LAURA HARRISON

**CURRICULUM VITAE**

**Geography Department Specialist**

**University of California Santa Barbara**

**harrison@geog.ucsb.edu**

**Google Scholar** [**Profile**](https://scholar.google.com/citations?user=4Z-ZhW0AAAAJ&hl=en&oi=ao)

**EDUCATION**

2014 **PhD**, Department of Geography, University of California Santa Barbara, USA

*Committee: Joel Michaelsen (Chair), Leila Carvalho, Phaedon Kyriakidis, Chris Funk, Christopher Still*

*Dissertation: Impacts of Climate Variability on Surface Energy and Water Budgets in sub-Saharan Africa*

2009 **Masters**, Department of Geography, University of California Santa Barbara, USA

*Committee: Joel Michaelsen (Chair), Leila Carvalho, Jennifer King, Chris Funk*

*Thesis: Historical and Future Temperature Impacts on Maize Phenology and Stress Risk in Mozambique*

2006 **B.S.** Physical Geography, Department of Geography, University of California Santa Barbara, USA

**EMPLOYMENT**

Jan-Jun 2023 Lecturer, [Geography Department](https://www.geog.ucsb.edu/), University of California Santa Barbara, USA (UCSB).

2015-presentSpecialist and Operations Analyst, UCSB [Climate Hazards Center](https://chc.ucsb.edu/)/Geography Department. Specialist II O/S

2018-present Science Writer, [GEOGLAM Crop Monitor](https://cropmonitor.org/) for Early Warning and Agricultural Market Information System (AMIS)

2014 Associate Instructor, UCSB Geography

2007-2014 Graduate Student Researcher, Climate Hazards Center/UCSB Geography

2007-2013 Teaching Assistant and Graduate Student Reader positions, UCSB Geography

2006-2007 Department Staff Undergraduate Assistant, UCSB Geography

2005-2006 Department graphics intern, UCSB Geography

2005 Remote sensing and GIS intern, Natural Resources Defense Council (NRDC), Washington D.C.

2004-2006 Manager, UCSB Associated Students Recycling Program

**TEACHING EXPERIENCE**

**Lecturer, Department of Geography, UCSB**

Geography 115B: Remote Sensing of the Environment 2 (2023)

Geography 115C: Remote Sensing of the Environment 3 (2023)

**Associate Instructor, Department of Geography, UCSB**

Geography 3A: Oceans and Atmosphere (2014)

**Summer Teaching Institute for Associates, UCSB**

Completed STIA: Program to promote effectiveness and scholarship in university teaching (2014)

**Teaching Assistant, Department of Geography, UCSB**

Geography 3A: Oceans and Atmosphere (2013)

Geography 110: Introduction to Meteorology (2009)

Geography 148: Geography of California (2007)

**Graduate Student Reader, Department of Geography, UCSB**

Geography 210C: Climate data analysis and spatial interpolation techniques (2010)

**REFEREED JOURNAL PUBLICATIONS**

2023 Funk, C., **Harrison, L.**, Segele, Z., Rosenstock, T., Steward, P., Anderson, C. L., ... & Hughes, D. (2023). *Tailored forecasts can predict extreme climate informing proactive interventions in East Africa.* *Earth's Future*, *11*(7), e2023EF003524. [Link](https://doi.org/10.1029/2023EF003524).

2022 Coughlan de Perez, E., **Harrison, L**., Berse, B., Easton-Calabria, E., Marunye, J., Marake, M., Murshed, S., and E.H. Zauisomue. *Adapting to climate change through anticipatory action: The potential use of weather-based early warnings.* Weather and Climate Extremes (2022): 100508. [Link](https://drive.google.com/file/d/1DZ9hSO8Fri1zLI2Hs_qSSRcSDxD6RO5I/view?usp=sharing).

2022 **Harrison, L.,** Landsfeld, M., Husak, G., Davenport, F., Shukla, S., Turner, W., Peterson, P., and C. Funk. *CHIRPS-compatible NCEP GEFS Precipitation Forecasts for Advancing Early Warning Capabilities. Scientific Data*. [Link](https://drive.google.com/file/d/1swwne4iau5MdE5iz_CZWTSsyysYn9YPZ/view?usp=sharing).

2022 Lee, D., Davenport, F., Shukla, S., Husak, G., Funk, C., **Harrison, L.,** McNally, A., Rowland, J., Budde, M, and J. Verdin. *Operational maize yield forecasts for Sub-Saharan Africa using Earth observation data and machine learning. Global Food Security.* [Link.](https://drive.google.com/file/d/1Svc5mb0CGyIEpXoUD3V5gurwY8H-4fJ8/view?usp=sharing)

2022 Krell, N., Davenport, F., **Harrison, L.,** Turner, W., Peterson, S., Shukla, S., Marter-Kenyon, J., Husak, G., Evans, T., and K. Caylor. *Using real-time mobile phone data to characterize the relationships between small-scale farmers’ planting dates and socio-environmental factors. Climate Risk Management*. [Link](https://drive.google.com/file/d/1LSdYKnWm9R9RmEa_BD55pUgVENf7FgbA/view?usp=sharing).

