Sudanese Blue Nile. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.
86. Laura Harrison, Chris C Funk, James P Verdin, Diego H Pedreros, **S. Shukla**, Gregory J Husak, 2015: Contrasting rainfall declines in northern and southern Tanzania: Potential differential impacts of west Pacific warming and east Pacific cooling. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2015.

87. **Shukla, S.,** J. B. Roberts, C. C. Funk, F. R. Robertson, and A. Hoell, 2015: Seasonal Drought Prediction in East Africa: Can National Multi-model Ensemble Forecasts Help?, 95th AMS Annual Meeting, Phoenix, AZ, January, 2015.
88. **Shukla, S.,** and co-authors: Forecasting seasonal agricultural droughts in East Africa, 2015: NASA Interdisciplinary Research in Earth Science: Seasonal Prediction of Hydro-Climatic Extremes in the Greater Horn of Africa 2nd Workshop. Addis Ababa (Ethiopia), July 2015.
89. **Shukla, S.,** J.B. Roberts, C. Funk, F.R. Robertson, A. Hoell, 2014: Seasonal Drought Prediction in East Africa: Can National Multi-Model Ensemble Forecasts Help? American Geophysical Union Fall Meeting, San Francisco, CA, December, 2014.
90. **Shukla, S.,** C. Funk and F. Robertson. 2014: Experimental seasonal hydrological forecast system for East Africa. 94th AMS Annual Meeting, Atlanta, GA. January, 2014.
91. **Shukla, S.,** A. McNally, G. Husak and C. Funk: Seasonal drought forecast system for food-insecure regions of East Africa, EGU General Assembly, Vienna, Austria, April 27-May 2, 2014.
92. **Shukla, S.,** A. McNally, B. Narapusetty, G. Husak, C. Funk, C. P. Lidard and J. Verdin: Seasonal drought forecast system for food-insecure regions of East Africa, 7th Intl. Conf. on Global Water and Energy Cycle, The Hague, The Netherlands, July, 2014.
93. Pricope, N., **S. Shukla** and C. Lidard 2014. Exploring changes in surface runoff in relation to precipitation and population density changes in the Lake Victoria Basin of Eastern Africa. Tampa Florida, April, 2014.
94. **Shukla S.,** C Funk, J.P. Verdin and C.D. Peters-Lidard 2013: Food and water security scenarios for East Africa over next 20 years. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2013.
95. **Shukla S.,** C Funk, M. D. Dettinger, and F. R. Robertson' 2012: Evaluation of CMIP5 models in the context of food security assessments in Sahel and Eastern Africa. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2012.
96. **Shukla, S.,** J. Sheffield, E. Wood and D. P. Lettenmaier, 2011. Relative contributions of initial hydrologic state and climate forecast skill to seasonal hydrologic prediction globally. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2011.
97. **Shukla, S.** and D. P. Lettenmaier. 2011. Evaluating the role of weather forecast skill in seasonal drought prediction. 91st AMS Annual Meeting, Seattle, WA, January, 2011.
98. **Shukla, S.,** A. Steinemann and D. P. Lettenmaier. 2011. Drought characterization: Indicators and Decision-Making. 91st AMS Annual Meeting, Seattle, WA, January, 2011.
99. **Shukla, S.,** N. Voision, and D. P. Lettenmaier. 2011. Worth of medium range weather forecast skill in Seasonal hydrologic and drought prediction. 36<sup>th</sup> Annual CDPW, Fort Worth, TX, October, 2011.

