

Kevin Robert Gurney

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EDUCATION

Ph.D. 2004 – Ecology, Colorado State University
M.P.P. 1996 – Public Policy, University of California, Berkeley
S.M. 1990 – Meteorology, Massachusetts Institute of Technology
B.A. 1986 – Environmental Physics, University of California, Berkeley

PROFESSIONAL EXPERIENCE

Associate Professor, School of Life Sciences, Arizona State University, Aug 2010 – present
Affiliated Faculty, School of Geographical Sciences and Urban Planning, Mar 2013 - present
Graduate Faculty, School of Sustainability, Arizona State University, Jan 2013 - present
Senior Sustainability Scientist, Global Institute of Sustainability, Arizona State Univ, Aug 2010 – present
Associate Professor, Dept of Earth and Atmos Sci & Dept of Agronomy, Purdue University, Aug 2009 – Aug 2010
Assistant Professor, Dept of Earth and Atmos Sci & Dept of Agronomy, Purdue University, Aug 2005 – Aug 2009
Associate Director, Purdue Climate Change Research Center, Purdue University, Aug 2005 – Aug 2008
Research Scientist I, Department of Atmospheric Science, Colorado State University, July 1998 – August 2005
Staff Research Associate, Bren School of Env. Sci and Mngmnt, Univ of Ca, Santa Barbara, Apr 97 – June 98
Senior Scientist, Institute for Energy and Environmental Research, September 1992 – January 1997
Research Associate, Atmospheric and Environmental Research, Inc., February 1992 – September 1992
Research Associate, Tellus Institute, February 1990 - October 1991
Research Assistant, National Oceanic and Atmospheric Administration, Summer 1988
Research Intern, Environmental Sciences Division, Lawrence Livermore National Laboratory, Nov 1986 - Sept 1987
Student Assistant, Atmospheric Aerosol Research Group, Lawrence Berkeley National Lab, Feb 1985-Oct 1986

HONORS AND AWARDS

Nominated for AGU's Macelwane Medal 2014
Sigma Xi Young Investigator's Award 2010
NSF CAREER Award 2009
IPCC contributing author and reviewer (IPCC was organizational co-recipient of the 2007 Nobel Peace Prize)
Named 2007 "Air Conservationist of the Year", from the Indiana Wildlife Federation

UNIVERSITY SERVICE

Graduate Degree Program in Ecology executive committee 1999-2000
Graduate Degree Program in Ecology, Front Range Student Ecology Symposium Chairman 1999-2000
Undergraduate programs committee: 2013 - present
Safety committee: 2010 – 2013
Diversity Committee, Purdue University, Aug 2005 – Aug 2010

OTHER NATIONAL OR INTERNATIONAL PROFESSIONAL SERVICE

Expert Witness for state of Minnesota on utilization of the social cost of carbon: 2015
North American Carbon Program All-investigators Meeting steering committee member, 2015
Carbon cycle science steering working group (CCSWG) to the Carbon science interagency working group (CCIWG)
Global Carbon Program Science Steering Committee: 2008 - 2013
NASA review panel member, Instrument Incubator Program 2001
Larimer County Environmental Advisory Board 2000-2002
NOAA Review Panel, Global Carbon Cycle Program 2005
NOAA Global Carbon Cycle Scientific Steering Committee, 2006 - present
NASA Review Panel, New Investigator Program, April 2006

Carbon Management, Editorial Board, 2009 - present
MCI Task Force Committee member, 2005 – present
Carbon Balance and Management, Editorial Board member, 2006 - present
Carbon Dioxide Information Analysis Center, external advisory committee member, 2007 - present
United Nations Framework Convention on Climate Change attendee/advisor since 1996

PROFESSIONAL SOCIETY

American Geophysical Union member since 1990
Sigma Xi member since 2000
Phi Kappa Phi lifetime member since 2004
Ecological Society of America member since 2004

