

Animal Agroemergency Programming and EDEN



Tommy Bass
Livestock Environment
Associate Specialist
& EDEN Delegate
December 6, 2017



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EXTENSION

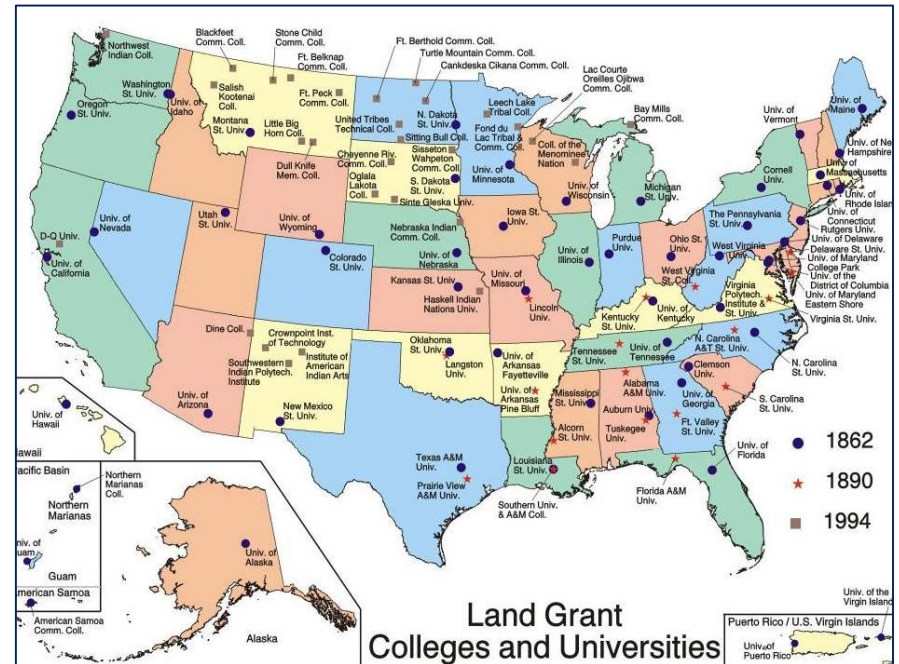
What is EDEN?

- **Formal professional network**
 - EDEN State Delegates and POC
- **Access to:**
 - Ideas
 - Knowledge and resources
 - National/Territorial/International colleagues
- **<https://eden.lsu.edu/>**
 - Search terms: “EDEN Extension”



Extension System

- Local and state presence/National network
- Cooperative structure
- Non-regulatory
- Research-based
- Trust and legacy
- Educational goal



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EDEN is also a Platform for:

- Professional Development
- Collaboration
- Grant Writing
- Outreach
- Supported by:
 - USDA
 - NOAA
 - Participating Land and Sea Grants



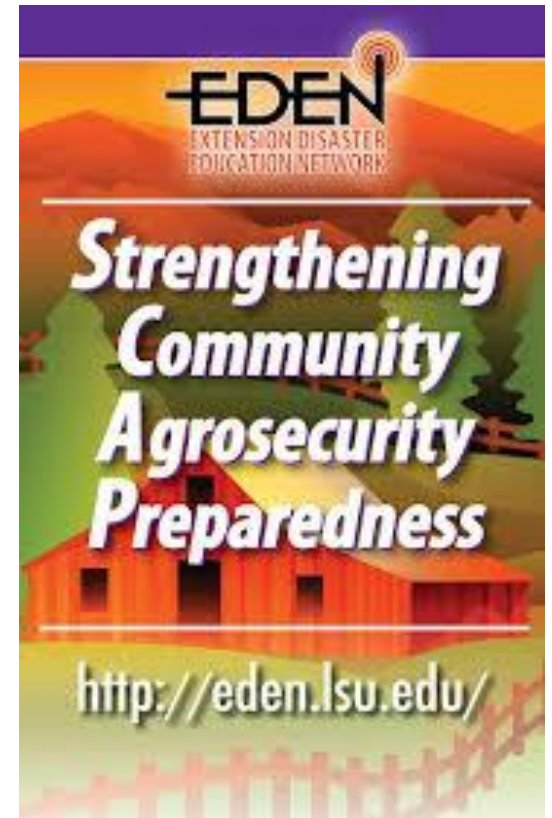
What EDEN means to Montana

- **Large state with lean, yet efficient Extension resources**
- **Geographically dispersed clients and local offices**
- **EDEN:**
 - Enhances power of response
 - Adds depth to Extension programming
 - Inspires programming ideas
 - “Intellectual and educational mutual aid”



S-CAP Development

- **MT-National team member**
- **Addresses & includes:**
 - East, West, North, and South
 - Urban and Rural
 - Curriculum
 - Materials
 - Teaching and promoting best practices



S-CAP Deployment in MT

- **National EDEN experience and support**
- **County clusters within state**
- **Extension coaching - Community evaluation, planning, follow-thru**
- **ESF11 “Ag, food, natural and cultural resources”**
- **ESF11 annex and plans**
- **S-CAPE: exercise and testing**



MT Training and Exercises: Animal Evacuation

- PETS Act and companion animals
- Livestock (commercial)
- Livestock (hobby)
- Equine (recreational and commercial)

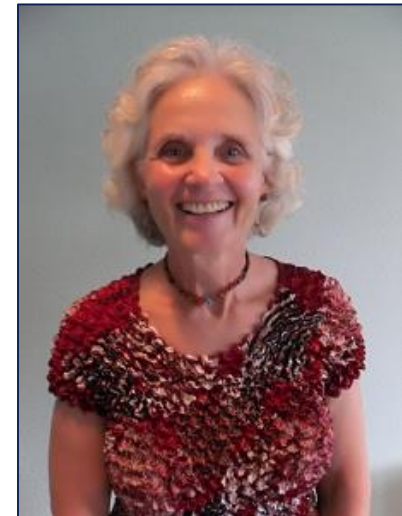


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MT Training and Exercises: Companion Animal Sheltering

- Youth engagement (ages 14-18)
- Led by Linda Williams, Chouteau, Co.
- Companion animals
- Full scale exercise



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MT Training and Exercises: Rolling Cows

- **Livestock truck accident trainings and exercises**
 - Safety
 - Welfare
 - Euthanasia
 - Containment
 - Biosecurity



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4-H Agrosecurity Activities

- Summer Congress – high school members
- Completed EDEN-ASO course in teams
- Additional agrosecurity and farm safety lessons and activities



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Wildfire Preparedness and Response

- **S-CAP informed plans in some jurisdictions**
- **Animal evacuation and sheltering planning in some jurisdictions**
- **Traditional Extension and Agency programs**
 - E.g. Hay and Feed Hotlines
- **Mortality and mass mortality management**
 - Consulting; technical assistance



Ensuring Animal Welfare during Natural Disasters

Ron Gill, PhD

Assoc. Dept. Head for Extension –
Department of Animal Science

TEXAS A&M
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Challenges of the Texas Floods and Hurricanes in 2017.

Ron Gill, PhD

Assoc. Dept. Head for Extension –
Department of Animal Science

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Texas A&M Agencies Involved in Emergency Response

- ⦿ Texas AgriLife Extension
 - ⦿ State Level
 - ⦿ Regional Level
 - ⦿ County Level
- ⦿ Texas Forest Service (Lead agency on Wildfires)
- ⦿ Texas Wildlife Services (logistics and mapping)
- ⦿ College of Veterinary Medicine (Triage and Vet Care)

- ⦿ Texas Animal Health Commission
 - ⦿ (Lead Agency for Animal Issues)

Defined Role Within State Emergency Plan



AGRICULTURE
& LIFE SCIENCES
TEXAS A&M UNIVERSITY

TEXAS A&M
AGRI LIFE
EXTENSION

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Organizational Development



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Our Team ↓

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Making a Difference ↓

Site Map

Emergency Management

Emergency Management Programs of Texas A&M AgriLife Extension Service

Employees of Texas A&M AgriLife Extension Service are not first responders. Texas A&M AgriLife Extension functions to support certain key state agencies (see below) with its capabilities in subject matter expertise, mass media, volunteer development, public education, industry relations and county government and community networking strengths. Emergency educational programming utilizes a variety of formats including one-on-one contact, public meetings, demonstrations, internet, radio, television, and printed news releases.

Texas Forest Service – Wildfires

Texas A&M AgriLife Extension provides public information and educational resources, visual learning resources and promotes mitigation practices for landowners, residents, businesses and county governments across rural and urban, rural wildlands of Texas.

Emergency Management
Questions?
SEND US A MESSAGE

Organizational Development
Department of Agricultural Leadership,
Education, & Communications

▼ EMERGENCY MANAGEMENT

Emergency Management

- Emergency Management Team
- Emergency Management Training
 - Extension Emergency Management Training 101
 - Extension Emergency Management Training 102
 - Independent Study

Defined Role Within State Emergency Plan

Emergency Management

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Defined Role Within State Emergency Plan

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Department of State Health Services – Preparedness

Texas A&M AgriLife Extension provides all-hazards evacuation and shelter in place preparedness and mitigation outreach and educational resources for individuals, families, communities, businesses and county governments.

Defined Role Within State Emergency Plan

Texas Animal Health Commission – Animal Issues

Texas A&M AgriLife Extension provides public information and education targeting agricultural producers, manufacturers, wholesalers and retailers. We also provide agricultural disaster assessment and livestock response and recovery during disease and non-disease animal incidents. County Extension Agents (CEA) assist County Emergency Management Coordinators (CEMC) to establish local Animal Issues Committee (AIC) and write County Animal Response Plans (CARP) supporting county government and U.S.D.A.

Defined Role Within State Emergency Plan

Texas Division of Emergency Management – Public Information

Texas A&M AgriLife Extension provides public information and education to address preparedness, mitigation response and recovery.

Defined Role Within State Emergency Plan

Texas Division of Emergency Management – Drought Issues

Texas A&M AgriLife Extension provides educational materials and services related to agricultural crop production systems, range management, risk management, and urban landscape and water use. These educational programs are designed to make field crops, forage, landscapes, and urban homes more efficient in utilizing water or less prone to drought and heat stress.

Defined Role Within State Emergency Plan

Texas A&M AgriLife Extension maintains its emergency communications and coordination capabilities and remains poised to activate the following elements in time of crisis.

