



# Texas Department of Public Safety

## Division of Emergency Management

Hurricane Harvey Update  
NCTCOG CRS Users Group Meeting

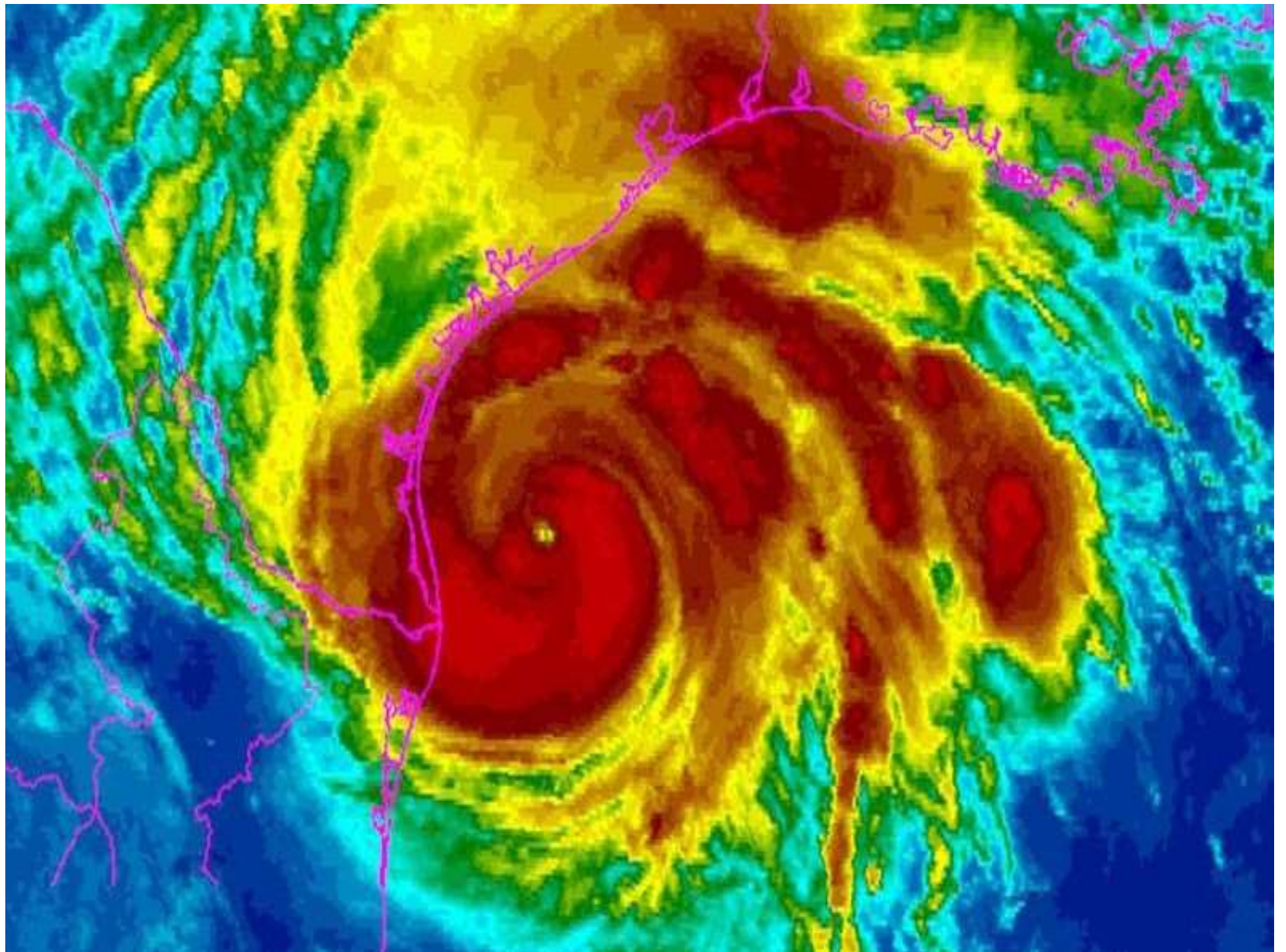
October 19, 2017

4A HURST  
4B GARLAND  
5 Mt PLEASANT  
6 TYLER  
22 SHERMAN

# DPS Region 1 DISASTER DISTRICTS







# DR-4332 - Quick Facts



- Initial landfall as a **Category 4** storm on San Jose Island (near Port Aransas / Rockport area) around 10:00 pm on August 25<sup>th</sup>.
- Winds up to **135 mph** (ENE of Port Aransas)
- **12'+ storm surge** at Aransas Wildlife Refuge
- Longest-lasting named storm after making hurricane landfall in Texas on Record (Harvey lasted **117 hours**)
- More than **4 days** between **initial** landfall and **final landfall** in Louisiana (~4:00 am on August 30<sup>th</sup>).
- **Areal coverage** of locations picking up at least 20" of rain (7-day rainfall) > size of the state of **West Virginia**.
- Top 7-day rainfall total of **60.58" in Nederland**
- **Over 1 trillion gallons of water** fell in Harris County during 4 days (August 26<sup>th</sup>-30<sup>th</sup>).

Source(s): Corpus Christi WFO Harvey Summary, CSU Hurricane Harvey Meteorological Records & Notable Facts Recap, NWS Brownsville WFO, NWS Lake Charles WFO and Harris County Flood Control District