100. **Shukla, S.**, and D. P Lettenmaier, 2011. Drought characterization using the University of Washington Surface Water Monitor. WCRP Open Science Conference. Denver, CO, October 2011.
101. **Shukla, S.**, K. C. Mo and D. P Lettenmaier, 2011. Uncertainties in the North American Land Data Assimilation Systems. WCRP Open Science Conference. Denver, CO, October, 2011.
102. **Shukla, S.** and D. P. Lettenmaier, 2010. Relative contributions of initial hydrologic state and climate forecast skill to seasonal drought prediction. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2010.
103. **Shukla, S.**, A. Steinemann and D. P. Lettenmaier. 2010. Evaluation of a NOAA climate forecasts-based drought prediction system for Washington State. Hydrology in the 21st Century: Links to the past and a vision for the future, Seattle, WA, March 2010.
104. **Shukla, S.**, A. C. Steinemann, and D. P. Lettenmaier, 2009. A drought prediction and monitoring system to reduce drought vulnerability and improve water management in Washington State. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2009.
105. Munoz-Arriola, F., **S. Shukla**, L. Luo, A. Munoz-Orozco, and D.P. Lettenmaier. 2009. Drought predictability in Mexico. 89th AMS Annual Meeting, Phoenix, AZ, January, 2009.
106. Munoz-Arriola, F., **S. Shukla**, A. Hamlet, and D.P. Lettenmaier. 2009. Idaho climate and water forecast for 2010. CIG Annual Fall Forecast Meeting, Boise, ID, October, 2009.
107. Munoz-Arriola, F., **S. Shukla**, and D.P. Lettenmaier. 2009. Global climate and hydrological predictability. Foro de Expectativas del Sector Agroalimentario y Pesquero, Mexico City, Mexico, March, 2009.
108. **Shukla, S.**, F. Munoz-Arriola, T. Bohn, A. C. Steinemann, and D.P. Lettenmaier. Assessment of ESP-based drought prediction skill. 33<sup>rd</sup> Annual CDPW, Lincoln, NE, October, 2008.
109. Wood, A., N. Voision, and **S. Shukla**. 2008. Medium-range ensemble hydrologic forecasting for western Washington State. 88th AMS Annual Meeting, New Orleans, LA, January, 2008.
110. **Shukla, S.**, D. Alexander, A. Steinemann, and A.W. Wood. 2007. Applications of medium range to seasonal/interannual climate forecasts for water resources management in the Yakima river basin of Washington State. NOAA- Climate Prediction Applications Science Workshop (CPASW), Seattle, WA, March, 2007.
111. **Shukla, S.** and A. W. Wood, 2007. Application of LDAS-era land surface models for drought characterization and prediction in Washington State. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2007.
112. Wood, A., **S. Shukla**, J. Vano and A. Steinemann, 2007. Connecting climate, hydrologic and drought predictions to water resources management in Washington State. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2007.

113. Wood, A., A. Steinemann, D. Alexander and **S. Shukla**, 2006. Applications of Medium Range To Seasonal/Interannual Climate Forecasts For Water Resources Management In the Yakima River Basin of Washington State. American Geophysical Union Fall Meeting, San Francisco, CA, December, 2006.

