2022 Culberson County, Town of Van Horn, Texas Multi-Hazard Mitigation Action Plan

To be adopted in 2022 by

Culberson County, TX

Town of Van Horn, TX

Culberson County – Allamoore ISD

Prepared by

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1. Introduction

Facilitated by the Rio Grande Council of Governments (RGCOG), residents of Culberson County, the Town of Van Horn and Culberson County – Allamoore ISD worked with representatives of neighboring jurisdictions to update this Hazard Mitigation Plan.

This section explains the purpose of hazard mitigation, the intent of the plan, and the Federal regulations that guide the content of the plan. This section also defines the planning area and describes the organization of the plan.

1.1. Purpose of Hazard Mitigation

Hazard mitigation reduces or eliminates the potential for damage to property or for injury or loss of life due to a hazard. The benefits of mitigating the potential impacts of hazards include making an area more sustainable and less vulnerable to damage, facilitating recovery and redevelopment following occurrence of a natural hazard, and establishing eligibility for Hazard Mitigation Assistance funding.

1.2. Intent of the Plan

The intent of the plan is to recommend cost-effective and appropriate actions that will permanently reduce the potential for loss. Hazard mitigation planning requires coordination and collaboration among multiple agencies, organizations, and local jurisdictions.

Furthermore, the intent of the plan is to update the previous hazard mitigation plan that was adopted by Culberson County and the City of Van Horn in 2015. The RGCOG began development of the previous hazard mitigation plan for Culberson County, as well as for the other five Texas counties in the Far West Texas region, in 2004. The RGCOG began the process of updating this hazard mitigation plan in 2020. Figure 1 shows the location of the six Texas counties that belong to the RGCOG.

Figure 1: Counties That Are Members Of The RGCOG

1.3. Authority

The plan will be adopted by Culberson County, the Town of Van Horn and Culberson County – Allamoore ISD after FEMA Region VI indicates that the plan is approvable. An approvable plan complies with the requirements of Title 44 of the Code of Federal Regulations Section 201.6.

1.4. The Planning Area

This multi-hazard mitigation plan is for Culberson County, the Town of Van Horn and Culberson County-Allamoore ISD. Figure 2 shows the location of Van Horn, Interstate 10, and Guadalupe Mountains National Park and CC-Allamoore ISD boundaries in the County.

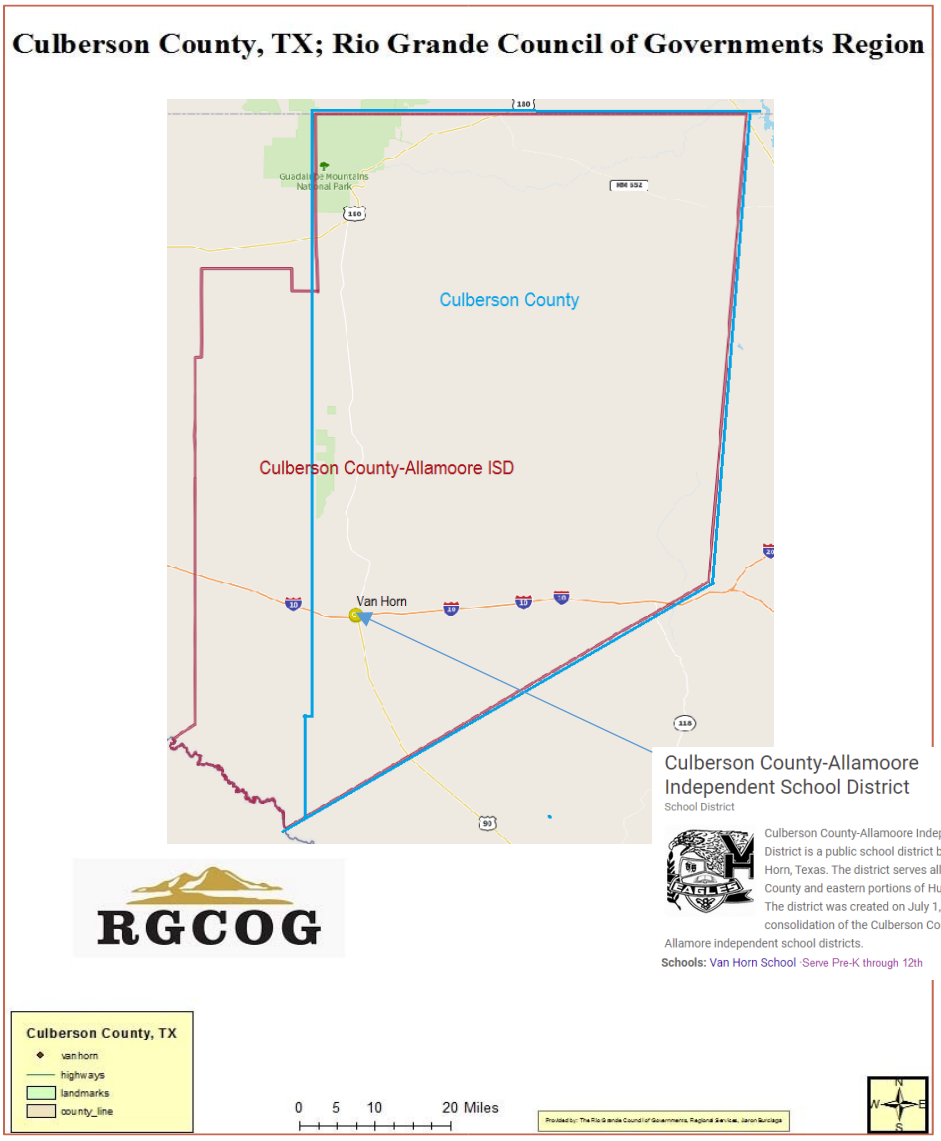


Figure 2: Culberson County map showing the location of the Town of Van Horn and Culberson County-Allamoore ISD

1.5. Organization of the Plan

Culberson County Hazard Mitigation Plan Update, referred to as the "plan," has eight major sections.

- **Section 1** introduces hazard mitigation planning and this updated plan.
- **Section 2** summarizes the planning process followed to develop the previous plan, which was adopted in 2015, and provides details about the process implemented to develop this plan. This information will facilitate the process the next time the plan is updated.
- **Section 3** identifies the natural hazards that can occur in the planning area and profiles or describes the characteristics of each hazard as a first step in analyzing risk. This information is used to develop an understanding of how natural hazards can lead to damage in the planning area.
- **Section 4** summarizes community capabilities and resources that may facilitate the implementation of hazard mitigation actions. This information is important for identifying mitigation actions that are appropriate for each participating jurisdiction.
- **Section 5** describes a systematic assessment of risk and concludes with short descriptions of potential problems. This information is important for developing mitigation actions that respond to precise threats or vulnerabilities in the planning area.
- **Section 6** presents specific recommendations for solving the identified problems through a variety of mitigation actions. Recommendations include strategies for maintaining the plan so that it remains scientifically accurate and relevant to participating jurisdictions. After the plan is adopted, responsible parties will implement the mitigation actions.
- **Section 7** lists sources of information consulted for the development of this plan update. This information will be particularly helpful when the plan is next updated.
- **Section 8** includes copies of documents prepared for and used during the plan update process and, after the plan is adopted by participating jurisdictions, it will also include copies of the resolutions of adoption.

2. The Planning Process

This section provides details of the planning process for both the development of the previous plan, which was adopted in 2015, and this plan update, which was developed in 2020 and 2022. The two planning processes were substantially similar.

2.1. 2015 Planning Process Summary

Beginning in October 2012, the Assistant Coordinator for the Office of Emergency Management for Culberson County, the RGCOG Regional Services Director, and representatives of RGCOG member governments gathered and analyzed data to develop the previous hazard mitigation plan.

2.1.1. 2012-2015 Planning Team

Planning team identified hazards and provided data for plan development to RGCOG. RGCOG led the planning process throughout the review of existing planning mechanisms, hazard identification and analysis, assessment of risk and vulnerability, identification, evaluation, and prioritization of mitigation actions, and development of mitigation strategies. As proposed in the plan, RGCOG was responsible for monitoring and evaluating the plan as the participating jurisdictions implemented the mitigation actions and for initiating the plan update process. Table 1 lists Planning Team participants.

Table 1: 2015 Planning Team

Jurisdiction/ Agency Represented	Planning Team Participant for 2013 Plan Update	Contribution
Culberson County	Judge Carlos G. Urias	Participated in October 2012 meeting Completed November 2012 survey Participated in December 2012 meeting
Town of Van Horn	Ms. Fran Malafronte, City Administrator	Completed November 2012 survey
Texas Department of Emergency Management	Mr. Martin Widtfeldt Mr. Ray Resendez	Participated in October 2012 meeting Participated in December 2012 meeting Reviewed draft plan
RGCOG Regional Services	Ms. Marisa Quintanilla	Overall project management Contributed data Reviewed draft plan

2.1.2. 2012-2015 Stakeholder and Public Involvement

Public involvement was encouraged through the previous plan development process. Information about hazard mitigation was updated regularly on the RGCOG web site (www.riocog.org). Planning team meetings were announced in the local newspaper and posted in county office buildings, and were open to the public. All residents of the five-county Far West Texas region were invited to offer comments on the draft plan. A final public comment period was held prior to plan adoption.

2.1.3. 2012-2015 Technical Assistance

RGCOG did not contract with an outside firm for technical assistance to develop the initial local hazard mitigation plan. RGCOG relied on the FEMA Series 306, the How-To guides, as well as input from Texas Department of Public Safety and FEMA Region VI for developing the previous plan.

2.1.4. 2012-2015 Participation of Neighboring Jurisdictions

The planning process ensured the involvement of neighboring jurisdictions, including El Paso, Hudspeth, Culberson, Jeff Davis, and Presidio Counties.

2.1.5. 2015 Plan Adoption

The previous plan was submitted to the Texas Division of Emergency Management (TDEM) for initial review in November 2014. The plan was revised as required by the State and by FEMA Region VI. The Culberson County plan was adopted by participating jurisdictions in 2015.

2.2. 2020–2022 Planning Process Summary

The plan update process began in 2020 with the re-establishment of the planning team. RGCOG telephoned leaders of each jurisdiction that adopted the previous plan and requested that they assign a representative to the planning team. The RGCOG staff telephoned representatives of neighboring jurisdictions, universities and Texas state agencies to invite them to be part of the planning team.

2.2.1. 2020–2022 Planning Team

The RGCOG scheduled an initial planning team meeting on October 18, 2020. Planning team participants are listed in Table 2, which also briefly notes how individuals contributed throughout the plan development process.

Table 2: Plan Update Team

Planning Team Member	Position / Title	Jurisdiction / Agency	
Al Talavera	District Coordinator	TDEM	Participated in 2021 meetings, reviewed draft plan
Anjelica Perez		Van Horn Fire – Medical Services	Participated in 2021 meetings, reviewed draft plan
Becky Brewster	Mayor	City of Van Horn	Participated in 2021 meetings, reviewed draft plan
Carlos Urias	County Judge	Culberson County	Participated in 2021 meetings, reviewed draft plan
Charles Gonzalez	Superintendent	CCA ISD	Participated in 2021 meetings, reviewed draft plan
Cody Davis	Asst. EMC	Culberson Co.	Participated in 2021 meetings, reviewed draft plan
Cedillos	Chief D. J.	Van Horn Fire - Med Services	Participated in 2021 meetings, reviewed draft plan
Efrain Hinojosa	EMC	Culberson Co.	Participated in 2021 meetings, reviewed draft plan

Fran Malafronte	City Manager	City of Van Horn	Participated in 2021 meetings, reviewed draft plan
Jose Aleman	Special agent	CBP / DHS	Participated in 2021 meetings, reviewed draft plan
Lyndon McDonald	Chief	Van Horn VFD	Participated in 2021 meetings, reviewed draft plan
Maricel Gonzalez	Chief Appraiser	Culberson County Appraisal District	Participated in 2021 meetings, reviewed draft plan
Rick Gray	Administrator	Culberson Hospital	Participated in 2021 meetings, reviewed draft plan
Summer Webb	Director	Culberson Groundwater District	Participated in 2021 meetings, reviewed draft plan
Yolanda Jurado	Chief Nursing Officer	Culberson Hospital	Participated in 2021 meetings, reviewed draft plan

2.2.2. 2020–2022 Stakeholder and Public Involvement

Stakeholder and public involvement is critical for a planning process. Stakeholders and the public provide valuable information about hazards and potential losses. These participants must evaluate The proposed actions because implementation requires the dedication of community resources, including time and money.

RGCOG has a great deal of experience in scheduling and conducting public meetings throughout the six counties in Far West Texas. Established procedures for announcing and holding meetings have been very effective in obtaining participation of representatives, which included elected officials of Culberson County, the Town of Van Horn, Culberson County – Allamoore ISD and the public at meetings. Therefore, no changes were made from the 2015 Stakeholder and Public Involvement processes established which were: 1) Planning team meetings were announced in the local newspaper, and 2) posted in county office buildings, and 3) were open to the public. Lastly, all residents of the six-county Far West Texas region, including Culberson County, Culberson County – Allamoore ISD and the Town of Van Horn, were invited to offer comments on the draft plan. A final public comment period was held prior to plan adoption. The only addition to the process used to involve stakeholders and the public to update the plan was the addition of an online survey. The currently used planning process used derived from the "*Mitigation Planning How-To Guide #2 (FEMA 386-2)*" *and "Local Mitigation Planning Handbook March, 2013 (FEMA)."*

<u>2021 Online Community Survey</u>

Between January-November 2021, RGCOG sent a request to representatives of each participating jurisdiction and the general public to reply to an online survey about the nature of hazards in their Counties. A sample of the individualized e-mail message sent to a representative of each participating

jurisdiction inviting a response to the survey is displayed in Section 8.1.5. The pages of the survey with a summary of the responses are also displayed in Section 8.1.8.

October 28, 2020 Initial meeting (virtual)

RGCOG staff hosted an initial meeting for the Hazard Mitigation Plan update. Due to COVID 19 restrictions, the meeting was conducted virtually using the GOTOMEETING platform. The meeting was combined with a first responders meeting for all six counties in the RGCOG's area. Representatives from four of the six counties attended to included Hudspeth County's, Emergency Management Coordinator / County Administrator, responsible for mitigation plan update. The meeting included discussion on the 2020 Threat and hazard Identification (THIRA) and risk assessment plan review, the 2020 Stakeholder Preparedness Review (SPR) plan review. The group received a presentation on the overview of the Hazard Mitigation planning process. The presentation provided direction in building the planning teams and organizing the requirements of updating the mitigation plan.

July 29, 2021 Planning Meeting Open to the Public

On July 29, 2021, RGCOG staff facilitated a meeting in Van horn open to the public to get public input. In the meeting we reviewed the Hazard Mitigation Plan update process, discussed and sought agreement on designated hazards, discussed the status of updating building codes, identified technical resources, confirmed critical facilities, reviewed previous mitigation action plans, and created new mitigation action strategies. Five people participated and provided valuable information towards updating the plan.

All meeting participants were invited to participate throughout the meeting and to ask questions, offer observations, and provide information.

September 30, 2021 Planning Meeting

On September 30, 2021, RGCOG staff facilitated a meeting in Van horn. In the meeting we reviewed the Hazard Mitigation Plan update process, discussed and sought agreement on designated hazards, reviewed previous mitigation Action plans, and created new mitigation action strategies. Five people participated and provided valuable information towards updating the plan.

April 14, 2022 Planning Meeting

On April 14, 2022, RGCOG staff facilitated a meeting in Van horn. In the meeting we reviewed the Hazard Mitigation hazards, reviewed previous mitigation Action plans, and created new mitigation action strategies. Fifteen people participated and provided valuable information towards updating the plan.

On-line Survey

The planning team reviewed and analyzed the data gathered from the public with the on-line survey. Some examples of information gathered from the survey include the following:

- Top 4 hazards of concern 1. Wildfire 2. Drought 3. Extreme Heat and 4. Hail
- Top 4 hazards experienced 1. Hail 2. Winter Storm, 3. Drought 4. Wildfire
- 58% respondents have experienced a natural disaster
- 67% have received information for a safer home during a natural disaster.
- Top 3 methods to receive safety information 1. News Media, 2. Utility co. mail outs, 3. social media
- Most trusted information comes from 1. Government Agency, 2. Utility Co. 3. University Research groups

The survey assisted in promoting input from the community to assure we included the community's priorities. The planning team reviewed and analyzed data and assured the list

of hazards, resources and actions in this plan reflected the concerns of the planning area. Copies of the results can be viewed in section 8.1.5 of this plan.

2.2.3. 2020–2022 Technical Assistance

RGCOG provided technical assistance throughout the process of updating the hazard mitigation plan.

2.2.4. 2020–2022 Participation of Neighboring Jurisdictions

The plan was developed and facilitated by RGCOG. Plans were developed simultaneously for five counties in the RGCOG area and their 6 incorporated jurisdictions and 12 independent school districts.

Stakeholders including local officials, residents, school staff and business owners from all the five counties were invited to each planning team meeting during the plan development process to share information about hazards and suggestions for mitigation. Each meeting of the planning team was open to the public; meeting notices were posted as is the practices of the RGCOG on the web site of the Texas Secretary of State.

Participation of representatives from the six-county Far West Texas region ensured that plans would be consistent with one another and that information about hazards experienced in one county could inform the understanding of the characteristics of that hazard in neighboring counties. Similarly, the multi-county effort allowed representatives to learn from one another about opportunities for and challenges encountered in implementing mitigation actions.

2.2.5. Existing Information

The plan was developed using data from existing plans, studies, reports, and technical information. The data used by the planning team is identified and explained below.

In addition, the planning team referenced the National Climactic Data Center (2020) and the Spatial Hazard Events and Losses Database for the United States (SHELDUS) which provided a historical analysis of past storm and associated fatalities, injuries, property damages, and crop losses that have affected Culberson County, Culberson County – Allamoore ISD and the Town of Van Horn area through 2021. Both databases were used to help analyze, assess, and prioritize the hazards of concerns to the area.

Last, the Comprehensive Economic Development Strategy for the West Texas Economic Development District (2021) information allowed the planning team to identify and foster a more stable and diversified economies to include improving living conditions within the area.

Early in the planning process, the planning team identified any changes in development that have occurred in the planning area since the previous plan was developed and to gather better information about hazards that have occurred in the area. As appropriate, information gleaned from existing documents was incorporated into the plan and used in the Risk Assessment.

In general, existing documents provided some information about the planning area, but did not provide details about previous occurrences of hazards or ongoing hazard mitigation programs. Section 7 contains a detailed list of references consulted for the development of this updated plan. Of particular relevance to the plan and key sources of information incorporated into the assessment of risk are:

National Climactic Data Center (2020) the database provides information about previous occurrences of storms and associated fatalities, injuries, property damages, and crop losses

RGCOG Comprehensive Economic Development Strategy for the West Texas Economic Development District (2017) Spatial Hazard Events and Losses Database for the United States (SHELDUS) (2021) The database includes information about previous occurrences of storms and associated fatalities, injuries, property damages, and crop losses Texas Division of Emergency Management Hazard Mitigation Plan (2018)

The State plan provides an overview of hazards that can affect the area

Town of Van Horn Municipal Code (2021)

Texas Education Code chapter 37, Sec. 37.108. MULTIHAZARD EMERGENCY OPERATIONS PLAN; SAFETY AND SECURITY AUDIT. (a) Each school district or public junior college district shall adopt and implement a multi-hazard emergency operations plan for use in the district's facilities. The plan must address prevention, mitigation, preparedness, response, and recovery as defined by the Texas School Safety Center in conjunction with the governor's office of homeland security and the commissioner of education or commissioner of higher education, as applicable.

Both Culberson County and the Town of Van Horn participate in the National Flood Insurance Program (NFIP). Each has an ordinance that governs development in FEMA identified Special Flood Hazard Areas, is enforced by local officials, and that meets NFIP requirements.

Other documents consulted during the planning process include articles about recent wildfires, Storms, local zoning and development codes, books and articles about earthquakes, reports by Texas and Federal agencies about the behavior of various hazards in the region, and scales used to quantify the magnitude of hazards.

2.2.6. 2021 Plan Adoption

When FEMA Region VI and the Hazard Mitigation Officer for the State of Texas indicate to the RGCOG that the plan meets all Federal planning regulations and is approvable, the plan will be submitted according to established practices to elected officials of each participating jurisdiction for adoption. Culberson County, Culberson County – Allamoore ISD and the Town of Van Horn will be given 30 days in order to allow and receive public input from their citizens prior to plan approval. Copies of resolutions of adoption will be included in Section 8.2.

3. Hazards Identification

In this section of the plan, hazards that can occur in the County are identified and described. For each hazard type, the plan describes the locations that can be affected, the potential severity, and previous occurrences of the hazard in the County. This information is used to estimate the probability of an occurrence of the hazard in any given year. The plan describes the impact of each hazard, and reviews changes in development that have occurred over the past few years as well as mitigation accomplishments that may have changed the impact of the hazard. For each hazard, a brief description is also included about ways in which future development will be at risk of damage.

FEMA reports there have been 12 declared disasters that have occurred in Culberson County since 1953.

- 4 Fire
- 3 Hurricanes
- 2 Biological
- 2 Severe Ice Storm
- 1 Severe Storm

3.1. Hazards

Identification of hazards began by reviewing the hazards listed in the previous plan; this led to three changes:

1. **Hurricane or Tropical Storm**: In the previous plan the RGCOG and the planning team determined it was not useful to identify the weather phenomenon Hurricane/Tropical Storm as a separate hazard because damage associated from hurricanes or tropical storms such as flooding from rain, high winds, tornadoes, or hail, could be classified under other listed hazards identified in the plan. But as indicated by the FEMA historical data showing 3 disaster declarations in which hurricanes affected Culberson County, the team agreed to list Hurricanes/Tropical Storms as a separate hazard.

2. **Disease Outbreak:** The risk of a global influenza pandemic has increased over the last several years. A disease can claim thousands of lives and adversely affecting critical infrastructure and key resources. A pandemic could reduce the health, safety, and welfare of the essential services workforce. This hazard has been added due to the current COVID-19 outbreak and will include community mitigation aims to slow the spread of a novel virus in our community.

3.2. Hazard Profiles

3.2.1. Methodology

Five sources of data were used to profile each hazard:

1. The **National Climactic Data Center** (NCDC) information, which was used in the previous plan to examine flood or flash flood, hail, wind, and tornado, was updated using the July 2021 NCDC data.

2. The most recent version of the **Spatial Hazard Events and Losses Database** for the United States (SHELDUS) was used to update information about other hazards. SHELDUS data cover the period 1960 to 2021.

3. The planning team, local officials, and the public through the 2021 on-line Survey**.**

4. The FEMA Disaster Declarations database was consulted.

5. Resources published on the Internet provided further information about hazards.

The plan discusses the six characteristics of each identified hazard listed in Figure 3.

Figure 3: Characteristics of Each Hazard Addressed in the Plan

3.2.2. Flooding/Flash Flooding

Description: The inundation of normally dry land caused by an increase in the water level in an established watercourse such as a river, stream, or drainage ditch, or by water ponding.

Location

Flooding does not affect the entire county in a similar manner. Flooding is most likely to occur in broad, low-lying areas of Culberson County, particularly near arroyos, which are generally dry but carry water, sometimes a great deal of fast-moving water, during heavy rains. Flood hazard areas in the Town of Van Horn have been identified on the undeveloped portions of land near the intersection of Interstate Route 10 and U.S. Route 90, along Juniper Street, and near the railroad tracks along West First Street.

The Federal Emergency Management Agency (FEMA) produces maps for the National Flood Insurance Program (NFIP) that designate locations with at least a 1-percent chance of flooding in any given year. These maps are called Flood Insurance Rate Maps (FIRMs).

Figures 4 through 6 show the location of Special Flood Hazard Areas in the county near the airport and in Van Horn (also see Attachment Figures 1 through 3).

