

COLLEEN E. REID
Assistant Professor
Department of Geography
University of Colorado, Boulder

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EDUCATION

2014 Ph.D. University of California, Berkeley (Environmental Health Sciences)
2007 M.P.H. University of California, Berkeley (Environmental Health Sciences)
2000 Sc.B. Brown University (Environmental Science)

ACADEMIC APPOINTMENTS

2016 - Assistant Professor, Geography Department, University of Colorado, Boulder, CO
2016 - Faculty Fellow, Institute of Behavioral Science, University of Colorado, Boulder
2017 - Faculty Associate, Earth Lab, University of Colorado, Boulder
2014– 2016 Robert Wood Johnson Health and Society Scholar, Post-Doctoral
Harvard School of Public Health, Harvard University - Cambridge, MA

AWARDS AND HONORS

2020 Hearst Foundations Environmental Health Fellow at The Conversation
2020 Emerging Scholar Award, American Association of Geographers Health and Medical
Geography Specialty Group
2020 Outstanding Faculty Mentor, Honorable Mention, Undergraduate Research and Opportunities
Program, University of Colorado Boulder
2018 - 2021 JPB Environmental Health Fellow run by Harvard T.H. Chan School of Public Health
2013 International Society of Exposure Science Student Poster Award, Honorable Mention
2010 APHA Student Travel and Registration Scholarship
2010 – 2013 EPA STAR Graduate Student Fellowship
2009 – 2010 CDC and ASPH Environmental Public Health Fellowship
2006 Roshetko Family Scholarship, UC Berkeley School of Public Health
2005-2006 UC Berkeley School of Public Health Fellowship
2000 Honors Thesis in Environmental Science, Brown University
2000 Nomination to Sigma Xi, the Scientific Research Society
1998 Undergraduate Teaching and Research Award, Brown University

PUBLICATIONS

*represents that author was/is a graduate student under my supervision; **represents that author was/is an undergraduate student under my supervision; # represents that author was/is a post-doc under my supervision

Peer-reviewed Journal Articles

1. Ebi KL, Baldwin J, Bell JE, Hondula D, Errett NA, Hayes K, **Reid CE**, Saha S, Spector J, Vanos J, Berry P. 2021. Extreme Weather and Climate Change: Population Health and Health System Implications. *Annual Reviews in Public Health*. 42: doi: 10.1146/annurev-publhealth-012420-105026.
2. Navarro KM, Clark KA, Hardt DJ, **Reid CE**, Lahm PW, Domitrovich JW, Butler CR, Balmes JR. 2021. Wildland Firefighter Exposure to Smoke and COVID-19: A New Risk on the Fireline. *Science of the Total Environment*. 144296; doi: 10.1016/j.scitotenv.2020.144296.

3. **Considine E, **Reid CE**, Olgetree M, Dye T. 2021. Improving Accuracy of Air Pollution Exposure Measurements: Statistical Correction of a Municipal Low-Cost Airborne Particulate Matter Sensor Network. *Environmental Pollution*. 115833; doi:10.1016/j.envpol.2020.115833.
4. *Hines E, **Reid CE**. 2020. Geospatial Analysis of Hospital Flood Impacts During Hurricane Harvey Compared to Experienced Flood Zones in Harris County, Texas. *American Journal of Public Health*. 110 (4), 574-579; doi:10.2105/AJPH.2019.305520.
5. Humphrey JL, **Reid CE**, Kinnee EJ, Kubzansky LD, Robinson LF, Clougherty JE. 2019. Putting co-exposures on equal footing: an ecological analysis of same-scale air pollution and social factors on cardiovascular disease in New York City. *International Journal of Environmental Research and Public Health* 16(23):4621; doi:10.3390/ijerph16234621.
6. Watson GL, Telesca D, **Reid CE**, Pfister GG, Jerrett M. 2019. Machine learning models accurately model ozone exposure during wildfire events. *Environmental Pollution*; 254: 112792. doi:10.1016/j.envpol.2019.06.088.
7. **Reid CE**, **Considine EM, Watson GL, Telesca D, Pfister GG, Jerrett M. 2019. Associations between ozone and fine particulate matter with respiratory health during a wildfire event. *Environment International*; 129:291–298; doi:10.1016/j.envint.2019.04.033.
8. **Weimer K, Farmer CJQ, **Reid CE**. 2019. A Spatial View of How United States Cesarean Section Rates Changed from 1990 to 2014. *The Professional Geographer* 71(4): 762-769. doi:10.1080/00330124.2019.1578979.
9. **Reid CE**, #Maestas MM. 2019. Wildfire smoke exposure under climate change: impact on respiratory health of affected communities. *Current Opinion in Pulmonary Medicine* 25(2): 179–187. doi: 10.1097/MCP.0000000000000552.
10. **Reid CE**, Kubzansky LD, Shmool JLC, Li J, Clougherty J. 2018. It's Not Easy Assessing Greenness: A Comparison of the Effects of Spatial Resolution of NDVI and Buffer Sizes on Self-Reported Health. *Health & Place* 54: 92–101 <https://doi.org/10.1016/j.healthplace.2018.09.005>
11. **Reid CE**, Clougherty J, Shmool JLC, Kubzansky LD. 2017. Is All Urban Green Space the Same? A Comparison of the Health Benefits of Trees and Grass in New York City. *International Journal of Environmental Research and Public Health* 14(11):1411. doi:10.3390/ijerph14111411
12. Koplitz SN, Jacob DJ, Sulprizio MP, Myllyvirta L, **Reid C**. 2017. Burden of disease from rising coal emissions in Southeast Asia. *Environmental Science & Technology* 51:1467–1476; DOI: 10.1021/acs.est.6b03731.
13. **Reid CE**, Jerrett M, Tager IB, Petersen ML, Mann JK, Balmes JR. 2016. Differential respiratory health effects from the 2008 northern California wildfires: a spatiotemporal approach. *Environmental Research* 150:227-235 DOI: 10.1016/j.envres.2016.06.012.
14. **Reid CE**, Brauer M, Johnston F, Jerrett M, Balmes JR, Elliott CT. 2016. Critical Review of Health Impacts of Wildfire Smoke Exposure. *Environmental Health Perspectives* 124:1334-1343. DOI:10.1289/ehp.1409277.
15. Lim YH, **Reid CE**, Honda Y, Kim H. 2015. Temperature deviation index and elderly mortality in Japan. *International Journal of Biometeorology* 60:991-998.
16. **Reid CE**, Jerrett M, Petersen ML, Pfister GG, Morefield P, Tager IB, Raffuse SM, Balmes JR. 2015. Spatiotemporal prediction of fine particulate matter during the 2008 northern California wildfires using machine learning. *Environmental Science & Technology* 49(6):3887-96.

