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PROFESSIONAL SUMMARY

Recent Research Foci

- ~ reformulating and improving modeling and metering of drought;
- ~ developing datastreams and operationalizing tools for drought and famine early warning and monitoring communities;
- ~ examining effects of climate change and variability on the hydrosphere, specifically moisture dynamics at the land surface-atmosphere interface resulting in and from drought;
- ~ developing and operationalizing services of continental- and global-scale, real-time forecasts and reanalyses of hydrologic variables;
- ~ partitioning dynamics of secular hydrologic trends and variability, particularly in evaporative drivers;
- ~ overturning the temperature-proxy paradigm in evapotranspiration in science and operations;
- ~ developing and operationalizing the Evaporative Demand Drought Index (EDDI) – a tool for early warning and monitoring of drought;
- ~ quantifying and describing the spatial distribution of large-scale, natural water supply;
- ~ developing flash drought metrics and establishing principles and definitions to guide the science of flash-drought detection and prediction;
- ~ exploiting the relationships between evaporative fluxes, drought, and wildfire risk to develop decision-support tools for the wildfire community.

Leadership, Service, Outreach, Teaching

- Leadership:
 - ~ CIRES@NOAA Lead: overall supervisor for all CIRES employees (~95) at NOAA-PSL, 2022-2026;
 - ~ vice-chair: American Meteorological Society (AMS) Committee on Hydrology, 2020-2022;
 - ~ conference chair: 34th Conference on Hydrology at 2020 AMS Annual Meeting, the most successful year in conference history;
 - ~ conference co-chair: 32nd and 33rd Conferences on Hydrology at 2018-2019 AMS Annual Meetings;
 - ~ conference co-chair: Famine Early Warning Systems Network (FEWS NET) 2023 Science Meeting;
 - ~ conference session chair: climate-information session and food-security presidential session at 2022 AMS; food-security session at 2023 and 2024 AMS; flash-drought sessions at 2021 and 2023 European Geosciences Union (EGU) General Assembly, 2022-2025 AMS, 2022 Frontiers in Hydrology Meeting (FIHM); hydrology and human health session at 2020 AMS; flood session at 2019 AMS; drought sessions at 2016-2018, 2021-2022, and 2026 AMS; evapotranspiration- and drought-related sessions at 2014-2016 American Geophysical Union (AGU) Fall Meetings; evapotranspiration sessions at 2012-2019, 2021, and 2027 AMS.
 - ~ member: NOAA-PSL Science Board, 2021-2022;
 - ~ steering committee member and facilitator: National Integrated Drought Information System (NIDIS) Flash Drought Virtual Workshop at NOAA-PSL, 2020;
 - ~ member: NIDIS Technical Working Group, 2020-present;
 - ~ search committee member: CIRES Associate Director for Science;
 - ~ hiring manager: 12 CIRES positions in NOAA-PSL;
 - ~ EDDI team-lead: writing successful proposal for grant, science Principal Investigator, recruiting contributing members to the team of 13 people;
 - ~ member: *MDPI Hydrology* journal editorial board, 2020-2021.

- Service and outreach:
 - ~ committee member: AMS Committee on Environmental Security, 2026-present;
 - ~ committee member: AMS Committee on Hydrology, 2017-2022;
 - ~ editorial board member: MDPI *Hydrology*, 2020-2021;
 - ~ guest editor, special collection “Land Use and Water-Carbon: How agricultural land use and management influence water-carbon interactions in dryland ecosystems” in *Agriculture, Ecosystems & Environment*;
 - ~ faculty affiliate: Colorado State University, Fort Collins, CO, 2015-2020;
 - ~ convener: year-long, weekly seminar series for in-house, national, and international speakers at Research School of Biological Sciences, Australian National University;
 - ~ proposal-review panel member: NASA Modeling, Applications, and Predictions program, NOAA Climate Program Office NIDIS-Coping with Drought program;
 - ~ promotion and tenure committee member: School of Natural Resources, Univ. of Nebraska-Lincoln;
 - ~ faculty awards committee member: Desert Research Institute, University of Nevada-Reno;
 - ~ outreach with stakeholders and scientists from other disciplines;
 - ~ interviews with popular news, scientific press and podcasts;
 - ~ communicating with diverse audiences on various topics through peer-reviewed scientific literature, conference papers, and direct instruction;
 - ~ peer reviewer: *Advances in Science and Research*; *Agricultural and Forest Meteorology*; *Bulletin of the American Meteorological Society*; *Climate*; *Climatic Change*; *Earth Interactions*; *Environmental Research Letters*; *Geophysical Research Letters*; *Hydrologic and Earth System Sciences (HESS)*; *Hydrological Processes*; *Hydrological Sciences Journal*; *Hydrology*; *Hydrology Research*; *International Journal of Climatology*; *IPCC Fourth Assessment Report*; *IPCC Sixth Assessment Report*; *Irrigation and Drainage*; *Journal of Applied Meteorology and Climatology*; *Journal of Climate*; *Journal of Geophysical Research-Atmospheres*; *Journal of Great Lakes Research*; *Journal of Hydrologic Engineering*; *Journal of Hydrology*; *Journal of Hydrometeorology*; *Journal of Irrigation and Drainage Engineering*; *Journal of Water Management Modeling*; *Nature Communications*; *Nature Geosciences*; *PLOS ONE*; *Science*; *Science of the Total Environment*; *Theoretical and Applied Climatology*; *Water*; *Water Resources Management*; *Water Resources Research*; *Weather and Climate Extremes*.
- Teaching and mentoring:
 - ~ graduate teaching assistant: Colorado State University, *Engineering Mechanics-Statics*, a 200-level three-credit course in core engineering curriculum;
 - ~ instructor: COMET MetEd, *Evaporative Demand*, in Advanced Hydrologic Sciences Virtual Course;
 - ~ doctoral student’s committee member: Daniel McEvoy, University of Nevada-Reno;
 - ~ graduate students’ committee member: Shuang Xia, University of Nevada-Reno and Connor Seacrest, Colorado State University;
 - ~ mentor for: CIRES post-doctoral fellow (Matilda Newton, University of Colorado), Summer scholar (Timen Jansma, Wageningen University and Research), SOARS scholar (Delián Colón-Burgos, Penn State University), NERTO scholar (Siena Dante, City University of New York).

EDUCATION

Doctor of Philosophy

Hydrologic Science and Engineering

2004

Colorado State University

Dissertation: *Regional evapotranspiration and pan evaporation: Complementary interactions and long-term trends across the conterminous United States.*

Master of Science

Hydrologic Science and Engineering

2000

Colorado State University

Thesis: *Evaluating and enhancing two implementations of the complementary relationship in regional evapotranspiration.*

Bachelor of Engineering (Honours)

Civil Engineering

1989

University of Leeds, UK

PRIZES, AWARDS, AND RECOGNITION

- ~ CIRES Outstanding Performance Award in Science for: “Leadership and innovation in drought research, including development and operationalization of the Evaporative Demand Drought Index, its application to famine early warning, and strides in understanding flash drought,” 2022.
- ~ Elected Vice-chair of AMS Committee on Hydrology, 2020.
- ~ American Society of Agricultural and Biological Engineers (ASABE) Superior Paper Award for paper: “The variability of ASCE Standardized Reference Evapotranspiration: a rigorous, CONUS-wide decomposition and attribution,” 2017.
- ~ Elected Member of AMS Committee on Hydrology, 2017.
- ~ Gary Comer Abrupt Climate Change Fellowship, 2005-2008.
- ~ National Science Foundation (NSF) Computer Science, Engineering, and Mathematics Scholarship, 2002.
- ~ H. W. Shen Water Resources Graduate Award, Colorado State University, 2001.
- ~ American Geophysical Union (AGU) Hydrology Days Best M.S. Student Paper Award for presentation: “The complementary relationship in regional evapotranspiration: The CRAE Model and the Advection-aridity approach,” 1999.

AFFILIATIONS AND PROFESSIONAL MEMBERSHIPS

- ~ Committee Member: AMS Committee on Environmental Security, 2025-present.
- ~ Editorial board member: MDPI *Hydrology*, 2020-2022.
- ~ Committee Member and Vice-chair: AMS Committee on Hydrology, 2017-2022.
- ~ Faculty Affiliate: Colorado State University, Fort Collins, CO, 2015-2018.
- ~ Member: American Meteorological Society.
- ~ Member: American Geophysical Union.
- ~ Member: European Geosciences Union.
- ~ Member: International Association of Hydrological Sciences.

GRANTS

- ~ PI on Famine Early Warning Systems Network (FEWS NET) grant (\$318K): “Providing hydroclimatic data and improved process understanding in support of the Famine Early Warning Systems Network's science community,” NOAA-OAR-CIAO-2026-32241, 2026-2027.
- ~ PI on Bipartisan Infrastructure Law (BIL) grant (\$1,210K): “Next-generation hydrologic prediction,” NA23OAR4050186I, 2023-2028.
- ~ PI on BIL grant (\$362K): “Wildland fire potential,” NA23OAR4050186I, 2023-2028.
- ~ Science PI on NOAA Office of Oceanic and Atmospheric Research (NOAA-OAR) Joint Technology Transfer Initiative (JTTI) grant (\$317K): “Operationalizing the computation and dissemination of the Evaporative Demand Drought Index (EDDI) and value-added products for CONUS-wide drought monitoring and early warning at the NOAA-Climate Prediction Center,” 2022-2024.
- ~ NIDIS grant (\$73K): “Further applying the National Water Model for drought monitoring: Model performance assessment and drought-tool development,” 2022.
- ~ Science PI on NOAA Climate Program Office (NOAA-CPO) NIDIS grant (\$448K): “Improving drought monitoring and early warning in the Midwest Drought Early Warning System (DEWS) using the Evaporative Demand Drought Index (EDDI) and a new hydrologically holistic drought measure,” 2020-2022.
- ~ NOAA-CPO Sector Application Research Program (SARP) grant (\$199K): “Identifying and quantifying triggers, time scales, and tools to support management of different drought types in the Northeastern United States,” 2019-2020.
- ~ DOI North Central-Climate Adaptation Science Center (NC-CASC) grant (\$100K) “Evaporation, drought, and the water cycle across timescales: Climate foundational sciences for the NC-CASC,” 2017-2019.

- ~ NOAA-CPO SARP grant (\$38K): “Developing a wildfire component for the NIDIS California Drought Early Warning System,” 2016-2018.
- ~ PI on NOAA-OAR JTII grant (\$891K): “Operationalizing an Evaporative Demand Drought Index (EDDI) service for drought monitoring and early warning,” 2016-2019.
- ~ NIDIS grant (\$36K): “Development of a Nevada Drought Early Warning System and NIDIS application tools,” 2016-2018.
- ~ CIRES PI on United States Agency for International Development (USAID) Participating Agency Program Agreement (\$550K): “Development of gridded atmospheric forcing datasets,” 2016-2021.

RELEVANT WORK EXPERIENCE

Senior Research Scientist with CIRES

Feb 2015 – Present

Visiting Scientist with University Corporation for Atmospheric Research (UCAR)

Oct 2012 – Jan 2015

at **NOAA-PSL**

Boulder, CO

Developing national evaporative demand (E_0) services for NOAA and NIDIS stakeholders and the National Water Center and a global E_0 service for FEWS NET.

- ~ Developing the first E_0 services (physically based, daily, accurate, long-term reference evapotranspiration) for (i) NOAA (CONUS-wide) and (ii) FEWS NET (global), including automation of production, verification against observations, bias-correction, and data assimilation;
- ~ Developing a new drought E_0 -based index for monitoring and early warning—the Evaporative Demand Drought index (EDDI)—and transitioning it to operations and general acceptance by drought-monitoring and scientific communities;
- ~ Acting as scientific advisor and coordinator to a cross-National Weather Service (NWS) team developing the nation’s first real-time forecasts of reference evapotranspiration (FRET), developing E_0 algorithms and climatologies to add value to forecasts, presenting new FRET product at national scientific and professional meetings;
- ~ Outreach to stakeholders, including within NOAA, other US government agencies, academics (including ecologists and economists), intergovernmental groups such as the Western Governors Association, state climatologists (UT, CO, and CA), students in training courses (COMET);
- ~ Collaborating with various federal and state agencies (e.g., with USGS towards an ET input to the National Water Census, and the production of official state E_0 climatologies), with university researchers (e.g., with UCLA on developing remotely sensed E_0), and with other research institutions (e.g., with the Desert Research Institute on large-scale evapotranspiration [ET] estimation);
- ~ Educating NOAA colleagues on principles pertaining to ET and E_0 .
- ~ Hiring (three) personnel, from early to mid career: including writing position description, reviewing application material, conducting interviews, liaising with human resources, and on-boarding successful hires;
- ~ Presenting background scientific and ongoing project material to colleagues at the NWS OHD, NOAA’s Climate Prediction Center, the CBRFC, Service Hydrologists at other RFCs, and other WFOs, at various inter-agency, regional and national meetings;
- ~ Responsible for developing own funding streams through strategic grant-seeking, from NOAA Office of Hydrologic Development (OHD), NIDIS, and FEWS NET.

Visiting Scientist with UCAR

Feb 2012 – Oct 2012

and **Visiting Scientist with Wyle Information Systems Group**

Oct 2009 – Feb 2012

at **NWS-Colorado Basin River Forecast Center (CBRFC)**

Salt Lake City, UT

Improved the treatment of evapotranspiration (ET) in NWS operations, by (i) improving water-supply forecast skill of CBRFC’s river forecast model by incorporating a physically based, dynamic driver of evaporative demand (E_0), and (ii) instituting a forecast of reference crop evapotranspiration (FRET) throughout the NWS Western Region (WR).

- ~ Increased CBRFC’s streamflow forecast skill by optimizing the evaporation drivers in the Sacramento Soil Moisture Accounting streamflow simulation model;

- ~ Acted as scientific advisor and coordinator to an NWS WR team developing the nation's first real-time forecasts of reference evapotranspiration (FRET), developing E_0 algorithms and climatologies to add value to forecasts, presenting new FRET product at national scientific and professional meetings;
- ~ Developed and hosting real-time and forecast datastreams of E_0 for use by drought-monitoring community, and developing a stand-alone E_0 -based drought metric for use in the input suite for the United States Drought Monitor;
- ~ Liaising with WR headquarters, other RFCs and Weather Forecast Offices (WFOs) to align various disparate efforts on research into ET , and towards distribution and verification of FRET;
- ~ Collaborating with various federal and state agencies (e.g., with USGS towards an ET input to the National Water Census, and the production of official state ET_0 climatologies), with university researchers (e.g., with UCLA on developing remotely sensed E_0), and with other research institutions (e.g., with the Desert Research Institute on large-scale ET estimation);
- ~ Educating colleagues in NWS and NOAA on principles pertaining to ET and E_0 .
- ~ Presenting background scientific and ongoing project material to colleagues at the NWS OHD, NOAA's Climate Prediction Center, the CBRFC, Service Hydrologists at other RFCs, and other WFOs, at various inter-agency, regional and national meetings;
- ~ Leading and collaborating on funding proposals from internal and external (NOAA, NASA, USGS) sources.

Post-Doctoral Fellow

Aug 2005 – Jan 2009

with **Australian National University, Research School of Biological Sciences (RSBS)** *Canberra, Australia*

Examined evaporative dynamics at spatial scales from point to continental, and temporal scales from instantaneous to multi-decadal. Explored E_0 as a driver of drought.

- ~ Designed and conducted a field experiment on fine-scale physics of evaporation pans. Collected, quality-controlled, stored, and analyzed micro-meteorological and thermodynamic data.
- ~ Analyzed trends in evaporative demand and drought exposure and under past and predicted climate change. Examined the effects of non-traditional different evaporative drivers in drought modeling.
- ~ Collated NetCDF output from multiple GCM scenarios and generated intermediate NetCDF output from offline modeling toward the first analysis of evaporative demand under modeled climate change.
- ~ Wrote or co-authored six peer-reviewed journal articles, reported research results in nine presentations at national and international conferences.
- ~ Organized and conducted week-long familiarization programs to attract top undergraduates from Australia and New Zealand to graduate research at RSBS.

Water Resources Engineer and Data Analyst

Jun 2003 – Jul 2005

with **Riverside Technology, inc.** and **Paluster Environmental Services**

Fort Collins, CO

While in graduate school, consulted to National Weather Service (NWS) for flood-forecasting and the Rio Grande Water Conservancy District on an assessment of ET from groundwater in the San Luis Valley, CO.

- ~ Evaluated, analyzed, and managed raw micro-meteorological data. Gathered new literature online.
- ~ Calibrated NWS's river forecasting suite of models (SNOW-17 and Sacramento Soil Moisture Accounting models) for basins in the New England and Southeast River Forecasting Centers.
- ~ Prepared and reviewed academic papers and project reports on procedures and results.

Post-Doctoral Research Fellow and Graduate Research Assistant
with **Colorado State University (CSU), Civil Engineering Department**

May 1996 – May 2005

Fort Collins, CO

Conducted research into a new paradigm in estimating actual ET while first a Graduate Research Assistant, then a Post-Doctoral Research Fellow. Funded by the US Forest Service Rocky Mountain Research Station.

