

DAVID SCHIMEL

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Born: 1955

EDUCATION:

Degree	Year	Institution
B.A.	1977	Hampshire College, Amherst, Massachusetts
Ph.D.	1982	Colorado State University, Fort Collins

PROFESSIONAL EXPERIENCE:

1976-77	Statistical Consultant, University of Massachusetts, Research Computing Center, Amherst, Massachusetts
1977-79	Research Associate, The Marine Biological Laboratory, Ecosystems Center, Woods Hole, Massachusetts
1979-82	Graduate Research Assistant, NREL, Colorado State University
1982-83	Postdoctoral Fellow, NREL, Colorado State University
1983-86	Research Associate, NREL, Colorado State University
1986-present	Research Scientist, NREL, Colorado State University
1988-89	National Research Council Senior Fellow, NASA/Ames Research Center
1989-95	Associate Professor, Department of Forest & Wood Science, Colorado State University
1990-1995	Project Scientist, Climate System Modeling Program, UCAR
1992-95	Scientist III, National Center for Atmospheric Research (NCAR)
1992-1997	Section Head, Climate and Global Dynamics Division, NCAR
1995-present	Senior Research Scientist, NREL, Colorado State University
1997-2002	Professor and Director, Max-Planck Institute for Biogeochemistry
1995-2009	Senior Scientist, National Center for Atmospheric Research
2007-2011	CEO, and Principal Investigator National Ecological Observatory, Inc.
2011-2012	Chief Science Officer and Principal Investigator, NEON
2012-2014	Research Scientist, JPL
2014-present	Senior Research Scientist and Group Supervisor, Carbon and Ecosystems, JPL

PROFESSIONAL AND HONORARY SOCIETIES, COMMITTEES AND BOARDS:

American Geophysical Union (Fellow)
Ecological Society of America (Fellow)
NSF Geosciences Directorate Advisory Committee (AC-GEO) 2009-2012
NSF Biological Sciences Advisory Committee (AC-BIO) 2014-2017
International Geosphere-Biosphere Program (IGBP): Founding member, Task Force on Global Analysis, Interpretation and Modeling
IGBP Steering Committee (2004-2011)

IBGP: Analysis, Interpretation and Modeling of the Earth System Task Force: Chair (2005-2011)
NASA Earth Observing System Project, Biogeochemistry Panel, chairman (1992-1996)
NASA Earth Observing System Project Science Executive Committee and Payload Panel (1992-1998)
SCOPE Working Group on Biogenic Trace Gases
Chair, National Technical Review Panel, National Institute for Global Environmental Change, DOE
Intergovernmental Panel on Climate Change (IPCC), Convening Lead Author, 1994, 1995, 2001 Reports
Member, Synthesis Team, US National Assessment of the Potential Consequences of Climate Variability and Change
U.S. National Academy Committee on Global Change Working groups on Biological Systems and Dynamics, Earth System Models, Nutrient Fluxes, and Dynamics
Member, U.S. National Academy Committee on Global Change Research (1995-1998)
Carbon Science Working Group (USGCRP)
UCAR Global Change Institute, steering committee (1990)
Committee on Global Change Research in China, National Academy of Sciences 1991-1993
National Research Council Committee on Atmospheric Chemistry
National Research Council Committee on Global Change Research
University of Colorado's Global Change and Environmental Quality Program Committee
Visiting Member of the Graduate Faculty of Texas A&M University
NASA Decadal Survey Ecosystems Panel, National Research Council
2011 NRC Interim review of the NASA Decadal Survey
NRC Sustained Land Imaging Panel
University Research Priority Programme on Global Change and Biodiversity, University of Zurich, Switzerland Advisory Committee (2012)
iDiv, the German Centre for Integrative Biodiversity Research, Science Advisory Committee (2012)
Montana EPSCoR Science Advisory Board (2012)
NSF Biosciences Directorate Advisory Committee (AC BIO) 2014-16
NSF Environmental Research and Engineering Advisory Committee (Present)

