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Best Practices for TxDOT on Handling Wildfires

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16. Abstract Texas saw a record-setting number of wildfires in 2010 and 2011. Personnel from the Texas Department of Transportation (TxDOT) are often called upon to provide support in responding to wildfires, and the number of requests has increased dramatically over the past few years. TxDOT developed a draft Guidance Document for Wildfire Response, but personnel are frequently asked to perform services not specifically addressed in that document. TxDOT took advantage of the recent increase in wildfire response experiences to document the lessons learned from wildfire events and study the role of TxDOT in the mitigation, containment, and response to wildfires. The objective of this research project was to develop a protocol to help TxDOT effectively respond to wildfire situations that may occur in the state, and to present the protocol in the form of "Best Practices" based on information gathered from many sources both within TxDOT and from agencies outside the department. Using the information collected, researchers developed a training course for TxDOT personnel who deal with wildfire situations. A pilot course was presented to the Project Monitoring Committee, and based on feedback from that pilot course, six training modules were developed to present as training for TxDOT supervisors, assistants, and district safety coordinators. A significant and repeated finding is that TxDOT employees are not expected to fight fires directly and have no such responsibilities. Emphasis on employee safety is paramount.			
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CHAPTER ONE

INTRODUCTION AND PROJECT SUMMARY

Summary of Interim Report

Texas saw a record-setting number of wildfires in 2010 and 2011. The maps shown in Figure 1 compare locations where fire ignitions were detected in 2010 and 2011.

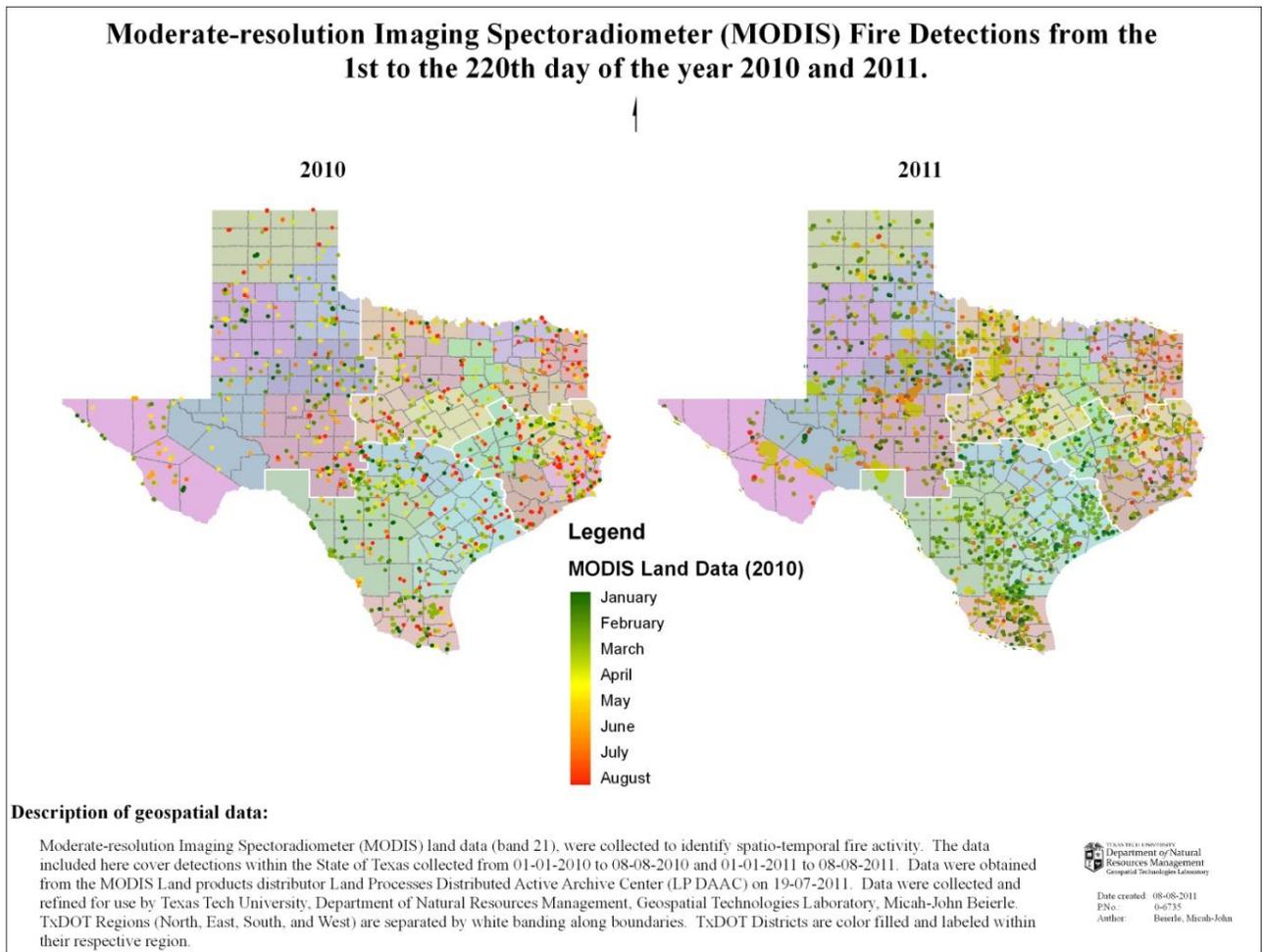


Figure 1. Fire Detections for First to 220th Day of 2010 and 2011

Personnel from the Texas Department of Transportation (TxDOT) are often called upon to provide support in responding to wildfires. In a typical year, the requests for TxDOT support are relatively few. However, the number of requests has increased dramatically over the past few years. TxDOT developed a draft Guidance Document for Wildfire Response, but personnel are frequently asked to perform services not specifically addressed in that document. TxDOT decided to take advantage of the recent increase in wildfire response experiences to document the lessons learned from wildfire events and study the role of TxDOT in the mitigation, containment, and response to wildfires. The objective of this research project was to develop a protocol to help TxDOT effectively respond to wildfire situations that may occur in the state, and to present the protocol in the form of “Best Practices” based on information gathered from many sources both within TxDOT and from agencies outside the department. Using the information collected, researchers developed a training course for TxDOT personnel who deal with wildfire situations and will conduct four regional training workshops.

To accomplish the research objectives, the research team reviewed literature pertinent to wildfire response. Researchers reviewed a number of manuals and documents pertaining to the emergency operations associated with wildfire response in Texas. Literature review included the following:

The Texas Administrative Code (The State of Texas, 2011), which stipulates the responsibilities and the authority of state and local government agencies to effectively respond to emergency situations.

Chapter 418 (Emergency Management) of the Texas Government Code (The State of Texas 2011), which requires that emergency management in the state be conducted according to an organized government structure.

Chapter 421 (Homeland Security) of the Texas Government Code, which requires that the Governor shall direct homeland security in the state and develop a statewide homeland security strategy.

Researchers also met and met with and interviewed TxDOT personnel from several districts to gather information on their experience with wildfire response, as well as with personnel from

TxDOT Maintenance Division Emergency Management Coordinator's Office and outside agencies including the Texas Forest Service (TFS), Texas Department of Public Safety (DPS), the National Weather Service (NWS), Texas Parks and Wildlife Department and local government agencies. The interim report, 0-6735-1, presented information collected during Task 1 of the research.

Changes in Project

Scheduling the four regional workshops encountered difficulties because of training facilities availability and conflicts in personnel schedules. Other TxDOT personnel were added to the research management team and after reviewing the research findings determined the regional workshops should be enhanced to become a recognized training course for TxDOT employees. The Project Manager suggested the training follow a format similar to the one used for the implementation project 5-9044, "Winter Weather Management and Operations Curriculum Development and Instruction." Accordingly, the research team modified the five sections developed for the Pilot Workshop into six training modules included in the appendices and with the following titles:

- Module 1. Introduction
- Module 2. Organization and Communication
- Module 3. Resources and Equipment
- Module 4. Safety
- Module 5. Documentation and Data Collection
- Module 6. Training Programs

CHAPTER TWO

DISCUSSION OF PILOT WORKSHOP

The original intent of the research project was to collect information related to handling wildfires in Texas by reviewing literature relevant to TxDOT and other organization involvement, interviewing those organizations including personnel from ten TxDOT districts, and presenting four regional workshops on findings from the research project. Once presentation materials were developed for the workshops, a pilot workshop was presented to the Project Monitoring Committee (PMC) for their review and approval. The research team presented the workshop materials in the following sections:

- Section 1. Overview of Research Project
- Section 2. What We Learned
- Section 3. Emergency Management in Texas Tech University
- Section 4. Resources for Emergency Response
- Section 5. Best Practices.

Presentation slides were printed and given to the 30 attendees along with a variety of handout materials. Comments and suggestions from the PMC were recorded from discussions during the presentations as well as written comments collected at the conclusion of the Pilot Workshop. The PowerPoint Slides used in the pilot workshop, along with the handouts are presented in Appendix A of this report.

CHAPTER THREE

TRAINING WORKSHOP MODULES

Scheduling the four regional workshops encountered difficulties because of training facilities' availability and conflicts in personnel schedules. Other TxDOT personnel were added to the research management team and after reviewing the research findings determined the regional workshops should be enhanced to become a recognized training course for TxDOT employees. The Project Manager suggested the training format follow a format similar to the one used for the implementation project 5-9044, "Winter Weather Management and Operations Curriculum Development and Instruction." Accordingly, the research team modified the five sections developed for the Pilot Workshop into six training modules included in the appendices and with the following titles:

Module 1. Introduction

Module 2. Organization and Communication

Module 3. Resources and Equipment

Module 4. Safety

Module 5. Documentation and Data Collection

Module 6. Training Programs

These modules are designed to allow TxDOT Maintenance Supervisors and crews responding to wildland fire events to accomplish six objectives.

1. Identify the role of TxDOT in wildland fire response.
2. Plan for command and control of wildland fire incidents.
3. Organize the resources and equipment necessary for a proper response from TxDOT.
4. Plan to ensure safety of TxDOT personnel.
5. Explain the procedure for proper documentation and data collection.
6. List relevant training programs.

The training modules are designed in such a way as to help TxDOT crews responding to wildland fires to accomplish these goals. Each of the training modules consists of various pieces of information. These include normal informative slides, in-class exercises to improve learning

(Green Sheets), video clips, reference materials, and summaries. Each training module is followed by learning assessment exercises (Pink Sheets) used to ensure that the necessary information has been conveyed properly. Course instructors will issue these assessments and grade them accordingly.

This chapter provides a brief overview of each of the six training modules, listing relevant topics, learning objectives, reference materials, Green Sheets, and Pink Sheets.

Module 1. Introduction

This module covers the following topics:

- Course overview
- Course organization
- Lessons learned from district interviews

The learning objectives for this module are:

1. Explain TxDOT's role in wildland fire response.
2. List best practices in handling wildland fires.

The reference materials for this module include:

1. A video from John A. Barton, P.E.

The Green Sheets for this module ask students to do the following:

1. Think about and jot down at least three safety considerations specific to TxDOT wildland fire management operations (individual assignment).
2. Meet with the people around you (3 to 4 persons) and discuss your ideas.

The summary topics for this course are:

- TxDOT's primary goal is the safety of its employees.
- Maintaining communication and a chain of command during a wildland fire incident is critical.
- TxDOT employees must understand their role during wildland fire response.

The Pink Sheet for this module is shown on the following page.

Class Exercise – Review Questions
Module 1 – INTRODUCTION

TxDOT Wildland Fire Management Training

1. The primary reason TxDOT Administration has sponsored this wildland fire resource management training is:
 - A. To avoid criticism regarding TxDOT's current wildland fire response practices.
 - B. To improve TxDOT's ability to protect life and property during a wildland fire.
 - C. Because wildland fire training is now required by legislative mandate.
 - D. To improve its reputation amongst citizens of Texas.

2. Which of the following safety topics apply to wildland fire response?
 - A. Personal protective equipment
 - B. Heavy equipment operation
 - C. Employee safety issues
 - D. All of the above

3. When should TxDOT employees respond to a wildland fire event?
 - A. As soon as the employee learns of the event
 - B. When contacted for help by a local fire department
 - C. If the fire threatens the property of a TxDOT employee
 - D. When notified to do so by the Chair of the DPS

4. Who should use TxDOT resources at a wildland fire event?
 - A. Authorized firefighting personnel
 - B. Local law enforcement
 - C. TxDOT personnel
 - D. All of the above

Module 2. Organization and Communication

This module covers the following topics:

- Texas State Emergency Management structure
- Texas Emergency Assistance Channels
- Texas Division of Emergency Management Regional Coordinators
- Texas A&M Forest Service resources
- Other agencies involved in wildfire response

The learning objectives for this module are:

1. Know what resources the state uses in responding to wildland fire incidents.
2. Understand what role TxDOT plays in the response to wildland fire incidents.
3. List what agencies TxDOT may interact with during a wildland fire response.
4. Locate important state resources on a map.

The reference materials for this module include:

- A video detailing material storage and handling

The Green Sheets for this module ask students to do the following:

- List what other agencies are likely to interact with TxDOT personnel when responding to a wildland fire.
- Jot down ideas for discussion.

The summary topics for this course are:

1. Texas responds to wildland fires with various state resources.
2. TxDOT is not a primary response unit, but rather responds to wildland fire incidents as part of a tiered system.
3. There are a number of other agencies with whom TxDOT may interact during a wildland fire incident.

The Pink Sheet for this module is shown on the following page.

Class Exercise – Review Questions
Module 2 – Organization and Communication

TxDOT Wildland Fire Management Training

1. Which of the following agencies are involved in statewide emergency management?
 - A. The Governor’s Office of Homeland Security
 - B. State Emergency Management Council
 - C. Texas A&M University Forest Service
 - D. All of the above

2. Within what framework does TxDOT have to work when directed by the DDC to serve in emergency incidents?
 - A. Safety Operations
 - B. Emergency Event Management
 - C. National Incident Management System (NIMS)
 - D. Emergency Response Procedure

3. Which of the following agencies is the state appointed fire and emergency response agency?
 - A. Texas Department of Emergency Management (TDEM)
 - B. Texas Intrastate Fire Mutual Aid System (TIFMAS)
 - C. Texas Incident Coordination Center (TICC)
 - D. Texas A&M Forest Service
 - E. None of the above

4. Which is the most trained and experienced Incident Management Team (IMT) type?
 - A. Type I
 - B. Type V
 - C. Type IV
 - D. Type 0

Module 3. Resources and Equipment

This module covers the following topics:

- Situation awareness
- Information resources
- Heavy equipment

The learning objectives for this module are:

1. List sources of information for wildland fire response.
2. Know heavy equipment available for wildland fire response.

The reference materials for this module include:

- “Dozer Boss” instructions.
- Information relating to types of bladed heavy equipment.

The Green Sheets for this module ask students to do the following:

- Answer the question, “Do TxDOT crews use appropriate hand signs?”
- Answer the question, “How can a TxDOT crew responding to a wildland fire improve communication using heavy equipment?”

The summary topics for this course are:

1. TxDOT employees engaged in responding to wildland fire incidents should be aware of information regarding weather, safety hazards, etc.
2. Heavy equipment operators should follow standard protocols for vehicle operation during wildland fire response.

The Pink Sheet for this module is shown on the following page.

Class Exercise – Review Questions
Module 3 – Resources and Equipment

TxDOT Wildland Fire Management Training

1. Which of these is not a good source of information for wildland fire response?
 - A. FEMA
 - B. Farmer's Almanac
 - C. TICC
 - D. NOAA

2. What information can you gather from the NWS website that may be applicable to wildland fire response?
 - A. Fire weather
 - B. Thunderstorm information
 - C. Daily weather maps
 - D. All of the above

3. Which of these maps can you acquire from the TICC website?
 - A. Fuel types
 - B. Traffic patterns
 - C. Soil types
 - D. Military bases

4. What sort of resources can you find on the Texas A&M Forest Service website?
 - A. Organizational services
 - B. Communication services
 - C. Predictive services
 - D. None of the above

Module 4. Safety

This module covers the following topics:

- Personal protective equipment(PPE)
- Communications
- Training
- Situational safety
- Additional safety concerns

The learning objectives for this module are:

1. Know what PPE you need when responding to a wildland fire situation.
2. Know the new regulations regarding communication at a wildland fire situation.
3. Identify limitations to radio communications at a wildland fire site.
4. Understand various situation risks involved in wildland fire response.

The reference materials for this module include:

- Brochures of PPE.
- The Texas Statewide Interoperability Channel Plan (accessed at <http://tsiec.region49.org/>)
- “6 Minutes for Safety” Lessons Learned

The Green Sheets for this module ask students to do the following:

- Answer the question, "Why is it important to wear the proper PPE?"
- Answer the question, "Why do we sometimes fail to have or wear proper PPE?"
- Answer the question, “How will the changes to radio operation protocols affect communications at a wildland fire event?”
- Answer the question, “What situational hazards have I encountered in the field?”
- Answer the question, “Did I respond properly?”

The summary topics for this module are:

1. TxDOT employees should have appropriate clothing, PPE, and equipment when responding to a wildland fire.
2. TxDOT employees may encounter numerous situational safety hazards when responding to wildfires and should know how to address these hazards.

The Pink Sheet for this module is shown on the following page.

Class Exercise – Review Questions
Module 4 – Safety

TxDOT Wildland Fire Management Training

1. Which of these pieces of Personal Protective Equipment should you have when responding to a wildland fire?
 - A. Eye protection
 - B. Heavy gloves
 - C. Tall boots
 - D. All of the above
2. How many Narrowband interoperable radio channels does the Texas Statewide Interoperability Channel Plan (Change No. 14) require?
 - A. 21
 - B. 20
 - C. 24
 - D. 18
3. Which of these factors affect radio communications?
 - A. Bird migration patterns
 - B. Diesel engines
 - C. Antenna polarization
 - D. None of the above
4. What temperatures can be expected within a vehicle entrapped by a fire?
 - A. Below 100 degrees
 - B. Between 100 and 150 degrees
 - C. Between 150 and 200 degrees
 - D. Over 200 degrees

Module 5. Documentation and Data Collection

This module covers the following topics:

- Current TxDOT methods of data collection
- TxDOT Crossroads MNT website
- TxDOT EOC website
- Other methods of data collection

The learning objectives for this module are:

1. Know how to fill out a Daily Activity Report (DAR) to collect data from a wildland fire situation.
2. Understand how to use the TxDOT MNT website.
3. Understand how to use the TxDOT EOC website.
4. List other data collection resources available.
5. Know how to fill out a DAR for a wildland fire response event.

The reference materials for this module include:

- 6 Minutes for Safety Lessons

The Green Sheets for this module ask students to do the following:

- Answer the question, “Do we currently debrief after incidents?”
- Answer the question, “Why or why not?”

The summary topics for this course are:

1. TxDOT has protocol and software for data collection.
2. There are several other resources available for collecting, discussing, and disseminating data and information related to wildland fire incidents.

The Pink Sheet for this module is shown on the following page.

Class Exercise – Review Questions
Module 5 – Documentation and Data Collection

TxDOT Wildland Fire Management Training

1. Which of these methods are currently used by TxDOT districts for data collection for wildland fire events?
 - A. Emails and Sharepoint
 - B. Phone calls
 - C. Pay stubs
 - D. All of the above

2. What is the name of the TxDOT Intranet web platform for data collection
 - A. Crossroads
 - B. Crosspoint
 - C. Dropbox
 - D. Outlook

3. How are wildfires listed on the TxDOT EOC website?
 - A. By county
 - B. By district
 - C. By name
 - D. By task number

4. Which website allows you to report unsafe activities at a wildland fire?
 - A. Safesource
 - B. Safenet
 - C. Crossroads
 - D. Dropbox

Module 6. Training Programs

This module covers the following topics:

- Getting training for wildland fire response

The learning objectives for this module are:

1. Understand what training courses are available to improve your abilities to respond to wildland fires.
2. Know how to find and register for these training courses.

The reference materials for this module include:

- ICS Management Characteristics Documents

The Green Sheets for this module ask students to do the following:

- Answer the question, “What additional training would be beneficial for TxDOT personnel responding to a wildland fire?”

The summary topics for this course are:

1. Numerous training courses are available to better equip you in responding to wildland fires.

The Pink Sheet for this module is shown on the following page.

Class Exercise – Review Questions
Module 6 – Training Programs

TxDOT Wildland Fire Management Training

1. Which of these are common terminologies established by ICS?
 - A. Organization Functions
 - B. Resource Descriptions
 - C. Incident Facilities
 - D. All of the above

2. Which of the following is not a method of managing by objectives?
 - A. Developing strategies based on overarching incident objectives.
 - B. Documenting results to measure performance and facilitate corrective actions.
 - C. Issuing assignments and strategies when an incident is in progress.
 - D. Establishing overarching incident objectives.

3. A Manageable Span of Control is _____ to effective and efficient incident _____.
 - A. Key/ management
 - B. Critical/ strategy
 - C. Key/ response
 - D. Crucial/ implementation
 - E.

4. What does chain of command refer to?
 - A. The individuals subordinate to an incident commander
 - B. The orderly line of authority within the ranks of the incident management organization.
 - C. The complicated branches of authority within the ranks of the incident management organization.
 - D. None of the above.

CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Researchers documented lessons learned by the Texas Department of Transportation (TxDOT) during the record-setting wildland fires of 2011. Although TxDOT has no responsibilities in providing direct firefighting support during a wildland fire event, the agency serves a critical role in the Texas State Emergency Management system by providing various levels of support during the event as designated local resources are exhausted. Researchers contacted and interviewed personnel from twelve TxDOT Districts, the TxDOT Maintenance Division, the Texas A&M Forest Service, the Department of Public Safety, and the National Weather Service to identify both common and unique support provided by TxDOT during wildland fire events. In addition to traffic control devices, TxDOT is commonly called upon to provide equipment and operators for dozers, maintainers, fuel trailers, water trailers and various other vehicles. Rarely is TxDOT involved in mop-up activities. Provisions typically requested include vehicle fuel and water. A significant and repeated finding is that TxDOT employees are not expected to fight fires directly and have no such responsibilities. Emphasis on employee safety is paramount.

Recommended Best Practices

Based upon findings from the study and guidance from the Project Director and Project Management Committee, the following recommendations are submitted. The recommendations have been grouped into appropriate categories.

A. General Recommendations

- a. TxDOT's role should be clearly defined and provided to TxDOT employees through routine training.
- b. TxDOT personnel should meet and become acquainted with emergency response personnel from outside agencies to enhance communication during emergencies.

- c. Employees should ensure proper documentation for information associated with wildfire events by following appropriate procedures to complete daily activity reports (DARs) for activity and cost tracking
 - d. TxDOT should ensure that all personnel and equipment have the most appropriate communication equipment which is consistent with the Texas Statewide Interoperability Channel Plan.
 - e. TxDOT must keep updated county topographic, utility, pipeline, and road maps.
- B. Notification/Request for District Assistance during a Wildland Fire Event
- a. Emphasis must be made that the Director of Maintenance (DOM) or the Director of Operations (DOO) is the point of contact (POC) for District wildland fire response activities.
 - b. Procedure for notifying Districts of Governor's and Presidential Proclamations should be formalized.
- C. Communication and Documentation Related to a Wildland Fire Event within TxDOT
- a. TxDOT personnel must be prepared to use Compass MMS to:
 - i. Record data on TxDOT resource utilization during wildland fire response, and
 - ii. Generate reports for reimbursement requests
 - b. Advanced briefing and de-briefing practices must be established
- D. Communication with Outside Agencies
- a. Lines of communication with outside agencies must be clarified
 - b. Emphasis must be made that the Director of Maintenance (DOM) is the point of contact (POC) for District wildland fire response activities.
- E. TxDOT Resource Utilization during Wildland Fire Events
- a. Clear guidelines must be established regarding provision and record-keeping of fuel to vehicles involved in wildland fire response
 - b. Employees must refer to Emergency Fueling Guidelines published by MNT
 - c. Employees must refer to HR Manual §2 Ch. 10 for policy on leave for volunteer firefighters
 - d. Emphasize needs to be placed on effective collection, recording and reporting of information to enable timely filing for reimbursement

F. TxDOT Responsibilities to Ensure Employee and Public Safety

- a. TxDOT employees are not firefighters and should stay out of harm's way
- b. Supervisor should monitor local weather conditions during a wildland fire event to alert employees
- c. Employees must have access to standard fire-protection equipment (Nomex suits, etc.)

G. Advanced Preparation, Readiness, and Training

- a. Equipment must be kept pre-loaded, positioned, and ready for deployment whenever possible
- b. Weather reports and TFS notifications must be monitored

H. Existing Resources/ Guidance from TxDOT and Other Agencies

- a. Guidance document must be updated
- b. Employees should take advantage of training opportunities from TAMFS and other agencies
- c. One emergency response manual, including a section for wildland fire response, is needed for consolidation of instruction and guidelines currently available within TxDOT.
- d. A standard practice checklist for DOM and MS should be developed

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- USDI-NPS (U.S. Department of Interior-National Park Service, (2008). *Reference Manual 18*. Boise (ID): US Department of the Interior.



What We Learned



TxDOT Interviews

- Districts (10)
 - Abilene
 - Amarillo
 - Austin
 - Beaumont
 - Childress
 - El Paso
 - Fort Worth
 - Lubbock
 - Odessa
 - San Angelo
 - Corpus Christi & Pharr (phone interviews)
- Maintenance Division



Other State Agencies Interviewed

- Department of Public Safety
 - Division of Emergency Management
- Texas Forest Service
 - Asst. Fire Chief, West
 - RFC, Lubbock
 - RFC, Wichita Falls
- Texas Parks & Wildlife



Local Agencies Interviewed

- Bastrop County
- Garza County & City of Post Emergency Management Coordinator
- King County
- Lubbock City Fire Department
- Potter & Randall County Emergency Management



National Weather Service Lubbock Office



- Science & Operations Officer
- Senior Forecaster



TxDOT Interview Questionnaire

- Advanced preparation
- Notification/Request for services to a TxDOT District
- Communication related to an event within TxDOT
- Communication with outside agencies
- TxDOT responsibilities to ensure employee/public safety
- Resource utilization by TxDOT during wildfire events
- Information from recent wildfires
- Effectiveness of current training
- Comments on existing resources/guidance



Advance Preparation Common Responses

- Do not respond until notified by DPS
- Director of Maintenance (DOM)/ Director of Operations (DOO) receives official notice
- DOM/ DOO contacts Maintenance Supervisor



Notification/Request for TxDOT Services Common Responses

- TxDOT does not engage off the ROW until officially directed by DDC.
- Director of Maintenance (DOM) is the official Point of Contact (POC) for the District.
- Equipment typically requested: dozers, motor- graders, fuel trailers, water trailers, and sign trailers.
- Districts typically have 1-6 requests for assistance annually. One District responded to 50 fires in 2011.
- Governor's Emergency Disaster Proclamations reach Districts through Maintenance Division and the media.



Communication Related to an Event Within TxDOT Common Responses

- DDC directs DOM to respond to an event, and the DOM then notifies the Maintenance Supervisor(s).
- Involvement of other TxDOT offices varies by district.
- DOM authorizes resource utilization requests.
- Many districts use Daily Activity Reports (DARs) and Microsoft SharePoint to collect data on events.
- Coordination between Districts handled DOM to DOM.
- TxDOT public notification duties include traffic control and updating Highway Condition Report (HCR).
- Advanced briefing/debriefing differ between Districts.



Communication with Outside Agencies Common Responses

- TxDOT has no formal responsibility for public notification of wildfire events.
- Districts typically coordinate with DDC, DPS, TFS, local governments, TCEQ, and utility companies during a wildfire event.
- Interaction with other agencies outside of a wildfire event is key to effective response during an event.
- There is no standard statewide protocol for interacting with outside agencies during a wildfire event.



TxDOT Resource Utilization during Events Common Responses

- Equipment typically used by TxDOT during an event includes: dozers, motor- graders, fuel trailers, water trailers, sign trailers, and traffic control devices.
- Only TxDOT personnel use TxDOT resources.
- The number of TxDOT personnel deployed during a wildfire event varies significantly by District and event size, although teams are typically small.
- The number of volunteer firefighters employed by a TxDOT District varies greatly.



TxDOT Resource Utilization during Events Common Responses

- Volunteer firefighters who are TxDOT employees may be approved for personal leave during an event.
- The amount of TxDOT fuel given to outside agencies varies by District and fire size.
- In addition to fuel, water is the resource most commonly distributed during an event.
- Districts have various individuals assigned by the DOM responsible for filing for reimbursement. Few districts have filed for and/or received reimbursement.



TxDOT Responsibilities to Employee/Public Safety Common Responses

- TxDOT employees are not firefighters and should stay out of harm's way.
- Districts do not use fire safety equipment/ Personal Protective Equipment.
- TxDOT works with the DPS to ensure public safety by deploying traffic control.
- Detailed local maps are a beneficial resource if spotters are not available.



Advanced Preparation, Readiness & Training Common Responses

- Districts try to keep equipment pre-loaded and ready to deploy whenever possible.
- Districts often watch weather reports and try to stay aware of TFS notifications.
- Districts typically have no formal staging protocols.



Existing Resources/Guidance for Wildfire Response Common Responses

- Districts identified the need for detailed statewide guidance for wildfire response.
- TxDOT Maintenance Operations Manual should also be updated.
- TxDOT requires FEMA IS training. Additional training resources are available through TFS.

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



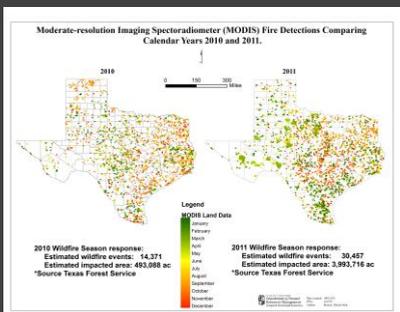
Wildfires in Texas and the TxDOT Role

Gilbert Jordan,
Representing the Director of Maintenance Division

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Best Practices for TxDOT on Handling Wildfires



2010 and 2011 Wildfire Events in Texas



2010 Wildfire Season response:
Estimated wildfire events: 14,371
Estimated impacted area: 493,088 ac
*Source Texas Forest Service

2011 Wildfire Season response:
Estimated wildfire events: 29,547
Estimated impacted area: 3,993,716 ac
*Source Texas Forest Service

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Best Practices for TxDOT on Handling Wildfires



Historic 2011 Texas Wildfire Season

- In 2011, the proportion of total national acres that burned in Texas: 47.6%.
- Ten-year U.S. national average acres burned: 6,872,228.

	2010	2011
Wildfire events	14,371	29,540
Impacted Acreage	493,088	3,978,201

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Best Practices for TxDOT on Handling Wildfires



Historic 2011 Texas Wildfire Season

- 6 of 10 largest wildfires in Texas history occurred in 2011

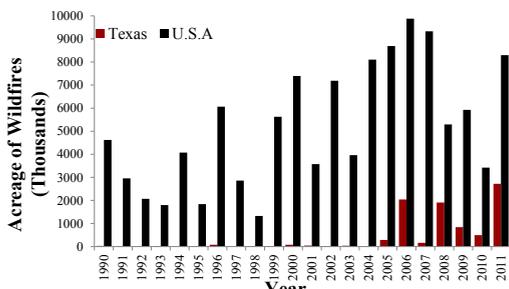
Name of Fire	Acres Burned
Cooper Mountain Ranch	162,625
Deaton Cole	175,000
Rock House	314,444
Southeast Texas Complex	104,818
Swenson	126,593
Wildcat	159,308

- Major Wildland Urban Interface Fires
 - Bastrop County Complex, PK Complex, Tanglewood

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Best Practices for TxDOT on Handling Wildfires



Annual Number of Acres Nationally



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Best Practices for TxDOT on Handling Wildfires



2011 Texas Wildfire Statistics

Category	Statistic
Number of wildfires	30,547
Fatalities	10
Acreage	3,993,716
Homes Saved	39,413
Homes Lost	3,947
Other Structures Saved	13,027
Other Structures Lost	2,792

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



Research Background

- Recent years have been record-setting for wildfires in Texas
- TxDOT has responded to many critical situations
- The purpose of this project was to document lessons learned during the recent wildfire events
- Best practices were identified
- Best practices presented in the form of
 - Regional training workshops
 - TxDOT Wildfire Response Handbook (to be published)

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



The purpose of this ongoing project is to document lessons learned during the recent wildfire events



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



TxDOT Project Director

- Darwin Lankford (CHS)

Project Monitoring Committee (PMC)

- Brian Crawford (ABL)
- Ron Gilbert (CHS)
- Gilbert Jordan (MNT)
- Ted Moore (LBB)
- Michele Regis (OCC)
- Richard Schiller (FTW)
- Mike Taylor (AMA)

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



Research Tasks

1. Collect Information Related to Handling Wildfires in Texas
2. Complete Interim Report
3. Prepare Training Materials
4. Deliver Regional Training Workshops
5. Publish Draft TxDOT Wildfire Response Handbook
6. Deliver Additional Training (Materials) and Reports as Needed

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



TechMRT Research Team

- Phillip T. Nash, Research Supervisor
- Sanjaya Senadheera, Researcher
- Micah John Beierle, Researcher (TTU Natural Resource Management)
- Wesley Kumfer, Doctoral Student
- Danna Wilson, Graduate Student

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



Section	Topic	Time
1	Introduction	9:30-9:45
2	Emergency Management in Texas	10:05-10:25
	Break	10:25-10:35
3	What We Learned	10:35-11:05
4	Resources for Emergency Response	11:10-11:45
	Lunch (on your own)	11:45-1:15pm
5	Recommended Best Practices	1:15-2:45pm
	Break	2:45-3:00pm
	Panel Discussion	3:00-3:45pm
6	Workshop Wrap-up/Assessment	3:45-4:00pm



Texas State Emergency Management (EM)

- Covered in Ch. 418 (Emergency Management) and Ch. 421 (Homeland Security) of Texas Govt. Code

Agencies Involved in Statewide EM

- The Governor’s Office of Homeland Security
- State Emergency Management Council (SEMC)
- Div. of Emergency Management (TDEM), Texas DPS
- Texas Forest Service (TFS)



Primary Federal/State Emergency Functional Responsibilities

FEDERAL ESP #	FUNCTION	PRIMARY FEDERAL AGENCY	PRIMARY STATE AGENCY
1	TRANSPORTATION	Department of Transportation	Department of Criminal Justice
2	COMMUNICATIONS	Office of Science & Technology Policy	Department of Information Resources
3	PUBLIC WORKS AND ENGINEERING	U.S. Army Corps of Engineers	Department of Transportation
4	FIREFIGHTING	Department of Agriculture	Texas Forest Service
5	INFORMATION & PLANNING	Federal Emergency Management Agency	Governor's Office of Emergency Management
6	MASS CARE	American Red Cross	The Salvation Army
7	RESOURCE SUPPORT	General Services Administration	Texas Building and Procurement Commission
8	HEALTH & MEDICAL SERVICES	Department of Health and Human Services	Department of Health
9	URBAN SEARCH AND RESCUE	Federal Emergency Management Agency	Texas Engineering Extension Service
10	HAZARDOUS MATERIALS	Environmental Protection Agency	Texas Commission on Environmental Quality
11	FOOD	Department of Agriculture	Department of Human Services
12	ENERGY	Department of Energy	Public Utility Commission



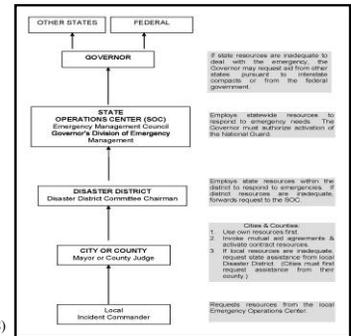
Texas State Emergency Management

- Texas uses a “tiered” approach to wildfire response and suppression.
- Local fire departments and counties are the first responders.
- State response activated as wildfires or conditions exceed the local ability to control.
- If State resources are deemed insufficient, out-of-state agencies are called upon.



Texas Emergency Assistance Channels

(TDEM 2008)



The Governor’s Office of Homeland Security

The Director of the Governor’s Office of Homeland Security serves as the

- Director of the Governor's Division of Emergency Management (GDEM), and as
- Chair of the State Emergency Management Council (SEMC)

The SEMC has been authorized to issue directives that are necessary to effectively follow the Texas Disaster Act (Ch. 418, Govt. Code)



State Emergency Management Council (SEMC)

- | | |
|--|---|
| Adjutant General’s Department (AGD) | Texas Commission on Environmental Quality (TCEQ) |
| American Red Cross (ARC) | Texas Commission on Fire Protection (TCFP) |
| Department of Information Resources (DIR) | Department of Aging & Disability Services (DADS) |
| General Land Office (GLO) | Department of Agriculture (TDA) |
| Governor’s Division of Emergency Management (GDEM) | Department of Assisted & Rehabilitative Services (DARS) |
| Office of Rural Community Affairs (ORCA) | Department of Criminal Justice (TDCJ) |
| Public Utility Commission of Texas (PUC) | Department of Housing & Community Affairs (TDHCA) |
| Railroad Commission of Texas (RRC) | Department of Insurance (TDI) |
| Salvation Army (TSA) | Department of Protective & Family Services (DPFS) |
| State Auditor’s Office (SAO) | Department of Public Safety (DPS) |
| State Comptroller of Public Accounts (CPA) | Department of State Health Services (DSHS) |
| State Animal Health Commission (TAHC) | Department of Transportation (TxDOT) |
| Texas Attorney General’s Office (OAG) | Texas Education Agency (TEA) |
| Texas Building & Procurement Commission (BPC) | Texas Engineering Extension Service (TEEX) |

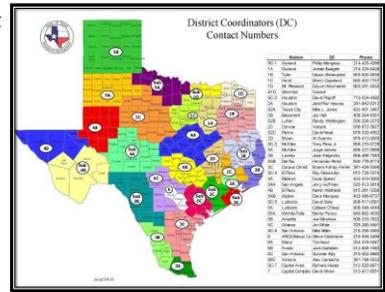
**TX Division of Emergency Management (TDEM)
Regional Coordinators**

- TDEM shall prepare and maintain a state emergency management plan.



<http://www.txdps.state.tx.us/dem/FieldResponse/ReqStateCoordMap.pdf>

TDEM District Coordinators



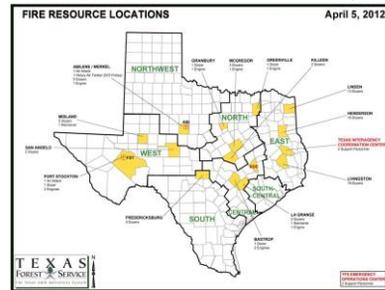
<http://www.txdps.state.tx.us/dem/FieldResponse/DistCoordMap>

**Texas Forest Service (TFS)
Regional Fire Coordinators**



http://tcc.tamu.edu/Documents/Home/RFC_Map_with_Title.pdf

TFS Texas Fire Resource Availability Map



<http://tfsfrp.tamu.edu/wildfires/resources.png>

Five Types of Emergency Incidents

These are rated by complexity.

