

## Curriculum Vitae for David B. Lobell

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### A. Academic History

Degrees:

- 2000 Sc.B. Brown University  
Department of Applied Mathematics, Magna Cum Laude
- 2005 Ph.D. Stanford University,  
Department of Geological and Environmental Sciences  
Dissertation: "A remote sensing approach to understand controls  
on cropland productivity"

Post-doctoral training:

- 2005-2008 Lawrence Fellow, Lawrence Livermore National Laboratory

Scholarships and Honors:

- Lawrence Fellowship, Lawrence Livermore National Laboratory, 2005-2008  
EPA Science to Achieve Results Graduate Student Fellowship, 2004  
NASA Earth System Science Graduate Student Fellowship, 2004  
NSF Graduate Research Fellowship, 2000-2004  
Carbon, Climate and Society Initiative Fellowship, 2001-2002, NSF IGERT  
Best of Session Award, 2001, ERIM Conference on GIS in Agriculture and Forestry  
Outstanding Student Paper Award, 1999, American Geophysical Union Fall Meeting.

### B. Employment History:

- 2017 - Present Professor, Earth System Science Department (ESS), Stanford University  
Gloria and Richard Kushel Director, Center on Food Security and the  
Environment (FSE), as of Sep 2018  
William Wrigley Senior Fellow, Woods Institute for the Environment  
Senior Fellow, Freeman Spogli Institute for International Studies (FSI)  
and Stanford Institute for Economic Policy and Research (SIEPR).
- 2013 – 2017 Associate Professor (ESS) and Senior Fellow (Woods/FSI), Stanford
- 2009 – 2013 Assistant Professor (ESS) and Center Fellow (Woods/FSI), Stanford
- 2008 – 2009 Senior Research Scholar, FSE, Stanford
- 2005 – 2007 Lawrence Postdoctoral Fellow, Lawrence Livermore National Laboratory

### C. Public and Professional Service

- Lead Author, Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report,  
Chapter 7 of the Working Group II, "Food Production Systems and Food Security",  
2010-2014. Also member of core writing team for "Summary for Policy Makers" and  
contributing author for Ch. 18 on "Detection and Attribution of Observed Impacts"
- Member of National Academy of Sciences Committee on Stabilization Targets for Atmospheric  
Greenhouse Gas Concentrations (August 2009-May 2010) and Assessing the Impact of  
Climate Change on Political and Social Stresses (Sep 2011-Sep 2012)
- Member of Technical Advisory and Review Panel for World Bank Group activities related to  
climate change adaptation, 2012
- Editor, Global Change Biology, 2011-present
- Editorial Advisory Board Member, Global Food Security, 2012-present
- Editorial Board Member, Environmental Research Letters, 2009-2013
- Associate Editor, Journal of Environmental Quality, 2008 – 2010

9/4/2018

Co-organized and Led Meeting of 20 International Scientists on “Adapting Agriculture to Climate Change: The Role of Crop Wild Relatives” in Bellagio, Italy in September, 2010  
Organized and Led Meeting of 17 International Scientists on “Climate extremes and crop adaptation” at Stanford in June, 2009  
Edited special issue of J Environmental Quality on “Remote Sensing of Soil Degradation”  
National Academy of Sciences Panel on Climate, Energy, and Security (May-June 2008)  
National Academy of Sciences Workshop on Remote Sensing for Human Welfare (January 2006)  
NASA Land Cover Land Use Change Grant Review Panel, September 2005  
Frequent reviewer for over 25 scientific journals, including Science, Nature and PNAS.  
Occasional editor at PNAS (on request of board member).  
Numerous invited talks at corporations and business conferences on climate change adaptation  
Numerous public lectures throughout the Bay Area on climate change and food

#### **D. Post-Degree Honors and Awards:**

##### **Awards:**

Macarthur Fellow, 2014-2018  
Sir Frederick McMaster Fellowship, CSIRO, Australia, 2014  
Terman Fellow, Stanford University, 2011-2014  
Google Science Communication Fellow, 2011  
James B. Macelwane Medal, American Geophysical Union, 2010  
Fellow, American Geophysical Union, 2010  
NASA New Investigator Program Award, 2008-2010  
Lawrence Fellowship, Lawrence Livermore National Laboratory, 2005-2008

