



Final Project Report-Award 1331611

Accomplishments: Key Outcomes and Other Achievements

FloodRISE Research Outputs: Papers (in chronological order, according to status)

Paper	Lead FloodRISE Author(s)	Status
Title: Nonstationary precipitation intensity-duration-frequency curves for infrastructure design in a changing climate	Amir AghaKouchak	Published by Scientific Reports (Nature Publishing Group); November 2014 https://www.nature.com/articles/srep07093
Title: Hydraulic modeling of the 2011 New Madrid Floodway activation: A case study on floodway activation controls	Adam Luke	Published by Natural Hazards; March 2015 https://link.springer.com/article/10.1007/s11069-015-1680-3
Title: Increased nuisance flooding along the coasts of the United States due to sea level rise: Past and future	Hamed Moftakhari	Published by Geophysical Research Letters; November 2015 http://onlinelibrary.wiley.com/doi/10.1002/2015GL066072/abstract
Title: Communicating flood risk: Looking back and forward at traditional and social media outlets	Santina Contreras and Dave Feldman	Published by International Journal of Disaster Risk Reduction; December 2015 http://www.sciencedirect.com/science/article/pii/S2212420915300765
Title: Dam-break flood model uncertainty assessment: A case study of extreme flooding with multiple dam failures in Gangneung, South Korea	Byunghyun Kim and Brett Sanders	Published by ASCE Journal of Hydraulic Engineering 142(5); 05016002; May 2016 http://dx.doi.org/10.1061/(ASCE)HY.1943-7900.0001097
Title: Integrating resident digital sketch maps with expert knowledge to assess spatial knowledge of flood risk: A case study of participatory mapping in Newport Beach, California	Wing Cheung and Doug Houston	Published by Applied Geography 74; September 2016 http://www.sciencedirect.com/science/article/pii/S0143622816302065
Title: Projecting nuisance flooding in a warming climate using generalized linear models and Gaussian processes	Hamed Moftakhari, Amir AghaKouchak, Brett Sanders, and Richard Matthew ¹	Published by Journal of Geophysical Research: Oceans 121; November 2016 http://onlinelibrary.wiley.com/doi/10.1002/2016JC012084/abstract
Title: Cumulative Hazard: The Case of Nuisance Flooding	Hamed Moftakhari, Amir AghaKouchak, Brett Sanders, and Richard Matthew	Published by Earth's Future; February 2017 https://doi.org/10.1002/2016EF000494
Title: Dual integral porosity shallow water model for urban flood modelling	Brett Sanders and Jochen Schubert ²	Published by Advances in Water Resources; May 2017 https://doi.org/10.1016/j.advwatres.2017.02.009



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Title: Predicting nonstationary flood frequencies: Evidence supports an updated stationarity thesis in the United States	Adam Luke, Amir AghaKouchak, Richard Matthew and Brett Sanders	Published by Water Resources Research; July 2017 https://doi.org/10.1002/2016WR019676
Title: Compounding effects of sea level rise and fluvial flooding	Hamed Moftakhari, Amir AghaKouchak, Brett Sanders, and Richard Matthew ³	Published by Proceedings of the National Academies of Science; September 2017 https://doi.org/10.1073/pnas.1620325114
Title: A framework for the case-specific assessment of Green Infrastructure in mitigating urban flood hazards	Jochen Schubert and Brett Sanders ⁴	Published by Advances in Water Resources; October 2017 https://doi.org/10.1016/j.advwatres.2017.07.009
Title: Translating Uncertain Sea Level Projections Into Infrastructure Impacts Using a Bayesian Framework	Hamed Moftakhari, Amir AghaKouchak, Brett Sanders, and Richard Matthew ⁵	Published by: Geophysical Research Letters; November 2017 https://doi.org/10.1002/2017GL076116
Title: The Influence of Hazard Maps and Trust of Flood Controls on Coastal Flood Spatial Awareness and Risk Perception	Douglas Houston, Wing Cheung, Victoria Basolo, David Feldman, Richard Matthew, Brett Sanders, Beth Karlin, Jochen E. Schubert, Kristen A. Goodrich, and Adam Luke ⁶	Published by Environment and Behavior; December 2017 https://doi.org/10.1177/0013916517748711
Title: Going beyond the flood insurance rate map: insights from flood hazard map co-production	Adam Luke, Brett Sanders, Kristen Goodrich, David Feldman, Danielle Boudreau, Ana Eguiarte, Kimberly Serrano, Abigail Reyes, Jochen Schubert, Amir AghaKouchak, Victoria Basolo, and Richard Matthew	Published by Natural Hazards and Earth System Sciences; April 2018 https://doi.org/10.5194/nhess-18-1097-2018
Title: Multi-hazard scenarios for analysis of compound extreme events	Hamed Moftakhari, Brett Sanders, Richard Matthew, and Amir AghaKouchak ⁷	Published by Geophysical Research Letters; May 2018 https://doi.org/10.1029/2018GL077317