- 20 administrators at the agency Headquarters Operation Center (ICS framework)
- 8 agency liaisons to the State Operations Center (SOC) in Austin
- 24 agency liaisons to Disaster District Committees (DDC) state-wide
- agency Emergency Management Website <http://Texashelp.tamu.edu>
- provide an agency liaison at the EOC of state agencies as requested
- research teams to plan and conduct evaluation and accountability service
- 4 livestock specialists on the State Animal Response Team (ART)
- 40 county extension agents on seven agricultural strike teams (mission-ready-packages)

Defined Role Within State Emergency Plan

- the news and public affairs division of Texas A&M AgriLife Communications
- the news and communications experts for Public Information Officer duties
- AgNews.tamu.edu web capabilities to deliver news and educational materials directly into news rooms across the state and nation
- facilitate the media's access to subject matter experts across Texas A&M AgriLife Extension, Texas A&M AgriLife Research, Texas Sea Grant Programs and Texas A&M University
- Operational capabilities to stand up and manage locally managed or state supported Livestock Supply Points (LSP)
- 36 CEAs on six Hurricane Recovery Education Strike Teams (mission-ready-packages)
- 12 Agricultural Landowner Liaisons (ALL) to support Texas A&M Forest Service during major wildfires

Defined Role Within State Emergency Plan

Emergency Management Questions?
SEND US A MESSAGE

Organizational Development
Department of Agricultural Leadership,
Education, & Communications

▼ EMERGENCY MANAGEMENT

Emergency Management

- Emergency Management Team
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 - Extension Emergency Management Training 102
 - Independent Study
- Texas EDEN – Public Resources
- Texas EDEN Extension Employee Login – CEA Resources

HOT TOPICS



Helping Children Cope after a Disaster

Children can feel very frightened both during and after a disaster. Crisis-related stress can take its toll on children especially when parents are preoccupied with day-to-day survival.



Free testing for private water well owners in Hurricane Harvey flood area

The Texas A&M AgriLife Extension Service and others are collaborating to offer multiple well-water testing opportunities after Hurricane Harvey left potential contamination in its wake.

FREE UPDATES



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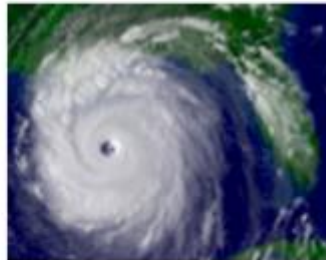
FEATURED SECTIONS



FEATURED SECTIONS

Texas EDEN

**DISASTER
RECOVERY
RESOURCES**

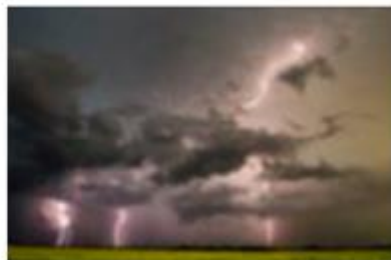


Texas EDEN

**HURRICANE
INFORMATION**

Texas EDEN

**DISASTER
PREPAREDNESS
RESOURCES**



Texas EDEN

**SEVERE
WEATHER
RESOURCES**

Phases of Disaster

MITIGATION

Pre-Disaster Mitigation Efforts

PREPAREDNESS

Education, Outreach and Training

Business Continuity & Emergency
Management Planning

RESPONSE

Immediate Response to Stakeholders

Establish Business Recovery Center

RECOVERY

Post-Disaster Economic Recovery Plan

Attention Paid to: Emergency/Disaster Management

- ⦿ Mitigation
- ⦿ Preparedness
- ⦿ **Response**
- ⦿ Recovery

Our Role in: Emergency/Disaster Management

- ⦿ Mitigation
- ⦿ Preparedness
- ⦿ Response
- ⦿ Recovery

Emergency/Disaster Management

- ⦿ The primary goals of Texas EDEN are to:
- ⦿ Provide credible and reliable information relating to disaster preparedness and recovery for individuals, families, and urban and/or rural communities.
- ⦿ Reduce the impact associated with disaster by disseminating educational materials related to disaster mitigation, preparedness and recovery.

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**LIVESTOCK - HURRICANE
PREPAREDNESS GUIDE**

Evacuating Brazoria County - Where to Go?

Our assigned public shelter at the Bell County Expo in Belton, Texas can accommodate shelter for 150 cattle, 179 horses, and 300 head of sheep, swine and goats combined. The Expo is located on I-35 at exit #292 in Belton, Texas. When evacuating, as a courtesy call, contact Mr. Lyle Zoeller (254) 933-5305 before leaving home to let Bell County know you're coming.

Other shelters for high value livestock are available throughout the state, but contact information on those sites isn't released until 120 to 72 hours before a storm makes landfall. As this information is received it will be posted on the Brazoria County website at www.brazoria-county.com and at the Emergency Management office at (979) 864-1064.



Accommodations Close by the Bell County Expo

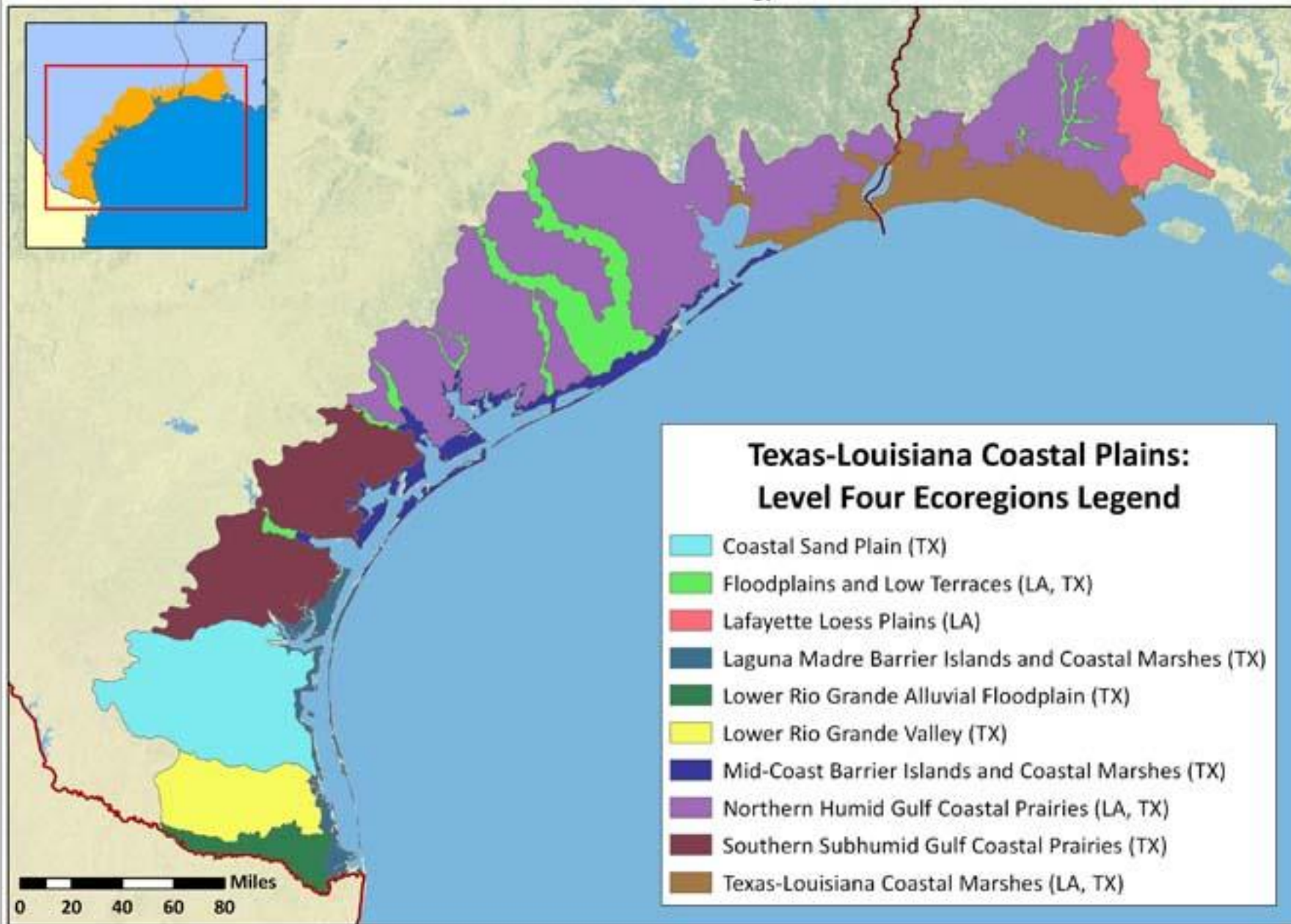
If you do not want to stay in the public shelter yourself, but would like to be near your high-value livestock. There is a La Quinta Inn and Suites at 229 West Loop 121, Belton, TX, (254) 939-2772, across the street from the Expo Center. This will allow you easy and convenient access for caring for your livestock. Call as soon as you know you will be evacuating to reserve your room. There are also several other hotels in and around Belton and nearby Temple, Texas.





Texas-Louisiana Coastal Plains: Level 4 Ecoregions

Data Source: USEPA's Western Ecology Division



Texas-Louisiana Coastal Plains: Level Four Ecoregions Legend

- Coastal Sand Plain (TX)
- Floodplains and Low Terraces (LA, TX)
- Lafayette Loess Plains (LA)
- Laguna Madre Barrier Islands and Coastal Marshes (TX)
- Lower Rio Grande Alluvial Floodplain (TX)
- Lower Rio Grande Valley (TX)
- Mid-Coast Barrier Islands and Coastal Marshes (TX)
- Northern Humid Gulf Coastal Prairies (LA, TX)
- Southern Subhumid Gulf Coastal Prairies (TX)
- Texas-Louisiana Coastal Marshes (LA, TX)

Dear Brazoria County Citizens,

In January of 2008, the Brazoria County Office of Emergency Management formed the Animal Issues Committee, whose purpose is to develop a response plan to aid animals in a disaster. Brazoria County has taken the most common sense approach to preparing and responding to an animal disaster in the development of our plan. The foundation of our plan begins with informing the public of evacuation shelters for pets and high value livestock, and ends with a database of 280+ local responders with identified resources to lend in the recovery effort. The plan includes representation of the animal industry at the Emergency Operations Command post during a hurricane event. We hope that the information in this publication will help you and your neighbors to better prepare for the next hurricane.

Sincerely,

Your Brazoria County Animal Issues Committee



Evacuating Livestock

What livestock to evacuate is something one should give a lot of consideration. Hurricane Ike in 2008 delivered a storm surge that traveled inland approximately 14 miles, impacting 20,000 head of cattle, and killing 4,000 to 5,000 head of adult cows—an economic impact of \$14,000,000. Animals located on lands prone to flooding and storm surge should most definitely be evacuated. If you have friends or family who have a place to board your livestock, that is your best choice.

Public shelters are temporary, lasting maybe a couple of days. Shelters for high value livestock are available throughout the state, but contact information on those sites isn't released until 120 to 72 hours before a storm makes landfall. A list of livestock shelters is also available to the public during evacuation by dialing **2-1-1**. Keep in mind that public shelters provide only shelter and water. Feed and hay are the owners responsibility.

Public shelters require all equine to have current vaccinations and Coggins test paperwork. When on the road with vehicles hauling livestock in a hurricane evacuation of any size, animals should be evacuated no less than 72 hours before a storm makes landfall.

However, “evacuating” doesn’t necessarily mean moving livestock (goats, sheep, cattle, horses, etc.) out of the county. Many times livestock can simply be evacuated to higher elevations and out of flood plains. **Never stall horses in barns during a hurricane.** Whether livestock are moved to safer grounds within the county, or if they’re evacuated out of the county, there are things to consider in either scenario. After the storm passes, there may not be fences, water, etc. for your livestock once you return home. When evacuating it’s best to plan for long term, rather than a couple of days.



