

Jordan R. Fischbach

Curriculum vitae

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RAND Corporation
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EDUCATION

- 2010 Ph.D. in Policy Analysis
Pardee RAND Graduate School, Santa Monica, CA
Dissertation: *Managing New Orleans Flood Risk in an Uncertain Future Using Non-Structural Risk Mitigation*
- 2006 M.Phil in Policy Analysis
Pardee RAND Graduate School, Santa Monica, CA
- 2001 B.A. in History
Columbia University, New York, NY

PROFESSIONAL EXPERIENCE

- 2017 – present RAND Corporation
Senior Policy Researcher
- 2014 – present Climate Resilience Center
Co-director
- 2018 – 2020 RAND Corporation, Pittsburgh, PA
Quality Assurance Manager, Homeland Security Operational Analysis Center
- 2010 – 2013 Associate Policy Researcher
- 2011 – present Pardee RAND Graduate School, Santa Monica, CA
Faculty
- 2004 – 2010 Assistant Policy Analyst
- 2001 – 2004 The Cadmus Group, Inc., Helena, MT and Watertown, MA
Analyst
National Arts Journalism Program, Columbia University, New York, NY
- 1999 – 2000 Research Assistant

PUBLICATIONS

Refereed Journal Articles, Book Chapters, and Consensus Reports

- 2020 Wilson, Michael T., Jordan R. Fischbach, Kyle Siler-Evans, and Devin Tierney, “Modeling the uncertainty of potential impacts on Robust Stormwater Management from neighborhood-scale impervious cover change: a case study of population-based scenarios in Pittsburgh, Pennsylvania,” *Urban Water Journal*, 2020, DOI: [10.1080/1573062X.2020.1804594](https://doi.org/10.1080/1573062X.2020.1804594).
- 2019 Fischbach, J.R., D.R. Johnson, and D.G. Groves, “Flood damage reduction benefits and costs in Louisiana’s 2017 Coastal Master Plan,” *Environmental Research Communications*, Vol. 1, No. 11 October 2019.
- 2019 Groves, David G., E. Molina-Perez, E. Bloom, and J.R. Fischbach, "Robust Decision Making (RDM): Application to Water Planning and Climate Policy," in *Decision Making under Deep Uncertainty*, Springer, Cham, 2019, pp. 135-163.
- 2018 National Academies of Sciences, Engineering, and Medicine, *Understanding the Long-Term Evolution of the Coupled Natural-Human Coastal System: The Future of the U.S. Gulf Coast*, Washington, DC: The National Academies Press, 2018, <https://doi.org/10.17226/25108>.
- 2018 Efron, S., J.R. Fischbach, and G. Giordano, “Gaza’s Water and Sanitation Crisis: The Implications for Public Health,” in (Ed.) Kurz, A., U. Dekel, B. Berti, *The Crisis of the Gaza Strip: A Way Out*, Tel Aviv: Institute for Security Studies, 2018, pp. 85-101.
- 2017 Gong, M., R. Lempert, A. Parker, L.A. Mayer, J. Fischbach, M.Sisco, Z. Mao, D.H. Krantz, H. Kunreuther, “Testing the Scenario Hypothesis: An Experimental Comparison of Scenarios and Forecasts for Decision Support in a Complex Decision Environment,” *Environmental Modelling and Software*, Vol. 91, 2017, pp. 135–155.
- 2016 Sanderson, Eric W., Philip Orton, Jordan R. Fischbach, Debra Knopman, Hugh Roberts, William D. Solecki, Jim Fitzpatrick, Scott C. Hagen, James T. Morris, and Robert Wilson, “Computational Modeling of the Jamaica Bay System,” in (Ed.) Sanderson, E.W., W.D. Solecki, J.R. Waldman, and A.S. Parris, *Prospects for Resilience: Insights from New York City's Jamaica Bay*, Island Press, Washington, D.C, 2016.
- 2016 Fischbach, Jordan R., David R. Johnson, and Kenneth Kuhn. “Bias and Efficiency Tradeoffs in the Selection of Storm Suites Used to Estimate Flood Risk,” *Journal of Marine Science and Engineering*, Vol. 3, No. 1, Article 10, 2016, p. 1-18.
- 2016 Hoss, Frauke, Jordan R. Fischbach, and Edmundo Molina-Perez, "Effectiveness of Best Management Practices for Stormwater Treatment as a Function of Runoff Volume," *Journal of Water Resources Planning and Management*, Vol. 142, No. 11 July, 2016.

- 2015 Groves, David G., Evan Bloom, Robert J. Lempert, Jordan R. Fischbach, Jennifer Nevills, and Brandon Goshi, "Developing Key Indicators for Adaptive Water Planning," *Journal of Water Resources Planning and Management*, Vol. 141, No. 7, 2015.
- 2014 Knopman, Debra, Jordan Fischbach, David Groves, and Robert Lempert, "The Challenge of Adaptation under Deep Uncertainty: An Organizing Principle for Future Water Resources Research," *Water Resources IMPACT*, Vol. 16, No. 1, January, 2014, pp. 8-10.
- 2013 Johnson, David R., Jordan R. Fischbach, and David S. Ortiz, "Estimating Surge-Based Flood Risk with the Coastal Louisiana Risk Assessment Model," *Journal of Coastal Research*, No. 67 Special Issue—Louisiana's 2012 Coastal Master Plan Technical Analysis, 2013, pp. 109-126.

