

## Storm Data and Unusual Weather Phenomena - February 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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### OKLAHOMA, Panhandle

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#### (OK-Z001) CIMARRON, (OK-Z002) TEXAS, (OK-Z003) BEAVER

02/01/14 00:00 CST	0	Drought
02/28/14 23:59 CST	0	

The month of February was a drier than normal month for the Oklahoma Panhandle, with only one significant snowfall episode which brought 2 to 6 inches of snow early in the month. Most of this snow fell in across the eastern Oklahoma Panhandle. This short term relief prevented an expansion of drought during the month. Extreme (D3) Drought conditions persisted in the central Oklahoma Panhandle, while Severe (D2) Drought conditions persisted in the far western and eastern parts of the Panhandle. Guymon recorded 0.16 inches of precipitation for the month (0.31 inches below normal).

Winter wheat struggled under the cold and dry weather pattern, with drought-stressed wheat facing temperatures that were 2 to 4 degrees cooler than normal. Soil moisture was rated mostly short to very short by month's end, and center pivots were being used to water some wheat. The poor health of range and pasture land lead to concerns for blowing dust if strong winds occurred. Upper soil zones remained drier than normal in most of the Oklahoma Panhandle, but moisture levels were near normal in those areas which received the best snowfall during the month. Deeper soil zones ranged from less than 50 percent of normal to up to 70 percent of normal. The Palmer Drought Severity Index worsened to a rating of Moderate Drought for the Oklahoma Panhandle. No countywide burn bans were in effect.

Reservoirs and streamflows across the majority of the Oklahoma Panhandle were at below normal levels.

Economic losses due to the drought through February were predominately the result of supplemental watering, winter wheat losses, reduction of cattle herd sizes, and supplemental feed for cattle on drought-thinned rangeland and pastures.

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#### (OK-Z001) CIMARRON, (OK-Z002) TEXAS, (OK-Z003) BEAVER

02/04/14 01:00 CST	0	Winter Weather
02/04/14 17:30 CST	0	

An embedded shortwave trough moved across northwest Texas on the 4th and placed the Oklahoma Panhandle on the northwest portion of this weather system. This quadrant of a weather system is favorable for the development of snow bands which can cause localized enhanced snow production. Some such snow bands developed across the eastern Oklahoma Panhandle creating a gradient of 1 to 2 inches of snow across the western Panhandle to 5 to 6 inches across the eastern Panhandle. This snow caused slick road conditions across the Oklahoma Panhandle which lead to numerous vehicle accidents, but no serious injuries were reported. The snow ended by the afternoon hours of the 4th as the upper level shortwave moved northeastward into central Oklahoma.

The following is a list of snow reports: 2 inches at Boise City (Cimarron County), 2 inches at Guymon (Texas County); and 5.5 inches at Beaver (Beaver County).

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#### (OK-Z001) CIMARRON, (OK-Z002) TEXAS, (OK-Z003) BEAVER

02/05/14 04:00 CST	0	Cold/Wind Chill
02/06/14 08:00 CST	0	

An arctic cold front moved through the Oklahoma Panhandle on the 4th. Overnight, the post frontal Arctic airmass settled into the Panhandles and dropped surface temperatures into the single digits. With sustained wind speeds of 25 to 30 mph, wind chill values plummeted into the minus 15 to minus 25 degree range by 4 AM CST on the 5th. These dangerous wind chill values persisted for nearly 30 hours before surface winds diminished during the morning hours of the 6th and allowed wind chill values to rise above minus 10 degrees.

The following is the lowest wind chill value for each county: minus 20 degrees at Boise City (Cimarron County); minus 20 degrees at Guymon (Texas County); minus 22 degrees at Beaver (Beaver County).

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#### (OK-Z002) TEXAS

02/05/14 13:00 CST	0	Winter Weather
02/06/14 08:00 CST	0	

A weak upper level wave moved northeastward across southern New Mexico during the late morning hours of the 5th. This wave provided enough lift for a band of snow to develop across the southern Texas Panhandle. As the wave slowly moved across the Panhandles, the band of snow expanded northward and entered the Oklahoma Panhandle. This band produced 1.2 inches of snow at Goodwell (Texas County) before the wave moved east of the Panhandle by the morning hours of the 6th.

