



## 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

 Curriculum Vitae available Online

### Bio

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#### BIO

Rob Jackson and his lab examine the many ways people affect the Earth. They produce basic scientific knowledge and use it to help shape policies and reduce the environmental footprint of global warming, energy extraction, and other environmental issues. They're currently examining the effects of climate change and drought on old-growth forests. 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 leads include establishing a global network of methane tower measurements across the Amazon and more than 100 sites worldwide and measuring and reducing methane emissions and air pollution from oil and gas wells, city streets, and homes and buildings.

Rob's new book on climate solutions, *Into the Clear Blue Sky* (Scribner and Penguin Random House), was named a "Top Science Book of 2024" by *The Times*. As an author and photographer, Rob has published a previous 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 *Boyd's 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 won this year's Blue Planet Prize and is a recent Djerassi artist in residence, Guggenheim Fellow, and sabbatical visitor in the Center for Advanced Study in the Behavioral Sciences. He is also a Fellow in the American Academy of Arts and Sciences, 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

- Board of Trustees, Djerassi Resident Artists Program, (2025- present)
- Board of Advisors, Spark Climate Solutions, (2023- present)
- Board of Directors, Center for Advanced Study in the Behavioral Sciences, (2022- present)

- Chair, External Advisory Board, School of Global Environmental Sustainability, CSU, (2018-2024)
- Chair, Publications Committee, Ecological Society of America, (2017-2020)
- Chair, Earth System Science Department, Stanford University, (2016-2019)
- Advisory Board, School of Global Environmental Sustainability, CSU, (2015- 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

- Member, U.S. National Academy of Sciences (2026)
- Distinguished Honorary Professorship, Tsinghua University (2026)
- Laureate, Blue Planet Prize (2025)
- Fellow, Djerassi Resident Artists Program (2024)
- Fellow, American Academy of Arts and Sciences (2022)
- International Recognition Award, Mexican Carbon Program (PMC) (2021)
- 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](http://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

## BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Global Visioneering Committee, XPrize (2024 - present)
- Jury, Gulbenkian Prize for Humanity (2024 - present)
- Chair, External Advisory Board, CSU School of Global Environmental Sustainability (2018 - present)
- Policy Advisory Board, Carbon Mapper (2022 - present)
- External Advisory Board, CREAM, Barcelona, Spain (2015 - present)
- Advisory Board, Methane Action (2021 - present)

## 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://jacksonlab.stanford.edu>
- Google Scholar Profile: <https://scholar.google.com/citations?user=G3NBUzwAAAAJ&hl=en>
- Into the Clear Blue Sky: <https://www.simonandschuster.com/books/Into-the-Clear-Blue-Sky/Rob-Jackson/9781668023266>

## 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

#### 2025-26

- Carbon Dioxide and Methane Removal, Utilization, and Sequestration: EARTHSYS 308, ENERGY 308, ENVRES 295, ESS 308, ME 308 (Aut)
- Will Technology Save the World?: Environmental Ethics and Techno-Optimism: ESS 166, ESS 266 (Win)

#### 2024-25

- Carbon Dioxide and Methane Removal, Utilization, and Sequestration: EARTHSYS 308, ENERGY 308, ENVRES 295, ESS 308, ME 308 (Aut)
- Will Technology Save the World?: Environmental Ethics and Techno-Optimism: ESS 166, ESS 266 (Spr)

#### 2023-24

- Carbon Dioxide and Methane Removal, Utilization, and Sequestration: EARTHSYS 308, ENERGY 308, ENVRES 295, ESS 308, ME 308 (Aut)
- Will Technology Save the World?: Environmental Ethics and Techno-Optimism: ESS 166, ESS 266 (Spr)

#### 2022-23

- Carbon Dioxide and Methane Removal, Utilization, and Sequestration: EARTHSYS 308, ENERGY 308, ENVRES 295, ESS 308, ME 308 (Aut)

