



## DROUGHT PREPAREDNESS COUNCIL

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NIM KIDD  
Council Chairperson

May 9, 2011

**TO:** The Honorable Rick Perry, Governor, State of Texas  
The Honorable David Dewhurst, Lieutenant Governor, State of Texas  
Ms. Esperanza Andrade, Secretary of State, State of Texas  
The Honorable Steve Ogden, President Pro-Tempore of the Senate, State of Texas  
The Honorable Joe Straus, Speaker of the House, State of Texas  
The Honorable Steve Ogden, Chairman, Senate Finance Committee, State of Texas  
The Honorable Troy Fraser, Chairman, Senate Natural Resources Committee, State of Texas  
The Honorable Tommy Williams, Chairman, Senate Committee on Transportation & Homeland Security, State of Texas  
The Honorable Jim Pitts, Chairman, House Appropriations Committee, State of Texas  
The Honorable Allan Ritter, Chairman, House Natural Resources Committee, State of Texas  
The Honorable Rick Hardcastle, Chairman, House Agriculture & Livestock Committee, State of Texas  
The Honorable Pete Gallego, Chairman, House Criminal Jurisprudence Committee, State of Texas  
Mr. Ray Sullivan, Chief of Staff, Office of the Governor  
Mr. Steven McCraw, Texas Governor's Office of Homeland Security

**FROM:** Assistant Director Nim Kidd, Texas Division of Emergency Management

**SUBJECT:** Statewide Drought Situation Report

Nim Kidd, Chairman  
Texas Division of Emergency Mgmt

Lance Williams, Member  
Texas Department of Agriculture

Carla Baze, Member  
Texas Department of Transportation

Chris Loft, Member  
Texas Commission on Environmental  
Quality

Michael Dunivan, Member  
Texas Forest Service

John Sutton, Member  
Texas Water Development Board

Dr. Travis Miller, Member  
Texas AgriLife Extension Service

David A. Van Dresar, Member  
Texas Alliance of Groundwater Districts

Thomas Walker, Member  
Office of the Governor  
Economic Development & Tourism

Gus Garcia, Member  
Texas Department of Rural Affairs

Richard Egg, Member  
State Soil & Water Conservation Board

Cindy Loeffler, Member  
Texas Parks & Wildlife Department

Suzanne Burnham, Member  
Texas Department of State Health Services

Dr. John W. Nielsen-Gammon, Member  
Office of the State Climatologist

Marisa Callan  
Texas Department of Housing and  
Community Affairs

### 1. NEXT COUNCIL MEETING

June 9th, 2011 at 2:00 p.m. DPS Headquarters

## **2. GENERAL CONDITIONS**

April 2011 continued a disturbing trend of much warmer and drier than normal weather across the majority of Texas during April 2011. Most of the state received less than 50% of normal precipitation, with significant rainfall confined to North Central and East Texas. During the month of April, the percentage of Texas with at least moderate drought (D1) designation increased from 94.87% to 98.86% and the percentage of Texas with extreme drought (D3) increased from 43.07% to 73.07%. During April, exceptional drought (D4) was introduced in several areas of the state, and by month's end 25.96% of the state were experiencing D4 conditions. Going into May 2011, the Trans Pecos, Edwards Plateau, southern East Texas, and South Central Texas were the regions impacted most by the current drought.

Several counties in Northeast Texas recorded above normal precipitation during April 2011, with much of the rainfall accompanied by severe weather during the last week of the month. April rainfall brought drought relief to counties stretching from Dallas/Fort Worth northeast to Texarkana and is currently the region of the state that is currently best off in the midst of the current drought.

Another month without measureable precipitation in the Trans Pecos led to an area of D4 that stretched from Presidio County northward into Martin County in West Texas. An area D4 conditions covered much of the Southern Edwards Plateau stretching from Schleicher County southeast into northern La Salle County, just to the west of San Antonio. A third major D4 region covered much of the Brazos Valley, from just east of Austin in Caldwell County, and extended to the Louisiana border as far north as Panola County and as far south as central Newton County. Further north, a region of D4 encompassed an area along the Red River from Wichita County to Childress County and another D4 area was found in the northern Panhandle in Dallam and Sherman counties.

According to the Climate Prediction Center drought conditions across the state most of the state are expected to worsen over the next three months with the only improvement forecasted for areas in Northeast Texas that picked up significant precipitation in April. During May 2011, most of West Texas has a 40-50% chance of below normal precipitation, with a 33-40% chance of below normal precipitation in the central third of the state, equal chances of above normal, near normal, and below normal precipitation in most of East Texas, and a 33-40% chance of above normal precipitation far Northeast Texas. During the period May through July 2011 (MJJ), all of Texas within 100 miles of the Gulf of Mexico has a 40-50% chance of below normal precipitation, with a 33-40% chance of below normal precipitation in the southern Edwards Plateau, Central Texas, and central East Texas. Equal chances of above normal, near normal, and above normal conditions are forecasted for the rest of the state with temperatures expected to be above normal during the MJJ period across the entire state.