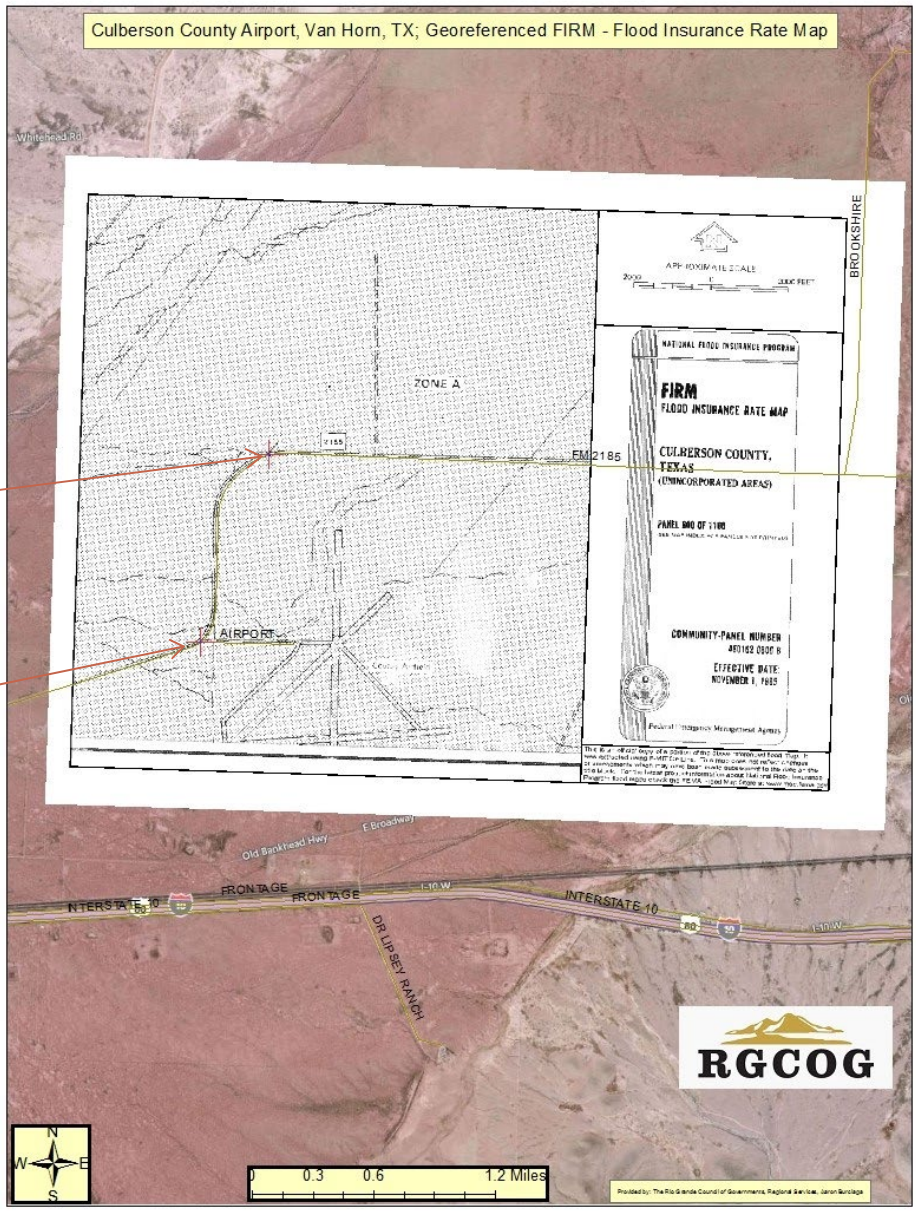


Figure 4: Flood Hazard Area near Culberson County Airport

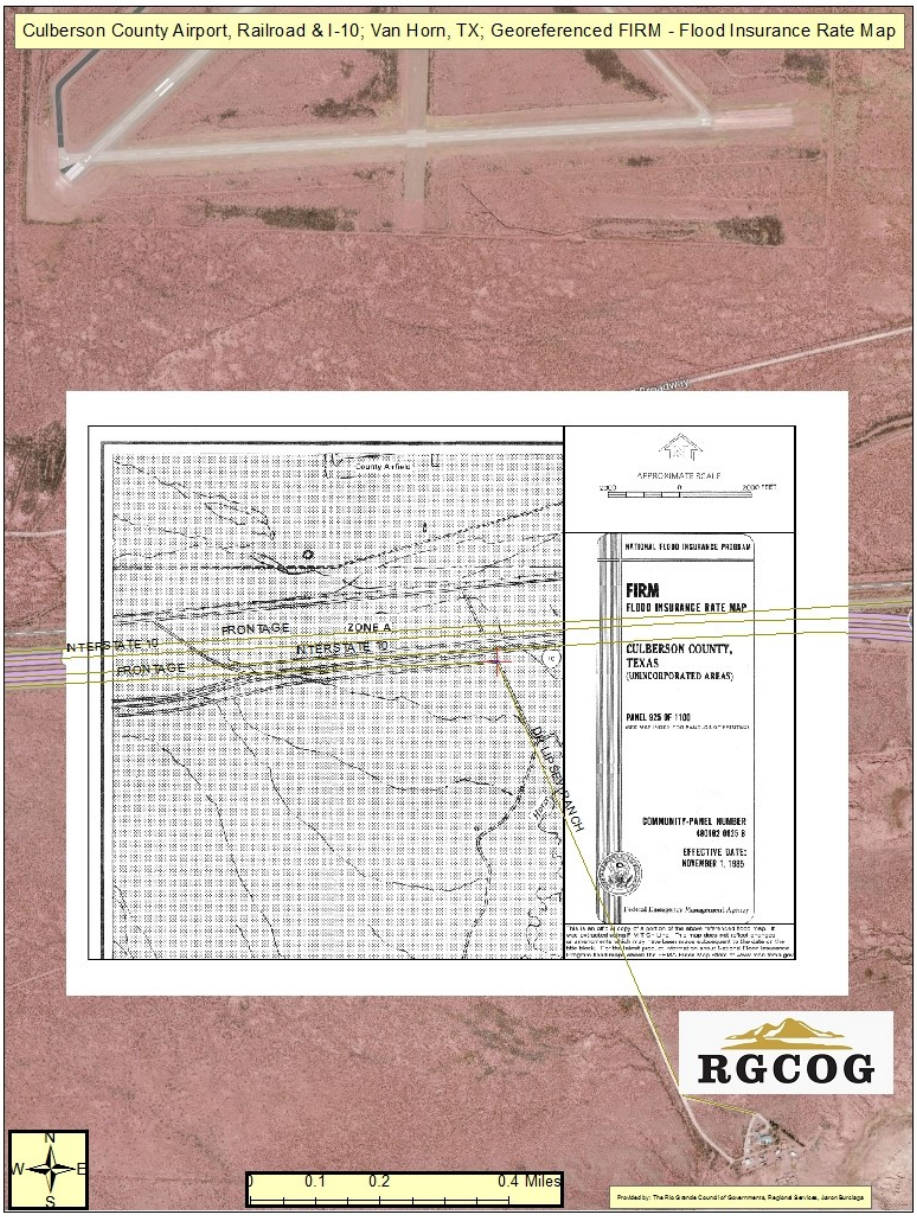


Figure 5: Flood Hazard Area near Interstate 10

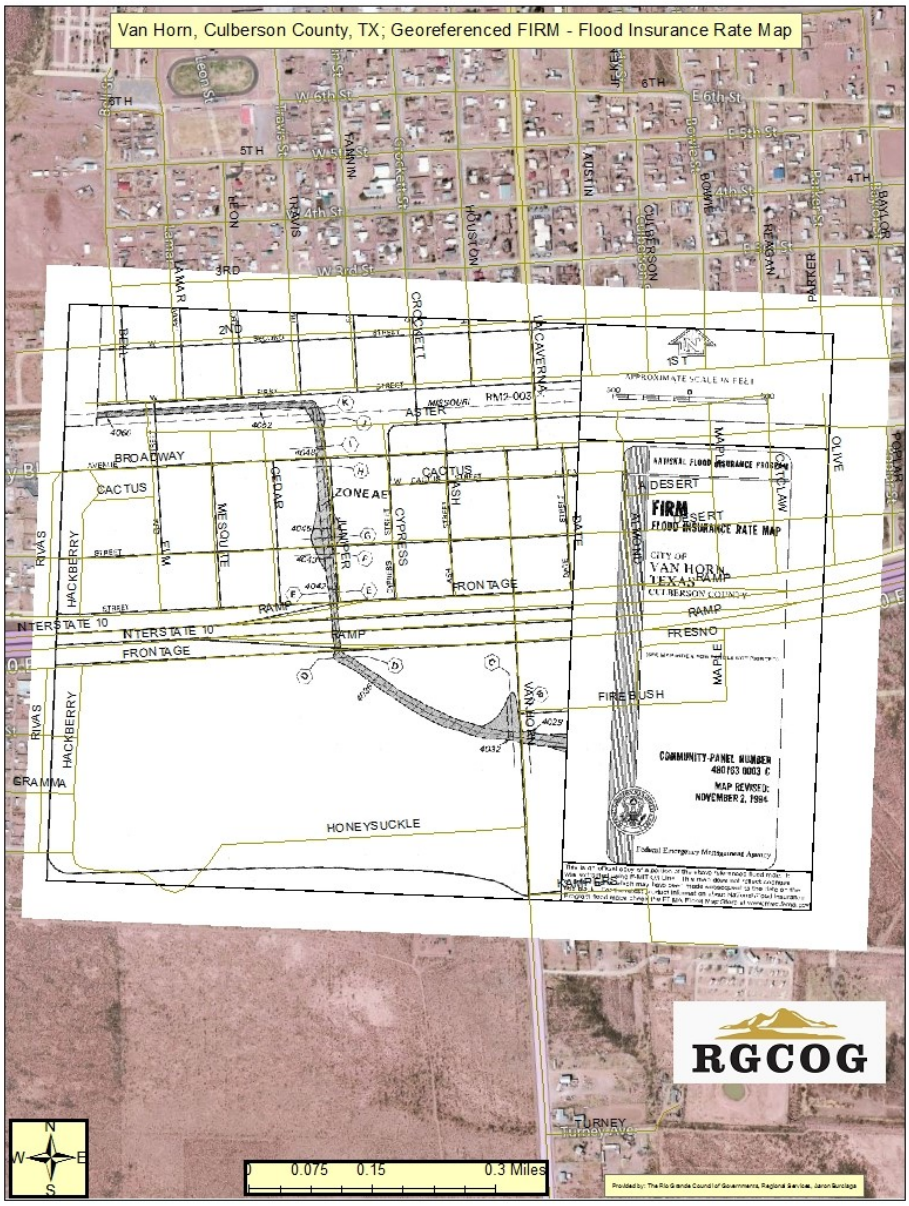


Figure 6: Flood Hazard Area in Van Horn, TX

Extent

The magnitude or severity of flooding varies across the county. Low-lying areas can experience slow moving water or ponding, whereas steep slopes can have fast-moving flood waters carrying mud or rocks.

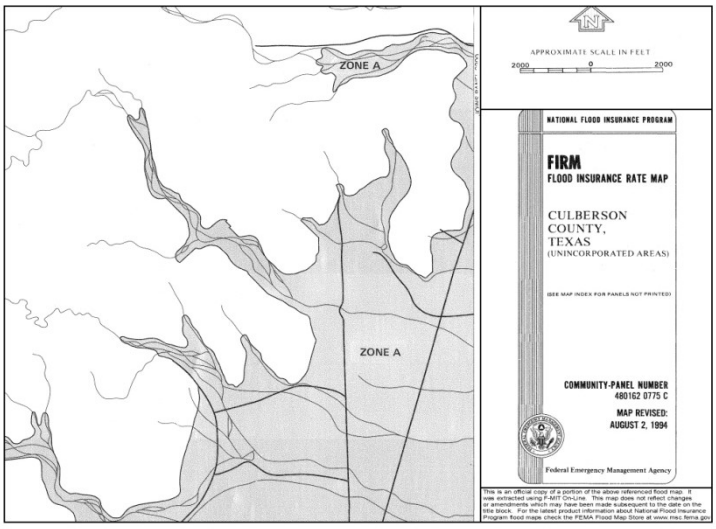
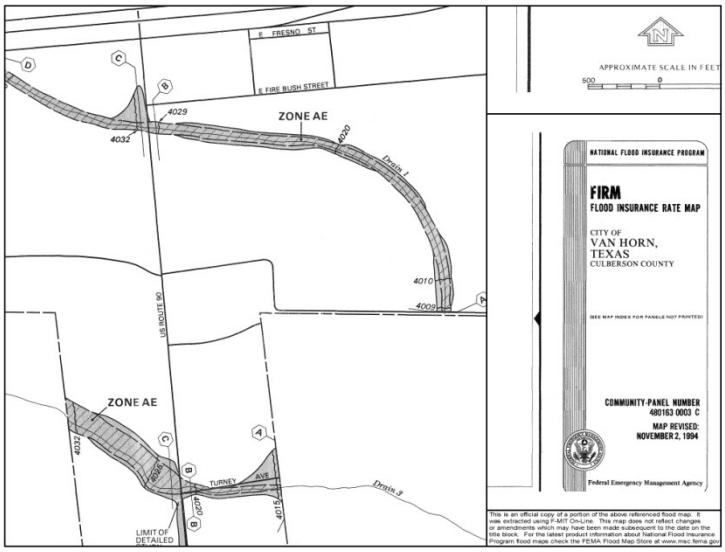
In some locations, flood depths with a 1-percent chance of occurring in any given year have been estimated by engineering models; this is called the Base Flood Elevation (BFE). The BFE is provided on FIRMs. The BFE is given in feet above sea level. Where the BFE has been calculated, it is anticipated that

the probability of the level of flooding reaching or exceeding the BFE is 1 percent in any given year; however, flooding at levels below the BFE can still be damaging.

FIRMs show that in the planning area, which is at a high elevation, BFEs are around 4,000 feet. Anecdotal evidence indicates that the depth of water due to flooding varies from one inch to about one foot.

FIRMs use letters to designate the extent of flooding; Table 3 summarizes the designations used on FIRMs for the county:

Table 3: Categories for Extent of Flooding

Category	Extent	Illustration
Zone A	The 1-percent chance depth of flooding in Zone A is not provided. The floodplain was mapped using approximate methods. The BFE has not been determined.	
Zone A1 through A30 or Zone AE	The 1-percent chance depth of flooding or the BFE is provided. Flooding to a lower level has a greater than 1-percent chance of occurring in any given year.	

Previous Occurrences

Table 4 lists thirteen previous occurrences of flooding in the county (SHELDUS / NCDC, 2021). These 7 floods occurred over the 50-year period from 1971 through 2021; some of the floods led to property damage; there were no fatalities or injuries as a result of these floods.

Table 4: Previous Occurrences of Flooding

County	Hazard	Date	Property Damage	Remarks
Culberson	Flooding	8/11/1971	$64,585.34	Flooding
Culberson	Flooding	6/10/1980	$692,594.34	Flood
Culberson	Flooding	9/8/1980	$423,252.09	Flood
Culberson	Flooding	10/9/1985	$4,667.42	Flood
Culberson	Flooding	5/21/1991	$92.18	Flash Flood
Culberson	Flooding	7/24/1991	$92.18	Flash Flood
Culberson	Flooding	7/24/1991	$92.18	Flash Flood
Culberson	Flooding	9/1/2006	$12,455.70	Flash Flood
Culberson	Flooding	9/12/2013	$4,311.65	NCDC_Flash Flood
Culberson	Flooding	9/12/2014	$530.35	NCDC_Flash Flood
Culberson	Flooding	9/18/2014	$1,591.06	NCDC_Flash Flood
Culberson	Flooding	9/23/2014	$212.14	NCDC_Flood
Culberson	Flooding	6/28/2021	$5,000.00	Flash Flood

Probability

Thirteen instances of flooding were identified in the county over the 50-year period from 1971 through 2021. This suggests that, overall, the probability of a flood in any given year is 13/50 or 26 percent, so Culberson County can reasonably anticipate at least one flood every 2 years.

Flooding does not affect the entire planning area equally. The FIRMs provide some information about probability. The probability of flooding in a location designated as a floodplain or Special Flood Hazard Area is at least 1 percent in any given year. This means that the probability of flooding in some parts of Special Flood Hazard Areas is much greater than 1 percent in any given year.

Vulnerability

Structures or infrastructure in the Town of Van Horn, Culberson County – Allamoore ISD and in Culberson County that are located in identified Special Flood Hazard Areas are vulnerable to flood damage. Many Special Flood Hazard Areas in the planning area are undeveloped.

Critical infrastructures identified in Table 20 may be vulnerable to flooding in the Town and County of Culberson if the Town/County exceeds their average range of 1” or greater of precipitation.

Impact

Flooding may affect roads that cross arroyos, and this will delay the flow of traffic in Culberson County. Flooding may cause some damage in the county if it reaches the first floor of a residential or commercial structure. Minor repairs and replacement of some contents would be necessary. Vehicles may also be damaged if left in areas that flood.

The greatest amount of property damage for a single event was $692,594.00 2018 dollars back in June 1980 (SHELDUS).

Loss of life or injury may occur when structures and/or infrastructure, such as roads, are flooded. There have been no fatalities or injuries due to flooding reported by the NCDC for the county.

Repetitive Flood Loss Properties

Culberson County and the Town of Van Horn participate in the NFIP so that residents and business owners can purchase flood insurance. Each jurisdiction has adopted and enforces a flood damage prevention ordinance. Building inspectors verify compliance with each flood damage prevention ordinance when new structures are constructed and when structures are modified or repaired.

The impact of flooding is particularly costly for properties that flood repeatedly. The NFIP identifies a property that has had at least two paid flood losses of more than $1,000 each in any 10-year period as "Repetitive Flood Loss Property."

The NFIP defines a Severe Repetitive Loss Property as a residential property that has had at least four NFIP claim payments of over $5,000 each and for which the sum of at least two separate claims payments exceeds the market value of the building. There are no Repetitive Loss or Severe Repetitive Loss Properties in the planning area (FEMA, 2020). The Repetitive Loss database is cumulative and goes back to the beginning of the NFIP in 1978.

Future Conditions

The population of the county decreased since the last plan was developed. It follows that the potential for flood damage has decreased since the previous plan was developed because fewer structures are inhabited, and none have been built in flood hazard locations.

Culberson County and the Town of Van Horn are in good standing with the NFIP and enforce the standards required by the NFIP to protect new development from flood damage, such as elevating the first floor of a structure in Special Flood Hazard Areas. Development has not affected vulnerability for the planning area.

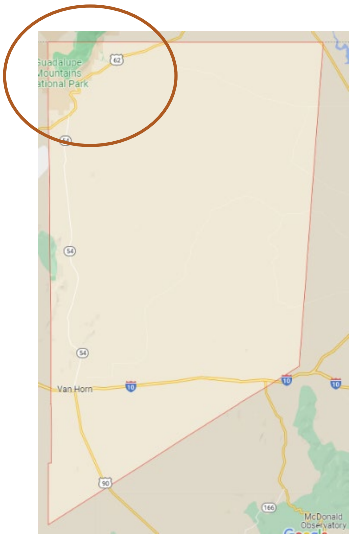
3.2.3. Wildfire

Description: Any outdoor fire that is not controlled or prearranged. The spread of wildfire may cause destructive conflagration which can result in widespread damage to property and loss of life.

As Culberson County residents move farther into “natural” areas to advantage of raising cattle, privacy, natural beauty, recreational opportunities, and affordable living; fire departments are increasingly fighting fires along the wild land Urban Interface (WUI). WUI is defined as areas where homes are built near or among lands that may be prone to wild land fire. Depending on the community fire departments, they might refer to wild land fires as brush fires, range fires or something else; all pose the same threat to local assets.

Location

Wildfires can occur within and very close to the Guadalupe Mountains National Park, which is in the northwest part of the county (green shaded area on map) and covers an area of over 80,000 acres. It is several miles from the closest volunteer fire department. This area of the county is not developed.



There is no history of wildfire occurring in the Town of Van Horn; if grass or brush fires were to occur, the local fire department would be available to bring them under control.

Extent

The extent or severity of a wildfire depends on several variables. In general, wildfire in the Culberson County and the Town of Van Horn is not as severe as in other parts of the country. Key factors that affect the severity of wildfire are:

- Fuel
- Temperature
- Wind
- Humidity
- Topography

There is little fuel for wildfires in the planning area. According to the *State of Texas Hazard Mitigation Plan* (Texas Division of Emergency Management, 2018), wildfires are fueled almost exclusively by

natural vegetation in the Culberson County and the Town of Van Horn. Far West Texas is an arid region and fuel for fires is very sparse.

Temperature or the time of year can affect the extent of wildfires. In Culberson to include the Town of Van Horn extreme drought conditions coupled with lightning makes the probability likely for the county and municipality to experience wildfires. According to the *State of Texas Hazard Mitigation Plan*, wildfires are most common in the spring and summer months but can occur at any time (Page 62). In the spring and summer months, there is more fuel for wildfires, and the fuel is pre-heated and dried by the sun. Warm, dry brush burns more rapidly than cold, damp brush.

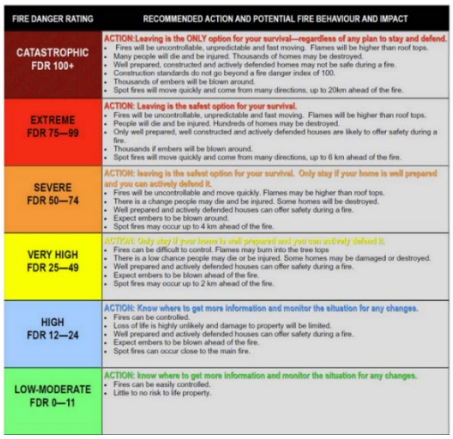
Another factor that affects the severity of wildfire is wind, which can cause a wildfire to spread. The stronger the wind, the more quickly a fire can spread.

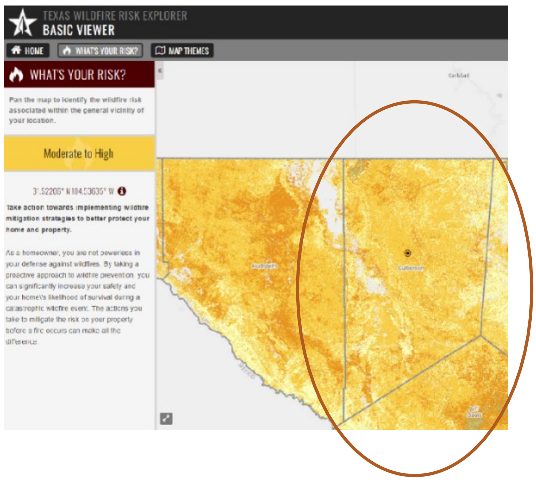
Humidity or the amount of water vapor in the air can also affect the severity of a wildfire; wildfire will be more severe when the air is dry than when the air is humid.

The severity of wildfire depends on topography, as fire tends to move up steep slopes and to move more quickly the steeper the slope.

Even though Far West Texas has many steep slopes, low humidity, high temperatures, and is often windy, the lack of fuel and lack of structures surrounded by wildland prevent wildfires from spreading rapidly and leading to property losses.

There is scientific evidence suggesting that longer periods of drought are likely in the future; this may lead to more severe wildfires in the planning area (FEMA, 2011). For current drought conditions, residents of Culberson County and the Town of Van Horn can use the Fire Intensity Scale available at www.texaswildfirerisk.com/map; Figures 4 and 5 in the Attachment shows that Culberson County was at moderate risk of wildfire. In addition, the county along with the Town of Van Horn consider a reading of moderate FDI 01-11 (action-review and rehearse the bush fire survival plan) to high FDI 12-24 (action ensure that you and your family, home and property are well for the risk of bush fire). Both categories indicate that fires can be easily controlled but can still present a threat as per the Fire Danger Rating system. The worst-case scenario for this planning area would be a fire rating 4 or higher on the Fire Intensity Scale (FIS)





Previous Occurrences

According to the NCDC they list seven wildfire occurrences in the county.

Table 5: Previous Occurrences of Wildfires

County	Hazard	Date	Damage
Culberson	Wildfire	5/23/2005	5.060M
Culberson	Wildfire	7/4/2005	0.00K
Culberson	Wildfire	4/9/2011	0.00K
Culberson	Wildfire	4/9/2011	0.00K
Culberson	Wildfire	5/7/2011	5.000M
Culberson	Wildfire	5/8/2011	0.00K
Culberson	Wildfire	5/9/2011	60.00K

Probability

With reports of 7 fires occurring from 2005 until the present, the probability of a wildfire is estimated to be 7/16 or about 43 percent in any given year in the county.

Another way of examining the probability of wildfire is to consider drought conditions at a particular point in time using the Keetch-Byram Drought Index, which was developed in 1968. Inputs used to develop the index include latitude, mean annual precipitation, and the last 24 hours of rainfall (U.S. Forest Service). Measures on the Keetch-Byram Drought Index vary from the 0-to-200 category, indicating moisture level is high and the probability of wildfire is low, to the 600-to-800 category, indicating severe drought conditions and an increased potential for wildfire.

Vulnerability

Critical infrastructures in the Town of Van Horn as identified in Table 20 may be vulnerable to wildfires. In addition, remote, rural residential structures and agricultural structures are vulnerable to damage by wildfire in Culberson County. Transmission lines in remote areas that bring power generated outside of the county to each of the participating jurisdictions are vulnerable to damage due to wildfire.

Impact

Wildfire is a natural phenomenon that can benefit a natural area. As with all natural hazards, problems or losses occur when a severe hazard interacts with the built environment. With no previous occurrences of wildfire, there were no property losses. However, should a wildfire occur and extend from the wildland into an urbanized area, several structures could be damaged or destroyed, people may be temporarily or permanently displaced and in need of emergency shelter, and fire fighters and other emergency responders would be called upon to manage the situation. If power lines are damaged by wildfire, there may be ensuing economic losses due to closure of businesses.

Guadalupe Mountain National Park is 63 miles away from the Town of Van Horn, so it is not expected that a wildfire in the Park would cause any damage to the town. A fire in Guadalupe Mountain National Park is not expected to lead to property damage other than to natural vegetation within the park.

Future Conditions

The population in Culberson County has been decreasing since the development of the previous plan. There are very few, if any, structures in the rural, remote area surrounding Guadalupe Mountain National Park, and this is not an area where future development is anticipated. Thus, the potential for damage of structures and infrastructure by wildfire has not increased since the previous plan was developed. Development has not affected vulnerability for the planning area.

