

Flash Floods

In early July of 2025, Central Texas was struck by a catastrophic flood, widely regarded as the worst in decades. Triggered by the remnants of Tropical Storm Barry interacting with a stalled front, the event dumped up to 21 inches of rain over portions of the hill country in a matter of hours. The Guadalupe River surged up to twenty feet in two hours, overwhelming flood gauges and devastating everything in its path. One of the most tragic losses occurred at Camp Mystic in Kerr County, where dozens of children and staff perished in the floodwaters. The final death toll ranged between 95 and 130, with thousands displaced and damages estimated at \$18–22 billion. Whenever we experience a disaster of this magnitude, we must examine what happened and learn from our mistakes to prevent future loss of life.

Several critical failures turned this storm into a catastrophe:

- **Extreme weather and climate amplification.** A warmer atmosphere (2.3 degrees above the 20th-century average) enabled the air to hold and release more water vapor, intensifying rainfall bursts by up to 15%.
- **Topographic and soil vulnerability.** The Texas Hill Country's "Flash Flood Alley" features steep, rocky, and clay-rich soil with very low absorption rates. During intense rainfall, this funnels massive runoff into rivers with extraordinary speed.
- **Infrastructure and Policy Failures.** Despite forecasts from the National Weather Service, local warning systems failed to function effectively. There were few warning sirens, poor cell coverage, and delayed alerts. A regional flood warning system, proposed in 2016, was never implemented due to budget cuts and political delays. Additionally, a critical river gauge malfunctioned at 4:35 a.m., leaving many unaware until the waters were upon them.
- **Ignored Warning and Outdated Maps.** Many areas were not on FEMA risk maps, leading residents to falsely believe they were safe.

The impacts of this event are severe, with over 100 fatalities, including a disproportionately large number of children. Tens of thousands of acres of cropland were lost. Impacts to residential, infrastructure, and agriculture exceed \$18 billion. The survivors face long-term financial and emotional recovery.

Key Lessons Learned

- Technology alone isn't enough. High-quality weather forecasts only save lives if local communications systems function reliably for all residents.
- Vulnerable terrain requires maximum attention. Regions known to be flood-prone must treat every storm as potentially catastrophic.
- Infrastructure must be maintained and modernized. Early warning systems, real-time flood gauges, and robust evacuation plans are essential for saving lives and must be regularly reviewed and adequately funded.
- Flood maps lag behind reality. Constant reassessment and local studies should supplement or override outdated FEMA or governmental flood maps.



How You Can Prepare

- Sign up for multiple emergency alert systems for your area (text, app, sirens).
- Create and rehearse your evacuation plans, even in low-risk areas, and identify local shelters ahead of time.
- Maintain “go bags” with your essentials such as IDs, medicine, non-perishable food, water, first aid, and flashlights.
- Obtain flood insurance if you are anywhere near a body of water, regardless of FEMA maps.
- Advocate for upgraded local warning and monitoring infrastructure and participate in community flood drills.
- Promote education about flood history and risk at the community level through schools and signage.

This disaster exposed systemic failures in preparedness and response. By learning from these mistakes, we can save lives when the next flood comes, because in Texas, it’s not a matter of “if,” but “when.”

Sources:

- [USDA Texas Floods Event Summary](#)
- [The anatomy of a flash flood: Why the Texas flood was so deadly – Delta Optimist](#)
- [Lessons Learned from the July 2025 Texas Deluge – FloodMart.com](#)
- [Flash Floods in Central Texas: Impact, Data & Analysis – Kontur](#)