

**CASCADE P. TUHOLSKE**

Postdoctoral Research Scientist

Center for International Earth Science Information Network (CIESIN)

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**EDUCATION**

<b>Ph.D., Geography, University of California, Santa Barbara</b>	2020
<i>Committee:</i> Kelly Caylor (chair), Chris Funk, Stuart Sweeney, Tom Evans	
<i>Dissertation Title:</i> Linking Food Security, Urbanization, & Climate Change in Africa	
<b>M.A., Geography, University of California Santa Barbara</b>	2016
<i>Committee:</i> David López-Carr (chair), Dar Roberts, Susan Cassels	
<i>Thesis Title:</i> Climate Change versus Human Population and Development: Hurricanes, Urbanization, and Tourism Impacts on Land Change in the Tropical Island Ecosystems of Roatán, Honduras	
<b>B.A., International Affairs, The George Washington University</b>	2010
<i>Honors:</i> Special Honors, Elliott School of International Affairs; <i>magna cum laude</i>	
<i>Concentrations:</i> Global Public Health and Conflict and Security	

**RESEARCH AFFILIATIONS**

<b>Postdoctoral Research Scientist</b> , Earth Institute, Columbia University	2020 – Present
<i>Advisors:</i> Robert Chen, Alex de Sherbinin	
<b>Graduate Research Assistant</b> , Earth Research Institute, UCSB	2017–2020
<b>Graduate Student Researcher</b> , Climate Hazards Center, UCSB	2019–2020
<b>Graduate Research Assistant</b> , National Center for Ecological Analysis and Synthesis, UCSB	2019
<b>Graduate Research Associate</b> , Broom Center for Demography, UCSB	2014–2020

**HONORS, GRANTS, AND FELLOWSHIPS**

LOI submitted	National Ocean and Atmospheric Administration: Climate Program Office (CPO) Extreme Heat Risk Initiative Competition, FY2021, co-PI	\$250,000
Pending	National Science Foundation Human-Environment and Geographical Sciences Program (nsf20547), co-I	\$398,268
2020	Earth Institute Postdoctoral Fellowship Program, Columbia University	\$149,090
2020	National Science Foundation SBE Postdoctoral Fellowship (declined)	\$140,000
2020	UCSB Department of Geography Excellence in Research Award	\$500
2019	UCSB President's Dissertation Year Fellowship	\$24,500
2019	UCSB Faculty Senate Graduate Travel Fellowship	\$1,350
2019	Earth Research Institute Graduate Student Conference Travel Fellowship	\$800
2019	Jack & Laura Dangermond Geography Travel Scholarship	\$1,000
2018	UCSB Dept. of Geography Graduate Summer Research Funding	\$2,400

2018	Earth Research Institute Graduate Student Conference Travel Fellowship	\$800
2018	Jack & Laura Dangermond Geography Travel Scholarship	\$1,400
2017	Earth Research Institute Graduate Fellowship	\$1,500
2017	Graduate Student Research and Travel Grant, Broom Center for Demography	\$2,000
2016	U.S. Borlaug Fellows in Global Food Security	\$23,835
2016	Graduate Student Research and Travel Grant, Broom Center for Demography	\$1,995
2016	Jack & Laura Dangermond Geography Travel Scholarship	\$500
2015	Jack & Laura Dangermond Geography Travel Scholarship	\$600
2015	Graduate Student Research and Travel Grant, Broom Center for Demography	\$1,000
2011	Fulbright Scholar - English Teaching Assistant, Sliven, Bulgaria	\$14,000