3.2.4. Drought

Description: A deficiency of moisture caused by a natural reduction in the amount of precipitation received over an extended period of time.

Location

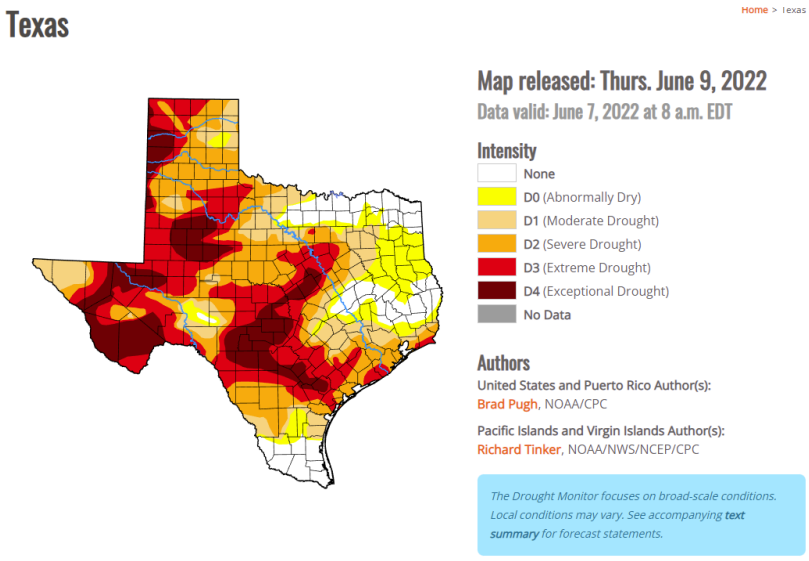
Drought can affect all or any part of the Culberson County and the Town of Van Horn.

Extent

The magnitude or severity of drought can be measured objectively using the Palmer Drought Severity Index, which was developed in 1965 to measure duration and intensity of long-term drought conditions. Measurements depend on the cumulative effects of both precipitation and temperature and vary from -4.0 for extreme drought conditions, to +4.0 for extremely wet conditions. A measurement between -0.49 and +0.49 indicates that moisture conditions are near normal for Culberson County to include the Town of Van Horn.

A recent map from the National Oceanic and Atmospheric Administration's National Climactic Data Center shows that an extreme drought exists in Culberson Texas, where the amount of precipitation is between 2 and 3 inches below normal.

For current drought conditions, residents of Culberson County and the Town of Van Horn can refer to the U.S. Drought Monitor available at https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?South. The Attachment provides additional information about drought conditions in participating jurisdictions on particular dates. A worst-case scenario for the planning area would be a -4.0 on the Palmer Drought Severity Index.



Previous Occurrences

Normal precipitation in Culberson County and the Town of Van Horn averages 12 inches per year (USA.com 2021). Because the region is normally very dry, few instances of drought conditions occur.

The previous plan did not mention any occurrences of drought. The SHELDUS database lists two different instances of drought occurring in Far West Texas since 1962:

- August 1996
- December 1998
- March 1999
- August 2006

Although crops were lost due to drought, no fatalities, injuries, or damage to structures or infrastructure are attributed to these periods of drought.

Probability

With two identified occurrences of drought in Far West Texas over the 56-year period from 1962 through 2018, probability of drought in any given year is estimated as 2/56 or about 3 percent.

Vulnerability

Agriculture and wildlife are vulnerable to the effects of drought. Critical infrastructures identified in Table 20 may become vulnerable if drought conditions persist.

Impact

Drought has negative consequences for crops and wildlife but has not caused damage to structures or the infrastructure in the planning area. The economic impact of drought would be loss of income for agricultural enterprises.

Future Conditions

The previous plan recommended community education so that residents can prepare for the effects of hazards including drought. This mitigation action is accomplished through Texas AgriLife, which posts information about preparing for weather conditions on its web site. The Town of Van Horn has had both a Water Conservation Plan and a Drought Contingency Plan in place since 1996. Widespread drought conditions in the region may contribute to an inadequate supply of water for the population; however, the population has decreased, and the area does not anticipate future development that would affect vulnerability to the effects of drought. Development has not affected vulnerability for the planning area.

3.2.5. Extreme Temperatures

This section addresses extreme temperatures. Extreme heat in Culberson County is addressed first. This is followed by a discussion of extreme cold as experienced in Culberson County.

3.2.5.1 Extreme Heat

Description: Persistent and unusually high temperatures and high humidity or temperatures that are above average.

Location

Extreme heat affects all of Culberson County uniformly and does not vary by location.

Extent

The highest temperature recorded in the region that includes Culberson County and the Town of Van Horn is 112 degrees Fahrenheit (°F), which occurred in June 1969 (countyweatherA3, 2021).

The previous plan defined extreme heat as occurring when temperatures hover 10 degrees or more above the average high temperature for the region for several weeks. A worst-case scenario for the planning area would be temperatures of 120 degrees.

Previous Occurrences

SHELDUS lists extreme heat as having occurred in the county on two separate occasions during the period of 1962 through 2021. Dates and damages associated with identified periods of extreme heat are listed in Table 6. There have been no significant heat events since the last plan was approved.

Table 6: Previous Occurrences of Extreme Heat

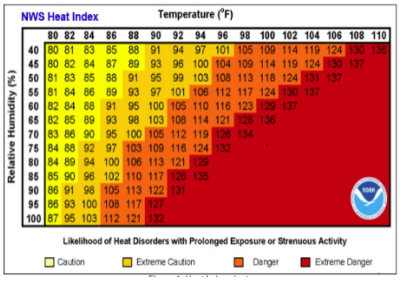
Date	Property Damage (2018 dollars)
6/1/1990	$0
6/25/1994	$0
6/20/2021	$0

Probability

Because three separate occurrences of extreme heat have been identified over the 56-year period from 1962 through 2018, the probability of experiencing extreme heat conditions in any given year is estimated as 3/56 or 5 percent.

Vulnerability

People in poor health are vulnerable to the negative effects of extreme heat. Some livestock, roads and crops may also be vulnerable to the effects of extreme heat. To explain the relationship between extreme heat and humidity, NOAA provides a graphic showing how a combination of high heat and humidity lead to the likelihood of a heat disorder.



Businesses and residents can experience higher than normal charges for electricity consumption due to the higher cost of operating air-conditioning equipment during periods of extreme heat. Critical infrastructures identified in Table 20 may become vulnerable if extreme heat temperatures exceed 10 degrees above the average of 76.8 degrees.

Impact

Extreme heat can have negative effects on the health of people and animals as well as agricultural productivity. There were no fatalities associated with the extreme heat. Emergency preparation or emergency response actions are appropriate for addressing negative health impacts.

Future Conditions

The previous plan recommended community education so that residents can prepare for the effects of hazards including extreme temperature. This action is routinely implemented when Texas AgriLife and

the Texas Department of State Health Services post information about preparing for extreme weather conditions on their web sites.

The population in the county has decreased since the last plan was written, and the degree of future development expected would not affect vulnerability to the effects of extreme temperature. Development has not affected vulnerability for the planning area.

3.2.5.1 EXTREME COLD

Description: Persistent and unusually low temperatures that are near or below freezing.

Location

Extreme cold affects all of Culberson County uniformly and does not vary by location.

Extent

The lowest temperature recorded in the region that includes planning area is **-14 degrees Fahrenheit (°F)**, which occurred in 2011 (countyweatherA3, 2021). A worst-case scenario for the planning area would be temperatures of 4 degrees or lower.

Previous Occurrences

SHELDUS lists extreme cold conditions as having occurred in the county on five separate occasions during the period of 1962 through 2021. The planning team identified one additional occurrence in February 2011 for which dollar estimates of damages are not available. Table 7 lists previous occurrences of extreme cold.

Table 7: Previous Occurrences of Extreme Cold

Hazard	Hazard	Date	Property Damage
Winter Weather	Cold Wave	1/9/1962	$163,681.35
Winter Weather	Blizzard	1/3/1971	$31,000.86
Winter Weather	Ice Storm	12/10/1972	$1,182.55
Winter Weather	Extreme Cold	3/29/1987	$0.00
Winter Weather	Bitter Cold	12/21/1989	$40,501.13
Winter Weather	Extreme Cold	12/27/1990	$384.25
Winter Weather	Ice Storm	1/3/1991	$40.08
Winter Weather	Ice Storm	1/29/1991	$19.62
Winter Weather	Bitter Cold	12/13/1992	$182.63
Winter Weather	Winter Storm	1/15/2007	$4,844.31
Winter Weather	Winter Storm	02/02/2011	$0.00
Winter Weather	NCDC Ice Storm	11/22/2013	$1,077,911.37
Winter Weather	Winter Storm	02/14/2021	UNK

Probability

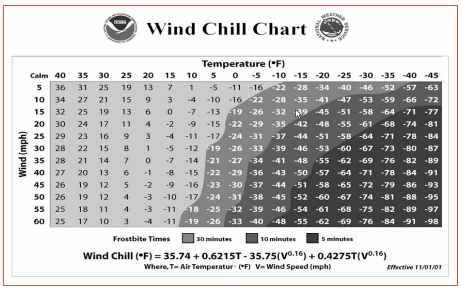
Because thirteen separate occurrences of extreme cold have been identified over the 59-year period from 1962 through 2021, the probability of experiencing extreme cold conditions in any given year is estimated as 13/59 or 22 percent.

Vulnerability

Culberson County, Culberson County – Allamoore ISD and the Town of Van Horn residents, businesses, governmental entities, and critical infrastructures as identified in Table 20 may be vulnerable when extreme cold reaches temperatures 10 degrees below the average cold. People who lack proper shelter are vulnerable to the effects of extreme cold. Crops are vulnerable to damage due to extreme cold.

Structures identified in Table 20 may become vulnerable if they are exposed or poorly protected water pipes may be damaged when pipes freeze during periods of extreme cold.

To explain the relationship between cold temperatures and wind as referenced by figure 11 “The Wind Chill Chart”, NOAA provides a graphic showing how a combination of wind and cold temperatures can have negative health impacts. The graphic is provided below.



Fi[illegible]

Impact

Extreme cold can have negative effects on the health of people and animals as well as agricultural productivity. There were no fatalities associated with the extreme cold. SHELDUS lists

no fatalities in association with extreme cold temperatures. Emergency preparation or emergency response actions are appropriate for addressing negative health impacts.

The extreme cold weather in February 2011 led to property damage in the region because electric generators froze, which caused rolling blackouts. The cold weather also caused water utility systems to freeze, including exposed pipes on private property (El Paso County Sheriff, 2011).

The greatest amount of property damage attributed to an occurrence of extreme cold was in 2013; the losses were valued at $1,271,955.76in 2022. (amounts were calculated using US Inflation Calculator https://www.usinflationcalculator.com/)

Future Conditions

The previous plan recommended community education so that residents can prepare for the effects of hazards including extreme cold weather. This action is routinely implemented when Texas AgriLife and the Texas Department of State Health Services post information about preparing for extreme weather conditions on their web sites.

The population in the county has decreased since the last plan was written, and the degree of future development expected would not affect vulnerability to the effects of extreme temperature.

Summary of Extreme Temperatures: The County of Culberson to include its municipality of the Town of Van Horn experiences an average of 47.4 degrees of cold temperatures. During the summer, the average heat for both cities is 76.8 degrees. The planning area considers that any temperature above or below 10 degrees the average range to be extreme. Development has not affected vulnerability for the planning area.

3.2.6. Snow

Description: Heavy, frozen precipitation.

Location

Snow can affect any part of the Culberson County, Culberson County – Allamoore ISD and the Town of Van Horn.

Extent

As much as 6.7 inches of snow has fallen in the northern, mountainous part of the Culberson County and the Town of Van Horn in a year and up to 2 inches in the southern end of the region. The tables provided in the attachment below (Regional Snowfall Index) shows that snow of this depth is considered "minimal" and not damaging. The Regional Snowfall Index is also available at https://www.ncdc.noaa.gov/snow-and-ice/rsi/historic-storms. Worst-case scenario would be a category 3 major snowstorm affecting the northern part of the planning area.

Regional Snowfall Index (RSI)

CATEGORY	RSI VALUE	DESCRIPTION
1	1–3	Notable
2	3–6	Significant
3	6–10	Major
4	10–18	Crippling
5	18.0+	Extreme

Previous Occurrences

SHELDUS and NOAA lists 25 occurrences of snow falling in the planning area over the 61-year period from 1961 through 2022. SHELDUS lists a total of five fatalities associated with snow (all fatalities occurred in March 1961), and no injuries associated with snow over the 61-year period. Table 8 lists the 25 previous occurrences of snow falling in the planning area.

Table 8: Previous Occurrences of Snow

County	Hazard	Date	Property Damage
Culberson	Ice/ Snow	3/19/1961	$41,991.14
Culberson	Snow & Ice storm	1/8/1973	$11,132.98
Culberson	Winter Storm	10/30/1979	$1,572,170.03
Culberson	Heavy Snowstorm	11/16/1980	$60,948.30
Culberson	Heavy Snowstorm	11/24/1980	$60,948.30
Culberson	Snowstorm	4/4/1983	$0.00
Culberson	Snow	1/12/1985	$16,910.94
Culberson	Snow	12/16/1989	$9,204.79
Culberson	Heavy Snow	12/13/1992	$182.63
Culberson	Winter Storm	1/15/2007	$4,844.31
Culberson	Heavy Snow	2/23/2007	$0.00
Culberson	Heavy Snow	12/23/2009	$0.00
Culberson	Heavy Snow	2/22/2010	$0.00
Culberson	Heavy Snow	12/22/2011	$0.00
Culberson	Heavy Snow	1/9/2012	$0.00
Culberson	Heavy Snow	1/3/2013	$0.00
Culberson	Winter Storm	1/9/2013	$0.00
Culberson	Heavy Snow	3/16/2014	$0.00
Culberson	Heavy Snow	12/26/2014	$0.00
Culberson	Heavy Snow	1/22/2015	$0.00
Culberson	Heavy Snow	12/26/2015	$0.00
Culberson	Heavy Snow	12/6/2017	$0.00
Culberson	Heavy Snow	2/5/2020	$0.00
Culberson	Heavy Snow	12/30/2020	$0.00
Culberson	Heavy Snow	2/14/2021	$0.00

Probability

There are 25 identified significant occurrences of snow falling in Culberson County over the 61-year period 1961 to 2022. Thus, the probability of snow in the region in any given year is estimated at 25/61 or 41 percent.

Vulnerability

In planning area only vehicles are vulnerable to sliding when snow accumulates on roadways. Critical infrastructures identified in Table 20 may become vulnerable if a category 5, RSI value of 18.0+ snowfall event was to occur in Culberson County.

Impact

The American Society of Civil Engineers (ASCE) provides recommendations for building to support the weight of snow. Many different factors affect the way snow will collect on roofs, including the slope and shape of the roof and the way the snow drifts. Taking all relevant factors into account, engineering studies have led the ASCE to conclude that roofs in the planning area do not need to be designed to handle snow loads because snow is not expected to lead to structural failure (ASCE, 2006). However, even a small amount of snow can lead to traffic accidents and associated vehicle damage.

The greatest amount of property damage attributed to a single occurrence of snowfall is $71,919.79 in 2022 dollars (amounts were calculated using US Inflation Calculator https://www.usinflationcalculator.com/). The data does not specify the types of damages.

The only potential economic loss anticipated in conjunction with snowfall is the closing of schools, businesses, and governmental offices, repair to vehicles, and repair to roads.

Future Conditions

Like drought and extreme temperatures, snow is a meteorological phenomenon and is not affected by changes in development.

The previous plan recommended community education so that residents can prepare for the effects of hazards including snow. The impact that snow can cause on Culberson County in the future may lead to significant economic loss for business owners, governmental entities, school systems, and citizens. This mitigation action is accomplished through Texas AgriLife, which posts information about preparing for weather conditions on its web site. Development has not affected vulnerability for the planning area.

3.2.7. Wind

Description: Horizontal movement of the air.

Location

Wind can affect any part of the entire planning area. Below is a table showing specific locations of wind events recorded by NCDC in Culberson County and participating jurisdictions is included in the Attachment. The NCDC data does not provide location of every wind event.

DATE	Description of Event	Location
17-JUL-1996	THUNDERSTORM WIND	VAN HORN

7-JUN-1997	TORNADO	PINE SPGS
1-AUG-2002	TORNADO	VAN HORN
29-SEP-2004	THUNDERSTORM WIND	PINE SPGS
27-NOV-2006	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
23-MAR-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
24-MAR-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
15-MAY-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
28-MAY-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
11-JUN-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
19-JUN-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
20-JUN-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
26-JUN-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
28-JUN-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
8-JUL-2007	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
23-JUN-2009	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
6-JUL-2009	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
20-OCT-2009	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
4-JUN-2011	THUNDERSTORM WIND	(GDP)GUADALUPE PASS
4-JUN-2011	THUNDERSTORM WIND	(GDP)GUADALUPE PASS

Extent

The magnitude or severity of a windstorm can be measured using the Beaufort wind scale. The Beaufort scale rates the force of wind from category 0 for calm winds of less than 1 mile per hour to category 12 for violent storms with winds of more than 74 miles per hour. Table 9 provides further description of the conditions experienced on land for various classifications in the Beaufort scale (Rowlett, 2001).

Table 9: Beaufort Wind Scale

Rating	Wind Speed in Miles per Hour	Description	Conditions on Land
0	<1	Calm	Smoke rises vertically
1	1-4	Light air	Smoke drifts, leaves rustle
Rating	**Wind Speed in Miles per Hour**	**Description**	**Conditions on Land**
2	5-7	Light breeze	Wind felt on face
3	8-11	Gentle breeze	Flags extended; leaves move

4	12-18	Moderate breeze	Dust and small branches move
5	19-24	Fresh breeze	Small trees begin to sway
6	25-31	Strong breeze	Large branches move, wires whistle, umbrellas difficult to control
7	32-38	Near gale	Inconvenience in walking; whole trees in motion
8	39-46	Gale	Difficult to walk against the wind; twigs and small branches blown off trees
9	47-54	Strong gale	Minor structural damage (e.g., shingles blown off roofs)
10	55-63	Storm	Trees uprooted; structural damage likely
11	64-73	Violent storm	Widespread structural damage
12	74+	Hurricane	Severe structural damage to buildings

Data provided by the NCDC for magnitude of winds show that high winds in the region have been measured at **up to 78 knots** or, using the conversion factor of 1 knot = 1.15078 miles per hour, 90 miles per hour, which can cause severe structural damage (NCDC, July 2012). This means that wind has the potential to cause severe structural damage in the planning area. A worst-case scenario would be 78 knot winds or stronger.

Previous Occurrences

Data provided in the previous plan on occurrences of high wind and data on high wind are updated with data provided by the NCDC and are presented in Table 10. The NCDC reports one injury associated with wind; the injury occurred on July 17, 1996, which is the only occurrence for which the NCDC lists property damages.

Table 10: Previous Occurrences of Wind

County	Hazard	Date	Property Damage
Culberson	Wind	1/25/1965	$0.00
Culberson	Wind	2/3/1971	$632.67
Culberson	Wind	2/22/1977	$82,873.60
Culberson	Wind	3/10/1977	$38,367.41
Culberson	Wind	3/31/1980	$6,094.83
Culberson	Wind	4/7/1980	$13,851.87
Culberson	Wind	3/17/1981	$476,285.03
Culberson	Wind	4/2/1982	$52,042.90
Culberson	Wind	11/15/1988	$1,061.31
Culberson	Wind	3/26/1991	$3,687.33
Culberson	Wind	3/28/1991	$188.13
Culberson	Wind	1/17/1996	$400,106.76

Culberson	Wind	1/17/1996	$4,001.07
Culberson	Wind	1/17/1996	$28,007.47
Culberson	Wind	4/11/1998	$3,594.57
Culberson	Wind	5/1/1999	$0.00
Culberson	Wind	5/1/1999	$0.00
Culberson	Wind	3/7/2000	$21,040.16
Culberson	Wind	10/28/2000	$14,582.29
Culberson	Wind	4/10/2001	$708,941.28
Culberson	Wind	4/15/2003	$5,117.67
Culberson	Wind	4/15/2003	$9,552.98
Culberson	Wind	2/19/2004	$7,754.31
Culberson	Wind	4/5/2005	$3,214.38
Culberson	Wind	2/23/2007	$7,064.61
Culberson	Wind	2/10/2009	$14,630.75
Culberson	Wind	2/10/2009	$2,194.61
Culberson	Wind	10/28/2009	$7,315.38
Culberson	Wind	12/8/2009	$8,024.16
Culberson	Wind-Chinook	8/1/2011	$0.00
Culberson	Wind	6/1/2015	$0.00
Culberson	Wind	6/1/2016	$0.00
Culberson	Wind	12/11/2020	$0.00
Culberson	Wind	12/13/2020	$0.00
Culberson	Wind	12/22/2020	$0.00
Culberson	Wind	1/18/2021	$0.00
Culberson	Wind	1/24/2021	$0.00
Culberson	Wind	1/30/2021	$0.00
Culberson	Wind	2/3/2021	$0.00
Culberson	Wind	3/30/2021	$0.00
Culberson	Wind	5/8/2021	$0.00
Culberson	Wind	10/26/2021	$0.00
Culberson	Wind	12/15/2021	$0.00
Culberson	Wind	12/28/2021	$0.00
Culberson	Wind	12/30/2021	$0.00

Probability

SHELDUS and NCDC data show 45 instances of high winds occurring in the county over the 56-year period of 1965 through 2021. This suggests that overall, the probability of high winds in the county in any given year is 45/56 or 80 percent.

Vulnerability

Power lines and trees that are in poor condition/health are at risk of damage due to wind. Critical infrastructures identified in Table 20 may become vulnerable if winds exceed more than their average of 74+ within planning area. Roofs of residential and commercial structures in the Culberson County, Culberson County – Allamoore ISD and the Town of Van Horn are at some risk of damage due to wind.

Vehicles are vulnerable to damage due to wind as they may be struck by flying debris.

Impact

Not all winds cause property damage. When wind does cause damage, the types of property damage in the region generally includes trees and power poles being knocked over and roofs and vehicles being damaged by flying debris.

The greatest amount of damage associated with a single windstorm is $708,941 in 2001.

Over the course of 56 years, one injury has been attributed to winds.

Future Conditions

Wind is a meteorological phenomenon and is not affected by changes in development. As the population of the county has been decreasing since the previous plan was developed, exposure to the effects of wind has decreased.

The previous plan recommended community education so that residents can prepare for the effects of hazards including wind. This mitigation action is accomplished for the region through Texas AgriLife, which posts information about preparing for weather conditions on its web site.

The Town of Van Horn updated its Building Code in 2009 so that new and renovated structures are resistant to damage by wind. Development has not affected vulnerability for the planning area.

3.2.8. Ice

Description: The accumulation of frozen precipitation on cold surfaces.

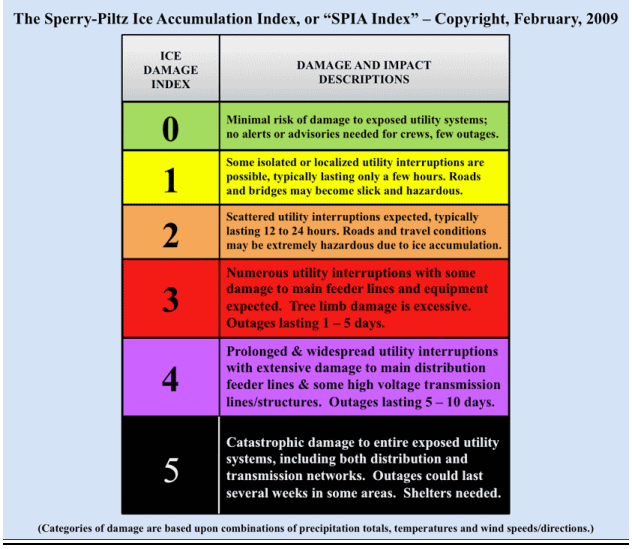
Location

Ice storms can affect the entire region.

Extent

Ice storms in the region are generally not severe, as the accumulation of ice is generally less than an eighth of an inch. A worst-case scenario for the planning area would be ice accumulation of an eighth of an inch of ice or more.

The Sperry-Piltz Accumulation Index below, describes the effect of ice accumulation; it shows that ice accumulation of less than one fourth of an inch can, in combination with winds, lead to utility interruption. The index is available at https://www.spia-index.com/



The Sperry-Piltz Ice Accumulation Index, or "SPIA Index" – Copyright, February, 2009

ICE DAMAGE INDEX	DAMAGE AND IMPACT DESCRIPTIONS
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

Previous Occurrences

Table 11 presents NCDC and SHELDUS data regarding eleven previous occurrences of ice storms in the county for the period 60-year period from 1961 through 2021. The NCDC reports no fatalities or injuries associated with Ice. There have been no additional reports from NCDC or SHELDUS since 2015.