Peer Reviewed RAND Publications

- 2020 Fischbach, Jordan R., Linnea Warren May, Katie Whipkey, Shoshana R. Shelton, Christine Anne Vaughan, Devin Tierney, Kristin J. Leuschner, Lisa S. Meredith, Hilary J. Peterson, *After Hurricane Maria: Predisaster Conditions, Hurricane Damage, and Recovery Needs in Puerto Rico*, Homeland Security Operational Analysis Center operated by the RAND Corporation, RR-2595-DHS, forthcoming.
- 2020 Tingstad, Abbie, Michael T. Wilson, Katherine Anania, Jordan R. Fischbach, Susan A. Resetar, Scott Savitz, Kristin Van Abel, R. J. Briggs, Aaron C. Davenport, Stephanie Pezard, Kristin Sereyko, Jonathan Theel, Marc Thibault, and Edward Ulin, *Developing New Future Scenarios for the U.S. Coast Guard's Evergreen Strategic Foresight Program*, Homeland Security Operational Analysis Center operated by the RAND Corporation, RR-3147-DHS, 2020.
- 2020 Romita Grocholski, Krista, Michelle E. Miro, Jessica Spaccio, Samantha Borisoff, Art Degaetano, and Jordan R. Fischbach, *Mid-Atlantic Regional Climate Impacts Summary and Outlook: Spring 2020*, Santa Monica, Calif.: RAND Corporation, TL-A386-1, 2020.
- 2020 Miro, Michelle E., Krista Romita Grocholski, Samantha Borisoff, Jessica Spaccio, Jordan R. Fischbach, Art Degaetano, and Kyle Haak, *Chesapeake Bay Watershed Climate Impacts Summary and Outlook: Winter 2019-2020*, Santa Monica, Calif.: RAND Corporation, TL-313/5-NOAA, 2020.
- 2020 Leftwich, James A., Debra Knopman, Jordan R. Fischbach, Michael J. D. Vermeer, Kristin Van Abel, and Nidhi Kalra, *Air Force Capability Development Planning: Analytical Methods to Support Investment Decisions*, Santa Monica, Calif.: RAND Corporation, RR-2931-AF, 2019.
- 2019 Miro, Michelle E., Krista Romita Grocholski, Samantha Borisoff, Jordan R. Fischbach, Art Degaetano, Pamela H. Braff, and Stephanie Tanverakul, *Chesapeake Bay Watershed Climate Impacts Summary and Outlook: Fall 2019*, Santa Monica, Calif.: RAND Corporation, TL-313/4-NOAA, 2019.

- 2019 Miro, Michelle E., Krista Romita Grocholski, Samantha Borisoff, Jordan R. Fischbach, and Art Degaetano, *Chesapeake Bay Watershed Climate Impacts Summary and Outlook: Summer 2019*, Santa Monica, Calif.: RAND Corporation, TL-313/3-NOAA, 2019.
- 2018 Fischbach, Jordan R., Michelle E. Miro, Lauren Kendrick, and Art Degaetano, *Chesapeake Bay Climate Impacts Summary and Outlook: Extreme Precipitation Analysis*, Santa Monica, CA: RAND Corporation, TL-313-NOAA, 2018.
- 2018 Efron, Shira, Jordan R. Fischbach, Ilana Blum, Rouslan I. Karimov, and Melinda Moore, *The Public Health Impacts of Gaza's Water Crisis: Analysis and Policy Options*, Santa Monica, CA: RAND Corporation, RR-2515-RC, 2018.
- 2018 Fischbach, Jordan R., Debra Knopman, Heather Smith, Philip Orton, Eric Sanderson, Kim Fisher, Nerissa Moray, Adam Friedberg, and Adam Parris, *Building Resilience in an Urban Coastal Environment: Integrated, Science-Based Planning in Jamaica Bay, New York*, Santa Monica, CA: RAND Corporation, RR-2193-RF, 2018.
- 2017 Fischbach, Jordan R., David R. Johnson, and Edmundo Molina-Perez, *Reducing Coastal Flood Risk with a Lake Pontchartrain Barrier*, Santa Monica, CA: RAND Corporation, RR-1988-CPRA, 2017.
- 2017 Warren May, Linnea, Jordan R. Fischbach, and Michele Abbott, *Informing Pittsburgh's Options to Address Lead in Water*, Santa Monica, CA: RAND Corporation, PE-247-RC, 2017.
- 2017 Fischbach, Jordan R., Kyle Siler-Evans, Devin Tierney, Michael Wilson, Lauren Cook, Linnea Warren May, *Robust Stormwater Management in the Pittsburgh Region: A Pilot Study*, Santa Monica, CA: RAND Corporation, RR-1673-MCF, 2017.
- 2016 Willis, Henry H., Anu Narayanan, Jordan R. Fischbach, Edmundo Molina-Perez, Chuck Stelzner, Kathleen Loa, Lauren Kendrick, *Current and Future Exposure of Infrastructure in the United States to Natural Hazards*, Santa Monica, CA: RAND Corporation, RR-1453-DHS, 2016.
- 2016 Narayanan, Anu, Henry H. Willis, Jordan R. Fischbach, Drake Warren, Edmundo Molina-Perez, Chuck Stelzner, Kathleen Loa, Lauren Kendrick, Paul Sorensen, and Tom LaTourrette, *Characterizing National Exposures to Infrastructure from Natural Disasters: Data and Methods Documentation*, Santa Monica, CA: RAND Corporation, RR-1453/1-DHS, 2016.
- 2016 Groves, David G., Kenneth Kuhn, Jordan R. Fischbach, David R. Johnson, and James Syme, *Analysis to Support Louisiana's Flood Risk and Resilience Program and Application to the National Disaster Resilience Competition*, Santa Monica, CA: RAND Corporation, RR-1449-CPRA, 2016.
- 2015 Fischbach, Jordan R., Robert J. Lempert, Edmundo Molina-Perez, Abdul Tariq, Melissa L. Finucane, and Frauke Hoss, *Managing Water Quality in the Face of Uncertainty: A Robust Decision Making Demonstration for EPA's National Water Program*, Santa Monica, CA: RAND Corporation, RR-720-EPA, 2015.