- ~ Evaluated two models of the complementary relationship in regional ET across CONUS and refined one model for use on a regional and seasonal basis.

- ~ Implemented ARC/INFO and ArcView GIS packages to create a suite of user-friendly FORTRAN-nested Arc Macro Language (AML) programs to run *ET* model over CONUS.
- ~ Using station-based and remotely sensed datasets, created the first long-term, monthly, continental-scale, high resolution, accurate time-series of *ET* and intermediate variables.
- ~ Conducted secular trend analyses on 42-year monthly time-series of *ET* and its components.
- ~ Reported research results in peer-reviewed journal articles and at national and regional conferences.

PUBLICATIONS

Peer-reviewed: Papers, chapters, extended abstracts

Khoshkho Y, Pourhamidian SS, and **Hobbins MT** (2026), Trends and anomaly decomposition of drought drivers in Urmia Lake Basin (1986–2020). Accepted at *Earth Systems and Environment*, ESEV-D-26-00832R2.

Worsnop RP, Hoell A, Hatchett BJ, Chapman TB, Breeden ML, Tolby Z, Short KC, and **Hobbins MT** (2026), Characterizing windows of opportunity for prescribed pile and broadcast burning in Northern California. *Fire Ecology*, 22(51), doi:10.1186/s42408-026-00492-6. <https://doi.org/10.1186/s42408-026-00492-6>

Jackson D, **Hobbins MT**, and Abel M (2026), Complementary relationship-derived actual evapotranspiration for operational drought monitoring. *Journal of Hydrometeorology*, 27:887-906, doi:10.1175/JHM-D-25-0169.1. <https://doi.org/10.1175/JHM-D-25-0169.1>

Hoell A, Robinson R, Breeden ML, Guerrero E, **Hobbins MT**, and Worsnop RP (2026), The relationship between the El Niño-Southern Oscillation and wildfire area burned in contiguous United States Geographic Area Coordination Centers. *Journal of Geophysical Research-Atmospheres*, 131:e2025JD045436, doi:10.1029/2025JD045436. <https://doi.org/10.1029/2025JD045436>

Breeden ML, Hoell A, Worsnop RP, Albers JR, **Hobbins MT**, Robinson RM, and Vimont DJ (2025), Seasonal predictability of vapor pressure deficit in the western United States. *Weather and Climate Dynamics*, 6(4):1443-1459, doi:10.5194/wcd-6-1443-2025. <https://doi.org/10.5194/wcd-6-1443-2025>

Kukal M, and **Hobbins MT** (2025), Thirstwaves: Prolonged periods of agricultural exposure to extreme atmospheric evaporative demand for water. *Earth's Future*, 13:e2024EF004870, doi:10.1029/2024EF005276. <https://doi.org/10.1029/2024EF004870>

Lisonbee J, Parker B, Fleishman E, Ford TW, Bocensky RK, Follingstad G, Frazier AG, Hoylman ZH, Hudson AR, Nielsen-Gammon JW, Umphlett NA, Wickham E, Bamzai-Dodson A, Fontenot R, Fuchs B, Hammond JC, Herrick JE, **Hobbins MT**, Hoell A, Jones J, Lane E, Leasor Z, Li Y, Otkin JA, Sheffield A, Todey D, and Pulwarty R (2025), Prioritization of research on drought assessment in a changing climate. *Earth's Future*, 13:e2024EF005276, doi:10.1029/2024EF005276. <https://doi.org/10.1029/2024EF005276>

Hughes MA, Jackson DJ, Unruh D, Wang H, **Hobbins MT**, Ogden FL, Cifelli R, Cosgrove B, DeWitt D, Dugger A, Ford TW, Fuchs B, Glaudemans M, Gochis D, Quiring SM, RafieeiNasab A, Webb RS, Xia Y, and Xu L (2024), Evaluation of retrospective National Water Model soil moisture and streamflow for drought-monitoring applications. *Journal of Geophysical Research-Atmospheres*, 129(6):e2023JD038522, doi:10.1029/2023JD038522, **a top-viewed article of 2024**. <https://doi.org/10.1029/2023JD038522>

Otkin JA, Woloszyn M, Wang H, Svoboda MD, Skumanich M, Pulwarty R, Lisonbee J, Hoell A, **Hobbins MT**, Haigh T, and Cravens AE (2024), Anticipating flash drought: Formulating a system for early warning and even earlier action. *Bulletin of the American Meteorological Society*, 105(2):103-105. <https://doi.org/10.1175/BAMS-D-21-0288.A>

Stuart L, **Hobbins MT**, Niebuhr E, Ruane AC, Pulwarty R, Hoell A, Thiaw WM, Muñoz-Arriola F, Jahn M, and Farrar M (2024), Enhancing global food security: Opportunities for the American Meteorological

Society. Published online at *Bulletin of the American Meteorological Society*, doi:10.1175/BAMS-D-22-0106.1. <https://doi.org/10.1175/BAMS-D-22-0106.1>

Christian JJ, **Hobbins MT**, Hoell A, Otkin JA, Ford TW, Cravens AE, Powlen KA, Wang H and Mishra V (2024), Flash drought: A state of the science review. *WIREs Water*, 11(3):e1714, doi:10.1002/wat2.1714. <https://doi.org/10.1002/wat2.1714>

Hobbins MT, Jansma T, Sarmiento DP, McNally A, Magadzire T, Jayanthi H, Turner W, Hoell A, Husak G, Senay GB, Boiko O, Budde M, Mogane P, and Dewes CF (2023), A global, long-term, daily reanalysis of reference evapotranspiration for drought and food-security monitoring. *Scientific Data*, 10:746, doi:10.1038/s41597-023-02648-4. <https://doi.org/10.1038/s41597-023-02648-4>

Otkin JA, Woloszyn M, Wang H, Svoboda MD, Skumanich M, Pulwarty R, Lisonbee J, Hoell A, **Hobbins MT**, Haigh T, and Cravens AE (2022), Getting ahead of flash drought: From early warning to early action. *Bulletin of the American Meteorological Society*, E2188–E2202, doi:10.1175/BAMS-D-21-0288.1. <https://doi.org/10.1175/BAMS-D-21-0288.1>

Baghban S, Bozorg-Haddad O, Berndtsson R, **Hobbins MT**, and Al-Ansari N (2022), Mitigation and adaptation measures. Chapter 9 in: *Climate Change in Sustainable Water Resources Management*, edited by Bozorg-Haddad O, Springer Water, Singapore. ISBN:978-981-19-1898-8, doi:10.1007/978-981-19-1898-8_9. https://doi.org/10.1007/978-981-19-1898-8_9

Abadi A, Gwon Y, Gribble M, Berman J, Bilotta R, **Hobbins MT**, and Bell J (2022), Drought and all-cause mortality risk in Nebraska from 1980 to 2014: Time-series analyses by age, sex, race, urbanicity and temporality of drought. *Science of the Total Environment*, 840:156660, doi:10.1016/j.scitotenv.2022.156660. <https://doi.org/10.1016/j.scitotenv.2022.156660>

McEvoy DJ, Roj S, Dunkerly C, McGraw D, Huntington JL, **Hobbins MT**, and Ott T (2022), Validation and bias correction of forecast reference evapotranspiration for agricultural applications in Nevada, USA. *Journal of Water Resources Planning and Management*, 148(11):04022057, doi:10.1061/(ASCE)WR.1943-5452.0001595. <https://ascelibrary.org/doi/full/10.1061/%28ASCE%29WR.1943-5452.0001595>

Hoffmann D, Gallant A, and **Hobbins MT** (2021), Flash drought in CMIP5 models. *Journal of Hydrometeorology*, 22:1439-1454, doi:10.1175/JHM-D-20-0262.1. <https://doi.org/10.1175/JHM-D-20-0262.1>

Parker T, Gallant A, **Hobbins MT**, and Hoffmann D (2021), Flash drought in Australia and its relationship to evaporative demand. *Environmental Research Letters*, 16(6):064033, doi:10.1088/1748-9326/abfe2c. <https://doi.org/10.1088/1748-9326/abfe2c>

Kew SF, Philip SY, Hauser M, **Hobbins MT**, Wanders N, van Oldenborgh GJ, van der Wiel K, Veldkamp TIE, Kimutai J, Funk CC, and Otto FEL (2021), Impact of precipitation and increasing temperatures on drought in eastern Africa. *Earth System Dynamics*, 12:17-35, doi:10.5194/esd-12-17-2021. <https://doi.org/10.5194/esd-12-17-2021>

Hobbins MT, and Barsugli JJ (2020), Threatening the vigor of the Colorado River: Loss of sunlight-reflecting snow spurs evaporation and ebbs river flow. *Science*, 367(6483):1192-1193, doi:10.1126/science.abb3624. <https://doi.org/10.1126/science.abb3624>

Pendergrass AG, Meehl GA, Pulwarty RS, **Hobbins MT**, Hoell A, AghaKouchak A, Bonfils CJW, Gallant AJE, Hoerling M, Hoffmann D, Kaatz L, Lehner F, Llewellyn D, Mote P, Neale RB, Overpeck JT, Sheffield A, Stahl K, Svoboda MD, Wheeler MC, Wood AW, and Woodhouse CA (2020), Flash droughts present a new challenge for subseasonal-to-seasonal prediction. *Nature Climate Change*, 10:191-199, doi:10.1038/s41558-020-0709-0. <https://doi.org/10.1038/s41558-020-0709-0>

Zhang B, Xia Y, Long B, **Hobbins MT**, Zhao X, Hain CR, Li Y, and Anderson MC (2020), Evaluation and comparison of multiple evapotranspiration data models over the contiguous United States:

Implications for the next phase of NLDAS (NLDAS-Testbed) development. *Agricultural and Forest Meteorology*, 280(107810), doi:10.1016/j.agrformet.2019.107810.

<https://doi.org/10.1016/j.agrformet.2019.107810>

Hobbins MT, Dewes CF, Huntington JL, McEvoy DJ, Rangwala I, Shukla S, and Yocum HM (2019), Evaporative demand: Dynamics and opportunities in drought early warning, monitoring, and vulnerability assessment. *Proceedings of the 6th Interagency Conference on Research in the Watersheds*, Shepherdstown, WV, 23-26 July, doi:10.2737/SRS-GTR-243. <https://tinyurl.com/zwaaf7sy>

Rangwala I, and **Hobbins MT** (2019), Flash droughts in the Mountain West: Emerging risks under a warmer climate. *Mountain Views*, 13(1): 34-37. <https://tinyurl.com/s54w8488>

Hobbins MT, Senay GB, Gowda PH, and Artan GA (2019), Evapotranspiration and evaporative demand. Chapter 3 in: *Statistical Analysis of Hydrological Variables: Methods and Applications*, edited by Teegavarapu R, Salas JD, and Stedinger JR, American Society of Civil Engineers-Environmental Water Resources Institute, Reston, VA, ISBN:9780784415177, doi:10.1061/9780784415177.ch03. <https://doi.org/10.1061/9780784415177.ch03>

Hobbins MT, Rangwala I, Barsugli JJ, and Dewes CF (2019), Extremes in evaporative demand and their implications for drought and drought monitoring in the 21st Century. Chapter 25 in: *Extreme Hydrology and Climate Variability: Monitoring, Modeling, Adaptation and Mitigation*, edited by Melesse AM, Abtew W, and Senay GB, Elsevier, New York, NY, ISBN:9780128159989. <https://tinyurl.com/z7v6tn4>

McEvoy DJ, **Hobbins MT**, Brown TJ, VanderMolen KA, Wall TU, Huntington JL, and Svoboda MD (2019), Establishing relationships between drought and wildfire danger indices: A test case for the California-Nevada Drought Early Warning System. *Climate*, 7(52), doi:10.3390/cli7040052. <https://www.mdpi.com/2225-1154/7/4/52>

McNeeley SM, Dewes CF, Stiles CJ, Beeton TA, Rangwala I, **Hobbins MT**, and Knutson CL (2018), Anatomy of an interrupted irrigation season: Micro-drought at the Wind River Indian Reservation. *Climate Risk Management*, 19: 61-82, doi:10.1016/j.crm.2017.09.004. <https://doi.org/10.1016/j.crm.2017.09.004>

Hobbins MT, McEvoy DJ, and Hain CR (2017), Evapotranspiration, evaporative demand, and drought. Chapter 11 in: *Drought and Water Crises: Integrating Science, Management, and Policy*, edited by Wilhite DA and Pulwarty RS, CRC Press, Boca Raton, FL, doi:10.1201/9781315265551 ISBN-13:978-1-138-03564-5. <https://tinyurl.com/f4xfrwus>

Shukla S, McEvoy DJ, **Hobbins MT**, Husak GJ, Huntington JL, Funk CC, and Verdin JP (2017), Examining the value of global seasonal reference evapotranspiration forecasts to support FEWS NET's food security outlooks. *Journal of Applied Meteorology and Climatology*, 56: 2941-2949, doi:10.1175/JAMC-D-17-0104.1. <https://doi.org/10.1175/JAMC-D-17-0104.1>

Dewes CF, Rangwala I, Barsugli JJ, **Hobbins MT**, and Kumar S (2017), Drought risk assessment under climate change is sensitive to methodological choices for the estimation of evaporative demand. *PLoS ONE*, 12(3): e0174045, doi:10.1371/journal.pone.0174045. <https://doi.org/10.1371/journal.pone.0174045>

Hobbins MT, and Huntington JL (2016), Evapotranspiration and evaporative demand. Chapter 42 in: *Handbook of Applied Hydrology*, edited by Singh VP, McGraw-Hill Education, New York, NY, ISBN-13:978-0071835091. <https://tinyurl.com/6uk34s>

Hobbins MT, Wood AW, McEvoy DJ, Huntington JL, Morton CG, Anderson MC, and Hain CR (2016), The Evaporative Demand Drought Index: Part I - Linking drought evolution to variations in evaporative demand. *Journal of Hydrometeorology*, 17: 1745-1761, doi:10.1175/JHM-D-15-0121.1. <https://doi.org/10.1175/JHM-D-15-0121.1>

- McEvoy DJ, Huntington JL, **Hobbins MT**, Wood AW, Morton CG, Anderson MC, and Hain CR (2016), The Evaporative Demand Drought Index: Part II - CONUS-wide assessment against common drought indicators. *Journal of Hydrometeorology*, 17: 1763-1779, doi:10.1175/JHM-D-15-0122.1. <http://doi.org/10.1175/JHM-D-15-0122.1>
- Hobbins MT** (2016), The variability of ASCE Standardized Reference Evapotranspiration: A rigorous, CONUS-wide decomposition and attribution. *Trans. ASABE*, 59(2): 561-576, doi:10.13031/trans.59.10975, **WINNER: 2017 ASABE Superior Paper Award**. <http://doi.org/10.13031/trans.59.10975>
- McEvoy DJ, Huntington JL, Mejia JF, and **Hobbins MT** (2016), Improved seasonal drought forecasts using reference evapotranspiration anomalies. *Geophysical Research Letters*, 43: 377-385, doi:10.1002/2015GL067009. <https://doi.org/10.1002/2015GL067009>
- Moorhead J, Gowda PH, **Hobbins MT**, Senay GB, Paul G, Marek T, and Porter D (2015), Accuracy assessment of NOAA gridded daily reference evapotranspiration for the Texas High Plains. *Journal of the American Water Resources Association*, 51(5): 1262-1271, doi:10.1111/1752-1688.12303. <https://doi.org/10.1111/1752-1688.12303>
- King DA, Bachelet DM, Symstad AJ, Ferschweiler K, and **Hobbins MT** (2015), Estimation of potential evapotranspiration from extraterrestrial radiation, air temperature and humidity to assess future climate change effects on the vegetation of the Northern Great Plains, USA. *Ecological Modelling*, 297: 86-97, doi:10.1016/j.ecolmodel.2014.10.037. <https://doi.org/10.1016/j.ecolmodel.2014.10.037>
- Xia Y, **Hobbins MT**, Mu Q, and Ek MB (2015), Evaluation of NLDAS-2 evapotranspiration against tower flux site observations. *Hydrological Processes*, 29: 1757-1771, doi:10.1002/hyp.10299. <https://doi.org/10.1002/hyp.10299>
- Hobbins MT** (2014), Measuring the atmosphere's thirst. *Dry Times: National Integrated Drought Information System Newsletter*, 4(1): 14-15. <https://tinyurl.com/tahpp7vu>
- Bardsley TJ, Wood AW, **Hobbins MT**, Kirkham T, Briefer L, Niermeyer J, and Burian SJ (2013), Planning for an uncertain future: Climate change sensitivity assessment towards adaptation planning for public water supply. *Earth Interactions*, 17(23), doi:10.1175/2012EI000501.1. <https://doi.org/10.1175/2012EI000501.1>
- Lim WH, Roderick ML, **Hobbins MT**, Wong SC, and Farquhar GD (2013), The energy balance of a US Class A evaporation pan. *Agricultural and Forest Meteorology*, 182-183: 314-331, doi:10.1016/j.agrformet.2013.07.001. <https://doi.org/10.1016/j.agrformet.2013.07.001>
- Hobbins MT**, Wood AW, Streubel D, and Werner K (2012), What drives the variability of evaporative demand across the conterminous United States? *Journal of Hydrometeorology*, 13: 1195-1214, doi:10.1175/JHM-D-11-0101.1. <http://doi.org/10.1175/JHM-D-11-0101.1>
- Lim WH, Roderick ML, **Hobbins MT**, Wong SC, Groeneveld PJ, Sun F, and Farquhar GD (2012), The aerodynamics of pan evaporation. *Agricultural and Forest Meteorology*, 152: 31-43, doi:10.1016/j.agrformet.2011.08.006. <https://doi.org/10.1016/j.agrformet.2011.08.006>
- Szilagyi J, **Hobbins MT**, and Jozsa J (2009), Modified advection-aridity model of evapotranspiration. *Journal of Hydrologic Engineering*, 14(6): 569-574, doi:10.1061/(ASCE)HE.1943-5584.0000026. [https://doi.org/10.1061/\(ASCE\)HE.1943-5584.0000026](https://doi.org/10.1061/(ASCE)HE.1943-5584.0000026)
- Roderick ML, **Hobbins MT**, and Farquhar GD (2009), Pan evaporation trends and the terrestrial water balance. I. Principles and observations. *Geography Compass*, 3(2): 746-760, doi:10.1111/j.1749-8198.2008.00213.x. <https://doi.org/10.1111/j.1749-8198.2008.00213.x>