Moving cattle to higher ground is only as good as you can keep them there. Cattle will travel with the wind. Good fences or strong cattle pens are necessary to keep cattle from traveling with the wind and into storm surge or flooded waterways.

Supplies

Prepare early for hurricane season by creating a "Disaster Kit." Keep your kit well stocked and in an easy to get to location. Be sure to include the following items:

- Supplies for temporary identification of your animals if they do not have permanent ID
- First Aid Kits for both Humans and Animals
- Handling Equipment such as Halters, Leads and Cages
- Water, Feed, and Buckets
- Sanitation Supplies

- Cell phones, Flashlights, Portable Radios and Batteries
- Food, Water, and Disaster Supplies for your Family or Employees
- Current list of all animals, including their location and records of feeding, vaccinations, and tests. Make sure that you have proof of ownership for all animals. This includes but is not limited to receipts from livestock bought and sold, registration papers, veterinary records, etc. This proof of ownership is necessary if you must apply for livestock indemnity payments with USDA-Farm Services Agency.



Identify Your Livestock

Whether livestock remain in the county, or are evacuated out of the path of the storm, your livestock should be identified. Nothing is better than a permanent hot iron or freeze brand that is properly registered under your name at the County Clerk's Office. Ear notches can be helpful, but are not a positive ID. Horses can be permanently identified with microchips or tattoos. Keep ownership records with you as you evacuate. Take pictures of yourself with



your livestock to help with identification if they become lost or if ownership is disputed. You can use temporary forms of identification including halters with ID plates, fetlock ID bands, mane clips or luggage tags braided into tails and manes. Do NOT tie tags around the tails as this would cut off circulation. You can

also write on your animals with livestock marking crayon, non-toxic, non-water-soluble spray paint, or non-water-soluble markers.

Never attach Coggins papers to your animal as this is a ticket for thieves to take them across state lines.



Above is a picture of an evacuee's telephone number engraved with clippers into the hair of a horse's neck. Be sure to include your area code as your animal might end up far away from home. This is a good idea even if the horse is evacuated to a public shelter in another county. It's only temporary, and the hair will grow back!

Feed & Water

Hay and water are the most important items for livestock in both hurricane evacuation and recovery. Carry sufficient water with you on the livestock trailer—you might get caught in traffic on the evacuation route. It is recommended to carry a three day supply of water per animal if you're evacuating livestock out of the county.

Daily Water Intake	
Animal	Gallons Water
Horses	18
Cattle	23
Swine	6
Sheep/Goat	3
Chickens	1
Turkeys	2



Be prepared for after the storm by filling storage tanks and have a generator available to hook up to your well pump. Keep plenty of hay and feed secured in a dry location. You may need to supplement for some time depending if your property was affected by storm surge. Cattle should not drink water with a salt content over 5,000 ppm.

Livestock After the Storm

Before evacuating, plan for the recovery phase by having a least one week of hay and water supply for each horse or cow ~150 gallons of water/animal/week. You may want to fill storage tanks, water troughs, or have a generator available to run water wells. Before bringing livestock home, assess your property for damages. Is water available? Did pastures flood from storm surge? Will grazing be sustained? Did fences survived the storm?



If you have any questions, or know of livestock in need of assistance after the storm passes, contact your local County Emergency Management Office. Agriculture professionals will be on staff at the EOC to handle the livestock recovery effort.



Preparing Youth Livestock Projects



Everything covered in this guide pertaining to preparation, evacuation, and recovery of livestock also applies to youth livestock projects. However, there are a few things we've learned from past storms that we might want to apply a bit differently to youth livestock projects.

Hurricane season runs annually from June 1st to November 30th. The difficulty of this season is that this is the typically the time when animals are on feed for your County Fair. Not always, but historically, hurricanes impact Texas counties in the month of September.

When a storm is likely to impact your County, you're faced with the decision of evacuating your show animals to safe ground, hoping to still have something to show at the Fair after the storm passes. At least that's the plan. But that wasn't exactly the case with Hurricane Rita, nor with Hurricane Ike. With Hurricane Rita in 2005, many 4-H and FFA families evacuated all species of show animals (poultry, swine, sheep, goats, horses, cattle, rabbits, etc.). What happened is that the storm did not impact many counties and more animals perished in transport in the hot September sun on the highway, than did if they were left at home with fans running, and plenty of feed and water.

Mostly it was show broilers, turkeys, and swine that perished during the evacuation with Hurricane Rita.

But with Ike in 2008, many were impacted by the storm—in terms of physical damage and lack of electricity and water. Animals left at home may have gone without electricity to run fans or wells to pump water. But the good thing is that many families were able to return home early on Saturday and Sunday after Ike to tend to animals. Those without generators were in worse shape than those with generators to run fans and water wells.

Because of lessons learned from past storms, the Animal Issues Committee recommends the following plans for evacuating certain species:

Show Broilers, Turkeys, and Swine: Don't attempt to evacuate. The stress of travel is more on these animals than leaving them at home with a three to four day supply of feed and water. See page 2 for minimum daily water requirements of poultry and swine. Have a generator on hand.

Show Horses, Beef Cattle, Goats, Rabbits, and Lambs: Evacuate these animals. They will handle the stress of travel better than swine and poultry. Travel with water, keeping animals comfortable. It's best to travel at night with your show animals.

Response

- ⦿ Limited Response Role

- ⦿ Four ANSC Livestock Specialist credentialed to deploy with State Animal Response Team (ART).
 - ⦿ Under the umbrella of the Lead Agency – Texas Animal Health Commission
- ⦿ County Extension Agents assigned to **Strike Teams** to assist in management of Evacuation Facilities
- ⦿ Manage Animal Supply Points that are set up during the disaster. Most are in conjunction with the Evacuation Facilities

Recovery

⦿ Recovery Role

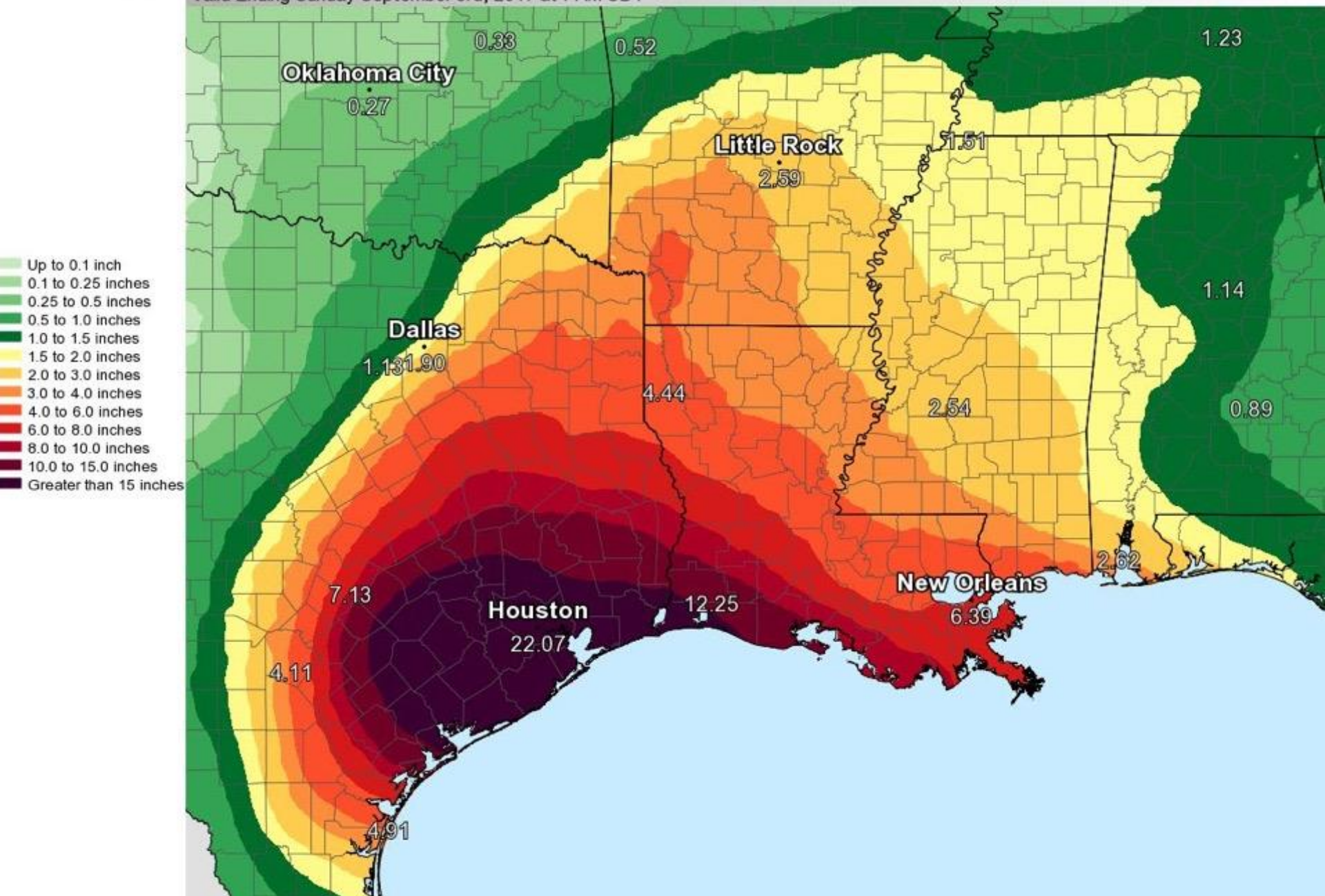
- ⦿ Four ANSC Livestock Specialist credentialed to deploy with State Animal Response Team (ART)
 - ⦿ Mission is to help assess needs and mobilize resources
- ⦿ Strike Teams populate the Animal Supply Point (ASP) and rotate out on at least a weekly basis or less.
- ⦿ AgriLife usually manages up to four ASPs
 - ⦿ Harvey had eight major ASPs at one time, three privately run, 5 AgriLife
- ⦿ Coordinate the donations and distribution of donated products throughout the disaster and demobilize within days following the general population being able to return to their properties.
- ⦿ Coordinate care of animals in Evacuation Facilities

