

**Solomon M. Hsiang**  
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**Contact Information:**

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**Current Appointment:**

7/2015- Chancellor's Associate Professor of Public Policy (w. tenure)  
Principle Investigator, Global Policy Laboratory  
**University of California, Berkeley**

**Affiliations:**

8/2016- Co-Director, Climate and Environment Initiative, UC Berkeley Opportunity Lab  
5/2016- Co-Principle Investigator, Climate Impact Lab  
5/2016- Associate Director, Center for Environmental Public Policy  
5/2015- Faculty Affiliate, Department of Agriculture and Resource Economics  
5/2015- Faculty Affiliate, Center for Effective Global Action  
6/2015- Senior Fellow, Berkeley Institute for Data Science  
**University of California, Berkeley**

9/2016- Research Associate  
**National Bureau of Economic Research**

**Previous Appointments / Affiliations:**

8/2013-6/2015 Assistant Professor, Goldman School of Public Policy  
1/2014-6/2014 Visiting Scholar, Energy Institute at Haas  
**University of California, Berkeley**

8/2011-7/2013 Post-Doctoral Research Fellow in Science, Technology & Environmental Policy  
Woodrow Wilson School of Public & International Affairs  
**Princeton University**

5/2013-9/2016 Faculty Research Fellow  
1-7/2011 Post-Doctoral Research Fellow in Applied Econometrics  
**National Bureau of Economic Research**

**Education:**

**Columbia University**

Ph.D. Sustainable Development (2011), *with distinction*

**Massachusetts Institute of Technology**

B.S. Earth, Atmospheric and Planetary Science (2006), thesis awarded *Goetze Prize*  
B.S. Urban Studies and Planning (2006), thesis awarded *Outstanding Thesis Award*

## **Papers:**

### **The Distribution of Environmental Damages**

Hsiang, SM, P Oliva, WR Walker, *Review of Environmental Economics and Policy* (forthcoming)

### **Estimating economic damage from climate change in the United States**

Hsiang\*, S, R Kopp\*, A Jina\*, J Rising\*, M Delgado, S Mohan, DJ Rasmussen, R Muir-Wood, P Wilson, M Oppenheimer, K Larsen, T Houser, *Science* (2017) 356(6345):1362-1369 (\* equal contribution)

### **Social and economic impacts of climate**

Carleton\*, T.A. S.M. Hsiang\*, *Science* (2016) DOI: 10.1126/science.aad9837 (\* equal contribution)

### **Does legalization reduce black market activity? Evidence from a global ivory experiment and elephant poaching data**

Hsiang, S.M., N. Sekar, *NBER Working Paper No. 22314* (2016)

### **Climate Econometrics**

Hsiang, S.M., *Annual Review of Resource Economics* (2016) DOI: 10.1146/annurev-resource-100815-095343

### **Potentially Extreme Population Displacement and Concentration in the Tropics Under Non-Extreme Warming**

Hsiang, S.M., A.H. Sobel, *Scientific Reports* (2016) DOI:10.1038/srep25697

### **Conflict in a Changing Climate**

Carleton, T.A., S.M. Hsiang, M. Burke, *European Physical Journal Special Topics* (2016)  
DOI:10.1140/epjst/e2015-50100-5

### **Opportunities for advances in climate change economics**

Burke, M., M. Craxton, C. D. Kolstad, C. Onda, H. Allcott, E. Baker, L. Barrage, R. Carson, K. Gillingham, J. Graf-Zivin, M. Greenstone, S. Hallegatte, W.M. Hanemann, G. Heal, S. Hsiang, B. Jones, D. L. Kelly, R. Kopp, M. Kotchen, R. Mendelsohn, K. Meng, G. Metcalf, J. Moreno-Cruz, R. Pindyck, S. Rose, I. Rudik, J. Stock, R. S. J. Tol, *Science* (2016) 352(6283):292-293

### **Global non-linear effect of temperature on economic production**

Burke\*, M., S.M. Hsiang\*, E. Miguel, *Nature* (2015) DOI: 10.1038/nature15725 (\* equal contribution)

