

KAYODE ATOBA Ph.D.

Institute for a Disaster Resilient Texas
Texas A&M University at Galveston
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Education

- 2018 **Ph.D. Urban and Regional Science**
Texas A&M University, College Station, TX
Dissertation: *Fill and Floods: An Assessment of the Impact of Parcel-Level Mitigation Activities on Residential Flood Damages.*
Chair: Samuel Brody. Committee: Wesley Highfield, Philip Berke, and Ming-Han Li
- 2013 **MS. Geographic Information Systems**
Sam Houston State University, Huntsville, TX
Thesis: *Public Participation Geographic Information Systems for the Marcellus Shale Play: Problems and Prospects.*
- 2008 **BS. Urban and Regional Planning**
Obafemi Awolowo University, Ile-Ife, Nigeria

Research and Teaching Interests

- Methods Geographic information sciences (GIScience), Spatial analysis, Spatial econometrics, Flood exposure modeling, Hazus-MH, Python, Propensity score estimation.
- Specialty Land use Planning, Flood mitigation and resiliency, Flood infrastructure, Buyouts, Property acquisition, Environmental planning, Built environment, Sustainable communities, Floodplain management

Research/Academic Experience

- 2020 - **Assistant Research Scientist**
present *Institute for a Disaster Resilient Texas, Texas A&M University, Galveston.*
- 2020 - **Adjunct Lecturer**
present *Department of Public Service and Administration, Texas A&M University.*
Teach Environmental Policy and management related courses
- 2020 - **Research Associate**
present *Center for Housing and Urban Development, Texas A&M University.*
- 2018 - **Postdoctoral Research Associate**
2020 *Center for Texas Beaches and Shores, Texas A&M University at Galveston.*
- 2016 - **Lecturer and Research fellow**
2018 *Department of Geography, South Dakota State University (SDSU)*
Taught Geography courses. Dissertation fellowship.
- 2013 - **Graduate Research Assistant**
2018 *Center for Texas Beaches and Shores, Texas A&M University at Galveston*
Flood Risk and Exposure modeling using Hazus-MH. Spatially distributed modeling

Publications

Peer-Reviewed Journal Articles

Atoba, K., Brody, S., Highfield, W., Shepherd, C., & Verdone L. (2020). Strategic Property Buyouts to Enhance Flood Resilience: A Multi-Criteria Spatial Approach for Incorporating Ecological Values into the Selection Process. *Environmental Hazards; Human and Policy Dimensions*. <https://doi.org/10.1080/17477891.2020.1771251>

Mobley, W., **Atoba, K.**, & Highfield, W. (2020) Uncertainty in Flood Mitigation Practices: Assessing the Economic Benefits of Property Acquisition and Elevation in Flood Prone Communities. *Sustainability* **2020**, *12*(5), 2098; <https://doi.org/10.3390/su12052098>.

Davlasheridze, M., **Atoba, K.**, Highfield, W., Brody, S., Merrell, W., Purdue, A., & Gillmer, W. (2019) Economic Impacts of Storm Surge and the Cost-Benefit Analysis of a Coastal Spine as the Surge Mitigation Strategy in the Houston-Galveston Area in the United States. *Mitigation and Adaptation Strategies for Global Change*. *24* (3) 329-354.

Atoba, K. Brody, S. Highfield, W., & Merrell, W. (2018) Estimating Residential Property Loss Reduction from a Proposed Coastal Barrier System in the Houston-Galveston Region. *Natural Hazards Review* *19*(3).

Journal Articles Under Review or In-press

Atoba, K., Newman, G., Brody, S., Highfield, W., Kim, Y., Juan, A. Buy them out before they are built: Evaluating the proactive acquisition of vacant land in flood-prone areas. (Under review in *Environmental Conservation* since Nov 17, 2020)

Newman, G., Malecha, M. & **Atoba, K.** Integrating ToxPi Outputs with Arc GIS Dashboards to Identify Neighborhood Threat Levels of Contaminant Transferal During Flood Events (Under review in *Journal of Spatial Science* since Oct 25, 2020)

Retchless, D. Mobley, W., Davlasheridze, M., **Atoba, K.**, Ross, A., Highfield, W. Mapping Cross-Scale Impacts of Storm Surge Events: Considerations for Design and User Testing (Under review in *Journal of Maps* since May 15, 2020).

