

Gulf-Coast Guardians: Empowering Youth for Disaster, Public Health, and Urban Planning Careers

Seth Jordan¹, Michelle Meyer¹, Jaimie Masterson¹, Benika Dixon², and Charles White³
¹Texas A&M University Hazard Reduction and Recovery Center, ²Texas A&M University School of Public Health, ³Charity Productions
Contact: Seth Jordan, sjordan@arch.tamu.edu



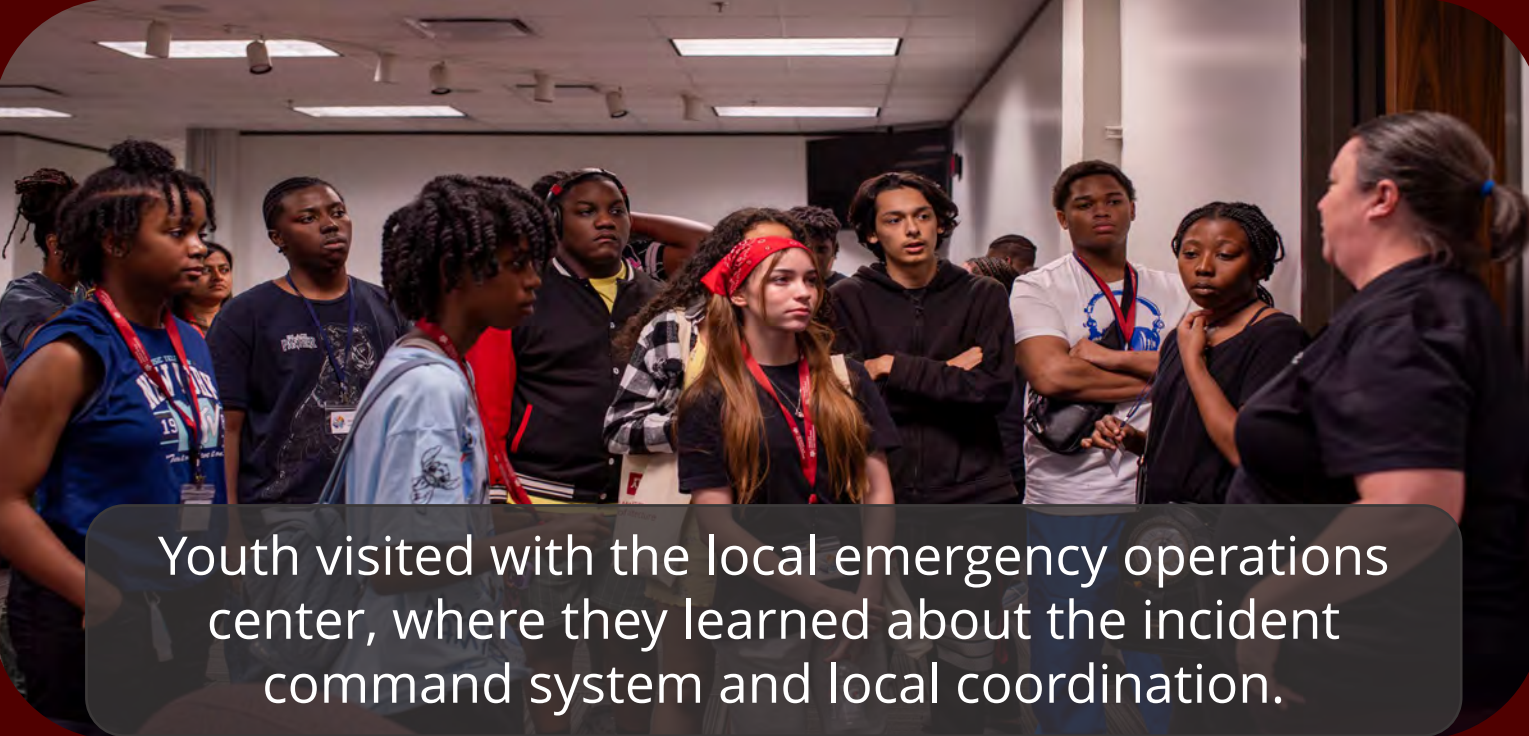
Introduction

Camp DASH (Disaster, Advocacy, Sustainability, and Health) is an overnight camp at Texas A&M University (TAMU) that provides in-depth instruction for high school students. The camp aims to enlarge and diversify disaster management, which sits at the frontline of addressing climate risk, by developing youth leaders who are knowledgeable in climate change and its effect on community disaster resilience and provide educational pathways from high school to college and onto careers in climate resilience: emergency management, urban planning, and public health. We engage high school students (age 15-18) mostly from Beaumont and Port Arthur, Texas – coastal communities with high exposure to both natural and industrial hazards and high social vulnerability. In 2024, 24 youth participated and 25 participated in 2025.

- Camp Objectives:**
- **Understand and advocate** for disaster and climate issues and solutions in their home communities.
 - **Explore** the career opportunities in emergency management, urban planning, and public health that contribute to climate resilience.
 - **Experience and envision** a college environment, picturing themselves attending a postsecondary institution.

Camp DASH is a collaboration between Charity Productions and the Hazard Reduction & Recovery Center (HRRC) and Texas Target Communities (TxTC) at Texas A&M University.

- **Charity Production**, a longstanding advocacy and educational nonprofit, has been dedicated to finding comprehensive solutions to the persistent disparity gaps in all aspects of quality of life. They work with high schools in Texas to integrate FEMA's Emergency Management Institute's Independent Study courses, focusing on mitigation, public health and safety, disaster preparedness, and climate management.
- **HRRC and TxTC** each have 30+ years of experience in leading research and public engagement on hazards and disasters and implementing that research into action through service learning, planning support, community engagement, and citizen science.



Interdisciplinary Team Approach

Like disaster research, the camp curricular approach fostered **interdisciplinary thinkers** who saw the array of educational and professional opportunities for this field. Scholars in **social sciences, urban planning, and public health worked with educational scholars** (Figure 1). Educational experts supported faculty in curricula creation and team-building and fun activities.

