ALABAMA MUTUAL AID SYSTEM
TIER I RESPONSE PROGRAM

ALTF-1

GULF COAST TASK FORCE

PHASE I – 2012 TASK FORCE READINESS SELF-EVALUATION

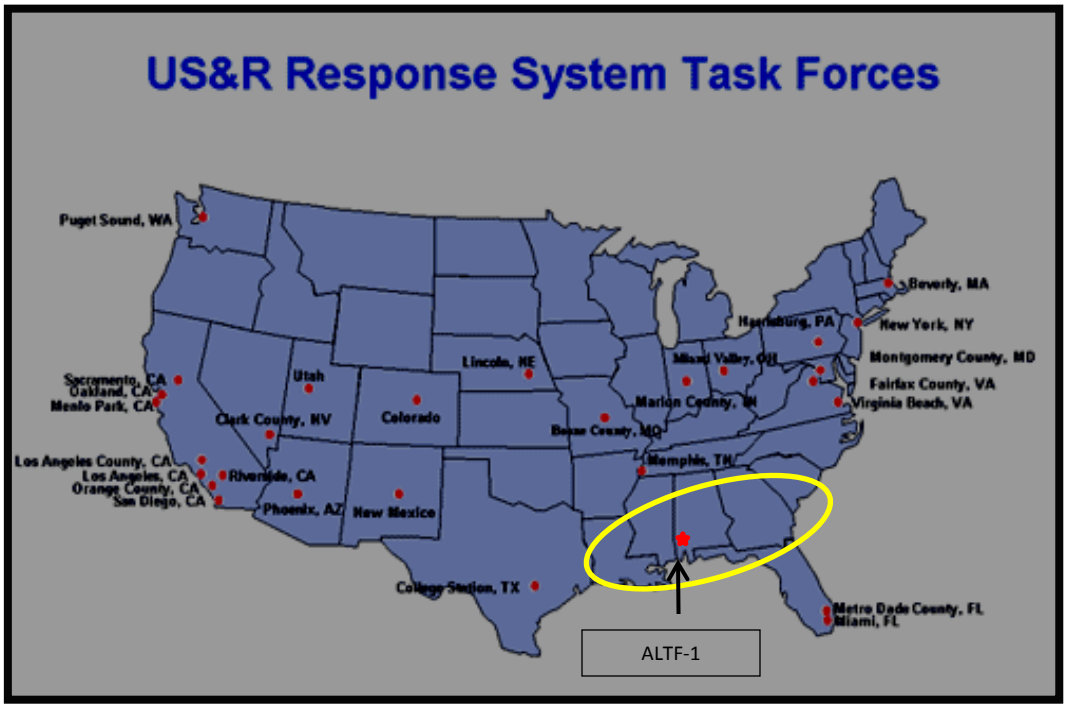
The Gulf Coast of the United States includes the coasts of Texas, Louisiana, Mississippi, Alabama, and Florida known as the *Gulf States*. The economy of the Gulf Coast region is dominated by industries related to fishing, aerospace, agriculture, tourism, energy, and international commerce. The region is anchoredby the cities Houston, New Orleans, Mobile, Pensacola, and Tampa, all the centers of their respective metropolitan areas and containing large ports.The Gulf of Mexico region supports several ports that lead the Nation in total commerce. In fact, six of the Gulf of Mexico region's principal ports rank among the Nation's top 10 leading ports (by tonnage). The area is also a leading region for U.S. energy production and refining capacity. The Gulf of Mexico region as percentages of the total U.S. share:

- Crude Oil Production 52%
- Natural Gas Production 54%
- Oil Refinery Capacity 47%

Coastal regions are among the most densely populated areas in the Nation. Compared to other coastal regions within the United States, the Gulf Coast Region has experienced a considerable population increase since 1970, growing by 103%, increasing faster than both the Pacific and Northeast Coast Regions. In fact,Gulf Coast growth surpasses all other U.S. regions. The Gulf Coast is home to six of the eight U.S. coastline counties with the fastest population growth.There is expected to be a 10% increase in population in the Gulf Coast Region by 2015. The U.S. total population is expected to increase by 7%.