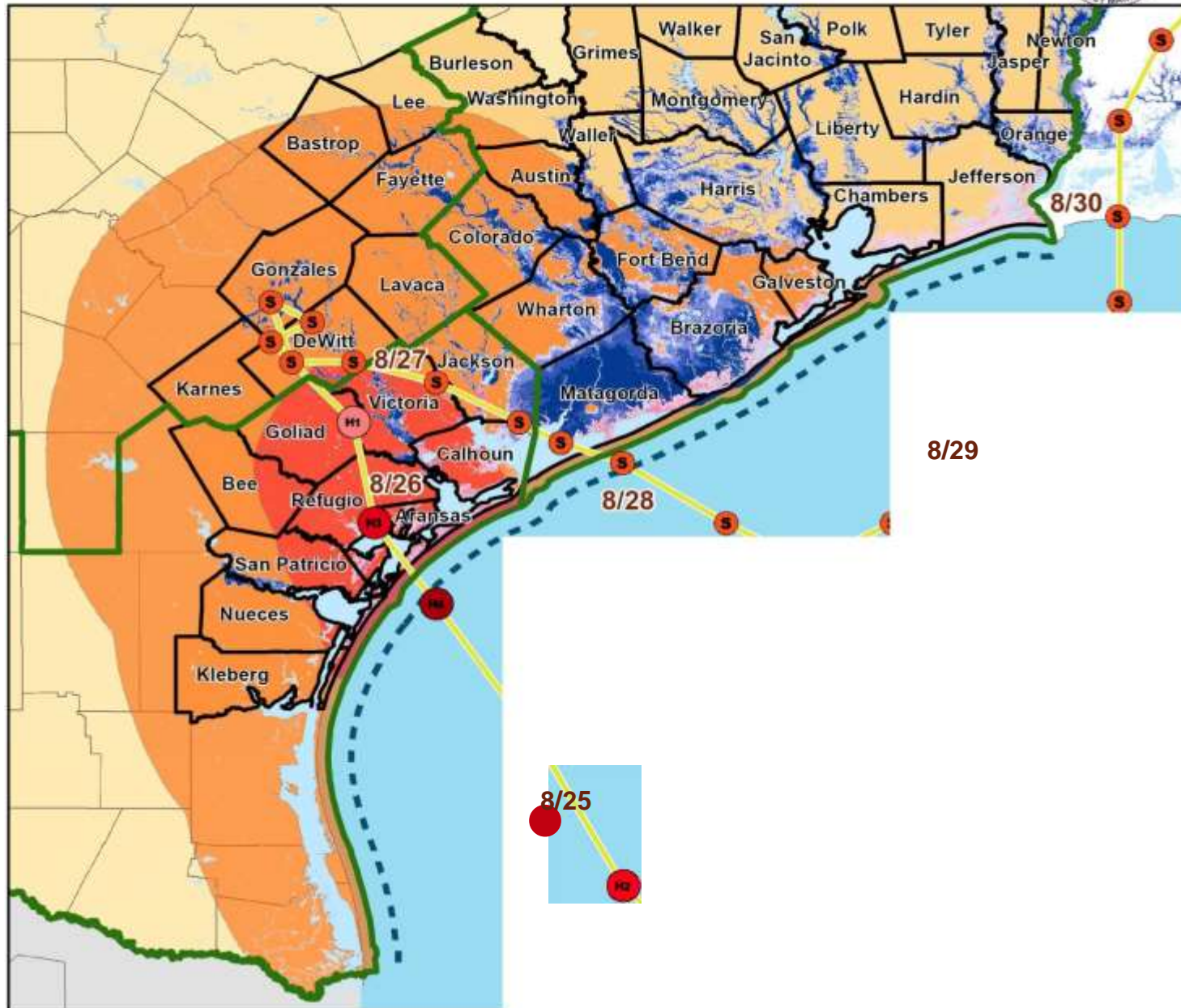
# FEMA DR-4332 Hurricane Harvey

## Hurricane Storm Track and Windfield Path



Y A C  
(-/INO C;

# FEMA



### Legend

#### Harvey Storm Track

- Hurricane, Cat 4
- Hurricane, Cat 3
- Hurricane, Cat 2
- e Hurricane, Cat 1
- Tropical Storm
- @ Tropical Depression
- @ Tropical Wave
- @ Tropical Disturbance
- (0) Tropical Low

#### Wind Speed

- Tropical Storm Force Winds < 74 MPH
- Hurricane Force Winds > 74 MPH
- Harvey Storm Path

#### Forecast Coastal Depth Grid

- > 0' - <= 2' (Affected)
- > 2' - <= 5' (Minor)
- > 5' - <= 8' (Major)
- > 8' (Destroyed)

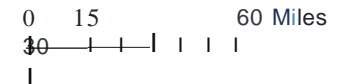
#### Forecast Riverine Depth Grid

- > 0' - <= 2' (Affected)
- > 2' - <= 5' (Minor)
- > 5' - <= 8' (Major)
- > 8' (Destroyed)

- Impacted Designated County
- Texas Counties
- Branches
- Mexico
- U.S. State Boundaries

