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**EDUCATION**

Pardee RAND Graduate School	Santa Monica, CA	Policy Analysis	Ph.D., 2010
Pardee RAND Graduate School	Santa Monica, CA	Policy Analysis	M.Phil., 2006
Columbia University	New York, NY	History	BA, 2001

**RESEARCH INTERESTS**

Climate adaptation, disaster recovery, hazard mitigation, urban resilience, water resources management, coastal planning, risk analysis, decision making under deep uncertainty, participatory data visualization.

**PROFESSIONAL EXPERIENCE**

The Water Institute	Vice President for Applied Research	2024–Present
	Director of Planning and Policy Research	2021–Present
RAND Corporation	Associate/Full/Senior Policy Researcher	2010–2021
	Climate Resilience Center Co-Director	2014–2021
Pardee RAND Graduate School	Faculty Member	2011–2021
Homeland Security Operational Analysis Center	Quality Assurance Manager	2018–202
RAND Corporation	Assistant Policy Analyst	2004–2010
The Cadmus Group, Inc.	Analyst	2001–2004

**PROFESSIONAL SOCIETY MEMBERSHIPS**

- Water Science and Technology Board, National Academies of Science, Engineering, and Medicine, 2021–Present
- Society for Decision Making Under Deep Uncertainty, 2014–Present
- American Society of Adaptation Professionals, 2017–2020.
- American Geophysical Union, 2016–2020.

**AWARDS AND HONORS**

- RAND Corporation Bronze Medal Award, 2018
- RAND Corporation President’s Choice Award, 2012
- Pardee RAND Graduate School Herbert Goldhamer Memorial Award, 2010
- Pardee RAND Graduate School Rothenberg Dissertation Award, 2009
- RAND Gulf States Policy Institute Scholars Dissertation Award, 2008
- RAND Corporation Silver Medal Award, 2007
- Pardee RAND Graduate School Rothenberg Dissertation Award, 2009
- Columbia University Summa Cum Laude, 2001
- Columbia University History Department Honors, 2001
- Columbia University Phi Beta Kappa, 2001

**COMMUNITY SERVICE**

Vice President of Synagogue Life	Congregation Beth Shalom	2019–2023
Chair/Member SteelTree Fund Board	Jewish Federation of Greater Pittsburgh	2014–2019
Member, Committee on Long-term Coastal Zone Dynamics	Board of Earth Sciences and Resources, National Academy of Sciences, Engineering, and Medicine	2017–2018
Member, Board of Directors	Grounded Strategies	2015–2018
Member, Board of Directors	Landforce	2017–2018

**NOTABLE PROJECTS**

**Principal Investigator/Policy Research to Improve the Evaluation of Nature Based Solutions and Better Consider Equity in U.S. Army Corps of Engineers Programs** Current

*U.S. Army Corps of Engineers*

Leading multiple connected policy research project to review existing planning and evaluation methods for feasibility studies and identify opportunities to better incorporate the economic, environmental, and social benefits of nature-based solutions and consider various dimensions of equity throughout the planning process.

- Principal Investigator/Coastal Louisiana Risk Assessment (CLARA) Modeling Support for Louisiana’s Coastal Master Plan** Current  
*Coastal Protection and Restoration Authority*  
Risk assessment team co-lead to update and apply the CLARA model to provide next-level modeling capabilities and support the development of Louisiana’s 2012, 2017, 2023, and 2029 Coastal Master Plans.
- Co-Investigator/MARISA Mid-Atlantic Climate Adaptation Partnership** Current  
*National Oceanic and Atmospheric Administration*  
Co-Investigator for the NOAA-supported MARISA program, partnering with Pennsylvania State University, Johns Hopkins, Cornell, Carnegie Mellon, VIMS, and Morgan State; 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.
- Principal Investigator/Incorporating Equity and Social Vulnerability Into the Design of Flood Risk Mitigation Strategies** 2021-2024  
*National Academies of Sciences, Engineering, and Medicine Gulf Research Program Institute*  
Principal Investigator for a Purdue University-led project to incorporate local knowledge into the design of more equitable solutions to climate hazards; led the development of an interactive visualization tool based on inputs from stakeholder workshops in multiple Louisiana coastal communities.
- Principal Investigator/Evaluating and Communicating Stormwater Risk in New Orleans** 2021-2023  
*Shell Foundation*  
Principal Investigator for a modeling study that examined stormwater flooding in the City of New Orleans to help decision makers and residents understand how to better manage stormwater under stressors such as climate change and inconsistent maintenance of outdated infrastructure; used Robust Decision Making methods to provide more rigorous estimates of future stormwater risk and understand the key drivers that exacerbate this risk; led the development of an interactive data visualization tool.