GRANT EXPERIENCE (SELECTED):

Dahlem Konferenzen Workshop on Trace Gas Exchange Between and the Atmosphere
Fire in the Tallgrass Prairie, National Science Foundation, Principal Investigator (NSF) (3 renewals)
A Joint Facility for Regional Ecosystem Analysis (with the University of Colorado: NSF Biological Facilities Program)
NASA Earth Observing System Interdisciplinary Science Investigation (1989-2001):
"Multisensor analysis of factors controlling carbon balance in global arid and semiarid ecosystems" (NASA)
China and the Global Nitrogen Cycle (NASA)
Regulation of Nitrogen Mineralization by Soil Physical Structure, Co-principal Investigator (NSF)
Surface Biophysical Properties and Trace Gas Flux in Tallgrass Prairie, Principal Investigator (NASA)
The Climate System Modeling Program, UCAR, Principal Investigator (NSF/DOE)
Assimilation of satellite radiances for carbon cycle retrievals, EC, Principal Investigator (Partners: ECMWF, LSCE-Paris, MPIBGC-Jena, MPIM-Hamburg)
The Vegetation and Ecosystem Modeling Project, NASA/EPRI/USFS, Principal Investigator
The Airborne Carbon in the Atmosphere Experiment (ACME): Principal Investigator
The National Ecological Observatory, National Science Foundation, Principal Investigator (\$433,700,000, 2011-2017)

Science Team Member, Orbiting Carbon Observatory, (NASA), 2014-2017
GeoCARB (2017-2026), Earth Venture Instrument-2 (Geosynchronous imaging trace gas spectrometer)
CARBO (2016-2018), Instrument Incubator Program, wide-swath CO₂ spectrometer.

HONORS AND AWARDS:

Nobel Peace Prize, 2007 (IPCC Convening Lead Author)
Fellow, American Geophysical Union
Fellow, Ecological Society of America
Founding Director, Max-Planck-Institute for Biogeochemistry
External Member, Max Planck Society (Germany)
Elected Member, Ecology Institute, (Germany)
National Research Council Senior Fellow at NASA/Ames Research Center, 1988-89
Most Publications Award at the Natural Resource Ecology Lab,
Colorado State University, 1994
ISI Highly Cited Researcher

REVIEWER (SELECTED):

Science
Journal of Climate
Climatic Change
Agronomy Journal
Global Biogeochemical Cycles
Journal of Climate
Journal of Applied Meteorology and Climatology
Journal of Geophysical Research
Ecology
Geoderma
Journal of Geophysical Research
Journal of Range Management
Nature
Soil Biology and Biochemistry
Soil Science Society of America Journal
Proceedings of the National Academy of Sciences

EDITOR:

Ecological Applications (Editor in Chief, 2002-present)
Global Change Biology (Editorial Board)
Biogeochemistry (Editorial Board)
Science Magazine (Board of Reviewing Editors,
PNAS (Guest editor)
Annual Reviews of Environment and Resources
ou

PUBLICATIONS

Refereed Publications (214, current H-Index 2019 = 74)