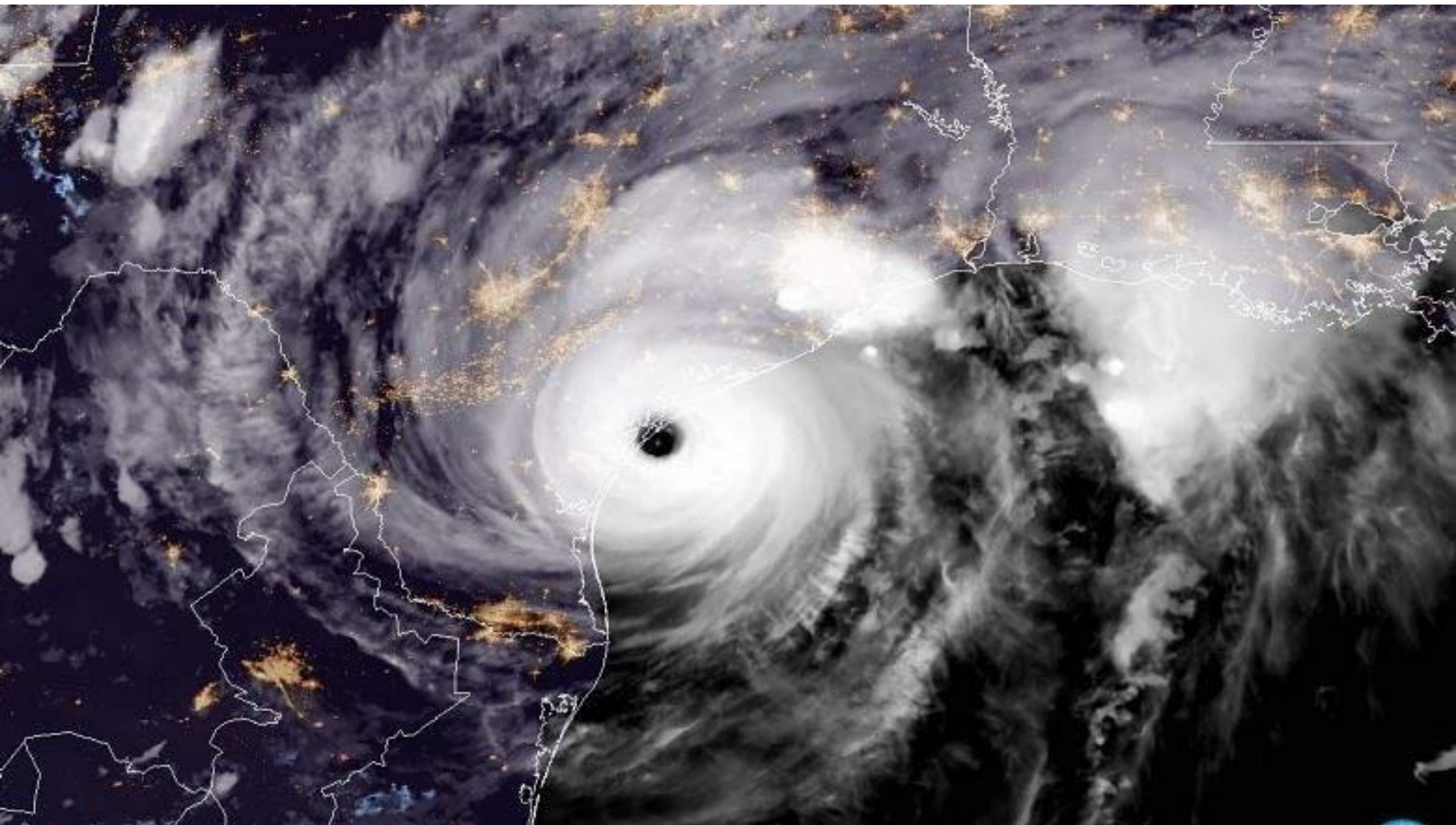
Hurricane Harvey

- ⦿ Hurricane Harvey was the costliest tropical cyclone on record, inflicting nearly \$200 billion in damage, primarily from widespread flooding in the Houston metropolitan area
- ⦿ Total fatalities: 77
- ⦿ Damage: \$198.63 billion (2017 USD)
 - ⦿ (Costliest tropical cyclone on record)
- ⦿ Dates: Aug 25, 2017 – Sep 3, 2017
- ⦿ Flooding Remained active until Sept 8, 2017

Forecast Precipitation

Valid Ending Sunday September 3rd, 2017 at 7 AM CDT





Problem With Harvey?

- ⦿ Estimated 2.1 Million head of cattle in the impact zone
- ⦿ Where to move them?
- ⦿ Logistics of moving 40 cows per truck?
- ⦿ There are no acres or facilities available to handle that many cattle



