

BIOGRAPHY: ROBERT B. JACKSON

February 2023

ADDRESS

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EDUCATION

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| B.S. Chemical Engineering | Rice University, 1983 |
| M.S. Ecology and Environment | Utah State University, 1990 |
| M.S. Statistics | Utah State University, 1992 |
| Ph.D. Ecology and Environment | Utah State University, 1992 |

PROFESSIONAL & TEACHING EXPERIENCE

Environmental Justice Coordinating Council and Working Group, Stanford (2020-present)
Chair, Department of Earth System Science, Stanford University (2016-2019)
Douglas Provostial Professor, School of Earth Sciences, Stanford University (2014-present)
Senior Fellow, Woods Institute for the Environment, Stanford University (2014-present)
Senior Fellow, Precourt Institute for Energy, Stanford University (2014-present)
Senior Associate Dean for Research, Nicholas School of the Environment (2010-2012)
Nicholas Chair of Global Environmental Change, Nicholas School of the Environment, Duke University (2007-2013)
Director, National Institute for Climate Change Research, DOE, southeast region (2005-present)
Co-Founder and Co-Director, Climate Change Policy Partnership (2005-2011)
Director, Duke Center on Global Change (2004-2013)
Professor, Department of Biology and Nicholas School of the Environment & Earth Sciences, Duke University (2003-2013)
Associate Professor, Department of Biology and Nicholas School of the Environment & Earth Sciences, Duke University (2001-2002)
Director, Duke University Program in Ecology (2002-2006)
Director, Duke University Laboratory for Isotope Ratio Mass Spectrometry, (2000-2013)
Assistant Professor, Department of Biology and Nicholas School of the Environment, Duke University (1999-2000)
Assistant Professor, Department of Biology, UT Austin (1995-1998)
Department of Energy Distinguished Postdoctoral Fellow for Global Change, Stanford University (1993-1994)
Graduate Research Assistant, Utah State University (1988-1992)
Dow Chemical Co. (1983-1987)

GRANTS, FELLOWSHIPS, & AWARDS

Selected Awards, Offices, and Recent Extracurricular Service

Fellow, American Academy of Arts and Sciences (2022)
International Recognition Award, Mexican Carbon Program (PMC) (2021)
Fellow, Center for Advanced Studies in the Behavioral Sciences (2019)
Fellow, John Simon Guggenheim Memorial Foundation (2018)
Global Carbon Project, Chair (co-Chair 2014-2016; Chair 2017-present)
Fellow, American Association for the Advancement of Science (2017)
Chair, Publications Committee, Ecological Society of America (2017-2020)
CA Council on Science and Technology, Steering Committee, Natural Gas Storage Report (2017)
American Geophysical Union, Rights and Responsibilities Position Statement (2016-2017)
Fellow, Ecological Society of America (2012)
Global Carbon Project, Scientific Steering Committee (2012-present)
U.S. Carbon Cycle Science Plan, co-chair (2009-2012)
Fellow, American Geophysical Union (2008-present)
Vice President for Science, Ecological Society of America (2007-2011)
President, Biogeosciences Section, American Geophysical Union (2004-2006)
ISI Highly Cited (ISIHighlyCited.com, 2004-present)
President, Physiological Ecology Section, Ecological Society of America (2000-2002)
Presidential Early Career Award in Science and Engineering, National Science Foundation (1999)
Global Change and Terrestrial Ecosystems, Task 1.3.1 Leader (International Geosphere Biosphere Programme; 1996-present)
Biospheric Aspects of the Hydrological Cycle, Activity 2.4 leader (IGBP; 1999-present)
Murray F. Buell Award for Excellence in Ecology (Ecological Society of America, 1990)

Selected Recent Grants and Gifts (>\$100,000)

