

ES SEMINAR SERIES

12:30-1:30 pm

04/27/2022

[Zoom](#)

Adjo Amekudzi-Kennedy

Inland Flood Risk and Municipal/Regional
Resilience in Georgia:
The AT&T Climate Resiliency Community
Challenge



Abstract: Climate change in the Anthropocene era has introduced new challenges in infrastructure management. With limited funding, fragmented data availability, methodological evolution and a relatively slow-to-change institutional framework, local agencies must develop processes that enable them to anticipate and address evolving challenges while managing existing ones. This AT&T climate resiliency community challenge focused on inland flooding hazards in the state of Georgia. We synthesized, developed and applied a collection of conceptual and analytical frameworks to assess the flood vulnerability of local communities - leveraging climate projection model data developed by Argonne National Laboratory for AT&T and using other data sources to fill the gaps. The projections were used as hazard exposure data along with other vulnerability datasets applying the social-ecological-technical systems (SETS) approach, developed by the Urban Resilience to Extremes Sustainability Research Network, modified to formally consider institutions for resiliency. Working with multiple stakeholders from different public agencies - the Atlanta Regional Commission, Metropolitan North Georgia Water Planning District, and the City of Atlanta Department of Watershed Management, we studied four cities: Atlanta, Austell, Albany and Carrollton to determine GIS-based hotspots – regions of high exposure and vulnerability in the communities. The overarching finding was that communities that have the highest exposures to inland flooding hazard also have the highest vulnerability, a history of flooding, and, minority populations in the majority. The results also showed a continuum of maturity in public awareness of inland flood risks, the multiple factors influencing vulnerability, knowledge of where the highest vulnerabilities and exposure occur in various communities, and the institutional and fiscal capabilities to address this hazard. The talk will discuss the approach, findings, significance and recommendations of the study, and revisit these in light of the Infrastructure Investment and Jobs Act.

Bio: Professor Amekudzi-Kennedy studies systems problems on the integrated built, natural, social and information environments to understand how we can make better decisions on built systems to promote resilient, smart and sustainable development. Her current research focuses on the development and application of systems and sustainability engineering methods to promote sustainable development. Kennedy has authored extensively, developed undergraduate and graduate courses, and provided technical support for international, national, state and local initiatives in these interdisciplinary areas. She serves as the primary instructor for the required undergraduate course: Civil Engineering Systems, and the graduate elective: Infrastructure Systems, both of which address the proper stewardship of infrastructure. Kennedy is the founding Chair of the American Society of Civil Engineers' Committee on Sustainability and the Environment in the Transportation & Development Institute. She served on the Board on Infrastructure and the Constructed Environment (National Research Council) for 10 years, and is a member of the Transportation Asset Management Committee of the Transportation Research Board. Kennedy led the development of the Global Engineering Leadership Minor at Georgia Tech, and serves on the editorial boards for the *International Journal of Sustainable Transportation*, *Sustainability and Climate Change*, and *Transportation in Developing Economies*. She is a fellow of the American Society of Civil Engineers and a member of the National Academy of Construction. In her leisure time, Kennedy enjoys time with family, playing the piano and painting.

