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THE VOICE

FEMA REGION 6 MITIGATION NEWS & INFORMATION

The Voice — Summer Edition

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Cooperating Technical Partner Spotlight: Q&A with Race Hodges

Q: Tell us about your program and the resiliency workshops. Why are you hosting them?

A: The Texas Coastal Watershed Program (TCWP) is a subsidiary of Texas A&M University, Texas A&M AgriLife Extension, and Texas Sea Grant. Our Resiliency Program builds risk awareness and disaster resiliency at the local level, and helps local officials and citizens make sense of the many challenges and opportunities involved in growth planning.

In partnership with FEMA, USACE, the Texas Department of Emergency Management, and other State agencies, we host one-day, interactive workshops for local officials and stakeholders involved in making future development decisions in their communities. In addition to learning what mitigation resources our partners can offer communities, the majority of the workshop involves participants using the interactive Community Health and Resources Management (CHARM) mapping application. CHARM gives users the power to map and analyze potential development scenarios with real-time feedback. After the workshops, we have sustained interaction and involvement with communities to help provide support in advancing mitigation initiatives.

Our goal is to facilitate discussion; we want participants to better understand risk and how to consider it in making sound development decisions.

Q: How does your workshop help communities understand their risk?

A: CHARM uses a number of risk data sets (i.e. urbanization, storm surges, conservation, public facilities, and coastal resources) to help communities think about future development. For example, participants can first create hypothetical development scenarios using the mapping application. Then, in

real time, the application will show them implications these decisions will have on risk aversion or risk creation. By navigating through easy-to-use analytical functions, users can see the economic implications of certain types of development, as well as what percentage of their hypothetical development is located in the 100-year floodplain or within a particular storm surge inundation area.

Q: What's the most important thing you want resiliency workshop attendees to learn?

A: That strong urban planning can pay extraordinary dividends in risk reduction. According to Dennis Mileti, author of "Disasters by Design" and professor emeritus at UC Boulder, "no single approach to bringing hazards mitigation into existence shows more promise at this time than increased use of sound and equitable land-use management."

As indicated by pre- and post-surveys, participants in our workshops walk away with a better understanding of local risk, different ways urban planning can be used to promote community resilience and risk reduction, and the multitude of resources available to them from our State and Federal partners.

Q: What do you think is the biggest challenge facing coastal communities?

A: Understanding ways to better integrate their hazard mitigation plans with other planning mechanisms is a challenge facing many communities. Local officials need to know how (or if) the local comprehensive plan, local building codes, zoning regulations, floodplain management ordinances, etc., can help advance the goals and objectives of their hazard mitigation plan.

Q: What's next? Where will the focus be for the rest of this year and into next year?

A: We'll be holding workshops for many counties along the Texas coast!

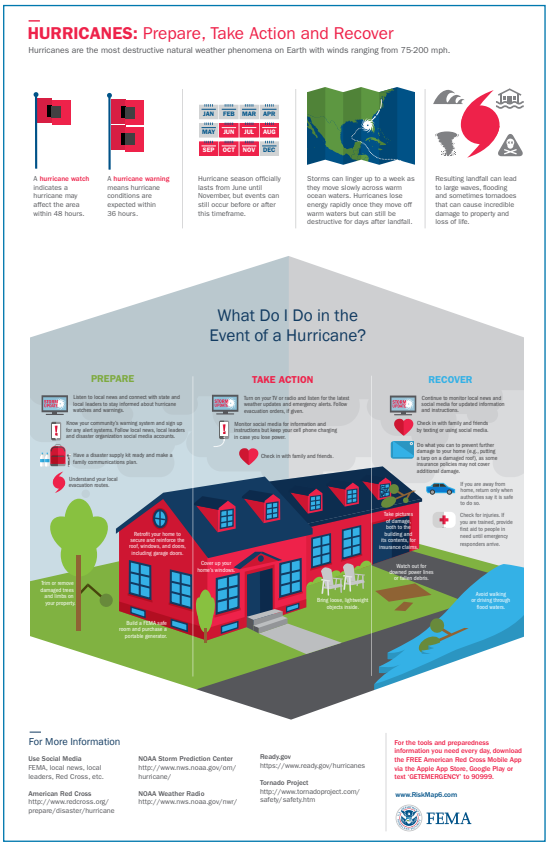
Race Hodges is a senior planner and Resiliency Program Coordinator with the Texas Coastal Watershed Program. For more information, contact him via telephone at 281-210-6067 or via email at race.hodges@tamu.edu. Learn more about the resiliency program and workshops by visiting their website at *www.cerc.tamu.edu*.