Moore Foundation: Tropical Fluxnet-CH₄ (\$2,500,000, RB Jackson and ten co-PIs; 10/22-9/25)
High Tide Foundation: METER: Methane Emissions Tracking Reference (\$1,040,000, RB Jackson and three co-PIs; 7/21-6/23)
United Nations Environment Programme: Improving estimates of industrial emissions in the global methane cycle (\$815,000, RB Jackson and four co-PIs; 3/21-2/23)
Ecosystem Services Market Consortium LLC: Neural Network for gap-filling and estimating N₂O emissions (\$150,000; C Dorich, R Conant, RB Jackson; 11/20-11/21)
Stanford University: Initiative for Environmental Equity and Sustainability (\$125,000; RB Jackson and four co-PIs; 9/20-8/22)
CA Energy Commission, SUMMATION: SUper eMitters of Methane Detection Using Aircraft, Towers, and Intensive Observational Network (\$6,000,000, S Biraud and seven co-PIs, 10/19-9/22)
Woods Institute for the Environment, Stanford University, Methane removal and atmospheric restoration (\$185,000, RB Jackson and E Solomon, 10/19-9/21).
USGS, John Wesley Powell Center, Wetland fluxnet synthesis for methane: understanding and predicting methane fluxes at daily to interannual timescales (\$175,000, RB Jackson, S Knox, L Windham-Myers, B Poulter)
Moore Foundation, Advancing understanding of the global methane cycle (\$2,500,000, RB Jackson and five co-PIs; 10/16-9/21)
CA Energy Commission, Quantification of methane from California's plugged & abandoned oil

and gas wells: effects of land subsidence and other factors (\$650,000, M Fischer and four co-PIs, 7/17-6/19)
Woods Institute for the Environment, Stanford University, Developing and deploying a real-time benzene laser in the field (\$200,000, RB Jackson, R Sur, and R Hanson, 10/16-9/18).
NSF, SusChEM: Geochemical Characterization and Evaluation of the Environmental Impacts of Hydraulic Fracturing Fluids (\$258,000, A Vengosh, RB Jackson, T Darrah, 9/14-8/18)
Precourt Institute for Energy, Stanford University, Simultaneous atmospheric C₁-C₃ detection with a compact mid infrared laser sensor (\$192,000, R Hanson, RB Jackson, 10/15-9/18)
NASA, Quantifying drought-induced tree mortality at multiple scales across Texas: regional carbon cycling, biophysics, and regime shifts (\$270,000, RB Jackson; 9/13-8/17)
USDA, Drought-induced mortality of trees: ecosystem changes under climate change (\$750,000, RB Jackson, D Johnson, J-C Domec, J Swenson, HW Polley; 9/12-8/17)
Precourt Institute for Energy, Stanford University, Imaging-based approaches to detecting and quantifying natural gas leaks (\$185,000, RB Jackson and A Brandt, 10/14-9/16)

SELECTED PROFESSIONAL ACTIVITIES

Editorial, Governing, and Advisory Boards

Spark Climate Solutions, Board of Advisors (2023-present)
Center for Advanced Study in the Behavioral Sciences, Board of Directors (2022-present)
Carbon Mapper, Policy Advisory Board (2022-present)
Methane Action, Advisory Board (2021-present)
Environmental Research Letters, Executive Board (2018-present)
CREAF, External Advisory Board (2016-present), Barcelona, Spain
School of Global Environmental Sustainability, CSU, Advisory Board (2014-present, Chair)
Annual Review of Ecology, Evolution, and Systematics (2009-2013)
Issues in Ecology, Editorial Board (2007-2013)
Springer-Verlag Ecological Studies, Book Series (2003-present)
Faculty of 1000 Biology (2005-2006)
Ecology and Ecological Monographs, Special Features Editor (2001-2006)
Functional Ecology (2000-2005)
National Science Foundation, Biogeosciences Working Group (2002- 2005)
Oecologia (2000-2004)
Organization for Tropical Studies, Assembly of Delegates (2000-2004)

Professional society memberships

AAAS, American Chemical Society, American Geophysical Union, Ecological Society of America, Geological Society of America

Recent Invited panels, seminars, and workshops (>400 in total)

2023 UCLA Extension Speaker Series
2022 Sámi Council
2022 Carnegie Institution of Washington, Department of Global Ecology
2022 Environmental Defense Fund
2022 Climate Action Network