17. Snowden JM, **Reid CE**, Tager IB. 2015. Framing air pollution epidemiology in terms of population interventions, with applications to multi-pollutant modeling. *Epidemiology* 26:271-279.
18. Lim YH, **Reid CE**, Mann JK, Jerrett M, Kim H. 2014. Diurnal temperature range and short-term mortality in large US communities. *International Journal of Biometeorology* 59(9):1311-9. DOI 10.1007/s00484-014-0941-2.
19. **Reid CE**, Snowden JM, Kontgis C, Tager IB. 2012. The Role of Ambient Ozone in Epidemiologic Studies of Heat-Related Mortality. *Environmental Health Perspectives* 120(12):1627-30. <http://dx.doi.org/10.1289/ehp.1205251>
20. Holstius DM, **Reid CE**, Jesdale BM, Morello-Frosch R. 2012. Birth Weight Following Pregnancy During the 2003 Southern California Wildfires. *Environmental Health Perspectives* 120(9):1340-5. <http://dx.doi.org/10.1289/ehp.1104515>
21. **Reid CE**, Mann JK, Alfasso R, English PB, King GC, Lincoln RA, Margolis HG, Rubado DJ, Sabato JE, West NL, Woods B, Navarro K, Balmes JR. 2012. Evaluation of a Heat Vulnerability Index on Abnormally Hot Days: an Environmental Public Health Tracking study. *Environmental Health Perspectives* 120(5):715-20. <http://dx.doi.org/10.1289/ehp.1103766>
22. **Reid CE** and Gamble JL. 2009. Aeroallergens, Allergic Disease, and Climate Change: Impacts and Adaptation. *EcoHealth* 6(3): 458-470.
23. **Reid CE**, O'Neill MS, Gronlund C, Brines SJ, Brown DG, Diez-Roux AV, Schwartz J. 2009. Mapping Community Determinants of Heat Vulnerability. *Environmental Health Perspectives* 117(11): 1730-1736.

Book Chapters

1. Jerrett MJ, **Reid CE**, McKone TE, Koutrakis P. Participatory and Ubiquitous Sensing for Exposure Assessment in Spatial Epidemiology. 2015. In: Spatial Analysis in Health Geography. Kanaroglou P, Delmelle E, Gosh G, Páez A (Editors). Ashgate Publishing.

Other Scientific Publications (non-peer-reviewed)

1. Jerrett M, Su JG, **Reid CE**, Jesdale B, Ortega Hinojosa AM, Shonkoff SB, Seto E, Morello-Frosch R. 2011. Mapping Climate Change Exposures, Vulnerabilities, and Adaptation to Public Health Risks in the San Francisco Bay and Fresno Regions. Public Interest Energy Research (PIER) Program Draft White Paper.
2. Gamble, JL, **Reid CE**, Post E, Sachs J. 2008. Review of the Impacts of Climate Variability and Change on Aeroallergens and Their Associated Effects. U.S. Environmental Protection Agency, Washington, DC, USA. EPA Report No. EPA/600/R-06/164F
3. Gamble JL, Ebi KL, Sussman FG, Wilbanks TJ, **Reid C**, Thomas JV, Weaver CP, Harris M, Freed R. 2008. Executive Summary. In: Analyses of the effects of global change on human health and welfare and human systems. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [Gamble, J.L. (ed.), K.L. Ebi, F.G. Sussman, T.J. Wilbanks, (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA, p. 1-11.
4. Gamble JL, Ebi KL, Grambsch A, Sussman FG, Wilbanks TJ, **Reid CE**, Hayhoe K, Thomas JV, Weaver CP. 2008. Introduction. In: Analyses of the effects of global change on human health and welfare and human systems. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [Gamble, J.L. (ed.), K.L. Ebi, F.G. Sussman, T.J. Wilbanks, (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA, p. 13–37.
5. Gamble JL, Ebi KL, Sussman FG, Wilbanks TJ, **Reid C**, Thomas JV, Weaver CP. 2008. Common Themes and Research Recommendations. In: Analyses of the effects of global change on human

health and welfare and human systems. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [Gamble, J.L. (ed.), K.L. Ebi, F.G. Sussman, T.J. Wilbanks, (Authors)]. U.S. Environmental Protection Agency, Washington, DC, USA, p. 169–176.