- Type V incident
- Type IV incident
- Type III incident
- Type II incident
- Type I incident

Increase in intensity



TFS developing teams to handle different types of incidents. Currently there are multiple Type III & one Type II Team

**Agencies Responsible for Coordinating
Wildfire Response in Texas**

- TDEM Disaster District Committees (DDCs)
- Texas Intrastate Fire Mutual Aid System (TIFMAS)
- National Wildfire Coordination Group (NWCG)
- Texas Forest Service (TFS)



2011 Resource Mobilization through TICC



http://ticc.tamu.edu/Documents/Home/TICC_2011_Resources.jpg



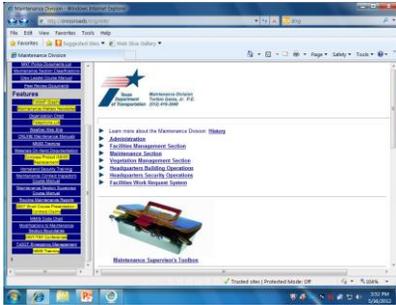
NIMS and TxDOT

When directed by DDC to serve in emergency incidents, TxDOT plays a critical role in public guidance during emergency incident occurrence and has to work within the NIMS framework.

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



TxDOT Crossroads MNT Website



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



TxDOT Crossroads MNT EM Portal



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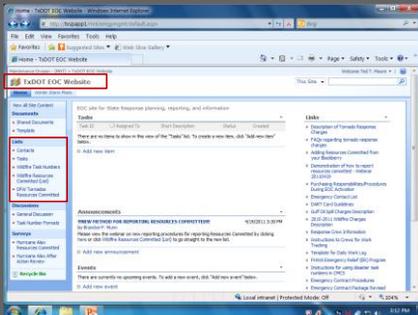
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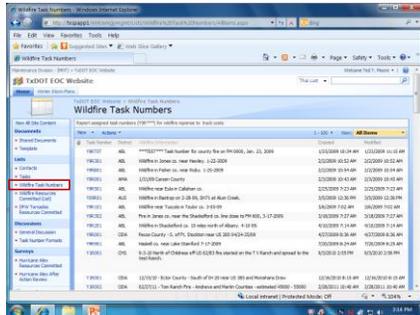
TxDOT EOC Website



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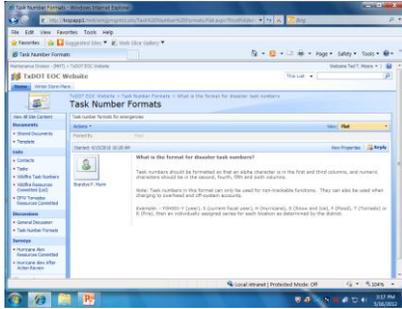
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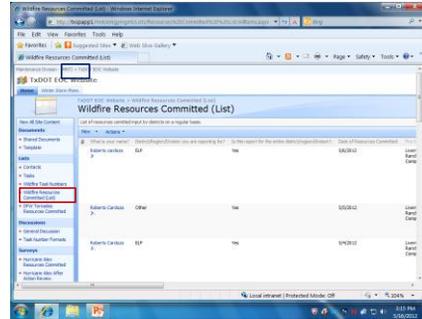
TxDOT EOC Website



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TxDOT EOC Website



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TxDOT EOC Website



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Best Practices for TxDOT on Handling Wildfires



TxDOT Wildfire Preparedness Mitigation Activities

	Resource Level 1	Resource Level 2	Resource Level 3	Level 4 (Specialized Resources)	Level 5 (Specialized Resources)
Resource Level 1	<p>General Conditions</p> <ul style="list-style-type: none"> Availability of resources Availability of resources Availability of resources Availability of resources 	<p>Resource Level 2</p> <ul style="list-style-type: none"> Availability of resources Availability of resources Availability of resources Availability of resources 	<p>Resource Level 3</p> <ul style="list-style-type: none"> Availability of resources Availability of resources Availability of resources Availability of resources 	<p>Level 4 (Specialized Resources)</p> <ul style="list-style-type: none"> Availability of resources Availability of resources Availability of resources Availability of resources 	<p>Level 5 (Specialized Resources)</p> <ul style="list-style-type: none"> Availability of resources Availability of resources Availability of resources Availability of resources
Resource or Type of Action					
<p>Have the Right People Available</p> <p>Have the right people available to respond to the incident.</p>	Yes	Yes	Yes	Yes	Yes
<p>Have the Right Equipment Available</p> <p>Have the right equipment available to respond to the incident.</p>	Yes	Yes	Yes	Yes	Yes
<p>Have the Right Training Available</p> <p>Have the right training available to respond to the incident.</p>	Yes	Yes	Yes	Yes	Yes
<p>Have the Right Communications Available</p> <p>Have the right communications available to respond to the incident.</p>	Yes	Yes	Yes	Yes	Yes
<p>Have the Right Logistics Available</p> <p>Have the right logistics available to respond to the incident.</p>	Yes	Yes	Yes	Yes	Yes
<p>Have the Right Safety Available</p> <p>Have the right safety available to respond to the incident.</p>	Yes	Yes	Yes	Yes	Yes

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Best Practices for TxDOT on Handling Wildfires



Safety First – No Exceptions

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www.iawfontine.org & www.wildfireworld.org

IAWF's FireNet

Facilitating communications within the global wildland fire community.

National Institute for Occupational Safety and Health Releases Report on a 2011 Wildland Firefighter Heat Related Fatality

Last summer in the USA, Texas wildfires took their toll on firefighters. While working in very hot environmental conditions, many IHC firefighters suffered mild-to-moderate heat-related illnesses. One firefighter, Calab Hamm from the Bonnesville IHC, died from hyperthermia and exertional heatstroke. A recently released report from the National Institute for Occupational Safety and Health (NIOSH) recommended several policy changes to address the issue of heat stress among wildland firefighters. The most important of which involves limiting fire suppression, if lives or structures are not in danger, during the hottest part of the day. This could take the form of 1) mandatory hourly work-rest cycles as recommended by the military and other occupational groups, or 2) divided shifts (morning/evening). These and other recommendations are included in the following NIOSH report <http://www.cdc.gov/niosh/fire/reports/fatc201117.html>

To view other NIOSH firefighter fatality reports, view <http://www.cdc.gov/niosh/fire/>

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Resources for Emergency Response

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Best Practices for TxDOT on Handling Wildfires



Resources for Emergency Response

- Information Resources
- Heavy Equipment
- Personal Protective Equipment (PPE)
- Communication Equipment
- Training Resources

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Best Practices for TxDOT on Handling Wildfires



Situation Awareness

- Information
- Objective(s)
- Previous Fire Behavior
- Communication
- Weather Forecast
- Who's in Charge
- Local Factors

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Best Practices for TxDOT on Handling Wildfires



Resources for Emergency Response - Information Resources -

- Training & Education, Experience, Each Other
- TxDOT
- FEMA
- TFS
- TICC
- NOAA/NWS

**Resources for Emergency Response
- Information Resources -**

<http://crossroads.org/mnt/>

- TxDOT



**Resources for Emergency Response
- Information Resources -**

<http://www.fema.gov/emergency/nims/IncidentCommandSystem.shtm>

- FEMA



**Resources for Emergency Response
- Information Resources -**

<http://texasforestservice.tamu.edu/main/default.aspx>

- TFS



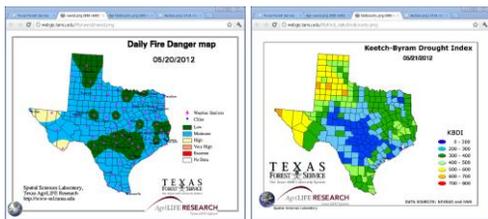
**Resources for Emergency Response
- Information Resources -**

- Mitigation
- Predictive Services
 - Fuel Reduction
 - Law Enforcement
 - Wildfire Preparedness
 - Protect your Home
 - Protect Your Community
 - Protect Your Wildlands
 - Prevent Wildfires
- Rapid Initial Response
- All Hazard Response
- Training
- Wildland Fires
- Local Capacity Building
- Planning & Preparedness
- Emergency Operations
- Texas Interagency Coordination Center
- TIFMAS

**Resources for Emergency Response
- Information Resources -**

<http://texasforestservice.tamu.edu/main/article.aspx?id=1991>

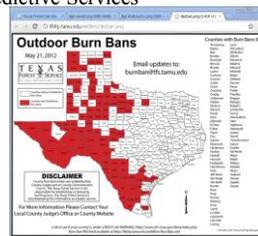
- TFS: Predictive Services



**Resources for Emergency Response
- Information Resources -**

<http://texasforestservice.tamu.edu/main/article.aspx?id=1991>

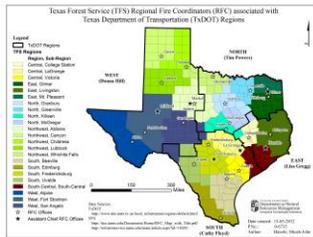
- TFS: Predictive Services



Resources for Emergency Response - Information Resources -

<http://texasforestservice.tamu.edu/main/article.aspx?id=1991>

- TFS



Resources for Emergency Response - Information Resources -

<http://ticc.tamu.edu/>

- TICC:



Resources for Emergency Response - Information Resources -

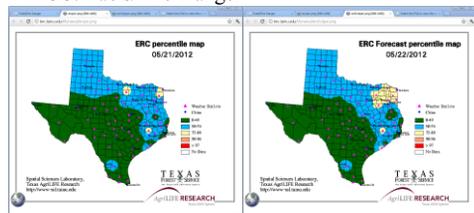
- TICC:



Resources for Emergency Response - Information Resources -

<http://ticc.tamu.edu/PredictiveServices/FuelsFireDanger.htm>

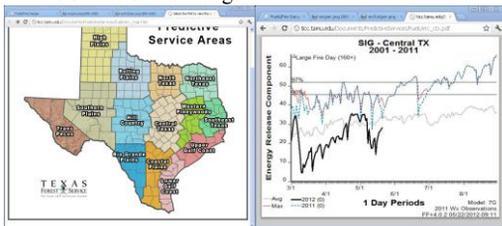
- TICC: Fuels/Fire Danger



Resources for Emergency Response - Information Resources -

<http://ticc.tamu.edu/PredictiveServices/FuelsFireDanger.htm>

- TICC: Fuels/Fire Danger



Resources for Emergency Response - Information Resources -

<http://ticc.tamu.edu/Response/FireActivity/>

- TICC: Incident Response



**Resources for Emergency Response
- Information Resources -**

<http://mesowest.utah.edu/cgi-bin/droman/mesomap.cgi?state=TX&rawflag=3>

- Meso-West



**Resources for Emergency Response
- Information Resources -**

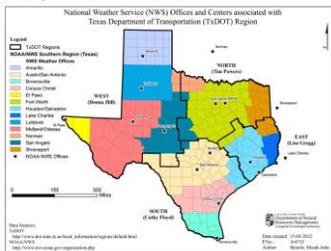
<http://radar.srh.noaa.gov/fire/>

- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Information Resources -**

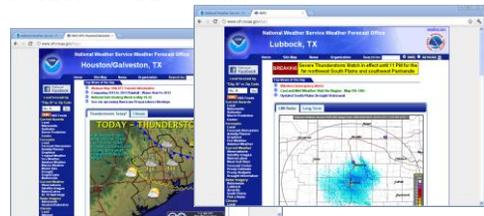
- NOAA/NWS



**Resources for Emergency Response
- Information Resources -**

<http://www.nws.noaa.gov/organization.php>

- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Information Resources -**

<http://www.srh.noaa.gov/fwd/firebrief3.php?loc=nort>

- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Information Resources -**

http://www.srh.noaa.gov/maf/?n=top_fire

- NOAA/NWS: Fire Weather



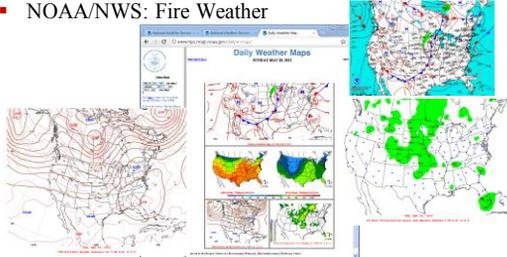


Resources for Emergency Response

- Information Resources -

<http://www.hpc.ncep.noaa.gov/dailywxmap/>

- NOAA/NWS: Fire Weather



Resources for Emergency Response

- Heavy Equipment -

- Dozer Boss DOZB
- Strike Team Leader Dozer STLD
- Strike Team Leader Tractor/Plow STPL

All now replaced by

- Heavy Equipment Boss HEQB



Resources for Emergency Response

- Heavy Equipment -



Resources for Emergency Response

- Heavy Equipment -

Guidelines for maximum percent slope

- 75% downhill maximum
- 55% uphill maximum
- 45% sidehill slope



Resources for Emergency Response

- Heavy Equipment -

Types of Blades

- Straight Blade – can be angled to push soil to either side of the dozer
- 'U' Blade – used for pioneering fireline and is often followed by a straight blade
- Brush Blade – best use is pioneering in brush, clearing and piling slash, mop-up work, and certain rehabilitation work
- V Blade – Best in swampy ground and is also good for pioneering through dense stands of small diameter fuels



Resources for Emergency Response

- Heavy Equipment -

There is much more on Heavy Equipment such as:

- safety zone and escape route considerations
- watershed considerations
- special considerations
- use, terminology, and maintenance

For more information contact your TFS Regional Fire Coordinator.



Resources for Emergency Response

- Personal Protective Equipment -

All firefighters shall be equipped with personal protective clothing defined by NWCG or Interagency Specific Standards [NWCG#008-2010]. This includes:

- fire resistant shirt and pants or coveralls,
- helmet,
- eye protection,
- heavy-duty leather gloves,
- 8" tall lace-up leather boots, and
- a fire shelter.

If firefighting involves time away from the apparatus then a backpack with personal equipment and at least 2 quarts of drinking water is recommended.



Resources for Emergency Response

- Personal Protective Equipment -

These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.

- fire resistant shirt and pants or coveralls,



Strikefore Nomex IIIA
\$ 106.25 - \$ 138.25



Nomex Brush Pants
\$ 167.00 - \$ 201.50



Topps Economy Nomex IIIA
\$ 233.50 - \$ 273.00



Resources for Emergency Response

- Personal Protective Equipment -

These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.

fire resistant shirt and

- helmet,
- eye protection,
- heavy-duty leather
- 8" tall lace-up leath
- a fire shelter.



Bullard "USRX Series" Helmet
\$ 176.50



Resources for Emergency Response

- Personal Protective Equipment -

These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.

fire resistant shirt and pants o

- helmet,
- eye protection,
- heavy-duty leather gloves,
- 8" tall lace-up leath
- a fire shelter.



Shark Hunter Range Safety Glasses - Bouton \$ 4.50 - \$ 5.75



Resources for Emergency Response

- Personal Protective Equipment -

These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.

fire resistant shirt and pants or coveralls,

- helmet,
- eye protection,
- heavy-duty leather gloves,
- 8" tall lace-up leather boots, and
- a fire shelter.



North Star 100% Leather Pull-Strap Driver Gloves \$ 19.50



Resources for Emergency Response

- Personal Protective Equipment -

These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.

fire resistant shirt and pants or cc

- helmet,
- eye protection,
- heavy-duty leather gloves,
- 8" tall lace-up leather boots, a
- a fire shelter.



Fire Flash Xtream Boot 10in Uppers
NFPA - Haix \$423.00



Resources for Emergency Response - Personal Protective Equipment -

These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.

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- heavy-duty leather gloves,
- 8" tall lace-up leather boots, and
- a fire shelter.



Resources for Emergency Response - Personal Protective Equipment -

These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.

- Hearing protection



Resources for Emergency Response - Personal Protective Equipment -

Information gathered from TxDOT Districts

- Few have fire shelters and those that do lack training in their use.
- Few have access to Nomex clothing during events.
- One district has initiated the use of cloth face covers during fire events to reduce particulate inhalation.



Resources for Emergency Response - Personal Protective Equipment -

Current Resources in Development by TxDOT

- Two emergency response trailers equipped with
 - Nomex Coveralls
 - Helmets/face shields
 - Fire Shelters

Resources for TxDOT Personnel to consider

- Change of clothes (all cotton)
- Glasses/Sun Glasses
- Gloves
- Boots



Resources for Emergency Response - Communications -

- Texas Statewide Interoperability Channel Plan
 ➔ <http://tsiec.region49.org/>
- Most vehicles have radios which comply with the TSICP.
- Note was made that in some areas with rough terrain communication is often broken.
- Blackberries



Resources for Emergency Response - Communications -

Texas Statewide Interoperability Channel Plan

<http://tsiec.region49.org/>

2012 changes

- Removed Digital P25 requirements
- Removed reference to P25 compliance by 2015
- Texas Law 1 TXCALL1D
- Texas Law 2 TXCALL2D

Resources for Emergency Response - Communications -

Texas Statewide Interoperability Channel Plan

- TxDPS recommended radio programming
http://www.txdps.state.tx.us/LawEnforcementSupport/communications/interop/documents/recomdProgInstr_PriorityChannels.pdf
- 21 VHF *Narrowband* (NB) interoperable channels
- 2 State of Texas VHF NB interoperability calling channels
- 8 VHF *wideband*

Resources for Emergency Response - Communications -

Texas Statewide Interoperability Channel Plan

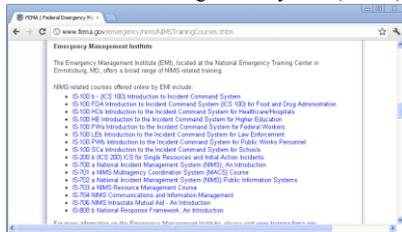
- These will VHF *narrowband* interop. frequencies will replace wideband interop. **Jan 1, 2013**

2	VTAC11	1	VCALL10	6	VFIRE21
3	VTAC12			7	VFIRE22
4	VTAC13	22	TXCALL10	8	VFIRE23
5	VTAC14	23	TXCALL2D	9	VFIRE24
16	VTAC33			10	VFIRE25
17	VTAC34	12	VMD28	11	VFIRE26
17	VTAC35	13	VMD29		
19	VTAC36				
20	VTAC37	14	VLAW31		
21	VTAC38	15	VLAW32		

Resources for Emergency Response - Training -

<http://www.fema.gov/emergency/nims/NIMSTrainingCourses.shtml>

- National Incident Management System (NIMS)



Resources for Emergency Response - Training -

<http://texasforestservice.tamu.edu/main/article.aspx?id=8528>

- TFS



Resources for Emergency Response - Training -

<http://ticc.tamu.edu/Training/TrainingMain.htm>

- TICC





Recommended Best Practices



General Recommendations

- TxDOT's role should be clearly defined
- Socialize with emergency response personnel from outside agencies to enhance communication during emergencies
- Maintain good communication channels within TxDOT
- Keep updated county topographic, utility, pipeline and road maps



Notification/Request for District Assistance during a Wildfire Event Recommendations

- Emphasize DOM as the focal point for District wildfire response activities.
- Formalize procedure for notifying Districts of Governor's and Presidential Proclamations.



Communication Related to a Wildfire Event within TxDOT Recommendations

- Prepare to use Compass MMS to
 - record data on TxDOT resource utilization during wildfire response, and
 - generate reports for reimbursement requests
- Establish advanced briefing and de-briefing practices.



Communication with Outside Agencies Recommendations

- Clarify lines of communication with outside agencies
- DOM is the District point-of-contact with outside agencies for wildfire response



TxDOT Resource Utilization during Wildfire Events Recommendations

- Establish clear guidelines on providing and record-keeping of fuel to vehicles involved in wildfire response
- Refer to Emergency Fueling Guidelines published by MNT
- Refer to HR manual § 2 Ch. 10. for policy on leave for volunteer firefighters.
- Emphasize effective collection and recording of information to enable timely filing for reimbursement



TxDOT Responsibilities to Ensure Employee and Public Safety Recommendations

- TxDOT employees are not firefighters and should stay out of harm's way.
- Supervisor should monitor weather conditions during a wildfire event to alert employees
- Have access to standard fire-protection equipment (Nomex suits, etc.)



Advanced Preparation, Readiness & Training Recommendations

- Keep equipment pre-loaded, positioned and ready for deployment whenever possible
- Monitor weather reports and TFS notifications



Existing Resources/Guidance from TxDOT and Other Agencies Recommendations

- Update guidance document
- Take advantage of other training opportunities available from TFS and other agencies
- One emergency response manual including a section on wildfire response is preferred
- Develop standard practice checklists for DOM and MS

Appendix B

Handouts for Pilot Workshop

**PROJECT 0-6735, BEST PRACTICES FOR TXDOT ON HANDLING WILDFIRES
REGIONAL TRAINING WORKSHOPS
DRAFT AGENDA**

Section	Topic	Time	Presenter	Names (Pilot)
1	Introduction	9:30-9:45		
	District Welcome	9:30-9:32	DE	Phil Nash (for DE)
	Wildfires in Texas and the Role of TxDOT	9:32-9:35	MNT	Gilbert Jordan (for Dir/MNT)
	Introduction of the Research Project	9:35-9:40	PD	Darwin Lankford
	Texas Firestorm Video	9:40-9:55	TFS/NWS Video	Phil Nash
	Research Approach	9:55-10:05	TechMRT	Phil Nash
	EM in Texas	10:05-10:25		
2	State EM Structure	10:05-10:15	TechMRT	Sanjaya Senadheera
	TxDOT EM Structure	10:15-10:25	TxDOT	Gilbert Jordan (TxDOT EMC)
	Break	10:25-10:35		
	What We Learned	10:35-11:05		
	Current TxDOT Practices	10:35-10:55	TechMRT	Phil Nash
	Lessons Learned from 2011	10:55-11:10	TechMRT	Phil Nash
	Resources for Emergency Response	11:10-11:45		
3	Information Resources, Heavy Equipment, Personal Protective Equipment, Communication Equipment and Training Resources	11:10-11:45	TechMRT	Micah-John Beierle (TTU NRM)
	Lunch	11:45-1:15		Will be served for the pilot
	Best Practices	1:15-3:45pm		
	Recommended Best Practices	1:15-2:00pm	TechMRT	Phil Nash
	Fire Basics, Equipment and Training	2:00-2:45pm	TechMRT	Micah-John Beierle (TTU NRM)
	Break	2:45-3:00pm		
	Panel Discussion	3:00-3:45pm	Panel	
4	Workshop Wrap-up and Assessment	3:45-4:00pm	TechMRT	Phil Nash

TxDOT Emergency

Operations Information

Home - TxDOT EOC Website - Windows Internet Explorer

http://bspapp1/mnt/emgymgmt/default.aspx

File Edit View Favorites Tools Help

Home - TxDOT EOC Website

Maintenance Division - (MNT) > TxDOT EOC Website

TxDOT EOC Website

Home Winter Storm Plans

View All Site Content

Documents

- Shared Documents
- Template

Lists

- Contacts
- Tasks
- Wildfire Task Numbers
- Wildfire Resources Committed (List)
- DFW Tornadoes Resources Committed

Discussions

- General Discussion
- Task Number Formats

Surveys

- Hurricane Alex Resources Committed
- Hurricane Alex After Action Review

Recycle Bin

EOC site for State Response planning, reporting, and information

Tasks

Task ID	Assigned To	Short Description	Status	Created
There are no items to show in this view of the "Tasks" list. To create a new item, click "Add new item" below.				
<input type="button" value="Add new item"/>				

Announcements

NEW METHOD FOR REPORTING RESOURCES COMMITTED!!!
by Brandye P. Munn 4/19/2011 3:30 PM

Please view the webinar on new reporting procedures for reporting Resources Committed by clicking here or click Wildfire Resources Committed (List) to go straight to the new list.

Events

There are currently no upcoming events. To add a new event, click "Add new event" below.

Links

- Description of Tornado Response Charges
- FAQs regarding tornado response charges
- Adding Resources Committed from your BlackBerry
- Demonstration of how to report resources committed - Webinar 2011.04.19
- Purchasing Responsibilities/Procedures During EOC Activation
- Emergency Contact List
- DART Card Guidelines
- Gulf Oil Spill Charges Description
- 20.10-20.11 Wildfire Charges Description
- Response Crew Information
- Instructions to Crews for Work Tracking
- Template for Daily Work Log
- FHWA Emergency Relief (ER) Program
- Instructions for using disaster task numbers in CMCS
- Emergency Contract Procedures
- Emergency Contract Package Revised

Local intranet | Protected Mode: Off

3:12 PM 5/16/2012

Wildfire Task Numbers - Windows Internet Explorer

http://bspapp1/mint/emgymgmt/Lists/Wildfire%20Task%20Numbers/AllItems.aspx

File Edit View Favorites Tools Help

Wildfire Task Numbers

Maintenance Division - (MNT) > TxDOT EOC Website

Home Winter Storm Plans

TxDOT EOC Website

TxDOT EOC Website > Wildfire Task Numbers

Wildfire Task Numbers

Report assigned task numbers (Y9R****) for wildfire response to track costs

Task Number	District	Wildfire Information	Created	Modified
Y9RTST	ABL	***TEST*** Task Number for county fire on FM 0000, Jan. 23, 2009	1/23/2009 10:34 AM	1/23/2009 11:15 AM
Y9R301	ABL	Wildfire in Jones co. near Hawley. 1-22-2009	2/2/2009 10:52 AM	2/2/2009 10:52 AM
Y9RB01	ABL	Wildfire in Fisher co. near Roby. 1-25-2009	2/2/2009 10:54 AM	2/2/2009 10:54 AM
Y9R001	AMA	1/31/09 Carson County	2/3/2009 10:43 AM	2/3/2009 10:43 AM
Y9R501	ABL	Wildfire near Eula in Callahan co.	2/25/2009 7:23 AM	2/25/2009 7:23 AM
Y09R01	AUS	Wildfire in Bastrop on 2-28-09, SH71 at Alum Creek.	3/5/2009 12:36 PM	3/5/2009 12:36 PM
Y9R101	ABL	Wildfire near Tuscola in Taylor co. 3-05-09	3/6/2009 7:02 AM	3/6/2009 7:02 AM
Y9R302	ABL	Fire in Jones co. near the Shackelford co. line close to FM 600, 3-17-2009	3/18/2009 7:27 AM	3/18/2009 7:27 AM
Y9R201	ABL	Wildfire in Shackelford co. 10 miles north of Albany. 4-10-09.	4/10/2009 7:14 AM	4/10/2009 7:14 AM
Y9R001	ODA	Pecos County - S. of Ft. Stockton near US 285 04/24-25/09	4/27/2009 8:36 AM	4/27/2009 8:36 AM
Y9R901	ABL	Haskell co. near Lake Stamford 7-17-2009	7/20/2009 8:24 AM	7/20/2009 8:25 AM
Y1R001	CHS	9-3-10 North of Childress off US 62/83 fire started on the T V Ranch and spread to the Vest Ranch.	9/3/2010 2:55 PM	9/3/2010 2:56 PM
Y1R001	ODA	12/15/10 - Ector County - South of IH 20 near US 385 and Monahans Draw	12/16/2010 8:15 AM	12/16/2010 8:15 AM
Y1R002	ODA	02/27/11 - Tom Ranch Fire - Andrews and Martin Counties - estimated 45000 - 55000	2/28/2011 10:40 AM	2/28/2011 10:40 AM

View All Site Content

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 - Shared Documents
 - Template
- Lists
 - Contacts
 - Tasks
 - Wildfire Task Numbers**
 - Wildfire Resources Committed (list)
 - DFW Tornadoes Resources Committed
- Discussions
 - General Discussion
 - Task Number Formats
- Surveys
 - Hurricane Alex Resources Committed
 - Hurricane Alex After Action Review

Local intranet | Protected Mode: Off

3:14 PM 5/16/2012

Task Number Formats - Windows Internet Explorer

http://bspapp1/mnt/emgymgmt/Lists/Task%20Number%20Formats/Flat.aspx?RootFolder:...

File Edit View Favorites Tools Help

Task Number Formats

Maintenance Division - (MNT) > TxDOT EOC Website

Home Winter Storm Plans

TxDOT EOC Website

TxDOT EOC Website > Task Number Formats > What is the format for disaster task numbers

Task Number Formats

Task number formats for emergencies

Actions

Posted By

Started: 4/15/2010 10:28 AM

 Brandy P. Munn

What is the format for disaster task numbers?

Task numbers should be formatted so that an alpha character is in the first and third columns, and numeric characters should be in the second, fourth, fifth and sixth columns.

Note: Task numbers in this format can only be used for non-trackable functions. They can also be used when charging to overhead and off-system accounts.

Example: - Y0H001-Y (year), 0 (current fiscal year), H (Hurricane), S (Snow and Ice), F (Flood), T (Tornado) or R (Fire), then an individually assigned series for each location as determined by the district.

View Properties Reply

View: Flat

View Properties

View All Site Content

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3:17 PM 5/16/2012

Wildfire Resources Committed (List) - Windows Internet Explorer

http://bspapp1/mnt/emgymgmt/Lists/Resources%20Committed%20%20List/AllItems.aspx

File Edit View Favorites Tools Help

Wildfire Resources Committed (List)

Maintenance Division - (MNT) > TxDOT EOC Website

Home Winter Storm Plans

TxDOT EOC Website

TxDOT EOC Website > Wildfire Resources Committed (List)

Wildfire Resources Committed (List)

List of resources committed input by districts on a regular basis.

New Actions

What is your name? District/Region/Division you are reporting for? Is this report for the entire district/region/division? Date of Resources Committed: Five H

What is your name?	District/Region/Division you are reporting for?	Is this report for the entire district/region/division?	Date of Resources Committed:	Five H
Roberto cardoza Jr.	ELP	Yes	5/6/2012	Liverr Rand Comp
Roberto Cardoza Jr.	Other	Yes	5/5/2012	Liverr Rand Comp
Roberto Cardoza Jr.	ELP	Yes	5/4/2012	Liverr Rand Comp

View All Site Content

Documents

- Shared Documents
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3:15 PM 5/16/2012

Best Practices for TxDOT on Handling Wildfires
Regional Training Workshops

Wildfire Resources Committed (List) - New Item - Windows Internet Explorer

http://txspapp1.mnt/emg/mgmt/List;Resources%20Committed%20-%20List/NewForm.asp

File Edit View Favorites Tools Help

Wildfire Resources Committed (List) - New Item

Maintenance Division - (MNT) > TxDOT EOC Website

Home Winter Storm Plans

TxDOT EOC Website > Wildfire Resources Committed (List) > New Item

Wildfire Resources Committed (List) : New Item

Attach File

What is your name? *

District/Region/Division you are reporting for? *

Is this report for the entire district/region/division? *

Date of Resources Committed:

Fire Name:

Personnel:

Dozers:

Maintainers:

Loaders:

Water Trucks:

PCMS:

DMS:

Other Vehicles:

Fuel:

Additional Comments:

Other

5/16/2012

The resources being reported for your DDO are as of this date.

Other
 Hoover Fire
 Livemore Ranch Complex
 McCoy Fire
 Prieto Ranch Fire
 Spring Mountain Fire
 REQUIRED - Name of fire worked on.

SINCE YOUR LAST REPORT, what was the highest number of resources working the disaster at the same time? (a "snapshot" of what was committed by your DDO at peak response)

Portable Changeable Message Signs

Permanent Dynamic Message Signs

Number of other vehicles or trailers used for fire

Gallons of fuel to anyone outside of TxDOT

Any additional information that you have regarding the fire.

OK Cancel

OK Cancel

Local intranet | Protected Mode: Off

Done

3:16 PM 5/16/2012

TxDOT Crossroads MNT Website

Maintenance Division - Windows Internet Explorer

http://crossroads.org/mnt/

File Edit View Favorites Tools Help

Web Slice Gallery

Maintenance Division

- MNT Policy Documents List
- Maintenance Section Classifications
- Crew Leader Course Manual
- Peer Review Documents

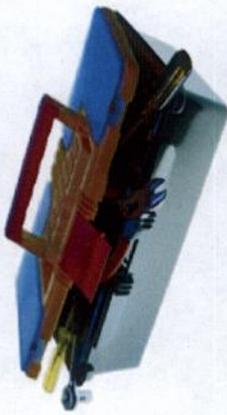
Features

- TxMAP Graphs
- Maintenance Matters Newsletter
- Organization Chart
- Telephone List
- Weather Web Site
- ONLINE Maintenance Manuals
- MMIS Training
- Materials On Hand Documentation
- Compass Project (MMIS Replacement)
- Homeland Security Training
- Maintenance Contract Inspectors Course Manual
- Maintenance Section Supervisor Course Manual
- Routine Maintenance Reports
- 2007 Short Course Presentation - Contract Claims
- MMIS Code Chart
- Modifications to Maintenance Section Boundaries
- MNT/TRF Conferences
- TxDOT Emergency Management
- NIMS Training

Texas Department of Transportation
Maintenance Division
Toribio Garza, Jr. P.E.
(512) 416-3048

Learn more about the Maintenance Division [History](#)

- [Administration](#)
- [Facilities Management Section](#)
- [Maintenance Section](#)
- [Vegetation Management Section](#)
- [Headquarters Building Operations](#)
- [Headquarters Security Operations](#)
- [Facilities Work Request System](#)



[Maintenance Supervisor's Toolbox](#)

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3:52 PM 5/16/2012

Maintenance Division
Texas Department of Transportation
Maintenance Division
Toribio Garza, Jr. P.E.
(512) 416-3048

Emergency Management

TxDOT is Preparing for 2012 Hurricanes

The TxDOT Emergency Management Coordinator (EMC) is the liaison between the Texas Division of Emergency Management and TxDOT. This position is currently held by Gilbert Jordan.

The EMC is the primary contact and manager for all emergency situations, including domestic terrorism, wildfires, hurricanes, and any situation that could disrupt transportation in the state.

The EMC also maintains the District and Division Emergency Contact List and is responsible for training related to emergency response and homeland security.

[Hurricane Preparations](#)
[Wildfire Preparations](#)

To contact Gilbert Jordan:
Phone: 512-416-3270
Cell: 512-970-4751
E-mail: gilbert.jordan@txdot.gov

Navigation Menu:
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[Federal Reimbursement Process](#)
[FHWA Publications](#)
[When to complete Form 2111](#)
[Form 2111—Alert Bulletin](#)
[Wildfire Preparations](#)
[Hurricane Preparations](#)
[TxDOT Employee and Contractor Reentry Authorization](#)
[Local Assistance Request Process](#)
[TxDOT EOC Website](#)

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[Weather Web Site](#)
[ONLINE Maintenance Manuals](#)
[MMIS Training](#)
[Materials On Hand Documentation](#)
[Compass Project \(MMIS\)](#)
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[Peer Review Documents](#)
Features
[TxMAP Graphs](#)
[Maintenance Matters Newsletter](#)
[Organization Chart](#)
[Telephone List](#)
[Weather Web Site](#)
[ONLINE Maintenance Manuals](#)
[MMIS Training](#)
[Materials On Hand Documentation](#)
[Compass Project \(MMIS Replacement\)](#)
[Homeland Security Training](#)
[Maintenance Contract Inspectors Course Manual](#)
[Maintenance Section Supervisor Course Manual](#)
[Routine Maintenance Reports](#)
[2007 Short Course Presentation - Contract Claims](#)
[MMIS Code Chart](#)
[Modifications to Maintenance Section Boundaries](#)
[Maintenance Matters Newsletter](#)
[TxDOT Emergency Management Website](#)

Right Sidebar:
 Trusted sites | Protected Mode: Off
 104%

Best Practices for TxDOT on Handling Wildfires
Regional Training Workshops

The screenshot displays the TxDOT Emergency Management website. The browser window title is "Maintenance Division - Windows Internet Explorer" and the address bar shows "http://crossroads.org/mnt/". The page layout includes a top navigation bar with "File", "Edit", "View", "Favorites", "Tools", and "Help". Below this is a "Maintenance Division" sidebar with a list of documents such as "TOLMAP Graphic", "Maintenance Matters Newsletter", "Telephone List", "Weather Web Site", "ONLINE Maintenance Manuals", "MIMS Training", "Compass Project (MIMS) Replacement", "Homeland Security Training", "Maintenance Contract Inspector Course Manual", "Maintenance Station Supervisor Course Manual", "2007 Short Course Presentation - Contract Claims", "MIMS Tools Chart", "Modifications to Maintenance Station Boundaries", "MINTTRF Conference", "TxDOT Emergency Management Maintenance Station Organization", "Fire Review Documents", "TOLMAP Graphic", "Maintenance Matters Newsletter", "Organization Chart", "Telephone List", "Weather Web Site", "ONLINE Maintenance Manuals", "MIMS Training", "Compass Project (MIMS) Replacement", "Homeland Security Training", "Maintenance Contract Inspector Course Manual", "Maintenance Station Supervisor Course Manual", "2007 Short Course Presentation - Contract Claims", "MIMS Tools Chart", "Modifications to Maintenance Station Boundaries", "MINTTRF Conference", "TxDOT Emergency Management", and "MIMS Training".

The main content area is titled "Emergency Management" and "TxDOT Wildfire Preparations". It features a central image of a fire truck at night. Below the image are several links: "TxDOT Guidance for Wildfire Response", "TxDOT Guidance for Wildfire Response (Grid)", "TxDOT's County Burn Ban Sign Design", "Outdoor Burn Bans", "Texas Wildfire Current Situation", "Fire Danger/Advisories", "Texas Forest Service Home Page", "Texas Interagency Coordination Center", "TDBM's Situation Reports", "TDBM Rules on Outdoor Burning", and "Health and Safety Code-Burning on DOT MSH".

At the bottom of the main content area, there is a "Wildfire Preparations" section with links for "Home", "Emergency Management Home", "EOC Operational Procedures Updated 4/24/2009", "Federal Reimbursement Process", "EHWA Publications", "When to complete Form 2111", "Form 2111—Alert Bulletin", "Wildfire Preparations", "Hurricane Preparations", "TxDOT Employee and Contractor Recently Authorization Local Assistance Request Process", and "TxDOT EOC Website".

The system tray at the bottom right shows "Trusted sites | Protected Mode: Off", "104%", "3:54 PM", and "5/16/2012".

Emergency Management

Federal Reimbursement Process

The process of requesting and receiving reimbursements affects many divisions and at some point every district. Since hurricanes Katrina and Rita, the LBB and Governor's Office has become very interested in TXDOT's expenses and reimbursements due to natural disasters.

In order to gather accurate information, it would be beneficial to understand the process by which federal funds are reported, requested and received. By mapping the current processes and providing understanding of key positions, TXDOT can determine if changes to current processes or practices are necessary.

A workshop was held to document the federal reimbursement process and TXDOT's role from the time of a disaster through the receipt of funds from either FEMA or FHWA. The following flowcharts and definitions were developed during that workshop.