1. Xu L, Saatchi SS, Yang Y, Yu Y, Pongratz J, Bloom AA, Bowman K, Worden J, Liu J, Yin Y, Domke G. Changes in global terrestrial live biomass over the 21st century. *Science Advances*. 2021 Jul 1;7(27):eabe9829.
2. Worden J, Saatchi S, Keller M, Bloom AA, Liu J, Parazoo N, Fisher JB, Bowman K, Reager JT, Fahy K, Schimel D. Satellite Observations of the Tropical Terrestrial Carbon Balance and Interactions with the Water Cycle During the 21st Century. *Reviews of Geophysics*. 2021 Mar;59(1):e2020RG000711.
3. Liu J, Baskaran L, Bowman K, Schimel D, Bloom AA, Parazoo NC, Oda T, Carroll D, Menemenlis D, Joiner J, Commane R. Carbon Monitoring System Flux Net Biosphere Exchange 2020 (CMS-Flux NBE 2020). *Earth System Science Data Discussions*. 2020 Jul 7:1-53.
4. Carroll D, Menemenlis D, Adkins JF, Bowman KW, Brix H, Dutkiewicz S, Fenty I, Gierach MM, Hill C, Jahn O, Landschützer P. The ECCO-Darwin Data-assimilative Global Ocean Biogeochemistry Model: Estimates of Seasonal to Multi-decadal Surface Ocean pCO₂ and Air-sea CO₂ Flux. *Journal of Advances in Modeling Earth Systems*. 2020 Jul 26:e2019MS001888.
5. Krishnamurthy R PK, Fisher JB, Schimel DS, Kareiva PM. Applying tipping point theory to remote sensing science to improve early warning drought signals for food security. *Earth's Future*. 2020 Mar;8(3):e2019EF001456.
6. Schimel D, Townsend PA, Pavlick R. Prospects and Pitfalls for Spectroscopic Remote Sensing of Biodiversity at the Global Scale. In *Remote Sensing of Plant Biodiversity 2020* (pp. 503-518). Springer, Cham.
7. Schneider FD, Ferraz AA, Hancock S, Duncanson LI, Dubayah RO, Pavlick RP, Schimel DS. Towards mapping the diversity of canopy structure from space with GEDI. *Environmental Research Letters*. 2020
8. Fisher JB, Perakalapudi NV, Turner BL, Schimel DS, Cusack DF. Competing effects of soil fertility and toxicity on tropical greening. *Scientific reports*. 2020 Apr 21;10(1):1-0
9. Bloom AA, Bowman KW, Liu J, Konings AG, Worden JR, Parazoo NC, Meyer V, Reager JT, Worden HM, Jiang Z, Quetin GR. Lagged effects dominate the inter-annual variability of the 2010–2015 tropical carbon balance. *Biogeosciences Discussions*. 2020 Jan 8:1-49.
10. Fisher JB, Perakalapudi NV, Turner BL, Schimel DS, Cusack DF. Competing effects of soil fertility and toxicity on tropical greening. *Scientific Reports*. 2020 Apr 21;10(1):1-0.
11. Yin Y, Bloom AA, Worden J, Saatchi S, Yang Y, Williams M, Liu J, Jiang Z, Worden H, Bowman K, Frankenberg C. Fire decline in dry tropical ecosystems enhances decadal land carbon sink. *Nature communications*. 2020 Apr 20;11(1):1-7.
12. Konings AG, Bloom AA, Liu J, Parazoo NC, Schimel DS, Bowman KW. Global satellite-driven estimates of heterotrophic respiration. *Biogeosciences*. 2019;16(11):2269-84.
13. Schneider FD, Kükenbrink D, Schaepman ME, Schimel DS, Morsdorf F. Quantifying 3D structure and occlusion in dense tropical and temperate forests using close-range LiDAR. *Agricultural and forest meteorology*. 2019 Apr 15;268:249-57.
14. Schneider, F. D., A. Ferraz, and D. Schimel (2019), Watching Earth's interconnected systems at work, *Eos*, 100, <https://doi.org/10.1029/2019EO136205>. Published on 31 October 2019
15. Crowell S, Baker D, Schuh A, Basu S, Jacobson AR, Chevallier F, Liu J, Deng F, Feng L, McKain K, Chatterjee A. The 2015–2016 carbon cycle as seen from OCO-2 and the global in situ network. *Atmospheric Chemistry and Physics*. 2019 Aug 2;19(15):9797-831.
16. Whelan AM, Schimel DS. Authorship and Gender in ESA Journals. *Bulletin of the Ecological Society of America*. 2019 Jul 1;100(3):1-9.
17. Magney TS, Bowling DR, Logan BA, Grossmann K, Stutz J, Blanken PD, Burns SP, Cheng R, Garcia MA, Köhler P, Lopez S, Parazoo, N, Raczka, B, Schimel, D, and Frankenberg, C. Mechanistic evidence for tracking the seasonality of photosynthesis with solar-induced fluorescence. *Proceedings of the National Academy of Sciences*. 2019 Jun 11;116(24):11640-5.

