



Marshall Burke

Associate Professor of Environmental Social Sciences, Senior Fellow at the Freeman Spogli Institute, at the Woods Institute for the Environment, at SIEPR and Associate Professor, by courtesy of Earth System Science

 Curriculum Vitae available Online

Bio

BIO

Marshall Burke is an associate professor in Global Environmental Policy unit in the Doerr School of Sustainability, deputy director at the Center on Food Security and the Environment, and Senior Fellow at the Freeman Spogli Institute for International Studies (FSI), Woods Institute, and SIEPR at Stanford University. He is also a faculty research fellow at the National Bureau of Economic Research, and a co-founder of AtlasAI, a remote sensing start-up. His research focuses on social and economic impacts of environmental change and on measuring and understanding economic development in emerging markets. His work has appeared in both economic and scientific journals, including recent publications in Nature, Science, The Quarterly Journal of Economics, and The Lancet. He holds a PhD in agricultural and resource economics from the University of California, Berkeley and a BA in international relations from Stanford University.

Prospective students should see my personal webpage, linked at right.

ACADEMIC APPOINTMENTS

- Associate Professor, Environmental Social Sciences
- Senior Fellow, Freeman Spogli Institute for International Studies
- Senior Fellow, Stanford Woods Institute for the Environment
- Senior Fellow, Stanford Institute for Economic Policy Research (SIEPR)
- Associate Professor (By courtesy), Earth System Science
- Member, Bio-X
- Faculty Fellow, Stanford Institute for Economic Policy Research (SIEPR)
- Member, Wu Tsai Neurosciences Institute

PROGRAM AFFILIATIONS

- Program in International Relations

LINKS

- Personal webpage: <http://web.stanford.edu/~mburke/>
- My research group: <https://www.stanfordecholab.com/>

Teaching

COURSES

2024-25

- Topics and Methods in Global Environmental Policy I: GEP 268, INTLPOL 272 (Win)
- Topics and Methods in Global Environmental Policy II: GEP 269 (Spr)

2023-24

- Data for Sustainable Development: CS 325B, EARTHSYS 162, EARTHSYS 262 (Aut)

2022-23

- Climate and Society: SUSTAIN 2 (Win)
- Empirical Methods in Sustainable Development: ESS 268, INTLPOL 272 (Win)

2021-22

- Climate and Society: EARTH 2 (Win)
- Data for Sustainable Development: CS 325B, EARTHSYS 162, EARTHSYS 262 (Aut)
- Empirical Methods in Sustainable Development: ESS 268, INTLPOL 272 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Ayako Kawano, Cesar Lopez

Postdoctoral Faculty Sponsor

Christoph Semken, Andrew Wilson

Doctoral Dissertation Co-Advisor (AC)

Karina French, Emma Krasovich Southworth

Postdoctoral Research Mentor

Christopher Callahan

Doctoral (Program)

June Choi, Ivan Higuera-Mendieta

Publications

PUBLICATIONS

- **Unlocking the benefits of credit through saving** *JOURNAL OF DEVELOPMENT ECONOMICS*
Mukherjee, S., Bergquist, L., Burke, M., Miguel, E.
2024; 171
- **In praise of cooking gas subsidies: transitional fuels to advance health and equity.** *Environmental research letters : ERL [Web site]*
Gould, C. F., Bailis, R., Balakrishnan, K., Burke, M., Espinoza, S., Mehta, S., Schlesinger, S. B., Suarez-Lopez, J. R., Pillarisetti, A.
2024; 19 (8): 081002
- **Disparities in air pollution attributable mortality in the US population by race/ethnicity and sociodemographic factors.** *Nature medicine*
Geldsetzer, P., Fridljand, D., Kiang, M. V., Bendavid, E., Heft-Neal, S., Burke, M., Thieme, A. H., Benmarhnia, T.
2024
- **The Effect of Flood Exposure on Insurance Adoption Among US Households** *EARTHS FUTURE*

Choi, J., Diffenbaugh, N. S., Burke, M.
2024; 12 (7)