## STANFORD ADVISEES

### Doctoral Dissertation Reader (AC)

Rob Buechler, Philippine Burdeau, Matthew Worden

### Postdoctoral Faculty Sponsor

Xinyu Dou, Alex Hedgpeth, Luana Krebs, Rafael Stern, Tie Zheng

### Doctoral Dissertation Advisor (AC)

Sierra Castaneda

### Master's Program Advisor

Grace Geier

**Doctoral Dissertation Co-Advisor (AC)**

Arjun Hausner, Rachel Herring, Max Kessler, Leona Nefthaliem, Metta Nicholson, Adam Spitzig

**Doctoral (Program)**

Sierra Castaneda, Philippe Roberge

## Publications

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### PUBLICATIONS

- **A global methane observation system to track climate feedbacks for verifiable climate impact.** *Science (New York, N.Y.)*  
Watts, J. D., Ordway, E., Malone, S. L., Zhu, Q., Palmer, P. I., Patel-Tupper, D., Ciais, P., Li, F., Monteverde, D. R., Arndt, K. A., Bruhwiler, L., Buma, B., Cadillo-Quiroz, et al  
2026; 391 (6792): 1324-1327
- **Higher carbon storage in primary than secondary boreal forests in Sweden.** *Science (New York, N.Y.)*  
Pascual, D., Hugelius, G., Canadell, J. G., Harden, J., Jackson, R. B., Georgiou, K., Jonshagen, A., Lindström, J., Ljung, K., Register, E., Volle, C., Asch, J., Ervander, et al  
2026; 391 (6791): 1256-1261
- **More than mitigation: The role of forests in climate adaptation.** *Science (New York, N.Y.)*  
Reek, J. E., Zohner, C. M., Smith, G. R., Cook-Patton, S. C., De Frenne, P., D'Odorico, P., Floriatic, M. G., Jackson, R. B., Jones, J. A., Kirchner, J. W., Laguë, M., Liang, Y., Masuda, et al  
2026; 391 (6786): 669-678
- **Why methane surged in the atmosphere during the early 2020s.** *Science (New York, N.Y.)*  
Ciais, P., Zhu, Y., Cai, Y., Lan, X., Michel, S. E., Zheng, B., Zhao, Y., Hauglustaine, D. A., Lin, X., Zhang, Y., Sun, S., Tian, X., Zhao, et al  
2026; 391 (6785): eadx8262
- **The global hydrogen budget.** *Nature*  
Ouyang, Z., Jackson, R. B., Saunio, M., Canadell, J. G., Zhao, Y., Morfopoulos, C., Krummel, P. B., Patra, P. K., Peters, G. P., Dennison, F., Gasser, T., Archibald, A. T., Arora, et al  
2025; 648 (8094): 616-624
- **Human activities now fuel two-thirds of global methane emissions** *ENVIRONMENTAL RESEARCH LETTERS*  
Jackson, R. B., Saunio, M., Martinez, A., Canadell, J. G., Yu, X., Li, M., Poulter, B., Raymond, P. A., Regnier, P., Ciais, P., Davis, S. J., Patra, P. K.  
2024; 19 (10)
- **Emergent temperature sensitivity of soil organic carbon driven by mineral associations** *NATURE GEOSCIENCE*  
Georgiou, K., Koven, C. D., Wieder, W. R., Hartman, M. D., Riley, W. J., Pett-Ridge, J., Bouskill, N. J., Abramoff, R. Z., Slessarev, E. W., Ahlstrom, A., Parton, W. J., Pellegrini, A. F. A., Pierson, et al  
2024
- **Global Carbon Budget 2023** *EARTH SYSTEM SCIENCE DATA*  
Friedlingstein, P., O'Sullivan, M., Jones, M. W., Andrew, R. M., Bakker, D. C. E., Hauck, J., Landschutzer, P., Le Quere, C., Luijkx, I. T., Peters, G. P., Peters, W., Pongratz, J., Schwingshackl, et al  
2023; 15 (12): 5301-5369
- **Soil carbon storage capacity of drylands under altered fire regimes** *NATURE CLIMATE CHANGE*  
Pellegrini, A. F. A., Reich, P. B., Hobbie, S. E., Coetsee, C., Wigley, B., February, E., Georgiou, K., Terrer, C., Brookshire, E. J., Ahlstrom, A., Nieradzki, L., Sitch, S., Melton, et al  
2023; 13 (10)
- **Gas and Propane Combustion from Stoves Emits Benzene and Increases Indoor Air Pollution.** *Environmental science & technology*  
Kashtan, Y. S., Nicholson, M., Finnegan, C., Ouyang, Z., Lebel, E. D., Michanowicz, D. R., Shonkoff, S. B., Jackson, R. B.  
2023
- **Global patterns of water storage in the rooting zones of vegetation** *NATURE GEOSCIENCE*