6. Kovats RS, Campbell-Lendrum D, **Reid C**, Martens P. 2000. Climate and Vector-Borne Disease: An assessment of the role of climate in changing disease patterns. Maastricht University, ICIS. UNEP. LSHTM.

PRESENTATIONS

Invited Presentations at Other Institutions

1. **Reid CE**. Using machine learning to estimate population exposure to air pollution during wildfires and its associated health impacts. Colloquium presentation within the Program in Environmental Systems within the Engineering Department. University of California, Merced. October 21, 2020.
2. **Reid CE**. What are some health effects of smoke? National Academies of Science Workshop on “Wildland Fires: Towards Improved Understanding and Forecasting of Air Quality Impacts – A Workshop.” Online. September 23, 2020.
3. **Reid CE**. Health and wildfires. NCAR. Boulder, Colorado. August 11, 2020.
4. **Reid CE**. Using machine learning to estimate population exposure to air pollution during wildfires and its associated health impacts. NCAR FASCINATE meeting. Boulder, Colorado. September 10, 2019.
5. **Reid CE**. Challenges in Studying Wildfire Health Impacts – Exposure Assessment. National Academies of Science Workshop on “Implications of California Wildfires for Health, Communities, and Preparedness”. June 4, 2019.
<https://www.youtube.com/watch?v=MILmOmgjwBE&list=PLGTMA6QkejfiN9fdrzZvPdBz3k01W5z2p&index=30> which contributed to this publication: National Academies of Sciences, Engineering, and Medicine. 2019. *Implications of the California wildfires for health, communities, and preparedness: Proceedings of a workshop*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25622>.
6. **Reid CE**. Epidemiological Evidence of Health Impacts from Wildfire Smoke Exposure. National Academies of Science Workshop on “Implications of California Wildfires for Health, Communities, and Preparedness”. June 4, 2019. <https://www.youtube.com/watch?v=3nQc9I2nn4M> which contributed to this publication: National Academies of Sciences, Engineering, and Medicine. 2019. *Implications of the California wildfires for health, communities, and preparedness: Proceedings of a workshop*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25622>.
7. **Reid CE**. “Health Impacts of Wildfire Smoke Exposure” at the Air Quality & Health meeting of the Colorado Air Quality Control Commission and the Colorado School of Public Health. May 9, 2019.
8. **Reid CE**. Epidemiological Evidence of Wildfire Smoke Health Impacts. British Columbia Lung Association 16th Annual Air Quality & Health Workshop. February 6, 2019. Vancouver, Canada. <https://www.youtube.com/watch?v=zO6hyRfUO2A&t=2s>
9. **Reid CE**. Wildfire Smoke Exposure and Population Health. Center for Health and the Environment Webinar. October 1, 2018.
10. **Reid CE**. Wildfire Smoke Exposure and Population Health. National Association of County and City Health Officials (NACCHO) Webinar: Western Wildfires - Keeping Communities from Polluted Air. May 21, 2018.

11. **Reid CE.** Wildfire Smoke Exposure and Population Health. UCSF Fresno Air Pollution and Health Meeting. University of California San Francisco Fresno Center, Fresno, CA. April 7, 2018.
12. **Reid CE.** Using a Novel Spatiotemporal Exposure Assessment to Estimate Health Effects during the 2008 Northern California Wildfires. Presentation at the Colorado School of Public Health, Aurora, CO, October 4, 2017.
13. **Reid CE.** 2017. Using a Novel Spatiotemporal Exposure Assessment to Estimate Health Effects during the 2008 Northern California Wildfires. Presented July 17, 2017 at the 2017 NCAR/CDC Workshop on Weather, Climate, and Health, Boulder, CO.
14. **Reid CE.** 2017. Health effects of the 2008 northern California wildfires: a spatiotemporal approach. Presentation at the University of Michigan, Ann Arbor. January 10, 2017.
15. **Reid CE.** 2014. "Wildfire Smoke Exposure and Population Health." Public Health Climate Action Team Meeting at the California Air Resources Board, Sacramento, CA. July 22, 2014.
16. **Reid CE.** 2013. "Wildfire Smoke Exposure and Population Health." Genetic and Environmental Toxicology Association. Oakland, CA. December 2, 2013.
17. **Reid CE.** 2013. "Development and Evaluation of the Heat Vulnerability Index for the US." As part of the U.S. Environmental Protection Agency's Mid-Atlantic Sustainability Collaborative Webinar - Increased Heat Vulnerability as a Consequence of Climate Change. July 22, 2013.
18. **Reid CE.** 2013. Estimating health impacts from wildfire particulate matter using chemical transport models and aerosol optical depth. ACD Internal Seminar at the National Center for Atmospheric Research. May 7, 2013.
19. **Reid CE.** 2013. "Development and Evaluation of the Heat Vulnerability Index for the US." As part of a webinar on Heat Vulnerability for C40 Cities Climate Leadership Group and The Cool Cities Network. April 25, 2013.
20. **Reid CE.** 2009 "Who's Hit Hardest by Heat Waves?" September 17, 2009. Podcast. "The Researcher's Perspective: EHP Podcast Series" Available at: <http://ehp03.niehs.nih.gov/static/podcasts.action>

