

# MAURA C. ALLAIRE

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## EDUCATION

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### University of North Carolina at Chapel Hill

Ph.D. Environmental Management and Policy 2015  
Department of Environmental Sciences and Engineering

### Tufts University

B.S. Economics 2006  
B.S. Geology 2006

## PROFESSIONAL APPOINTMENTS

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**University of California, Irvine**, Department of Urban Planning and Public Policy 2017 - present  
*Assistant Professor, Water Economics and Policy*

**Columbia University**, Earth Institute 2017 - present  
*Adjunct Associate Research Scientist*

**Columbia University**, Earth Institute 2015 - 2017  
*Postdoctoral Research Scientist*

## PUBLICATIONS

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### PEER-REVIEWED JOURNAL ARTICLES

12. **Allaire, M.**, Mackay, T., Zheng, S., Lall, U. Community Response to Impaired Drinking Water Quality: Evidence from Bottled Water Sales. *Proceedings of the National Academy of Sciences*. 116(42) 20917-20922.
11. Josset, L, **Allaire, M.**, Hayek, C., Rising, J., Thomas, C., Lall, U. (2019). The USA Water Data Gap: A survey of online state-level water data platforms to inform the development of a national water portal. *Earth's Future*. 7(4) 433-449.
10. **Allaire, M.** (2018). Socio-Economic Impacts of Flooding: A Review of the Empirical Literature. *Water Security*. (3) 18-26.
9. Moftakhari, H., AghaKouchak, A., Sanders, B., **Allaire, M.**, Matthew, R. (2018). What is Nuisance Flooding? Defining an Emerging Challenge Facing Coastal Regions. *Water Resources Research*. 54(7)4218-4227.
8. **Allaire, M.**, Wu, H., Lall, U. (2018). National Trends in Drinking Water Quality Violations. *Proceedings of the National Academy of Sciences*. 115 (9) 2078-2083.
7. Ho, M., Lall, U., **Allaire, M.**, Devineni, N., Kwon, H., Pal, I., Raff, D., Wegner, D. (2017). The Future Role of Dams in the United States of America. *Water Resources Research*. 53(2) 982–998.
6. **Allaire, M.** (2016). Disaster Loss and Social Media: Can Online Information Increase Flood Resilience? *Water Resources Research*. 52(9) 7408-7423. (Best Paper Award, ICSD 2016)
5. **Allaire, M.** (2016). Using Practical and Social Information to Influence Flood Adaptation Behavior. *Water Resources Research*. 52(8) 6078-6093.

4. **Allaire, M.**, Kroll, C., and Vogel, R. (2015). The Hydromorphology of an Urbanizing Watershed Using Multivariate Elasticity. *Advances in Water Resources*. (86)147-154. (Outstanding Student Paper, AGU 2014)
3. **Allaire, M.** and Brown, S. (2015). The Green Paradox of U.S. Biofuel Subsidies: Impact on Greenhouse Gas Emissions. *Economics of Energy & Environmental Policy*. 4(2)83-102. (Best Paper in *EEEP*, 2012-2016)
2. Nabangchang, O., **Allaire, M.**, Leangcharoen, P., Jarungrattanapong, R., and Whittington, D. (2015). Economic Costs Incurred by Households in the 2011 Bangkok Flood. *Water Resources Research*. 51(1)58-77.
1. Jeuland, M., Fuente, D., Özdemir, S., **Allaire, M.**, and Whittington, D. (2013). The long-term dynamics of mortality benefits from improved water and sanitation in less developed countries. *PloS one*. 8(10), e74804.