We modelled Camp DASH on an existing successful camp at Texas A&M for the schedule. The camp is 3.5 days and 3 nights.

Curricula development involved finding engaging ways to explore disaster and climate topics related to the three targeted career fields. Each year had an overarching theme: **heat** in 2024 and **flooding** in 2025.

Each faculty member developed educational modules for 2-5 hours of instruction. Together the team identified fun and teambuilding activities and revised educational modules. Campus emergency management, local emergency management, and Texas A&M Engineering Extension Service (TEEX) offered programming support.

The selected communities are about a 3-hour drive from campus, so we offered transportation to and from the camp.



Figure 1. Interdisciplinary Team. Adapted from Peek and Guikema (2021).

Youth Recruitment

Charity Productions worked with local school districts to recruit youth who would be going into 10th, 11th, or 12th grades after the camp.

- Recruitment:**
- Working with high school counselors and teachers to identify interested youth
 - Parent in-person and zoom information sessions
 - Website and flyers
 - Media and press conferences
- Enrollment:**
- Parent risk release
 - Photo release
 - Institutional research board (IRB) consent and assent for evaluation
 - Roommate selection, health and dietary needs

Staffing and Training

- Staff included:**
- 4 college student counselors
 - 4 staff leaders including faculty
 - Support from local and university emergency management
- The University Office of Youth Engagement required trainings and mandated standards related to risk. We addressed these through:
- 1 counselor per 8 youth
 - Risk training on mandatory reporting of abuse, rules of interaction with youth, etc.
 - Counselors must stay in dorms
 - Youth cannot be alone, nor have one-on-one interactions with staff

2024 Program Highlights

Heat and Health Comic-Making Activity: Youth learned about epidemiology and made comics targeted to communicate heat hazards and solutions to middle school students.

City Building: Youth learned about urban planning and land use decision-making as they envisioned their ideal community using construction paper.

“Who We Are” Activity: Adapted from the “Who are We?” activity developed in Shoreline, a project led by Dr. David Abramson and Dr. Lori Peek and created at the National Center for Disaster Preparedness at Columbia University. Students did a photovoice activity before Camp to identify hotspots of enjoyment and areas for improvement in their own communities. At Camp, students grouped photos and identified themes.