### **Temperature and Human Capital in the Short- and Long-Run**

Graff Zivin, J., S.M. Hsiang, M. Neidell *NBER Working Paper No. 21157* (2015) – *forthcoming*,  
*Journal of the Association of Environmental and Resource Economists*

### **Tropical Economics**

Hsiang, S.M., K.C. Meng, *American Economic Review* (2015) Papers & Proceedings, 105(5): 257–261

### **Geography, Depreciation, and Growth**

Hsiang, S.M., A.S. Jina, *American Economic Review* (2015) Papers & Proceedings, 105(5): 252-256

### **Economic and Non-Economic Factors in Violence: Evidence from Organized Crime, Suicides and Climate in Mexico**

Baysan, C. M. Burke, F. Gonzalez, S. Hsiang, E. Miguel (2015)

### **Climate and conflict**

Burke, M., S.M. Hsiang, E. Miguel, *Annual Review of Economics* (2015) DOI:10.1146/annurev-economics-080614-115430

### **Analysis of Statistical Power Reconciles Climate-Conflict Results in Africa**

Hsiang, S.M., M. Burke, E. Miguel, M. Cane, K. Meng, *CEGA working paper* (2015)

### **The causal effect of environmental catastrophe on long-run economic growth: Evidence from 6,700 cyclones**

Hsiang, S.M., A.S. Jina, *NBER working paper No. 20352* (2014) – revisions requested, *J. of Political Economy*

### **Does the Environment Still Matter? Daily Temperature and Income in the United States**

Deryugina, T., S.M. Hsiang, *NBER Working Paper No. 20750* (2014)

### **Nonlinear permanent migration response to climatic variations but minimal response to disasters**

Bohra-Mishra, P., M. Oppenheimer, S.M. Hsiang, *Proceedings of the National Academy of Sciences* (2014)

### **Temperature and Violence**

Cane, M.A., E. Miguel, M. Burke, S.M. Hsiang, D.B. Lobell, K.C. Meng, S. Satyanath, *Nature Climate Change* (2014) **4**, 234–235

### **Reconciling disagreement over climate–conflict results in Africa**

Hsiang, S.M., K.C. Meng, *Proceedings of the National Academy of Sciences* (2014)

### **Reconciling climate-conflict meta-analyses: Reply to Buhaug et al.**

Hsiang, S.M., M. Burke, E. Miguel, *Climatic Change* (2014) DOI: 10.1007/s10584-014-1276-z

### **Reconciling temperature-conflict results in Kenya**

Hsiang, S.M., M. Burke, E. Miguel, *CEGA working paper* (2013)

### **Quantifying the Influence of Climate on Human Conflict**

Hsiang\*, S.M., M. Burke\*, E. Miguel, *Science*, **341** (2013) 1235367 (\* equal contribution)

### **Climate, Conflict and Social Stability: What does the evidence say?**

Hsiang, S.M., M. Burke, *Climatic Change*, (2013) DOI 10.1007/s10584-013-0868-3

**Using Weather Data and Climate Model Output in Economic Analyses of Climate Change**

Auffhammer, M., S.M.Hsiang, W. Schlenker, A.H. Sobel. *Review of Environmental Economics and Policy*, 7 (2013) 181–198

**Destruction, Disinvestment, and Death: Economic and Human Losses Following Environmental Disaster**

Anttila-Hughes, J., S.M. Hsiang (2012)

**Visually-Weighted Regression**

Hsiang, S.M (2012)

**Adaptation to Cyclone Risk: Evidence from the Global Cross-Section**

Hsiang, S.M., D. Narita. *Climate Change Economics: Special Issue on Adaptation*, 3 (2012)

**Civil conflicts are associated with the global climate**

Hsiang, S.M., K.C. Meng, M.A. Cane. *Nature*, 476 (2011) 438-441

**Temperatures and cyclones strongly associated with economic production in the Caribbean and Central America**

Hsiang, S.M. *Proceedings of the National Academy of Sciences*, 107 (2010) 15367-15372