## **PUBLISHED WORKS**

### **Peer-Reviewed Publications**

- Tebyanian, N., Fischbach, J., Lempert, R., Knopman, D., Wu, H., Iulo, L., & Keller, K. (2023). Rhodium-SWMM: An open-source tool for green infrastructure placement under deep uncertainty. *Environmental Modeling & Software*, 163.
- Madrigano, J., Shih, R., Izenberg, M., Fischbach, J., & Preston, B. (2021). Science policy to advance a climate change and health research agenda in the United States. *International Journal of Environmental Research and Public Health*, 18(15).
- Wilson, M., Fischbach, J., Siler-Evans, K., & Tierney, D. (2020). 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*, 17(7), 628–641.

- Fischbach, J. R., Johnson, D. R., & Groves, D. G. (2019). Flood damage reduction benefits and costs in Louisiana's 2017 Coastal Master Plan. *Environmental Research Communications*, 1(11).
- Groves, D., Molina-Perez, E., Bloom, E., & Fischbach, J. (2019). Robust decision making (RDM): Application to water planning and climate policy. *Decision Making under Deep Uncertainty: From Theory to Practice*, 135–163.
- Smith, H., Orton, P., Sanderson, E., & Fischbach, J. (2018). Integrated modelling to predict landscape evolution, flooding, and water quality in Jamaica Bay, NY. *Coastal Engineering Proceedings*, 36, 3.
- Leadon, M., Atkinson, J., & Fischbach, J. (2018). Risk reduction in Louisiana's Coastal Master Plan: Lake Pontchartrain barrier. *Coastal Engineering Proceedings*, 36, 32.
- Gong, M., Lempert, R., Parker, A., Mayer, L., Fischbach, J., Sisco, M., Mao, Z., Krantz, D., & Kunreuther, H. (2017). Testing the scenario hypothesis: An experimental comparison of scenarios and forecasts for decision support in a complex decision environment. *Environmental Modeling & Software*, 91, 135–155.
- Hoss, F., Fischbach, J., & Molina-Perez, E. (2016). Effectiveness of best management practices for stormwater treatment as a function of runoff volume. *Journal of Water Resources Planning and Management*, 142(11).
- Groves, D. G., Kuhn, K., Fischbach, J. R., Johnson, D. R., & Syme, J. (2016). *Analysis to Support Louisiana's Flood Risk and Resilience Program and Application to the National Disaster Resilience Competition*. RAND Corporation.
- Fischbach, J., Johnson, D., & Kuhn, K. (2016). Bias and efficiency tradeoffs in the selection of storm suites used to estimate flood risk. *Journal of Marine Science and Engineering*, 4(1), 10.
- Sanderson, E., Orton, P., Fischbach, J., Knopman, D., Roberts, H., Solecki, W., & Wilson, R. (2016). Computational modeling of the Jamaica Bay system. *Prospects for Resilience: Insights from New York City's Jamaica Bay*, 167–191.
- Groves, D., Bloom, E., Lempert, R., Fischbach, J., Nevills, J., & Goshi, B. (2015). Developing key indicators for adaptive water planning. *Journal of Water Resources Planning and Management*, 141(7).
- Knopman, D., Fischbach, J., Groves, D., & Lempert, R. (2014). The challenge of adaptation under deep uncertainty: An organizing principle for future water resources research. *American Water Resources Association*, 16(1), 8–9.
- Johnson, D. R., Fischbach, J. R., & Ortiz, D. S. (2013). Estimating surge-based flood risk with the Coastal Louisiana Risk Assessment Model. *Journal of Coastal Research*, 67, 109–126.
- Fischbach, J. (2010). *Managing New Orleans flood risk in an uncertain future using non-structural risk mitigation*. The Pardee RAND Graduate School.