Gulf Coast natural risks include hurricanes, tornadoes, flooding, droughts, earthquakes, wildfires, and tropical storms. Because the region houses both nuclear power facilities and chemical weapon stockpiles, it also has an increased risk for a manmade disaster. Currently, there are 17 nuclear power facilities and applications for nine new sites. Those facilities supply 29 percent of the nation's electrical power output, and the addition of the new sites will increase that capacity by 51 percent. There are also two chemical weapons stockpiles within the region.

When the current federal tier I response system was first created the Gulf Coast Region was not included. As populations have grown and the mission of the teams has evolved to include natural disasters this omission has left a gaping hole in the coverage of the Gulf Coast Region. In reviewing the current federal team distribution the focus on manmade threats based on population is evident. Using the systems box assignments list the nation's largest population areas, New York, Los Angeles, and Chicago, all have multiple teams within a few hours. Comparing these response times to those of Gulf Coast box assignments shows an astonishing discrepancy in anticipated response times. Using Mobile (Box Assignment 1) as an example, the projected response times for federal tier I support would be:



US&R Activation Box Assignments (Mobile is box 1) Program Directive 2006-005

- TNTF-1 first in 416 miles (7.56 hours travel)
- TXTF-1 second in 620 miles (11.5 hours travel)
- FLTF-2 third in 715 miles (13 hours travel)
- FLTF-1 fourth in 728 miles (13.5 hours travel)

Listed times are travel only and do not include the additional 4 to 6 hour muster time.

This lack of coverage is further compounded when the increased threat level from natural disasters within this Region and response failure models are considered.

The Gulf Coast is home to six of the 11 U.S. coastline counties most frequently hit by hurricanes. Both Hurricanes Katrina and Rita had a tremendous effect on the Gulf Coast Region. A total of 60 Gulf Coast counties were within 100 miles of both hurricane paths. All 5 Gulf Coast states were impacted. But, it's the no-notice events that are of most concern for our area. In 2011 Alabama was struck by the largest single day tornado strike in U.S. History. Leading meteorologists forecast continuing high levels of tornado activity for the region over the next several decades due to changing climatic trends. It is these no-notice type events that are the real

threat facing this nation. Over the years the Gulf Coast has been the Nation's area of largest threat from natural disasters. Currently, there is no team located within this area of threat.

The need for a federal tier I capability in the Gulf Coast Region is further supported when response failure modes are factored in. Empirical data supports the correlation between response arrival and survivability. Research has shown that hasty searches result in the recovery of 90-95% of disaster survivors, with primary searches increasing the level to 97%.

In all incidents involving persons injured or entrapped by an emergency or disaster situations, there is no single factor that impacts survivability more than time. In fact, the time it takes for responders to arrive, stabilize, and remove the victim to safety are the main determining factors in every type of emergency response event outcome. This truism is often at odds with the inherent fallibility of emergency response systems. When you look at these variables through existing failure mode models the need for a Tier I team on the Gulf Coast becomes quite apparent.

Failure modes are defined as "the observable manners in which a component fails", which in this case would be the ways that performance of different parts of the response system would break down. Examples of failure modes for response activities include staffing problems, human errors, equipment breakdowns, and so on. Some failures might occur as a response operation was being initiated, while others might occur at later points in the response. Failures may be due to random events, have a clear human cause, or be caused by external events.

Given that many things could hurt the functioning of a system, one differentiator among them is how likely they are to happen. The probability that a specific failure will occur during a response operation could be estimated a number of different ways. When available the use of real-world data on the occurrence of failures in past responses proves most reliable.

Other differentiators among failure modes are their effect and severity. By asking, "What is the effect of the failure mode's occurrence on overall system performance?" Different events can have a variety of effects. The effect of failures on emergency response operations fall into two main classes: response–termination failures, that is, failures that stop a response operation entirely and capability–reduction failures, that is, failures that make a response operation less effective. The severity of an effectiveness-reduction failure is determined by the size of its impact relative to the requirements of the response operation.

While the current FEMA Tier I system has great capability, because of the inevitability of failures within the system there will always be incidents for which the system does not perform as expected. To be effective, capabilities and resources have to be delivered where they are needed, when they are needed, to the people that need them. What can prevent that from happening? Put simply, things go wrong that were not foreseen or if they were foreseen but were not addressed. Perhaps a plan for getting aid into an area depended on a bridge or airport that was destroyed in the disaster. Or information on where aid was needed couldn't be transmitted from the affected area because communications links were severed. Or a local agency's lack of knowledge led to poor coordination and inefficient assistance requests. In the disaster response world things will and do go wrong and responses rarely go as planned.