8/29

8/25



## Harvey Rainfall (8/24 through 9/1)

60.58" near Nederland, Texas

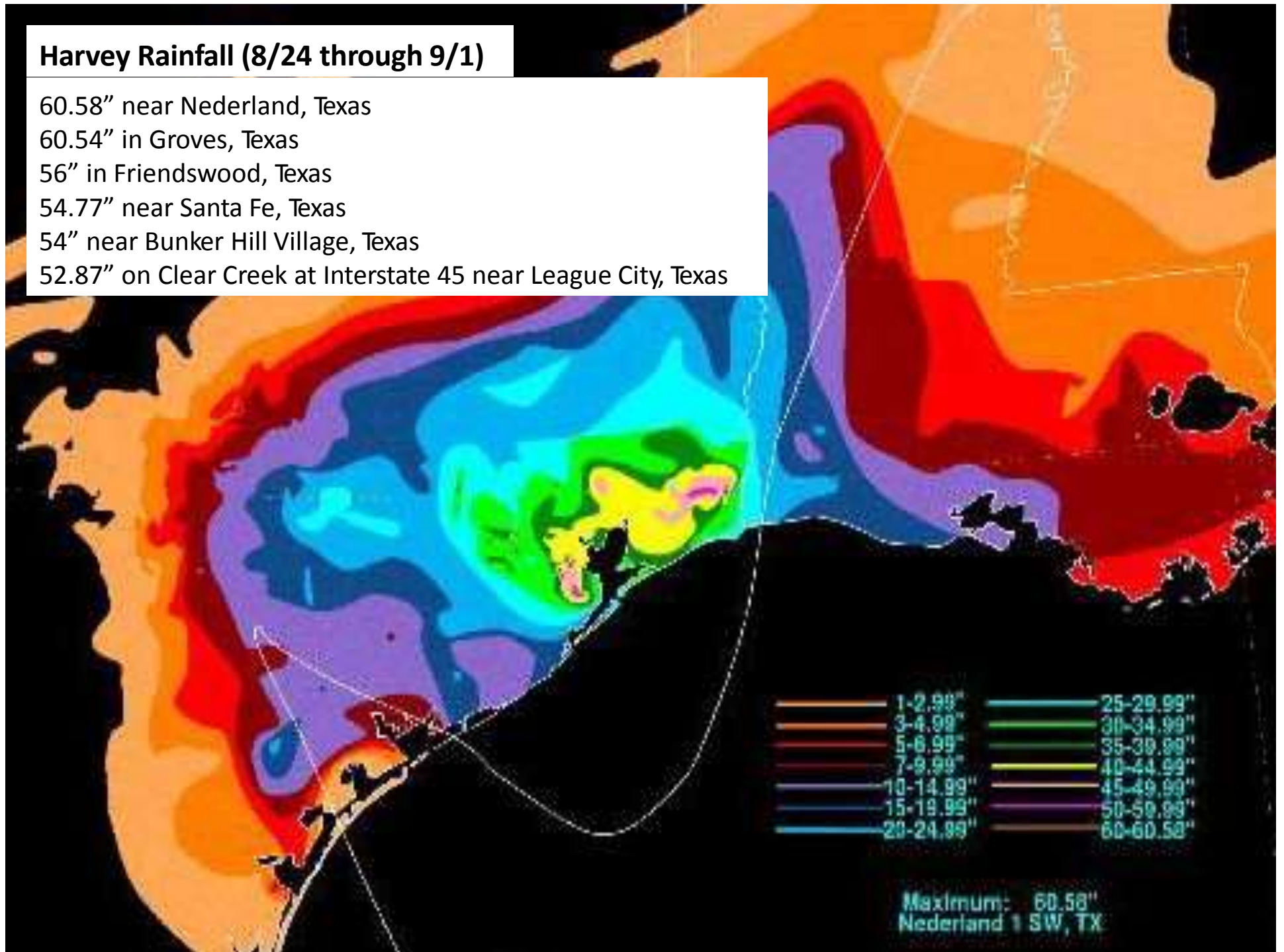
60.54" in Groves, Texas

56" in Friendswood, Texas

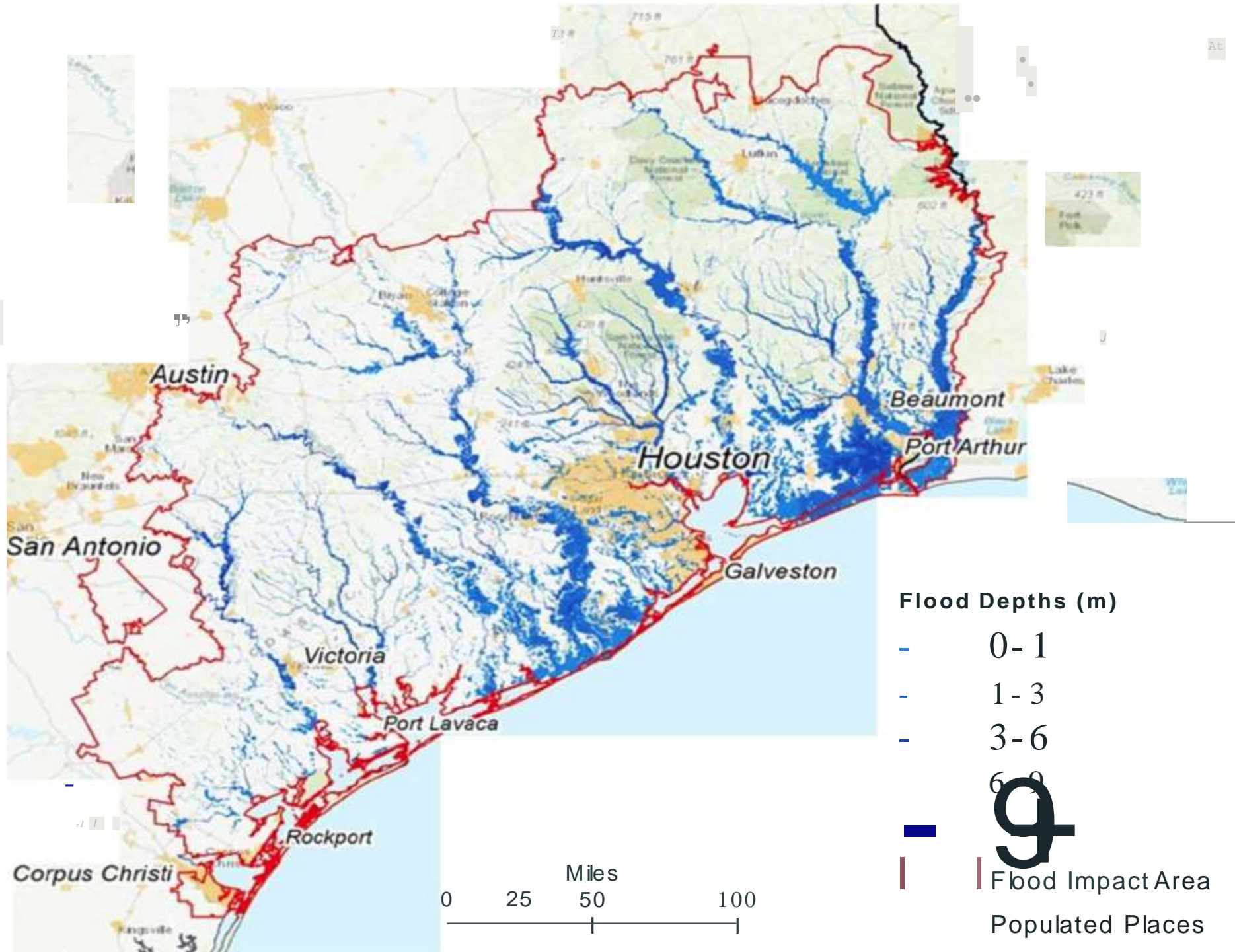
54.77" near Santa Fe, Texas

54" near Bunker Hill Village, Texas

52.87" on Clear Creek at Interstate 45 near League City, Texas



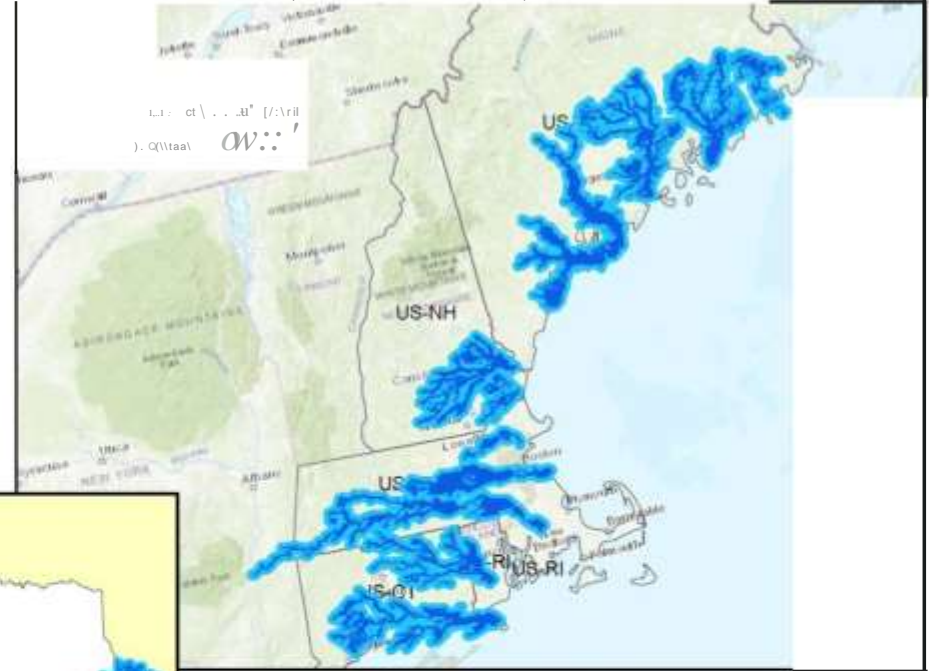




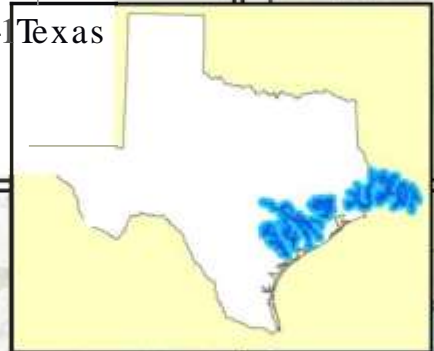
# Hurricane Harvey Flood Extent on Colorado, New England, California, & Florida