Roderick ML, **Hobbins MT**, and Farquhar GD (2009), Pan evaporation trends and the terrestrial water balance. II. Energy balance and interpretation. *Geography Compass*, 3(2): 761-780, doi:10.1111/j.1749-8198.2008.00214.x. <https://doi.org/10.1111/j.1749-8198.2008.00214.x>

Brown TC, **Hobbins MT**, and Ramírez JA (2008), Spatial distribution of water supply in the coterminous United States. *Journal of the American Water Resources Association*, 44(6): 1474-1487, doi:10.1111/j.1752-1688.2008.00252.x. <https://tinyurl.com/27kwkc4r>

Hobbins MT, Dai A, Roderick ML, and Farquhar GD (2008), Revisiting the parameterization of potential evaporation as a driver of long-term water balance trends. *Geophysical Research Letters*, 35, L12403, doi:10.1029/2008GL033840. <https://doi.org/10.1029/2008GL033840>

Roderick ML, Rotstajn LD, Farquhar GD, and **Hobbins MT** (2007), On the attribution of changing pan evaporation. *Geophysical Research Letters*, 34, L17403, doi:10.1029/2007GL031166. <https://doi.org/10.1029/2007GL031166>

Ramírez JA, **Hobbins MT**, and Brown TC (2005), Observational evidence of the complementary relationship in regional evaporation lends strong support for Bouchet's hypothesis. *Geophysical Research Letters*, 32, L15401, doi:10.1029/2005GL023549. <https://doi.org/10.1029/2005GL023549>

Hobbins MT, Ramírez JA, and Brown TC (2004), Trends in pan evaporation and actual evaporation across the conterminous U.S.: Paradoxical or complementary? *Geophysical Research Letters*, 31, L13503, doi:10.1029/2004GL019846. <https://doi.org/10.1029/2004GL019846>

Hobbins MT, Ramírez JA, and Brown TC (2004), Developing a long-term, high-resolution, continental-scale, spatially distributed time-series of topographically corrected solar radiation. *Proceedings of the 24th Annual AGU Hydrology Days*, Colorado State University, Fort Collins, CO, 10-12 March. <https://tinyurl.com/3nfjvyjy>

Hobbins MT, Ramírez JA, Brown TC, and Claessens LHJM (2001), The complementary relationship in estimation of regional evapotranspiration: The Complementary Relationship Areal Evapotranspiration and Advection-aridity models. *Water Resources Research*, 37(5): 1367-1387, doi:10.1029/2000WR900358. <https://doi.org/10.1029/2000WR900358>

Hobbins MT, Ramírez JA, and Brown TC (2001), The complementary relationship in estimation of regional evapotranspiration: An enhanced Advection-aridity model. *Water Resources Research*, 37(5): 1389-1403, doi:10.1029/2000WR900359. <https://doi.org/10.1029/2000WR900359>

Hobbins MT, Ramírez JA, and Brown TC (2001), Trends in regional evapotranspiration across the United States under the complementary relationship hypothesis. *Proceedings of the 21st Annual AGU Hydrology Days*, Colorado State University, Fort Collins, CO, 2-5 April, pp. 106-121. <https://tinyurl.com/xj3vwz35>

Hobbins MT, Ramírez JA, and Brown TC (1999), The complementary relationship in regional evapotranspiration: The CRAE model and the Advection-aridity approach. *Proceedings of the 19th Annual AGU Hydrology Days*, Colorado State University, Fort Collins, CO, 16-20 August, pp. 199-212.

Peer-reviewed: Dissertation, thesis

Hobbins MT (2004), Regional evapotranspiration and pan evaporation: Complementary interactions and long-term trends across the conterminous United States. *Doctoral dissertation*, Hydrologic Science and Engineering Program, Civil and Environmental Engineering Department, Colorado State University, Fort Collins, CO, USA, 232 pp.

Hobbins MT (2000), Evaluating and enhancing two implementations of the complementary relationship in regional evapotranspiration. *Master's thesis*, Hydrologic Science and Engineering Program, Civil and Environmental Engineering Department, Colorado State University, Fort Collins, CO, USA, 214 pp.

Peer-reviewed: Datasets

Hobbins MT, Dewes CF, and Jansma T (2022), Global reference evapotranspiration for food-security monitoring: NOAA Physical Sciences Laboratory and USGS data release. *U.S. Geological Survey ScienceBase*, doi:10.5066/P9IIQMV1. <https://doi.org/10.5066/P9IIQMV1>

Rangwala I, Smith LL, Senay GB, Barsugli JJ, Kagone S, and **Hobbins MT** (2019), Landscape Evaporative Response Index (LERI): A high-resolution monitoring and assessment of evapotranspiration across the contiguous United States. *U.S. Geological Survey ScienceBase*, doi:10.21429/43r4-3q68. <https://doi.org/10.21429/43r4-3q68>

Hobbins MT, Barsugli JJ, Dewes CF, and Rangwala I (2017), Monthly pan evaporation data across the continental United States between 1950-2001. *U.S. Geological Survey ScienceBase*, doi:10.21429/C9MW25. <https://doi.org/10.21429/C9MW25>

In peer review or revision

Hobbins MT, McEvoy DJ, Jackson DL, Abel MR, Andrade AJ, Breeden ML, Hoell A, Pan Y, Ray AJ, Rosencrans M, Wang H, Woloszyn M, and Worsnop RP (2026), A rigorous diagnosis of evaporative demand as a climatic driver of extreme events: drought and wildfire. JHM-D-26-0188. In review at *Journal of Hydrometeorology*.

Andrade AJ, McEvoy DJ, Brown TJ, Parker B, and **Hobbins MT** (2026), Magnitude and drivers of anomalous atmospheric evaporative demand prior to wildfire ignitions across United States ecoregions. WF26193. In revision for *International Journal of Wildland Fire*.

Li Y, Zhang B, Su T, Zhang J, Zheng Z, Zhou S, Ma L, Yin W, Zuo H, and **Hobbins MT** (2026), Biodegradable mulches trade full-season evaporation suppression for enhanced transpiration to sustain rainfed crop production. NATFOOD-26092700. In review at *Nature Food*.

Xia Y, Wu H, Hao Z-C, Quiring S, **Hobbins MT**, Svoboda MD, Otkin J, Luo L, and Xu L (2026), Application of long-term and high-quality NLDAS data for drought analysis, monitoring, and prediction over the United States: Current status and future direction. In review at *Earth-Science Reviews*.

Jayanthi H, Budde M, Magadzire T, Chavula A, Verdin JP, Husak G, Peterson P, **Hobbins MT**, Zaheer F, Pedreros D, Harrison L, Shukla S, Anderson W, Kagone S, Slinski K, Lee D, Shahriar P, and Singh RK (2026), Intraseasonal dekadal precipitation variance as a predictor of reduction in rain-fed maize areas to droughts in Malawi. JOHX56158. In review at *Journal of Hydrology X*.

Technical reports, white papers, research briefs

Worsnop RP, Hatchett BJ, Short KC, Hoell A, **Hobbins MT**, Breeden ML, Chapman TB, and Tolby Z (2026), Prescribed pile and broadcast burn windows for northern California. Research brief. *California Fire Science Consortium*, 7 May. <https://tinyurl.com/23ycscbu>

Abel MR, **Hobbins MT**, and Wang H (2026), Operationalizing the computation and dissemination of the Evaporative Demand Drought Index (EDDI) and value-added products for CONUS-wide drought monitoring and early warning at the NOAA-Climate Prediction Center. Final project progress report to NOAA Joint Technology Transfer Initiative Program, *NOAA Physical Sciences Laboratory and NOAA Climate Prediction Center*, Boulder, CO, 29 April.

Colón-Burgos D, Rangwala I, **Hobbins MT**, Senay GB, Muñoz E, Holt C, and Rivera G (2021), Decadal-scale changes in drought-related climate parameters: Assessing the consistency of global climate models in projecting changes in the Northern Great Plains. Report of the 2021 Significant Opportunities in Atmospheric Research and Science (SOARS). *University Corporation for Atmospheric Research (UCAR)*, Boulder, CO, 6 August.

Woloszyn M, Skumanich M, Lisonbee J, Deheza V, **Hobbins MT**, Hoell A, Otkin J, Svoboda MD, and Wang H (2021), Flash drought: Current understanding and future priorities. Report of the 2020 NIDIS Flash Drought Virtual Workshop. *NOAA National Integrated Drought Information System*, Boulder, CO, 29 July. <https://tinyurl.com/udana8h7>

Hobbins MT, Glaudemans M, Huntington JL, McEvoy DJ, Rangwala I, Ray AJ, Tan X, and Yocum HM (2020), Operationalizing an Evaporative Demand Drought Index (EDDI) service for drought monitoring and early warning. Final project report to NOAA Joint Technology Transfer Initiative Program, *NOAA Physical Sciences Division*, Boulder, CO, 19 March.

McEvoy DJ, Brown TJ, Wall TU, **Hobbins MT**, Huntington JL, and Svoboda MD (2018), Developing a wildfire component for the NIDIS California Drought Early Warning System. Annual progress report to NOAA Sectoral Applications Research Program, *Western Regional Climate Center*, Reno, NV, April.

Lukas JJ, **Hobbins MT**, Rangwala I, and the EDDI Team (2017), The EDDI User Guide. *Western Water Assessment*, University of Colorado, Boulder, CO. <https://tinyurl.com/tjixj232>

Brown TJ, McEvoy DJ, Wall TU, **Hobbins MT**, Huntington JL, Svoboda MD (2017), Developing a wildfire component for the NIDIS California Drought Early Warning System. Annual progress report to NOAA Sectoral Applications Research Program, *Western Regional Climate Center*, Reno, NV, April.

Rangwala I, **Hobbins MT**, Barsugli JJ, and Dewes CF (2015), EDDI: A powerful tool for early drought warning. 2-pager document, *Western Water Assessment*, University of Colorado, Boulder, CO. <https://tinyurl.com/bhknwyaa>

Allen RG, Anderson MC, Bolten J, Cestti R, Dunsmoor L, Fisher JB, Hain CR, Harshadeep N, **Hobbins MT**, Huntington JL, Hook S, Kilic A, Kustas WP, Lee C, Mendez-Costabel M, Melton FS, Morse T, Tracy J, Verdin JP, Willardson T, Wolff S, and Woodward D (2015), Evapotranspiration mapping for water security: recommendations and requirements. *Recommendations of the Participants of the 2015 Workshop on Evapotranspiration Mapping for Water Security*, Washington, D.C., 15-17 September. <https://tinyurl.com/z3a3rswt>

Hobbins MT (2010), What are evapotranspiration and forecast reference crop evapotranspiration (FRET)? *NOAA National Weather Service Western Regional Headquarters*. <https://tinyurl.com/t45792zh>

Brown TC, **Hobbins MT**, and Ramírez JA (2005), The source of water supply in the United States. RMRS-RWU 4851 Discussion Paper, *Rocky Mountain Research Station*, US Forest Service, Fort Collins, CO. <https://tinyurl.com/3c9pctsj>

Ramírez JA, **Hobbins MT**, and Brown TC (2002), Adapting the complementary relationship for mountainous areas of the United States. Final report, Cooperative Agreement 28-JV7-945 between Colorado State University and Rocky Mountain Research Station, *Colorado State University*, Fort Collins, CO. <https://tinyurl.com/e85evnf7>

Hobbins MT, Ramírez JA, and Brown TC (2000), The complementary relationship in the estimation of regional evapotranspiration: An enhanced Advection-Aridity model. Open File Report No.13, *Colorado Water Resources Research Institute*, Colorado State University, Fort Collins, CO. <https://tinyurl.com/e85evnf7>

Hobbins MT, and Bowen BD (1995), Water quality discipline report: I-5 high occupancy vehicle lane project, Mounts Road to Fife Interchange, *Washington State Department of Transportation*, Olympia, WA.

Hobbins MT (1995), National pollution discharge elimination system permit application: Pierce County, *Washington State Department of Transportation*, Olympia, WA.

Hobbins MT (1995), Global positioning system protocol, *Washington State Department of Transportation*, Olympia, WA.

Hobbins MT (1995), Outfall inventory and field-screening project report: WSDOT Olympic Region, *Washington State Department of Transportation*, Olympia, WA.

PRESENTATIONS

Invited presentations

Hobbins MT (2026), Decomposition of the demand side of the drought-wildfire nexus. *NOAA Fire Research from Conditions to Impacts webinar*, virtual, 3 June.

Hobbins MT (2026), The Famine Early Warning Systems Network. *CIESRDS 5-year Review*, Boulder, CO, 17 March.

Hobbins MT, Ullrich P, Hatchett B, Rhoades A, and Levine C (2025), Emerging climate science panel. *Delta Independent Science Board Climate Symposium*, Davis, CA, 16 September.

Hobbins MT (2025), Re-thinking drought's demand side: A love song to evaporative demand. *Delta Independent Science Board Climate Symposium*, Davis, CA, 16 September.

Hobbins MT (2025), Using NLDAS drivers in drought monitoring: the Evaporative Demand Drought Index (EDDI). *NASA NLDAS-3 Drought Monitoring Workshop*, virtual, 10 April.

Hobbins MT (2024), Opportunities for collaboration on drought research. *University of Catania Civil Engineering Department seminar*, Catania, Italy, 16 July.

Hobbins MT and the EDDI Team (2023), The Evaporative Demand Drought Index “EDDI” and flash drought. *NIDIS Flash Drought Workshop*, Boulder, CO, 2-4 May.

Hobbins MT (2023), Beyond the rain: non-stationarity in the demand side of drought. *NIDIS Assessing Drought in a Changing Climate webinar*, virtual, 10 February. <https://tinyurl.com/mr3zfdry>

Hobbins MT (2021), The Evaporative Demand Drought Index (EDDI) and the current drought in the western United States. *AWWA Western U.S. Drought: What you need to know Webinar Series*, virtual, 24 August. <https://tinyurl.com/kxjc852r>

Cravens A, **Hobbins MT**, Lisonbee J, and Woloszyn M (2021), Flash drought: Current understanding and future priorities. *NIDIS Flash Drought Webinar Series*, virtual, 3 August. <https://tinyurl.com/47tkvrp2>

Hobbins MT (2021), The Evaporative Demand Drought Index (EDDI) in the Southeast DEWS region. *Apalachicola-Chattahoochee-Flint Drought Early Warning System webinar*, virtual, 22 June. <https://tinyurl.com/4zta3cu2>

Ray A, Bianco L, **Hobbins MT**, Scott J, Slivinski L, and Switanek M (2020), Transitions: Research to Applications (R2X). *NOAA Physical Sciences Laboratory Review*, virtual, 19 November.

Hobbins MT, Jackson DL, McEvoy DJ, Rangwala I, and Yocum HM (2020), The Evaporative Demand Drought Index (EDDI): Early warning, monitoring, and attribution of drought. *NOAA Eastern Region Climate Services webinar*, virtual, 30 July. <https://tinyurl.com/ddvcpft6>

Hobbins MT, and Ramírez JA (2019), Evapotranspiration, evaporative demand, and Jorge Ramírez: 25 years from fundamental research to applied tools. *39th Annual AGU Hydrology Days*, Fort Collins, CO, 27-29 March.

Ek MB, Franz KJ, Gochis DJ, **Hobbins MT**, and Lettenmaier DP (2019), The AMS Hydrology Committee: The past, present and future. *Town Hall Meeting, 99th American Meteorological Society Annual Meeting*, Phoenix, AZ, 6-10 January.

Hobbins MT (2018), The Evaporative Demand Drought Index: Early warning, monitoring, and attribution of drought, flash drought, and fire-risk. *Denver Water*, Denver, CO, 26 November.