- 2014 Groves, David G., Jordan R. Fischbach, Debra Knopman, David R. Johnson, and Kate Giglio, *Strengthening Coastal Planning: How Coastal Regions Could Benefit from Louisiana's Planning and Analysis Framework*, Santa Monica, CA: RAND Corporation, RR-437-RC, 2014.
- 2013 Groves, David G., Jordan R. Fischbach, Evan Bloom, Debra Knopman, and Ryan Keefe, *Adapting to a Changing Colorado River: Making Future Water Deliveries More Reliable through Robust Management Strategies*, Santa Monica, CA: RAND Corporation, RR-242-BOR, 2013.
- 2013 Lempert, Robert J., Steven W. Popper, David G. Groves, Nidhi Kalra, Jordan R. Fischbach, Steven C. Bankes, Benjamin P. Bryant, Myles T. Collins, Klaus Keller, Andrew Hackbarth, Lloyd Dixon, Tom LaTourrette, Robert T. Reville, Jim W. Hall, Christophe Mijere, and David J. McInerney, *Making Good Decisions without Predictions: Robust Decision Making for Planning under Deep Uncertainty*, Santa Monica, CA: RAND Corporation, RB-9701, 2013.
- 2012 Fischbach, Jordan R., David R. Johnson, David S. Ortiz, Benjamin P. Bryant, Matthew Hoover, and Jordan Ostwald, *Coastal Louisiana Risk Assessment Model: Technical Description and 2012 Coastal Master Plan Analysis Results*, Santa Monica, CA: RAND Corporation, TR-1259-CPRA, 2012.
- 2012 Johnson, Stuart E., John E. Peters, Karin E. Kitchens, Aaron L. Martin, and Jordan R. Fischbach, *A Review of the Army's Modular Force Structure*, Santa Monica, CA: RAND Corporation, TR-927-2-OSD, 2012.
- 2012 Bonds, Timothy M., John E. Peters, Endy M. Daehner, Lionel A. Galway, Jordan R. Fischbach, Eric Stephen Gons, Garrett D. Heath, and Jean M. Jones. *Army Network-Enabled Operations: Expectations, Performance, and Opportunities for Future Improvements*, Santa Monica, CA: RAND Corporation, MG-788-A, 2012.
- 2010 Fischbach, Jordan R., *Managing New Orleans Flood Risk in an Uncertain Future Using Non-Structural Risk Mitigation*, Santa Monica, CA: RAND Corporation, RGSD-262, 2010.
- 2007 Groves, David G., Jordan R. Fischbach, and Scot Hickey, *Evaluating the Benefits and Costs of Increased Water-Use Efficiency in Commercial Buildings*, Santa Monica, CA: RAND Corporation, TR-461-NAT, 2007.
- 2007 Peters, John E., Bruce J. Held, Michael Hynes, Brian Nichiporuk, Christopher H. Hanks, and Jordan R. Fischbach, *A Methodology for Developing Army Acquisition Strategies for an Uncertain Future*, Santa Monica, CA: RAND Corporation, MG-532-A, 2007.

