

## James A. Rising

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School of Marine Science & Policy  
University of Delaware  
<http://existencia.org/pro>

### RESEARCH INTERESTS

**Impacts of climate change:** Research focuses on bringing together empirical estimates and integrated assessment models.

**Modeling of social-environmental systems:** Research focuses on complex systems, food and fisheries, and resource management.

### ACADEMIC POSITION

2021 – PRESENT **University of Delaware** – Assistant Professor, School of Marine Science and Policy  
2018 – 2020 **London School of Economics** – Assistant Professorial Research Fellow, Grantham Research Institute  
2017 **University of Chicago** – Post-Doctoral Scholar, Economics Department  
2015 – 2017 **University of California, Berkeley** – Ciriacy-Wantrup Postdoctoral Fellow, Energy & Resources Group  
2003 – 2005 **Franklin W. Olin College of Engineering** – Electrical and Computer Engineering instructor

### AFFILIATIONS

2020 – PRESENT **Data Science Institute, University of Delaware** – Faculty Affiliate  
2019 **MIT Joint Program on the Science and Policy of Global Change** – Visiting Scholar  
2019 – PRESENT **Center for Environmental Economics and Policy** – Alumni Affiliate  
2019 – PRESENT **Royal Society for the Encouragement of Arts, Manufactures and Commerce** – Fellow  
2016 – PRESENT **Climate Impact Lab** – Faculty Affiliate  
2013 – PRESENT **Columbia Water Center** – Faculty Affiliate

### EDUCATION

2010 – 2015 **Columbia University** – Ph.D. in Sustainable Development  
Committee: Dr. Upmanu Lall, Dr. Geoffrey Heal, Dr. Mark Cane, Dr. Martin Smith, Dr. John Mutter  
2013 **Columbia University** – M.A. and M. Phil. in Sustainable Development  
1999 – 2003 **Massachusetts Institute of Technology** – Bachelor of Science in Philosophy, 2003

### PEER-REVIEWED PUBLICATIONS

- Rising, J. & Devineni, N. (2020). Crop switching reduces agricultural losses from climate change in the United States by half under RCP 8.5. *Nature Communications*.
- Brelsford, C., Dumas, M., Schlager, E., Dermody, B., Aiuvalasit, M., Allen-Dumas, M., Beecher, J., Bhatia, U., D'Odorico, P., Garcia, M., Gober, P., Groenfeldt, D., Lansing, S., Madani, K., Mndez-Barrientos, L. E., Mondino, E., Mller, M., O'Donnell, F., Owuor, P. M., Rising, J., Sanderson, M., de Souza, F. A., Zipper, S. (2020). Developing a sustainability science approach for water systems. *Ecology and Society*.
- Rising, J. (2020). Decision-making and integrated assessment models of the water-energy-food nexus. *Water Security*.
- Ciscar, J-C., Rising, J., Kopp, R., & Feyen, L. (2019). Assessing future climate change impacts in the EU and the USA: insights and lessons from two continental-scale projects. *Environmental Research Letters*.
- Ramesh, N., Rising, J., & Oremus, K. L. (2019). The small world of global marine fisheries: the cross-boundary consequences of larval dispersal. *Science*.
- Josset, L., Allaire, M., Hayek, C., Rising, J., Thomas, C., & Lall, U. (2019). The USA water data gap - A survey of state-level water data platforms to inform the development of a national water portal. *Earth's Future*.