2022 Cambridge University, Center for Climate Repair
2022 SEEC (House Sustainable Energy and Environment Coalition)
2022 Global Methane Hub
2022 EDF Science Day
2022 NCAR, CESM Annual Meeting Plenary, Boulder, CO
2022 Urban Methane Emissions, EDF, Washington, DC
2022 OGCI, McKinsey, Methane Removal
2022 City of Lost Altos Hills, Climate and Emergency Preparedness
2022 City of Atherton, Earth Day
2022 Climate Change Task Force, Earth Day
2022 Los Angeles City Health Commission
2022 Joint Institute for Strategic Energy Analysis (JISEA)
2022 MIT, Global Methane Meeting
2022 Climate Action Network
2022 Climate Leadership Coalition, Helsinki, Finland
2022 MIT, Department of Civil and Environmental Engineering, Climate Snacks
2021 City University of New York (CUNY)
2021 American Geophysical Union, three sessions organized
2021 Cold Spring Harbor Laboratory
2021 Mexican Carbon Program
2021 Royal Society UK
2021 Cambridge Center for Climate Repair
2021 New Scientist Symposium
2021 Joint Mathematics Symposium
2021 Bayer
2020 Gates Foundation, Forestry briefing to Bill Gates, Seattle, WA
2020 Salk Institute, Plant Carbon Drawdown 2020, La Jolla, CA
2020 Edison Electric Institute, The Role of Forestry in Addressing Climate
2020 Coronavirus and the Environment, Foundation for Science and Technology, London, UK
2020 Natural Pathways for Carbon Sequestration, California Council on Science and Technology
2020 G20 Workshop on the Implications of COVID-19 on Sustainable Economic Recovery
2020 Global Carbon Project, Scientific Steering Committee
2020 World Farmers' Organization (WFO), Advisory Council
2020 Plenary Lecture, Ecological Society of America
2020 Citizens Climate Lobby
2020 School of Natural and Environmental Sciences, Newcastle University
2020 Stanford Carbon Management Symposium
2020 University of British Columbia, Geography Colloquium
2020 Harvey Mudd College
2020 Instituto Potosino de Investigación Científica y Tecnológica, A.C. (IPICYT), Mexico
2019 Carbon Cycle Assessments, Simon Fraser University, Vancouver, Canada
2019 Oil Field Injection, Cal State University Bakersfield, Bakersfield, CA
2019 Emissions Briefing, National Press Club, Washington, DC
2019 Land Cover Mapping, Google, Mountain View, CA
2019 Palo Alto Garden Club, Palo Alto, CA
2019 Regional Carbon Cycle Assessments 2 (RECCAP2), Gotemba, Japan

2019 Green New Deal, Stanford, CA
2019 John Wesley Powell Center, U.S. Geological Survey, Ft. Collins, CO
2019 Distinguished Scientist Seminar, Lawrence Berkeley National Lab, Berkeley, CA
2019 SB100 Workshop, San Francisco, CA
2019 Sustainability Science 2.0, George Mason University, Arlington, VA
2019 Global Carbon Project, Scientific Steering Committee, University of Minnesota
2019 Sustainable Healthy Cities, University of Minnesota, Minneapolis, MN
2019 World Meteorological Organization, Global Climate Summit, New York, NY
2019 Climate Briefing, Hungarian President János Áder, New York, NY
2019 Ecology Center, Utah State University, Logan, UT
2019 Council for the Advancement of Science Writing, Penn State University, State College, PA

Peer-reviewed publications (Citations: [Google Scholar](https://scholar.google.com/citations?user=G3NBUzwAAAAJ&hl=en&oi=ao) >125,000, h>155:

<https://scholar.google.com/citations?user=G3NBUzwAAAAJ&hl=en&oi=ao>)

2023

Fluet-Chouinard D, BD Stocker, Z Zhang, A Malhotra, JR Melton, B Poulter, JO Kaplan, K Klein Goldewijk, S Siebert, T Minayeva, G Hugelius, H Joosten, A Barthelmes, C Prigent, F Aires, AM Hoyt, N Davidson, CM Finlayson, B Lehner, RB Jackson, PB McIntyre 2023 Extensive global wetland loss over the last three centuries. *Nature* 614:281-286; <https://www.nature.com/articles/s41586-022-05572-6>.

Ouyang Z, RB Jackson, G McNicol, et al. 2023 Paddy rice methane emissions across Monsoon Asia. *Remote Sensing of Environment*, 284:113335. <https://doi.org/10.1016/j.rse.2022.113335>

Stocker BD, SJ Tumber-Dávila, AG Konings, MC Anderson, C Hain, RB Jackson 2023 Global patterns of water storage in the rooting zones of vegetation. *Nature Geoscience*; <https://www.nature.com/articles/s41561-023-01125-2>.