Know Your Risk: Hurricanes

Check out FEMA's fact sheet on steps you can take to prepare, take action and recover from a hurricane.

Each issue of The Voice will feature a natural hazard risk so keep an eye out for the next one!

CLICK ON THE IMAGE TO DOWNLOAD THE FULL PDF



Tree Care and Flooding

Flooding can do quite a number on your trees, and it can often take years for them to return to normal after the flood event. Timing and duration of the flooding is critical. Some flooding will kill your trees in a matter of days; others will cause critical damage to them, leading to their slow decline and death several years later. Knowledge is key in the fight to save your trees.

This fact sheet from the Texas A&M Forest Service will give you information on what steps to take when flooding strikes. These steps will protect and save your property's trees. Additionally, if you are considering whether to plant trees in a flood prone area, the fact sheet contains a list of trees known for surviving flood events.

Make Low-Cost Risk Reduction Count!

When speaking of risk reduction measures, large-scale, often expensive endeavors receive the majority of the attention. However, some activities allow communities and individuals to recover faster from natural hazards and are relatively low-cost, including:

- Raising electrical system components like fuses, outlets and switches to at least one foot higher than the base flood elevation;
- Installing sewer backflow valves that temporarily block drain pipes and prevent sewage backflow into the house;
- Elevating heating, ventilation, and cooling (HVAC) equipment to a high floor; and
- If HVAC equipment cannot be elevated, constructing a concrete or brick floodwall to surround it.

These activities must be completed by a professionally licensed contractor and may require a local permit to undertake. Business owners should likewise look to safeguard on-site records, files, and product inventory from flooding. The loss of essential records, files, and other materials during a disaster adds to damage costs and delays the return to normal operations.

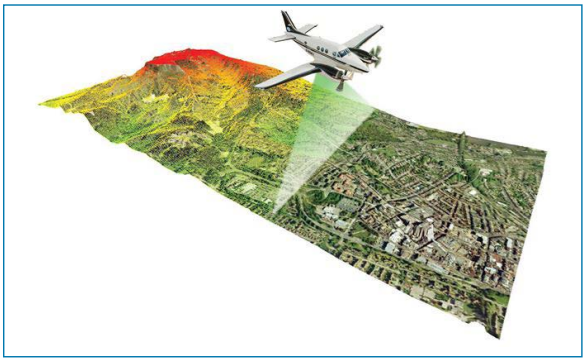
If you need financial assistance for your projects, check with your community for mitigation rebate programs. Your city or county and/or parish may have funds available to help homeowners reduce their risk through rehabilitation projects.

For more information about mitigation ideas, check out:

- **FEMA's Homeowner's Guide to Retrofitting 3rd Edition (FEMA P-312)**
- **FEMA's Protecting Your Business Page**
- **FEMA's Mitigation Ideas Guide**

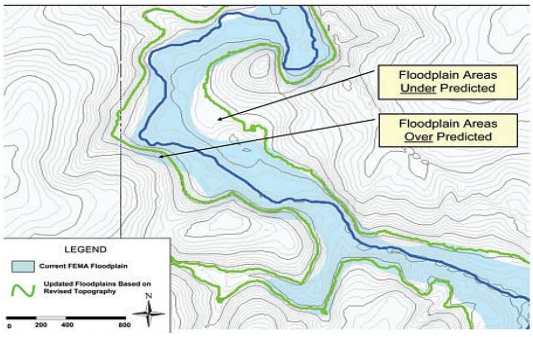
LiDAR 101: Floodplain Mapping and Modeling

What is LiDAR?



LiDAR is an acronym for "light detection and ranging." In the mapping and engineering industries, this term is used to describe an airborne laser profiling system that produces location and elevation data to define the surface of the earth and reports the height of ground and other features. Mounted on either a helicopter or fixed-wing aircraft, LiDAR systems use a pulsing laser to collect a number of data returns that are reviewed by technicians to prepare an accurate "bare-earth" terrain model to describe the ground. This bare-earth terrain model is free of trees, vegetation, and man-made structures, which are edited out of the LiDAR data returns collected.