Invited Presentations at Home Institution

1. **Reid CE.** Assessment of exposure to and respiratory health impacts of wildfire smoke. CAQR Seminar. Environmental Engineering, University of Colorado Boulder. October 30, 2019.
2. **Reid CE, Maestas MM, Considine EM, Li G.** Challenges in estimating wildfire smoke exposures and associated public health impacts. Climate, Health and Migration Workshop. IBS, University of Colorado, Boulder. May 20, 2019.
3. **Reid CE, Maestas MM, Considine EM, Li G.** Using satellite data and machine learning to understand air pollution exposures and associated health impacts from wildfires. NC CASC (North Central Climate Adaptation Science Center) Flash Talk. Earth Lab, University of Colorado Boulder. April 19, 2019.
4. **Reid CE.** 2019. Wildfire Smoke Exposure and Population Health. Environmental Studies Colloquium, University of Colorado Boulder. January 30, 2019.
5. **Reid CE.** 2017. It's Not Easy Assessing Green: An exploration into different measures of exposure to urban vegetation and how that may differentially affect health. Institute of Behavioral Sciences Colloquium, University of Colorado Boulder. November 16, 2017.
6. **Reid CE.** 2017. Air Quality/Atmospheric Sciences presentation at the Climate & Health Workshop, May 9, 2017 at the University of Colorado, Boulder, CO.

7. **Reid CE.** 2016. Does exposure to green space improve our health? Using the Built Environment for Social Change: Health, Water, and Shelter. FDR Foundation Global Citizenship 3rd Annual Wintersession @Adams House. Harvard University, Cambridge, MA. January 21, 2016.

Conference Presentations [*Denotes Invited for Symposium or Panel]

1. ***Reid CE.** “Perceived versus measured exposure to urban green space” as part of a symposium titled “Nature and Human Health: Understanding and Applying the Mental and Physical Health Benefits of Time Spent in Nature”. North American Congress for Conservation Biology. Virtual Conference, July 30, 2020.
2. **Reid CE.** Member on Panel Titled: “JPB Environmental Health Fellows Panel: Green Space, Nature Experiences, and the Intersection of Environmental and Social Determinants of Health”. Interdisciplinary Association for Population Health Science Annual Meeting in Seattle, WA. October 3, 2019.
3. ***Reid CE,** Considine E, Telesca D, Watson G, Pfister GG, Jerrett M. Differential Effects of Wildfire Smoke Exposures on Respiratory Health: A Case Study of the 2008 Northern California Wildfires. Oral presentation at the Researchers Meeting of the 44th Annual Natural Hazards Workshop in Broomfield, CO, July 18, 2019.
4. **Reid CE,** Humphrey J, Hines E, Mason K. The role of greenspace on school absences in a nationally representative cohort. Oral presentation at the 2019 annual meeting of the American Association of Geographers in Washington, DC. April 7, 2019.
5. **Reid CE,** Jerrett M, Considine E, Telesca D, Watson G, Pfister GG. Health Impacts Associated with Fine Particulate Matter and Ozone during a Wildfire: Evidence of Differential Effects Due to Measures of the Social Environment. Oral Presentation at the International Society of Environmental Epidemiology annual meeting in Ottawa, Canada. August 30, 2018.
6. **Reid CE,** Jerrett M, Telesca D, Watson G, Pfister GG. Respiratory health impacts associated with fine particulate matter and ozone from a California wildfire. American Association of Geographers Annual Meeting, New Orleans, LA. April 14, 2018.
7. ***Reid CE.** Wildfire Smoke Exposure and Population Health. CHPPD Invited Session: Wildfire Smoke Health Risk Communication at the American Public Health Association Annual Meeting in Atlanta, GA. November 7, 2017.
8. **Reid CE,** Clougherty JE, Shmool JLC, Kubzansky LD. 2017. Is All Urban Green Space the Same? A Comparison of the Health Benefits of Trees and Grass in New York City. Poster Presentation at the International Society of Environmental Epidemiology, September 25, 2017, Sydney, Australia.
9. **Reid CE,** Clougherty JE, Shmool JLC, Li J, Kubzansky LD. 2017. It’s Not Easy Assessing Greenness: A Comparison of the Effects of Spatial Resolution of NDVI and Buffer Sizes on Self-Reported Health. American Association of Geographers Annual Meeting, Boston, MA. April 7, 2017.
10. **Reid CE.** 2016. Health impacts of green space: differential effects for trees and grass. Robert Wood Johnson Health and Society Scholars Annual Meeting 2016, New Orleans, LA
11. **Reid CE,** Jerrett M, Tager IB, Petersen M, Mann JK, Balmes JR. 2016. Using a Novel Spatiotemporal Exposure Assessment to Estimate Respiratory Health Effects during the 2008 Northern California Wildfires. American Meteorological Society’s Seventh Conference on Environment and Health. January 12, 2016.