Colorado



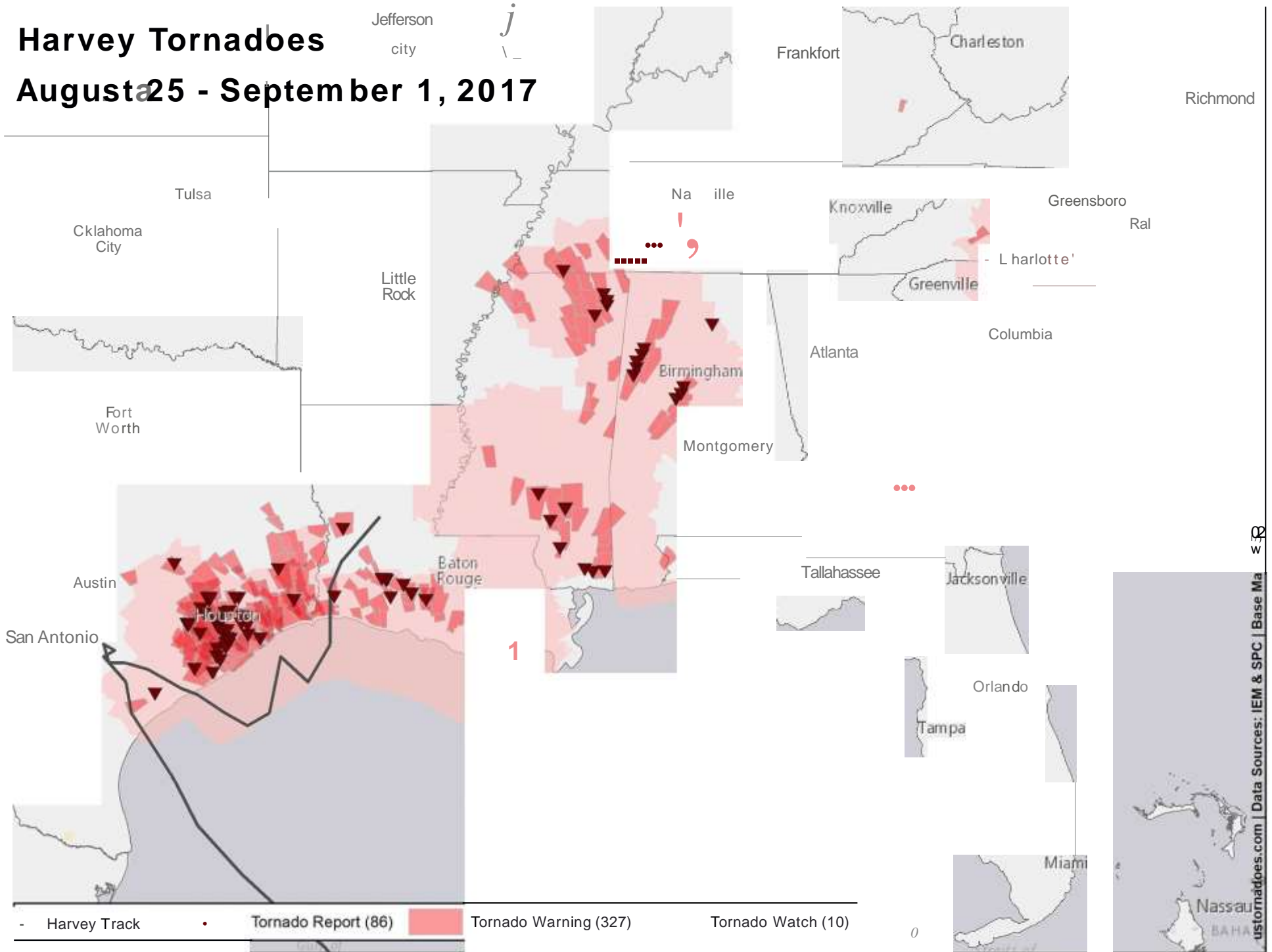
California





# Harvey Tornadoes

## August 25 - September 1, 2017





# I-10 Under Blue Skies

*I-10 at Jefferson/Chambers County Line*





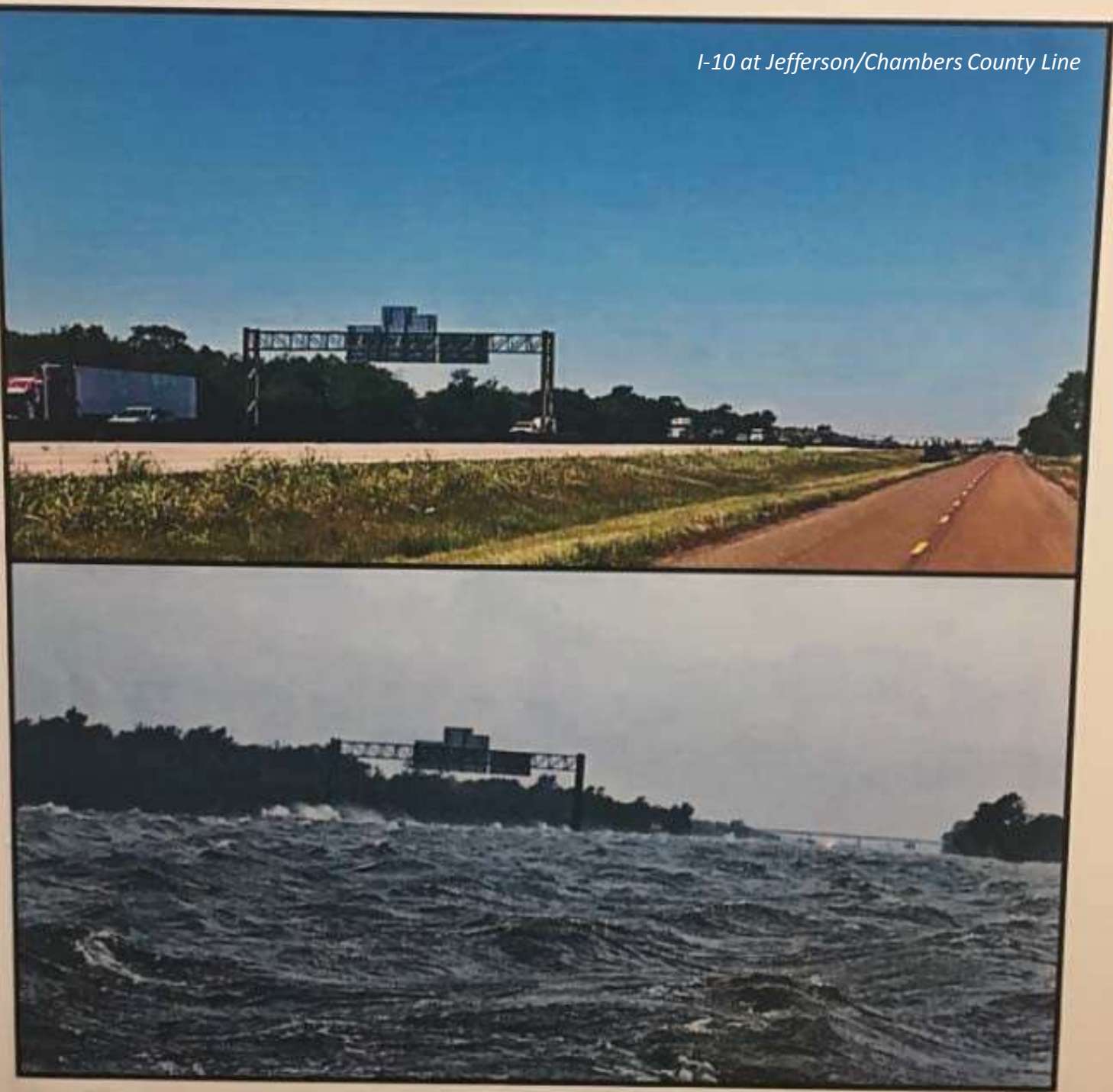
*I-10 at Jefferson/Chambers County Line*

# **I-10 Under Storm Surge**





*I-10 at Jefferson/Chambers County Line*





Rockport, Texas





*Tidwell Rd, east of Sam  
Houston Tollway in Houston*





## DR-4332 – Hurricane Harvey Impact

- 1,397,796 population under evacuation order
- 323,320 power outages (at peak on 8/28)
- 40 wastewater facilities were non-operational (at peak on 9/7)
- At peak, 61 public water systems were inoperable (8/31 & 9/4) and 203 had boil water notices (9/1)
- 245 shelters with 34,139 population during peak shelter operations (3 open with a total of 483, as of 10/19)
- \$327,767,581 in reported State agency costs (as of 10/19)

*\*Preliminary data*



# DR-4332 Response - TEEEX

- Texas Engineering Extension Service (TEEX)/Texas Task Force 1 (TX-TF1)
  - Personnel deployed – **21,433** from **103** agencies under TEEEX/TX-TF1 command
  - Rescues – **34,062\***
    - Air – **1,056**
    - Ground/Water – **33,006**
  - Personnel evacuated – **35,046**
  - Pet rescues – **2,055**



