

KELLY K. CAYLOR

Professor of Ecohydrology

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EDUCATION

2003, Ph.D., Environmental Sciences, University of Virginia
1996, B.A. *with High Distinction*, Environmental Sciences, University of Virginia

PROFESSIONAL RECORD

2016 - Director, Earth Research Institute, University of California, Santa Barbara
2016 - Full Professor, Bren School of Environmental Science & Management, UCSB
2016 - Full Professor, Dept. of Geography, University of California, Santa Barbara
2014 - 2016 Director, Environmental Studies Program, Princeton University
2013 - 2016 Associate Professor, Dept. of Civil and Environmental Engineering, Princeton University
2013 - 2016 Affiliated Faculty, Dept. of Ecology and Evolutionary Biology, Princeton University
2007 - 2012 Assistant Professor, Dept. of Civil and Environmental Engineering, Princeton University
2007 - Adjunct Faculty, Department of Geography, Indiana University
2005 - 2007 Assistant Professor, Department of Geography, Indiana University
2004 - 2005 Postdoctoral Research Associate, National Center for Earth Dynamics, Department of Civil and Environmental Engineering, Princeton University
2003 - 2004 Postdoctoral Research Associate, Princeton Environmental Institute, Department of Civil and Environmental Engineering, Princeton University

RESEARCH INTERESTS

Ecohydrological dynamics, Isotope ecohydrology, Coupled natural-human systems

AWARDS & HONORS

2018 Fellow, National Geographic Society
2015 Princeton Engineering Commendation List for Outstanding Teaching
2012 Princeton Engineering Commendation List for Outstanding Teaching
2011 Editors' Citation for Excellence in Refereeing for Reviews of Geophysics
2009 Early Career Hydrologic Sciences Award, American Geophysical Union
2009 E. Lawrence Keyes, Jr./Emerson Electric Co. Faculty Advancement Award, Princeton University
2009 CAREER Award, National Science Foundation
2004 Postdoctoral Synthesis Fellowship, National Center for Earth Dynamics
2003 Clayton Postdoctoral Fellowship, Princeton Environmental Institute
2002 DuPont Fellowship, University of Virginia
2001 Earth System Science Fellowship, NASA
1998 Governor's Fellowship, University of Virginia
1996 Distinguished Major in Environmental Sciences, University of Virginia

TEACHING & COURSE INSTRUCTION

2019 - G136: *"Water, Energy, and Ecosystems"*, University of California, Santa Barbara
2018 - ESM203: *"Introduction to Earth System Science"*, University of California, Santa Barbara

TEACHING & COURSE INSTRUCTION – continued

2019	Bren MESM Project: “ <i>Green infrastructure for coral reef protection in Hawaii</i> ”, University of California, Santa Barbara
2018	Bren MESM Project: “ <i>Determining conservation research opportunities at the TNC Point Conception Dangermond Preserve</i> ”, University of California, Santa Barbara
2017	Bren MESM Project: “ <i>Exploring the Return on Investment Case for Natural Infrastructure Investment in the Upper Mississippi River Basin</i> ”, University of California, Santa Barbara
2017	G167/ES167: “ <i>Biogeography</i> ”, University of California, Santa Barbara
2016	Freshman Seminar: “ <i>Science, Society, and Dinner</i> ”, with Chef Craig Shelton, Princeton University
2015	Summer Course on “ <i>Isotope Hydrology Training</i> ”, China Agricultural University
2015	Summer Course on “ <i>Using UAVs for Environmental Monitoring</i> ”, U. of Basilicata
2014	Summer Course on “ <i>Modeling Spatial/Temporal Heterogeneity in Ecohydrological Systems</i> ”, U. of Basilicata
2015 - 2016	EEB307/CEE307/ENV307, “ <i>Water, Energy, and Ecosystems</i> ”, Mpala Research Center, Princeton University
2013	CEE474/ENV474, “ <i>Design and Implementation of Environmental Sensor Networks</i> ”
2011	CEE474/ENV474, “ <i>Design and Construction of Environmental Sensors</i> ”, Princeton University
2009 - 2014	CEE 307, “ <i>Field Ecohydrology</i> ”, Mpala Research Center, Princeton University
2010 - 2016	ENV 201, “ <i>Introduction to Environmental Studies</i> ”, with Prof. David Wilcove, ENV Program, Princeton University
2008-2009	CEE 599, “ <i>Environmental Biophysics</i> ”, Princeton University
2008	CEE 599, “ <i>Research Topics in Ecohydrology</i> ”, Princeton University
2007	G307, “ <i>Biogeography</i> ”, Indiana University
2006	G440, “ <i>Topics in Env. Geography: Ecological Systems and Simulation</i> ”, Indiana University
2006	G440, “ <i>Topics in Env. Geography: Ecohydrology</i> ”, Indiana University
2006	G405/505, “ <i>Hydroclimatology</i> ”, Indiana University
2005 to 2007	G107, “ <i>Physical Systems of the Environment</i> ”, Indiana University