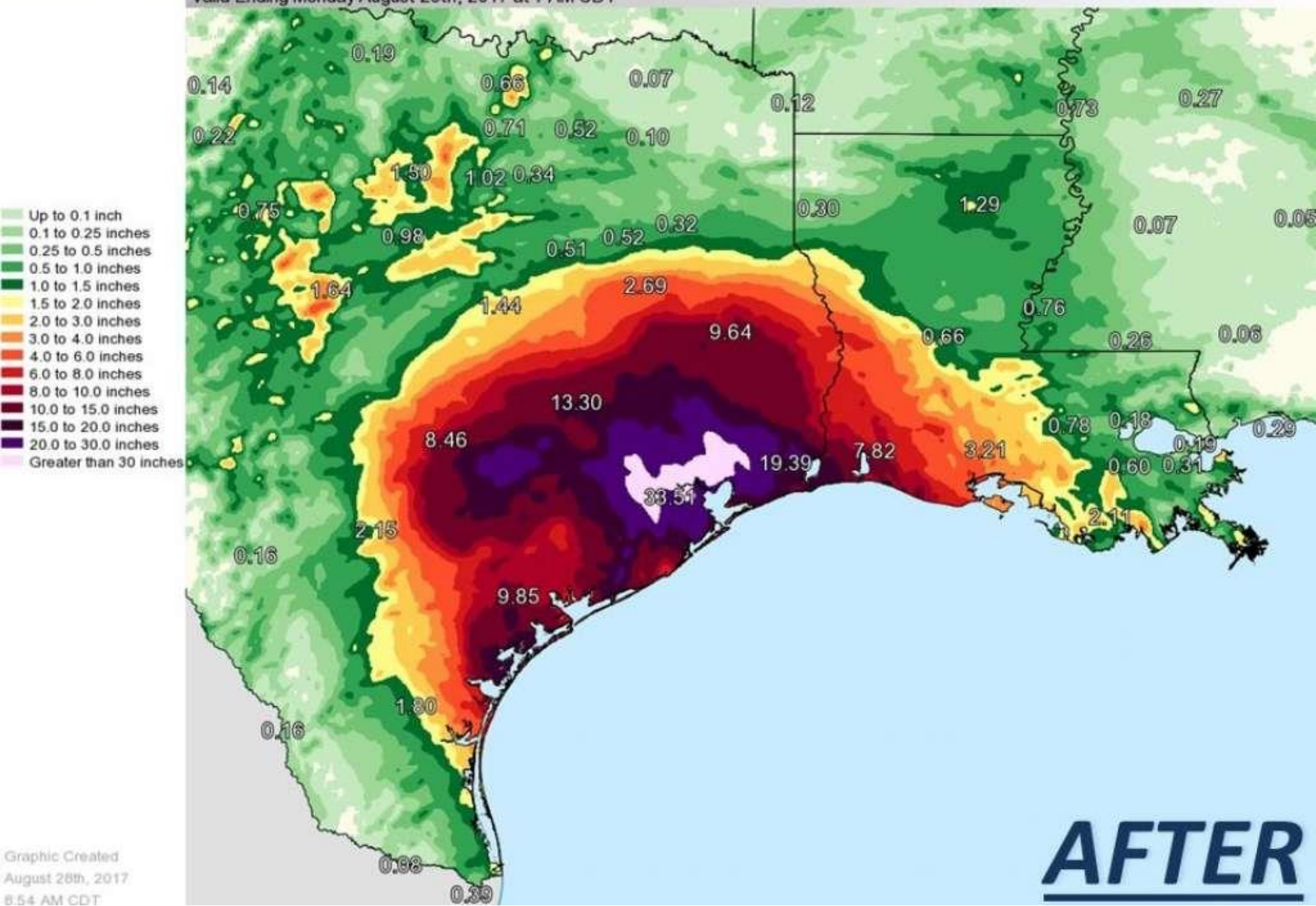


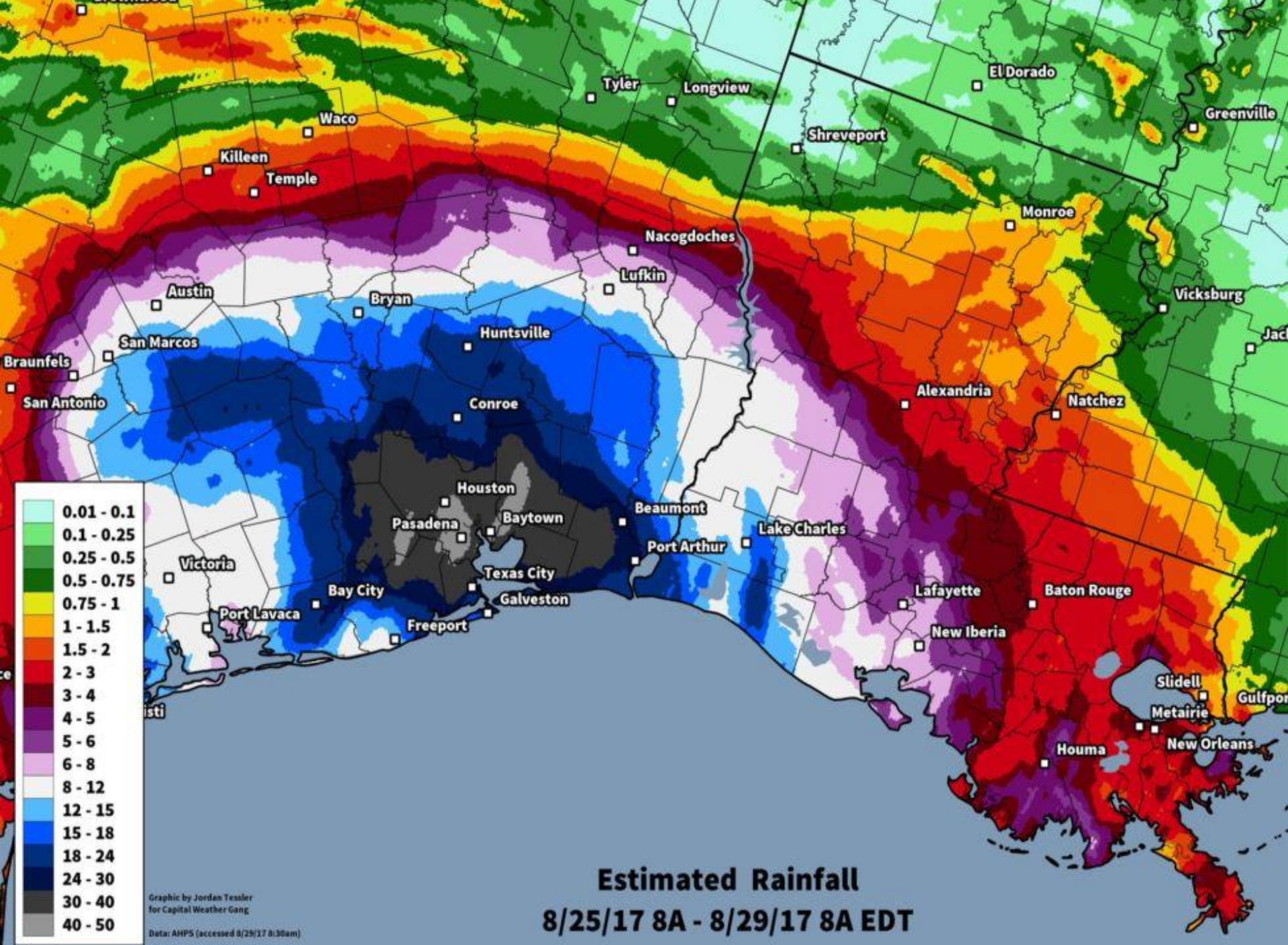
Evacuating Livestock

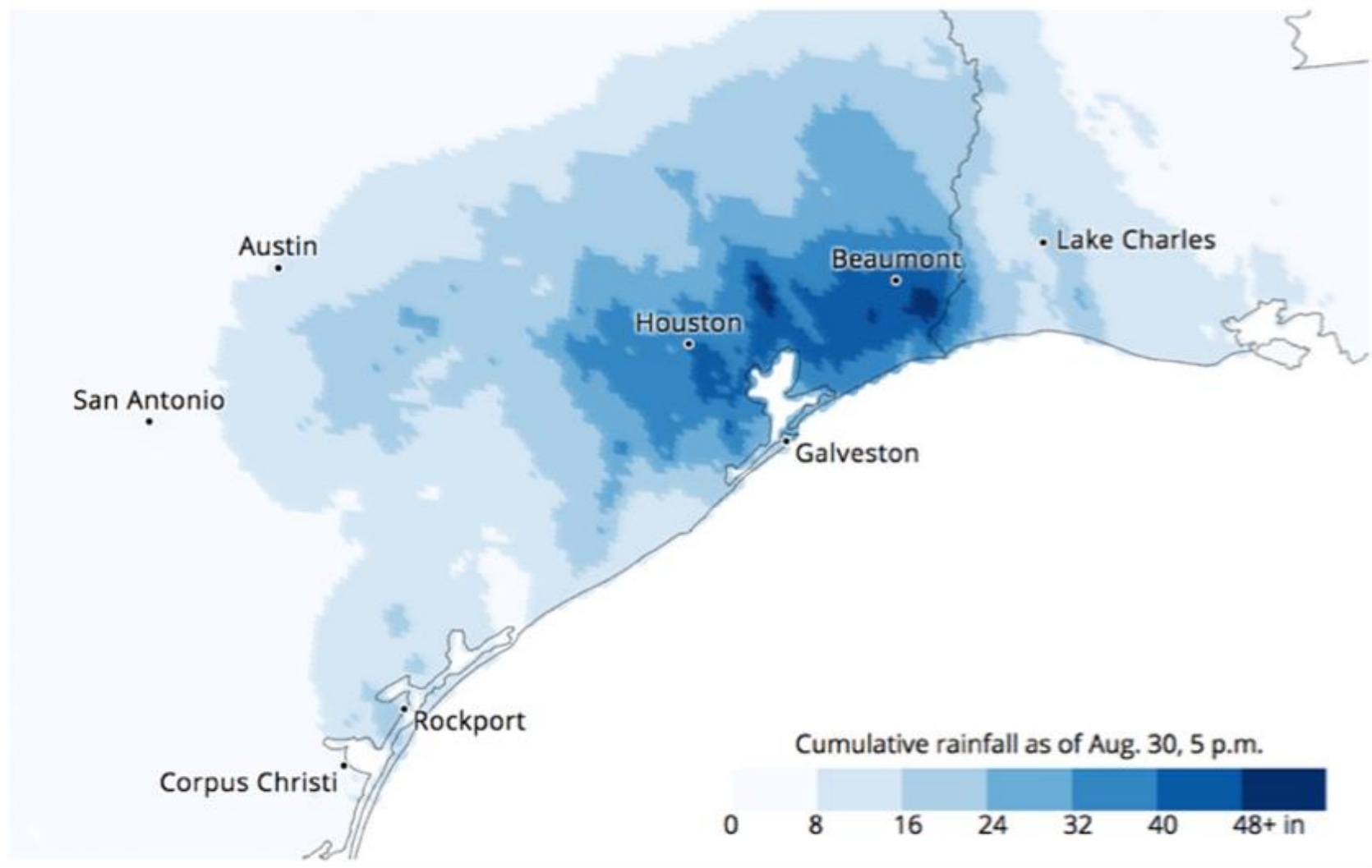


Observed Precipitation

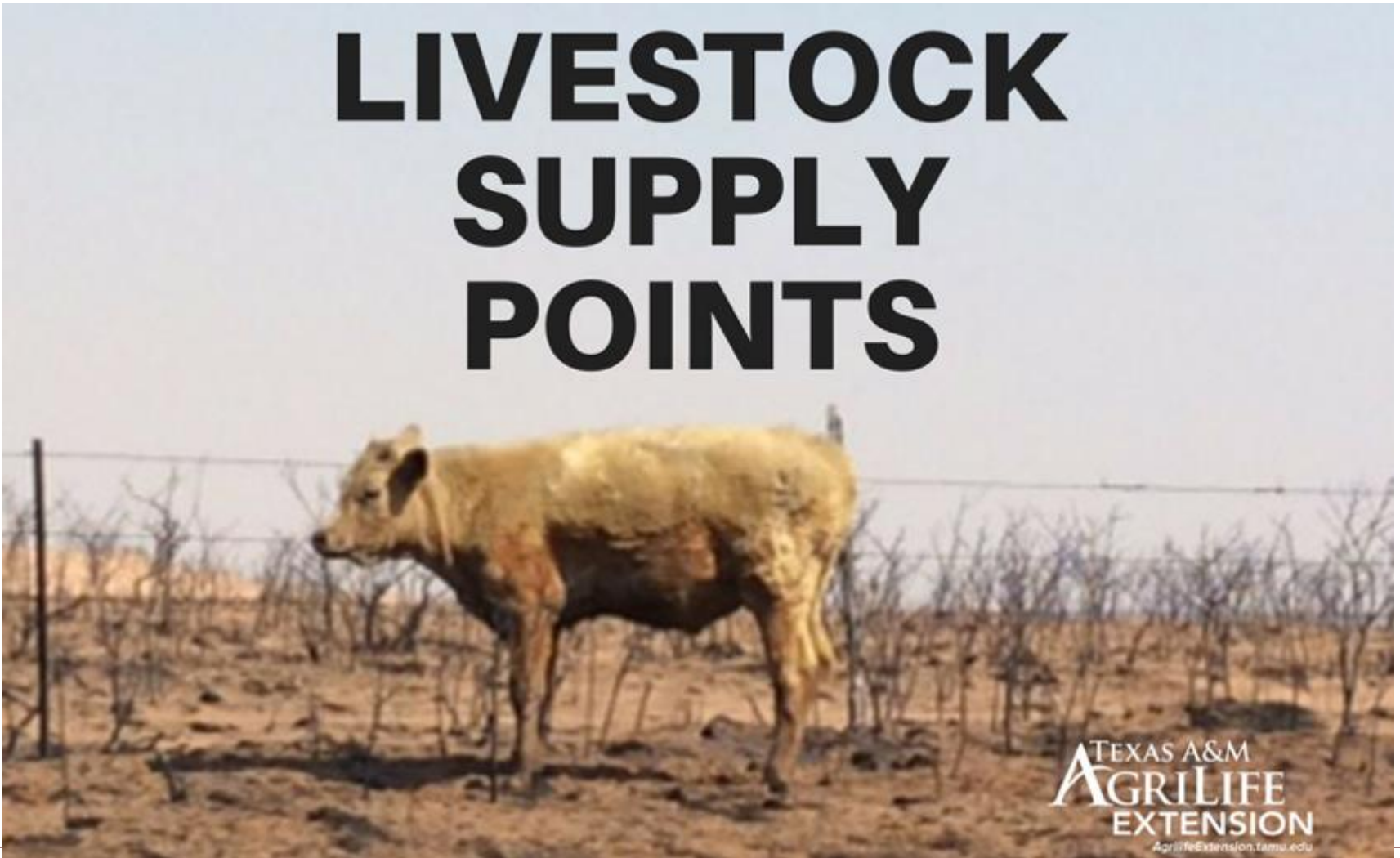
Valid Ending Monday August 28th, 2017 at 7 AM CDT





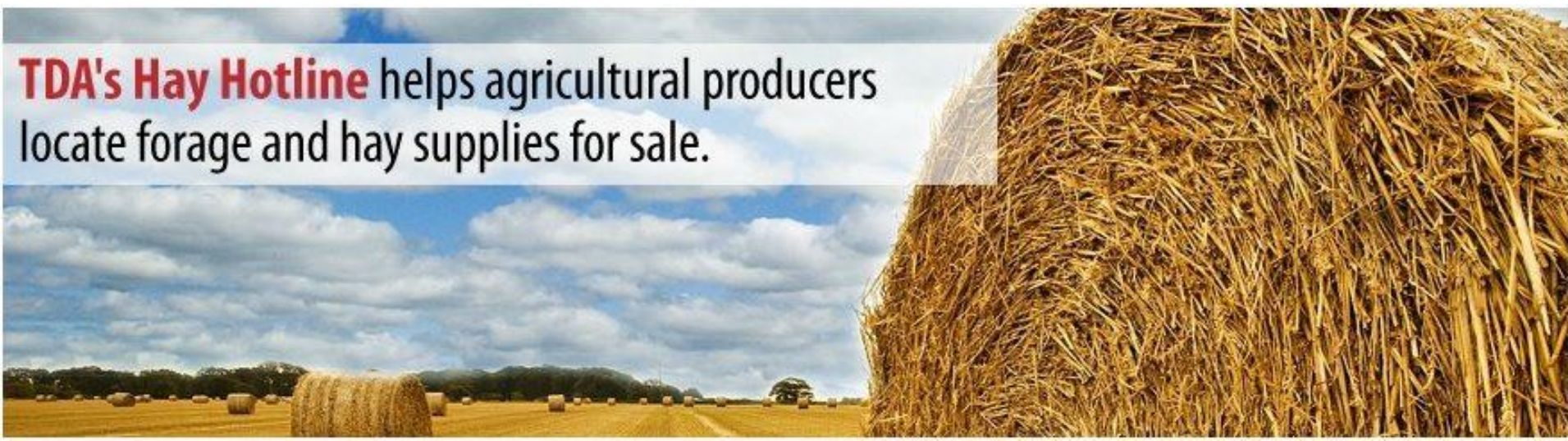


LIVESTOCK SUPPLY POINTS



Role in Supply Management

- ⦿ Coordinate donations and delivery across:
- ⦿ State Agencies
 - ⦿ TAHC
 - ⦿ TDA
 - ⦿ Texas Wildlife Services
 - ⦿ Industry organizations
- ⦿ Transportation companies and individuals.



TDA's Hay Hotline helps agricultural producers locate forage and hay supplies for sale.

Animal/Livestock Supply Points



Animal/Livestock Supply Points



Animal Supply Points



Animal Supply Points



Animal Supply Points



Animal Supply Points



Animal Supply Points



Animal Supply Points



Animal Feed Delivery



Animal Feed Delivery



Animal Feed Delivery



Animal Feed Delivery



Animal Feed Delivery



Animal Supply Points



Animal Supply Points



Animal Supply Points



Animal Supply Points



Animal Supply Points





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RESPONSE



The Texas A&M Veterinary Emergency Team (VET) plays a critical role in ensuring that animals impacted by disaster have a second chance at life. Fully equipped to provide veterinary care from triage and treatment of injured animals to working with community animal shelter partners, the VET provides animals and their owners hope for happy endings.