*\*Preliminary data*





# DR-4223 Response - TEEX

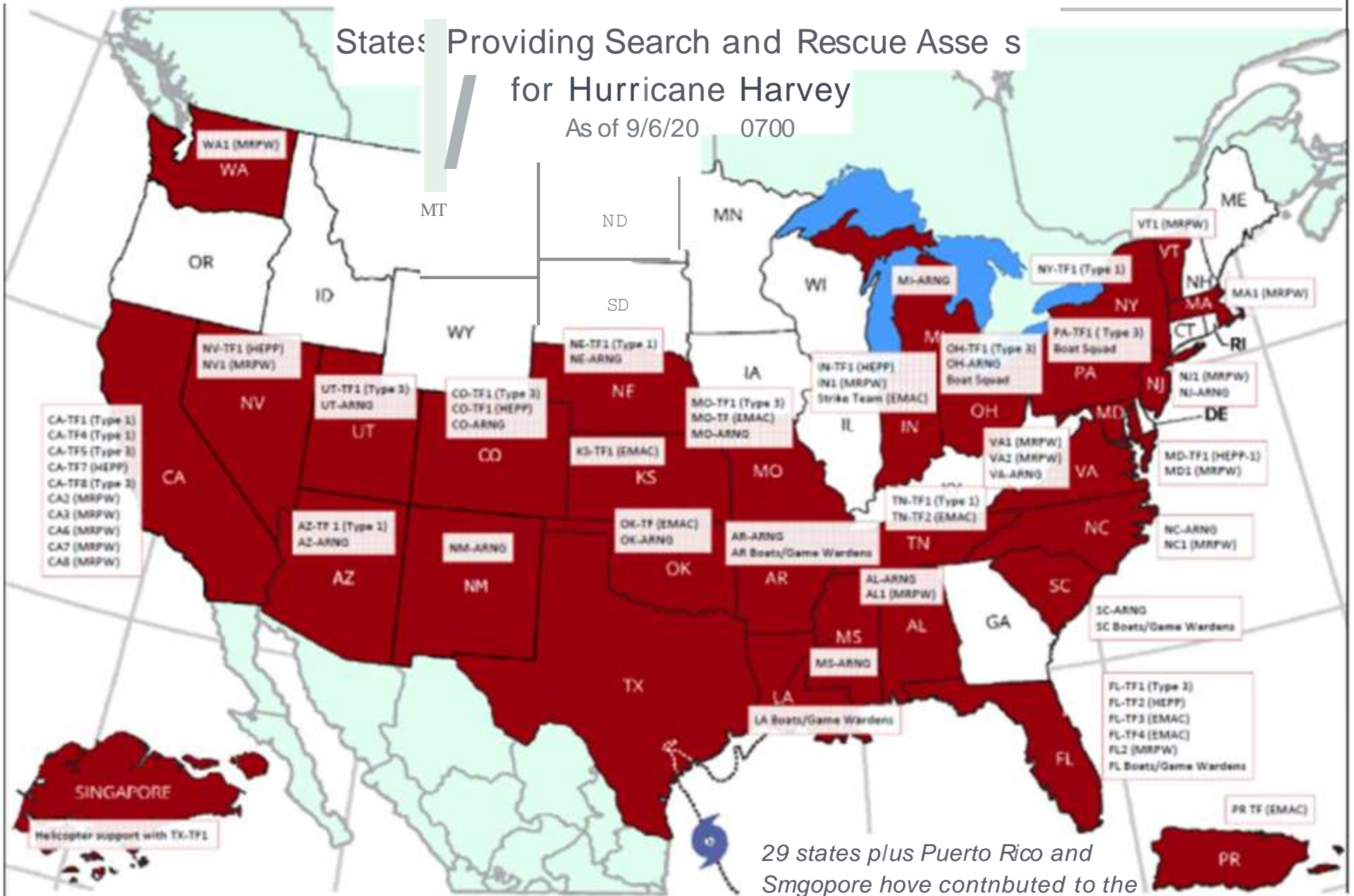
- Out of state search and rescues (SAR) teams
  - Teams deployed – 23
  - Personnel deployed – 877 EMAC;  
1,066 FEMA US&R
  - Rescues – 2,995

*\*Preliminary data*



# States Providing Search and Rescue Assets for Hurricane Harvey

As of 9/6/20 0700



29 states plus Puerto Rico and Singapore have contributed to the search and rescue response effort.





# DR-4332 Response – TxDPS

- Department of Public Safety (DPS)
  - Personnel deployed – ~1,340
  - DPS air rescues – ~211

*\*Preliminary data*





# DR-4332 Response– TMD



- Texas Military Department (TMD)
  - Personnel deployed – 17,415
  - Rescues – 16,383
    - Air – 1,457
    - Ground /Water – 16,012
  - Evacuations – 18,137
  - Pet rescues – 1,214



*\*Preliminary data*





# DR-4332 Response – TPWD

- Texas Parks and Wildlife
  - Personnel deployed – ~400
  - Rescues – 11,212

*\*Preliminary data*





# DR-4332 Response - TFS



- Texas A&M Forest Service (TFS)
  - Apparatus used total – 293
  - Total personnel deployed – 217
  - August 29 – peak day for deployment operations
    - Personnel deployed – 198



\*Preliminary data





# DR-4332 Response - AHIMT & TIFMAS

- All-Hazard Incident Management Teams (AHMIT)
  - 86 AHMIT members deployed
  - 12 out of state IMTs deployed with 334 members
  - TFS Lone Star State IMT – 57 members
- Texas Intrastate Fire Mutual Aid System (TIFMAS)
  - Personnel deployed at peak – 709
  - Apparatus used at peak – 274
  - Personnel deployed total – 974
  - Apparatus used total – 294



*\*Preliminary data*



# DR-4332 – TEMAT & TMS



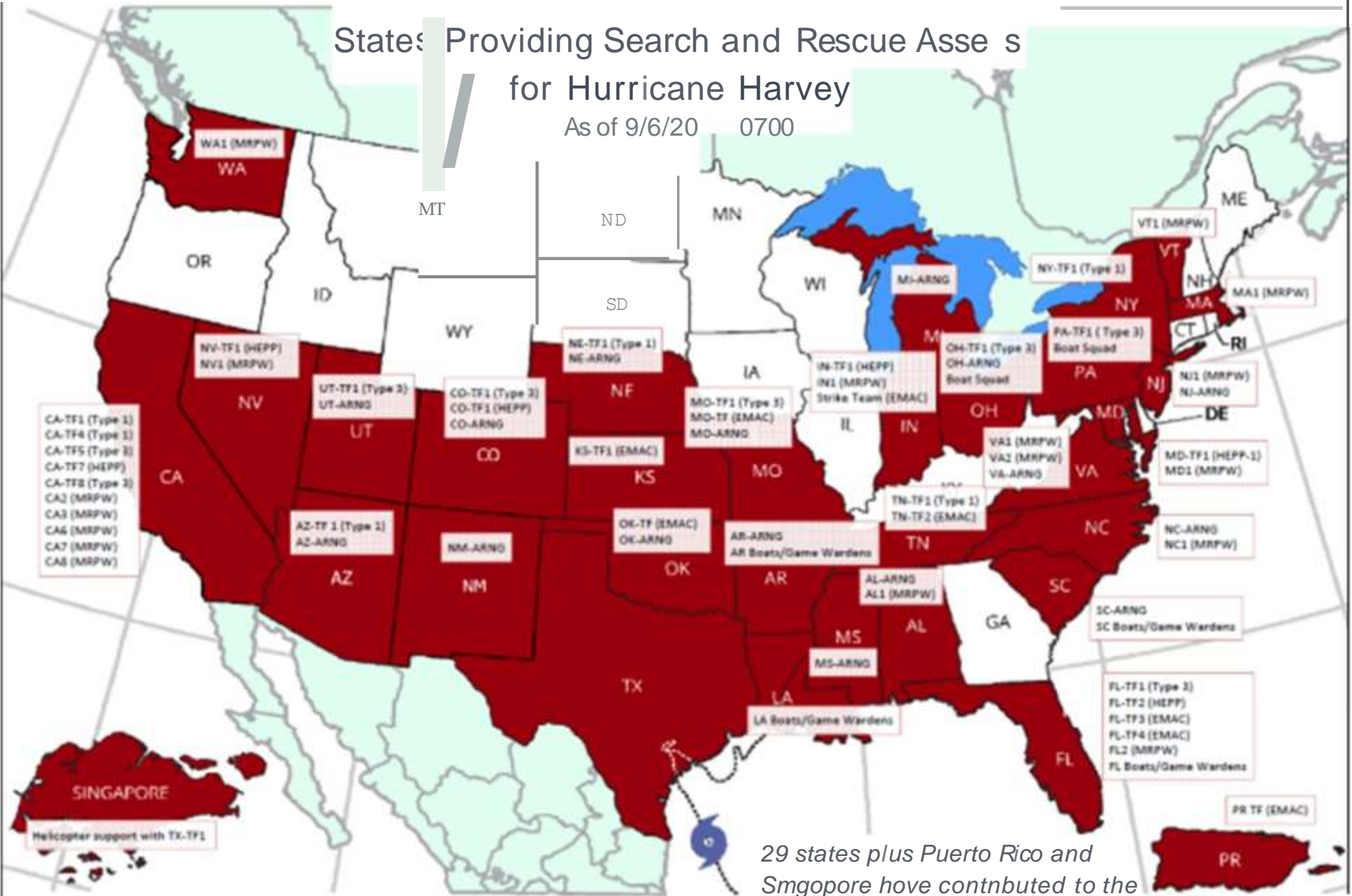
- Texas Emergency Management Assistance Team (TEMAT)
  - 52 personnel deployed to 10 locations
  - 188 PWRT personnel deployed to 28 locations
- Transportation Group
  - Total buses ordered and used – 650



Brandon Barth

\*Preliminary data

States Providing Search and Rescue Assets  
for Hurricane Harvey  
As of 9/6/20 0700



29 states plus Puerto Rico and Singapore have contributed to the search and rescue response effort.