## **3. OVERALL STATEWIDE DROUGHT CONDITIONS**

Based on drought indices through the end of April 2011, the drought has intensified throughout the state based on the SPI, PDSI and KBDI indices, all climate regions were in various degrees of drought, and in 7 climate regions the drought had escalated to higher levels compared to a month ago. The NOAA Climate Prediction Center predicts that drought is likely to develop, persist, or intensify for most of the state over the next three months.

Palmer Drought Severity Index (PDSI):

Based on this index, all 10 climate regions in Texas were in drought, ranging from First Stage Drought to Extreme Drought. Out of 10 climate regions, 3 were in Severe Drought (Trans-Pecos, Edwards Plateau, Southern) and 1 in Extreme Drought (East Texas). Drought intensified in all regions during the past month.

Crop Moisture Index (CMI)

Based on this index, nine regions were in drought, ranging from “Abnormally Dry” (2 regions) to “Severe” or “Extreme” drought (3 regions). Drought intensified in all regions in the past month.

Standardized Precipitation Index (SPI)

Based on this index, all regions were in either Severe, Extreme, or Exceptional Drought. Drought intensified in all regions during the past month.

Keetch-Byram Drought Index (KBDI)

Based on this index, all climate regions were in either High, Very High, or Exceptionally High fire risk conditions. Drought intensified in all regions during the past month.

Stream Flow Index (SFI)

Stream flows were Abnormally Low in the Upper Coast, Southern, and Lower Valley regions. Drought intensified in all regions except Trans-Pecos during the past month.

#### **4. WATER UTILITY STATUS**

On May 5, 2011, there were 153 public water systems on the drought list that are asking customers to restrict water use by following outdoor water use restrictions. Of these systems, 110 are asking customers to follow a mandatory watering schedule and 43 are asking customers to follow a voluntary watering schedule, this is an increase of 83 public water systems over the last month. The significant increase of water systems implementing mandatory water use restrictions over the past month is primarily a result of the continued lack of significant rainfall and increasing demand impacting aquifer and reservoir storage levels.

Seasonal forecasts continue to predict the drought to persist or intensify in many areas of the state. Increasing demands will result in more water systems implementing the various response stages of their Drought Contingency Plans.

#### **5. WATER RIGHTS – STATEWIDE**

Applications for new water use permits and amendments to existing permits remained normal for the month. Beginning April 1<sup>st</sup> and continuing through the end of August, the Hale Clause restrictions were once again implemented at their higher level. Owners of these water rights with these restrictions are required to call the “Hale Clause Hotline” on a weekly basis to determine if diversion of water is allowed to be authorized. On April 11, 2011, letters were sent to state leadership, legislators, county judges, county extension agents, and all water right holders statewide to reiterate TCEQ's responsibility to administer water rights during drought. The availability of unappropriated water for new water use permits continues to decrease in all river basins in the State, and the search for long-term, dependable alternate sources of water remains a high priority issue.

## 6. WATER RIGHTS – LOWER RIO GRANDE / RIO GRANDE WATERMASTER (RGWM)

**Current Conditions:** On April 23, 2011, the U.S. combined ownership at Amistad/Falcon stood at 91.39% of temporary conservation capacity, impounding 3,203,115 acre-feet, up from 84.30% of normal conservation capacity, impounding 2,859,374 acre-feet a year ago at this time. Overall, the system is holding 88.11% of temporary conservation capacity, impounding 5,387,979 acre-feet with Amistad at 99.37% of conservation capacity, impounding 3,255,001 acre-feet and Falcon at 75.11% of temporary conservation capacity, impounding 2,132,978 acre-feet. Mexico has 83.70% of temporary conservation capacity, impounding 2,184,863 acre-feet at Amistad/Falcon.

**Allocations:** As of printing of the March ownership report, the U.S. has allocated 31,228.738 acre-feet to Class A & B water rights, which include irrigation, mining and recreation. Additionally, the U.S. has an amount of approximately 663,450 acre feet for future allocations in 2011.

**Storage & Loss Amistad vs. Falcon:** The U.S. is currently storing approximately 1.825 million acre-feet at Amistad (99.2%); and approximately 1.377 million acre-feet (82.8%) of temporary conservation capacity at Falcon. Evaporation and seepage losses at Amistad cycle, as of 04/23/11, are 91,358 acre-feet. For the same period, the U.S. has lost 118,612 acre-feet at Falcon.