- Campbell, K., Rising, J., Mbilo, J. M., & Klopp, J. (2018). Accessibility across transport modes and residential developments in Nairobi. *Journal of Transport Geography*.
- Moore, F. C., Rising, J., Lollo, N., Springer, C., Vasquez, V., Dolginowm A., Hope, C., & Anthoff, D. (2018). MIMI-PAGE, an open-source implementation of the PAGE09 integrated assessment model. *Scientific Data*.
- Hsiang, S., Kopp, R., Jina, A., Rising, J., *et al.* (2017). Estimating economic damage from climate change in the United States. *Science*.
- Rising, J. (2017). A flexible approach to model coupling through probabilistic pooling. *Environmental Modelling and Software*.
- Dumas, M., Rising, J. A., & Urpelainen, J. (2016). Path Dependence, Political Competition, and Renewable Energy Policy: A Dynamic Model. *Ecological Economics*.
- Houser, T., R. Kopp, S. Hsiang, M. Delgado, A. Jina, K. Larsen, M. Mastandrea, S. Mohan, R. Muir-Wood, D. J. Rasmussen, J. Rising, & P. Wilson (2015). *Economic risks of climate change: an American prospectus*. Columbia University Press.
- Rising, J. (2014). Creating the Commons: Fisheries and the World Bank. *History of economic thought and policy*, 75 – 95, DOI: 10.3280/SPE2014-001003.

#### REPORTS AND ONLINE BOOKS

- DeFries, R. *et al.* (2019). The missing economic risks in assessments of climate change impacts. Policy insight.
- Sachs, J., Cordes, K., Rising, J., Toledano, P., and Maennling, N. (2019). Ensuring Economic Viability and Sustainability of Coffee Production. Columbia Center on Sustainable Investment.
- Rising, J., Sachs, J., *et al.* (2015). The impacts of climate change on coffee: trouble brewing. <http://eicoffee.net>
- Rising, J. (2015). Scales for scales: An open look at the open sea. ProQuest. <https://search.proquest.com/docview/1682500237>
- Rising, J. (2005). DSPFirst Lab Book. Olin College of Engineering, <http://existencia.org/files/dsplabs.pdf>

#### POPULAR MEDIA

- Ramesh, N., Rising, J., Oremus, K. (September 18, 2019). Fish larvae float across national borders, binding the worlds oceans in a single network. *The Conversation*.
- Rising, J. (October 31, 2017). Rick Perry’s Plan To Help Coal Could Hold Back Renewables, But It Isn’t The Only Barrier. *Forbes*.

#### CIRCULATING WORKING PAPERS

- Crop switching reduces agricultural losses from climate change in the United States by half (with Naresh Devineni, under review at Nature Communications)
- Valuing the Global Mortality Consequences of Climate Change Accounting for Adaptation Costs and Benefits (with Tamma Carleton *et al.*, under review at American Economic Review)
- A model of America’s Water (with Laureline Josset, Tara Troy, and Upmanu Lall, under review at Global Environmental Change)
- Confounding adaptation in perennial climate damages: A unified statistical approach for Brazilian coffee

- Global benefits of marine protected areas (with Geoffrey Heal, NBER)
- Performance of agricultural process models using global data (with Mark Cane)

#### AWARDS

2015 – 2017	<b>Ciriacy-Wantrup Postdoctoral Fellowship</b> , University of California, Berkeley.
2012 – 2015	<b>NSF Graduate Research Fellowship Program Fellow</b>
2013	<b>Co-organizer</b> , Interdisciplinary Ph.D. Workshop in Sustainable Development
2003	<b>Todd Anderson Teaching Award</b> , Experimental Study Group, M.I.T.
2000	<b>Fiekowsky Community Service Award</b> , Experimental Study Group, M.I.T.

#### GRANT PROJECTS

2019 – PRESENT	<b>The economic impacts of climate change – expert workshop</b> – Co-PI (Funded by Department for Business, Energy & Industrial Strategy, £80,000)
2019 – PRESENT	<b>Mapping and modeling of interbasin water transfers within the United States</b> – PI: Landon Marston (Funded by NIWR/USGS, \$250,000).
2018 – 2019	<b>Economic and policy analysis for improving smallholder coffee producers' incomes</b> – (Funded by Lavazza Foundation, \$30,000).
2015 – 2016	<b>Social Science Meta Analysis and Research Transparency</b> – PI: Solomon Hsiang (Funded by the Berkeley Institute for Transparency in the Social Sciences, \$30,000)
2015	<b>Probabilistic projections of potential humanitarian response needs 2015-2035</b> – PI: Marc Levy (\$5,000)
2014 – 2017	<b>America's water: the changing landscape of risk, competing demands and climate</b> – Co-PIs: Upmanu Lall, Lisa Goddard, Michael Gerrard, Marc Levy, and Brendan O'Flaherty (Funded by NSF, \$2,016,098)
2014 – 2015	<b>Earth Institute Study of Coffee Production and Trade</b> – PI: Jeffrey Sachs (Funded by Illy Coffee and Lavazza, \$200,000)
2013 – 2014	<b>Econometric assessment of climate change impacts in the USA</b> – PI: Solomon Hsiang
2013 – 2014	<b>Electricity and Green Development</b> – PI: Wolfram Schlenker (Funded by GGGI, \$20,000)
2013	<b>Damage Function Merging for Integrated Assessment Models</b> – PI: Robert Kopp (\$10,000)