Hobbins MT, McEvoy DJ, and Shukla S (2018), Evaporative demand: Dynamics and opportunities in drought early warning, monitoring, and S2S predictability. *Aspen Global Change Institute Workshop: When the Rain Stops: Drought on Sub-seasonal and Longer Timescales*, Aspen, CO, 10-14 September.

Hobbins MT, Dewes CF, Huntington JL, McEvoy DJ, Rangwala I, and Shukla S (2018), Evaporative demand: Dynamics and opportunities in drought early warning, monitoring, and vulnerability assessment. *Interagency Conference on Research in the Watersheds: Working Watersheds and Coastal Systems: Research and Management for a Changing Future*, Shepherdstown, WV, 23-26 July.

Hobbins MT (2018), The Evaporative Demand Drought Index (EDDI): An emerging drought-monitoring and early warning tool. *43rd Annual Natural Hazards Research and Applications Workshop*, Broomfield, CO, 8-11 July.

Hobbins MT, Dewes CF, Huntington JL, McEvoy DJ, Morton CG, and Yocum HM (2018), Introducing the Evaporative Demand Drought Index (EDDI): A new drought-monitoring and early warning tool. *North American Drought Monitor Forum*, Calgary, AB, Canada, 1-3 May.

Hobbins MT, Barsugli JJ, Dewes CF, Huntington JL, Lukas JJ, McEvoy DJ, Morton CG, Rangwala I, Ray AJ, Smith C, Wood AW, and Yocum HM (2018), The Evaporative Demand Drought Index (EDDI): Early warning and monitoring of drought from the demand side. *American Water Works Association Sustainable Water Management Conference*, Seattle, WA, 25 March.

Hobbins MT, McEvoy DJ, Wood AW, and Huntington JL (2017), The Evaporative Demand Drought Index (EDDI): A new drought monitoring and early warning tool. *Universities Council on Water Resources / National Institutes for Water Resources Conference*, Fort Collins, CO, 13-15 June.

Hobbins MT, Barsugli JJ, Dewes CF, Huntington JL, Lukas JJ, McEvoy DJ, Morton CG, Rangwala I, Ray AJ, and Yocum HM (2017), The Evaporative Demand Drought Index (EDDI): An emerging drought-monitoring and early warning tool. *U.S. Drought Monitor Forum*, Keystone, SD, 3-5 April.

Hobbins MT (2017), The Evaporative Demand Drought Index (EDDI): A new drought monitoring and early warning tool. *Colorado Water Conservation Board Water Availability Task Force meeting*, Denver, CO, 21 March.

Hobbins MT (2017), The Evaporative Demand Drought Index (EDDI): An emerging drought-monitoring and early warning tool. *Missouri River Basin Drought Early Warning System Meeting and New Tools Workshop*, Nebraska City, NE, 7-9 March.

Hobbins MT (2016), The Evaporative Demand Drought Index (EDDI): An emerging drought-monitoring and early warning tool. *DWD-NOAA Workshop*, Dresden, Germany, 16-18 November.

Hobbins MT (2016), The Evaporative Demand Drought Index (EDDI): An emerging drought-monitoring and early warning tool. *Pacific Northwest Drought Early Warning System Meeting*, Boise, ID, 10 November. <https://tinyurl.com/w8n3tcut>

Hobbins MT (2016), The Evaporative Demand Drought Index (EDDI): An emerging drought-monitoring and early warning tool. *Intermountain West Drought Early Warning System Meeting*, Denver, CO, 25 October.

Hobbins MT (2016), Large-scale evaporative demand: Opportunities in reanalyses, forecasting, and projections. *US Committee on Irrigation and Drainage Evapotranspiration Workshop*, Fort Collins, CO, 13 October.

Hobbins MT (2016), The Evaporative Demand Drought Index (EDDI): An emerging drought-monitoring and early warning tool. *Intermountain West Drought Early Warning System Drought and Climate Outlook Meeting*, Oracle, AZ, 20 September.

Hobbins MT (2016), Evapotranspiration and drought: Early warning, monitoring, and climate-scale projections. *Cooperative Institute for Research in Environmental Sciences Review*, Boulder, CO, 29-31 August.

Hobbins MT (2015), Evaporative demand (and evapotranspiration): Modeling and projections. *Workshop on High-Resolution Climate Modeling in the Northern Great Plains*, Boulder, CO, 24-25 September.

Hobbins MT (2015), Gridded weather and reference ET data for US and global ET mapping. *International Workshop on Evapotranspiration Mapping for Water Security*, Washington, D.C., 15-17 September.

Hobbins MT (2014), NOAA's reference ET forecast and reanalysis products. *WERA-1022 Meteorological and Climate Data to Support ET-Based Irrigation Scheduling, Water Conservation, and Water Resources Management*, Orlando, FL, 17-18 September.

Hobbins MT (2014), Evapotranspiration and evaporative demand: How important are physically based estimates? *North Central Climate Science Center: Mini Workshop on Evapotranspiration*, Fort Collins, CO, 5 May.

Hobbins MT (2013), Evaporative demand: Drought impacts and assessment. *Western States Water Council-California Department of Water Resources Workshop on Measuring, Quantifying, and Reporting Drought Impacts*, San Diego, CA, 5-7 August.

First-author presentations

Hobbins MT, Abel MR, Andrade A, Hoell A, Jackson, D, McEvoy DJ, Pan Y, and Wang H (2026), Diagnosing the demand side of extremes of the hydrologic cycle: drought and wildfire test cases. *NOAA's 50th Climate Diagnostics Prediction and Applications Workshop (CDPAW)*, College Park, MD, 1-4 September. (Oral)

Hobbins MT (2026), EDDI tool for week-2 hazards in CPC's Monthly Drought Outlook. *CPC Webinar*, Boulder, CO, 1 April. (Webinar)

Hobbins MT, Wang H, Pan Y, and Uzoma A (2026), [The Evaporative Demand Drought Index \(EDDI\): Updates and improvements](#). *Joint PSL-CPO webinar*, Boulder, CO, 24 March. (Webinar)

Hobbins MT, Ray AJ, Pan Y, Wang H, Abel MR, Counts K, Rosencrans M, Uzoma A, and Yocum H (2026), The second time's the charm: Operationalizing the Evaporative Demand Drought Index at the NOAA-Climate Prediction Center. *106th AMS Annual Meeting*, Houston, TX, 25-29 January. (Oral)

Hobbins MT (2026), Examining drought from the demand side for improved food security analyses. *106th AMS Annual Meeting*, Houston, TX, 25-29 January. (Oral)

Hobbins MT, Hughes ML, Ray A, Pan Y, Pugh B, Rosencrans M, Wang H, and Glaudemans M (2024), The Evaporative Demand Drought Index (EDDI): Operationalizing the computation and dissemination of EDDI and value-added products for CONUS-wide drought monitoring and early warning at NOAA-CPC. *NOAA-Climate Prediction Center webinar*, College Park, MD, 13 March. (Oral)

Hobbins MT and Harrison L (2024), Drought in Africa: diagnosing demand side drivers. *104th American Meteorological Society Annual Meeting*, Baltimore, MD, January 29-February 1. (Oral)

Hobbins MT (2024), A new global reference evapotranspiration dataset for FEWS NET: Opportunities in monitoring food security and famine early warning. *104th American Meteorological Society Annual Meeting*, Baltimore, MD, January 29-February 1. (Oral)

Hobbins MT, Boiko O, Budde M, Dewes CF, Hoell A, Husak G, Jansma T, Jayanthi H, McNally A, Magadzire T, Mogane P, Sarmiento DP, Senay GB, and Turner W (2023), Global reference evapotranspiration: Opportunities in operational drought monitoring and famine early warning. *FEWS NET Science Meeting*, Boulder, CO, June 13-15 (Oral).

Hobbins, MT, Boiko O, Dewes CF, Hoell A, Husak G, Jayanthi H, Magadzire T, McNally A, Sarmiento DP, Senay GB, and Turner W (2023), A new global reference evapotranspiration reanalysis: global

opportunities in operational drought monitoring and famine early warning. Abstract EGU23-16989, *European Geosciences Union General Assembly*, Vienna, Austria, 23-28 April. (PICO)

Hobbins MT, Jackson DL, Hughes M, and Woloszyn M (2022), A rigorous attribution of the demand side of drought: a case study in the Midwest US. Abstract EGU22-13137, *European Geosciences Union General Assembly*, Vienna, Austria, 23-27 May. (Oral)

Hobbins MT, Jackson DL, Hughes M, and Woloszyn M (2022), A rigorous attribution of the demand side of agricultural drought: a case study in the Midwest US. *102nd American Meteorological Society Annual Meeting*, Houston, TX, 24-27 January. (Oral) <https://tinyurl.com/44r5ppb8>

Cifelli R, **Hobbins MT**, Morales A, Currier WR, Mahoney K, Bytheway J, Biswas S, Radhakrishnan C, Hughes MA, and Stovern D (2021), Hydrometeorology Modeling and Applications team: Perspectives on water research. *NOAA Physical Sciences Laboratory Science Days*, virtual, 18 November. (Oral)

Hobbins MT, McEvoy DJ, Rangwala I, Xia S, and Yocum HM (2021), Drought indices and indicators for the Northeast: NOAA's Evaporative Demand Drought Index (EDDI). *Northeast DEWS Drought Indicators and Tools Webinar series*, virtual, 14 September. (Webinar)

Hobbins MT, McEvoy DJ, Rangwala I, Xia S, and Yocum HM (2021), Drought indices and indicators for the Northeast: Flash drought. *Northeast DEWS Drought Indicators and Tools Webinar series*, virtual, 7 September. (Webinar) <https://tinyurl.com/4t2xhhmh>

Hobbins MT, Hoell A, Jackson DL, McEvoy DJ, Rangwala I, and Yocum HM (2021), Who is ready to define flash drought? From definitions to principles, assessing the performance of differing approaches. *101st American Meteorological Society Annual Meeting*, virtual, 10-15 January. (Oral) <https://tinyurl.com/3xwxc3d2>

Hobbins MT, McNally AL, Sarmiento DP, Jansma T, Husak GJ, Turner W, and Verdin JP (2020), Using a new evaporative demand reanalysis to understand the demand perspective of drought and food insecurity in Africa. *100th American Meteorological Society Annual Meeting*, Boston, MA, 12-16 January. (Oral)

Hobbins MT, McNally AL, Sarmiento DP, and Verdin JP (2019), Drought in Africa: Understanding and exploiting the demand perspective using a new evaporative demand reanalysis. *European Meteorological Society Annual Meeting*, Copenhagen, Denmark, 9-13 September. (Poster)

Hobbins MT, Dewes CF, Hoell A, Jayanthi H, McNally AL, Sarmiento DP, Shukla S, and Verdin JP (2019), Developing and exploiting a new global reanalysis of evaporative demand for global food-security assessments and drought monitoring. *99th American Meteorological Society Annual Meeting*, Phoenix, AZ, 6-10 January. (Oral)

Hobbins MT, Blakeley SL, Dewes CF, Harrison LS, Husak GJ, Jayanthi H, McNally AL, Sarmiento DP, Shukla S, and Verdin JP (2018), Opportunities for demand perspectives on drought: Updates on a global, daily evaporative demand reanalysis. *FEWS NET Science Partners meeting*, Washington, D.C., 12 December. (Oral)

Hobbins MT, Harrison LS, Blakeley SL, Dewes CF, Husak GJ, Shukla S, Jayanthi H, McNally AL, Sarmiento DP, and Verdin JP (2018), Drought in Africa: Understanding and exploiting the demand perspective using a new evaporative demand reanalysis. Abstract GC21D-1121, *2018 Fall Meeting, AGU*, Washington, D.C., 10-14 December. (Poster)

Hobbins MT, Hoell A, and Newman M (2018), On the causes and predictability of flash drought. *NOAA-Physical Sciences Division Improving Forecasts of Extremes on Subseasonal to Seasonal Time Scales workshop*, Boulder, CO, 9 November. (Oral)

Hobbins MT, Barsugli JJ, Dewes CF, Huntington JL, Lukas JJ, McEvoy DJ, Rangwala I, Ray AJ, and Yocum HM (2018), The Evaporative Demand Drought Index (EDDI): Updates and performance in the 2017 Northern Great Plains drought. *16th Annual Climate Prediction Applications Science Workshop*, Fargo, ND,

22-24 May. (Oral)

Hobbins MT, Dewes CF, Huntington JL, McEvoy DJ, Rangwala I, Ray AJ, and Yocum HM (2018), The Evaporative Demand Drought Index (EDDI): An emerging drought early warning and monitoring tool. *Great Plains Grasslands Summit*, Denver, CO, 10-11 April. (Poster)

Hobbins MT, Hughes MA, Mahoney KM, and Zamora RJ (2018), Too much water and too little: Meet EDDI, the Evaporative Demand Drought Index. *National Water Center Technology Showcase*, Tuscaloosa, AL, 27 March. (Poster)

Hobbins MT, Barsugli JJ, Dewes CF, Huntington JL, Lukas JJ, McEvoy DJ, Morton CG, Rangwala I, Ray AJ, Smith C, Wood AW, and Yocum HM (2018), The Evaporative Demand Drought Index (EDDI): Early warning and monitoring of drought from the demand side. *NOAA-Physical Sciences Division webinar*, virtual, 14 March. (Webinar)

Hobbins MT, Dewes CF, McEvoy DJ, Shukla S, Harrison LS, Blakeley SL, McNally AL, and Verdin JP (2018), A new global reference evapotranspiration reanalysis forced by MERRA2: Opportunities for famine early warning, drought attribution, and improving drought monitoring. *98th American Meteorological Society Annual Meeting*, Austin, TX, 7-11 January. (Poster)

Hobbins MT (2017), A global reference evapotranspiration service for the FEWS NET Science Community: Derivation, FEWS applications, next steps. *FEWS NET Science Update Meeting: Agro-Climatology for Food Security Assessment*, Washington, D.C., 6-8 September. (Oral)

Hobbins MT, Barsugli JJ, Dewes CF, Rangwala I, Ray AJ, Yocum HM, Webb RS, and Pulwarty RS (2017), Evaporative demand and drought: Dynamics and opportunities in early warning and monitoring. *NOAA-Physical Sciences Division flash seminar*, Boulder, CO, 6 June. (Oral)

Hobbins MT, Ray AJ, Yocum HM, McEvoy DJ, Huntington JL, Rangwala I, Dewes CF, and Lukas JJ (2017), R2O of the Evaporative Demand Drought Index: The physical basis for a new early warning and monitoring index for drought and engagement with stakeholders. *15th Annual Climate Prediction Applications Science Workshop*, Anchorage, AK, 2-4 May. (Oral)

Hobbins MT, McEvoy DJ, Huntington JL, Ray AJ, Yocum HM, Rangwala I, Dewes CF, and Lukas JJ (2017), The Evaporative Demand Drought Index (EDDI): A new drought monitoring and early warning tool. *97th American Meteorological Society Annual Meeting*, Seattle, WA, 22-26 January. (Oral)

Hobbins MT, Shukla S, McNally AL, McEvoy DJ, Huntington JL, Husak GJ, Funk CC, Senay GB, Verdin JP, Jansma T, and Dewes CF (2016), What role does evaporative demand play in driving drought in Africa? Abstract GC43F-02, *2016 Fall Meeting, AGU*, San Francisco, CA, 12-16 December. (Oral)

Hobbins MT, McEvoy DJ, Huntington JL, Wood AW, Morton CG, Verdin JP, and Ray AJ (2016), The Evaporative Demand Drought Index: A new early warning and monitoring index for drought. *National Weather Service National Climate Services Meeting*, Silver Spring, MD, 9-12 May. (Poster)

Hobbins MT (2016), A global reference evaporative demand reanalysis for FEWS NET: A drought monitoring and early warning tool. *FEWS NET Science Update Meeting: Agro-Climatology for Food Security Assessment*, Santa Barbara, CA, 5-7 April. (Oral)

Hobbins MT, McEvoy DJ, Huntington JL, Wood AW, Morton CG, Verdin JP, and Ray AJ (2016), The Evaporative Demand Drought Index: A new early warning and monitoring index for drought. *14th Climate Predictions Applications Science Workshop*, Burlington, VT, 22-24 March. (Poster)

Hobbins MT, McEvoy DJ, Huntington JL, Wood AW, Morton CG, and Verdin JP (2016), EDDI examines the current California drought: Early warning and monitoring of agricultural and hydrologic drought with the new Evaporative Demand Drought Index. *96th American Meteorological Society Annual Meeting*, New Orleans, LA, 10-14 January. (Oral)

Hobbins MT, McEvoy DJ, Huntington JL, Wood AW, Morton CG, and Verdin JP (2015), The current California drought through EDDI's eyes: Early warning and monitoring of agricultural and hydrologic drought with the new Evaporative Demand Drought Index. Abstract H34D-03, *2015 Fall Meeting, AGU*, San Francisco, CA, 14-18 December. (Oral)

Hobbins MT, McEvoy DJ, and Huntington JL (2015), The California Drought through the eyes of EDDI (the Evaporative Demand Drought Index). *40th Climate Diagnostics and Prediction Workshop*, Denver, CO, 26-29 October. (Oral)