That things go wrong during emergency and disaster response operations is not surprising. But how far they go wrong is significant. What is important is whether response resources and capabilities get where they are needed. In some cases, operations are derailed and

available resources never make their way to those who need them. It is this type of problem that is of greatest concern to both the public and their elected officials, who then reasonably question why the system did not work as expected and what should be changed before the next disaster strikes.

How is preparedness measured now? A variety of efforts to assess preparedness have been made over the years, but most of them focus on measuring what would be broadly labeled as the capacity of preparedness organizations, counting how many responders are available and how much equipment is on hand, asking whether planning activities or exercises have been held, and so on—and comparing that capacity to the assumed requirements of particular incidents or scenarios of concern. These approaches are effective in evaluating the inputs needed for response operations whether capabilities are included in a response plan, whether there is sufficient staffing to execute particular tasks, whether training has occurred, and so on. While all these factors are important to disaster response they fail to address two major areas that lead to response failure; a disaster response can fail to achieve its desired outcome because of insufficient response capacity in the affected area and failures also arise because the response organization(s) involved cannot successfully deliver the capacity that is available.

What most current approaches to preparedness measurement appear to be missing is a way to answer the fundamental question about preparedness systems: How confident should we be that the response system will perform as expected when the next large-scale incident or disaster occurs? Framed this way, the issue is not just whether enough equipment has been bought or whether responders have been trained to operate in post-incident environments, it is whether the system as a whole will actually work when called on.

For years emergency response operational analysis has focused on the placement of response base locations and travel routes. Measures relating to reliability must include the probability that response units will reach locations of need within threshold time periods.

There are also real-world examples of this sort of measure being applied to response organizations. NFPA standard 1710 (NFPA, 2001) on the performance of career fire service organizations has an explicit reliability requirement embedded in it, requiring that 90 percent or more deployments to occur within defined response times. In addition to reporting percentages for achieving threshold response times, it also includes an assessment of response reliability, which it defined as the probability that the required amount of staffing and apparatus will be available when an emergency call is received. Similar logic is also part of other key standards for emergency management planning.

Failure mode analysis of the response to large-scale events must reflect the fact that the response system itself can evolve over time. As the number of organizations and resources available and involved increases, the system will transition from one state to another, gaining new capabilities that address failure modes that limited what it could do in its smaller state

How much should the potential for things to go wrong reduce confidence in the FEMA response system's future performance? Answering that question requires looking to past occurrences.

When Hurricane Katrina struck the Gulf Coast in 2005, ALTF-1 got a first hand look at the difficulties FEMA encountered with getting assets where they were most needed. The chaos was evident by the following:

Testifying before the Senate Committee on Homeland Security and Governmental Affairs, Secretary Chertoff said that FEMA was, "overwhelmed," by the scope of the disaster, and acknowledged, "Many lapses," in his agency's response to Katrina.

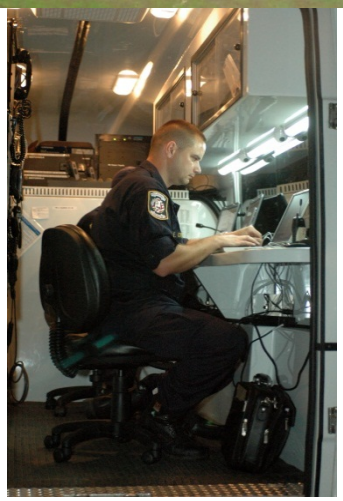
The U.S. House of Representativescreated the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina. On February 15, 2006 they released their final report. The Executive Summary states (among other things) the following:

- The Select Committee identified failures at all levels of government that significantly undermined and detracted from the heroic efforts of first responders.
- The Select Committee believes Katrina was primarily a failure of initiative.
- The failure of local, state, and federal governments to respond more effectively to Katrina demonstrates that whatever improvements have been made to our capacity to respond to natural or man-made disasters, four and half years after 9/11, we are still not fully prepared. Local first responders were largely overwhelmed and unable to perform their duties, and the National Response Plandid not adequately provide a way for federal assets to quickly supplement or, if necessary, supplant first responders."