- **Will Wealth Weaken Weather Wars?**
Burke, M., Ferguson, J., Hsiang, S., Miguel, E.
AMER ECONOMIC ASSOC.2024: 65-69
- **Sociodemographic and geographic variation in mortality attributable to air pollution in the United States.** *medRxiv : the preprint server for health sciences*
Geldsetzer, P., Fridljand, D., Kiang, M. V., Bendavid, E., Heft-Neal, S., Burke, M., Thieme, A. H., Benmarhnia, T.
2024
- **Climate warming is expanding dengue burden in the Americas and Asia.** *medRxiv : the preprint server for health sciences*
Childs, M. L., Lyberger, K., Harris, M., Burke, M., Mordecai, E. A.
2024
- **Exposure to Nitrogen Dioxide and Fine Particulate Matter When Cooking with Electricity Compared to Gas, a Randomized Crossover Study in Quito, Ecuador.** *Environmental health perspectives*
Gould, C. F., Davila, L., Bejarano, M. L., Burke, M., Jack, D. W., Schlesinger, S. B., Mora, J. R., Valarezo, A.
2024; 132 (1): 17702
- **Quantifying fire-specific smoke exposure and health impacts.** *Proceedings of the National Academy of Sciences of the United States of America*
Wen, J., Heft-Neal, S., Baylis, P., Boomhower, J., Burke, M.
2023; 120 (51): e2309325120
- **Reply to Giglio and Roy: Aggregate infant mortality estimates robust to choice of burned area product.** *Proceedings of the National Academy of Sciences of the United States of America*
Pullabhotla, H., Zahid, M., Heft-Neal, S., Rath, V., Burke, M.
2023; 120 (51): e2318188120
- **In praise of fossil fuel subsidies (for cooking).** *medRxiv : the preprint server for health sciences*
Gould, C. F., Bailis, R., Balakrishnan, K., Burke, M., Espinoza, S., Mehta, S., Schlesinger, S. B., Suarez-Lopez, J. R., Pillarisetti, A.
2023
- **Emergency department visits respond nonlinearly to wildfire smoke.** *Proceedings of the National Academy of Sciences of the United States of America*
Heft-Neal, S., Gould, C. F., Childs, M. L., Kiang, M. V., Nadeau, K. C., Duggan, M., Bendavid, E., Burke, M.
2023; 120 (39): e2302409120
- **Health Effects of Wildfire Smoke Exposure.** *Annual review of medicine*
Gould, C. F., Heft-Neal, S., Prunicki, M., Aguilera, J., Burke, M., Nadeau, K.
2023
- **The contribution of wildfire to PM2.5 trends in the USA.** *Nature*
Burke, M., Childs, M. L., de la Cuesta, B., Qiu, M., Li, J., Gould, C. F., Heft-Neal, S., Wara, M.
2023
- **Wildfires are worsening air quality in the United States** *NATURE*
Burke, M., Childs, M.
2023
- **Climate and health benefits of a transition from gas to electric cooking.** *Proceedings of the National Academy of Sciences of the United States of America*
Gould, C. F., Bejarano, M. L., De La Cuesta, B., Jack, D. W., Schlesinger, S. B., Valarezo, A., Burke, M.
2023; 120 (34): e2301061120
- **Drought impacts on the electricity system, emissions, and air quality in the western United States.** *Proceedings of the National Academy of Sciences of the United States of America*
Qiu, M., Ratledge, N., Azevedo, I. M., Diffenbaugh, N. S., Burke, M.
2023; 120 (28): e2300395120