2021 Funk, C., Turner, W., McNally, A., Hoell, A., **Harrison, L.,** Galu, G., Slinski, K., Way-Henthorne, K., and G. Husak. *An Agro-Pastoral Phenological Water Balance Framework for Monitoring and Predicting Growing Season Water Deficits and Drought Stress. Frontiers in Climate.* [Link](https://drive.google.com/file/d/1GD1sHnKMUxmLA4iyFeRzAkTAyNY2b7aT/view?usp=sharing).

2021 Davenport, F., Shukla, S., Turner, W., Funk, C., Krell, N., **Harrison**, L., Husak, G., Lee, D., and S. Peterson. *Sending out an SOS: using start of rainy season indicators for market price forecasting to support famine early warning.* *Environmental Research Letters.* [Link](https://drive.google.com/file/d/1cIcON8R8xG0PlHZlD1nyl-MeE2CtOKFr/view?usp=sharing).

2021 Hoell, A., Gaughan, A., Magadzire, T., and **L.** **Harrison**. *The Modulation of Daily Southern Africa Precipitation by El Niño–Southern Oscillation across the Summertime Wet Season. Journal of Climate.* [Link](https://drive.google.com/file/d/1uAJnIJlZJKBihpKwSk1hOuUSqavDJ0Hq/view?usp=sharing).

2021 Shukla, S., Husak, G., Turner, W., Davenport, F., Funk, C., **Harrison**, L., and N. Krell. *A slow rainy season onset is a reliable harbinger of drought in most food insecure regions in Sub-Saharan Africa. Plos One.* [Link](https://drive.google.com/file/d/1Yz0jsoNj2fLEvK4AmSkht_Az8PsVD_XU/view?usp=sharing).

2020 Funk, C., Peterson, P., Landsfeld, M., Davenport, F., Becker, Schneider, U., Pedreros, D., McNally, A., Arsenault, K., **Harrison**, L., and S. Shukla. *Algorithm and data improvements for version 2.1 of the Climate Hazards Center's Infrared Precipitation with Stations Data Set.* In Satellite Precipitation Measurement.[Link](https://drive.google.com/file/d/1yW3-esXkPavAOe6kA7ZQD6uVS8DuvHX3/view?usp=sharing).

2020 Arsenault, K., Shukla, S., Hazra, A., …, Harrison, L., …, and J. Verdin. *The NASA Hydrological Forecast System for Food and Water Security Applications. Bulletin of the American Meteorological Society.* [Link](https://drive.google.com/file/d/1Dz_ytIu9375wFPaFjTBUU4epT2VLo7VF/view?usp=sharing).

2020 Blakeley, S., Sweeney, S., Husak, G., **Harrison,** L., Funk, C., Peterson, P., and D. Osgood. *Identifying Precipitation and Reference Evapotranspiration Trends in West Africa to Support Drought Insurance. Remote Sensing.* [Link](https://drive.google.com/file/d/13tQEkAVEgjQS0uuMLVtufHoeuvEMiUvZ/view?usp=sharing).

2019 **Harrison, L.,** Funk, C., and P. Peterson. *Identifying changing precipitation extremes in Sub Saharan Africa with gauge and satellite products. Environmental Research Letters.* [Link](https://drive.google.com/file/d/1Z_d9YWAS5CxKbo6kpa697qSRfm7e9baP/view?usp=sharing).

2019 **Harrison, L.,** Funk, C., McNally, A., Shukla, S., and G. Husak. *Pacific Sea Surface Temperature Linkages with Tanzania's Multi‐season Drying Trends. International Journal of Climatology.* [Link](https://drive.google.com/file/d/1KU5c11SRcrj8UIFPM6pBuEygWClIrKxu/view?usp=sharing).

2019 Funk, C., **Harrison, L.**, Alexander, L., Peterson, P.,Behrangi, A., and G. Husak. *Exploring trends in wet-season precipitation and drought indices in wet, humid and dry regions. Environmental Research Letters.* [Link](https://drive.google.com/file/d/1K7dBhDdR-3a2WGYoPFLmf67NoDseekBS/view?usp=sharing).

2019 McNally, A., Verdin, K., Harrison, L., Getirana, G., Jacob, J., Shukla, S., Arsenault, K.,Peters-Lidard, C., and J. Verdin. *Acute Water-Scarcity Monitoring for Africa. Water.* [Link](https://drive.google.com/file/d/1l_UTiq4lUXmv7dNVShrYmsVUrcal_Ts0/view?usp=sharing).