INVITED SEMINARS & PRESENTATIONS

2018	Invited Speaker,	Session on “Vegetation dynamics and ecosystem resilience under global climate change”, Ecological Society of America Annual Meeting, August 2018
2018	Invited Speaker,	Workshop on Spatial Pattern Formation in Ecosystems, Princeton University, April 2017
2017	Invited Seminar,	Department of Plant Sciences, University of California, Riverside, October 2017
2017	Invited Speaker,	Session on “Hydrologic connectivity: linking land use changes and management to movement and transformations of resources within catchments”, ALSO Aquatic Sciences Meeting, Honolulu, HI, February 2017
2016	Invited Speaker,	Water for Food Global Conference, “Catalytic Collaborations: Building Public-Private Partnerships for Water and Food Security,” Water for Food Institute, University of Nebraska, April 2016
2015	Invited Speaker,	Session on “Estimation of Spatial and Temporal Variability of Land Surface Hydrological and Thermal Processes”, AGU Fall Meeting, San Francisco, CA, December 2015
2015	Invited Speaker,	Session on “African Environments Across Space and Through Time: Integration Modern and Ancient Data for Insights into Terrestrial Ecosystem Dynamics”, GSA Annual Meeting, Baltimore, MD, November 2015.
2015	Invited Speaker,	Class of 68 “Princeton and the Environment Symposium”, Princeton, NJ, October 2015

INVITED SEMINARS & PRESENTATIONS – continued

2015	Invited Seminar,	National Socio-Environmental Synthesis Center (SESYNC), Annapolis, MD, October 2015
2015	Invited Seminar,	Program in Ecology, Evolutionary Biology, and Behavior, Michigan State University, October, 2015
2015	Invited Lecturer,	Summer Course on “ <i>Using UAVs for Environmental Monitoring</i> ”, U. of Basilicata., Matera, Italy, July 2015
2015	Invited Seminar,	Chinese Academy of Agricultural Sciences, Beijing, China, June 2015.
2015	Lead Instructor,	Isotope Hydrology Training Course, Center for Agricultural and Water Research in China, China Agricultural University, June 2015.
2015	Invited Participant,	Conference on Water & Food Security Under Changing Environments, China Agricultural University
2015	Invited Seminar,	Earth Research Institute, University of California, Santa Barbara, CA, May 2015.
2015	Invited Seminar,	Department of Civil and Environmental Engineering, University of Michigan, Ann Arbor, MI, March 2015.
2015	Invited Speaker,	Symposium on “Advances in Earth Observation: Enabling New Insights into Global Environmental Change”, AAAS Annual Meeting, San Jose, CA, January 2015
2014	Invited Speaker,	Session on “Coupled Natural Human System Research Across Scales: From Emulators of Global Climate Model Output to Local-Scale Processes and Feedbacks”, AGU Fall Meeting, San Francisco, CA, December, 2014
2014	Invited Lecturer,	Summer Course on “ <i>Modeling Spatial/Temporal Heterogeneity in Ecohydrological Systems</i> ”, U. of Basilicata, Matera, Italy, July 2014
2014	Keynote Speaker,	WISNet IGERT Annual Meeting, Duke University, June 2014
2014	Invited Speaker,	Workshop on “Improving Water Use Efficiency in Agriculture”, China Agricultural University, Beijing, China, May 2014
2014	Invited Speaker,	Arid Zone Hydrology Symposium, Texas A&M University, February 2014
2013	Invited Participant,	2nd International Workshop on “ <i>Methods and Technologies for Environmental Monitoring and Modelling of Hydrologic and Hydraulic Risk</i> ”, Matera, Italy, July 2013
2013	Invited Speaker,	Symposium on Hydropedology, Soil Science Society of America Meeting, Tampa, FL, November, 2013
2012	Invited Presenter,	Session on “ <i>Catchment Similarity and Organisation</i> ”, EGU Annual Meeting, Vienna, Austria April, 2012
2012	Invited Speaker,	Session on “Dryland Ecohydrology: Critical Issues and Technical Advances”, AGU Fall Meeting, San Francisco, CA, December, 2012
2012	Invited Seminar,	Department of Environmental Science, Policy, and Management, University of California - Berkeley, August, 2012
2012	Invited Seminar,	STEP Seminar, Woodrow Wilson School, Princeton University, Princeton, NJ, February, 2012
2012	Invited Lecture,	Stuart Country Day School, Princeton NJ, February, 2012
2011	Invited Seminar,	Department of Civil and Environmental Engineering, University of Illinois, Urbana-Champaign, October, 2011
2011	Invited Speaker,	Earthwatch Annual Board Meeting, Princeton, NJ, October, 2011
2011	Invited Speaker,	EcoHCC’11 International Conference on Ecohydrology and Climate Change, Tomar, Portugal, September, 2011
2011	Invited Lecturer,	1 st Summer School on Monitoring and Modeling Surface Hydrology, Marsico Nuovo, Italy, June, 2011
2011	Invited Panelist,	New Jersey Symphony Orchestra Winter Concert, “Water: Global Challenge and Local Solutions in Developing Countries”, Princeton, NJ, January 2011
2010	Invited Speaker,	Department of Geological, Environmental, and Marine Sciences, Rider University, March, 2010