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#### (OK-Z002) TEXAS, (OK-Z003) BEAVER

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	02/06/14 16:00 CST		0	Cold/Wind Chill
	02/07/14 10:00 CST		0	

Surface temperatures dropped into the single digits across most of the Oklahoma Panhandle during the early evening hours of the 6th and persisted until the late morning hours of the 7th. These sub-freezing temperatures coupled with southerly winds of 15 to 20 mph to drop wind chill values into the minus 5 degrees to minus 12 degrees. These dangerous wind chill values improved during the late morning hours of the 7th as ambient temperatures warmed into the lower 20s. The following is a list of the lowest wind chill values per county: minus 7 degrees at Guymon (Texas County), and minus 12 degrees at Beaver (Beaver County).

### (OK-Z002) TEXAS, (OK-Z003) BEAVER

02/08/14 02:30 CST	0	Freezing Fog
02/08/14 09:00 CST	0	

The combination of light surface winds, clear skies, and sub-freezing temperatures led to the development of freezing fog across the eastern Oklahoma Panhandle during the early morning hours of the 8th. Visibilities dropped below a quarter of a mile at Guymon (Texas County), and Beaver (Beaver County).

### (OK-Z001) CIMARRON, (OK-Z002) TEXAS, (OK-Z003) BEAVER

02/08/14 23:00 CST	0	Freezing Fog
02/09/14 16:00 CST	0	

Freezing fog developed on the warm side of a stalled frontal boundary across western Oklahoma and southwestern Kansas during the late night hours of the 8th. As the stalled front began retreating westward during the early evening hours the freezing fog followed and spread across the Oklahoma Panhandle. Visibilities dropped to less than a quarter mile with temperatures in the 20s. The freezing fog dissipated during the early evening hours of the 9th as low level mixing increased.

### (OK-Z001) CIMARRON, (OK-Z002) TEXAS, (OK-Z003) BEAVER

02/20/14 01:16 CST	0	High Wind (MAX 52 kt)
02/20/14 06:00 CST	0	

A cold front moved through the Oklahoma Panhandle during the early morning hours of the 20th. A strong pressure gradient behind the front caused several hours of sustained winds of 30 to 35 mph. However, mid-level winds aloft of 55 to 65 mph were able to mix to the surface to cause occasional gusts of 58 to 62 mph. These gusts occurred off and on until 6:40 AM CST before the surface pressure gradient relaxed and the stronger winds aloft moved eastward.

The following is a list of the highest gust reported by county: 60 mph gust at Keyes (Cimarron County); 60 mph gust at Hooker (Texas County); and 58 mph at Beaver (Beaver County).

## TEXAS, North Panhandle

### (TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z010) HEMPHILL, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z016) DEAF SMITH, (TX-Z017) RANDALL, (TX-Z018) ARMSTRONG, (TX-Z020) COLLINGSWORTH

02/01/14 00:00 CST	0	Drought
02/28/14 23:59 CST	0	

The month of February was another dry month for the Texas Panhandle, with the most notable precipitation event being a band of early February snow that fell mostly in the southern Texas Panhandle. Short term precipitation deficits worsened especially in the eastern Panhandle, increasing the coverage of Severe drought in that area. Severe (D2) to Extreme (D3) Drought conditions continued in the western Texas Panhandle. A small area of Extreme (D4) Drought conditions remained in the central Texas Panhandle, with some improvement seen in this area after the February snowfall. Parts of the northeast Texas Panhandle remained below Severe (D2) Drought rating. Amarillo recorded 0.36 inches of precipitation for the month (0.20 inches below normal), Dalhart recorded 0.08 inches of precipitation (0.32 inches below normal), and Borger recorded 0.31 inches of precipitation (0.31 inches below normal).