- Stocker, B. D. D., Tumber-Davila, S., Konings, A. G. G., Anderson, M. C. C., Hain, C., Jackson, R. B. B.  
2023
- **Extensive global wetland loss over the past three centuries.** *Nature*  
Fluet-Chouinard, E., Stocker, B. D., Zhang, Z., Malhotra, A., Melton, J. R., Poulter, B., Kaplan, J. O., Goldewijk, K. K., Siebert, S., Minayeva, T., Hugelius, G., Joosten, H., Barthelmes, et al  
2023; 614 (7947): 281-286
  - **Land-use emissions embodied in international trade.** *Science (New York, N.Y.)*  
Hong, C., Zhao, H., Qin, Y., Burney, J. A., Pongratz, J., Hartung, K., Liu, Y., Moore, F. C., Jackson, R. B., Zhang, Q., Davis, S. J.  
2022; 376 (6593): 597-603
  - **Human well-being and per capita energy use** *ECOSPHERE*  
Jackson, R. B., Ahlstrom, A., Hugelius, G., Wang, C., Porporato, A., Ramaswami, A., Roy, J., Yin, J.  
2022; 13 (4)
  - **Global fossil carbon emissions rebound near pre-COVID-19 levels** *ENVIRONMENTAL RESEARCH LETTERS*  
Jackson, R. B., Friedlingstein, P., Le Quere, C., Abernethy, S., Andrew, R. M., Canadell, J. G., Ciais, P., Davis, S. J., Deng, Z., Liu, Z., Korsbakken, J., Peters, G. P.  
2022; 17 (3)
  - **Global temperature goals should determine the time horizons for greenhouse gas emission metrics** *ENVIRONMENTAL RESEARCH LETTERS*  
Abernethy, S., Jackson, R. B.  
2022; 17 (2)
  - **Global and regional drivers of land-use emissions in 1961-2017.** *Nature*  
Hong, C. n., Burney, J. A., Pongratz, J. n., Nabel, J. E., Mueller, N. D., Jackson, R. B., Davis, S. J.  
2021; 589 (7843): 554-61
  - **Atmospheric Methane Removal: A Research Agenda** *Philosophical Transactions of the Royal Society A*  
Jackson, R. B., et al  
2021; 379: 20200454
  - **A tradeoff between plant and soil carbon storage under elevated CO2** *Nature*  
Terrer, C., et al  
2021; 591: 599-603
  - **Temporary reduction in daily global CO2 emissions during the COVID-19 forced confinement** *NATURE CLIMATE CHANGE*  
Le Quere, C., Jackson, R. B., Jones, M. W., Smith, A. J. P., Abernethy, S., Andrew, R. M., De-Gol, A. J., Willis, D. R., Shan, Y., Canadell, J. G., Friedlingstein, P., Creutzig, F., Peters, et al  
2020
  - **Pervasive shifts in forest dynamics in a changing world.** *Science (New York, N.Y.)*  
McDowell, N. G., Allen, C. D., Anderson-Teixeira, K. n., Aukema, B. H., Bond-Lamberty, B. n., Chini, L. n., Clark, J. S., Dietze, M. n., Grossiord, C. n., Hanbury-Brown, A. n., Hurr, G. C., Jackson, R. B., Johnson, et al  
2020; 368 (6494)
  - **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): 194-198