INVITED SEMINARS & PRESENTATIONS – continued

2009	Invited Presenter,	Session on “ <i>Landscapes in Semi-Arid and Arid Environments: A Hydrological and Ecological Perspective</i> ”, AGU Fall Meeting, San Francisco, CA, December 2009
2009	Invited Speaker,	Environmental Fluid Mechanics/Hydrology Seminar Series, MIT, November, 2009
2009	Invited Presenter,	IV CNR-Princeton Workshop “New frontiers in Hydrology”, Rome, July, 2009
2009	Invited Speaker,	Department of Plant Sciences, Kenyatta University of Agriculture and Technology, Nairobi, April, 2009
2008	Invited Presenter,	Session on “ <i>Ecosystem resilience to changing climate patterns: the role of hydrology</i> ”, AGU Fall Meeting, San Francisco, CA December, 2008
2008	Invited Presenter,	Symposium, “ <i>Seeing into the soil: Noninvasive characterization of biophysical processes in the soil critical zone</i> ”, ASA-CSSA-SSSA 2008 Joint Annual Meeting, Houston, TX, October 2008
2008	Invited Participant,	International Ecohydrology/Ecophysiology Workshop, University of Western Australia, Perth, September 2008
2008	Invited Presenter,	Organized Oral Session, “ <i>Towards a synthetic theory of tree-grass coexistence in savannas</i> ”, 93 rd Annual Ecological Society of America Meeting, Milwaukee, WI, August 2008
2007	Invited Seminar,	Department of Civil and Environmental Engineering, Princeton University, March 2007
2007	Invited Speaker,	Monroe County Drainage Board, Bloomington, IN, February, 2007
2006	Invited Presenter,	Session on “ <i>Bridging Hydrology, Soil Science and Ecology</i> ”, AGU Fall Meeting, San Francisco, CA, December 2006
2006	Invited Presenter,	Session on “ <i>Climate-soil-vegetation dynamics and their impacts on water balance and hydrological extremes</i> ”, European Geophysical Union Meeting, Vienna, Austria, April 2006
2006	Invited Seminar,	School of Public and Environmental Affairs, Indiana University, February 2006
2005	Invited Presenter,	Session on “ <i>Integrated Approaches in Hydrological Process Studies</i> ”, AGU Spring Meeting, New Orleans, Louisiana, May 2005
2005	Invited Seminar,	Department of Environmental Sciences, Rutgers University, April 2005
2005	Invited Seminar,	Colloquia Series, Department of Geography, Indiana University, January 2005
2004	Invited Seminar,	Woods Hole Research Center, October 2004
2004	Invited Seminar,	Forest Watershed Seminar Series, Department of Environmental Science, Policy, and Management, University of California - Berkeley, February 2004
2003	Invited Participant,	Savanna Complexity: Different perceptions, Common Ground, Luiperdskloof Game Lodge, South Africa, January 2003
2002	Invited Presenter,	Session on Ecohydrology, AGU Spring Meeting, Washington, D.C., April 2002

PROFESSIONAL SERVICE & MEMBERSHIP

2020 -	Editor,	Earth’s Future
2016 -	Director,	Earth Research Institute, University of California, Santa Barbara
2020 -	Member,	Offsite Research Committee, Office of Research, University of California, Santa Barbara
2020 -	Member,	Ellison Hall Building Committee, University of California, Santa Barbara
2020 -	Member,	Faculty Executive Committee, Bren School of Environmental Science & Management, University of California, Santa Barbara
2019 -	Member,	NCEAS Campus Advisory Committee, University of California, Santa Barbara
2019 -	Member,	Space Committee, Office of Research, University of California, Santa Barbara