Winter wheat struggled under the cold and dry weather pattern, with drought-stressed wheat facing temperatures that were 2 to 4 degrees cooler than normal. Soil moisture was rated mostly short to very short by month's end, and center pivots were being used to water some wheat. Stocker cattle placement was limited due to the poorly performing wheat planted for grazing, according to the Texas A&M Agrilife Program. The poor health of range and pasture land lead to concerns for blowing dust if strong winds occurred. Upper soil zones remained drier than normal in the Texas Panhandle but were driest across the eastern parts. Deeper soil zones ranged from less than 30 to around 50 percent of normal in the western Texas Panhandle, but values of 70 to 90 percent of normal were scattered across the eastern Texas Panhandle. The Palmer Drought Severity Index improved slightly to a rating of Moderate Drought conditions for the

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Texas Panhandle. Countywide burn bans were supported in most counties.

Stream flows across the majority of the Panhandle were at below normal to much below normal levels, causing Moderate to Severe Hydrologic Drought especially in the southern Texas Panhandle. The reservoirs of Palo Duro and Greenbelt Lake were below 5 percent and 15 percent capacity respectively, and Lake Meredith was at zero percent capacity. Water watches for several public water systems persisted through February while voluntary to mandatory mild water restrictions have been enacted.

Economic losses due to the drought through February were predominately the result of supplemental watering, winter wheat losses, reduction of cattle herd sizes, and supplemental feed for cattle on drought-thinned rangeland and pastures.

**(TX-Z020) COLLINGSWORTH**

02/02/14 01:00 CST	0	Winter Weather
02/02/14 05:00 CST	0	

A fast moving shortwave trough of low pressure brought enough lift to the southeastern Texas Panhandle during the overnight hours of the 2nd to produce light snow. As the lift provided from the upper low moved across the southern Texas Panhandle light snow was produced, but only a dusting was reported. As the lift reached the southeastern Texas Panhandle, the Collingsworth County Sheriff's office reported one to two inches of snow in Wellington (Collingsworth County). No vehicle accidents were reported in relation to this winter weather.

**(TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z004) OCHILTREE, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z008) HUTCHINSON, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z016) DEAF SMITH, (TX-Z017) RANDALL, (TX-Z018) ARMSTRONG, (TX-Z019) DONLEY, (TX-Z020) COLLINGSWORTH**

02/04/14 01:00 CST	0	Winter Weather
02/04/14 17:30 CST	0	

An embedded shortwave trough moved across northwest Texas on the 4th and placed the Texas Panhandle on the northwest portion of this weather system. This quadrant of a weather system is favorable for the development of snow bands which can cause localized enhanced snow production. Some such snow bands developed across the northeastern Texas Panhandle creating a gradient of 1 to 2 inches of snow across the southwestern Panhandle to 5 to 6 inches across the northeastern Panhandle. This snow caused numerous vehicle accidents with over 100 being reported in the Amarillo metro area alone, but no serious injuries were reported. The snow ended by the afternoon hours of the 4th as the upper level shortwave moved northeastward into central Oklahoma.

The following is a list of snow reports: 1 inch at Dalhart (Dallam and Hartley County), 1 inch at Stratford (Sherman County), 1.5 inches at Spearman (Hansford County), 5 inches at Perryton (Ochiltree County), 2 inches at Dumas (Moore County), 1 inch at Sanford (Hutchinson County); 3 inches at Miami (Roberts County); 5.5 inches at Canadian (Hemphill County); 2 inches at Panhandle (Carson County); 3.2 inches at Pampa (Gray County); 2 inches at Wheeler (Wheeler County); 3 inches at Claude (Armstrong County); 1.5 inches at Clarendon (Donley County); 3 inches at Wellington (Collingsworth County); 1.3 inches at Amarillo (Potter and Randall County); and 1.5 inches at Dawn (Deaf Smith County).

**(TX-Z005) LIPSCOMB**

02/04/14 01:00 CST	0	Winter Storm
02/04/14 17:30 CST	0	

An embedded shortwave trough moved across northwest Texas on the 4th and placed the Texas Panhandle on the northwest portion of this weather system. This quadrant of a weather system is favorable for the development of snow bands which can cause localized enhanced snow production. One such snow band developed over Lipscomb County and produced a storm total of 6 inches in Lipscomb (Lipscomb County). The snow ended by the afternoon hours of the 4th as the upper level shortwave moved northeastward into central Oklahoma.

