BIOGRAPHY: ROBERT B. JACKSON May 2026

ADDRESS

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EDUCATION

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)
CSU School of Global Environmental Sustainability, Board of Advisors (chair, 2020-2025)
Chair, Department of Earth System Science, Stanford University (2016-2019)
Douglas Provostial Professor of Energy and Environment, 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 Inst. for Climate Change Research, DOE, southeast region (2005-2010)
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)
Dow Chemical Co. (1983-1987)

GRANTS, FELLOWSHIPS, & AWARDS

Selected Awards, Offices, and Recent Extracurricular Service

U.S. National Academy of Sciences (2026)
Distinguished Honorary Professorship, Tsinghua University (2026)
Blue Planet Prize (2025), Laureate
Board of Trustees, Djerassi Resident Artists Program (2025-present)
Artist in Residence, North Coast Project (2025)
Fellow, Djerassi Resident Artists' Program (2024)
National Academy of Sciences, Engineering, and Medicine, Methane Removal (2023-2024)
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)

Aspen Global Change Institute, Methane Alert: What measurement framework is needed to monitor increasing natural methane emissions? ($250,000, Cadillo-Quiroz H, RB Jackson, D Potocek, S Natali, E Jack Scott, October 2025 workshop)
USGS, John Wesley Powell Center, Scaling tropical wetland methane fluxes regionally and globally ($100,000, RB Jackson, S Knox, L Windham-Myers, A Hoyt)
Woods Institute for the Environment, Stanford University, Management Practices to Minimize Nitrogen Losses in Crop Production ($240,000, RB Jackson, S Fendorf, et al., 9/24-8/26)
Tides Foundation: Healthy Buildings Study ($704,000, RB Jackson et al., 6/24-5/25)
Moore Foundation: Tropical FLUXNET-CH_4 ($2,750,000, RB Jackson and 10 co-PIs; 10/22-9/26)
Carbon Mapper Inc.: Global Landfill Mapping using Deep Learning on Satellite Imagery

($165,000, RB Jackson; 1/24-12/24)

Stanford Accelerator: Old-Growth Relics as a Model for Forest Restoration and Natural Climate Solutions ($150,000, RB Jackson and K Peay, PIs; 1/24-1/25)

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 N_2O 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, RB Jackson, and six 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 C_1-C_3 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

Djerassi Resident Artists Program, Board of Trustees (2025-present)

Stanford Sustainability Review, Board of Advisors (2024-present)

XPrize, Global Visioneering Committee (2024-present)

Gulbenkian Prize for Humanity, Jury (2024-present)

Spark Climate Solutions, Board of Science 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 (2014-2025, 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)

2026 Stabilize Earth!; San Francisco Climate Week
2026 Stanford Energy Seminar
2026 Climate Action, Sustainability, and Resiliency (CASR), City and County of Denver
2026 Clean energy legislative briefing, New York
2025 Silicon Valley Clean Energy
2025 Kyoto University
2025 Asahi Glass Foundation/Blue Planet Prize
2025 Aspen Global Change Institute
2025 Duke University, Oosting Lecture
2025 Global Methane Hub
2025 Cupertino Rotary Club
2025 Stanford University, Woods Institute Book Club
2025 Rice University, Chevron Lecture
2025 Acterra, 55th Anniversary Celebration
2025 Peninsula Interfaith Climate Action (PICA)
2025 In Plain Site (Photography and Climate Festival), Alameda
2025 Gulbenkian Foundation, Berlin
2025 CASBS Board of Directors
2025 Microsoft Sustainability, Redmond, WA
2025 The Vi, Residents Lecture Series
2025 Uncommon Dialogue (Indoor Air Quality), Stanford University
2025 Dean's Lecture, Stanford University
2025 Operation Sierra Storm Conference, Tahoe, CA
2025 Institute for Responsible Carbon Removal, American University
2025 Spark Climate, Methane Removal