Interactive Flowchart
Downloadable Flowchart
Definitions of Terms

To contact Gilbert Jordan:
Phone: 512-416-3270
Cell: 512-970-4751
E-mail: gilbert.jordan@txdot.gov

Navigation Menu:

- Home
- Emergency Management Home
- EOC Operational Procedures Updated 4/24/2009
- Federal Reimbursement Process**
- FHWA Publications
- When to complete Form 2111
- Form 2111—Alert Bulletin
- Wildfire Preparations
- Hurricane Preparations
- TXDOT Employee and Contractor Reentry Authorization
- Local Assistance Request Process
- TXDOT EOC Website

Left Sidebar (Maintenance Division):

- MTT Policy Documents List
- Maintenance Section Classifications
- Crew Leader Course Manual
- Peer Review Documents
- Features**
- TxiMAP Graphing
- Maintenance Matters Newsletter
- Organization Chart
- Telephone List
- Weather Web Site
- ONLINE Maintenance Manuals
- MIMIS Training
- Materials On Hand Documentation
- Compass Project (MIMIS) Replacement
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- Maintenance Contract Inspectors Course Manual
- Maintenance Section Supervisor Course Manual
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- 2007 Short Course Presentation - Contract Claims
- MIMIS Code Chart
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- MIMIS Code Chart
- Modifications to Maintenance Section Boundaries
- MNT/TRF Conference
- TXDOT Emergency Management
- MIMIS Training

FEDERAL EMERGENCY MANAGEMENT AGENCY
FORCE ACCOUNT LABOR SUMMARY RECORD

Page of

1. APPLICANT TxDOT	2. PA ID 000-U00F7-00	3. PW # Leave Blank	4. DISASTER NUMBER Dr-1999
5. LOCATION/SITE	6. CATEGORY B		
8. DESCRIPTION OF WORK PERFORMED Fire Suppressant		7. PERIOD COVERING 4/6/11 to 5/3/11	

NAME	JOB TITLE	DATES AND HOURS WORKED EACH WEEK							COSTS			
		DATE	REG.	O.T.	REG.	O.T.	REG.	O.T.	TOTAL HOURS	HOURLY RATE	BENEFIT RATE/HR	TOTAL HOURLY
NAME		REG.							\$	/	\$	\$
JOB TITLE		O.T.							\$	/	\$	\$
NAME		REG.							\$	/	\$	\$
JOB TITLE-		O.T.							\$	/	\$	\$
NAME		REG.							\$	/	\$	\$
JOB TITLE		O.T.							\$	/	\$	\$
NAME		REG.							\$	/	\$	\$
JOB TITLE		O.T.							\$	/	\$	\$
NAME		REG.							\$	/	\$	\$
JOB TITLE		O.T.							\$	/	\$	\$
NAME		REG.							\$	/	\$	\$
JOB TITLE		O.T.							\$	/	\$	\$

Total Cost for Force Account Labor Regular Time	↑
Total Cost for Force Account Labor Overtime	↑

I CERTIFY THAT THE ABOVE INFORMATION WAS OBTAINED FROM PAYROLL RECORDS, INVOICES, OR OTHER DOCUMENTS THAT ARE AVAILABLE FOR AUDIT.

CERTIFIED _____ TITLE _____ DATE _____

FEDERAL EMERGENCY MANAGEMENT AGENCY APPLICANT'S BENEFITS CALCULATION WORKSHEET		PAGE _____ OF _____
1. APPLICANT		2. PA ID
3. DISASTER NUMBER	4. PW #	
FRINGE BENEFITS (by %)	REGULAR TIME	OVERTIME
HOLIDAYS		
VACATION LEAVE		
SICK LEAVE		
SOCIAL SECURITY		
MEDICARE		
UNEMPLOYMENT		
WORKER'S COMP.		
RETIREMENT		
HEALTH BENEFITS		
LIFE INS. BENEFITS		
OTHER		
TOTAL in % of annual salary		
COMMENTS		
I CERTIFY THAT THE INFORMATION ABOVE WAS TRANSCRIBED FROM PAYROLL RECORDS OR OTHER DOCUMENTS WHICH ARE AVAILABLE FOR AUDIT.		
CERTIFIED BY	TITLE	DATE

TxDOT Wildfire Preparedness/Mitigation Activities

Request or Type of Action	Response Level 3	Response Level 2	Response Level 1	Local Response Activities (Could happen at any response level)
	<ul style="list-style-type: none"> Normal Conditions Occasional report of wildfires Few burn bans in effect Wildfire fuel in existence 	<ul style="list-style-type: none"> Conditions dry and favorable for wildfires Increasing reports of wildfires Substantial number of burn bans Substantial wildfire fuel in existence Wildfire Situation Reports may be produced by the SOC 	<ul style="list-style-type: none"> Conditions are extremely dry and favorable for wildfires Daily or numerous reports of wildfires Many areas of the state with all or most counties under burn ban Wildfire fuel abundant SOC may be activated with critical agencies TxDOT or District EOCs may be activated Numerous requests from counties for wildfire mitigation Local or national media coverage of wildfires Political interest in state agency activities is high 	<ul style="list-style-type: none"> Wildfire exists in county Wildfire is approaching TxDOT ROW and Incident Commander considers using highway as firebreak
Burn Ban Signs (County provided, maintained and installed)	Metal and wood signs are allowed on ROW as long as they are mounted in compliance with TxDOT standards and at locations agreed upon by TxDOT District Engineer. County will be responsible for ensuring underground utility installations are not affected. Signs are displayed for duration of burn ban only.			
Burn Ban signs (TxDOT provided, maintained and installed)	No	No	No	No
Portable Changeable Message Signs (County provided and installed)	No	No	At discretion of District Engineer	Upon request from the DDC or at discretion of District Engineer
Portable Changeable Message Signs (TxDOT provided and installed)	No	No	At discretion of District Engineer	Upon request from the DDC or at discretion of District Engineer
Permanent Dynamic Message Signs displaying wildfire information	No	No	Upon request from the State Operations Center and with approval of TxDOT administration	Upon request from the DDC or at discretion of District Engineer
Firebreaks (County provided and installed)	No	No	No	Upon request from the DDC or at discretion of District Engineer
Firebreaks (Private entity provided and installed)	No	No	No	Upon request from the DDC or at discretion of District Engineer
Firebreaks (TxDOT provided and installed)	No	No	Upon request from the State Operations Center or County Judge, and then only at discretion of District Engineer	Upon request from the DDC or at discretion of District Engineer

TxDOT Wildfire Preparedness/Mitigation Activities

	Response Level 3	Response Level 2	Response Level 1	Local Response Activities (Could happen at any response level)
Request or Type of Action	<ul style="list-style-type: none"> Normal Conditions Occasional report of wildfires Few burn bans in effect Wildfire fuel in existence 	<ul style="list-style-type: none"> Conditions dry and favorable for wildfires Increasing reports of wildfires Substantial number of burn bans Substantial wildfire fuel in existence Wildfire Situation Reports may be produced by the SOC 	<ul style="list-style-type: none"> Conditions are extremely dry and favorable for wildfires Daily or numerous reports of wildfires Many areas of the state with all or most counties under burn ban Wildfire fuel abundant SOC may be activated with critical agencies TxDOT or District EOCs may be activated Numerous requests from counties for wildfire mitigation Local or national media coverage of wildfires Political interest in state agency activities is high 	<ul style="list-style-type: none"> Wildfire is approaching TxDOT ROW and Incident Commander considers using highway as firebreak Wildfire exists in county
Mowing (County performed)	No	No	No	Upon request from the DDC or at discretion of District Engineer
Mowing (Private entity performed)	No	No	No	No
Mowing (TxDOT performed)	TxDOT ROW's are mowed at regularly scheduled intervals. The last cycle of the calendar year is generally timed to coincide with the first frost.			
Fuel (TxDOT provided for volunteer fire departments)	No	No	No	Upon request from the State Operations Center and only in areas devastated by catastrophic wildfires. At discretion of District Engineer who will ensure fuel is being used to fight wildfires.
Equipment repairs (TxDOT provided for responders) Contact Texas Forest Service	No	No	No	No
Carcass Disposal (TxDOT provided)	Upon Request from the DDC. Generally, TCEQ is responsible for ensuring compliance with environmental regulations in the aftermath of a wildfire.			
Off ROW assistance (TxDOT provided)	Upon Request from the DDC. TxDOT employees are not trained nor certified as fire fighters. TxDOT assistance will be limited to any task that does not endanger TxDOT lives, such as creating firebreaks, doing brush, mop-up operations, etc.			
Off ROW Debris Removal (TxDOT provided)	Upon Request from the DDC			
Public Information Services (TxDOT provided)	Always allowed and encouraged. TxDOT public information activities can negate the need for other more expensive methods of information dispersal such as burn ban signs. Public information activities can also target specific audiences, such as a resident county population or just rural residents.			

TxDOT Policy on Volunteer Firefighters

Human Resources Manual

Section 10: Miscellaneous Leave

POLICY

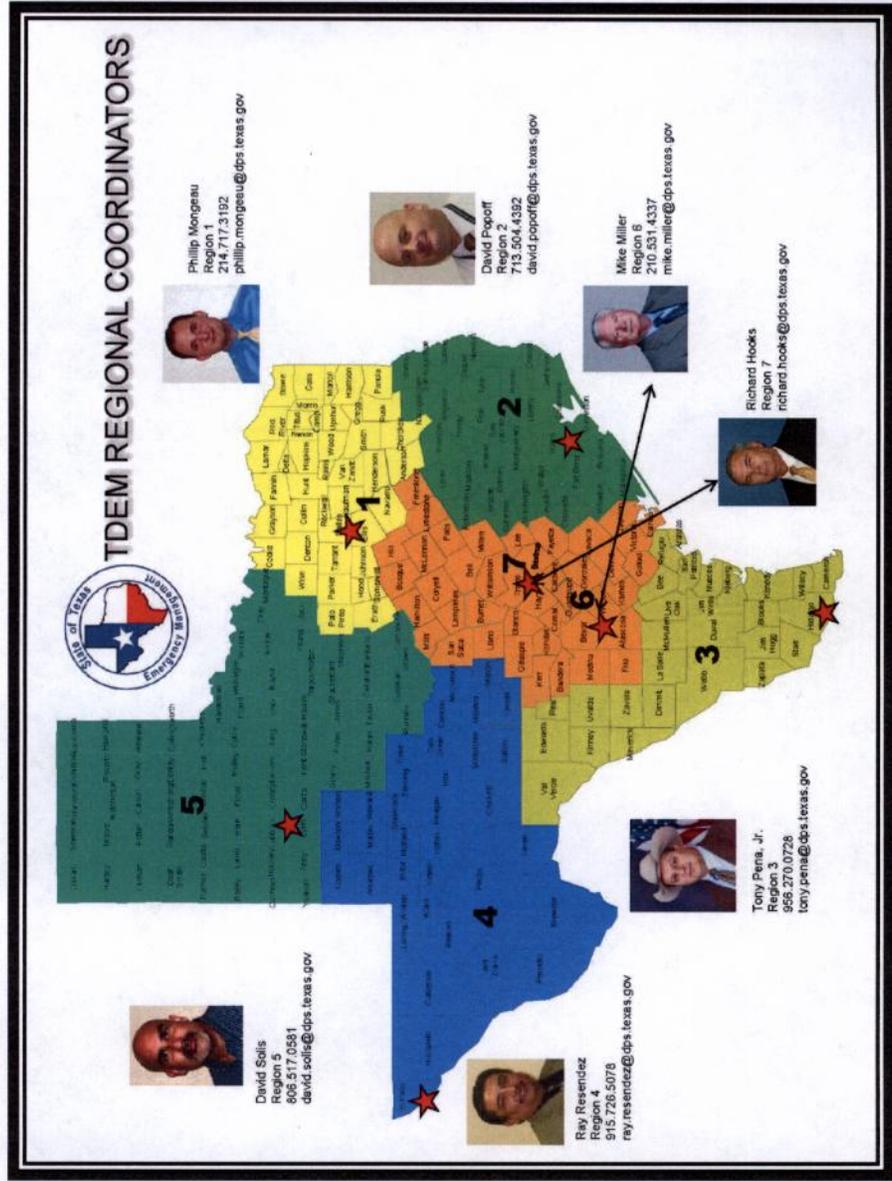
Volunteer Firefighter Training and Duty

- Employees who are volunteer firefighters are granted miscellaneous leave to attend training schools conducted by state agencies. However, such leave will not exceed five work days per fiscal year. They may also be granted unlimited miscellaneous leave to respond to emergency fire calls as needed during normal work hours. DE/DD/OD/RDs may use their discretion in granting leave for fire fighting duty. Written documentation from the fire department may be required.

Information on Other State Emergency Management Agencies

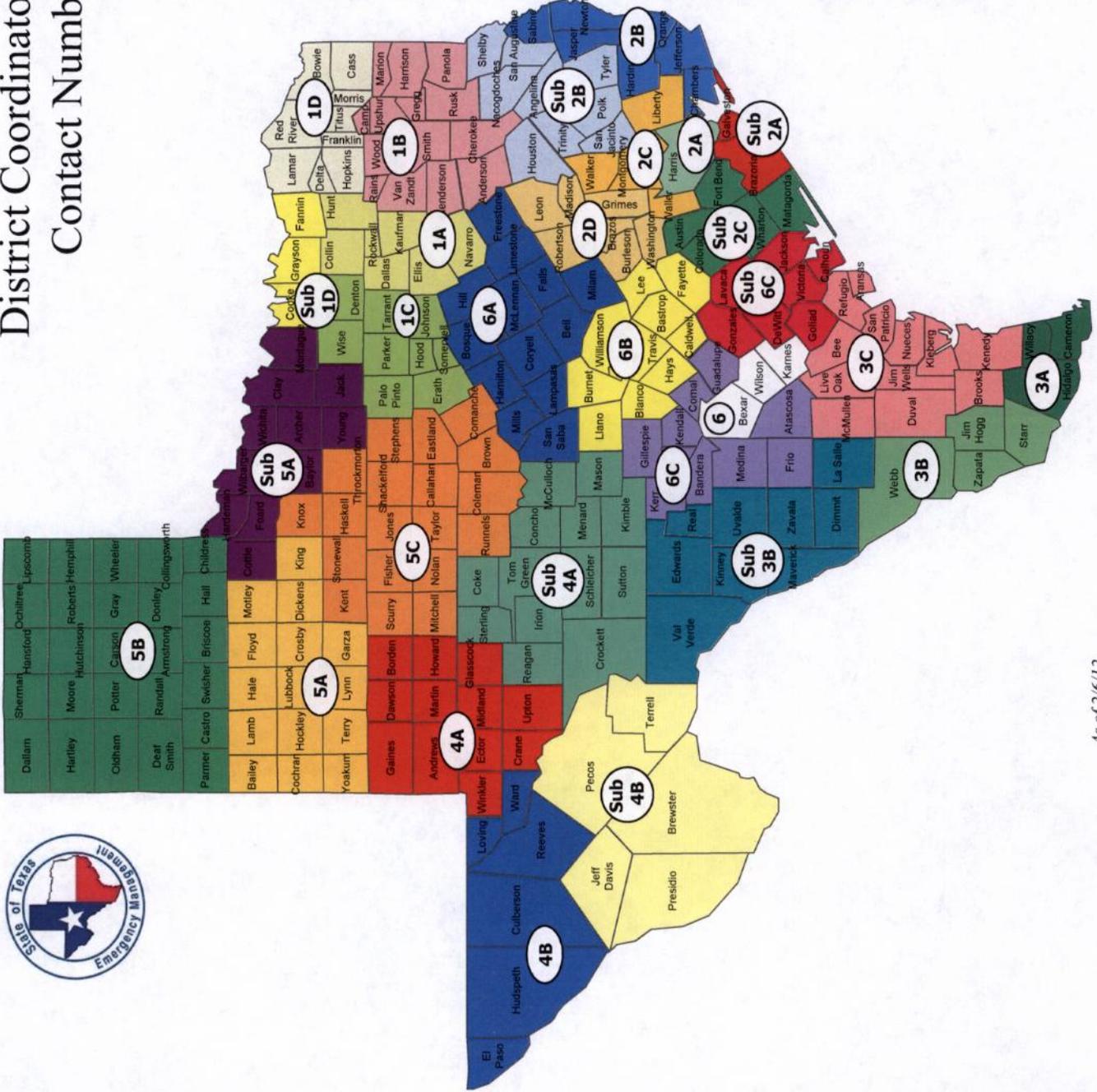
TX Division of Emergency Management (TDEM) Regional Coordinators

- TDEM shall prepare and maintain a state emergency management plan.





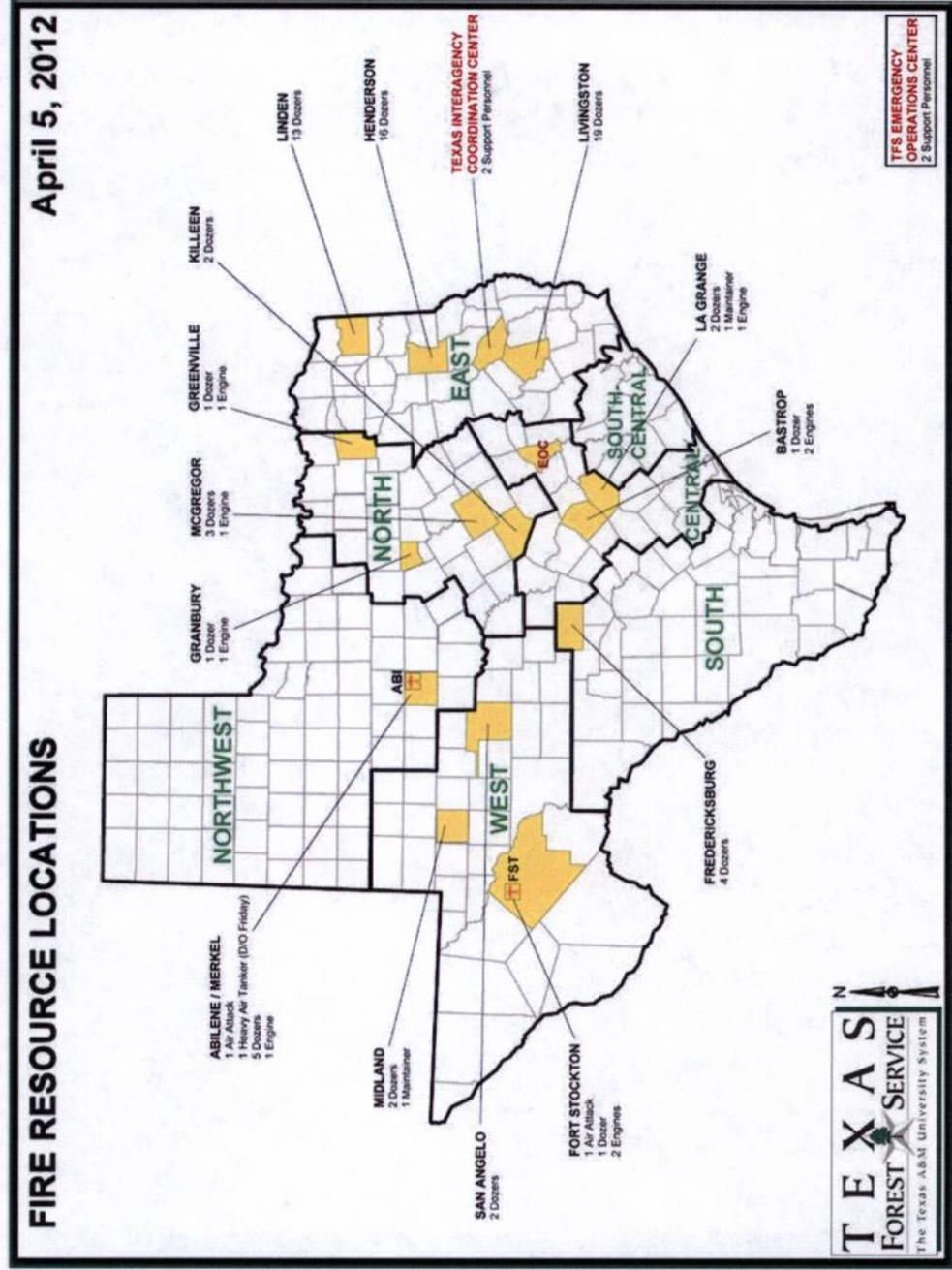
District Coordinators (DC) Contact Numbers



Station	DC	Phone
SC-1	Phillip Mongeau	214-425-4296
1A	Jimmie Badgett	214-325-9426
1B	Deaun Stinecipher	903-920-5838
1C	Sherri Copeland	940-452-7757
1D	Doyce Winchester	903-241-0555
S1D	Vacant	
SC-2	David Popoff	713-504-4392
2A	Jennifer Hawes	281-642-0312
S2A	Mike L. Jones	832-401-3467
2B	Jay Hall	409-284-9381
S2B	Randy Whittington	936-208-3270
2C	Vacant	936-672-3827
S2C	David Noak	979-320-4362
2D	Al Guarino	979-412-0003
SC-3	Tony Pena Jr	956-270-0728
3A	McAllen	956-227-0696
3B	Jorge Jalomo	956-489-7083
S3B	Jose Alejandro	956-270-0728
3C	Fernando Perez	830-776-8773
SC-4	Brandi Ashby-Fisher	361-438-5388
4A	Ray Resendez	915-726-5078
S4A	Dude Speed	432-416-0063
4B	Jerry Huffman	325-513-2618
S4B	Martin Widfeldt	915-261-5289
SC-5	Dave Marquez	432-386-6737
5A	David Solis	806-517-0581
S5A	Colleen O'Neal	806-548-4344
5B	Becky Pursur	940-882-4030
5C	Joe Minshew	806-316-7632
SC-6	Jim White	325-260-5591
6A	San Antonio	210-259-3583
S6A	Mike Miller	210-559-3496
6B	ARCC/Bexar Co	210-559-3496
S6B	Steve Gladstone	210-559-3496
6C	Waco	254-379-0087
S6C	Tim Hood	254-379-0087
6D	Austin	512-848-1080
S6D	Jack Doebbler	512-848-1080
6E	San Antonio	210-452-8860
S6E	Summer Ray	210-452-8860
6F	Victoria	361-788-3532
S6F	Alex Camacho	361-788-3532
6G	Capital Area	512-520-6871
S6G	Richard Hooks	512-520-6871
6H	Capitol Complex	512-917-8051
S6H	David Shaw	512-917-8051

As of 2/6/12

TFS Texas Fire Resource Availability Map



<http://tfsfrp.tamu.edu/wildfires/resources.png>

Wildfire & Incident Management Academy

Online Registration System

COURSE CATALOG (ONLY SHOWING OPEN COURSES)

NARROW COURSE SELECTION BY OPEN ACADEMY: Total Items: 33

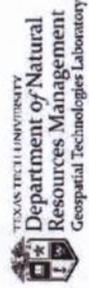
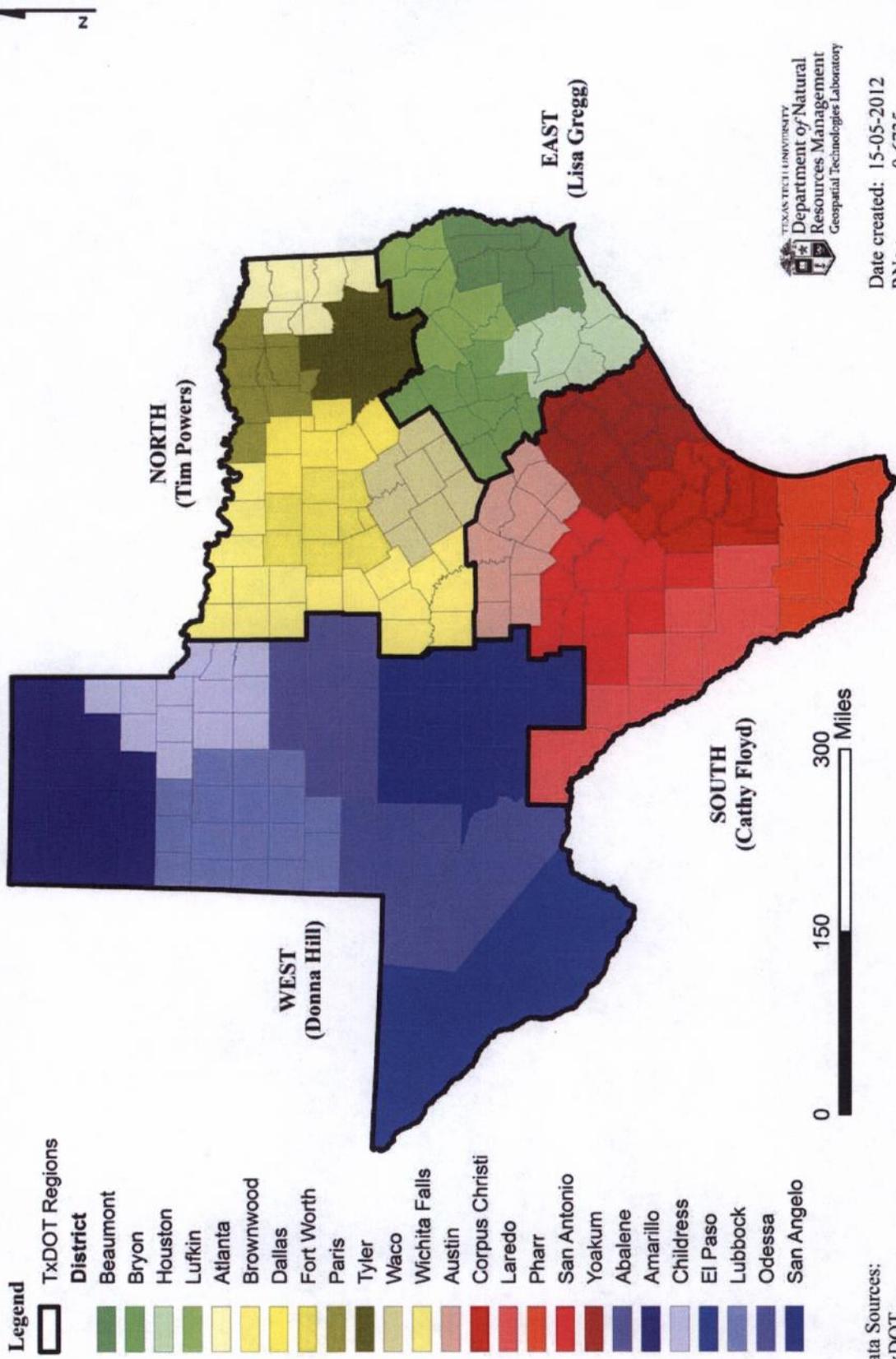
Page 1 of 4 Page Size 10

Course	Academy	Start Date	End Date	Seats Available	Seats Filled
Basic Wildland Fire Fighting	14th Annual Mile-High Wildfire Academy	2/9/2012	2/12/2012	40	0
Firefighter Safety Refresher/ S-133	14th Annual Mile-High Wildfire Academy	2/10/2012	2/10/2012	20	8
Firefighter Safety Refresher/ S-133	14th Annual Mile-High Wildfire Academy	2/11/2012	2/11/2012	20	0
Initial Attack Incident Commander	14th Annual Mile-High Wildfire Academy	2/10/2012	2/12/2012	20	0
Wilderness First Aid and Safety	14th Annual Mile-High Wildfire Academy	2/11/2012	2/12/2012	20	0
Wildland Firefighting Type 1	14th Annual Mile-High Wildfire Academy	2/11/2012	2/11/2012	20	0
Basic Engine and Suppression Tactics	15th Annual East Texas Interagency Wildfire and Incident Management Academy	5/19/2012	5/20/2012	25	19
Basic Firefighter/Intro to Wildland Fire Behavior	15th Annual East Texas Interagency Wildfire and Incident Management Academy	5/15/2012	5/19/2012	40	28
Crew Boss (Single Resource)	15th Annual East Texas Interagency Wildfire and Incident Management Academy	5/15/2012	5/17/2012	25	22
Dozer Boss (Single Resource)	15th Annual East Texas Interagency Wildfire and Incident Management Academy	5/24/2012	5/25/2012	20	20

<https://tiwa.tamu.edu/RegSysStudent/Home/ShowCatalogTable.aspx>

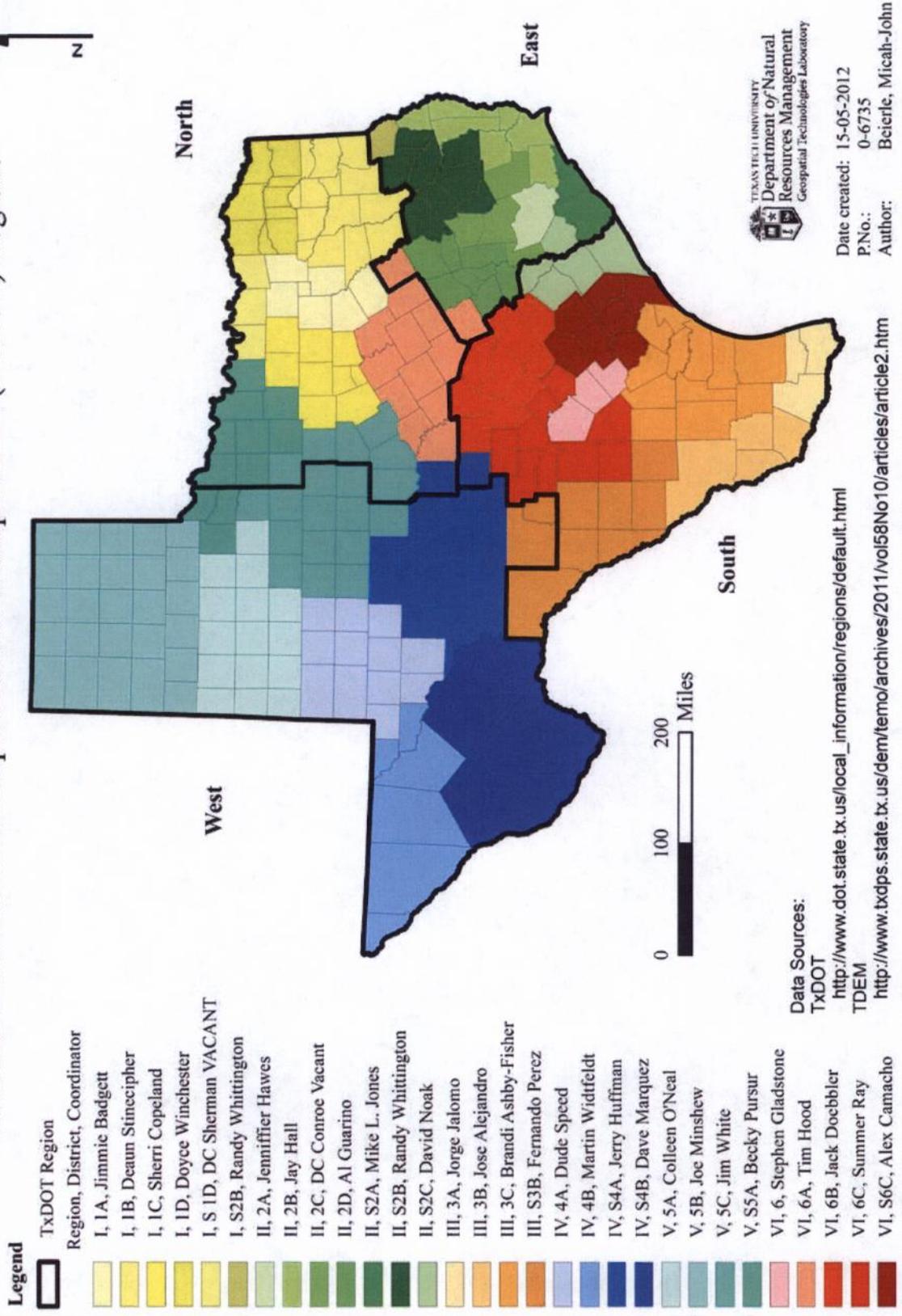
State and Regional Maps

Texas Department of Transportation (TxDOT) Regions and Districts

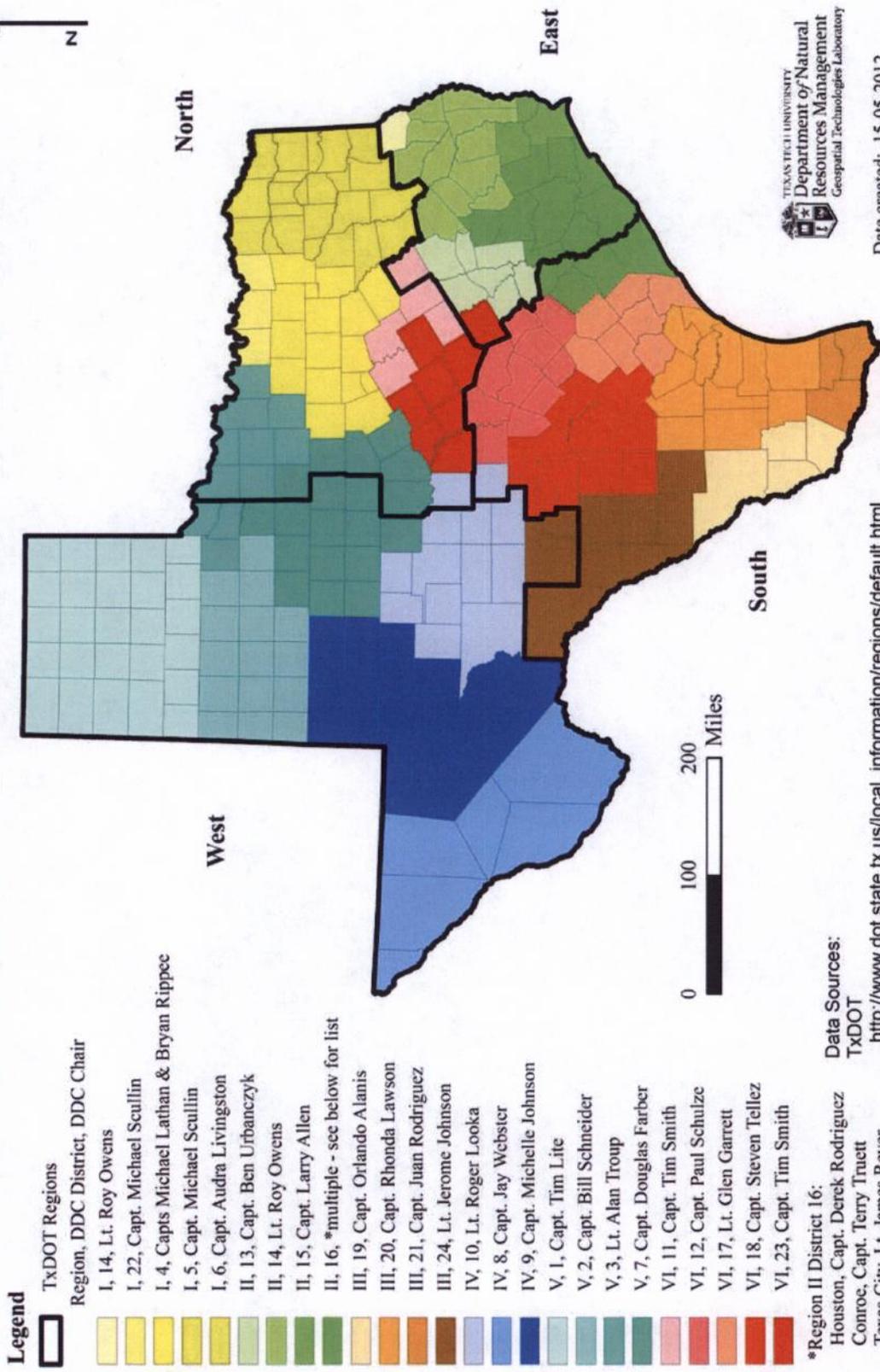


Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Texas Division of Emergency Management (TDEM) Regions, Districts, and Coordinators associated with the Texas Department of Transportation (TxDOT) Regions



Texas Division of Emergency Management (TDEM) Regions, Districts, and DDC Chairs associated with the Texas Department of Transportation (TxDOT) Regions

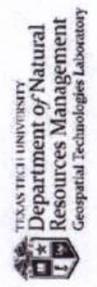


Legend

- TxDOT Regions
- Region, DDC District, DDC Chair
- I, 14, Lt. Roy Owens
- I, 22, Capt. Michael Scullin
- I, 4, Capts Michael Lathan & Bryan Rippee
- I, 5, Capt. Michael Scullin
- I, 6, Capt. Audra Livingston
- II, 13, Capt. Ben Urbanczyk
- II, 14, Lt. Roy Owens
- II, 15, Capt. Larry Allen
- II, 16, *multiple - see below for list
- III, 19, Capt. Orlando Alanis
- III, 20, Capt. Rhonda Lawson
- III, 21, Capt. Juan Rodriguez
- III, 24, Lt. Jerome Johnson
- IV, 10, Lt. Roger Looka
- IV, 8, Capt. Jay Webster
- IV, 9, Capt. Michelle Johnson
- V, 1, Capt. Tim Lite
- V, 2, Capt. Bill Schneider
- V, 3, Lt. Alan Troup
- V, 7, Capt. Douglas Farber
- VI, 11, Capt. Tim Smith
- VI, 12, Capt. Paul Schulze
- VI, 17, Lt. Glen Garrett
- VI, 18, Capt. Steven Tellez
- VI, 23, Capt. Tim Smith

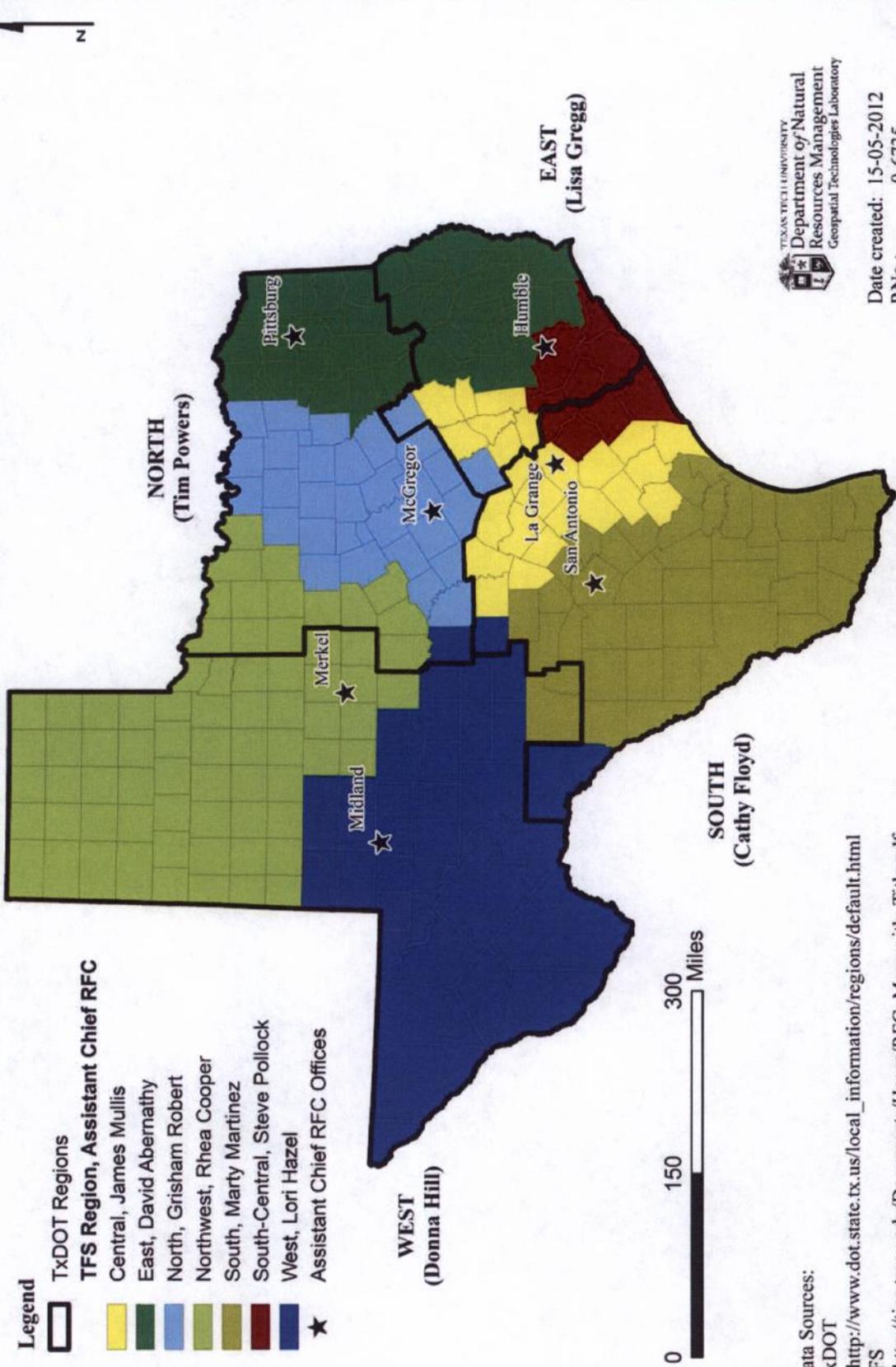
Data Sources:

- TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
- TDEM <http://www.txdps.state.tx.us/dem/temo/archives/2011/vol58No10/articles/article2.htm>

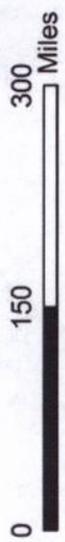


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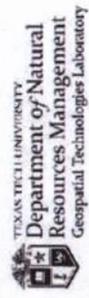
Texas Department of Transportation (TxDOT) Regions associated with Texas Forest Service (TFS) Regional Fire Coordinators (RFC)



- Legend**
- TxDOT Regions
 - TFS Region, Assistant Chief RFC**
 - Central, James Mullis
 - East, David Abernathy
 - North, Grisham Robert
 - Northwest, Rhea Cooper
 - South, Marty Martinez
 - South-Central, Steve Pollock
 - West, Lori Hazel
 - ★ Assistant Chief RFC Offices**

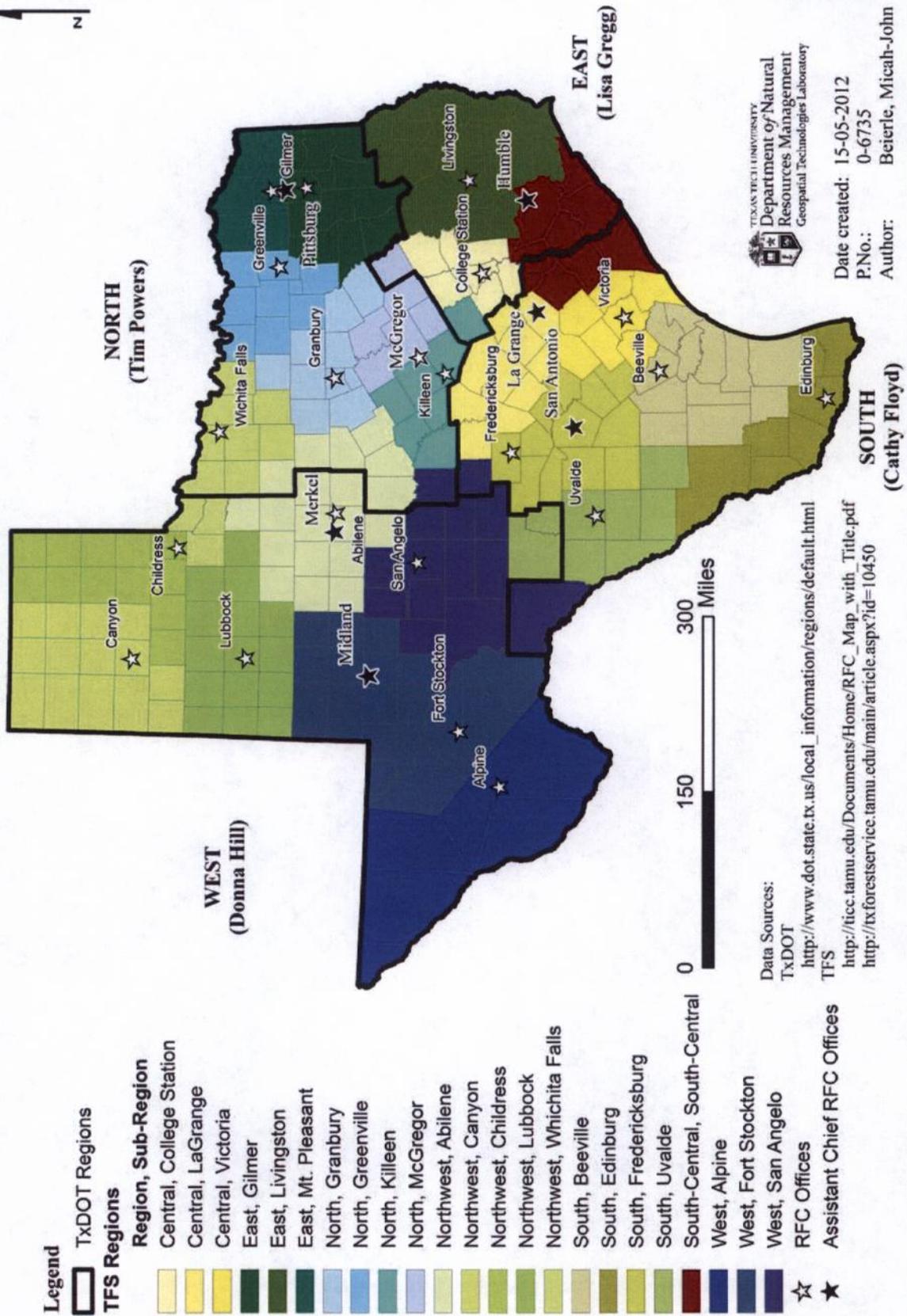


Data Sources:
 TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
 TFS http://ticc.tamu.edu/Documents/Home/RFC_Map_with_Title.pdf
<http://txforestservicetamu.edu/main/article.aspx?id=10450>

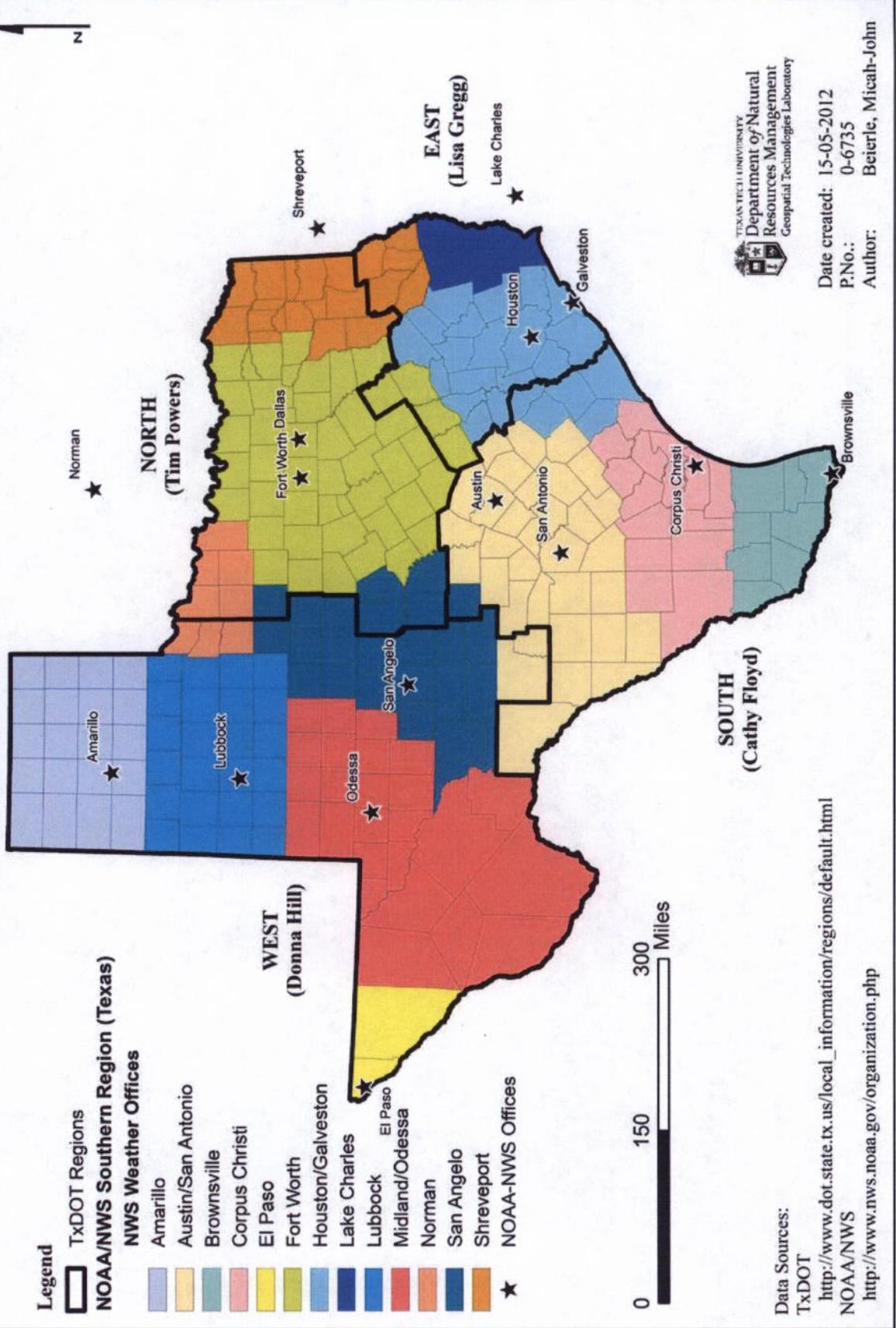


Date created: 15-05-2012
 P.No.: 0-6735
 Author: Beierle, Micah-John

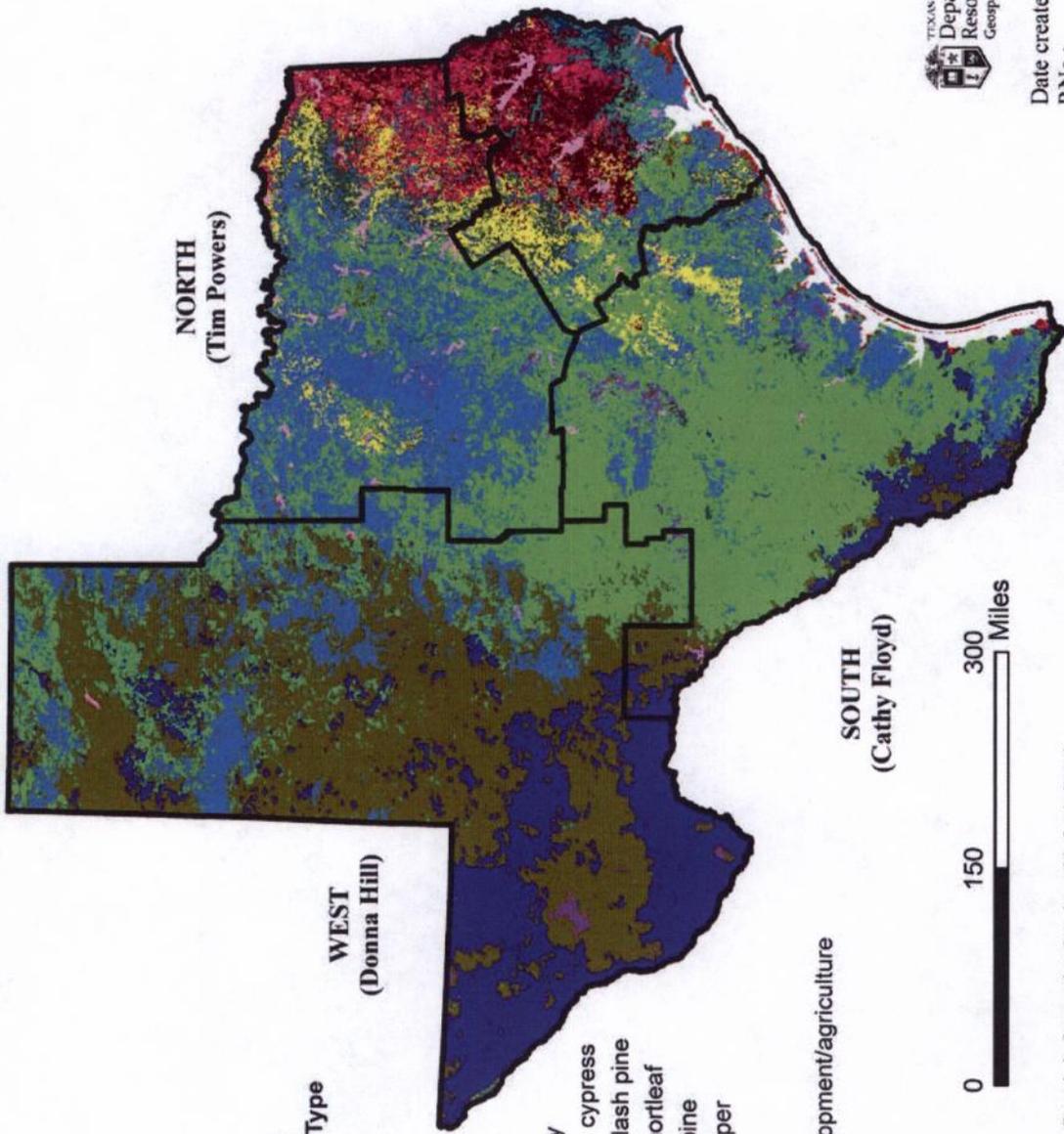
Texas Forest Service (TFS) Regional Fire Coordinators (RFC) associated with Texas Department of Transportation (TxDOT) Regions



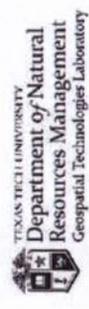
National Weather Service (NWS) Offices and Centers associated with Texas Department of Transportation (TxDOT) Region



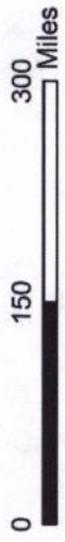
General vegetative cover types as defined by the USDS, Fire Science Lab, RMRS associated with Texas Department of Transportation (TxDOT) Regions



- Legend**
- TxDOT Regions
 - General Cover Type**
 - 1: Agriculture
 - 2: Grassland
 - 3: Wetlands
 - 4: Desert shrub
 - 5: Other shrub
 - 6: Oak - pine
 - 7: Oak - hickory
 - 8: Oak - gum - cypress
 - 15: Longleaf - slash pine
 - 16: Loblolly - shortleaf
 - 17: Ponderosa pine
 - 25: Pinyon - juniper
 - 27: Barren
 - 28: Water
 - 30: Urban/development/agriculture

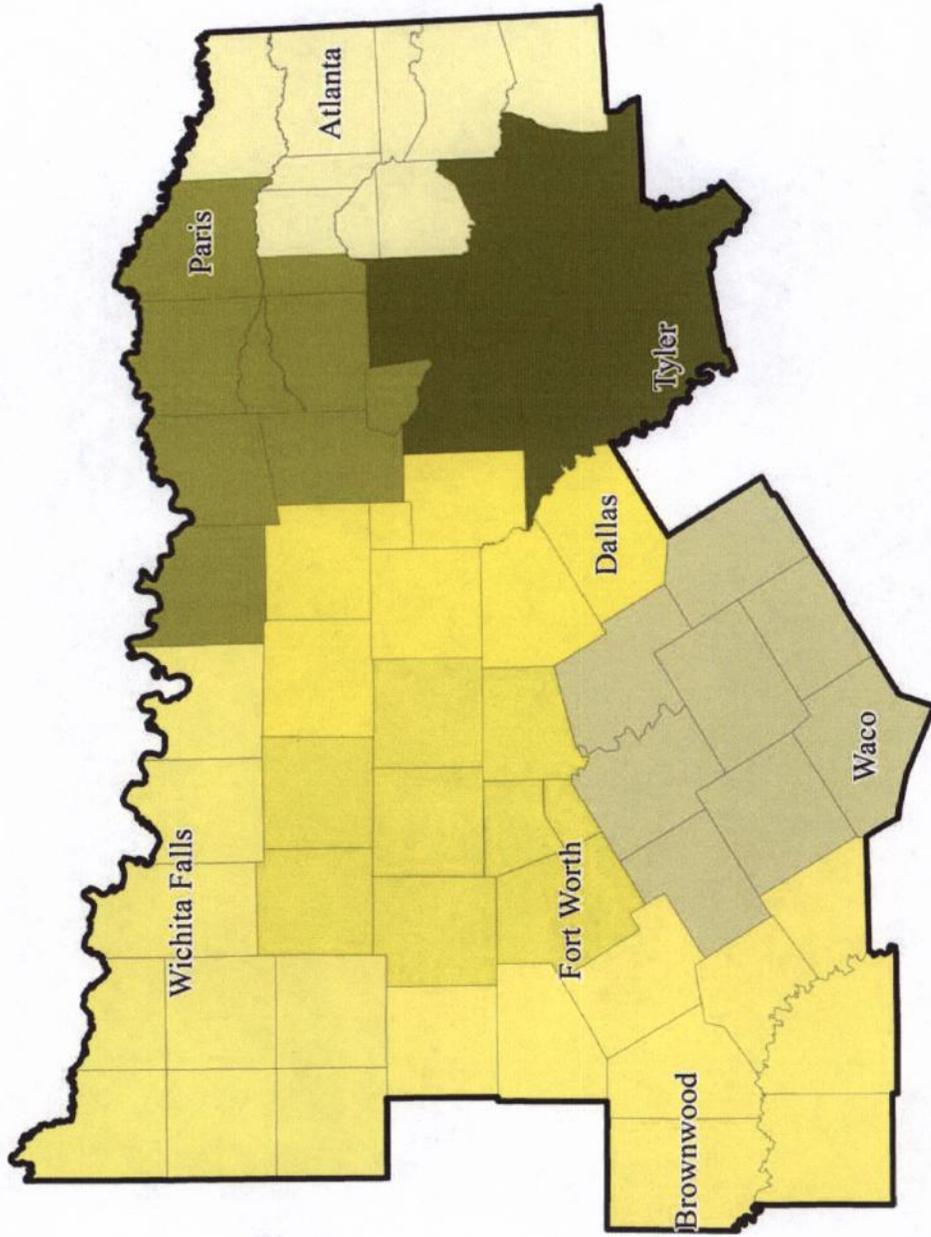


Date created: 15-05-2012
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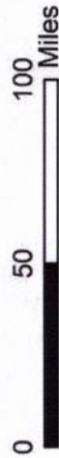
Data Sources:
TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html
USDS, Fire Science Laboratory, Rocky Mountain Research Station

Texas Department of Transportation (TxDOT) North Region Districts

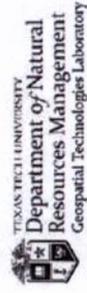


Legend

- TxDOT North Region
- TxDOT Districts
- District**
- Atlanta
- Brownwood
- Dallas
- Fort Worth
- Paris
- Tyler
- Waco
- Wichita Falls

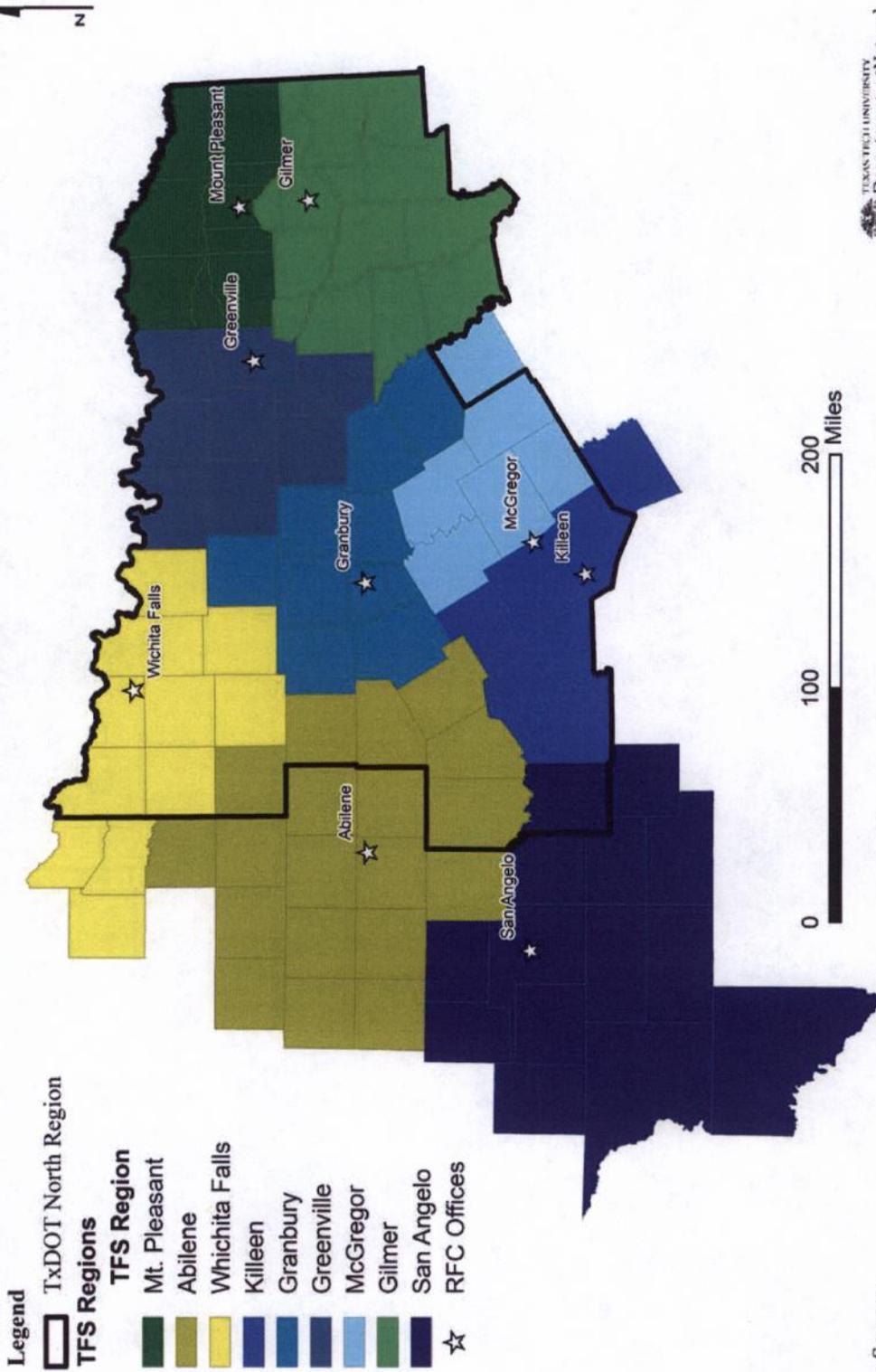


Data Sources:
TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html



Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Texas Forest Service (TFS) Regional Fire Coordinators (RFC) associated with the Texas Department of Transportation (TxDOT) North Region

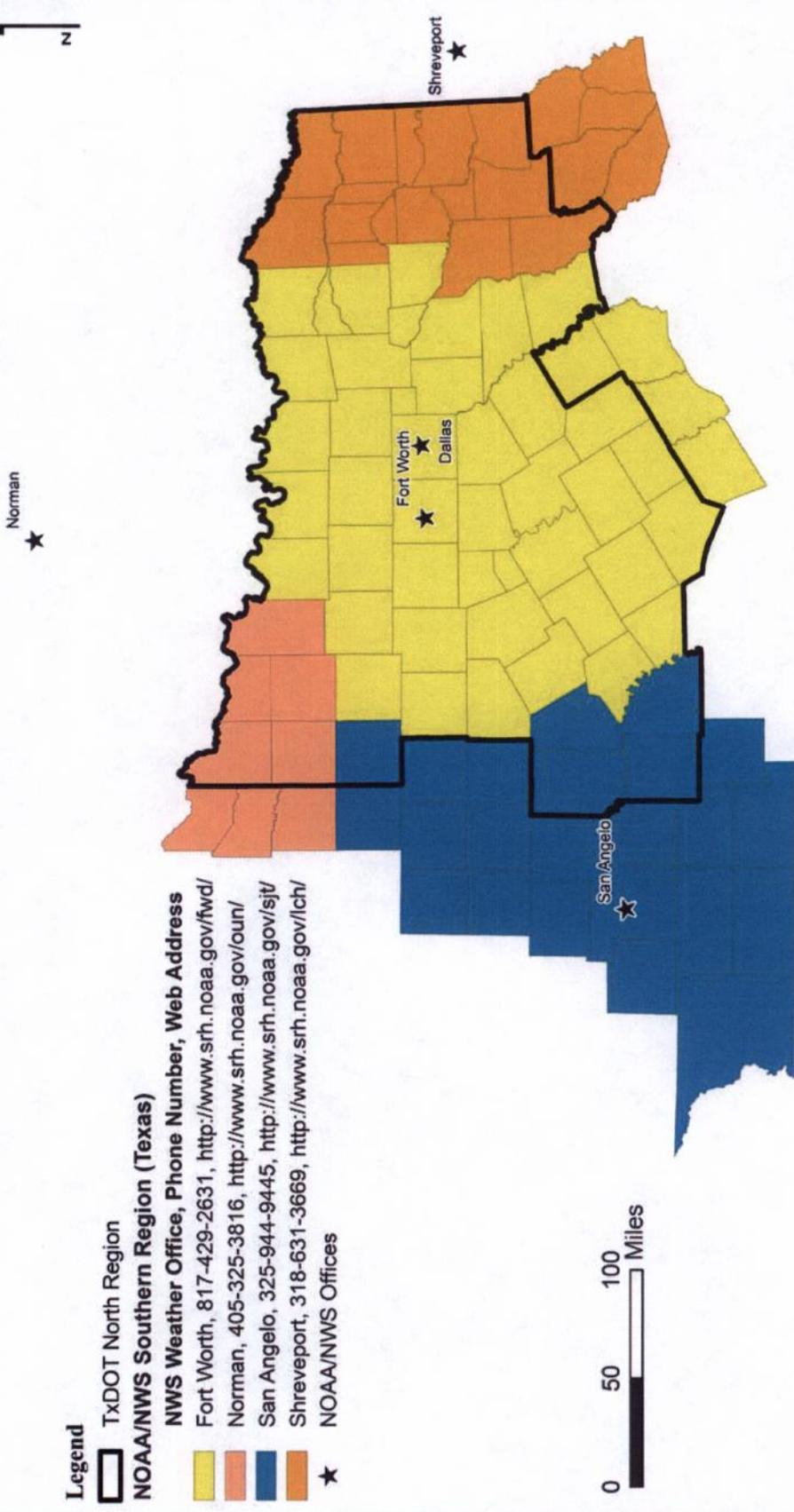


TEXAS TECH UNIVERSITY
Department of Natural
Resources Management
Geospatial Technologies Laboratory

Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Data Sources:
TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html
TFS
http://ticc.tamu.edu/Documents/Home/RFC_Map_with_Title.pdf
<http://txforestservicetamu.edu/main/article.aspx?id=10450>

National Weather Service (NWS) Offices and Centers associated with Texas Department of Transportation (TxDOT) North Region



Legend

TxDOT North Region

NOAA/NWS Southern Region (Texas)

NWS Weather Office, Phone Number, Web Address

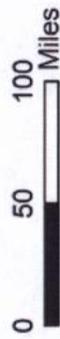
Fort Worth, 817-429-2631, <http://www.srh.noaa.gov/fwd/>

Norman, 405-325-3816, <http://www.srh.noaa.gov/oun/>

San Angelo, 325-944-9445, <http://www.srh.noaa.gov/sjt/>

Shreveport, 318-631-3669, <http://www.srh.noaa.gov/lch/>

NOAA/NWS Offices



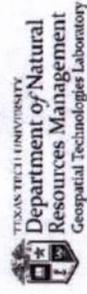
Data Sources:

TxDOT

http://www.dot.state.tx.us/local_information/regions/default.html

NOAA/NWS

<http://www.nws.noaa.gov/organization.php>

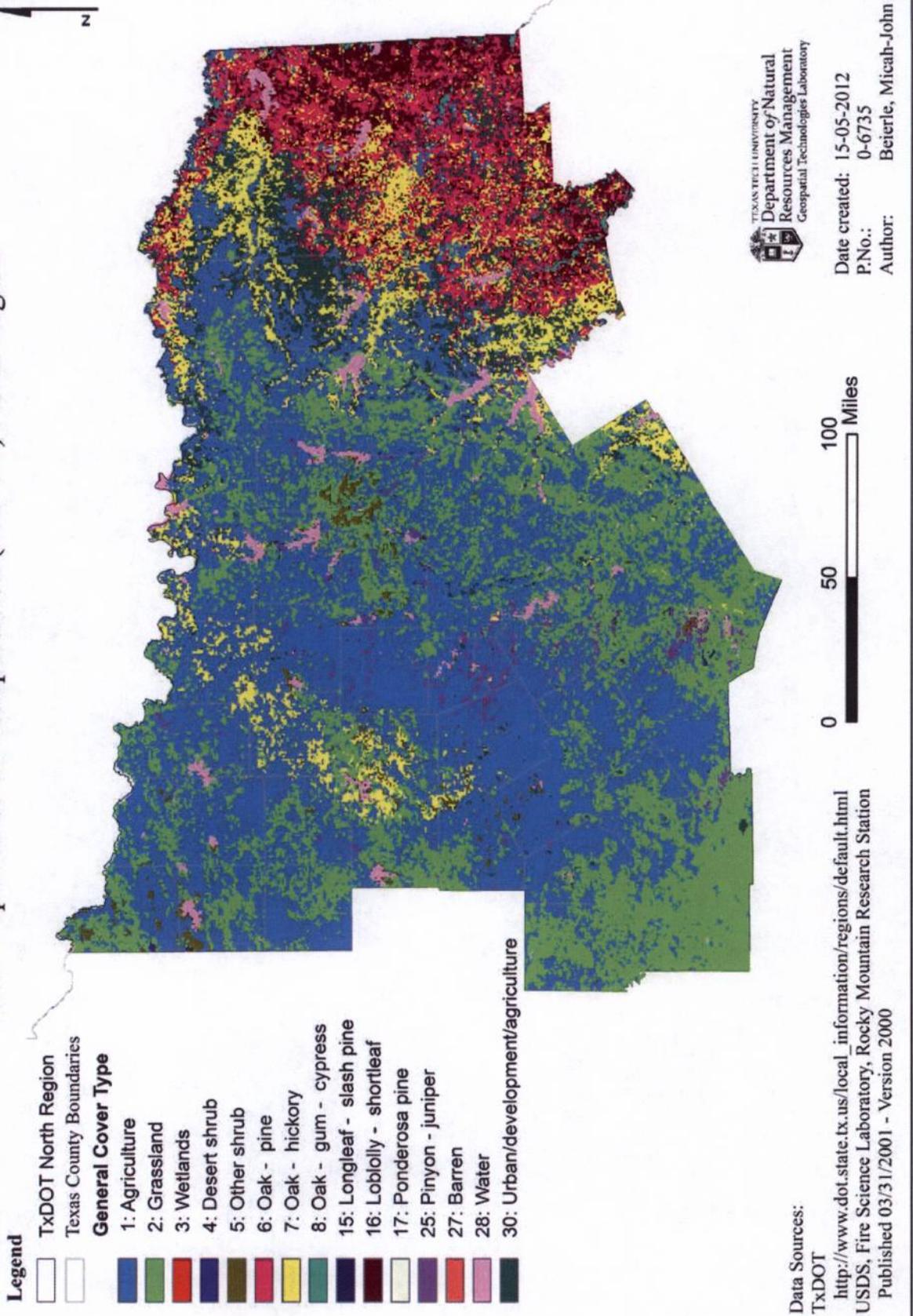


Date created: 15-05-2012

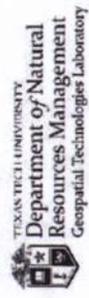
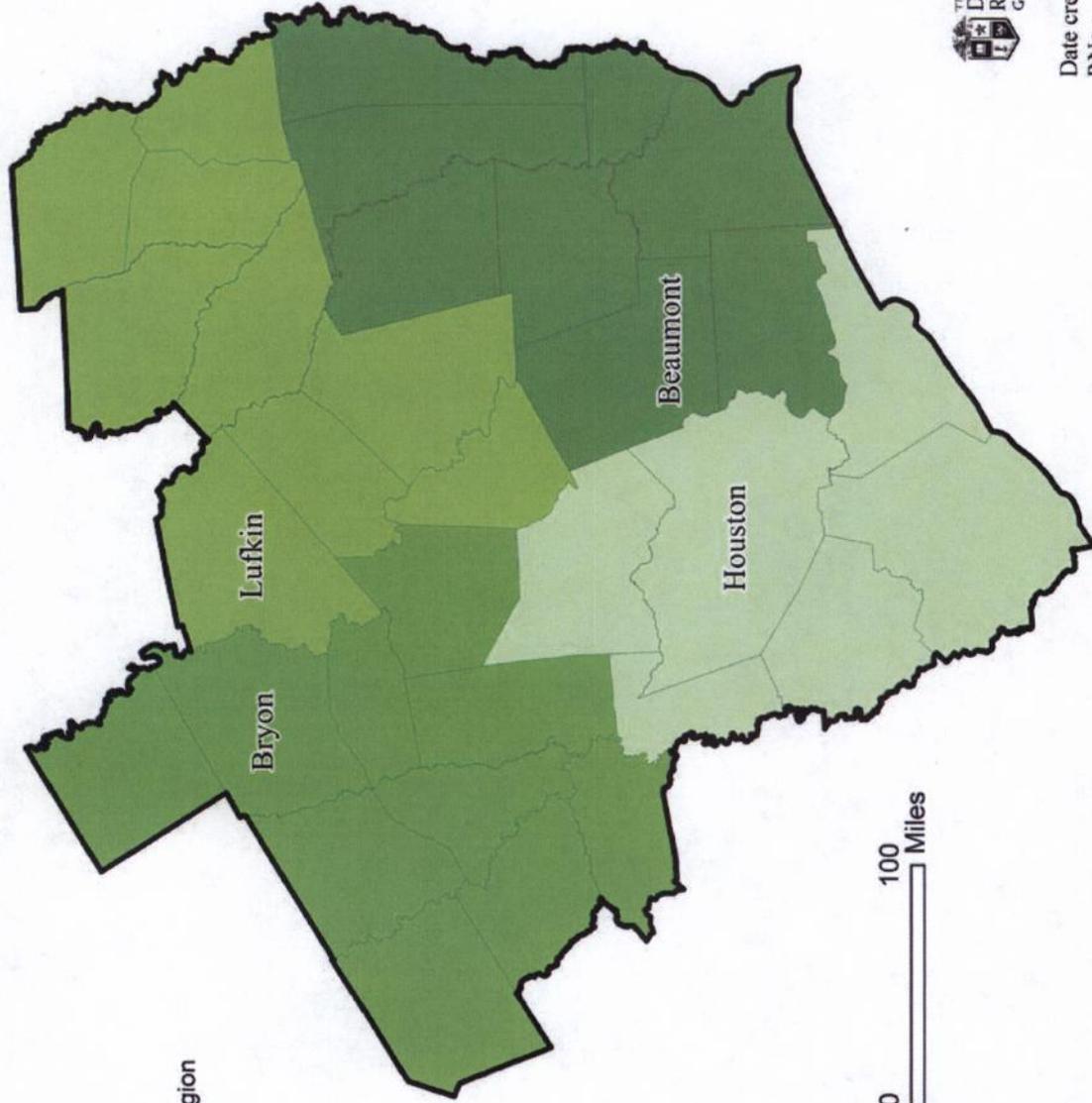
P.No.: 0-6735

Author: Beierle, Micah-John

General vegetative cover types as defined by the USDS, Fire Science Lab, RMRS associated with Texas Department of Transportation (TxDOT) North Region



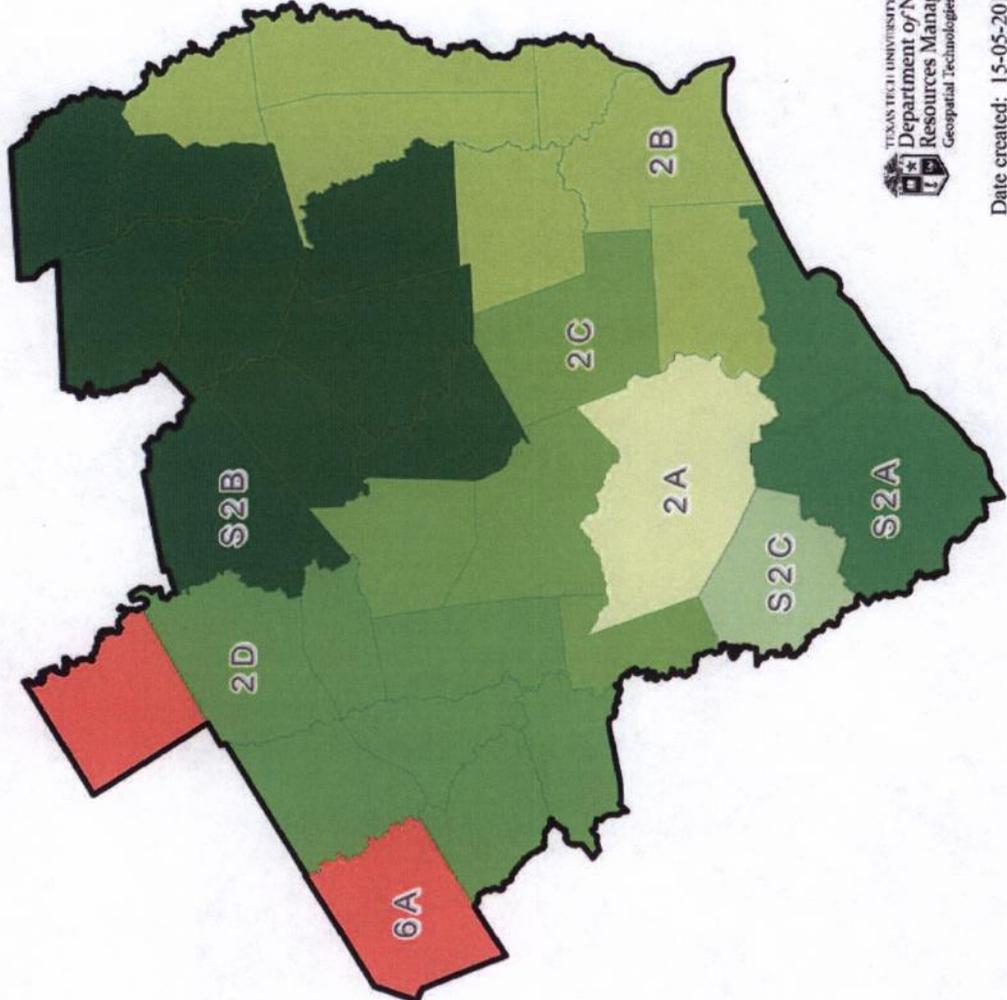
Texas Department of Transportation (TxDOT) East Regional Districts



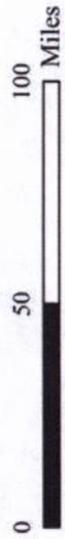
Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Data Sources:
TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html

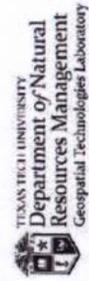
Texas Division of Emergency Management (TDEM) Districts, Coordinator, and Contact Number associated with the Texas Department of Transportation (TxDOT) East Region