**Releases to meet demands:** In 2011, (through 04/23/11), Mexico has released 64,227 acre-feet from Amistad and 610,616 acre-feet from Falcon for Mexico needs. The U.S. has released 509,410 acre-feet from Falcon and 188,302 acre-feet from Amistad for U.S. needs. Combined with gains between Amistad and Falcon, U.S. inflows to Falcon have totaled 339,889 acre-feet. The U.S. demand in the lower Rio Grande has been met at a rate of 67% by direct Rio Grande inflows and Amistad releases this year.

**Upper Rio Grande (New Mexico):** Currently, Elephant Butte in New Mexico is storing 408,597 (20.19%) acre feet and Caballo Dam in New Mexico, downstream of Elephant Butte is storing 55,939 (24.04%) acre-feet. This water storage in part is used to meet water needs in the El Paso area.

**Outlook:** All accounts began 2011 with 100% of their usable balance. Falcon Reservoir remains on a temporary conservation level of 303.42 feet through May. The National Weather Service continues to report that the combination of windy days, extremely dry weather and above normal temperatures continue to take a toll on deep South Texas. The drought conditions are mainly affecting agricultural interest and allowing for elevated fire risk danger.

Additionally, according to the U.S. Drought Monitor, the entire Rio Grande Basin continues to experience drought conditions which are “Extremely Dry”.

**7. SOUTH TEXAS WATERMASTER – GUADALUPE / LAVACA / SAN ANTONIO / NUECES REGION**

**Area Counties:** Bee, Goliad, Victoria, Calhoun, Refugio, Aransas, San Patricio, Nueces, Kleberg, Jim Wells, Duval, Live Oak, Kenedy, Willacy, Brooks, and Jim Hogg

**Rainfall and Area Conditions:** Some isolated rain events occurred during the month of April for this area, but were not sufficient to produce runoff into area streams. As a result, the stream flows of most area streams continue to decline. Stream flows of most area streams are currently flowing below the mean average for this time of the year. The U.S. Drought Monitor indicates that counties to the far west including Webb, La Salle, McMullen and Jim Hogg Counties are currently experiencing “Extreme Drought” conditions at this time. Parts of Bee, Live Oak, Duval, Brooks, and Kenedy Counties are currently experiencing “Severe” to “Extreme” drought conditions with Victoria and Calhoun Counties currently experiencing “Severe Drought” conditions at this time. Counties along the Gulf Coast including Nueces, Kleberg, San Patricio, Aransas and Refugio Counties are currently experiencing “Moderate Drought” conditions at this time. Most of the surface water diversions in this area continue to be for municipal and industrial use with little irrigation use being noted.

**Approximate Stream flow Conditions:**

Site	April Beginning flows CFS	April Ending Flows CFS	April Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
Guadalupe River near Victoria	651.00	NA*	2110.00
San Antonio River near Goliad	271.00	224.00	782.00
San Antonio River at McFaddin below Goliad	268.00	198.00	540.00
Guadalupe River near Tivoli	952.00	760.00	2150.00
Mission River near Refugio	9.10	9.10	123.00
Nueces River at Calallen Dam	7.50	0.00	329.00
Aransas River near Skidmore	6.90	6.50	38.00

Stream flows of the Guadalupe River continue to flow over the “saltwater barrier” near Tivoli, Texas.

**Corpus Christi Reservoir System:** The Corpus Christi Reservoir System did not receive significant inflows for the month of April. The level of the reservoir system has decreased and was at 75.9% of capacity at the end of the month, impounding 722,871 acre-feet compared to 87.4% of capacity, impounding 832,920 acre-feet at this time last year. The level of Choke Canyon was at 75.7% of capacity, impounding 526,001 acre-feet compared to 86.5% of capacity, impounding 601,734 acre-feet at this time last year. The level of Lake Corpus Christi is at 76.5% of capacity, impounding 196,870 acre-feet compared to 89.9% of capacity, impounding 231,186 acre-feet at this time last year. The City of Corpus Christi continues to divert much of their monthly water supply needs from Lake Texana.

**Drought Restrictions:** The City of Victoria has reached part of their water right restriction. During the month of April while there are 687 cubic feet per second (CFS) of stream flow or less at the USGS Gage at Victoria, the City can only take 10 percent of the stream flows

present at that time. During the month of April, the City has diverted 10 percent or less of the present stream flows.