2024 Columbia, Institute for Responsible Carbon Removal
2024 Spark Climate, Stanford University, Methane Removal keynote
2024 XPrize, Global Visioneering 2024
2024 Djerassi Artful Harvest
2024 Wall Memorial Lecture, Colorado State University
2024 Heirloom Carbon
2024 Rotary Club, San Mateo
2024 Sustainable San Mateo County
2024 Kiwanis Club, Palo Alto
2024 Stanford SPICE (FSI)
2024 Djerassi Resident Artists Program
2024 Lyndsay Distinguished Lecture, Chemical Engineering, Texas A&M
2024 NASA Carbon Monitoring System
2024 UC Berkeley, FLUXNET Annual Meeting Keynote
2024 City of Hayward and Climate Protection and Restoration (CPR) Initiative
2024 McCoy Family Center for Ethics in Society, Stanford University, Brazil Day
2024 OATH, Inc., Soil Stars
2024 Lawrence Berkeley National Laboratory, Environmental Genomics & Systems Biology
2024 CA Assembly Hearing, AB 2513
2024 CA Energy Commission
2024 NASEM Methane Removal workshop
2024 Spark/Bezos Methane meeting
2023 Fudan University, School of Life Sciences Distinguished Lecture
2023 Planet Labs
2023 CA Energy Commission
2023 Century Summit
2023 Colorado Department of Health Briefing
2023 Wilkes Center Plenary, University of Utah
2023 Earth Day, Cities of Atherton, East Palo Alto, Menlo Park, and Palo Alto, CA
2023 NASEM Committee on Methane Removal
2023 Spark Climate Solutions, Methane Removal
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 (U.S. 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
2021American 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 >195,000, h>185; https://scholar.google.com/citations?user=G3NBUzwAAAAJ&hl=en&oi=ao)

2026

Pascual D, G Hugelius*, JG Canadell, J Harden, RB Jackson, K Georgiou, A Jonshagen, J Lindström, K Ljung, E Register, C Volle, J Asch, U Ervander, G Fälthammar De Jong, J Sun, A Ahlström* 2026 Higher carbon storage in primary than secondary boreal forests in Sweden. ***Science*** 391:1256-1261.

Reek JE, CM Zohner, G Reuben Smith*, SC Cook-Patton, P De Frenne, P D'Odorico, MG Floriancic, RB Jackson, JA Jones, JW Kirchner, M Laguë, Y Liang, YJ Masuda, RI McDonald, LA Parsons, BS Probst, JT Spector, TAP West, NH Wolff, F Zellweger, TW Crowther 2026 More than mitigation: The role of forests in climate adaptation. ***Science*** 391:6786.

Watts JD, E Ordway SL Malone, Q Zhu, PI Palmer, D Patel-Tupper, P Ciais, F Li, DR Monteverde, KA Arndt, L Bruhwiler, B Buma, H Cadillo-Quiroz, E Euskirchen, AM Hoyt, M Holgerson, G Hugelius, RB Jackson, D Jacob, M Kuhn, SM Natali, S Peng, B Poulter, C Rey-Sánchez, LeB Sagang, EAG Schuur, RK Varner, R Vargas 2026 From pledges to action: Investing in a global methane observing system for verifiable climate impact. ***Science*** 391:1324-1327.

Ciais, P, Y Zhu, Y Cai, X Lan, SE Michel, B Zheng, Y Zhao, DA Hauglustaine, X Lin, Y Zhang, S Sun, X Tian, M Zhao, Y Wang, J Chang, X Dou, Z Liu, R Andrew, CA Quinn, B Poulter, Z Ouyang*, W Yuan, K Yuan, Q Zhu, F Li, N Pan, H Tian, X Yu, G Rocher-Ros, MS Johnson, M Li, M Li, D Feng, P Raymond, X Yang, JG Canadell, R.B. Jackson, X Yu*, Y Li, M Saunois, P Bousquet, S Peng 2026 Why methane surged in the atmosphere during the early 2020s. ***Science***, 391:eadx8262.

Zhang Z, B Poulter, Z Wang, L Bruhwiler, JG Canadell, N Gedney, A Ito, RB. Jackson, JR Melton,, C Peng, WJ Riley, M Saunois, A Wiltshire, Q Zhang, Q Zhu, Q Zhu, X Li 2026 Emergent constraints of temperature dependence on projected global wetland methane emissions. ***Nature Geoscience***, in press.

Li F, Q Zhu, K Yuan, E Fluet-Chouinard, X Zhang, J Wang, SH Knox, H You, M Chen, M Li, R Stern, AM Hoyt, G McNicol, WJ Riley, S Peng, B Poulter, A Malhotra, S Cooley, Z Zhang, S Hong, Z Chen, Z Zhu, PA Raymond, P Ciais, RB Jackson 2026 The underappreciated importance of small wetlands in global methane emissions. ***Nature Climate Change***, https://doi.org/10.1038/s41558-026-02609-w.

Zhang J, H Tian, X-Z Liang, JG Canadell, P Ciais, RB Jackson, Z Ouyang, J Zhang, S Pan 2026 Global rice paddy greenhouse gas emissions have doubled over the past six decades driven by area expansion and intensified residue incorporation. ***Nature Food***, in press.