2019 Davenport, F., **Harrison**, L., Shukla, S., Husak, G., and A. McNally. *Using out-of-sample yield forecast experiments to evaluate which earth observation products best indicate end of season maize yields. Environmental Research Letters.* [Link](https://drive.google.com/file/d/1KtcrLBn1GdLWgSRDXW_kxp2HW-TFWbp_/view?usp=sharing).

2019 Funk, C., Shukla, S., Thiaw, W., Rowland, J., Hoell, A., McNally, A., …, **Harrison, L**., …, and James Verdin. *Recognizing the Famine Early Warning Systems Network: Over 30 Years of Drought Early Warning Science Advances and Partnerships Promoting Global Food Security.* *Bulletin of the American Meteorological Society.* [Link](https://drive.google.com/file/d/1weiZqgOwXph6T2cOlvGC5bwbzCI8f93v/view?usp=sharing).

2019 Funk, C., Peterson, P., Petrson, S., Shukla, S., Davenport, F., Michaelsen, J., Knapp, K., Landsfeld, M., Husak, G., **Harrison, L.**, Rowland, J., Budde, M., Meiburg, A., Dinku, T., Pedreros, D., and N. Mata. *A High-Resolution 1983–2016 Tmax Climate Data Record Based on Infrared Temperatures and Stations by the Climate Hazard Center. Journal of Climate.* [Link](https://drive.google.com/file/d/1ccknsETedM7OKVRKlARu4JZ9LWYj5EoD/view?usp=sharing).

2018 Funk, C., Davenport, F., **Harrison, L**., Magadzire, T., Galu, G., Artan, G. A., ... & D. Macharia. *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.* [Link](https://drive.google.com/file/d/1Y1mgqV-NSw52nPdk4S-GP5oi5ds1E-OJ/view?usp=sharing).

2018 Funk, C., Hoell, A., Nicholson, S., Korecha, D., Galu, G., Artan, G., Teshomeft, F., Hailermariamkinfe, K., Segele, Z., **Harrison, L.**, Tadege, A., Atheru, Z., Pomposi, C., and D. Pedreros. *Examining the potential contributions of extreme 'Western V' sea surface temperatures to the 2017 MAMJ East African drought.* *Bulletin of the American Meteorological Society.* [Link](https://drive.google.com/file/d/16hfNXthCIF8GzoLzLrgBYERt8Gd43wiY/view?usp=sharing).

2018 Funk, C., **Harrison, L.**, Shukla, S., Pomposi, C., Galu, G., Korecha, D., ... & Eilerts, G. *Examining the role of unusually warm Indo‐Pacific sea surface temperatures in recent African droughts. Quarterly Journal of the Royal Meteorological Society.* [Link](https://drive.google.com/file/d/1viZXDlnYCpRUEU0qqnZxtxnJ8nuEViij/view?usp=sharing).

2018 Pomposi, C., Funk, C., Shukla, S., **Harrison, L**., and T. Magadzire. *Distinguishing southern Africa precipitation response by strength of El Nino events and implications for decision-making.* *Environmental Research Letters.* [Link](https://drive.google.com/file/d/14slWcglhRByXrC5lS7vzc43XoemJ1qo_/view?usp=sharing).

2016 Funk, C., **Harrison, L.**, Shukla, S., Korecha, D., Magadzire, T., Husak, G., Galu, G. and A. Hoell. *Assessing the Contributions of Local and East Pacific Warming to the 2015 Droughts in Ethiopia and Southern Africa.* [Link](https://drive.google.com/file/d/1SbFEi-CjWDtDUSn6OqRex2ZD-YT1H7cS/view?usp=sharing).

2016 Hoell, A., Funk, C., Zinke, J., & L. **Harrison.** *Modulation of the Southern Africa precipitation response to the El Niño Southern Oscillation by the subtropical Indian Ocean Dipole. Climate Dynamics.* [Link](https://drive.google.com/file/d/1_CaqpfIr4PNQ8KG8bt-0T3Sm4qnUeSLQ/view?usp=sharing).

2016 Mahowald, N., Lo, F., Zheng, Y., **Harrison, L.**, Funk, C., Lombardozzi, D., & C. Goodale. *Projections of leaf area index in earth system models. Earth System Dynamics.* [Link](https://drive.google.com/file/d/1tTdoWAMzyV6SvUJyJ7kVHux3WdlM4qWn/view?usp=sharing).

2015 Funk, C., Nicholson, S. E., Landsfeld, M., Klotter, D., Peterson, P., & L. **Harrison.** *The centennial trends Greater Horn of Africa precipitation dataset. Scientific Data.* [Link](https://drive.google.com/file/d/1jDR14JVmvIGvDJhYalCpGQxxOQM6kyyH/view?usp=sharing).