Texas, out-of-state 4-H'ers pitch in on Hurricane Harvey recovery efforts



Texas, out-of-state 4-H'ers pitch in on Hurricane Harvey recovery efforts



Commission to Rebuild Texas



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Commission To Rebuild Texas Update: Issue 2

September 22, 2017 | Austin, Texas | [Press Release](#)

The true strength of the Lone Star State is found in our people. In the Rockport-Fulton area along the Texas Gulf Coast on the morning after Harvey's first direct hit as a Category 4 hurricane, still-stunned residents gathered outside one of the local churches. Though faced with catastrophic damages to their own homes and businesses, they began to pick up every brick that had fallen from the church walls.

We will follow their example. We will rebuild Texas. Brick by brick. Family by family. Community by community. Even stronger than before.



Rebuild Texas

- ◉ “Chancellor Sharp said he’ll lean heavily on A&M System staff to help with the recovery. Many of his top aides have accompanied him to meetings along the coast, and he plans to use A&M AgriLife Extension Service agents assigned to every county in the state to set up a network of people on the ground in affected areas.”
- ◉ County Extension Agents have been assigned the duty of assimilating all requests for assistance and forwarding them on to the Commission. (Exec. Assoc. Director for AgriLife Extension oversees this process)
 - ◉ If infrastructure damage is found it can be reported.
 - ◉ Any request for federal, state or local support in rebuilding can be turned in to the Extension Agent and entered into the system

Rebuild Texas



**DISASTER
EDUCATION
NETWORK**

DISASTER RECOVERY INFORMATION

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Welcome to the Rebuild Texas Updates

September 12, 2017 by [Texas EDEN](#)

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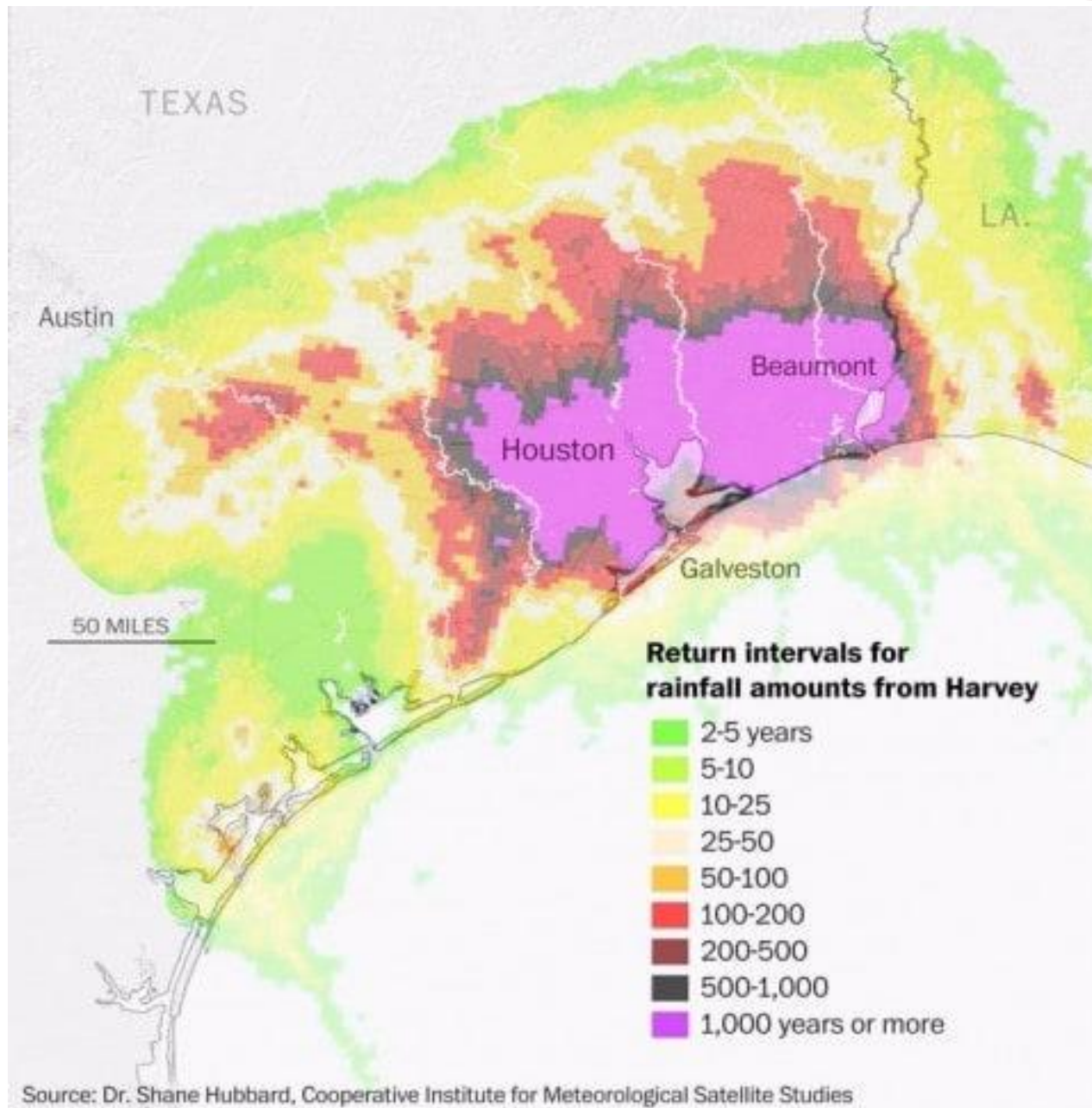
SEARCH



FEATURED SECTIONS

What Is Next

- ⦿ The need to work on the mitigation aspect
- ⦿ Harvey created a 1000 year flood event in some areas
- ⦿ We have had three 100 year floods in the last two decades
- ⦿ While it is fresh on everyone's mind, highest elevation on these ranches need to be marked
- ⦿ Emergency evacuation or relocation plans for animals need to be developed



©Questions ?

Navigating the 2017 Drought

Carl R. Dahlen

12/6/17

Animal Care Wednesday Webinar

U.S. Drought Monitor North Dakota

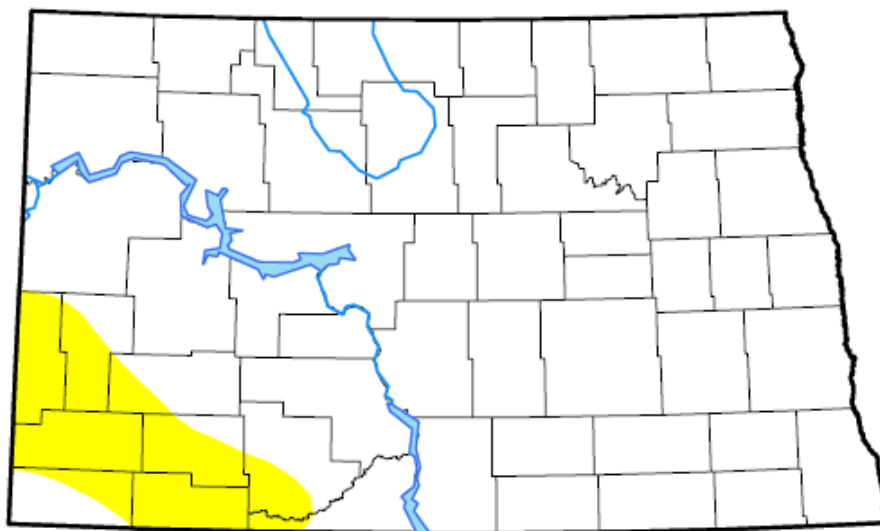
May 2, 2017

(Released Thursday, May. 4, 2017)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	91.22	8.78	0.00	0.00	0.00	0.00
Last Week 04-25-2017	91.22	8.78	0.00	0.00	0.00	0.00
3 Months Ago 01-31-2017	93.81	6.19	0.00	0.00	0.00	0.00
Start of Calendar Year 01-03-2017	93.87	6.13	0.00	0.00	0.00	0.00
Start of Water Year 09-27-2016	96.70	3.30	0.41	0.00	0.00	0.00
One Year Ago 05-03-2016	72.34	27.66	0.00	0.00	0.00	0.00



Intensity:

 D0 Abnormally Dry	 D3 Extreme Drought
 D1 Moderate Drought	 D4 Exceptional Drought
 D2 Severe Drought	

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

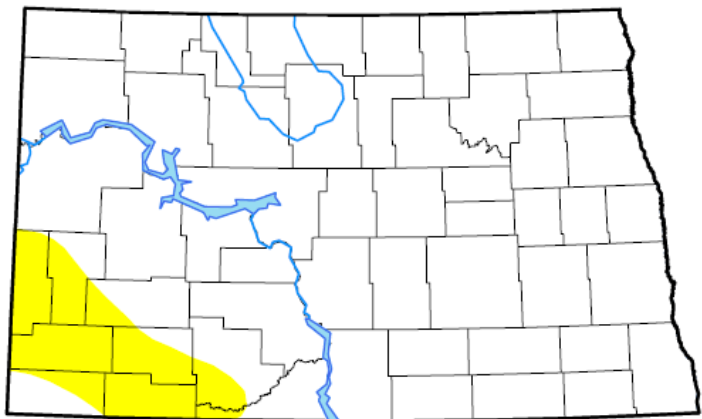
Brian Fuchs
National Drought Mitigation Center



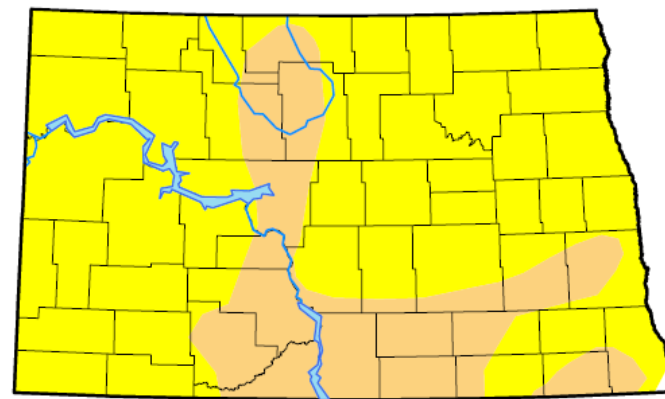
<http://droughtmonitor.unl.edu/>

Progression of Drought

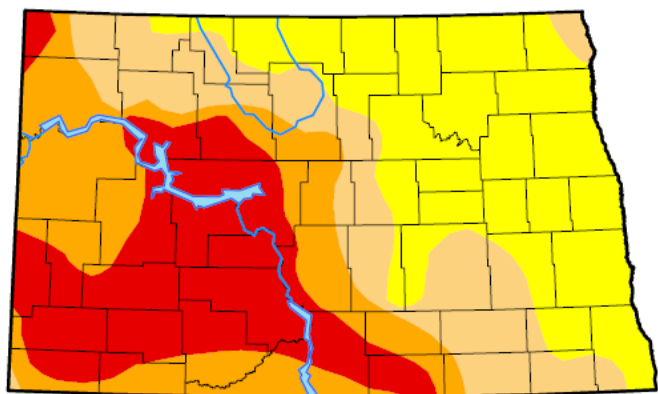
May 2, 2017



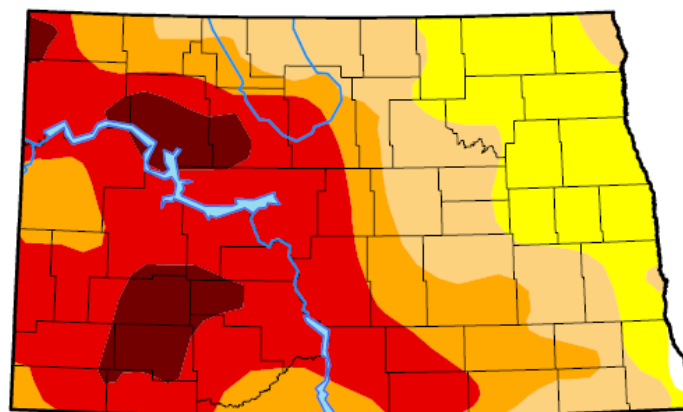
May 30, 2017



June 27, 2017



August 8, 2017



Legend:











Implications for Animals and Their Caretakers

Shortage of feed

Shortage of water

Quality issues for both!!