Hobbins MT, McEvoy DJ, Huntington JL, Wood AW, and Verdin JP (2015), Evaporative Demand Drought Index (EDDI): The physical basis. *CIRES Science Rendezvous*, Boulder, CO, 1 May. (Poster)

Hobbins MT, McEvoy DJ, Huntington JL, Verdin JP, and Wood AW (2015), Monitoring the California Drought with a novel drought index: The Evaporative Demand Drought Index (EDDI). *AGU Chapman Conference: California Drought: Causes, Impacts, and Policy*, Irvine, CA, 20-22 April. (Poster)

Hobbins MT, McEvoy DJ, Huntington JL, Wood AW, and Verdin JP (2015), The physical basis of the Evaporative Demand Drought Index. *95th American Meteorological Society Annual Meeting*, Phoenix, AZ, 4-8 January. (Poster)

Hobbins MT, McEvoy DJ, Huntington JL, Wood AW, and Verdin JP (2014), The Evaporative Demand Drought Index: The physical basis. Abstract H41B-0799, *2014 Fall Meeting, AGU*, San Francisco, CA, 15-19 December. (Poster)

Hobbins MT (2014), A global reference ET service for FEWS NET: Goals, tasks, and uses. *FEWS NET Science Update Meeting: Putting Drought in Historical Context*, Boulder, CO, 19-20 November. (Oral)

Hobbins MT, Senay GB, and Verdin JP (2014), NOAA introduces its multi-generational reference evapotranspiration product. *ASABE International Symposium on Evapotranspiration: Challenges in Measurement and Modeling from Leaf to the Landscape Scale and Beyond*, Raleigh, NC, 7-10 April. (Oral)

Hobbins MT, Wood AW, McEvoy DJ, and Huntington JL (2014), An Evaporative Demand Drought Indicator (EDDI). *ASABE International Symposium on Evapotranspiration: Challenges in Measurement and Modeling from Leaf to the Landscape Scale and Beyond*, Raleigh, NC, 7-10 April. (Oral)

Hobbins MT (2014), What drives the spatial and temporal variability of evaporative demand across CONUS? *ASABE International Symposium on Evapotranspiration: Challenges in Measurement and Modeling from Leaf to the Landscape Scale and Beyond*, Raleigh, NC, 7-10 April. (Poster)

Hobbins MT, Geli HME, Lewis CS, Senay GB, and Verdin JP (2013), NOAA introduces its first-generation reference evapotranspiration product. Abstract H53E-1453, *2013 Fall Meeting, AGU*, San Francisco, CA, 9-13 December. (Poster)

Hobbins MT (2013), What drives spatial and temporal variability of evaporative demand across CONUS? A 1st-order, 2nd-moment variability analysis of potential evaporation. *33rd Annual AGU Hydrology Days*, Fort Collins, CO, 25-27 March. (Oral)

Hobbins MT, Wood AW, Werner K, and Streubel D (2012), The drivers of spatial and temporal variability of potential evaporation across CONUS: Laying poor parameterizations to rest with a first-order, second-moment variability analysis. Abstract H44A-06, *2012 Fall Meeting, AGU*, San Francisco, CA, 3-7 December. (Oral)

Hobbins MT, Verdin JP, and Senay GB (2012), A new reference evapotranspiration surface for the National Water Census community. Abstract H33P-08, *2012 Fall Meeting, AGU*, San Francisco, CA, 3-7 December. (Oral)

Hobbins MT, Wood AW, Werner K, and Streubel D (2012), What drives the spatial and temporal variability of potential evaporation across CONUS and the Colorado River basin? *Utah State University Spring Runoff Conference*, Logan, UT, 3-4 April. (Oral)

Hobbins MT, Wood AW, and Werner K (2011), Improving drought monitoring and predictions using physically based evaporative demand estimates. Abstract H43H-1322, *2011 Fall Meeting, AGU*, San Francisco, CA, 5-9 December. (Poster)

Hobbins MT, Wood AW, Werner K, and Hogue TS (2011), Evapotranspiration estimation at the NOAA-NWS-Colorado Basin River Forecast Center: Operational challenges and research opportunities. *Western States Remote Sensing of ET Workshop*, Boise, ID, 12-13 October. (Poster)

Hobbins MT, Wood AW, and Werner K (2011), Examining the role of evaporative demand in drought monitoring. *NASA Workshop on Global Drought Monitoring*, Silver Spring, MD, 11-12 April. (Oral)

Hobbins MT, Streubel D, Wood AW, and Werner K (2011), Examining the spatio-temporal variability of potential evaporation across the conterminous US. *NASA/USDA Workshop on Evapotranspiration: An Essential Observation for Climate Understanding and Efficient Water Management*, Silver Spring, MD, 5-7 April. (Poster)

Hobbins MT, Streubel D, Werner K, and Brandon D (2011), Developing two long-term, daily datasets of evaporative demand across the conterminous US. *NASA/USDA Workshop on Evapotranspiration: An Essential Observation for Climate Understanding and Efficient Water Management*, Silver Spring, MD, 5-7 April. (Poster)

Hobbins MT, Streubel D, and Werner K (2011), Forecasting evaporative demand across the conterminous US. *NASA/USDA Workshop on Evapotranspiration: An Essential Observation for Climate Understanding and Efficient Water Management*, Silver Spring, MD, 5-7 April. (Oral)

Hobbins MT, Streubel D, and Werner K (2011), Forecasting evaporative demand across the conterminous US. *Utah State University Spring Runoff Conference*, Logan, UT, 29-30 March. (Oral)

Hobbins MT, Streubel D, and Werner K (2011), Forecasting evaporative demand across the conterminous US. *9th Annual Climate Prediction Applications Science Workshop*, Des Moines, IA, 1-4 March. (Oral)

Hobbins MT, Streubel D, Werner K, and Brandon D (2011), Developing two long-term, daily datasets of evaporative demand across the conterminous US. *91st American Meteorological Society Annual Meeting*, Seattle, WA, 22-27 January. (Poster)

Hobbins MT, Streubel D, Werner K, and Brandon D (2010), Two long-term, daily datasets of evaporative demand for the conterminous US. Abstract H31B-0981, *2010 Fall Meeting, AGU*, San Francisco, CA, 13-17 December. (Poster)

Hobbins MT, Dai A, Roderick ML, and Farquhar GD (2008), Parameterizing evaporative demand in the Palmer Drought Severity Index: Implications for Australia. Abstract H24A-08, *2008 Western Pacific Geophysical Meeting, AGU*, Cairns, Qld., Australia, 29 July-1 August. (Oral)

Hobbins MT, Farquhar GD, and Roderick ML (2007), The evaporation paradox, and the roles of dimming and stilling. *3rd Conference of the Gary Comer Abrupt Climate Change Fellowship*, Palisades, NY, 2-5 May. (Oral)

Hobbins MT, Farquhar GD, and Roderick ML (2007), Moving beyond 'the simpler, the better.' The dangers of parameterizing evaporative demand by temperature alone. *3rd Conference of the Gary Comer Abrupt Climate Change Fellowship*, Palisades, NY, 2-5 May. (Oral)

Hobbins MT, Farquhar GD, and Roderick ML (2007), Do temperature-based parameterizations of evaporative demand force overestimates of mid-latitude continental drying? *3rd Conference of the Gary Comer Abrupt Climate Change Fellowship*, Palisades, NY, 2-5 May. (Poster)

Hobbins MT, Roderick ML, and Farquhar GD (2006), Is the temperature-based parameterization of potential evapotranspiration in the Palmer Drought Severity Index forcing overestimates of mid-continental drying and drought? Abstract H24B-04, *2006 Fall Meeting, AGU*, San Francisco, CA, 11-15 December. (Oral)

Hobbins MT, Roderick ML, and Farquhar GD (2006), What are we talking about when we talk about drying? *17th Annual Australia New Zealand Climate Forum*, Canberra, ACT, Australia, 5-7 September. (Oral)

Hobbins MT, Farquhar GD, and Roderick ML (2006), Towards a more robust characterisation of Australian drought. *Bureau of Meteorology Workshop on Climate Change Detection and Attribution*, Melbourne, Vic., Australia, 5 June. (Oral)

Hobbins MT, Roderick ML, and Farquhar GD (2006), Evaporation demand: Trends and dynamics. *Cooperative Research Centre for Greenhouse Accounting Final Science Meeting*, Melbourne, Vic., Australia, 29-30 May. (Oral)

Hobbins MT, Roderick ML, and Farquhar GD (2005), Using a half-century of misdiagnosis to make bad predictions about future drought trends. *Gary Comer Abrupt Climate Change Fellowship Roundtable*, Palisades, NY, 20-22 October. (Poster)

Hobbins MT, Ramírez JA, and Brown TC (2004), Developing a long-term, high-resolution, continental-scale, spatially distributed time-series of topographically corrected solar radiation. *24th Annual AGU Hydrology Days*, Fort Collins, CO, 10-12 March. (Oral)

Hobbins MT, Ramírez JA, and Brown TC (2004), Developing a homogeneous data series of pan evaporation across the conterminous United States for analysis of long-term trends. *24th Annual AGU Hydrology Days*, Fort Collins, CO, 10-12 March. (Oral)

Hobbins MT, Ramírez JA, and Brown TC (2003), Is pan evaporation decreasing across the conterminous United States? If it is, so what? *23rd Annual AGU Hydrology Days*, Fort Collins, CO, 31 March-2 April. (Oral)

Hobbins MT, Ramírez JA, and Brown TC (2001), Trends in regional evapotranspiration across the United States under the complementary relationship hypothesis. *21st Annual AGU Hydrology Days*, Fort Collins, CO, 2-5 April. (Oral)

Hobbins MT, Ramírez JA, and Brown TC (1999), The complementary relationship in regional evapotranspiration: The CRAE Model and the Advection-aridity approach. *19th Annual AGU Hydrology Days*, Fort Collins, CO, 16-20 August. (Oral). **WINNER: 19th AGU Hydrology Days Best M.S. Student Paper Award.**

Hobbins MT, Ramírez JA, and Brown TC (1999), Regional evapotranspiration and the complementary relationship: A comparison and evaluation of the CRAE model and the Advection-aridity approach. Abstract H51A-14, *1999 Spring Meeting, AGU*, Boston, MA, 1-4 June. (Poster)

Co-author presentations

Pan Y, Wang H, Rosencrans M, Uzoma A, Pugh B, **Hobbins MT**, Abel MR, Ray A, Counts K, and Shrestha S (2026), Operationalizing the Evaporative Demand Drought Index (EDDI) and value-added products for CONUS drought monitoring and early warning at the NOAA Climate Prediction Center. *NOAA's 50th Climate Diagnostics Prediction and Applications Workshop (CDPAW)*, College Park, MD, 1-4 September.

Bhardwaj J, Parker T, **Hobbins MT**, and Hoffmann D (2026), From flash drought to fire: Decomposing the drivers of reference evapotranspiration in rapid drying events preceding extreme fire weather. *AFAC2026*, Melbourne, VIC, Australia, 18-21 August. (Poster)

Bhardwaj J, Parker T, **Hobbins MT**, and Hoffmann D (2026), Variability of reference evapotranspiration and its sensitivity to four major drivers: Applications for extremes. *Australian Meteorological and Oceanographic Society*, Hobart, Tas., Australia, 18-20 February. (Oral)

Hoell AJ, Robinson RMM, Breeden ML, Guerrero E, **Hobbins MT**, and Worsnop RP (2026), The relationship between drought related to the El Niño-Southern Oscillation and wildfire area burned in contiguous United States Geographic Area Coordination Centers. *106th AMS Annual Meeting*, Houston, TX, 25-29 January. (Oral)

Worsnop RP, Hoell AJ, Hatchett BJ, Blankenship K, Chapman TB, Breeden ML, Tolby Z, Short KC, and **Hobbins MT** (2026), Using historical burn-permit data to characterize local and synoptic-scale weather conditions for prescribed pile and broadcast burning in Northern California. *106th AMS Annual Meeting*, Houston, TX, 25-29 January. (Oral)

Hoell AJ, Robinson R, Breeden ML, Guerrero E, **Hobbins MT**, and Worsnop RP (2025), The relationship between ENSO and wildfire area burned in U.S. Geographic Coordination Centers. *NOAA Fire Research from Conditions to Impacts webinar*, virtual, 20 August. (Webinar)

Parker T, **Hobbins MT**, Hoffmann D, and Bhardwaj J (2025), Variability of reference evapotranspiration and its sensitivity to four major drivers: applications for extremes. *Australian Meteorological and Oceanographic Society*, Cairns, QLD, Australia, 23-27 June.

Worsnop RP, Hoell AJ, Blankenship K, Chapman TB, Breeden ML, Tolby Z, Hatchett BJ, Short KC, and **Hobbins MT** (2025), Keeping controlled burns under control: Comparison of weather and fuel conditions on prescribed fire days to those on days with large wildfire growth. *AMS 15th Fire and Forest Meteorology Symposium*, Denver, CO, 12-16 May.

Breeden ML, Hoell A, Worsnop RP, and **Hobbins MT** (2025), Seasonal predictability of vapor pressure deficit in the contiguous United States. *105th AMS Annual Meeting*, New Orleans, LA, 12-16 January.

Kukul MS, **Hobbins MT**, and Abatzoglou JT (2024), Thirstwaves: a novel hydrometeorological metric for measuring and communicating extremes tailored to agricultural and water managers. Abstract A13L-01, *2024 AGU Fall Meeting*, Washington, D.C., 9-13 December.

Harrison L, Funk C, Peterson S, Das B, **Hobbins MT**, Husak G, Turner W, and Shukla S (2024), Impacts, drivers, and predictability of the historic 2024 Southern Africa drought. Abstract GC33G-0230, *2024 AGU Fall Meeting*, Washington, D.C., 9-13 December.

Pan Y, Wang H, Hughes ML, **Hobbins MT**, Ray AJ, Rosencrans M, Pugh B, Uzoma A, and Shrestha S (2024), Operationalizing the Evaporative Demand Drought Index (EDDI) and value-added products for CONUS drought monitoring and early warning at the NOAA Climate Prediction Center. *48th Climate Diagnostics and Prediction Workshop*, Tallahassee, FL, 26-29 March. (Poster)

Hughes ML, Acharya N, Currier WR, **Hobbins MT**, Jackson D, Sthapit E, and Cifelli R (2024), Improving NOAA's water tools through physical process, data-driven, and hybrid modeling techniques. *104th American Meteorological Society Annual Meeting*, Baltimore, MD, 28 January-1 February. (Oral)

McEvoy DJ, **Hobbins MT**, Andrade A, and Albano C (2023), Understanding the increasingly important role of evaporative demand as a driver of extreme drought and wildfire danger in the 21st century. *2023 AGU Fall Meeting*, San Francisco, CA, 11-15 December (Oral).

Husak GJ, Shukla S, Funk CC, Turner W, Saldivar R, Hauzaree D, **Hobbins MT**, and Svoboda MD (2023), Exploring the evolving relationship between precipitation and potential evapotranspiration over sub-Saharan Africa. *2023 AGU Fall Meeting*, San Francisco, CA, 11-15 December. (Poster)

Jayanthi H, Muhammad FZ, Arwal N, **Hobbins MT**, Young C, Husak G, Funk C, Peterson P, Magadzire T, and Verdin J (2023), CHIRPS 2.0 beta and loss exceedance curves. *FEWS NET Science Meeting*, Boulder, CO, 13-15 June. (Oral)

Stuart L, and **Hobbins MT** (2023), Hunger at the AMS: Perspectives on food security for a changing earth system. *103rd American Meteorological Society Annual Meeting*, Denver, CO, 8-12 January. (Oral)

Robjhon M, Xu L, Thiaw W, Fan Y, and **Hobbins MT** (2023), Global drought monitoring and forecasting to advance food security early warning. *103rd American Meteorological Society Annual Meeting*, Denver, CO, 8-12 January. (Oral)

McEvoy D and **Hobbins MT** (2022), The Evaporative Demand Drought Index applications and tools for wildfire danger. *Predictive Services Webinar*, virtual, 10 May. (Webinar)

Colón-Burgos D, Rangwala I, **Hobbins MT**, and Senay GB (2022), Decadal-scale changes in drought-related climate parameters: Assessing the consistency of Global Climate Models in projecting changes in the Northern Great Plains. *102nd American Meteorological Society Annual Meeting*, virtual, 24-27 January. (Poster)

Xia S, McEvoy DJ, **Hobbins MT**, Huntington JL, Rangwala I, and Yocum HM (2021), Identifying indicators and timescales of agricultural drought in the northeast United States using crop area-weighted drought indices. Abstract GC25E-0700, *2021 Fall Meeting, AGU*, New Orleans, LA, 13-17 December. (Poster)

Rangwala I, Smith LL, Senay GB, Barsugli JJ, Kagone S, and **Hobbins MT** (2021), Landscape Evolution Response Index (LERI): High-resolution monitoring of anomalies in ET response across the contiguous US. *Northeast DEWS Drought Indicators and Tools Webinar series*, virtual, 14 September. (Webinar)

Xia S, McEvoy DJ, **Hobbins MT**, Rangwala I, and Yocum HM (2021), Drought index relationships to crop health. *Northeast DEWS Drought Indicators and Tools Webinar series*, virtual, 7 September. (Webinar)

Colón-Burgos D, Rangwala I, **Hobbins MT**, and Senay GB (2021), Decadal-scale changes in drought-related climate parameters: Assessing the consistency of global climate models in projecting changes in the Northern Great Plains. *2021 Boulder Summer Student Research Virtual Poster Symposium*, virtual, 29 July. (Poster)

Colón-Burgos D, Rangwala I, **Hobbins MT**, and Senay GB (2021), Decadal-scale changes in drought-related climate parameters: Assessing the consistency of global climate models in projecting changes in the Northern Great Plains. *SOARS Research Colloquium*, virtual, 26 July. (Oral)

McEvoy DJ, **Hobbins MT**, Rangwala I, Yocum HM, and DeGaetano A (2020), Quantifying drought metrics, time scales, and tools to support management of different drought types in the Northeastern United States. *NOAA Northeast Regional Climate Center webinar*, virtual, 29 October. (Webinar)

Jackson DL, Hughes MA, **Hobbins MT**, Cifelli R, and Webb RS (2020), A drought-monitoring case study using National Water Model soil moisture and National Soil Moisture Network data. *National Soil Moisture Virtual Workshop*, 12-13 August. (Oral)

Hughes MA, Jackson DL, Unruh D, **Hobbins MT**, Cifelli R, Webb RS, Salas F, Glaudemans MJ, Ogden F, Meng J, Wang H, and DeWitt D (2020), Application of the National Water Model for drought monitoring. *19th Conference on Mountain Meteorology*, virtual, 16 July. (Poster)

Hughes MA, Jackson DL, **Hobbins MT**, Cifelli R, Webb RS, Unruh D, Salas F, Glaudemans MJ, Ogden F, Meng J, Wang H, and DeWitt D (2020): Application of the National Water Model for drought monitoring, *NOAA Drought Task Force call*, virtual, May. (Invited)

Hughes MA, Jackson DL, Unruh D, **Hobbins MT**, Cifelli R, Webb RS, Salas F, Glaudemans MJ, Ogden F, Meng J, Wang H, and DeWitt D (2020), Evaluating the National Water Model for stakeholders' needs.