Other Publications

- 2020 Fischbach, Jordan R., Krista Romita Grocholski, Debra Knopman, Valerie Washington, Alan Cohn, John Brock, *Climate-Resilient Planning for Urban Stormwater and Wastewater Utilities: Workshop Proceedings*, Water Research Foundation Report #5001, February 2020.
- 2018 Warren May, Linnea, Serafina Lanna, Jordan Fischbach, Michelle Bongard, Shelly Culbertson, Rebecca Kiernan, Grant Ervin, Ricardo Williams *Pittsburgh Equity Indicators: A Baseline Measurement for Enhancing Equity in Pittsburgh 2018 Annual Report*, Pittsburgh, PA: City of Pittsburgh, 2019.
- 2018 LaTourrette, Tom, Andrew Lauland, Jordan Fischbach, Neil Berg, Chuck Stelzner, *Assessing Vulnerability and Improving Resilience of Critical Emergency Management Infrastructure in California in a Changing Climate*, technical report for California's Fourth Climate Change Assessment, CCCA4-CNRA-2018-015, August 2018.
- 2018 Warren May, Linnea, Serafina Lanna, Jordan Fischbach, Michelle Bongard, Shelly Culbertson, Rebecca Kiernan, Grant Ervin, *Pittsburgh Equity Indicators: A Baseline Measurement for Enhancing Equity in Pittsburgh 2017 Annual Report*, Pittsburgh, PA: City of Pittsburgh, 2018.
- 2017 Fischbach, J.R., D.R. Johnson, K. Kuhn, M. Pollard, C. Stelzner, R. Costello, E. Molina, R. Sanchez, J. Syme, H. Roberts, and Z. Cobell, *2017 Coastal Master Plan Modeling: Attachment C3-25 – Storm Surge and Risk Assessment*, Version 3, Baton Rouge, LA: Coastal Protection and Restoration Authority, 2017, pp. 1-202.
- 2017 Reed, Denise, Ann Hijuelos, Scott Hemmerling, Eric White, and Jordan Fischbach, *2017 Coastal Master Plan: Attachment C4-11: Metrics*, Baton Rouge, Louisiana: Coastal Protection and Restoration Authority of Louisiana, 2017, pp. 1-54.
- 2016 Alymov, Vadim, Zachary Cobell, Kim de Mutsert, Zhifei Dong, Scott Duke-Sylvester, Jordan R. Fischbach, Kevin Hanegan, Kristy Lewis, David Lindquist, J. Alex McCorquodale, Michael Poff, Hugh Roberts, Jenni Schindler, Jenneke M. Visser, Yushi Wang, Zhanxian 'Jonathan' Wang, and Eric White, *2017 Coastal Master Plan: Appendix C: Chapter 4 – Model Outcomes and Interpretations*, Version III, Baton Rouge, Louisiana: Coastal Protection and Restoration Authority, 2016, pp. 1-448.
- 2016 Cobell, Zachary, Kim de Mutsert, Scott Duke-Sylvester, Jordan R. Fischbach, J. Alex McCorquodale, Ehab Meselhe, Michael Poff, Denise J. Reed, Hugh Roberts, and Eric White, *2017 Coastal Master Plan: Appendix C: Chapter 5 – Modeling Conclusions and Looking Forward*, Version I. Baton Rouge, Louisiana: Coastal Protection and Restoration Authority, 2016, pp. 1-21.
- 2015 Johnson, David R., Jordan R. Fischbach, and Kenneth Kuhn. "Current and Future Flood Risk in Greater New Orleans," in *The New Orleans Index at Ten*, New Orleans, LA: The Data Center, 2015.

- 2014 Groves, David G., Jordan R. Fischbach, and Evan Bloom, "High and Dry? From the Rockies to the Sierra, Water Managers Gauge Implications of Climate Change," *RAND REVIEW*, Vol. 38, No. 1, Spring, 2014, pp. 19-25.
- 2014 Groves, David G. , Jordan R. Fischbach, Nidhi Kalra, Edmundo Molina-Perez, David Yates, David Purkey, Amanda Fencel, Vishal K. Mehta, Ben Wright, and Grantley Pyke, *A Framework for Assessing Climate Change Vulnerability and Defining Robust Risk Management Strategies for Water Utilities* (Project 4262), Denver, CO: Water Research Foundation, October, 2014.
- 2013 Jerla, Carly, Ken Nowak, Armin Munevar, Les Lampe, David G. Groves, and Jordan R. Fischbach, "Long-Term Planning Investments Paying Dividends: The Colorado River Basin Water Supply and Demand Study," in UNESCO, ed., *Free Flow: Reaching Water Security through Cooperation*, Paris, France: United Nations Educational, Scientific and Cultural Organization/Tudor Rose, 2013, pp. 115-118.
- 2013 Lempert, Robert J., David G. Groves, and Jordan R. Fischbach, *Is It Ethical to Use a Single Probability Density Function?*, Santa Monica, CA: RAND Corporation, WR-992-NSF, 2013.
- 2012 Fischbach, Jordan R., David R. Johnson, David S. Ortiz, Benjamin P. Bryant, Matthew Hoover, and Jordan Ostwald, "Appendix D-25: Risk Assessment (CLARA) Model Technical Report," *Louisiana's Comprehensive Master Plan for a Sustainable Coast, Coastal Protection and Restoration Authority of Louisiana*, Baton Rouge, LA, 2012.
- 2009 Groves, David G., Jordan R. Fischbach, and Christopher Sharon, "Appendix B: A New Approach for Prioritizing Coastal Protection and Restoration Projects," *Fiscal Year 2010 Annual Plan: Integrated Ecosystem Restoration and Hurricane Protection in Coastal Louisiana*, Baton Rouge, LA: Coastal Protection and Restoration Authority of Louisiana, 2009.