PROFESSIONAL SERVICE & MEMBERSHIP – continued

2019 -	Member,	Data Science Curriculum Committee, University of California, Santa Barbara
2018 -	Participating Faculty,	Interdepartmental PhD Emphasis in Environment and Society, University of California, Santa Barbara
2018 -	Member	Campus Data Science Initiative Working Group, University of California, Santa Barbara
2017 -	Member,	North Campus Open Space Administrative Advisory Group, University of California, Santa Barbara
2004 -	Member,	American Geophysical Union (AGU)
2019 - 2020	Member,	Group Project Committee, Bren School of Environmental Science and Management, University of California, Santa Barbara
2019 - 2020	Chair,	Space Committee, Department of Geography, University of California, Santa Barbara
2018	Co-Convenor,	AGU Fall Meeting, Session on “Indicators of Plant Water Availability and Stress in Drought-Prone Forests at a Range of Spatial and Temporal Scales”
2018 - 2020	Member,	Sustainable Water Markets (SWM) Fellowship Program Committee, Bren School of Environmental Science and Management, University of California, Santa Barbara
2018 - 2020	Member,	Sustainable Water Markets (SWM) Fellowship Program Committee, Bren School of Environmental Science and Management, University of California, Santa Barbara
2017 - 2018	Member,	Chair’s Advisory Committee, Department of Geography, UCSB
2017	Co-Convenor,	AGU Fall Meeting, Session on “ <i>Plant-Soil Interactions in the Rhizosphere: Experimental and Computational Advances</i> ”
2017	Co-Convenor,	AGU Fall Meeting, Session on “ <i>Advances in Ecohydrology of Water-Stressed Environments</i> ”
2017	Member,	Academic Program Review Committee, School of Natural Resources and Environment, University of Arizona
2017	Co-Convenor	2017 International Association of Hydrological Sciences Conference, Session on “ <i>Innovative ICT Tools for Water Management and Science</i> ”
2017 - 2018	Chair,	Environmental Data Science & Informatics Search Committee, Earth Research Institute, UC Santa Barbara
2017 - 2019	Member,	Graduate Admission Committee, Department of Geography, University of California, Santa Barbara
2015 - 2016	Member,	Sustainability Steering Council, Princeton University
2015	Chair,	Graduate and Postdoctoral Experiences Strategic Planning Subcommittee, Princeton University
2015 - 2020	Member,	Editorial Board, Environmental Research Reviews, Environmental Research Letters
2015 - 2016	Member,	Task Force on Hydrology Section Technical Committees, American Geophysical Union
2014 - 2017	Member,	Hydrology Early Career Award Committee, American Geophysical Union
2014	Co-convenor,	AGU Fall Meeting, Session on “ <i>The Influence of Changes in Farming Practices, Vegetation, and Land Use on Climate Adaptation, Mitigation, and Ecosystem and Socioeconomic Services</i> ”
2014 - 2016	Director,	Environmental Studies Program, Princeton University

PROFESSIONAL SERVICE & MEMBERSHIP – continued

2014 - 2016	Director,	Graduate Studies, Department of Civil and Environmental Engineering, Princeton University
2014 - 2016	Board Member,	Princeton in Africa, Princeton NJ
2013 - 2016	Member,	Executive Committee, Program in Africa Studies, Princeton University
2010 - 2016	Member,	Executive Committee, Princeton Environmental Institute, Princeton University
2010 - 2016	Advisor,	Freshman Engineering, Princeton University
2009 - 2016	Member,	Executive Committee, Program in Environmental Studies, Princeton University
2013 - 2014	Member,	Fellows Task Force, American Geophysical Union
2010 - 2016	Associate Editor,	Water Resources Research
2013 - 2014	Member,	Horton Medal Award Committee, American Geophysical Union
2013	Invited Participant,	2nd Annual Neureiter Science Diplomacy Roundtable, Center for Science Diplomacy, AAAS
2013	Co-convenor,	AGU Fall Meeting, Session on <i>“Beyond changes in mean climate: the impacts of climate variabilities on terrestrial ecosystems”</i>
2013	Co-convenor,	AGU Fall Meeting, Session on <i>“Postmortem: 2012 Drought: Terrestrial Ecosystems”</i>
2012	Co-convenor,	AGU Fall Meeting, Session on <i>“Landscape System Response Under Change”</i>
2012	Member,	AGU Hydrology Section Nominating Committee
2012	Member,	External Review Board, Science Department, Stuart Country Day School, Princeton, NJ, April 2012
2012	Organizer,	Workshop on <i>“Predictions Under Change: Vision for understanding and managing water, earth, and biota in the Anthropocene”</i> , Boulder, CO, July 2012
2012 - 2013	Director,	Graduate Studies, Civil and Environmental Engineering, Princeton University
2012	Member,	AAAS Science Diplomacy Delegation to Uzbekistan, Tashkent, Uzbekistan, September, 2012
2012	Member,	AAAS Science Diplomacy Delegation to Myanmar, Nay Pi Taw, Myanmar, January 2012
2011	Co-convenor,	AGU Fall Meeting, Session on <i>“Predictive Understanding of Coupled Interactions Among Water, Life, and Landforms”</i>
2011	Co-convenor,	AGU Fall Meeting, Session on <i>“Water and Energy Footprints in the Anthropocene”</i>
2011	Co-convenor,	AGU Fall Meeting, Session on <i>“Landscape System Response Under Change”</i>
2011	Co-convenor,	AGU Fall Meeting, Session on <i>“Laser-Based Isotope Techniques in Biogeosciences”</i>
2011	Co-convenor,	AGU 2011Fall Meeting, Session on <i>“Stable Isotope Fluxes in the Carbon and Water Cycles of Terrestrial Ecosystems”</i>
2011 - 2013	Associate Editor,	Vadose Zone Journal
2011 - 2013	Advisor,	Undergraduate Environmental Engineering Track, CEE, Princeton University
2010 - 2012	Advisor,	Freshman, School of Engineering and Applied Science, Princeton University
2010 - 2012	Chair,	Ecohydrological Technical Subcommittee, Hydrology Section, AGU
2009 - 2012	Associate Editor,	Journal of Geophysical Research - Biogeosciences