12. Shmool JLC, **Reid C**, Kubzansky LD, Spengler J, Clougherty JE. 2015. Intra-Urban Air Pollution Concentrations, Perceived Air Quality, and Greenspace. International Society of Exposure Science Annual Meeting 2015, Henderson, Nevada. October 15, 2015.
13. **Reid CE**. 2015. Greenspace and health: mediation through reductions in psychosocial stress? Robert Wood Johnson Health and Society Scholars Annual Meeting 2015, Chapel Hill, NC
14. **Reid CE**, Jerrett M, Tager IB, Petersen ML, Morefield P, Balmes JR. 2013. Spatiotemporal modeling of wildfire smoke exposure in Northern California using satellite data and chemical transport models. Poster presentation at the Environment and Health – Bridging South, North, East and West Conference of ISEE, ISES and ISIAQ, Basel, Switzerland 19 – 23 August 2013.
15. **Reid CE**, Mann JK, Alfasso R, English P, King G, Margolis H, Sabato J, West N, Navarro K, Balmes JR. 2011. Evaluation of a Heat Vulnerability Index on Abnormally Hot Days: An Application of Environmental Public Health Tracking Data. Oral presentation at the 2011 International Society for Environmental Epidemiology, Barcelona, Spain.
16. **Reid CE**, Mann JK, Balmes JR, Rubado D, Margolis H, West N, Woods B, Flowers H. 2010. Climate change, heat waves, and population vulnerability: Using the environmental public health tracking network for validity testing of the heat vulnerability index. Oral presentation at the 2010 American Public Health Association Annual Meeting and Exhibition, Denver, CO.
17. ***Reid CE**. 2010. Heat Vulnerability Mapping: Proposed Vulnerability Measures and Mapping Approaches. Oral presentation at the 2010 CSTE (Council of State and Territorial Epidemiologists) Annual Conference in Portland, OR.
18. **Reid CE**, O'Neill MS, Brines SJ, Gronlund C, Diez-Roux AV, Brown DG, Schwartz J. 2008. Mapping Community Determinants of Heat Vulnerability. Poster presentation at the 2008 ISEE/ISEA Joint Annual Conference: Exposure and Health in a Global Environment, Pasadena CA.
19. **Reid CE**. 2008. Climate Change Impacts on Human Health in the United States: The Need for Preparedness Planning. Oral Presentation at the National Environmental Health Association's 72nd Annual Educational Conference (AEC) & Exhibition, Tucson, AZ.
20. **Reid C**, Broadwin R, Seto E. 2007. Comparison of Geocoding Results Using a Street Map and a Parcel Map. Poster presentation at the 2007 CalGIS Conference, Oakland, CA
21. **Reid C**, Morry D, Hoover S, Sandy MS, Zeise L, Zuniga R. 2007. Cancer Potencies and Daily Intake Levels for Six Industrial Chemicals. Poster presentation at the 2007 Society of Toxicology Conference, Charlotte, NC.

GRANTS AND CONTRACTS

Current Funding

Title: Understanding the mental health impacts of the COVID-19 outbreak and social distancing policies in Denver, CO

Role: PI

Sponsor: CUPC (Colorado Population Center)

Amount: \$2000

Period: 5/11/2020 – 8/15/2020

Title: Exposure to Air Pollutants and Green Space: Implications for the Gut Microbiome and Metabolome in Hispanic Adolescents Living in Denver, Colorado

Role: Co-I

Sponsor: CU Boulder – Research and Innovation Office

Amount: \$50,000 total (5% to Dr. Reid's research group)

Period: 7/1/2019-12/31/2020

Goal: The overall goal of this pilot study is to determine whether exposure to ambient air pollution and/or green space affect the gut microbiome and metabolome.

Title: JPB Environmental Health Fellowship

Role: PI

Sponsor: JPB Foundation and the Harvard T.H. Chan School of Public Health

Amount: \$40,000 total

Period: 2/1/2019-2/29/2022

Title: Understanding the roles of objective versus perception of green space exposure on stress and mental health

Role: PI

Sponsor: JPB Foundation and the Harvard T.H. Chan School of Public Health

Amount: \$93,193

Period: 9/1/2019 – 8/31/2020

Title: A pilot study of the feasibility of the use of ecological momentary assessment in studying the impact of green space on affect

Role: PI

Sponsor: JPB Foundation and the Harvard T.H. Chan School of Public Health

Amount: \$6,807

Period: 9/1/2019 – 8/31/2020

TEACHING

University of Colorado Courses Taught

Spring 2021 GEOG 3692: Introduction to Global Public Health, Enrollment = 210

Spring 2021 GEOG 4852/5852: Health and Medical Geography, Enrollment = 28 (24 undergrads / 4 grads)

Spring 2020 GEOG 3692: Introduction to Global Public Health, Enrollment = 159

Spring 2020 GEOG 4023/5023: Quantitative Methods in Geography, Enrollment = 13

Fall 2018 GEOG 4852/5852: Health and Medical Geography, Enrollment = 34 (29 undergrads / 5 grads)

Spring 2018 GEOG 3692: Introduction to Global Public Health, Enrollment = 131

Spring 2018 GEOG 4023/5023: Quantitative Methods in Geography, Enrollment = 22

Fall 2017 GEOG 4120/5100: Special Topics in Geography: Climate Change and Health, Enrollment=17

Spring 2017 GEOG 3692: Introduction to Global Public Health, Enrollment = 132

Fall 2016 GEOG 4852: Health and Medical Geography, Enrollment = 24

Chair of Undergraduate Honors Thesis Committee

Quinn Adams, Environmental Studies department, chair of Honors Thesis committee. September 2018 – April 2019 *summa cum laude*

Anna Boylan, Environmental Studies department, chair of Honors Thesis committee. September 2018 – April 2019 *magna cum laude*

Kai Kresek, Geography Department, chair of Honors Thesis committee. August 2017-April 2018. *summa cum laude*

Member of Undergraduate Honors Thesis Committee

Heather Carey, EBIO Department, Fall 2019.
Julia Fontana, IPHY Department, Spring 2020.