Jackson RB, JA Irvin, N Ramachandran, C Wang, Z Ouyang, PA Tulloch, FY Liu, AY Ng 2026 MEthane Tracking Emissions Reference (METER): A global database of methane-emitting infrastructure. ***Earth System Science Data***, in revision.

Li M, Jackson RB, M Saunois, P Ciais, B Poulter, JG Canadell, Patra, PK, H Tian, Z Zhang, E Fluet-Chouinard, Z Ouyang, T Zhang, DJ Beerling, DA Belikov, P Bousquet, D Custodio, N Chandra, X Dou, N Gedney, PO Hopcroft, AM Hoyt, K Ichii, A Ito, AK Jain, K Jensen,

F Joos, T Kleinen, M Kondo, F Li, T Li, X Liu, S Maksyutov, A Malhotra, A Martinez, K McDonald, JR Melton, J Müller, Y Niwa, S Pan, S Peng, C Peng, Z Qin, P Raymond, W Riley, A Segers, RL Thompson, A Tsuruta, X Yi, K Yuan, W Zhang, B Zheng, Q Zhu, Q Zhu, Q Zhuang 2026 Machine-learning-based estimates of global natural vegetated wetland methane emissions (2000-2025). ***Earth System Science Data***, in press.

Yu, X, JG Canadell, DK Henze, PK Patra, M Saunois, X Cen, X Lan, B RiddellYoung, S Englund Michel, RB Jackson 2026 Methane isotopologues indicate an underestimated role of anthropogenic fossil in global methane emissions. ***Nature Communications***, in press.

Sparks TL, YS Kashtan*, ST Rowland, ED Lebel*, JSW Goldman, C Finnegan*, G Huang, N Lucha, A Shankute*, S Bisogno, N Heath, KR Bilsback, A Garg*, LA Hill, RB Jackson, SBC Shonkoff, DR Michanowicz 2026 Hazardous air pollutants in downstream natural gas leakage in Europe. ***Environmental Research Letters*** 21:064008.

Kessler, MI, R Randall, G Wan, K Xu, Y Zhang, JA Dionne, RB Jackson, A Majumdar 2026 A humidity-tolerant photocatalyst for methane removal. ***Environmental Science and Technology*** 60: 5442–5452.

Van Galen LG et al. 2025 A global database of soil microbial phospholipid fatty acids and enzyme activities. **Scientific Data** 12:1568.

Liu Z, T Li, L Wang, T Sun, X Huang, P Ke, A Qiu, G Peters, R Andrew, P Ciais, M Jones, P Friedlingstein, RB Jackson, Y Zhao, Z Deng, Y Hao, C Lu, D Cui, and S Davis 2026 Global daily CO2 emissions from 1970 to 2024. ***Scientific Data***, in press.

Feron S, RR Cordero, A Damiani, P Upham, R Bintanja, X Sun, J Pizarro, C Wang, Z Ouyang, X Sun, A Beaulieu, RB Jackson 2026 Photovoltaic power response to El Niño–southern oscillation. ***Communications Earth and Environment*** 7:325.

Morales-Betancourt R, Galbán-Malagón CJ, T Montejo-Barato, E Blanco, P Tapia-Pino, R Vargas, C Cordova, C Finnegan, A Shankute, N Hunneus, JS Hernández-Suárez, P Valencia, M Mena-Carrasco, RB Jackson 2026 Methane and NOx emissions from natural gas cooking stoves, the case of Chile and Colombia. ***EGUsphere***, in press.

Abernethy S, D Monteverde, C Schädel, B Buma, PB Duffy, RB Jackson, SM Natali, I Ocko, BM Rogers, B Poulter 2026 Projected amplification of global warming from warming-induced greenhouse gas emissions. Submitted.

Buma B, PH Badiou, S Bansal, I Creed, MA Holgerson, RB Jackson, SH Knox, D Monteverde, EA Ury, Z Zhang 2026 Effectively and efficiently mitigating warming-induced emissions and bioclimate feedbacks needs strategic science. Submitted.

Määttä T, A Desai, M Ueyama, R Vargas, EJ Ward, Z Zhang, G Bohrer, K Delwiche, E Fluet-Chouinard, J Järveoja, S Knox, L Melling, MB Nilsson, M Peichl, A Che Ing Tang, E-S Tuittila, J Wang, S Bansal, S Feron, M Helbig, A Korrensalo, KW Krauss, G McNicol, S Niu, Z Ouyang, K Savage, O Sonnentag, RB Jackson, A Malhotra 2026 A cross-site comparison of ecosystem- and plot-scale methane fluxes from wetlands and uplands. ***Biogeosciences***, in press.

