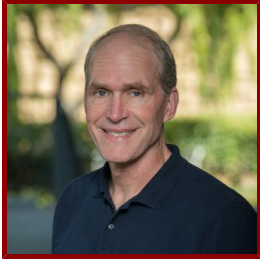


Stanford



Rob Jackson

Michelle and Kevin Douglas Provostial Professor and Senior Fellow at the Woods Institute for the Environment and at the Precourt Institute for Energy
Earth System Science

Bio

BIO

Rob Jackson and his lab examine the many ways people affect the Earth. They seek basic scientific knowledge and use it to help shape policies and reduce the environmental footprint of global warming, energy extraction, and other issues. They're currently examining the effects of climate change and droughts on forest mortality and grassland ecosystems. They are also working to measure and reduce greenhouse gas emissions through the Global Carbon Project (globalcarbonproject.org), which Jackson chairs; examples of new research Rob leads include establishing a global network of methane tower measurements at more than 80 sites worldwide and measuring and reducing methane emissions from oil and gas wells, city streets, and homes and buildings.

As an author and photographer, Rob has published a trade book about the environment (*The Earth Remains Forever*, University of Texas Press), two books of children's poems, *Animal Mischief* and *Weekend Mischief* (Highlights Magazine and Boyds Mills Press), and recent or forthcoming poems in the journals *Southwest Review*, *Cortland Review*, *Cold Mountain Review*, *Atlanta Review*, *LitHub*, and more. His photographs have appeared in many media outlets, including the *NY Times*, *Washington Post*, *USA Today*, *US News and World Report*, *Science*, *Nature*, and *National Geographic News*.

Rob is a current Guggenheim Fellow and sabbatical visitor in the Center for Advanced Study in the Behavioral Sciences. He is also a Fellow in the American Association for the Advancement of Science, American Geophysical Union, and Ecological Society of America. He received a Presidential Early Career Award in Science and Engineering from the National Science Foundation, awarded at the White House.

ACADEMIC APPOINTMENTS

- Professor, Earth System Science
- Senior Fellow, Stanford Woods Institute for the Environment
- Senior Fellow, Precourt Institute for Energy

ADMINISTRATIVE APPOINTMENTS

- Chair, Publications Committee, Ecological Society of America, (2017- present)
- Chair, Earth System Science Department, Stanford University, (2016- present)
- Chair, Global Carbon Project (globalcarbonproject.org), (2014- present)
- Senior Associate Dean for Research, Nicholas School of the Environment, Duke University, (2010-2012)
- Co-Chair, U.S. Carbon Cycle Science Plan, (2009-2012)
- Vice President for Science, Ecological Society of America, (2007-2011)
- Director, National Institute for Climate Change Research, Department of Energy, (2005-2012)

- Co-Founder and Co-Director, Climate Change Policy Partnership, (2005-2011)
- Director, Duke University Center on Global Change, (2004-2013)
- President, Biogeosciences Section, American Geophysical Union, (2004-2006)
- Director, Duke University Program in Ecology, (2002-2006)
- Director, Duke University Laboratory for Isotope Ratio Mass Spectrometry, (2000-2013)
- President, Physiological Ecology Section, Ecological Society of America, (2000-2002)

HONORS AND AWARDS

- Fellow, CASBS (2019)
- Fellow, John Simon Guggenheim Memorial Foundation (2018)
- Fellow, American Association for the Advancement of Science (2017)
- Fellow, Ecological Society of America (2012)
- Fellow, American Geophysical Union (2008)
- Presidential Early Career Award in Science and Engineering, National Science Foundation (1998)
- ISI Highly Cited, ISIHighlyCited.com (2004-present)
- Distinguished Postdoctoral Fellow for Global Change, Department of Energy, Stanford University
- Murray F. Buell Award for Excellence in Ecology, Ecological Society of America

PROFESSIONAL EDUCATION

- Ph.D., Utah State University , Ecology (1992)
- M.S., Utah State University , Statistics (1992)
- M.S., Utah State University , Ecology (1990)
- B.S., Rice University , Chemical Engineering (1983)

LINKS

- Jackson Lab Website: <https://earth.stanford.edu/jacksonlab/>
- Google Scholar Profile: <https://scholar.google.com/citations?user=G3NBUzwAAAAJ&hl=en>

Research & Scholarship

PROJECTS

- Research Project - Stanford University
- Research Project - Stanford University
- Research Project - Stanford University

Teaching

COURSES

2018-19

- Control of Nature: EARTHSYS 107, ESS 107 (Spr)

2017-18

- Control of Nature: EARTHSYS 107, ESS 107 (Spr)

2016-17

- Control of Nature: EARTHSYS 107, ESS 107 (Spr)
- Research Preparation for Undergraduates: ESS 108 (Spr)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Kyle Delwiche, Etienne Fluet-Chouinard, Katerina Georgiou, Gavin McNicol, Chenghao Wang, Zutao Yang

Doctoral Dissertation Advisor (AC)

Eric Lebel

Doctoral Dissertation Co-Advisor (AC)

Leehi Yona

Doctoral (Program)

Tristan Ballard, Eric Lebel, Shersingh Tumber-Davila

Publications

PUBLICATIONS

- **Methane removal and atmospheric restoration** *Nature Sustainability*
Jackson, R. B., Solomon, E. I., Canadell, J. G., Cargnello, M., Field, C. B.
2019; 2: 436-438
- **Persistent fossil fuel growth threatens the Paris Agreement and planetary health** *Environmental Research Letters*
Jackson, R. B., Friedlingstein, P., Andrew, R. M., Canadell, J. G., Le Quéré, C., Peters, G. P.
2019; 14 (121001)
- **Fire frequency drives decadal changes in soil carbon and nitrogen and ecosystem productivity.** *Nature*
Pellegrini, A. F., Ahlström, A., Hobbie, S. E., Reich, P. B., Nieradzki, L. P., Staver, A. C., Scharenbroch, B. C., Jumpponen, A., Anderegg, W. R., Randerson, J. T., Jackson, R. B.
2018; 553 (7687): 194-98
- **The Ecology of Soil Carbon: Pools, Vulnerabilities, and Biotic and Abiotic Controls** *ANNUAL REVIEW OF ECOLOGY, EVOLUTION, AND SYSTEMATICS, VOL 48*
Jackson, R. B., Lajtha, K., Crow, S. E., Hugelius, G., Kramer, M. G., Pineiro, G., Futuyma, D. J.
2017; 48: 419-45
- **Hydrologic regulation of plant rooting depth.** *Proceedings of the National Academy of Sciences of the United States of America*
Fan, Y., Miguez-Macho, G., Jobbágy, E. G., Jackson, R. B., Otero-Casal, C.
2017; 114 (40): 10572-77
- **Repeated fire shifts carbon and nitrogen cycling by changing plant inputs and soil decomposition across ecosystems** *ECOLOGICAL MONOGRAPHS*
Pellegrini, A. A., Hobbie, S. E., Reich, P. B., Jumpponen, A., Brookshire, E., Caprio, A. C., Coetsee, C., Jackson, R. B.
2020
- **Advancing ecohydrology in the 21st century: A convergence of opportunities** *ECOHYDROLOGY*
Guswa, A. J., Tetzlaff, D., Selker, J. S., Carlyle-Moses, D. E., Boyer, E. W., Bruen, M., Cayuela, C., Creed, I. F., van de Giesen, N., Grasso, D., Hannah, D. M., Hudson, J. E., Hudson, et al
2020
- **Quantifying Methane Emissions from Natural Gas Water Heaters.** *Environmental science & technology*
Lebel, E. D., Lu, H. S., Speizer, S. A., Finnegan, C. J., Jackson, R. B.
2020
- **Reply to: Practical constraints on atmospheric methane removal** *NATURE SUSTAINABILITY*
Jackson, R. B., Solomon, E. I., Canadell, J. G., Cargnello, M., Field, C. B., Abernethy, S.

2020

- **Global patterns of terrestrial nitrogen and phosphorus limitation** *NATURE GEOSCIENCE*
Du, E., Terrer, C., Pellegrini, A. A., Ahlstrom, A., van Lissa, C. J., Zhao, X., Xia, N., Wu, X., Jackson, R. B.
2020
- **Refining national greenhouse gas inventories.** *Ambio*
Yona, L., Cashore, B., Jackson, R. B., Ometto, J., Bradford, M. A.
2020
- **Carbon dioxide emissions continue to grow amidst slowly emerging climate policies** *Nature Climate Change*
Peters, G. P., Andrew, R. M., Canadell, J. G., Friedlingstein, P., Jackson, R. B., Korsbakken, J., Le Quéré, C., Pregon, A.
2020; 10 (3-6)
- **Advancing Scientific Understanding of the Global Methane Budget in Support of the Paris Agreement** *GLOBAL BIOGEOCHEMICAL CYCLES*
Ganesan, A. L., Schwietzke, S., Poulter, B., Arnold, T., Lan, X., Rigby, M., Vogel, F. R., van der Werf, G. R., Janssens-Maenhout, G., Boesch, H., Pandey, S., Manning, A. J., Jackson, et al
2019
- **Global Carbon Budget 2019** *EARTH SYSTEM SCIENCE DATA*
Friedlingstein, P., Jones, M. W., O'Sullivan, M., Andrew, R. M., Hauck, J., Peters, G. P., Peters, W., Pongratz, J., Sitch, S., Le Quere, C., Bakker, D. E., Canadell, J. G., Ciais, et al
2019; 11 (4): 1783–1838
- **Inter-model comparison of global hydroxyl radical (OH) distributions and their impact on atmospheric methane over the 2000-2016 period** *ATMOSPHERIC CHEMISTRY AND PHYSICS*
Zhao, Y., Saunio, M., Bousquet, P., Lin, X., Berchet, A., Hegglin, M. I., Canadell, J. G., Jackson, R. B., Hauglustaine, D. A., Szopa, S., Stavert, A. R., Abraham, N., Archibald, et al
2019; 19 (21): 13701–23
- **Tunable laser-based detection of benzene using spectrally narrow absorption features** *APPLIED PHYSICS B-LASERS AND OPTICS*
Sur, R., Ding, Y., Jackson, R. B., Hanson, R. K.
2019; 125 (11)
- **Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations** *EARTH SYSTEM SCIENCE DATA*
Peltola, O., Vesala, T., Gao, Y., Raty, O., Alekseychik, P., Aurela, M., Chojnicki, B., Desai, A. R., Dolman, A. J., Euskirchen, E. S., Friborg, T., Goeckede, M., Helbig, et al
2019; 11 (3): 1263–89
- **Management intensification maintains wood production over multiple harvests in tropical Eucalyptus plantations** *ECOLOGICAL APPLICATIONS*
McMahon, D. E., Jackson, R. B.
2019; 29 (4)
- **Flexibility and intensity of global water use** *NATURE SUSTAINABILITY*
Qin, Y., Mueller, N. D., Siebert, S., Jackson, R. B., AghaKouchak, A., Zimmerman, J. B., Tong, D., Hong, C., Davis, S. J.
2019; 2 (6): 515–23
- **CO₂ enrichment and soil type additively regulate grassland productivity** *NEW PHYTOLOGIST*
Polley, H., Aspinwall, M. J., Collins, H. P., Gibson, A. E., Gill, R. A., Jackson, R. B., Jin, V. L., Khasanova, A. R., Reichmann, L. G., Fay, P. A.
2019; 222 (1): 183–92
- **Ungulates mediate trade-offs between carbon storage and wildfire hazard in Mediterranean oak woodlands** *JOURNAL OF APPLIED ECOLOGY*
Lecomte, X., Caldeira, M. C., Catry, F. X., Fernandes, P. M., Jackson, R. B., Bugalho, M. N.
2019; 56 (3): 699–710
- **More than a decade of hydraulic fracturing and horizontal drilling research.** *Environmental science. Processes & impacts*
Plata, D. L., Jackson, R. B., Vengosh, A., Mouser, P. J.
2019
- **Global soil nitrous oxide emissions since the preindustrial era estimated by an ensemble of terrestrial biosphere models: Magnitude, attribution, and uncertainty** *GLOBAL CHANGE BIOLOGY*