PEER-REVIEWED PUBLICATIONS

2016

92. Huang, J. and K.R. Gurney (2016) Impact of climate change on U.S. building energy demand: Financial implications for consumers and energy suppliers, *submitted to Energy and Buildings*.
91. Mitchell, L., J.C. Lin, D.R. Bowling, D.E. Pataki, C. Strong, A.J. Schauer, R. Bares, S.E. Bush, B.B. Stephens, D. Mendoza, D. Mallia, L. Holland, K.R. Gurney, J.R. Ehleringer (2016) Long-term urban carbon dioxide observations reveal spatial and temporal dynamics related to urban characteristics and growth, submitted to the *Proceedings of the National Academy of Sciences*.
90. J. Huang and K.R. Gurney (2016) Large increases in U.S. peak electricity demand events due to more frequent, intense heat waves, in preparation for the *Proceedings of the National Academy of Sciences*.
89. Schimel, D., B. Moore, P. Sellers et al. (2016) Observing the Carbon-Climate System, *submitted to BAMS*
88. Rao, P., **K.R. Gurney**, R. Patarasuk, Y. Song, C.E. Miller, R. Duren, A. Eldering (2016) Spatio-temporal variations in onroad vehicle fossil fuel CO₂ emissions in the Los Angeles Megacity, *submitted to Atmospheric Environment*
87. Cui, X., S. Newman, X. Xu, A.E. Andrews, J. Miller, S. Lehman, Y.-K. Hsu, S. Jeong, J. Zhang, C. Priest, M. Campos-Pineda, **K.R. Gurney**, M.L. Fischer, *submitted to Journal of Geophysical Research - Atmosphere*
86. Fischer, M.L., N. Parazoo, K. Brophy, X. Cui, S. Jeong, J. Liu, R. Keeling, T. Taylor, H. Graven, **K.R. Gurney**, A. Jacobson, J. Collatz, T. Oda (2016) Simulated Estimation of California Fossil Fuel and Biosphere Carbon Dioxide Exchanges Combining In-situ Tower and Satellite Column Observations, submitted to *J. Geophys. Res.*
85. **Gurney, K.R.**, J. Huang and K. Coltin (2016) [Bias present in US federal agency power plant CO₂ emissions data and implications for the US clean power plan](#), *Env. Res. Lett.*, **11**, 064005, doi: 10.1088/1748-9326/11/6/064005.
84. Huang, J. and **K.R. Gurney** (2016) [Impacts of climate change on US building energy consumption: importance of building type, building technology, and space-time](#), *Energy*, **111**, 137-153.
83. Huang, J. and **K.R. Gurney** (2016) The hidden spatiotemporal vulnerability of US building energy demand to climate change, *Climatic Change*, doi:[10.1007/s10584-016-1681-6](#).
82. Lauvaux, T., N.L. Miles, A. Deng, S.J. Richardson, M.O. Cambaliza, K.J. Davis, B. Gaudet, **K.R. Gurney**, J. Huang, D. O'Keefe, Y. Song, A. Karion, T. Oda, R. Patarasuk, D. Sarmiento, P. Shepson, C. Sweeney, J. Turnbull, and K. Wu (2016) [High resolution atmospheric inversion of urban CO₂ emissions during the dormant season of the Indianapolis Flux Experiment \(INFLUX\)](#), *Journal of Geophysical Research*, **121**, doi:10.1002/2015JD024473
81. Newman, S., X. Xu, **K.R. Gurney**, Y.-K. Hsu, K.-F. Li, X. Jiang, R. Keeling, S. Feng, D. O'Keefe, R. Patarasuk, K.W. Wong, P. Rao, M.L. Fischer, and Y.L. Yung (2016) [Toward consistency between trends in bottom-up CO₂ emissions top-down atmospheric measurements in the Los Angeles megacity](#), *Atmos. Chem. Phys.*, **16**, 3843-3863.
80. Patarasuk, P., **K.R. Gurney**, D. O'Keefe, Y. Song, J. Huang, P.Rao, M. Buchert, J. Lin, D. Mendoza, J.R. Ehleringer (2016) [Application of high-resolution fossil fuel CO₂ emissions quantification to urban climate policy in Salt Lake County, Utah USA](#), *Urban Ecosystems*. DOI 10.1007/s11252-016-0553-1
79. Tian, H., C. Lu, P. Ciais, A.M. Michalak, J.G. Canadell, E. Saikawa, D.N. Huntzinger, **K.R. Gurney**, S. Sitch, B. Zhang, J. Yang, P. Bousquet, L. Bruhwiler, G. Chen, E. Dlugokencky, P. Friedlingstein, J. Melillo, S. Pan, B. Poulter, R. Prinn, M. Saunio, C.R. Schwalm, S.C. Wofsy (2016) [Biogenic CH₄ and N₂O emissions overwhelm land CO₂ sink, contributing to climate change](#), *Nature*, doi: 10.1038/nature16946.
78. Feng, S., T. Lauvaux, S. Newman, P. Rao, R. Ahmadov, A. Deng, L. I. Diaz-Isaac, R. M. Duren, M. L. Fischer, C. Gerbig, **K.R. Gurney**, J. Huang, S. Jeong, Z. Li, C. E. Miller, D. O'Keefe, R. Patarasuk, S. P. Sander, Y. Song, K. W. Wong, and Y. L. Yung (2016) [LA Megacity: a High-Resolution Land-Atmosphere Modelling System for Urban CO₂ Emissions](#), *Atmospheric Chemistry and Physics Discussion*, doi:10.5194/acp-2016-143.