PROFESSIONAL SERVICE & MEMBERSHIP – continued

2009	Member,	Program Committee, AGU Chapman Conference on “ <i>Examining Eco-hydrological Feedbacks of Landscape Change along Elevation Gradients in Semiarid Regions</i> ”
2009	Panelist,	National Science Foundation
2008-2010	Member,	Ecohydrology Technical Subcommittee, American Geophysical Union
2008-2009	Interim Chair,	EEWR Graduate Program, CEE Department, Princeton University
2008-2009	Member,	SEAS Policy Committee, Princeton University
2008	Co-convenor,	AGU Fall Meeting, Session on “ <i>Hydrological Controls on Ecosystem Function</i> ”
2008	Moderator,	Princeton Colloquium on Public and International Affairs, “Eco-Friendly Development”
2007	Co-convenor,	AGU Spring Meeting, Session on “ <i>Dynamics and interaction of below-ground carbon pools in dryland ecosystems</i> ”
2007	Member,	Environmental Sciences Steering Committee, Office of Vice Provost for Research, Indiana University
2006	Panelist,	NASA Carbon Cycle Program
2005	Co-convenor,	AGU Fall Meeting, Session on “ <i>Temporal and spatial variability in coupled ecological-hydrological processes</i> ”
2005	Co-convenor,	AGU Fall Meeting, Session on “ <i>Soil-water-nutrient interactions within savanna vegetation</i> ”
2005-2006	Member,	NASA Earth System Scholars Network (ESSN)
2004	Member,	NASA Earth System Scholars Network (ESSN) Technical Committee
2004	Co-chair,	NASA ESSN Symposium, Water and Energy Session

ENTREPRENEURSHIP

2018 -	Advisor,	Princeton Climate Analytics, Princeton NJ
2015	Participant,	NSF I-Corps Entrepreneurship Program, NYC Cohort
2015	Award,	Princeton Keller Center, Innovation Forum
2015	Co-Founder,	Arable Labs, Inc. (www.arable.com)
2015-2017	Board Member,	Arable Labs, Inc. (www.arable.com)

FUNDED RESEARCH

(Total external funding as PI/Co-I: \$13.5 million)

2019-2024	NSF	“ <i>CNH2-L: Linkages and Interactions Between Urban Food Security and Rural Agricultural Systems</i> ”. Co-PI, \$1,599,627.
2019-2020	Zegar Foundation	“ <i>Developing and Implementing Novel Tools for Assessing Riparian Ecosystem Resilience at the Dangermond Preserve</i> ”, PI, \$321,583.
2018-2019	National Geographic	“ <i>AI For Earth: Mapping irrigated crop water use using very high resolution satellite imagery</i> ”, PI, \$100,000
2018-2019	Omidyar Foundation	“ <i>Developing and Scaling up the Mapping Africa Active Learning Platform</i> ”, Co-I, \$80,267
2018-2022	Dept. of Defense	“ <i>Strategic Environmental Research & Development: Understanding and Assessing Riparian Habitat Vulnerability to Drought-Prone Climate Regimes on Department of Defense Bases in the Southwestern US</i> ”, Co-I, \$1,704,236
2017-2020	NSF	“ <i>Collaborative Research: Impacts of Dynamic Climate-Driven Water Availability on Tree Water Use and Health in Mediterranean Riparian Forests</i> ”, Co-I, \$396,566