Ueyama, M, SH Knox, KB Delwiche, S Bansal, WJ Riley, D Baldocchi, T Hirano, G McNicol, K Schafer, L Windham-Myers, B Poulter, RB Jackson, K-Y Chang, J Chen, H Chu, AR Desai, S Gogo, H Iwata, M Kang, M. ... Sachs, T. (2023). Modeled production, oxidation, and transport processes of wetland methane emissions in temperate, boreal, and Arctic regions. *Global Change Biology* 00, 1–22. <https://doi.org/10.1111/gcb.16594>

Zhao, Y, M Saunio, P Bousquet, X Lin, MI Hegglin, JG Canadell, RB Jackson, B Zheng 2023 Reconciling the bottom-up and top-down estimates of the methane chemical sink using multiple observations. *Atmospheric Chemistry and Physics* 23:789-807.

2022

Hong C, H Zhao, Y Qin, Q Zhang, JA Burney, J Pongratz, K Hartung, Yu Liu, F. Moore, RB Jackson, SJ Davis 2022 Land-use emissions embodied in international trade. *Science* 376:597-603; <https://doi.org/10.1126/science.abj1572>.

Luers A, L Yona, CB Field, RB Jackson, KJ Mach, BW Cashore, C Elliott, L Gifford, C Honigsberg, L Klaassen, HD Matthews, A Peng, C Stoll, M Van Pelt, RA Virginia, L Joppa 2022 Make greenhouse-gas accounting reliable—build interoperable systems. *Nature*; doi: <https://doi.org/10.1038/d41586-022-02033-y>

- Jackson RB, P Friedlingstein, C Le Quéré, S Abernethy, RM Andrew, JG Canadell, P Ciais, SJ Davis, Z Deng, Z Liu, JI Korsbakken, GP Peters 2022 Global fossil carbon emissions rebound near pre-COVID-19 levels. *Environmental Research Letters* 17:031001.
- Jackson RB, A Ahlström, G Hugelius, C Wang, A Porporato, A Ramaswami, J Roy, J Yin 2022 Human well-being and per capita energy use. *Ecosphere* ecs2.3978.
- Pan, Y, RB Jackson, DY Hollinger, OL Phillips, RS Nowak, RJ Norby, R Oren, PB Reich, A Lüscher, KE Mueller, C Owensby, R Birdsey, J Hom, Y Luo 2022 Contrasting responses of woody and grassland ecosystems to increased CO₂ as water supply varies. *Nature Ecology & Evolution* 6:315-323; <https://doi.org/10.1038/s41559-021-01642-6>.
- Matthews HD, KB Tokarska, ZRJ Nicholls, J Rogelj, JG Canadell, P Friedlingstein, TL Frölicher, PM Forster, NP Gillett, T Ilyina, RB Jackson, CD Jones, C Koven, R Knutti, AH MacDougall, M Meinshausen, N Mengis, R Séférian, K Zickfeld 2022 *Nature Climate Change* 13:769-779
- Lebel ED, C Finnegan, Z Ouyang, RB Jackson 2022 Methane and NO_x emissions from natural gas stoves, cooktops and ovens in residential homes. *Environmental Science and Technology* 56: 2529–2539.
- Tumber-Dávila, SJ, HJ Schenk, E Du, RB Jackson 2022 Plant sizes and shapes above- and belowground and their interactions with climate *New Phytologist* 235:1032-1056; <https://doi.org/10.1111/nph.18031>.
- Diaz S et al. 2022 The global spectrum of plant form and function: enhanced species-level trait dataset. *Scientific Data* 9:7551; <https://www.nature.com/articles/s41597-022-01774-9>
- Pellitier PT, RB Jackson 2022 Microbes modify soil nutrient availability and mediate plant responses to elevated CO₂. *Plant Soil*, in press.
- Georgiou K, RB Jackson, O Vindušková, RZ Abramoff, A Ahlström, W Feng, JW Harden, AFA Pellegrini, HW Polley, JL Soong, WJ Riley, MS Torn 2022 Global stocks and capacity of mineral-associated soil organic carbon. *Nature Communications* 13:3797; <https://www.nature.com/articles/s41467-022-31540-9>.
- Friedlingstein P et al. 2022 Global Carbon Budget 2022. *Earth System Science Data* 14:4811–4900.
- Friedlingstein P et al. 2022 Global Carbon Budget 2021. *Earth System Science Data* 14:1917–2005.
- Ciais P et al. 2022 Definitions and methods to estimate regional land carbon fluxes for the second phase of the REgional Carbon Cycle Assessment and Processes Project (RECCAP-2) 2022 Definitions and methods to estimate regional land carbon fluxes for the second phase of the REgional Carbon Cycle Assessment and Processes Project (RECCAP-2). *Geoscientific Model Development* 15:1289–1316.
- Abernethy S, RB Jackson 2022 Global temperature goals should determine the time horizons for greenhouse gas emission metrics. *Environmental Research Letters* 17:024019.
- Zhang L, H Tian, H Shi, S Pan, J Chang, SRS Dangal, S Qin, S Wang, FN Tubiello, JG Canadell, RB Jackson 2022 A 130-year global inventory of methane emissions from livestock: trends, patterns, and drivers. *Global Change Biology*, <https://doi.org/10.1111/gcb.16280>.
- Yuan K et al. 2022 Causality guided machine learning model on wetland CH₄ emissions across global wetlands. *Agricultural and Forest Meteorology* 324:109115.
- Liu Z, Z Deng, B Zhu, P Ciais, SJ Davis, J Tan, R Andrew, O Boucher, S Ben Arous, J Canadell, X Dou, P Friedlingstein, P Gentile, R Guo, C Hong, RB Jackson, DM Kammen, P Ke, C Le Quéré, C Monica, G Janssens-Maenhout, G Peters, K Tanaka, Y Wang, B Zheng, H