Why LiDAR? LiDAR offers many advantages over traditional surveying and photogrammetric methods used to collect elevation data. The benefits of using LiDAR methods to collect elevation information include: ease of access for data collection areas, high vertical accuracy, robust data sets, ability to collect data in a wide range of conditions, as well as, fast data collection, and processing time. Elevation information collected through LiDAR processes support FEMA's base mapping, floodplain mapping, as well as hydrologic and hydraulic analysis preparation.



LiDAR has the advantage of mapping ground covered by vegetation. Some pulses reflect off the vegetation, while others penetrate holes in the canopy to reach the ground surface. A typical LiDAR mission collects millions and billions of elevation measurements. Such a large number of pulses are emitted overall that a sufficient number reach the ground surface to identify its elevation separately from the overlying

vegetation. It is important to note that only a single LiDAR pulse through a hole in the canopy is required to obtain an accurate ground surface elevation measurement.

How does LiDAR effect Floodplain Delineation?

Floodplain maps serve as the basis for determining whether homes or buildings require flood insurance under the National Flood Insurance Program overseen by FEMA. The 2007 report, "*Elevation Data for Floodplain Mapping*" indicated that "the several million miles of the nation's streams and shorelines covered by FEMA floodplain mapping make land surveying impractical for floodmap modernization goals." The report concluded that LiDAR was the most cost-effective technology to acquire elevation information over large regions to support floodplain mapping according to FEMA accuracy standards.

A number of States and local communities acquire new elevation data on their own initiative for a variety of purposes, but these datasets frequently do not meet the guidelines established by FEMA in coordination with the US Geological Survey (USGS). Since the 2007 report, FEMA and other Federal agencies have coordinated to develop a partnership that allows a broad collection of elevation data through cost-sharing agreements. LiDAR collected now can better describe local development and the current ground conditions, providing a great starting point for engineering modeling and floodplain delineation. FEMA Region 6 and its Federal, State, and local partners have collected over 90,000 square miles of elevation data in the past three years to produce more accurate and credible floodplain delineations based on the most up to date information.

How are areas for collection determined?

FEMA Region 6 works closely with its State Cooperating Technical Partners (CTPs) and other Federal agencies to determine where the need for updated elevation data overlaps. The State CTPs assist FEMA in prioritizing areas for data collection each year, including a list of watersheds, counties, and communities which are identified in their annual State business plans. FEMA Region 6 works closely with the USGS and its State leads to coordinate Federal investments for ground elevation each fiscal year.

Who do I contact to find out more?

For more up-to-date elevation data, reach out to your State point of contact indicated below:

Arkansas	Chris Cretini, USGS National Geospatial Program (cretinic@usgs.gov; 337-266-8621)
Louisiana	Chris Cretini, USGS National Geospatial Program (cretinic@usgs.gov; 337-266-8621)
New Mexico	Mike Inglis, Earth Data Analysis Center (minglis@edac.unm.edu; 505-277-3622)
	Brian Keller, EDAC GIT Manager (bkeller@edac.unm.edu; 505-277-3622 ex. 228)
Oklahoma	Claire DeVaughan, USGS National Map Liaison (cdevaugh@usgs.gov, 512-927-3583)
Texas	Joey Thomas, TWDB-TNRIS (Joey.Thomas@twdb.texas.gov; 512-463-8851)
	Claire DeVaughan, USGS National Map Liaison (cdevaugh@usgs.gov; 512-927-3583)

Don't Miss Our Upcoming Training Opportunities

FEMA Region 6 has developed a suite of monthly trainings to help communities become more flood-resilient by using flood risk data for future development, emergency planning, and risk communications. These trainings are FREE! We encourage local officials, citizens, and stakeholders to understand their risk and make informed choices for their community.

Our next "Virtual Brown Bag" sessions are:

Using Changes Since Last FIRM Data — August 30th, from 12 p.m. to 12:45 p.m.

Using Social Media for Risk Communication — September 27th, from 12 p.m. to 12:45 p.m.

Register for an upcoming session here: https://r6virtualbrownbag.eventbrite.com

Harris County and Orleans Parish have partnered with FEMA Region 6 to host in-person flood insurance workshops. Flood insurance agents, real estate professionals, lenders, builders, and surveyors are encouraged to attend these free events:

Orleans Parish- Friday, Aug. 26, from 1 to 3 p.m.

Register to attend this workshop at: http://orleansinsuranceworkshop.eventbrite.com

Harris County- Tuesday, Aug. 30, from 10 a.m. to 12 p.m.

Register to attend this workshop at: http://harriscountyinsuranceworkshop.eventbrite.com