- **Global biomass fires and infant mortality.** *Proceedings of the National Academy of Sciences of the United States of America*
Pullabhotla, H. K., Zahid, M., Heft-Neal, S., Rathi, V., Burke, M.
2023; 120 (23): e2218210120
- **Antenatal wildfire smoke exposure and hypertensive disorders of pregnancy**
Waldrop, A. R., Blumenfeld, Y. J., Mayo, J. A., Panelli, D. M., Heft-Neal, S., Burke, M., Leonard, S. A., Shaw, G. M.
MOSBY-ELSEVIER.2023: S59-S60
- **Using machine learning to assess the livelihood impact of electricity access.** *Nature*
Rattledge, N., Cadamuro, G., de la Cuesta, B., Stigler, M., Burke, M.
2022; 611 (7936): 491-495
- **Lower test scores from wildfire smoke exposure** *NATURE SUSTAINABILITY*
Wen, J., Burke, M.
2022
- **Wildfire smoke exposure worsens students' learning outcomes** *NATURE SUSTAINABILITY*
Wen, J., Burke, M.
2022
- **Geographically resolved social cost of anthropogenic emissions accounting for both direct and climate-mediated effects.** *Science advances*
Burney, J., Persad, G., Proctor, J., Bendavid, E., Burke, M., Heft-Neal, S.
2022; 8 (38): eabn7307
- **Geographically resolved social cost of anthropogenic emissions accounting for both direct and climate-mediated effects** *SCIENCE ADVANCES*
Burney, J., Persad, G., Proctor, J., Bendavid, E., Burke, M., Heft-Neal, S.
2022; 8 (38)
- **Daily Local-Level Estimates of Ambient Wildfire Smoke PM2.5 for the Contiguous US.** *Environmental science & technology*
Childs, M. L., Li, J., Wen, J., Heft-Neal, S., Driscoll, A., Wang, S., Gould, C. F., Qiu, M., Burney, J., Burke, M.
2022
- **Exposures and behavioural responses to wildfire smoke.** *Nature human behaviour*
Burke, M., Heft-Neal, S., Li, J., Driscoll, A., Baylis, P., Stigler, M., Weill, J. A., Burney, J. A., Wen, J., Childs, M. L., Gould, C. F.
2022
- **Upstream oil and gas production and ambient air pollution in California.** *The Science of the total environment*
Gonzalez, D. J., Francis, C. K., Shaw, G. M., Cullen, M. R., Baiocchi, M., Burke, M.
2022; 806 (Pt 1): 150298
- **Upstream oil and gas production and ambient air pollution in California** *SCIENCE OF THE TOTAL ENVIRONMENT*
Gonzalez, D. X., Francis, C. K., Shaw, G. M., Cullen, M. R., Baiocchi, M., Burke, M.
2022; 806
- **IS-Count: Large-Scale Object Counting from Satellite Images with Covariate-Based Importance Sampling**
Meng, C., Liu, E., Neiswanger, W., Song, J., Burke, M., Lobell, D., Ermon, S., Assoc Advancement Artificial Intelligence
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2022: 12034-12042
- **Associations between wildfire smoke exposure during pregnancy and risk of preterm birth in California.** *Environmental research*
Heft-Neal, S., Driscoll, A., Yang, W., Shaw, G., Burke, M.
2021: 111872
- **Historical warming has increased US crop insurance losses** *ENVIRONMENTAL RESEARCH LETTERS*
Diftenbaugh, N. S., Davenport, F., Burke, M.
2021; 16 (8)
- **Twice Is Nice: The Benefits of Two Ground Measures for Evaluating the Accuracy of Satellite-Based Sustainability Estimates** *REMOTE SENSING*