2015 Funk, C., Peterson, P., Landsfeld, M., Pedreros, D., Verdin, J., Shukla, S., Husak, G., Rowland, J., **Harrison, L.**, Hoell, A. & J. Michaelsen. *The climate hazards infrared precipitation with stations--a new environmental record for monitoring extremes. Scientific Data.* [Link](https://drive.google.com/file/d/15P9Dc7V1bsvgVvYrDrqDzRcXMVW8Ez2K/view?usp=sharing).

2012 Grace, K., Husak, G., **Harrison, L.**, Pedreros, D., and J. Michaelsen. *Using high resolution satellite imagery to estimate cropped area in Guatemala and Haiti. Applied Geography.* [Link](https://drive.google.com/file/d/1ZjZViTHOAdZL4AGRyzPEwwsDXWD6VVBh/view?usp=sharing).

2011 Harrison, L., Michaelsen, J., Funk, C., and G. Husak. *Effects of temperature changes on maize production in Mozambique. Climate Research.* [*Link*](https://drive.google.com/file/d/1OzgckiTZyoOum9NIddiTMKnU7Utqg7Mh/view?usp=share_link)*.*

**OTHER PUBLICATIONS**

2023 Funk, C., Fink, A. H., **Harrison, L.**, Segele, Z., Endris, H. S., Galu, G., ... & Nicholson, S. E. (2023). Frequent but Predictable Droughts in East Africa Driven by A Walker Circulation Intensification. *Authorea. February 09, 2023.* [*Link*](https://essopenarchive.org/users/580186/articles/621943-frequent-but-predictable-droughts-in-east-africa-driven-by-a-walker-circulation-intensification)*.*

2022 GEOGLAM Crop Monitor for Early Warning Special Report: *Unprecedented 4th consecutive poor rainfall season for the Horn of Africa.* May 2022. Following previous warnings and monitoring, this report was one of the first to detail the severe drought that materialized during the March-April-May 2022 season. Personal role: Co-author. [Link](https://cropmonitor.org/documents/SPECIAL/reports/Special_Report_20220523_East_Africa.pdf).

2021 *Multi-agency Drought Alert: The Eastern Horn of Africa faces an exceptional prolonged and persistent agro-pastoral drought sequence.* December 2021. A multi-agency report highlighting the highly concerning situation in East Africa, based on three droughts that materialized and a fourth consecutive drought that is forecast. Agencies: FEWS NET, IGAD ICPAC, Food and Agriculture Organization, United Nations World Food Programme, European Commission. Personal role: Contributor. [Link](https://drive.google.com/file/d/1P2-ipEvBPQleEyY5OR33c6Cv4EUdZ0WR/view?usp=sharing).

2021 Famine Early Warning Systems Network (FEWS NET) Report: *Worsening drought threatens Horn of Africa as conflict-driven emergency persists in northern Ethiopia.* October 2021.Personal role: Map production. *Figure 1 Map of observed and forecast below-normal rainfall in Horn of Africa.* [Link](https://fews.net/east-africa/alert/october-27-2021).

2021 Hoell. A and **L. Harrison**. *Indian Ocean Dipole and Precipitation. FEWS NET Agroclimatology Sheet Series.* [Link](https://fews.net/indian-ocean-dipole-and-precipitation).

2020 Hoell. A and **L. Harrison**. *La Niña and Precipitation. FEWS NET Agroclimatology Sheet Series.* [Link](https://fews.net/la-ni%C3%B1a-and-precipitation).

2020 Hoell. A and **L. Harrison**. *El Niño and Precipitation. FEWS NET Agroclimatology Sheet Series.* [Link](https://fews.net/el-ni%C3%B1o-and-precipitation).

2020 FEWS NET East Africa Special Report: *2019 Short Rains in East Africa Among the Wettest on Historical Record.* Lead authors: **Harrison, L**., Walters, L., and G. Galu; Contributors: Funk, C., Slinski, K., NASA Goddard team, and W. Turner. [Link](https://drive.google.com/file/d/15Xo52NiniXDk9LMP2F5LrfIn4b-V9L4P/view?usp=sharing).

2020 Funk, A. and S. Shukla. *Tools of the Trade 3– mapping exposure and vulnerability: 6.1 Exposure and Vulnerability.* Chris Funk and Shraddhanand Shukla. Several pages in Chapter 6 features my research on water stress exposure in East Africa, associated with drought frequency and population growth (e.g. AGU 2018 presentation). Links to [book](https://www.elsevier.com/books/drought-early-warning-and-forecasting/funk/978-0-12-814011-6) and [Chapter 6](https://drive.google.com/file/d/1pNp7F2jBDW5wG8M4R5qQGcD9lulgWSL9/view?usp=sharing).