Tian, H., Yang, J., Xu, R., Lu, C., Canadell, J. G., Davidson, E. A., Jackson, R. B., Arneeth, A., Chang, J., Ciais, P., Gerber, S., Ito, A., Joos, et al
2019; 25 (2): 640–59

- **FLUXNET-CH₄ synthesis activity: objectives, observations, and future directions** *Bulletin of the American Meteorological Society*
Knox, S. H., Jackson, R. B., Poulter, B., Gavin McNicol, G., Fluet-Chouinard, E., et al
2019; in press
- **The landscape of soil carbon data: emerging questions, synergies and databases** *Progress in Physical Geography*
Malhotra, A., Todd-Brown, K., Nave, L. E., Batjes, N. H., Holmquist, J. R., Hoyt, A. M., Iversen, C. M., Jackson, R. B., Lajtha, K., Lawrence, C., Vindušková, O., Wieder, W., Williams, et al
2019
- **To Fight Climate Change, We Should Actually Add Carbon Dioxide to the Atmosphere** *Scientific American*
Jackson, R. B., Canadell, J. G.
2019; August
- **Data-driven estimates of global nitrous oxide emissions from croplands.** *National Science Review*
Wang, Q., et al
2019
- **TRY plant trait database - enhanced coverage and open access** *Global Change Biology*
Kattge, J., et al
2019
- **Deep groundwater quality in the southwestern United States** *Environmental Research Letters*
Kang, M., Ayers, J. E., Jackson, R. B.
2019; 14: 034004
- **A first record of bulk atmospheric deposition patterns of major ions in southern South America.** *Biogeochemistry*
Carnelos, D. A., Portela, S. I., Jobbágy, E. G., Jackson, R. B., Di Bella, C., et al
2019; 144: 261-271
- **Soil nutrient stocks are maintained over multiple rotations in Brazilian Eucalyptus plantations** *Forest Ecology and Management*
McMahon, D. E., Vergütz, L., Valadares, S. V., Ribeiro da Silva, I., Jackson, R. B.
2019; 448: 364-375
- **Nitrogen and phosphorus constrain the CO₂ fertilization of global plant biomass.** *Nature Climate Change*
Terrer, C., Jackson, R. B., Prentice, I. C., Keenan, T. F., Kaiser, C., et al
2019; 9: 684–689
- **Traditional plant functional groups explain variation in economic but not size-related traits across the tundra biome** *Global Ecology and Biogeography*
Thomas, H. J., et al
2019; 28 (78-95)
- **CO₂ enrichment and soil type additively regulate grassland productivity.** *The New phytologist*
Polley, H. W., Aspinwall, M. J., Collins, H. P., Gibson, A. E., Gill, R. A., Jackson, R. B., Jin, V. L., Khasanova, A. R., Reichmann, L. G., Fay, P. A.
2018
- **Projected drought effects on the demography of Ashe juniper populations inferred from remote measurements of tree canopies** *PLANT ECOLOGY*
Polley, H., Johnson, D. M., Jackson, R. B.
2018; 219 (10): 1259–67
- **Accounting for landscape heterogeneity improves spatial predictions of tree vulnerability to drought.** *The New phytologist*
Schwantes, A. M., Parolari, A. J., Swenson, J. J., Johnson, D. M., Domec, J., Jackson, R. B., Pelak, N., Porporato, A.
2018
- **Auto Mileage Rollback Is a Sick Idea The current EPA rules are better for our wallets and our health** *SCIENTIFIC AMERICAN*
Jackson, R.
2018; 319 (1): 12

- **THE GLOBAL N2O MODEL INTERCOMPARISON PROJECT** *BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY*
Tian, H., Yang, J., Lu, C., Xu, R., Canadell, J. G., Jackson, R. B., Arneeth, A., Chang, J., Chen, G., Ciais, P., Gerber, S., Ito, A., Huang, et al
2018; 99 (6): 1231–52
- **REPLY TO XI ET AL.: Water table fluctuation is well recognized and discussed in our study** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Fan, Y., Miguez-Macho, G., Jobbagy, E. G., Jackson, R. B., Otero-Casal, C.
2018; 115 (17): E3865
- **Flowering in grassland predicted by CO2 and resource effects on species aboveground biomass** *GLOBAL CHANGE BIOLOGY*
Fay, P. A., Aspinwall, M. J., Collins, H. P., Gibson, A. E., Gill, R., Jackson, R. B., Jin, V. L., Khasanova, A. R., Reichmann, L., Polley, H.
2018; 24 (4): 1771–81
- **REPLY TO PIERRET AND LACOMBE: Global controls on maximum rooting depths remain important** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Fan, Y., Miguez-Macho, G., Jobbagy, E. G., Jackson, R. B., Otero-Casal, C.
2018; 115 (12): E2671–E2672
- **Global Carbon Budget 2017** *EARTH SYSTEM SCIENCE DATA*
Le Quere, C., Andrew, R. M., Friedlingstein, P., Sitch, S., Pongratz, J., Manning, A. C., Korsbakken, J., Peters, G. P., Canadell, J. G., Jackson, R. B., Boden, T. A., Tans, P. P., Andrews, et al
2018; 10 (1): 405–48
- **Co-occurring woody species have diverse hydraulic strategies and mortality rates during an extreme drought** *PLANT CELL AND ENVIRONMENT*
Johnson, D. M., Domec, J., Berry, Z., Schwantes, A. M., McCulloh, K. A., Woodruff, D. R., Polley, H., Wortemann, R., Swenson, J. J., Mackay, D., McDowell, N. G., Jackson, R. B.
2018; 41 (3): 576–88
- **Structural and Hydrogeological Controls on Hydrocarbon and Brine Migration into Drinking Water Aquifers in Southern New York** *GROUNDWATER*
Kreuzer, R. L., Darrah, T. H., Grove, B. S., Moore, M. T., Warner, N. R., Eymold, W. K., Whyte, C. J., Mitra, G., Jackson, R. B., Vengosh, A., Poreda, R. J.
2018; 56 (2): 225–44
- **The need to protect fresh and brackish groundwater resources during unconventional oil and gas development** *Current Opinion in Environmental Science & Health*
DiGiulio, D. C., Shonkoff, S. B., Jackson, R. B.
2018; 3: 1-7
- **Global energy growth is outpacing decarbonization** *Environmental Research Letters*
Jackson, R. B., Le Quéré, C., Andrew, R. M., Canadell, J. G., Korsbakken, J. I., Liu, Z., Peters, G. P., Zheng, B.
2018; 13: 120401
- **Aerial inter-year comparison and quantification of methane emissions persistence in the Bakken formation of North Dakota, USA.** *Environmental science & technology*
Englander, J. G., Brandt, A. R., Conley, S., Lyon, D. R., Jackson, R. B.
2018
- **Networking our science to characterize the state, vulnerabilities, and management opportunities of soil organic matter.** *Global change biology*
Harden, J. W., Hugelius, G., Ahlström, A., Blankinship, J. C., Bond-Lamberty, B., Lawrence, C. R., Loisel, J., Malhotra, A., Jackson, R. B., Ogle, S., Phillips, C., Ryals, R., Todd-Brown, et al
2018; 24 (2): e705–e718
- **Evaluating Environmental Governance along Cross-Border Electricity Supply Chains with Policy-Informed Life Cycle Assessment: The California-Mexico Energy Exchange.** *Environmental science & technology*
Bolorinos, J., Ajami, N. K., Muñoz Meléndez, G., Jackson, R. B.
2018
- **Key indicators to track current progress and future ambition of the Paris Agreement** *NATURE CLIMATE CHANGE*
Peters, G. P., Andrew, R. M., Canadell, J. G., Fuss, S., Jackson, R. B., Korsbakken, J. I., Le Quere, C., Nakicenovic, N.
2017; 7 (2): 118-?
- **Mineral estate conservation easements: a new policy instrument to address hydraulic fracturing and resource extraction** *Environmental Law Reporter*

- Jackson, R. B., Owley, J., Salzman, J.
2017; 47: ELR 10112
- **Measuring canopy loss and climatic thresholds from an extreme drought along a fivefold precipitation gradient across Texas.** *Global change biology*
Schwantes, A. M., Swenson, J. J., González-Roglich, M., Johnson, D. M., Domec, J. C., Jackson, R. B.
2017; 23 (12): 5120–35
 - **Hydrologic resilience and Amazon productivity.** *Nature communications*
Ahlström, A., Canadell, J. G., Schurgers, G., Wu, M., Berry, J. A., Guan, K., Jackson, R. B.
2017; 8 (1): 387
 - **A global meta-analysis of soil phosphorus dynamics after afforestation** *NEW PHYTOLOGIST*
Deng, Q., McMahon, D. E., Xiang, Y., Yu, C., Jackson, R. B., Hui, D.
2017; 213 (1): 181-192
 - **Variability and quasi-decadal changes in the methane budget over the period 2000–2012** *Atmospheric Chemistry and Physics*
Saunio, M., et al
2017; 17: 11135-11161
 - **Towards real-time verification of carbon dioxide emissions** *Nature Climate Change*
Peters, G., Le Quéré, C., Andrew, R., Canadell, J., Friedlingstein, P., Ilyina, T., Jackson, R. B., Joos, F., Korsbakken, J. I., McKinley, G., Stich, S., Tans, P.
2017
 - **Focus on Negative Emissions** *Environmental Research Letters*
Jackson, R. B., Canadell, J. G., Fuss, S., Milne, J., Nakicenovic, N., Tavoni, M.
2017; 12: 11020
 - **Warning signs for stabilizing global CO2 emissions** *Environmental Research Letters*
Jackson, R. B., Le Quéré, C., Andrew, R. M., Canadell, J. G., Peters, G. P., Roy, J., Wu, L.
2017; 12: 110202
 - **The geochemistry of naturally occurring methane and saline groundwater in an area of unconventional shale gas development** *Geochimica et Cosmochimica Acta*
Harkness, J., Darrah, T. H., Warner, N. R., Whyte, C. J., Moore, M. T., Millot, R., Kloppmann, W., Jackson, R. B., Vengosh, A.
2017; 208: 302–334
 - **The global methane budget 2000-2012** *EARTH SYSTEM SCIENCE DATA*
Saunio, M., Bousquet, P., Poulter, B., Peregon, A., Ciais, P., Canadell, J. G., Dlugokencky, E. J., Etiope, G., Bastviken, D., Houweling, S., Janssens-Maenhout, G., Tubiello, F. N., Castaldi, et al
2016; 8 (2): 697-751
 - **Stabilization of new carbon inputs rather than old carbon decomposition determines soil organic carbon shifts following woody or herbaceous vegetation transitions** *PLANT AND SOIL*
Eclesia, R. P., Jobbagy, E. G., Jackson, R. B., Rizzotto, M., Pineiro, G.
2016; 409 (1-2): 99-116
 - **Identification and characterization of high methane-emitting abandoned oil and gas wells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Kang, M., Christian, S., Celia, M. A., Mauzerall, D. L., Bill, M., Miller, A. R., Chen, Y., Conrad, M. E., Darrah, T. H., Jackson, R. B.
2016; 113 (48): 13636-13641
 - **Research priorities for negative emissions** *ENVIRONMENTAL RESEARCH LETTERS*
Fuss, S., Jones, C. D., Kraxner, F., Peters, G. P., Smith, P., Tavoni, M., van Vuuren, D. P., Canadell, J. G., Jackson, R. B., Milne, J., Moreira, J. R., Nakicenovic, N., Sharifi, et al
2016; 11 (11)
 - **State of knowledge about energy development impacts on North American rangelands: An integrative approach** *JOURNAL OF ENVIRONMENTAL MANAGEMENT*
Kreuter, U. P., Iwaasa, A. D., Theodori, G. L., Ansley, R. J., Jackson, R. B., Fraser, L. H., Naeth, M. A., McGillivray, S., Garcia Moya, E.
2016; 180: 1-9