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Title: What is Nuisance Flooding? Defining and Monitoring an Emerging Challenge	Hamed Moftakhari, Amir AghaKouchak, Brett Sanders, Maura Allaire, and Richard Matthew	Published by Water Resources Research; May 2018 https://doi.org/10.1029/2018WR022828
Title: Influence of Hazard Maps and Trust of Flood Controls on Coastal Flood Spatial Awareness and Risk Perception	Doug Houston, Wing Cheung, Victoria Basolo, David Feldman, Richard Matthew, Brett Sanders, Beth Karlin, Jochen Schubert, Kristen Goodrich, Santina Contreras, and Adam Luke	Published by Environment and Behavior; May 2019 https://doi.org/10.1177%2F0013916517748711
Title: PRIMo: Parallel raster inundation model	Brett Sanders and Jochen Schubert	Published by Advances in Water Resources; April 2019 https://doi.org/10.1016/j.advwatres.2019.02.007
Title: Linking statistical and hydrodynamic modeling for compound flood hazard assessment in tidal channels and estuaries	Hamed Moftakhari, Jochen Schubert, Amir AghaKouchak, Richard Matthew, and Brett Sanders	Published by Advances in Water Resources; June 2019 https://doi.org/10.1016/j.advwatres.2019.04.009
Title: Can Citizen Science Promote Flood Risk Communication?	Wing Cheung and David Feldman	Published by Water; September 2019 https://doi.org/10.3390/w11101961
Title: Collaborative Modeling with Fine Resolution Data Enhances Flood Awareness, Minimizes Differences in Flood Perception, and Produces Actionable Flood Maps	Brett Sanders, Jochen Schubert, Kristen Goodrich, Doug Houston, David Feldman, Victoria Basolo, Adam Luke, Danielle Boudreau, Beth Karlin, Wing Cheung, Santina Contreras, Abigail Reyes, Ana Eguiarte, Kimberly Serrano, Maura Allaire, Hamed Moftakhari, Amir AghaKouchak, and Richard Matthew	Under Review by Earth's Future



Paper	Lead FloodRISE Author(s)	Status
Title: Tailoring Flood Risk Visualization to Decisional Space through Collaborative Modeling	Kristen Goodrich	Manuscript in preparation
Title: Collaborative Modeling to Address Pluvial Flash Flooding in a Low Resource Setting	Kristen Goodrich	Manuscript in preparation

¹ Alexander Vandenberg-Rodes is the lead author and is outside the FloodRISE research team. B. Shahbaba is also a contributing author from beyond the FloodRISE research team.

² Vincent Guinot is the lead author and is outside the FloodRISE research team.

³ G. Salvadori is also a contributing author outside the FloodRISE research team.

⁴ Matthew Burns and Tim Fletcher are also contributing authors from beyond the FloodRISE research team.

⁵ Omid Mazdiyasni Contreras is also a contributing author from outside the FloodRISE research team.

⁶ Santina Contreras is also a contributing author from outside the FloodRISE research team.

⁷ Mojtaba Sadegh is the lead author and is outside the FloodRISE research team. Hoshin V. Gupta, Elisa Ragno, and Omid Mazdiyasni are also contributing authors from beyond the FloodRISE research team.