Climate Impacts to Friends: After learning about climate change impacts and social vulnerability, students identified persons in their social networks and how they will be affected by climate change in the future. Then they worked in groups to identify solutions and strategies to help those people, especially address social vulnerability needs.

- Professional Panels and Field Tours:** Students toured:
- Local emergency operations center (EOC), and
 - University Football Stadium and its EOC to understand emergency management for large events
 - Brayton Fire Field Training Center for the public firefighting demonstration.
- They had professional panel discussions with:
- Local emergency managers about career and educational options, and
 - Current students about college.

Emergency Management Game: Texas A&M Emergency Management staff took the students through a game in which they were assigned various roles and had to find and share resources to respond to a crisis.



"I feel like I've learned more of the context of how to prevent disasters and what I can do without even a degree."
- Senior man

"I feel like we learned more than we do at school really, because it was very interactive."
- Senior woman



"I really hope I can see this camp grow more. And I also do want to come here [TAMU]."
- Senior woman

"It made me believe that I can make a difference in my community."
- Senior man



"TEEX with all the fire training and stuff, I actually found something that I would like to do. I had something [else] in mind, but I found other stuff that I would like to do."
- Junior woman



"I am now interested in pursuing disaster management."
- Senior woman

"[The camp] helped me see that I should believe in myself more with STEM."
- Junior woman

2025 Program Highlights

- What Stayed the Same:**
- Emergency Management Game
 - Professional Panel
 - Student Panel
 - Tour of Football Stadium EOC

Increased Emphasis on Team Building: Emphasized teamwork in 2025, building teams based on personality game. Throughout Camp, teams earned points for different activities and games to create a sense of engagement and competition.

Expanded City Building Activity with Legos: The urban planning and land use activity was re-envisioned using Legos and teams received points based on better hazard mitigation decisions.

Expanded Emergence Response Training Tour: A highlight from both years was visiting the TEEX Brayton Fire Field Training Center. In 2025, TEEX provided hands-on activities including operating a firehouse, wearing hazmat gear, and practicing first aid.

Participatory Stormwater Infrastructure Assessment: Based on previous research by Hendricks et al. (2018), youth learned about stormwater infrastructure and how to identify problems. Youth compared infrastructure on campus and in a socially vulnerable neighborhood in town.

Comprehensive Plan, Youth Feedback: The comprehensive plan for Beaumont was reviewed by youth. They identified challenges and concerns from their perspective.

Evaluation and Feedback

An external evaluator collected pre- and post-test surveys and conducted focus groups in 2025. Evaluation is underway to assess changes in climate and disaster knowledge, awareness of planning, public health, and emergency management careers, and interest in science and college. Youth quotes on the post-test and during the banquet indicated overall positive experience, increased knowledge about disasters, increased interest in these fields, and increased desire in attending Texas A&M University.

Lessons Learned: The Importance of Flexibility and Preparedness

- Flexibility is paramount:
- Hurricane Beryl in 2024 resulted in changing from a 4.5-day to 3.5-day camp due to impassable roads.
 - Activities took longer than expected, resulting in canceling some planned exercises.
 - Additional time was needed to transition between activities.
 - Planned lectures were adapted on the fly into more interactive learning to increase student engagement.
 - Weather affected outdoor activities again in 2025.

- Lessons Learned:**
- Offer various perspectives and career paths - not all youth are considering college.
 - Explore diverse topic areas to fit many different youth interests.
 - Incorporate on- and off-campus activities for student engagement and various viewpoints on career fields.
 - Engage university youth programming personnel before proposal submission, as there are extra costs and requirements for youth events.
 - Recruit early and have a detailed process to manage waitlists.
 - Discuss long-term sustainability early, as activities and program design depend on funding.
 - Recruit counselors early and consider various benefits for counselors beyond salary.

