

## Presentation Abstracts – Session 3

\*Presenters and their associations are highlighted.

❖ **Jim Lee, College of Business, TAMUCC**

*The Economic Aftermath of Hurricanes Harvey and Irma*

Abstract:

This paper estimates the economic impacts of Hurricanes Harvey and Irma of 2017, with a focus on the local labor markets. Data from 90 counties of the federally declared disaster regions in Texas and Florida reveal a strong relationship between direct economic damage and localized measures of storm intensity, such as wind speed, the amount of rainfall, and the height of storm surge. The impact of the storms on unemployment and employment of the disaster counties dissipated within six months, and then recovery supported in part by federal relief programs boosted employment and wage growth primarily through expansion in construction and service-oriented activities. Regressions with spatial effects further reveal that following a hurricane strike, employment and wages moved in the opposite directions between a disaster county and its neighboring counties.

❖ **Nathanael Rosenheim, Walter Peacock, Maria Watson**

**Department of Landscape Architecture & Urban Planning, TAMU**

*Food Security and its relation to Critical Infrastructure after Hurricane Harvey*

Abstract:

Natural disasters have the potential to exacerbate food insecurity through the disruption of critical infrastructure such as electricity, water, gas, internet, and road networks. This is a particularly salient issue for southeast Texas, which experiences chronic hurricane risk and has historically scored low on measures of food security. This study conducted face-to-face surveys with food retailers within Harris, Orange and Jefferson Counties to understand the role of pre-event vulnerabilities and damage to the built environment in the disruption of food retailers. This research, therefore, examines social, economic, and physical systems in order to understand how to better prepare for future food-related disruption and improve day-to-day food security for vulnerable populations. We present some of the survey findings and their implications for resilience as it pertains to food availability after 2017 Hurricane Harvey.

❖ **J. Carlee Purdum, Michelle Meyer, Shannon Van Zandt, David Bierling, John Cooper, Walter Peacock**

**Department of Landscape Architecture & Urban Planning, TAMU**

*Long-term Recovery Committees and Post-disaster Unmet Needs*

Abstract:

Long-term recovery remains one of the least studied but most complicated phases of disaster. Supporting unmet needs is one crucial aspect of this phase. Local communities often form long-term recovery groups as either organizations or committees to support residents with unmet recovery needs. This process requires coordination and collaboration between government, private, and nonprofit organizations. This presentation provides results from ongoing research about how communities structure

long-term recovery coordination. We will present results from a community affected by Hurricane Harvey, along with results from six other communities we have been studying for the past four years. This research involved interviews with more than 120 people from public, private, and nonprofit organizations, and field observations of recovery meetings. Our results highlight challenges and opportunities in recovery management, a need for nonprofit training on disaster recovery specifically, and often missed opportunities to promote disaster resilience.

❖ **Charriss York, Christie Taylor**

**Department of Recreation, Park, & Tourism Science, TAMU**

*Exploration Green: A case study of green infrastructure during Hurricane Harvey*

Abstract:

Exploration Green (Clear Lake, TX) is an innovative approach to flood control and water quality improvement. Located in the suburban area built to house employees of Johnson Space Center, development and urbanization has continued in the watershed since the 1960's. A defunct golf course has been re-purposed to create a multi-use flood control project that provides more than just water storage. Phase I of this project contains walking trails, wildlife habitat, and wildlife habitat. It also protected over 150 homes from flooding during Hurricane Harvey. When construction is completed, 120 acres of detention and green space will protect more than 3,000 families from flooding, creating a more resilient community.

❖ **Qian Wang, Department of Biomedical Sciences, TAMU**

*Reading natural disasters in bones – A project on monkeys with hurricane experience*

Abstract:

In 1938, rhesus monkeys from India were introduced to Cayo Santiago, Puerto Rico to insure a steady supply for biomedical research in the continental U.S. during WWII. Since then, four major hurricanes (Category 3 or higher) have hit Cayo Santiago directly: Hurricane Hugo (Sept 18, 1989), Hurricane George (Sept 21, 1998), Hurricane Irma (Sept 06, 2017), and Hurricane Maria (Sept 20, 2017). These hurricanes had led to loss of vegetation, resulted in food and water shortages and increased sunlight/UV exposure due to defoliation damage. We hypothesize that the weather disasters at Cayo Santiago have negative long-term impacts on the health of young individuals with hurricane experiences during their periods of skeletal and dental development. In our forthcoming NSF-supported project, we will assess bone health, tooth health, and lifespan in monkeys with hurricane experiences during early stages of growth and development to assess the long-term impact of the natural weather disaster.