## BOOK CHAPTERS AND REPORTS

9. Hanak, E., Chappelle, C., Jezdimirovic, J., Gray, B., **Allaire, M.**, Green, S., Harter, T., Lund, J., Mitchell, D., Perrone, D. (2018). California's Water: Providing Safe Drinking Water. PPIC Water Policy Center, San Francisco, CA.
8. Jeuland, M., Fuente, D., Özdemir, S., **Allaire, M.**, and Whittington, D. (2013). Economic Losses from Poor Water and Sanitation: Past, Present, and Future. In B. Lomborg (Ed.), *How Much Have Global Problems Cost the World? A Scorecard from 1900 to 2050*. Cambridge University Press.
7. Sadoff, C., Whittington, D. and **Allaire, M.** (2013). The Economic Value of Moving Toward a More Water Secure World. Global Water Partnership. TEC Background Paper No. 18.
6. **Allaire, M.** and Brown, S. (2012). U.S. Energy Subsidies: Effects on Energy Markets and Carbon Dioxide Emissions. Pew Charitable Trusts. Washington, D.C. August 2012.
5. **Allaire, M.**, Nabangchang, O., Leangcharoen, P., Jarungrattanapong, R. and Whittington, D. (2012). Thailand's 2011 Floods. Teaching Case Study. Economy and Environment Program for Southeast Asia.
4. **Allaire, M.** (2011). Global Successes – Water and Sanitation System Expansion. In Cambodia Water Sector Review. East Asia and Pacific Infrastructure Unit. World Bank. Washington, DC.
3. Palmer, K., Sweeney, R., and **Allaire, M.** (2010). Modeling Policies to Promote Renewable and Low Carbon Sources of Electricity. Background Paper. Resources for the Future. Washington, D.C.
2. **Allaire, M.** and Brown, S. (2009). Eliminating Subsidies for Fossil Fuel Production: Implications for U.S. Oil and Natural Gas Markets. Issue Brief. Resources for the Future. Washington, D.C.
1. **Allaire, M.** (2009). Drought Mitigation in Semi-Arid Africa: The Potential of Small-Scale Groundwater Irrigation. SustainUS Citizen Science Paper.

## FELLOWSHIPS, HONORS AND AWARDS

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|-----------|---|
| 2020      | Fellow, Enabling the Next Generation of Hazards Researchers (NSF Award #1921157)                      |
| 2018      | <i>PNAS</i> , Top 10 Paper of 2018  |
| 2018      | Best Paper in <i>Economics of Energy &amp; Environmental Policy</i> , 2012-2016                       |
| 2017      | Editor's Choice Finalist, <i>Yale Environment Review</i>  |
| 2016      | Best Paper Award, International Conference on Sustainable Development, Columbia Univ.                 |
| 2011-2015 | NSF Graduate Research Fellowship (\$121,500)  |
| 2014      | Outstanding Student Paper Award, American Geophysical Union Fall 2014 Meeting                         |
| 2014      | P.E.O. Scholar Award (\$15,000)   |
| 2010      | UNC Gillings Merit Award (\$10,000)   |
| 2009      | SustainUS Best Student Paper Award, UN Commission on Sustainable Development 17 <sup>th</sup> Session |
| 2006-2007 | Fulbright Scholar, Ghana (\$22,000)   |

## TEACHING EXPERIENCE

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### UC Irvine

Environmental Economics and Policy (UPPP 205), graduate lecture course

Global Water Security (UPPP 275), graduate seminar

Field Study (UPPP 195), undergraduate workshop

Principles of Economics for Planning and Policy (UPPP 146), undergraduate lecture course

### UNC-Chapel Hill

2012 Water & Sanitation Policy in Developing Countries (ENVR 685), graduate seminar (TA)

2010 Environmental Health (ENVR 600), graduate lecture course (TA)

## SERVICE

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**Editorial Board:** *Water Economics and Policy*, Book Review Editor (2018 – present)

### Technical Advisor:

*National Academies Water Science and Technology Board*, Workshop Planning Committee Member (2019)

*Public Policy Institute of California's Water Policy Center*, Research Network Expert (2018 – present)

*Flood-MAR Research Advisory Committee*, Member of Economic Analysis Subcommittee (2018 – present)

**Journal Peer Review:** *Journal of Agricultural and Resource Economics; PloS one; Water Resources Research; Earth's Future; Advances in Water Resources; Energy Policy*

**Review Panel:** NSF GRFP Review Panel (2018)

**Proposal Review:** NSF Economics Program (2016)

### American Geophysical Union:

**Convener**, Hydrology, Society, and Environmental Change: Convergent Approaches to Human–Water Interactions (2019)

**Convener**, Hydrology, Society, & Environmental Change: Human-Water Interactions Across Scales (2018)

**Convener and Session Chair**, Addressing Limited Water Demand Data for Research and Policy (2017)

**Judge**, AGU Outstanding Student Paper Award (2018; 2017)

### UC Irvine:

**Member**, UCI Council on Educational Policy (9/2019 - present)

**Member**, UPPP Undergraduate Programs Committee (2/2018 - present)

**Member**, UPPP Ad hoc committee, Merit case (10/2018)

**Member**, UPPP Doctoral Admissions Committee (1/2018)

### Doctoral Committee (UC Irvine):

2019- Aishwarya Borate, Ph.D. student (Urban Planning and Public Policy), Co-Chair