77. Wong, K.W., T.J. Pongetti, T. Oda, P. Rao, **K.R. Gurney**, S. Newman, R. Duren, C.E. Miller, Y.L. Yung, and S.P. Sander (2016) Monthly trends of top-down methane emissions in Los Angeles Basin from 2011 to 2015, *Atmospheric Chemistry and Physics Discussion*, doi:10.5194/acp-2016-232.
76. Zhang, X., **K.R. Gurney**, P.J. Rayner, D.F. Baker, and Y. Liu (2016) [Sensitivity of simulated CO₂ concentration to sub-annual variations in fossil fuel CO₂ emissions](#), *Atmospheric Chemistry and Physics*, **16**, 1907-1918
- 2015**
74. **Gurney, K.R.**, R. Patarasuk, I. Razlivanov, Y. Song, D. O’Keeffe, J. Huang, Y. Zhou, P. Rao (2015) [Comment on “Analysis of high-resolution utility data for understanding energy use in urban systems”](#), *J. Ind. Ecol.*, DOI: 10.1111/jiec.12358
73. **Gurney, K.R.**, P. Romero-Lankao, K. Seto, C. Kennedy, N., Grimm, J., Ehleringer, P. Marcotullio, S. Pincetl, J.J. Feddema, S. Hughes, M.V. Chester, L. Hutyrá, J. Sperling, and D. Runfola (2015) [Climate change: Track urban emissions on a human scale](#), *Nature (Comment)*, **525**, 179-181 (10 September 2015), doi: 10.1038/525179a
72. Ogle, S., K. Davis, T. Lauvaux, A. Schuh, D. Cooley, T. O. West, L. S. Heath, N. Miles, S. Richardson, F. Jay Breidt, **K.R. Gurney**, and S. Denning (2015) An Approach for [Verifying Greenhouse Gas Emissions Inventories with Atmospheric CO₂ Measurement Data](#), *Env. Res. Lett.* **10**, doi:10.1088/1748-9326/10/3/034012
71. Turnbull, J., C. Sweeney, A. Karion, T. Newberger, P. Tans, S. Lehman, K.J. Davis, N.L. Miles, S.J. Richardson, T. Lauvaux, M.O. Cambaliza, P. Shepson, **K.R. Gurney**, Y. Song, I. Razlivanov, A. Zondervan (2015) [Towards quantification of fossil fuel CO₂ and trace gas emissions from an urban area: Results from the INFLUX experiment](#), *Journal of Geophysical Research, Atmos.* **120**. DOI: 10.1002/2014JD022555.
70. **Gurney, K.R.** (2015) [What is the role for carbon cycle science in the proposed EPA power plant rule?](#) *Earth Perspectives*, **2**:1, DOI: 10.1186/s40322-015-0028-1.
69. Cambaliza, O.M., P. B. Shepson, J. Bogner, D. R. Caulton, B. Stirm, C. Sweeney, S.A. Montzka, **K.R. Gurney**, K. Spokas, O.E. Salmon, T.N. Lavoie, A. Hendricks, K. Mays, J. Turnbull, B.R. Miller, T. Lauvaux, K. Davis, A. Karion, B. Moser, C. Miller, C. Obermeyer, J. Whetstone, K. Prasad, N. Miles, S. Richardson (2015) [Quantification and source apportionment of the methane emission flux from the city of Indianapolis](#), *Elementa: Science of the Anthropocene*, doi: 10.12952/journal.elementa.000037.
- 2014**
68. L.M. Bruhwiler, E. Dlugokencky, K. Masarie, M. Ishizawa, A. Andrews, J. Miller, C. Sweeney, P. Tans, D. Worthy, S. Houweling, M. Krol, P. Bergamaschi, C. Frankenberg, E.J. Dlugokencky, I. Morino, J. Notholt, V. Sherlock, D. Wunch, V. Beck, C. Gerbig, H. Chen, E.A. Kort, T. Röckmann, I. Aben, S.X. Fang, L.X. Zhou, P.P. Tans, P. Ciais, M. Steinbacher, L. Xu, T. Luan, D. Helmig, V. Petrenko, P. Martinerie, E. Witrant, A. Zuiderweg, R. Holzinger, J. Hueber, C. Thompson, J.W.C. White, W. Sturges, A. Baker, T. Blunier, D. Etheridge, M. Rubino, C. Cressot, F. Chevallier, P. Bousquet, C. Crevoisier, A. Fortems-Cheiney, R. Parker, I. Pison, R.A. Scheepmaker, S.A. Montzka, P.B. Krummel, L.P. Steele, R.L. Langenfelds, B.W. LaFranchi, G. Pétron, J.B. Miller, S.J. Lehman, A.E. Andrews, B. Hall, B.R. Miller, W. Neff, P.C. Novelli, J.C. Turnbull, D.E. Wolfe, **K.R. Gurney**, T.P. Guilderson, M. Inoue, O. Uchino, Y. Miyamoto, Y. Yoshida, T. Yokota, T. Machida, Y. Sawa, H. Matsueda, S.C. Biraud, T. Tanaka, S. Kawakami, P.K. Patra, S. Basu, S. Guerlet, A. Butz, O. Hasekamp, P. Krummel, P. Steele, R. Langenfelds, M. Torn, S. Biraud, B. Stephens, A. Fraser, P.I. Palmer, L. Feng, H. Boesch, A. Cogan, P.J. Fraser, S. O’Doherty, R.G. Prinn (2014) CarbonTracker-CH₄: an assimilation system for estimating emissions of atmospheric methane, *Atmos. Chem. Phys.* **14**, 3991-4012.
67. Romero-Lankao, P., **K.R. Gurney**, K. Seto, M. Chester, R.M. Duren, S. Hughes, L.R. Hutyrá, P. Marcotullio, L. Baker, N.B. Grimm, C. Kennedy, E. Larson, S. Pincetl, D. Runfola, L. Sanchez, G. Shrestha, A. Sarzynski, J. Sperling, E. Stokes (2014) [Towards a more integrated understanding of urbanization, urban areas and the carbon cycle](#), *Earth’s Future*, **2**(10), 515-532.
66. Hutyrá, L., R. Duren, **K.R. Gurney**, N. Grimm, E. Kort, E. Larson, G. Shrestha (2014) [Urbanization and the carbon cycle: Current capabilities and research outlook from the natural sciences perspective](#), *Earth’s Future*, **2**(10), 473-495, doi: 10.1002/2014EF000255
65. **Gurney, K.R.** (2014) [The urban landscape: recent research quantifying carbon emissions down to the street level](#), *Carbon Management*, doi: 10.1080/17583004.2014.986849.
64. **Gurney, K.R.**, Huang, J. and K. Coltin (2014) Comment on Quick, J.C. (2014) Carbon dioxide emission tallies for 210 U.S. coal-fired power plants: A comparison of two accounting methods. *J. Air Waste Manage. Assoc.* **64**: 73–79, *J. Air Waste Manage. Assoc.* **64**(11):1215-1217.
63. Zhang, X., **K.R. Gurney**, P. Rayner, Y. Liu, S. Asefi-Najafabady (2014) [Sensitivity of simulated CO₂ concentration to regriding of fossil fuel CO₂ emissions along global coastlines](#), *Geosci. Model Dev.*, **7**, 2867-2874.

62. Asefi-Najafabady, S., P. J. Rayner, **K.R. Gurney**, A. McRobert, Y. Song, K. Coltin, C. Elvidge, K. Baugh (2014) [A new global gridded dataset of CO₂ emissions from fossil fuel combustion: Methodology, evaluation and analysis](#), *J. Geophys. Res.* DOI: 10.1002/2013JD021296.
61. Cambaliza, O., P. B. Shepson, D. Caulton, B. Stirm, D. Samarov, **K.R. Gurney**, J. Turnbull, K. J. Davis, A. Possolo, A. Karion, C. Sweeney, B. Moser, A. Hendricks, T. Lauvaux, K. Mays, J. Whetstone, J. Huang, I. Razlivanov, N. L. Miles, and S. J. Richardson (2014) [Assessment of uncertainties of an aircraft-based mass-balance approach for quantifying greenhouse gas emissions](#), *Atmospheric Chemistry and Physics*, **14**, 9029-9050, doi:10.5194/acp-14-9029-2014.