2016 Magadzire, T., **Harrison, L**., Galu, G., Nsadisa, F. *Seasonal Forecasting Using the GeoCOF Software.* GeoCOF v2.1 Manual. Distributed Software Application Manual. USGS International Program.

2014 **Harrison, L.** *Impacts of Climate Variability on Surface Energy and Water Budgets in sub-Saharan Africa.* [Link](https://drive.google.com/file/d/1HII08F58lbVM7t0JfFHQ0OmRrr87_zOT/view?usp=sharing). University of California, Santa Barbara, ProQuest Dissertations Publishing

2011 **Harrison, L.,** Funk, C and G. Eilerts. *Using Observed Warming to Identify Hazards to Mozambique Maize Production.* USGS Fact Sheet. U.S. Geological Survey. [Link](file:///C:\Users\chg\Documents\Personal\Work_classifications\Link)

2009 **Harrison, L.** *Historical and Future Temperature Impacts on Maize Phenology and Stress Risk in Mozambique.* Master’s Thesis. University of California, Santa Barbara.

2006 Cochran, T., McKinzie, M., Norris, R., **Harrison, L.,** and H. Kristensen. *China’s nuclear forces: The world’s first look at China’s underground facilities for nuclear warheads. Imaging Notes Magazine.*

**PROFESSIONAL ACTIVITIES**

2015-present Specialist and Operations Analyst for the UCSB Climate Hazards Center. Climate-impact early warning for food insecure countries. Analyze [earth observation](https://fews.net/fews-data/336) and model climate and hydrological data. Identify opportunities for improved prediction and improved agro climatic monitoring techniques. Provide leadership and support for CHC operations, including quality control for the [CHIRPS precipitation dataset](https://www.nature.com/articles/sdata201566). Lead and collaborate on research and communicate findings in reports, presentations, and peer-reviewed journals. These activities directly support the Famine Early Warning Systems Network ([FEWS NET](https://fews.net/fews-data/336)), a USAID-led provider of early warning and analysis on acute food insecurity.

2018-present Science Writer, [GEOGLAM Crop Monitor](https://cropmonitor.org/)s for AMIS and Early Warning. UCSB CHC coordinator and monthly writer about weather and climate forecasts and emerging areas of concern for agricultural impacts. GEOGLAM Crop Monitors are international, multi-source, monthly consensus assessments of crop growing conditions, status, and factors likely to impact crop production. CM4EW focuses on countries at risk of food production shortfalls and is often used to inform humanitarian organization decisions on food allocation and assistance. AMIS focuses on the major producing and trading countries for four primary crops for global production. Examples of UCSB CHC contributions are at this [link](https://drive.google.com/file/d/1J9FVdncge9emMkjS4WFYqgvbk_2isxsX/view?usp=sharing) (*Climate Influences*, *East Africa Seasonal Forecast Alert, Regional Outlooks*) and the [Reports Archive](https://cropmonitor.org/index.php/cmreports/reports-archive/).

2021-2022 Guest Editor for a Special Issue in Remote Sensing journal “Monitoring Climate Impacts on Agriculture Using Remote Sensing Techniques.”

2020 Expert reviewer for US Government Review of the IPCC's 6th Assessment Report [Working Group II](https://www.ipcc.ch/report/ar6/wg2/) Chapter 9 (Climate Impacts, Adaptation, and Vulnerabilities: Africa) in December 2020.

2018 Co-led workshop on GeoMod software and hydrometeorological data for climate impact assessments. Trained FEWS NET partners from National Meteorological and Hydrological Services on topics: GeoMod for examining precipitation and temperature under climate change, CHIRPS data, FLDAS simulations, and EWX data visualization platform. Collaborators: Greg Husak, Laura Harrison, Amy McNally, Gideon Galu, Chris Shitote, Diriba Korecha. Nairobi, Kenya. IGAD Climate Prediction and Applications Centre (ICPAC). 5-8 February 2018.

2014-present Peer reviews for *Environmental Research Letters, Remote Sensing, International Journal of Climatology, Journal of Geophysical Research Atmospheres, Journal of Flood Risk Management, Meteorological Applications, Geoinformatics and Geostatistics, Field Crop Research, Advances in Meteorology*, FEWS NET Informing Climate Change Adaptation Series, U.S. Geological Survey

2012-2016 Scientific contributions to Planning for Resilience in East Africa through Policy, Adaptation, Research and Economic Development (PREPARED). A $40 million international program designed to mainstream climate-resilient planning in East African Community and partner state agriculture, economic, and natural resource agendas.