**Books:**

**Economic Risks of Climate Change: An American Prospectus**

Houser, T., S.M. Hsiang, R. Kopp, K. Larson, M. Delgado, A.S. Jina, M. Mastreandrea, S. Mohan, R. Muir-Woods, D.J. Rasmussen, J. Rising, P. Wilson, *Columbia University Press* (2015)

**Reviewed Reports and Book Chapters:**

**Tropical Cyclones: From the Influence of Climate to their Socio-Economic Impacts**

Camargo, S., S.M. Hsiang, in "Extreme Events: Observations, Modeling, and Economics", Eds. Chavez, M., M. Ghil, J.U. Fucugauchi, Wiley (2015) DOI 10.1002/9781119157052.ch18.

**Chapter 18: Detection and Attribution of Observed Impacts**

Cramer, W, GW Yohe, et al. (2014). In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Ed. by V Barros, C Field, et al. Cambridge, UK: Cambridge University Press.

**Chapter 19: Emergent Risks and Key Vulnerabilities**

Oppenheimer, M, M Campos, R Warren, et al. (2014). In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Ed. by V Barros, C Field, et al. Cambridge, UK: Cambridge University Press.

**Reviewed conference papers:**

## **Empirically calibrating damage functions and considering stochasticity when integrated assessment models are used as decision tools**

Kopp, R.E., S.M. Hsiang, M. Oppenheimer (2013) International Conference on Climate Change Effects, Potsdam.

### **Awards:**

2016 National Academy of Sciences Kavli Fellow  
2014 Forbes 30 Under 30: Law and Policy  
2014 Diablo Magazine 40 Under 40  
2013 American Geophysical Union Science for Solutions Award  
2011 Dissertation Awarded Distinction  
2009 Columbia University President and Provost Award (with organizing committee of the 18th PhD Workshop in International Climate Policy, lead organizer)  
2008-11 Environmental Protection Agency: Science to Achieve Results (STAR) Fellow  
2007-10 National Science Foundation: Integrative Graduate Educ. & Research Traineeship (IGERT) Fellow  
2006 Goetze Prize for Thesis in Earth, Atmospheric and Planetary Sciences, MIT  
2006 Outstanding Thesis Award in Urban Studies and Planning, MIT

### **Grants:**

2016 “Labor Productivity in a Warmer World” Inst. for Research on Labor and Employment (\$12,436)  
2016-19 “Quantitative Sustainable Development” (\$1.5M)  
2016 “Optimal Use of Spatial Information in Crowd-Sourced Meta-Analysis of Understudied Populations” CEGA-BITSS-SSMART (\$30,000 w. James Rising)  
2015-17 “Food Security and Social Stability in Africa” International Growth Center (£99,091. w. M. Greenstone, A. Jina, A. Rode)  
2015-16 “Developing Tools for the Security, Conflict Prevention and Humanitarian Assistance Communities” Skoll Global Threats Fund (\$200,000. w. T. Houser)  
2015 “Coordinating Leisure” Institute for Research on Labor and Employment (\$15,141)  
2015-16 Weiss Family Program Fund for Research in Development Economics (\$25,507. w. J. Magruder)  
2015-20 “Environment and Society: Data Science for the 21st century” NSF Research Traineeship program (\$2,790,000. Faculty Participant and Steering Committee)  
2015 “Deploying Interdisciplinary Data Science to Understand the Global Impact of Climate Change” Social Science Matrix Prospecting Seminar  
2015 “Climate and global poverty” (\$50,000. Co-investigator with M. Burke)  
2013-14 “Econometric assessment of climate change impacts in the USA” (\$143,908)  
2013-14 “Quantifying agricultural adaptation to climate change” (\$25,500. w. E. Miguel & M. Burke)  
2011 Center for International Business Education & Research Grant (with Jina, A. & von der Goltz, J.)  
2010 Center for International Business Education & Research Grant (with Anttila-Hughes J. & Narita, D.)  
2008 Committee for Global Thought Travel Grant