2013

60. Ciais, P., A. J. Dolman, A. Bombelli, R. M. Duren, A. Pregon, P. Rayner, C. Miller, N. Gobron, G. Kinderman, G. Marland, N. Gruber, F. Chevallier, R. J. Andres, G. Balsamo, L. Bopp, F.-M. Bréon, G. Broquet, R. J. Dargaville, T. Battin, A. Borges, H. Bovensmann, M. Buchwitz, J. H. Butler, J. G. Canadell, R. B. Cook, R. DeFries, R. Engelen, **K.R. Gurney**, C. Heinze, M. Heimann, A. Held, M. Henry, B. E. Law, S. Luysaert, J. Miller, T. Moriyama, C. Moulin, R. B. Myneni, C. Nussli, M. Obersteiner, D. Ojima, Y. Pan, J.-D. Paris, S. L. Piao, B. Poulter, S. Plummer, S. Quegan, P. Raymond, M. Reichstein, L. Rivier, C. Sabine, D. Schimel, O. Tarasova, R. Valentini, G. van der Werf, D. E. Wickland, M. Williams, and C. Zehner (2013) [Current systematic carbon cycle observations, and needs for implementing a policy-relevant carbon observing system](#), *Biogeosciences*, **11**, 3547-3602, doi: 10.5194/bg-11-3547-2014.
59. Peylin, P., R. M. Law, **K.R. Gurney**, F. Chevallier, A. R. Jacobson, T. Maki, Y. Niwa, P. K. Patra, W. Peters, P. J. Rayner, C. Rödenbeck, and X. Zhang (2013) [Global Atmospheric Carbon Budget: results from an ensemble of atmospheric CO₂ inversions](#), *Biogeosciences*, **10**, 6699–6720.
58. LaFranchi, B.W., G. Pétron, J.B. Miller, S.J. Lehman, A.E. Andrews, E. Dlugokencky, B.R. Miller, S.A. Montzka, B. Hall, W. Neff, C. Sweeney, J.C. Turnbull, D.E. Wolfe, P.P. Tans, **K.R. Gurney**, T.P. Guilderson (2013) [Constraints on emissions of carbon monoxide, methane, and a suite of hydrocarbons in the Colorado Front Range using observations of ¹⁴CO₂](#), *Atmos. Chem. Phys.*, **13**, 11101-11120, doi:10.5194/acp-13-11101-2013.
57. Nevison, C.D., D.F. Baker, and **K.R. Gurney** (2013) A methodology for estimating seasonal cycles of atmospheric CO₂ resulting from terrestrial net ecosystem exchange (NEE) fluxes using the Transcom T3L2 pulse-response functions, *Geosci Model Dev. Disc.* **5** (3), 2789-2809.
56. Zhang, X., **K.R. Gurney**, P. Peylin, Chevallier, F., Law, R., Patra, P.K., Rayner, P.J., Roedenbeck, C., Krol, M. (2013) [On the variations of regional CO₂ fluxes over temperate and boreal North America](#), *Glob. Biogeochem. Cyc.*, **27** doi:10.1002/gbc.20091
55. Nassar, R., L. Napier-Linton, **K.R. Gurney**, R.J. Andres, T. Oda, F. Vogel, F. Deng (2013) [Improving the temporal and spatial distribution of CO₂ emissions from global fossil fuel emission datasets](#), *J. Geophys. Res.*, **118**, 917-933 doi:10.1029/2012JD018196
54. Newman, S., S. Jeong, M. Fischer, X. Xu, C. Haman, B. Lefer, S. Alvarez, B. Rappenglueck, E.A. Kort, A.E. Andrews, J. Peischl, **K.R. Gurney**, C.E. Miller, and Y.L. Yung (2013) [Diurnal tracking of anthropogenic CO₂ emissions in the Los Angeles basin mega-city during spring, 2010](#), *Atm Chem and Physics*, **13**: 4359-4372
53. Mendoza, D., **Gurney, K.R.**, Geethakumar, S., Chandrasekaran, V., Zhou, Y., I. Razlivanov (2013) [U.S. Regional Greenhouse Gas Emissions Mitigation Implications based on High-Resolution Onroad CO₂ Emissions Estimation](#), *Energy Policy*, **55**, 386-395.

2012

52. **Gurney, K.R.**, Razlivanov, I., Song, Y. Zhou, Y., Benes, B., M. Abdul-Masih (2012) [Quantification of fossil fuel CO₂ on the building/street scale for a large US city](#) *Environ. Sci. & Tech.*, **46**, 12194-12202, dx.doi.org/10.1021/es3011282
51. Castillo, K.G. and **K.R. Gurney** (2013) [A Sensitivity Analysis of Surface Biophysical, Carbon, and Climate Impacts of Tropical Deforestation Rates in CCSM4-CNDV](#), *J. of Climate*, **26** (3), 805-821.
50. Castillo, K., Raymond, L. and **K.R. Gurney** (2012) [REDD+ in Developing Countries: Thinking Outside the Carbon Box](#), *Carbon Management*, **3**(5), 457-466.
49. Cragg, M.I, Y. Zhou, **K.R. Gurney**, and M.E. Kahn (2013) [Carbon Geography: The Political Economy of Congressional Support for Legislation Intended to Mitigate Greenhouse Gas Production](#), *Economic Inquiry*, DOI: 10.1111/j.1465-7295.2012.00462.x
48. **Gurney, K.R.**, Castillo, C.K.G., X. Zhang, and B. Li (2012) [A positive carbon feedback to ENSO and volcanic aerosols in the tropical terrestrial biosphere](#), *Glob. Biogeochem. Cyc.* **26**, GB1029, doi:10.1029/2011GB004129
47. Brioude, J., G. Petron, G.J. Frost, R. Ahmadov, W.M. Angevine, E.-Y. Hsie, S.-W. Kim, S.-H. Lee, S.A. McKeen, M. Trainer, F.C. Fehsenfeld, J.S. Holloway, J. Peischl, T.B. Ryerson, **K.R. Gurney** (2012) [A new inversion method to calculate emission inventories without a prior at mesoscale: Application to the anthropogenic CO₂ flux from Houston, Texas](#), *J. Geophys. Res.* **117**, D05312, 15 pp., doi:10.1029/2011JD016918