Zhong, T Sun, HJ Schellnhuber 2022 Global patterns of daily CO₂ emissions reductions in the first year of COVID-19. *Nature Geoscience*, 1,615–620; <https://www.nature.com/articles/s41561-022-00965-8>.

2021

- Jackson RB, S Abernethy, JG Canadell, M Cargnello, SJ Davis, S Féron, S Fuss, AJ Heyer, C Hong, CD Jones, HD Matthews, FM O'Connor, M Pisciotta, HM Rhoda, R de Richter, EI Solomon, JL Wilcox, K Zickfeld 2021 Atmospheric methane removal: A research agenda. *Philosophical Transactions of the Royal Society A* 379: 20200454.
- Terrer C, RP Phillips, BA Hungate, J Rosende, J Pett-Ridge, M Craig, KJ van Groenigen, TF Keenan, BN Sulman, BD Stocker, PB Reich, AFA Pellegrini, E Pendall, H Zhang, RD Evans, Y Carrillo, JB Fisher, K Van Sundert, S Vicca, RB Jackson 2021 A global tradeoff between plant and soil carbon storage under elevated CO₂. *Nature* 591:599–603.
- Hong C, JA Burney, J Pongratz, JEMS Nabel, ND Mueller, RB Jackson, SJ Davis 2021 Global and regional drivers of land-use emissions in 1961-2017. *Nature* 589:554-561.
- Pellegrini, AFA, J Harden, K Georgiou, KS Hemes, A Malhotra, CJ Nolan, RB Jackson 2021 Fire effects on the persistence of soil organic matter and the implications for long-term carbon storage. *Nature Geoscience*, 15:5–13.
- Stavert AR et al. 2021 Regional trends and drivers of the global methane budget. *Global Change Biology* 28:182-200.
- Tian et al., 2021 Magnitude and uncertainty of nitrous oxide emissions from North America based on bottom-up and top-down approaches: Informing future research and national inventories. *Geophysical Research Letters*, in press.
- Canadell, JG, RB Jackson, eds. 2021 Ecosystem Collapse and Climate Change. *Springer Ecological Studies*, Book Volume 241.
- Rajagopalan S, RB Jackson, J Narula 2021 COVID-19 and emissions: an opportunity for sustainable global health. *European Heart Journal* ehab156.
- Féron, S, RR Cordero, A Damiani, RB Jackson 2021 Climate change will affect photovoltaic (PV) power outputs through compound extremes. *Nature Sustainability* 4:270–276.
- Pellegrini, AFA, T Refsland, C Averill, C Terrer, AC Staver, DG Brockway, A Caprio, W Clatterbuck, C Coetsee, JD Haywood, SE Hobbie, WA Hoffmann, J Kush, T Lewis, WK Moser, ST Overby, WA Patterson III, KG Peay, PB Reich, C Ryan, MAS Sayer, BC Scharenbroch, T Schoennagel, G Reuben Smith, K Stephan, C Swanston, MG Turner, JM Varner, RB Jackson 2021 Decadal changes in fire frequencies shift tree communities and functional traits. *Nature Ecology and Evolution* 5:504–512.
- Le Quéré C, GP Peters, P Friedlingstein, RM Andrew, JG Canadell, SJ Davis, RB Jackson, MW Jones 2021 Fossil CO₂ emissions in the post-COVID era. *Nature Climate Change* 11:197–199.
- Villarino SH, P Pinto, RB Jackson, G Piñeiro 2021 Plant rhizodeposition: a key factor for soil organic matter formation in stable fractions. *Science Advances* 7:eabd3176.
- Bell, S. M., Terrer, C., Barriocanal, C., Jackson, R. B. & Rosell-Melé, A. 2021 Soil organic carbon accumulation rates on Mediterranean abandoned agricultural lands. *Sci. Total Environ.* 759, 143535.
- Pellegrini AFA, AC Caprio, K Gerogiou, C Finnegan, SE Hobbie, JA Hatten, RB Jackson 2021 Low-intensity frequent fires in coniferous forests transform soil organic matter in ways that may offset ecosystem carbon losses. *Global Change Biology* 27:3810-3823.