18. Schimel, D, F Schneider and JPL Carbon and Ecosystem Participants. 2019. Flux towers in the sky: global ecology from space. *New Phytologist*, <https://nph.onlinelibrary.wiley.com/doi/abs/10.1111/nph.15934>.
19. Barnett DT, Duffy PA, Schimel DS, Krauss RE, Irvine KM, Davis FW, Gross JE, Azuaje EI, Thorpe AS, Gudex-Cross D, Patterson M. The terrestrial organism and biogeochemistry spatial sampling design for the National Ecological Observatory Network. *Ecosphere*. 2019 Feb;10(2):e02540.
20. Barnett DT, Adler PB, Chemel BR, Duffy PA, Enquist BJ, Grace JB, Harrison S, Peet RK, Schimel DS, Stohlgren TJ, Vellend M. The plant diversity sampling design for The National Ecological Observatory Network. *Ecosphere*. 2019 Feb;10(2):e02603.
21. Schneider FD, Morsdorf F, Schmid B, Petchey OL, Hueni A, Schimel DS, Schaepman ME. Mapping functional diversity from remotely sensed morphological and physiological forest traits. *Nature communications*. 2017 Nov 13;8(1):1441.
22. Gaubert B, Stephens BB, Basu S, Chevallier F, Deng F, Kort EA, Patra PK, Peters W, Rödenbeck C, Saeki T, Schimel D. Global atmospheric CO₂ inverse models converging on neutral tropical land exchange, but disagreeing on fossil fuel and atmospheric growth rate. *Biogeosciences*. 2019 Jan 16;16(1):117-34.
23. Dutta D, Schimel DS, Sun Y, Tol CV, Frankenberg C. Optimal inverse estimation of ecosystem parameters from observations of carbon and energy fluxes. *Biogeosciences*. 2019 Jan 11;16(1):77-103.
24. Moore B, Crowell S, Rayner P, Kumer J, O'Dell C, O'Brien D, Utembe S, Polonsky I, Schimel D, Lemen J. The Potential of the Geostationary Carbon Cycle Observatory (GeoCarb) to Provide Multi-scale Constraints on the Carbon Cycle in the Americas. *Frontiers in Environmental Science*. 2018;6:109.
25. Garonna I, de Jong R, Stöckli R, Schmid B, Schenkel D, Schimel D, Schaepman ME. Shifting relative importance of climatic constraints on land surface phenology. *Environmental Research Letters*. 2018 Feb 12;13(2):024025.
26. Fox AM, Hoar TJ, Anderson JL, Arellano AF, Smith WK, Litvak ME, MacBean N, Schimel DS, Moore DJ. Evaluation of a Data Assimilation System for Land Surface Models using CLM4. 5. *Journal of Advances in Modeling Earth Systems*. 2018 Oct;10(10):2471-94.
27. Liu J, Bowman KW, Schimel D, Parazoo NC, Jiang Z, Lee M, Bloom AA, Wunch D, Frankenberg C, Sun Y, Odell CW. Response to Comment on "Contrasting carbon cycle responses of the tropical continents to the 2015–2016 El Niño". *Science*. 2018 Nov 30;362(6418)
28. Jeong SJ, Bloom AA, Schimel D, Sweeney C, Parazoo NC, Medvigy D, Schaepman-Strub G, Zheng C, Schwalm CR, Huntzinger DN, Michalak AM. Accelerating rates of Arctic carbon cycling revealed by long-term atmospheric CO₂ measurements. *Science Advances*. 2018 Jul 1;4(7)
29. Stavros EN, Coen J, Peterson B, Singh H, Kennedy K, Ramirez C, Schimel D. Use of imaging spectroscopy and LIDAR to characterize fuels for fire behavior prediction. *Remote Sensing Applications: Society and Environment*. 2018 Aug 1;11:41-50.
30. Cawse-Nicholson K, Fisher JB, Famiglietti CA, Braverman A, Schwandner FM, Lewicki JL, Townsend PA, Schimel DS, Pavlick R, Bormann KJ, Ferraz A. Ecosystem responses to elevated CO₂ using airborne remote sensing at Mammoth Mountain, California. *Biogeosciences*. 2018 Dec 14;15(24):7403-18.
31. Sellers PJ, Schimel DS, Moore B, Liu J, Eldering A. Observing carbon cycle–climate feedbacks from space. *Proceedings of the National Academy of Sciences*. 2018 Jul 9:201716613.
32. Eldering, A., P.O. Wennberg, D. Crisp, D. Schimel, M.R. Gunson, A. Chatterjee, J. Liu, F. Schwandner, Y. Sun, C.W. O'Dell, C. Frankenberg, T. Taylor, B. Fisher, G.B. Osterman, D. Wunch, J. Hakkarainen, J. Tamminen. Evaluation of the flux of carbon dioxide to and from the atmosphere: The Orbiting Carbon Observatory-2 Early Science Investigations. *Science* 2017 Oct 13; 358 (6360).