46. Castillo, C.K.G and **K.R. Gurney** (2012) [Surface biophysical-climate impacts of tropical deforestation with time-dependence: Sensitivity to deforestation rates](#), *J. of Earth Interactions*, **16**, 1-23, 10.1175/2011EI390.1
- 2011**
45. Zhou, Y., Weng, Q., **Gurney, K.R.**, Shuai, Y. and X. Hu (2011) [Estimation of the relationship between remotely sensed anthropogenic heat discharge and building energy use](#), *International Society for Photogrammetry and Remote Sensing*, **67**, 65-72.
44. **Gurney, K.R.** (2011) [Observing Human CO₂ Emissions](#), *Carbon Management*, **2** (3), 223-226.
43. Andryscio, N., Rosen, P., Popescu, V., Benes, B., and **K.R. Gurney** (2011) [Experiences in Disseminating Educational Visualizations](#), *International Symposium on Visual Computing*, **2**, 239-243.
42. **Gurney, K.R.** and W. Eckels, (2011) [Trend estimates in regional land-atmosphere carbon exchange and their seasonal drivers derived from atmospheric CO₂ inversions](#), *Tellus B*, **25**, DOI: 10.1029/2010GB003813.
41. Zhou, Y., and **K. R. Gurney** (2011), [Spatial relationships of sector-specific fossil fuel CO₂ emissions in the United States](#), *Glob. Biogeochem. Cycles*, **25**, GB3002, doi:10.1029/2010GB003822.
40. Hayes, D.J., A.D. McGuire, D.W. Kicklighter, **K.R. Gurney**, T.J. Burnside, and J.M. Melillo, (2011) [Is the northern high latitude land-based CO₂ sink weakening?](#), *Glob Biogeochem. Cyc.*, **25**, 10.1029/2010GB003813.
39. Anderson, R.G., Canadell, J.G., Randerson, J.T., Jackson, R.B., Hungate, B.A., Baldocchi, D.D., Ban-Weiss, G.G., Bonan, G.B., Caldeira, K., Cao, L., Diffenbaugh, N.S., **Gurney, K.R.**, Kueppers, L.M., Law, B.E., Luysaert, S., O'Halloran, T.L. (2011) [Biophysical considerations in forestry for climate protection](#), *Front. Ecol. Environ.* doi: 10.1890/090179.
- 2010**
37. Canadell, P., Ciais P., Dhakal S., Dolman H., Friedlingstein P., **Gurney K.R.**, Held A., Jackson R.B., Le Quere C., Malone E.L., Ojima D.S., Patwardhan A., Peters G.P., Raupach M.R. (2010) [Interactions of the carbon cycle, human activity, and the climate system: a research portfolio](#), *Current Opinion in Env. Sust.*, **4** (2), 301-311.
36. Zhou, Y. and **K.R. Gurney** (2010) [A New Methodology for Quantifying Residential and Commercial Fossil Fuel CO₂ Emissions at the Building Spatial Scale and Hourly Time Scale](#), *Carbon Management*, **1**(1), 45-56.
35. McGuire, A.D., D.J. Hayes, D.W. Kicklighter, M. Manizza, Q. Zhuang, M. Chen, M.J. Follows, **K.R. Gurney**, J.W. McClelland, J.M. Melillo, B.J. Peterson, R.G. Prinn (2010) An analysis of the carbon balance of the arctic basin from 1997 to 2006, *Tellus*, **62B**(5), 455-474, DOI: 10.1111/j.1600-0889.2010.00497.x.
34. Parshall, L., **K.R. Gurney**, S.A. Hammer, D.L. Mendoza, Y. Zhou, and S. Geethakumar, (2010) [Modeling Energy Consumption and CO₂ Emissions at the Urban Scale: Methodological Challenges and Insights from the United States](#), *Energy Policy*, **38** (9), 4765-4782, doi:10.1016/j.enpol.2009.07.006.
- 2009**
33. Corbin, K., S. Denning, **K.R. Gurney** (2009) [Effects of Spatially and Temporally Redistributing Fossil Fuel Emissions on Atmospheric CO₂ Concentrations](#), *Tellus B*, **62**, 506–511. doi: 10.1111/j.1600-0889.2010.00480.x
32. Le Quere C. M.R. Raupach, J.G. Canadell, G. Marland L. Bopp, P. Ciais, T.J. Conway, S.C. Doney, R.A. Feely, P. Foster, P. Friedlingstein, **K.R. Gurney**, R.A. Houghton, J.I. House, C. Huntingford, P.E. Levy, M.R. Lomas, J. Majkut, N. Metz, J.P. Ometto, G.P. Peters, I.C. Prentice, J.T. Randerson, S.W. Running, J.L. Sarmiento, U. Schuster, S. Sitch, T. Takahashi, N. Viovy, G.R. van der Werf & F.I. Woodward. (2009) [Recent Trends in the sources and sinks of carbon dioxide](#), *Nature Geosciences*, **2** (12), 831-836, doi: 10.1038/ngeo689.
31. Mays, K.L., P.B. Shepson, B.H. Stirm, A. Karion, C. Sweeney, **K.R. Gurney** (2009) [Aircraft-Based Measurements of the Carbon Footprint of Indianapolis](#). *Environ. Sci. Technol.*, DOI: 10.1021/es901236b.
30. **Gurney, K.R.** (2009) China at the Carbon Crossroads, *Nature News & Views*, **458**, 979-980.
29. **Gurney, K.R.**, D. Mendoza, Y. Zhou, M Fischer, S. de la Rue du Can, S. Geethakumar, C. Miller (2009) [The Vulcan Project: High resolution fossil fuel combustion CO₂ emissions fluxes for the United States](#), *Environ. Sci. Technol.*, **43**(14), 5535-5541, doi:10.1021/es900806c.
28. Andryscio, N, **K.R. Gurney**, B. Benes, & K. Corbin (2009) A system for visual exploration of CO₂ data, *IEEE Computer Graphics and Applications*, p. 6-11, Jan/Feb.
- 2008**
27. **Gurney, K.R.**, and A.S. Denning (2008) TransCom 3: Annual Mean CO₂ Flux Estimates from Atmospheric Inversions (Level 1). Data set. Available on-line [http://daac.ornl.gov/] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A. doi:10.3334/ORNLDAAAC/895.
26. Alexandrov, G.A., D. Chan, M. Chen, **K.R. Gurney**, K. Higuchi, A. Ito, C.D. Jones, A. Komarov, K. Mabuchi, D.M. Matross, F. Veroustraete, W.W. Verstraeten (2008) Chapter Nineteen Model-Data Fusion in Studies of the Terrestrial Carbon Sink, *Developments in Integrated Environmental Assessment*, **3**, 329-344.