2019- Qi Bing, Ph.D. student (Urban Planning and Public Policy), Co-Chair

2018- Paroma Wagle, Ph.D. student (Urban Planning and Public Policy), Committee member

### Master's Thesis/Capstone Committee (UC Irvine):

9/2018- 6/2019 Qi Bing, Urban and Regional Planning, Chair

*Honor: Orange County Association of Environmental Professionals (OCAEP) Scholarship*

9/2017-4/2018 Mengdi Li, Urban and Regional Planning, Chair

*Honor: Orange County American Planning Association (APA) Student Award*

## Postdoctoral Research Advising (UC Irvine):

11/2019 – present Sarah Acquah, Postdoctoral Researchers (Urban Planning and Public Policy)

## Outreach

12. **Lecturer.** Research Opportunities for Community College Teachers (ROCCT). (2019). “Trends in Water Quality & Community Response in California” Irvine, CA. *sponsored by NSF ROCCT grant*
11. **Presenter.** UCI-Vietnam Emergency Management Forum (2018). “Non-Structural Approaches to Flood Resilience” Irvine, CA.
10. **Presenter.** OC Bridges (2018). “National Trends in Water Quality & Implications for California’s Proposed Drinking Water Fund”. Irvine, CA.
9. **Invited Expert.** KALW Public Radio (2018). “How can we ensure access to safe and affordable drinking water in the US?”. San Francisco, CA.
8. **Presenter.** Association of State Drinking Water Administrators (2018). “Research Priorities to Help Reduce Drinking Water Violations”. Webinar.
7. **Presenter.** The Nature Conservancy (2016). “Water for Society and Ecosystems in New York”. Albany, NY.
6. **Presenter.** Thailand Land Forum (2013) “Household Economic Losses due to 2011 Bangkok Flood” Bangkok.
5. **Instructor.** Global Development Network (2011). Training Workshop: Sensitivity Analysis in Cost-Effectiveness. Bangkok.
4. **Team Member.** Engineers Without Borders (2010-2011) Sanitation in Ciudad de Dios, Peru.
3. **Hydrologist.** Howard University (2009- 2010) Dewatering system for UNESCO archaeological site.
2. **Co-Author.** U.S. Senate Committee on Finance (2009). “An Economic Assessment of Eliminating Oil and Gas Company Tax Preferences”. Prepared for Senate Hearing. (with S. Brown)
1. **Presenter.** United Nations (2009). “Drought Mitigation in Semi-Arid Africa”. UN Commission on Sustainable Development, 17th Session, New York, NY.

## FUNDED RESEARCH

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9. Mitigation Matters Research Program, Natural Hazards Center UC-Boulder. “Modeling Social Vulnerability for Flood Risk Reduction”. (\$2,492) 12/2019- 11/2020 (Lead-PI)
8. NSF EAGER Coastlines & People. “Modeling the Social Ecology of Coastal Flood Risk”. (\$299,000) 9/2019 – 8/2021 (Collaborator, PI: Richard Matthew)
7. UC-Irvine, Hellman Fellowship. “Reducing Disparity in Disaster Recovery by Modeling Social Vulnerabilities”. (\$50,000). (Lead-PI)
6. California Institute for Water Resources. “Assessing Health Impacts of Impaired Water Quality in California”. (\$14,980). 6/17/2019 – 6/16/2020. (Lead-PI)
5. UC-Irvine, Social Ecology Faculty Research Development Fund. “Urban Hydrology and Water Use Behavior in California”. (\$6,100). 6/2018 – 9/2018. (Lead-PI)
4. Earth Institute Summer Internship Fund. “Beyond Flint: National Assessment of Water Quality Trends”. (\$4,700). 5/2016 – 8/2016. (Lead-PI)
3. NSF REU - Research Experience for Undergraduates. “America’s Water - The Changing Landscape of Risk, Competing Demands and Climate”. (\$16,800). 5/2016 – 8/2016. (Lead-PI)
2. World Bank. “Building Capacity for Rapid Financial Response to Natural Hazards” (\$100,000). 10/2016- 6/2017. (Co-PI)
1. The Nature Conservancy. “NatureNet Postdoctoral Fellowship”. (\$200,000). 8/2015- 7/2017. (Lead-PI)