##### **Keynote addresses (since 2010):**

September, 2016. CIMMYT 50<sup>th</sup> year anniversary, Mexico City. “A golden age of remote sensing: Possibilities and pitfalls for agricultural systems research”  
November, 2015: USDA conference on “Regional Approaches to Climate Change”, “Transitioning Cereal Systems to Adapt to Climate Change.”  
July, 2015: International Section annual meeting of the Agricultural and Applied Economics Association (AAEA) in San Francisco. “Re-thinking Climate Adaptation”  
May 28, 2015. UC Davis Khush Symposium on Plant Breeding for Food Security “Food, climate, and technology”  
September 2014: Washington University Symposium on Climate Change and Agriculture. “Meeting the climate adaptation challenge in Midwest agriculture”  
April, 2014: Australia National University, Symposium on Food and Environmental Security, Canberra, Australia, “Aussie Rules Agriculture”  
June, 2013: Community Earth System Model (CESM) Workshop, Breckenridge,. “What aspects of climate change really matter for agriculture, and vice versa?”  
June, 2013: Association for International Agriculture and Rural Development (AIARD) Annual Conference. Washington, D.C.”(How) Should climate trends affect decisions in agricultural development?”  
May, 2012: FAO-World Bank meeting on Investing in agriculture and natural resources management in the context of climate change in East Asia and the Pacific (by video) “(How) should climate change alter investment in agriculture and natural resource management?”  
Sep, 2011: NCCR Climate Summer School, Grindelwald, Switzerland, “Food Security and Climate Change: What do we really need to know?”  
August, 2010: National Corn Grower’s Association Annual Meeting, “Corn yields and climate: their inseparable futures.”

##### **Other selected invited talks (in past 2 years):**

May 2016. University of Nebraska, “Opportunities to build intensive, resilient agro-ecosystems”

- April 2016. Moore Foundation Workshop on Critical Barriers to Progress in Sustainability Science, Irvine, CA “Data and methods gaps in sustainability research.”
- Mar 2016 CGIAR Standing Panel on Impact Assessment, Washington DC, “Remote sensing for impact assessment at CGIAR”
- January 2016 Data Science Seminar Series, Stanford CA, “Strength in numbers: using data to improve food security”
- December 2015 invited talk at Program on Integrated Assessment Model Development, Diagnostics and Intercomparison (PIAMDDI) workshop on climate impact methods. “Do different methods predict different yield responses to climate change?”
- November, 2015 invited talk at American Society of Agronomy “Assessing Options to Reduce the Impacts of Extreme Heat in Agriculture”
- July 8-9, 2015: two invited talks at the Our Common Future Under Climate Change conference in Paris, France, on “Agricultural adaptation to climate change in rich and poor countries” and “Assessing climate impacts and adaptation options for cereal systems in West Africa,” hosted by the International Council for Science (ICSU), Future Earth and UNESCO.
- June 2015. United Nations Food and Agriculture Organization in Rome, Italy “Mapping crop yields and area using Google Earth Engine and a Scalable Satellite-based Crop Yield Mapper”
- June, 2015: lecture at Planet Labs in San Francisco, CA “Using high spatial and temporal resolution imagery for food security research”
- June 2015 University of California Center for Global Action’s conference on “Technologies for Crisis Response and Resilience”, “Assessing Impact in Agriculture at Ultra Low Cost”
- May 20, 2015: International Center for Tropical Agriculture (CIAT). seminar (via Skype) “Using crop models to inform breeding: examples from Australia”
- April 2015, invited talk at Center for Effective Global Action at Google, San Francisco “Assessing Impacts in Agriculture at Ultra-low Costs”
- March 2015 U Maryland GeoGLAM meeting, “A scalable satellite-based crop yield mapper: Integrating satellites and crop models for field-scale estimation”
- January 2015 Stanford Data Science Initiative, “From bytes to bites: How data science might help feed the world”
- December 2014: “Satellite-based crop yield mapping at the field scale: recent progress and testing” Fall AGU Meeting, San Francisco,
- December 2014: “How Earth Engine and Skybox can help on food security and deforestation” Google, Mountain View, CA,
- October 2014: “Climate adaptation challenges and priorities in African agriculture” Rockefeller Foundation, NY,