25. Lokupitiya, R.S., D. Zupanski, A.S Denning, **K.R. Gurney**, R. Kawa & M. Zupanski (2008) Estimation of CO₂ fluxes at regional scale using the coupled MLEF-PCTM model, *J. Geophys. Res.* **113**, D20110, doi: 10.1029/2007JD009679.

24. **Gurney, K.R.** and L. Raymond (2008) [Targeting deforestation rates in climate change policy: A 'preservation pathway' approach](#), *Carbon Balance and Management*, **3** (2), doi:10.1186/1750-0680-3-2.

23. **Gurney, K.R.**, D. Baker, P. Rayner, A.S. Denning & TransCom 3 L2 modelers (2008) [Interannual variations in regional net carbon exchange and sensitivity to observing networks estimated from atmospheric CO₂ inversions for the period 1979 to 2006](#), *Glob. Biogeochem. Cyc.*, **22**, GB3025, doi:10.1029/2007GB003082.

2007

22. Goetz, S.J., M.C. Mack, **K.R. Gurney**, and R.A. Houghton, (2007) Ecosystem responses to recent climate change at Northern high latitudes: observations and model results contrasting Northern Eurasia and North America, *Environ. Res. Lett.*, **2**, 0450312 (9pp), doi:10.1088/1748- 9326/2/4/045031.

21. Butler, A., D. Thompson, and **K.R. Gurney**, (2007) Observed Relationships between the Southern Annular Mode and Atmospheric Carbon Dioxide, *Glob. Biogeochem. Cyc.*, **21**, GB4014, doi: 101029/2006GB002796.

20. Stephens, B.B., **K.R. Gurney**, P.P. Tans, C. Sweeney, W. Peters, L. Bruhwiler, P. Ciais, M. Ramonet, P. Bousquet, T. Nakazawa, S. Aoki, T. Machida, G. Inoue, N. Vinnichenko, J. Lloyd, A. Jordan, O. Shibistova, R.L. Langenfelds, L.P. Steele, R.J. Francey, & A.S. Denning (2007) Weak northern and strong tropical land carbon uptake from vertical profiles of atmospheric CO₂, *Science*, **316**, 1732-1735.

2006

19. Patra, P, **K.R. Gurney** and the TransCom 3 modelers (2006) Sensitivity of inverse estimation of annual mean CO₂ sources and sinks to ocean-only sites vs all-sites obs. Networks, *GRL*, **33**, doi:10.1029/2005GL025403.

18. Baker, D. R.M . Law, **K.R. Gurney**, A.S. Denning, P.J. Rayner, and TransCom 3 modelers (2006) TransCom 3 inversion intercomparison: Impact of transport model errors on the interannual variability of regional CO₂ fluxes, 1988-2003, *Glob. Biogeochem. Cyc.*, **20**, GB1002, doi:10.1029/2004GB002439.

2005

17. Michalak, A.M., Hirsch, A., Bruhwiler, L., **Gurney, K.R.**, Peters, W., Miller, J.B., and Tans, P.P. (2005) Maximum likelihood estimation of covariance parameters for Bayesian atmospheric trace gas surface flux inversions, *J. Geophys. Res.*, **110**, D24017, doi:10.1029/2005JD005970.

16. Yuen, C-W., Higuchi, K., and TransCom-3 Modelers (2005) Impact of Fraserdale CO₂ Observations on Annual Flux Inversion of the North America Boreal Region, *Tellus*, **57B**, 203-209.

15. **Gurney, K.R.**, Y.H.Chen, T. Maki, S.R. Kawa, A. Andrews, Z. Zhu (2005) [Sensitivity of Atmospheric CO₂ Inversion to Seasonal and Interannual Variations in Fossil Fuel Emissions](#), *J. Geophys. Res.* **110** (D10), 10308-10321.

2004

14. **Gurney, K.R.** (2004) Towards robust regional estimates of carbon sources and sinks using atmospheric transport models - the TransCom 3 Experiment, *World Resource Review*, **16** (2), 243-258.

13. **Gurney, K.R.**, R.M. Law, A.S. Denning, P.J. Rayner, B. Pak, and the TransCom 3 L2 modelers (2004) [Transcom 3 Inversion Intercomparison: Control results for the estimation of seasonal carbon sources and sinks](#), *Glob. Biogeochem. Cyc.*, **18**, GB1010, doi:10.1029/2003GB002111.