AWARDS

- 2018 Bronze Medal Award, RAND Corporation
- 2012 President's Choice Award, RAND Corporation
- 2010 Herbert Goldhamer Memorial Award, Pardee RAND Graduate School
- 2009 Rothenberg Dissertation Award, Pardee RAND Graduate School
- 2008 RGSPI Scholars Dissertation Award, RAND Gulf States Policy Institute
- 2007 Merit Bonus Award (Silver), RAND Corporation
- 2007 Spot OJT Award, RAND Corporation
- 2004 Vogelstein Scholarship, Pardee RAND Graduate School
- 2001 Summa Cum Laude, Department Honors, Columbia University

SELECTED RESEARCH EXPERIENCE

- 2019 - Present **Developing and Applying an Improved Version of the Coastal Louisiana Risk Assessment (CLARA) Model to Support the 2023 Coastal Master Plan**
Principal investigator and risk assessment team lead for a project to further update the CLARA model and provide next-level modeling capabilities for Louisiana CPRA to efficiently estimate flood risk under a different environmental, operational, and growth uncertainties, and with various proposed projects in place.
- 2018 – 2020 **Valuing the Resilience Benefits of Green Infrastructure: An Urban Systems Analysis for Key Watersheds in Pittsburgh**
Principal Investigator for a detailed evaluation of the economic, social, and ecosystem benefits and costs of a range of green stormwater infrastructure proposals for Pittsburgh’s Negley Run watershed; project applies simulation modeling and Robust Decision Making to evaluate proposals across a range of uncertain climate futures; funded by the Henry L. Hillman Foundation and Heinz Endowments.
- 2018 – 2019 **Puerto Rico Economic and Disaster Long Term Recovery Plan: Damage and Needs Assessment**
Damage and Needs Assessment Team Lead for Homeland Security Operational Analysis Center (HSOAC) project to provide analytic and technical support for Puerto Rico’s long term economic and hurricane recovery plan, sponsored by FEMA; effort includes integrating information and analysis on damage and needs assessment and possible solutions from the various partners and stakeholders, (2) providing in-depth analytical support to facilitate objective decisionmaking about the recovery, and (3) helping to author the plan and supporting technical appendices.
- 2017 – Present **Pittsburgh’s Equity Indicators: Enhancing Equity in Pittsburgh**
Principal Investigator for a two-year project conducted in partnership with the City of Pittsburgh to develop the Equity Indicators tool, a set of 80 measures that report disparities by race, gender, or income in four domains, using a methodology developed by the CUNY Institute for State and Local Governance for New York’s Equality Indicators effort; funded by the 100 Resilient Cities network.

- 2016 – Present **Mid-Atlantic Regional Integrated Sciences and Assessments (MARISA) Center**
Co-Investigator for RAND’s five-year MARISA center supported by NOAA, partnering with Pennsylvania State University, Johns Hopkins, and Cornell University; MARISA’s goal is to support the effective utilization of climate science and the building of adaptive capacity and resilience to climate variability and change in the Mid-Atlantic region.
- 2017 – 2018 **Evaluation of the Air Force’s Strategic Development Planning and Experimentation Technology Directorate’s Analytical Framework**
Provided analytical support to the Air Force Strategic Development Planning & Experimentation (SDPE) Technology Directorate; the effort focused on evaluating methods for decision making under uncertainty and multi-objective analysis to support Air Force planning choices and investment decisions.
- 2014 - 2018 **Integrated Analysis and Planning to Reduce Coastal Risk, Improve Water Quality, and Restore Ecosystems in Jamaica Bay, New York**
Co-principal investigator on a multiyear effort to work with local, state, and federal agencies with responsibilities in Jamaica Bay, located in South Brooklyn and Queens in New York City, as well as the Science and Resilience Institute at Jamaica Bay, to develop an integrated modeling and scenario analysis and evaluate baywide alternatives that address coastal resilience, ecosystem health and habitat function, and water quality goals.
- 2015 – 2017 **Developing the City of Pittsburgh’s 100 Resilient Cities Resilience Strategy**
Site Principal Investigator supporting the development of a resilience strategy for Pittsburgh, PA through the 100 Resilient Cities initiative, powered by the Rockefeller Foundation; responsibilities include day-to-day management of the RAND Pittsburgh team, oversight of the relationship with the city resilience team, and leadership of design and content for the resilience strategy.
- 2015 – 2017 **Resilient Stormwater Management in Allegheny County and the Pittsburgh Metropolitan Region**
Site Principal Investigator on a study funded by the MacArthur Foundation to support stormwater decisionmaking in light of climate change and land use uncertainty in Allegheny County, PA; providing initial estimates of future vulnerability of regional combined sewer system and evaluating different proposed stormwater management options to identify cost-effective solutions that could be more robust to future change.