- **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.  
edited by Futuyama, D. J.  
2017; 48: 419–45
- **Incorporating methane isotopologues alters tropical and subtropical methane emission estimates.** *Nature communications*  
Yu, X., Canadell, J. G., Henze, D. K., Patra, P. K., Saunio, M., Cen, X., Lan, X., Riddell-Young, B., Röckmann, T., Jackson, R. B.  
2026
- **The underappreciated importance of small wetlands in global methane emissions** *NATURE CLIMATE CHANGE*  
Li, F., Zhu, Q., Yuan, K., Fluet-Chouinard, E., Zhang, X., Wang, J., Knox, S. H., You, H., Chen, M., Li, M., Stern, R., Hoyt, A. M., McNicol, et al  
2026
- **Benzene and other hazardous air pollutants in consumer-grade natural gas in Europe.** *Environmental research letters : ERL [Web site]*  
Sparks, T. L., Kashtan, Y. S., Rowland, S. T., Lebel, E. D., Goldman, J. S., Finnegan, C., Huang, G., Lucha, N., Shankute, A., Heath, N., Bisogno, S., Bilsback, K. R., Garg, et al  
2026; 21 (6): 064008
- **Photovoltaic power response to El Niño-Southern Oscillation** *COMMUNICATIONS EARTH & ENVIRONMENT*  
Feron, S., Cordero, R. R., Damiani, A., Upham, P., Bintanja, R., Sun, X., Pizarro, J., Wang, C., Ouyang, Z., Sun, X., Beaulieu, A., Jackson, R. B.  
2026; 7 (1)
- **Global daily CO2 emissions from 1970 to 2024.** *Scientific data*  
Li, T., Wang, L., Qiu, Z., Ciais, P., Davis, S. J., Deng, Z., Zhao, Y., Peters, G. P., Ke, P., Jones, M. W., Andrew, R. M., Hao, Y., Sun, et al  
2026
- **A Humidity-Tolerant Photocatalyst for Methane Removal.** *Environmental science & technology*  
Kessler, M. I., Randall, R., Wan, G., Xu, K., Zhang, Y., Dionne, J. A., Jackson, R. B., Majumdar, A.  
2026
- **Dynamics and environmental drivers of methane and nitrous oxide fluxes at the soil and ecosystem levels in a wet tropical forest** *BIOGEOSCIENCES*  
Brechet, L. M., Ibanez, M., Jackson, R. B., Burban, B., Stahl, C., Bonal, D., Janssens, I. A.  
2025; 22 (24): 8031-8046
- **Integrating indoor and outdoor nitrogen dioxide exposures in US homes nationally by ZIP code.** *PNAS nexus*  
Kashtan, Y., Wang, C., Nadeau, K. C., Jackson, R. B.  
2025; 4 (12): pgaf341
- **A global database of soil microbial phospholipid fatty acids and enzyme activities.** *Scientific data*  
van Galen, L. G., Smith, G. R., Margenot, A. J., Waldrop, M. P., Crowther, T. W., Peay, K. G., Jackson, R. B., Yu, K., Abrahão, A., Ahmed, T. A., Alatalo, J. M., Anslan, S., Anthony, et al  
2025; 12 (1): 1568
- **Regional mapping of natural gas compressor stations in the United States and Canada using deep learning on satellite imagery.** *Journal of environmental management*  
Liu, B., Irvin, J., Omara, M., Wang, C., Kornberg, G., Sheng, H., Gautam, R., Ng, A. Y., Jackson, R. B.  
2025; 393: 126728
- **Fine root and soil carbon stocks are positively related in grasslands but not in forests.** *Communications earth & environment*  
Malhotra, A., Moore, J. A., Weintraub-Leff, S., Georgiou, K., Berhe, A. A., Billings, S. A., de Graaff, M. A., Fraterrigo, J. M., Grandy, A. S., Kyker-Snowman, E., Lu, M., Meier, C., Pierson, et al  
2025; 6 (1): 497
- **A continental scale analysis reveals widespread root bimodality.** *Nature communications*  
Lu, M., Wang, S., Malhotra, A., Tumber-Davila, S. J., Weintraub-Leff, S., McCormack, M. L., Wang, X. T., Jackson, R. B.  
2025; 16 (1): 5281
- **Mapping the world's inland surface waters: an upgrade to the Global Lakes and Wetlands Database (GLWD v2)** *EARTH SYSTEM SCIENCE DATA*

