



## 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

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#### 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 many 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](http://globalcarbonproject.org)), which Jackson chairs; examples of new research Rob is leading include establishing a global network of methane tower measurements at more than 50 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*, *The Lyric*, and *Measure*. 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*.

#### 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](http://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, 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

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### PROJECTS

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

## Teaching

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### 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)

#### 2015-16

- Climate Change: An Earth Systems Perspective: ESS 305 (Aut)
- Control of Nature: EARTHSYS 107, ESS 107 (Spr)

## STANFORD ADVISEES

### Doctoral Dissertation Reader (AC)

Jingfan Wang

### Postdoctoral Faculty Sponsor

Grace Bulltail, Etienne Fluet Chouinard, Katerina Georgiou, Gavin McNicol, Adam Pellegrini

### Doctoral Dissertation Advisor (AC)

Devin McMahon

### Doctoral (Program)

Tristan Ballard, Devin McMahon, Shersingh Tumber-Davila

## Publications

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### PUBLICATIONS

- **Fire frequency drives decadal changes in soil carbon and nitrogen and ecosystem productivity** *Nature*  
Pellegrini, A. F., Ahlström, A. F., Hobbie, S. E., Reich, P. B., Nieradzik, L. P., Staver, A. C., Scharenbroch, B. C., Jumpponen, A., Anderegg, W. R., Randerson, J. T., Jackson, R. B.,  
2018; 553: 194–198
- **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
- **Hydrologic regulation of plant rooting depth** *Proceedings of the National Academy of Sciences USA*  
Fan, Y., Miguez-Macho, G., Jobbágy, E. G., Jackson, R. B., Otero-Casal, C.  
2017; 114: 10572-10577
- **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., Futuyama, D. J.  
2017; 48: 419–45
- **Global soil nitrous oxide emissions since the pre-industrial 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  
2018
- **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., Armeth, 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
- **Networking our science to characterize the state, vulnerabilities, and management opportunities of soil organic matter** *Global Change Biology*  
Harden, J. W., et al  
2018; 24: e705-e718
- **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  
2018; in press
- **Deep groundwater quality in the southwestern United States** *Environmental Research Letters*  
Kang, M., Ayers, J. E., Jackson, R. B.  
2018; in press
- **Aerial Interyear Comparison and Quantification of Methane Emissions Persistence in the Bakken Formation of North Dakota, USA** *Environmental Science and Technology*  
Englander, J. G., Brandt, A. R., Conley, S., Lyon, D. R., Jackson, R. B.  
2018; 52: 8947–8953
- **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
- **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
- **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
- **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
- **Hydrological 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: 387
- **Measuring canopy loss and climatic thresholds from an extreme drought along a 5-fold 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: 5120–5135
- **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
- **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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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.

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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
- **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): 7364-7377
- **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
- **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): 14076-14081
- **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*  
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