- **Simulating the Earth system response to negative emissions** *ENVIRONMENTAL RESEARCH LETTERS*
Jones, C. D., Ciais, P., Davis, S. J., Friedlingstein, P., Gasser, T., Peters, G. P., Rogelj, J., van Vuuren, D. P., Canadell, J. G., Cowie, A., Jackson, R. B., Jonas, M., Kriegler, et al
2016; 11 (9)
- **Trade-offs in water and carbon ecosystem services with land-use changes in grasslands** *ECOLOGICAL APPLICATIONS*
Kim, J. H., Jobbygy, E. G., Jackson, R. B.
2016; 26 (6): 1633-1644
- **Canopy foliation and area as predictors of mortality risk from episodic drought for individual trees of Ashe juniper** *PLANT ECOLOGY*
Polley, H. W., Johnson, D. M., Jackson, R. B.
2016; 217 (9): 1105-1114
- **Quantifying drought-induced tree mortality in the open canopy woodlands of central Texas** *REMOTE SENSING OF ENVIRONMENT*
Schwantes, A. M., Swenson, J. J., Jackson, R. B.
2016; 181: 54-64
- **Salinity of deep groundwater in California: Water quantity, quality, and protection** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Kang, M., Jackson, R. B.
2016; 113 (28): 7768-7773
- **Forest biogeochemistry in response to drought** *GLOBAL CHANGE BIOLOGY*
Schlesinger, W. H., Dietze, M. C., Jackson, R. B., Phillips, R. P., Rhoades, C. C., Rustad, L. E., Vose, J. M.
2016; 22 (7): 2318-2328
- **Aerial Surveys of Elevated Hydrocarbon Emissions from Oil and Gas Production Sites** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Lyon, D. R., Alvarez, R. A., Zavala-Araiza, D., Brandt, A. R., Jackson, R. B., Hamburg, S. P.
2016; 50 (9): 4877-4886
- **Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming, Field** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
DiGiulio, D. C., Jackson, R. B.
2016; 50 (8): 4524-4536
- **The growing role of methane in anthropogenic climate change** *Environmental Research Letters*
Saunio, M., Jackson, R. B., Bousquet, P., Poulter, B., Canadell, J. G.
2016; 11
- **Response to Comment on "Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming Field".** *Environmental science & technology*
DiGiulio, D. C., Jackson, R. B.
2016; 50 (19): 10771-72
- **Identification and characterization of high methane-emitting abandoned oil and gas wells** *Proceedings of the National Academy of Sciences of the United States of America*
Kang, M., Christian, S., Celia, M. A., Mauzerall, D. L., Bill, M., Miller, A. R., Chen, Y., Conrad, M. E., Darrah, T. H., Jackson, R. B.
2016; 113: 13636-13641
- **Toward more realistic projections of soil carbon dynamics by Earth system models** *GLOBAL BIOGEOCHEMICAL CYCLES*
Luo, Y., Ahlstrom, A., Allison, S. D., Batjes, N. H., Brovkin, V., Carvalhais, N., Chappell, A., Ciais, P., Davidson, E. A., Finzi, A., Georgiou, K., Guenet, B., Hararuk, et al
2016; 30 (1): 40-56
- **Water Use and Management in the Bakken Shale Oil Play in North Dakota** *Environmental Science and Technology*
Horner, R. M., Harto, C. B., Jackson, R. B., Lowry, E. R., Brandt, A. R., Yeskoo, T. W., Murphy, D. J., Clark, C. E.
2016; 50: 3275-3282
- **Biophysical and economic limits to negative CO2 emissions** *NATURE CLIMATE CHANGE*
Smith, P., Davis, S. J., Creutzig, F., Fuss, S., Minx, J., Gabrielle, B., Kato, E., Jackson, R. B., Cowie, A., Kriegler, E., Van Vuuren, D. P., Rogelj, J., Ciais, et al

2016; 6: 42-50

- **Reaching Peak Emissions** *NATURE CLIMATE CHANGE*
Jackson, R. B., Canadell, J. G., Le Quéré, C., Andrew, R. M., Korsbakken, J. I., Peters, G. P., Nakicenovic, N.
2016; 6: 7-10
- **The evolution of Devonian hydrocarbon gases in shallow aquifers of the northern Appalachian Basin: Insights from integrating noble gas and hydrocarbon geochemistry** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Darrah, T. H., Jackson, R. B., Vengosh, A., Warner, N. R., Whyte, C. J., Walsh, T. B., Kondash, A. J., Poreda, R. J.
2015; 170: 321-355
- **Elevated levels of diesel range organic compounds in groundwater near Marcellus gas operations are derived from surface activities.** *Proceedings of the National Academy of Sciences of the United States of America*
Drollette, B. D., Hoelzer, K., Warner, N. R., Darrah, T. H., Karatum, O., O'Connor, M. P., Nelson, R. K., Fernandez, L. A., Reddy, C. M., Vengosh, A., Jackson, R. B., Elsner, M., Plata, et al
2015; 112 (43): 13184-13189
- **Natural Gas Pipeline Replacement Programs Reduce Methane Leaks and Improve Consumer Safety** *ENVIRONMENTAL SCIENCE & TECHNOLOGY LETTERS*
Gallagher, M. E., Down, A., Ackley, R. C., Zhao, K., Phillips, N., Jackson, R. B.
2015; 2 (10): 286-291
- **Quantifying surface albedo and other direct biogeophysical climate forcings of forestry activities** *GLOBAL CHANGE BIOLOGY*
Bright, R. M., Zhao, K., Jackson, R. B., Cherubini, F.
2015; 21 (9): 3246-3266
- **Pre-drilling background groundwater quality in the Deep River Triassic Basin of central North Carolina, USA** *APPLIED GEOCHEMISTRY*
Down, A., Schreglmann, K., Plata, D. L., Elsner, M., Warner, N. R., Vengosh, A., Moore, K., Coleman, D., Jackson, R. B.
2015; 60: 3-13
- **The Depths of Hydraulic Fracturing and Accompanying Water Use Across the United States** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Jackson, R. B., Lowry, E. R., Pickle, A., Kang, M., DiGiulio, D., Zhao, K.
2015; 49 (15): 8969-8976
- **Redefining fine roots improves understanding of below-ground contributions to terrestrial biosphere processes** *NEW PHYTOLOGIST*
McCormack, M. L., Dickie, I. A., Eissenstat, D. M., Fahey, T. J., Fernandez, C. W., Guo, D., Helmsaari, H., Hobbie, E. A., Iversen, C. M., Jackson, R. B., Leppalammi-Kujansuu, J., Norby, R. J., Phillips, et al
2015; 207 (3): 505-518
- **Plant community change mediates the response of foliar d(15)N to CO₂ enrichment in mesic grasslands.** *Oecologia*
Polley, H. W., Derner, J. D., Jackson, R. B., Gill, R. A., Procter, A. C., Fay, P. A.
2015; 178 (2): 591-601
- **Greater humification of belowground than aboveground biomass carbon into particulate soil organic matter in no-till corn and soybean crops** *SOIL BIOLOGY & BIOCHEMISTRY*
Mazzilli, S. R., Kemanian, A. R., Ernst, O. R., Jackson, R. B., Pineiro, G.
2015; 85: 22-30
- **Woody Plant-Cover Dynamics in Argentine Savannas from the 1880s to 2000s: The Interplay of Encroachment and Agriculture Conversion at Varying Scales** *ECOSYSTEMS*
Gonzalez-Roglich, M., Swenson, J. J., Villarreal, D., Jobbagy, E. G., Jackson, R. B.
2015; 18 (3): 481-492
- **Soil carbon responses to past and future CO₂ in three Texas prairie soils** *SOIL BIOLOGY & BIOCHEMISTRY*
Procter, A. C., Gill, R. A., Fay, P. A., Polley, H. W., Jackson, R. B.
2015; 83: 66-75
- **Methane emissions from natural gas infrastructure and use in the urban region of Boston, Massachusetts** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
McKain, K. K., Down, A., Raciti, S. M., Budney, J., Hutyrá, L. R., Floerchinger, C., Herndon, S. C., Nehr Korn, T., Zahniser, M. S., Jackson, R. B., Phillips, N., Wofsy, S. C.

2015; 112 (7): 1941-1946

- **Noble Gases: A New Technique for Fugitive Gas Investigation in Groundwater** *GROUNDWATER*
Darrah, T. H., Jackson, R. B., Vengosh, A., Warner, N. R., Poreda, R. J.
2015; 53 (1): 23-28
- **Two or three degrees: CO2 emissions and global temperature impacts** *THE BRIDGE*
Jackson, R. B., Friedlingstein, P., Canadell, J. G., Andrew, R. M.
2015; 45 (2): 16-21
- **Vulnerabilities and opportunities at the nexus of electricity, water and climate** *ENVIRONMENTAL RESEARCH LETTERS*
Frumhoff, P. C., Burkett, V., Jackson, R. B., Newmark, R., Overpeck, J., Webber, M.
2015; 10: 080201
- **New Tracers Identify Hydraulic Fracturing Fluids and Accidental Releases from Oil and Gas Operations** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Warner, N. R., Darrah, T. H., Jackson, R. B., Millot, R., Kloppmann, W., Vengosh, A.
2014; 48 (21): 12552-12560
- **Shifting carbon pools along a plant cover gradient in woody encroached savannas of central Argentina** *FOREST ECOLOGY AND MANAGEMENT*
Gonzalez-Roglich, M., Swenson, J. J., Jobbagy, E. G., Jackson, R. B.
2014; 331: 71-78
- **Role of aquaporin activity in regulating deep and shallow root hydraulic conductance during extreme drought** *TREES-STRUCTURE AND FUNCTION*
Johnson, D. M., Sherrard, M. E., Domec, J., Jackson, R. B.
2014; 28 (5): 1323-1331
- **Oil and gas wells and their integrity: Implications for shale and unconventional resource exploitation** *MARINE AND PETROLEUM GEOLOGY*
Davies, R. J., Almond, S., Ward, R. S., Jackson, R. B., Adams, C., Worrall, F., Herringshaw, L. G., Gluyas, J. G., Whitehead, M. A.
2014; 56: 239-254
- **Air impacts of increased natural gas acquisition, processing, and use: a critical review.** *Environmental science & technology*
Moore, C. W., Zielinska, B., Pétron, G., Jackson, R. B.
2014; 48 (15): 8349-8359
- **Risks and risk governance in unconventional shale gas development.** *Environmental science & technology*
Small, M. J., Stern, P. C., Bomberg, E., Christopherson, S. M., Goldstein, B. D., Israel, A. L., Jackson, R. B., Krupnick, A., Mauter, M. S., Nash, J., North, D. W., Olmstead, S. M., Prakash, et al
2014; 48 (15): 8289-8297
- **A critical review of the risks to water resources from unconventional shale gas development and hydraulic fracturing in the United States.** *Environmental science & technology*
Vengosh, A., Jackson, R. B., Warner, N., Darrah, T. H., Kondash, A.
2014; 48 (15): 8334-8348
- **Priming of soil organic carbon decomposition induced by corn compared to soybean crops** *SOIL BIOLOGY & BIOCHEMISTRY*
Mazzilli, S. R., Kemanian, A. R., Ernst, O. R., Jackson, R. B., Pineiro, G.
2014; 75: 273-281
- **The integrity of oil and gas wells.** *Proceedings of the National Academy of Sciences of the United States of America*
Jackson, R. B.
2014; 111 (30): 10902-10903
- **Impacts of climate change drivers on C-4 grassland productivity: scaling driver effects through the plant community** *JOURNAL OF EXPERIMENTAL BOTANY*
Polley, H. W., Derner, J. D., Jackson, R. B., Wilsey, B. J., Fay, P. A.
2014; 65 (13): 3415-3424
- **Nitrogen Fertilization Has a Stronger Effect on Soil Nitrogen-Fixing Bacterial Communities than Elevated Atmospheric CO2** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Berthrong, S. T., Yeager, C. M., Gallegos-Graves, L., Steven, B., Eichorst, S. A., Jackson, R. B., Kuske, C. R.
2014; 80 (10): 3103-3112