33. Chatterjee A, Gierach MM, Sutton AJ, Feely RA, Crisp D, Eldering A, Gunson MR, O'dell CW, Stephens BB, Schimel DS. Influence of El Niño on atmospheric CO₂ over the tropical Pacific Ocean: Findings from NASA's OCO-2 mission. *Science*. 2017 Oct 13; 358(6360)
34. Liu J, Bowman KW, Schimel DS, Parazoo NC, Jiang Z, Lee M, Bloom AA, Wunch D, Frankenberg C, Sun Y, O'Dell CW. Contrasting carbon cycle responses of the tropical continents to the 2015–2016 El Niño. *Science*. 2017 Oct 13; 358(6360)
35. Sun, Y., C. Frankenberg, J. Wood³, M. Jung, L. Guanter, D. Schimel, D. Drewry, M. Verma, A. Porcar-Castell, T. Griffis, L. Gu, T. Magney, P. Köhler, B. Evans . OCO-2 advances photosynthesis observation from space via solar-induced chlorophyll fluorescence. *Science*, 2017, Oct 13; 358 (6360)
36. Schwandner , Florian M., Michael R. Gunson, Charles E. Miller, Simon A. Carn, Annmarie E. Eldering, Thomas Krings, David S. Schimel, Hai M. Nguyen, David Crisp, Christopher W. O'Dell, Gregory B. Osterman, Debra Wunch, Paul O. Wennberg, Coleen M. Roehl, Laura T. Iraci, James R. Podolske. Space-Borne Detection of Carbon Dioxide Localized Sources. *Science*, Oct 13; 358 (6360)
37. Konings AG, Yu Y, Xu L, Yang Y, Schimel DS, Saatchi SS. 2017. Active microwave observations of diurnal and seasonal variations of canopy water content across the humid African tropical forests. *Geophysical Research Letters*. In press.
38. Fisher, J.B., Melton, F., Middleton, E., Hain, C., Anderson, M., Allen, R., McCabe, M., Hook, Baldocchi, D.D., Townsend, P.A., Kilic, A., S., Tu, K.P., Miralles, D., Perret, J., Lagouarde, J.-P., Waliser, D., Purdy, A.J., French, A., Schimel, D., Famiglietti, J., Stephens, G., Wood, E.F., 2017. The Future of Evapotranspiration: Global requirements for ecosystem functioning, carbon and climate feedbacks, agricultural management, and water resources. *Water Resources Research* 53, doi:10.1002/2016WR020175.
39. Fisher JB, et al. The future of evapotranspiration: Global requirements for ecosystem functioning, carbon and climate feedbacks, agricultural management, and water resources. *Water Resources Research*. 2017 Apr 1;53(4):2618-26.
40. Konings AG, Yu Y, Xu L, Yang Y, Schimel DS, Saatchi SS. Active microwave observations of diurnal and seasonal variations of canopy water content across the humid African tropical forests. *Geophysical Research Letters*. 2017 Mar 16;44(5):2290-9.
41. Verma, M., David Schimel, Bradley Evans, Christian Frankenberg, Jason Beringer, Darren T. Drewry, Troy Magney, Ian Marang, Lindsay Hutley, Caitlin Moore and AM Eldering. 2017, Effect of environmental conditions on the relationship between solar induced fluorescence and gross primary productivity at an OzFlux grassland site, *J. Geophys. Res. Biogeosci.*, 122 (3): 716-733
42. Stavros EN, Tane Z, Kane VR, Veraverbeke S, McGaughey RJ, Lutz JA, Ramirez C, Schimel D. Unprecedented remote sensing data over King and Rim megafires in the Sierra Nevada Mountains of California. *Ecology*. 2016 Nov 1;97(11):3244-3244.
43. Jeong SJ, Schimel D, Frankenberg C, Drewry DT, Fisher JB, Verma M, Berry JA, Lee JE, Joiner J. Application of satellite solar-induced chlorophyll fluorescence to understanding large-scale variations in vegetation phenology and function over northern high latitude forests. 2017. *Remote Sensing of Environment*;190:178-87.
44. Bloom AA, Lauvaux T, Worden J, Yadav V, Duren R, Sander SP, Schimel DS. What are the greenhouse gas observing system requirements for reducing fundamental biogeochemical process uncertainty? Amazon wetland CH₄ emissions as a case study. *Atmospheric Chemistry and Physics*. 2016 Dec 8;16(23):15199-218.
45. Schimel D, Sellers P, Moore III B, Chatterjee A, Baker D, Berry J, Bowman K, Crisp PC, Crowell S, Denning S, Duren R. et al, Observing the carbon-climate system. 2016, arXiv preprint arXiv:1604.02106. 2016 Apr 7.