Legend	
	TxDOT East Region
TDEM Regions	
	District, Coordinator, Contact Number
	2A, Jennifer Hawes, 281-642-0312
	2B, Jay Hall, 409-284-9381
	2C, DC Conroe Vacant, 936-672-3827
	2D, Al Guarino, 979-412-0003
	S2A, Mike L. Jones, 409-504-0390
	S2B, Randy Whittington, 936-208-3270
	S2C, David Noak, 979-320-4362
	6A, Tim Hood, 254-379-0087

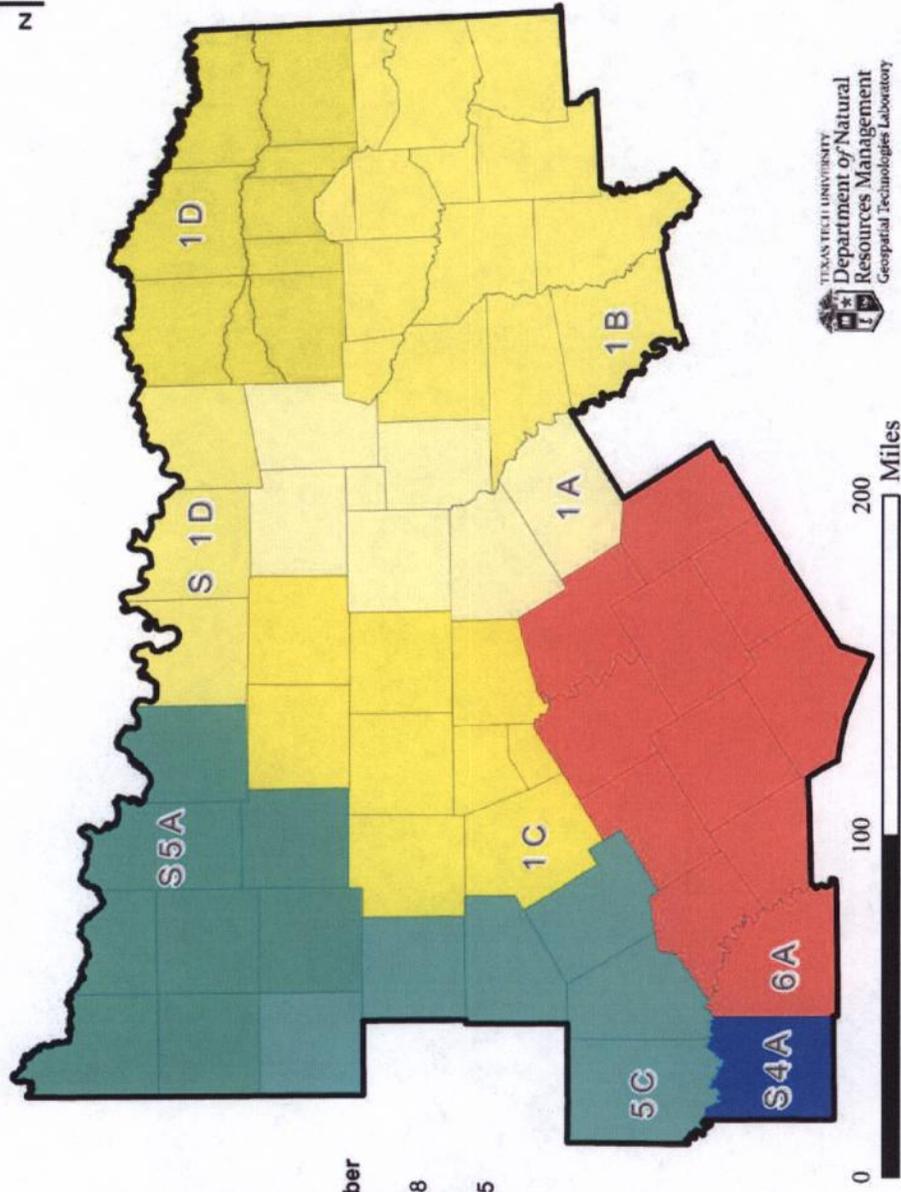


Data Sources:
 TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
 TDEM <http://www.txdps.state.tx.us/dem/temo/archives/2011/vol58No10/articles/article2.htm>



Date created: 15-05-2012
 P.No.: 0-6735
 Author: Beierle, Micah-John

Texas Division of Emergency Management (TDEM) Districts, Coordinator, and Contact Number associated with the Texas Department of Transportation (TxDOT) North Region



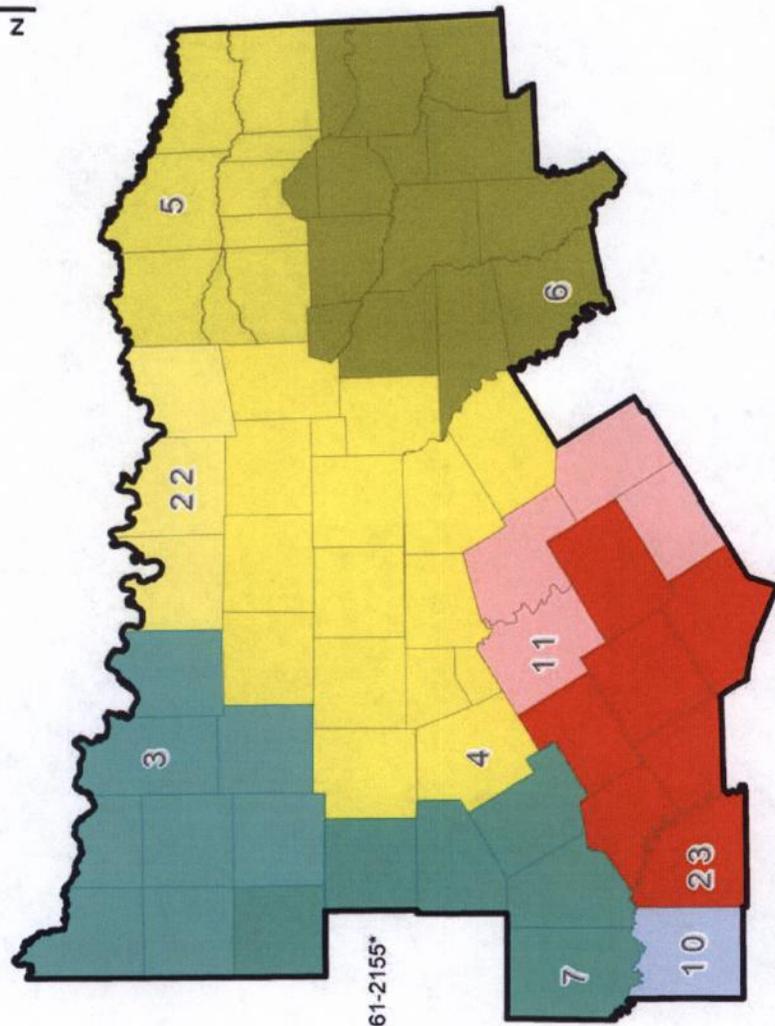
- Legend**
- TxDOT North Region
 - TDEM Regions**
 - 1A, Jimmie Badgett, 214-325-9426
 - 1B, Deaun Stinecipher, 903-920-5838
 - 1C, Sherri Copeland, 940-452-7757
 - 1D, Doyce Winchester, 903-241-0555
 - S 1D, DC Sherman VACANT,
 - S4A, Jerry Huffman, 325-513-2618
 - 5C, Jim White, 325-260-5591
 - S5A, Becky Pursur, 940-882-4030
 - 6A, Tim Hood, 254-379-0087



Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Data Sources:
TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
TDEM <http://www.txdps.state.tx.us/dem/temo/archives/2011/vol58No10/articles/article2.htm>

Texas Division of Emergency Management (TDEM) Districts, DDC Chairs, and contact number associated with the Texas Department of Transportation (TxDOT) North Region

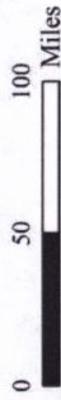


Legend

TxDOT North Region

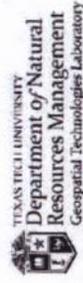
TDEM Regions

- | | |
|--|---|
| | District, DDC Chair, DDC Contact Number |
| | 4, Capts Michael Lathan & Bryan Rippee, 214-861-2155* |
| | 5, Capt. Michael Scullin, 903-572-3139 |
| | 22, Capt. Michael Scullin, 903-572-3139 |
| | 6, Capt. Audra Livingston, 903-939-6031 |
| | 3, Lt. Alan Troup, 940-851-5501 |
| | 7, Capt. Douglas Farber, 325-795-4020 |
| | 10, Lt. Roger Looka, 325-223-6811 |
| | 11, Capt. Tim Smith, 254-759-7160 |
| | 23, Capt. Tim Smith, 254-759-7160 |



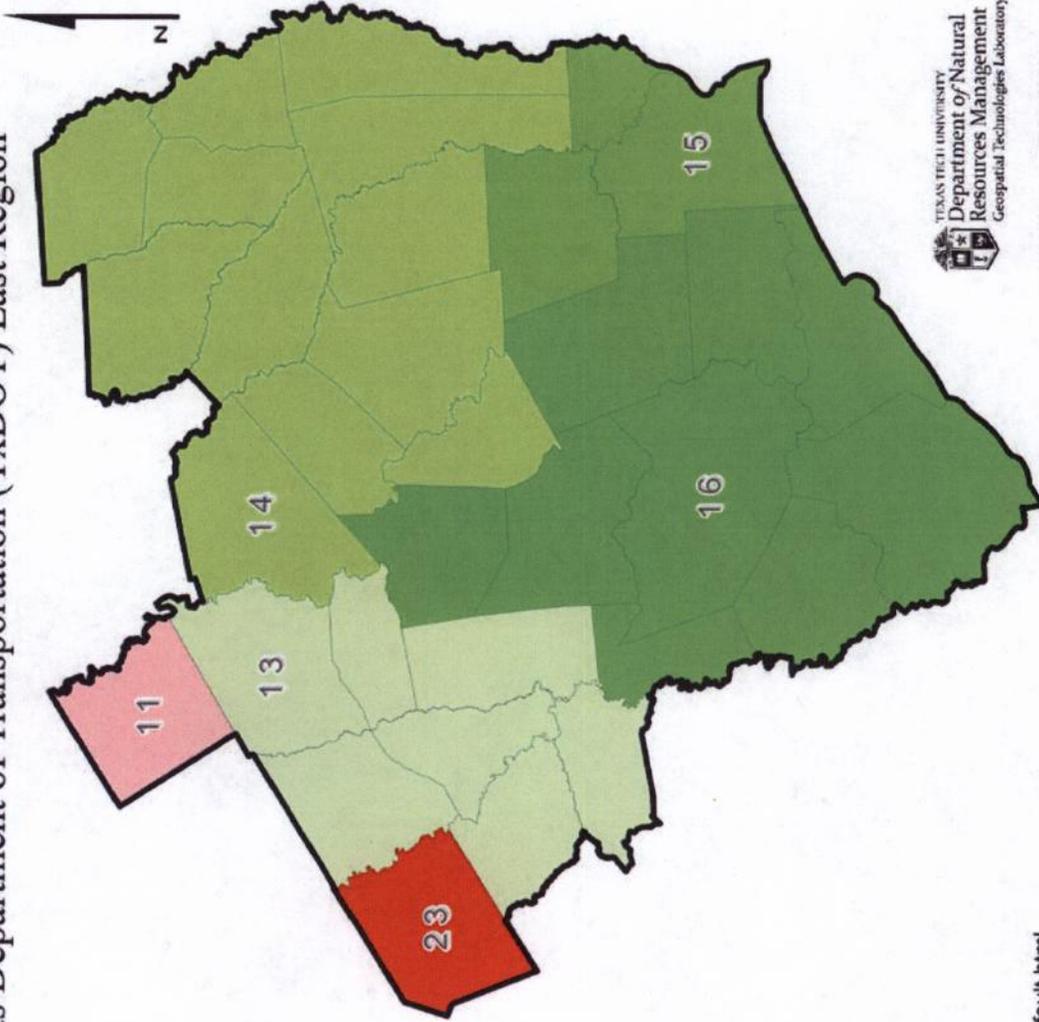
Data Sources:

- TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
- TDEM <http://www.txdps.state.tx.us/dem/temo/archives/2011/vol58No10/articles/article2.htm>



Date created: 15-05-2012
P.No.: 0-6735
Author: Bcierre, Micah-John

Texas Division of Emergency Management (TDEM) Districts, DDC Chairs, and contact number associated with the Texas Department of Transportation (TxDOT) East Region

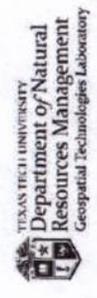


- Legend**
- TxDOT East Region
 - TDEM Regions**
 - Districts, DDC Chair, DDC Contact Number
 - 11, Capt. Tim Smith, 254-759-7160
 - 13, Capt. Ben Urbanczyk, 979-776-3182
 - 14, Lt. Roy Owens, 936-699-7302
 - 15, Capt. Larry Allen, 409-924-5422
 - 16, *multiple - see below for list
 - 23, Capt. Tim Smith, 254-759-7160

*Region II District 16:
Houston, Capt. Derek Rodriguez
Conroe, Capt. Terry Truett
Texas City, Lt. James Reyer
Pierce, Lt. Daniel Terronez



Data Sources:
 TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
 TDEM <http://www.txdps.state.tx.us/dem/temo/archives/2011/vol158No10/articles/article2.htm>

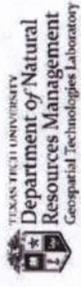
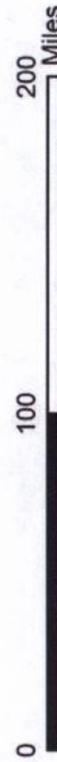
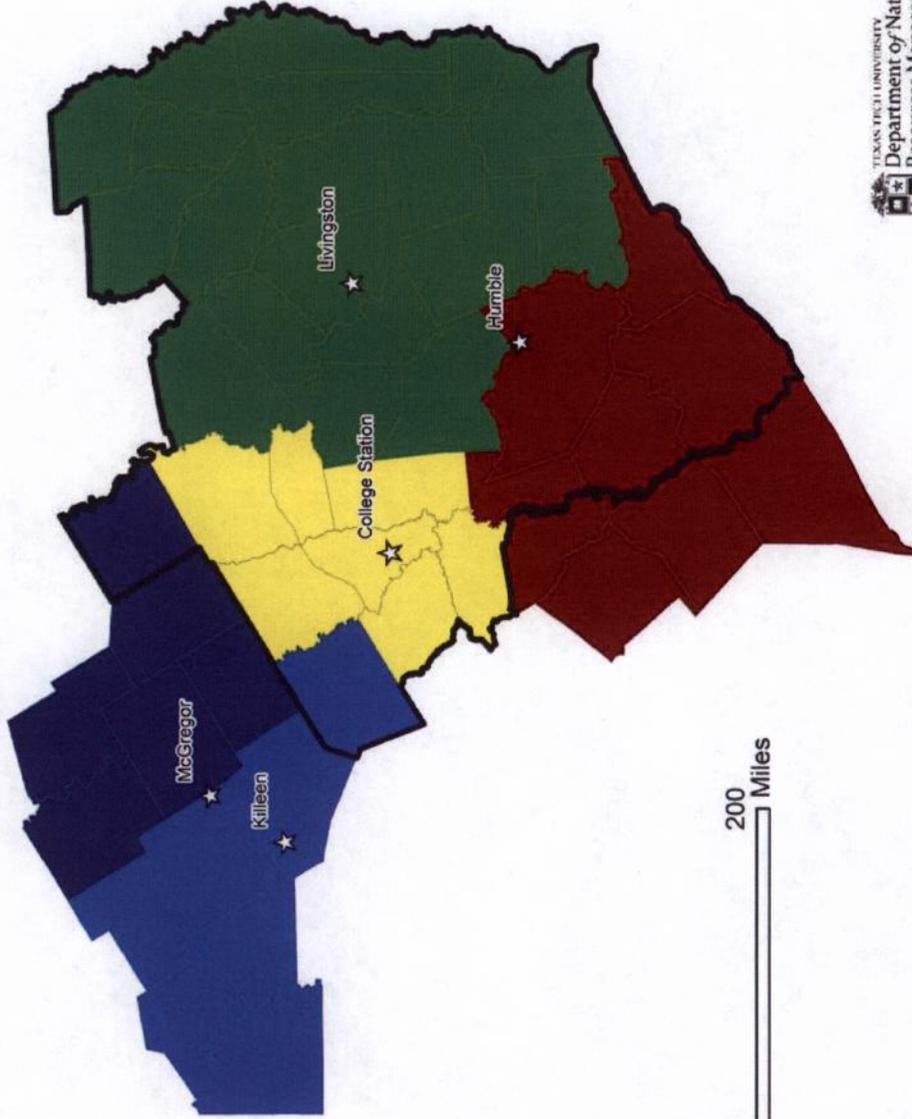


Date created: 15-05-2012
 P.No.: 0-6735
 Author: Beierle, Micah-John

Texas Forest Service (TFS) Regional Fire Coordinators (RFC) associated with the Texas Department of Transportation (TxDOT) East Region



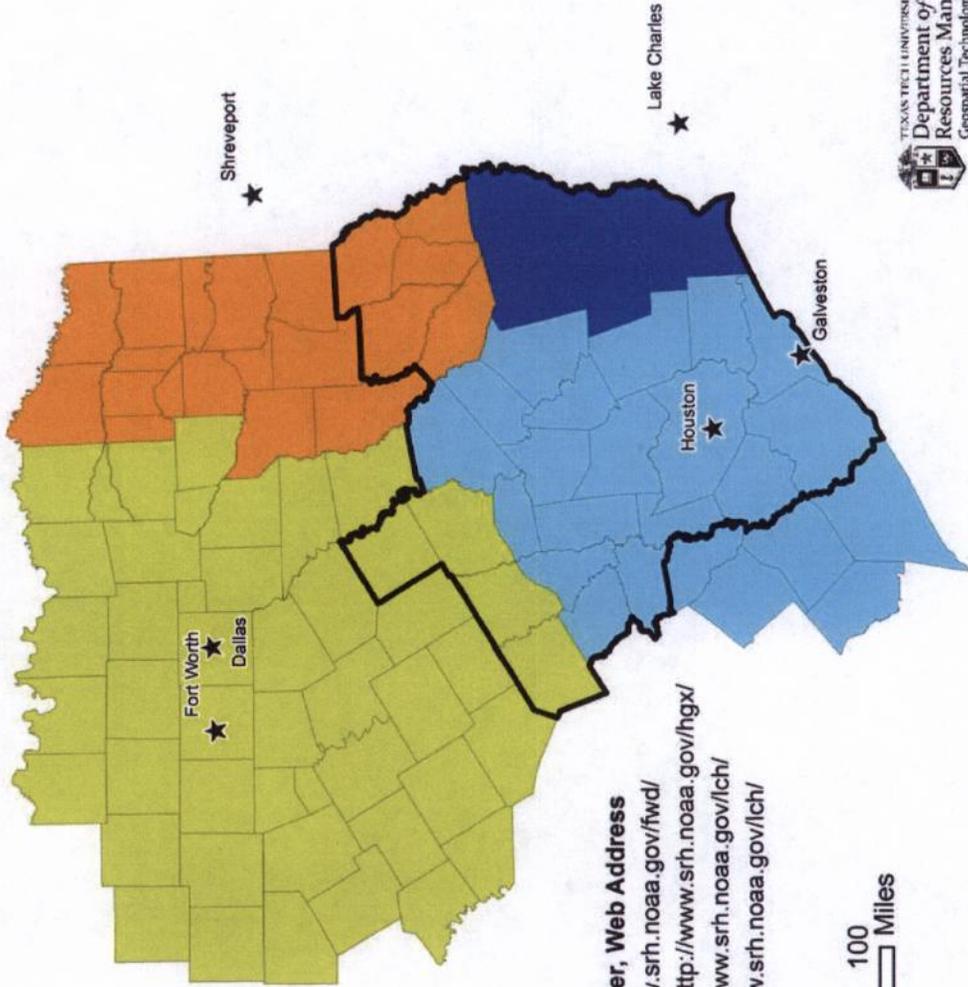
- Legend**
-  TxDOT East Region
 - TFS Regions**
 -  Livingston
 -  Killeen
 -  McGregor
 -  College Station
 -  South-Central
 -  RFC Offices



Date created: 15-05-2012
P.No.: 0-6735
Author: Beieric, Micah-John

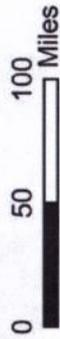
Data Sources:
TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
TFS http://ticc.tamu.edu/Documents/Home/RFC_Map_with_Title.pdf
<http://txforestservice.tamu.edu/main/article.aspx?id=10450>

National Weather Service (NWS) Offices and Centers associated with Texas Department of Transportation (TxDOT) East Region



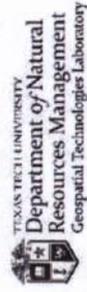
Legend

-  TxDOT East Region
- NOAA/NWS Southern Region (Texas)**
-  Fort Worth, 817-429-2631, <http://www.srh.noaa.gov/fwd/>
-  Houston/Galveston, 281-337-5074, <http://www.srh.noaa.gov/hgx/>
-  Lake Charles, 337-477-5285, <http://www.srh.noaa.gov/lch/>
-  Shreveport, 318-631-3669, <http://www.srh.noaa.gov/lch/>
-  NOAA-NWS Offices



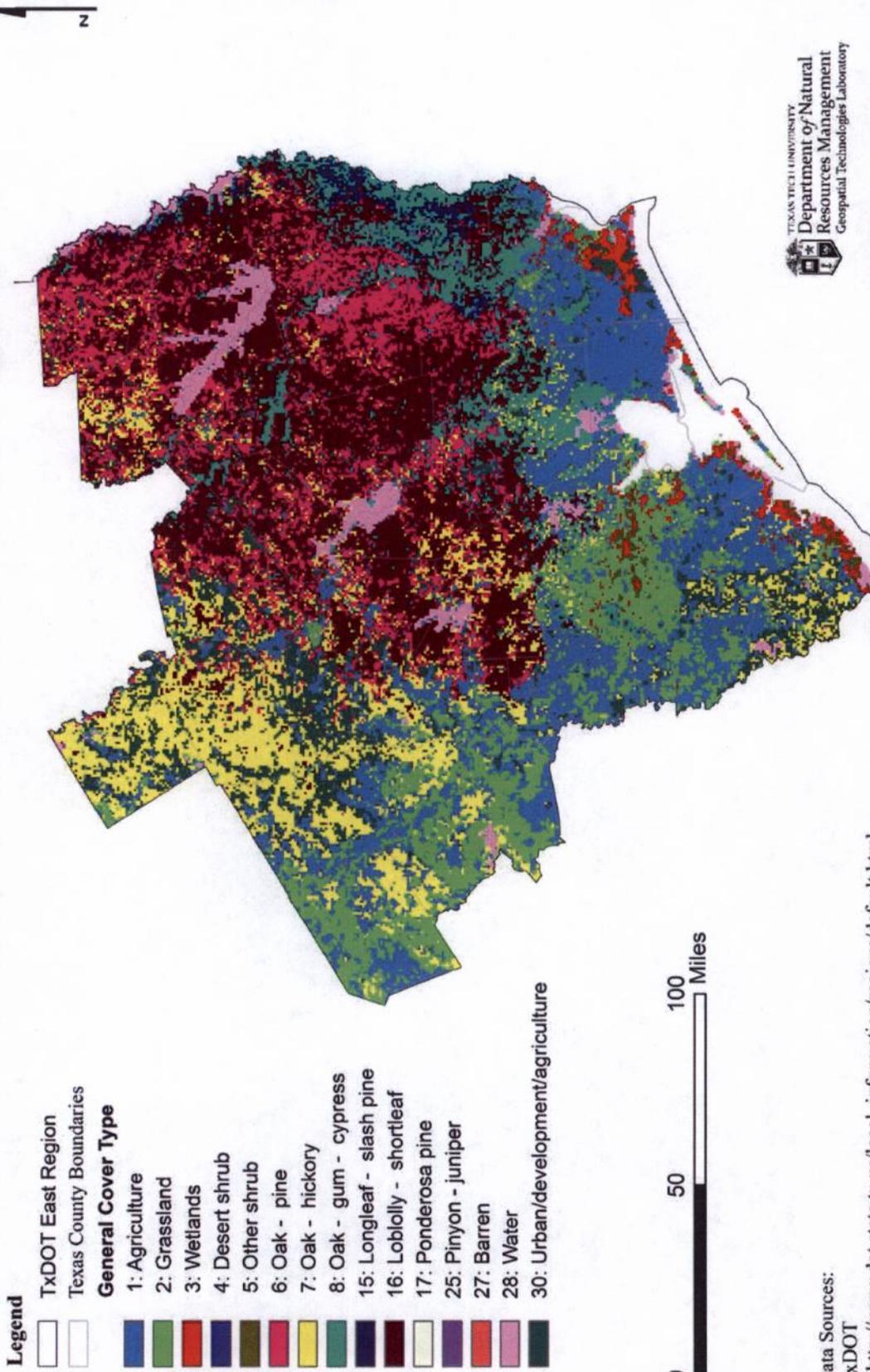
Data Sources:

- TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html
- NOAA/NWS
<http://www.nws.noaa.gov/organization.php>



Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

General vegetative cover types as defined by the USDS, Fire Science Lab, RMRS associated with Texas Department of Transportation (TxDOT) East Region

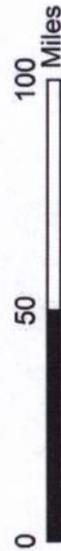


Legend

- TxDOT East Region
- Texas County Boundaries

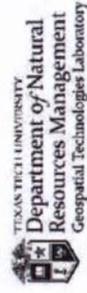
General Cover Type

- 1: Agriculture
- 2: Grassland
- 3: Wetlands
- 4: Desert shrub
- 5: Other shrub
- 6: Oak - pine
- 7: Oak - hickory
- 8: Oak - gum - cypress
- 15: Longleaf - slash pine
- 16: Loblolly - shortleaf
- 17: Ponderosa pine
- 25: Pinyon - juniper
- 27: Barren
- 28: Water
- 30: Urban/development/agriculture



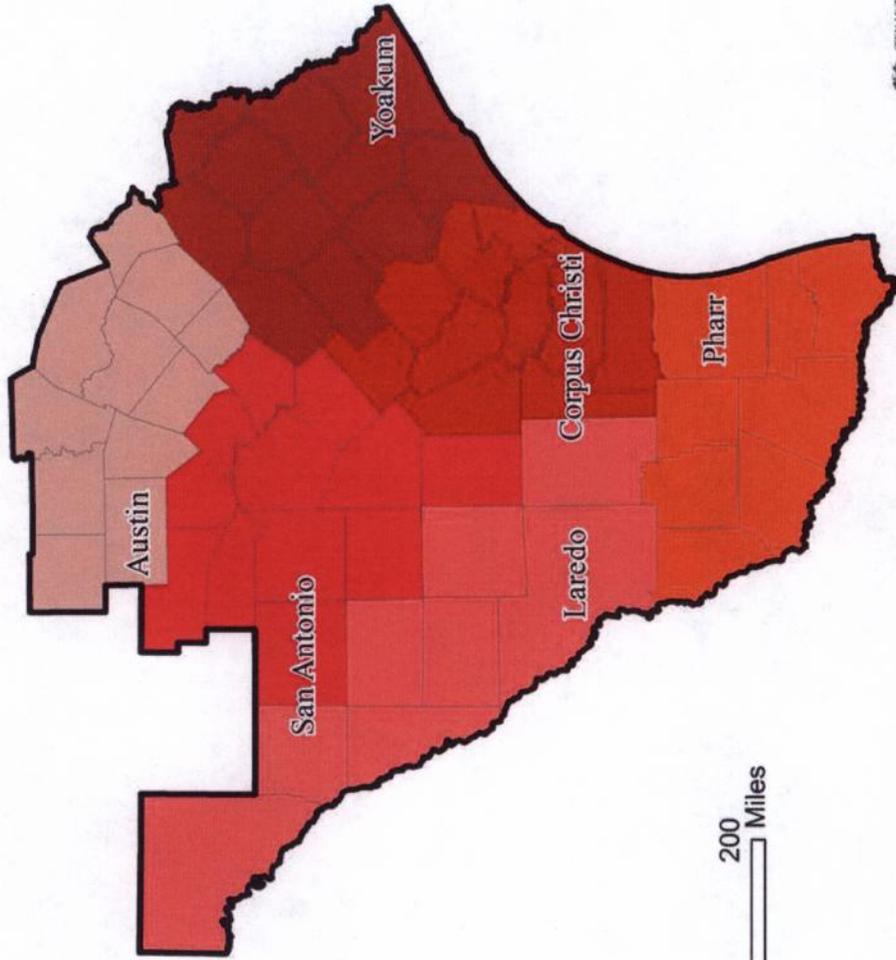
Data Sources:

- TxDOT
- http://www.dot.state.tx.us/local_information/regions/default.html
- USDS, Fire Science Laboratory, Rocky Mountain Research Station
- Published 03/31/2001 - Version 2000



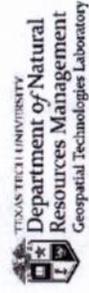
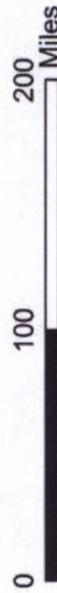
Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Texas Department of Transportation (TxDOT) South Regional Districts



Legend

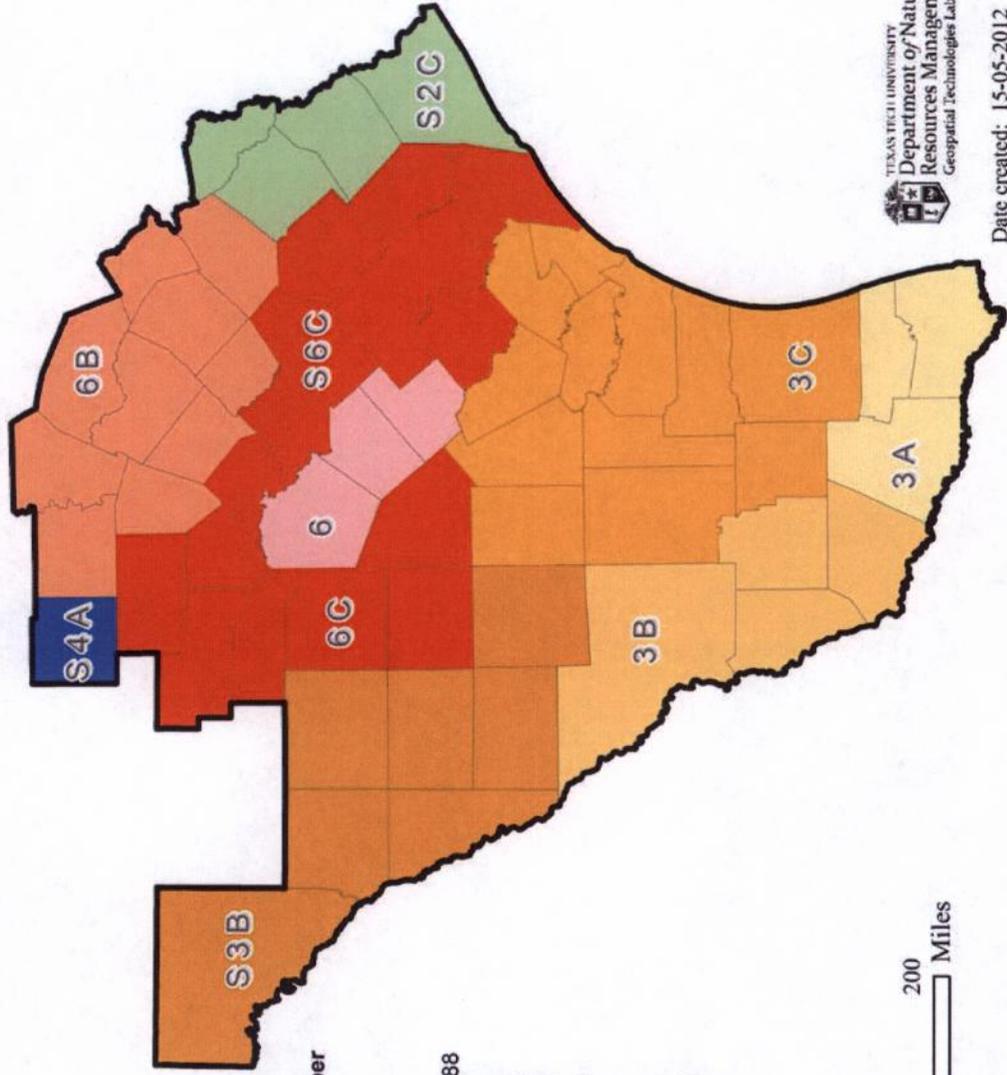
- TxDOT South Region
- TxDOT Districts
- District**
- Austin
- Corpus Christi
- Laredo
- Pharr
- San Antonio
- Yoakum



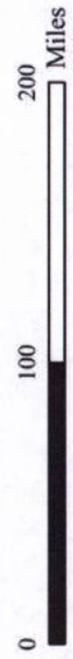
Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Data Sources:
TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html

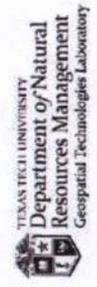
Texas Division of Emergency Management (TDEM) Districts, Coordinator, and Contact Number associated with the Texas Department of Transportation (TxDOT) South Region



Legend	
	TxDOT South Region
TDEM Regions	
District, Coordinator, Contact Number	
S2C, David Noak, 979-320-4362	
3A, Jorge Jalomo, 956-227-0696	
3B, Jose Alejandro,	
3C, Brandi Ashby-Fisher, 361-438-5388	
S4A, Jerry Huffman, 325-513-2618	
6, Stephen Gladstone, 210-559-3496	
6, Stephen Gladstone, 210-559-3497	
6, Stephen Gladstone, 210-559-3498	
6B, Jack Doebbler, 512-848-1080	
6C, Summer Ray, 210-452-8860	
S3B, Fernando Perez, 830-776-8773	
S6C, Alex Camacho, 361-788-3532	

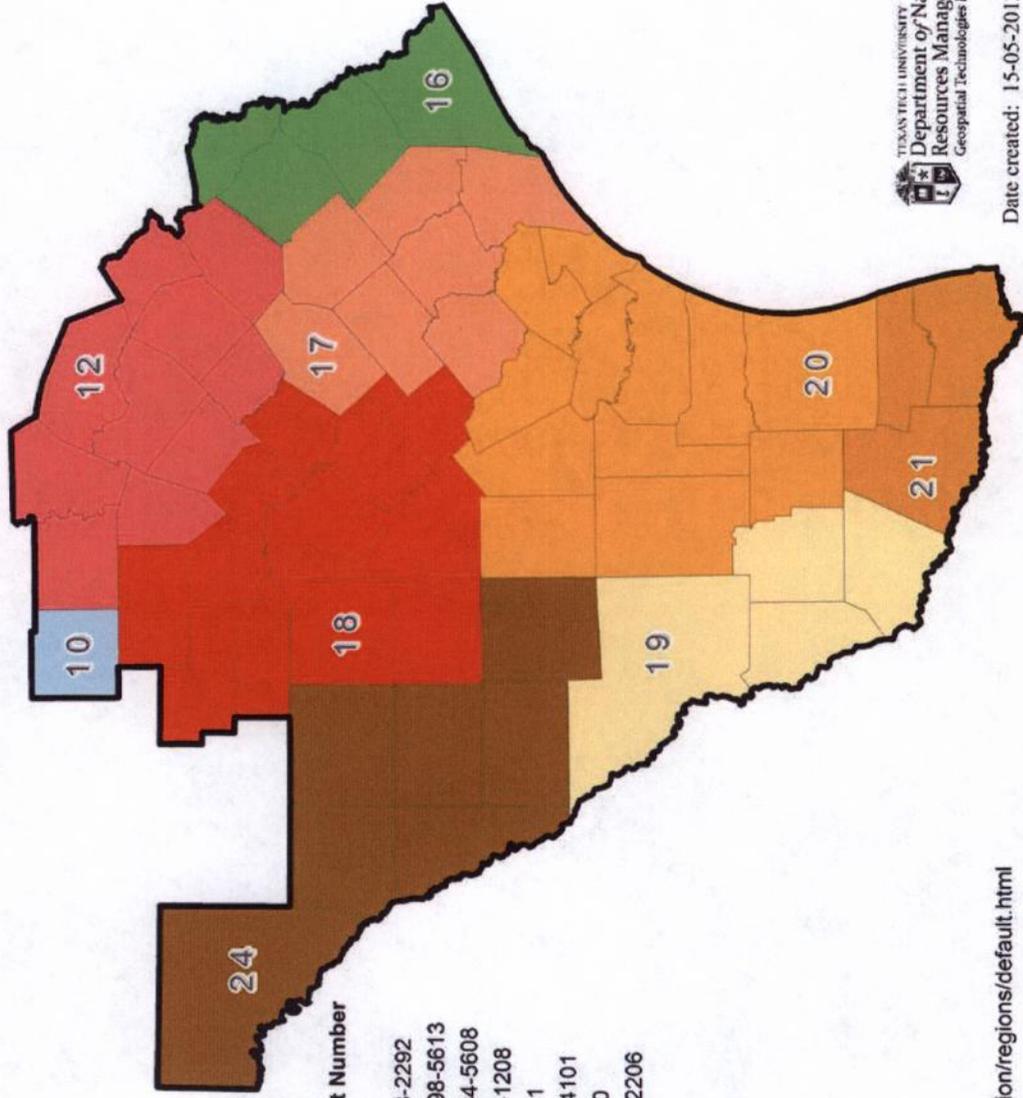


Data Sources:
 TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
 TDEM <http://www.txdps.state.tx.us/dem/femo/archives/2011/vol58No10/articles/article2.htm>



Date created: 15-05-2012
 P.No.: 0-6735
 Author: Beierle, Micah-John

Texas Division of Emergency Management (TDEM) Districts, DDC Chairs, and contact number associated with the Texas Department of Transportation (TxDOT) South Region



Legend

TxDOT South Region

TDEM Regions

- | Color | District, DDC Chair, DDC Contact Number |
|--------------|---|
| Green | 16, *multiple - see below for list |
| Light Orange | 19, Capt. Orlando Alanis, 956-728-2292 |
| Orange | 20, Capt. Rhonda Lawson, 361-698-5613 |
| Dark Orange | 21, Capt. Juan Rodriguez, 956-984-5608 |
| Brown | 24, Lt. Jerome Johnson, 830-703-1208 |
| Blue | 10, Lt. Roger Looka, 325-223-6811 |
| Red | 12, Capt. Paul Schulze, 512-997-4101 |
| Dark Red | 17, Lt. Glen Garrett, 361-578-3400 |
| Dark Red | 18, Capt. Steven Tellez, 210-531-2206 |

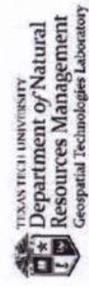
***Region II District 16:**

- Houston, Capt. Derek Rodriguez
- Conroe, Capt. Terry Truett
- Texas City, Lt. James Reyer
- Pierce, Lt. Daniel Terronez



Data Sources:

- TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
- TDEM <http://www.txdps.state.tx.us/dem/temo/archives/2011/vol58No10/articles/article2.htm>