NOAA PSL *flash seminar series*. Boulder, CO, 21 April. (Oral)

Hughes MA, Jackson DL, Unruh D, **Hobbins MT**, Cifelli R, Webb RS, Salas F, Glaudemans MJ, Ogden F, Meng J, Wang H, and DeWitt D (2020), Evaluating the National Water Model for stakeholders' needs. *NOAA Drought Task Force call*, virtual, 27 March. (Webinar)

Verdin JP, Senay GB, **Hobbins MT**, McEvoy DJ, McNally AL, and Magadzire T (2020), A retrospective view of the application of global gridded reference evapotranspiration. *100th American Meteorological Society Annual Meeting*, Boston, MA, 12-16 January. (Oral)

Turner W, Husak GJ, Jones C, Bonifacio R, and **Hobbins MT** (2019), Improved forecast of end-of-season crop water deficits. Abstract GC51G-1152, *2019 Fall Meeting, AGU*, San Francisco, CA, 9-13 December. (Poster)

Hoffmann D, Gallant A, Arblaster J, and **Hobbins MT** (2019), Flash drought in CMIP5 models. Abstract H13E-03, *2019 Fall Meeting, AGU*, San Francisco, CA, 9-13 December. (Oral)

Jackson DL, Hughes MA, Zamora R, Cifelli R, **Hobbins MT**, and Webb RS (2019), Assessing National Water Model and North American Land Data Assimilation soil moisture using National Soil Moisture Network data. *The 2019 National Soil Moisture Workshop: Expanding the Frontiers of Soil Moisture Measurements and Applications*, Manhattan, KS, 22-24 May. (Poster)

Hughes MA, Jackson DL, Sparrow K, Salas F, Glaudemans M, Zamora R, **Hobbins MT**, Cifelli R, Webb RS, Meng J, Mo K, and DeWitt D (2019), Application of the National Water Model for Drought Monitoring. *Prototype Product Webinar*, Boulder, CO, 24 April. (Webinar)

Hughes MA, Jackson DL, Zamora RJ, Cifelli R, **Hobbins MT**, Salas F, Sparrow K, Webb RS, DeWitt D, and Colohan P (2019), Application of the National Water Model for drought monitoring. *American Water Works Association Sustainable Water Management Conference*, Denver, CO, 31 Mar. (Oral, Invited)

Jackson DL, Hughes MA, Zamora RJ, Cifelli R, **Hobbins MT**, and Webb RS (2019), Characteristics of National Water Model and North American Land Data Assimilation System soil moisture climatological distributions in the Mediterranean climate of the California Russian River basin. *99th American Meteorological Society Annual Meeting*, Phoenix, AZ, 6-10 January. (Poster)

Husak GJ, Shukla S, Peterson P, Funk CC, and **Hobbins MT** (2018), Investigating the inputs to SPEI and their importance in identifying agroclimatic hazards. *FEWS NET Science Partners meeting*, Washington, D.C., 12 December. (Oral)

Hughes MA, Jackson DL, Zamora RJ, Cifelli R, **Hobbins MT**, Salas F, Sparrow K, Webb RS, DeWitt DG, and Colohan P (2018), Development of prototype National Water Model soil moisture products for drought monitoring. Abstract H41P-2341, *2018 Fall Meeting, AGU*, Washington D.C., 10-14 December. (Poster)

Husak GJ, Shukla S, Funk CC, and **Hobbins MT** (2018), Investigating the inputs to SPEI and their importance in identifying agroclimatic hazards. Abstract GC21D-1127, *2018 Fall Meeting, AGU*, Washington, D.C., 10-14 December. (Poster)

McEvoy DJ, **Hobbins MT**, Brown TJ, VanderMolen KA, and Wall TU (2018), The Evaporative Demand Drought Index: Research and applications for wildland fire management. *Predictive Services Winter Meeting*, Meridian, ID, 4-6 December. (Oral)

Rangwala I, **Hobbins MT**, Smith LL, Senay GB, Barsugli JJ, and Dewes CF (2018), EDDI and LERI: A tale of two emerging drought indices. *Earth Lab Incubator*, Boulder, CO, 30 November. (Oral)

McEvoy DJ, **Hobbins MT**, Brown TJ, VanderMolen KA, Wall TU, Huntington, JL, Svoboda MD (2018), The Evaporative Demand Drought Index: Research and applications for wildland fire management. *FIRESCOPE Fall Meeting*, 8 November. (Oral, Invited)

- McEvoy DJ, **Hobbins MT**, Brown TJ, VanderMolen KA, Wall TU, Huntington JL, and Svoboda MD (2018), The Evaporative Demand Drought Index: Research and applications for wildland fire management. *Advanced Fire Environment Learning Unit Fall Webinar*, virtual, 7 November. (Webinar)
- Hughes MA, Jackson DL, Zamora RJ, **Hobbins MT**, Cifelli R, Webb RS, Colohan P, and DeWitt D (2018), Development of prototype National Water Model soil moisture products for drought monitoring. *NOAA General Modeling Meeting and Fair*, College Park, MD, 11 September. (Poster)
- McEvoy DJ, **Hobbins MT**, Brown TJ, VanderMolen KA, Wall TU, Huntington JL, and Svoboda MD (2018), Establishing relationships between drought and wildfire danger indices for improved wildfire risk management. *Nevada Water Resources Association Fall Symposium*, Reno, NV, 25 September. (Oral, Invited)
- Rangwala I, Smith LL, Senay GB, Barsugli JJ, Kagone S, and **Hobbins MT** (2018), Landscape Evaporative Response Index (LERI): High-resolution monitoring of evapotranspiration across the contiguous US. *2018 Mountain Climate Conference (MTNCLIM 2018)*, Gothic, CO, 16-21 September (Poster)
- McEvoy DJ, **Hobbins MT**, and Shukla S (2018), Evaporative Demand Drought Index: Monitoring and seasonal predictions. *The Burning Desert: A Workshop on Drought Recovery*, Phoenix, AZ, 11 September. (Oral)
- Hughes MA, Jackson DL, Zamora RJ, **Hobbins MT**, Cifelli R, Webb RS, Colohan P, and DeWitt D (2018), Development of prototype National Water Model soil moisture products for drought monitoring. *AMS Mountain Meteorology*, Santa Fe, NM, 26 June. (Oral)
- McEvoy DJ, Brown TJ, Huntington JL, Wall TU, VanderMolen KA, **Hobbins MT**, and Svoboda MD (2018), Establishing relationships between drought and wildfire danger indices for improved wildfire risk management. *Desert Research Institute webinar*, virtual, 4 June. (Webinar)
- Hughes MA, Jackson DL, Zamora RJ, **Hobbins MT**, Cifelli R, Webb RS, Colohan P, and DeWitt D (2018), Development of prototype National Water Model soil moisture products for drought monitoring. *MOISST 2018 workshop*, Lincoln, NE, 2-4 June. (Oral)
- Hughes MA, Jackson DL, Zamora RJ, Cifelli R, **Hobbins MT**, Webb RS, Mo K, Meng J, DeWitt DG, Colohan P, Salas F, and Sparrow K (2018), Development of prototype National Water Model soil moisture products for drought monitoring. *16th Annual Climate Prediction Applications Science Workshop*, Fargo, ND, 22-24 May. (Oral)
- Rangwala I, Barsugli JJ, Smith LL, Senay GB, Dewes CF, **Hobbins MT**, and Kagone S (2018), Landscape Evaporative Response Index (LERI): High-resolution monitoring of evapotranspiration across the contiguous US. *16th Annual Climate Prediction Applications Science Workshop*, Fargo, ND, 22-24 May. (Poster)
- Hughes MA, Zamora RJ, Jackson DL, **Hobbins MT**, Cifelli R, Webb RS, DeWitt DG, and Colohan P (2018), Development of prototype National Water Model products for drought monitoring. *CIRES Science Rendezvous*, Boulder, CO, 18 May. (Poster)
- Brown TJ, McEvoy DJ, Wall TU, and **Hobbins MT** (2018), Connecting drought and wildfire. *American Meteorological Society 12th Fire and Forest Meteorology Symposium*, Boise, ID, 15-17 May. (Oral)
- Rangwala, I, Barsugli JJ, Smith LL, Senay GB, Dewes CF, and **Hobbins MT** (2018), Landscape Evaporative Response Index (LERI): A high-resolution monitoring of deviations in evaporative potential across the conterminous US. *CIRES Science Rendezvous*, Boulder, CO, 18 May. (Poster)
- McEvoy DJ, Brown TJ, Huntington JL, Wall TU, VanderMolen KA, **Hobbins MT**, and Svoboda MD (2018), Update: Establishing relationships between drought and wildfire danger indices for improved wildfire risk management. *California FIRESCOPE*, 9 May. (Oral)
- Hughes MA, Jackson DL, Zamora RJ, Cifelli R, **Hobbins MT**, Webb RS, Mo K, Meng J, DeWitt DG, Colohan P, Salas F, and Sparrow K (2018), Development of prototype National Water Model products for drought monitoring. *North American Drought Monitor Forum*, Calgary, AB, Canada, 1-3 May. (Oral)

McEvoy DJ, Wall TU, Brown TJ, Huntington JL, **Hobbins MT**, and Svoboda MD (2018), Establishing relationships between drought and wildfire danger indices for improved wildfire risk management. *98th American Meteorological Society Annual Meeting*, Austin, TX, 7-11 January. (Oral)

Harrison LS, Blakeley SL, **Hobbins MT**, Dewes CF, Funk CC, Shukla S, Peterson P, and Husak GJ (2018), Drivers of atmospheric demand during African droughts. *98th American Meteorological Society Annual Meeting*, Austin, TX, 7-11 January. (Poster)

Jayanthi H, Husak G, Funk CC, Verdin JP, **Hobbins MT**, Magadzire T, Adoum A, Galu G (2018), Satellite WRSI-based drought vulnerability functions and agricultural drought risks using paired CHIRPS and reference ET grids in Senegal. *98th American Meteorological Society Annual Meeting*, Austin, TX, 7-11 January. (Poster)

McEvoy DJ, Shukla S, **Hobbins MT**, Husak GJ, Huntington JL, Funk CC, Macharia D, and Verdin JP (2018), Examining the value of global seasonal reference evapotranspiration forecasts to support FEWS NET's food insecurity outlooks. *98th American Meteorological Society Annual Meeting*, Austin, TX, 7-11 January. (Poster)

Harrison LS, Blakeley SL, **Hobbins MT**, Dewes CF, Funk CC, Shukla S, and Husak GJ (2017), Drivers of atmospheric demand during African droughts. Abstract GC33B-1069, *2017 Fall Meeting, AGU*, New Orleans, LA, 11-15 December. (Poster)

Shukla S, McEvoy DJ, **Hobbins MT**, Husak GJ, Huntington JL, Funk CC, Verdin JP, and Macharia D (2017), Examining the value of global seasonal reference evapotranspiration forecasts to support FEWS NET's food insecurity outlooks. Abstract PA11B-0211, *2017 Fall Meeting, AGU*, New Orleans, LA, 11-15 December. (Poster)

Rangwala I, Dewes CF, **Hobbins MT**, Raleigh M, Fish TW, and Barsugli JJ (2017), Hydroclimate analysis for the Wind River Indian Reservation as relevant to water resources and impacts from climate extremes. *Wind River Drought Preparedness Project Workshop*, Fort Washakie, Wind River Indian Reservation, WY, 14 November. (Oral)

Rangwala I, Dewes CF, **Hobbins MT**, and Barsugli JJ (2017), Potential evapotranspiration discussions. *USGS North Central Climate Science Center Evapotranspiration Workshop*, Fort Collins, CO, 7-8 September. (Oral)

Rangwala I, **Hobbins MT**, and Lukas JJ (2017), Evaporative Demand Drought Index (EDDI): Tracking the "atmospheric demand" side of drought for monitoring and early warning. *Western Water Assessment / National Integrated Drought Information System Webinar*, virtual, 11 May. (Webinar).
<https://tinyurl.com/s73vhfb4>

Dewes CF, Rangwala I, **Hobbins MT**, and Barsugli JJ (2017), Assessing drought risk under climate change in the US Great Plains via evaporative demand from downscaled GCM projections. *15th Annual Climate Prediction Applications Science Workshop*, Anchorage, AK, 2-4 May. (Poster)

Dewes CF, Rangwala I, Barsugli JJ, **Hobbins MT**, and Kumar S (2017), Drought risk assessment under climate change is sensitive to methodological choices for the estimation of evaporative demand. *NOAA-Physical Sciences Division flash seminar*, Boulder, CO, 18 April. (Oral)

Palmer CK, Osborne HD, and **Hobbins MT** (2017), Using FRET for drought mitigation. *97th American Meteorological Society Annual Meeting*, Seattle, WA, 22-26 January. (Poster)

Dewes CF, Rangwala I, **Hobbins MT**, and Barsugli JJ (2016), Assessing drought risk under climate change in the US Great Plains via evaporative demand from downscaled GCM projections. Abstract H21D-1425, *2016 Fall Meeting, AGU*, San Francisco, CA, 12-16 December. (Poster)

Osborne HD, Palmer CK, and **Hobbins MT** (2016), Using FRET for drought mitigation. Abstract H21D-1430, *2016 Fall Meeting, AGU*, San Francisco, CA, 12-16 December. (Poster)

Shukla S, **Hobbins MT**, McEvoy DJ, Husak GJ, Dewes CF, McNally AL, Huntington JL, Funk CC, and Verdin JP (2016), Monitoring and forecasting reference evapotranspiration for food security assessments. Abstract H14B-04, *2016 Fall Meeting, AGU*, San Francisco, CA, 12-16 December. (Oral)

Rangwala I, **Hobbins MT**, Dewes CF, Lukas JJ, and McEvoy DJ (2016), EDDI drought indicator: Development and outreach. *Western Water Assessment Stakeholder Meeting*, Boulder, CO, 24 October. (Oral)

Dewes CF, Rangwala I, **Hobbins MT**, Barsugli JJ, and Kumar S (2016), Uncertainties in drought risk assessment under climate change because of differences in methodological choices for the estimation of evaporative demand. *2016 Mountain Climate Conference (MTNCLIM 2016)*, Leavenworth, WA, 18 October. (Poster)

McEvoy DJ, **Hobbins MT**, and Huntington JL (2016), Linking evaporative demand surplus and precipitation deficits to multi-year streamflow drought in California. *Yosemite Hydroclimate Meeting 2016*, Yosemite National Park, CA, 5-6 October. (Oral)

Rangwala I, Dewes CF, Fish TW, Barsugli JJ, and **Hobbins MT** (2016), Climate change and hydrological impacts in the Wind River Indian Reservation region. *Wind River Drought Preparedness Project Workshop*, Fort Washakie, Wind River Indian Reservation, WY, 26 July. (Oral)

Dewes CF, Rangwala I, Barsugli JJ, **Hobbins MT**, and Kumar S (2016), Drought risk under climate change: Evaluation of methodologies for a robust estimation of potential evapotranspiration. *CIRES Science Rendezvous*, Boulder, CO, 13 May. (Poster)