- Lobell, D. B., Di Tommaso, S., Burke, M., Kilic, T.
2021; 13 (16)
- **Scalable deep learning to identify brick kilns and aid regulatory capacity.** *Proceedings of the National Academy of Sciences of the United States of America*
Lee, J., Brooks, N. R., Tajwar, F., Burke, M., Ermon, S., Lobell, D. B., Biswas, D., Luby, S. P.
2021; 118 (17)
 - **The effect of information about climate risk on property values.** *Proceedings of the National Academy of Sciences of the United States of America*
Hino, M., Burke, M.
2021; 118 (17)
 - **Contribution of historical precipitation change to US flood damages.** *Proceedings of the National Academy of Sciences of the United States of America*
Davenport, F. V., Burke, M., Diffenbaugh, N. S.
2021; 118 (4)
 - **The changing risk and burden of wildfire in the United States.** *Proceedings of the National Academy of Sciences of the United States of America*
Burke, M., Driscoll, A., Heft-Neal, S., Xue, J., Burney, J., Wara, M.
2021; 118 (2)
 - **Using satellite imagery to understand and promote sustainable development.** *Science (New York, N.Y.)*
Burke, M., Driscoll, A., Lobell, D. B., Ermon, S.
2021; 371 (6535)
 - **Geography-Aware Self-Supervised Learning**
Ayush, K., Uz Kent, B., Meng, C., Tanmay, K., Burke, M., Lobell, D., Ermon, S., IEEE
IEEE.2021: 10161-10170
 - **Efficient Poverty Mapping from High Resolution Remote Sensing Images**
Ayush, K., Uz Kent, B., Tanmay, K., Burke, M., Lobell, D., Ermon, S., Assoc Advancement Artificial Intelligence
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2021: 12-20
 - **Predicting Livelihood Indicators from Community-Generated Street-Level Imagery**
Lee, J., Grosz, D., Uz Kent, B., Zeng, S., Burke, M., Lobell, D., Ermon, S., Assoc Advancement Artificial Intelligence
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2021: 268-276
 - **Quantifying the Effect of Precipitation on Landslide Hazard in Urbanized and Non-Urbanized Areas** *Geophysical Research Letters*
Johnston, E. C., Davenport, F. V., Wang, L., Caers, J. K., Muthukrishnan, S., Burke, M., Diffenbaugh, N. S.
2021; 48 (16)
 - **Addressing Climate Change and Its Effects on Human Health: A Call to Action for Medical Schools.** *Academic medicine : journal of the Association of American Medical Colleges*
Goshua, A., Gomez, J., Erny, B., Burke, M., Luby, S., Sokolow, S., LaBeaud, A. D., Auerbach, P., Gisondi, M. A., Nadeau, K.
2020
 - **The Economic Origins of Conflict in Africa** *JOURNAL OF POLITICAL ECONOMY*
McGuirk, E., Burke, M.
2020
 - **The COVID-19 lockdowns: a window into the Earth System** *NATURE REVIEWS EARTH & ENVIRONMENT*
Diffenbaugh, N. S., Field, C. B., Appel, E. A., Azevedo, I. L., Baldocchi, D. D., Burke, M., Burney, J. A., Ciais, P., Davis, S. J., Fiore, A. M., Fletcher, S. M., Hertel, T. W., Horton, et al
2020; 1 (9): 470-481
 - **Directions for Research on Climate and Conflict.** *Earth's future*
Mach, K. J., Adger, W. N., Buhaug, H., Burke, M., Fearon, J. D., Field, C. B., Hendrix, C. S., Kraan, C. M., Maystadt, J., O'Loughlin, J., Roessler, P., Scheffran, J., Schultz, et al
2020; 8 (7): e2020EF001532