- **Biophysical forcings of land-use changes from potential forestry activities in North America** *ECOLOGICAL MONOGRAPHS*
Zhao, K., Jackson, R. B.
2014; 84 (2): 329-353
- **Geophysical subsurface imaging for ecological applications** *NEW PHYTOLOGIST*
Jayawickreme, D. H., Jobbagy, E. G., Jackson, R. B.
2014; 201 (4): 1170-1175
- **Contrasting hydraulic architecture and function in deep and shallow roots of tree species from a semi-arid habitat** *ANNALS OF BOTANY*
Johnson, D. M., Brodersen, C. R., Reed, M., Domec, J., Jackson, R. B.
2014; 113 (4): 617-627
- **China's fuel gas sector: History, current status, and future prospects** *UTILITIES POLICY*
Yang, C., Zhou, Y., Jackson, R. B.
2014; 28: 12-21
- **Natural Gas Pipeline Leaks Across Washington, DC** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Jackson, R. B., Down, A., Phillips, N. G., Ackley, R. C., Cook, C. W., Plata, D. L., Zhao, K.
2014; 48 (3): 2051-2058
- **Betting on Negative Emissions** *NATURE CLIMATE CHANGE*
Fuss, S., Canadell, J. G., Peters, G. P., Tavoni, M., Andrew, R. M., Ciais, P., Jackson, R. B., Jones, C. D., Kraxner, F., Nakicenovic, N., Le Quere, C., Raupach, M. R., Sharifi, et al
2014; 4: 850-853
- **Noble gases identify the mechanisms of fugitive gas contamination in drinking-water wells overlying the Marcellus and Barnett Shales.** *Proceedings of the National Academy of Sciences of the United States of America*
Darrah, T. H., Vengosh, A., Jackson, R. B., Warner, N. R., Poreda, R. J.
2014; 111 (39): 14076-81
- **Fungal Community Responses to Past and Future Atmospheric CO2 Differ by Soil Type.** *Applied and environmental microbiology*
Procter, A. C., Ellis, J. C., Fay, P. A., Polley, H. W., Jackson, R. B.
2014; 80 (23): 7364-77
- **The Environmental Costs and Benefits of Fracking** *ANNUAL REVIEW OF ENVIRONMENT AND RESOURCES, VOL 39*
Jackson, R. B., Vengosh, A., Carey, J. W., Davies, R. J., Darrah, T. H., O'Sullivan, F., Petron, G.
2014; 39: 327-362
- **Land-use and topography shape soil and groundwater salinity in central Argentina** *AGRICULTURAL WATER MANAGEMENT*
Nosetto, M. D., ACOSTA, A. M., Jayawickreme, D. H., Ballesteros, S. I., Jackson, R. B., Jobbagy, E. G.
2013; 129: 120-129
- **Impacts of Shale Gas Wastewater Disposal on Water Quality in Western Pennsylvania** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Warner, N. R., Christie, C. A., Jackson, R. B., Vengosh, A.
2013; 47 (20): 11849-11857
- **Shale Gas Extraction in North Carolina: Research Recommendations and Public Health Implications** *ENVIRONMENTAL HEALTH PERSPECTIVES*
Down, A., Armes, M., Jackson, R. B.
2013; 121 (10): A292-A293
- **Increasing atmospheric CO2 reduces metabolic and physiological differences between isoprene- and non-isoprene-emitting poplars** *NEW PHYTOLOGIST*
Way, D. A., Ghirardo, A., Kanawati, B., Esperschuetz, J., Monson, R. K., Jackson, R. B., Schmitt-Kopplin, P., Schnitzler, J.
2013; 200 (2): 534-546
- **COMMENTARY: China's synthetic natural gas revolution** *NATURE CLIMATE CHANGE*
Yang, C., Jackson, R. B.
2013; 3 (10): 852-854
- **Geochemical and isotopic variations in shallow groundwater in areas of the Fayetteville Shale development, north-central Arkansas** *APPLIED GEOCHEMISTRY*

-
- Warner, N. R., Kresse, T. M., Hays, P. D., Down, A., Karr, J. D., Jackson, R. B., Vengosh, A.
2013; 35: 207-220
- **Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jackson, R. B., Vengosh, A., Darrah, T. H., Warner, N. R., Down, A., Poreda, R. J., Osborn, S. G., Zhao, K., Karr, J. D.
2013; 110 (28): 11250-11255
 - **Hydraulic limits on maximum plant transpiration and the emergence of the safety-efficiency trade-off** *NEW PHYTOLOGIST*
Manzoni, S., Vico, G., Katul, G., Palmroth, S., Jackson, R. B., Porporato, A.
2013; 198 (1): 169-178
 - **Mapping urban pipeline leaks: Methane leaks across Boston** *ENVIRONMENTAL POLLUTION*
Phillips, N. G., Ackley, R., Crosson, E. R., Down, A., Hutyrá, L. R., Brondfield, M., Karr, J. D., Zhao, K., Jackson, R. B.
2013; 173: 1-4
 - **The effects of shale gas exploration and hydraulic fracturing on the quality of water resources in the United States** *14th International Symposium on Water-Rock Interaction (WRI)*
Vengosh, A., Warner, N., Jackson, R., Darrah, T.
ELSEVIER SCIENCE BV.2013: 863-866
 - **Elevated growth temperatures alter hydraulic characteristics in trembling aspen (*Populus tremuloides*) seedlings: implications for tree drought tolerance** *PLANT CELL AND ENVIRONMENT*
Way, D. A., Domec, J., Jackson, R. B.
2013; 36 (1): 103-115
 - **The Structure, Distribution, and Biomass of the World's Forests** *ANNUAL REVIEW OF ECOLOGY, EVOLUTION, AND SYSTEMATICS, VOL 44*
Pan, Y., Birdsey, R. A., Phillips, O. L., Jackson, R. B.
2013; 44: 593-?
 - **Reply to Engelder: Potential for fluid migration from the Marcellus Formation remains possible** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Warner, N. R., Jackson, R. B., Darrah, T. H., Osborn, S. G., Down, A., Zhao, K., White, A., Vengosh, A.
2012; 109 (52): E3626-E3626
 - **China's coal price disturbances: Observations, explanations, and implications for global energy economies** *ENERGY POLICY*
Yang, C., Xuan, X., Jackson, R. B.
2012; 51: 720-727
 - **Revised calibration of the MBT-CBT paleotemperature proxy based on branched tetraether membrane lipids in surface soils** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Peterse, F., van der Meer, J., Schouten, S., Weijers, J. W., Fierer, N., Jackson, R. B., Kim, J., Damste, J. S.
2012; 96: 215-229
 - **Assessing the potential of wildfires as a sustainable bioenergy opportunity** *GLOBAL CHANGE BIOLOGY BIOENERGY*
Veron, S. R., Jobbagy, E. G., Di Bella, C. M., Paruelo, J. M., Jackson, R. B.
2012; 4 (6): 634-641
 - **Soil-mediated effects of subambient to increased carbon dioxide on grassland productivity** *NATURE CLIMATE CHANGE*
Fay, P. A., Jin, V. L., Way, D. A., Potter, K. N., Gill, R. A., Jackson, R. B., Polley, H. W.
2012; 2 (10): 742-746
 - **The impact of geologic variability on capacity and cost estimates for storing CO₂ in deep-saline aquifers** *ENERGY ECONOMICS*
Eccles, J. K., Pratson, L., Newell, R. G., Jackson, R. B.
2012; 34 (5): 1569-1579
 - **Geochemical evidence for possible natural migration of Marcellus Formation brine to shallow aquifers in Pennsylvania** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Warner, N. R., Jackson, R. B., Darrah, T. H., Osborn, S. G., Down, A., Zhao, K., White, A., Vengosh, A.
2012; 109 (30): 11961-11966
-

- **The hydrologic consequences of land cover change in central Argentina** *AGRICULTURE ECOSYSTEMS & ENVIRONMENT*
Nosetto, M. D., Jobbagy, E. G., Brizuela, A. B., Jackson, R. B.
2012; 154: 2-11
- **Analytical models of soil and litter decomposition: Solutions for mass loss and time-dependent decay rates** *SOIL BIOLOGY & BIOCHEMISTRY*
Manzoni, S., Pineiro, G., Jackson, R. B., Jobbagy, E. G., Kim, J. H., Porporato, A.
2012; 50: 66-76
- **Ecosystem Impacts of Geengineering: A Review for Developing a Science Plan** *AMBIO*
Russell, L. M., Rasch, P. J., Mace, G. M., Jackson, R. B., Shepherd, J., Liss, P., Leinen, M., Schimel, D., Vaughan, N. E., Janetos, A. C., Boyd, P. W., Norby, R. J., Caldeira, et al
2012; 41 (4): 350-369
- **Global resorption efficiencies and concentrations of carbon and nutrients in leaves of terrestrial plants** *ECOLOGICAL MONOGRAPHS*
Vergutz, L., Manzoni, S., Porporato, A., Novais, R. F., Jackson, R. B.
2012; 82 (2): 205-220
- **Common bacterial responses in six ecosystems exposed to 10 years of elevated atmospheric carbon dioxide** *ENVIRONMENTAL MICROBIOLOGY*
Dunbar, J., Eichorst, S. A., Gallegos-Graves, L. V., Silva, S., Xie, G., Hengartner, N. W., Evans, R. D., Hungate, B. A., Jackson, R. B., Megonigal, J. P., Schadt, C. W., Vilgalys, R., Zak, et al
2012; 14 (5): 1145-1158
- **Conversion of Tallgrass Prairie to Woodland: Consequences for Carbon and Nitrogen Cycling** *AMERICAN MIDLAND NATURALIST*
McCulley, R. L., Jackson, R. B.
2012; 167 (2): 307-321
- **The potential of waste-to-energy in reducing GHG emissions** *CARBON MANAGEMENT*
Chandel, M. K., Kwok, G., Jackson, R. B., Pratson, L. F.
2012; 3 (2): 133-144
- **Contribution of Various Carbon Sources Toward Isoprene Biosynthesis in Poplar Leaves Mediated by Altered Atmospheric CO₂ Concentrations** *PLOS ONE*
Trowbridge, A. M., Asensio, D., Eller, A. S., Way, D. A., Wilkinson, M. J., Schnitzler, J., Jackson, R. B., Monson, R. K.
2012; 7 (2)
- **A Global Analysis of Groundwater Recharge for Vegetation, Climate, and Soils** *VADOSE ZONE JOURNAL*
Kim, J. H., Jackson, R. B.
2012; 11 (1)
- **N₂ fixation estimates in real-time by cavity ring-down laser absorption spectroscopy** *OECOLOGIA*
Cassar, N., Bellenger, J., Jackson, R. B., Karr, J., Barnett, B. A.
2012; 168 (2): 335-342
- **China's growing methanol economy and its implications for energy and the environment** *ENERGY POLICY*
Yang, C., Jackson, R. B.
2012; 41: 878-884
- **The carbon balance of South America: a review of the status, decadal trends and main determinants** *BIOGEOSCIENCES*
Gloor, M., Gatti, L., Brienen, R., Feldpausch, T. R., Phillips, O. L., Miller, J., Ometto, J. P., ROCHA, H., Baker, T., de Jong, B., Houghton, R. A., Malhi, Y., Aragao, et al
2012; 9 (12): 5407-5430
- **Shifts in soil organic carbon for plantation and pasture establishment in native forests and grasslands of South America.** *Global change biology*
Eclesia, R. P., Jobbagy, E. G., Jackson, R. B., Biganzoli, F., Piñeiro, G.
2012; 18 (10): 3237-51
- **The effect of hydraulic lift on organic matter decomposition, soil nitrogen cycling, and nitrogen acquisition by a grass species** *OECOLOGIA*
Armas, C., Kim, J. H., Bleby, T. M., Jackson, R. B.
2012; 168 (1): 11-22