Undergraduate Independent Study Supervision

Ellen Considine, 2 credits, Fall 2019

Undergraduate Student Advising on Research Projects, University of Colorado Boulder

Ellen Considine, Earth Lab Intern from Applied Math Department, September 2017 – present

Chair of Masters Student Committee, University of Colorado Boulder

Emma Rieves, MA student in Geography, August 2020 - present
Emmanuelle Hines, MA in Geography, August 2017 - May 2019
Gina Li, MA in Geography, August 2017 - May 2019

Member of Masters Student Committee, University of Colorado Boulder

Maxwell Cook, MA Student in Geography, August 2020 - present
Alex Jasper, MA Student in Geography, May 2019 – present
Mollie Buckland, MA in Geography, May 2018 - May 2019
Victoria Scholl, MA in Geography, May 2018 - May 2019
Sarah Posner, MA in Geography, May 2018 - November 2019
Patrick Rody, MA in Geography, May 2018 - November 2019

Chair of Doctoral Student Committee, University of Colorado Boulder

Shelby Ross, PhD Student in Geography, August 2019 - present

Member of Doctoral Student Comprehensive Exam Committee, University of Colorado Boulder

Elias Stallard-Olivera, Ecology and Evolutionary Biology Department (chair = Fierer), Fall 2020 - present
Muhammad Omar Nawaz, Mechanical Engineering Department (chair = Henze), December 2019 - present
Amy DeCastro, Geography Department (chair = Balch), Member of doctoral comprehensive exam and dissertation committees, February 2019 - present
Joseph Tuccillo, Geography Department (chair = Spielman), successfully completed comprehensive exam, Spring 2017
Mohamed Eltarkawe, Mechanical Engineering Department (chair = Miller), successfully completed comprehensive exam, Fall 2017

Member of Doctoral Student Dissertation Committee, University of Colorado Boulder

Joseph Tuccillo, Geography Department (chair = Spielman), January 2017 – April 2020
Mohamed Eltarkawe, Mechanical Engineering Department (chair = Miller), September 2017 – May 2019
Defended Dissertation in May 2019

Post-doctoral Advising, University of Colorado Boulder

Melissa May Maestas, Earth Lab, October 1, 2017 – July 19, 2019

Pedagogical Courses Taken – University of Colorado Boulder

Attended FTEP course “Inclusive Pedagogy” on November 5, 2019
Attended RIO Workshop “Mentoring grad students” on May 2, 2019

Attended FTEP course "Flipping the Classroom" on February 14, 2019
 Attended FTEP Early Career Social Sciences group meetings in 2018-2019
 Attended FTEP course "What are your students learning?" on January 31, 2018
 Attended "Inclusive Excellence in the Classroom" on February 22, 2017
 Attended FTEP course "Teaching Large Classes" on September 28, 2016
 Attended FTEP Early Career Natural Sciences group meetings in 2016-2017

Pre-University of Colorado Teaching Experience

2013 – 2014 Co-instructor, Global Environmental Change for Health Scientists, UC Berkeley
 2010 - 2012 Reader for Global Environmental Change for Health Scientists, UC Berkeley
 2011 Teaching Assistant, Introduction to Environmental Health Sciences, UC Berkeley

Invited Guest Lectures in University Courses

2020 "Climate Change, Air Quality, and Health" September 15, 2020 at the Colorado School of Public Health course on Climate Change and Health.
 2019 "Climate Change, Air Quality, and Health" March 12, 2019 in University of Colorado School of Medicine Climate Medicine Course.
 2019 "It's Not Easy Assessing Green: An exploration into different measures of exposure to urban vegetation and how that may differentially affect health" March 6, 2019 in PSCI PSCI 7108 – Behavioral Science and Public Policy, University of Colorado Boulder.
 2018 "Climate Change, Air Quality, and Health" October 30, 2018 in Climate Change and Health at the Colorado School of Public Health, Aurora, CO.
 2018 "Wildfire smoke exposure and population health" October 23, 2018 in Introduction to Environmental Health Sciences at the University of Colorado Denver.
 2018 "Climate Change and Health" July 3, 2018 in GEOG 3692: Introduction to Global Health, University of Colorado Boulder
 2018 Member of Writing CV panel in Institute of Behavioral Sciences Proseminar March 9, 2018 University of Colorado Boulder
 2017 Presentation on Writing Effective Cover Letters to post-doc in Earth Lab, September 12, 2017, University of Colorado Boulder
 2017 "Climate Change and Health" August 9, 2017 in GEOG 3692: Introduction to Global Health, University of Colorado Boulder
 2017 Member of Academic Job Market panel in Institute of Behavioral Sciences Proseminar April 14, 2017 University of Colorado Boulder
 2016 "Wildfire Smoke Exposure and Population Health" October 17, 2016 in ATOC 6020: Seminar in Climate Dynamics at University of Colorado Boulder
 2013 Invited guest lecturer "Estimating health impacts from wildfire particulate matter using chemical transport models and aerosol optical depth", Introduction to Environmental Health Sciences, UC Berkeley
 2013 Invited guest lecturer "Directed Acyclic Graphs: An example with Heat and Ozone", Environmental Health Sciences Doctoral Seminar, UC Berkeley

PROFESSIONAL SERVICE

Internal Service – Geography Department

Boulder Faculty Assembly, Representative for Geography Department, Fall 2020 - present
 Personnel committee member, Spring 2019 – Spring 2020
 PUEC committee member for Instructor Sarah Kelly, Fall 2018
 Chair of Colloquium Committee, Fall 2018 – Spring 2019

Panelist on Grad School and Beyond, October 9, 2018
 Colloquium Committee Member, Fall 2017-Spring 2018
 Digital Globe Scholarship Reviewer, Spring 2018
 Diversity Committee, Fall 2016-Spring 2017

Internal Service – Institute of Behavioral Science

Member of Equity, Diversity and Inclusion (EDI) Committee, Summer 2020 - present
 Member of Strategic Planning Committee for ARPAC report, Fall 2019