- Abernethy S, F.M. O'Connor, CD Jones, RB Jackson 2021 Methane removal and the proportional reductions in surface temperature and ozone. *Philosophical Transactions of the Royal Society A* 379: 20210104.
- Cui, X., Zhou, F., Ciais, P., Davidson, E. A., Tubiello, F. N., Niu, X., Ju, X., Canadell, J. G., Bouwman, A. F., Jackson, R. B., Mueller, N. D., Zheng, X., Kanter, D. R., Tian, H., Adalibieke, W., Bo, Y., Wang, Q., Zhan, X., Zhu, D. 2021 Global mapping of crop-specific emission factors highlights hotspots of nitrous oxide mitigation. *Nature Food*, in press. <https://www.nature.com/articles/s43016-021-00384-9>
- Zhang X, T Zou, L Lassaletta, ND Mueller, FN Tubiello, MD Lisk, C Lu, RT Conant, CD Dorich, J Gerber, H Tian, T Bruulsema, T McClellan Maaz, K Nishina, B Leon Bodirsky, A Popp, L Bouwman, A Beusen, J Chang, P Havlík, D Leclère, JG Canadell, RB Jackson, P Heffer, N Wanner, W Zhang, EA Davidson 2021 Quantification of global and national nitrogen budgets for crop production. *Nature Food* 2:529–540.
- Kang M, AR Brandt, Z Zheng, J Boutot, C Yung, AS Peltz, RB Jackson 2021 Orphaned oil and gas well stimulus-maximizing economic and environmental benefits. *Elementa* 9: 00161.
- Laughlin D et al. 2021 Root traits explain plant species distributions along climatic gradients yet challenge the nature of ecological trade-offs. *Nature Ecology and Evolution* 5:1123-1134.
- Knox SH et al. 2021 Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. *Global Change Biology* 27:3582-3604.
- Delwiche KB et al. 2021 FLUXNET-CH4: a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. *Earth System Science Data*, 13:3607-3689.
- Chang K-Y et al. 2021 Substantial hysteresis in emergent temperature sensitivity of global wetland CH4 emissions. *Nature Communications* 12: 2266.
- Ramaswami A, K Tong, JG Canadell, RB Jackson, E Stokes, S Dhakal, M Finch, P Jittrapirom, N Singh, Y Yamagata, E Yewdall, L Yona, KC Seto 2021 Carbon analytics for net-zero emissions sustainable cities. *Nature Sustainability* 4:460-463.
- Georgiou K, A Malhotra, WR Wieder, JH Ennis, MD Hartman, BN Sulman, A Asefaw Berhe, AS Grandy, E Kyker-Snowman, K Lajtha, JAM Moore, D Pierson, RB Jackson 2021 Divergent controls of soil organic carbon between observations and process-based models. *Biogeochemistry* 156:5–17.
- Whyte CJ, A Vengosh, NR Warner, RB Jackson, K Muehlenbachs, FW Schwartz, TH Darrah 2021 Geochemical evidence for fugitive gas contamination and associated water quality changes in drinking-water wells from Parker County, Texas. *Science of the Total Environment* 780:146555.
- Wang C, Huertas DS, Rowe JW, Finkelstein R, Carstensen LL, Jackson RB 2021 Rethinking the urban physical environment for century-long lives: from age-friendly to longevity-ready cities. *Nature Aging*, 1: 1088–1095.
- Irvin, J., Zhou, S., McNicol, G., Lu, F., Liu, V., Fluet-Chouinard, E., Ouyang, Z., Knox, S., Lucas-Moffat, A., Trotta, C., Papale, D., Vitale, D., Mammarella, I., Alekseychik, P., Aurela, M., Avati, A., Baldocchi, D., Bansal, S., Bohrer, G., Campbell, D., Chen, J., Chu, H., Dalmagro, H. J., Delwiche, K. B., Desai, A. R., Euskirchen, E., Feron, S., Goeckede, M., Heimann, M., Helbig, M., Helfter, C., Hemes, K. S., Hirano, T., Iwata, H., Jurasinski, G., Kalhori, A., Kondrich, A., Lai, D. F., Lohila, A., Malhotra, A., Merbold, L., Mitra, B., Ng, A., Nilsson, M. B., Noormets, A., Peichl, M., Rey-Sanchez, A., Richardson, A. D., Runkle,