# Harvey Response DPS Region 1

- Activated a **Regional Coordination Center**, consisted of the physical collocation of DDCs 4 Garland and Hurst, and virtual coordination with DDC 6 Tyler
- Received evacuees from impact areas via **aircraft** and **ground** transportation
- **Reception center** in Mesquite, **air evacuee entry** at Love Field and DFW Airport, **transition hub** in Tyler and **bus staging area** in Arlington and Fort Worth





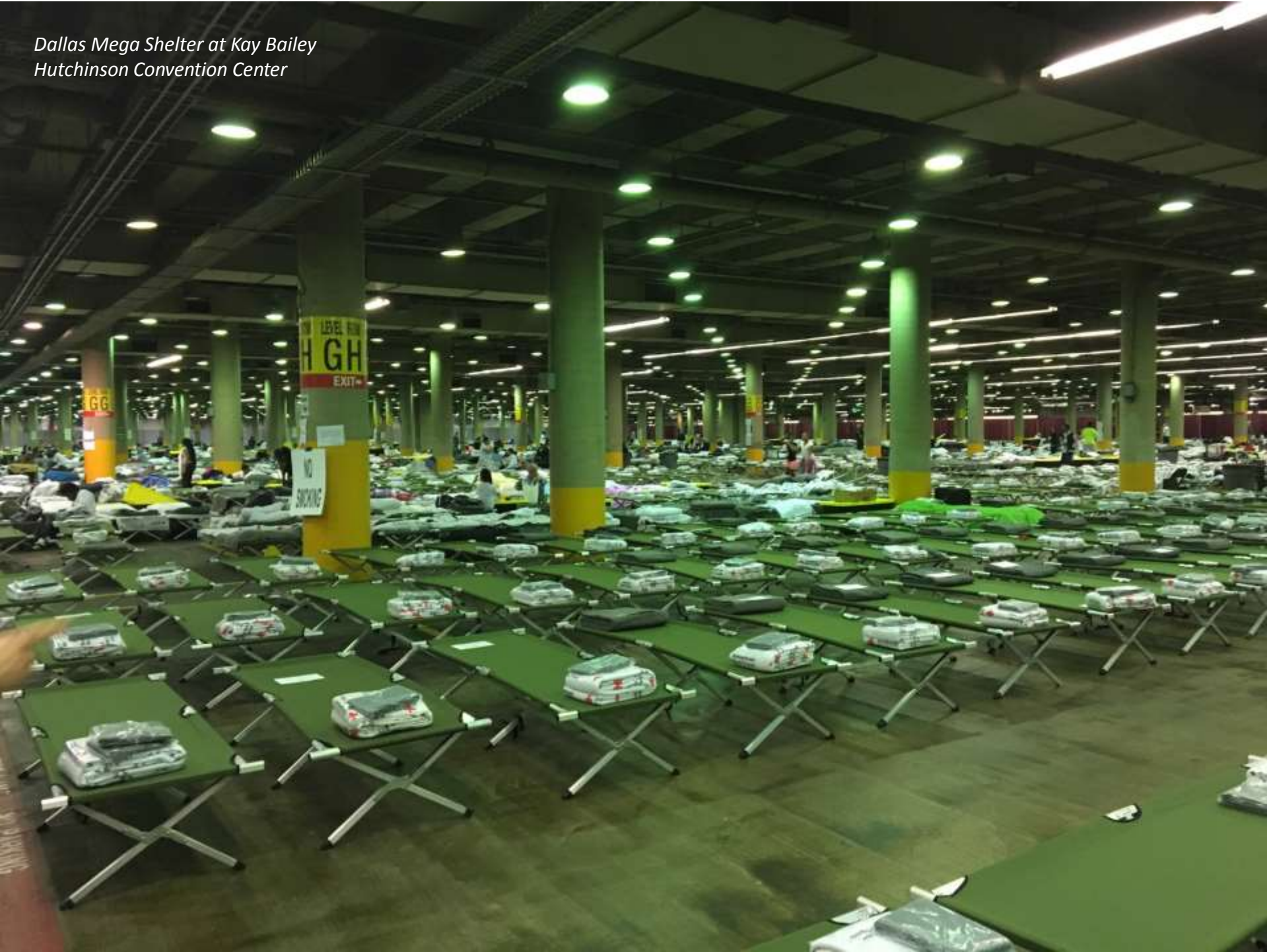
# Harvey Response DPS Region 1

- More than 1 month of DDC/RCC operations (phase up began 8/23; return to normal status 9/30)
- 8 shelter facilities (gen pop) opened in total; total shelter census = ~3,500\* (2,917 on 9/8)
- First shelter opened 8/25, and the last shelter closed 9/30 (37 days of shelter operations)
- Significant amount of resources from our area were deployed and engaged in Harvey response across the State





Dallas Mega Shelter at Kay Bailey  
Hutchinson Convention Center







*Fort Worth shelter operation  
Source: Star-Telegram*



Evacuees arrive at Dallas Love Field  
Source: Dallas Morning News



*Evacuees arrive at  
Mesquite Reception Center*







*Shower trailers at Irving shelter*

*Beaumont Repopulation Buses at Dallas Mega Shelter*





Repopulation Departure at Fort Worth shelter





## DR-4332 - Harvey Recovery

- **61,135** individuals in hotels through the Transitional Shelter Assistance (TSA) program (*24,314 rooms in 1,865 hotels*)
- **57** Disaster Recovery Centers (DRCs) open
- **30,000,000** cubic yards of debris (estimated), with **7,343,848 (26%)** cubic yards removed & collected (as reported)
- **188** temporary debris sites established