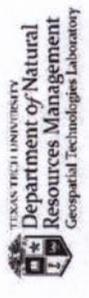
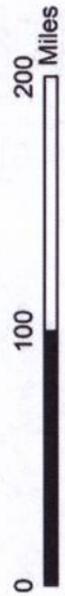
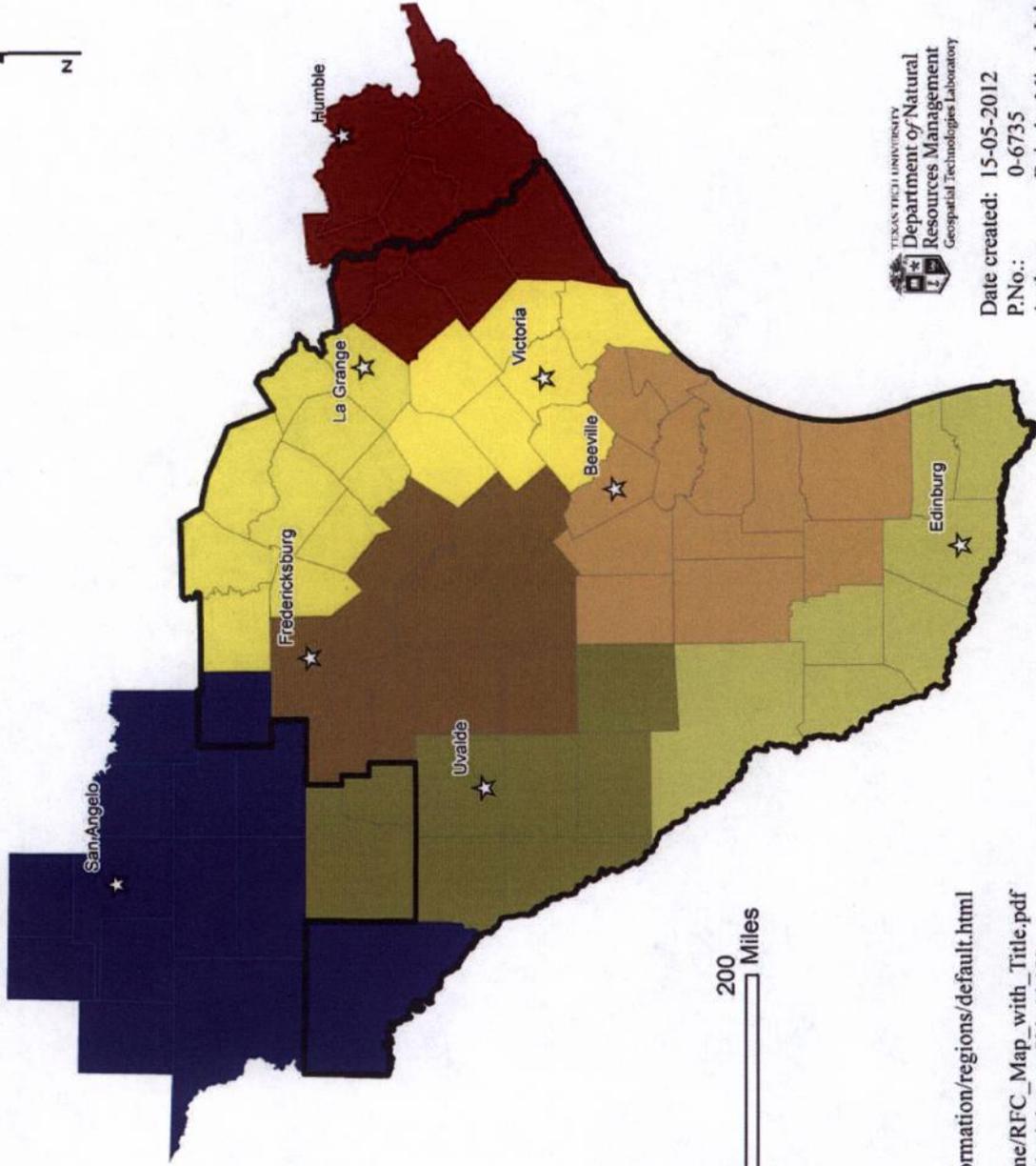


Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Texas Forest Service (TFS) Regional Fire Coordinators (RFC) associated with the Texas Department of Transportation (TxDOT) South Region



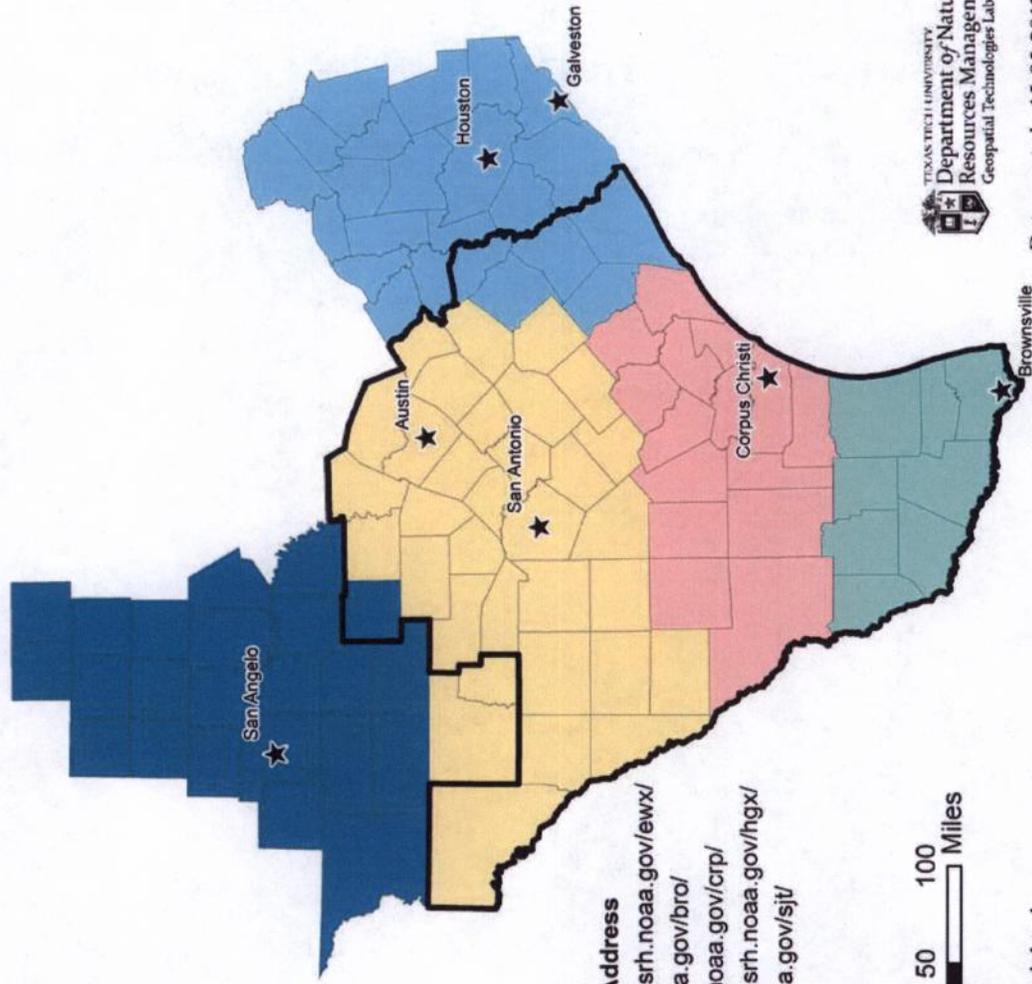
- Legend**
-  TxDOT South Region
 - TFS Regions**
 -  South-Central
 -  LaGrange
 -  Victoria
 -  Beeville
 -  Edinburg
 -  Fredericksburg
 -  Uvalde
 -  San Angelo
 -  RFC Offices



Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

Data Sources:
TxDOT http://www.dot.state.tx.us/local_information/regions/default.html
TFS http://ticc.tamu.edu/Documents/Home/RFC_Map_with_Title.pdf
<http://txforestservice.tamu.edu/main/article.aspx?id=10450>

National Weather Service (NWS) Offices and Centers associated with Texas Department of Transportation (TxDOT) South Region



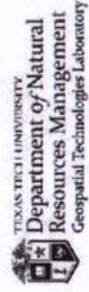
Legend

- TxDOT South Region
- NOAA/NWS Southern Region (Texas)
- NWS Weather Office, Phone Number, Web Address
- Austin/San Antonio, 830-606-3617, <http://www.srh.noaa.gov/ewx/>
- Brownsville, 956-504-1432, <http://www.srh.noaa.gov/brw/>
- Corpus Christi, 361-289-0959, <http://www.srh.noaa.gov/crp/>
- Houston/Galveston, 281-337-5074, <http://www.srh.noaa.gov/hgx/>
- San Angelo, 325-944-9445, <http://www.srh.noaa.gov/sjt/>
- NOAA-NWS Offices



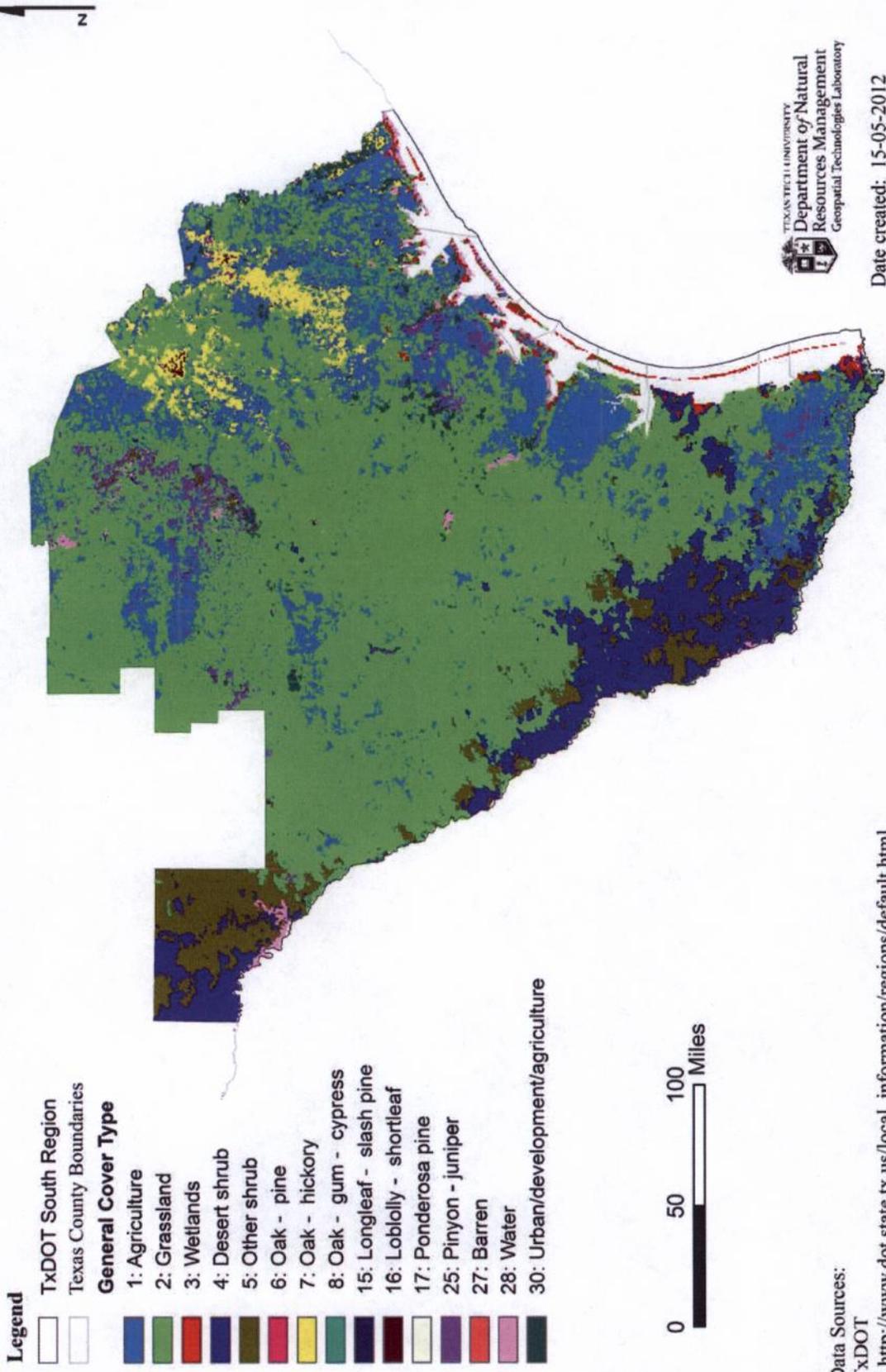
Data Sources:

- TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html
- NOAA/NWS
<http://www.nws.noaa.gov/organization.php>



Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

General vegetative cover types as defined by the USDS, Fire Science Lab, RMRS associated with Texas Department of Transportation (TxDOT) South Region



Legend

- TxDOT South Region
- Texas County Boundaries

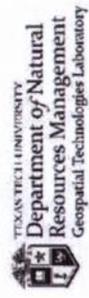
General Cover Type

- 1: Agriculture
- 2: Grassland
- 3: Wetlands
- 4: Desert shrub
- 5: Other shrub
- 6: Oak - pine
- 7: Oak - hickory
- 8: Oak - gum - cypress
- 15: Longleaf - slash pine
- 16: Loblolly - shortleaf
- 17: Ponderosa pine
- 25: Pinyon - juniper
- 27: Barren
- 28: Water
- 30: Urban/development/agriculture



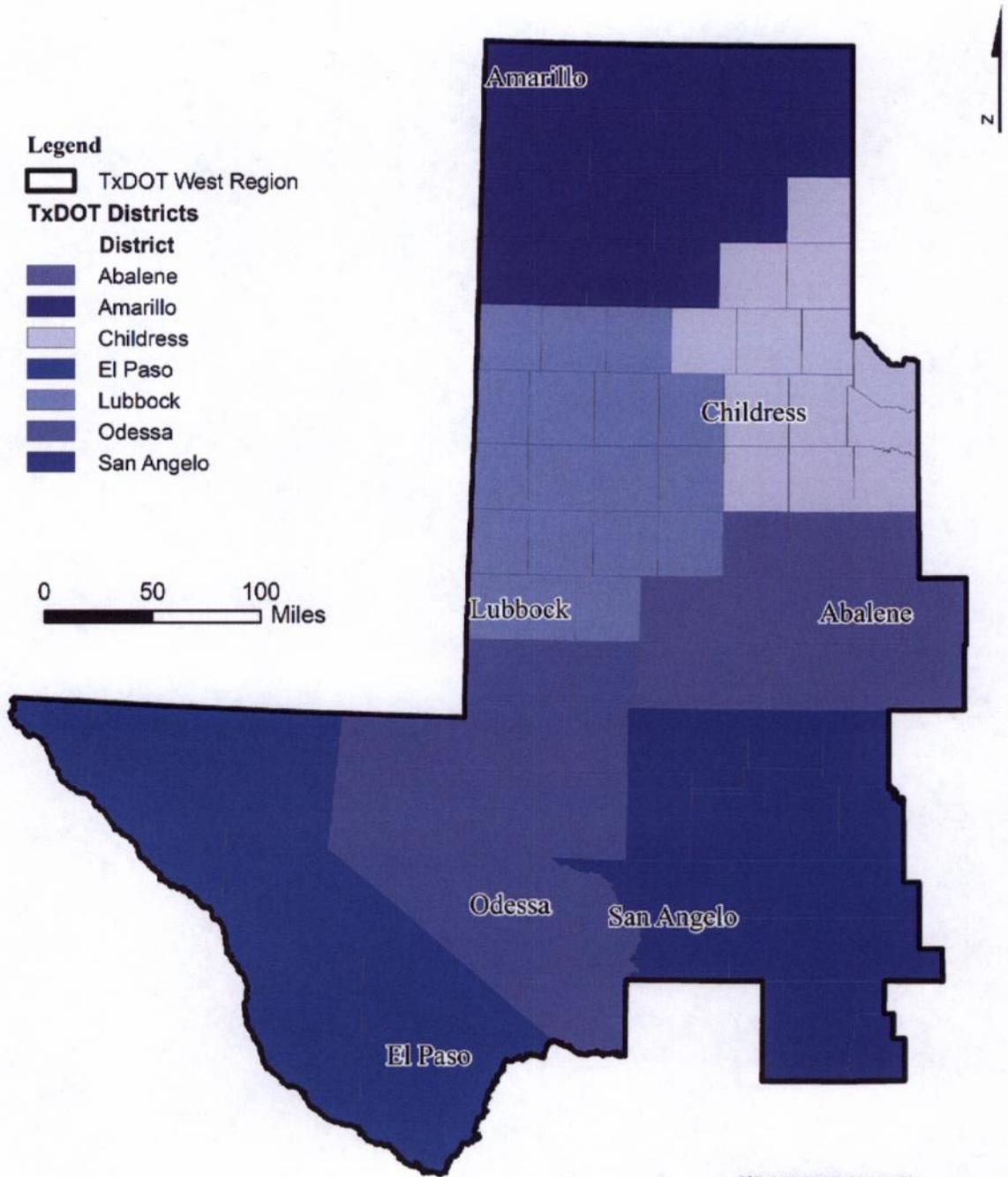
Data Sources:

TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html
 USDS, Fire Science Laboratory, Rocky Mountain Research Station
 Published 03/31/2001 - Version 2000



Date created: 15-05-2012
 P.No.: 0-6735
 Author: Beierle, Micah-John

Texas Department of Transportation (TxDOT) West Regional Districts

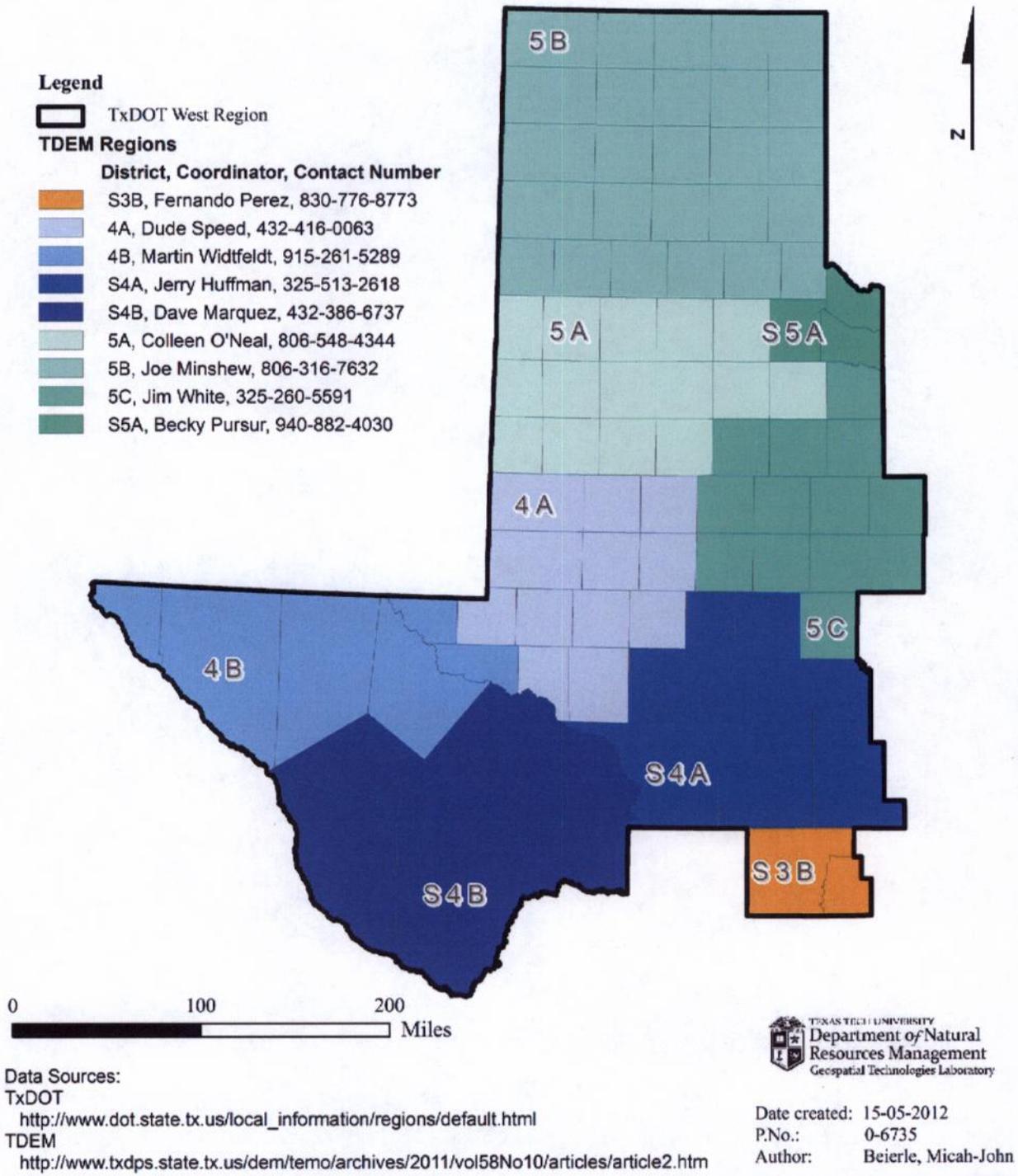


Data Sources:
TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html

TEXAS TECH UNIVERSITY
Department of Natural
Resources Management
Geospatial Technologies Laboratory

Date created: 15-05-2012
P.No.: 0-6735
Author: Beierle, Micah-John

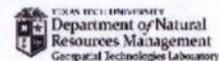
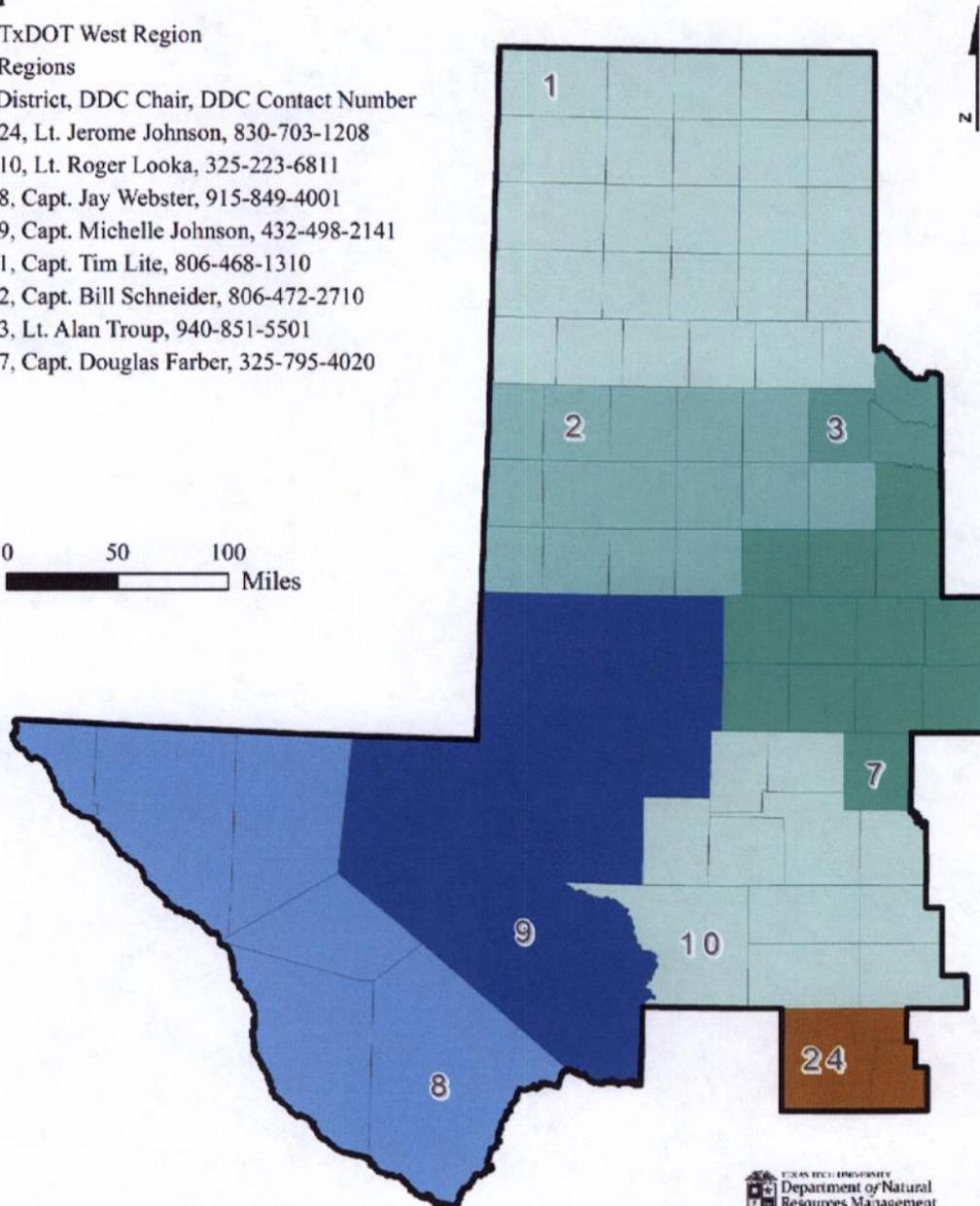
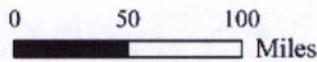
Texas Division of Emergency Management (TDEM) Districts, Coordinator, and Contact Number associated with the Texas Department of Transportation (TxDOT) West Region



Texas Division of Emergency Management (TDEM) Districts, DDC Chairs, and contact number associated with the Texas Department of Transportation (TxDOT) West Region

Legend

- TxDOT West Region
- TDEM Regions
- District, DDC Chair, DDC Contact Number
- 24, Lt. Jerome Johnson, 830-703-1208
- 10, Lt. Roger Looka, 325-223-6811
- 8, Capt. Jay Webster, 915-849-4001
- 9, Capt. Michelle Johnson, 432-498-2141
- 1, Capt. Tim Lite, 806-468-1310
- 2, Capt. Bill Schneider, 806-472-2710
- 3, Lt. Alan Troup, 940-851-5501
- 7, Capt. Douglas Farber, 325-795-4020



Data Sources:

TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html

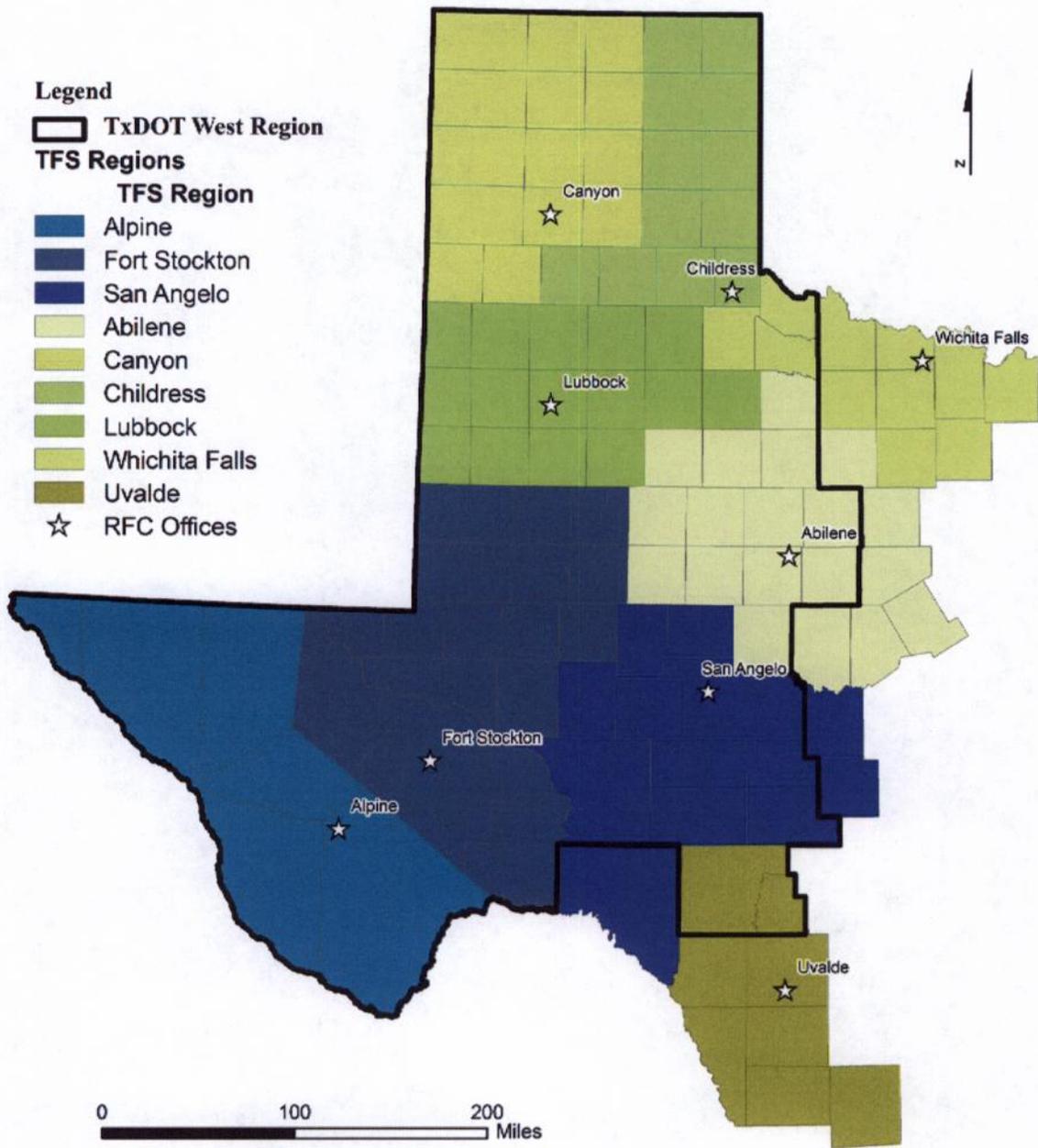
TDEM
<http://www.txdps.state.tx.us/dem/temo/archives/2011/vol58No10/articles/article2.htm>

Date created: 15-05-2012

P.No.: 0-6735

Author: Beierle, Micah-John

Texas Forest Service (TFS) Regional Fire Coordinators (RFC) associated with the Texas Department of Transportation (TxDOT) West Region



Data Sources:

TxDOT

http://www.dot.state.tx.us/local_information/regions/default.html

TFS

http://ticc.tamu.edu/Documents/Home/RFC_Map_with_Title.pdf

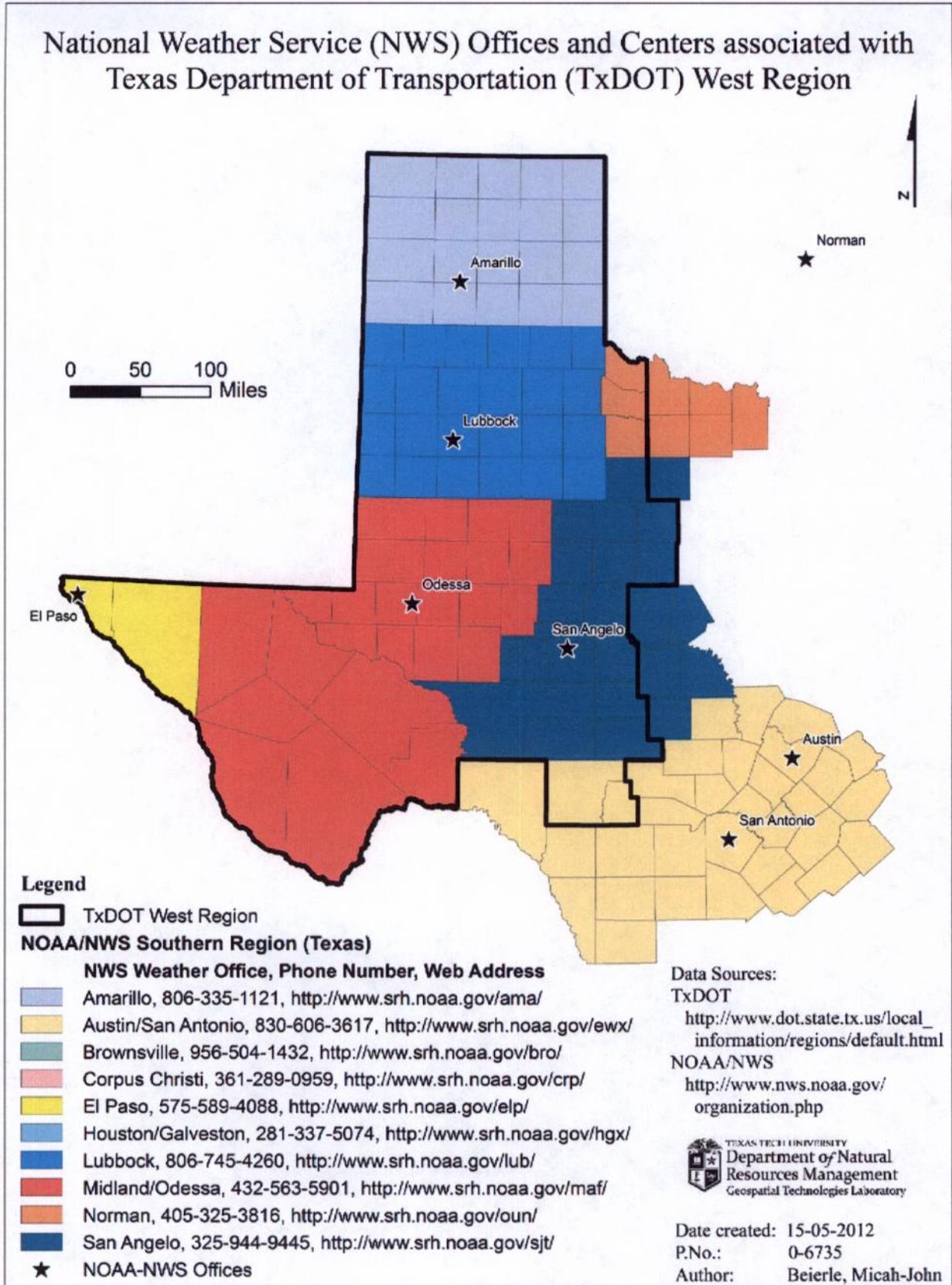
<http://txforestservicetamu.edu/main/article.aspx?id=10450>



Date created: 15-05-2012

P.No.: 0-6735

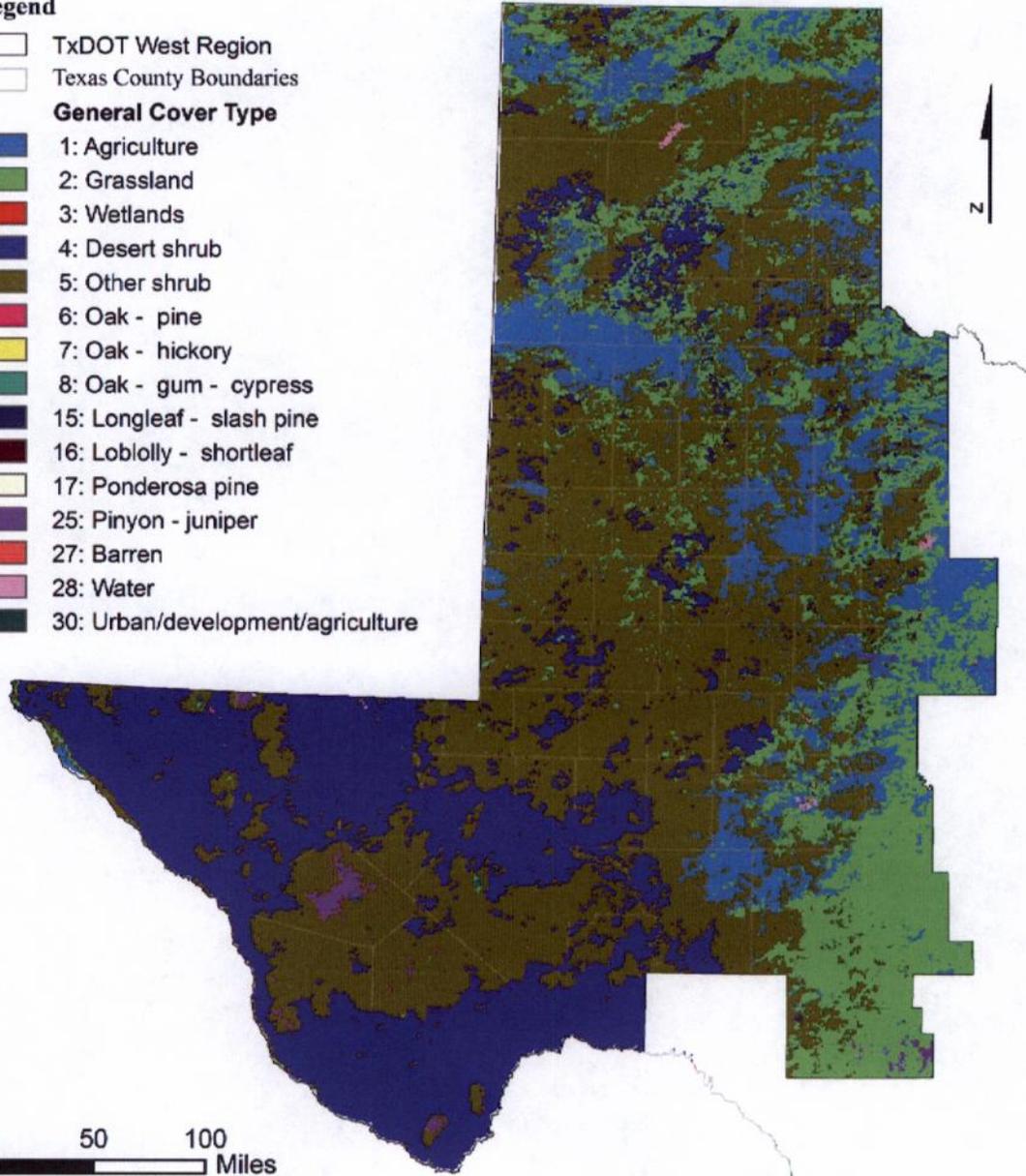
Author: Beierle, Micah-John



General vegetative cover types as defined by the USDS, Fire Science Lab, RMRS associated with Texas Department of Transportation (TxDOT) West Region

Legend

- TxDOT West Region
- Texas County Boundaries
- General Cover Type**
- 1: Agriculture
- 2: Grassland
- 3: Wetlands
- 4: Desert shrub
- 5: Other shrub
- 6: Oak - pine
- 7: Oak - hickory
- 8: Oak - gum - cypress
- 15: Longleaf - slash pine
- 16: Loblolly - shortleaf
- 17: Ponderosa pine
- 25: Pinyon - juniper
- 27: Barren
- 28: Water
- 30: Urban/development/agriculture



Data Sources:

TxDOT
http://www.dot.state.tx.us/local_information/regions/default.html
 USDS, Fire Science Laboratory, Rocky Mountain Research Station
 Published 03/31/2001 - Version 2000



Date created: 15-05-2012
 P.No.: 0-6735
 Author: Beierle, Micah-John

2012 Recommended Radio Programming Instructions

2012 Recommended Radio Programming Instructions For Priority Emergency Interoperability Channels In the Migration to Narrowband In compliance with the Texas Statewide Interoperability Channel Plan (TSICP)

Purpose

To assist agencies with prioritizing VHF/UHF emergency interoperability channels to program in responder radios with limited channel capacity.