FUNDED RESEARCH – continued

2017-2018	NSF	<i>“CC*Networking Infrastructure: UCSB Network Upgrade to 100 Gigabit.”</i> , PI, \$481,730
2015-2019	NSF	<i>“Hazards SEES: Understanding Cross-Scale Interactions of Trade and Food Policy to Improve Resilience to Drought Risk”</i> , Co-PI, \$1,341,113
2015	NSF	<i>“FEWS Supplemental Proposal Planning Award</i> , PI, \$200,000
2015	NSF	<i>“I-Corps: Pulsepod: Bringing the Cloud Down to Earth”</i> , PI, \$50,000
2014-2019	NSF	<i>“WSC-Category 2 Collaborative: Impacts of Agricultural Decision Making and Adaptive Management on Food Security”</i> , PI, \$1,929,565
2013-2014	JPL	Strategic University Research Partnerships, <i>“Adding precision to agricultural practice through simultaneous chlorophyll fluorescence and infrared observations”</i> , Co-PI \$100,000
2013-2014	JPL	Strategic University Research Partnerships, <i>“Rapid forest triage by sub-canopy micro air vehicle”</i> , Co-PI, \$100,000
2013-2015	Princeton U.	Grand Challenges Initiative, <i>“Drought and the global carbon cycle”</i> , Co-PI, \$200,000
2012-2015	NSF	Division of Ecological Biology, <i>“Collaborative Research: Quantifying the ecosystem-wide impacts of a strong interactor in African watersheds”</i> , PI, \$123,336.
2011-2014	NASA	IDS, <i>“Multiscale effects of fire on long-term climate and precipitation”</i> , Co-I, \$1,149,128.
2011-2014	NSF	BCS/ESE, <i>“CNH: Institutional Dynamics of Adaptation to Climate Change: Longitudinal Analysis of Snowmelt-Dependent Agricultural Systems”</i> , Co-PI, \$1,200,000.
2011-2014	Princeton U.	Council for International Teaching and Research, <i>“AÉglobal collaborative network for coupling hydrological forecasts and food security in Sub-Saharan Africa and China”</i> , PI, \$225,000.
2010-2013	NSF	BCS/ESE, <i>“ESE: Collaborative Research: Spatial Resilience of Agriculturalists to Coupled Ecological and Hydrological Variability in Rural Zambia”</i> , PI, \$350,000.
2010-2011	Princeton U.	Grand Challenges Initiative, <i>“The Importance of Green Feedbacks on Biodiversity Conservation and Management of Savanna Ecosystems”</i> , PI, \$100,000.
2009-2014	NSF	Division of Earth Sciences, <i>“CAREER: An ecohydrological framework for understanding land degradation in dryland regions”</i> , PI, \$1,500,000.
2009-2010	NSF	OISE IRES/DDEP, <i>“International: The impact of macropores on the spatial and temporal patterns of soil moisture in dryland ecosystems of central Kenya”</i> , PI, \$15,000.
2009	LI-COR	LI-COR Environmental Education Fund (LEEF), <i>“Using the LI-6400XT in the Princeton Semester in Kenya Program: From Undergraduate Education to International Impact”</i> , PI, \$45,000.
2008-2013	NSF	Division of Ecological Biology, <i>“LTREB: KLEE - Scaling up and out at the Kenya Long-term Exclosure Experiment”</i> , Co-I, \$449,940.
2008-2010	NSF	Division of Ecological Biology, <i>“Collaborative Research: Distribution and dynamics of belowground carbon in savannas”</i> , PI, \$250,000.
2007-2009	NSF	Social, Behavioral, and Economic Sciences, <i>“Human and Social Dynamics – Dynamics of Reforestation in Coupled Social-Ecological Systems: Modeling Land-Use Decision Making and Policy Impacts”</i> , Co-I, \$749,150.
2007-2008	Indiana U.	Office of the Vice Provost for Research, <i>“Quantifying organic and pharmaceutical contaminants within urbanizing streams in a central Indiana urbanizing watershed”</i> , PI, \$51,323.
2007-2008	Monroe County, IN	Drainage Board/Transportation Dept., <i>“Quantifying the impacts of development on physical and chemical hydrology of central Indiana streams”</i> , PI, \$96,000.