## **E. Scholarly Publications**

### **Books:**

Lobell, D.B. and Burke, M.B. (eds.) 2010. Climate Change and Food Security. Springer.  
<http://www.springerlink.com/content/978-90-481-2952-2>

### **Peer Reviewed Journal Publications (\*indicates first author was a student or post-doc):**

- \*Seifert, C.A., Azzari, G. and Lobell, D.B., 2018. Satellite detection of cover crops and their effects on crop yield in the Midwestern United States. *Environmental Research Letters*, 13(6), p.064033.  
<https://doi.org/10.1088/1748-9326/aac4c8>
- Zhu, P., Jin, Z., Zhuang, Q., Ciais, P., Bernacchi, C., Wang, X., Makowski, D. and Lobell, D., 2018. The important but weakening maize yield benefit of grain filling prolongation in the US Midwest. *Global change biology*.
- \*Weyant, C., Brandeau, M.L., Burke, M., Lobell, D.B., Bendavid, E. and Basu, S., 2018. Anticipated burden and mitigation of carbon-dioxide-induced nutritional deficiencies and related diseases: A simulation modeling study. *PLoS medicine*, 15(7), p.e1002586.
- \*Turner, P.A., Field, C.B., Lobell, D.B., Sanchez, D.L. and Mach, K.J., 2018. Unprecedented rates of land-use transformation in modelled climate change mitigation pathways. *Nature Sustainability*, 1(5), p.240.

- \*Jin, Z., Ainsworth, E. A., Leakey, A. D. B., & Lobell, D. B. (2018). Increasing drought and diminishing benefits of elevated carbon dioxide for soybean yields across the US Midwest. *Global Change Biology*, 24(2). <https://doi.org/10.1111/gcb.13946>
- \*Turner, P. A., Mach, K. J., Lobell, D. B., Benson, S. M., Baik, E., Sanchez, D. L., & Field, C. B. (2018). The global overlap of bioenergy and carbon sequestration potential. *Climatic Change*, 148(1-2), pp.1-10. <https://doi.org/10.1007/s10584-018-2189-z>
- Lobell, D. B., Azzari, G., Burke, M., Gurlay, S., Jin, Z., Kilic, T., & Murray, S. (2018). Eyes in the sky, boots on the ground: assessing satellite-and ground-based approaches to crop yield measurement and analysis in Uganda. *World Bank Working Paper*.
- Tebaldi, C., & Lobell, D. (2018). Estimated impacts of emission reductions on wheat and maize crops. *Climatic Change*, 146(3-4), 533-545.
- \*Jin, Z., Azzari, G., & Lobell, D. B. (2017). Improving the accuracy of satellite-based high-resolution yield estimation: A test of multiple scalable approaches. *Agricultural and Forest Meteorology*, 247. <https://doi.org/10.1016/j.agrformet.2017.08.001>
- \*Jin, Z., Azzari, G., Burke, M., Aston, S., & Lobell, D. B. (2017). Mapping smallholder yield heterogeneity at multiple scales in eastern Africa. *Remote Sensing*, 9(9). <https://doi.org/10.3390/rs9090931>
- Zhao, C., Liu, B., Piao, S., Wang, X., Lobell, D. B., Huang, Y., ... Asseng, S. (2017). Temperature increase reduces global yields of major crops in four independent estimates. *Proceedings of the National Academy of Sciences of the United States of America*, 114(35). <https://doi.org/10.1073/pnas.1701762114>
- \*Guan, K., Wu, J., Kimball, J. S., Anderson, M. C., Froelking, S., Li, B., ... Lobell, D. B. (2017). The shared and unique values of optical, fluorescence, thermal and microwave satellite data for estimating large-scale crop yields. *Remote Sensing of Environment*, 199. <https://doi.org/10.1016/j.rse.2017.06.043>