Programming Interoperable Channels

There are 21 VHF national **narrowband (NB)** interoperable channels and two State of Texas VHF narrowband interoperable calling channels. There are eight VHF **wideband** interoperable channels. **What if your portable or mobile radio will only hold 32 channels or less and you must also maintain local channels?**

- Determine the channel capacity of the radio, including talk-groups or zones. (If your radio has the capability of multiple talk-groups, there may be more channel capacity than is realized.)
- If the radio has multiple talk-groups/zones, determine the channel capacity of those groups.
- Determine how many local "operable" channels will be needed.
- Determine what disciplines you need to talk to – i.e. LE, EMS, Fire, etc.
- Until 12/31/2012, the wideband "Texas" interoperable channels will continue to be used, so you may need to keep at least some of them.
- Establish a priority list of interoperable channels to keep.

For example, after loading the necessary "operable" channels, the radio is limited to 16 interoperable channels, and the radio belongs to a fire department. Until 12/31/2012, the wideband interoperable channels ("Texas" channels) will continue to be used. Therefore, eight channel slots could be used for them. This will provide the ability to communicate with multiple disciplines in addition to air-to-ground.

VHF **Wideband** Interoperable Channels

1. **TEX LAW1**
2. **TEX LAW2**
3. **TEX LAW3**
4. **TEXTFIRE1**
5. **TEXTFIRE2**
6. **TEXTFIRE3**
7. **TEXTMED1**
8. **TEX AIR2**

This shows ALL of the VHF **wideband** Interoperability frequencies that are used in Texas. These will be replaced with the national **narrowband** interoperable frequencies on January 1, 2013.

- The radio now has eight more channel slots available. Keeping in mind this radio is with a fire department, if all six of the interoperable VHF NB **VFIRE** channels were added, that would leave two channel slots. If **VCALL10** was added, it could be used in many MCP/Dispatch situations that have narrowband programmed. Of the six VHF NB interoperable repeater pairs, **VTAC36** is recommended by the National Interoperability Field Operations Guide (NIFOG) as a preferred channel, and due to the wide frequency

spacing, it will be the most common one used. This could complete the radio programming for the 16 open channel slots.

- After 12/31/2012, the wideband channels can be replaced with narrowband. The **VTAC11-14** generic channels could be the next priority, followed by the other disciplines.
- If the radio belonged to a LE or EMS agency, the interoperable channel emphasis would be less on fire channels and more on those specific to that discipline, or they might include more generic channels.

1	VCALL10	12	VMED28
2	VTAC11	13	VMED29
3	VTAC12	14	VLAW31
4	VTAC13	15	VLAW32
5	VTAC14	16	VTAC33
6	VFIRE21	17	VTAC34
7	VFIRE22	18	VTAC35
8	VFIRE23	19	VTAC36
9	VFIRE24	20	VTAC37
10	VFIRE25	21	VTAC38
11	VFIRE26	22	TXCALL1D
		23	TXCALL2D

These are the VHF **narrowband** interoperability frequencies that are used nationally and by Texas and will replace the wideband interoperable frequencies on January 1, 2013.

Multiple Talk-Groups/Zones

What if your mobile or portable radio had multiple talk-groups/zones, but the maximum number of channels for each one is limited to 16 channels?

- One group, until 12/31/2012, could hold all of the sixteen channels listed in the above example – keeping in mind that the fire channels might be swapped for other disciplines, depending on the application.
- Looking at the above table, another group/zone could hold the first 15 channels (VCALL10-VLAW32) along with VTAC36. This would provide easier access to all of the channels that might be used on an incident, without having to swap between groups.
- And still another group/zone might be assigned the channels of the bullet point above, but replace VFIRE25 with TXCALL1D. This would still provide multiple fire-specific channels and allow for a statewide mobile-to-mobile calling channel.

Tips

- While most of the VHF narrowband interoperable channels indicated they are “tactical,” they can be used as “command,” “staging,” or for other applications as necessary and as determined by the Incident Commander.
- Ensure that the person programming the radio follows precisely the frequency, tone and name of each channel as listed in the Texas Statewide Interoperability Channel Plan. During the 2011 wildfire season many instances came to light where something was different which resulted in no communication between resources.
- When interagency resources check in with your incident, determine their interoperable communications capabilities. From this, a communications plan can be developed and/or assignments made.
- When calling mutual aid resources to your incident, consider having them travel on an interoperable channel that both of you can access. That way you will know how to contact each other should they need to be guided to the ICP, reassigned, etc.
- Practice using interoperable channels on routine incidents/events, and include interagency and inter-discipline resources.

TSICP Table 1
VHF 150 MHz Narrowband Interoperability Channels (12.5 kHz)**
Emission Designators 11K2F3E, 11K3F3E, 11K2G2E

Mobile and Portable Configuration*					
Label	Receive	Transmit	Station Class	CTCSS RX /TX	Use
VCALL10	155.7525	155.7525	FBT / MO	CSQ / 156.7	Calling Channel
VTAC11	151.1375	151.1375	FBT / MO	CSQ / 156.7	Tactical Channel
VTAC12	154.4525	154.4525	FBT / MO	CSQ / 156.7	Tactical Channel
VTAC13	158.7375	158.7375	FBT / MO	CSQ / 156.7	Tactical Channel
VTAC14	159.4725	159.4725	FBT / MO	CSQ / 156.7	Tactical Channel
VFIRE21	154.2800	154.2800	FBT / MO	CSQ / 156.7	Tactical Channel
VFIRE22	154.2650	154.2650	FBT / MO	CSQ / 156.7	Tactical Channel
VFIRE23	154.2950	154.2950	FBT / MO	CSQ / 156.7	Tactical Channel
VFIRE24	154.2725	154.2725	FBT / MO	CSQ / 156.7	Tactical Channel
VFIRE25	154.2875	154.2875	FBT / MO	CSQ / 156.7	Tactical Channel
VFIRE26	154.3025	154.3025	FBT / MO	CSQ / 156.7	Tactical Channel (for Air-to-Ground with State/Federal Aircraft ONLY)
VMED28	155.3400	155.3400	FBT / MO	CSQ / 156.7	Tactical Channel (and for Air-to-Ground use)
VMED29	155.3475	155.3475	FBT / MO	CSQ / 156.7	Tactical Channel
VLAW31	155.4750	155.4750	FBT / MO	CSQ / 156.7	Tactical Channel
VLAW32	155.4825	155.4825	FBT / MO	CSQ / 156.7	Tactical Channel
TXCALL1D	154.950	154.950	FBT/MO	156.7 / 156.7	Mobile-to-Mobile Calling Channel
TXCALL2D	155.370	155.370	FBT/MO	156.7 / 156.7	(PRI: Calling Channel for State/Federal Aircraft to/from a Base and SEC: VCALL10 backup)
NOTE: The sub-audible tones of the following are different!					
VTAC33	159.4725	151.1375	FB2T	CSQ / 136.5	Tactical Repeater Secondary 1
VTAC34	158.7375	154.4525	FB2T	CSQ / 136.5	Tactical Repeater Secondary 2
VTAC35	159.4725	158.7375	FB2T	CSQ / 136.5	Tactical Repeater Secondary 3
VTAC36	151.1375	159.4725	FB2T	CSQ / 136.5	Tactical Repeater Preferred 1
VTAC37	154.4525	158.7375	FB2T	CSQ / 136.5	Tactical Repeater Preferred 2
VTAC38	158.7375	159.4725	FB2T	CSQ / 136.5	Tactical Repeater Preferred 3

- * Sub-audible tones, matching the transmit tones of the above VHF channels, can be added to the receive side if interference is experienced during an incident.
- ** In an emergency, additional Department of Defense VHF Repeater Channels (below 150.8 MHz) can be made available through coordination with the Communications Coordination Group (CCG). Please contact the CCG through your local Disaster District Committee. Alternate contact information is: ccg@dps.texas.gov and 512-424-2755.

TSICP Table 2
UHF 450 MHz Narrowband Interoperability Channels (12.5 kHz)
Emission Designators 11K2F3E, 11K3F3E, 11K2G2E

Mobile and Portable Configuration					
Label	Receive	Transmit	Station Class	CTCSS RX/TX	Use
UCALL40	453.2125	458.2125	FX1T / MO	CSQ / 156.7	Calling Channel (Repeater)
UCALL40D	453.2125	453.2125	FX1T / MO	CSQ / 156.7	Calling Channel (Direct)
UTAC41	453.4625	458.4625	FX1T / MO	CSQ / 156.7	Tactical Repeater Channel
UTAC41D	453.4625	453.4625	FX1T / MO	CSQ / 156.7	Tactical Repeater (Direct)
UTAC42	453.7125	458.7125	FX1T / MO	CSQ / 156.7	Tactical Repeater Channel
UTAC42D	453.7125	453.7125	FX1T / MO	CSQ / 156.7	Tactical Repeater (Direct)
UTAC43	453.8625	458.8625	FX1T / MO	CSQ / 156.7	Tactical Repeater Channel
UTAC43D	453.8625	453.8625	FX1T / MO	CSQ / 156.7	Tactical Repeater (Direct)
Repeater Base Configuration					
UCALL40	458.2125	453.2125	FB2T	156.7 / CSQ	Mobile Command Post Calling Channel Base
UTAC41	458.4625	453.4625	FB2T	156.7 / CSQ	Incident Temporary Repeater Channels
UTAC42	458.7125	453.7125	FB2T	156.7 / CSQ	Incident Temporary Repeater Channels
UTAC43	458.8625	453.8625	FB2T	156.7 / CSQ	Incident Temporary Repeater Channels

For additional information, please refer to the revised TSICP at <http://dps.texas.gov/LawEnforcementSupport/communications/interop/index.htm>.

ICS Management Characteristics

ICS Management Characteristics

14 Management Characteristics

- Common Terminology
- Modular Organization
- Management by Objectives
- Incident Action Planning
- Manageable Span of Control
- Incident Facilities and Locations
- Comprehensive Resource Management
- Integrated Communications
- Establishment and Transfer of Command
- Chain of Command and Unity of Command
- Unified Command
- Accountability
- Dispatch/ Deployment
- Information and Intelligence Management

Common Terminology

Common Terminology: ICS establishes common terminology that allows diverse incident management and support organizations to work together across a wide variety of incident management functions and hazard scenarios. This common terminology covers the following:

- **Organizational Functions:** Major functions and functional units with incident management responsibilities are named and defined. Terminology for the organizational elements is standard and consistent.
- **Resource Descriptions:** Major resources—including personnel, facilities, and major equipment and supply items—that support incident management activities are given common names and are “typed” with respect to their capabilities, to help avoid confusion and to enhance interoperability.
- **Incident Facilities:** Common terminology is used to designate the facilities in the vicinity of the incident area that will be used during the course of the incident.

Incident response communications (during exercises and actual incidents) should feature plain language commands so they will be able to function in a multijurisdiction environment. Field manuals and training should be revised to reflect the plain language standard.

Modular Organization

Modular Organization: The ICS organizational structure develops in a modular fashion based on the size and complexity of the incident, as well as the specifics of the hazard environment created by the incident. When needed, separate functional elements can be established, each of which may be further subdivided to enhance internal organizational management and external coordination. Responsibility for the establishment and expansion of the ICS modular organization ultimately rests with Incident Command, which bases the ICS organization on the requirements of the situation. As incident complexity increases, the organization expands from the top down as functional responsibilities are delegated. Concurrently with structural expansion, the number of management and supervisory positions expands to address the requirements of the incident adequately.

Management by Objectives

Management by Objectives: Management by objectives is communicated throughout the entire ICS organization and includes:

- Establishing overarching incident objectives.
- Developing strategies based on overarching incident objectives.
- Developing and issuing assignments, plans, procedures, and protocols.
- Establishing specific, measurable tactics or tasks for various incident management functional activities, and directing efforts to accomplish them, in support of defined strategies.
- Documenting results to measure performance and facilitate corrective actions.

Incident Action Planning

Incident Action Planning: Centralized, coordinated incident action planning should guide all response activities. An Incident Action Plan (IAP) provides a concise, coherent means of capturing and communicating the overall incident priorities, objectives, and strategies in the contexts of both operational and support activities. Every incident must have an action plan. However, not all incidents require written plans. The need for written plans and attachments is based on the requirements of the incident and the decision of the Incident Commander or Unified Command. Most initial response operations are not captured with a formal IAP. However, if an incident is likely to extend beyond one operational period, become more complex, or involve multiple jurisdictions and/or agencies, preparing a written IAP will become increasingly important to maintain effective, efficient, and safe operations.

Manageable Span of Control

Manageable Span of Control: Span of control is key to effective and efficient incident management. Supervisors must be able to adequately supervise and control their subordinates, as well as communicate with and manage all resources under their supervision. In ICS, the span of control of any individual with incident management supervisory responsibility should range from 3 to 7 subordinates, with 5 being optimal. During a large-scale law enforcement operation, 8 to 10 subordinates may be optimal. The type of incident, nature of the task, hazards and safety factors, and distances between personnel and resources all influence span-of-control considerations.

Incident Facilities and Locations

Incident Facilities and Locations: Various types of operational support facilities are established in the vicinity of an incident, depending on its size and complexity, to accomplish a variety of purposes. The Incident Command will direct the identification and location of facilities based on the requirements of the situation. Typical designated facilities include Incident Command Posts, Bases, Camps, Staging Areas, mass casualty triage areas, point-of-distribution sites, and others as required.

Comprehensive Resource Management

Comprehensive Resource Management: Maintaining an accurate and up-to-date picture of resource utilization is a critical component of incident management and emergency response. Resources to be identified in this way include personnel, teams, equipment, supplies, and facilities available or potentially available for assignment or allocation. Resource management is described in detail in Component III.

Integrated Communications

Integrated Communications: Incident communications are facilitated through the development and use of a common communications plan and interoperable communications processes and architectures. The ICS 205 form is available to assist in developing a common communications plan. This integrated approach links the operational and support units of the various agencies involved and is necessary to maintain communications connectivity and discipline and to enable common situational awareness and interaction. Preparedness planning should address the equipment, systems, and protocols necessary to achieve integrated voice and data communications.

Establishment and Transfer of Command

Establishment and Transfer of Command: The command function must be clearly established from the beginning of incident operations. The agency with primary jurisdictional authority over the incident designates the individual at the scene responsible for establishing command. When command is transferred, the process must include a briefing that captures all essential information for continuing safe and effective operations.

Chain of Command and Unity of Command

Chain of Command and Unity of Command:

- **Chain of Command:** Chain of command refers to the orderly line of authority within the ranks of the incident management organization.
- **Unity of Command:** Unity of command means that all individuals have a designated supervisor to whom they report at the scene of the incident. These principles clarify reporting relationships and eliminate the confusion caused by multiple, conflicting directives. Incident managers at all levels must be able to direct the actions of all personnel under their supervision.

Unified Command

Unified Command: In incidents involving multiple jurisdictions, a single jurisdiction with multiagency involvement, or multiple jurisdictions with multiagency involvement, Unified Command allows agencies with different legal, geographic, and functional authorities and responsibilities to work together effectively without affecting individual agency authority, responsibility, or accountability.

Accountability

Accountability: Effective accountability of resources at all jurisdictional levels and within individual functional areas during incident operations is essential. Adherence to the following ICS principles and processes helps to ensure accountability:

- Resource Check-In/Check-Out Procedures
- Incident Action Planning
- Unity of Command
- Personal Responsibility
- Span of Control
- Resource Tracking

Dispatch/Deployment

Dispatch/Deployment: Resources should respond only when requested or when dispatched by an appropriate authority through established resource management systems. Resources not requested must refrain from spontaneous deployment to avoid overburdening the recipient and compounding accountability challenges.

Information and Intelligence Management

Information and Intelligence Management: The incident management organization must establish a process for gathering, analyzing, assessing, sharing, and managing incident-related information and intelligence.

List of Acronyms

ACRONYMS

AAR – After Action Review

AC – Area Commander

ACA – Alternative Consultation Agreement

AD – Administratively Determined Pay Plan

AFF – Automated Flight Following

AFS – Alaska Fire Service

AMD – Aviation Management Directorate

AMR – Appropriate Management Response

AMRS – All-Hazards Meteorological Response System

APMC - Agency Provided Medical Care

APT – Administrative Payment Team

ARD – Air Resources Division

ARD – Associate Regional Director

ASAT – Aviation Safety Assistance Team

ASCADS – Automated Sorting, Conversion, and Distribution System

ASM1 – Aerial Supervision Module

ATD – Actual Time of Departure

BAER – Burned Area Emergency Response

BAR – Burned Area Rehabilitation

BAU – Budget Advisory Unit

BIA – Bureau of Indian Affairs

BLM – Bureau of Land Management

BPA – Blanket Purchase Agreement / Business Purchase Agreement

BUYT – Buying Team

C# - Crew Resource Request Number

CA – Community Assistance

CAA – Clean Air Act

CAR – Communities-at-Risk

CAT – Cost Apportionment Team

CBI – Composite Burn Index

CDO – Communications Duty Officer

CE – Categorical Exclusion

CESU – Cooperative Education Studies Unit

CFFP – Cooperative Forest Fire Prevention Program

CFR – Code of Federal Regulations

CIO – Chief Information Officer

CLMS – Claims Specialist

CMMS – Computer Maintenance Management System

CMSY – Commissary Manager

CO – Contracting Officer

COMC – Communications Coordinator

COML – Incident Communication Unit Leader

COP – Continuation of Pay / Chief-of-Party

COR – Contracting Officer Representative

COST – Cost Unit Leader

COTR – Contracting Officer Technical Representative

CPIC – Capital Planning and Investment Control

CREP – Crew Representative

CRM – Crew Resource Management

CTR – Crew Time Report

CWN – Call-When-Needed agreements

CWPP – Community Wildfire Protection Plan

DASHO – Designated Agency Safety and Health Official

DASP – Disaster Assistance Support Program

DAWG – Data Administration Working Group

DCO – Defense Coordination Officer

DIAR – Department of the Interior Acquisition Regulation

DM – Departmental Manual

DMS – Dispatch Messaging System

DO – Director’s Order

DOD – Department of Defense

DOI – Department of the Interior

DOT – Department of Transportation

DRGS – Direct Readout Ground Station

DRM – Data Reference Model

DROT – DOMSAT Receive-only Terminal

E# - Equipment Resource Request Number

EA – Enterprise Architecture

EA – Environmental Assessment

EERA – Emergency Equipment Rental Agreements

EFT – Electronic Funds Transfer

EFTR – Emergency Firefighter Time Report

EIS – Environmental Impact Statement

ELA – Enterprise License Agreement

EPA – Environmental Protection Agency

EQTR – Equipment Time Recorder

ES – Emergency Stabilization

ESA – Endangered Species Act

ESF – Environmental Screening Form

ESM – Environmental Statement Memorandum

ESR – Emergency Stabilization and Rehabilitation

ETA – Estimated Time of Arrival

ETD – Estimated Time of Departure

ETE – Estimated Time En route

FAAP – NPS Fire and Aviation Applications Portal

FAR – Federal Acquisition Regulation

FAST – Wildland Fire and Aviation Safety Team

FBO – Fixed Base Operator

FEA – Federal Enterprise Architecture

FEAT – Fire Ecology Assessment Tool

FEC – Fire Executive Council

FECA – Federal Employees Compensation Act

FEIS – Fire Effects Information System

FEMO – Fire Effects Monitor

FFS – Federal Financial System

FGDC – Federal Geographic Data Committee

FIREMON – Fire Effects Monitoring and Inventory System

FISMA – Federal Information Security Management Act

FLE – Fire Line Explosives

FLSA – Fair Labor Standards Act

FMLB – Fire Management Leadership Board

FMO – Fire Management Officer

FMP – Fire Management Plan

FMPC – Fire Management Program Center

FMU – Fire Management Unit

FOG – Field Operations Guide

FONSI – Finding of No Significant Impact

FOR – Fixed Ownership Rate

FPA – Fire Program Analysis

FPU – Fire Planning Unit

FRAMES – Fire Research and Management Exchange System

FRAWS – Wildfire Support Remote Automated Weather Station

FRCC – Fire Regime and Condition Class

FS – Forest Service

FSC – Finance/Administration Section Chief

FTE – Full Time Equivalency

FTP – File Transfer Protocol

FTS – Forest Technology Systems

FUM – Fire Use Manager

FUMT – Fire Use Management Team

FWS – Fish and Wildlife Service

GACC – Geographic Area Coordination Center

GACG – Geographic Area Coordinating Group

GIS – Geographic Information System or Geospatial Information System

GMAC – Geographic Multi-Agency Coordination Group

GMP – General Management Plan

GOES – Geostationary Operational Environmental Satellite

GPO – Government Printing Office

GPRA – Government Performance Results Act

GPS – Global Positioning System

GS – General Schedule (Pay Plan)

GSA – U.S. General Services Administration

GTG – NWCG Geospatial Technology Group

GVW – Gross Vehicle Weight Rating

HFI – Healthy Forests Initiative

HMGB – Helicopter Manager Single Resource

HSPD – Homeland Security Presidential Directive

HUDC – Host Unit Dispatch Center

I&M – Inventory and Monitoring

IA – Initial Attack

IAP – Incident Action Plan

IARR – Interagency Resource Representative

IBC – Incident Business Advisor

IC – Incident Commander

ICC – International Code Council

ICO – Incident Contracting Officer

ICP – Incident Command Post

ICS – Incident Command System

ICS 209 – Incident Status Summary

IDIQ – Indefinite Delivery, Indefinite Quantity

IDT – Interdisciplinary Team

IFP – Incident Finance Package

IFPM – Interagency Fire Program Management

IGO – Intra-Governmental Order

IHC – Interagency Hotshot Crew

IMET – Incident Meteorologist

IMSR – Incident Management Situation Report

IMT – Incident Management Team

INCINET – Incident Network

INJR – Injury Compensation Specialist

IPAC – Intra-Governmental Payment and Collection

IQCS – Incident Qualifications and Certification System

IRAWS – Incident Remote Automatic Weather Station

IRIN – Infrared Interpreter

IRM – Information Resource Management

IRPG – *Incident Response Pocket Guide* (NFES 1077, PMS 461)

ISO – Incident Support Organization

ISOG – Interagency SEAT Operations Guide

IT – Information Technology

ITIC – Information Technology Investment Council

JCC – Job Corp Center

JFSP – Joint Fire Science Program

JFO – Joint Field Office

JHA – Job Hazard Analysis

LAL – Lightning Activity Level

LCES – Lookouts-Communications-Escape Routes-Safety Zones

LODD – Line of Duty Death

LWOP – Leave Without Pay

M# - Medical Resource Order Number

MAC – Multi-Agency Coordinating Group

MAFFS – Modular Airborne Fire Fighting System(s)

MCAD – Military Crew Advisor

MCR – Human-caused Risk

MIST – Minimum Impact Suppression Tactics

MMA – Maximum Manageable Area

MOA – Memorandum of Agreement

MOU – Memorandum of Understanding

MRE – Meals Ready to Eat

MTBS – Monitoring Trends in Burn Severity

NAAQS – National Ambient Air Quality Standards

NAFRI – National Advanced Fire and Resource Institute

NASF – National Association of State Foresters

NCO – National Contracting Officer

NEPA – National Environmental Policy Act

NFDRS – National Fire Danger Rating System

NFES – National Fire Equipment System

NFP – National Fire Plan

NFPA – National Fire Protection Agency

NFPET – National Fire Prevention Education Team

NFPORS – National Fire Plan Operations and Reporting System

NGO – Non-governmental Organization

NHPA – National Historic Preservation Act

NICC – National Interagency Coordination Center

NIFC – National Interagency Fire Center

NIIMS – National Interagency Incident Management System

NIMO – National Incident Management Organization Teams

NIRSC – National Incident Radio Support Cache

NISC – National Information Systems Center

NITC – National Information Technology Center

NMAC – National Multi-Agency Coordination [Group]

NMAS – National Map Accuracy Standard

NOI – Notice of Intent

NPS – National Park Service

NRCC – National Response Coordination Center

NRF – National Response Framework

NWCG – National Wildfire Coordinating Group

NWFEA – National Wildland Fire Enterprise Architecture

O# - Overhead Resource Request Number

OF – Optional Form

OFDA – Office of Foreign Disaster Assistance
OGC – Office of General Council (USDA)
OMB – Office of Management and Budget
ONPS – Operations of NPS funding
OPF – Official Personnel Folder
OSHA – Occupational Safety and Health Administration
OWCP – Office of Workers' Compensation Programs
OWDC – Operations and Workforce Development Committee
OWFC – Office of Wildland Fire Coordination

P.L. – Public Law

PAX - Passengers

PII – Personally Identifiable Information

PM – Particulate Matter

PMIS – Project Management Information System

PMS – Publication Management System

PMU – Program Management Unit

POC – Point of Contact

POE – Point of Entry

PPE – Personal Protective Equipment

PRAWS – A non-fire project support Remote Automated Weather Station

PROC – Procurement Unit Leader

PRM – Performance Reference Model

PSD – Prevent Significant Deterioration

PTB – Position Task Book

PTRC – Personnel Time Recorder

PWE – Primary Work Element

QA/QC – Quality Assessment / Quality Control

RAMS – Risk Assessment and Mitigation Strategies

RAO – Regional Aviation Officer

RAWS – Remote Automated Weather Station

RCU – Responsibilities for Computer Use

RFD – Rural Fire Department

RMP – Resource Management Plan

ROD – Record of Decision

ROMAN – Real-time Observation Monitoring and Analysis Network

ROSS – Resource Ordering and Status System

RRCC – Regional Response Coordination Center

RSFWSU – Remote Sensing Fire Weather Support Unit

RSS – Resource Stewardship Strategy

RX – Prescribed (fire)

S# - Supply Resource Request Number

SACS – Shared Application Computer System

SAIT – Serious Accident Investigation Team

SCC – Service-wide Comprehensive Call

SCSEP – Senior Community Service Employment Program

SEAT – Single Engine Air Tanker

SF – Standard Form

S&PF – State and Private Forestry

SHPO – State Historic Preservation Office
SIP – State Implementation Plan
SLA – Service Level Agreement
SME – Subject Matter Expert
SMIS – Safety Management Information System
SMTP – Simple Mail Transfer Protocol
SOP – Standard Operating Procedure
SPOC – Single Point of Contact
STLM – Strike Team Leader - Military
SUA – Satellite User Agreements
SWB – Statement of Work and Budget

T&E – Threatened and Endangered

TA -

TFR - Temporary Flight Restriction

THPO – Tribal Historic Preservation Office

THSP - Technical Specialist

TIME – Time Unit Leader

TMA - Truck- Mounted Attenuator

USC – United States Code

USDA – United States Department of Agriculture

USFA – United States Fire Administration

UTF – Unable to Fill

VOR - VHF Omnidirectional Range

VLAT - Very Large Airtanker

YCC – Youth Conservation Corp

YOYP – You Order You Pay

WASO – Washington Support Office

WCF – Working Capital Fund

WFEWT – Wildland Fire Education Working Team

WFIEB – Wildland Fire Investment Evaluation Board

WFIP – Wildland Fire Implementation Plan

WFLC – Wildland Fire Leadership Council

WFMI – Wildland Fire Management Information System

WFSA – Wildland Fire Situation Analysis

WG – Wage Grade (Pay Plan)

WIMS – Weather Information Management System

WL – Wage Leader

WRCC – Western Region Climate Center

WS- Wage Supervisor

WUI – Wildland Urban Interface

Personal Protective Equipment

Personal Protective Equipment

- All firefighters shall be equipped with personal protective clothing defined by NWCG or Interagency Specific Standards [NWCG#008-2010]. This includes:
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.
- If firefighting involves time away from the apparatus then a backpack with personal equipment and at least 2 quarts of drinking water is recommended.

Personal Protective Equipment

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,



Strikefore Nomex IIIA
\$ 106.25 - \$ 138.25



Nomex Brush Pants
\$ 167.00 - \$ 201.50



Topps Economy Nomex IIIA
\$ 233.50 - \$ 273.00

Personal Protective Equipment

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection
 - heavy-duty leather
 - 8" tall laceup
 - a fire shelter.



Bullard "USRX Series" Helmet
\$ 176.50

Personal Protective Equipment

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather
 - 8" tall laceup leather
 - a fire shelter.



Shark Hunter Range Safety Glasses - Bouton
\$ 4.50 - \$ 5.75

Personal Protective Equipment

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls
 - helmet,
 - eye protection,
 - **heavy-duty leather gloves,**
 - 8" tall laceup leather boots,
 - a fire shelter.



North Star 100% Leather Pull-Strap Driver Gloves
\$ 19.50

Personal Protective Equipment

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - **8" tall laceup leather boots,**
 - a fire shelter.



Fire Flash Xtream Boot 10in
Uppers NFPA – Haix
\$ 423.00

Personal Protective Equipment

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots,
 - a fire shelter.



Choose
Regular
or
Large

New Generation Rev-E Fire
Shelter
\$ 428.50

Personal Protective Equipment

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - Hearing protection



Zip-Outs Safety Glasses—
PermaFoam, PlugsSafety
\$ 7.00



Gel Caps Ear Protection —
Banded, Elvex
\$ 4.00

Appendix C

Training Modules

MODULE 1 INTRODUCTION



**TXDOT WILDLAND
FIRE MANAGEMENT
Training**
Course No. ??????
ISSUE: ??????



**TXDOT WILDLAND FIRE MANAGEMENT TRAINING
PRELIMINARIES**

INTRODUCTION SLIDE 1.2

About the Course OVERVIEW

- 6.0 hours duration
- Primary audience: "Operations personnel with one to three years of roadway maintenance experience"

INTRODUCTION SLIDE 1.3

Course Outline TXDOT WILDLAND FIRE MANAGEMENT TRAINING

Six Learning Modules, approx 1 hour each

1. Introduction	4. Safety
2. Organization and Communication	5. Documentation and Data Collection
3. Resources and Equipment	6. Training Programs

INTRODUCTION SLIDE 1.4

Instructional Materials TXDOT WILDLAND FIRE MANAGEMENT

- Student Manual
 - Presentation slides
 - Learning exercises (green sheets)
 - Reference pages (white sheets)
 - Review (pink sheets)
- End-of-Course Exam
- Course Evaluation

INTRODUCTION SLIDE 1.5

Learning Icons TXDOT WILDLAND FIRE MANAGEMENT TRAINING

	...Digging Deeper/ Food for Thought
	...Video Clip
	...Reference Material
	...Summary and Review

INTRODUCTION SLIDE 1.6

Instructional Plan

TXDOT WILDLAND FIRE MANAGEMENT TRAINING

- Instructor-led, face-to-face
 - Classroom... presentations, videos
 - Field... fire shelter, hands-on
- Student interaction
- 60 minutes for lunch
- 10-minute breaks, on the hour (+/-)



INTRODUCTION

SLIDE 1.7

Do's and Don'ts

TXDOT WILDLAND FIRE MANAGEMENT TRAINING

DO's

- Be on time
- Participate in group discussion/exercises
- Ask questions!
- Respond to questions when prompted by Instructor
- Help your co-workers
- Be responsible for your learning

DON'Ts

- Forget to turn off pagers & cell phones or set to vibrate
- Talk among yourselves when the Instructor is talking
- Disrespect others



INTRODUCTION

SLIDE 1.8

Meet Your Neighbors

TXDOT WILDLAND FIRE MANAGEMENT TRAINING

- Student introductions
 - Name
 - Maintenance office
 - Years experience
- Instructor introduction
 - Name
 - Training organization
 - Years experience



INTRODUCTION

SLIDE 1.9



INTRODUCTION

SLIDE 1.10

Learning Objectives

INTRODUCTION

Upon completion of this section, the learner will be able to:

1. Explain TxDOT'S Role in Wildland Fire Management
2. List Best Practices in Handling Wildfires



INTRODUCTION

SLIDE 1.11

VIDEO 1.1 (02:00) TxDOT Wildland Fire Management



SPEAKER

John A. Barton, P.E.
Deputy Executive Director/
Chief Engineer
Texas Department of
Transportation



INTRODUCTION

SLIDE 1.12

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Local Agencies Interviewed

- Bastrop County
- Garza County & City of Post Emergency Management Coordinator
- King County
- Lubbock City Fire Department
- Potter & Randall County Emergency Management



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires



National Weather Service Lubbock Office



- Science & Operations Officer
- Senior Forecaster



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT Interview Questionnaire

- Advance Preparation
- Notification/Request for services to a TxDOT District
- Communication related to an event within TxDOT
- Communication with outside agencies
- TxDOT responsibilities to ensure employee/public safety
- Resource utilization by TxDOT during wildfire events
- Information from recent wildfires
- Effectiveness of current training
- Comments on existing resources/guidance



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Advance Preparation Common Responses

- Do not respond until notified by DPS
- Director of Maintenance (DOM)/ Director of Operations (DOO) receives official notice
- DOM/ DOO contacts Maintenance Supervisor



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Notification/Request for TxDOT Services Common Responses

- TxDOT does not engage off the ROW until officially directed by DDC.
- Director of Maintenance (DOM) is the official Point of Contact (POC) for the District.
- Equipment typically requested: dozers, motor- graders, fuel trailers, water trailers, and sign trailers.
- Districts typically have 1-6 requests for assistance annually. One District responded to 50 fires in 2011.
- Governor's Emergency Disaster Proclamations reach Districts through Maintenance Division & the media.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Communication Related to an Event Within TxDOT Common Responses

- DDC directs DOM to respond to an event, and the DOM then notifies the Maintenance Supervisor(s).
- Involvement of other TxDOT offices varies by district.
- DOM authorizes resource utilization requests.
- Many districts use Daily Activity Reports (DARs) and Microsoft SharePoint to collect data on events.
- Coordination between Districts handled DOM to DOM.
- TxDOT public notification duties include traffic control & updating Highway Condition Report (HCR).
- Advanced briefing/debriefing differ between Districts.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Communication with Outside Agencies Common Responses

- TxDOT has no formal responsibility for public notification of wildfire events.
- Districts typically coordinate with DDC, DPS, TFS, local governments, TCEQ, and utility companies during a wildfire event.
- Interaction with other agencies outside of a wildfire event is key to effective response during an event.
- There is no standard statewide protocol for interacting with outside agencies during a wildfire event.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT Resource Utilization during Events Common Responses

- Equipment typically used by TxDOT during an event includes: dozers, motor-graders, fuel trailers, water trailers, sign trailers, and traffic control devices.
- Only TxDOT personnel use TxDOT resources.
- The number of TxDOT personnel deployed during a wildfire event varies significantly by District and event size, although teams are typically small.
- The number of volunteer firefighters employed by a TxDOT District varies greatly.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT Resource Utilization during Events Common Responses

- Volunteer firefighters who are TxDOT employees may be approved for personal leave during an event.
- The amount of TxDOT fuel given to outside agencies varies by District and fire size.
- In addition to fuel, water is the resource most commonly distributed during an event.
- Districts have various individuals assigned by the DOM responsible for filing for reimbursement. Few districts file for and/or received reimbursement.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT Responsibilities to Employee/Public Safety Common Responses

- TxDOT employees are not firefighters and should stay out of harm's way.
- Districts do not use fire safety equipment/ Personal Protective Equipment.
- TxDOT works with the DPS to ensure public safety by deploying traffic control.
- Detailed local maps are a beneficial resource if spotters are not available.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Advanced Preparation, Readiness & Training Common Responses

- Districts try to keep equipment pre-loaded and ready to deploy whenever possible.
- Districts often watch weather reports and try to stay aware of TFS notifications.
- Districts typically have no formal staging protocols.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Existing Resources/Guidance for Wildfire Response Common Responses

- Districts identified the need for detailed statewide guidance for wildfire response.
- TxDOT Maintenance Operations Manual should also be updated.
- TxDOT requires FEMA IS training. Additional training resources are available through TFS.





Summary and Review

1. TxDOT's chief goal is safety.
2. Maintaining communication and a chain of command during a wildland fire incident is critical.
3. TxDOT employees must understand their role during wildland fire response.



PRE-SEASON PREPARATION

SLIDE 2.31

MODULE 2 Organization and Communication



**TxDOT Wildland Fire
Management Training**
Course No.
ISSUE:

Learning Objectives

Upon completion of this section, the learner will be able to:

1. Know what resources the state uses in responding to wildland fire incidents.
2. Understand what role TxDOT plays in the response to wildland fire incidents.



Learning Objectives, cont'd

3. List what agencies TxDOT may interact with during a wildland fire response.
4. Locate important state resources on a map.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Texas State Emergency Management (EM)

- Covered in Ch. 418 (Emergency Management) and Ch. 421 (Homeland Security) of Texas Govt. Code
- **Agencies Involved in Statewide EM**
- The Governor's Office of Homeland Security
- State Emergency Management Council (SEMC)
- Div. of Emergency Management (TDEM), Texas DPS
- Texas Forest Service (TFS)



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Primary Federal/State Emergency Functional Responsibilities

FEDERAL ESF #	FUNCTION	PRIMARY FEDERAL AGENCY	PRIMARY STATE AGENCY
1	TRANSPORTATION	Department of Transportation	Department of Criminal Justice
2	COMMUNICATIONS	Office of Science & Technology/Policy	Department of Information Resources
3	PUBLIC WORKS AND ENGINEERING	U.S. Army Corps of Engineers	Department of Transportation
4	FIREFIGHTING	Department of Agriculture	Texas Forest Service
5	INFORMATION & PLANNING	Federal Emergency Management Agency	Governor's Division of Emergency Management
6	MASS CARE	American Red Cross	The Salvation Army
7	RESOURCE SUPPORT	General Services Administration	Texas Building and Procurement Commission
8	HEALTH & MEDICAL SERVICES	Department of Health and Human Services	Department of Health
9	URBAN SEARCH AND RESCUE	Federal Emergency Management Agency	Texas Engineering Extension Service
10	HAZARDOUS MATERIALS	Environmental Protection Agency	Texas Commission on Environmental Quality
11	FOOD	Department of Agriculture	Department of Human Services
12	ENERGY	Department of Energy	Public Utility Commission



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

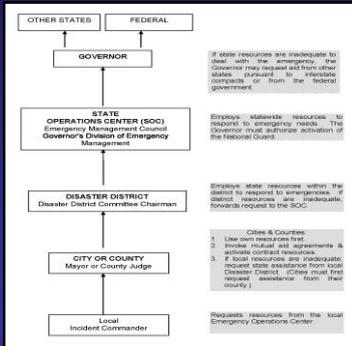
Texas State Emergency Management

- Texas uses a "tiered" approach to wildfire response and suppression.
- Local fire departments and counties are the first responders.
- State response activated as wildfires or conditions exceed the local ability to control.
- If State resources are deemed insufficient, out-of-state agencies are called upon.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

**Texas
Emergency
Assistance
Channels**



(TDEM 2008)

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

The Governor's Office of Homeland Security

- The Director of the Governor's Office of Homeland Security serves as the
 - Director of the Governor's Division of Emergency Management (GDEM), and as
 - Chair of the State Emergency Management Council (SEMC)
- The SEMC has been authorized to issue directives that are necessary to effectively follow the Texas Disaster Act (Ch. 418, Govt. Code)

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

State Emergency Management Council (SEMC)

- Adjutant General's Department (AGD)
- American Red Cross (ARC)
- Department of Information Resources (DIR)
- General Land Office (GLO)
- Governor's Division of Emergency Management (GDEM)
- Office of Rural Community Affairs (ORCA)
- Public Utility Commission of Texas (PUC)
- Railroad Commission of Texas (RRC)
- Salvation Army (TSA)
- State Auditor's Office (SAO)
- State Comptroller of Public Accounts (CPA)
- Texas Animal Health Commission (TAHC)
- Texas Attorney General's Office (OAG)
- Texas Building & Procurement Commission (BPC)
- Texas Commission on Environmental Quality (TCEQ)
- Texas Commission on Fire Protection (TCFP)
- Department of Aging & Disability Services (DADS)
- Department of Agriculture (TDA)
- Department of Assisted & Rehabilitative Services (DARS)
- Department of Criminal Justice (TDCJ)
- Department of Housing & Community Affairs (TDHCA)
- Department of Insurance (TDI)
- Department of Protective & Family Services (DPFS)
- Department of Public Safety (DPS)
- Department of State Health Services (DSHS)
- **Department of Transportation (TxDOT)**
- Texas Education Agency (TEA)
- Texas Engineering Extension Service (TEEX)

<http://www.txdps.state.tx.us/dem/FieldResponse/RegStateCoordMap.p>

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

**TX Division of Emergency Management (TDEM)
Regional Coordinators**

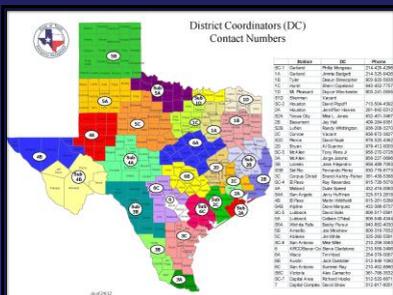
- TDEM shall prepare and maintain a state emergency management plan.