**PROFESSIONAL ORGANIZATIONS**

American Meteorological Society

American Geophysical Union

European Geosciences Union

Women in Geographical Sciences

**RECENT PRESENTATIONS**

2023 **Harrison, L.**, Hoell, A., Anderson, W., Davies, B., and J. Verdin. USAID Virtual Brownbag Briefing on the Impacts of the 2023 El Nino. Online. July 27. [Recording](https://drive.google.com/file/d/1VHp3A-xWcMjpzF4vj1q5UCIr2yMGNIoQ/view?usp=drive_link) and [PowerPoint Presentation](https://docs.google.com/presentation/d/17o5RWlRtEOGdQrCcdNLjgSKsPkMTVrvM/edit?usp=drive_link).

2023 **Harrison, L.**, Funk, C., Davenport, F., Hoell, A., Shukla, S., and G. Husak. Exploring opportunities for earlier and better drought prediction in East Africa (and other regions). When and where do forecast sea surface temperatures outperform model precipitation predictions? FEWS NET Science Meeting. University of Colorado, Boulder. June 13-15.

2023 **Harrison, L.**, Funk, C., Davenport, F., Hoell, A., Shukla, S., and G. Husak.

2022 **Harrison, L.,** Husak, G., Landsfeld, M., and S. Shukla. CHIRPS-GEFS: A CHIRPS-compatible version of NCEP GEFS v12 precipitation forecasts. NASA Land Information System (LIS)-Forecast Spring 2022 Meeting. Online. 5 May.

2021 **Harrison, L.,** Funk, C., Hoell, A., Shukla, S., Husak, G., Galu, G., Korecha, D., and D. Pedreros. Evaluating dynamical and statistical model seasonal precipitation forecasts for East Africa. American Geophysical Union (AGU) Fall Meeting. New Orleans, LA. December 2021.

2021 **Harrison, L**., Funk, C., and P. Peterson. Identifying changing precipitation extremes in Sub-Saharan Africa with gauge and satellite products. European Geophysical Union (EGU) General Assembly 2021. Online. April 2021.

2019 **Harrison, L.** and collaborators. Seasonal Forecast Review for the FEWS NET Early Warning Team. Online. January 2019.

2018 **Harrison, L**., McNally, A., Shukla, S., Pricope, N., Funk, C., and G. Galu. Recent Water Availability Trends and Mid-21st Century Projections in East Africa. AGU Fall Meeting & FEWS NET Science Meeting. Washington D.C. December 2018.

2018 **Harrison, L**., Blakeley, S., Hbbins, M., Dewes, C., Funk, C., Shukla, S., Peterson, P, and G. Husak. Drivers of Atmospheric Evaporative Demand during African Droughts. American Meteorological Society Annual Meeting. Austin, TX. January 2018.

**SELECTED WORKSHOPS AND MEETINGS**

2023 **Famine Early Warning Systems Network Science Meeting**. Agroclimatology for Food Insecurity Scenario Development. Topics: Early Warning Team training, yield modeling, Extended Outlooks and experimental forecast, regional predictability studies, techniques of forecasting, monitoring data, hydrology, analytical tools.

2023 **Planet Labs Workshop and Open House**, UCSB Library. High resolution, daily satellite imagery of the Earth’s land surfaces and coastal areas from Planet; accessing the RapidEye Archive, SkySat Archive, and daily PlanetScope imagery via 3-year UCSB license. May 12.

2023 **Making Beautiful Images of NOAA Satellite Data using Python**, 103rd AMS Annual Meeting short course. January 8. Instructors: Drs. Rebekah Esmali and Amy Huff.

2022 **Intro to Unix Shell & Version Control with Git**, UCSB Library Software Carpentry.

2019 **NASA Harvest Partners All-Hands Meeting and Conference**. Increase awareness, form new connections, and strengthen existing relationships around using satellite Earth observations to promote food security. Washington, D.C. 24-26 Jun.

2018 **FEWS NET Foundational Training**. Training on core technical sectors and methodologies that FEWS NET uses in food security early warning analysis and projections. Washington, D.C. Chemonics International. 21-23 Aug.

2014 **Summer Teaching Institute for Associates,** UCSB

2013 **NCAR Community Earth System Modeling Tutorial**. Running the CESM, modifying components, and analyzing output data. National Center for Atmospheric Research, Boulder, CO. 12 - 16 Aug. Financial support award from NCAR.

2011 **Conservation Agriculture with Trees in Niger**. Agroforestry as a basis for food security and environmental resilience in Niger and the Sahel. Organized by World Agroforestry Centre and African Forest Forum. Field visit to Zinder and Maradi and Workshop at Palais des Congrès, Niamey, Niger. 12 – 20 Jan.