Internal Service – University of Colorado Boulder

Colorado Population Center, Co-chair of Hazards and Population Committee, for CUPC renewal application, Spring 2019
 Member of Climate Change and Health committee, run by Emily Cobabe-Ammann, Fall 2016-present
 - Helped coordinate May 2017 and October 2018 symposia related to climate change and human health
 Reviewer for Innovative Seeds Grants, Social Science and Professional Schools, Winter 2017

External Service for Geography

2019 - 2021 At-Large Member of the Health and Medical Geography Specialty Group Board of the American Association of Geographers (AAG)
 2018 Organizer and Chair of Sessions on Extreme Events, Hazards and Health at the 2018 American Association of Geographers meeting in New Orleans, LA
 2017-present Ad-hoc Reviewer for National Science Foundation, Geography and Spatial Sciences

External Service – journal reviewing

2020 Guest Editor for PLOS One
 2017- present Editorial Review Board Member, *Environmental Health Perspectives*
 Ad-hoc Peer Reviewer for: *American Journal of Respiratory and Critical Care Medicine, American Journal of Epidemiology, Atmospheric Environment, Biometrics, BMJ Open, Climatic Change, Environmental Health Perspectives, Environmental Health, Environmental Research Letters, Environmental Research, Environmental Science & Technology, Environment International, Environmental Epidemiology, Epidemiology, Geocarto International, GeoHealth, Health & Place, International Journal of Biometeorology, International Journal of Health Geographics, Journal of Exposure Science and Environmental Epidemiology, Journal of Geography and Regional Planning, Journal of the Air & Waste Management Association, Nature Communications, PLOS One, Science of the Total Environment, Social Science & Medicine, Social Science & Medicine – Population Health, Air Quality, Atmospheres and Health, and review of a dissertation submitted for the Association of American Geographers Jacques May Prize*
 2016 Subject Matter Expert to the U.S. EPA on Mapping the Vulnerability of Human Health to Climate Change in the U.S. Sponsored and organized by EPA's Global Change Research Program in the Office of Research and Development (ORD).
 Resulted in the following publication: U.S. EPA. Mapping the Vulnerability of Human Health to Extreme Heat in the United States (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-18/212F, 2018.
 2013-2014 Climate and Health Idea Lab, Secretary and Co-founder, University of California, Berkeley
 2010-2012 GRADS (Graduate Recruitment and Diversity Services) Ambassador for the School of Public Health, University of California, Berkeley, 2010-2012

OUTREACH

Presented on online lecture titled “How wildfire smoke affects human health” for high school students through the Headwaters Institute on November 17, 2020. The link of the recorded talk can be found here: <https://youtu.be/yj-epwmG6A>.

News articles/newscasts about my research or my expertise

1. “How do wildfires affect our bodies?” on Science Friday, WNYC. December 4, 2020. <https://www.sciencefriday.com/segments/wildfire-longterm-health/>
2. “California Wildfires Killed 106 People Two Years Ago. Researchers Say the Smoke Killed 3,652”. By Danielle Venton for KQED. December 11, 2020. <https://www.kqed.org/science/1971666/california-wildfires-killed-106-people-two-years-ago-researchers-say-the-smoke-killed-3652>
3. “Colorado wildfires drag on later than normal, break records” By Patty Nieberg. October 22, 2020. <https://apnews.com/article/virus-outbreak-mountains-wildfires-colorado-droughts-9047be847ba3fbd19d21fa47250b3b21>
4. “Smoky Skies Are The New Normal. Are They Making Us Sick?” By Nathan Rott. October 9, 2020. <https://www.wxnews.org/post/smokey-skies-are-new-normal-are-they-making-us-sick> and <https://www.npr.org/sections/health-shots/2020/10/09/907099868/smokey-skies-are-the-new-normal-are-they-making-us-sick>
5. “We’ll Have to Learn to Live With Smoke. Here’s Why.” By Julia Rosen. September 23, 2020. <https://www.nytimes.com/2020/09/23/climate/fires-west-smoke.html>
6. “Smoke waves expected to intensify, continue to threaten public health across Colorado and the West” By Elizabeth Stewart-Sweeney. September 20, 2020. <https://www.aspenjournalism.org/smoke-waves-expected-to-intensify-continue-to-threaten-public-health-across-colorado-and-the-west/>
7. “What we know and don’t know about wildfire smoke’s health risks” by Aimee Cunningham and Maria Temming. September 18, 2020. <https://www.sciencenews.org/article/wildfire-smoke-health-risks-air-quality-pollution>
8. “How Wildfire Smoke Affects the Body and What You Can Do to Protect Yourself” by Julia Ries. September 17, 2020. <https://www.healthline.com/health-news/how-wildfire-smoke-affects-the-body-and-what-you-can-do-to-protect-yourself#The-bottom-line>
9. “What Are The Health Effects Of The Smoke From Wildfires?” By Nathan Rott as part of All Things Considered on WBUR (Boston NPR affiliate). September 14, 2020. <https://www.wbur.org/npr/912791450/what-are-the-health-effects-of-the-smoke-from-wildfires>
10. “Wildfire smoke and COVID-19 can combine into big threat for patients” September 15, 2020. <https://www.spokesman.com/stories/2020/sep/15/what-wildfire-smoke-means-for-our-health/>
11. “Smoke, heat, and COVID-19: Californians are caught between public health crises” by Alexandria Herr. August 27, 2020. <https://grist.org/climate/smoke-heat-and-covid-19-californians-are-caught-between-public-health-crises/>
12. “No breathing easy in Aspen, valley due to wildfires”. By Scott Condon. August 18, 2020. <https://www.aspentimes.com/news/local/no-breathing-easy-in-aspen-valley-due-to-wildfires/>
13. “How Air Pollution Affects Runners”. By Sarah Wassner Flynn and Malissa Rodenburg. August 25, 2020. <https://www.podiumrunner.com/culture/air-pollution-health/>
14. “How to protect yourself from the effects of wildfire smoke”. By Micah Smith. August 26, 2020. <https://www.thedenverchannel.com/news/local-news/how-to-protect-yourself-from-the-effects-of-wildfire-smoke>
15. “Colorado Wildfire Updates For Aug. 25: Maps, Evacuations, Closures, Fire Growth And More.” August 25, 2020. <https://www.cpr.org/2020/08/25/colorado-wildfire-updates-2020-evacuations-closures-size-8/>