FUNDED RESEARCH – continued

- 2006-2008 NSF Office of International Science and Engineering, “*International Research Experience for Students – Impacts of Disturbance on Above- and Below-ground Structure of Southern African Savannas*”, Co-PI, \$150,000 (administered by University of Virginia).
- 2005-2007 NASA Interdisciplinary Science in the NASA Earth Science Enterprise, “*Hydrologic & Nutrient Controls on the Structure and Function of Southern African Savannas: A Multi-Scale Approach*”, Co-I, \$900,000.
- 2005-2007 NASA Earth System Science Research Using Data & Products from TERRA, AQUA, & ACRIM Satellites, “*Sources, Transports, and Impacts of Southern African Aerosols: Synthetic Case Studies Using Terra & Aqua Satellite Products*”, Co-I, \$650,000.

RESEARCH MANUSCRIPTS

(Google Scholar h-index: 43, Citations: 7,564)

* indicates current or former graduate/postdoctoral group member

† indicates current or former visiting scholar

+ indicates current or former undergraduate group member

PP indicates pre-print publication or discussion

2020

- PP Vergopolan, N., Xiong, S., Estes, L., Wanders, N., Chaney, N.W., Wood, E.F., Konar, M., **Caylor, K.**, Beck, H.E., Gatti, N., Evans, T., Sheffield, J. (2020) “Field-scale soil moisture bridges the spatial-scale gap between drought monitoring and agricultural yields.” *Hydrology and Earth System Sciences Discussions*. doi: 10.5194/hess-2020-364.
- PP Warter, M., Singer, M., Cuthbert, M.O., Roberts, D., **Caylor, K.K.**, Sabathier, R., Stella, J. (2020) “Onset and propagation of drought into soil moisture and vegetation responses during the 2012–2019 drought in Southern California.” *Hydrology and Earth System Sciences Discussions*. doi: 10.5194/hess-2020-479.
111. Zimmer, A., Guido, Z., *Tuholske, C., Pakalnis, A., Lopus, S., **Caylor, K.**, Evans, T. (2020) “Dynamics of population growth in secondary cities across southern Africa.” *Landscape Ecology*. doi: 10.1007/s10980-020-01086-6.
110. Guido, Z., Zimmer, A., Lopus, S., Hannah, S., *Gower, D., Waldman, K., *Krell, N., Sheffield, S., **Caylor, K.**, Evans, T. (2020) “Farmer Forecasts: Impacts of Seasonal Rainfall Expectations on Agricultural Decision-Making in Sub-Saharan Africa.” *Climate Risk Management*. doi: 10.1016/j.crm.2020.100247.
109. *Krell, N.T. , Giroux, S.A., Guido, Z., Hannah, C., Lopus, SE , **Caylor, K.K.**, Evans, T.P. (2020) “Smallholder farmers’ use of mobile phone services in central Kenya.” *Climate and Development*. doi: 10.1080/17565529.2020.1748847.
108. Giroux, S.A., McCord, P., Lopus, S., *Gower, D., Dell’Angelo, J., Dickinson, S., Chen, X, **Caylor, K.K.**, Evans, T.P. (2020) “Environmental heterogeneity and commodity sharing in smallholder agroecosystems.” *PloS One*, doi: 10.1371/journal.pone.0228021.
107. *Tuholske, C., Andam, K., Blekking, J., Evans, T., **Caylor, K.** (2020) “Comparing measures of urban food security in Accra, Ghana.” *Food Security*. doi: 10.1007/s12571-020-01011-4.
106. Elmes, A., Alemohammad, H., *Avery, R., **Caylor, K.**, Eastman, R., Fishgold, L., Friedl, M.A., Jain, M., Kohli, D., Laso Bayas, J.C., Lunga, D., McCarty, J.L., Pontius, R.G., Reinmann, A.B., Rogan, J., Song, L., Stoyanova, H., Ye, S., Yi, Z.F., Estes L. (2020) “Accounting for training data error in machine learning applied to Earth observations.” *Remote Sensing*. doi: 10.3390/rs12061034.

105. *DeCarlo, K.F. and **Caylor, K.K.** (2020) “Effects of crack morphology on soil carbon flux dynamics in a dryland vertisol.” *Geoderma* doi:
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CONFERENCE & WORKSHOP PRESENTATIONS