**I. BLOG POSTS (hosted by the Climate Hazards Center and other outlets)**

1. December 2018: <https://rcmrd.org/regional-training-workshop-on-applied-hydro-climate-services-in-zambia> (Hosted by RCMRD, Nairobi, Kenya)
2. February 2019 <http://blog.chc.ucsb.edu/?p=547>
3. February 2019: <https://www.servirglobal.net/Global/Articles/Article/2687/transforming-data-into-information-for-improved-food-security-decisions-in-east> (Hosted by NASA and USAID's SERVIR program)
4. February 2019: <https://appliedsciences.nasa.gov/content/transforming-data-information-improved-food-security-decisions-eastern-and-southern-africa> (Hosted by NASA's Applied Sciences Program)
5. May 2019 <https://www.agrilinks.org/post/climate-hazards-center-rcmrd-and-servir-facilitate-climate-informed-decision-making-eastern-and> (Hosted by USAID's Food for Peace, Agrilinks)
6. August, 2019: <https://blog.chc.ucsb.edu/?p=629>
7. September, 2019: <https://blog.chc.ucsb.edu/?p=652>
8. June 2020: <https://blog.chc.ucsb.edu/?p=757>
9. July 2020: <https://blog.chc.ucsb.edu/?p=774>
10. August 2020: <https://blog.chc.ucsb.edu/?p=790>
11. September 2020: <https://blog.chc.ucsb.edu/?p=868>
12. December 2020: <https://blog.chc.ucsb.edu/?p=904>
13. January, 2021: <https://blog.chc.ucsb.edu/?p=928>
14. March, 2021: <https://blog.chc.ucsb.edu/?p=946>
15. April 2021: <https://blog.chc.ucsb.edu/?p=966>
16. May, 2021: <https://blog.chc.ucsb.edu/?p=980>
17. August, 2021: <https://blog.chc.ucsb.edu/?p=991>
18. September, 2021: <https://blog.chc.ucsb.edu/?p=1008>
19. September, 2021: <https://blog.chc.ucsb.edu/?p=1044>
20. October, 2021: <https://blog.chc.ucsb.edu/?p=1044>
21. July, 2023: <https://blog.chc.ucsb.edu/?p=1287>
22. July, 2023: <https://blog.chc.ucsb.edu/?p=1272>
23. August, 2023: <https://blog.chc.ucsb.edu/?p=1300>
24. September 2023, <https://blog.chc.ucsb.edu/?p=1315>
25. December 2023: <https://www.climatelinks.org/blog/mapping-water-availability-across-africa>
26. January, 2024: <https://www.geog.ucsb.edu/news/all/2024/climate-hazards-center-researchers-tackle-mapping-and-forecasting-water-availability>
27. January, 2024: <https://www.nasaharvest.org/news/mapping-water-availability-across-africa>
28. January, 2024: <https://servirglobal.net/news/extending-forecasts-days-over-month-improves-farmer-resilience-west-africa>
29. March, 2024: <https://blog.chc.ucsb.edu/?p=1375>

30. August 2024: <https://blog.chc.ucsb.edu/?p=1444>
31. September 2024: <https://www.usaid.gov/sites/default/files/2024-09/2024-USAID-PREPARE-Climate-Information.pdf>

## **J. MEDIA COVERAGE**

Since 2015 my research has been highlighted or mentioned in the following news outlets and blogs etc.

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## K. PROFESSIONAL ACTIVITIES

- Served on a NASA ROSES proposal review panel (August 2024)
- Served on an interview committee for a research fellow at West Africa's regional climate center, AGRHYMET CCR-AOS, June 2024.
- As AGU vice co-chair co-organized WaterSciCon24, sponsored by AGU and CUAHSI, in St. Paul, Minn., 24-27 June 2024. Roughly 800 attendees.
- Organized and moderated an Early Career Researchers focused plenary “*Getting to the Heart of Science Communication*” at WaterSciCon24, in St. Paul, Minn., 24-27 June 2024.
- Drought working group committee member for United Nations University's program Resource Nexus Analytics, Informatics, and Data (AID). Co-authored Huning et al., 2024 (2024-Present)
- Served on a NASA ROSES proposal review panel (March 2024)
- As a Fulbright Specialist, visited and collaborated with the [Keystone Foundation](#) in Tamil Nadu, India, to enhance their capacity to apply Earth observations in research and implementation. Worked to understand the climate sensitivity of the region's indigenous population and assisted in developing research proposals to address identified challenges (April-May 2023)
- Served on review committee for SERVIR West Africa Seasonal forecasting service (April 2023)
- Reviewer of BARD, the United States - Israel Binational Agricultural Research & Development Fund, proposal, January 2023.
- As specialty chief editor of [Frontier's Climate Services](#) focus on enhancing journal article submissions on underrepresented climate services topics particularly by underrepresented communities and countries, oversee editorial decisions and provide review of special collection proposals.
- Lead editor of Frontier's Climate Services collection on [Insights in Climate Services: 2021](#)
- Co-editor of Frontier's Climate Services collection on [Gender and Social Consideration in Climate and Impacts Research and Services](#)