16. “What Happens When Wildfire Smoke Meets Coronavirus? Here’s What Scientists Know” by Sam Brasch, August 24, 2020. <https://www.cpr.org/2020/08/24/colorado-coronavirus-wildfires-smoke-risks/>
17. “COVID and Climate Change Have Put California Firefighters and Residents at Risk”, by Izzie Ramirez, August 21, 2020. https://www.vice.com/en_us/article/m7j4kb/covid-and-climate-change-have-put-california-firefighters-and-residents-at-risk
18. “Tear Gas, Pollution, Wildfire Smoke: A Triple Threat to Your Lungs” by John Upton. KQED. June 10, 2020. <https://www.kqed.org/science/1965688/tear-gas-pollution-wildfire-smoke-a-triple-threat-to-your-lungs>
19. “Wildfire smoke has acute cardiorespiratory impact, but long-term effects still under study”. Chest Physician – The Newspaper of the American College of Chest Physicians. September 17, 2019. <https://www.mdedge.com/chestphysician/article/208283/pulmonology/wildfire-smoke-has-acute-cardiorespiratory-impact-long>
20. “Wildfire Particulates Raise Cardiopulmonary Health Concerns” April 22, 2019. <https://eos.org/articles/wildfire-particulates-raise-cardiopulmonary-health-concerns>
21. “Here’s How Smoke from California Wildfires Affects the Human Body” Live Science. November 21, 2018. <https://www.livescience.com/64144-wildfire-smoke-health-effects.html>
22. Climate Central. Eilis O’Neill and Maya Miller. August 21, 2018. “Breathing Fire: All This Smoke Means Smaller Newborns And More ER Visits” <https://www.climatecentral.org/news/breathing-fire-wildfire-smoke-smaller-newborns-more-er-visits-21917>
23. The Wall Street Journal. By Jim Carlton and Nour Malas. “How Air in the Pacific Northwest Became Dirtier Than Beijing’s” August 29, 2018. <https://www.wsj.com/articles/as-wildfires-burn-miles-away-smog-blankets-the-northwest-1535535001>
24. KQED. Maya Miller and Alex Hall “Breathing Fire: California’s Central Valley Bears the Brunt of Harmful Wildfire Smoke” <https://www.kqed.org/science/1929784/breathing-fire-californias-central-valley-bears-the-brunt-of-harmful-wildfire-smoke>. August 18, 2018.
25. “Pine Beetle infestation, shorter winters leading to pollution, fire risk, health issues in Colorado.” Channel 7 Denver news report on March 15, 2018. <https://www.thedenverchannel.com/news/front-range/fort-collins/pine-beetle-infestation-shorter-winters-leading-to-pollution-fire-risk-health-issues-in-colorado>
26. “For better health, urbanites find help from trees.” University of Colorado Arts & Sciences Magazine. February 22, 2018. <https://www.colorado.edu/asmagazine/2018/02/22/better-health-urbanites-find-help-trees>
27. Leytham-Powell, C. (2018). “Smoke from distant fires darken the public health picture.” University of Colorado Arts & Sciences Magazine. February 14, 2018. <https://www.colorado.edu/asmagazine/2018/02/14/smoke-distant-fires-darken-public-health-picture>
28. Upton, John. “Breathing Fire”. November 7, 2017. <http://www.climatecentral.org/news/breathing-fire-california-air-quality-smoke-waves-21754>
29. Averett, N. (2016). Smoke signals: teasing out adverse health effects of wildfire emissions. *Environmental Health Perspectives*, 124(9), A166.
30. “Reid Recognized by the International Society of Exposure Science” in Bridges, a publication of the Center for Occupational and Environmental Health | Berkeley San Francisco Davis, Winter 2013-14 edition <http://coeh.berkeley.edu/bridges/Winter201314/Reid.html>
31. Kessler, R. (2012). Follow-up in Southern California: Decreased birth weight following prenatal wildfire smoke exposure. *Environmental Health Perspectives*, 120(9), a362.
32. “Mapping Climate Change Vulnerability” in Bridges, a publication of the Center for Occupational and Environmental Health | Berkeley San Francisco Davis, Winter 2012 edition <http://coeh.berkeley.edu/bridges/Pages/mapping%20climate%20change.html>

LANGUAGE/COMPUTER COMPETENCIES

English (native) and Spanish (fluent)

R, ArcGIS, SAS, Microsoft Office, Endnote

PROFESSIONAL MEMBERSHIPS

American Association of Geographers (2016 to present)

International Society of Environmental Epidemiology (2008 to present)

Updated January 31, 2021