## Technical Reports

- Bartlett, M., Misra, S., Roberts, H., Geldner, N., McMann, B., Saharia, A., Zou, S., Johnson, D., Villarini, G., Kim, H., Yuill, B., Wang, Y., Georgiou, I., Fischbach, J., Nadal-Caraballo, N., & Schmied, L. (2023). *Compound flood transition zone pilot study for the Amite River Basin* (p. 132) [Final]. Louisiana Watershed Institution.
- Johnson, D., Fischbach, J., Kane, P., Wang, J., Cobell, Z., & Diaz, O. (2024). *Coastal Master Plan: Supplemental material H6. 8: Interaction of protection and restoration projects* (1; p. 69). Coastal Protection and Restoration Authority.
- Fischbach, J., Johnson, D., Kane, P., Cobell, Z., & Diaz, O. (2023). *Coastal Master Plan: Attachment H5: Alternative environmental scenarios-risk* (p. 44). Coastal Protection and Restoration Authority.
- Hemmerling, S., Kane, P., Littman, A., Cobell, Z., Diaz, O., Fischbach, J., Johnson, D., & Wang, J. (2023). *Coastal Master Plan: Supplemental material H6. 3: Historic storm run–Barry* (2; p. 28). Coastal Protection and Restoration Authority.
- Johnson, D., Fischbach, J., Geldner, N., Wilson, M., Story, C., & Wang, J. (2023). *Coastal Master Plan: Attachment C11: 2023 risk model* (3; p. 31). Coastal Protection and Restoration Authority.
- Wilson, M., Fischbach, J., Johnson, D., Wang, J., Kane, P., Geldner, N., & Littman, A. (2023). *Coastal Master Plan: Attachment E3: Nonstructural protection evaluation results* (3; p. 36). Coastal Protection and Restoration Authority.
- Hemmerling, S., Kane, P., Littman, A., Cobell, Z., Diaz, O., Fischbach, J., Johnson, D., & Wang, J. (2023). *Draft Coastal Master Plan: Supplemental material H6. 3: Historic storm run–Barry* (1; p. 28). Coastal Protection and Restoration.
- Hemmerling, S., Georgiou, I., Cobell, Z., Diaz, O., Fischbach, J., Johnson, D., & Wang, J. (2023). *Draft Coastal Master Plan: Supplemental material H6. 7: Restoration impacts on surge and risk–Coastal forests* (2023 Draft Coastal Master Plan, p. 67) [Version 01]. Coastal Protection and Restoration Authority.

- Johnson, D., Fischbach, J., Geldner, N., Wilson, M., Story, C., & Wang, J. (2023). *Draft Coastal Master Plan: Attachment C11: 2023 risk model* (Version 02; p. 33). Coastal Protection and Restoration.
- Fischbach, J. R., Bond, C. A., Dalyander, P. S., Carruthers, T., & Hemmerling, S. A. (2023). *Enhancing benefits evaluation for water resources projects: Towards a more comprehensive approach for nature-based solutions planning and valuation methods for case study analysis*. The Water Institute. Funded by the U.S. Army Corps of Engineers Engineer Research and Development Center.
- White, E., Jankowski, K., Hemmerling, S., McMann, B., Wang, Y., Cobell, Z., Sanderson, R., Roberts, H., Johnson, D., Parfait, J., Bienn, H., Cobb, A., Fischbach, J., Martin, S., & Jarrell, E. (2023). *Draft Coastal Master Plan: High tide flooding approach* (Version 01; pp. 1–137). Coastal Protection and Restoration Authority.
- Wilson, M., Fischbach, J., Johnson, D., Wang, J., Kane, P., Geldner, N., & Littman, A. (2023). *Draft Coastal Master Plan: Attachment E3: Nonstructural protection evaluation results* (Version 01; p. 36). Coastal Protection and Restoration Authority.
- Fischbach, J., Johnson, D., Wilson, M., Geldner, N., & Stelzner, C. (2023). *Coastal Master Plan: Attachment E2: Risk assessment model improvements* (Version 02; pp. 1–78).
- Ehrenwerth, J., Jones, S. B., Windhoffer, E., Fischbach, J., Hughes, S., Hughes, T., Pippin, S., Shultz, M., & Jones, S. (2022). *Enhancing benefits evaluation for water resources projects: Towards a more comprehensive approach for nature-based solutions* [Technical report]. U.S. Army Corps of Engineers' Engineering with Nature Program.
- Windhoffer, E., Hughes, S., Hughes, T., Grismore, A., Littman, A., Haertling, A., & Fischbach, J. R. (2022). *Enhancing benefits evaluation for water resources projects: Towards a more comprehensive approach for nature-based solutions*. The Water Institute. Funded by the U.S. Army Corps of Engineers Engineer Research and Development Center.
- Finucane, M., Patel, K., Groves, D., Clancy, N., Fischbach, J., Dixon, L., & Knopman, D. (2022). *The building resilient infrastructure and communities' mitigation grant program: Incorporating hazard risk and social equity into decision-making processes*. RAND Corporation.
- Fischbach, J., May, L., Whipkey, K., Shelton, S., Vaughan, C., Tierney, D., Leuschner, K., Meredith, L., & Peterson, H. (2021). *After Hurricane Maria: Predisaster conditions, hurricane damage, and recovery needs in Puerto Rico*. Homeland Security Operational Analysis Center operated by the RAND Corporation.
- Peet, E., May, L., Fischbach, J., Campigotto, C., & Mangono, T. (2021). *Vulnerability, inequity, and COVID-19: A portrait of the pandemic in Allegheny County tracking evolving disparities in testing, cases, hospitalizations, deaths, and the ability to practice physical distancing* (RAND TL-A1080-1). RAND Corporation.
- Fischbach, J., Johnson, D., Wilson, M., Geldner, N., & Stelzner, C. (2021). *Coastal Master Plan: Model improvement report, risk assessment* (Version 01; pp. 1–77). Coastal Protection and Restoration Authority.
- Tierney, D., Wilson, M., Bond, C., Fischbach, J., Catt, D., & Kochhar, A. (2020). *How can green infrastructure help to manage rainfall in an urban watershed?* (RB-A564-1; p. 8). RAND Corporation.
- Tingstad, A., Wilson, M., Anania, K., Fischbach, J., Resetar, S., Savitz, S., Van Abel, K., Briggs, R., Davenport, A., Pezard, S., Sereyko, K., Theel, J., Thibault, M., & Ulin, E. (2020). *Developing new future scenarios for the U.S. Coast Guard's evergreen strategic foresight program*. RAND.
- Tingstad, A., Wilson, M., Anania, K., Fischbach, J., Resetar, S., Savitz, S., Van Abel, K., Briggs, R., Davenport, A., Pezard, S., Sereyko, K., Theel, J., Thibault, M., & Ulin, E. (2020). *A novel approach for supporting the U.S. Coast Guard's "Evergreen" strategic foresight program* [Research report]. RAND Corporation.
- Van Abel, K., Leftwich, J., Kalra, N., Vermeer, M., Fischbach, J., & Knopman, D. (2019). *Air Force capability development planning: Analytical methods to support investment decisions* [Research report]. RAND Corporation.
- LaTourrette, T., Lauland, A., Fischbach, J., Berg, N., & Stelzner, C. (2018). *Assessing vulnerability and improving resilience of critical emergency management infrastructure in California in a changing climate* (CCCA4-CNRA-2018-015). California's Fourth Climate Change Assessment. Prepared by the RAND Corporation.
- Efron, S., Fischbach, J., Blum, I., Karimov, R., & Moore, M. (2018). *The public health impacts of Gaza's water crisis*. RAND Corporation.
- Fischbach, J. (2018). *Building resilience in an urban coastal environment: Integrated, science-based planning in Jamaica Bay, New York*. RAND Corporation.
- May, L., Abbott, M., & Fischbach, J. (2017). *Informing Pittsburgh's options to address lead in water*. RAND Corporation.
- Fischbach, J. R., Siler-Evans, K., Tierney, D., Wilson, M. T., Cook, L. M., & Warren May, L. (2017). *Robust stormwater management in the Pittsburgh region: A pilot study*. RAND Corporation.