Table 11: Previous Occurrences of Ice

County	Hazard	Date	Property Damage
Culberson	Ice/ Snow	3/19/1961	$41,991.14
Culberson	ICE STORM	12/10/1972	$1,182.55
Culberson	Snow & Ice storm	1/8/1973	$11,132.98
Culberson	Extreme Cold	12/27/1990	$384.25
Culberson	Ice Storm	1/3/1991	$40.08
Culberson	Ice Storm	1/29/1991	$19.62
Culberson	Ice Storm	2/2/2011	$0.00
Culberson	NCDC Ice Storm	11/22/2013	$1,077,911.37
Culberson	Ice Storm	12/30/2014	$0.00
Culberson	Ice Storm	1/1/2015	$0.00
Culberson	Ice Storm	22/26/2015	$0.00

Probability

With eight ice storms identified over the 60-year period from 1961 through 2021, the probability of an ice storm occurring in the county in any given year is 11/60 or 18 percent.

Vulnerability

Critical infrastructures identified in Table 20 may become vulnerable if the planning area exceeds a level three (3) as described on the Sperry-Piltz Ice Accumulation Index (SPIA Index).

Impact

The greatest amount of property damage associated with a single ice storm was $1,271955.33 in 2022 dollars (amounts were calculated using US Inflation Calculator https://www.usinflationcalculator.com/). The consequences of ice storms include power loss, structural damage to buildings when ice overloads tree limbs causing them to break off, and water damage from frozen pipes bursting.

Future Conditions

Since the last plan was developed, with a decrease in the population, changes in development have occurred in the county. There may be a decrease in the level of damage caused by ice, as there is potential for fewer vehicles to be on icy roadways and fewer structures affected by damaged pipes.

The previous plan recommended community education so that residents can prepare for weather events such as an ice storm. This mitigation action is accomplished through Texas AgriLife, which posts information about preparing for weather conditions on its web site. Development has not affected vulnerability for the planning area.

3.2.9. Hail

Description: Precipitation in the form of small balls or lumps of clear ice and compact snow.

Location

Hail can occur at any location in the planning area

Extent

Hail has been measured in Culberson County ranging from **0.75 inch to 3.25 inches in diameter**. The average size of hail in the county is 1.2 inches. Planning area may experience extensive structural damage due to hail.

The TORRO Hailstorm Intensity Scale, shown in Table 12, rates the potential for damage caused by different size hail. Categories of hail are denoted by the labels H0 through H10. Worst-case scenario is a hailstorm category H5 or greater in the northern part of the county.

Table 12: TORRO Hailstorm Intensity Scale

Category	Intensity	Maximum diameter in inches	Impacts
H0	Hard Hail	0.2	No damage
H1	Potentially Damaging	0.6	Slight general damage to plants, crops
H2	Significant	0.8	Significant damage to fruit, crops, vegetation

H3	Severe	1.2	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	1.6	Widespread glass damage, vehicle bodywork damage
H5	Destructive	2.0	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
Category	**Intensity**	**Maximum diameter in inches**	**Impacts**
H6	Destructive	2.4	Bodywork of grounded aircraft dented; brick walls pitted
H7	Destructive	3.0	Severe roof damage, risk of serious injuries
H8	Destructive	3.5	Severe damage to aircraft bodywork
H9	Super Hailstorms	3.9	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open.
H10	Super Hailstorms	>3.9	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open.

The county has experienced hail from 0.75 through 2.5 inches, corresponding to the H0 through H8 categories.

Previous Occurrences

Table 13 lists 33 previous occurrences of significant hail in the county for the 52-year period from 1969 through 2021 (SHELDUS, 2021). There have been no significant hail events since the last plan.

Table 13: Previous Occurrences of Hail

County	Hazard	Date	Property Damage
Culberson	Hail - Wind	6/16/1969	34,210.76
Culberson	Hail/ Severe Storm/Thunderstorm	5/10/1975	46,674.16
Culberson	Hail/ Severe Storm/Thunder Storm	9/27/1976	0.00
Culberson	Hail/ Wind	10/29/1979	157,217.02
Culberson	Hail/ Severe Storm/Thunderstorm/ Wind	4/23/1980	60,948.30
Culberson	Hail/ Wind	6/10/1980	692.59
Culberson	Hail	6/18/1980	25,395.12
Culberson	Hail	6/22/1985	2.33
Culberson	Hail	6/1/1990	0.00
Culberson	Hail	5/21/1991	92.18
Culberson	Hail	5/22/1992	89.49
Culberson	Hail	5/22/1992	89.49
Culberson	Hail	6/25/1994	0.00
Culberson	Hail	4/21/1996	0.00
Culberson	Hail	10/27/1998	0.00
Culberson	Hail	4/6/2002	0.00
Culberson	Hail	6/20/2002	0.00

Culberson	Hail	6/17/2004	0.00
Culberson	Hail	4/17/2005	0.00
Culberson	Hail	4/29/2007	0.00
Culberson	Hail	5/2/2007	0.00
Culberson	Hail	7/28/2009	0.00
Culberson	Hail	4/12/2010	0.00
Culberson	Hail	4/14/2010	0.00
Culberson	Hail	4/11/2012	0.00
Culberson	Hail	5/7/2012	0.00
Culberson	Hail	6/25/2014	0.00
Culberson	Hail	9/15/2016	0.00
Culberson	Hail	4/12/2017	0.00
Culberson	Hail	9/23/2017	15,000.00
Culberson	Hail	5/23/2018	0.00
Culberson	Hail	6/3/2018	0.00
Culberson	Hail	9/29/2019	0.00

Probability

The SHELDUS & NOAA lists 33 occurrences of hail in the county for the 52-year period from 1969 through 2021. The probability of hail occurring in any given year is estimated as 33/52 or 63 percent.

Vulnerability

Critical infrastructures identified in Table 20 may become vulnerable if Culberson County and the Town of Van Horn experience/receive a category H9 (intensity) “super hailstorm” with hail in diameter of .75 inches or greater. Roofs and windows of residential, commercial, and agricultural structures are vulnerable to hail damage as are the bodies of motor vehicles.

Impact

The NCDC reports no property damage for the 56-year period from 1962 through 2018. Property damage can include roof damage and damage to windows and the bodies of motor vehicles.

Over the 56-year period from 1962 through 2018, the 18 occurrences of hail have not caused any fatalities, injuries, or property damage.

Future Conditions

The population of the county has decreased since the previous plan was developed; as a result, the potential for property damage has decreased because fewer structures are exposed to hail. In

addition, the Town of Van Horn updated its building code in 2009 to ensure that new structures are resistant to damage due to hail. Development has not affected vulnerability for the panning area.

3.2.10. Lightning

Description: A massive electrostatic discharge associated with a thunderstorm.

Location

A severe lightning storm can occur anywhere in the planning area.

Extent

Lightning usually occurs because of thunderstorms that move through the area during the summer months, with peak lightning strikes occurring in July and August. Lightning does not normally cause significant damage to property; however, it is responsible for numerous power outages and is a major source of wildfire ignitions. The worst-case scenario for this planning area would be a Lightning Activity Level (LAL) of 5 or higher.

Lightning Activity Level Scale

Lightning Activity Level (LAL)	
Is a scale which describes lightning activity. Values are labeled 1-6:	
LAL 1	No thunderstorms
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground strikes in a five minute period.
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5 minute period.
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced Lightning is frequent, 11 to 15 cloud to ground strikes in a 5 minute period.
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater then 15 cloud to ground strikes in a 5 minute period.
LAL 6	Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

Previous Occurrences

The SHELDUS (2021) lists two instances of a severe lightning strike in the county; the occurrence was on March 25, 1989 and February 20, 2003. There is one reported fatality in 2003 associated with lightning.

Probability

One fatal lightning storm was identified by the NCDC in the county for the 63-year period from 1958 through 2021. The NCDC does not provide information about other lightning strikes. Nevertheless, for this plan, the probability of a severe lighting storm in any given year is estimated as 2/63 or 3 percent.

Vulnerability

Critical infrastructures identified in Table 20 could become vulnerable if the planning area experiences/receives a high-range of frequency of lightning than their average mid-range. In addition, electrical equipment is vulnerable to damage due to lightning and is a major source of wildfire ignitions.

Impact

Lightning strikes can cause a surge in electrical power, which can damage unprotected electrical equipment such as water pumps, compressors, generators, appliances, and electronics. Lightning can also be the cause or ignite wildfires. The 2003 lightning strike led to one fatality (SHELDUS, NCDC, 2021).

Future Conditions

The previous plan recommended the installation of lightning rods and surge protectors at all critical facilities; some surge protectors have been installed.

Future development and existing development will be equally at risk of damage due to lightning strikes. However, people may be safer due to the implementation of public education recommended in the previous plan. Public education is intended to minimize loss, injury, or death due to lightning. Public education occurs through the distribution, including on-line distribution, of Texas AgriLife publications and in public schools and through the efforts of the National Weather Service and KVLF radio. Development has not affected vulnerability for the planning area.

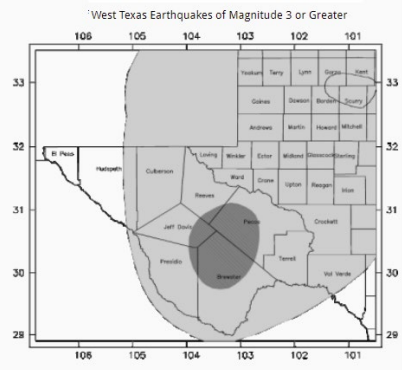
3.2.11 Earthquake

Description: The shaking or trembling of the earth.

Location

Earthquakes that have been recorded in the planning area have been centered along fault lines located in the Franklin Mountains, which is in El Paso County; in Valentine, TX, which is in Jeff Davis County; and in Alpine, TX, which is in Brewster County. There are also several smaller faults located in Culberson County; these are East Sierra Diablo fault, West Delaware Mountains fault, West Lobo Valley (Fay, Mayfield, and Neal sections) faults, and West Wylie Mountains fault (USGS, 2022). If an earthquake were to occur, the entire planning area may be affected. Areas in West Texas which experienced Modified Mercalli Intensities of IV or V (light gray) and VI (dark gray) during the earthquakes of 16 June 1978 (near Snyder in Scurry County - curved line indicates intensity V region for this quake), 2 January

1992 (near Andrews County - New Mexico border) or 14 April 1995 (near Alpine in Brewster County). Also, almost the entire area shown experienced intensities of VI during the earthquake of 16 August 1931. Counties Affected (22): Andrews, Brewster, Crane, Culberson, Dawson, Ector, El Paso, Gaines, Hudspeth, Jeff Davis, Kent, Loving, Martin, Midland, Pecos, Presidio, Reeves, Scurry, Terrell, Upton, Ward, Winkler.(Regional Hazard assessment http://www-udc.ig.utexas.edu/external/TXEQ/west.html)



Extent

The previous plan indicated that **the maximum expected magnitude earthquake associated with the East Franklin Mountain fault line is 6.8 on the Richter scale**. Table 14 summarizes the types of damage caused by earthquakes of various categories on both the Richter and Mercalli scales.

Table 14: Categories of Earthquakes

Mercalli Scale	Richter Scale	Description of Impact
I	1.0 to 1.9	People are generally not aware of the earthquake
II	2.0 to 2.9	Earthquake is noticed by people at rest or on upper floors
III	3.0 to 3.9	Earthquake is felt indoors, hanging objects swing
IV	4.0 to 4.3	Vibration is like that of heavy trucks passing; vehicles rock; windows, dishes, doors rattle; glasses clink; wooden walls creak
V	4.4 to 4.8	Earthquake is felt outdoors; sleepers awake; liquids are disturbed; doors swing; small objects are displaced
VI	4.9 to 5.4	Earthquake is felt by all; persons walk unsteadily; windows, dishes, glassware is broken; books and other objects fall off shelves; pictures fall off walls; furniture moves; small bells ring; trees shake
VII	5.5 to 6.1	People have difficulty standing; hanging objects quiver; furniture may break; masonry cracks; weak chimneys break at roof line; plaster, loose bricks, stones, tiles, and cornices fall; waves appear on standing water; large bells ring; concrete irrigation ditches are damaged

VIII	6.2 to 6.5	It is difficult to steer a vehicle; stucco and some masonry walls fall; chimneys, factory stacks, monuments, towers, and elevated tanks twist and collapse; frame houses move on foundations; branches fall from trees; cracks appear in wet ground and on steep slopes
IX	6.6 to 6.9	There is general panic; masonry structures are destroyed or heavily damaged; reservoirs are damaged; underground pipes break; cracks appear in ground
X	7.0 to 7.3	Most masonry and frame structures are destroyed along with their foundations; dams, levees, and embankments are seriously damaged; landslides occur; water is thrown out of canals, rivers, and lakes; sand and mud shift horizontally on beaches; rails bend slightly
XI	7.4 to 8.1	Rails bend greatly; underground pipelines are destroyed
XII	8.1 or greater	Damage is nearly total; large rock masses are displaced; objects are thrown into the air

Previous Occurrences

There have been no earthquakes in the region since the previous plan was prepared; however, additional data has been located regarding occurrences of earthquakes. Table 14 lists earthquakes that have been recorded in the region since 1889 (USGS, 2012; Frohlich and Davis, 2002; Texas State Historical Association, 2012).

Table 15: Previous Occurrences of Earthquakes

List of Earthquake Incidents for Culberson County, TX

Total Number of Earthquakes in Culberson County, TX within 30 miles. All distances and depths in the table are measured in miles.

DATE	MAGNITUDE	DEPTH	
04/25/2020	2.9	5.1	Details
02/26/2020	3.5	4.7	Details
06/18/2019	3.1	5.0	Details
03/23/2019	2.5	5.0	Details
03/22/2019	2.9	10.4	Details
12/23/2018	2.8	5.0	Details
12/23/2018	3.0	5.0	Details
07/08/2018	3.0	5.0	Details
07/03/2018	2.5	5.0	Details
06/27/2018	2.8	16.1	Details
05/20/2018	2.6	5.0	Details
05/18/2018	2.7	7.3	Details
05/17/2018	2.6	5.0	Details
02/11/2018	2.5	5.0	Details
05/14/2013	3.1	4.9	Details

Probability

Fifteen earthquakes have been recorded in the region in the 7 years since 2013. Nothing significant has occurred since the last plan was written. The probability of an earthquake occurring in any given year is estimated as 7/15 or 46 percent.

Vulnerability

Structures to include critical infrastructures identified in Table 20, especially very old residential structures built before the Town of Van Horn adopted a building code would be vulnerable to damage should a powerful (magnitude greater than 6.8 on the Richter scale) earthquake occur. However, no part of the planning area has recorded an earthquake of such magnitude.

Impact

Damage recorded in previous earthquakes in the region include a building being badly cracked, an adobe house collapsing, windows breaking, and cracks in a ceiling and on a driveway. The adobe house that collapsed led to one fatality in nearby Juarez, Mexico.

An earthquake of magnitude 6.8 on the Richter scale in this region would cause considerable damage in ordinary buildings and partial collapse of some structures. Damage would be greater in poorly built structures, especially in unreinforced masonry structures. Chimneys, monuments, columns, and walls may fall, and furniture may be overturned. The alignment of even well-designed structures, such as those with reinforced masonry walls, could become skewed and buildings may shift off foundations.

Future Conditions

A decrease in the population since the previous plan was written means that fewer people and structures are at risk of injury or damage due to earthquakes; no new development is anticipated.

Previously proposed mitigation actions related to the earthquake hazard were to study the seismic hazard and update mapping. The University of Texas at El Paso is currently conducting research on fault lines in the region.

The previous plan proposed strengthening the building codes to the 2006 International Building Code. This mitigation action was completed as the Town of Van Horn updated its building code in 2009. Development has not affected vulnerability for the planning area.

3.2.12. Tornado

Description: A rapidly rotating vortex or funnel of air extending to the ground.

Location

A tornado can occur anywhere in the planning area.

Extent

Magnitude or severity of a tornado is measured on the Enhanced Fujita (EF) scale, which assigns tornadoes to categories based on their wind speed. Tornadoes that have occurred in Culberson County in the past have been in **categories EF-0, EF-1, or EF-2**. Table 15 compares the scales and describes the types of damage typically associated with each category. A worst-case scenario for the planning area would be an EF2 tornado.

Previous Occurrences

No tornadoes have occurred in the county since the previous plan was developed. Table 16 lists data about occurrence, magnitude, and impact of tornadoes in the county (NOAA, 2021).

Table 16: Categories of Tornadoes

EF SCALE	
EF Rating	**3 Second Gust (mph)**
0	65-85
1	86-110
2	111-135
3	136-165
4	166-200
5	Over 200

Assigning a Tornado Rating Using the EF Scale

The NWS is the only federal agency with authority to provide 'official' tornado EF Scale ratings. The goal is assign an EF Scale category based on the highest wind speed that occurred within the damage path. First, trained NWS personnel will identify the appropriate damage indicator (DI) [see list below] from more than one of the 28 used in rating the damage. The construction or description of a building should match the DI being considered, and the observed damage should match one of the 8 degrees of damage (DOD) used by the scale. The tornado evaluator will then make a judgment within the range of upper and lower bound wind speeds, as to whether the wind speed to cause the damage is higher or lower than the expected value for the particular DOD. This is done for several structures not just one, before a final EF rating is determined.

Enhanced Fujita Scale Damage Indicators

NUMBER (Details Linked)	DAMAGE INDICATOR	ABBREVIATION
1	Small barns, farm outbuildings	SBO
2	One- or two-family residences	FR12
3	Single-wide mobile home (MHSW)	MHSW
4	Double-wide mobile home	MHDW
5	Apt, condo, townhouse (3 stories or less)	ACT
6	Motel	M
7	Masonry apt. or motel	MAM
8	Small retail bldg. (fast food)	SRB
9	Small professional (doctor office, branch bank)	SPB
10	Strip mall	SM
11	Large shopping mall	LSM
12	Large, isolated ("big box") retail bldg.	LIRB
13	Automobile showroom	ASR
14	Automotive service building	ASB
15	School - 1-story elementary (interior or exterior halls)	ES
16	School - jr. or sr. high school	JHSH
17	Low-rise (1-4 story) bldg.	LRB
18	Mid-rise (5-20 story) bldg.	MRB
19	High-rise (over 20 stories)	HRB
20	Institutional bldg. (hospital, govt. or university)	IB
21	Metal building system	MBS
22	Service station canopy	SSC
23	Warehouse (tilt-up walls or heavy timber)	WHB
24	Transmission line tower	TLT
25	Free-standing tower	FST
26	Free standing pole (light, flag, luminary)	FSP
27	Tree - hardwood	TH
28	Tree - softwood	TS

Table 17: Previous Occurrences of Tornadoes

								dt	inj	prD	crD
Totals:	County	Sta	Date	Time	Zone	Type	Mag	0	0	250.00K	0.00K
CULBERSON CO.	CULBERSON CO.	TX	06/12/1982	19:30	CST	Tornado	F2	0	0	250.00K	0.00K
CULBERSON CO.	CULBERSON CO.	TX	06/04/1985	19:41	CST	Tornado	F0	0	0	0.00K	0.00K
CULBERSON CO.	CULBERSON CO.	TX	05/22/1992	13:07	CST	Tornado	F0	0	0	0.00K	0.00K
Pine Springs	CULBERSON CO.	TX	10/02/1995	11:20	MST	Tornado	F1	0	0	0.00K	0.00K
PINE SPGS	CULBERSON CO.	TX	06/07/1997	17:45	CST	Tornado	F0	0	0	0.00K	0.00K
VAN HORN	CULBERSON CO.	TX	08/01/2002	17:45	CST	Tornado	F0	0	0	0.00K	0.00K
Totals:								0	0	250.00K	0.00K

Probability

Six tornadoes have been identified in the county for the 71-year period from 1950 through 2021. The probability of a tornado in any given year is estimated as 6/71 or 8 percent.

Vulnerability

Critical infrastructures identified in Table 20 may become vulnerable if the Town of Van Horn experiences/receives a category F-2 tornado or greater. In addition, trees, chimneys, gutters, siding, and road and commercial signs are vulnerable to damage by a tornado in Culberson County and the Town of Van Horn.

Impact

The impact of an EF-2 tornado would include roofs torn off houses, mobile homes demolished, boxcars pushed over, and large trees snapped or uprooted.

The greatest amount of property damage caused by an EF-2 tornado was $250,000 in 1982.

No fatalities or injuries have been associated with tornadoes in the county.

Future Conditions

No significant amount of future development is expected, as the county has decreased in population since the previous plan was written. The population of the county when the damaging tornado occurred in 1982 was 3,315, which is greater than the current population of the 2,214 (DATA USA 2022). Thus, damage due to a tornado is expected to be only 67 percent of that caused by the tornado in 1982. The 1982 damages were approximately $744,829.02 in 2022 dollars (Bureau of Labor Statistics, 2012). Development has not affected vulnerability for the planning area.

3.2.13. Hazardous Material Spill

Description: An accidental spill of toxic, radioactive, or other harmful material.

Location

A hazardous material spill is a concern along railroad tracks and major highways in the county. Trains and trucks can carry a variety of materials that would, in large quantity, threaten the health and safety of people and the natural environment in the vicinity of a spill. In particular, the Interstate 10 corridor, which is generally paralleled by train tracks, is of concern, as are U.S. Route 90 and State Route 54.

Extent

The extent of a hazardous material spill depends on both the type and quantity of material spilled. Even small quantities of highly toxic materials can be very dangerous.

Previous Occurrences

Multiple previous occurrences of spills of hazardous materials have been addressed in the county; an accident of some sort has led to a hazardous material spill at least once each year according to local officials. However, it is important to note that most spills do not have negative health and safety impacts and do not cause substantial negative impacts on the air, soil, or groundwater.

Probability

The probability of a hazardous material spill is near 100 percent in any given year, so Culberson County can reasonably anticipate at least one accidental spill per year. However, not all spills have widespread, negative consequences, as has been the experience in the county to date. The probability of a spill threatening the health of thousands and of having long-term negative environmental consequences is less than 1 percent in any given year.

Vulnerability

Residents and workers in the vicinity of a hazardous material spill as well as emergency responders who clean up a spill or direct traffic away from a spill are potentially vulnerable to negative health effects.

The natural environment in the planning area may be negatively affected by a spill.

Critical infrastructures identified in Table 20 may become vulnerable if a hazardous spill would occur within the Town of Van Horn.

Impact

A hazardous material spill may require temporary or long-term evacuation of an area and sheltering, as well as a medical response to treat people affected by the spill. A hazardous material spill may have long-term negative effects on the quality of the air and the safety of the soil and groundwater.

Future Conditions

The population is decreasing, and no additional development of structures or infrastructure is anticipated that would increase exposure to the effects of hazardous material spills. The Culberson

County and Town of Van Horn emergency responders prepare regularly to contain and clean up a spill of a hazardous material. Development has not affected vulnerability for the planning area.

3.2.14 Hurricanes/Tropical Storms

Hurricanes and tropical storms are classified as cyclones and are developed by counterclockwise circulation of winds around a low-pressure center in the Northern Hemisphere. Latent heat from condensation of warm water is the key energy source for these storms.

Location

The all-geographic locations of Culberson County are equally at risk of the effects of Hurricanes and tropical storms.

Extent

The potential for hurricanes to penetrate far inland has been understood for over a century. In the year 1900, a Category 4 hurricane made landfall in Galveston, Texas, before traveling deep into the U.S. interior. The storm maintained tropical cyclone status as it moved into the Upper Midwest, bringing damaging winds to more than half a dozen states, including Illinois, Indiana, and even Vermont. Killing an estimated 8,000 people, the 1900 Galveston hurricane remains the deadliest natural disaster in U.S. history. Were this event to recur with present-day exposures, estimates insured losses to onshore properties would reach about 38.5 billion USD. Approximately 1.3 billion USD of this modeled loss belongs to inland states. In total, of the 88 storms for which PCS (the online information delivery service that provides the insurance and risk management community with the primary source of information on catastrophes and weather incidents in the United States.)Issued losses from 1950 to the present, 16% have caused insured losses in inland states. These are Hazel (1954), Agnes (1972), Eloise (1975), Frederic (1979), Gloria (1985), Opal (1995), Fran (1996), Floyd (1999), Isabel (2003), Ivan (2004), Katrina (2005), Rita (2005), Gustav (2008), and Ike (2008). A worst-case scenario for the planning area would be a Category 4 storm making inland in the western side of the Gulf of Mexico.

Previous occurrences

Culberson County, TX is in a very low risk hurricane zone. Five hurricanes have been recorded in Culberson County, TX since 1930. The largest hurricane was Unnamed in 1942. The most recent Culberson County, TX hurricane was Dolly in 2008.

Major Hurricanes And Storms To Hit Culberson County, TX (within 150 miles)

Name	Start Date	End Date	Landfall	Max Status	Max Wind (Knots)	Max Pressure (Bars)
Dolly	7/20/2008	7/27/2008	7/23/2008	HU	85	1016
Claudette	7/7/2003	7/17/2003	7/15/2003	HU	80	1016
Celia	7/31/1970	8/5/1970	-	HU	110	1008
Alice	6/24/1954	6/27/1954	6/25/1954	HU	95	0
Unnamed	8/23/1942	9/1/1942	8/30/1942	HU	100	952

Homefacts.com/hurricanes/Texas/Culberson-County.html

list of **hurricanes** that have **Culberson County,Texas.** received disaster declarations

Year of Declaration Date	Declaration Title	Disaster Number
1998	TROPICAL STORM CHARLEY	1239
2005	HURRICANE KATRINA EVACUATION	3216
	HURRICANE RITA	1606
		3261

FEMA.gov/data

Impact

Storms can travel hundreds of miles after landfall and although it only happens in a small percentage of storms, the remnants of hurricanes can sometimes intensify after transitioning into extratropical cyclones or combining with pre-existing mid-latitude storms. Furthermore, the exposed inland properties tend to be more vulnerable compared to coastal construction that is subject to stricter building codes. For all these reasons, a robust hurricane model needs to extend far beyond coastal counties, and even coastal states, to reflect the full spatial extent of potential losses.