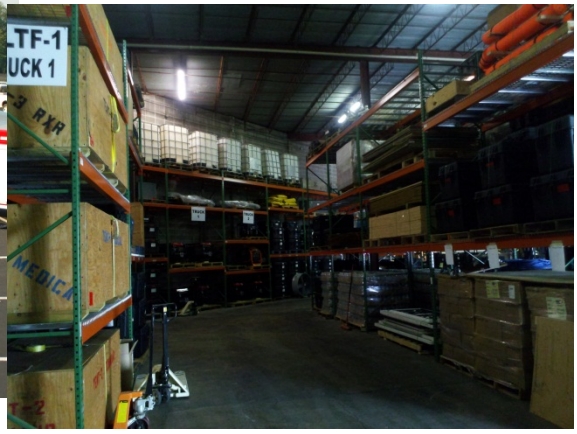
Six years later when the Tornado Outbreak of 2011 devastated the State of Alabama the lack of an additional Tier I asset in our area was exposed again as Memphis was unable to assist the state due to flooding within their home jurisdiction, leaving ALTF-1 to cover 5 counties and hundreds of square miles without additional Tier I assistance.

The Gulf Coast Region of the United States is an area that has a long history of enduring major disasters. And, because of our unique geography, disasters impacting this area usually encompass jurisdictions from multiple states.

This uniqueness creates response reliability problems for responding federal assets. When storms impact the Gulf region areas hundreds of miles inland can be affected leading to impassable roadways into our area. Additionally, assistance requests from multiple states and jurisdictions require more Tier I teams to respond to this region to ensure every state is covered. These multi-layered requests add to the confusion and chaos of disaster situations and lead to ineffective or delayed resource allocation. A Tier I team located here on the Gulf could greatly reduce the failure mode rates by ensuring quick response and arrival of emergency personnel, improved communications with the federal response program, and improved relationships and confidence between this region and the FEMA system. To put it plainly, a Gulf Coast team resolves the issues of insufficient response capacity in the affected area and response organization(s) involved not being able to successfully delivering the capacity that is available. Remember, to be effective, capabilities and resources have to be delivered where they are needed, when they are needed, and to the people that need them.



ALABAMA TASK FORCE 1



With Alabama's frequent hurricane encounters, and the images of September 11th fresh in everyone's mind, it was determined that a US&R team was needed in the Gulf Coast Region. To meet this need, Alabama Task Force 1 was formed in October of 2001. It provided Alabama with a much needed US&R team, and Mobile's location on the Central Gulf Coast provides an ideal location that ensures a quick response to any emergency situation that may arise in the region. Alabama Task Force 1 is sponsored by the Mobile Fire Department, and the State of Alabama. The Task Force is currently fully staffed and 100% deployable. The Alabama Task Force 1 team is comprised of Search and Rescue Specialist, K-9 Teams, Structural and Mechanical Engineers, Trauma Doctors and Nurses, Equipment Operators, Logistic Specialist, and other Command and Support personnel. Alabama Task Force 1 can be deployed to all 50 states, and can respond to a number of emergencies, such as: Structural Collapse, Swift Water Rescue, Trench Rescue, Rope Rescue, Confined Space, Hazardous

Material, and Weapons of Mass Destruction. Alabama Task Force 1 can be on the location of an emergency within hours, and can self-sustain themselves throughout the deployment. Deployment orders for the team can come from a number of offices and agencies, including the Governor of Alabama, the Alabama EMA office, FEMA, as well as requests from other state and local agencies. Currently the Alabama Task Force 1 team is a state US&R team, but we are working toward becoming a federal certified US&R team.

From the start the team has strived to meet or exceed FEMA tier one standards and this approach has proven effective as the task force has been tested time again as we have been called upon for both intrastate and interstate assistance. Our deployments include:

- 2004 Hurricane Ivan, Gulf Shores, AL.
- 2004 Baby trapped in well, Frisco City, AL
- 2005 Hurricane Katrina, Gulfport, MS
- 2005 Hurricane Katrina, Plaquemines Parish, LA
- 2006 Hurricane Rita, Johnson's Bayou, LA
- 2006 Crane Collapse, Mobile, AL
- 2007 Tornado Strikes High School, Enterprise, AL
- 2011 Tornado Outbreak*

*During the tornado outbreak of 2011 ALTF-1 covered 5 Alabama Counties over a 10 day period. By moving our base camp 3 times and utilizing extensive air assets to clear rural areas the task force was able to cover hundreds of square miles. It is important to note that during this event the nearest Federal Tier I team, TNTF-1 was unavailable to assist due to flooding within their home jurisdiction.