- **Shallow groundwater quality and geochemistry in the Fayetteville Shale gas-production area, north-central Arkansas, 2011.** *U.S. Geological Survey Scientific Investigations Report 2012–5273*
Kresse, T., Warner, N. R., Hays, P. D., Down, A., Vengosh, A., Jackson, R. B.
2012; 2012–5273
- **Soil C and N changes with afforestation of grasslands across gradients of precipitation and plantation age** *ECOLOGICAL APPLICATIONS*
Berthrong, S. T., Pineiro, G., Jobbagy, E. G., Jackson, R. B.
2012; 22 (1): 76-86
- **Considering shale gas extraction in North Carolina: lessons from other states** *Duke Environmental Law and Policy Forum*
Adair, S., Rainey Pearson, B., Monast, J., Vengosh, A., Jackson, R. B.
2012; 22:257-301
- **Beyond Bacteria: A Study of the Enteric Microbial Consortium in Extremely Low Birth Weight Infants** *PLOS ONE*
Latuga, M. S., Ellis, J. C., Cotton, C. M., Goldberg, R. N., Wynn, J. L., Jackson, R. B., Seed, P. C.
2011; 6 (12)
- **Sources of increased N uptake in forest trees growing under elevated CO₂: results of a large-scale N-15 study** *GLOBAL CHANGE BIOLOGY*
Hofmockel, K. S., Gallet-Budynek, A., McCarthy, H. R., Currie, W. S., Jackson, R. B., Finzi, A. C.
2011; 17 (11): 3338-3350
- **Reply to Davies: Hydraulic fracturing remains a possible mechanism for observed methane contamination of drinking water** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jackson, R. B., Osborn, S. G., Vengosh, A., Warner, N. R.
2011; 108 (43): E872-E872
- **Changes in hydrology and salinity accompanying a century of agricultural conversion in Argentina** *ECOLOGICAL APPLICATIONS*
Jayawickreme, D. H., Santoni, C. S., Kim, J. H., Jobbagy, E. G., Jackson, R. B.
2011; 21 (7): 2367-2379
- **Responses of soil cellulolytic fungal communities to elevated atmospheric CO₂ are complex and variable across five ecosystems** *ENVIRONMENTAL MICROBIOLOGY*
Weber, C. F., Zak, D. R., Hungate, B. A., Jackson, R. B., Vilgalys, R., Evans, R. D., Schadt, C. W., Megonigal, J. P., Kuske, C. R.
2011; 13 (10): 2778-2793
- **The potential impacts of climate-change policy on freshwater use in thermoelectric power generation** *ENERGY POLICY*
Chandel, M. K., Pratson, L. F., Jackson, R. B.
2011; 39 (10): 6234-6242
- **Reply to Saba and Orzechowski and Schon: Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Osborn, S. G., Vengosh, A., Warner, N. R., Jackson, R. B.
2011; 108 (37): E665-E666
- **A synthesis of current knowledge on forests and carbon storage in the United States** *ECOLOGICAL APPLICATIONS*
McKinley, D. C., Ryan, M. G., Birdsey, R. A., Giardina, C. P., Harmon, M. E., Heath, L. S., Houghton, R. A., Jackson, R. B., Morrison, J. F., Murray, B. C., Pataki, D. E., Skog, K. E.
2011; 21 (6): 1902-1924
- **A Large and Persistent Carbon Sink in the World's Forests** *SCIENCE*
Pan, Y., Birdsey, R. A., Fang, J., Houghton, R., Kauppi, P. E., Kurz, W. A., Phillips, O. L., Shvidenko, A., Lewis, S. L., Canadell, J. G., Ciais, P., Jackson, R. B., Pacala, et al
2011; 333 (6045): 988-993
- **Atmospheric CO₂ and soil extracellular enzyme activity: a meta-analysis and CO₂ gradient experiment** *ECOSPHERE*
Kelley, A. M., Fay, P. A., Polley, H. W., Gill, R. A., Jackson, R. B.
2011; 2 (8)
- **Earth Stewardship: science for action to sustain the human-earth system** *ECOSPHERE*
Chapin, F. S., Power, M. E., Pickett, S. T., Freitag, A., Reynolds, J. A., Jackson, R. B., Lodge, D. M., Duke, C., Collins, S. L., Power, A. G., Bartuska, A.

2011; 2 (8)

- **Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Osborn, S. G., Vengosh, A., Warner, N. R., Jackson, R. B.
2011; 108 (20): 8172-8176
- **Enhanced isoprene-related tolerance of heat- and light-stressed photosynthesis at low, but not high, CO₂ concentrations** *OECOLOGIA*
Way, D. A., Schnitzler, J., Monson, R. K., Jackson, R. B.
2011; 166 (1): 273-282
- **Biophysical considerations in forestry for climate protection** *FRONTIERS IN ECOLOGY AND THE ENVIRONMENT*
Anderson, R. G., Canadell, J. G., Randerson, J. T., Jackson, R. B., Hungate, B. A., Baldocchi, D. D., Ban-Weiss, G. A., Bonan, G. B., Caldeira, K., Cao, L., Diffenbaugh, N. S., Gurney, K. R., Kueppers, et al
2011; 9 (3): 174-182
- **Response to Comment on "Potential Impacts of Leakage from Deep CO₂ Geosequestration on Overlying Freshwater Aquifers"** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Little, M. G., Jackson, R. B.
2011; 45 (7): 3175-3176
- **Water subsidies from mountains to deserts: their role in sustaining groundwater-fed oases in a sandy landscape** *ECOLOGICAL APPLICATIONS*
Jobbagy, E. G., Noretto, M. D., Villagra, P. E., Jackson, R. B.
2011; 21 (3): 678-694
- **Increases in the flux of carbon belowground stimulate nitrogen uptake and sustain the long-term enhancement of forest productivity under elevated CO₂** *ECOLOGY LETTERS*
Drake, J. E., Gallet-Budynek, A., Hofmockel, K. S., Bernhardt, E. S., Billings, S. A., Jackson, R. B., Johnsen, K. S., Lichter, J., McCarthy, H. R., McCormack, M. L., Moore, D. J., Oren, R., Palmroth, et al
2011; 14 (4): 349-357
- **Increasing Forest Carbon Sequestration through Cooperation and Shared Strategies between China and the United States** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Shao, G., Dai, L., Dukes, J. S., Jackson, R. B., Tang, L., Zhao, J.
2011; 45 (6): 2033-2034
- **Research frontiers in the analysis of coupled biogeochemical cycles** *FRONTIERS IN ECOLOGY AND THE ENVIRONMENT*
Finzi, A. C., Cole, J. J., Doney, S. C., Holland, E. A., Jackson, R. B.
2011; 9 (1): 74-80
- **Opportunities and barriers to pumped-hydro energy storage in the United States** *RENEWABLE & SUSTAINABLE ENERGY REVIEWS*
Yang, C., Jackson, R. B.
2011; 15 (1): 839-844
- **Earth stewardship: a strategy for social-ecological transformation to reverse planetary degradation** *Journal of Environmental Studies and Sciences*
Chapin III, F. S., Pickett, S. T., Power, M. E., Jackson, R. B., Carter, D. M., Duke, C.
2011; 1: 44-53
- **A U.S. Carbon Cycle Science Plan** *U.S. Carbon Cycle Science Program, Washington, DC*
Michalak, A. M., Jackson, R. B., Marland, G., Sabine, C. L.
2011
- **Potential Impacts of Leakage from Deep CO₂ Geosequestration on Overlying Freshwater Aquifers** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Little, M. G., Jackson, R. B.
2010; 44 (23): 9225-9232
- **Water uptake and hydraulic redistribution across large woody root systems to 20 m depth** *PLANT CELL AND ENVIRONMENT*
Bleby, T. M., McElrone, A. J., Jackson, R. B.
2010; 33 (12): 2132-2148
- **Estimation of long-term basin scale evapotranspiration from streamflow time series** *WATER RESOURCES RESEARCH*

- Palmroth, S., Katul, G. G., Hui, D., Mccarthy, H. R., Jackson, R. B., Oren, R.
2010; 46
- **Opportunities and Constraints for Forest Climate Mitigation** *BIOSCIENCE*
Jackson, R. B., Baker, J. S.
2010; 60 (9): 698-707
 - **Interactions of the carbon cycle, human activity, and the climate system: a research portfolio** *CURRENT OPINION IN ENVIRONMENTAL SUSTAINABILITY*
Canadell, J. G., 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, et al
2010; 2 (4): 301-311
 - **Amino acid abundance and proteolytic potential in North American soils** *OECOLOGIA*
Hofmockel, K. S., Fierer, N., Colman, B. P., Jackson, R. B.
2010; 163 (4): 1069-1078
 - **Pursuing Geoengineering for Atmospheric Restoration** *ISSUES IN SCIENCE AND TECHNOLOGY*
Jackson, R. B., Salzman, J.
2010; 26 (4): 67-76
 - **Greater seed production in elevated CO₂ is not accompanied by reduced seed quality in *Pinus taeda* L.** *GLOBAL CHANGE BIOLOGY*
Way, D. A., LaDeau, S. L., McCarthy, H. R., Clark, J. S., Oren, R., Finzi, A. C., Jackson, R. B.
2010; 16 (3): 1046-1056
 - **Stoichiometric controls on carbon, nitrogen, and phosphorus dynamics in decomposing litter** *ECOLOGICAL MONOGRAPHS*
Manzoni, S., Trofymow, J. A., Jackson, R. B., Porporato, A.
2010; 80 (1): 89-106
 - **Re-assessment of plant carbon dynamics at the Duke free-air CO₂ enrichment site: interactions of atmospheric [CO₂] with nitrogen and water availability over stand development** *NEW PHYTOLOGIST*
Mccarthy, H. R., Oren, R., Johnsen, K. H., Gallet-Budynek, A., Pritchard, S. G., Cook, C. W., LaDeau, S. L., Jackson, R. B., Finzi, A. C.
2010; 185 (2): 514-528
 - **Root responses along a subambient to elevated CO₂ gradient in a C-3-C-4 grassland** *GLOBAL CHANGE BIOLOGY*
Anderson, L. J., Derner, J. D., Polley, H. W., Gordon, W. S., Eissenstat, D. M., Jackson, R. B.
2010; 16 (1): 454-468
 - **Weekend Mischief**
Jackson, R.
Wordsong, Boyds Mills Press.2010
 - **Hydraulic lift and tolerance to salinity of semiarid species: consequences for species interactions** *OECOLOGIA*
Armas, C., Padilla, F. M., Pugnaire, F. I., Jackson, R. B.
2010; 162 (1): 11-21
 - **Increased belowground biomass and soil CO₂ fluxes after a decade of carbon dioxide enrichment in a warm-temperate forest** *ECOLOGY*
Jackson, R. B., Cook, C. W., Pippen, J. S., Palmer, S. M.
2009; 90 (12): 3352-3366
 - **A global meta-analysis of soil exchangeable cations, pH, carbon, and nitrogen with afforestation** *ECOLOGICAL APPLICATIONS*
Berthrong, S. T., Jobbagy, E. G., Jackson, R. B.
2009; 19 (8): 2228-2241
 - **CO₂ emissions from forest loss (vol 2, pg 737, 2009)** *NATURE GEOSCIENCE*
van der Werf, G. R., MORTON, D. C., DeFries, R. S., Olivier, J. G., Kasibhatla, P. S., Jackson, R. B., Collatz, G. J., Randerson, J. T.
2009; 2 (12): 829-829
 - **Future land use and land cover influences on regional biogenic emissions and air quality in the United States** *ATMOSPHERIC ENVIRONMENT*
Chen, J., Avise, J., Guenther, A., Wiedinmyer, C., Salathe, E., Jackson, R. B., Lamb, B.
2009; 43 (36): 5771-5780