### PEER-REVIEWED PUBLICATIONS

\* equal authorship

In prep	<b>Tuholske, C.</b> , Gaughan, A., de Sherbinin, A., Stevens, F., Sorichetta, A., Hultquist, C., & Yetman, G. Comparison of Gridded Population Data to Track UN Sustainable Development Goals. <i>Suitability</i> . (invited submission).
In review	*Halpern, B., * <b>Tuholske, C.</b> , Blasco, G., Villasenor, J. C., Frazer, M., & Caylor, K. Mapping global sources and impacts of sewerage, septic and direct wastewater in coastal ecosystems. <i>Proceedings of the National Academy of Sciences</i> .
In revision	<b>Tuholske, C.</b> , Caylor, K., Funk, C., Verdin, A., Sweeney, S., Grace, K., Peterson, P., & Evans, T. Global Urban Population Exposure to Extreme Heat. <i>Proceedings of the National Academy of Sciences</i> .
2020	Verdin, A., Chris Funk, C., Peterson, P., Landsfeld, M., <b>Tuholske, C.</b> , & Grace, K. Development and validation of the CHIRTS-daily quasi-global high-resolution daily temperature data set. <i>Scientific Data</i> , 7, 303.
2020	Zimmer, A., Guido, Z., <b>Tuholske, C.</b> , Pakalniskis, A., Lopus, S., Caylor, K., & Evans, T. Variability of Urban Population Growth Trajectories in Southern Africa. <i>Landscape Ecology</i> , 1-16.
2020	Blekking, J., Waldman, K., <b>Tuholske, C.</b> , Evans, T. The Role of Employment in Urban Food Security in Sub-Saharan Africa. <i>Applied Geography</i> , 114, 102131.
2020	<b>Tuholske, C.</b> , Andam, K., Blekking, J., Evans, T., & Caylor K. Comparing Measures of Urban Food Security in Accra, Ghana. <i>Food Security</i> , 1-15.
2019	<b>Tuholske, C.</b> , Caylor, K., Evans, T., & Avery, R. Variability in urban population distributions across Africa. <i>Environmental Research Letters</i> , 14(8).

- 2018      Brissett, D. I., **Tuholske, C.**, Allen, I. E., Larios, N. S., Mendoza, D. J., Murillo, A. G., & Bloch, E. M. Zika Virus: Knowledge Assessment of Residents and Health-Care Providers in Roatán, Honduras, following an Outbreak. *The American journal of tropical medicine and hygiene*, 99(1), 211-215.
- 2017      **Tuholske, C.**, Tane, Z., López-Carr, D., Roberts, D., & Cassels, S. Thirty Years of Land Use/Cover Change in the Caribbean: Assessing the Relationship between urbanization and Mangrove Loss in Roatán, Honduras. *Applied Geography*, 88C, 84-93.
- 2017      Blekking, J., **Tuholske, C.**, & Evans, T. Adaptive Governance and Market Heterogeneity: An Institutional Analysis of Urban Food Systems in Sub-Saharan Africa. *Sustainability*, 9(12).
- 2017      Brooks, T., Roy-Burman Bloch, A., **Tuholske, C.**, Busch, M., Bakkour, S., Stone, M., Linnen, J. M., Gao, K., Coleman, J., & Bloch, E. Real-Time Evolution of Zika Virus Disease Outbreak, Roatán, Honduras. *Emerging Infectious Disease-CDC*, 23(8).

#### OTHER PUBLICATIONS

\*Book Chapter    †NGO/Government Report    ^Conference proceeding

- 2018†      **Tuholske, C.**, Andam, K., Blekking J., Evans, T., & Caylor, K. Comparative Estimates of Urban Food Security: Evidence from Accra, Ghana. Washington, DC: International Food Policy Research Institute.
- 2018\*      Ervin D., **Tuholske, C.**, and D. López-Carr. "Global Hunger." in *Food and Place: A Critical Exploration*, edited by Pascale Joassart-Marcelli and Fernando Bosco. Washington, DC: Rowman and Littlefield
- 2017†      Food and Agriculture Organization of the United Nations. 2017 The State of Food and Agriculture leveraging Food Systems for Inclusive Rural Transformation. Rome: FAO.
- 2015^      **Tuholske, C.**, López-Carr, D., & Roberts, D. Anthropogenic impacts on Roatán, Honduras: 30 Years of land-cover and land-use change. In *Plurimondi. An International Forum for Research and Debate on Human Settlement*, 8(16), 179-190.