### **Opinion & Popular Writing:**

“Would a legal ivory trade save elephants or speed up the massacre?” with Nitin Sekar, *The Guardian*, 10/1/2016  
“Climate change is indeed a cause of social conflict” with Marshall Burke, *Los Angeles Times*, 12/17/2015  
“Costs and Benefits, Yes, but Whose Numbers?” with Marshall Burke, *The Wall Street Journal*, 11/22/2015  
“El Nino: a global weather event that may save California – and destroy the tropics” with Kyle Meng, *The Guardian*, 9/21/2015

“Facing the storm after the storm in Vanuatu” with Amir Jina, *Reuters*, 3/19/2015  
“Weather and Violence” with Marshall Burke and Edward Miguel, *New York Times*, 8/30/2013  
“Are we well adapted to our climate?” *EARTH*, 8/2012  
“Climate Change and Civil Conflict: New Clues from El Nino” *EARTH*, 11/2011  
“Humans at High Temperatures: Reconsidering the Economics Implications of Climate Change” *EARTH*, 2/2011

### **Teaching:**

#### **Foundations of Sustainable Development**

Semesters of instruction: F14, F15, F16

#### **Spatial Data and Analysis**

Semesters of instruction: F13, F14, F15, F16

#### **Interdisciplinary Research Methods: Environment, Society, & Global Change**

*Co-taught with L. Larsen, D. Ackerly, M. Auffhammer*

Semesters of instruction: F16

#### **Climate Economics Workshop**

*Co-organized with D. Anthoff, M. Auffhammer*

Semesters: F16, S16, F16, S17

#### **Workshop in Climate Econometrics**

Instruction: Summer 2015

### **Doctoral and Post-Doctoral Advising (placement):**

Kendon Bell	(Landcare Research)
Felipe González	(Pontificia Universidad Católica de Chile, Economics faculty)
James Rising	(London School of Economics, Grantham faculty)
Patrick Baylis	(Stanford, FSE postdoc / U. British Columbia, Economics faculty)
Francis Moore	(UC Davis, Environmental Science and Policy faculty)
Amir Jina	(U. Chicago, Economics postdoc / U. Chicago, Public Policy faculty)

### **Academic Service:**

Work Group for Berkeley Roadmap on Environment, Climate, and Energy Efficiency Research (2017)  
GSPP Admissions Committee (2017)  
UCSF Climate Change and Global Health Steering Committee (2016)  
Data Science Planning Initiative Faculty Advisory Panel (2016)  
Data Science for the Twenty-First Century Faculty Steering Committee (2015-)  
Berkeley Research Computing Advisory Group (2016-)  
NSF Dynamics of Coupled Natural and Human Systems (CNH) advisory panel (2015)  
American Geophysical Union Science for Solutions Award Committee (2015-16)  
Blog Contributor: [www.fight-entropy.com](http://www.fight-entropy.com), [www.G-FEED.com](http://www.G-FEED.com)  
Conference Sessions Organized:  
*Sustainable Development Research Symposium* (2016)  
*American Economic Association* (2015, 2016)  
*American Geophysical Union* (2011, 2012, 2014)

*Association of Environmental & Resource Economists (2012)*  
*Ph.D. Workshop on International Climate Policy (2009)*

**Invited Presentations:**

**2017 –**

Bocconi University-FEEM (*Scheduled*)  
Stockholm University (*Scheduled*)  
Toulouse School of Economics (*Scheduled*)  
World Conference of Science Journalists (*Scheduled*)  
UC Berkeley (Environment and Energy Economics Seminar, *Scheduled*)  
Government Accountability Agency  
Stanford (SEEPAC Research Workshop)  
UC Santa Barbara (Climate Change and Macro-Economics)  
Cornell (Environment Economics Seminar)  
National Bureau of Economic Research (EEE Summer Institute)  
National Bureau of Economic Research (EEE Spring Meeting)  
American Economics Association