#### TEACHING EXPERIENCE

2019	<b>Applied Environmental Economics</b> – LSE
2018, 2019	<b>Climate Change: Science, Economics, and Policy</b> – LSE
2013, 2015	<b>Complexity Science</b> – Columbia University, developed curriculum and co-taught with Upmanu Lall and Johannes Castner (2013) and Marion Dumas (2015)
2012	<b>Progressive Alternatives</b> – Columbia University (joint with Harvard and Sciences Po), TA for Jeffrey Sachs
2011	<b>Environmental Science for Sus. Dev.</b> – Columbia University, TA for John Mutter
2008	<b>Future Seminar</b> – Experimental Study Group, M.I.T., Instructor
2005	<b>Run the World Seminar</b> – Experimental Study Group, M.I.T., and Olin College of Engineering, Instructor
2005	<b>Philosophy of Love</b> – Massachusetts Institute of Technology, TA for Lee Perlman
2005	<b>Introductory Electronics</b> – Olin College of Engineering, TA for Gill Pratt
2005	<b>Engineering of Distributed Systems</b> – Olin College of Engineering, TA for Gill Pratt
2004	<b>Human System Dynamics</b> – Olin College of Engineering, Instructor
2004	<b>Engineering of Continuous Systems</b> – Olin College of Engineering, TA for Gill Pratt
2004 – 2005	<b>Discrete Signal Processing</b> – Olin College of Engineering, TA for Diana Dabby
2003	<b>Software Using Images and Sound</b> – Olin College of Engineering, TA for Jill Crisman
2003	<b>Technologies and Cultures</b> – Experimental Study Group, M.I.T., co-taught with Amilio Aviles
2003	<b>The Learning Seminar</b> – Experimental Study Group, M.I.T., Instructor
2001 – 2002	<b>Structure and Interpretation of Computer Programs</b> – Massachusetts Institute of Technology, TA for Eric Grimson and Ben Vandiver
2000 – 2003	<b>Lego Robotics Seminar</b> – Experimental Study Group, M.I.T., Instructor

## ONLINE CLASS MATERIALS

- Rising, J. and A. Aviles (2011). SP.272 / ES.SP272 Culture and Technology, Spring 2003. Massachusetts Institute of Technology: MIT OpenCourseWare, <http://ocw.mit.edu/courses/special-programs/sp-272-culture-tech-spring-2003/>
- Rising, J. (2010). SP.256 / ES.SP256 The Coming Years. Massachusetts Institute of Technology: MIT OpenCourseWare, <http://ocw.mit.edu/courses/special-programs/sp-256-the-coming-years-spring-2008/>
- Rising, J. (2009). SP.291 / ES.SP291 Learning Seminar: Experiments in Education. Massachusetts Institute of Technology: MIT OpenCourseWare, <http://ocw.mit.edu/courses/special-programs/sp-291-learning-seminar-experiments-in-education-spring-2003/>
- Rising, J. (2008). SP.293 / ES.SP293 Lego Robotics. Massachusetts Institute of Technology: MIT OpenCourseWare, <http://ocw.mit.edu/courses/special-programs/sp-293-lego-robotics-spring-2007/>

## INDUSTRY EXPERIENCE

1997 – 2012      **Contract Software Development** – Statistical analysis (**D<sub>x</sub>CG, Inc.**), database tools (**Terascape Software, EMC<sup>2</sup>, Inc., NormaTec, Inc.**), website development (**iNeed.com, SoundSpectrum**), audio and video processing (**Wave Arts, Inc., SalientStills, Harmonix Music**), mobile apps (**EnginArt, Liiiike, Inc.**)