- **CO₂ emissions from forest loss** *NATURE GEOSCIENCE*
van der Werf, G. R., MORTON, D. C., DeFries, R. S., Olivier, J. G., Kasibhatla, P. S., Jackson, R. B., Collatz, G. J., Randerson, J. T.
2009; 2 (11): 737-738
- **Afforestation Alters the Composition of Functional Genes in Soil and Biogeochemical Processes in South American Grasslands** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Berthrong, S. T., Schadt, C. W., Pineiro, G., Jackson, R. B.
2009; 75 (19): 6240-6248
- **Ecohydrology in a human-dominated landscape** *ECOHYDROLOGY*
Jackson, R. B., Jobbagy, E. G., Nosoetto, M. D.
2009; 2 (3): 383-389
- **Reciprocal influence of crops and shallow ground water in sandy landscapes of the Inland Pampas** *FIELD CROPS RESEARCH*
Nosoetto, M. D., Jobbagy, E. G., Jackson, R. B., Sznajder, G. A.
2009; 113 (2): 138-148
- **Primary Productivity and Water Balance of Grassland Vegetation on Three Soils in a Continuous CO₂ Gradient: Initial Results from the Lysimeter CO₂ Gradient Experiment** *ECOSYSTEMS*
Fay, P. A., Kelley, A. M., Procter, A. C., Hui, D., Jin, V. L., Jackson, R. B., Johnson, H. B., Polley, H. W.
2009; 12 (5): 699-714
- **Sheep Grazing Decreases Organic Carbon and Nitrogen Pools in the Patagonian Steppe: Combination of Direct and Indirect Effects** *ECOSYSTEMS*
Golluscio, R. A., Austin, A. T., Garcia Martinez, G. C., Gonzalez-Polo, M., Sala, O. E., Jackson, R. B.
2009; 12 (4): 686-697
- **Risks to forest carbon offset projects in a changing climate** *FOREST ECOLOGY AND MANAGEMENT*
Galik, C. S., Jackson, R. B.
2009; 257 (11): 2209-2216
- **Leaf isoprene emission rate as a function of atmospheric CO₂ concentration** *GLOBAL CHANGE BIOLOGY*
Wilkinson, M. J., Monson, R. K., Trahan, N., Lee, S., Brown, E., Jackson, R. B., Polley, H. W., Fay, P. A., Fall, R.
2009; 15 (5): 1189-1200
- **Grazing effects on belowground C and N stocks along a network of cattle enclosures in temperate and subtropical grasslands of South America** *GLOBAL BIOGEOCHEMICAL CYCLES*
Pineiro, G., Paruelo, J. M., Jobbagy, E. G., Jackson, R. B., Oesterheld, M.
2009; 23
- **Physical and Economic Potential of Geological CO₂ Storage in Saline Aquifers** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Eccles, J. K., Pratson, L., Newell, R. G., Jackson, R. B.
2009; 43 (6): 1962-1969
- **Set-asides can be better climate investment than corn ethanol** *ECOLOGICAL APPLICATIONS*
Pineiro, G., Jobbagy, E. G., Baker, J., Murray, B. C., Jackson, R. B.
2009; 19 (2): 277-282
- **Assessing interactive responses in litter decomposition in mixed species litter** *PLANT AND SOIL*
Hui, D., Jackson, R. B.
2009; 314 (1-2): 263-271
- **Soil carbon sequestration in a pine forest after 9 years of atmospheric CO₂ enrichment** *GLOBAL CHANGE BIOLOGY*
Lichter, J., Billings, S. A., Ziegler, S. E., Gaidh, D., Ryals, R., Finzi, A. C., Jackson, R. B., Stemmler, E. A., Schlesinger, W. H.
2008; 14 (12): 2910-2922
- **Fine-root respiration in a loblolly pine (Pinus taeda L.) forest exposed to elevated CO₂ and N fertilization** *PLANT CELL AND ENVIRONMENT*
Drake, J. E., Stoy, P. C., Jackson, R. B., DeLucia, E. H.
2008; 31 (11): 1663-1672
- **Protecting climate with forests** *ENVIRONMENTAL RESEARCH LETTERS*

Jackson, R. B., Randerson, J. T., Canadell, J. G., Anderson, R. G., Avissar, R., Baldocchi, D. D., Bonan, G. B., Caldeira, K., Diffenbaugh, N. S., Field, C. B., Hungate, B. A., Jobbagy, E. G., Kueppers, et al
2008; 3 (4)

- **Stream acidification and base cation losses with grassland afforestation** *WATER RESOURCES RESEARCH*
Farley, K. A., Pineiro, G., Palmer, S. M., Jobbagy, E. G., Jackson, R. B.
2008; 44
- **The global stoichiometry of litter nitrogen mineralization** *SCIENCE*
Manzoni, S., Jackson, R. B., Trofymow, J. A., Porporato, A.
2008; 321 (5889): 684-686
- **Regional patterns and controls of ecosystem salinization with grassland afforestation along a rainfall gradient** *GLOBAL BIOGEOCHEMICAL CYCLES*
Nosetto, M. D., Jobbagy, E. G., Toth, T., Jackson, R. B.
2008; 22 (2)
- **Nonlinear root-derived carbon sequestration across a gradient of nitrogen and phosphorous deposition in experimental mesocosms** *GLOBAL CHANGE BIOLOGY*
Bradford, M. A., Fierer, N., Jackson, R. B., Maddox, T. R., Reynolds, J. F.
2008; 14 (5): 1113-1124
- **Measuring uncertainty in estimates of biodiversity loss: The example of biodiversity intactness variance** *BIOLOGICAL CONSERVATION*
Hui, D., Biggs, R., Scholes, R. J., Jackson, R. B.
2008; 141 (4): 1091-1094
- **Hydraulic traits are influenced by phylogenetic history in the drought-resistant, invasive genus *Juniperus* (Cupressaceae)** *American Journal of Botany*
Willson, C. J., Manos, P. S., Jackson, R. B.
2008; 95: 299-314
- **Fine root dynamics in a loblolly pine forest are influenced by free-air-CO₂-enrichment: a six-year-minirhizotron study** *Global Change Biology*
Pritchard, S. G., Strand, A. E., McCormack, M. L., Davis, M. A., Finzi, A. C., Jackson, R. B., Matamala, R., Rogers, H. H., Oren, R.
2008; 14: 588-602
- **Uncertainty in allometric exponent estimation: A case study in scaling metabolic rate with body mass** *JOURNAL OF THEORETICAL BIOLOGY*
Hui, D., Jackson, R. B.
2007; 249 (1): 168-177
- **Metagenomic and small-subunit rRNA analyses reveal the genetic diversity of bacteria, archaea, fungi, and viruses in soil** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Fierer, N., Breitbart, M., Nulton, J., Salamon, P., Lozupone, C., Jones, R., Robeson, M., Edwards, R. A., Felts, B., Rayhawk, S., Knight, R., Rohwer, F., Jackson, et al
2007; 73 (21): 7059-7066
- **Aquaporin-mediated changes in hydraulic conductivity of deep tree roots accessed via caves** *PLANT CELL AND ENVIRONMENT*
McElrone, A. J., Bichler, J., Pockman, W. T., Addington, R. N., Linder, C. R., Jackson, R. B.
2007; 30 (11): 1411-1421
- **Environmental controls on the landscape-scale biogeography of stream bacterial communities** *ECOLOGY*
Fierer, N., Morse, J. L., Berthrong, S. T., Bernhardt, E. S., Jackson, R. B.
2007; 88 (9): 2162-2173
- **Effects of elevated atmospheric carbon dioxide on amino acid and NH₄⁺-N cycling in a temperate pine ecosystem** *GLOBAL CHANGE BIOLOGY*
Hofmockel, K. S., Schlesinger, W. H., Jackson, R. B.
2007; 13 (9): 1950-1959
- **Increases in nitrogen uptake rather than nitrogen-use efficiency support higher rates of temperate forest productivity under elevated CO₂** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Finzi, A. C., Norby, R. J., Calfapietra, C., Gallet-Budynek, A., Gielen, B., Holmes, W. E., Hoosbeek, M. R., Iversen, C. M., Jackson, R. B., Kubiske, M. E., Ledford, J., Liberloo, M., Oren, et al
2007; 104 (35): 14014-14019

- **New directions in microbial ecology** *ECOLOGY*
Jackson, R. B., Fierer, N., Schimel, J. P.
2007; 88 (6): 1343-1344
- **Toward an ecological classification of soil bacteria** *ECOLOGY*
Fierer, N., Bradford, M. A., Jackson, R. B.
2007; 88 (6): 1354-1364
- **Groundwater and soil chemical changes under phreatophytic tree plantations** *JOURNAL OF GEOPHYSICAL RESEARCH-BIOGEOSCIENCES*
Jobbagy, E. G., Jackson, R. B.
2007; 112 (G2)
- **Coupling diurnal cytosolic Ca²⁺ oscillations to the CAS-IP3 pathway in Arabidopsis** *SCIENCE*
Tang, R., Han, S., Zheng, H., Cook, C. W., Choi, C. S., Woerner, T. E., Jackson, R. B., Pei, Z.
2007; 315 (5817): 1423-1426
- **Effects of elevated atmospheric CO₂ on amino acid and NH₄⁺-N cycling in a temperate pine ecosystem** *Global Change Biology*
Hofmockel, K. S., Schlesinger, W. H., Jackson, R. B.
2007; 13: 13:1950-1959
- **Carbon and water tradeoffs in conversions to forests and shrublands** *Terrestrial Ecosystems in a Changing World*
Jackson, R. B., Farley, K. A., Hoffmann, W. A., Jobbagy, E. G., McCulley, R. L.
Springer.2007: 237-246
- **Inhibition of nitrification alters carbon turnover in the Patagonian steppe** *ECOSYSTEMS*
Austin, A. T., Sala, O. E., Jackson, R. B.
2006; 9 (8): 1257-1265
- **Predicting the temperature dependence of microbial respiration in soil: A continental-scale analysis** *GLOBAL BIOGEOCHEMICAL CYCLES*
Fierer, N., Colman, B. P., Schimel, J. P., Jackson, R. B.
2006; 20 (3)
- **Determinants of biodiversity change: Ecological tools for building scenarios** *ECOLOGY*
Sala, O. E., Jackson, R. B.
2006; 87 (8): 1875-1876
- **Xylem cavitation caused by drought and freezing stress in four co-occurring Juniperus species** *PHYSIOLOGIA PLANTARUM*
Willson, C. J., Jackson, R. B.
2006; 127 (3): 374-382
- **Functional coordination between leaf gas exchange and vulnerability to xylem cavitation in temperate forest trees** *PLANT CELL AND ENVIRONMENT*
Maherali, H., Moura, C. F., Caldeira, M. C., Willson, C. J., Jackson, R. B.
2006; 29 (4): 571-583
- **The diversity and biogeography of soil bacterial communities** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Fierer, N., Jackson, R. B.
2006; 103 (3): 626-631
- **Potential nitrogen constraints on soil carbon sequestration under low and elevated atmospheric CO₂** *ECOLOGY*
Gill, R. A., Anderson, L. J., Polley, H. W., Johnson, H. B., Jackson, R. B.
2006; 87 (1): 41-52
- **Geographical and interannual variability in biomass partitioning in grassland ecosystems: a synthesis of field data** *NEW PHYTOLOGIST*
Hui, D. F., Jackson, R. B.
2006; 169 (1): 85-93
- **Does nitrogen constrain carbon cycling, or does carbon input stimulate nitrogen cycling?** *ECOLOGY*
Luo, Y. Q., Field, C. B., Jackson, R. B.
2006; 87 (1): 3-4