- 2013 – 2017 **Developing and Applying an Improved Version of the Coastal Louisiana Risk Assessment (CLARA) Model to Support the 2017 Coastal Master Plan**
Principal investigator and team lead for a project to update the CLARA model and provide next-level modeling capabilities for Louisiana CPRA to efficiently estimate flood risk under a wide range of future environmental, operational, and growth uncertainties, and with various proposed projects in place. The improved model has been used to evaluate selected flood protection proposals (e.g., Upper Barataria, Lake Pontchartrain Barrier) and is currently being employed to evaluate flood depths and damage across a range of future scenarios in a future without action and with a different projects and coastal alternatives in place to support the development of Louisiana’s 2017 Coastal Master Plan.
- 2013 – 2015 **Characterizing National Vulnerabilities from Infrastructure Disruptions by Natural Disasters**
Developed an assessment of natural disaster risks to critical infrastructure for the Department of Homeland Security’s Office of Infrastructure Protection; technical lead on the incorporation of climate uncertainty into projections of future natural disaster risks.
- 2011 – 2015 **Using RDM to Manage Climate and Other Uncertainties in EPA’s National Water Program**
Co-principal investigator on a study designed to assess the value of Robust Decision Making for planning activities within EPA’s Office of Water. Serving as technical lead on multiple tasks, including a case study applying RDM to water quality decision making for urban stormwater management in the Patuxent River, part of the Chesapeake Bay watershed.
- 2011 – 2013 **Vulnerability Assessment and Risk Management Tools for Climate Change**
Assessed Potential Impacts and Identifying Adaptation Options Currently applying Robust Decision Making in a pilot study with the Colorado Springs Utilities designed to improve the robustness their long-term Integrated Water Resources Plan; technical lead.
- 2010 – 2012 **Applying the Coastal Louisiana Risk Assessment (CLARA) Model to Support Louisiana’s 2012 Coastal Master Plan**
Principal investigator on a multiyear effort to develop and apply a storm-surge flood risk model for coastal Louisiana, which supports the development of Louisiana’s *2012 Master Plan for a Sustainable Coast*; responsibilities included flood elevation and damage assessment methodology development; management of a large project team, budget management, outreach to clients at the State of Louisiana and coordination with four partner organizations, and briefings to technical oversight panels, stakeholders, and members of the public.

- 2010 – 2012 **Decision Making under Uncertainty in the Colorado River Basin**
Applied robust decision methods to support Reclamation’s Colorado River Basin Study and consider the potential effects of growing water demand and climate change on future basin water supply reliability; study awarded a “Partners In Conservation” award from the U.S. Department of Interior in 2012.
- 2009 – 2012 **Reducing New Orleans Storm-Surge Flood Risk in an Uncertain Future**
Identified the grant opportunity and co-wrote a successful proposal for a two-year NOAA-funded project; worked with the New Orleans Office of Homeland Security to consider the benefits and costs of local hurricane risk mitigation programs under planning uncertainty.

INVITED TALKS

- 2020 Pittsburgh Foundation, “Pittsburgh Should Work To Reduce Climate Change Impacts,” Climate Change Giving Circle Invited Speaker (webinar), August 12.
- 2020 Chatham University, “Climate Change and Stormwater in Pittsburgh,” Climate Change Science Invited Presenter (webinar), April 6.
- 2019 Nine Mile Run Watershed Association, “Climate Change and Stormwater in Pittsburgh,” Invited Speaker, November 15.
- 2019 Green Building Alliance, “Climate Change and Stormwater in Pittsburgh,” Invited Speaker, September 5.
- 2019 Pennsylvania State University, “Robust Decision Making for Urban Stormwater Systems,” Sustainable Climate Risk Management (SCRiM) Summer School, August 2.
- 2019 The Nature Conservancy, “Climate Resilient Management of Urban Stormwater Systems,” Invited Presenter (webinar), January 11.
- 2018 Pittsburgh Water and Sewer Authority Stormwater Advisory Group, Invited Speaker, Pittsburgh, PA, November 29.
- 2018 Sustainable Pittsburgh Water Systems and Regional Resilience Workshop, “Informing Pittsburgh’s Options to Address Lead in Water: One Year Later,” Invited Speaker, Pittsburgh, PA, September 13.
- 2018 Carnegie Mellon University, “Planning by Design: Campuses, Waterfronts, Districts, and Innovation in City Design” Seminar, Invited Speaker, Pittsburgh, PA, March 22.
- 2017 World Affairs Council of Pittsburgh, 47th Annual World Affairs Institute for Student Leaders: “Global Solutions to the Environmental Crisis,” Invited Speaker and Panelist, Pittsburgh, PA, October 18.
- 2017 Society for Environmental Journalists Annual Meeting, Invited Speaker, Pittsburgh, PA, October 5.