<http://www.txdps.state.tx.us/dem/FieldResponse/RegStateCoordMap.p>

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

**TDEM District
Coordinators**



<http://www.txdps.state.tx.us/dem/FieldResponse/DistCoordMap.pdf>

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

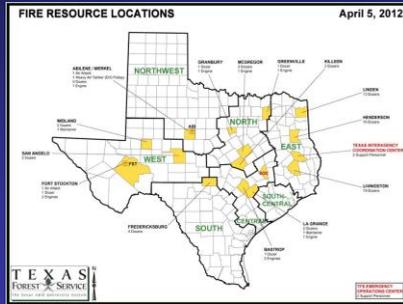
**Texas Forest Service (TFS)
Regional Fire Coordinators**



http://tfc.tamu.edu/Documents/Home/RFC_Map_with_Title.pdf

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TFS Texas Fire Resource Availability Map



<http://tfsfrp.tamu.edu/wildfires/resources.png>

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Five Types of Emergency Incidents

- These are rated by complexity.
 - Type V incident
 - Type IV incident
 - Type III incident
 - Type II incident
 - Type I incident
- ↓ Increase in intensity
- TFS developing teams to handle different types of incidents.
 - Currently there are multiple Type III & one Type II Team

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Agencies Responsible for Coordinating Wildfire Response in Texas

- TDEM Disaster District Committees (DDCs)
- Texas Intrastate Fire Mutual Aid System (TIFMAS)
- National Wildfire Coordination Group (NWCG)
- Texas Forest Service (TFS)

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

2011 Resource Mobilization through TICC



http://ticc.tamu.edu/Documents/Home/TICC_2011_Resources.jpg

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

NIMS and TxDOT

- When directed by DDC to serve in emergency incidents, TxDOT plays a critical role in public guidance during emergency incident occurrence and has to work within the NIMS framework.

Exercise 2.1

TxDOT Wildland Fire Management



In your Learner Groups, discuss the following question:

1. What other agencies are you likely to interact with personally when responding to a wildland fire?
 2. Jot down your ideas for discussion.
- Be prepared to discuss your answers (2 minutes).*

VIDEO 2.2 (01:25) Material Storage and Handling

CREDIT

**"Winter Operations
Training Series"**

Iowa Department of
Transportation

Used with permission.

NEED A VIDEO



R_{2.6}
[2.45]



Summary and Review

1. Texas responds to wildland fires with various state resources.
2. TxDOT is not a primary response unit, but rather responds to wildland fire incidents as part of a tiered system.
3. There are a number of other agencies with whom TxDOT may interact during a wildland fire incident.



MODULE 3 Resources and Equipment



**TxDOT Wildland Fire
Management Training**
Course No.
ISSUE:

Learning Objectives

Upon completion of this section, the learner will be able to:

1. List sources of information for wildland fire response.
2. Know heavy equipment available for wildland fire response.



Resources for Emergency Response

- Information Resources
- Heavy Equipment
- Personal Protective Equipment (PPE)
- Communication Equipment
- Training Resources



Situation Awareness

Information

- Objective(s)
- Previous Fire Behavior
- Communication
- Weather Forecast
- Who's in Charge
- Local Factors



Resources for Emergency Response - Information Resources -

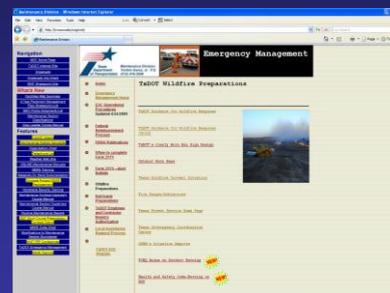
- Training & Education, Experience, Each other
- TxDOT
- FEMA
- TFS
- TICC
- NOAA/NWS



Resources for Emergency Response - Information Resources -

- TxDOT

<http://crossroads.org/mnt/>



**Resources for Emergency Response
- Information Resources -**

<http://www.fema.gov/emergency/nims/IncidentCommandSystem.shtm>

- FEMA



**Resources for Emergency Response
- Information Resources -**

<http://texasforestservice.tamu.edu/main/default.aspx>

- TFS



**Resources for Emergency Response
- Information Resources -**

- TFS: Resource Protection



**Resources for Emergency Response
- Information Resources -**

<http://texasforestservice.tamu.edu/main/article.aspx?id=1991>

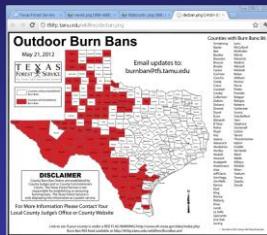
- TFS: Predictive Services



**Resources for Emergency Response
- Information Resources -**

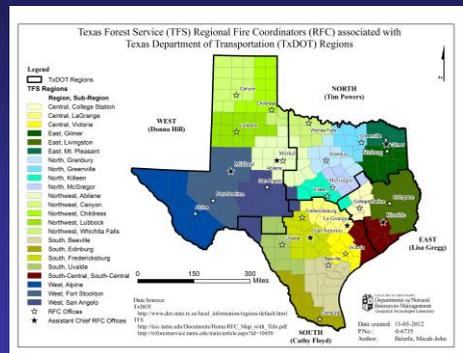
<http://texasforestservice.tamu.edu/main/article.aspx?id=1991>

- TFS: Predictive Services



**Resources for Emergency Response
- Information Resources -**

- TFS



**Resources for Emergency Response
- Information Resources -**

<http://ticc.tamu.edu/>

- TICC:



**Resources for Emergency Response
- Information Resources -**

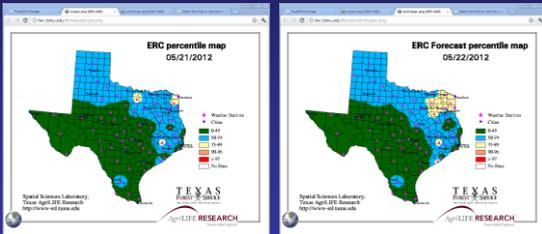
- TICC



**Resources for Emergency Response
- Information Resources -**

<http://ticc.tamu.edu/PredictiveServices/FuelsFireDanger.htm>

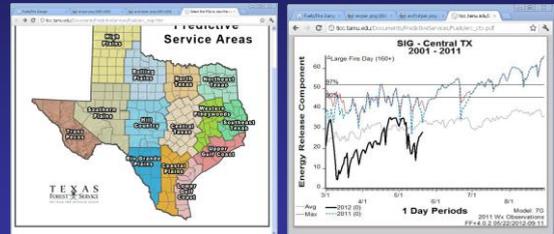
- TICC: Fuels/Fire Danger



**Resources for Emergency Response
- Information Resources -**

<http://ticc.tamu.edu/PredictiveServices/FuelsFireDanger.htm>

- TICC: Fuels/Fire Danger



**Resources for Emergency Response
- Information Resources -**

<http://ticc.tamu.edu/Response/FireActivity/>



**Resources for Emergency Response
- Information Resources -**

<http://mesowest.utah.edu/cgi-bin/droman/mesomap.cgi?state=TX&rawsflag=3>

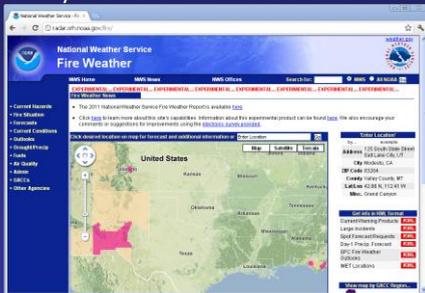
- Meso-West



**Resources for Emergency Response
- Information Resources -**

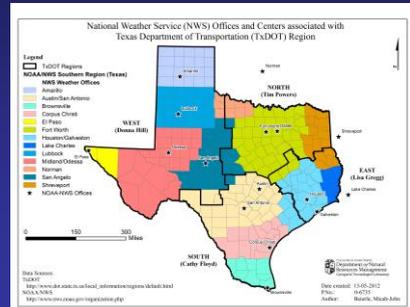
<http://radar.srh.noaa.gov/fire/>

- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Information Resources -**

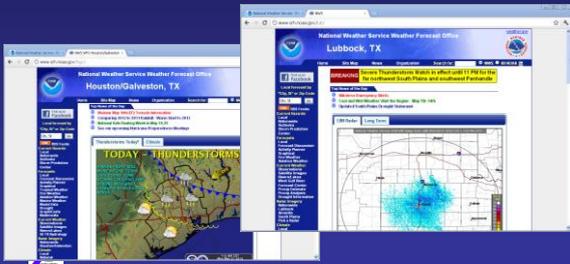
- NOAA/NWS



**Resources for Emergency Response
- Information Resources -**

<http://www.nws.noaa.gov/organization.php>

- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Information Resources -**

<http://www.srh.noaa.gov/fwd/firebrief3.php?loc=nort>

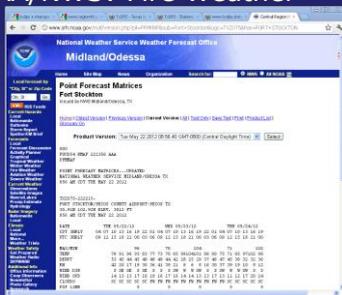
- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Information Resources -**

http://www.srh.noaa.gov/maf/?n=top_fire

- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Information Resources -**

<http://www.hpc.ncep.noaa.gov/dailywxmap/>

- NOAA/NWS: Fire Weather



**Resources for Emergency Response
- Heavy Equipment -**

- Dozer Boss
DOZB
- Strike Team Leader Dozer
STLD
- Strike Team Leader Tractor/Plow
STPL
- All now replaced by
- Heavy Equipment Boss
HEQB



**Resources for Emergency Response
- Heavy Equipment -**



R_{3.1}
[3.1]

**Resources for Emergency Response
- Heavy Equipment -**

- Guidelines for maximum percent slope
 - 75% downhill maximum
 - 55% uphill maximum
 - 45% sidehill slope



**Resources for Emergency Response
- Heavy Equipment -**

- Types of Blades
 - Straight Blade – can be angled to push soil to either side of the dozer
 - 'U' Blade – used for pioneering fireline and is often followed by a straight blade
 - Brush Blade – best use is pioneering in brush, clearing and piling slash, mop-up work, and certain rehabilitation work
 - V Blade – Best in swampy ground and is also good for pioneering through dense stands of small diameter fuels

R_{3.1}
[3.1]

Exercise 3.1

TxDOT Wildland Fire Management
Individual Assignment



1. Does my crew use these hand signs?
 2. How can my crew's communication when using equipment improve?
- Be prepared to discuss your answers (2 minutes).*



**Resources for Emergency Response
- Heavy Equipment -**

- There is much more on Heavy Equipment such as:
 - safety zone and escape route considerations
 - watershed considerations
 - special considerations
 - use, terminology, and maintenance
- For more information contact your TFS Regional Fire Coordinator.





Summary and Review

1. TxDOT employees engaged in responding to wildland fire incidents should be aware of information regarding weather, safety hazards, etc.
2. Heavy equipment operators should follow standard protocols for vehicle operation during wildland fire response.



MODULE 4 Safety



TxDOT Wildland Fire Management Training

Course No.
ISSUE:

Learning Objectives

Upon completion of this section, the learner will be able to:

1. Know what PPE you need when responding to a wildfire situation
2. Know the new regulations regarding communication at a wildfire situation



Learning Objectives, cont'd

3. Identify limitations to radio communication at a wildfire site
4. Understand various situation risks involved in wildfire response



Resources for Emergency Response - Personal Protective Equipment -

- All firefighters shall be equipped with personal protective clothing defined by NWCG or Interagency Specific Standards [NWCG#008-2010]. This includes:
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.
- If firefighting involves time away from the apparatus then a backpack with personal equipment and at least 2 quarts of drinking water is recommended.



Resources for Emergency Response - Personal Protective Equipment -

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.



R4.1
[4.1]

Resources for Emergency Response - Personal Protective Equipment -

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.



Bullard "USRX Series"
Helmet
\$ 176.50



R4.1
[4.1]

Resources for Emergency Response - Personal Protective Equipment -

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.



Shark Hunter Range Safety Glasses - Bouton \$ 4.50 - \$ 5.75



R_{4.1}
[4.1]

Resources for Emergency Response - Personal Protective Equipment -

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.



North Star 100% Leather Pull-Strap Driver Glove \$ 19.50



R_{4.1}
[4.1]

Resources for Emergency Response - Personal Protective Equipment -

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 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.



Fire Flash Xtream Boot Uppers NFPA – Haix \$ 423.00



R_{4.1}
[4.1]

Resources for Emergency Response - Personal Protective Equipment -

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - fire resistant shirt and pants or coveralls,
 - helmet,
 - eye protection,
 - heavy-duty leather gloves,
 - 8" tall laceup leather boots, and
 - a fire shelter.



New Generation Rev-E Shelter \$ 428.50



R_{4.1}
[4.1]

Resources for Emergency Response - Personal Protective Equipment -

- These do not include all options and are not specific for one provider. Note: not all providers or manufactures are equal in quality. All items are from <http://www.firecache.com>.
 - Hearing protection



Zip-Outs Safety Glasses—PermaFoam, Plugs Safety \$ 7.00



Gel Caps Ear Protection – Banded, Elvex \$ 4.00



R_{4.1}
[4.1]

Resources for Emergency Response - Personal Protective Equipment -

Information gathered from TxDOT Districts

- Few have fire shelters and those that do lack training in their use.
- Few have access to Nomex clothing during events.
- One district has initiated the use of cloth face covers during fire events to reduce particulate inhalation.



Resources for Emergency Response - Personal Protective Equipment -

- Current Resources in Development by TxDOT
 - Two emergency response trailers equipped with
 - Nomex Coveralls
 - Helmets/face shields
 - Fire Shelters
- Resources for TxDOT Personnel to consider
 - Change of clothes (all cotton)
 - Glasses/Sun Glasses
 - Gloves
 - Boots



Exercise 4.1

TxDOT Wildland Fire Management



In your Learner Groups, discuss the following questions:

1. Why is it important to always wear PPE?
2. Why do we sometimes forget to equip proper PPE?

Be prepared to discuss your answers (2 minutes).



Resources for Emergency Response - Communications -

- Texas Statewide Interoperability Channel Plan
 - ➔ <http://tsiec.region49.org/>
- Most vehicles have radios which comply with the TSICP.
- Note was made that in some areas with rough terrain communication is often broken.
- Blackberries



R_{4.2}
[4.2]

Resources for Emergency Response - Communications -

- Texas Statewide Interoperability Channel Plan
 - <http://tsiec.region49.org/>
- 2012 changes
 - Removed Digital P25 requirements
 - Removed reference to P25 compliance by 2015
- Texas Law 1 TXCALL1D
- Texas Law 2 TXCALL2D



R_{4.2}
[4.2]

Resources for Emergency Response - Communications -

- Texas Statewide Interoperability Channel Plan
 - TxDPS recommended radio programming
 - http://www.txdps.state.tx.us/LawEnforcementSupport/communications/interop/documents/recmdProgInstr_PriorityChannels.pdf
 - 21 VHF *Narrowband* (NB) interoperable channels
 - 2 State of Texas VHF NB interoperability calling channels
 - 8 VHF *wideband*



R_{4.2}
[4.2]

Resources for Emergency Response - Communications -

- Texas Statewide Interoperability Channel Plan
 - These will VHF *narrowband* interop. frequencies will replace wideband interop. **Jan 1, 2013**

2	VTAC11	1	VCALL10	6	VFIRE21
3	VTAC12			7	VFIRE22
4	VTAC13	22	TNCALL1D	8	VFIRE23
5	VTAC14	23	TNCALL2D	9	VFIRE24
16	VTAC33			10	VFIRE25
17	VTAC34	12	VMED28	11	VFIRE26
17	VTAC35	13	VMED29		
19	VTAC36				
20	VTAC37	14	VLAW1		
21	VTAC38	15	VLAW2		



R_{4.2}
[4.2]

Resources for Emergency Response - Communications -

- Factors that Affect Radio Communications:
 - Knowledge of the radio issued to individuals
 - Net control, frequencies
 - Line of sight restrictions
 - Antenna polarization effect
 - Minimizing noise interference
 - Wide band vs. narrow band



R_{4.2}
[4.2]

Resources for Emergency Response - Communications -

- How to mitigate potential problems
 - Implement effective communication procedures
 - Give a good comprehensive briefing
 - Confirm that relayed information is received, acknowledges, and understood
 - Keep a continuous information flow
 - Establish emergency check-in procedures
 - Provide a minimum of 4 radios per 20-person crew



R_{4.2}
[4.2]

Resources for Emergency Response - Communications -

- Five Communication Responsibilities
 - Brief others
 - Debrief your actions
 - Communicate hazards to others
 - Acknowledge messages
 - Ask if you don't know

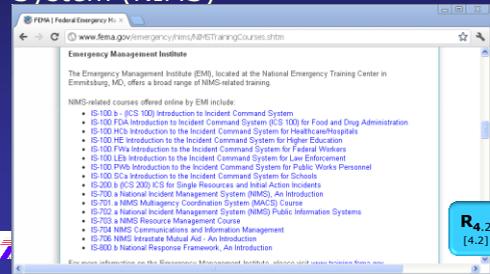


R_{4.2}
[4.2]

Resources for Emergency Response - Training -

<http://www.fema.gov/emergency/nims/NIMSTrainingCourses.shtml>

- National Incident Management System (NIMS)



R_{4.2}
[4.2]

Resources for Emergency Response - Training -

<http://texasforestservice.tamu.edu/main/article.aspx?id=8528>

- TFS



R_{4.2}
[4.2]

Resources for Emergency Response - Training -

<http://ticc.tamu.edu/Training/TrainingMain.htm>

- TICC



R_{4.2}
[4.2]

Exercise 4.2

TxDOT Wildland Fire Management



In your Learner Groups, discuss the following question:

1. How will the changes to radio operation protocols affect communications at a wildland fire event?

Be prepared to discuss your answers (2 minutes).



SLIDE 6.25

Resources for Emergency Response - Situational Safety -

- Driving Safety
 - Drive only when well-rested
 - Practice situational awareness
 - Never drive when taking medications that make you drowsy
 - Delegate navigation or communication to the passenger
 - Constantly move your vision to avoid highway hypnosis
 - Avoid eating or drinking
 - Be patient



R_{4.3}
[4.3]

Resources for Emergency Response - Situational Safety -

- Hazardous Materials Encounters
 - Types of hazardous materials
 - Clandestine drug waste
 - Midnight dumping
 - Transportation accidents
 - Self-protection is your first responsibility
 - Respond to all encounters with the three R's
 - Recognize
 - Retreat
 - Report
 - See OSHA training 1910.120 (q)



R_{4.3}
[4.3]

Resources for Emergency Response - Situational Safety -

- Vehicle Entrapment
 - Using a vehicle during fire entrapment is an option
 - Park the vehicle in an area void of vegetation
 - Park behind a natural barrier
 - Do not park on the downhill side of a road or under power lines or overhanging vegetation
 - Position the crew portion of the vehicle away from the fire
 - Set the parking break, leave the motor running, and keep vehicle lights on
 - Roll up the windows but do not lock the doors
 - Cover windows with fire shelters with reflective material against the window
 - Protect your airway; remain as possible and cover mouth and nose with a dry bandana



R_{4.3}
[4.3]

Resources for Emergency Response - Situational Safety -

- Vehicle Entrapment
 - Expect the following conditions:
 - Temperatures may reach over 200 degrees
 - Smoke and sparks may enter the vehicle
 - Plastic parts may melt and give off toxic gases
 - Windows may crack
 - Exposed skin may receive radiant heat burns
 - If the vehicle catches fire or windows blow out, and you must exit the vehicle before the fire has passed:
 - Each crewmember should cover himself with a fire shelter
 - Exit the vehicle from side away from the greatest heat
 - Stay together and get as low to the ground as possible while moving away from the vehicle
 - Deploy fire shelter in a safe area.



R_{4.3}
[4.3]

Resources for Emergency Response - Situational Safety -

- Managing Vehicle Traffic in Smoke
 - Identify location and phone number of local units that have law enforcement and traffic responsibilities
 - Identify important, public roads that may be impacted by smoke
 - Identify adequate equipment and trained personnel to control traffic
 - Identify phone number of radio and television stations that can issue traffic advisories
 - Identify alternate traffic routes
 - Identify traffic routes subject to temperature inversion



R_{4.3}
[4.3]

Resources for Emergency Response - Additional Safety Concerns -

- Fatigue/Stress
- Heat Disorders
 - Heat cramps
 - Heat exhaustion
 - Heat stroke
- Hydration
 - Dehydration
 - Hyponatremia
- Hypothermia



Resources for Emergency Response - Additional Safety Concerns -

- Power Lines
- Liquefied propane Gas (LPG) Tank Hazards
- Smoke Exposure
- Static Electricity Hazards
- Thunderstorms



R_{4.3}

[4.3]

Exercise 4.3

TxDOT Wildland Fire Management



In your Learner Groups, discuss the following questions:

1. What situational hazards have I encountered in the field?
2. Did I respond properly?

Be prepared to discuss your answers (2 minutes).



Summary and Review

1. TxDOT employees should have appropriate clothing, PPE, and equipment when responding to a wildfire
2. TxDOT employees may encounter numerous situational safety hazards when responding to wildfires and should know how to address these hazards



MODULE 5 Documentation and Data Collection



**TxDOT Wildland Fire
Management Training**
Course No.
ISSUE:

Learning Objectives

Upon completion of this section, the learner will be able to:

1. Know how to use a Daily Activity Report to collect data from a wildfire situation.
2. Understand how to use the TxDOT MMT website for data collection.



Learning Objectives, cont'd

1. Understand how to use the TxDOT EOC website for data collection.
3. List other data collection resources available.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

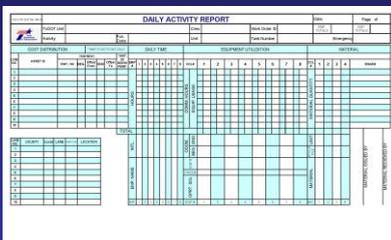
- How do TxDOT districts currently collect data?
 - Emails and Sharepoint
 - Wildfire resource committed notes made by MS emailed to District Office Manager
 - Maintenance Division Database
 - Daily Activity Reports (DARs)
 - Employee diaries, situation reports, equipment and personnel logs



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- DARs

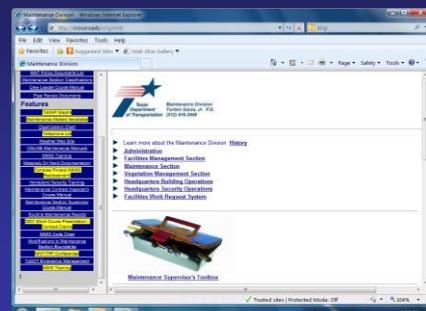


The image shows a 'DAILY ACTIVITY REPORT' form. It includes a header with fields for 'Date', 'Page #', and 'Page # of'. Below the header is a large grid with columns for 'Activity', 'Time', 'Location', and 'Remarks'. The grid is divided into sections for 'WILDLAND FIRE', 'ROADWAY MAINTENANCE', and 'OTHER'. There are also sections for 'EQUIPMENT OPERATIONS' and 'PERSONNEL'. The form is designed for detailed logging of activities during a wildfire response.



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT Crossroads MNT Website



Research Project 0-6735
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TxDOT Crossroads MNT EM Portal



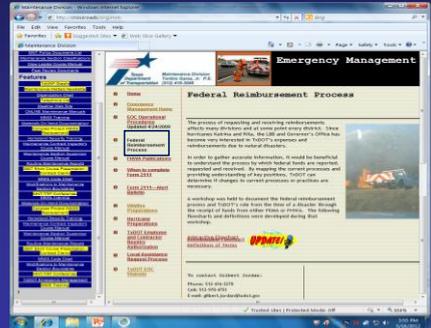
Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT Crossroads MNT EM Portal



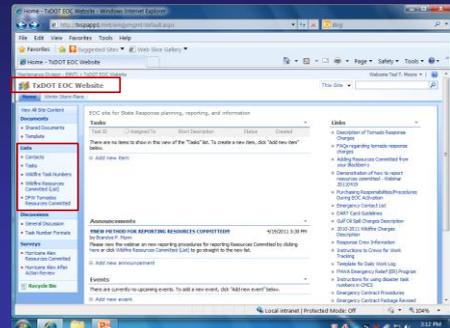
Research Project 0-6735
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TxDOT Crossroads MNT EM Portal



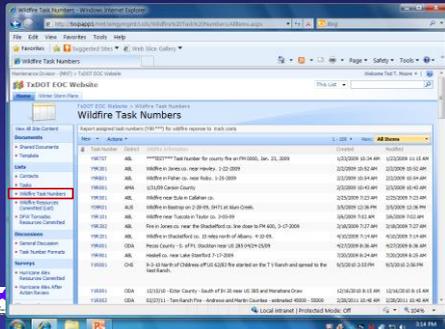
Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT EOC Website



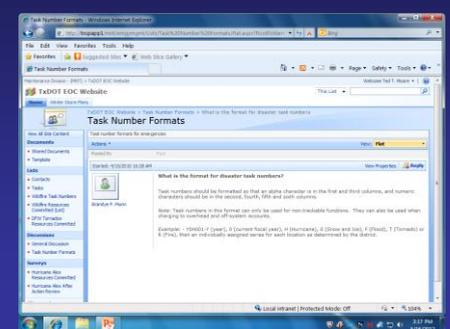
Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT EOC Website



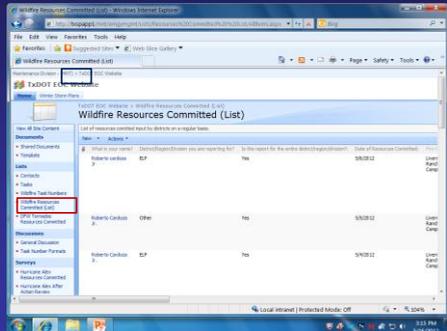
Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT EOC Website



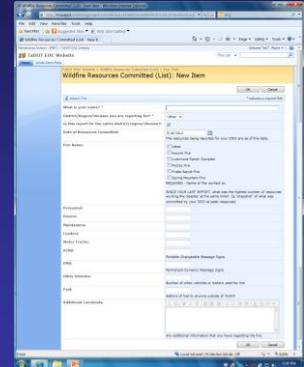
Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT EOC Website



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

TxDOT EOC Website



Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

**Texas State Emergency Management (EM)
TxDOT Wildfire Preparedness Mitigation Activities**

Resource Level 1	Resource Level 2	Resource Level 3	EM - Wildfire Preparedness Mitigation Activities
<p>Physical Conditions</p> <ul style="list-style-type: none"> Substrate dry and brittle for wildfires Unobstructed egress of wildfire Flare back back in effect Wildfire fuel in area 	<p>Resource Level 2</p> <ul style="list-style-type: none"> Substrate dry and brittle for wildfires Unobstructed egress of wildfire Flare back back in effect Wildfire fuel in area 	<p>Resource Level 3</p> <ul style="list-style-type: none"> Wildfires are extensive, city and township are advised State of emergency declared State of emergency declared State of emergency declared 	<p>EM - Wildfire Preparedness Mitigation Activities</p> <ul style="list-style-type: none"> Wildfire fuel in area Wildfire fuel in area Wildfire fuel in area Wildfire fuel in area
<p>Prepared in Type of Activity</p> <ul style="list-style-type: none"> State and local agencies are advised via NWCG IRPG as they are resources available with TxDOT resources and resources approved by TxDOT (State/Region). County will be responsible for making wildfire preparedness activities available to the public. State and local agencies are advised via NWCG IRPG as they are resources available with TxDOT resources and resources approved by TxDOT (State/Region). County will be responsible for making wildfire preparedness activities available to the public. 			
<p>Resource Level 1</p> <ul style="list-style-type: none"> State and local agencies are advised via NWCG IRPG as they are resources available with TxDOT resources and resources approved by TxDOT (State/Region). County will be responsible for making wildfire preparedness activities available to the public. 			
<p>Resource Level 2</p> <ul style="list-style-type: none"> State and local agencies are advised via NWCG IRPG as they are resources available with TxDOT resources and resources approved by TxDOT (State/Region). County will be responsible for making wildfire preparedness activities available to the public. 			
<p>Resource Level 3</p> <ul style="list-style-type: none"> State and local agencies are advised via NWCG IRPG as they are resources available with TxDOT resources and resources approved by TxDOT (State/Region). County will be responsible for making wildfire preparedness activities available to the public. 			

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- What other data collection resources are available?
 - Operational Briefings
 - After Action Reviews (AARs)
 - Chainsaw AARs
 - Safenet

Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- Operational Briefings
 - Use the standard checklist printed on the inside cover of the NWCG IRPG
 - Discuss the following topics
 - Situation
 - Mission/Execution
 - Communications
 - Service/Support
 - Risk Management



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Documentation and Data Collection

- After Action Reviews
 - Professional discussion of event with the objective to identify successes and failures
 - Use to get maximum benefit from every incident or project



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Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- After Action Reviews
 - Part of standard operating procedures
 - Have it ASAP after event
 - Leader facilitates
 - Everyone should participate
 - Pay attention to time
 - Establish clear ground rules
 - End on a positive note




Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- After Action Reviews
 - Questions to discuss:
 - What was planned?
 - What actually happened?
 - Why did it happen?
 - What are we going to do next time?




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Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- Chainsaw AARs
 - Simple, quicker format of AAR
 - Assemble the team and ask one member:
 - What is one thing that went well?
 - What is one thing that went bad?
 - What is one thing you would do differently?
 - What is one thing you learned?
 - Continue to each member
 - Note comments




Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- SAFENET
 - Form and process for reporting unsafe situations on or off the fireline
 - Filled out any time to report a valid concern about unsafe situations in fire operations, as well as to document corrective action
 - Every new SAFENET is forwarded to the affected agency's designated list of contacts




Research Project 0-6735
Best Practices for TxDOT on Handling Wildfires

Documentation and Data Collection

- SAFENET
 - <http://safenet.nifc.gov/>




Exercise 5.1

TxDOT Wildland Fire Management



In your Learner Groups, discuss the following questions:

1. Do we currently debrief after incidents?
2. Why or why not?

Be prepared to discuss your answers (2 minutes).





Summary and Review

1. TxDOT has several built-in programs for data collection.
2. There are several other resources available for collecting, discussing, and disseminating data and information related to wildfire incidents.



MODULE 6 Training Programs



TxDOT Wildland Fire Management Training

Course No.
ISSUE:

Learning Objectives

TXDOT WILDLAND FIRE MANAGEMENT

Upon completion of this section, the learner will be able to:

1. Understand what training courses are available to improve your abilities to respond to wildland fires
2. Know how to find and register for these training courses



Learning Objectives, cont'd.

TXDOT WILDLAND FIRE MANAGEMENT TRAINING

3. Objective 3
4. Objective 4 ...



ICS Management Characteristics

R_{6.1}
[6.1]

14 Management Characteristics

- Common Terminology
- Modular Organization
- Management by Objectives
- Incident Action Planning
- Manageable Span of Control
- Incident Facilities and Locations
- Comprehensive Resource Management
- Integrated Communications
- Establishment and Transfer of Command
- Chain of Command and Unity of Command
- Unified Command
- Accountability
- Dispatch/ Deployment
- Information and Intelligence Management

R_{6.1}
[6.1]

Common Terminology

Common Terminology: ICS establishes common terminology that allows diverse incident management and support organizations to work together across a wide variety of incident management functions and hazard scenarios. This common terminology covers the following:

- **Organizational Functions:** Major functions and functional units with incident management responsibilities are named and defined. Terminology for the organizational elements is standard and consistent.
- **Resource Descriptions:** Major resources—including personnel, facilities, and major equipment and supply items—that support incident management activities are given common names and are “typed” with respect to their capabilities, to help avoid confusion and to enhance interoperability.
- **Incident Facilities:** Common terminology is used to designate the facilities in the vicinity of the incident area that will be used during the course of the incident.

Incident response communications (during exercises and actual incidents) should feature plain language commands so they will be able to function in a multijurisdiction environment. Field manuals and training should be revised to reflect the plain language standard.



R_{6.1}
[6.1]

Modular Organization

Modular Organization: The ICS organizational structure develops in a modular fashion based on the size and complexity of the incident, as well as the specifics of the hazard environment created by the incident. When needed, separate functional elements can be established, each of which may be further subdivided to enhance internal organizational management and external coordination. Responsibility for the establishment and expansion of the ICS modular organization ultimately rests with Incident Command, which bases the ICS organization on the requirements of the situation. As incident complexity increases, the organization expands from the top down as functional responsibilities are delegated. Concurrently with structural expansion, the number of management and supervisory positions expands to address the requirements of the incident adequately.



R_{6.1}
[6.1]

Management by Objectives

Management by Objectives: Management by objectives is communicated throughout the entire ICS organization and includes:

- Establishing overarching incident objectives.
- Developing strategies based on overarching incident objectives.
- Developing and issuing assignments, plans, procedures, and protocols.
- Establishing specific, measurable tactics or tasks for various incident management functional activities, and directing efforts to accomplish them, in support of defined strategies.
- Documenting results to measure performance and facilitate corrective actions.



R_{6.1}
[6.1]

Incident Action Planning

Incident Action Planning: Centralized, coordinated incident action planning should guide all response activities. An Incident Action Plan (IAP) provides a concise, coherent means of capturing and communicating the overall incident priorities, objectives, and strategies in the contexts of both operational and support activities. Every incident must have an action plan. However, not all incidents require written plans. The need for written plans and attachments is based on the requirements of the incident and the decision of the Incident Commander or Unified Command. Most initial response operations are not captured with a formal IAP. However, if an incident is likely to extend beyond one operational period, become more complex, or involve multiple jurisdictions and/or agencies, preparing a written IAP will become increasingly important to maintain effective, efficient, and safe operations.



R_{6.1}
[6.1]

Manageable Span of Control

Manageable Span of Control: Span of control is key to effective and efficient incident management. Supervisors must be able to adequately supervise and control their subordinates, as well as communicate with and manage all resources under their supervision. In ICS, the span of control of any individual with incident management supervisory responsibility should range from 3 to 7 subordinates, with 5 being optimal. During a large-scale law enforcement operation, 8 to 10 subordinates may be optimal. The type of incident, nature of the task, hazards and safety factors, and distances between personnel and resources all influence span-of-control considerations.



R_{6.1}
[6.1]

Incident Facilities and Locations

Incident Facilities and Locations: Various types of operational support facilities are established in the vicinity of an incident, depending on its size and complexity, to accomplish a variety of purposes. The Incident Command will direct the identification and location of facilities based on the requirements of the situation. Typical designated facilities include Incident Command Posts, Bases, Camps, Staging Areas, mass casualty triage areas, point-of-distribution sites, and others as required.



R_{6.1}
[6.1]

Comprehensive Resource Management

Comprehensive Resource Management: Maintaining an accurate and up-to-date picture of resource utilization is a critical component of incident management and emergency response. Resources to be identified in this way include personnel, teams, equipment, supplies, and facilities available or potentially available for assignment or allocation. Resource management is described in detail in Component III.



R_{6.1}
[6.1]

Integrated Communications

Integrated Communications: Incident communications are facilitated through the development and use of a common communications plan and interoperable communications processes and architectures. The ICS 205 form is available to assist in developing a common communications plan. This integrated approach links the operational and support units of the various agencies involved and is necessary to maintain communications connectivity and discipline and to enable common situational awareness and interaction. Preparedness planning should address the equipment, systems, and protocols necessary to achieve integrated voice and data communications.



R_{6.1}
[6.1]

Establishment and Transfer of Command

Establishment and Transfer of Command: The command function must be clearly established from the beginning of incident operations. The agency with primary jurisdictional authority over the incident designates the individual at the scene responsible for establishing command. When command is transferred, the process must include a briefing that captures all essential information for continuing safe and effective operations.



R_{6.1}
[6.1]

Chain of Command and Unity of Command

Chain of Command and Unity of Command:

- **Chain of Command:** Chain of command refers to the orderly line of authority within the ranks of the incident management organization.
- **Unity of Command:** Unity of command means that all individuals have a designated supervisor to whom they report at the scene of the incident. These principles clarify reporting relationships and eliminate the confusion caused by multiple, conflicting directives. Incident managers at all levels must be able to direct the actions of all personnel under their supervision.



R_{6.1}
[6.1]

Unified Command

Unified Command: In incidents involving multiple jurisdictions, a single jurisdiction with multiagency involvement, or multiple jurisdictions with multiagency involvement, Unified Command allows agencies with different legal, geographic, and functional authorities and responsibilities to work together effectively without affecting individual agency authority, responsibility, or accountability.



R_{6.1}
[6.1]

Accountability

Accountability: Effective accountability of resources at all jurisdictional levels and within individual functional areas during incident operations is essential. Adherence to the following ICS principles and processes helps to ensure accountability:

- Resource Check-In/Check-Out Procedures
- Incident Action Planning
- Unity of Command
- Personal Responsibility
- Span of Control
- Resource Tracking



R_{6.1}
[6.1]

Dispatch/Deployment

Dispatch/Deployment: Resources should respond only when requested or when dispatched by an appropriate authority through established resource management systems. Resources not requested must refrain from spontaneous deployment to avoid overburdening the recipient and compounding accountability challenges.



R_{6.1}
[6.1]

Information and Intelligence Management

Information and Intelligence Management: The incident management organization must establish a process for gathering, analyzing, assessing, sharing, and managing incident-related information and intelligence.



R_{6.1}
[6.1]

Exercise 6.1

TxDOT Wildland Fire Management



Individual assignment:

1. What additional training do you think you should have before responding to a wildfire?

Be prepared to discuss your answers (2 minutes).



Summary and Review

1. Numerous training courses are available to better equip you in responding to wildland fires.
2. Point 2





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