Probability

Based on historical occurrences of significant hurricane events, the probability of future events with five Hurricane/Tropical Storm events identified in the past 91 years, the probability of a Hurricane/Tropical Storm event effecting the county is estimated to be 5/91 or 5 percent.

Vulnerability

Structures in the planning area are at risk of damage due to high winds and flooding. Hurricane-force winds, 74 mph or more, can destroy homes, businesses, public/private structures to include critical infrastructures identified in Table 20 and crops. Winds can stay above hurricane strength well inland. Debris, such as signs, roofing material, siding and small items left outside become flying missiles during hurricanes.

Future Conditions

Fully understanding inland risk requires consideration of regional variations in the vulnerability of structures to the observed winds. To that end, changes in building materials and construction practices, structural aging, and mitigation features, as well as other factors that affect vulnerability need to be taken into consideration. Understanding of the regional variability in building vulnerability in the area, including the fact that inland properties are relatively more vulnerable than coastal ones because they are subject to less stringent building codes. Development has not affected vulnerability for the planning area.

3.2.15 Disease Outbreak

Description

An outbreak of infection or foodborne illness may be defined as two or more linked cases of the same illness or the situation where the observed number of cases exceeds the expected number, or a single case of disease caused by a significant pathogen

Location

The risk of a global influenza pandemic has increased over the last several years. This disease can claim thousands of lives and adversely affecting critical infrastructure and key resources. A pandemic can reduce the health, safety, and welfare of the essential services workforce; immobilize core infrastructure; and induce fiscal instability. Pandemic influenza is different from seasonal influenza (or "the flu") because outbreaks of seasonal flu are caused by viruses that are already among people. Pandemic influenza is caused by an influenza virus that is new to people and is likely to affect many more people than seasonal influenza. In addition, seasonal flu occurs every year, usually during the winter season, while the timing of an influenza pandemic is difficult to predict. Pandemic influenza is likely to affect more people than the seasonal flu, including young adults. A severe pandemic could change daily life for a time, including limitations on travel and public gatherings (Barry-Eaton District Health Department 2013).

Extent

The extent, or severity, of an outbreak can be classified as endemic, epidemic, or pandemic. An endemic outbreak is the constant presence of diseases or infectious agents within a given geographic area or population group. An epidemic occurs when a there is a sudden increase in the number of cases of a disease that exceeds what is normally expected. A pandemic is a disease outbreak that has spread across regions and countries (WebMD 2014).

Previous occurrences

Many sources provided historical information regarding previous occurrences and losses associated with disease outbreak. With so many sources reviewed for the purpose of this HMP, loss and impact information for many events could vary depending on the source. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP. Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. However, not all counties were included in the disaster declarations. Therefore, the accuracy of monetary figures discussed is based only on the available information identified during research for this HMP update.

Probability

It is difficult to predict the next disease outbreak. There are several factors that increase the probability of future occurrences that include population growth and increase of populations that do not have

access to healthcare. An example of the probability of future disease outbreaks, based on all available information and available data regarding mosquito populations, it is anticipated that mosquito-borne diseases will continue to be a threat.

Impact

The entire population of Culberson County is vulnerable to a disease outbreak hazard. Healthcare providers and first responders have an increased risk of exposure due to their frequent contact with infected populations. The impact disease outbreaks have on the economy and estimated dollar losses are difficult to measure and quantify. Costs associated with the activities and programs implemented to conduct surveillance and address disease outbreaks have not been quantified in available documentation.

Vulnerability

Estimated potential losses to the built environment are difficult to calculate because infectious disease causes little damage to the built environment and generally losses are experienced through public health response, medical costs, and lost wages of patients. Therefore, it is assumed that all buildings and facilities are exposed to disease but would experience negligible damage in the occurrence of an outbreak event. However, upkeep and maintenance of buildings and facilities would fall behind due to the high absenteeism of employees or the closing of facilities.

Future Conditions

Historical evidence shows that all populations like the Town of Van Horn and Culberson County are vulnerable to disease outbreak, and the probability of future infectious disease or pandemic events is possible. Local and State public health officials maintain surveillance in hopes of identifying disease prominence and containing potential threats before they become epidemics. Of particular concern is the reduction and treatment of the COVID 19 virus. The probability of an infectious disease epidemic or pandemic in the county planning area is occasional and an event has the probability of occurring again. Development has not affected vulnerability for the planning area.

4. Capabilities and Resources

A review of capabilities and resources is an essential part of the planning process so that recommended mitigation actions are appropriate for each participating jurisdiction.

This section of the plan identifies the existing capabilities and resources of Culberson County, the Town of Van Horn and Culberson County-Allamoore ISD that can be activated or leveraged to support actions that will mitigate the negative effects of the identified natural and man-made hazards.

For this plan, two groups of local government capabilities were reviewed:

- Planning and Regulatory Mechanisms
- Technical and Financial Resources

Information is based on data provided by local government officials as part of the November 2021 survey, as well as a review of other local plans, policies, and regulations.

Culberson County, the Town of Van Horn and Culberson County-Allamoore ISD continuously assesses the impacts of current policies, ordinances, and plans for community safety from hazard risk due to population growth. Culberson County, the Town of Van Horn and Culberson County-Allamoore ISD conducts their assessment through respective planning mechanisms including the Capital Improvements Program, Comprehensive Long-Term Development Plan, and Flood Protection Plan, and other planning strategies. The Capability Assessment was completed considering the safe growth initiative to various sectors of the Culberson County, the Town of Van Horn and Culberson County-Allamoore ISD including transportation, environmental management, and land use requirements in order to continuously expand and/or improve the capabilities.

4.1. Planning and Regulatory Mechanisms

Planning and regulatory mechanisms include policies, regulations, ordinances, programs, and local laws that provide the legal authority for local government to manage development and growth. The Town of Van Horn and the county co-share a Master Plan which outlines growth and economic development. Participating jurisdictions have at a minimum, the following planning and regulatory capabilities:

- Capital Improvements Plan ○ The plan for capital expenditures over the next several years to meet long-term community needs for improving streets, drainage, parks, and public facilities
- Storm water Management Plan ○ The plan for implementing storm water quality management activities to protect the health of the public and to meet Clean Water Act standards
- Economic Development Plan ○ The plan for marketing the jurisdictions to attract new businesses and new investment through the provision of adequate infrastructure, buildings, and construction sites as well as financial support
- Emergency Operations Plan ○ The plan for managing community resources to prepare for a storm or other hazard; to respond to needs of residents following the event; and to begin the process of recovering from the effects of a storm such as debris removal
- Threat and Hazard Identification (THIRA) ○ The January 2021 THIRA is an all-hazards capability-based assessment of local threats/hazards and their impacts, which may vary according to time occurrence, season, location, and other community factors
- Texas Education Code chapter 37, Sec. 37.108. MULTIHAZARD EMERGENCY OPERATIONS PLAN; SAFETY AND SECURITY AUDIT. (a) Each school district or public junior college district shall adopt and implement a multi-hazard emergency operations plan for use in the district's facilities. The plan must address prevention, mitigation, preparedness, response, and recovery as defined by the Texas School Safety Center in conjunction with the governor's office of homeland security and the commissioner of education or commissioner of higher education, as applicable

- Zoning Code ○ Regulations regarding land use and development
- Building Code ○ A set of rules specifying minimum acceptable levels of safety for construction to protect the public safety, health, and general welfare
- Building Permit Process ○ Municipalities require building permits to ensure that new construction and reconstruction is in compliance with zoning, subdivision, and building codes.
- Flood Damage Prevention Ordinance
- Each participating jurisdiction participates in the NFIP and has adopted a Flood Damage Prevention Ordinance. This ordinance specifies standards for development in identified Special Flood Hazard Areas
  - ○ There is a Special Hazard Flood Area (SHFA) identified on the FIRM for the Town of Van Horn. The town ordinance requires new construction and substantial improvements (i.e., the cost of the improvement is greater than half of the pre-improvement value of the structure) in all areas of special flood hazards be constructed to minimize flood damage; be constructed with flood damage resistant material; and that utilities are constructed to minimize/eliminate infiltration of flood water into the system. Sanitary sewage systems and on-site waste disposal systems shall be located to avoid impairment to system function or contamination by these systems during flooding
  - ○ The ordinances require that the lowest floor of new or substantially improved structures in the SFHA where base flood elevations (BFEs) have been provided must have the lowest floor elevated to or above the BFE. New and substantially improved nonresidential structures may be designed so that the area below the BFE is watertight and able to resist flood loads and buoyancy. Manufactured homes in Zone A must also be elevated and anchored to resist flotation, collapse or lateral movement. Manufactured homes that are placed or substantially improved in Zone AE and numbered A Zones must be elevated to or above the BFE and anchored
  - ○ In areas of shallow flooding, all new construction and substantial improvements of residential structures must have the lowest floor elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM
  - ○ No encroachment is permitted in the adopted regulatory floodway unless it has been demonstrated through engineering studies that the proposed encroachment will not result in any increase in flood levels during an occurrence of the base flood discharge
  - ○ The Town of Van Horn floodplain administrator ensures compliance with the town floodplain ordinance through permit review
- Subdivision Ordinance ○ Ordinance that further specifies how land can be developed
- Parks or Open Space Plan ○ Plan that specifies use of land for active or passive recreational purposes

Table 18 summarizes the planning mechanisms currently used by participating jurisdictions.

Table 18: Available Planning Mechanisms

Jurisdiction	Capital Improvements Plan	Storm water Plan	Economic Development Plan	Emergency Operations Plan	Zoning Ordinance	Building Code	Building Permit Process	Floodplain Management Ordinance	Subdivision Ordinance	Park or Open Space Plan
Culberson County			X	X		X	X	X		
Town of Van Horn	X	X	X	X	X	X	X	X	X	X
Culberson County – Allamoore ISD				X						

Planning mechanisms are not updated regularly or frequently in Culberson County or the Town of Van Horn. Codes and plans can be updated at any time by elected officials of each of the participating jurisdictions with involvement of legal counsel and through a process of public involvement, which includes a formal planning hearing. Emergency managers in each participating jurisdiction meet with elected officials annually to discuss needed projects and anticipated expenditures over the next year when the annual budget is developed; these annual meeting provide opportunities for officials to recommend modifications to established plans and codes.

4.2. Technical and Financial Resources

Existing resources include technical expertise and knowledge of RGCOG and local government staff as well as financial resources and opportunities to obtain grants to support mitigation actions.

Technical resources include the administrative abilities and knowledge that will be necessary to implement mitigation actions. Technical resources are provided through the RGCOG as well as State of Texas and county and municipal government agencies or departments.

The RGCOG is a voluntary association of local units of governments who work together to address issues of common concern and to pursue opportunities that will benefit the region. In January 1967, elected officials in El Paso County formed the El Paso Council of Governments. The purpose of the council was to further intergovernmental cooperation and coordination in the planning, development, and delivery of

governmental services within El Paso County. In 1971, it became a regional organization by including the counties of Hudspeth, Culberson, Jeff Davis, Presidio, and Brewster and was renamed the West Texas Council of Governments. In 1987, by vote of the membership, Doña Ana County in New Mexico joined the organization, and the name was changed to the Rio Grande Council of Governments. RGCOG provides numerous social services, environmental services, GIS mapping, and training for all participating jurisdictions.

The RGCOG includes the Office of Regional Services and the Area Agency on Aging, both of which have a history of hazard mitigation support as well as emergency preparedness and response actions.

The county is near the University of Texas at El Paso as well as El Paso Community College. Both are available to supply venues as well as experts to present current information about hazards and about protecting people and property to reduce damage caused by hazards. The county is also served by Texas AgriLife, which is an advisory and educational agency offering practical education based on university research.

Table 19 summarizes the staff resources available to support hazard mitigation actions in each of the participating jurisdictions.

Table 19: Technical Resources

Jurisdiction	Emergency Management Coordinator	Director of Public Works	Grant Writer	Texas Public Health Preparedness Specialist
Culberson County	X	X	X	X
Town of Van Horn	X	X		
Culberson County – Allamoore ISD	X			

Culberson County, the Town of Van Horn and Culberson County – Allamoore ISD have a total population of about 2,188. The 2020 U.S. Census data show that approximately 32.3 percent of the population lives at or below the established poverty level (U.S Census, 2020). Thus, the county and town can support a very limited number of hazard mitigation activities.

Financial capabilities are another resource necessary for implementing mitigation actions and projects. In addition to regular operating budgets, participating jurisdictions have at a minimum, the following fiscal capabilities or opportunities:

Capital Improvement Budgets

- Capital improvements are funded using a variety of techniques including revenue bonds, lease-purchase, authorities and special districts, current revenue, reserve funds, and tax increment financing. Each participating jurisdiction a capital improvements budget.

- Community Development Block Grants (CDBG) ○ these grants are designed to assist the vulnerable populations within the community by ensuring affordable housing, creating jobs, and providing direct services.
- Community Development Block Grants Disaster Recovery Assistance ○ In response to disasters, Congress may appropriate additional funding as CDBG Disaster Recovery grants to rebuild the affected areas and provide money to start the recovery process.
- Hazard Mitigation Grant Program ○ FEMA's Hazard Mitigation Grant Program (HMGP) is authorized under Section 404 of the
- Robert T. Stafford Disaster Relief and Emergency Assistance Act. It provides grants to states and local governments to implement long term hazard mitigation measures after a major disaster declaration

5. Risk Assessment

The Risk Assessment builds on findings related to the nature of hazards and their potential impacts. The purpose of conducting a systematic Risk Assessment is to objectively compare the hazards that can occur in the county and identify those for which mitigation action to reduce or eliminate exposure to damage is a top priority.

This section first describes community assets that are at risk of damage or loss due to natural hazards. The next section compares losses experienced in previous occurrences of hazards to develop an understanding of the potential for losses in the future. The section includes a presentation of specific problems faced by the community that can be addressed through hazard mitigation actions and concludes by identifying mitigation priorities.

Change from Previous Plan

To this point in this updated plan, hazards have been discussed in the order in which hazards were discussed in the previous plan. For the remainder of this plan, hazards are presented in alphabetical order to make it easier to track the various mitigation alternatives that were proposed in the previous plan, evaluated for inclusion in this plan, and that will be proposed for implementation in Section 6.3.

5.1. Community Assets

Community assets include people, components of the economy, the built environment including structures and infrastructure, and natural resources.

People

People are our most important asset. With a total population of 2,188 in an area of 3,813 square miles, and a population density of 0.57 person per square mile, the county is sparsely populated. The population of the county is concentrated in the Town of Van Horn, which has an estimated 1,941 residents (US Census, 2020).

Built Environment

The built environment includes housing, infrastructure, critical facilities, commercial and industrial facilities, and cultural resources. All components of the built environment are important for the normal functioning of the region.

Of particular importance to the full functioning of the planning area are critical facilities and cultural resources. The critical facilities identified below estimate an approximate value in the amount of $203,945,527. The County and Town of Van Horn could be crippled if two or more critical facilities are destroyed or damaged during any mentioned hazard.

Table 20: Critical Facilities

Critical Facility Name	Location	Facility Use	Structure Type	Value	Major Hazard Threats
Culberson County Courthouse	300 La Caverna Dr., Van Horn, Texas	Administration	Metal Structure	Approximately: $874,700.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Culberson County Sheriff's Office/jail	1300 W. Broadway, Van Horn, Texas	Public Safety	Metal Structure	Approximately: $205,190.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Culberson County Maintenance Facility	1201-1405 US-90, Van Horn, TX 79855	Storage	Metal Structure	Approximately: $71,939.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Culberson County-Allamore ISD Old School building	400 West 7th Street, Van Horn, Texas	Shelter	Metal Structure	Approximately: Less than $5,000,000.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Culberson County-Allamore ISD Old School building	200 West 7th Street, Van Horn, Texas			Approximately: Less than $40,000,000.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Town of Van Horn City Hall	1801 W. Broadway St., Van Horn, Texas	Administration	Metal Structure	Approximately: $744,800.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Town of Van Horn Convention Center	1801 W. Broadway St., Van Horn, Texas	Shelter	Metal Structure	Approximately: $883,800.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Town of Van Horn Volunteer Fire Department	401 La Caverna Dr. Van Horn, TX 79855	Public Safety	Metal Structure	Approximately: $116,367.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Van Horn Community Center	1801 W. Broadway St., Van Horn, Texas	Shelter	Metal Structure	Approximately: $251,830.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane

Culberson County Hospital District Emergency Medical Services	108 W Broadway St., Van Horn, Texas	Emergency Services	Metal Structure	Approximately: $250,000.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Culberson County Hospital	Eisenhower & FM 2185, Van Horn, Texas	Emergency Services	Metal Structure	Approximately: Less than $100,000,000.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Culberson County Nutrition Center	1206 W Broadway, Van Horn, Texas	Shelter	Metal Structure	Approximately: $209,601.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
Van Horn Water & Wastewater Treatment		Utilities	Metal Structure	Approximately: $337,300.00	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
CCAISD Main School Building	200 W 7th Street Van Horn, Texas	School / shelter	Wood Frame	Approximately $40,000,000	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
CCAISD old School Building	400 W 7th Street Van Horn, Texas	Shelter	Wood Frame	Approximately $5,000,000	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
CCAISD Bus Barn	200 W 7th Street Van Horn, Texas	Bus Barn/Storage	Wood Frame	Approximately $3,000,000	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane
CCAISD Softball Field, Tennis Courts, and Baseball Field	200 W 7th Street Van Horn, Texas	Softball Field, Tennis Courts, and Baseball Field	Sports fields	Approximately $10,000,000	Flood, Drought, Hail, Lightning, Earthquake, Tornado
CCAISD District Housing (for employees)	801-811 Houston, Van Horn, TX	Housing units	Wood Frame	$2,000,000	Flood, Drought, extreme weather, wind, hail, lightning, earthquake, tornado and hurricane

Natural Resources

Natural resources in the planning area include mountains, arroyos, and desert areas. As natural hazards are part of the natural process of a natural area, no long-term negative effects of natural hazards are expected for natural resources. Natural resources will recover from damage caused by a natural hazard, albeit with slightly altered characteristics such as with younger plants or a different slope.

5.2. Potential Losses

People

There have not any reports of loss of life by the identified hazards in the county according to available sources of data and one injury was recorded in association with wind (SHELDUS, 2008; NCDC, 2018).

Economic

Culberson County's economy is dependent upon the major employers below. In the event of an all-hazards incident, Culberson County could suffer a major economic loss if businesses and governmental agencies closed due to the disaster.

Table 21: Economic Loss

Industries	Number of Employees
Agriculture, Forestry, Fishing & Hunting	81
Health Care & Social Assistance	98
Public Administration	90
Education Services	139
Administrative & Support & Waste Management	71
Retail Trade	50
Manufacturing	7
Construction	67
Accommodation & food services	191
Transportation & Warehousing	17
Information	2
Wholesale Trade	5
Real Estate & Rental & Leasing	4
Finance & Insurance	10
Other Services Except Public Administration	85

Built Environment

This plan does not provide a prediction of future losses. Rather, the plan compares losses due to identified hazards in the past as one step in the process of determining how best to utilize limited community resources to mitigate the potential for future damage. Estimates of the greatest previous loss due to a single occurrence of a hazard have been converted to 2021 dollars using the Inflation Calculator provided by the U.S. Bureau of Labor Statistics and displayed in Table 22.

Table 22: Estimates of Greatest Previous Loss

Hazard	Greatest Single Amount of Damage to Structures and Infrastructure in 2021 Dollars
Drought	$0
Earthquake	$250,000
Extreme heat	$0
Extreme cold	$1,077,911.37
Flooding	$692,594.34
Hail	$157,217.02
Ice	$1,077,911.37
Hazardous Material Spill	$0
Snow	$1,572,170.03
Tornado	$250,000.00
Wildfire	$5,060,000.00
Wind	$708,941.28
Hurricanes / Tropical Storms	$0
Disease	$0

Natural Resources

As natural hazards are a normal environmental condition, no long-term negative effects are expected for natural resources. Natural resources will recover from damage caused by a natural hazard, even if with slightly altered characteristics such as with younger plants or a different slope.

5.3. Summary Statements

Because of the identified hazards, the residents, structures, and infrastructure in the planning area are vulnerable to losses. The key problems or issues associated with each hazard are identified in Table 23.

Table 23: Problems Associated with Each Hazard

Hazard	Summary of Problems
Disease	The most hazardous disease threat is the occurrence of an epidemic, which is a disease that affects numerous people, animals, or plants at one time
Drought	Drought is not likely to cause damage to structures or infrastructure.
Earthquake	Earthquakes of the magnitude anticipated in the planning area are not likely to cause damage to structures or infrastructure.

Extreme cold	Extreme cold weather may cause pipes to freeze and burst; this would lead to flooding inside of structures.
Extreme heat	Extreme heat is not expected to cause damage to the built environment.
Flooding	Flooding can occur near arroyos and cause minor damage in the county.
Hail	Hail is not likely to cause damage to structures or infrastructure.
Hazardous Material Spill	Hazardous material spills are not likely to cause damage to structures or infrastructure but will require an emergency response.
Hurricane/Tropical Storm	Can be dangerous to people and property, due to high winds and heavy rainfall
Ice	Ice may cause road hazards and may need treatment prior and during the event. Special populations to include tourists may require additional assistance.
Lightning	Lightning may cause electrical equipment, including water pumps at water treatment facilities, to fail.
Snow	Snow may cause road hazards and may need treatment prior and during the event. Special populations to include tourists may require additional assistance.
Tornado	A tornado may cause roofs to be torn from structures and mobile homes to be demolished.
Wildfire	Wildfire can spread rapidly causing damage to structures and infrastructure in sparsely developed portions of the county.
Wind	High winds can cause severe structural damage to buildings.

5.4. Prioritization of Actions

As a result of the Risk Assessment, hazards were grouped into two categories: 1) Hazards that have a high probability of occurrence and/or the potential to result in costly damage, and 2) hazards for which there is no history of extensive damage in the planning area or the probability of occurrence in any given year is less than 30 percent. The first category should be addressed as soon as possible and the second should be addressed when opportunities arise, or funding is available.

Hazards that should be addressed as soon as resources permit are:

- Wind
- Hail
- Earthquake
- Wildfire
- Snowstorm

Hazards that should be addressed when opportunities arise are:

- Flooding
- Ice Storm
- Extreme Cold
- Tornado
- Extreme Heat
- Drought
- Disease
- Hazardous material spill
- Hurricanes / Tropical Storms

The planning area will consider actions that reduce risk to existing and future development. The identified actions in the final action plan have been analyzed for technical feasibility, political acceptance, lack of funding and by estimated benefit-cost analysis (BCA), including qualitative and quantitative benefits. Evaluation(s) criteria include analyze of life safety, property protection, technical, and political alternatives.

6. Mitigation Strategy

The purpose of examining the characteristics and potential impacts of hazards in the planning area is to determine a reasonable course of action that will reduce the potential for loss, injury, damage, and interruption of business when a hazard occurs in the future.

In this section of this updated plan, a strategy for mitigating the potential effects of hazards is presented. It begins by identifying the goals of the participating jurisdictions and presenting the alternative courses of actions that were considered during the planning process and concludes with a proposed action plan. By adopting this updated plan, participating jurisdictions make a commitment to implement the proposed action plan as resources permit.

6.1. Goals

As in the previous plan, the goals of this plan are for each participating jurisdiction to:

A. Reduce the impact of natural hazards on public and private property

Mitigation actions that will reduce the negative impacts of natural hazards include construction projects and strengthening of ordinances that affect the location and components of the built environment.

B. Improve community safety

Mitigation actions that will improve safety include outreach programs to increase awareness of hazards and of emergency preparedness.

These goals are consistent with the vision of the RGCOG Regional Services Division to "create a prosperous, safe, healthy, and economically viable region." Priorities of participating jurisdictions have not changed since the previous plan was approved and adopted.

As the county works toward realizing each of these mitigation goals, it will become more resilient or safer, healthier, and more economically viable as the population will suffer fewer injuries and public, nonprofit, and private sector businesses will be better able to resume normal functioning after a natural hazard occurs.

Changes from Previous Plan

Goals and priorities for protecting people and property from damage have not changed from the previous plan. A few changes have been made in the presentation.

The RGCOG and the planning team eliminated one goal statement from the updated plan. A goal of the previous plan was to "Build capacity for hazard mitigation through technical and financial assistance." It was decided that this statement is an implementation strategy rather than a goal.

The two goal statements were slightly reworded by changing the term "natural disasters" to "natural hazards," by adding a reference to public property, and by removing a reference to health because hazard mitigation actions do not generally improve public health by reducing the incidents of disease. Public health issues and needs in the county are addressed by the Texas Department of State Health Services.

Objectives listed in the previous plan were eliminated because they were a restatement of the goals and did not add new information or a better structure to the plan.