2009 – 2010      **Wired for Change** – Head advocacy developer

2008 – 2009      **Virsona, Inc.** – Chief natural lanaguge architect

2006 – 2008      **Travelers Network** – CEO and head developer

Experience in assembly, C++ (C, C#, Objective-C), Java, Julia, Lisp, Perl, PHP, Python, Ruby, Matlab, R, SAS, SQL, Stata, VB, XHTML, and .NET. Familiarity with several development frameworks and databases.

## PRESENTATIONS

2019	<b>Columbia University</b> , Sustainable Development Research Conference
2019	<b>Project for the Study of the 21st Century</b> , panel speaker*
2019	<b>Integrating impacts, mitigation and inequality</b> , talk*
2019	<b>EAERE Annual Conference</b> , talk
2019	<b>CEPR-EBRD-EoT-LSE Symposium on Environmental Economics and the Green Transition</b>
2019	<b>European Coffee Federation Meeting</b> , keynote*
2019	<b>Alliance Summer School in Science and Policy</b> , talk and workshop*
2018	<b>NBER Summer Institute</b> , Environmental and Energy Economics Workshop
2018	<b>1st International Conference on Water Security</b> , talk
2018	<b>Columbia University</b> , Sustainable Development Research Conference
2018	<b>Alliance Summer School in Science and Policy</b> , talk and workshop*
2017	<b>American Geophysical Union</b> , Fall Meeting
2016	<b>NBER Summer Institute</b> , Environmental and Energy Economics Workshop, short talk
2016	<b>Alliance Summer School in Science and Policy</b> , talk and workshop*
2016	<b>Columbia University</b> , Sustainable Development Research Conference
2016	<b>American Geophysical Union</b> , Ocean Sciences
2015	<b>American Geophysical Union</b> , Fall Meeting
2015	<b>Global Coffee Forum</b>
2014	<b>International Institute of Fisheries Economics and Trade</b>
2014	<b>Columbia University</b> , Interdisciplinary Ph.D. Workshop in Sustainable Development
2014	<b>American Geophysical Union</b> , Fall Meeting
2013	<b>Union of Concerned Scientists</b> , Project Meeting*
2013	<b>Columbia University</b> , Interdisciplinary Ph.D. Workshop in Sustainable Development
2013	<b>International Congress for Conservation Biology</b> , Conservation Conflicts Panelist*
2013	<b>Earth System Governance Tokyo Conference</b> , Semi-Plenary Panelist*
2012	<b>4th International Ecosummit</b>
2012	<b>Columbia University</b> , Interdisciplinary Ph.D. Workshop in Sustainable Development
2011	<b>American Geophysical Union</b> , Fall Meeting
2010	<b>Salsa Users Conference</b> , Panel Host
2007	<b>Mathworks, Inc.</b> , Apps Meeting*

\* Invited presentation

## PROFESSIONAL SERVICE

**Committees:** Climate Change and Environment Research Seminar Series; Grantham Research Institute Public Event Committee, Net-Zero Grantham Research Institute Coordinator.

**Conference organization:** **AGU Session:** The Future of America's Water: understanding the landscape of water security risk, and addressing the associated societal and economic impacts (co-chair, oral and poster, 2016-2017); Towards better water planning and management in an uncertain world (co-chair, 2018); **Student Conferences:** Sustainable Development Research Conference (co-organizer, Columbia University, 2016); Interdisciplinary Ph.D. Workshop in Sustainable Development (co-organizer, Columbia University, 2014); Science and Policy Summer School (coordinator, Sciences Po, 2012)

**Reviewer:** Journal of Econometrics; Journal of Environmental Economics and Management; Nature Climate Change; Climatic Change; Journal of Conflict Resolution; Economics of Disasters and Climate Change; Environment and Development Economics; Ecological Economics; PLOS One; Conservation Letters, Environmental Resource Letters, Nature Communications, The Geographical Journal, The Econometrics Journal