2025

Ouyang, Z, RB Jackson, et al. 2025 The global hydrogen budget. ***Nature*** 648:616–624.

Zhang Z et al. 2025 Ensemble estimates of global wetland methane emissions over 2000–2020. ***Biogeosciences*** 22:305–321.

Pan N et al. 2025 Climate change rivals fertilizer use in driving soil nitrous oxide emissions in the northern high latitudes: Insights from terrestrial biosphere models. ***Environment International*** 196: 109297.

Canadell JG et al. 2025 From global to national GHG budgets: the REgional Carbon Cycle Assessment and Processes-3 (RECCAP3). ***National Science Review*** 12:nwaf037.

Friedlingstein P et al. 2025 Global Carbon Budget 2024 ***Earth System Science Data*** 17:965-1039.

Poulter B et al. 2025 The North American Greenhouse Gas Budget: emissions, removals, and integration for CO_2, CH_4, and N_2O (2010-2019): Results from the Second REgional Carbon Cycle Assessment and Processes Study (RECCAP2) ***Global Biogeochemical Cycles*** 39:e2024GB008310.

Garg, A, M Nicholson, CJ Finnegan, ED Lebel, DR Michanowicz, SBC Shonkoff, KC Nadeau, RB Jackson 2025 Exposure and health risks of benzene from combustion by gas stoves: a modeling approach in U.S. homes. ***Journal of Hazardous Materials*** 492:137986.

Lehner B et al. 2025 Mapping the world's inland surface waters: an update to the Global Lakes and Wetlands Database (GLWD v2). ***Earth System Science Data*** 17:2277–2329.

Jackson RB 2025 Climate rites. ***Leonardo*** 58:262.

Li M, F Li, A Malhotra, SH Knox, R Stern, RB Jackson 2025 Key environmental and ecological variables of wetland CH_4 and CO_2 fluxes change with warming. ***Earth's Future*** 13, e2024EF005751.

Malhotra A, JAM Moore, S Weintraub-LEFF, K Georgiou, A Asefaw Berhe, SA Billings, M-A de Graaff, JM Fraterrigo, AS Grandy, E Kyker-Snowman, M Lu, C Meier, D Pierson, SJ Tumber-Dávila, K Lajtha, WR Wieder, RB Jackson. Continental-scale relationships of fine root and soil carbon stocks hold in grasslands but not forests. ***Nature Commun. Earth Environ***. 2025. 6(497); https://doi.org/10.1038/s43247-025-02486-9

Kashtan Y, C Wang, KC Nadeau, RB Jackson 2025 Integrating indoor and outdoor nitrogen dioxide exposures in U.S. homes nationally by ZIP code. ***PNAS Nexus*** 4:pgaf341.

Liu B, J Irvin, M Omara, C Wang, G Kornberg, H Sheng, R Guatam, A Ng, RB Jackson 2025 Regional mapping of natural gas compressor stations in the United States and Canada using deep learning on satellite imagery. ***Journal of Environmental Management*** 393:126728.

Saunois M et al. 2025 Global Methane Budget 2000-2020. ***Earth System Science Data***, https://doi.org/10.5194/essd-2024-115.

Bréchet, LM, M Ibáñez, RB Jackson, B Burban, C Stahl, D Bonal, IA Janssens 2025 Dynamics and environmental drivers of methane and nitrous oxide fluxes at the soil and ecosystem levels in a wet tropical forest. ***Biogeosciences*** 22:8031–8046.

2024

Jackson RB, M Saunois, A Martinez, J G Canadell, X Yu, M Li, B Poulter, P A Raymond, P Regnier, P Ciais, S J Davis, P K Patra 2024 Human activities now fuel two-thirds of global methane emissions. ***Environmental Research Letters*** 19:101002.

Kashtan Y, M Nicholson, CJ Finnegan, Z Ouyang, A Garg, ED Lebel, ST Rowland, DR Michanowicz, J Herrera, KC Nadeau, RB Jackson 2024 Nitrogen dioxide exposure, health outcomes, and associated demographic disparities due to gas and propane combustion by U.S. stoves. ***Science Advances*** 10; DOI: 10.1126/sciadv.adm8680.

Yuan K, F Li, G McNicol, M Chen, A Hoyt, S Knox, WJ Riley, RB Jackson, Q Zhu 2024 Boreal-Arctic wetland methane emissions modulated by warming and vegetation activity. ***Nature Climate Change*** 14:282-288.