- 2017 Chesapeake Bay Program Science and Technical Advisory Committee Workshop: Monitoring and Assessing Impacts of Changes in Weather Patterns and Extreme Events on BMP Siting and Design, Steering Committee Member and Presenter, Annapolis, MD, September 7-8.
- 2017 American Water Resources Association Summer Specialty Conference, Climate Change Solutions: Collaborative Science, Policy, and Planning for Sustainable Water Management: Plenary Panel Speaker “Managing Climate Uncertainty with Robust and Adaptive Strategies,” Tysons, VA, June 26.
- 2017 Gaza 2020: Imagining another Future, Institute for National Security Studies Policy Workshop, Invited Participant, Tel Aviv, Israel, May 25.
- 2016 18th Annual 3 Rivers Wet Weather Sewer Conference: “Resilient Stormwater Management in Allegheny County: Analysis Results and Key Findings,” October 13.
- 2016 Network for Sustainable Climate Risk Management (SCRiM) Seminar: “Current and Future Coastal Flood Risk in New Orleans and South Louisiana,” Penn State University, April 7.
- 2016 Workshop on Engineering, Design and Implementation of Natural Coastal Infrastructure Solutions to Enhance Hampton Roads’ Resiliency, “Robust Decision Making for Natural Infrastructure Planning,” Norfolk, VA, February 9.
- 2016 American Water Resources Association Webinar: “Climate Change Adaptation and Flooding, Managing Future Flood Risk in Coastal Louisiana,” February 3.
- 2016 Assessing Uncertainty in the USEPA Chesapeake Bay Program Modeling System Scientific and Technical Advisory Committee Workshop: “Managing Water Quality In the Face of Uncertainty: A Robust Decision Making Demonstration,” Washington, DC, February 2.
- 2015 Climate Change Adaptation for Journalists - Water Resources “Case Studies in Climate Change Adaptation I: Water” St. Louis, MO, May 12
https://www.youtube.com/watch?v=jdtB1mqF_Cs
- 2015 Third Annual Anba Dlo Water Symposium: “Coastal Restoration, Costs, and Climate Change/Subsidence: What to do if the scientists are right?” New Orleans, LA, October 18.
- 2015 Application of Robust Decision Making: Patuxent River Case Study, Chesapeake Bay Program Science and Technical Advisory Committee, Annapolis, MD (presented via teleconference).
- 2015 Conversations at RAND: “Water Management and Climate Resilience in Pittsburgh: Building a Research Agenda,” Pittsburgh, PA, June 24.
- 2014 Inter-Agency Forum on Climate Change Impacts & Adaptations: “Supporting Climate Adaptation Planning with Robust Decision Making,” Washington, DC, March 12.
- 2014 Homeland Infrastructure Foundation - Level Data (HIFLD) Working Group Meeting: “Innovative Decision Support Tools for Resilience: Lessons from Louisiana for Federal Planning,” Washington, DC, November 13.

- 2014 Center for Climate and Energy Decision Making, Carnegie Mellon University: “Protecting and Restoring Louisiana’s Coast: Applying the *Coastal Louisiana Risk Assessment* (CLARA) Model to Support Louisiana's 2012 Coastal Master Plan,” Pittsburgh, PA.
- 2014 NCAR Early Career Scientist Assembly Junior Faculty Forum on Future Scientific Directions: “Tools for Integrating Climate Uncertainty into Water Resources Planning,” Boulder, CO.

CONGRESSIONAL BRIEFINGS

- 2013 Adapting to Climate Change on the Coast: Lessons from Louisiana for Federal Policy, briefing to the Senate Homeland Security Committee, Washington, DC.

CONFERENCE ACTIVITY/PARTICIPATION

- 2020 American Society of Civil Engineers Environmental & Water Resources Institute Low Impact Development Virtual Conference 2020, “Exploring Green Stormwater Infrastructure as an Integrated Tool to Improve Resiliency,” July 21.
- 2019 Society for Decision Making Under Deep Uncertainty Annual Meeting, “Building Bridges: Lessons from resilience planning and applied RDM in Pittsburgh, PA,” Delft, Netherlands, November 7.
- 2019 Natural Areas Conference, “Climate Change and Stormwater in Pittsburgh,” October 8, 2019.
- 2019 Center for Natural Resource Economics and Policy 2019 Conference, “Integrated Planning to Evaluate Coastal Resilience Investments in Jamaica Bay, New York,” New Orleans, LA, May 20.
- 2019 Patuxent River Conference 2019, “Mid-Atlantic RISA: Bringing Together Knowledge of Climate and Weather to Support Decisionmakers in the Region,” Laurel, MD, March 27.
- 2018 Society for Decision Making Under Deep Uncertainty Annual Meeting, “Climate Resilient Management of Urban Stormwater Systems,” Plenary Speaker, Culver City, CA, November 14.
- 2017 American Geophysical Union 2017 Annual Meeting, “Connecting Systems Model Design to Decision-Maker and Stakeholder Needs: Lessons from Louisiana's Coastal Master Plan,” Session H32G-02, New Orleans, LA, December 13.
- 2017 American Geophysical Union 2017 Annual Meeting, “Robust Decision Making to Support Water Quality Climate Adaptation: A Case Study in the Chesapeake Bay Watershed,” Session H14H-06, New Orleans, LA, December 11.
- 2017 National Adaptation Forum, “Stormwater Management in Allegheny County: Building Climate Resilience across the Pittsburgh Metropolitan Region,” St. Paul, MN, May 9.