- Lehner, B., Anand, M., Fluet-Chouinard, E., Tan, F., Aires, F., Allen, G. H., Bousquet, P., Canadell, J. G., Davidson, N., Ding, M., Finlayson, C., Gumbrecht, T., Hilarides, et al  
2025; 17 (6): 2277-2329
- **Key Environmental and Ecological Variables of Wetland CH<sub>4</sub> and CO<sub>2</sub> Fluxes Change With Warming EARTHS FUTURE**  
Li, M., Li, F., Malhotra, A., Knox, S. H., Stern, R., Jackson, R. B.  
2025; 13 (6)
  - **Global Methane Budget 2000-2020 EARTH SYSTEM SCIENCE DATA**  
Saunois, M., Martinez, A., Poulter, B., Zhang, Z., Raymond, P. A., Regnier, P., Canadell, J. G., Jackson, R. B., Patra, P. K., Bousquet, P., Ciais, P., Dlugokencky, E. J., Lan, et al  
2025; 17 (5): 1873-1958
  - **From global to national GHG budgets: the REgional Carbon Cycle Assessment and Processes-3 (RECCAP3). National science review**  
Canadell, J. G., Poulter, B., Bastos, A., Ciais, P., Hauck, J., Andrew, R., Friedlingstein, P., Grassi, G., Jackson, R. B., Müller, J. D., Le Quéré, C., O'Sullivan, M., Patra, et al  
2025; 12 (4): nwaf037
  - **The North American Greenhouse Gas Budget: Emissions, Removals, and Integration for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O (2010-2019): Results From the Second REgional Carbon Cycle Assessment and Processes Study (RECCAP2) GLOBAL BIOGEOCHEMICAL CYCLES**  
Poulter, B., Murray-Tortarolo, G., Hayes, D. J., Ciais, P., Andrew, R. M., Bastos, A., Byrne, B., Butman, D., Canadell, J. G., Chatterjee, A., Domke, G., Feldman, A., Foster, et al  
2025; 39 (4)
  - **Exposure and health risks of benzene from combustion by gas stoves: A modelling approach in U.S. homes. Journal of hazardous materials**  
Garg, A., Kashtan, Y., Nicholson, M., Finnegan, C. J., Lebel, E. D., Michanowicz, D. R., Shonkoff, S. B., Nadeau, K. C., Jackson, R. B.  
2025; 492: 137986
  - **Global Carbon Budget 2024 EARTH SYSTEM SCIENCE DATA**  
Friedlingstein, P., O'Sullivan, M., Jones, M. W., Andrew, R. M., Hauck, J., Landschutzer, P., Le Quere, C., Li, H., Luijkx, I. T., Olsen, A., Peters, G. P., Peters, W., Pongratz, et al  
2025; 17 (3): 965-1039
  - **Climate change rivals fertilizer use in driving soil nitrous oxide emissions in the northern high latitudes: Insights from terrestrial biosphere models. Environment international**  
Pan, N., Tian, H., Shi, H., Pan, S., Canadell, J. G., Chang, J., Ciais, P., Davidson, E. A., Hugelius, G., Ito, A., Jackson, R. B., Joos, F., Lienert, et al  
2025; 196: 109297
  - **Ensemble estimates of global wetland methane emissions over 2000-2020 BIOGEOSCIENCES**  
Zhang, Z., Poulter, B., Melton, J. R., Riley, W. J., Allen, G. H., Beerling, D. J., Bousquet, P., Canadell, J. G., Fluet-Chouinard, E., Ciais, P., Gedney, N., Hopcroft, P. O., Ito, et al  
2025; 22 (1): 305-321
  - **CHUWD-H v1.0: a comprehensive historical hourly weather database for U.S. urban energy system modeling. Scientific data**  
Wang, C., Deng, C., Horsey, H., Reyna, J. L., Liu, D., Feron, S., Cordero, R. R., Song, J., Jackson, R. B.  
2024; 11 (1): 1383
  - **Letter to the editor regarding: "Challenging unverified assumptions in causal claims: Do gas stoves increase risk of pediatric asthma?" Global epidemiology**  
Nadeau, K. C., Kashtan, Y., Nicholson, M., Finnegan, C. J., Ouyang, Z., Garg, A., Lebel, E. D., Rowland, S. T., Michanowicz, D. R., Jackson, R. B.  
2024; 8: 100172
  - **Critical needs to close monitoring gaps in pan-tropical wetland CH<sub>4</sub> emissions ENVIRONMENTAL RESEARCH LETTERS**  
Zhu, Q., Yuan, K., Li, F., Riley, W. J., Hoyt, A., Jackson, R., McNicol, G., Chen, M., Knox, S. H., Briner, O., Beerling, D., Gedney, N., Hopcroft, et al  
2024; 19 (11)
  - **Deep learning for detecting and characterizing oil and gas well pads in satellite imagery. Nature communications**  
Ramachandran, N., Irvin, J., Omara, M., Gautam, R., Meisenhelder, K., Rostami, E., Sheng, H., Ng, A. Y., Jackson, R. B.  
2024; 15 (1): 7036