Book Chapters

Atoba, K. (2021). Evaluating a proactive framework for the acquisition of vacant and built flood prone properties in advance of flood events. In Lee, Y & Kothuis, B. (Eds.), *Coastal Flood Risk Reduction in the Netherlands and the U.S. Upper Texas Coast*. Elsevier. (Under review)

Davlasheridze, M. & **Atoba, K.** (2021). Cost benefit analysis of a proposed coastal infrastructure for reducing storm surge induced impact in the Upper Texas Coast. In Lee, Y & Kothuis, B. (Eds.), *Coastal Flood Risk Reduction in the Netherlands and the U.S. Upper Texas Coast*. Elsevier. (Under Review)

Brody, S., **Atoba, K.**, Sebastian, A., Highfield, W., Blessing, R., Mobley, W., Stearns, L. (2020 in print). A Comprehensive Framework for Coastal Flood Risk Reduction: Charting a Course Towards Resiliency. In Kousky, C., Fleming, B., and Berger, A (Eds.) *A Blueprint for Coastal Adaptation*. Island Press

Brody, S. & **Atoba, K.** (2018). Institutional Resilience: The Example of Flood Resiliency in the United States. In Fuchs, S. & Thaler, T. (Eds.), *Vulnerability and Resilience to Natural Hazards* (pp. 237-256). *Cambridge*: Cambridge University Press.

Technical Reports and Proceedings

Mobley, W., **Atoba, K.**, & Highfield, W. Uncertainty in Flood Mitigation Practices: Assessing the Economic Benefits of Property Buyouts and Freeboard Elevation in Flood Prone Communities. In the *Association of Collegiate Schools of Planning Conference*, October 24, 2019 Greenfield, South Carolina.

Eye of the Storm. Report of the Governor's Commission to Rebuild Texas. Commissioned by John Sharp. **Atoba, K.** (2018): Contributed to Chapters 2, 3, 7 & 9, Future Proofing the Texas Coast. <https://www.rebuildtexas.today/legislative-report-on-hurricane-harvey/>

Highfield, W. Brody, S., **Atoba, K.**, & Blessing, R. (2018). Identifying the Future Costs of Flooding in the Houston-Galveston Region. Final report submitted to the Texas General Land Office. Retrieved from https://www.glo.texas.gov/coastal-grants/_documents/grant-project/17-358-final-rpt.pdf

Atoba, K. A Review of the Adaptive Capacity of New Towns to Flood Risk in the Netherlands. Case of Almere and Ijburg (2016). In Kothuis, B., Lee, Y., & Brody, S. (Eds.), NSF-PIRE Coastal Flood Risk Reduction Program Volume I, Pp 114-121. <http://www.tamug.edu/ctbs/pdf/PIRE-Coastal-Flood-Risk-Reduction-2016-17.pdf>.

Brody, S., Blessing, R., **Atoba, K.**, Mobley, W., & Wilson, M. (2014) A flood risk assessment of the San Jacinto river waste pit. Report for the Environmental Protection Agency Submitted by Center for Texas Beaches and Shores. Texas A&M University at Galveston, TX. <https://semspub.epa.gov/work/06/9595219.pdf>

PresentationsConference/Workshop Presentations

Atoba, K., Brody, S., Highfield, W., Verdone L., & Shepherd, C. (2019). Strategic Property Buyouts to Enhance Flood Resilience: A Multi-Criteria Spatial Approach for Incorporating Ecological Values into the Selection Process. Poster presented at the *Association of Collegiate Schools of Planning Conference*, Greenville, SC, October 24, 2019.

Mobley, W., **Atoba, K.**, & Highfield, W. (2019). Uncertainty in Flood Mitigation Practices: Assessing the Economic Benefits of Property Buyouts and Freeboard Elevation in Flood Prone Communities. In the *Association of Collegiate Schools of Planning Conference*, October 24, 2019

Brody, S., Highfield, W. Sebastian, A, Blessing R., Mobley, W., **Atoba, K.**, Sterns, L. (2019). Measuring, Mapping, & Managing Flood Risk: A Pilot Program in Southeast Texas. *Resilience Rising: Research and Practice on Harvey and Hazards of the Future*, College Station, TX, September 5, 2019.

Atoba, K. (2017). Fill and Floods: Assessing the Impact of Parcel-level Mitigation Activities on Residential Flood Damages. Paper presentation at the *Great Plains / Rocky Mountains Division of the Association of American Geographers Annual Meeting*, Grand Forks, ND, October 13, 2017.

Atoba, K. (2017). New Towns Coping with Flood Risk in the Netherlands: A Tale of Two Dutch Cities. Pecha Kucha paper presentation at the *Natural Hazards Workshop*, Broomfield, CO, July 2017.

Atoba, K. (2017). Propensity Score Estimation of Parcel Fill and Its Impact on Residential Flood Damages. Paper presentation at the *Association of American Geographers Annual Meeting*, Boston, MA, April 2017.

Atoba, K. (2016) Local Impact of Parcel Fill on Residential Flood Loss: Case of the Clear creek watershed. Poster presentation at the *17th Annual Texas A&M University ecological integration symposium*, College Station, TX. April 2016.