- **Dust pollution from the Sahara and African infant mortality** *NATURE SUSTAINABILITY*
Heft-Neal, S., Burney, J., Bendavid, E., Voss, K. K., Burke, M.
2020
- **Reply to: Temporal displacement, adaptation and the effect of climate on suicide rates** *NATURE CLIMATE CHANGE*
Burke, M., Gonzalez, F., Baylis, P., Heft-Neal, S., Baysan, C., Hsiang, S.
2020
- **EYES IN THE SKY, BOOTS ON THE GROUND: ASSESSING SATELLITE- AND GROUND-BASED APPROACHES TO CROP YIELD MEASUREMENT AND ANALYSIS** *AMERICAN JOURNAL OF AGRICULTURAL ECONOMICS*
Lobell, D. B., Azzari, G., Burke, M., Gourlay, S., Jin, Z., Kilic, T., Murray, S.
2020; 102 (1): 202–19
- **Using publicly available satellite imagery and deep learning to understand economic well-being in Africa.** *Nature communications*
Yeh, C. n., Perez, A. n., Driscoll, A. n., Azzari, G. n., Tang, Z. n., Lobell, D. n., Ermon, S. n., Burke, M. n.
2020; 11 (1): 2583
- **Sight for Sorghums: Comparisons of Satellite- and Ground-Based Sorghum Yield Estimates in Mali** *REMOTE SENSING*
Lobell, D. B., Di Tommaso, S., You, C., Djima, I., Burke, M., Kilic, T.
2020; 12 (1)
- **Flood Size Increases Nonlinearly Across the Western United States in Response to Lower Snow-Precipitation Ratios** *WATER RESOURCES RESEARCH*
Davenport, F. V., Herrera-Estrada, J. E., Burke, M., Diffenbaugh, N. S.
2020; 56 (1)
- **Oil and gas production and spontaneous preterm birth in the San Joaquin Valley, CA: A case-control study.** *Environmental epidemiology (Philadelphia, Pa.)*
Gonzalez, D. J., Sherris, A. R., Yang, W. n., Stevenson, D. K., Padula, A. M., Baiocchi, M. n., Burke, M. n., Cullen, M. R., Shaw, G. M.
2020; 4 (4): e099
- **Non-economic factors in violence: Evidence from organized crime, suicides and climate in Mexico** *JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION*
Baysan, C., Burke, M., Gonzalez, F., Hsiang, S., Miguel, E.
2019; 168: 434–52
- **Smallholder maize area and yield mapping at national scales with Google Earth Engine** *REMOTE SENSING OF ENVIRONMENT*
Jin, Z., Azzari, G., You, C., Di Tommaso, S., Aston, S., Burke, M., Lobell, D. B.
2019; 228: 115–28
- **Global warming has increased global economic inequality** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Diffenbaugh, N. S., Burke, M.
2019; 116 (20): 9808–13
- **SELL LOW AND BUY HIGH: ARBITRAGE AND LOCAL PRICE EFFECTS IN KENYAN MARKETS** *QUARTERLY JOURNAL OF ECONOMICS*
Burke, M., Bergquist, L., Miguel, E.
2019; 134 (2): 785–842
- **Global warming has increased global economic inequality.** *Proceedings of the National Academy of Sciences of the United States of America*
Diffenbaugh, N. S., Burke, M.
2019
- **Back to the root causes of war: food shortages Reply** *LANCET*
Wagner, Z., Heft-Neal, S., Bhutta, Z. A., Black, R. E., Burke, M., Bendavid, E.
2019; 393 (10175): 982
- **Back to the root causes of war: food shortages - Authors' reply.** *Lancet (London, England)*
Wagner, Z., Heft-Neal, S., Bhutta, Z. A., Black, R. E., Burke, M., Bendavid, E.
2019; 393 (10175): 982