Monday	Tuesday	Wednesday	Thursday	Friday
	Travel to Beaumont (8:00 - 8:00)			
	Student Check-in (8:00 - 9:00)	Travel to Class	Travel to Class	Travel to Class
	Breakfast (9:00 - 9:00)	Breakfast (8:30 - 9:00)	Breakfast (8:30 - 9:00)	Breakfast (8:30 - 9:00)
Supply Pick-Up	Travel from Beaumont to Campus (9:00 - 12:00)	Urban Planning City Building (9:00 - 12:00)	Heat Wave Communication Activity (9:00 - 12:00)	Tour of Campus and Football Stadium EOC (9:30 - 12:00 pm)
Pick-Up Vans	Check-in & Lunch (12:30 - 13:30)	Lunch (12:00 - 13:00)	Travel to EOC	Travel to Stadium
Staff Training	Travel to Class	Climate Change Overview and Impacts Activity (13:30 - 15:00)	EM Professionals Panel (13:30 - 15:00)	Banquet, Parents Welcome (12:30 - 14:00)
	Health Overview (14:30 - 15:30)	Break and ice cream	Break and snacks	Travel from Campus to Beaumont (14:00 - 17:00)
	Health Comic Activity (15:30 - 18:00)	Who Are We? Activity (16:00 - 18:00)	Emergency Management Game (15:30 - 17:00)	Drop-off (17:00 - 18:00)
	Dinner	Travel to TEEX	Travel to TEEX	
	Free Time at Recreation Center (19:00 - 21:00)	TEEX Public Firefighting Demonstration & Dinner (18:30 - 22:00)	Bowling & Dinner (17:30 - 20:30)	Travel from Beaumont to Campus (18:00 - 21:00)
	Travel to Dorms	Travel to Dorms	Travel to Dorms	
	Student Panel (20:30 - 22:00)	Project Time	Project Time	
	Wind down and lights out	Wind down and lights out	Wind down and lights out	

Monday	Tuesday	Wednesday	Thursday	Friday
	Travel to Beaumont (8:00 - 8:00)			
	Student Check-in (8:00 - 8:00)	Travel to Class	Travel to TEEX & Breakfast	Breakfast & Evaluation Focus Groups (8:00 - 8:30)
	Breakfast (8:30 - 9:00)	Breakfast (8:30 - 9:00)	TEEX Emergency Response Tour (8:30 - 10:00)	Travel to Stadium
Staff Training	Travel from Beaumont to Campus (9:00 - 12:00)	Emergency Management Game (9:30 - 11:30)	Travel to Lunch	Tour of Campus (9:00 - 11:00)
Pick-Up Vans	Check-in & Lunch (12:30 - 14:00)	Lunch (12:30 - 13:30)	Travel to Campus	Football Stadium EOC Tour & Evaluation Focus Groups (11:00 - 12:00)
	Travel to Class	Build a Better City Logic Game (13:30 - 14:30)	Participatory Stormwater Infrastructure Assessment Data Analysis (13:30 - 14:00)	Banquet, Parents Welcome, Evaluation Post-test (12:00 - 14:00)
Supply Pick-Up	Dom Check-in & Lunch (13:30 - 14:00)	Break & Snacks (14:30 - 15:00)	Travel to Campus	Check-out of Dorms (14:00 - 15:00)
	Health Overview & Expectations (14:30 - 15:00)	Participatory Stormwater Infrastructure Assessment Production (15:00 - 16:30)	Snacks and Break	Travel from Campus to Beaumont (16:00 - 18:00)
	Health Overview (14:30 - 15:30)	Participatory Stormwater Infrastructure Assessment Production (15:00 - 16:30)	Pizza & Comprehensive Plan Making (17:00 - 18:00)	Drop-off
	Health Comic Activity (15:30 - 18:00)	Travel to Downtown Bryan	Dinner (17:30 - 18:00)	
	Dinner	Dinner (17:30 - 18:00)	Movie Night Trailer (18:30 - 20:00) (Interactive activity for the post due to test weekend)	
	Free Time at Recreation Center (19:00 - 21:00)	Participatory Stormwater Infrastructure Assessment Production (19:00 - 20:30)	Travel to Dorms	Travel from Beaumont to Campus (18:30 - 21:00)
	Travel to Dorms	Student Panel (21:00 - 22:00)	Travel to Dorms	
	Wind down and lights out	Wind down and lights out	Wind down and lights out	

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