**ONLINE POSTS (selected)**

*2022 Forecast Update – East Africa Likely To Experience Six Droughts In a Row.* Chris Funk, Gideon Galu, Diriba Korecha, **Laura Harrison**, Weston Anderson, Andrew Hoell, Kim Slinski, and Greg Husak. UCSB Climate Hazards Center blog. Sep 2022. [Link](https://blog.chc.ucsb.edu/?p=1240).

*2022 August Climate Model Forecasts Indicate Very High Probabilities of a Fifth-In-A-Row Eastern East African Drought.* Chris Funk, Gideon Galu, Diriba Korecha, **Laura Harrison**, Abheera Hazra, Weston Anderson, Andrew Hoell, Kim Slinski, Juliet Way-Henthorne, Greg Husak. UCSB Climate Hazards Center blog. Aug 2022. [Link](https://blog.chc.ucsb.edu/?p=1219).

*2022 Connecting monitoring resources with interoperable CHIRPS-GEFS forecasts.***Laura Harrison**, Martin Landsfeld, Greg Husak, Pete Peterson, Diego Pedreros, Diriba Korecha, Chris Funk, Shrad Shukla, Frank Davenport, Will Turner, and Juliet Way-Henthorne. UCSB Climate Hazards Center blog. Jul 2022. [Link](https://blog.chc.ucsb.edu/?p=1210).

*2022 Ethiopia, Kenya, and Somalia Wracked By an Exceptional Fourth-Season Drought, With Elevated Chances of a Fifth Drought in October-November-December.* Chris Funk, Greg Husak, Shrad Shukla, Andrew Hoell, Diego Pedreros,  Diriba Korecha, **Laura Harrison**, Will Turner, Juliet Way Henthorne, Gideon Galu, and Chris Shitote. UCSB Climate Hazards Center blog. May 2022. [Link](https://blog.chc.ucsb.edu/?p=1192).

*2022 Why tailored forecasts work so well for the eastern Horn of Africa March-to-May rainy season.* Chris Funk and **Laura Harrison**. UCSB Climate Hazards Center blog. Mar 2022. [Link](https://blog.chc.ucsb.edu/?p=1100).

*2022 Northern and Central Southern Africa faces exceptional early-mid-season dryness, and will likely experience poor agricultural outcomes.* Tamuka Magadzire, **Laura Harrison**, William Turner, Chris Funk, Greg Husak, and Juliet Way-Henthorne. UCSB Climate Hazards Center blog. Jan 2022. [Link](https://drive.google.com/file/d/11APY7sk_iwtNZ3QOIz0D-Aa1Rhoch-1m/view?usp=sharing).

*2021 A March-to-May 2022 forecast of strong “Western V Gradient” conditions suggests that another poor eastern East Africa March-to-May rainy season is likely.* Chris Funk, Gideon Galu, Diriba Korecha, **Laura Harrison**, Shraddhanand Shukla, Greg Husak, Andrew Hoell, Diego Pedreros,  Weston Anderson, and Juliet Way-Henthorne. UCSB Climate Hazards Center blog. Sep. 2021. [Link](https://drive.google.com/file/d/1-wNoWSvVE1oXit4xPb3Mg3k1_QIvOLXH/view?usp=sharing).

*2021 Elevated Chances of Drought in March to May 2022 Rainy Season in East Africa.* Shrad Shukla, Andrew Hoell, Weston Anderson, **Laura Harrison**, Abheera Hazra, Kimberly Slinski, Chris Funk, Greg Husak, Amy McNally. UCSB Climate Hazards Center blog. Sep. 2021. [Link](https://drive.google.com/file/d/15NQSUPCavWLjiS9Kh_LKPDTj0jpfyc5X/view?usp=sharing).

*2021 A pessimistic July 2021 outlook for eastern East Africa indicates below-normal rainfall performance (again).* Chris Funk, Gideon Galu, Guleid Artan, Zewdu Segele, Zachary Atheru, Andrew Hoell, **Laura Harrison**, Diriba Korecha, Kim Slinski, Abheera Hazra, Weston Anderson, Will Turner, Shraddhanand Shukla, Tamuka Magadzire, Greg Husak, Donghoon Lee, and Juliet Way-Henthorne. UCSB Climate Hazards Center blog. Aug. 2021. [Link](https://drive.google.com/file/d/1tKSn0zA9h21s03ZQhMxS5qBioEGXcwpD/view?usp=sharing).

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*2021 Why La Niña and “Western V” Climate Conditions Continue to Appear Conducive to Poor Eastern East Africa March-to-May 2021 Rains and Crop Production.* Chris Funk, Gideon Galu, Andrew Hoell, **Laura Harrison**, Diriba Korecha, Donghoon Lee, Shrad Shukla, Chris Shitote, Frank Davenport, Will Turner, Diego Pedreros, Juliet Way-Henthorne, and Greg Husak. UCSB Climate Hazards Center blog. Mar. 2021. [Link](https://drive.google.com/file/d/1icGMN74OpPM7uRIKArgldSuCDKA1BFia/view?usp=sharing).