46. Jetz W, Cavender-Bares J, Pavlick R, Schimel D, Davis FW, Asner GP, Guralnick R, Kattge J, Latimer AM, Moorcroft P, Schaepman ME. Monitoring plant functional diversity from space. *Nature Plants*. 2016 Mar 2;2:16024.
47. Schimel, D, K. Hibbard, D. Costa, P. Cox, S. van der Leeuw. 2015, Analysis, integration and modeling of the Earth system (AIMES), *Anthropocene*, 12 pp. 99–106
48. Bloom, A.A., Worden, J., Jiang, Z., Worden, H., Kurosu, T., Frankenberg, C. and Schimel, D., 2015. Remote-sensing constraints on South America fire traits by Bayesian fusion of atmospheric and surface data. *Geophysical Research Letters*, 42(4), pp.1268-1274.
49. Schimel, D. and Keller, M., 2015. Big questions, big science: meeting the challenges of global ecology. *Oecologia*, 177(4), pp.925-934.
50. Saatchi, S., Mascaró, J., Xu, L., Keller, M., Yang, Y., Duffy, P., Espírito-Santo, F., Baccini, A., Chambers, J. and Schimel, D., 2015. Seeing the forest beyond the trees. *Global Ecology and Biogeography*, 24(5), pp.606-610.
51. Schimel, D., Stephens, B.B. and Fisher, J.B., 2015. Effect of increasing CO₂ on the terrestrial carbon cycle. *Proceedings of the National Academy of Sciences*, 112(2), pp.436-441.
52. Schimel, D., Pavlick, R., Fisher, J.B., Asner, G.P., Saatchi, S., Townsend, P., Miller, C., Frankenberg, C., Hibbard, K. and Cox, P., 2015. Observing terrestrial ecosystems and the carbon cycle from space. *Global change Biology*, 21(5), pp.1762-1776.
53. Schimel D. Forests in the Global Carbon Cycle. In *Challenges and Opportunities for the World's Forests in the 21st Century 2014* (pp. 231-239). Springer, Dordrecht.
54. Jacoby, H. D., A. C. Janetos, R. Birdsey, J. Buizer, K. Calvin, F. de la Chesnaye, D. Schimel, I. S. Wing, R. Detchon, J. Edmonds, L. Russell, and J. West (2014) Mitigation, Chapter 27, in *Climate Change Impacts in the United States: Third National Climate Assessment*, J. Melillo, T. C. Richmond, and G. W. Yohe, Eds., US Global Change Research Program, ncadac.globalchange.gov, p. 648-669, doi:10.7930/J0C8276J.
55. Scott-Denton, L. E., D. J. P. Moore, N. A. Rosenbloom, T. G. F. Kittel, S. P. Burns, D. S. Schimel, and R. K. Monson. 2013, Forecasting net ecosystem CO₂ exchange in a subalpine forest using model data assimilation combined with simulated climate and weather generation, *J. Geophys. Res. Biogeosci.*, 118, 549–565
56. Schimel, D.S., G.P. Asner and P. Moorcroft. 2013. Observing changing biodiversity in the Anthropocene. *Frontiers in Ecology and the Environment* 11: 129–137
57. Weng, E., Y. Luo, W. Wang, H. Wang, D. J. Hayes, A. D. McGuire, A. Hastings, and D. S. Schimel (2012), Ecosystem carbon storage capacity as affected by disturbance regimes: A general theoretical model, *J. Geophys. Res.*, 117, G03014, doi:10.1029/2012JG002040.
58. Niu S, Luo Y, Fei S, Yuan W, Schimel D, Law BE, Ammann C, Altaf Arain M, Arneth A, Aubinet M, Barr A, et al. Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms. *New Phytologist*. 2012;194(3):775-83.
59. Russell, Lynn M., Philip J. Rasch, Georgina M. Mace, Robert B. Jackson, John Shepherd, Peter Liss, Margaret Leinen, David Schimel, Naomi E. Vaughan, Anthony C. Janetos, Philip W. Boyd, Richard J. Norby, Ken Caldeira, Joonas Merikanto, Paulo Artaxo, Jerry Melillo, and M. Granger Morgan. Ecosystem impacts of geoengineering: A Review for Developing a Science Plan. *Ambio*, (online first), March 2012.
60. Sherry, Rebecca A., Arnone III, John A., Johnson, Dale W., Schimel, Dave S., Verburg, Paul S. and Luo, Yiqi. 2011. Carry over from previous year environmental conditions alters dominance hierarchy in a prairie plant community. *Journal of Plant Ecology*: 1–13
61. Schimel, David. 2011. The era of continental-scale ecology. *Frontiers in Ecology and the Environment* 9: 311–311.