#### TEACHING EXPERIENCE

**Co-Instructor**, Department of Earth & Environmental Sciences, Columbia University  
Threats to Urban Food Security: Climate, Cost, & COVID (graduate reading seminar) Spring 2021

**Instructor of Record**, Department of Geography, University of California, Santa Barbara  
Geography of Surfing (GEOG 20) Winter 2018, Summer 2019

**Teaching Assistant**, Department of Geography, University of California, Santa Barbara  
Geography of Surfing (GEOG 20) Winter 2015, 2016, 2017  
Coastal Pollution (GEOG 132) Fall 2017, 2018  
Population Geography (GEOG 141A) Spring 2016, 2017  
Urban Geography (GEOG 108) Fall 2016  
People, Place & the Environment (GEOG 05) Fall 2014, Spring 2015, Fall 2015

**Professor de Inglés**, Centro de Estudios Superiores de la Industria Farmacéutica, Madrid  
Graduate-level Professional English classes 2013–2014

**Fulbright Scholar – English Teaching Assistant**, U.S. Fulbright Program, Sliven Bulgaria  
High school English classes 2011–2012

## PRESENTATIONS, TALKS, AND POSTERS

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\*Invited

- 2020\* **Tuholske, C.**, Gaughan, A. E., de Sherbinin, A. M., Stevens, F. R., Sorichetta, A., Yetman, G., Huyck, C., & Chen, R. S. A Comparison of Gridded Population Data Products in Disaster Response. eLightning talk given at 2020 American Geophysical Association Fall Meeting. Everywhere, 11 Dec.
- 2020 **Tuholske, C.**, Caylor, K., Funk, C., Verdin, A., Sweeney, S., Grace, K., Peterson, P., & Evans, T. Global Urban Population Exposure to Extreme Heat. Talk given at 2020 American Geophysical Association Fall Meeting. Everywhere, 11 Dec.
- 2020\* **Tuholske, C.** Global Urban Population Exposure to Extreme Heat. Talk given at International Research Institute for Climate and Society, Columbia University, 29 Sep.
- 2019 **Tuholske, C.**, Funk, C., Caylor, K., Evans, T., and Sweeney, S. A Fine-Resolution, Global Comparison of Urban Exposure to Extreme Temperatures. Paper presented at the 2019 American Geophysical Association Fall Meeting. San Francisco, CA. 9-13 Dec.
- 2019 **Tuholske, C.**, and K. Caylor. Inventorying population pressures across Sub-Saharan Africa. Poster Presented at The Global Land Programme Open Science Meeting 2019. Bern, Switzerland, 24 -26 April.
- 2019\* **Tuholske, C.** Linking Food Security, Urbanization, and Climate Change in Sub-Saharan Africa. Talk given at the Stanford Center for Food Security and the Environment. Palo Alto, CA, 28 Jan.
- 2018 **Tuholske, C.**, and K. Caylor. Fusing Remote Sensing and Demography to Assess which Sub-Saharan African Cities Are Growing the Fastest. Paper presented at the 2018 American Geophysical Association Fall Meeting. Washington, DC. 10-14 Dec.
- 2018 **Tuholske, C.**, Andam K., Blekking J., Evans. T, and Caylor K. Towards linking climate change and urban food security: Evidence from Accra, Ghana. Paper presented at the 2018 Graduate Climate Conference. Pack Forest, WA. 2-4 Dec.
- 2018 **Tuholske, C.**, Andam K., Blekking J., Evans. T, and Caylor K. Urban Food Security and Nutritional Challenges in West Africa: Evidence from Accra, Ghana. Poster presented at the 2018 UC Global Health Day, UC San Diego, CA. 22 April.
- 2018 **Tuholske, C.** Andam, K., Blekking, J., Evans, T., and Caylor, K. Towards Assessing Urban Food Security and Nutrition in West Africa. Paper presented at the 2018 American Association of Geographers Annual Meeting, New Orleans, LA. 9-13 April.