2003

12. Dilling, L., S. Doney, J. Edmonds, **K.R. Gurney**, R. Harriss, D. Schimel, B. Stephens, & G. Stokes (2003) The role of carbon cycle observations and knowledge in carbon management," *Annu. Rev. Env. Resour.*, **28**, 521-58.

11. Patra, P.K., S. Maksyutov, and TransCom 3 modelers (2003) Sensitivity of optimal extension of CO₂ observation networks to model transport, *Tellus*, **55B**, 498-511.

10. Maksyutov, S., T. Machida, H. Mukai, P. Patra, T. Nakazawa, G. Inoue, and TransCom 3 modelers (2003) Effect of recent observations on Asian CO₂ flux estimates with transport model inversions, *Tellus*, **55B**, 522-529, 2003.

9. Law, R., Y.H. Chen, **K.R. Gurney**, P. Rayner, A.S. Denning, and TransCom 3 modelers (2003) TransCom3 CO₂ inversion intercomparison: 2. Sensitivity of annual mean results to data choices, *Tellus*, **55B** (2), 512-521, 2003.

8. **Gurney, K.R.**, R.M. Law, A.S. Denning, P.J. Rayner, D. Baker, P. Bousquet, L. Bruhwiler, Y.H. Chen, P. Ciais, S. Fan, I.Y. Fung, M. Gloor, M. Heimann, K. Higuchi, J. John, E. Kowalczyki, T. Maki, S. Maksyutov, P. Peylin, M. Prather, B. Pak, J. Sarmiento, S. Taguchi, T. Takahashi, C.W. Yuen (2003) Transcom 3 CO₂ Inversion Intercomparison: 1. Annual mean control results and sensitivity to transport and prior flux information, *Tellus*, **55B**, 555-579.

Before 2003

7. Engelen, R.J., A. Scott Denning, **K.R. Gurney**, and TransCom 3 modelers (2002) On Error Estimation in Atmospheric CO₂ Inversions, *J. of Geophys. Res.*, **107** (D22), 4635.

6. **Gurney, K.R.**, R.M. Law, A.S. Denning, P.J. Rayner, D. Baker, P. Bousquet, L. Bruhwiler, Y.H. Chen, P. Ciais, S. Fan, I.Y. Fung, M. Gloor, M. Heimann, K. Higuchi, J. John, T. Maki, S. Maksyutov, K. Masarie, P. Peylin, M. Prather, B.C. Pak, J. Randerson, J. Sarmiento, S. Taguchi, T. Takahashi, C.W. Yuen (2002) [Towards robust regional estimates of CO₂ sources and sinks using atmospheric transport models](#), *Nature*, **415**, 626-630, February 7.
5. Engelen, R.J., A.S. Denning, **K.R. Gurney**, and G.L. Stephens (2001) Global observations of the carbon budget: I. Expected satellite capabilities in the EOS and NPOESS eras, *J. of Geophys. Res.*, **106** (D17), 20055-20068.
4. Denning, A.S. M. Holzer, **K.R. Gurney**, M. Heimann, R.M. Law, P.J. Rayner, I.Y. Fung, S. Fan, S. Taguchi, P. Friedlingstein, Y. Balkanski, M. Maiss, and I. Levin, (1999) Three-dimensional transport and concentration of SF₆: A model intercomparison study (Transcom 2), *Tellus*, **51B**, 266-297.
3. **Gurney, K.R.** (1998) Evidence for increasing ultraviolet irradiance at Point Barrow, Alaska, *Geophys. Res. Lett.*, **25** (6), 903-906, March 15.
2. **Gurney, K.R.** (1991) National Greenhouse Accounting, *Nature*, **353**, 23.
1. **Gurney, K.R.**, A.D.A. Hansen, and H. Rosen (1998) Methane and Carbon Dioxide Increases in the Urban Boundary Layer: Inferences from Whole Column Infrared Absorbance Measurements *Geophys. Res. Lett.*, **15**, 32-35.

BOOKS

Makhijani A. and **K.R. Gurney**, "Mending the Ozone Hole: Science, Technology and Policy," MIT Press, 1995.

BOOK CHAPTERS

Alexandrov, G.A., D. Chan, M. Chen, **K.R. Gurney**, K. Higuchi, A. Ito, C.D. Jones, A. Komarov, K. Mabuchi, D.M. Matross, F. Veroustraete, W.W. Verstraeten (2008) "Model-data fusion in studies of the terrestrial carbon sink" in *Environmental Modelling, software and decision support: State of the art and new perspective*, Jakeman, A.J., A.A. Voinov, A.E. Rizzoli, S.H. Chen (eds), Elsevier, October 2008, ISBN: 978-0-08-056886-7

Parshall, L., S.A. Hammer, **K.R. Gurney** (2012) Chapter 4: Energy consumption and CO₂ emissions in urban counties in the United States with a case study of the New York Metropolitan area, in *Cities and Climate Change*, Responding to an Urgent Agenda, Hoornweg, D., M. Freire, M.J. Lee, P. Bhada-Tata, and B. Yuen (eds), World Bank, Washington, DC.

OTHER PUBLICATIONS (a sample)

Bernow, S., M. Becker, B. Biewald, **K.R. Gurney**, R. Hornby, D. Marron, R. Rosen, and D. Singh, "Environmental Impacts of Long Island's Energy Choices: The Environmental Benefits of Demand-Side Management", Tellus Institute, September, 1990.

Makhijani, A., **K.R. Gurney** and Annie Makhijani, "Saving Our Skins: The Causes and Consequences of Ozone Layer Depletion and Policies for its Restoration and Protection", IEER, February 19, 1992.