*2021 Mid-2020 Eastern East Africa Short rains forecasts were quite accurate.* Chris Funk, Zewdu Segele, Guleid Artan, Gideon Galu, Diriba Korecha, Zachary Atheru, Chris Shitote, Andrew Hoell, and **Laura Harrison**. UCSB Climate Hazards Center blog. Feb. 2021. [Link](https://drive.google.com/file/d/1yaCp3oWjrryCOrbC5BeTnWQjhGx3KETe/view?usp=sharing).

*2021 December and January Indo-Pacific Ocean Conditions Continue to Appear Conducive to Poor Eastern East African Long Rains.* Chris Funk, **Laura Harrison**, Gideon Galu, Andrew Hoell, Diriba Korecha, Shrad Shukla, Chris Shitote, Greg Husak, Frank Davenport, Will Turner, Juliet Way-Henthorne, Diego Pedreros, and Pete Peterson. UCSB Climate Hazards Center blog. Jan 2021. [Link](https://drive.google.com/file/d/1nPqEhKRsQgDaVEy5CwXUqHybNAzbWqg6/view?usp=sharing).

*2020 Seasonal Forecast Alert: Below-average observed and predicted Eastern East African October-to-December rains are likely to be followed by a below-normal 2021 March-to-May rainy season.*Chris Funk, Gideon Galu, **Laura Harrison**, & Greg Husak. UCSB Climate Hazards Center blog. Nov 2020. [Link](https://drive.google.com/file/d/1MxjeZy95QTQzh_DCoqfbPlV8Jebb5CmT/view?usp=sharing).

*2020 Rainfall Performance For 2019/20 Season Over Zimbabwe Falling Short For The Fourth Time In Five Years.* Greg Husak, **Laura Harrison**, Tamuka Magadzire, Chris Funk, Juliet Way-Henthorne. Feb 2020. UCSB Climate Hazards Center blog. Feb 2020. [Link](https://drive.google.com/file/d/1L3-5Jkcp4GNo0W-2JBdI72GIPQUVqguy/view?usp=sharing).

*2019 Climate Hazards Center Early Estimates and the East Africa March-to-May 2019 Drought*. **Laura Harrison**, Juliet Way-Henthorne, Chris Funk. Agrilinks. Aug. 2019. [Link](https://drive.google.com/file/d/17inXOmGKVARG55Q-16adOnP6MxMDJH1q/view?usp=sharing).

*2019 Kenya’s March-to-May Season: An Examination of April 2019 Predictions, May 2019 Outcomes, and the Implications of a Poor Start to the Season.* **Laura Harrison**, Juliet Way-Henthorne. Agrilinks. May 2019. [Link](https://drive.google.com/file/d/1wuIDNM3WmzEWuwqP045SVRitZBv4WIBG/view?usp=sharing).

*2019 Mid-season assessment of maize growing conditions in Southern Africa (2018-2019) reveals reason for concern.* Will Turner, **Laura Harrison**, Greg Husak. UCSB Climate Hazards Center blog. Jan 2019. [Link](https://drive.google.com/file/d/1dtuRtFpALGvd7wDCoT8jjJk5LvEl9xO2/view?usp=sharing).

**MEDIA INTERVIEWS**

2023 UCSB Geography 12 Spatial Reasoning. Guest appearance. Recorded conversation with Dr. Trisalyn Nelson about how CHC uses imagery for *Identifying climate hazards to food insecurity to support humanitarian aid planning.* July 19.

2023 Interview for University of California San Diego’s Synthesis Program. Interviews with professors and researchers across the UC system, regarding aspects of research into climate change and work being done at UCSB CHC. May 11.

2020 Science Magazine article: “The Hunger Forecast: How a team of scientists studying drought helped build the world’s leading famine prediction model,” by Paul Voosen. Apr 2020. [Link](https://drive.google.com/file/d/1CqO5y-_NZ-3icC2XMSacFi5vb3QNWyf4/view?usp=sharing).

2020 Feed the Future Innovation Lab for Markets, Risk, & Resilience (UC Davis) March 2020 article by Alex Russell about the disastrous extreme wet 2019 East Africa Short Rains season. [Link](https://drive.google.com/file/d/1bz-h4exrYg4Y4j9djGE93yi3oBBkJj2b/view?usp=sharing).

**AWARDS**

2013 **Fellowship on Hazards**. Awarded by the California Institute for Research on Hazards and the UCSB Earth Research Institute to support research that increases our understanding and forecasting of natural hazards.