- \*Pryzant, R., Ermon, S., & Lobell, D. (2017). Monitoring Ethiopian Wheat Fungus with Satellite Imagery and Deep Feature Learning. In *IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops (Vol. 2017–July)*. <https://doi.org/10.1109/CVPRW.2017.196>
- Roberts, M. J., Braun, N. O., Sinclair, T. R., Lobell, D. B., & Schlenker, W. (2017). Comparing and combining process-based crop models and statistical models with some implications for climate change. *Environmental Research Letters*, 12(9). <https://doi.org/10.1088/1748-9326/aa7f33>
- \*Jain, M., Singh, B., Srivastava, A. A. K., Malik, R. K., McDonald, A. J., & Lobell, D. B. (2017). Using satellite data to identify the causes of and potential solutions for yield gaps in India's Wheat Belt. *Environmental Research Letters*, 12(9). <https://doi.org/10.1088/1748-9326/aa8228>
- \*Azzari, G., & Lobell, D. B. (2017). Landsat-based classification in the cloud: An opportunity for a paradigm shift in land cover monitoring. *Remote Sensing of Environment*, 202. <https://doi.org/10.1016/j.rse.2017.05.025>
- Lobell, D. B., & Asseng, S. (2017). Comparing estimates of climate change impacts from process-based and statistical crop models. *Environmental Research Letters*, 12(1). <https://doi.org/10.1088/1748-9326/aa518a>
- \*Azzari, G., Jain, M., & Lobell, D. B. (2017). Towards fine resolution global maps of crop yields: Testing multiple methods and satellites in three countries. *Remote Sensing of Environment*, 202. <https://doi.org/10.1016/j.rse.2017.04.014>
- \*Seifert, C. A., Roberts, M. J., & Lobell, D. B. (2017). Continuous corn and soybean yield penalties across hundreds of thousands of fields. *Agronomy Journal*, 109(2). <https://doi.org/10.2134/agronj2016.03.0134>
- Burke, M. and Lobell, D.B., 2017. Satellite-based assessment of yield variation and its determinants in smallholder African systems. *Proceedings of the National Academy of Sciences*, 114(9), pp.2189-2194. <https://doi.org/10.1073/pnas.1616919114>
- Lobell, D.B. and Azzari, G., 2017. Satellite detection of rising maize yield heterogeneity in the US Midwest. *Environmental Research Letters*, 12(1), p.014014. <https://doi.org/10.1088/1748-9326/aa5371>
- Lobell, D.B. and Asseng, S., 2017. Comparing estimates of climate change impacts from process-based and statistical crop models. *Environmental Research Letters*, 12(1), p.015001.
- \*Urban, D. W., Sheffield, J., & Lobell, D. B. (2017). Historical effects of CO<sub>2</sub> and climate trends on global crop water demand. *Nature Climate Change*, 7(12), 901.
- \* Heft-Neal, S., Lobell, D.B. and Burke, M., 2017. Using remotely sensed temperature to estimate climate response functions. *Environmental Research Letters*, 12(1), p.014013. <https://doi.org/10.1088/1748-9326/aa5463>
- \*Zhao, Y. and D.B. Lobell, 2017. Assessing the heterogeneity and persistence of farmers' maize yield performance across the North China Plain, *Field Crops Research*, 205: 55-66.