6.2. Alternatives

Based on the results of the risk assessment and the statements of problems, a variety of mitigation actions were considered during the planning process. Mitigation actions are designed to reduce or eliminate the potential for injuries, fatalities, or property damage. Mitigation actions include modification of plans and regulations, structure and infrastructure projects, natural systems protection, and public education programs.

Alternatives include actions recommended in the previous plan, actions suggested by responses to problem statements, and ongoing actions identified in the review of existing planning documents.

Figure 7 explains the three-stage process used to develop the mitigation action plan:

- First, a comprehensive range of mitigation alternatives were identified. These include actions from the previous plan as well as new alternatives. Alternatives are listed in Section 6.2.1.
- Second, the ongoing, previously deferred, and new alternatives were evaluated; the results of the evaluation are presented in Section 6.2.2.

- Third, the alternatives that were determined to be feasible and appropriate for the participating jurisdictions are listed in an Action Plan, which briefly outlines how the actions will be initiated. The Action Plan is presented in Section 6.3.

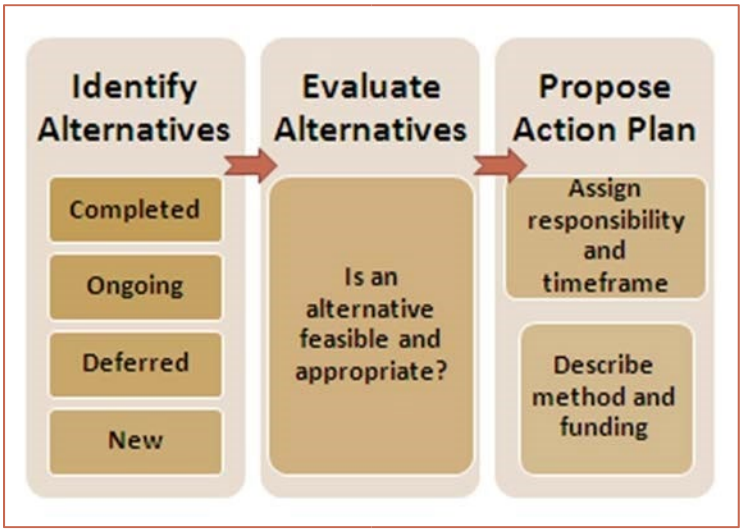


Figure 7: Process for Developing the Action Plan

6.2.1. Range of Alternatives

Table 24 shows the status of previously recommended mitigation, preparedness, and response actions.

Table 24: Actions Recommended in Previous Plan

Hazard	Action	Jurisdiction	Evaluation of Alternative
Drought	Conduct annual inspection of water systems in public buildings to check for leaks and make needed repairs to reduce water supply losses	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Drought	Provide public education about implementing water conservation measures by including water conservation suggestions inserts in the water bills	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Earthquake	Disseminate and improve data seismic hazards through the assistance of Sul Ross University and the University at Texas at El Paso	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing

Earthquake	Meet with representatives of utility companies to encourage use of flexible piping when extending or providing new water, sewer, or natural gas service Replace rigid with flexible piping that serves public buildings	Culberson County; Town of Van Horn	Ongoing
Extreme heat	Inspect insulation in Critical facilities. If required, replace worn insulation and/or increase amount of insulation in governmental buildings to improve ability of structures to prevent loss of cooling	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Extreme heat Hail Tornado Wind	Evaluate building code and update as appropriate so that new buildings conserve consumption of energy for cooling with insulation; are not prone to roof damage by hail, tornado, or wind	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Deferred
Extreme cold	Inspect pipes in public buildings Replace damaged pipes and/or install insulation to prevent freezing	Culberson County, Town of Van Horn	Ongoing
Extreme cold	Conduct campaign by inserting pamphlets in the gas and electric monthly statements, through school communications each fall in order to reach all area residents informing them about how they can contact the community service organization for heating assistance	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Flooding	Update Flood Damage Prevention Ordinance to meet current NFIP standards for jurisdictions with no identified BFEs	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Deferred
Flooding	Improve drainage infrastructure by acquiring easements for temporary water retention and drainage in the Town of Van Horn along Broadway Blvd.	Town of Van Horn;	Deferred
Flooding	Formalize (new action) a program to inspect on a monthly bases locations low lying bridges and coverts where debris may have collected and to remove it	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing

Flooding	Work with State of Texas and FEMA to improve and update data on Flood Insurance Rate Maps (FIRM)	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Hail	Improving roof sheathing in public buildings to prevent hail penetration	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Hail, Tornado	Implement a Reverse 9-1-1 system in the county and include this in the plan	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Completed
Lightning	Install surge protection for new and existing major public utility electrical equipment	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Tornado	Install tornado safe room(s) in each public schools buildings	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Tornado	Retrofit governmental buildings, ISDs, and critical facilities (e.g., replace roofs; anchor HVAC equipment) as necessary	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Wind, tornado	Conduct outreach activities to encourage homeowners to anchor roof mounted air conditioning units on mobile homes, thus reducing damage caused by severe winds or tornado	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Hazardous material spill	Provide public education about reacting to messages from emergency managers about protecting people from the effects of hazardous materials or about using alternative roadways when necessary	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Hazardous material spill	Prepare for emergency response to a hazardous material spill by attending training exercises offered by the State	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing

Snow	Public Outreach: Conduct/implement a “blanket drive” aimed towards the vulnerable populations during the wintry conditions	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Snow	Heating Centers: Activate area shelters to ensure that the vulnerable population do not freeze or remain in cold homes	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Ice	Wrapping of pipes	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Ongoing
Ice	Critical Infrastructures: Supplying critical infrastructures with generators	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Deferred

New alternatives suggested by the Risk Assessment are listed in Table 25.

Table 25: New Mitigation Alternatives

Hazard	New Mitigation Action for Evaluation	Jurisdiction
All Hazards	Conduct countywide education campaign to raise awareness on emergency alert systems available in the county to include Emergency Alert System(EAS), NOAA weather radios and Integrated Public Alert & Warning System (IPAWS	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD
All Hazards	Increase the capability of residents and schools to receive early warning from the National Weather Service. This would be accomplished by purchasing and distributing NOAA All Hazard Radios to each household.	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD
All Hazards	Provide and install generators in critical infrastructure in order to provide redundancy to critical structures during any and all hazard	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD

Disease	Develop and implement multi agency plans and resource stockpiles related to outbreaks of communicable illnesses and vector control	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD
Disease	Acquire and Install Air Ionization system in schools and other public buildings to reduce the growth of viruses in buildings	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD

6.2.2. Evaluation of Alternatives

The alternatives were evaluated by RGCOG and the planning team for suitability in the planning area using several criteria to examine the **relative costs and benefits of each action. Monetary and non-monetary costs and benefits were considered.** Alternatives were reviewed relative to:

- Technical benefits by asking the question: Will this action solve a problem?
- Social costs by asking the questions: Will the public support this action? Will this action have any negative effects on a portion of the population?
- Administrative costs by asking the question: Does our local government have the capacity to implement this action?
- Political feasibility by asking the question: Do our elected leaders support the use of community resources to implement this action?
- Legal feasibility by asking the question: Do any statutes or existing policies prohibit the implementation of this action?
- Economic costs and benefits by asking the questions: Is it possible for our community to fund this action or to secure outside sources of funding? Will this action save the community money in the long run?
- Environmental costs and benefits by asking the questions: Will this action have negative consequences on the natural environment? Will this action have beneficial impacts on the natural environment?

Many actions were acceptable or feasible relative to many of these criteria. Table 26 summarizes the key findings about the alternatives based on the evaluation of relative costs and benefits.

Table 26: Evaluation of Alternatives

Hazard	Alternative	Status of Alternative	Evaluation of Alternative
All hazards	Identify critical facilities and infrastructure in hazard-prone locations	Ongoing	Continue this action by working with RGCOG to improve the GIS

All hazards	Provide public education about hazards	Ongoing	Continue this action
Drought	Implement water conservation measures during periods of drought	Ongoing	Continue this action
Earthquake	Improve data on seismic hazards	Ongoing	Continue this action
Earthquake	Provide public education on the benefits of anchoring objects and utilities within structures to prevent falling	Ongoing	Integrate this alternative with the other public education alternative
Flooding	Improve drainage infrastructure in the Town of Van Horn along Broadway Blvd.	Ongoing	Continue this action, as it is effective
Flooding	Maintain arroyos by clearing debris and sand to facilitate flow of water	Ongoing	Continue this action, as it is effective
Flooding	Strengthen Flood Damage Prevention Ordinance to	Deferred	Work with State of Texas and FEMA to improve and update
Hail	Strengthen ordinance to require interlocking roof shingles/tiles	Deferred	Continue this action, as it is effective
Lightning	Protect critical facilities by installing lightning rods and surge protectors	Ongoing	Continue this action but reword to say: Install lightning rods and surge protectors at critical facilities when possible, because funding may only be available when a facility is reconstructed
Tornado	Construct safe room(s)	Deferred	Include this action; it would be eligible for HMGP funding and could save lives
Tornado	Identify locations (e.g., schools) where safe rooms should be made available	Deferred	Include this action as a necessary first step in making a decision about safe room construction
Wind, tornado	Require anchoring of mobile homes	Ongoing	Propose this action in the updated plan

State of Texas and FEMA Region VI comments on the initial draft of this plan led to further refinements and clarification of actions included in the plan.

6.3. Action Plan

The Action Plan summarizes how recommended actions will be implemented over the next 5 years. Four different types of actions are recommended for implementation. These are:

- Mitigation actions that will eliminate or ameliorate the negative effects of natural hazards
- Actions to integrate mitigation with other plans
- Actions to continue to involve the public in achieving hazard mitigation goals
- Actions to maintain the plan so that it continues to be relevant to the participating jurisdictions

6.3.1. Mitigation Actions

After evaluating the alternatives, 31 mitigation actions are proposed. These actions and the strategies for implementing them are listed in Table 27.

Table 27: Action Plan

Action Number	Hazard	Action	Jurisdiction	Approach
1	All Hazards	Conduct countywide education campaign to raise awareness on emergency alert systems available in the county to include Emergency Alert System (EAS), NOAA weather radios and Integrated Public Alert & Warning System (IPAWS	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County, Town of Van Horn and Allamoore ISD maintenance Engineers Timeframe: Each April • Timeframe: 2022-2027 • Method: Distribute information about through print, radio, and television Funding: Grants, annual operating budgets, $5,000
2	All Hazard	Increase the capability of residents and schools to receive early warning from the National Weather Service. This would be accomplished by purchasing and distributing NOAA All Hazard Radios to each household.	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County, Town of Van Horn Emergency Management Coordinator and Culberson County-Allamoore ISD superintendent • Timeframe: 2022-2027 • Method: Distribute information about through print, radio, and television Funding: Grants, annual operating budgets, $10,000
3	All Hazards	Provide and install generators in critical infrastructure in order to provide redundancy to critical	Culberson County; Town of Van Horn; Culberson	• Responsibility: Culberson County, Town of Van Horn Emergency Management Coordinator and

		structures during any and all hazards	County-Allamoore ISD	Culberson County-Allamoore ISD superintendent • Timeframe: 2022-2027 • Method: Work with Managers who operate critical infrastructures to identify type, size and installation of generators • Funding: Grants, annual operating budgets, $150,000
4	All Hazard	Conduct study and find a solution in the Town of Van Horn to provide emergency vehicles and evacuating vehicles passage north and south of railroad tracks when blocked by train.	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County, Town of Van Horn Emergency Management Coordinator • Timeframe: 2022-2027 • Method: Work with Road and Bridge, TX DOT and elected officials to find a solution to blockage of North –south traffic blocked by trains. • Funding: Grants, annual operating budgets, $50,000
5	Diseases	Develop and implement multi agency plans and resource stockpiles related to outbreaks of communicable illnesses and vector control	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County, Town of Van Horn Emergency Management Coordinator and Culberson County-Allamoore ISD superintendent • Timeframe: 2022-2027 • Method: Work with Hospital administration and Volunteer Fire Rescue to identify type, size of resources needed for possible outbreaks • Funding: Grants, annual operating budgets, $50,000
6	Disease	Acquire and Install Air Ionization system in schools and other public buildings to reduce the growth of viruses in buildings	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County, Town of Van Horn Emergency Management Coordinator and Culberson County-Allamoore ISD superintendent • Timeframe: 2022-2027 • Method: Work with Managers who operate critical infrastructures to identify type, size and installation of Air Ionization systems • Funding: Grants, annual operating budgets, $150,000

7	Drought	Conduct annual inspection of water systems in public buildings to check for leaks and make needed repairs to reduce water supply losses	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County, Town of Van Horn and Allamoore ISD maintenance Engineers Timeframe: Each April Method: Inspect water pumps and pipes in public buildings; if leaks are identified, take action to repair promptly Funding: Annual operating budget- Estimated cost: $5,000 per jurisdiction
8	Drought	Provide public education about implementing water conservation measures by including water conservation suggestions inserts in the water bills	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County, Town of Van Horn and Allamoore ISD Emergency Management Coordinator; Water Utility Timeframe: Each April Method: Distribute information about water conservation through print, radio, and television Funding: Annual operating budgets- Estimated cost $1,500
9	Earthquake	Disseminate and improve data seismic hazards through the assistance of Sul Ross University and the University at Texas at El Paso	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: University of Texas at El Paso Timeframe: Ongoing Method: Research Funding: Funding has been secured- Estimated cost $1000
10	Earthquake	Meet with representatives of utility companies to encourage use of flexible piping when extending or providing new water, sewer, or natural gas service. Replace rigid with flexible piping that serves public buildings	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: County Manager, Town Manager and School Superintendent Timeframe: Ongoing Method: Meet with utility company leaders Funding: Operating budgets, $1,500

11	Extreme heat	Inspect insulation in Critical facilities. If required, replace worn insulation and/or increase amount of insulation in governmental buildings to improve ability of structures to prevent loss of cooling	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County, Town of Van Horn Engineer • Timeframe: Each April • Method: Inspect attics for content and quality of insulation; if insulation needs to be replaced or increased, take action to install promptly • Funding: Partnership between Culberson & Town of Van horn and Culberson County-Allamoore ISD budget and accessing of CDBG funds • Estimated cost: $5,000 per jurisdiction; totaling $15,000 to be requested/applied for under CDBG funds
12	Extreme heat, Hail Tornado, Wind	Evaluate building code and update as appropriate so that new buildings conserve consumption of energy for cooling with insulation; are not prone to roof damage by hail, tornado, or wind	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County Administrator, Mayor of Town of Van Horn and School Superintendent Timeframe: Ongoing Method: Compare existing building codes to recommended codes; work with County/Town Attorney to modify as needed Funding: Operating budgets Estimated cost: $5,000
13	Extreme cold	Inspect pipes in public buildings Replace damaged pipes and/or install insulation to prevent freezing	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County, Town of Van Horn School district Engineer Timeframe: Each April Method: Inspect water pipes for exposure to cold temperatures; if insulation needs to be replaced or installed, take action to install promptly Funding: Annual operating budget Estimated cost: $1,500 per jurisdiction

14	Extreme cold	Conduct campaign by inserting pamphlets in the gas and electric monthly statements, through school communications each fall in order to reach all area residents informing them about how they can contact the community service organization for heating assistance	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County, Town of Van Horn Emergency Manager, School staff Timeframe: Each November Method: Send postcard and/or use other methods to publicize availability of financial assistance for heating Funding: Annual operating budget- Estimated cost: $1,500 per jurisdiction
15	Flooding, Hurricanes	Inspect on a monthly bases locations low lying bridges and coverts where debris may have collected and to remove it	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: County, school Town of Van Horn and State Dept. of Transportation Timeframe: Ongoing Method: Regular maintenance Funding: Operating budget- Estimated cost $5,000
16	Flooding, Hurricanes	Work with State of Texas and FEMA to improve and update data on Flood Insurance Rate Maps (FIRM)	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County Emergency Management Coordinator • Timeframe: Ongoing • Method: Request update of FIRMs • Funding: State and/or Federal budget-Estimated cost $25,000
17	Hail	Improving roof sheathing in public buildings to prevent hail penetration	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County, Town of Van Horn and school district maintenance personnel Timeframe: 2022-2027 Method: Inspect critical facilities and determine needed modifications Funding: Operating budget Estimated cost $5,000

18	Hail	Inspect public buildings and replace deteriorated roofing in order to resist hail impact/penetration through the strengthening of roof sheathing in public buildings	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County; Town of Van Horn; Culberson County-Allamoore ISD maintenance personnel • Timeframe: As funds come available • Method: Improve attics for content and quality of insulation; if insulation needs to be replaced or increased, take action to install promptly Funding: Annual operating budget-Estimated cost $25,000
19	Lightning	Install surge protection for new and existing major public utility electrical equipment	Culberson County; Town of Van Horn; Culberson-County Allamoore ISD	• Responsibility: Culberson County Administrator • Timeframe: Ongoing • Method: Install lightning rods and surge protectors • Funding: HMGP funding • Estimated cost $2,800
20	Lightning	Inspect public buildings and install lightning rods on public buildings where needed	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County; Town of Van Horn; Culberson County-Allamoore ISD maintenance personnel • Timeframe: As funds come available • Method: Inspect public buildings and install lightning rods on public buildings where needed • Funding: Annual operating budget-Estimated cost $25,000

21	Tornado	Install tornado safe room(s) in each public school's buildings	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County Emergency Management Coordinator • Timeframe: 2022-2027 • Method: Design and construct safe rooms to accommodate population at one or more identified facilities • Funding: Partnership between Culberson & Town of Van Horn's to contract with a grant writer in the amount of $6,000 to pursue grants to include HMGP that support this initiative
22	Tornado, Wind	Retrofit governmental buildings, ISDs, and critical facilities (e.g., replace roofs; anchor HVAC equipment) as necessary	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County Schools; Culberson County Administrator; Town of Van Horn City Administrator; Emergency Management Coordinator • Timeframe: Ongoing • Method: Identify facilities where population may be concentrated; meet with facility managers to identify existing plans for preparing for a tornado • Funding: Operating budgets Estimated cost $3,000
23	Wind, tornado	Conduct outreach activities to encourage homeowners to anchor roof mounted air conditioning units on mobile homes, thus reducing damage caused by severe winds or tornado	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County Administrator, • Attorney • Timeframe: Ongoing • Method: Outreach activities to increase awareness through media outlets & implementing/supporting weather awareness week • Funding: Partnership between Culberson County & Town of Van Horn and homeowners • Estimated cost $5,000

24	Hazardous material spill	Provide public education about reacting to messages from emergency managers about protecting people from the effects of hazardous materials or about using alternative roadways when necessary	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	Responsibility: Culberson County Emergency Manager; Local Volunteer Fire Departments Timeframe: Ongoing Method: Culberson County Emergency Manager: work with State of Texas to obtain pamphlets about response of the public to hazardous material spill Funding: Annual operating budgets- Estimated cost: $500
25	Hazardous material spill	Prepare for emergency response to a hazardous material spill by attending training exercises offered by the State	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County Emergency Manager; • Local Volunteer Fire Departments • Timeframe: • ongoing • Method: Culberson County Emergency Manager: work with State of Texas to provide training opportunities • Local Volunteer Fire • Departments: attend training workshops or exercises • Funding: Annual operating budgets- Estimated cost: $5,000
26	Snow	Public Outreach: Conduct/implement a “blanket drive” aimed towards the vulnerable populations during the wintry conditions	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Office of Emergency Management and Area Agency on Aging • Timeframe: Ongoing • Method: Work with the Area Agency on Aging in order to identify the elderly population • Funding: Private/public donations • Estimated cost $1,100

27	Snow	Identify and equip Heating Centers to activate and ensure that the vulnerable population is protected from frigid temperatures.	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Office of • Emergency Management • Timeframe: Ongoing • Method: Work with the Area Agency on Aging/ Volunteer agencies in order to identify the elderly population • Funding: Office of Emergency • Estimated cost $2,500
28	Ice	Wrapping of pipes	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Town of Van Horn, Culberson County, Culberson County-Allamoore ISD building managers. • Timeframe: Ongoing • Method: Work with area • businesses and governmental entities • Funding: Private/public donations-Estimate cost $2,000 ▪ Responsibility: Culberson
29	Ice	Critical Infrastructures: Supplying critical infrastructures with generators	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Town of Van Horn, Culberson County, Culberson County-Allamoore ISD administration • Timeframe: 2022-2027 • Method: Work with Managers who operate critical infrastructures to ensure the installation of generators • Funding: Office of Emergency Management and Homeland • Security Grant Program- • Estimate cost $3,700
30	Wildfire	Pursue Fire wise USA site certification to help residents reduce wildfire risk.	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County Emergency Manager; Local Volunteer Fire Departments, School Superintendents • Timeframe: 2022-2027 • Method: Brewster County Emergency Manager: work with Texas Forest Service and NFPA • Funding: Annual operating budgets

31	Wildfire	Provide public education about how to monitor current conditions and to reduce the potential for damage on private property	Culberson County; Town of Van Horn; Culberson County-Allamoore ISD	• Responsibility: Culberson County Emergency Manager; Volunteer Fire Departments • Timeframe: May of each year • Method: Obtain printed materials from State and Federal sources and distribute to the public • Funding: Annual operating budget-Estimated cost: $500

Table 28 summarizes the actions proposed for implementation by each jurisdiction for each hazard.

Table 28: Summary of Action Plan by Hazard and Jurisdiction

HAZARD	Culberson County	Town of Van Horn	CCISD
All Hazard	Actions 1,2,3,4	Actions 1,2,3,4	Actions 1,2,3,4
Disease	Actions 5,6	Actions 5,6	Actions 5,6
Drought	Actions 7,8	Actions 7,8	Actions 7,8
Earthquake	Actions 9,10	Actions 9,10	Actions 9,10
Extreme Cold	Actions 13,14	Actions 13,14	Actions 13,14
Extreme Heat	Actions 11,12	Actions 11,12	Actions 11,12
Flooding	Actions 15,16	Actions 15,16	Actions 15,16
Hail	Actions 7,18	Actions 17,18	Actions 17,18
Hazardous Material Spill	Actions 24,25	Actions 24,25	Actions 24,25
Hurricane/Tropical Storm	Actions 15,16	Actions 15,16	Actions 15,16
Ice	Actions 28,29	Actions 28,29	Actions 28,29
Lightning	Actions 19,20	Actions 19.20	Actions 19,20
Snow	Actions 26,27	Actions 26,27	Actions 26,27
Tornado	Actions 21,22	Actions 21,22	Actions 21,22
Wildfire	Actions 30,31	Actions 30,31	Actions 30,31
Wind	Actions 22,23	Actions 22,23	Actions 22,23

Table 29 distinguishes between actions that will mitigate the potential effects of a hazard on new buildings or infrastructure and on existing buildings or infrastructure. Table 29 does not list study actions because study, while a necessary first step for some mitigation actions, will not by itself reduce the potential for damage. Similarly, actions designed to provide training, protect people, or conserve natural resources, but not to reduce the potential for damage to structures or infrastructure, are not part of Table 29.

Table 29: Actions Mitigating New or Existing Buildings/Infrastructure

Action Number	Hazard	Action	Mitigates New or Existing Buildings/Infrastructure
5	Extreme Heat	Inspect insulation in buildings Replace worn insulation and/or increase amount of insulation to improve ability of structures to prevent loss of cooling	Existing

6	Extreme Cold	Inspect pipes in public buildings Replace damaged pipes and/or install insulation to prevent freezing	Existing
8	Flooding	Improve drainage infrastructure in the Town of Van Horn along Broadway Blvd.	Existing
9	Flooding	Maintain arroyos by clearing debris and sand to facilitate flow of water Formalize a program for monthly visual surveys to identify location where debris has collected and to remove it	New and Existing
11	Hail	Strengthen ordinance to require interlocking roof shingles/tiles	New and Existing
13	Lightning	Install lightning rods and surge protectors at critical facilities when possible	New and Existing
14	Tornado	Construct safe room(s)	New
16	Wind, Tornado	Require anchoring of mobile homes	New and Existing
22	Snow	Encourage businesses and government entities to wrap the facility's pipes in order to avoid pipes freezing	New
25	Ice	Provide and install generators in critical infrastructure in order to provide redundancy to critical structures during any and all hazards	New

6.3.2. Action to Integrate with Other Plans

Please note, within the last five years the plan was not intergraded with any other regional or local plans. As proposed in the previous plan, actions will be taken to further integrate hazard mitigation actions into other community planning mechanisms. Culberson County, the City of Van Horn, and Culberson County-Allamoore ISD will use the hazard mitigation plan's data, information, and hazard mitigation goals and actions in their County/City emergency preparedness plans, training and/or exercise and school emergency response plans. In particular:

- Responsibility: RGCOG Director of Regional Services
- Timeframe: Ongoing
- Method: Attend county meetings concerning revision of development ordinances and capital improvements and economic development plans. Identify opportunities for linking mitigation actions with other community objectives. Director of Regional Services will meet annually with county and town emergency managers to recommend that hazard mitigation be part of meeting agendas developed for their annual budget meetings with elected officials of Culberson County or the Town of Van Horn.
- Funding: RGCOG operating budget

6.3.3. Actions to Continue Public Involvement

It is important that the mitigation planning process be open and accessible by the public. Therefore, included in the mitigation strategy are actions to continue public involvement.