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152. Estes, L., **Caylor, K.K.**, *Debats, S., Eastman, R., Thompson, D.R. (2018) “Integrating humans and machines to map smallholder-dominated agricultural frontiers” Association of American Geographers Annual Meeting, New Orleans, LA, 2018. Oral Presentation.
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14. Shugart, H.H., **K.K. Caylor**, C. Hély, R.J. Swap, and P.R. Dowty "Dynamic change in the woodland and savanna ecosystem of sub-tropical Africa" Oral Presentation, Association for Tropical Biology and Conservation Annual Meeting, University of Aberdeen, July 2003.
13. Hély, C. **K.K. Caylor**, S. Alleaume, R.J. Swap, and H.H. Shugart (2003), "Estimating emissions of carbonaceous compounds from souther African fires: a re-analysis of modeling techniques" Oral Presentation, EGS-AGU-EGU Joint Assembly, Nice, France, Abstract published in EOS, April 2003.
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10. Hély, C. P.R. Dowty, S. Alleaume, **K.K. Caylor**, and H.H. Shugart (2001), "Regional fuel load modeled for two contrasting years in central and southern Africa", Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract A51A-0038.
9. Porporato, A., **K.K. Caylor**, F. Laio, L. Ridolfi, and I. Rodriguez-Iturbe (2001), "Soil moisture and plant stress dynamics along the Kalahari precipitation gradient", Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract A51A-0049.
8. Scanlon, T.M., J.D. Albertson, **K.K. Caylor**, and C.A. Williams (2001), "Assessing fractional tree, grass, and bare soil cover from NDVI and rainfall time series along the Kalahari Transect", Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract A51A-0016.
7. Shugart, H.H., **K.K. Caylor**, and P.R. Dowty (2001), "Ecological scale issues in land/atmosphere coupling - Examples from SAFARI 2000." Eos Trans. AGU, 82(47), Fall Meet. Suppl., Abstract A41C-04.
6. **Caylor, K.K.** and H.H. Shugart (2001), "Vegetation patterns along the Kalahari transect", Oral Presentation, Ecological Society of America meeting, Madison, WI.
5. **Caylor, K.K.** and H.H. Shugart (2001), "Vegetation structure and productivity along the Kalahari transect". Poster Presentation, GCTE/LUCC Open Science Meeting, Amsterdam, Netherlands.
4. **Caylor, K.K.** and H.H. Shugart (2001), "Variation in vegetation structure along a large moisture gradient", Oral Presentation, American Geophysical Union meeting, Boston, MA, May, 2001. Published in EOS, April 2001. Abstract B52B-04.
3. **Caylor, K.K.** and H.H. Shugart, "Structural dynamics of southern African savannas assessing change through declassified satellite photos", Poster presentation, Ecological Society of America meeting, Spokane, WA, August 1999.
2. **Caylor, K.K.**, H.H. Shugart, and T.M. Smith, "The role of functional diversity in community dynamics", Poster Presentation, Ecological Society of America meeting, Baltimore, MD, August 1998.
1. **Caylor, K.K.**, H.H. Shugart, and T.M. Smith. "The use of plant functional types to assess the role of diversity in community dynamics". Poster Presentation, GCTE/LUCC Open Science Meeting, Barcelona, Spain, May 1998.

GRADUATE COMMITTEES

Year	Institution	Role	Student	Degree	Current Position
-	UCSB (Geog)	Advisor	Natasha Krell	PhD	-
-	UCSB (Geog)	Advisor	Cascade Tuholske	PhD	-
-	UCSB (Geog)	Advisor	Ryan Avery	PhD	-
-	Princeton U.	Advisor	Drew Gower	PhD	-
-	Princeton U.	Advisor	Keita DeCarlo	PhD	-
-	UCSB (EEMB)	Committee Member	Elizabeth Forbes	PhD	-
-	UCSB (Geog)	Committee Member	Fernanda Ribeiro	PhD	-
-	UCSB (Bren)	Committee Member	Christopher Heckman	PhD	-
-	UCSB (Geog)	Committee Member	Mike Johnson	PhD	-

GRADUATE COMMITTEES – continued

-	UCSB (Geog)	Committee Member	Susan Meerdink	PhD	-
-	UCSB (Geog)	Committee Member	Sara Lafia	PhD	-
2017	Princeton U.	Advisor	Stephanie Debats	PhD	Uber, Inc.
2017	Princeton U.	Advisor	Cynthia Gerlein-Safdi	PhD	Postdoc, U. of Michigan
2015	Princeton U.	Advisor	Hilary Wayland	MSE	Ramboll-Environ, Inc.
2013	Princeton U.	Advisor	Stephen Good	PhD	Asst. Prof., Oregon St. U.
2013	Princeton U.	Advisor	Frances O'Donnell	PhD	Asst. Prof., Auburn U.
2013	Princeton U.	Committee Member	Kaiyu Guan	PhD	Asst. Prof., U. of Illinois, Urbana-Champaign
2012	Princeton U.	Committee Member	Megan Konar	PhD	Asst. Prof., U. of Illinois, Urbana-Champaign
2011	Princeton U.	Advisor	Trenton Franz	PhD	Assoc. Prof., U. of Nebraska