- 2016 **Tuholske, C.** The Effects of Tourism on Land Cover and Land Use Change in Roatán, Honduras. Paper presented at the 2016 American Association of Geographers Annual Meeting Annual Meeting, San Francisco, CA. 28 March – 2 April.
- 2015 **Tuholske, C.,** and T. Brooks. Bridging Epidemiology and Remote Sensing: A Case Study of Dengue Fever and Land Use and Land Cover Change in Roatán, Honduras. Poster presented at American Geophysical Association Fall Meeting, AGU, San Francisco, CA. 3-7 Dec.
- 2015 **Tuholske, C.** Reconciling Space and Place to Reveal the Determinate of Health: Integrated Research in Roatán, Honduras. Paper presented at SPATIAL 2015 Spatial Information on Human Health. The University of California, Santa Barbara. Santa Barbara, CA. 9-11 Dec.
- 2015 **Tuholske, C.,** López-Carr, D., Roberts, D. Anthropomorphic impacts on Roatán, Honduras: 30 Years of Land-Cover and Land-Use Change. Paper presented at The XIX European Colloquium in Theoretical and Quantitative Geography (ECTQG2015). Technical University of Bari, Italy, 3-7 Sep.
- 2015 Ervin, D., Lopez-Carr, D., Hodges, C, Miller, K, and **Tuholske, C.** The Geographic Advantage in Coupled Migration-Health Research. Paper presented at the University of California, Los Angeles Blum Center on Poverty and Health in Latin America Workshop on Migration and Health, Los Angeles, CA, 6 March.
- 2014 **Tuholske C.,** López-Carr, D., Elwell, T., Ervin, D, Miller, K.M. Human Health and Human-Environment Dynamics. Paper presented at the Roatán Inter-Professional Program Symposium. Global Health Sciences, University of California, San Francisco, CA. November 17.

#### **SERVICE & DIVERSITY, EQUITY and INCLUSION ADVANCEMENT**

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- Contributor,** GEO Health Community of Practice Small Working Group 2020 – Present
- Working group to support use of earth observations to understand, predict, and reduce health risks from heat across time scales.
- Member,** Steering Committee for EO Toolkit for Sustainable Cities and Communities 2020 – Present
- Working group to assist the UN-Habitat's Global Urban Observatory (GUO) specialized statistics Toolkit development to track UN Sustainable Development Goal 11.
- Mentor,** Graduate Scholar Program, University of California, Santa Barbara 2019 – 2020
- Mentored 3 first-year PhD students from historically under-represented groups in academia.

**Reviewer** *Food Security, African Geographic Review, Population and Environment*

#### **PRESS**

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- Pacific Standard Magazine** “What Happens When a Tiny Island Becomes a Tourist Destination?” Feb. 2016
- NASA Earth Observatory** “How Tourism Changed the Face of Roatán” Feb. 2016

**FIELD EXPERIENCE**

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2017	Urban food security survey, Accra, Ghana
2017	Climatological sensor instillation and urban food security survey, Zambia
2015	Land cover & epidemiological research, Roatán, Honduras
2011 – 2012	Piloted study on student perceptions of the European Union, Sliven, Bulgaria
2009	Community-based disease surveillance program assessment, northern Ghana

**RELEVANT EMPLOYMENT EXPERIENCE**

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<b>Intern,</b> The Food and Agriculture Organization of the United Nations, Rome	2016
<ul style="list-style-type: none"> <li>- Penned sections on urbanization for FAO's 2017 State of Food and Agriculture Report</li> <li>- Researched rural-urban food security issues for the United Nation's Committee on Food Security policy negotiations</li> </ul>	
<b>Director of Organizing,</b> Montana Abolition Coalition, The ACLU of Montana, Missoula MT	2012 – 2013
<ul style="list-style-type: none"> <li>- Designed and implemented grassroots efforts in targeted legislative districts to abolish the death penalty during the 2013 Montana Legislature</li> </ul>	

**PROFESSIONAL AFFILIATIONS**

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The American Geophysical Union, member	2015 – Present
The American Association of Geographers, member	2016 – Present
The Global Land Programme, member	2019 – Present