



## Integration of Climate Projection Scenarios in Resiliency Planning of Urban Coastal Systems

Rouzbeh Nazari

University of Alabama at Birmingham, AL, USA

### Abstract:

Coastal and inland flooding has been a problematic occurrence, specifically over the past century. Global warming has caused an 8 inch sea level rise since 1990, which made the coastal flood zone wider, deeper and more damaging. Additionally, riverine flooding is extremely damaging to the coastal communities' substructure and economy as well which causes river banks to overflow, inundating low-lying areas. Low-lying coastal areas at severe risk for flood hazard, sea level rise, land depletion, economic loss, property damage, destroy habitat destruction, and also threaten human health and safety which are the main study area of this work. A decision making framework is being built to help mitigate the impacts of the environmental and economical dangers of storm surges, sea level rise, flash-floods and inland flooding. With vigorous research and the use of innovative hydrologic modeling, this tool can be utilized to help with resiliency planning for coastal communities. This will allow the individuals living in a coastal community to understand the details of climatic hazards in their area and risks associated to their communities. This tool also suggest the best solution for the problem each community faces. The results and benefits from the simulation and modeling techniques, allow coastal communities to choose the most appropriate method for building a long lasting and sustainable resilience plan in the future.

### Biography:

Dr. Nazari, is an Associate Professor and Co-Director of Sustainable Smart Cities Research Center (SSCR) with a dual appointment in the Department of Civil, Construction and Environmental Engineering and School of Public Health at the University of Alabama at Birmingham. His primary research interests are: application of remote sensing in water resources and environment, Coastal resiliency, hydrodynamic modeling, stormwater management and impact assessment of extreme weather events on the built environment. Dr. Nazari is the founder and creator of NJFloodAlert.com as well as QPeak technologies (an NSF I-Corp funded startup company based on his patented work), the first high resolution asset based resiliency decision making system that is currently in use by state and local officials and as well as residents in New Jersey. He has worked on New York and New Jersey Resiliency planning has been a pioneer in the damage and resiliency assessment of



coastal infrastructures and community vulnerability to natural disasters. He has received over \$3,200,000 in funding from federal, state and industry for his research. Dr. Nazari's research has been supported by NSF, USDA, FEMA, NJDCA, NJDEP, NY/NJ DOT, and American Water. Dr. Nazari's work has been featured on TV and major Newspapers including, PIX11 news, NJTV, US Guardian, Philadelphia Inquirer, New Jersey Business and Press of Atlantic City to name a few. Dr. Nazari has published several book chapters, journal papers and has presented his work in national and international conferences.

### Publication of speakers:

- Rouzbeh Nazari et al; Quantifying environmental and social vulnerability: Role of urban Heat Island and air quality, a case study of Camden, Oct 2020
- Rouzbeh Nazari et al; Application of Satellite Remote Sensing in Monitoring Elevated Internal Temperatures of Landfills, Sep 2020
- Rouzbeh Nazari et al; Investigating Effects of Landfill Soil Gases on Landfill Elevated Subsurface Temperature, Sep 2020
- Rouzbeh Nazari et al; Developing Vulnerability Index to Quantify Urban Heat Islands Effects Coupled with Air Pollution: A Case Study of Camden, Feb 2020
- Rouzbeh Nazari et al; Corrigendum to "A decision-support framework for emergency evacuation planning during extreme storm events", May 2020

[2nd Edition of Challenges in Global Climate Change and Oceanography, Nov 17, 2021; Paris, France.](#)

**Citation:** Rouzbeh Nazari; Integration of Climate Projection Scenarios in Resiliency Planning of Urban Coastal Systems; Euro Climate Change 2021; November 17; Paris, France.