**2016 –**

National Academy of Sciences (Kavli Frontiers of Science)  
MIT (EmTech)  
MIT (Earth, Atmospheric and Planetary Science Departmental Seminar)  
MIT (Urban Studies and Planning Environmental Policy Lunch)  
Harvard University (Environmental Economics Seminar)  
Yale University (Environmental Economics/Forestry Seminar)  
Columbia University (SusDeveR)  
International Agricultural Trade Research Consortium  
National Bureau of Economic Research (EFJK Growth Group Winter Meeting)  
National Bureau of Economic Research (EEE Spring Meeting)  
Effective Altruism Global  
Blackrock (Scientific Active Equity)  
Sandia National Labs  
Duke University/NC State (Triangle Resource & Environmental Economics Seminar)  
Arizona State University (Tipping Points Forum)  
MIT (TIM Talks)  
The White House  
UC Berkeley (Public Policy Seminar)  
UC Berkeley (Energy Camp)  
UC Berkeley (Demography)  
UC Berkeley (Institute for Research on Labor and Employment)  
American Economic Association

**2015 –**

UC Davis (Environmental Economics Seminar)  
National Academy of Sciences  
US State Department  
British Consulate-General, San Francisco  
American Geophysical Union

July, 2017

7/10

UC Santa Barbara (Occasional Workshop)  
Haas School of Business, UC Berkeley (Real Estate)  
PERC (Market Adaptation to Climate Change)  
International Food Policy Research Institute (Applied Microeconomics and Development)  
California Energy Commission (IEPR workshop)  
National Bureau of Economic Research (Environmental Econ & Energy Summer Institute)  
National Bureau of Economic Research (Income Distribution & Macro Summer Institute)  
Stanford University (Stanford Energy and Environmental Economics Policy Analysis Center)  
Stanford University (Environmental Economics Seminar)  
Oxford University (OxCarre Centre for the Analysis of Resource Rich Economies)  
London School of Economics (Climate Change and Environment)  
University of Chicago (Public Policy)  
University of Maryland (Economics Seminar)  
Princeton University (Development / Center for Health and Well-Being)  
Princeton University (Science, Technology & Environmental Policy)  
Rutgers University (Earth and Planetary Science)  
Oklahoma University (Geography and Environmental Sustainability)  
Strata + Hadoop World (Keynote)  
UC Berkeley (Agricultural and Resource Economics/Energy Institute Seminar)  
American Economic Association

**2014 –**

Discrete Mathematics & Theoretical Computer Science (Workshop on Global Change)  
National Bureau of Economic Research Winter Meeting (Environmental Econ & Energy)  
MIT (CEEPR)  
Stanford University (Climate Risk Forum)  
Stanford University (The Hamilton Project)  
Lawrence Berkeley National Laboratory (Climate Sciences Seminar)  
Bloomberg Philanthropies  
Resources for the Future  
California Governor's Office  
The White House  
Columbia University (Sustainable Development Seminar)  
Columbia University (Sustainable Development 10 Year Anniversary Speaker)  
Boston University (Program in Mathematics for Young Scientists, Alumni Reunion Keynote)  
Risk Management Solutions (Annual Meeting, Keynote Speaker)  
University of Chicago (Energy Policy Institute at Chicago)  
American Geophysical Union (Fall Meeting)  
Potsdam Institute for Climate Impact Research  
USGS (Western Region Colloquium)  
UC Berkeley (Geography)  
UC Berkeley (CEGA)  
UC Berkeley (Energy Institute at Haas Seminar)  
UC Berkeley (Environmental Resource Group Seminar)  
UC Berkeley (Institute for the Study of Societal Issues)  
UC Berkeley (Summer Seminar in Applied Microeconomics)  
UC Berkeley (Agricultural and Resource Economics Seminar)  
UC Berkeley (Berkeley Institute for Transparency in Social Sciences)  
UC Berkeley (UCE3)