- Alymov, V., Cobell, Z., de Mutsert, K., Dong, Z., Duke-Sylvester, S., Fischbach, J., Hanegan, K., Lewis, K., Lindquist, D., McCorquodale, J., Poff, M., Roberts, H., Schindler, J., Visser, J., Wang, Z., Wang, Y., & White, E. (2017). *Coastal Master Plan: Appendix C: Modeling Chapter 4—Model outcomes and interpretations*. Coastal Protection and Restoration Authority.
- Fischbach, J., Johnson, D., Kuhn, K., Pollard, M., Stelzner, C., Costello, R., & Cobell, Z. (2017). *Coastal master plan modeling: Attachment C3-25—Storm surge and risk assessment* (p. 219) [Final]. Coastal Protection and Restoration.
- Brown, S., Couvillion, B., de Mutsert, K., Fischbach, J., Roberts, H., Rodrigue, M., Schindler, J., Thomson, G., Visser, J., & White, E. (2017). *Coastal Master Plan: Appendix C: Modeling chapter 3—Modeling components and overview* (p. 72) [Final report].
- Efron, S., Fischbach, J., & Giordana, G. (2017). Gaza's water and sanitation crisis: The implications for public health. *The Crisis of the Gaza Strip: A Way Out*. Tel Aviv: Institute for National Security Studies.
- Fischbach, J. R., Siler-Evans, K., Tierney, D., Wilson, M. T., Cook, L. M., & Warren May, L. (2017). *Robust stormwater management in the Pittsburgh region: A pilot study*. RAND Corporation.
- Warren, D., Loa, K., LaTourrette, T., Narayanan, A., Kendrick, L., Molina-Perez, E., Story, C., Willis, H., Fischbach, J., & Sorensen, P. (2016). *Characterizing national exposures to infrastructure from natural disasters: Data and methods documentation*. RAND Corporation.
- Groves, D., Lempert, R., Fischbach, J., & Bloom, E. (2016). *Informing adaptive strategies for the Colorado Basin*. International Congress on Environmental Modelling and Software.
- Willis, H., Narayanan, A., Fischbach, J., Molina-Perez, E., Stelzner, C., Loa, K., & Kendrick, L. (2016). *Current and future exposure of infrastructure in the United States to natural hazards*. RAND Corporation.
- Fischbach, J. R., Lempert, R. J., Molina-Perez, E., Tariq, A. A., Finucane, M. L., & Hoss, F. (2015). *Managing water quality in the face of uncertainty: A robust decision making demonstration for EPA's National Water program*. RAND Corporation.