## PROFESSIONAL EXPERIENCE

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|---------------------------------------|--|------------|
| <b>Global Development Network</b>     | <i>Technical Advisor – Policy Simulation and Cost-Benefit Analysis</i>   | 2010- 2013 |
| <b>World Bank</b>                     | <i>Short Term Consultant - East Asia and Pacific Infrastructure Unit</i> | 2011       |
| <b>Resources for the Future</b>       | <i>Economic Analysis - Research Assistant</i>                            | 2008- 2010 |
| <b>AMEC Earth &amp; Environmental</b> | <i>Environmental Impact Assessment</i>                                   | 2007- 2008 |
| <b>IWMI</b>                           | <i>Fulbright Scholar in Ghana</i>  | 2006- 2007 |

## CONFERENCES AND PRESENTATIONS

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### INVITED SEMINARS

4. University of Illinois, Department of Civil and Environmental Engineering (2019). *National Trends in Water Quality & Community Response*. Energy-Water-Environment Sustainability Seminar.
3. UC-Riverside, School of Public Policy. (2017). *Household Response to Water Insecurity*. Water Seminar Series.
2. Tufts University, Department of Civil and Environmental Engineering (2015). *Adapting to Extreme Events: Household Response to Floods in Urban Areas*. CEE 291 Graduate Environmental Seminar.
1. Columbia University, Department of Earth and Environmental Engineering (2015). *Adapting to Extreme Events: Household Response to Floods in Urban Areas*.

### CONFERENCES

23. **Allaire, M.**, Mackay, T., Zheng, S., Lall, U. (2019). National Trends in Water Quality & Community Response. California Water Data Summit. Davis, CA.
22. **Allaire, M.**, Zheng, S., Mackay, T., Lall, U. (2019). Assessing Community Response to Impaired Drinking Water with Consumer Purchase Records. American Association of Geographers (AAG) Annual Meeting. Washington, D.C.
21. **Allaire, M.**, Zheng, S., Mackay, T., Lall, U. (2019). Community Response to Impaired Drinking Water Quality. Workshop on Integrated Assessment Models and the Social Costs of Water Pollution. Cornell University, Ithaca, NY. (Organized by David Keiser, Catherine Kling, Daniel Phaneuf)
20. **Allaire, M.**, and E. Alencar. (2018). Trends in Water Rate Structures to Encourage Conservation: Evidence from California. American Geophysical Union. Fall Meeting. Washington, DC.
19. **Allaire, M.**, S. Zheng, and U. Lall. (2018). Assessing Health Impacts of Impaired Drinking Water with Consumer Purchase Behavior. American Geophysical Union. Fall Meeting. Washington, DC.
18. **Allaire, M.**, S. Zheng, T. Mackay, and U. Lall. (2018). Community Response to Impaired Drinking Water Quality: Evidence from Sales of Medicine and Bottled Water. UC Water Annual Meeting. Sacramento, CA.
17. **Allaire, M.**, Zheng, S.; Lall, U. (2018). Community Response to Impaired Drinking Water Quality. 1<sup>st</sup> Annual Water Security Conference. Toronto, Canada.
16. **Allaire, M.**, Zheng, S.; Lall, U. (2018). Big Data and Health Impacts of Drinking Water Quality Violations. SESYNC Workshop: Advances in Socio-Environmental Systems Research. Annapolis, MD.
15. **Allaire, M.**, Zheng, S.; Lall, U. (2017). Community Response to Impaired Drinking Water Quality: Evidence from Bottled Water Sales. American Geophysical Union. Fall Meeting. New Orleans, LA.
14. **Allaire, M.**, Zheng, S.; Lall, U. (2017). Big Data and Health Impacts of Drinking Water Quality Violations. American Geophysical Union. Fall Meeting. New Orleans, LA.
13. **Allaire, M.**, Wu, H.; Lall, U. (2017). National Trends in Drinking Water Quality Violations. World Environmental & Water Resources Congress (EWRI). Sacramento, CA.
12. **Allaire, M.**, Wu, H.; Lall, U. (2016). Beyond Flint: National Trends in Drinking Water Quality Violations. American Geophysical Union. Fall Meeting. San Francisco, CA.
11. **Allaire, M.** (2016). Disaster Loss and Social Media: Can Online Information Increase Flood Resilience?