- \*Seifert, C., Roberts, M., and Lobell, D.B. 2017. Continuous Corn and Soybean Yield Penalties Across Hundreds of Thousands of Fields, *Agronomy Journal*, 109(2): 541-548.
- \*You, J., X. Li, M. Low, D. Lobell and S. Ermon (2017) Deep Gaussian Process for Crop Yield Prediction Based on Remote Sensing Data, *AAAI Conference on Artificial Intelligence (AAAI-17)*, 4559-4566.
- \*Guan, K., Sultan, B., Biasutti, M., Baron, C., & Lobell, D. B. (2017). Assessing climate adaptation options and uncertainties for cereal systems in West Africa. *Agricultural and Forest Meteorology*, 232, 291–305. doi:10.1016/j.agrformet.2016.07.021
- Asseng, S., Cammarano, D., Basso, B., Chung, U., Alderman, P. D., Sonder, K., ... & Lobell, D. B. (2017). Hot spots of wheat yield decline with rising temperatures. *Global change biology*, 23(6), 2464-2472.
- \*Jain, M., Srivastava, A.K., Joon, R.K., McDonald, A., Royal, K., Lisaius, M.C. and Lobell, D.B., 2016. Mapping Smallholder Wheat Yields and Sowing Dates Using Micro-Satellite Data. *Remote Sensing*, 8(10), p.860. doi:10.3390/rs8100860
- Liu, Asseng, Muller, Ewert, Elliott, Lobell et al. (2016) Similar negative impacts of temperature on global wheat yield estimated by three independent methods, *Nature Climate Change*. doi:10.1038/nclimate3115
- \*Jean, N., Burke, M., Xie, M., Davis, W. M., Lobell, D. B., & Ermon, S. (2016). Combining satellite imagery and machine learning to predict poverty. *Science*, 353(6301), 790–794. <https://doi.org/10.1126/science.aaf7894>
- Potgieter, A. B., Lobell, D. B., Hammer, G. L., Jordan, D. R., Davis, P., & Brider, J. (2016). Yield trends under varying environmental conditions for sorghum and wheat across Australia. *Agricultural and Forest Meteorology*, 228, 276–285.
- \*Zhao, Y., Chen, X., & Lobell, D. B. (2016). An approach to understanding persistent yield variation—A case study in North China Plain. *European Journal of Agronomy*, 77, 10-19.
- Farmaha, B. S., Lobell, D. B., Boone, K. E., Cassman, K. G., Yang, H. S., & Grassini, P. (2016). Contribution of persistent factors to yield gaps in high-yield irrigated maize. *Field Crops Research*, 186, 124-132.
- \*Meng, Q., Chen, X., Lobell, D. B., Cui, Z., Zhang, Y., Yang, H., & Zhang, F. (2016). Growing sensitivity of maize to water scarcity under climate change. *Scientific reports*, 6.
- \*Ravi, S., Macknick, J., Lobell, D., & Field, C. (2016). Colocation opportunities for large solar infrastructures and agriculture in drylands. *Applied Energy*. 165, 383-392
- \*Xie, M., Jean, N., Burke, M., Lobell, D., & Ermon, S. (2015). Transfer Learning from Deep Features for Remote Sensing and Poverty Mapping. *AAAI Conference on Artificial Intelligence (AAAI-15)* <http://arxiv.org/abs/1510.00098>
- \*Guan, K., Berry, J. A., Zhang, Y., Joiner, J., Guanter, L., Badgley, G., & Lobell, D. B. (2015). Improving the monitoring of crop productivity using spaceborne solar-induced fluorescence. *Global change biology*.doi: 10.1111/gcb.13136, 22 716-726
- Tebaldi, C., & Lobell, D. (2015). Estimated impacts of emission reductions on wheat and maize crops. *Climatic Change*. 1-13. <http://link.springer.com/article/10.1007/s10584-015-1537-5>
- Burke, M., Dykema, J., Lobell, D., Miguel, E., Sathanath, S. (2015). Incorporating climate uncertainty into estimates of climate change impacts. *Review of Economics and Statistics* 97.2: 461-471.
- \*Guan K, Sultan B, Biasutti M, Baron C, Lobell DB (2015) What aspects of future rainfall changes matter for crop yields in West Africa? *Geophysical Research Letters*. 42.19: 8001-8010.
- \*Zhao Y, Chen X, Cui Z, Lobell DB (2015) Using satellite remote sensing to understand maize yield gaps in the North China Plain. *Field Crops Research*, 183, 31–42.
- Lobell DB, Hammer GL, Chenu K, Zheng B, McLean G, Chapman SC (2015) The shifting influence of drought and heat stress for crops in northeast Australia. *Global change biology*. doi: 10.1111/gcb.13022
- Lobell DB, Thau D, Seifert C, Engle E, Little B (2015) A scalable satellite-based crop yield mapper. *Remote Sensing of Environment*. 164: 324-333. <https://doi.org/10.1016/j.rse.2015.04.021>
- \*Urban D, Sheffield J, Lobell D. 2015. The impacts of future climate and carbon dioxide changes on the average and variability of US maize yields under two emission scenarios. *Environmental Research Letters*. 10 045003
- \*Seifert CA, Lobell DB. 2015. Response of double cropping suitability to climate change in the United States. *Environmental Research Letters*, 10, 024002.
- \*Moore, F.C., Lobell, D.B., 2015. The fingerprint of climate trends on European crop yields. *Proc. Natl. Acad. Sci. U. S. A.* 112, 2670–2675. doi:10.1073/pnas.1409606112
- \*Urban, D.W., Roberts, M.J., Schlenker, W., Lobell, D.B., 2015. The effects of extremely wet planting conditions on maize and soybean yields. *Clim. Change* 1–14.
- \*Gourdji, S., Läderach, P., Valle, A.M., Martinez, C.Z., Lobell, D.B., 2015. Historical climate trends, deforestation, and maize and bean yields in Nicaragua. *Agric. For. Meteorol.* 200, 270–281.