Many Program and Policy issues

Extremely Stressful for ALL!

Getting the TEAM together!

- Extension Personnel
 - (specialist, agents, communications)
- State Climatologist
- ND Dept. of Agriculture
- ND State Veterinarian
- ND Dept. of Health
- USDA Farm Service Agency
- USDA Natural Resources Conservation Service
- US Forest Service
- ND Stockmen's Association
- Independent Beef Association of ND
- Northern Plains Climate Hub
- Reps from ND congressional delegation
- Governors Staff
- Local clergy, financial institutions, mental health professionals, and other who want to help!!

Weekly Meetings

- Information sharing
 - Current conditions
 - Future outlook
- Program and policy updates
 - Needs discovery

Evaluation of Available Resources

Go to Drought Website:

<https://www.ag.ndsu.edu/drought>

Drought Resources Document

North Dakota

Livestock Drought Resources

NDSU Extension Service

www.ag.ndsu.edu/drought 701-231-7171
Information on a variety of drought-related topics, including livestock and crop production; feeds and feeding; forages and grazing; livestock poisoning; lawns, gardens and trees; and farm/family stress

www.ag.ndsu.edu/publications
To find a specific publication, use the search window on the top of the page and type in a topic or publication number.

- **Livestock**
 - Strategies for Managing Drought in the Northern Plains – R1819
 - Alternative Feeds for Ruminants – AS1182
 - Comparing Value of Feedstuffs – AS1742
 - Nitrate Poisoning of Livestock – V839
 - Feeding Management for Backgrounders – AS1158
 - Drylot Beef Cow/Calf Production – AS974
 - A Cow-Calf Producer's Guide to Custom Feeding – AS1162
 - Feeding Corn to Beef Cattle – AS1238
 - Cyanide Poisoning – V1150
 - Livestock Water Requirements – AS1763
 - Livestock Water Quality – AS1764
 - Cyanobacteria (Blue-green Algae) Poisoning – V1136
 - Range and Forage Production Sample Kits – R1838

- **Kids and Family**
 - Farming and Ranching in Tough Times – FS1804
 - Responding to Distressed People – FS1805
 - Stress Management for Farmers/Ranchers – FS284
 - Farm/Ranch Stress Management Plan – FS287
 - Working with Distressed Clientele – FS1789

County Extension Agent Directory:
www.ag.ndsu.edu/extension/directory/counties

Agriculture and Natural Resources Specialist Directory:
www.ag.ndsu.edu/extension/directory/agnr

North Dakota Department of Agriculture

www.nd.gov/ndda/drought-resources
701-328-2231 or 800-242-7535
Drought resources, meeting summaries, news releases and links to additional information and agencies

- Drought hay hotline and interactive drought hotline map – 701-425-8454, www.nd.gov/ndda/content/view-interactive-drought-hotline-map
A resource to find hay buyers and sellers, locations with pasture available, and dry lot locations for livestock
- N.D. Mediation Service: 844-642-4752, www.nd.gov/ndda/program/north-dakota-mediation-service
Provides mediation to farmers and ranchers on a wide range of issues, including disputes with federal and state agencies, wetland determinations, farm programs, crop insurance and agricultural credit
- N.D. State Board of Animal Health: 701-328-2655, www.nd.gov/ndda/animal-health/north-dakota-state-board-animal-health
Contact for concerns relating to livestock health and to report illness or death of livestock
 - Anthrax information at www.nd.gov/ndda/disease/anthrax
 - Requirements to transport animals across state lines www.nd.gov/ndda/animal-health-division/animal-movement-and-importation-requirements

North Dakota Stockmen's Association

www.ndstockmen.org/brand-inspection/inspection-guidelines, 701-223-2522
Brand inspection for transporting livestock

Feeding Resources

These sites are open for people to list hay and feed needs, hay and feed for sale or donation, and haulers available.

NDSU FeedList: www.ag.ndsu.edu/feedlist

N.D. Department of Ag Drought Hotline, 701-425-8454
Interactive Map: www.nd.gov/ndda/content/view-interactive-drought-hotline-map

ND Response

www.ndresponse.gov
Official portal of North Dakota state government that pulls together drought information and news releases from multiple state agencies

Other Drought Resources

- **U.S. Drought Monitor**
A weekly map of drought conditions by the National Oceanic and Atmospheric Administration (NOAA), the U.S. Department of Agriculture (USDA) and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln <http://droughtmonitor.unl.edu>
- **USDA Farm Service Agency**
Administers programs to assist farmers and ranchers, including disaster relief programs. Contact a local FSA office to determine eligibility for disaster relief programs. www.fsa.usda.gov/disaster
 - Livestock Forage Program (LFP): provides financial assistance based on eligible grazing losses
 - Livestock Indemnity Program (LIP): losses related to blue-green algae and anthrax can be covered under this program
 - Conservation Reserve Program (CRP) emergency grazing and haying
- **North Dakota State Water Commission**
Administers the Drought Disaster Livestock Water Supply Project Assistance Program for cattle producers impacted by drought; 701-328-2750, www.swc.nd.gov/project_development/drought_disaster_livestock.html
- **North Dakota Department of Health**
Responsible for managing surface water quality in the state's streams, lakes and reservoirs, which includes reporting and monitoring of harmful algal blooms (cyanobacteria/blue-green algae) that impact human use; 701-328-2372 www.ndhealth.gov/WQ/sw/HAB/defaultHABs.htm
- **USDA North Dakota Drought Calculator**
Helps ranchers and other rangeland managers assess impacts of drought on forage production, enabling them to make better-informed decisions as to alternative drought strategies. Developed by USDA-Agricultural Research Service in Fort Collins, Colorado; USDA-Natural Resources Conservation Service; and NDSU Central Grasslands Research Extension Center. <https://nrc.ars.usda.gov/DCND/>
- **USDA Natural Resources Conservation Service**
Offers financial and technical assistance to help producers make and maintain conservation improvements on their land, including water developments and fencing. Can grant access to lands enrolled in Wetland Restoration Easements and Waterbank program for grazing and haying. Contact local NRCS office for information on cost-share availability for improvements. 701-530-2000, www.nd.nrcs.usda.gov
- **North Dakota Game and Fish Department**
For questions related to haying and grazing land enrolled in the PLOTS program; 701-328-6300 <https://gf.nd.gov/plots/landowner>
- **North Dakota Department of Transportation**
Relaxed guidelines for hours of service for drivers of commercial motor vehicles transporting livestock, hay and water supplies for the benefit of N.D. livestock producers, as well as weight restrictions for commercial motor vehicle drivers transporting hay and water supplies. All drivers hauling for these purposes must carry a copy of the executive order with them in the cab at all times. <http://bit.ly/ExecOrder17-08>

North Dakota Livestock Drought Resources



Water Testing

Evaluating for

- Blue-green algae
 - Sulfates
- Total dissolved solids

Materials made available in each county office



Livestock Water Testing GUIDELINES

Miranda Meehan, NDSU Extension Service Livestock Environmental Stewardship Specialist
Mike Ell, North Dakota Department of Health Surface Water Program Manager
Michelle Mostrom, NDSU Veterinary Toxicologist

Sample Protocol

- 1 Collect sample in clean 1-quart or larger plastic (preferred) or glass container
 - a. Sample containers can be obtained from your county office of the NDSU Extension Service or the watershed coordinator with your local Soil Conservation District.
 - b. The Astro Chem Lab prefers you contact it to get a sample kit/ container.
- 2 Collect sample from area where livestock are drinking. If collecting cyanobacteria (blue-green algae), take a sample in the bloom and wear gloves because it can be toxic to humans.
- 3 Rinse container several times using water to be sampled
- 4 Fill container completely. Being sure to collect water from deeper in the water and the surface.
- 5 Label the container with following information:
 - a. name of waterbody
 - b. name of sampler
 - c. date collected
 - d. time collected
- 6 Seal the container tightly and wrap the top with tape to prevent leaking. Place the water in a sealed plastic bag.
- 7 Complete laboratory sample custody form required to be submitted with the sample; contact the laboratory if needed
- 8 If submitting a cyanobacteria sample, **ship immediately** on an ice pack (**no wet ice please**) by next-day delivery. Do not freeze the sample or leave it on the dashboard of your vehicle (avoid temperature extremes).

*We recommend collecting and shipping samples before Friday to avoid shipping delays.

Testing Labs

NDSU Veterinary Diagnostic Laboratory

701-231-7527 or 701-231-8307

www.vdl.ndsu.edu

- Water screen: nitrates, pH, total dissolved solids (TDS), sulfates
 - Cost: \$25 for test and \$10 submission fee (submission paid once when submitting multiple samples)
- Cyanobacteria (blue-green algae)
 - Cost: \$20 for test and \$10 submission fee (submission paid once when submitting multiple samples)
- Turnaround: within one day of samples arriving at lab
- Shipping:

U.S. Postal Service

Veterinary Diagnostic Laboratory
NDSU Dept. 7691
PO Box 6050
Fargo, ND 58108-6050

FedEx/UPS

Veterinary Diagnostic Laboratory
NDSU Van Es Hall
1523 Centennial Blvd.
Fargo, ND 58102

Minnesota Valley Testing Laboratories Inc.

701-258-9720

www.mvttl.com

- Water screen: nitrates, conductivity, total dissolved solids (TDS), sulfates
- Cost: \$49
- Turnaround: seven days
- Shipping: Minnesota Valley Testing Laboratories
2616 East Broadway Ave.
Bismarck, ND 58501

Astro Chem Lab Inc.

701-572-7355

<http://astrochemlab.com>

- Water screen: pH, conductivity, residual sodium carbonate, hardness, sodium adsorption ratio, total dissolved solids, sodium chloride, calcium, magnesium, sodium, iron, potassium, chloride, carbonate, bicarbonate, sulfate and nitrate-N
- Cost: \$60
- Turnaround: seven days
- Shipping: Astro Chem Lab
4102 2nd Ave. W.
PO Box 972
Williston, ND 58802

Nitrate Testing

- When excess nitrate is consumed:

Nitrate toxicity in livestock



Rick Schmidt, Oliver
County Extension

NDSU Drought-stressed Forages Program Data Dictionary

All **BOLD** variables on card require a circle.