- **Ecosystem changes associated with grazing in subhumid South American grasslands** *Journal of Vegetation Science*
Altesor, A., Piñeiro, G., Lezama, F., Jackson, R. B., Sarasola, M., Paruelo, J. M.
2006; 17: 323-332
- **Animal Mischief**
Jackson, R.
Wordsong, Boyds Mills Press.2006
- **Grassland afforestation: towards an integrative perspective of its ecological opportunities and costs** *Agrociencia*
Jobbágy, E. G., Vasallo, M., Farley, K. A., Piñeiro, G., Garbulsky, M. F., Nosoetto, M. M., Jackson, R. B., Paruelo, J. M.
2006; 10: 109-124
- **Progressive nitrogen limitation of ecosystem processes under elevated CO₂ in a warm-temperate forest** *ECOLOGY*
Finzi, A. C., Moore, D. J., DeLucia, E. H., Lichter, J., Hofmoeckel, K. S., Jackson, R. B., Kim, H. S., Matamala, R., McCarthy, H. R., Oren, R., Phippen, J. S., Schlesinger, W. H.
2006; 87 (1): 15-25
- **Trading water for carbon with biological sequestration** *SCIENCE*
Jackson, R. B., Jobbágy, E. G., Avissar, R., Roy, S. B., Barrett, D. J., Cook, C. W., Farley, K. A., Le Maitre, D. C., McCarl, B. A., Murray, B. C.
2005; 310 (5756): 1944-1947
- **Hydrological consequences of eucalyptus afforestation in the argentine pampas** *WATER RESOURCES RESEARCH*
Engel, V., Jobbágy, E. G., Stieglitz, M., Williams, M., Jackson, R. B.
2005; 41 (10)
- **From icy roads to salty streams** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jackson, R. B., Jobbágy, E. G.
2005; 102 (41): 14487-14488
- **Effects of afforestation on water yield: a global synthesis with implications for policy** *GLOBAL CHANGE BIOLOGY*
Farley, K. A., Jobbágy, E. G., Jackson, R. B.
2005; 11 (10): 1565-1576
- **Responses of tropical native and invader C-4 grasses to water stress, clipping and increased atmospheric CO₂ concentration** *OECOLOGIA*
Baruch, Z., Jackson, R. B.
2005; 145 (4): 522-532
- **Elevated CO₂ reduces disease incidence and severity of a red maple fungal pathogen via changes in host physiology and leaf chemistry** *GLOBAL CHANGE BIOLOGY*
McElrone, A. J., Reid, C. D., Hoye, K. A., Hart, E., Jackson, R. B.
2005; 11 (10): 1828-1836
- **Assessment of soil microbial community structure by use of taxon-specific quantitative PCR assays** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
Fierer, N., Jackson, J. A., Vilgalys, R., Jackson, R. B.
2005; 71 (7): 4117-4120
- **Mapping the global distribution of deep roots in relation to climate and soil characteristics** *Annual Joint Conference of the Soil-and-Water-Conservation-Society/Soil-Science-Society-of-America*
Schenk, H. J., Jackson, R. B.
ELSEVIER SCIENCE BV.2005: 129-40
- **Genetic variance and covariance for physiological traits in Lobelia: Are there constraints on adaptive evolution?** *EVOLUTION*
Caruso, C. M., Maherali, H., Mikulyuk, A., Carlson, K., Jackson, R. B.
2005; 59 (4): 826-837
- **Ecohydrological implications of woody plant encroachment** *ECOLOGY*
Huxman, T. E., Wilcox, B. P., Breshears, D. D., Scott, R. L., Snyder, K. A., Small, E. E., Hultine, K., Pockman, W. T., Jackson, R. B.
2005; 86 (2): 308-319
- **Ecohydrological control of deep drainage in arid and semiarid regions** *ECOLOGY*

Seyfried, M. S., Schwinning, S., Walvoord, M. A., Pockman, W. T., Newman, B. D., Jackson, R. B., Phillips, E. M.
2005; 86 (2): 277-287

- **Carbon cycling in soil** *FRONTIERS IN ECOLOGY AND THE ENVIRONMENT*
Johnston, C. A., Groffman, P., Breshears, D. D., Cardon, Z. G., Currie, W., Emanuel, W., Gaudinski, J., Jackson, R. B., Lajtha, K., Nadelhoffer, K., Nelson, D., Post, W. M., Retallack, et al
2004; 2 (10): 522-528
- **Nutrient uptake as a contributing explanation for deep rooting in arid and semi-arid ecosystems** *OECOLOGIA*
McCulley, R. L., Jobbagy, E. G., Pockman, W. T., Jackson, R. B.
2004; 141 (4): 620-628
- **Curbing the US carbon deficit** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jackson, R. B., Schlesinger, W. H.
2004; 101 (45): 15827-15829
- **Nitric oxide represses the Arabidopsis floral transition** *SCIENCE*
He, Y. K., Tang, R. H., Hao, Y., Stevens, R. D., Cook, C. W., Am, S. M., Jing, L. F., Yang, Z. G., Chen, L. G., Guo, F. Q., Fiorani, F., Jackson, R. B., Crawford, et al
2004; 305 (5692): 1968-1971
- **The uplift of soil nutrients by plants: Biogeochemical consequences across scales** *ECOLOGY*
Jobbagy, E. G., Jackson, R. B.
2004; 85 (9): 2380-2389
- **Terrestrial and freshwater biogeochemistry** *ECOLOGY*
Jackson, R. B., Hedin, L. O.
2004; 85 (9): 2353-2354
- **Variation in xylem structure and function in stems and roots of trees to 20 m depth** *NEW PHYTOLOGIST*
McElrone, A. J., Pockman, W. T., Martinez-Vilalta, J., Jackson, R. B.
2004; 163 (3): 507-517
- **Adaptive variation in the vulnerability of woody plants to xylem cavitation** *ECOLOGY*
Maherali, H., Pockman, W. T., Jackson, R. B.
2004; 85 (8): 2184-2199
- **Groundwater use and salinization with grassland afforestation** *GLOBAL CHANGE BIOLOGY*
Jobbagy, E. G., Jackson, R. B.
2004; 10 (8): 1299-1312
- **Disconnects in evaluating the relative effectiveness of conservation strategies** *CONSERVATION BIOLOGY*
Saterson, K. A., Christensen, N. L., Jackson, R. B., Kramer, R. A., Pimm, S. L., Smith, M. D., Wiener, J. B.
2004; 18 (3): 597-599
- **Comment on "A reservoir of nitrate beneath desert soils"** *SCIENCE*
Jackson, R. B., Berthrong, S. T., Cook, C. W., Jobbagy, E. G., McCulley, R. L.
2004; 304 (5667)
- **Regional feedbacks among fire, climate, and tropical deforestation** *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*
Hoffmann, W. A., Schroeder, W., Jackson, R. B.
2003; 108 (D23)
- **On the relationship between stomatal characters and atmospheric CO₂** *GEOPHYSICAL RESEARCH LETTERS*
Reid, C. D., Maherali, H., Johnson, H. B., Smith, S. D., Wullschleger, S. D., Jackson, R. B.
2003; 30 (19)
- **Defining a plant's belowground zone of influence** *ECOLOGY*
Casper, B. B., Schenk, H. J., Jackson, R. B.
2003; 84 (9): 2313-2321

- **Stomatal sensitivity to vapour pressure difference over a subambient to elevated CO₂ gradient in a C-3/C-4 grassland** *PLANT CELL AND ENVIRONMENT*
Maherali, H., Johnson, H. B., Jackson, R. B.
2003; 26 (8): 1297-1306
- **Patterns and mechanisms of soil acidification in the conversion of grasslands to forests** *BIOGEOCHEMISTRY*
Jobbagy, E. G., Jackson, R. B.
2003; 64 (2): 205-229
- **Gender-specific floral and physiological traits: implications for the maintenance of females in gynodioecious *Lobelia siphilitica*** *OECOLOGIA*
Caruso, C. M., Maherali, H., Jackson, R. B.
2003; 135 (4): 524-531
- **Positive feedbacks of fire, climate, and vegetation and the conversion of tropical savanna** *GEOPHYSICAL RESEARCH LETTERS*
Hoffmann, W. A., Schroeder, W., Jackson, R. B.
2002; 29 (22)
- **Meeting ecological and societal needs for freshwater** *ECOLOGICAL APPLICATIONS*
Baron, J. S., Poff, N. L., Angermeier, P. L., Dahm, C. N., Gleick, P. H., Hairston, N. G., Jackson, R. B., Johnston, C. A., Richter, B. D., Steinman, A. D.
2002; 12 (5): 1247-1260
- **Linking molecular insight and ecological research** *TRENDS IN ECOLOGY & EVOLUTION*
Jackson, R. B., Linder, C. R., Lynch, M., Purugganan, M., Somerville, S., Thayer, S. S.
2002; 17 (9): 409-414
- **Root production and demography in a california annual grassland under elevated atmospheric carbon dioxide** *GLOBAL CHANGE BIOLOGY*
Higgins, P. A., Jackson, R. B., Des Rosiers, J. M., Field, C. B.
2002; 8 (9): 841-850
- **Ecosystem carbon loss with woody plant invasion of grasslands** *NATURE*
Jackson, R. B., Banner, J. L., Jobbagy, E. G., Pockman, W. T., Wall, D. H.
2002; 418 (6898): 623-626
- **The global biogeography of roots** *ECOLOGICAL MONOGRAPHS*
Schenk, H. J., Jackson, R. B.
2002; 72 (3): 311-328
- **Rooting depths, lateral root spreads and below-ground/above-ground allometries of plants in water-limited ecosystems** *JOURNAL OF ECOLOGY*
Schenk, H. J., Jackson, R. B.
2002; 90 (3): 480-494
- **Nonlinear grassland responses to past and future atmospheric CO₂** *NATURE*
Gill, R. A., Polley, H. W., Johnson, H. B., Anderson, L. J., Maherali, H., Jackson, R. B.
2002; 417 (6886): 279-282
- **Stomatal acclimation over a subambient to elevated CO₂ gradient in a C-3/C-4 grassland** *PLANT CELL AND ENVIRONMENT*
Maherali, H., Reid, C. D., Polley, H. W., Johnson, H. B., Jackson, R. B.
2002; 25 (4): 557-566
- **Nitrogen controls on climate model evapotranspiration** *JOURNAL OF CLIMATE*
Dickinson, R. E., Berry, J. A., Bonan, G. B., Collatz, G. J., Field, C. B., Fung, I. Y., Goulden, M., Hoffmann, W. A., Jackson, R. B., Myneni, R., Sellers, P. J., Shaikh, M.
2002; 15 (3): 278-295
- **The Earth Remains Forever**
Jackson, R.
University of Texas Press.2002
- **Using simple environmental variables to estimate below-ground productivity in grasslands** *GLOBAL ECOLOGY AND BIOGEOGRAPHY*
Gill, R. A., Kelly, R. H., Parton, W. J., Day, K. A., Jackson, R. B., Morgan, J. A., Scurlock, J. M., Tieszen, L. L., Castle, J. V., Ojima, D. S., Zhang, X. S.
2002; 11 (1): 79-86