**2013 –**

American Geophysical Union (Fall Meeting Awards Session)  
Cornell University (Northeast Workshop on Energy Policy and Environmental Economics)  
Columbia University (Earth Summit)  
Columbia University (Abrupt Climate Change Studies Symposium)  
Department of Energy (Energy Frontier Research Center for gas separations relevant to clean air tech.)  
Geophysical Fluid Dynamics Laboratory (Lunch Seminar)  
Harvard University (Humanitarian Action Summit)  
IBM Research (Mathematics of a Smarter Planet Seminar)  
IZA (Labor Market Effects of Environmental Policies Workshop)  
Lamont-Doherty Earth Observatory (World-Wide Human Geography Data Working Group)  
Princeton University (Science, Technology and Environmental Policy Seminar)  
Carnegie Institute/Stanford University (Department of Global Ecology Seminar)  
Syracuse University (Public Affairs Seminar)  
UC Berkeley (Philomathia Forum: Food, Population, Security)  
UC Berkeley (Center for Environmental Public Policy)  
UC Berkeley (Development Economics Seminar)  
UC Berkeley (Berkeley Institute for Data Science)  
UC Berkeley (Berkeley Atmospheric Sciences Center)  
UC San Diego (Economic Development Seminar)  
UC San Diego (Symposia on Water Issues in Climate Change)  
University of Lausanne (DEEP Advanced Seminar in Economics)  
University of Zurich (Macro-Finance-Labor Seminar)  
Williams College (Urbanization and Economic Development Conference)  
World Bank (Green Growth symposium)

**2012 –**

American Economics Association  
American Association of Geographers  
American Geophysical Union (Fall Meeting)  
British Council in Paris (Climate and Security)  
Cercle National des Armées (Climate and Security)  
Columbia University (Applied Microeconomics Seminar)  
Columbia University (SIPA Alumni Weekend)  
Columbia University (IPWSD “Frontiers of Sustainable Development”)  
Environmental Defense Fund (Applied Environmental Economics Seminar)  
Environmental Protection Agency (Climate Economics Seminar)  
Harvard (Environmental Economics Seminar)  
MIT (Terrascope Alumni Dinner Keynote)  
National Bureau of Economic Research (Health Care / Environmental Econ & Energy joint meeting)  
Princeton (Science, Technology and Environmental Policy)  
UC Berkeley (Public Policy Seminar)  
UC Berkeley (Energy Institute Seminar)  
UC Santa Barbara (Occasional California Workshop on Environmental and Resource Economics)  
University of San Francisco (Economics Seminar)

**2011 –**

American Geophysical Union (Fall Meeting)  
Columbia University (Applied Physics & Applied Math Seminar)

Columbia University (Sustainable Development Seminar)  
Columbia University (Applied Microeconomics Seminar)  
Environmental Defense Fund (Applied Environmental Economics Seminar)  
Mailman School of Public Health (Climate and Health Seminar)  
MIT (Sloan Applied Economics Seminar)  
Property & Environment Research Center  
Stanford University (Environmental Earth System Science Seminar)  
Woodrow Wilson Center  
UC Santa Barbara (Environmental Management Seminar)

**Referee Service:**

*American Economic Journal: Applied*  
*American Economic Journal: Macro*  
*American Economic Review*  
*American Political Science Review*  
*American Journal of Agricultural Economics*  
*American Journal of Political Science*  
*California Energy Commission*  
*Climatic Change*  
*Climate Change Economics*  
*Columbia University Press*  
*Ecological Economics*  
*Econometrica*  
*Energy Economics*  
*Environmental Research Letters*  
*European Physics Journal Special Topics*  
*Global Environmental Change*  
*Global Environmental Politics*  
*Journal of Development Economics*  
*Journal of Economic Literature*

*Journal of Economic Studies*  
*J. of Environmental Economics & Management*  
*J. of the Assoc. of Envir. & Resource Economists*  
*Journal of the European Economics Association*  
*Journal of Peace Research*  
*Journal of Political Economy*  
*National Science Foundation*  
*Nature*  
*Nature Climate Change*  
*Nature Communications*  
*PLOS One*  
*Proceedings of the National Academy of Science*  
*Quarterly Journal of Economics*  
*Review of Economics and Statistics*  
*Review of Economic Studies*  
*Science*  
*Science Advances*  
*The Economic Journal*  
*Weather, Climate and Society*