1. **Sample ID** – Pre-filled with sample ID
2. **Date** – Date sample was collected
3. **Plant type** – Fill in type of plant represented in sample; for example, winter wheat, canola, corn, sunflowers, kochia, Russian thistle, etc. **No CRP hay**; this has been studied previously in North Dakota.
4. **Client** – You supply the unique ID for each client; number preferred.
5. **County** – Fill in the county of feedstuff origin.
6. **Collected by** – Name of person collecting sample
7. **GPS location** – Give exact latitude and longitude of location of sample collection
8. **Local rainfall** – Estimate of local rainfall from producer (if available) because rainfall may not match nearest NDAWN
9. **Nearest NDAWN** – Fill in the location of the nearest NDAWN station
10. **Planting date** – Date the crop was planted; if perennial, indicate year of planting
11. **Nitrogen applied** – Fill in pounds of actual nitrogen per acre applied. If no N applied, circle "None." Will need to talk through N forms, etc., to get to actual N per acre. If producer only known pounds or units per acre and form, then write that in comments section.
12. **Harvest date** – Fill in date that cutting/chopping started; if being grazed, put projected turnout date
13. **Acres harvested** – Fill in total acreage of alternative forage harvested
14. **Hay/Silage/Grazing** – Circle whether crop was harvested as hay or silage, or if it is to be grazed. If baleage, circle silage and indicate baleage in comments. **Only collect grazing samples for com.**
15. **Plant height** – Fill in estimated average plant height in inches
16. **Original intent: Grain/Forage** – Circle whether original intent of crop was for grain or forage
17. **Estimated grain yield** – Fill in estimated grain yield in bushels per acre; this may have been determined by crop insurance adjuster
18. **Estimated forage yield** – Fill in the estimated yield of forage in the fields; prefer tons per acre. **Be sure to include units.**
19. **Vegetative/Reproductive** – Circle the growth stage of the plants represented in the sample. If you are comfortable with identifying other stages of growth, indicate stages in comments.
20. **% grain fill** – If plants are in reproductive state, list percent of grain fill
21. **Selling/Feeding** – Circle whether producer intends to sell or feed the alternative feedstuff
22. **% of forage inventory** – Fill in the proportion (%) of producers' harvested forage accounted for by the sampled feed
23. **Comments** – This space is to write any items or findings related to the sample that you think are important or would impact the study.

Sample Label: Lower Blank

Sample ID: 1 Date: 2 Plant type: 3

Client: 4 County: 5 Collected by: 6

GPS: Lat: 7 Long: 8

Local rainfall: 9 in. Nearest NDAWN: 10

Planting date: 11 Nitrogen applied: 12 lbs. per ac. / None

Harvest date: 13 Acres harvested: 14 Hay / Silage / Grazing

Plant height: 15 in. Original intent: Grain / Forage 16

Estimated grain yield: 17 bu./acre Estimated forage yield: 18

Growth stage: Vegetative/Reproductive, % grain fill: 19 20

Intended use: Selling/Feeding, % of forage inventory: 21 22

Comments: 23

Be sure to complete both sides ►

Don't forget to ask the questions on the back of the card!

Estimated hay yield % of normal – Fill in the estimated percentage of normal hay yield that the producer experienced on his/her operation.

Estimated pasture yield % of normal – Fill in the estimated percentage of normal pasture growth that the producer experienced on his/her operation.

Percent of hand inventory reduction – For each respective class of cattle, fill in estimated percent reduction in inventory as a result of drought conditions. If no reduction, write "none."

Alternative feeds sourced: Yes/No – Description: Circle whether the producer sourced other alternative feedstuffs to manage herds and write a description of the types of feedstuffs sourced.

Other management steps taken – Fill in other pertinent management strategies that the producers implemented to deal with drought conditions or changes in forage/food availability.

Additional needs assessment questions: These questions will create a dialogue with producers, help us understand their issues and aid us in the development of future programs. Feel free to use the entire space and do not limit responses to those pertaining to the current alternative feedstuffs efforts.

— What are the biggest remaining concerns you face on your operation?

— What else can NDSU Extension do to help you and your operation?

AUG 2017

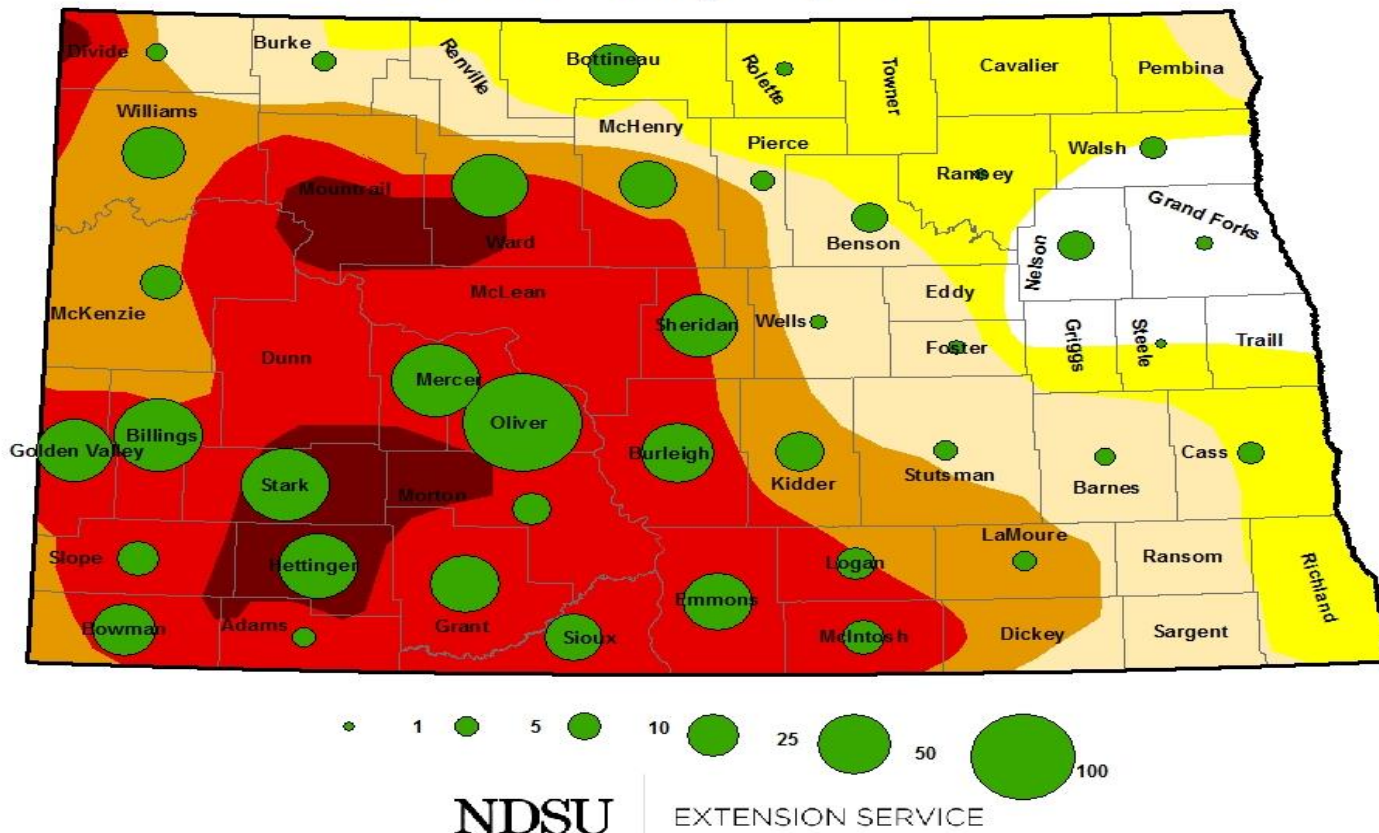
Drought-Stressed Forages Program

Components:

- Sample collection on producer operations
- Analysis of samples
- Disseminating results to individual producers
- In-service training
- Disseminating summary results to stakeholders

Agent/Producer Interactions

Number of NDSU Extension Office Calls
June 19 - July 24, 2017



In-Service Trainings

Nitrates: where do they come from, what do they do, and how to deal with them

Your Name Here
NDSU Extension Agent

Range Management in 2018: Dealing with the 2017 Drought



KEVIN SEDIVEC
NDSU EXTENSION RANGELAND SPECIALIST

MIRANDA MEEHAN
NDSU EXTENSION LIVESTOCK
STEWARDSHIP SPECIALIST

Stretching Limited Forage Supplies

Name
Date
Meeting Name

Alternative Feeding Scenarios

Hands-on Ration Development
Group Activity

Managing Farm Stress and Pursuing Wellness in Times of Tight Margins



Sean E. Brotherson, PhD
Extension Family Science Specialist
NDSU Extension Service Webinar
June 8, 2017



0:01 / 14:54



Moving Forward

- Lasting implications
- Prepared for known questions
- Always listening or new or developing issues
- Be cognizant *Animals* and *People*- Can't have one without the other
- **TEAM** in place and ready to activate!

NDSU NORTH DAKOTA
STATE UNIVERSITY

PRE CONFERENCE - FREE

Cattle Breeding Workshop

Dr. Bob Weaber, KSU Extension Beef Genetic Specialist
Traits, Objectives, Systems, Tools (EPDs, genomics, indexes)

Wednesday December 6, 2017
Holiday Inn, Minot
Workshop: 4:00 pm - 7:00 pm
Dinner & Social: 7:00 pm

FULL DAY EVENT - \$40

Thursday December 7, 2017
Holiday Inn, Minot
Registration: 9:00 am
Conference: 9:30 am - 5:00 pm
Lunch: 12:30 pm (included with fee)

Dakota Cattle Conference

Please pre-register
nds.u.ward.extension@nds.u.edu
or 701-857-6444



Agenda

9:30 am
10:15 am
11:15 am
12:00 - Lunch
1:15 pm
3:00 pm

Beef: Good and Good For You - **Dr. Eric Berg, NDSU Animal Science**
Better Ranching through Better Stockmanship - **Curt Pate, MT Rancher**
Market Trends, Influences, & Price Outlook - **Jim Robb, LMIC**
Ranching in Kazakhstan - **Brandon Biwer, Divide County Ag Agent, NDSU**
Wintering Cows: Late Season Grazing & Supplementation -
Dr. Bart Lardner, Western Beef Development Center, SK
Drought Challenges & Management - **NDSU Specialists**
- Alternatives to Supplementing Low Quality Feed & Stretching Hay
Dr. Carl Dahlen
- Understanding the Nitrate Risk & Toxicities in Drought Conditions
Dr. Gerald Stokka
- Economic Considerations: Cost to Feed, Care, & Transport Cows;
USDA Livestock Forage Program
Dr. Tim Petry
- Pasture Recovery & Solar Watering Options
Dr. Kevin Sedivec

Contact
Information
John
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701.857.7682
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Brummund
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NDSU EXTENSION SERVICE

Thank You!!!



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