**Area Counties:** Atascosa, Karnes, Gonzales, Wilson, McMullen, Dewitt, Guadalupe, Lavaca, Fayette, Colorado, Wharton, and Jackson

**Rainfall and Area Conditions:** The southernmost portions of this area received no rainfall for the month of April and the eastern portions of the area, including the Lavaca area, received 0 to .25 inches. Corn and rice are the predominant crops in the area at this time. The corn crop has been damaged by the drought and heavy winds. The crop needs rain very soon or it will suffer major damage. Rice crops are doing well due to flood irrigation but if the drought persists, the crop may suffer losses due to water right curtailments in the area. Irrigation activity has increased substantially. Lake Texana is at 70% of capacity, 38.38 ft. above mean sea level.

According to the U.S. Drought Monitor, this area is experiencing “Extreme” to “Exceptional” drought conditions at this time.

**Stream flow Conditions:** Stream flows in this area are decreasing daily due to drought conditions.

Site	April Beginning flows CFS	April Ending flows CFS	April Historical Mean CFS
<b>South Texas Watermaster</b>			
San Antonio River near Falls City	244.00	146.00	478.00
Cibolo Creek near Falls City	33.00	23.00	154.00
Guadalupe River near Gonzales	597.00	316.00	1740.00
The Lavaca River at Edna	32.00	19.00	474.00
Navidad River near Hallettsville	9.10	2.00	200.00
Atascosa River near Whitsett	7.30	1.60	146.00
Frio River near Tilden	0.01	0.01	137.00
Nueces River near Tilden	0.00	0.00	174.00

**Drought Restrictions:** Some Water Rights and many Temporary Water Rights in this area are restricted at this time.

**Area Counties:** Bandera, Blanco, Kendall and Kerr Counties

**Rainfall and Area Conditions:** This area received 0.1 to 0.5 inches of rainfall for the month of April. The Crop Moisture Index indicates this area of the hill country is classified as “Severely Dry”. Most of the surface water diversions in this area are for municipal and industrial uses with a few surface water permit holders irrigating hay and sod fields. The U.S. Drought Monitor indicates that this area is currently experiencing “Extreme” to “Exceptional” drought conditions.

**Stream flow Condition:** All the major streams and their tributaries are below their historical averages

Site	April Beginning flows CFS	April Ending flows CFS	April Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
Guadalupe River at Kerrville	41.00	25.00	149.00
Guadalupe River at Comfort	57.00	27.00	253.00
Medina River at Bandera	23.00	10.00	154.00

**Drought Restrictions:** Currently eight water right permits along the Guadalupe River have reached their flow restrictions and are not allowed to divert. All temporary water permits above Canyon Lake and Lake Medina are currently suspended.

The City of Kerrville's surface water diversions from the Guadalupe River as of 04/29/11 have been curtailed from 2 million gallons per day to 1.5 million gallons per day.

**Area Counties:** Edwards, Real, Kinney, Uvalde, Zavala, Dimmit, Medina, and Frio

**Rainfall and Area Conditions:** There was no relief from the severe drought conditions across the South West Texas area during the month of April. There was no reported rainfall for the month. There have been very few surface water diversions in this area due to little or no stream flows. Crops being irrigated in the area are wheat, cabbage, onions, hay grazer, and pecans. Soil conditions are exceptionally dry.

The U.S. Drought Monitor indicates that this area is experiencing "Extreme" to "Exceptional" drought conditions at this time.

**Stream flow Conditions:** Most stream flow readings in this area are at or near historical lows at this time.

Site	April Beginning flows CFS	April Ending flows CFS	April Historical Mean CFS
<b><i>South Texas Watermaster</i></b>			
Nueces River at Laguna	35.00	26.00	124.00
Nueces River near Brackettville	.08	.08	11.00
Nueces River below Uvalde	5.50	4.00	84.00
Frio River at Concan	24.00	8.80	111.00
Sabinal River at Sabinal	.16	.01	27.00
Leona River near Uvalde	0.00	0.00	37.00

**Drought Restrictions** Some water rights in the area have met the stream flow restriction and are restricted at this time. Permits that have not met their stream flow restrictions are being regulated. The Zavala/Dimmit Water District is not allowing diversions other than for Domestic and Livestock use.

**Area Counties:** Bastrop, Bexar, Blanco, Caldwell, Comal, Fayette, Frio, Guadalupe, Hays, and Medina

**Rainfall and Area Conditions:** Approximately 0.03 inch of rainfall was measured in the San Antonio Regional Area for the month of April. The U.S. Drought Monitor dated April 26, 2011 indicates the San Antonio Regional Area is experiencing “Extreme Drought” conditions at this time.