- **Temperature responses from methane mitigation approaches vary widely due to non-methane impacts** *ENVIRONMENTAL RESEARCH LETTERS*  
Abernethy, S., Buechler, R., Kessler, M., Jackson, R. B.  
2024; 19 (8)
- **Global nitrous oxide budget (1980-2020)** *EARTH SYSTEM SCIENCE DATA*  
Tian, H., Pan, N., Thompson, R. L., Canadell, J. G., Suntharalingam, P., Regnier, P., Davidson, E. A., Prather, M., Ciais, P., Muntean, M., Pan, S., Winiwarter, W., Zaehle, et al  
2024; 16 (6): 2543-2604
- **Cost modeling of photocatalytic decomposition of atmospheric methane and nitrous oxide** *ENVIRONMENTAL RESEARCH LETTERS*  
Randall, R., Jackson, R. B., Majumdar, A.  
2024; 19 (6)
- **Downstream natural gas composition across US and Canada: implications for indoor methane leaks and hazardous air pollutant exposures** *ENVIRONMENTAL RESEARCH LETTERS*  
Rowland, S. T., Lebel, E. D., Goldman, J. S. W., Domen, J. K., Bilsback, K. R., Ruiz, A., Jaeger, J. M., Hill, L. L., Kashtan, Y. S., Finnegan, C., Nicholson, M., Ouyang, Z., Jackson, et al  
2024; 19 (6)
- **Nitrogen dioxide exposure, health outcomes, and associated demographic disparities due to gas and propane combustion by U.S. stoves.** *Science advances*  
Kashtan, Y., Nicholson, M., Finnegan, C. J., Ouyang, Z., Garg, A., Lebel, E. D., Rowland, S. T., Michanowicz, D. R., Herrera, J., Nadeau, K. C., Jackson, R. B.  
2024; 10 (18): eadm8680
- **Atmospheric methane removal may reduce climate risks** *ENVIRONMENTAL RESEARCH LETTERS*  
Abernethy, S., Jackson, R. B.  
2024; 19 (5)
- **Communities conditionally support deployment of direct air capture for carbon dioxide removal in the United States (vol 5, 175, 2024)** *COMMUNICATIONS EARTH & ENVIRONMENT*  
Scott-Buechler, C., Cain, B., Osman, K., Ardoin, N. M., Fraser, C., Adcox, G., Polk, E., Jackson, R. B.  
2024; 5 (1)
- **Boreal-Arctic wetland methane emissions modulated by warming and vegetation activity.** *Nature climate change*  
Yuan, K., Li, F., McNicol, G., Chen, M., Hoyt, A., Knox, S., Riley, W. J., Jackson, R., Zhu, Q.  
2024; 14 (3): 282-288
- **Global distribution of surface soil organic carbon in urban greenspaces.** *Nature communications*  
Guo, H., Du, E., Terrer, C., Jackson, R. B.  
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