- 2016 American Water Resources Association 2016 Annual Meeting: Session Moderator “Climate Change and Environmental Impacts”; Presenter “Climate-Resilient Stormwater Management in Allegheny County, Pennsylvania,” Orlando, FL, November 13.
- 2016 State of the Coast 2016: Session Moderator “Results from Recent Studies of Storm Surge Risk and Mitigation Options,” New Orleans, LA, June 2.
- 2016 State of the Coast 2016: “An Updated Coastal Louisiana Risk Assessment (CLARA) Model to Estimate Flood Depths, Damage, and Risk Reduction Project Benefits,” New Orleans, LA, June 3.
- 2016 American Society for Civil Engineers, Pittsburgh Section, Resilient Infrastructure in the Age of Climate Change: “The Path Forward in the City of Pittsburgh,” Pittsburgh, PA, May 19.
- 2015 American Water Resources Association Summer Specialty Conference: Climate Change Adaptation “Managing Future Flood Risk in Coastal Louisiana,” New Orleans, LA, June 16.
- 2015 National Adaptation Forum, “Cross-Sector Climate Adaptation in Practice: Learning from Innovative Approaches,” Session Co-convener, St. Louis, MO, May 13.
- 2014 Flood Risk Reduction Benefits and Costs in Louisiana’s 2012 Coastal Master Plan. Presentation at the Society for Risk Analysis Annual Meeting, Denver, CO, December 7-11.
- 2014 Preparing for the Next Storm: What Katrina and Sandy Taught Us About the Flood Risk Reduction Benefits of Natural Shorelines? 7th National Summit on Coastal and Estuarine Restoration and 24th Biennial Meeting of The Coastal Society, Washington, DC, November 1–6.
- 2014 Integrated Analysis for Hazard Mitigation and Climate Adaptation: Lessons From Louisiana and Other Recent Applications, 14th National Conference and Global Forum on Science, Policy and the Environment: Building Climate Solutions, Hazard Mitigation and Climate Adaptation Symposium, Washington, DC, January 28–30.
- 2013 Protecting and Restoring Louisiana’s Coast, Decision Making Under Uncertainty Workshop, World Bank, Washington, DC, November 5–6.
- 2012 Identifying Strategies to Reduce Flood Risk in New Orleans that are More Robust to Future Uncertainty. Presentation at the State of the Coast Conference, New Orleans, LA, June 25–27.
- 2012 Louisiana Coastal Master Plan: Application of the *Coastal Louisiana Risk Assessment* (CLARA) Model to Predict Project Performance. Presentation at the State of the Coast Conference, New Orleans, LA, June 25–27.
- 2012 Predicting the Future of Coastal Louisiana: Applying the *Coastal Louisiana Risk Assessment* (CLARA) Model to Assess Long-Term Benefits from Flood Risk Reduction Projects. Presentation at the International Association for Ecology (INTECOL) Annual Meeting, Orlando, FL, June 3–8.

- 2009 Climate Change on the Colorado River: A Method to Search for Robust Management Strategies. Presentation to the American Water Resources Association Annual Water Resources Conference, Seattle, WA, November 9–12 (with R. Keefe).
- 2007 Evaluating the Benefits and Costs of Increased Water-Use Efficiency in Commercial Buildings. Presentation to the American Water Resources Association Annual Water Resources Conference, Albuquerque, NM, November 12–15.

COMMENTARIES

- 2017 Fischbach, Jordan R. How Should Water Professionals Invest in Resilience? *The Source*, July 3.
- 2017 Fischbach, Jordan R. and Linnea Warren May, 2017. Getting the Lead Out of Pittsburgh's Water. *Pittsburgh Post-Gazette*, July 2.
- 2017 Knopman, Debra, Robert J. Lempert, Jordan R. Fischbach, Benjamin Lee Preston, 2017. The Big Bet: Withdrawing from the Paris Climate Agreement. *Inside Sources*, June 2.
- 2015 Lempert, Robert J., Debra Knopman, Jordan R. Fischbach, 2015. COP21: Ambition and Momentum. *RAND.org*, December 17.
- 2015 Knopman, Debra, Robert Lempert, Jordan Fischbach, 2015. Future of Coastal Flooding. *TheHill.com*, February 25.
- 2013 In Brief: Jordan R. Fischbach on Adapting to Climate Change on the Coast. *RAND.org*, February 3.
- 2012 Groves, David G., Jordan R. Fischbach, Evan Bloom, 2012. New Colorado River Basin Study Examines Tremendous Challenges of the Coming 50 Years. *RAND.org*, December 18.
- 2012 Knopman, Debra, Jordan Fischbach, David Groves, 2012. What Louisiana can teach New York and New Jersey. *CNN.com*, November 8.
- 2012 Cecchine, Gary, David G. Groves, Jordan R. Fischbach. 2012. In Wake of Hurricane Sandy, Look to Louisiana for Lessons. *RAND.org*, November 1.
- 2012 Cecchine, Gary, Jordan R. Fischbach, 2012. Has the Gulf Coast Learned Katrina's Lessons in Time for Isaac? *U.S. News and World Report*, August 28.

SERVICE TO PROFESSION/OTHER SERVICE

- 2019 – present Vice President of Synagogue Life, Congregation Beth Shalom, Pittsburgh, PA.
- 2014 – 2019 Jewish Federation of Greater Pittsburgh, SteelTree Fund, Chair, Pittsburgh, PA, <https://shalompittsburgh.org/steeltree/>.
- 2017 – 2018 Committee on Long-term Coastal Zone Dynamics: Interactions and Feedbacks between Natural and Human Processes and their Implications for the U.S. Coastline, Member, Board of Earth Sciences and Resources, National Academy of Sciences, Washington, DC.

- 2015 – 2018 Grounded Strategies, Board of Directors, Pittsburgh, PA.
- 2017 – 2018 Landforce, Board of Directors, Pittsburgh, PA.
- 2015 Carnegie Mellon University, Department of Engineering and Public Policy,
Spring Term Advisory Board Member, Pittsburgh, PA.
- 2014 Department of Homeland Security (DHS), Science and Technology
Directorate (S&T) Peer Review panelist, August 25–26 Arlington, VA.

PROFESSIONAL MEMBERSHIPS/AFFILIATIONS

- 2017 – present American Society of Adaptation Professionals
- 2016 – present American Geophysical Union
- 2014 – present Society for Decision Making Under Deep Uncertainty