**Stream flow Conditions:** The flows in the Guadalupe, San Marcos, and Blanco Rivers have continued to decrease due to the lack of rainfall for the month of April. The smaller perennial creeks continue to remain dry. Irrigation use has started to increase and industrial use remains constant.

Site	April Starting flows CFS	April Ending flows CFS	April Historical Mean CFS
<i>South Texas Watermaster</i>			
Guadalupe River at Spring Branch	69.00	36.00	407.00
San Marcos River at Luling	148.00	121.00	422.00
Blanco River at Wimberley	34.00	23.00	175.00

As of April 30, 2011, Canyon Lake Reservoir was at 906.01 feet elevation and 93.63% of capacity, impounding 354,669 acre-feet. Lake Medina Reservoir was at 1041.62 feet elevation and 54.45% of capacity, impounding 138,742 acre-feet. San Marcos Springs were flowing at 125 CFS. The historical monthly average for the San Marcos Springs in April is 185 CFS. Comal Springs were flowing at 262 CFS. The historical monthly average for the Comal Springs in April is 313 CFS. The J-17 Bexar reading was at 654.8 on April 30.

**Drought Restrictions:** Some additional water right permit restrictions have been met, and many temporary permits have been suspended in the area.

**Area Counties:** Sterling, Tom Green, Irion, Concho, Coke, Glasscock, Runnels, Reagan, Schleicher.

**Rainfall and Area Conditions:** The Concho River Valley received below average rainfall amounts for the month of April. Rainfall in San Angelo was 0.14 inch. Areas surrounding San Angelo received slightly higher rainfall amounts. The average rainfall for the month of April is 1.60 inches. The total amount of rainfall for the year is 0.54 inches. The Texas Crop Moisture Index indicates the area as having “Severely Dry” soil conditions. The State Drought Monitor Index indicates the Concho Valley as having “Severe” to “Extreme” conditions. Winter wheat and corn have been planted and they are established. Preparations for planting of sorghum and cotton have begun.

**Stream flow Conditions:** Area reservoirs are showing a decrease in the amount of storage from the previous month’s amounts. Lake Nasworthy is at 79% of capacity, impounding 8,107 acre-feet. O.C. Fisher is at 1% of capacity, impounding 1,481 acre-feet. Twin Buttes Lake is at 16% of capacity, impounding 29,743 acre-feet.

Site	April Beginning Flows CFS	April Ending Flows CFS	April Historical Mean Flows
<b>Concho Watermaster</b>			
Spring Creek above Twin Buttes Reservoir	0.00	0.00	13.00
Concho River at San Angelo and Bell St.	14.00	6.10	83.00
South Concho at Christoval	4.20	3.60	27.00

**Drought Restrictions:** Currently there are restrictions and/or curtailment of diversions based on priority dates in the Concho Valley. All requests for diversion must be approved prior to diversion.

**8. UPPER COLORADO** (Concho River watershed not included)

The upper Colorado River area received less than normal precipitation during April 2011. The National Weather Service in San Angelo reported monthly precipitation of 0.03 inches, 1.57 inches less than normal. According to the U.S. Drought Monitor, area drought conditions in Crockett, Sutton, Kimble, and Reagan counties are extreme to exceptional. Sterling, Schleicher, Menard, McCulloch, Irion and Mason counties have extreme drought conditions. Tom Green, Coke and Concho counties have severe to extreme drought conditions. USGS gauges indicate that there was no flow in the Colorado River near Gail, TX down to Ballinger, TX, which is less than USGS long term medians. The San Saba River has flow less than the USGS long-term median in Menard, TX to San Saba, TX. The North Llano River above and the Llano River below Junction, TX to the Llano River below Mason, TX are flowing less than the USGS long-term median. The pool levels of EV Spence Reservoir and OH Ivie Reservoir have decreased from March levels. The pool levels are 1.8% and 28.4% of capacity, respectively.

**9. TEXAS PANHANDLE AND SOUTHERN HIGH PLAINS**

**Amarillo Area:**

Greenbelt Lake started the month at 52.51 feet, and ended April at 51.92 feet. Lake Mackenzie started the month at 70.79 feet, and ended April at 70.05 feet. Lake Meredith started the month at 38.23 feet, and ended April at 37.71 feet.