The following bullet points highlight data that supports the advantages of a Tier I team in the Gulf Coast region.

Response reliability

- US&R Activation Box Assignments (Mobile is box 1) Program Directive 2006-005
  - TNTF-1 first in 416 miles (7.56 hours travel)
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  - FLTF-2 third in 715 miles (13 hours travel)
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  - INTF-1 fifth in 735 miles (13.5 hours travel)
  - Listed times are travel only and do not include the additional 4 to 6 hour muster time.
- In incidents involving persons injured or entrapped by a disaster, there is no single factor that impacts survivability more than time.
- While the current FEMA Tier I system has great capability, because of the inevitability of failures within the system there will always be incidents for which the system does not perform as expected
- Getting response resources and capabilities to where they are needed as quickly as possible is critical to overall success.
- The two major areas that lead to response failure are an insufficient response capacity in the affected area and response organization(s) involved cannot successfully deliver the capacity that is available.
- Measures relating to reliability must include the probability that response units will reach locations of need within threshold time periods and response base locations.
- Following Hurricane Katrina the U.S. House determined the National Response Plandid not adequately provide a way for federal assets to quickly supplement or, if necessary, supplant first responders. Difficulties getting assets into the area in a timely manner was a large contributor to this failure.

- Six years later when the Tornado Outbreak of 2011 devastated the State of Alabama the lack of an additional Tier I asset in our area was exposed again as TNTF-1 was unable to assist the state due to flooding within their home jurisdiction.

- Because of the Gulf Coast's unique geography, disasters impacting this area usually encompass jurisdictions from multiple states. Further compounding the problem.

- Multi-layered requests add to the confusion and chaos of disaster situations and lead to ineffective or delayed resource allocation.

- A Tier I team located here on the Gulf could greatly reduce the failure mode rates by ensuring quick response and arrival of emergency personnel, improved communications with the federal response program, and improved relationships and confidence between this region and the FEMA system.

Gulf Coast Regional Information

- New tornado alley according to leading meteorologists. Need a team within tornado alley that can arrive within a few hours.

- The Mobile area is centrally located on the Gulf Coast and has the interstate infrastructure to rapidly deploy to incidents along the coast as well as inland, (I-65 – I-10).

- Coastal regions are among the most densely populated areas in the Nation. Compared to other coastal regions within the United States, the Gulf Coast Region has experienced a considerable population increase since 1970, growing by 103%, increasing faster than both the Pacific and Northeast Coast Regions.

- There are 142 coastal counties along the Gulf of Mexico.

- Gulf Coast growth surpasses all other U.S. regions.

- There is expected to be a 10% increase in population in the Gulf Coast Region by 2015. The U.S. total population is expected to increase by 7%.

- The Gulf Coast is home to six of the eight U.S. coastline counties with the fastest population growth.

- The Gulf Coast is home to six of the 11 U.S. coastline counties most frequently hit by hurricanes.

- Both Hurricanes Katrina and Rita had a tremendous effect on the Gulf Coast Region. A total of 60 Gulf Coast counties were within 100 miles of both hurricane paths. All 5 Gulf Coast states were impacted.

- Alabama was struck by the largest single day tornado strike in U.S. History in 2011. Forecasts call for continued high levels of activity for the state and surrounding region for years to come.

- U.S. energy production and refining capacity of the Gulf of Mexico region as percentages of the total U.S. share.
    - Crude Oil Production 52%
    - Natural Gas Production 54%
    - Oil Refinery Capacity 47%

- The Gulf of Mexico region supports several ports that lead the Nation in total commerce. In fact, six of the Gulf of Mexico region's principal ports rank among the Nation's top 10 leading ports (by tonnage).

- The number of housing units along the Gulf of Mexico's coastline increased by 246 percent from 1960 to 2008, compared with 130 percent in the Pacific and 98 percent in the Atlantic coastline regions and 121 percent for the U.S. as a whole

<u>ALTF-1</u>

- Internal and external evaluations based on FEMA standards

- Advanced team out within 30 minutes

- Refined operations to move quickly

- 2 hour muster time

- Closer to large area using FEMA figures

- K-9 capabilities that meet FEMA standards

- Experience (deployment history)

- ALTF-1 has the management, logistics, and operational capacity to fulfill this mission

- Multi-state and tribal participation

- City, County, and State level support