62. Desai, A.R., Moore, D.J.P., Ahue, W., Wilkes, P.T.V., De Wekker, S., Brooks, B.G., Campos, T., Stephens, B.B., Monson, R.K., Burns, S., Quaife, T., Aulenbach, S., and Schimel, D.S., 2011. Seasonal patterns of regional carbon balance in the Central Rocky Mountains. *Journal of Geophysical Research-Biogeosciences*, 116, G04009, doi:10.1029/2011JG001655.
63. John A. Arnone III, Richard L. Jasoni, Annmarie J. Lucchesi, Jessica D. Larsen, Elizabeth A. Leger, Rebecca A. Sherry, Yiqi Luo, David S. Schimel and Paul S.J. Verburg. 2011. A climatically extreme year has large impacts on C4 species in tallgrass prairie ecosystems but only minor effects on species richness and other plant functional groups. *Journal of Ecology*, 99, 678–688.
64. Rebecca A. Sherry, Xuhui Zhou, Shiliang Gu, John A. Arnone III, Dale W. Johnson, David S. Schimel, Paul S. J. Verburg, Linda L. Wallace, Yiqi Luo. 2011. Changes in duration of reproductive phases and lagged phenological response to experimental climate warming. *Plant Ecology & Diversity*. DOI: 10.1080/17550874.2011.557669
65. Sun, Jielun, Steven P. Oncley, Sean P. Burns, Britton B. Stephens, Donald H. Lenschow, Teresa Campos, and Andrew S. Watt, Russell K. Monson, David J. P. Moore, Jia Hu, Mark Tschudi, David S. Schimel and Steven Aulenbach, William J. Sacks, Stephan F. J. De Wekker, Chun-Ta Lai, Brian Lamb, Eugene Allwine, and Teresa Coons, Dennis Ojima, Patrick Z. Ellsworth and Leonel S., L. Sternberg, Sharon Zhong, Craig Clements, Dean E. Anderson. 2010. A Multiscale and Multidisciplinary Investigation Of Ecosystem–Atmosphere CO₂ Exchange Over the Rocky Mountains of Colorado. *Bull. Amer. Meteor. Soc.*, 91, 209–230.
66. Schimel, David S. 2010. Drylands in the Earth System. *Science* 22, 418-419
67. Zhou, X., Luo, Y., Gao, C., Verburg, P. S. J., Arnone, J. A., Darrrouzet-Nardi, A. and Schimel, D. S. (2010), Concurrent and lagged impacts of an anomalously warm year on autotrophic and heterotrophic components of soil respiration: a deconvolution analysis. *New Phytologist*, 187: 184–198