Atoba, K. Davlasheridze, M., & Brody S. (2016). Predicting economic losses in the Galveston Bay area using storm models. Paper presentation at the *Avoiding Disasters Conference, SSPEED Center*, Rice University, Houston TX. April 2016

Atoba, K. & Mobley, W. (2016) Flood damage estimates and the Galveston Bay coastal atlas. Paper presentation at the *Galveston Historical Foundation's Coastal Resilience Conference*. Galveston, TX. October 2015.

Invited Workshops and Panels

Atoba, K. et al (Matthew Fuchs and Sandra Knight as facilitators) Transforming Buyouts of Flood Prone Property: An Expert Workshop. The Pew Charitable Trusts, July 7, 14, and 22, 2020 (Online due to COVID-19) Invited as an Expert on Flood Buyout.

Atoba, K., Verdone, L., Shepherd C., Brody, S., Highfield, W. Strategic Property Buyouts to Enhance Flood Resilience. Creating a Model for Flood Risk Reduction, Community Protection and Environmental Gains. Keynote Speaker, *Texas Land Conservation Conference*, Austin TX, USA. Feb 28, 2019).

Atoba, K., Mobley, W., & Torres, J. Assessing multiple Coastal Hazard Mitigation Strategies in Galveston TX. Panel discussion at Galveston Historical Foundation *Coastal Resilience Conference*, Galveston, TX, November 2015

Atoba, K., Brody, S., Highfield, W., & Davlasheridze, M. Predicting Economic Losses Using Storm Surge Models. *Avoiding Disasters Conference-How to Reduce Impacts from the Next Big Storm*. Rice University, Houston, TX. April 26, 2016.

Teaching Experience

Instructor of Record

PSAA 606: Environmental Policy and Management (Fall, 2020) TAMU

GEOG 200: Introduction to Human Geography (2017- 2018), SDSU

GEOG 150: Environmental Disasters/Human Hazards (Spring, 2018), SDSU

GEOG 101: Introduction to Geography (Fall, 2018), SDSU

GEOG 101 (Online): Introduction to Geography (Spring, 2018), SDSU

GEOG 131: Physical Geography; Weather & Climate (2017- 2018), SDSU

Guest Instructor

URPN 210: Urban Issues; Flood Resilience in Urban Areas. TAMU (Fall, 2016)

URPN 210: Urban Issues; Geospatial Applications to Flooding Problems. TAMU (Fall, 2018)

EMGT 2500: Disasters; GIS applications in Emergency Management. UNO (Fall, 2018)

Awards

- 2017 Travel Award to the Netherlands (Internal)
NSF Partnership in International Research (PIRE) via Center for Texas Beaches and Shores, Texas A&M University at Galveston.
- 2016 **\$30,000** Doctoral Dissertation Fellowship
South Dakota State University, Brookings, SD
- 2016 **\$300** Graduate Research Award (Internal)
First place in Geography/Earth science research. Office of Graduate and Professional Studies, Texas A&M University, 2016 Student research week

Professional Experience

- 2016 - **Research Consultant**
2018 *Margaret A. Cargill Philanthropic Services*
Data collection and analysis on issues relating to inter-organizational collaboration among grantee members in relation to disaster mitigation, response, and recovery
- 2011 - **GIS / Lidar Technician**
2012 *Geodigital International Corporation, The Woodlands, TX*
Manage LIDAR data for Infrastructure construction and maintenance, corridor mapping, and feature classification of LIDAR data
- 2011 - **Utility Locate Technician**
2012 *United States Infrastructure Corporation, Houston, TX*
Reading utility prints and locating underground facilities.
- 2008 - **Town Planning Assistant**
2009 *Oyo State Urban and Regional Planning Board, Nigeria*
Planning urban renewal, design of layouts, site inspection, evaluating environmental impact analysis report and development control.
- 2006 - **Town Planning Intern**
2007 *Physical Planning and Development Unit, Obafemi Awolowo University, Nigeria*
Digitizing paper maps and Land use plans using AUTOCAD. Auditing development approval grants.

Certifications

- 2016 **Professional Development Certificate**
Office of Graduate and Professional Studies, Texas A&M University
- 2014 **Graduate Teaching Certificate**
Center for Teaching Excellence, Texas A&M University

Service Activities

- 2018 - **Mentor**
present The William Averette Anderson Fund. Mentor doctoral students in natural hazards and emergency research across different institutions in the United States.

- 2016 - **Chair of Community Service**
2017 The William Averette Anderson Fund. Promoting hazard and disaster mitigation education and research for underrepresented groups.
- 2008 - **Outreach Coordinator**
2009 Ibadan Drug-Free Club. Organizing public outreach programs for individuals affected by drugs and addictive substances.

Professional Memberships

American Planning Association
The Association of Collegiate Schools of Planning
American Association of Geographers
Natural Hazard Mitigation Association