- Verón, S.R., de Aballeyra, D., Lobell, D.B., 2015. Impacts of precipitation and temperature on crop yields in the Pampas. *Clim. Change* 1–11.
- Asseng, S., Ewert, F., Martre, P., Rötter, R.P., Lobell, D.B., et al., 2015. Rising temperatures reduce global wheat production. *Nat. Clim. Chang.* 5, 143–147, doi:10.1038/nclimate2470
- Porter, J.R., Xie, L., Challinor, A.J., Cochrane, K., Howden, S.M., Iqbal, M.M., Lobell, D.B., Travasso, M.I., 2014. Chapter 7: Food Security and Food Production Systems. IPCC Working Group 2 Report.
- Sultan, B., \*Guan, K., Kouressy, M., Biasutti, M., Piani, C., Hammer, G.L., McLean, G., Lobell, D.B., 2014. Robust features of future climate change impacts on sorghum yields in West Africa. *Environ. Res. Lett.* 9, 104006.
- Lobell, D.B., 2014. Climate change adaptation in crop production: Beware of illusions. *Global Food Security.* 3: 72-76
- Lobell, D.B. and Tebaldi, C., 2014. Getting caught with our plants down: the risks of a global crop yield slowdown from climate trends in the next two decades. *Environmental Research Letters*, 9(7): 074003.
- \*Moore, F.C. and Lobell, D.B., 2014. Adaptation potential of European agriculture in response to climate change. *Nature Climate Change.* 4(7) 610-614
- Lobell, D.B., Roberts, M.J., Schlenker, W., Braun, N., Little, B.B., Rejesus, R.M. and Hammer, G.L., 2014. Greater Sensitivity to Drought Accompanies Maize Yield Increase in the U.S. Midwest. *Science*, 344(6183): 516-519. <https://doi.org/10.1126/science.1251423>
- \*Ravi, S., Lobell, D.B. and Field, C.B., 2014. Tradeoffs and Synergies between Biofuel Production and Large Solar Infrastructure in Deserts. *Environmental science & technology*, 48(5): 3021-3030.
- Hertel TW, Lobell DB. 2014. Agricultural adaptation to climate change in rich and poor countries: Current modeling practice and potential for empirical contributions. *Energy Economics.*
- Challinor, A.J., Watson, J., Lobell, D.B., Howden, S.M., Smith, D.R. and Chhetri, N., 2014. A meta-analysis of crop yield under climate change and adaptation. *Nature Clim. Change*, 4(4): 287-291.
- \* Sibley, A., P. Grassini, N. Thomas. K. Cassman, and D.B. Lobell. 2014. Testing remote sensing approaches for assessing yield variability among maize fields, *Agronomy Journal*, 106: 24-32
- \*Meng Q, Hou P, Lobell D.B, Wang H, Cui Z, Zhang F, Chen X. 2013. The benefits of recent warming for maize production in high latitude China. *Climatic Change*. Doi: 10.1007/s10584-013-1009-8
- Stone, D., Auffhammer, M., Carey, M., Hansen, G., Huggel, C., Cramer, W., Lobell, D., Molau, U., Solow, A., Tibig, L. and Yohe, G., 2013. The challenge to detect and attribute effects of climate change on human and natural systems. *Climatic Change*: 1-15.
- Saba, A., Biasutti, M., Gerrard, M. B., & Lobell, D. B. 2013. Getting Ahead of the Curve: Supporting Adaptation to Long-term Climate Change and Short-term Climate Variability Alike. *Carbon and Climate Law Review*, 7(1), 3–23.
- Campbell, J.E., Lobell, D.B., Genova, R.C., Zumkehr, A. and Field, C.B., 2013. Seasonal energy storage using bioenergy production from abandoned croplands. *Environmental Research Letters*, 8(3): 035012.
- \*Gourdji, S.M., Sibley, A.M. and Lobell, D.B., 2013. Global crop exposure to critical high temperatures in the reproductive period: historical trends and future projections. *Environmental Research Letters*, 8(2): 024041.
- \*McGrath, J.M. and Lobell, D.B., 2013. Regional disparities in the CO2 fertilization effect and implications for crop yields. *Environmental Research Letters*, 8(1): 014054.
- Schlenker, W., Roberts, M.J. and Lobell, D.B., 2013. US maize adaptability. *Nature Climate Change*, 3(8): 690-691.
- Lobell, D.B., G.L. Hammer, G. McLean, C. Messina, M.J. Roberts, and W. Schlenker. 2013. The critical role of extreme heat for maize production in the United States, *Nature Climate Change*, DOI: 10.1038/NCLIMATE1832.
- \* Georgescu, M., Lobell, D.B., Field, C.B., & Mahalov, A. (2013). Simulated hydroclimatic impacts of projected Brazilian sugarcane expansion. *Geophysical Research Letters*, 40, 1–6.
- Lobell, D.B., U. Baldos, and T.W. Hertel. 2013. Climate adaptation as mitigation: the case of agricultural investments, *Environmental Research Letters*, 8 015012 doi:10.1088/1748-9326/8/1/015012
- \* Gourdji, S.M., K. Matthews, M. Reynolds, J. Cross, and D.B. Lobell. 2013. An assessment of wheat yield sensitivity and breeding gains in hot environments, *Proceedings of the Royal Society B: Biological Sciences*, 280: 1752.
- Lobell, D.B., 2013. The use of satellite data for crop yield gap analysis. *Field Crops Research*, 143, 56-64
- Lobell, D.B., Ortiz-Monasterio, J.I., Sibley, A.M., & Sohu, V.S. 2013. Satellite detection of earlier wheat sowing in India and implications for yield trends. *Agricultural Systems*, 115, 137-143
- Lobell, D.B. 2013. Errors in climate datasets and their effects on statistical crop models. *Agricultural and Forest Meteorology*, 170, 58-66