- **Below-ground processes in gap models for simulating forest response to global change** *CLIMATIC CHANGE*
Wullschlegel, S. D., Jackson, R. B., Currie, W. S., Friend, A. D., Luo, Y., Mouillot, F., Pan, Y., Shao, G. F.
2001; 51 (3-4): 449-473
- **Modeling root water uptake in hydrological and climate models** *BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY*
Feddes, R. A., Hoff, H., Bruen, M., Dawson, T., de Rosnay, P., Dirmeyer, O., Jackson, R. B., Kabat, P., Kleidon, A., Lilly, A., Pitman, A. J.
2001; 82 (12): 2797-2809
- **Water in a changing world** *ECOLOGICAL APPLICATIONS*
Jackson, R. B., Carpenter, S. R., Dahm, C. N., McKnight, D. M., Naiman, R. J., Postel, S. L., Running, S. W.
2001; 11 (4): 1027-1045
- **Gas exchange and photosynthetic acclimation over subambient to elevated CO₂ in a C-3-C-4 grassland** *GLOBAL CHANGE BIOLOGY*
Anderson, L. J., Maherali, H., Johnson, H. B., Polley, H. W., Jackson, R. B.
2001; 7 (6): 693-707
- **The distribution of soil nutrients with depth: Global patterns and the imprint of plants** *BIOGEOCHEMISTRY*
Jobbagy, E. G., Jackson, R. B.
2001; 53 (1): 51-77
- **Plant physiological ecology: linking the organism to scales above and below - Ecological Society of America Meeting Snowbird, UT, USA, August 2000** *NEW PHYTOLOGIST*
DeLucia, E. H., Coleman, J. S., Dawson, T. E., Jackson, R. B.
2001; 149 (1): 12-16
- **Water and tree-understory interactions: A natural experiment in a savanna with oak wilt** *ECOLOGY*
Anderson, L. J., Brumbaugh, M. S., Jackson, R. B.
2001; 82 (1): 33-49
- **Heterogenous soil-resource distribution and plant responses - from individual-plant growth to ecosystem functioning** *Progress in Botany*
Huber-Sannwald, E., Jackson, R. B.
2001; 62: 451-476
- **Reduction of isoprene emissions from live oak (*Quercus fusiformis*) with oak wilt** *TREE PHYSIOLOGY*
Anderson, L. J., Harley, P. C., Monson, R. K., Jackson, R. B.
2000; 20 (17): 1199-1203
- **Root water uptake and transport: using physiological processes in global predictions** *TRENDS IN PLANT SCIENCE*
Jackson, R. B., Sperry, J. S., Dawson, T. E.
2000; 5 (11): 482-488
- **A universal molecular method for identifying underground plant parts to species** *MOLECULAR ECOLOGY*
Linder, C. R., Moore, L. A., Jackson, R. B.
2000; 9 (10): 1549-1559
- **Global patterns of root turnover for terrestrial ecosystems** *NEW PHYTOLOGIST*
Gill, R. A., Jackson, R. B.
2000; 147 (1): 13-31
- **Root dynamics and global change: seeking an ecosystem perspective** *NEW PHYTOLOGIST*
Norby, R. J., Jackson, R. B.
2000; 147 (1): 3-12
- **Vegetation-climate feedbacks in the conversion of tropical savanna to grassland** *JOURNAL OF CLIMATE*
Hoffmann, W. A., Jackson, R. B.
2000; 13 (9): 1593-1602
- **Elevated CO₂ enhances resprouting of a tropical savanna tree** *OECOLOGIA*
Hoffmann, W. A., Bazzaz, F. A., Chatterton, N. J., Harrison, P. A., Jackson, R. B.
2000; 123 (3): 312-317

- **Global controls of forest line elevation in the northern and southern hemispheres** *GLOBAL ECOLOGY AND BIOGEOGRAPHY*
Jobbagy, E. G., Jackson, R. B.
2000; 9 (3): 253-268
- **The vertical distribution of soil organic carbon and its relation to climate and vegetation** *ECOLOGICAL APPLICATIONS*
Jobbagy, E. G., Jackson, R. B.
2000; 10 (2): 423-436
- **Belowground processes and global change** *ECOLOGICAL APPLICATIONS*
Jackson, R. B.
2000; 10 (2): 397-398
- **Belowground consequences of vegetation change and their treatment in models** *ECOLOGICAL APPLICATIONS*
Jackson, R. B., Schenk, H. J., Jobbagy, E. G., Canadell, J., Colello, G. D., Dickinson, R. E., Field, C. B., Friedlingstein, P., Heimann, M., Hibbard, K., Kicklighter, D. W., Kleidon, A., Neilson, et al
2000; 10 (2): 470-483
- **Biodiversity - Global biodiversity scenarios for the year 2100** *SCIENCE*
Sala, O. E., Chapin, F. S., Armesto, J. J., Berlow, E., Bloomfield, J., Dirzo, R., Huber-Sanwald, E., Huenneke, L. F., Jackson, R. B., Kinzig, A., Leemans, R., Lodge, D. M., Mooney, et al
2000; 287 (5459): 1770-1774
- **Carbon metabolism of the terrestrial biosphere: A multitechnique approach for improved understanding** *ECOSYSTEMS*
Canadell, J. G., Mooney, H. A., Baldocchi, D. D., Berry, J. A., Ehleringer, J. R., Field, C. B., Gower, S. T., Hollinger, D. Y., Hunt, J. E., Jackson, R. B., Running, S. W., Shaver, G. R., STEFFEN, et al
2000; 3 (2): 115-130
- **Methods in Ecosystem Science**
edited by Sala, O. E., Jackson, R. B., Mooney, H. A., Howarth, R. W.
Springer.2000
- **Nutrient concentrations in fine roots** *ECOLOGY*
Gordon, W. S., Jackson, R. B.
2000; 81 (1): 275-280
- **Ecosystem rooting depth determined with caves and DNA** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jackson, R. B., Moore, L. A., Hoffmann, W. A., Pockman, W. T., Linder, C. R.
1999; 96 (20): 11387-11392
- **Interactive effects of water stress and elevated CO₂ on growth, photosynthesis, and water use efficiency** *Carbon Dioxide and Environmental Stress*
Hsiao, T. C., Jackson, R. B.
Academic Press.1999: 3-31
- **Desertification control to sequester C and mitigate the greenhouse effect: a commentary** *Carbon sequestration in soils: science, monitoring, and beyond*
Jackson, R. B.
Batelle Press.1999: 143-146
- **The structure and function of root systems** *Handbook of Functional Plant Ecology*
Jackson, R. B., Pockman, W. T., Hoffmann, W. A.
Marcel Dekker.1999: 195-220
- **The importance of root distributions for hydrology, biogeochemistry, and ecosystem functioning** *Integrating hydrology, ecosystem dynamics, and biogeochemistry in complex landscapes*
Jackson, R. B.
John Wiley and Sons.1999: 219-240
- **Downward flux of water through roots (ie inverse hydraulic lift) in dry Kalahari sands** *OECOLOGIA*
Schulze, E. D., Caldwell, M. M., Canadell, J., Mooney, H. A., Jackson, R. B., Parson, D., Scholes, R., Sala, O. E., Trimbom, P.
1998; 115 (4): 460-462

- **Ecosystem water fluxes for two grasslands in elevated CO₂: a modeling analysis** *OECOLOGIA*
Jackson, R. B., Sala, O. E., Paruelo, J. M., Mooney, H. A.
1998; 113 (4): 537-546
- **The fate of carbon in grasslands under carbon dioxide enrichment** *NATURE*
Hungate, B. A., Holland, E. A., Jackson, R. B., Chapin, F. S., Mooney, H. A., Field, C. B.
1997; 388 (6642): 576-579
- **A global budget for fine root biomass, surface area, and nutrient contents** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jackson, R. B., Mooney, H. A., Schulze, E. D.
1997; 94 (14): 7362-7366
- **Photosynthetic electron transport in single guard cells as measured by scanning electrochemical microscopy** *PLANT PHYSIOLOGY*
Tsionsky, M., Cardon, Z. G., Bard, A. J., Jackson, R. B.
1997; 113 (3): 895-901
- **Plant competition underground** *ANNUAL REVIEW OF ECOLOGY AND SYSTEMATICS*
Casper, B. B., Jackson, R. B.
1997; 28: 545-570
- **Integrating resource heterogeneity and plant plasticity: Modelling nitrate and phosphate uptake in a patchy soil environment** *JOURNAL OF ECOLOGY*
Jackson, R. B., Caldwell, M. M.
1996; 84 (6): 891-903
- **Maximum rooting depth of vegetation types at the global scale** *OECOLOGIA*
Canadell, J., Jackson, R. B., Ehleringer, J. R., Mooney, H. A., Sala, O. E., Schulze, E. D.
1996; 108 (4): 583-595
- **A global analysis of root distributions for terrestrial biomes** *OECOLOGIA*
Jackson, R. B., Canadell, J., Ehleringer, J. R., Mooney, H. A., Sala, O. E., Schulze, E. D.
1996; 108 (3): 389-411
- **Rooting depth, water availability, and vegetation cover along an aridity gradient in Patagonia** *OECOLOGIA*
Schulze, E. D., Mooney, H. A., Sala, O. E., Jobbagy, E., Buchmann, N., Bauer, G., Canadell, J., Jackson, R. B., Loreti, J., Oesterheld, M., Ehleringer, J. R.
1996; 108 (3): 503-511
- **Elevated CO₂ increases belowground respiration in California grasslands** *OECOLOGIA*
Luo, Y. Q., Jackson, R. B., Field, C. B., Mooney, H. A.
1996; 108 (1): 130-137
- **Detecting changes in soil carbon in CO₂ enrichment experiments** *International GCTE Workshop on Plant-Soil Carbon Below Ground: The Effects of Elevated Carbon Dioxide*
Hungate, B. A., Jackson, R. B., Field, C. B., Chapin, F. S.
SPRINGER.1996: 135-45
- **Nitrate and ammonium uptake for single- and mixed-species communities grown at elevated CO₂** *OECOLOGIA*
Jackson, R. B., Reynolds, H. L.
1996; 105 (1): 74-80
- **STOMATAL RESPONSES TO INCREASED CO₂ - IMPLICATIONS FROM THE PLANT TO THE GLOBAL-SCALE** *PLANT CELL AND ENVIRONMENT*
Field, C. B., Jackson, R. B., Mooney, H. A.
1995; 18 (10): 1214-1225
- **Photosynthesis, growth and density for the dominant species in a CO₂-enriched grassland** *1st Global Change and Terrestrial Ecosystems Science Conference*
Jackson, R. B., Luo, Y., Cardon, Z. G., Sala, O. E., Field, C. B., Mooney, H. A.
WILEY-BLACKWELL PUBLISHING, INC.1995: 221-25
- **The soil system** *Global Biodiversity Assessment*

-
- Anderson, J. M., Cuevas, E., Chapin III, F. S., Hobbs, R. J., Pitelka, L. F., Jackson, R. B.
Cambridge University Press.1995: 406-412
- **CO₂ ALTERS WATER-USE, CARBON GAIN, AND YIELD FOR THE DOMINANT SPECIES IN A NATURAL GRASSLAND** *OECOLOGIA*
Jackson, R. B., Sala, O. E., Field, C. B., Mooney, H. A.
1994; 98 (3-4): 257-262
 - **Local regulation of mycorrhizal arbuscule frequency in enriched soil microsites** *Canadian Journal of Botany*
Duke, S. E., Jackson, R. B., Caldwell, M. M.
1994; 72: 998-1001
 - **GEOSTATISTICAL PATTERNS OF SOIL HETEROGENEITY AROUND INDIVIDUAL PERENNIAL PLANTS** *JOURNAL OF ECOLOGY*
Jackson, R. B., Caldwell, M. M.
1993; 81 (4): 683-692
 - **THE SCALE OF NUTRIENT HETEROGENEITY AROUND INDIVIDUAL PLANTS AND ITS QUANTIFICATION WITH GEOSTATISTICS** *ECOLOGY*
Jackson, R. B., Caldwell, M. M.
1993; 74 (2): 612-614
 - **SHADING AND THE CAPTURE OF LOCALIZED SOIL NUTRIENTS - NUTRIENT CONTENTS, CARBOHYDRATES, AND ROOT UPTAKE KINETICS OF A PERENNIAL TUSOCK GRASS** *OECOLOGIA*
Jackson, R. B., Caldwell, M. M.
1992; 91 (4): 457-462
 - **KINETIC RESPONSES OF PSEUDOROEGNERIA ROOTS TO LOCALIZED SOIL ENRICHMENT** *PLANT AND SOIL*
Jackson, R. B., Caldwell, M. M.
1991; 138 (2): 231-238
 - **Nonsteady-state photosynthesis following an increase in photon flux density (PFD): effects of magnitude and duration of initial photon flux density** *Plant Physiology*
Jackson, R. B., Woodrow, I. E., Mott, K. A.
1991; 95: 498-503
 - **EXPLOITATION OF PHOSPHATE FROM FERTILE SOIL MICROSITES BY 3 GREAT-BASIN PERENNIALS WHEN IN COMPETITION** *FUNCTIONAL ECOLOGY*
Caldwell, M. M., MANWARING, J. H., Jackson, R. B.
1991; 5 (6): 757-764
 - **RAPID PHYSIOLOGICAL ADJUSTMENT OF ROOTS TO LOCALIZED SOIL ENRICHMENT** *NATURE*
Jackson, R. B., MANWARING, J. H., Caldwell, M. M.
1990; 344 (6261): 58-60
 - **The timing and degree of root proliferation in fertile-soil microsites for three cold-desert perennials** *Oecologia*
Jackson, R. B., Caldwell, M. M.
1989; 81: 149-153