Reporting Station: National Weather Service-Amarillo (as of 04.27.11)

	Precipitation (in.)	Average(in.)	Departure(in.)
<b>April</b>	0.03	1.11	-1.08
<b>2011 Year-to-date</b>	0.58	3.42	-2.84
<b>Snowfall</b>	0.00	0.00	Na

Reservoir Status as of 04/28/2011

<b>Reservoir (Basin)</b>	<b>Conservation Pool (elevation)</b>	<b>Current (elevation)</b>	<b>Percent of Capacity</b>	<b>% Change (from last report)</b>
<b>Greenbelt</b> (Red)	2664.00	2631.91	26.18	-.59
<b>Mackenzie</b> (Red)	3100.00	3020.01	12.17	-.76
<b>Meredith</b> (Canadian)	2936.50	2850.70	0.25	-.54

**Lubbock Area:**

Reporting Station: Lubbock Preston Smith International Airport (04.26.11)

	<b>Precipitation (in.)</b>	<b>Average(in.)</b>	<b>Departure(in.)</b>
<b>April</b>	00.00*	1.07	-1.07
<b>2011 Year-to-date</b>	0.84	3.04	-2.20
<b>Snowfall</b>	0.00	0.00	Na

\*First April without precipitation since records have been kept in Lubbock (1911)

Reservoir report: (Status as of 04.28.11)

<b>Reservoir Basin (Brazos)</b>	<b>Conservation Pool (elevation)</b>	<b>Current (elevation)</b>	<b>% of Capacity</b>	<b>% Change (from last report)</b>
Alan Henry	2220.00	2216.66	90.78	-1.23
White River	2372.20	2354.64	30.22	-1.88

The long term drought situation has not changed. All communities previously noted as initiating water restrictions remained on those restrictions. There was no change to the list since the previous report. The Cities of Amherst, Levelland, and Lubbock remained on mandatory drought restriction status. The Cities of Ralls, Crosbyton, Spur and Post, White River MWD, and Valley WSC in the South Plains area remained on voluntary drought restriction status.

**10. WILDLIFE CONCERNS**

No information was received by the time of this report.

**11. AGRICULTURE CONCERNS**

Welcome rains brought some relief to parts of central North Texas and along the Red River in North East Texas. This area of the state had rapid green up and great conditions for the spring planted crops, but was too late for winter wheat and oats, which are nearing harvest. This weather pattern was beneficial in reducing fire conditions for in a broad stretch across

the state, but rainfall accumulations were only adequate to provide temporary relief for agricultural drought in 12- to 15 counties of North Central and Northeast Texas.

Ag conditions continued to decline over most of the state. High temperatures, very high winds and no rain were the rule. Most of the dryland wheat crop will not be harvested or is has been grazed out or harvested for hay. Ranchers are selling large numbers of cattle due to the lack of forage and water. Cotton planting, despite historic high prices has come to a halt in dryland fields as farmers wait for rain. Irrigated producers are very busy pumping water for preirrigation. Most of the cotton crop on the High Plains and Rolling Plains is planted in May and the first week of June. Later planting will result in crop failure in many years, so the need for precipitation across this vast cotton planting region is critical.

Most of the state's dryland wheat crop is lost or is marginal for harvest. Particularly hard hit are the western Rolling Plains and the High Plains, which represent more than 60% of the state's 6 million acre wheat crop.

The following are observations of regional reports for Texas AgriLife Extension personnel for the week ending April 29, 2011:

Central: Producers who received rain were plowing and preparing seedbeds for cotton and sorghum planting. There was some slight hail damage to vegetable crops and structures from last week's storms. Some counties that did not receive any rain but had considerable damage to buildings and trees from high winds. Stocker operators were shipping cattle early due to lack of grazing and water.

Coastal Bend: Soil-moisture levels were critically low. The wheat harvest was under way. Crops were obviously moisture-stressed, and will be greatly affected. Cotton stands were skimpy, except for some early planted fields. Grain sorghum looked better than other crops due to its drought-tolerance. Forages were extremely short, and producers were feeding cattle hay.

East: Most of the region received as much as 5 inches of rain, but nearly all counties remained behind on annual rainfall. In the areas that received rain, drought conditions were eased. Pond water levels were raised, and some producers fertilized hay meadows. However, conditions remained dry overall, and more rain was badly needed. Burn bans remained in effect in most counties. Feral-hog damage continued to be reported.

Far West: The region was extremely windy and dry. Fires were reported in Crockett, Ector, Glasscock, Howard and Val Verde counties. The Rockhouse Fire in Presidio and Jeff Davis counties was 95 percent contained as of May 3. More than 300,000 acres had been consumed by the fire at the time of this report. For the farmers who were able to plant cotton, the crop began to emerge.