Changes Since Last Plan

This process is identical to the process recommended in the previous plan. However, the process is described in greater detail in this updated plan.

Continue Public Involvement

As in the past, the RGCOG will continue to involve the public about hazard mitigation plans and accomplishments. As in the past, to provide opportunities for continued public involvement, the mitigation strategy is:

- Responsibility: RGCOG Director of Regional Services
- Timeframe: Ongoing
- Method:

  Post documents on RGCOG web site (http://riocog.org/REGSVCS/rs.htm#hazard.htm) for review and invite the public to ask the RGCOG Regional Services Director questions about the plan or to suggest modifications to the plan at any time.

  - Maintain a file with comments and suggestions provided by the public and provide them for consideration at the annual plan evaluation meetings.
  - Post notices of annual mitigation plan evaluation meetings using the usual methods for posting meeting announcements in the region to invite the public to participate.
  - RGCOG will provide a copy of the Culberson County's Hazard Mitigation Action to Culberson and Town of Van Horn in order to allow for public comment for thirty days prior to the formal jurisdictional adoption. RGCOG will disseminate public notice flyer to each

jurisdiction for posting in public venues. A copy of the flyer will be included in the attachment segment of the plan.

- Funding: RGCOG operating budget

6.3.4. Actions to Maintain the Plan

It is important to maintain the plan so that it continues to be accurate and appropriate for participating jurisdictions. Maintenance entails monitoring, evaluation, and further updating. This section describes a process for regular monitoring of mitigation actions, evaluating the planning process, reviewing the information used for the risk assessment, reviewing community priorities, and updating the plan again within 5 years. In addition, Culberson County's Hazard Mitigation Action Plan will be made available to the public through the Rio Grande Council of Governments website. The website has contact information available to the public for commentary. Future meetings will also be posted on the Rio Grande Council of Governments Online Calendar and under the Notices/Meetings link.

Changes since Last Plan

The plan maintenance process recommended in this updated plan includes more detail about responsibilities, timeframes, and approach or method than did the previous plan, but the process is essentially the same. Responsibility for plan maintenance is assigned to the RGCOG Regional Services Director along with Culberson County/Town Office of Emergency Management. Monitoring and evaluation meetings were not held after adoption of the previous plan.

Monitor the Plan

- Responsibility: RGCOG Regional Services Director and Culberson County/Town Office of Emergency Management
- Timeframe: Annually on or about the anniversary date of adoption of this updated plan
- Method: ○ The RGCOG Regional Services Director will contact the Emergency Management Coordinator of each participating jurisdiction by telephone or e-mail and ask for information about mitigation accomplishments as well as changes in hazard vulnerability and mitigation priorities.
    - Culberson County and the Town of Van Horn will advertise hazard mitigation meeting(s) in public venues.
    - Use of local web sites, social and traditional media platforms to inform the public of any maintenance or periodic review activities taking place.
    - If progress is not made by a jurisdiction with plan implementation, the RGCOG Regional Services Director will contact responsible parties to identify obstacles and discuss strategies for overcoming the obstacles.
- Funding: RGCOG operating budget

Evaluate the Plan

- Responsibility: RGCOG Regional Services Director
- Timeframe: Within a year of receiving a disaster declaration or every other year, approximately one month after the annual monitoring of mitigation actions
- Method:
    - RGCOG Regional Services Director will facilitate a meeting of representatives of participating jurisdictions
    - The meeting will include a presentation of the results of the monitoring, and attendees will be asked to address the following questions:
        - Are new sources of data available that will improve the risk assessment?
        - Have conditions in the county changed so that findings of the Risk Assessment should be updated?
        - Do mitigation goals and objectives reflect current community concerns?
        - For each mitigation action that has not been completed, what are the obstacles to implementation? What are potential solutions for overcoming these obstacles?
        - Is each completed mitigation action effective in reducing risk? What action is required to further reduce the risk addressed by the completed action?
        - What mitigation actions should be added to the plan and proposed for implementation?
        - Based upon the evaluation, should the plan be updated as soon as possible or should the plan be updated as scheduled 5 years after it was adopted?
        - Documentation of the annual evaluation meeting will be attached to the paper and electronic files of this plan within 1 month for accessibility when the plan is next updated.
        - Funding: RGCOG operating budget

Update the Plan

This plan must be updated within 5 years and again adopted by the county and participating jurisdictions in order to maintain compliance with the regulations stated in 44 CFR Part 201.6 and ensure eligibility for applying for and receiving certain Federal mitigation grant funds. The plan will be updated using the following strategy:

- Responsibility: RGCOG Regional Services Director and Culberson County/Town Office of Emergency Management
- Timeframe: Within 3 years of plan adoption or at the discretion of RGCOG and participants of the annual plan evaluation meeting

- Method: Develop a schedule and identify responsibilities for updating the plan
- Funding: RGCOG operating budget or other source of funding as available

7. Sources of Information

Sources of information used to update the hazard mitigation plans for the six counties in the Far West Texas region are provided in this section of the plan so that residents and public officials can find additional information about hazards, verify the data presented, and use these or similar sources of information to update the plan in the future.

Flood Factor, 2022 https://floodfactor.com/county/culberson-county-texas/48109_fsid

ASU Center for Emergency Management and Homeland Security SHELDUS, 2022 https://cemhs.asu.edu/sheldus

American Society of Civil Engineers (ASCE), 2006, *Minimum Design Loads for Buildings and Other Structures*, United States of America: American Society of Civil Engineers.

Answers.com, 2022, Atmospheric Science Questions, https://www.answers.com/earth-science/How_many_volts_are_in_a_lightning_boltt, 2022.

Center for Disease Control, 2022, Prevent Hypothermia & Frostbite, https://www.cdc.gov/disasters/winter/staysafe/hypothermia.html, 2022.

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National Bureau of Economic Research, 2007, U.S. Decennial Population 1900 – 1990, https://www.nber.org/research/data/census-us-decennial-county-population-data-1900-1990, 2022.

National Climactic Data Center, July 2020, https://www.ncei.noaa.gov/, 2022.

National Park Service, 2022, Conditions and Closures, https://www.nps.gov/search/?affiliate=nps&query=Conditions+and+closures&sitelimit=%2F, 2022.

Research News, 2021, Average Annual Precipitation for Texas, https://www.currentresults.com/Weather/Texas/average-yearly-precipitation.php, retrieved 2021.

FEMA- National Flood Insurance Program 2021 https://www.floodsmart.gov/flood-map-updates

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Rowshandel, B., M. Reichle, C. Wills, T. Cao, M. Petersen, D. Branum, and J. Davis, Undated, *Estimation of Future Earthquake Losses in California*, ftp://ftp.consrv.ca.gov/pub/dmg/rgmp/CA-LossPaper.pdf, retrieved November 16, 2012.

Texas A&M University, 2021, Office of the State Climatologist, https://climatexas.tamu.edu/, 2021

Texas AgriLife, 2021 Extension Disaster Education Network, https://texashelp.tamu.edu/, 2021

Texas Association of Counties, 2021, https://txcip.org/tac/census/profile.php?FIPS=48109, 2021

Home Facts 2021 https://www.homefacts.com/earthquakes/Texas/Culberson-County.html

Texas Department of State Health Services (TX DSHS), 2022, Natural Disasters, https://txready.org/

Texas Department of Public Safety, *State of Texas Hazard Mitigation Plan*, 2018, https://txdem.sharepoint.com/sites/TDEMWebsiteFiles/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FTDEMWebsiteFiles%2FShared%20Documents%2FPlanning%2FTexas%2DSHMP%2DFINAL%2DRevised%2D5%2E14%2E2021%281%29%2Epdf&parent=%2Fsites%2FTDEMWebsiteFiles%2FShared%20Documents%2FPlanning&p=true&ga=1, 2022.

Texas State Historical Association, 2012, *Earthquakes, https://www.tshaonline.org/handbook/entries/earthquakes*, retrieved November 19, 2012.

Texas State Library and Archives Commission, 2022, https://www.tsl.state.tx.us/ref/abouttx/popcity12000.html, retrieved 2022.

FEMA Flood Map Service Center 2021 https://msc.fema.gov/portal/home

Texas Water Development Board, 2021, Far West Texas Water Plan, https://www.twdb.texas.gov/waterplanning/rwp/plans/2021/index.asp,

Town of Van Horn, 2021, Municipal Code, http://library.municode.com/index.aspx?clientId=16672,.

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U.S. Climate Data, 2021, http://www.usclimatedata.com/climate/culberson/texas/unitedstates/ustx1094

U.S. Forest Service, 2021, Wildfire Assessment System, http://www.wfas.net/index.php/keetch-byramindex-moisture--drought-49,

U.S. Drought Monitor 2021 https://droughtmonitor.unl.edu/

United States Geological Survey (USGS), 2021, http://earthquake.usgs.gov/earthquakes/states/texas/history.php November, 2021.

NOAA National Centers for Environmental Information 2021 https://www.ncdc.noaa.gov/stormevents/

City-Data.com 2021 https://www.city-data.com/county/Culberson_County-TX.html

Plantmaps.com 2021 https://www.plantmaps.com/en/us/climate/extremes/f/texas-record-high-low-temperatures

8. Documentation

This section contains documentation of the planning process undertaken to update these plans as well as a sample Resolution of Adoption. The sample Resolution of Adoption or a form that is regularly used by a participating jurisdiction will be signed when the plans are adopted by the governing body. A copy of the signed Resolutions of Adoption will be inserted into the updated plans at that time.

Public participation:

Public participation in the development of the plan occurred at two levels: (1) the planning team which consisted of stakeholders, subject matter experts, and elected officials. (2) In addition, a public meeting was held in order to present the previous plan, explain to citizens the need for updating the plan and process, and to solicit input. The community was notified of the meeting and request for community input through newspaper ads, Texas Register posting, and web posting at www.riocog.org/Notices/Meetings.htm.

The planning team utilized a survey in order to gather community input, see attached. The planning team worked with each community in obtaining information for the Culberson County Hazard Mitigation Plan. Once the draft plan was available, the plan was sent electronically to participants soliciting comments. In addition, the Rio Grande Council of Governments' Board of Directors was given an update regarding each of the plans.

8.1. Planning Process

8.1.1. October 28, 2020 Initial meeting (virtual)

Email invitation

Ray Resendez

Subject:	6oToMeeting - RGCOG: First Responders Preparedness Planning Group Meeting '0-19-20
Location:	6oToMeeting
Start:	Mon 10/19/2020 1:00 PM
End:	Mon 10/19/2020 3:30 PM
Recurrence:	none)
Meeting Status:	Accepted
Organizer:	Cynthia Mendez
Required Attendees:	Cynthia Mendez; Al Talavera; Annette Gutierrez; Assistant Fire Chief Jorge A. Rodriguez; Captain Matthew Scales; Chief Mario D'Agostino; Commander Humberto Talamantes ; Commander Ryan Urruta ; David Marquez; Gary Mitschke; Josh Garcia; Judge Carlos Urias; Judge Cinderela Guevara; Judge Eleazar Cano; Judge Ricardo Samaniego; Judge Thomas Neely ; Lt. Pete Hensger; Mar; Sandra Gonzalez; Sheriff Oscar Carrillo; Tribal Governor E. Michael Silvas; Wanda Helgesen
Optional Attendees:	(Sanchez@umcelpaso.org; 'Laura Grolla '; Luis Moreno; Robert C Rojas (Lt.); Kebschull Terry K.; Ray Resendez; 'Jessica Valles'

RGCOG: Hazard Mitigation & Emergency Preparedness Planning
Wed, Oct 28, 2020 9:00 AM - 10:30 AM (MDT)
Wed, Oct 28, 2020 10:00 AM - 10:30 AM (CDT)

Please join my meeting from your computer, tablet or smartphone.

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Agenda

RGCOG Hazard Mitigation & Emergency Preparedness Planning Wednesday,
October 28, 2020
9 am (MDT)
Webinar/Conference Call

Please join my meeting from your computer, tablet or smartphone.
https://global.gotomeeting.com/join/342481989
United States: +1 (571) 317-3112
Access Code: 342-481-989

1. Welcome
2. Introductions
3. Hazard Mitigation Plan Kick-Off Meeting
4. 2020 Threat and Hazard Identification and Risk Assessment (THIRA) Plan Review
5. 2020 Stakeholder Preparedness Review (SPR) Plan Review
6. New Business
7. Adjournment

On –line Attendance

RGCOG Hazard Mitigation and Emergency Preparedness Planning
Wednesday, October 28, 2020
9 am (MDT)
Webinar/Conference Call

ATTENDANCE SHEET			
		PRESENT	
		YES	NO
Brewster County			
Judge Eleazar Cano			
Stephanie Elmore, EMC		✓	
Culberson County			
Judge Carlos Urias			
Efrain Ornelas, EMC			
Cody Davis, Asst. EMC			
Hudspeth County			
Judge Thomas Neely			
Joanna (JoJo) Mackenzie, EMC		✓	
Jeff Davis County			
Judge Larry Francell		✓	
Jim Chandler, EMC Laura Grella		✓	
Presidio County			
Judge Cinderella Guevara		✓	
Gary Mitschke, EMC		✓	
City of El Paso			
Judge Ricardo Samaniego			
Assistant Fire Chief Jorge Rodriguez, Emergency Management Coordinator/El Paso City-County Office of Emergency Management			
TDEM			

8.1.2 **July 29, 2021 Planning Meeting Open to the Public**

Email inviting team to meeting

Ray Resendez

From: Ray Resendez
Sent: Friday, July 23, 2021 10:34 AM
To: Al Talavera; Anjelica Perez; Becky Brewster (beckybrewster@vanhorntexas.org); Carlos Urias; Charles Gonzalez (cgonzalez@ccaisd.net); Cody L. Davis; Culbersoncounty@gmail.com; Efrain Hinojos; Eric Lopez; Fran Malafronte (Franmalafronte@vanhorntexas.org); Jose Aleman; Lyeon McDonald; Maricel Gonzalez (cgonzalez.ccad@ymail.com); Mark Cabezuela (auditor@co.culberson.tx.us); Rick Gray (rgray@culbersonhospital.com); Summer Webb; Yolanda Jurado
Subject: Hazard Mitigation Plan meeting

The Rio Grande Council of Governments (RGCOG) in collaboration with the Culberson County Hazard Mitigation Planning team will hold a public meeting on Thursday, July 29, 2021 from 4:00 p.m. to 5:30 p.m. (CDT) at the Culberson District Court room at 300 La Caverna St., Van Horn, Texas. 79855 The intent of the meeting is to discuss and receive input from the community on the potential impact of natural hazards and determine mitigation action strategies that may reduce potential for loss, injury, damage and interruption of businesses when hazards occur in the future.

For additional information, please call Hazard Mitigation Coordinator, Ray Resendez at (915) 533-0998 x 153, or email at rayr@riocog.org or Culberson County Assistant Emergency Management Coordinator Cody Davis cody.davis@co.culberson.tx.us.

Ray Resendez
Hazard Mitigation Coordinator
Rio Grande Council of Governments
8037 Lockheed, Ste. 100
El Paso, Texas 79925
O-(915) 533-0998 X153
C-(915) 487-1025
rayr@riocog.org

Sign –in sheet

Hazard mitigation workshop

July 29, 2021

1. Yolanda Jurado, RN, CNO Culberson Hospital
2. Anjelica Perez Culberson Hospital Board (AEMT)
3. DANIEL I VALENCIA FIRE-EMS SERVICES
4. Ian Campbell Blue Origin EMT
5. Cody Davis, Culberson Co TVH OEM
6. Ray Resendez Rio Sog
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

Agenda

Culberson County Multi-Jurisdictional Hazard Mitigation Plan
Public Meeting
Culberson District Courtroom
300 La Caverna St., Van Horn, Texas 79855

Thursday, July 29, 2021

4:00 pm (CDT)

I. Introductions

II. Review Hazard Mitigation Plan update process

III. Discussion and agreement on designated hazards

IV. Discuss status of updating building code

V. Identify technical resources

VI. Confirm critical facilities

VII. Review previous mitigation Action plans

VIII. Create new mitigation Action plans

IX. Adjourn

Copy of notice posted on web site

RIO GRANDE COUNCIL OF GOVERNMENTS WILL HOLD A PUBLIC MEETING ON UPDATING CULBERSON COUNTY'S MULTI JURISDICTIONAL HAZARD MITIGATION PLAN

The Rio Grande Council of Governments (RGCOG) in collaboration with the Culberson County Hazard Mitigation Planning team will hold a public meeting on Thursday, July 29, 2021 from 4:00 p.m. to 5:30 p.m. (CDT) at the Culberson District Court room at 300 La Caverna St., Van Horn, Texas. 79855 The intent of the meeting is to discuss and receive input from the community on the potential impact of natural hazards and determine mitigation action strategies that may reduce potential for loss, injury, damage and interruption of businesses when hazards occur in the future.

For additional information, please call Hazard Mitigation Coordinator, Ray Resendez at (915) 533-0998 x 153, or email at rayr@riocog.org or Culberson County Assistant Emergency Management Coordinator Cody Davis cody.davis@co.culberson.tx.us.

Copy of Open Meeting Submission to the State

Stella Rodriguez Log Off

Open Meeting Submission

TRD:	2021004531
Date Posted:	07/28/2021
Status:	Accepted
Agency Id:	0792
Date of Submission:	07/28/2021
Agency Name:	Rio Grande Council of Governments
Board:	Rio Grande Council of Governments Board of Directors
Committee:	Culberson County Hazard Mitigation Planning Team
Date of Meeting:	07/29/2021
Time of Meeting:	04:00 PM **(##:## AM Local Time)**
Street Location:	300 La Caverna St. - Culberson District Court
City:	Van Horn
State:	TX
Liaison Name:	Stella Rodriguez
Liaison Id:	7
Additional Information Obtained From:	Ray Resendez, RGCOG Hazard Mitigation Coordinator
Agenda:	RIO GRANDE COUNCIL OF GOVERNMENTS WILL HOLD A PUBLIC MEETING ON UPDATING CULBERSON COUNTY'S MULTI JURISDICTIONAL HAZARD MITIGATION PLAN The Rio Grande Council of Governments (RGCOG) in collaboration with the Culberson County Hazard Mitigation Planning team will hold a public meeting on Thursday, July 29, 2021 from 4:00 p.m. to 5:30 p.m. (CDT) at the Culberson District Court room at 300 La Caverna St., Van Horn, Texas. 79855 The intent of the meeting is to discuss and receive input from the community on the potential impact of natural hazards and determine mitigation action strategies that may reduce potential for loss, injury, damage and interruption of businesses when hazards occur in the future.

8.1.3 September 30, 2021 Planning Meeting

Copy of e-mail invitation

Ray Resendez

Subject:	Culberson County Hazard Mitigation Actions workshop
Location:	Culberson County Courthouse, 300 La Caverna, Van Horn, Texas 79855
Start:	Thu 9/30/2021 4:00 PM
End:	Thu 9/30/2021 6:00 PM
Show Time As:	Tentative
Recurrence:	(none)
Meeting Status:	Not yet responded
Organizer:	Ray Resendez
Required Attendees:	Al Talavera; Anjelica Perez; Becky Brewster (beckybrewster@vanhorntexas.org); Carlos Urias; Charles Gonzalez (cgonzalez@ccaisd.net); Cody L. Davis; Culbersoncounty@gmail.com; Efrain Hinojos; Eric Lopez; Fran Malafronte (Franmalafronte@vanhorntexas.org); Jose Aleman; Lyeon McDonald; Maricel Gonzalez (cgonzalez.ccad@ymail.com); Mark Cabezuela (auditor@co.culberson.tx.us); Rick Gray (rgray@culbersonhospital.com); Summer Webb; Yolanda Jurado; Marisa Quintanilla; Leticia Tutunjian

As a member of the Culberson County Hazard Mitigation Planning Team we would like to invite you to participate in the mitigation action plan workshop on Thursday, September 30, 2021 at 4:00 p.m. (CDT) at the Culberson County Courthouse, 300 La Caverna, Van Horn, Texas 79855. The intent of the meeting is to discuss and identify specific actions, projects, activities or processes that can be taken to reduce or eliminate long-term risk to people and property from potential hazards. This will be your final opportunity to add any actions that will be included in the 2021 plan. Again this plan is a 5 year plan and if any mitigation funds are made available the first step for eligibility is having the specific mitigation action, project, activity or process addressed in you hazard mitigation plan.

For additional information, please call Hazard Mitigation Coordinator, Ray Resendez at (915) 533-0998 x 153, or email at rayr@riocog.org or Culberson County Assistant Emergency Management Coordinator Cody Davis cody.davis@co.culberson.tx.us

Copy of open meeting submission to the State

Open Meeting Archive

Agency Name:	Rio Grande Council of Governments
Date of Meeting:	09/30/2021
Time of Meeting:	04:00 PM
Board:	Rio Grande Council of Governments
Committee:	Hudspeth County Hazard Mitigation Planning Team
Street Location:	300 La Caverna St. - Culberson District Court
City Location:	Van Horn
State Location:	TX
Status:	Active
Date of Submission:	09/21/2021
Additional Information Obtained From:	Ray Resendez, RGCOG Hazard Mitigation Coordinator
Emergency Mtg:	N
	RIO GRANDE COUNCIL OF GOVERNMENTS WILL HOLD A PUBLIC MEETING ON THE UPDATE OF HUDSPETH COUNTY'S MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN
Agenda:	The Rio Grande Council of Governments (RGCOG) in collaboration with the Culberson County Hazard Mitigation Planning team will hold a mitigation action workshop on Thursday, September 30, 2021 at 4:00 p.m. (CDT) at the Culberson County Courthouse, 300 La Caverna, Van Horn, Texas79855. The intent of the meeting is to discuss and receive input on specific actions, projects, activities or processes that can be taken to reduce or eliminate long-term risk to people and property from hazards and their impact. For additional information, please call Hazard Mitigation Coordinator, Ray Resendez at (915) 533-0998 x 153, or email at rayr@riocog.org or Culberson County Assistant Emergency Management Coordinator Cody Davis cody.davis@co.culberson.tx.us.
TRD ID:	20210005715
Datestamp:	09/21/2021 10:11 AM
Archive Date:	10/02/2021

Sign in sheet

Rio Grande Council of Government's
Culberson County Multi-Jurisdictional Hazard Mitigation Plan
Culberson District Court Room
300 La Caverna St., Van Horn, Texas 79855
Thursday ~~October 1,~~ September 30 2021
4:00 PM (CDT)

Name (Please Print)	Organization/Entity	Phone Number	E mail
Avelardo Talavera	Texas Div. of Emer. Mgmt.	(915)261-5289	Al.Talavera@TDEM.Texas.gov
Becky Brewster	Town of Van Horn	432.207.0346	brewster@valornet.com
Anjelica Perez	Hospital Board / Fire-Med	432-284-0150	anjelicaperez021@gmail.com
[illegible]	Culberson CDEO	432-283-2060	CulbersonCounty@gmail.com
Jaser Murillo	CCSO	915-352-5961	jmurillo@co.culberson.tx.us

Agenda

Culberson County Multi-Jurisdictional Hazard Mitigation Plan
Public Meeting
Culberson District Courtroom
300 La Caverna St., Van Horn, Texas 79855

Thursday, September 30, 2021

4:00 pm (CDT)

I. Introductions

II. Review Hazard Mitigation Plan update process

III. Discussion and agreement on designated hazards

IV. Identify technical resources

V. Confirm critical facilities

VI. Review previous mitigation Action plans

VII. Create new mitigation Action plans

VIII. Adjourn

8.1.4 April 14, 2022 Planning Meeting

Copy of invitation e-mail

Ray Resendez

From:	Ray Resendez
Sent:	Wednesday, April 6, 2022 9:31 AM
To:	'Al Talavera'; 'Anjelica Perez'; 'Becky Brewster (beckybrewster@vanhorntexas.org)'; 'Carlos Urias'; 'Charles Gonzalez (cgonzalez@ccaisd.net)'; 'Cody L. Davis'; 'Culbersoncounty@gmail.com'; 'Efrain Hinojos'; 'Eric Lopez'; 'Fran Malafronte (Franmalafronte@vanhorntexas.org)'; 'Jose Aleman'; 'Lyeon McDonald'; 'Maricel Gonzalez (cgonzalez.ccad@ymail.com)'; 'Mark Cabezuela (auditor@co.culberson.tx.us)'; 'Rick Gray (rgray@culbersonhospital.com)'; 'Summer Webb'; 'Yolanda Jurado'
Cc:	Ismael Castro
Subject:	Hazard Mitigation Planning Meeting

Hello Hazard Mitigation Planning Team,

RIOCOG would like to invite you as a Hazard Mitigation Planning team member to participate in a meeting for a final review and discussion on the Hazard Mitigation Plan's actions. Remember these actions are important to be documented in the plan for eligibility for Hazard Mitigation grants for the next 5 years. If you are part of the county, the city, the school district or a concerned citizen please try to attend to assure we identify any concerns or ideas you have to protect your community from the effects of natural disasters. We will meet **in-person** on Thursday, April 14, 2022 at 2:00 PM (CDT) at the county courthouse, 300 La Caverna, Van Horn, Texas 79855.

This meeting is open to the public so if there is anyone you feel would be interested, please let them know they are welcome.