International Conference on Sustainable Development, New York, NY.

10. **Allaire, M.** (2016). Informing Mitigation of Disaster Loss through Social Media. World Environmental & Water Resources Congress (EWRI). Palm Beach, FL.
9. **Allaire, M.** (2016). Can information encourage flood adaptation action? Evidence from a randomized field experiment. EAERE FEEM VIU Summer School in Resource and Environmental Economics. Venice, Italy.
8. **Allaire, M.** (2015). Using practical and social information to influence flood adaptation behavior. Southern Economics Association (SEA). New Orleans, LA.
7. **Allaire, M.** (2015). Can Social Media Inform Mitigation of Disaster Loss? American Geophysical Union. Fall Meeting. San Francisco, CA.
6. **Allaire, M.,** Kroll, C., and Vogel, R. (2014). The Hydromorphology of an Urbanizing Watershed Using Multivariate Elasticity. American Geophysical Union. Fall Meeting. San Francisco, CA.
5. **Allaire, M.** and Brown, S. (2014). The Green Paradox of U.S. Biofuel Subsidies: Impact on Greenhouse Gas Emissions. World Congress of Environmental and Resource Economics. Istanbul, Turkey.
4. **Allaire, M.** and Brown, S. (2014). Energy Security and Climate Implications of U.S. Fossil Fuel Subsidies. World Congress of Environmental and Resource Economics. Istanbul, Turkey.
3. **Allaire, M.,** Fuente, D., Whittington, D., and Jeuland, M. (2014). Forecasts of health costs due to poor water and sanitation in Africa. University Council on Water Resources, Annual Conference. Medford, MA.
2. **Allaire, M.** (2008). Evaluating the Influence of Small Reservoirs on Groundwater Recharge. 33<sup>rd</sup> International Geological Congress. Oslo, Norway.
1. **Allaire, M.** and Archfield, S. (2007). USGS Firm Yield Estimator Model: Evaluating the Influence of Small Reservoirs on Groundwater Recharge. Geological Society of America Annual Meeting, Denver, CO.

## **PROFESSIONAL AFFILIATIONS**

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American Association of Geographers, American Geophysical Union, American Association for the Advancement of Science; Association of Environmental and Resource Economists

## **MEDIA COVERAGE**

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Salon (How to address America's lead crisis and provide safe drinking water for all)  
AP News (Investigation: Lead in some Canadian water worse than Flint)  
ABC News 'The Briefing Room with Davin Dwyer' (World Water Day)  
PolitiFact (60 million Americans live in a place where the water they drink is unsafe)  
AGU GeoSpace Blog (Consumer purchasing data shows locals' response to water contamination)  
New York Times (Here are the places that struggle to meet the rules on safe drinking water)  
USA Today (Tens of millions of Americans exposed to unsafe drinking water each year)  
AAAS Science Magazine (Millions of Americans drink potentially unsafe tap water)  
Michigan Public Radio (Environment Report)  
KALW San Francisco Public Radio (Your Call: One Planet Series)  
Business Insider (American drinking water could soon get a lot dirtier)  
Huffington Post (Common for Americans to go days without safe drinking water)  
KRLD News - CBS Radio 1080 – Dallas (Minute with Mitch Carr)  
Yale Environment Review (The power of social media in reducing flood losses)

*Others:*

The Guardian, HBO Vice documentary series, Philadelphia Inquirer, Louisville Public Media (NPR affiliate), New Hampshire Public Radio, HealthDay News, HBO VICE News Tonight, The Source (International Water Association), Seeker.com (Discovery Communications), NBC KING 5 News – Pacific Northwest, PhysOrg, Science Newline, Eurasia Review, United Press International, ABC KBMT-TV- South Texas, ABC KXTV-Sacramento, Kitsap Sun, Physician's Briefing, NewsMax, NewsWise, Central Valley PBS.