North: Some areas received 4 inches or more of rain, accompanied by cooler temperatures. Two weeks ago, soil-moisture levels were short in many areas, but after storms, they were adequate to surplus. The heavy rains, high wind and hail damaged some buildings and crops, and downed some trees. The hard, fast rain greatly replenished pond levels, but came too late to help wheat or oats. The rains also helped newly established pasture grasses and winter-annuals. Some small-grain fields that were very dry two weeks ago had standing water. All

corn and most grain sorghum and soybeans that were previously planted emerged. The planting of cotton and sunflowers was nearly completed. Some producers wanted to cut hay, but it was too wet. All livestock were doing very well as pastures greened up and started to grow again. Rangeland and pastures were in poor to good condition.

Panhandle: Most of the region received some rain, from a trace up to 1 inch. Soil-moisture levels were very poor. Wildfire danger remained very high. Dryland wheat continued to deteriorate; even where there was rain. Corn planting was in full swing in most areas. Farmers were actively irrigating wheat and corn, and preparing land for spring plantings. Rangeland was mostly in poor to very poor condition. Cattle were in good condition with continued supplemental feeding.

Rolling Plains: Some parts of the region received rain, while other areas have not had any moisture in months. Palo Pinto County received 1 inch to 3 inches of rain and light hail. Fires in that county were 100 percent contained. In Palo Pinto County, 126,000 acres burned before the rain came. Parker County received from 0.4 inch to 2 inches of rain. However, drought conditions still reigned across much of the region. Producers were baling failed wheat that was released by insurance companies, even though it was only making a half round bale per acre. Livestock producers were evaluating cattle condition and hay and forage supplies to attempt to make hard choices about herd reductions. After a long period of rising, cattle prices dropped as producers were starting to sell down herds and not buying replacements. Ponds were drying up. Irrigated cotton producers were preparing to plant in early May, while dryland farmers were waiting for a change in weather patterns. Parker County reported that the pecan crop looked pretty good.

South: Temperatures of 100 degrees and above, constant high winds and the lack of rainfall continued to stress rangeland, pastures, livestock and crops throughout the entire region. Declining forage quality and quantity forced livestock producers to supply more supplemental feed to help keep livestock in even fair condition. They were also liquidating entire herds while cattle prices remained favorable. Ranchers had to use water wells and windmills to provide water for cattle. Corn was only 3 to 4 feet tall and tasseling. Wheat remained stunted, and grain sorghum began to twist in the afternoon heat. In Atascosa County, most irrigated cotton had germinated. Peanut producers were busy pre-watering in preparation for planting. In Jim Wells County, row crops showed signs of stress as the topsoil moisture continued to decline. Sorghum began to head in Kleberg and Kenedy counties, but yields were predicted to be low even if there was rain soon. In Zavala County, onion harvesting went very well, cabbage harvesting was ongoing, and corn and cotton were progressing well. Pecan producers in that area were very busy irrigating and scouting for insects. In the southern part of the region, citrus and vegetable harvesting continued, farmers were actively irrigating row crops, while dryland sorghum showed drought-stress.

South Plains: Conditions were very dry, with no significant precipitation. Temperatures varied from mild to hot to near freezing in some counties. Winds gusted to 30 mph and higher during the reporting period. On April 29, there were gusts of 68 mph. Burn bans remained in effect over the entire region, with some counties reporting new wildfires. Many farmers have submitted their wheat in to insurance adjusters. About 80 percent of the wheat crop this year is considered lost. Pastures and rangeland needed rain. Because of lack of grazing, livestock producers still had to provide supplemental feed to cattle. Many farmers

were pre-watering fields for a second time in hopes of planting soon. Reports indicate that soil is very dry to a depth of 3 to 6 feet. All aspects of agriculture were struggling.

Southeast: The drought situation became more serious every day. High winds continued throughout the nights, further drying out crops and soils. Brazoria County had zero precipitation during April. Many crops have not had significant rain since planting. Hay was being trucked into the area at a steady rate. Stock-water tank levels were dropping due to high winds and evaporation. The Liberty County wheat harvest was completed. Pastures continued to deteriorate, as were cattle.

Southwest: April was without rain, making it about 217 days since the last economically significant rainfall of 0.34 inch on Sept. 26. October through April was the driest period on record, with only 1.13 inches of total rainfall, compared to a long-term average of about 11.3 inches during the same period. The region has been on red-alert status as unseasonably hot temperatures, dry forages and high, dry winds increased the risk of fires. San Antonio continued to be in Stage 1 water rationing, and Uvalde banned daylight landscape irrigation. A cold front and light rain May 1- 2 provided temporary relief. Irrigated spring wheat was drying down, but total wheat and oat grain production for the region will be greatly reduced as most of the crop was not irrigated and failed. Irrigated corn, sorghum, peanuts, sunflowers and cotton made good progress. All dryland spring crops failed. Pecan trees nearly finished flowering, and fruit set appeared to be mostly light. Orchards will need frequent irrigation for nuts to mature. Some winterkill in grape orchards was reported from the early February freeze. Sod farms and new landscaping projects required frequent irrigation. The harvesting of cabbage, lettuce and spinach wound down. Onions, cantaloupes, watermelons, green beans, potatoes and sweet corn made good progress under heavy irrigation. Most pasture and rangeland grasses remained dormant and brown. Forage availability was well below average, and what livestock remained required supplemental feed.