Copy of notice posted on web site

RIO GRANDE COUNCIL OF GOVERNMENTS WILL HOLD A PUBLIC MEETING ON THE UPDATE OF CULBERSON COUNTY'S MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The Rio Grande Council of Governments (RGCOG) in collaboration with the Culberson County Hazard Mitigation Planning team will hold a mitigation action workshop on Thursday, April 14, 2022 at 2:00 p.m. (CDT) at the Culberson County Courthouse, 300 La Caverna, Van Horn, Texas 79855. The intent of the meeting is to discuss and receive input on specific actions, projects, activities or processes that can be taken to reduce or eliminate long-term risk to people and property from hazards and their impact.

For additional information, please call Hazard Mitigation Coordinator, Ray Resendez at (915) 533-0998 x 153, or email at rayr@riocog.org or Culberson County Assistant Emergency Management Coordinator Cody Davis cody.davis@co.culberson.tx.us.

Copy of Open Meeting Submission to the State

Stella Rodriguez Log Off

Open Meeting Submission

TRD:	2022001991
Date Posted:	04/06/2022
Status:	Accepted
Agency Id:	0792
Date of Submission:	04/06/2022
Agency Name:	Rio Grande Council of Governments
Board:	Rio Grande Council of Governments
Committee:	Culberson County Hazard Mitigation Planning Team
Date of Meeting:	04/14/2022
Time of Meeting:	02:00 PM **(##:## AM Local Time)**
Street Location:	300 La Caverna St. - Culberson County Courthouse
City:	Van Horn
State:	TX
Liaison Name:	Stella Rodriguez
Liaison Id:	7
Additional Information Obtained From:	Ray Resendez, RGCOG Hazard Mitigation Coordinator
Agenda:	

RIO GRANDE COUNCIL OF GOVERNMENTS WILL HOLD A PUBLIC MEETING ON THE UPDATE OF CULBERSON COUNTY'S MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The Rio Grande Council of Governments (RGCOG) in collaboration with the Culberson County Hazard Mitigation Planning team will hold a mitigation action workshop on Thursday, April 14, 2022 at 2:00 p.m. (CDT) at the Culberson County Courthouse, 300 La Caverna, Van Horn, Texas 79855. The intent of the meeting is to discuss and receive input on specific actions,

Agenda

Culberson County Multi-Jurisdictional Hazard Mitigation Plan
Public Meeting
Culberson District Courtroom
300 La Caverna St., Van Horn, Texas 79855

Thursday, April 14, 2022

2:00 pm (CDT)

I. Introductions

II. Discussion on designated hazards

III. Confirm critical facilities

IV. Review previous mitigation Action plans

V. Create new mitigation Action plans

VI. Adjourn

Rio Grande Council of Government's
Culberson County Multi-Jurisdictional Hazard Mitigation Plan
Public Meeting
Culberson County Courthouse
300 La Caverna St., Van Horn, Texas 79855
Thursday April 14, 2021
2:00 PM (CDT)

Name (Please Print)	Organization/Entity	Phone Number	E-mail
Cody Davis	CCHTVH OEM	432-207-2070	cody.davis@co.culberson.tx.us
Lyndon McDonald	Fire Dept	432-284-2649	
KENT GOODGION	WEST TX GAS	806 474 8290	KGoodgion@wtgas.com
AL Talavera	TDEM	915 261-5289	AL.Talavera@TDEM.Texas.gov
Carlos G. Urias	Culberson County	432-284-2059	carlos.urias@co.culberson.tx.us
Jessica Bermudez	Culberson County	432-284-2059	jessica.bermudez@co.culberson.tx.us
Georgina Gonzalez	TDEM	915-238-4408	georgina.gonzalez@tdem.texas.gov
Shawna Payan	TDEM	915-502-9224	shawna.payan@tdem.texas.gov
Anjelica Perez	Hospital District Bite-Med	432-284-0150	anjelicaperez0210@gm
Becky Brewster	Town of Van Horn/CCHD	432-207-0346	beckybrewster@wtcomed
Eduardo Torres	Town of Van Horn	432-284-1770	79etorres21@gmail.com
Amanda Garay	Culberson Hospital	432-283-2760	agaray@culbersonhospital.org
Diego Perez	Culberson Hospital EMS	432 283 2760	dperez@culbersonhospital.org
CHARLES GONZALES	CCAISD/VHS	432-283-2245	CGONZALES2@CCAISD.NET
MARC CHAVEZ	USBP	202-834-2973	MARC.A.CHAVEZ@CBP.DHS.GOV

8.1.5 2021 Online Community Survey

The Rio Grande Council of Governments

Hazard Mitigation Plan Update Survey

Natural Hazard Survey

Introduction

In order to update the Rio Grande Council of Governments Hazard Mitigation Plan, which covers your jurisdiction, it is necessary to identify the occurrence of hazards, losses due to those natural hazards, and projects or actions that have been taken to reduce or mitigate the effects of those hazards. It is also necessary to develop a comprehensive understanding of local community capabilities.

The survey addresses the following hazards identified in the 2015 Far West Texas Hazard Mitigation Plan: Flooding, Extreme Heat, Hail Storms, Winter Storms/Snow, Dam/ Levee failures, Wildfires/Grass Fires, Wind Storms/Downbursts, Earthquakes, Drought, Ice Storms, and Tornadoes.

Please respond to the following questions about natural hazards. Questions pertain to the occurrence of hazards, losses due to natural hazards, and projects or actions that have been taken to reduce or mitigate the effects of a hazard.

1. Please indicate which jurisdiction you represent:

☐ Hudspeth County

- [ ] City of Dell City, Hudspeth County
- [ ] Culberson County
- [ ] Town of Van Horn, Culberson County
- [ ] Jeff Davis County
- [ ] City of Valentine, Jeff Davis County
- [ ] Presidio County
- [ ] City of Marfa, Presidio County
- [ ] City of Presidio, Presidio County
- [ ] Brewster County
- [ ] City of Alpine, Brewster Count

2. Please indicate how concerned are you about the following natural disasters affecting your jurisdiction:

- [ ] Flooding
- [ ] Extreme Heat
- [ ] Hail Storm
- [ ] Winter Storm/Snow
- [ ] Dam/Levee Failure
- [ ] Wildfire/Grass Fire
- [ ] Wind Storm/Downburst
- [ ] Earthquake

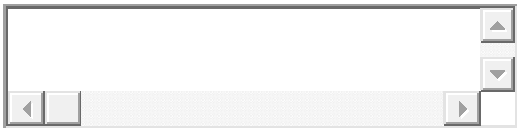
- [ ] Drought
- [ ] Ice Storm
- [ ] Tornado
- [ ] Hurricane
- [ ] None o

3. for the hazards that have occurred in your jurisdiction, please indicate which hazard occurrences resulted in damage:

- [ ] Flooding
- [ ] Extreme Heat
- [ ] Hail Storm
- [ ] Winter Storm/Snow
- [ ] Dam/Levee Failure
- [ ] Wildfire/Grass Fire
- [ ] Wind Storm/Downburst
- [ ] Earthquake
- [ ] Drought
- [ ] Ice Storm
- [ ] Tornado
- [ ] None of the above

If damage resulted from a hazard not listed above, please indicate the type of hazard

4. For the hazards where damage occurred, please a) describe the damage; b) provide an estimate of the dollar value of damages; and c) identify any projects undertaken to mitigate potential damage:



Capability Assessment Survey

It is necessary to develop a comprehensive understanding of your local community capabilities. Please respond to the following questions to provide information about your jurisdiction's existing authorities, policies, programs and resources.

5. Please indicate which of the following types of codes, ordinances, or plans are in place in your jurisdiction:

- ☐ Building Code
- ☐ Building Permit
- ☐ Floodplain Management Ordinance
- ☐ Growth Management Ordinance
- ☐ Subdivision Ordinance
- ☐ Zoning Ordinance
- ☐ Capital Improvement Plan
- ☐ Comprehensive Plan
- ☐ Conservation or Natural Resource Protection Plan

- [ ] Economic Development Plan
- [ ] Historic Preservation Plan
- [ ] Local Emergency Operations Plan
- [ ] Parks or Open-Space Plan
- [ ] Post-disaster Recovery Plan
- [ ] Smart Growth Plan
- [ ] Storm Water Management Plan
- [ ] Transportation Management Plan
- [ ] None of the above

If another code, ordinance or plan not listed above exists in your jurisdiction, please indicate the type of code, ordinance or plan:

6. Please indicate which of the following types of staff position or role exist in your jurisdiction:

- [ ] Building Official
- [ ] City Engineer
- [ ] Community Planner
- [ ] Director of Public Works
- [ ] Emergency Manager
- [ ] Floodplain Administrator
- [ ] GIS Specialist

- [ ] Grant Writer
- [ ] Zoning Administrator
- [ ] None of the above

If another staff position or role not listed above exists in your jurisdiction, please indicate the type of staff position or role:

7. During the past five years in the county you currently reside in, have you or someone in your household directly experienced a natural disaster:

- ○ Yes
- ○ No

8. Have you ever received information about how to make members of your household and your home safer from natural disasters?

- ○ Yes
- ○ No

9. If "YES", how recently?

- [ ] Within the last 6 months
- [ ] Between 6 and 12 months
- [ ] Between 1 and 2 years
- [ ] Between 2 and 5 years
- [ ] 5 years or more

10. From whom did you last receive information about how to make members of your household and your home safer from natural disasters?

(Please check only one)

- ☐ News Media
- ☐ Governmental Agency
- ☐ Insurance Agent or Company
- ☐ Utility Company
- ☐ University or Research Institution
- ☐ Neighbor/Friend/Family Member
- ☐ Elected Official
- ☐ American Red Cross
- ☐ Other Non-Profit Organization
- ☐ Social Media (e.g. Facebook)
- ☐ Not Sure

Other (please specify)

11. Whom would you MOST TRUST to provide you with information about how to make your household and home safer from Natural disasters?

(Please check up to three)

- ☐ News Media
- ☐ Governmental Agency

- [ ] Insurance Agent or Company
- [ ] Utility Company
- [ ] University or Research Institution
- [ ] Neighbor/Friend/Family Member
- [ ] Elected Official
- [ ] American Red Cross
- [ ] Other Non-Profit Organization
- [ ] Social Media (e.g. Facebook)
- [ ] Not Sure

Other (please specify)

12. What is the <u>MOST EFFECTIVE</u> way for you to receive information about how to make your household and home safer from Natural disasters?

(Please check up to three)

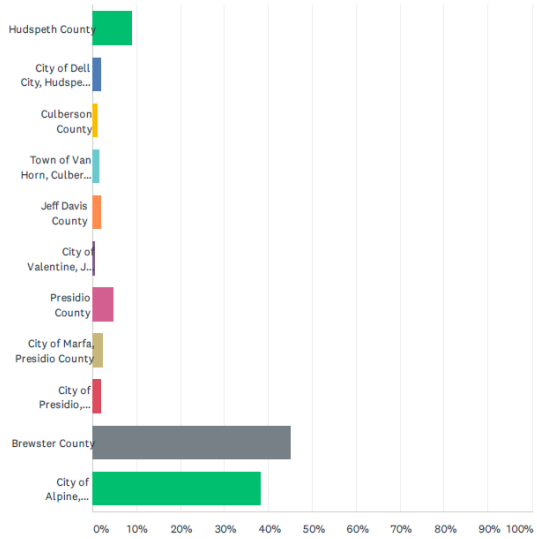
- [ ] Newspaper Stories
- [ ] Newspaper Ads
- [ ] Television News
- [ ] Television Ads
- [ ] Radio News
- [ ] Radio Ads

- [ ] Email Newsletters
- [ ] On-Line News Outlets
- [ ] Social Media (e.g. Facebook)
- [ ] School(s)
- [ ] Outdoor Advertisement (e.g. Billboards)
- [ ] Books
- [ ] Mail
- [ ] Fire Department/Rescue
- [ ] Fact sheet(s)/Brochure(s)
- [ ] Chamber of Commerce
- [ ] Public Workshops/Meetings
- [ ] Magazine(s)
- [ ] University or Research Institution(s)

Other (please specify)

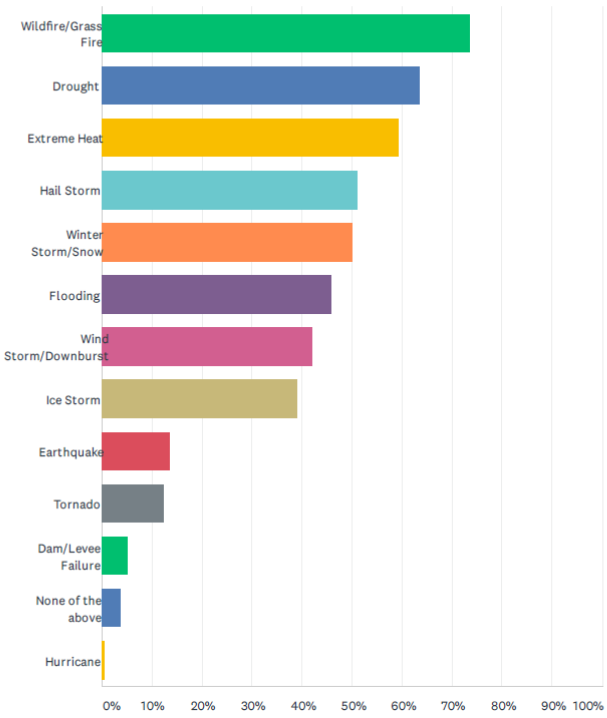
Q1 Please indicate which jurisdiction you represent:

Answered: 209 Skipped: 4



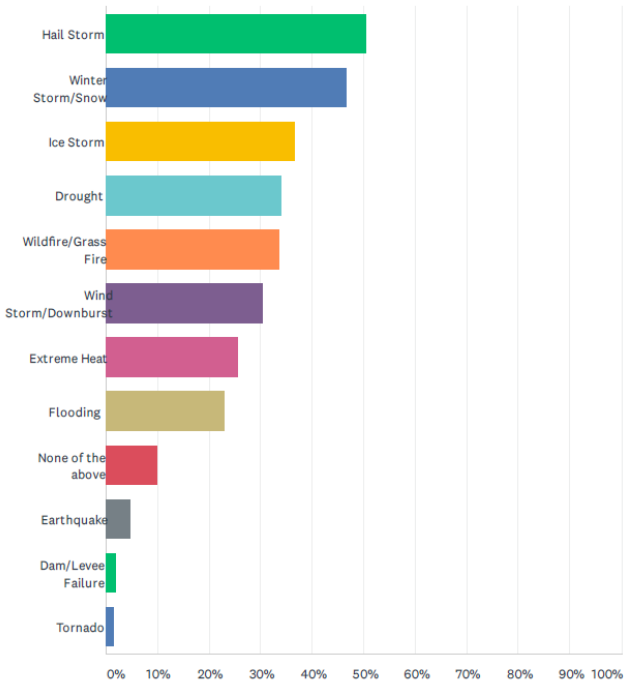
Q2 Please indicate how concerned are you about the following natural disasters affecting your jurisdiction:

Answered: 212 Skipped: 1



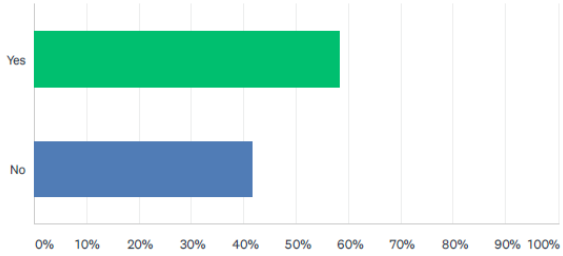
Q3 For the hazards that have occurred in your jurisdiction, please indicate which hazard occurrences resulted in damage:

Answered: 208 Skipped: 5



Q7 During the past five years in the county you currently reside in, have you or someone in your household directly experienced a natural disaster:

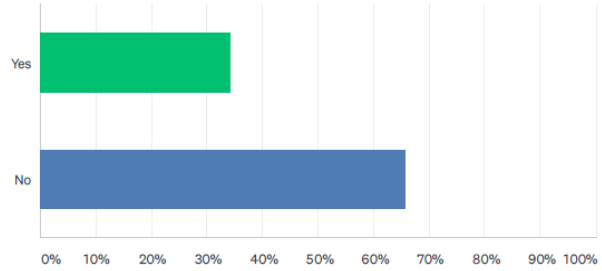
Answered: 211 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	58.29%	123
No	41.71%	88
TOTAL		211

Q8 Have you ever received information about how to make members of your household and your home safer from natural disasters?

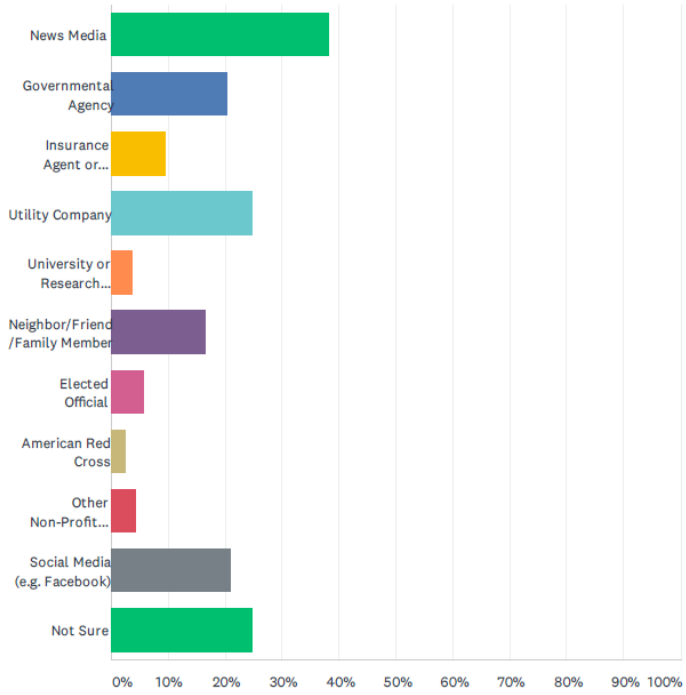
Answered: 210 Skipped: 3



ANSWER CHOICES	RESPONSES	
Yes	34.29%	72
No	65.71%	138
TOTAL		210

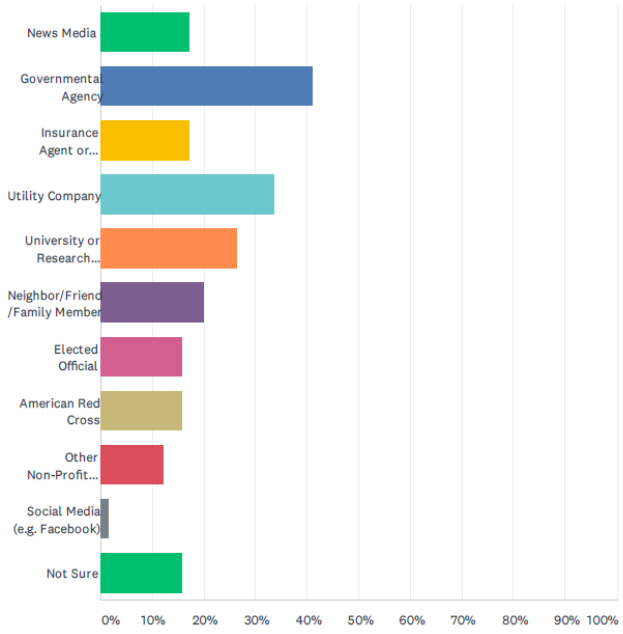
Q10 From whom did you last receive information about how to make members of your household and your home safer from natural disasters? (Please check only one)

Answered: 157 Skipped: 56



Q11 Whom would you MOST TRUST to provide you with information about how to make your household and home safer from Natural disasters?(Please check up to three)

Answered: 205 Skipped: 8



8.2. Plan Adoption

Copies of signed Resolutions from each participating jurisdiction are inserted here.

CARLOS G. URIAS
CULBERSON COUNTY JUDGE
P.O. Box 927
Van Horn, Texas 79855

(432) 283-2059 | Fax (432) 283-9234
carlos.urias@co.culberson.tx.us

RESOLUTION

WHEREAS, the purpose of hazard mitigation is to implement actions that eliminate the risk from hazards, or reduce the severity of the effects of hazards on people and property. Mitigation actions are both short-term and long-term activities that reduce the cause or occurrence of hazards; reduce exposure to hazards; or reduce effects of hazards through various means to include preparedness response and recovery measures; and

WHEREAS, Culberson County, Texas assisted and participated in the development and implementation of the Multi-Jurisdictional Hazard Mitigation Action Plan in collaboration with the Rio Grande Council of Governments (RGCOG) who is a voluntary association of local governments that was established under state law to promote coordination and cooperation in the delivering of governmental services within the Upper Rio Grande State Planning Region in accordance with the Texas Local Government Code, Chapter 391; and

WHEREAS, the plan has been reviewed by community residents, business owners, and representatives of Federal, State, and local agencies to reflect their concerns;and

WHEREAS, Culberson County, Texas portion of the Multi-Jurisdictional Hazard Mitigation Action Plan has been completed; and

WHEREAS, the Federal Emergency Management Agency (FEMA) requires approval of Culberson County, Texas portion of the Plan.

NOW, THEREFORE, BE IT RESOLVED BY Culberson County, Texas **hereby officially adopts and approves the** Culberson County, Texas **portion of the Multi-Jurisdictional Hazard Mitigation Action Plan.** The Multi-Jurisdictional Hazard Mitigation Plan is an official plan of Culberson County, Texas

APPROVED AND ADOPTED on this date 23rd **day of** September **2022.**

RESOLUTION NO. 22-09-014

WHEREAS, the purpose of hazard mitigation is to implement actions that eliminate the risk from hazards, or reduce the severity of the effects of hazards on people and property. Mitigation actions are both short-term and long-term activities that reduce the cause or occurrence of hazards; reduce exposure to hazards; or reduce effects of hazards through various means to include preparedness response and recovery measures; and

WHEREAS, Town of Van Horn, Texas assisted and participated in the development and implementation of the Multi-Jurisdictional Hazard Mitigation Action Plan in collaboration with the Rio Grande Council of Governments (RGCOG) who is a voluntary association of local governments that was established under state law to promote coordination and cooperation in the delivering of governmental services within the Upper Rio Grande State Planning Region in accordance with the Texas Local Government Code, Chapter 391; and

WHEREAS, the plan has been reviewed by community residents, business owners, and representatives of Federal, State, and local agencies to reflect their concerns; and

WHEREAS, Town of Van Horn, Texas portion of the Multi-Jurisdictional Hazard Mitigation Action Plan has been completed; and

WHEREAS, the Federal Emergency Management Agency (FEMA) requires approval of Town of Van Horn, Texas portion of the Plan.

NOW, THEREFORE, BE IT RESOLVED BY Town of Van Horn, Texas **hereby officially adopts and approves the** Town of Van Horn, Texas **portion of the Multi-Jurisdictional Hazard Mitigation Action Plan.** The Multi-Jurisdictional Hazard Mitigation Plan is an official plan of Town of Van Horn, Texas

APPROVED AND ADOPTED on this date 19 day of September, 2022.

Duane Corrales, Mayor

Fran Malafronte, City Secretary

Culberson County-Allamoore Independent School District

RESOLUTION

WHEREAS, the purpose of hazard mitigation is to implement actions that eliminate the risk from hazards, or reduce the severity of the effects of hazards on people and property. Mitigation actions are both short-term and long-term activities that reduce the cause or occurrence of hazards; reduce exposure to hazards; or reduce effects of hazards through various means to include preparedness response and recovery measures; and

WHEREAS, *Culberson County-Allamoore ISD* assisted and participated in the development and implementation of the Multi-Jurisdictional Hazard Mitigation Action Plan in collaboration with the Rio Grande Council of Governments (RGCOG) who is a voluntary association of local governments that was established under state law to promote coordination and cooperation in the delivering of governmental services within the Upper Rio Grande State Planning Region in accordance with the Texas Local Government Code, Chapter 391; and

WHEREAS, the plan has been reviewed by community residents, business owners, and representatives of Federal, State, and local agencies to reflect their concerns; and

WHEREAS, *Culberson County-Allamoore ISD* portion of the Multi-Jurisdictional Hazard Mitigation Action Plan has been completed; and

WHEREAS, the Federal Emergency Management Agency (FEMA) requires approval of *Culberson County-Allamoore ISD* portion of the Plan.

NOW, THEREFORE, BE IT RESOLVED BY *Culberson County-Allamoore ISD* **hereby officially adopts and approves the** *Culberson County-Allamoore ISD* **portion of the Multi-Jurisdictional Hazard Mitigation Action Plan.** The Multi-Jurisdictional Hazard Mitigation Plan is an official plan of *Culberson County-Allamoore ISD*. Minor revisions of a nature that will not require funding to implement which are recommended by the Federal Emergency Management and/or the Texas Division of Emergency Management, Mitigation Section , may be incorporated by the Superintendent or his designee without further action of the board of Trustees

APPROVED AND ADOPTED on this date 26 **day of** September **2022.**

Ken Baugh

>>> Superintendent<<<<

School Board President

Ken Baugh, Superintendent of Schools
400 West 7th Street • P.O. Box 899 • Van Horn, TX 79855
(432) 283-2245 • Fax (432) 283-9062