# DR-4332 - Harvey Recovery

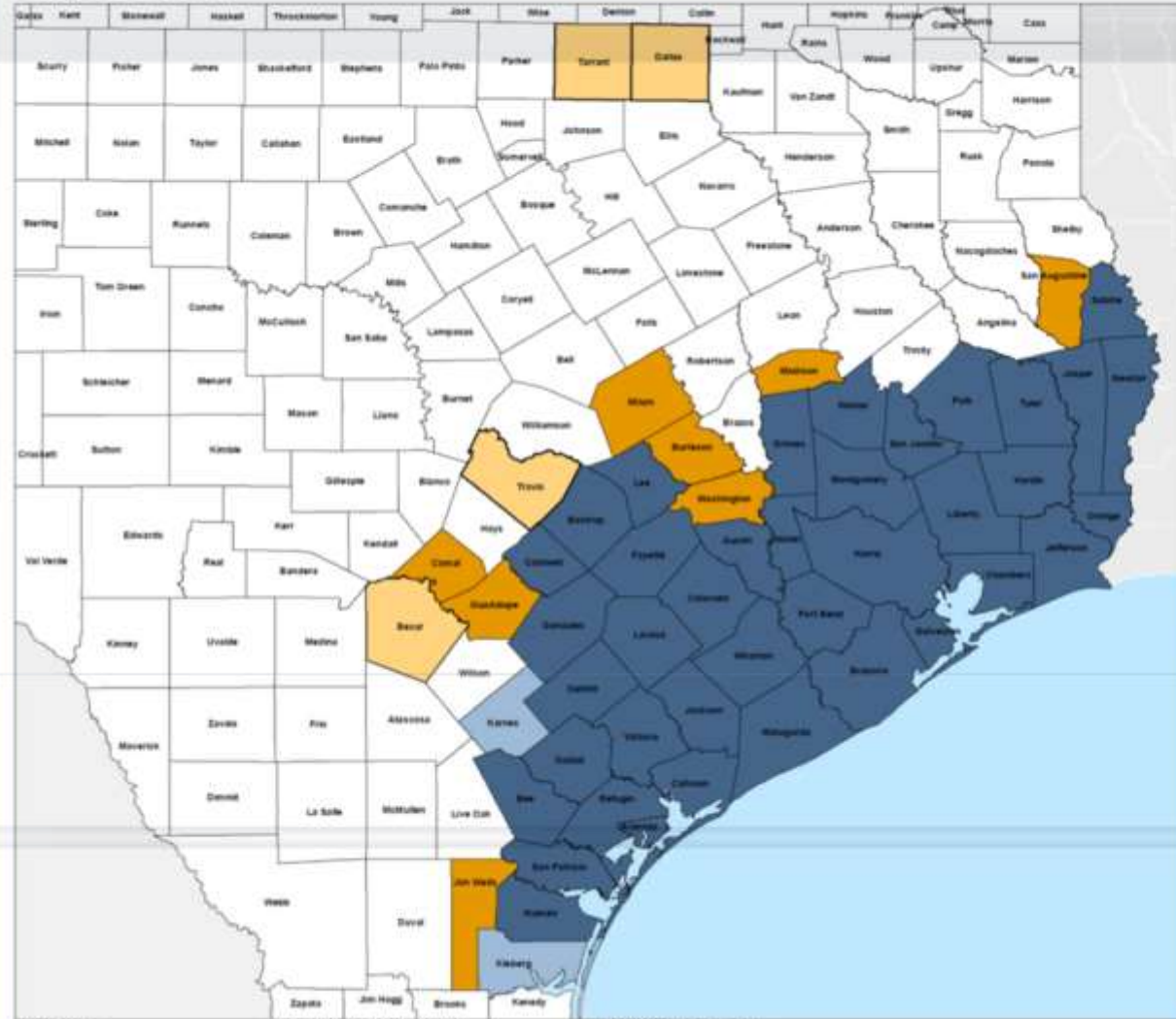
- **875,141** total cumulative Individual Assistance (IA) registrations
- **\$1,198,814,209** approved through the Individuals and Households Program (IHP)
- **5,705** FEMA personnel assigned (3,672 TX)
- **42** expedited Project Worksheets (PWs) processed (24 Cat A, 18 Cat B)
- **581** eligible RPAs processed (as of 10/19)

# DR-4332

- Individual Assistance and Public Assistance in the designated areas and Hazard Mitigation



FEMA-4332-DR-TX - Hurricane Harvey  
Designated Counties



**Data Layer / Map Description**  
 This product illustrates the counties affected by Hurricane Harvey and those included in the major presidential declaration.

All counties in the State of Texas are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Incident Period: August 23 - September 15, 2017  
 Declared: August 25, 2017  
 Amendment 10: October 11, 2017

**Designated Counties**

- Public Assistance (Cat. B) (4)
- Public Assistance (Cat. A-G) (8)
- Individual Assistance and Public Assistance (Cat. A-B) (2)
- Individual Assistance and Public Assistance (Cat. A-G) (39)



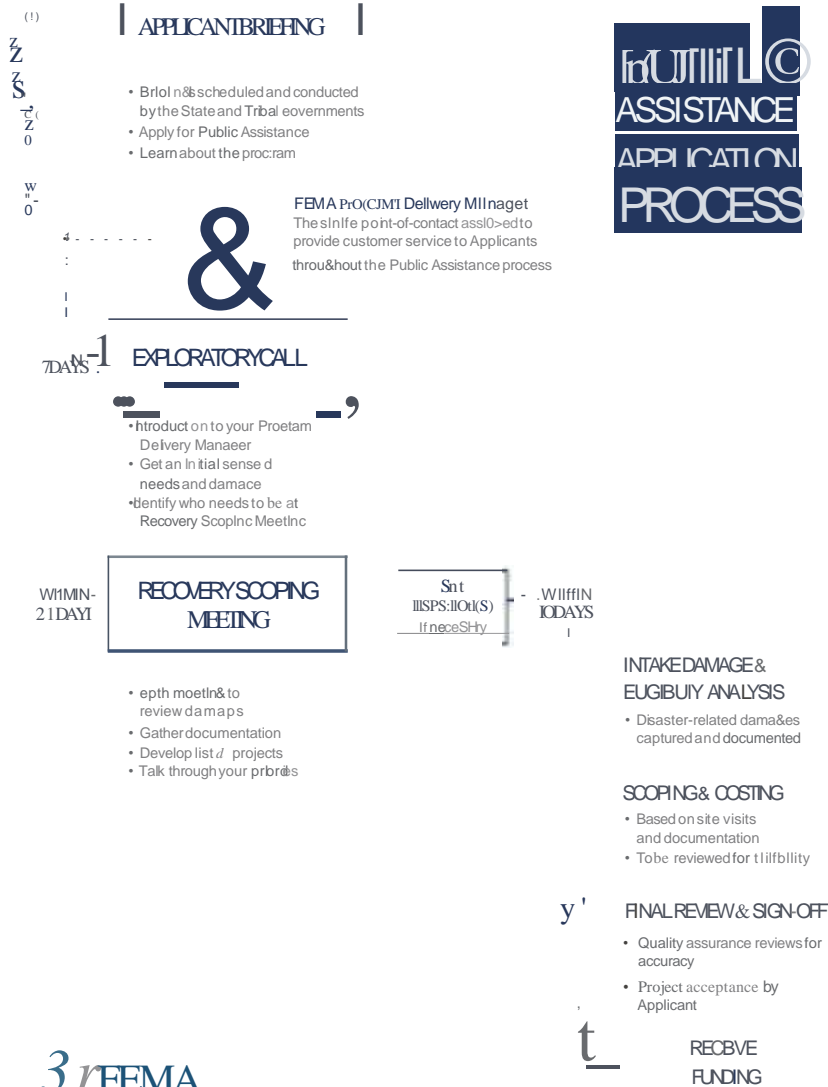
Created: Wednesday, October 11, 2017 1:58pm EDT  
 Ever Street, CA 1: FEMA DR-4332-TX Individual Assistance



*Disaster Finance Training at  
Coppell Life Safety Park*



# Delivery Model: Specialization



Roles and responsibilities based on fitting the right skill sets against the applicant's requirements to effectively execute recovery consistently from disaster to disaster

## Program Delivery Manager

Single FEMA Point of Contact that coordinates applicant recovery priorities.

## Site Inspector

Conducts Applicant's site inspection(s) and develops consistent, quality Damage, Description, and Dimensions for review by the Program Delivery Manager and Applicant.

## Technical Specialist

Technical expert available to provide on-site expertise for specialized projects.