West Central: Continued hot, dry and windy weather kept the danger of wildfire very high. A few areas reported rain, which was too late to save wheat but should help lower the danger of wildfire. In other areas, virtually no fieldwork was being done due to the extremely dry weather. Ranchers continued to provide supplemental feed for cattle, and stock-water tanks were at critical levels.

## 12. WILDFIRE CONCERNS

The Keetch-Byram Drought Index (KBDI) is used to help determine the potential for fire risk. It is a numerical index where each number is an estimate of the amount of precipitation, in 100ths of an inch, needed to bring the soil back to saturation. The index ranges from 0 to 800, with 0 representing a saturated soil, and 800 a completely dry soil. The relationship of the KBDI to fire danger is, as the index increases, the vegetation is subjected to increased moisture stress. KBDI levels and their relationship to expected fire potential are reflected in the following:

**KBDI = 0 – 200:** Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. This is typical of the spring dormant season following winter precipitation.

**KBDI = 201 – 400:** Typical of late spring and early growing season. Lower litter and duff layers are drying and beginning to contribute to fire intensity.

**KBDI = 401 – 600:** Typical of late summer and early fall. Lower litter and duff layers contribute to fire intensity and will burn actively.

**KBDI = 601 – 800:** Often associated with more severe drought and increased wildfire occurrence. Intense, deep-burning fires with significant downwind spotting can be expected. Live fuels can also be expected to burn actively at these levels.

As of April 30, 2011, there were 222 counties (illustrated in Attachment 2) with KBDI values in excess of 400. The values indicate areas within these counties are beginning to experience or sustain dry conditions which could result in an increased fire risk potential.

The Drought Preparedness Council is comprised of state agencies concerned with the effects of drought and fire on the citizens of the State of Texas. The attached information was compiled and provided by representatives listed below. Points of contact, telephone numbers, and web site addresses are also provided.

Nim Kidd, Texas Division of Emergency Management, (512) 424-2436, fax (512) 424-2444, website: <http://www.txdps.state.tx.us/dem>

John Sutton, Texas Water Development Board, (512) 463-7988, fax (512) 463-9893, website: <http://www.twdb.state.tx.us>

Chris Loft, Texas Commission on Environmental Quality, (512) 239-4715, fax (512) 239-4770, website: <http://www.tceq.state.tx.us>

Richard Egg, Texas State Soil & Water Conservation Board, (254) 773-2250, fax (254) 773-3311, website: <http://www.tsswcb.state.tx.us>

Lance Williams, Texas Department of Agriculture, (512) 463-3285, fax (800) 835-2981, website: <http://agr.state.tx.us>

Dr. Travis Miller, Texas AgriLife Extension Service, (979) 845-4808, fax (979) 845-0456, website: <http://texasextension.tamu.edu>

Cindy Loeffler, Texas Parks & Wildlife Department, (512) 912-7015, fax (512) 707-1358, website: <http://www.tpwd.state.tx.us>

Carla Baze, Texas Department of Transportation, (512) 416-3270, fax (512) 416-2941, website: <http://www.txdot.state.tx.us>

Michael Dunivan, Texas Forest Service, (830) 997-5426, website: <http://txforests.tamu.edu>

Suzanne Burnham, Texas Department of State Health Services, (512) 801-9816, fax (512) 458-7111, website: <http://www.dshs.state.tx.us/>

Thomas Walker, Office of the Governor, Economic Development & Tourism, (512) 936-0169, fax (512) 936-0141, website: <http://www.governor.state.tx.us/divisions/ecodev>

David A. Van Dresar, Texas Alliance of Groundwater Districts, (979) 968-3135, fax (979) 968-3194, website: <http://www.texasgroundwater.org/>

Dr. John W. Nielsen-Gammon, Office of the State Climatologist, (979) 862-2248, fax (979) 862-4466, website: <http://www.met.tamu.edu/osc/>

Gus Garcia, Texas Department of Rural Affairs, (512) 936-7876, fax (512) 936-6776, website: <http://www.tdra.state.tx.us>

Marisa Callan, Texas Department of Housing and Community Affairs, (512) 475-3964, website: <http://www.tdhca.state.tx.us>

# Attachment 1 Climatic Regions