Georgiou K, CD Koven, WR Wieder, MD Hartman, WJ Riley, J Pett-Ridge, NJ Bouskill, RZ Abramoff, E Slessarev, A Ahlström, WJ Parton, AFA Pellegrini, D Pierson, BN Sulman, Q Zhu, RB Jackson 2024 Emergent temperature sensitivity of soil organic carbon driven by mineral associations. ***Nature Geoscience*** 205-212.

Lu M, C Zhou, C Wang, RB Jackson, CP Kempes 2024 Worldwide scaling of waste generation in urban systems. ***Nature Cities*** 1:126-135.

Wang C, C Deng, H Horsey, JL Reyna, D Liu, S Feron, RR Cordero, J Song, RB Jackson 2024 CHUWD-H v1.0: a comprehensive historical hourly weather database for U.S. urban energy system modeling. ***Scientific Data*** 11:1383.

Zhu Q, KI Yan, F Li, WJ Riley, A Hoyt, RB Jackson, G McNicol, M Chen, SH Knox, O Briner 2024 Critical needs to close monitoring gaps in pan-tropical wetland CH_4 emissions. ***Environmental Research Letters*** 19:114046.

Ramachandran N, J Irvin, M Omara, R Gautam, K Meisenhelder, E Rostami, H Sheng, A Ng, RB Jackson 2024. Deep learning for detecting and characterizing oil and gas well pads in satellite imagery. ***Nature Communications*** 15:7036.

Rowland ST, ED Lebel, JSW Goldman, JK Domen, KR Bilsback, A Ruiz, JM Jaeger, LAL Hill, YS Kashtan, C Finnegan, M Nicholson, Z Ouyang, RB Jackson, SBC Shonkoff, DR Michanowicz 2024 Downstream natural gas composition across US and Canada: implications for indoor methane leaks and hazardous air pollutant exposures. ***Environmental Research Letters*** 19: 064064.

Friedlingstein P et al. 2024 Global Carbon Budget 2023 ***Earth System Science Data*** 15:5301-5369

Abernethy S, R Buechler, M Kessler, RB Jackson 2024 Temperature responses from methane mitigation approaches vary widely due to non-methane impacts ***Environmental Research Letters*** 19:081006.

Guo, H, E Du, C Terrer, RB Jackson 2024 Global distribution of surface soil organic carbon in urban greenspaces. ***Nature Communications*** 15:806.

Tian H et al. 2024 Global nitrous oxide budget (1980-2020) ***Earth System Science Data*** 16:2543-2604.

Randall R, RB Jackson, A Majumdar 2024 Cost modeling of photocatalytic decomposition of atmospheric methane and nitrous oxide. ***Environmental Research Letters*** 19:064015.

Abernethy S, RB Jackson 2024 Atmospheric methane removal may reduce climate risks. ***Environmental Research Letters*** 19:051001

Scott-Buechler C, B Cain, K Osman, NM Ardoin, C Fraser, G Adcox, E Polk, RB Jackson 2024 Communities conditionally support deployment of direct air capture for carbon dioxide removal in the United States. ***Communications Earth & Environment*** 5:208.

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Selected Poetry in Literary Journals

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, FallWinter 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

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Jackson RB 2000 Belowground processes and global change. Ecological Applications 10:397-483.
Norby, RJ, AH Fitter, and RB Jackson 2000 Root dynamics and global change: an ecosystem perspective. New Phytologist 147:1-232.

Current and Former Postdoctoral Advisees

A Ahlström, LJ Anderson, C Armas, T Bleby, M Brito Caldeira, G Bulltail, S Cooley, T Darrah, K Delwiche, X Dou, C Ellis, R Emanuel, V Engel, K Farley, S Féron, N Fierer, E Fluet-Chouinard, M Gallagher, A Garg, K Georgiou, J Gewirtzman, RA Gill, A Hedgpeth, M Henn, WA Hoffmann, G Hugelius, D Hui, D Jayawickreme, DM Johnson, EG Jobbágy, M Kang, A Kelley, S Knox, L Krebs, F Li, M Li, MG Little, M Lu, 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, R Stern, J Strauss, C Terrer, K van Sundert, L Vielstädte, O Vindušková, C Wang, D Way, Z Yang, X Yu, A Zanne, K Zhao, T Zheng

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, J Kim, J Loreti, R Marinos, D McMahon, C Moura, L Neftaliem, M Nicholson, V Palacios, F Perret, A Pillai Hausner, A Procter, P Roberge, A Schwantes, C Scott-Buechler, A Spitzig, E Thorsos, S Tumber-Davila, C Willson, L Yona