- Proposal reviewer for NOAA/OAR Office of Weather and Air Quality Subseasonal to Seasonal Program.
- Reviewer of California's Fourth Climate Change Assessment (released by The Governor's Office of Planning and Research and the California Energy Commission)
- Proposal reviewer for the US National Science Foundation (NSF) Hydrologic Sciences program, the Mississippi-Alabama Sea Grant Consortium and U.S.-Israel Binational Science Foundation.
- Reviewer of high impact journals (Nature, Plos One, Scientific data, Science Reports, Water Resources Research, Bulletin of the American Meteorological Society, Geophysical Research Letters, Journal of Geophysical Research, Environmental Research Letters, Journal of Hydrometeorology, Hydrology and Earth System Sciences, Climate Research, Climatic Change, Intl. Journal of Climatology, Journal of Hydrology etc)
- Co-organizer of International Workshop: Drought in the Anthropocene: Cascading Impacts. Arizona State University, October 28-30, 2019. IAHS Drought in the Anthropocene Workshop.
- Session Organizer for the American Geophysical Union (AGU) Fall Meeting -2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024.
- Volunteered as an Outstanding Student Paper Award (OSPA) judge for AGU fall meeting -2012, 2013, 2014, 2015, 2016 and 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024.
- Co-organized first "Hydrologic modeling and Forecast" workshop at Instituto Mexicano De Tecnología Del Agua (IMTA), México.  
12/01/2008-12/05/2008
- Facilitated the implementation of a mentorship program for the students at my department, as the secretary of the Chi Epsilon Honor Society.  
2009-2011
- Volunteered at Engineering Open House, CEE career fair and graduate student orientation.

#### **L. UNIVERSITY SERVICE**

- Advised six Postdoctoral Researchers (2014-Present)
- Assumed co-PI role to USGS's grant to the Climate Hazards Group (CHG) and provided scientific leadership on several key projects, such as development of CHG's precipitation and temperature dataset, and USGS's Early Warning Explorer.
- Contributed to the development of research plans and budget for the CHG.
- Provided regular interviews to [the UCSB Current](#) science writers to explain the significance and implications of my publications and projects.

## **M. PUBLIC SERVICE**

- Regularly contributed to blog posts summarizing research studies and activities to a broader non-scientific audience and policy makers. (see section I).
- Regularly contributed to the monthly seasonal forecast discussion conducted by the [Famine Early Warning Systems Network](#) (FEWS NET) and helped raise awareness on drought outlook in FEWS NET countries.
- Regularly contributed subseasonal forecasting products to Group on Earth Observations Global Agricultural Monitoring (GEOGLAM)'s [Crop Monitor for Early Warning \(CM4EW\)](#) to raise awareness of the drought conditions in food insecure regions across the globe.
- Frequently contributed to [NIDIS's drought update](#) to raise awareness on the current drought conditions and future outlook in California and Nevada region.
- Contributed to [NASA and USAID's SERVIR supported video](#) highlighting the importance of earth observations for cropped area mapping and crop yield forecasting.
- Co-organized and conducted three workshops in Eastern Africa to enhance drought early warning capacity of regional and national met and climate service agencies.
- Presented my assessment on seasonal outlook of rainfall and precipitation to the California Department of Water Resources (DWR) at the Winter Outlook Workshop held at UC San Diego in February 2017.
- Provided Drought and Climate Outlook to California and Nevada stakeholders via a webinar organized by NOAA's NIDIS in May 2017.
- Contributed to NOAA's NIDIS's [strategic plan for California and Nevada Drought Early Warning System](#) in June 2017.
- Contributed to two page informative [documents](#) to provided needed information to regional stakeholders on topics such as (i) Sub-seasonal to Seasonal Scale forecasting (ii) Sierra Nevada Snowpack and (iii) review of 2016-2017 water year.
- Presented assessment on California rainfall to the Department of Water Resources (DWR) at the Winter Outlook Workshop (held on November 12-13, 2015 at UC San Diego)
- Provided an interview to [Central Coast Public Radio](#) to explain the role that above normal temperature played in the California drought and [KCLU FM](#) to provide an overview of NASA and USAID's SERVIR supported project which aims to improve drought early warning in Africa.

## **N. PROFESSIONAL AFFILIATIONS**

- American Geophysical Union

- European Geophysical Union
- American Meteorological Society
- Chi Epsilon Honorary Society