- Lobell, D.B., and Gourdji, S.M., 2012. The influence of climate change on global crop productivity, *Plant Physiology*, 160: 1686-1697.
- \* McGrath, J.M., & Lobell, D.B. 2012. Reduction of transpiration and altered nutrient allocation contribute to nutrient decline of crops grown in elevated CO<sub>2</sub> concentrations. *Plant, Cell & Environment*, in press.
- \* Urban, D., Roberts, M., Schlenker, W. and Lobell, D., 2012. Projected temperature changes indicate significant increase in interannual variability of U.S. maize yields. *Climatic Change*, 112(2): 525-533.
- Lobell, D.B., Sibley, A. and Ivan Ortiz-Monasterio, J., 2012. Extreme heat effects on wheat senescence in India. *Nature Clim. Change*, advance online publication. DOI: 10.1038/NCLIMATE1356
- \*Pongratz, J., Lobell, D.B., Cao, L. and Caldeira, K., 2012. Crop yields in a geoengineered climate. *Nature Clim. Change*, 2(2): 101-105.
- \*Maltais-Landry, G. and Lobell, D.B., 2012. Evaluating the Contribution of Weather to Maize and Wheat Yield Trends in 12 US Counties. *Agronomy journal*, 104(2): 301.
- Lobell, D. and Field, C., 2012. California perennial crops in a changing climate. *Climatic Change*, 109: 317-333.
- Lobell, D., Torney, A. and Field, C., 2012. Climate extremes in California agriculture. *Climatic Change*, 109: 355-363.
- Lobell, D.B., W.S. Schlenker, and J. Costa-Roberts. 2011. Climate trends and global crop production since 1980. *Science*, doi:10.1126/science.1204531.
- Lobell, D.B., Banziger, M., Magorokosho, C. and Vivek, B., 2011. Nonlinear heat effects on African maize as evidenced by historical yield trials. *Nature Clim. Change*, 1(1): 42-45.
- \* Loarie, S.R., Lobell, D.B., Asner, G.P., Mu, Q. and Field, C.B., 2011. Direct impacts on local climate of sugar-cane expansion in Brazil. *Nature Clim. Change*, 1(2): 105-109.
- \*Nicholas, K.A., Matthews, M.A., Lobell, D.B., Willits, N.H. and Field, C.B., 2011. Effect of vineyard-scale climate variability on Pinot noir phenolic composition. *Agricultural and Forest Meteorology*, 151(12): 1556-1567.
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