McEvoy DJ, **Hobbins MT**, and Huntington JL (2016), Analysis of the relationship between Nevada surface water deficits and the Evaporative Demand Drought Index. *Nevada Water Resources Association Annual Conference*, Las Vegas, NV, 29 February-3 March. (Oral)

Palmer CK, Osborne HD, **Hobbins MT**, Matusiewicz DP, and Melton FS (2016), National Weather Service Forecast Reference Evapotranspiration. *96th American Meteorological Society Annual Meeting*, New Orleans, LA, 10-14 January. (Poster)

Arsenault KR, Shukla S, **Hobbins MT**, and Peters-Lidard CD (2015), Evaluation and inter-comparison of modern day reanalysis datasets over Africa and the Middle East. Abstract A13C-0341, *2015 Fall Meeting, AGU*, San Francisco, CA, 14-18 December. (Poster)

Dewes CF, Rangwala I, **Hobbins MT**, and Barsugli JJ (2015), Evaluating evaporative demand in CMIP5 models and its role in characterizing drought over the U.S. Northern Great Plains. Abstract H31F-1489, *2015 Fall Meeting, AGU*, San Francisco, CA, 14-18 December. (Poster)

Husak GJ, **Hobbins MT**, Verdin JP, Peterson P, and Funk CC (2015), Using the SPEI to estimate food production in East Africa. Abstract H13G-1622, *2015 Fall Meeting, AGU*, San Francisco, CA, 14-18 December. (Poster)

McEvoy DJ, Huntington JL, and **Hobbins MT** (2015), Optimization of evaporative demand models for seasonal drought forecasting. Abstract H31F-1498, *2015 Fall Meeting, AGU*, San Francisco, CA, 14-18 December. (Poster)

McEvoy DJ, Huntington JL, and **Hobbins MT** (2015), Optimization of evaporative demand models for seasonal drought forecasting. *40th Climate Diagnostics and Prediction Workshop*, Denver, CO, 26-29 October. (Poster)

Moorhead J, Gowda PH, **Hobbins MT**, Senay GB, Paul G, Marek T, and Porter D (2015), Accuracy assessment of NOAA gridded daily reference evapotranspiration for the Texas High Plains. *2015 World Environmental and Water Resources Congress*, Austin, TX, 17-21 May. (Oral)

- McEvoy DJ, Huntington JL, and **Hobbins MT** (2015), Analysis of the relationship between California surface water deficits and the Evaporative Demand Drought Index. *AGU Chapman Conference: California Drought: Causes, Impacts, and Policy*, Irvine, CA, 20-22 April. (Poster)
- Huntington JL, Daudert B, Morton CG, McEvoy DJ, Joros A, Abatzoglou JT, Hegewisch KC, Peterson A, VanSant D, Allen RG, Kilic A, **Hobbins MT**, and Verdin JP (2015), Cloud computing for drought monitoring with Google Earth Engine. *U.S. Drought Monitor Forum*, Reno, NV, 14-16 April. (Oral)
- McEvoy DJ, **Hobbins MT**, Huntington JL, Mejia JF, Hain CR, Anderson MC, and Verdin JP (2015), Exploring the use of physically based evaporative demand anomalies to improve seasonal drought prediction. *Nevada Water Resources Association Annual Conference*, Reno, NV, 26-29 January. (Poster). **2ND PLACE: student posters.**
- Xia Y, **Hobbins MT**, Mu Q, and Ek MB (2015), Evaluation of multimodel and multiscale NLDAS-2 evapotranspiration using different observations. *95th American Meteorological Society Annual Meeting*, Phoenix, AZ, 4-8 January. (Poster)
- McEvoy DJ, **Hobbins MT**, Huntington JL, Mejia JF, Wood AW, Hain CR, Anderson MC, and Verdin JP (2014), Exploring the use of physically based evaporative demand anomalies to improve seasonal drought prediction. Abstract H41B-0799, *2014 Fall Meeting, AGU*, San Francisco, CA, 15-19 December. (Oral, Invited)
- Ham C, **Hobbins MT**, Abt KL, and Prestemon JP (2014), Using the Evaporative Demand Drought Index and the Palmer Drought Severity Index to forecast the number of large wildland fires on federal lands. *Large Wildland Fires Conference*, Missoula, MT, 19-23 May. (Oral)
- Bardsley TJ, Wood AW, **Hobbins MT**, Kirkham T, Briefer L, Niermeyer J, Burian SJ, and Goharian E (2014), Planning for an uncertain future: Climate change and the Salt Lake City water supply. *CIRES Science Rendezvous*, Boulder, CO, 2 May. (Poster)
- McEvoy DJ, Huntington JL, **Hobbins MT**, and Wood AW (2014), Tracking flash drought with atmospheric feedbacks. *Great Basin Climate Forum 2014*, Reno, NV, 10 April. (Poster)
- Moorhead J, Gowda PH, Paul G, **Hobbins MT**, Senay GB, Marek T, and Porter D (2014), Accuracy assessment of NOAA's reference evapotranspiration maps in the Texas High Plains. *ASABE International Symposium on Evapotranspiration: Challenges in Measurement and Modeling from Leaf to the Landscape Scale and Beyond*, Raleigh, NC, 7-10 April. (Poster)
- McEvoy DJ, **Hobbins MT**, Huntington JL, and Wood AW (2014), Tracking flash drought with land-atmospheric feedbacks. *94th American Meteorological Society Annual Meeting*, Atlanta, GA, 3-6 February. (Oral) **2ND PLACE: student presentations.**
- Snell HD, Palmer CK, Krone-Davis PA, Melton FS, and **Hobbins MT** (2013), National Weather Service Forecast Reference Evapotranspiration. Abstract H21A-1012, *2013 Fall Meeting, AGU*, San Francisco, CA, 9-13 December. (Poster)
- Geli HME, Neale CMU, **Hobbins MT**, Verdin JP, and Senay GB (2013), Actual evapotranspiration using a two-source energy balance model and gridded reference ETo. Abstract H21P-03, *2013 Fall Meeting, AGU*, San Francisco, CA, 9-13 December. (Oral)
- Lim WH, Roderick ML, **Hobbins MT**, Wong SC, and Farquhar GD (2012), The energy balance of a US class-A pan. *Centre of Excellence for Climate System Science (CoECSS Workshop)*, Hobart, Tas., Australia, 25-27 September. (Poster)
- Verdin JP, **Hobbins MT**, and Senay GB (2012), A new reference evapotranspiration surface for the National Water Census community. Abstract H33P-08, *2012 Fall Meeting, AGU*, San Francisco, CA, 3-7 December. (Oral)

Wood AW, Werner K, **Hobbins MT**, Clark M, and Verdin JP (2011), Science applications in the Colorado River basin to improve drought management. Abstract GC33C-04, *2011 Fall Meeting, AGU*, San Francisco, CA, 5-9 December. (Oral)

Lim WH, Roderick ML, **Hobbins MT**, Wong SC, Groeneveld PJ, Sun FB, and Farquhar GD (2011), A new equation for the aerodynamics of pan evaporation. Abstract H33A-1265, *2011 Fall Meeting, AGU*, San Francisco, CA, 5-9 December. (Poster)

Lim WH, Roderick ML, Farquhar GD, Wong SC, Groeneveld PJ, **Hobbins MT**, and Sun FB (2009), The aerodynamics of pan evaporation. Abstract H51B-0754, *2009 Fall Meeting, AGU*, San Francisco, CA, 14-18 December. (Poster)

Roderick ML, McVicar TR, Donohue RJ, Van Neil TG, Li L, Rayner DP, Ricciardulli L, Farquhar GD, and **Hobbins MT** (2008), Stilling and the terrestrial hydrologic cycle. Abstract GC42A-08, *2008 Fall Meeting, AGU*, San Francisco, CA, 15-19 December. (Oral)

Roderick ML, Farquhar GD, **Hobbins MT**, and Lim WH (2008), Evaporative demand and terrestrial water resources under a changing climate. *AGU Chapman Conference: Atmospheric Water Vapor and its Role in Climate*, Kailua-Kona, HI, 20-24 October. (Poster)

Farquhar GD, Roderick ML, and **Hobbins MT** (2008), Pan evaporation: An update. *Miniconference on Relative Humidity, Earth Temperature and Climate Change*, Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY, 23-24 June. (Oral)

Farquhar GD, **Hobbins MT**, Roderick ML, and Rotstayn LD (2007), PenPan: A general tool for the attribution of changing pan evaporation. Abstract H33B-1259, *2007 Fall Meeting, AGU*, San Francisco, CA, 10-14 December. (Poster)

Roderick ML, Farquhar GD, and **Hobbins MT** (2005), Climate change: Wetter or drier? *Ecological Society of Australia Annual Conference*, Brisbane, Qld., Australia, 29 November-2 December. (Oral)

Brown TC, **Hobbins MT**, and Ramírez JA (2005), Where our water supply originates. *2005 American Water Resources Association Conference*, Seattle, WA, 7-10 November. (Oral)

Farquhar GD, Roderick ML, and **Hobbins MT** (2005), Evaporative demand and climate change. *Gary Comer Abrupt Climate Change Fellowship Roundtable*, Palisades, NY, 20-22 October. (Oral)

PRESS AND PROJECT PUBLICITY

NOAA/NIDIS (2026), Drought in Summer 2026 in 12 maps and graphs, *Drought.gov News & Events*, 16 September. <https://tinyurl.com/mu8me224>

Sheffield A, and Kalansky J (2026), Drought status update for California-Nevada, *Drought.gov News & Events*, 25 August. <https://tinyurl.com/bdzjvydn>

Gard H (2026), Flash drought developing across the southern Plains, *KXAN.com*, 22 August. <https://tinyurl.com/jt56uxph>

Lisonbee J, Nielsen-Gammon J, Baule BJ, Sittel M, and Morris M (2026), Drought status update for the Southern Plains, *Drought.gov News & Events*, 29 July. <https://tinyurl.com/2s4hu9dj>

Bolinger B (2026), Late June brings large wildfires to Colorado and Utah, *Coyote Gulch*, 7 July. <https://tinyurl.com/yfva7djs>

Garcia H (2026), Why meteorologists are flat out wrong about this summer's heat, *Weddings*, 2 July. <https://tinyurl.com/2yyvrzk>

Worsnop R, Hatchett B, and Short K (2026), Characterizing windows of opportunity for prescribed pile and broadcast burning in Northern California. *Fire Ecology chats podcast*, Episode 97: 23 June (Keane B, Interviewer). <https://tinyurl.com/4j7kzffv>

Byars M (2026), Federal lab cuts could hamper fire forecasting efforts, *Axios*, 8 June. <https://tinyurl.com/bp5e86pu>

NOAA/PSL (2026), Burn, maybe, burn? New research looks back to improve future prescribed burn windows, *PSL News*, 27 May. <https://tinyurl.com/549t9wkj>

Lisonbee J, Nielsen-Gammon J, Baule BJ, and Sittel M (2026), Drought status update for the Southern Plains, *Drought.gov News & Events*, 19 May. <https://tinyurl.com/429txz5b>

Kothari R (2026), Exceptional drought returns to Texas Panhandle and western Oklahoma for first time since July 2023. *The Watchers*, 17 May. <https://tinyurl.com/ewnxxkzm>

NOAA/NIDIS (2026), Drought status update for the Southeast. *Drought.gov News & Events*, 16 April. <https://tinyurl.com/382u3jp9>

North Ops Predictive Services (2026), North Ops Predictive Services wildfire outlook April – July 2026. *YubaNet.com*, 8 April. <https://tinyurl.com/mc7r4prb>

Esterhuizen M (2026), 'Switch' behind flash drought in Puerto Rico uncovered. *Phys.org*, 6 April. <https://tinyurl.com/27zfn5ku>

Capital Weather Gang (2026), CWG Live: Clearing tonight with cooler air lasting into midweek. *Washington Post*, 5 April. <https://tinyurl.com/y3zaxnnw>

NOAA/NIDIS (2026), Drought status update for the Southern Plains, *Drought.gov News & Events*, 2 April. <https://tinyurl.com/5n8m3skm>

Edwards A (2026), Rain returns to the Bay Area Here's what to expect. *San Francisco Chronicle*, 31 March. <https://tinyurl.com/kkv5sk2j>

Climate Impact Company (2026), Most likely scenario for Q2/2026 is drought expansion west into central U.S.. *Climate Impact Company*, 23 March. <https://tinyurl.com/4s952pdz>

NOAA/NIDIS (2026), Drought status update for the Southern Plains. *Drought.gov News & Events*, 26 February. <https://tinyurl.com/y35nvanw>

Wheeler K (2026), Winter pasture report: How winter moisture shapes spring grazing decisions. *Farms.com*, 22 January. <https://tinyurl.com/mw2ys6af>

Baranick J (2026), Commodities market impact weather: Extreme cold air, southern storm expected later this week. *Progressive Farmer*, 20 January. <https://tinyurl.com/muxxe9w3>

Anderson B (2026), Ag weather forum: Winter's first half dried out much of the Mississippi basin. *Progressive Farmer*, 20 January. <https://tinyurl.com/2c584uta>

CIRES (2025), 'Thirstwaves' increase, intensify, and last longer since 1980. *Spheres*, 17:20. <https://tinyurl.com/39jhpys>

Stein T (2025), Tracking the thirst of the atmosphere: NOAA's National Weather Service adds a new tool to better monitor droughts. *NOAA Research*, 30 September. <https://tinyurl.com/4dmb54ba>

Lipuma L (2025), New drought index informs long-term weather forecasts. *CIRES News*, 30 September. <https://tinyurl.com/ycxv4vax>

Sandel G (2025), Weather 101: How do we classify drought? A look at the U.S. Drought Monitor. *WFMJ.com*, 15 September. <https://tinyurl.com/2w8vyy3e>

- Climate Impact Company (2025), Evaporative Drought Demand Index identifies U.S. fire risk areas. *Climate Impact Company*, 7 August. <https://tinyurl.com/mun6n3yb>
- NOAA/NIDIS (2025), Summer 2025 drought and wildfire in 11 maps. *Drought.gov News & Events*, 6 August. <https://tinyurl.com/2dum4r5j>
- Scott K (2025), Weather, wildfire outlook given during webinar. *High Plains Journal*, 4 July. <https://tinyurl.com/3ybp3x5s>
- National Drought Mitigation Center (2025), 'Thirstwaves' are becoming more prevalent in the U.S. *Dry Horizons*, 25 June.
- Dzombak R (2025), It's not just poor rains causing drought. The atmosphere is 'thirstier.' *New York Times*, 4 June. <https://tinyurl.com/2p8ym4j5>
- Valentine S (2025), A dangerous kind of weather. *Nautilus*, 22 May. <https://tinyurl.com/3ajyrfue>
- McQuillan C (2025), Thirstwaves. *The Lancet Planetary Health*, 9(5): E352. <https://tinyurl.com/yp9263bd>
- Wheeler K (2025), Current drought conditions weigh on producers. *High Plains Journal*, 29 April. <https://tinyurl.com/4n87pu57>
- Singh A (2025), LA wildfires: Key risk indicators were detectable using satellites and AI well before ignition. *T&D World*, 23 April. <https://tinyurl.com/mr2xztzt>
- Lee J (2025), Extreme "thirstwaves" are an emerging risk in California. Here's why. *San Francisco Chronicle*, 20 April. <https://tinyurl.com/5rvyynt9>
- Bennett P (2025), Earth's atmosphere faces 'Thirstwaves,' scientists warn. *EcoWatch*, 17 April. <https://tinyurl.com/mvvhnd82>
- Sparks D (2025), Thirstwaves. *Idaho Ag Today*, 15 April. <https://tinyurl.com/mvxntkzp>
- Dorn C (2025), More than half of southern Colorado experiencing drought conditions. *KOAA.com*, 11 April. <https://tinyurl.com/ypatneja>
- Wheeler K (2025), Spring pasture report: Dry soil conditions threaten 2025 grazing season. *Farms.com*, 8 April. <https://tinyurl.com/yfyuxk2p>
- Owen R (2025), 'Thirstwaves' are growing more common across the United States. *Phys.org*, 7 April. <https://tinyurl.com/mu4edkbe>
- Owen R (2025), 'Thirstwaves' are growing more common across the United States. *Eos*, 7 April. <https://tinyurl.com/nhz89uvk>
- NOAA/PSL (2025), PSL Brief: What is a 'thirstwave'? *PSL News*, 25 March. <https://tinyurl.com/5fhs5f89>
- Martin J (2025), Researchers introduce thirstwaves to aid farm irrigation. *Wisconsin Ag Connection*, 21 March. <https://tinyurl.com/26auf98k>
- Farms.com (2025), Introducing thirstwaves - New tool for crop water management. *Farms.com*, 21 March. <https://tinyurl.com/4s7szsmn>
- Lipuma L (2025), Researchers coin 'thirstwaves' as new term for prolonged periods of atmospheric thirst. *CIRES News*, 20 March. <https://tinyurl.com/36b6yjjy>
- NOAA/NIDIS (2025), Drought status update for California-Nevada. *Drought.gov News & Events*, 16 January. <https://tinyurl.com/42595r9r>
- Henson B (2025), This week's unholy mix of drought, wind, and fire in Southern California. *Yale Climate Connections*, 7 January. <https://tinyurl.com/yawa8d53>