Ko, M.K.W., N.D. Sze, D.T. Chang, G.I. Molnar, and **K.R. Gurney**, "Estimates of the Lifetimes and Global Warming Potentials of Chemical Compounds", AER, Inc., March 1992.

Makhijani, A. and **K.R. Gurney**, "Petition Under the Clean Air Act to the Administrator of the EPA for Reclassification of HCFC-22, HCFC-141b, and HCFC-142b as Class I Compounds, and Other Matters Related to the Protection of the Ozone Layer", Submitted to the Administrator of the EPA, April 14, 1992.

Franke, B., **K.R. Gurney**, A. Makhijani and M. Hoinig, "Uranium Doses to Workers at The Feed Materials Production Center -- Six Case Studies", IEER, December 23, 1992.

Gurney, K.R. (1996) "Saving the Ozone Layer Faster", *Technology Review*, January, 1996.

Gurney, K.R. "The Economics of Mitigating Climate Change: Boom or Bust?," Briefing Paper for the Union of Concerned Scientists, Sound Science Initiative, July 1997.

Gurney, K.R. "Warm, Dangerous Wind is Blowing Across the Planet," Op/Ed, The Santa Barbara News-Press, November 2, 1997.

Gurney K.R. and J. Neff, "Carbon Sequestration Potential in Canada, Russia, and the United States Under Article 3.4 of the Kyoto Protocol," World Wildlife Fund, June 2000.

Gurney, K.R., R. Law, P. Rayner, and S. Denning, "TransCom 3 Experimental Protocol," Department of Atmospheric Science, Colorado State University, paper no. 707, July 2000.

Gurney, K.R. (2003) Book review of Fay and Golomb, "Energy and the Environment", *EOS Trans. Amer. Geophys. Union*, **84** (17), 2003.

Gurney, K.R. "Post-2012 LULUCF Options", white paper prepared for World Wildlife Fund, February 2006.

Gurney, K.R. "How 'sinks' nearly sunk the Kyoto Protocol", Insights Last Word, Purdue University, Fall/Winter 2006.

Gurney, K.R. "Resizing China's footprint on climate," Op/Ed, *South China Morning Post*, 12/31/2007.

Gurney, K.R., W. Ansley, D. Mendoza, B. Seib, G. Petron, G. Frost, J. Gregg, M. Fischer, D. Pataki, K. Ackerman, S. Houweling, K. Corbin, R. Andres and T.J. Blasing, (2007) Research needs for process-driven, finely resolved fossil fuel carbon dioxide emissions, *EOS Trans. Amer. Geophys. Union*, **88** (49), 542-543.

Gurney, K.R., Raymond, L., Cason, T. and H. Rowe, "A chance to compete fairly in marketplace", Op/Ed, *Indianapolis Star*, 5/31/2009.

Gurney, K.R., H.I Rowe, and M. Ridders, "Forging a comprehensive strategy on climate change, Guest Commentary, *Telluride Daily Planet*, 8/25/2009

Gurney, K.R. (2010) "Stop Listening to Scientists?", letter, *Science*, 327, p. 780, February 12.

Gurney, K.R., "Midwest should embrace clean-energy opportunities," Op/Ed, *The Fort Wayne Journal Gazette*, 5/11/2010.

Canadell, P., Ciais P., **Gurney K.R.**, Le Quere C., Piao, S., Raupach M.R., and C. Sabine (2011) An international effort to quantify regional carbon fluxes, *EOS Trans. Amer. Geophys. Union*, **92** (10), 81-88.

Gurney, K.R. (2013) Turning Point, Kevin Gurney, *Nature*, **500**, 245, 8 August.

Gurney, K.R. (2013) Beyond Hammers and Nails: Mitigating and Verifying Greenhouse Gas Emissions, *EOS Trans. Amer. Geophys. Union*, **94** (22), 199-200, May 28.

Gurney, K.R. and D. O’Keeffe (2013) Crowdsourcing power plant carbon dioxide emissions data, *EOS Trans. Amer. Geophys. Union*, **94**(43), 385-386.

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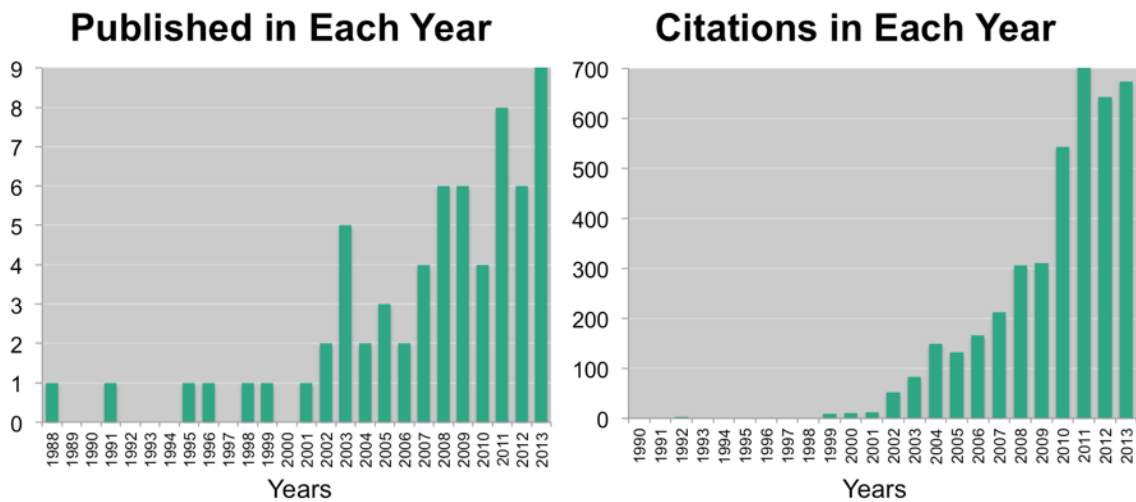
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