- **Reply to Rosen: Temperature-growth relationship is robust.** *Proceedings of the National Academy of Sciences of the United States of America*
Diffenbaugh, N. S., Burke, M. n.
2019
- **Mapping Missing Population in Rural India: A Deep Learning Approach with Satellite Imagery**
Hu, W., Patel, J., Robert, Z., Novosad, P., Asher, S., Tang, Z., Burke, M., Lobell, D., Ermon, S., Assoc Comp Machinery
ASSOC COMPUTING MACHINERY.2019: 353–59
- **Women and children living in areas of armed conflict in Africa: a geospatial analysis of mortality and orphanhood.** *The Lancet. Global health*
Wagner, Z. n., Heft-Neal, S. n., Wise, P. H., Black, R. E., Burke, M. n., Boerma, T. n., Bhutta, Z. A., Bendavid, E. n.
2019
- **Predicting Economic Development using Geolocated Wikipedia Articles**
Sheehan, E., Meng, C., Tan, M., Uz Kent, B., Jean, N., Burke, M., Lobell, D., Ermon, S., Assoc Comp Machinery
ASSOC COMPUTING MACHINERY.2019: 2698–2706
- **Climate as a risk factor for armed conflict.** *Nature*
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2019
- **Armed conflict and child mortality in Africa: a geospatial analysis.** *Lancet (London, England)*
Wagner, Z., Heft-Neal, S., Bhutta, Z. A., Black, R. E., Burke, M., Bendavid, E.
2018
- **Estimating global agricultural effects of geoengineering using volcanic eruptions.** *Nature*
Proctor, J., Hsiang, S., Burney, J., Burke, M., Schlenker, W.
2018
- **Robust relationship between air quality and infant mortality in Africa** *NATURE*
Heft-Neal, S., Burney, J., Bendavid, E., Burke, M.
2018; 559 (7713): 254+
- **Anticipated burden and mitigation of carbon-dioxide-induced nutritional deficiencies and related diseases: A simulation modeling study.** *PLoS medicine*
Weyant, C., Brandeau, M. L., Burke, M., Lobell, D. B., Bendavid, E., Basu, S.
2018; 15 (7): e1002586
- **Anticipated burden and mitigation of carbondioxide-induced nutritional deficiencies and related diseases: A simulation modeling study** *PLOS MEDICINE*
Weyant, C., Brandeau, M. L., Burke, M., Lobell, D. B., Bendavid, E., Basu, S.
2018; 15 (7)
- **Comment on "Food Abundance and Violent Conflict in Africa" Discussion** *AMERICAN JOURNAL OF AGRICULTURAL ECONOMICS*
Burke, M.
2018; 100 (4): 1007–9
- **Robust relationship between air quality and infant mortality in Africa.** *Nature*
Heft-Neal, S., Burney, J., Bendavid, E., Burke, M.
2018
- **Large potential reduction in economic damages under UN mitigation targets** *NATURE*
Burke, M., Davis, W., Diffenbaugh, N. S.
2018; 557 (7706): 549+
- **Climate and conflict: no stigma** *NATURE*
Hsiang, S., Burke, M.
2018; 555 (7698): 587
- **Higher temperatures increase suicide rates in the United States and Mexico** *Nature Climate Change*

Burke, M., González, F., Baylis, P., Heft-Neal, S., Baysan, C., Basu, S., Hsiang, S.
2018; 8 (8): 723–729

- **Infrastructure Quality Assessment in Africa using Satellite Imagery and Deep Learning**
Oshri, B., Hu, A., Adelson, P., Chen, X., Dupas, P., Weinstein, J., Burke, M., Lobell, D., Ermon, S., ACM
ASSOC COMPUTING MACHINERY.2018: 616–25
- **Satellite-based assessment of yield variation and its determinants in smallholder African systems.** *Proceedings of the National Academy of Sciences of the United States of America*
Burke, M., Lobell, D. B.
2017; 114 (9): 2189-2194
- **Using remotely sensed temperature to estimate climate response functions** *ENVIRONMENTAL RESEARCH LETTERS*
Heft-Neal, S., Lobell, D. B., Burke, M.
2017; 12 (1)
- **Sources of variation in under-5 mortality across sub-Saharan Africa: a spatial analysis.** *The Lancet. Global health*
Burke, M., Heft-Neal, S., Bendavid, E.
2016
- **Combining satellite imagery and machine learning to predict poverty.** *Science*
Jean, N., Burke, M., Xie, M., Davis, W. M., Lobell, D. B., Ermon, S.
2016; 353 (6301): 790-794
- **Adaptation to Climate Change: Evidence from US Agriculture** *AMERICAN ECONOMIC JOURNAL-ECONOMIC POLICY*
Burke, M., Emerick, K.
2016; 8 (3): 106-140
- **Global non-linear effect of temperature on economic production** *NATURE*
Burke, M., Hsiang, S. M., Miguel, E.
2015; 527 (7577): 235-?
- **INCORPORATING CLIMATE UNCERTAINTY INTO ESTIMATES OF CLIMATE CHANGE IMPACTS** *REVIEW OF ECONOMICS AND STATISTICS*
Burke, M., Dykema, J., Lobell, D. B., Miguel, E., Satyanath, S.
2015; 97 (2): 461-471
- **Climate and Conflict** *ANNUAL REVIEW OF ECONOMICS, VOL 7*
Burke, M., Hsiang, S. M., Miguel, E.
2015; 7: 577-?
- **Reconciling climate-conflict meta-analyses: reply to Buhaug et al.** *CLIMATIC CHANGE*
Hsiang, S. M., Burke, M., Miguel, E.
2014; 127 (3-4): 399-405
- **Climate, conflict, and social stability: what does the evidence say?** *CLIMATIC CHANGE*
Hsiang, S. M., Burke, M.
2014; 123 (1): 39-55
- **Quantifying the influence of climate on human conflict.** *Science*
Hsiang, S. M., Burke, M., Miguel, E.
2013; 341 (6151): 1235367-?
- **On the use of statistical models to predict crop yield responses to climate change** *AGRICULTURAL AND FOREST METEOROLOGY*
Lobell, D. B., Burke, M. B.
2010; 150 (11): 1443-1452
- **The poverty implications of climate-induced crop yield changes by 2030** *GLOBAL ENVIRONMENTAL CHANGE-HUMAN AND POLICY DIMENSIONS*
Hertel, T. W., Burke, M. B., Lobell, D. B.
2010; 20 (4): 577-585