68. Graven, H. D., Stephens, B. B., Guilderson, T. P., Campos, T. L., Schimel, D. S., Campbell, J. E. and Keeling, R. F. 2009, Vertical profiles of biospheric and fossil fuel-derived CO₂ and fossil fuel CO₂ : CO ratios from airborne measurements of $\Delta^{14}\text{C}$, CO₂ and CO above Colorado, USA. *Tellus B*, 61: 536–546.
69. Moore, David J.P., Jia Hu, William J. Sacks, David S. Schimel, Russell K. Monson, 2008. Estimating transpiration and the sensitivity of carbon uptake to water availability in a subalpine forest using a simple ecosystem process model informed by measured net CO₂ and H₂O fluxes, *Agricultural and Forest Meteorology*, Volume 148,10,
70. Keller, Michael, David S Schimel, William W Hargrove, and Forrest M Hoffman. 2008. A continental strategy for the National Ecological Observatory Network. *Frontiers in Ecology and the Environment* 6: 282–284
71. Baker, D. F. Bösch, H. Doney, S. C.; Schimel, D. S. 2008. Carbon source/sink information provided by column CO₂ measurements from the Orbiting Carbon Observatory. *Atmospheric Chemistry and Physics Discussions*, 8, 20051-20112
72. Arnone John A III., Paul S. J. Verburg Dale W. Johnson, Jessica D. Larsen, Richard L. Jasoni, Annmarie J. Lucchesi, Candace M. Batts, Christopher von Nagy, William G. Coulombe, David E. Schorran, Paul E. Buck, Bobby H. Braswell, James S. Coleman, Rebecca A. Sherry, Linda L. Wallace, Yiqi Luo and David S. Schimel. 2008. Prolonged suppression of ecosystem carbon dioxide uptake after an anomalously warm year. *Nature* 455, 383-386
73. Liu, Shugang Pamela Anderson, Guoyi Zhou, Boone Kauffman, Flint Hughes, David Schimel, Vicente Watson, Joseph Tosi. 2008. Resolving model parameter values from carbon and nitrogen stock measurements in a wide range of tropical mature forests using nonlinear inversion and regression trees, *Ecological Modelling* 219, 327-341

74. Zobitz, J. M., D. Moore, W. J. Sacks, R. K. Monson, D. R. Bowling, D. S. Schimel, Integration of Process-based Soil Respiration Models with Whole-Ecosystem CO₂ Measurements, 2008. *Ecosystems*, 11:250-269.
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