B. K., Schafer, K. R., Sonnentag, O., Stuart-Haentjens, E., Sturtevant, C., Ueyama, M., Valach, A. C., Vargas, R., Vourlitis, G. L., Ward, E. J., Wong, G., Zona, D., Alberto, M. R., Billesbach, D. P., Celis, G., Dolman, H., Friborg, T., Fuchs, K., Gogo, S., Gondwe, M. J., Goodrich, J. P., Gottschalk, P., Hortnagl, L., Jacotot, A., Koebisch, F., Kasak, K., Maier, R., Morin, T. H., Nemitz, E., Oechel, W. C., Oikawa, P. Y., Ono, K., Sachs, T., Sakabe, A., Schuur, E. A., Shortt, R., Sullivan, R. C., Szutu, D. J., Tuittila, E., Varlagin, A., Verfaillie, J. G., Wille, C., Windham-Myers, L., Poulter, B., Jackson, R. B. 2021 Gap-filling eddy covariance methane fluxes: Comparison of machine learning model predictions and uncertainties at FLUXNET-CH4 wetlands. ***Agricultural and Forest Meteorology*** 308: 108528.

Zhang Z et al. 2021 Anthropogenic emissions are the main contribution to the rise of atmospheric methane (1993-2017). ***National Science Review*** nwab200

2020

Jackson RB, M Saunio, P Bousquet, JG Canadell, B Poulter, AR Stavert, P Bergamaschi, Y Niwa, A Segers, A Tsuruta 2020 Increasing anthropogenic methane emissions arise equally from agricultural and fossil fuel sources. ***Environmental Research Letters*** 15: 071002.

McDowell NG, CD Allen, K Anderson-Teixeira, BH Aukema, B Bond-Lamberty, L Chini, JS Clark, M Dietze, C Grossiord, A Hanbury-Brown, GC Hurtt, RB Jackson, DJ Johnson, L Kueppers, JW Lichstein, K Ogle, B Poulter, TAM Pugh, R Seidl, MG Turner, M Uriarte, AP Walker, C Xu 2020 Pervasive shifts in forest dynamics in a changing world. ***Science*** 368:eaaaz9463.

Anderegg WRL, AT Trugman, G Badgley, CM Anderson, A Bartuska, P Ciais, D Cullenward, CB Field, J Freeman, SJ Goetz, JA Hicke, D Huntzinger, RB Jackson, J Nickerson, S Pacala, JT Randerson 2020 Forests as natural climate solutions: Integrating risks from a changing climate. ***Science*** 368: eaaaz7005.

Tian H, R Xu, JG Canadell, RL Thompson, W Winiwarter, P Suntharalingam, EA Davidson, P Ciais, RB Jackson, G Janssens-Maenhout et al. 2020 A comprehensive quantification of global nitrous oxide sources and sinks. ***Nature*** 586:248-256.

Du E, C Terrer, A Pellegrini, A Ahlstrom, CJ van Lissa, X Zhao, N Xia, X Wu, RB Jackson 2020 Global patterns of terrestrial nitrogen and phosphorus limitation. ***Nature Geoscience*** 13:221-226.

Peters GP, RM Andrew, JG Canadell, P Friedlingstein, RB Jackson, JI Korsbakken, C Le Quéré, A Peregon 2020 Carbon dioxide emissions continue to grow amidst slowly emerging climate policies. ***Nature Climate Change*** 10:3-6.

Kattge J et al. 2020 TRY plant trait database - enhanced coverage and open access. ***Global Change Biology*** 26:119-188.

Yona L, B Cashore, RB Jackson, J Ometto, MA Bradford 2020 Refining national greenhouse gas inventories. ***Ambio*** 49:1581-1586.