- **Solar-powered drip irrigation enhances food security in the Sudano-Sahel** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Burney, J., Woltering, L., Burke, M., Naylor, R., Pasternak, D.
2010; 107 (5): 1848-1853
- **Impacts of El Nino-Southern Oscillation events on China's rice production** *JOURNAL OF GEOGRAPHICAL SCIENCES*
Deng Xiangzheng, X. Z., Huang Jikun, J. K., Qiao Fangbin, F. B., Naylor, R. L., Falcon, W. P., Burke, M., Rozelle, S., Battisti, D.
2010; 20 (1): 3-16
- **Warming increases the risk of civil war in Africa** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Burke, M. B., Miguel, E., Satyanath, S., Dykema, J. A., Lobell, D. B.
2009; 106 (49): 20670-20674
- **Shifts in African crop climates by 2050, and the implications for crop improvement and genetic resources conservation** *GLOBAL ENVIRONMENTAL CHANGE-HUMAN AND POLICY DIMENSIONS*
Burke, M. B., Lobell, D. B., Guarino, L.
2009; 19 (3): 317-325
- **A Global Model Tracking Water, Nitrogen, and Land Inputs and Virtual Transfers from Industrialized Meat Production and Trade** *ENVIRONMENTAL MODELING & ASSESSMENT*
Burke, M., Oleson, K., McCullough, E., Gaskell, J.
2009; 14 (2): 179-193
- **Why are agricultural impacts of climate change so uncertain? The importance of temperature relative to precipitation** *ENVIRONMENTAL RESEARCH LETTERS*
Lobell, D. B., Burke, M. B.
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- **Prioritizing climate change adaptation needs for food security in 2030** *SCIENCE*
Lobell, D. B., Burke, M. B., Tebaldi, C., Mastrandrea, M. D., Falcon, W. P., Naylor, R. L.
2008; 319 (5863): 607-610
- **International trade in meat: The tip of the pork chop** *AMBIO*
Galloway, J. N., Burke, M., Bradford, G. E., Naylor, R., Falcon, W., Chapagain, A. K., Gaskell, J. C., McCullough, E., Mooney, H. A., Oleson, K. L., Steinfeld, H., Wassenaar, T., Smil, et al
2007; 36 (8): 622-629
- **The ripple effect: Biofuels, food security, and the environment** *ENVIRONMENT*
Naylor, R. L., Liska, A. J., Burke, M. B., Falcon, W. P., Gaskell, J. C., Rozelle, S. D., Cassman, K. G.
2007; 49 (9): 30-43
- **Assessing risks of climate variability and climate change for Indonesian rice agriculture** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Naylor, R. L., Battisti, D. S., Vimont, D. J., Falcon, W. P., Burke, M. B.
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