- Fleck J (2024), Lousy start to the Colorado/Rio Grande 2024-25 snowpack season. *JFLECK AT INKSTAIN*, 21 December. <https://tinyurl.com/2p87mju>
- NOAA/NIDIS (2024), Drought status update for California-Nevada. *Drought.gov News & Events*, 17 October. <https://tinyurl.com/yhd9n7f7>
- NOAA/NIDIS (2024), Intermountain West 2024 water year and monsoon summary and drought status update. *Drought.gov News & Events*, 9 October. <https://tinyurl.com/2xudmp6t>
- Merrill C (2024), Historic West Virginia drought takes another turn for the worst; rain outlook bleak. *WOAY-TV*, 12 September. <https://tinyurl.com/47nk2duk>
- Lee J (2024), California 'atmospheric thirst' is drying out the state. Map shows where 'flash drought' is developing. *San Francisco Chronicle*, 24 July. <https://tinyurl.com/5473uz6m>
- Merrill C (2024), Weather pattern lining up for flash drought development. *WOAY-TV*, 11 June. <https://tinyurl.com/4h4hdemj>
- Parry B (2024), Louisiana's 2023 water crisis examined. *LSU College of the Coast and Environment Media Center*, 10 June. <https://tinyurl.com/y9fp74nv>
- Wood S (2024), NOAA: Prolonged rain delivers 'perfect' foraging conditions in California. *North Bay Business Journal*, 10 April. <https://tinyurl.com/2pnazc2w>
- NOAA/NIDIS (2024), Featured maps and data: Using EDDI as a flash drought indicator. *Dry Times: National Integrated Drought Information System Newsletter*, 21 March. <https://tinyurl.com/ykcj7a5r>
- NOAA/NIDIS (2024), Severe drought increases mortality risk in the Northern Rockies and Plains. *Drought.gov News & Events*, 6 March. <https://tinyurl.com/37da55t5>
- Halaly A (2024), Will rainfall stay in Las Vegas? This tool forecasts evaporation every day. *Las Vegas Journal-Review*, 15 February. <http://tinyurl.com/ntj7c48f>
- Eurasia Review (2023), Understanding atmospheric flash droughts in the Caribbean. *Eurasia Review*, 24 December. <http://tinyurl.com/ysr3eedn>
- Editorial Staff (2023), Research shows Caribbean nations are more susceptible to flash droughts. *St. Vincent Times*, 16 December. <https://tinyurl.com/y4b6upe3>
- Louise A (2023), Caribbean islands: Experts urging for accurate measures on dry conditions as region prone to drought. *Nature World News*, 16 December. <https://tinyurl.com/3tn76tyf>
- Virginia Tech (2023), Understanding atmospheric flash droughts in the Caribbean. *EnreakAlert!*, 15 December. <https://tinyurl.com/4szrf5xk>
- Fleming D (2023), Caribbean islands are uniquely susceptible to sudden droughts. *Virginia Tech News*, 14 December. <https://tinyurl.com/k5c8xdm8>
- NOAA/NIDIS (2023), Southern Plains drought status update. *Drought.gov News & Events*, 26 October. <https://tinyurl.com/57bsr646>
- NOAA/NIDIS (2023), Summer 2023 in review: A look back at drought across the U.S. in 10 maps. *Drought.gov News & Events*, 21 September. <http://tinyurl.com/bddxd5x7>
- Woolsey S (2023), Study finds regional and demographic increases of respiratory mortality during drought. *Drought.gov News & Events*, 23 August. <https://tinyurl.com/49th46s5>
- Goodland M (2023), Colorado poised for cool, wet fall after summer return to drought conditions, climatologist projects. *Colorado Politics*, 25 July. <https://tinyurl.com/4xhpdv58>

- Baldwin R (2023), National Weather Service Drought Information Statement for May 19, 2023. *The Prowers Journal*, 22 May. <https://tinyurl.com/bmwshp6m>
- Baldwin R (2023), Drought conditions expand across southeast Colorado, NWS April 2023 update. *The Prowers Journal*, 18 April. <https://tinyurl.com/5962whub>
- Baldwin R (2023), Drought Information Statement – NWS Pueblo. *The Prowers Journal*, 27 March. <https://tinyurl.com/2ms48v6t>
- Baldwin R (2022), NWS Pueblo - Drought Information Statement. *The Prowers Journal*, 20 December. <https://tinyurl.com/mt8my6n7>
- American Geophysical Union (2022), Droughts are associated with increase in suicides in the U.S.. *YubaNet.com*, 12 December. <https://tinyurl.com/5byspbth>
- Baldwin R (2022), Drought update from National Weather Service – Pueblo. *The Prowers Journal*, 14 November. <https://tinyurl.com/27dumt2p>
- Baldwin R (2022), Drought information statement – NWS Pueblo. *The Prowers Journal*, 16 September. <https://tinyurl.com/yc85wbzk>
- Baldwin R (2022), Improvement in southeastern Colorado drought. *The Prowers Journal*, 29 August. <https://tinyurl.com/musz6cr3>
- Ridenour S (2022), Drought conditions expected to linger in Idaho. *Challis Messenger*, 18 August. <https://tinyurl.com/7hac3tvz>
- Ulin Z (2022), Washington County experiencing moderate drought. *KCII Radio*, 29 July. <https://tinyurl.com/4ypst454>
- Steward C (2022), Wayne County suffers moderate drought. *Wayne County Journal Banner*, 29 July. <https://tinyurl.com/euc6phky>
- Bednarski R (2022), Are our Sierra Nevada towns destined to go down in flames? *Sierra Nevada Ally*, 13 July. <https://tinyurl.com/me57tju8>
- Wasser M (2022), The drought in Massachusetts is getting worse. *WBUR*, 12 July. <https://tinyurl.com/2u3f4vfz>
- Baldwin R (2022), Improvements in drought conditions across south central and southeast Colorado. *The Prowers Journal*, 11 July. <https://tinyurl.com/2p87dvy2>
- Cooperative Institute for Research in Environmental Sciences (2022), For today's #HumansOfCIRES, meet Mike Hobbins, Senior Research Scientist with CIRES/NOAA Earth System Research Laboratories! #HumansOfCIRES, 22 June. <https://tinyurl.com/2s4duzfp>
- Noel J (2022), Wet weather continues before a pattern shift. *Ohio's Country Journal*, 3 May. <https://tinyurl.com/y7wejuh5>
- Bolinger B (2022), Great Plains could see its most significant drought in a decade. *Washington Post*, 11 April. <https://tinyurl.com/5n78y4z8>
- Baldwin R (2022), Drought Information Statement from NWS-Pueblo. *The Prowers Journal*, 15 March. <https://tinyurl.com/2p8ftn86>
- Baldwin R (2022), Southeast Colorado drought update from NWS Pueblo for February 20, 2022. *The Prowers Journal*, 21 February. <https://tinyurl.com/2p8tuxj4>
- Stein T and Thompson C (2022), The Marshall Fire: Historic firestorm illustrates some of the ways NOAA responds when disaster strikes. *NOAA Boulder*, 29 January. <https://tinyurl.com/562wuks6>

- Guy C (2022), Climate change and population growth creating conditions for more fires like the Marshall Fire. *Rocky Mountain PBS*, 21 January. <https://tinyurl.com/4nk5wenk>
- Scott M (2022), Wet, then dry extremes contributed to devastating Marshall Fire in Colorado. *Climate.gov*, 7 January. <https://tinyurl.com/5dfuru3>
- Samenow J, Feuerstein J, and Bolinger B (2021), How extreme climate conditions fueled unprecedented Colorado fire. *Washington Post*, 31 December. <https://tinyurl.com/ayey9ux4>
- Hobbins MT** (2021), Dr. Mike Hobbins: Understanding drought. *Food Security2022 podcast*, 22 December (E Niebuhr, Interviewer. Audio file). <https://tinyurl.com/2bj3b9r6>
- Baldwin R (2021), Drought persists and deepens across south central and southeast Colorado. *The Prowers Journal*, 20 December. <https://tinyurl.com/4wmnd55w>
- Baldwin R (2021), Drought information statement-NWS Pueblo – November 11. *The Prowers Journal*, 15 November. <https://tinyurl.com/jxb7vtr2>
- Baldwin R (2021), October 2021 Drought information update from Pueblo NWS. *The Prowers Journal*, 22 October. <https://tinyurl.com/uunsjwts>
- North Ops Predictive Services (2021), Significant fire potential for the North Ops region is above normal – through November. *YubaNet.com*, 4 August. <https://tinyurl.com/ynhxjt8e>
- North Ops Predictive Services (2021), Above normal significant fire potential July through October. *YubaNet.com*, 4 July. <https://tinyurl.com/nbrwr2wd>
- Fahys J (2021), Drier springs bring hotter summers in the withering Southwest. *Inside Climate News*, 2 July. <https://tinyurl.com/22jrdrrh>
- Karstens B (2021), Hot days continue to impact much of KELOLAND. *KELO*, 15 June. <https://tinyurl.com/2tdm6bcx>
- Parker T and Gallant A (2021), ‘Flash droughts’ can dry out soil in weeks. New research shows what they look like in Australia. *The Conversation*, 3 June. <https://tinyurl.com/khuswc>
- North Ops Predictive Services (2021), Significant fire potential above normal for the 3,000 ft elevation in June-August. *YubaNet.com*, 4 May. <https://tinyurl.com/n8nfjsh6>
- NIDIS (2021), 2020 in review: A look back at drought across the United States in 12 Maps. *Dry Times: National Integrated Drought Information System Newsletter*, 7 January. <https://tinyurl.com/xadmscvx>
- Stanley S (2020), “Thirstier” atmosphere will increase wildfire risk out West. *Eos*, 101, 2 December. <https://tinyurl.com/bfjf3djk>
- AZoCleanTech (2020), Study analyzes future projections of evaporative demand in California, Nevada. *AZoCleantech*, 20 November. <https://tinyurl.com/j2v3765e>
- Desert Research Institute (2020), Climate change and ‘atmospheric thirst’ to increase fire danger and drought in NV and CA: New study shows impacts of increased levels of evaporative demand as climate grows warmer and drier. *ScienceDaily*, 19 November. <https://tinyurl.com/6xwu4vk8>
- Hawley J (2020), Flash droughts are a new type of extreme weather event. *Massive Science*, 19 October. <https://tinyurl.com/5fvmvfyj>
- Freedman A (2020), California’s ‘brutal’ heat wave is underway, expected to topple all-time records, escalate fire risks. *Washington Post*, 4 September. <https://tinyurl.com/2ea9epp8>
- Freedman A and Leonard D (2020), Heat ‘rarely ever seen’ is forecast to roast West by the weekend, with wildfires still burning. *Washington Post*, 2 September. <https://tinyurl.com/5yzc6cwv>

- Freedman A and Meko T (2020), Here's how California's worst-ever wildfire siege occurred. *Washington Post*, 28 August. <https://tinyurl.com/54vrs3u>
- Lang A (2020), Featured map and data: Landscape Evaporative Response Index. *Dry Times*, 13 August. <https://tinyurl.com/hd28fe95>
- Bolinger B (2020), Have you heard the term "flash drought?" What exactly does that mean? *Weather5280*, 24 June. <https://tinyurl.com/994zkyc5>
- Sigafoos S (2020), Brown lawn alert: We need rain, but the National Weather Service is highlighting the potential for a heat wave. *The Morning Call*, 15 June. <https://tinyurl.com/36fau6t7>
- Morton MC (2020), Predicting fast moving flash droughts. *Eos*, 101, 26 March <https://doi.org/10.1029/2020EO141841>
- Rangwala I (2020), Monitoring and predicting drought on our grasslands. The National Grasslands Council, Grasslands News. *The USDA National Grasslands Council*, 18 March. <https://tinyurl.com/sbb7bag>
- Glick N (2020), More studies, faster forecasting needed to fight flash drought, says paper. *Wyoming Public Media*, 12 March. <https://tinyurl.com/yna48t9z>
- Samuel M (2020), How more flash drought research could be helpful in Georgia. *WABE.org*, 11 March. <https://tinyurl.com/ntn9bxcp>
- IANR News (2020), Husker who coined 'flash drought' helps define emerging phenomenon. *Institute of Agriculture and Natural Resources News*, 11 March. <https://tinyurl.com/3jfr7v5z>
- Lotus J (2020), Scientists' ability to predict 'flash droughts' could assist farmers. *United Press International*, 5 March. <https://tinyurl.com/ktxbnuv>
- Dailyhunt (2020), Flash droughts: Why early-warning, mitigation techniques are needed, *Dailyhunt News*, 4 March. <https://tinyurl.com/9hk9uy2h>
- Stark AM (2020), Flash droughts present challenge for warning system, *Phys.org*, 3 March. <https://tinyurl.com/3szaynd8>
- Simon M (2020), Think flash floods are bad? Buckle up for flash droughts. *Wired*, 2 March. <https://tinyurl.com/ef3k658u>
- DeLuisi B (2020), Study delves into the challenging issue of intense, quickly-developing 'flash droughts'. *NOAA Physical Sciences Division News*, 2 March. <https://tinyurl.com/wh976jbv>
- Leonard D (2019), Forecasters: California fire season could last into December; expect more large blazes. *Washington Post*, 4 November. <https://tinyurl.com/23hymnmh>
- North Ops Predictive Services (2019), NorthOps outlook calls for warmer and drier than normal conditions through January. *YubaNet.com*, 2 October. <https://tinyurl.com/3nnfjcch>
- Miller K (2019), Parched Florida: West Palm Beach had its driest September on record. *The Palm Beach Post*, 1 October. <https://tinyurl.com/npv8htfr>
- Curran A (2019), Record heat likely over next several days: Rain chances stay low and fire danger increases. *WSFA12 News*, 26 September. <https://tinyurl.com/nxup9ast>
- Mellish K (2019), Drought spreads and worsens. *95.5 WSB*, 26 September. <https://tinyurl.com/enzh34a3>
- Leonard D (2019), This year's fire season in California could be 'very active.' *Washington Post*, 5 August. <https://tinyurl.com/tm92krha>

NIDIS (2019), Improving fire risk management with drought early warning information in California and Nevada. *Dry Times: National Integrated Drought Information System Newsletter*, 16 May.

<https://tinyurl.com/58wu7e83>

McEvoy DJ (2018), Daniel McEvoy: Evaporation and fire. *KPCC National Public Radio, Take Two*, 14 November (A Martínez, Interviewer. Audio file: 14:25-18:53). <https://tinyurl.com/yu8xjueu>

Albert V (2018), California fires fueled by drought so bad it's called "Negative Rain." *The Daily Beast*, 13 November. <https://tinyurl.com/ad5rv97u>

Foreman L (2018), Climate scientist driven from home by California wildfire rips 'uninformed' Trump. *The Daily Beast*, 10 November. <https://tinyurl.com/rjsad7d4>

Simon M (2018), The terrifying science behind California's massive Camp Fire. *Wired*, 9 November. <https://tinyurl.com/8vhwfsk2>

USGS (2018), 10 things you may not know about drought. *USGS Climate Adaptation Science Centers*, 23 July. <https://tinyurl.com/54n8bush>

Scott K (2018), Webinar profiles southern plains drought. *High Plains/Midwest Ag Journal*, 11 June. <https://tinyurl.com/u482crz8>

Fialka JJ (2018), A Wyoming reservation shows the new face of drought. *Scientific American*, 6 June. <https://tinyurl.com/5nzzrzas>

Fialka JJ (2018), A slow disaster scorched Wyo. No one saw it come or go. *E&E News Climawire*, 6 June. <https://tinyurl.com/5ef83sx9>

Middleton L, and Rangwala I (2018), EDDI, a new drought index, provides early warning of flash droughts. *EcoPress*, 17 January. <https://tinyurl.com/f4pd3c26>

Stein TE (2017), A new NOAA tool is helping to predict US droughts, global famine. *NOAA Research News*, 30 November. <https://tinyurl.com/he5zxxrs>

McEvoy DJ, and Hain CR (2017), Monitoring the demand side of drought with EDDI and ESI. *The Climate Observer*, July. <https://tinyurl.com/nrufs4uc>

Throssell C (2017), Data that forecasts ET is now at your fingertips. *Golfdom*, 11 January. <https://tinyurl.com/36zmdtby>

DeLuisi B (2016), New tool effectively identifies both rapid-onset and sustained droughts. *NOAA Physical Sciences Division News*, 20 July. <https://tinyurl.com/7h4wrwjd>

Masters J (2016), Could the imminent U.S. heat wave trigger a flash drought? *Weather Underground*, 19 July. <https://tinyurl.com/vbzk47wv>

ENN (2013), Climate change likely to affect streams that quench Salt Lake City's thirst. *Environmental News Network*, 5 November. <https://tinyurl.com/tjvxcnta>

Hobbins MT (1999), Be here now. *The Rocky Mountain Collegian*, August-December.