Lebel ED, H Lu, S Speizer, C Finnegan, RB Jackson 2020 Quantifying methane emissions from natural gas water heaters. ***Environmental Science and Technology*** 54:5737-5745.

Pellegrini AFA, SE Hobbie, PB Reich, A Jumpponen, ENJ Brookshire, AC Caprio, C Coetsee, RB Jackson 2020 Repeated fire shifts carbon and nitrogen cycling by changing plant inputs and soil decomposition across ecosystems. ***Ecological Monographs*** e01409.

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Taxes, 2013, Public radio's *Marketplace*
 For John Graves, Spring 2014, Southwest Review
 Maestro, Winter 2014, Avocet
 After Fifty Years Together, Fall 2015, Boston Literary Magazine
 Acnestis, Spring 2016, Light
 The Wishbone, Spring 2016, The Lyric
 Roaming, Spring 2016, Exposition Review
 Reasons to Smile, Summer 2016, Avocet
 Sunflowers, Summer 2016, Avocet
 White Noise, Spring 2017, Cold Mountain Review
 You Outweigh Me, 2017, Measure
 Reaching for the Phone, November 2017, Cortland Review
 On the Cusp of Berries, November 2017, Cortland Review
 Aphantasia, Spring/Summer 2018, Atlanta Review
 The Long Song, Spring/Summer 2018, Atlanta Review
 A Troubling, Spring 2018, THEMA
 Frog Calls, May 2018, Stanford Magazine
 For Bashō and Issa, Spring 2018, Understory

Climate Violence, 12/4/18, LitHub
Ghost Sounds, 2019, America
Chasing Owls, 2019, The Lyric
Red Tide, Fall/Winter 2019/2020, Valparaiso Poetry Review
Assisted Migration, 2020, Portland Review
The Sun's Migration, 2020, Kestrel
Dive Buddy, 2020, Magma
Spring Pruning, 2020, The New Farmer's Almanac
Words, 2020, The New Farmer's Almanac
Platypus, 2020, BioScience
Rebuilding, 2020, BioScience
Chickens, 2020, Split Rock Review
Climate Stasis, 2021, Light
Felt, 2021, Permafrost
I Want Nothing, 2022, Avocet
Migration, 2022, Dawn Songs
It's Complicated, 2022, Dawn Songs

Children's Books

Jackson, RB 2006 Animal Mischief, Boyds Mills Press (the trade arm of Highlights magazine for children).
Jackson, RB 2010 Weekend Mischief, Boyds Mills Press.

Edited Books and Special Features

Canadell, J, RB Jackson 2021 Ecosystem Collapse. Springer, NY.
Plata, D, RB Jackson, A Vengosh, P Mouser 2019 The environmental geochemistry and biology of hydraulic fracturing. Environmental Science Processes and Impacts 21:193-194.
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Current and Former Postdoctoral Advisees

A Ahlström, LJ Anderson, C Armas, T Bleby, M Brito Caldeira, G Bulltail, S Cooley, T Darrah, K Delwiche, C Ellis, R Emanuel, V Engel, K Farley, S Féron, N Fierer, E Fluet-Chouinard, M Gallagher, A Garg, K Georgiou, RA Gill, M Henn, WA Hoffmann, G Hugelius, D Hui, D Jayawickreme, DM Johnson, EG Jobbágy, M Kang, A Kelley, S Knox, MG Little, H Maherali, A Malhotra, RL McCulley, AJ McElrone, G McNicol, M Nosetto, M Nuno Bugalho, S Osborn, S Palmer, A Pellegrini, P Pellitier, G Piñeiro, WT Pockman, CD Reid, HJ Schenk, M Sherrard, J Strauss, C Terror, K van Sundert, L Vielstädte, O Vindušková, C Wang, D Way, Z Yang, X Yu, A Zanne, K Zhao

Current and Former Graduate Students

A Appling, S Abernethy, A Balogun, S Berthrong, MS Brumbaugh, S Castañeda, A Down, E Lebel, WS Gordon, KS Hofmockel, EG Jobbágy, Y Kashtan, M Kessler, J Kim, J Loreti, R Marinos, D McMahon, C Moura, L Neftaliem, V Palacios, F Perret, A Procter, R Randall, P Roberge, A Schwantes, C Scott-Buechler, E Thorsos, S Tumber-Davila, C Willson, L Yona