### Conference Proceedings and Presentations

- Kane, P., McHugh, C., DeJong, A., Gilles, D., Littman, A., & Fischbach, J. (2022). Evaluating and communicating future stormwater flood risk in New Orleans. *Fall Meeting Abstracts*. American Geophysical Union.
- Webber, M., Tebyanian, N., Rounce, D., Fischbach, J., & Samaras, C. (2022). Modeling urban flood impacts and potential solutions at community scales in Pittsburgh, PA. *Fall Meeting Abstracts*. American Geophysical Union.
- Fischbach, J., Knopman, D., Smith, H., Orton, P., Moray, N., & Parris, A. (2018). Integrated, participatory planning to evaluate coastal resilience investments in Jamaica Bay, New York. *Fall Meeting Abstracts*. American Geophysical Union.
- Glickson, D., Ozkan-Haller, H. T., Carter, G. A., Cebrian, J., Dalrymple, R. A., Fischbach, J. R., Irish, J. L., Kolker, A., Misra, S., Moore, L. J., Smith, M. D., Tornqvist, T. E., Wong-Parodi, G., Kreidler, H., DeVane, C., & Eide, E. (2018). Understanding the long-term evolution of the coupled natural-human coastal system: The future of the U.S. Gulf Coast. *Fall Meeting Abstracts*.
- Fischbach, J., Evans, K., & Tierney, D. (2018). Climate resilient management of urban stormwater and wastewater systems: A pilot study in the Pittsburgh, Pennsylvania metropolitan region. *Fall Meeting Abstracts*. American Geophysical Union.
- Knopman, D., Lempert, R., Groves, D., Fischbach, J., & Finucane, M. (2018). New methods for facilitating urban responses to a changing climate: Synthesis of findings from three pilot studies. *Fall Meeting Abstracts*. American Geophysical Union.
- Johnson, D., & Fischbach, J. (2017). Connecting systems model design to decision-maker and stakeholder needs: Lessons from Louisiana's Coastal Master Plan. *Fall Meeting Abstracts*. American Geophysical Union.
- Fischbach, J., Lempert, R., & Molina-Perez, E. (2017). Robust decision making to support water quality climate adaptation: A case study in the Chesapeake Bay watershed. *Fall Meeting Abstracts*. American Geophysical Union.
- Green, M., Cobell, Z., de Mutsert, K., Duke-Sylvester, S., Fischbach, J., McCorquodale, A., Meselhe, E., Poff, M., Reed, D., Roberts, H., Visser, J., & White, E. (2017). *Key insights and lessons learned from the 2017 Coastal Master Plan process*. 24th Biennial CERF Conference.
- Fischbach, J., Johnson, D., & Molina-Perez, E. (2017). *Reducing coastal flood risk with a Lake Pontchartrain barrier*. RAND Corporation.

- Fischbach, J., Lempert, R., & Molina-Perez, E. (2016). Robust decision making to support improved water quality planning: A case study in the Chesapeake Bay watershed. *Fall Meeting Abstracts*. American Geophysical Union.
- Groves, D., Fischbach, J., Bloom, E., Knopman, D., & Keefe, R. (2013). Adapting to a changing Colorado River: Making future water deliveries more reliable through robust management strategies. *Fall Meeting Abstracts*, 98.
- Lempert, R., Fischbach, J., Groves, D., Bloom, E., Goshi, B., & Nevills, J. (2011). Identifying key indicators for adaptive management of the metropolitan water district integrated resource plan. *Fall Meeting Abstracts*. American Geophysical Union.
- Keefe, R., & Fischbach, J. (2010). Climate change on the Colorado River: A method to search for robust management strategies. *Fall Meeting Abstracts*. American Geophysical Union.
- Fischbach, J., Groves, D., & Johnson, D. (2010). Reducing New Orleans residential flood risk in an uncertain future using non-structural risk mitigation. *Fall Meeting Abstracts*. American Geophysical Union.