# Texas Department of Public Safety

## Division of Emergency Management

Sarah Haak, MBA, MSHSM  
District Coordinator, Garland 4B  
214-629-4271  
[Sarah.Haak@dps.texas.gov](mailto:Sarah.Haak@dps.texas.gov)

# The Aftermath of Flooding: Cascading Effects on Local Jurisdictions and Emergency Management

...and how it involves you







**Kay Bailey Hutchinson Convention Center  
parking garage before Hurricane Harvey**





# NCT Shelter Support: Volunteers

## ■ Shelters

- 1 - Irving Shelter
- 2- Fort Worth Shelters
- 4- City of Dallas Shelters

## ■ Volunteers

- Thousands: CERT, Medical Reserve Corps, Red Cross, Catholic Charities, RACES, Islamic Relief, multiple VOADs, spiritual groups, AA, many others

## ■ Challenges

- Requires background checks
- Stressed volunteer agencies, vetting agencies, EM/locals
- Scheduling, Parking



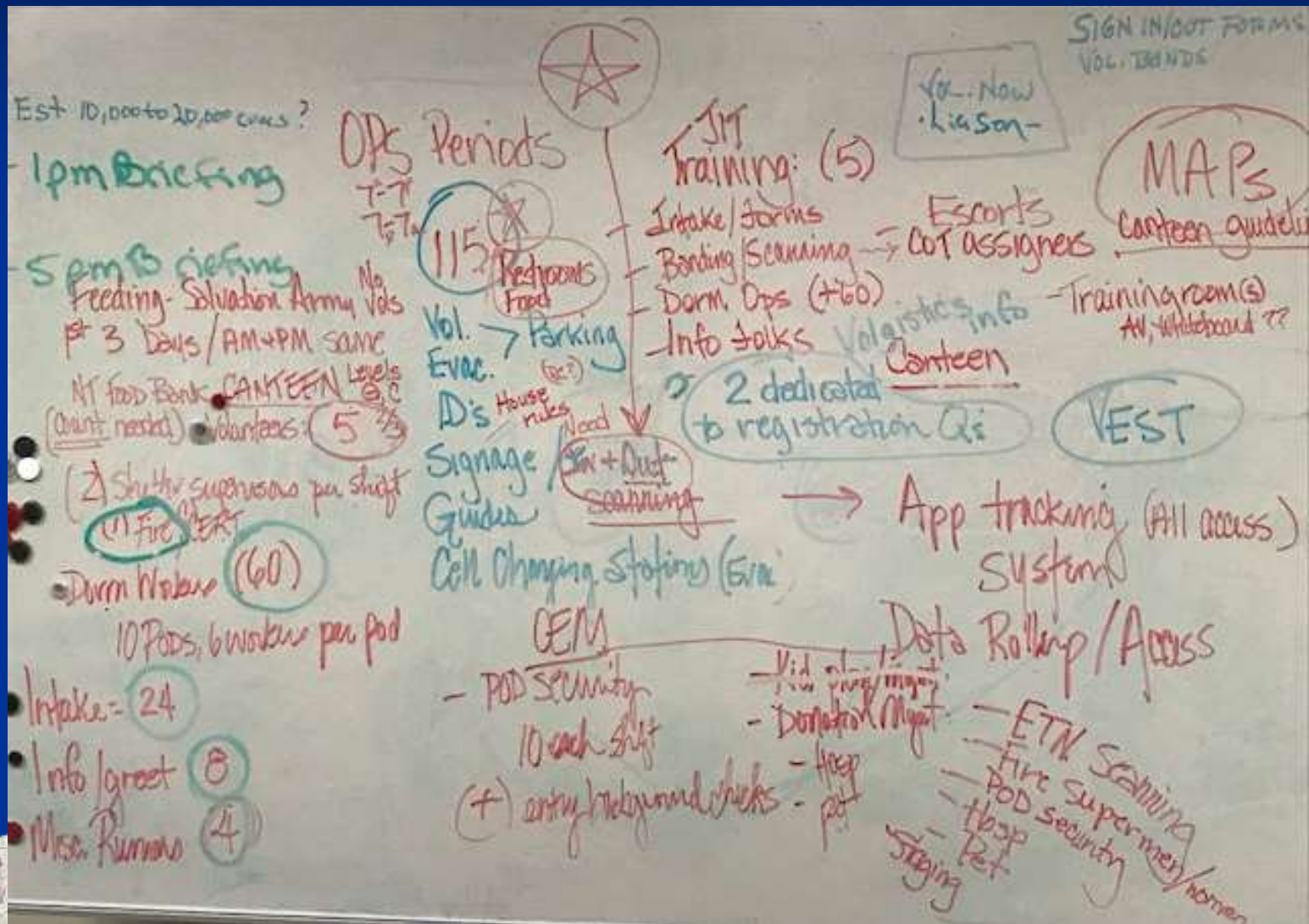
# Overview of Considerations

- Real time information from impacted south
- Volunteer management
- Donations management
- Security/law enforcement
- Medical operations/transport
- Pets, service animals
- Parking
- Guest transportation
- Resources, support services
- Repatriation plan





# Mega Dorm Planning, Eve of Opening (x5)



# Players

- State and National Guard resources
- Emergency management, local/regional
  - EM resources from around the region supplemented local resources
  - Hours, complexity, continuous change taxed all players, experienced and new
  - Required forms, documentation
  - Coordination between lead agencies, support agencies
    - Management, logistics, local, state, federal
    - Red Cross, City of Dallas
    - Suppliers, VOADs, all volunteer agencies





# A Little Help From our Friends



# Mega Shelter Logistics

- Staffing for guest arrivals/in residence
  - 120 *volunteer* roles per shift
- Check-in, banding/tracking
- Transport/storage guest belongings
- Bedding, other for functional needs guests
  - Wheelchairs, walkers, oxygen, c-pap
- Healthcare assistance for aide-dependent guests
- Hygiene, personal care; product distribution
- Food, clothing, baby needs (strollers, cribs)
- Services (FEMA, SS, VA, childcare, internet, phone, entertainment, clergy, legal, stress)





# Stress Reduction: A Priority for All



# Statewide Impacts/Aftermath



- Gas
  - Midnight, Aug. 30
  - 45 minutes.....
- Housing
- Continuity of operations
- Economic/business
- Transportation/travel
  - Air
  - Land
  - Sea
- Water, wastewater



# Unprecedented: Still a Local Event

- Needs exceed resources (local > region > state)
  - Over-reliance on FEMA
- Fragmented capabilities
  - MOU partners also impacted
- Communications
  - Misinformation/delayed information/no comms
- Frustrations, need to act
  - Decisions often based on current need and circumstances (financial, expediency)





# This Has Something To Do With Me?

- Yes! Pre-plan for the unprecedented
  - Building codes
    - Mythunderstandings
      - Negative impact on new construction/builders?
    - Code is minimum to pass
      - Is a C or D acceptable for a child's report card?
    - SRL properties
      - What is plan for buyout?
      - What to do, how, in what order?
      - Impact on tax base?
    - Hazard Mitigation Action Plans
    - Realistic mitigation strategies/projects/actions, for multiple hazards



# Flood Insanity?

- Flood insurance, flood zones
  - Trying the same thing tried over and over with the same results
    - How to counter: Refusal to buy flood insurance
    - How to counter: Remaining in a flood prone area
  - Ideals?
    - Everyone has flood insurance?
    - Tiered rates in X zones?
    - Newest codes adopted and enforced?
      - HB2040 actively leveraged in unincorporated counties?
    - Implement floodplain management requirements in Texas?



# The “C” Words

Why we must talk about climate change, whatever the origins or cause

- Events are
  - Becoming bigger
  - More destructive
  - Happening more often
- Icecaps are melting, waters warming, coral reefs disappearing
- What is reasonable? Vision for the future, scope, planning/plans, requirements, implementation, education, enforcement





# What Is Your Role?

We can't prevent hurricanes or other natural hazards, but....

- How can you use your role to advocate for measures that will enhance resiliency?
  - What will those measures look like?
- What existing obstacles can be discussed and alleviated with new data and information?
- Are you working with jurisdictions/others whose decisions may impact/enhance your actions?
- Think outside the box – it matters today.



# Discussion: If It Were You

- Decision to rescind freeboard requirements for rebuilds at or above BFE, post Harvey
  - 2' freeboard requirement rescinded for rebuilds after Harvey in Jefferson County; NFIP and CRS participant
  - Minimum NFIP standards/requirements only?
    - Short-term benefits
    - Long-term cost benefit
  - NFIP/CRS impacts:
    - Loss of CRS/discounts
    - Additional NFIP discounts



# Contact



Emergency Preparedness

North Central Texas Council of  
Governments

Melanie Devine  
Emergency Preparedness  
Acting Manager, NCTCOG

Email:

[mdevine@nctcog.org](mailto:mdevine@nctcog.org)

Phone:

817-695-9138