**(TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z017) RANDALL**

02/05/14 04:00 CST	0	Cold/Wind Chill
02/06/14 08:00 CST	0	

An arctic cold front moved through the Texas Panhandle on the 4th. Overnight, the post frontal Arctic airmass settled into the Panhandle and dropped surface temperatures into the single digits. With sustained wind speeds of 25 to 30 mph, wind chill values plummeted into the minus 15 to minus 25 degree range by 4 AM CST on the 5th. These dangerous wind chill values persisted for nearly 30 hours before surface winds diminished during the morning hours of the 6th and allow wind chill values to rise above minus 10 degrees.

The following is the lowest wind chill value for each county: minus 18 degrees at Dalhart (Dallam and Hartley County); minus 21 degrees at Perryton (Ochiltree County); minus 20 degrees at Lipscomb (Lipscomb County); minus 20 degrees at Dumas (Moore County); minus 19 degrees at Amarillo (Potter and Randall County); minus 21 degrees at Pampa (Gray County); minus 20 degrees at Stratford (Sherman County); minus 20 degrees at Spearman (Hansford County); and minus 19 degrees at Panhandle (Carson County).

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(TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z008) HUTCHINSON, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z011) OLDDHAM, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z016) DEAF SMITH, (TX-Z017) RANDALL, (TX-Z018) ARMSTRONG, (TX-Z019) DONLEY, (TX-Z020) COLLINGSWORTH				
	02/05/14 10:00 CST		0	Winter Weather
	02/06/14 04:00 CST		0	

A weak upper level wave moved northeastward across southern New Mexico during the late morning hours of the 5th. This wave provided enough lift for a band of snow to develop across the southern Texas Panhandle. As the wave slowly moved across the Panhandles, the band of snow expanded northward to encompass the majority of the Texas Panhandle. The band of snow diminished during the early morning hour of the 6th as the wave moved east of the Panhandles after producing 1 to 5 inches of snow.

The following is a list of snow amounts by county: 2 inches at Gruver (Hansford County); 1.2 inches at Perryton (Ochiltree County); 2 inches at Darrouzett (Lipscomb County); 2.8 inches at Dumas (Moore County); 2 inches at Borger (Hutchinson County); 1.5 inches at Miami (Roberts County); 2.5 inches at Canadian (Hemphill County); 2.5 inches at Adrian (Oldham County); 5.0 inches at Amarillo (Potter and Randall County); 3 inches at Pantex (Carson County); 2.4 inches at Pampa (Gray County); 2 inches at Shamrock (Wheeler County); 4 inches at Wildorado (Deaf Smith County); 2 inches at Claude (Armstrong County); 3.5 inches at Clarendon (Donley County); 1.3 inches at Dalhart (Dallam and Hartley County); 1.5 inches at Wellington (Collingsworth County), and 1.5 inches at Texhoma (Sherman County).

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(TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z007) MOORE, (TX-Z008) HUTCHINSON, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z017) RANDALL, (TX-Z018) ARMSTRONG, (TX-Z019) DONLEY, (TX-Z020) COLLINGSWORTH				
	02/06/14 16:00 CST		0	Cold/Wind Chill
	02/07/14 10:00 CST		0	

Surface temperatures dropped into the single digits across most of the Texas Panhandle during the early evening hours of the 6th and persisted until the late morning hours of the 7th. These sub-freezing temperatures coupled with southerly winds of 15 to 20 mph to drop wind chill values into the minus 5 degrees to minus 12 degrees. These dangerous wind chill values improved during the late morning hours of the 7th as ambient temperatures warmed into the lower 20s. The following is a list of the lowest wind chill values per county: minus 8 degrees at Stratford (Sherman County); minus 10 degrees at Spearman (Hansford County); minus 12 at Perryton (Ochiltree County); minus 12 at Lipscomb (Lipscomb County); minus 7 degrees at Dumas (Moore County); minus 7 degrees at Borger (Hutchinson County); minus 10 degrees at Miami (Roberts County); minus 10 degrees at Canadian (Hemphill County); minus 8 degrees at Amarillo (Potter and Randall County); minus 9 degrees at Panhandle (Carson County); minus 12 degrees at Pampa (Gray County); minus 10 degrees at Shamrock (Wheeler County); minus 8 degrees at Claude (Armstrong County); minus 7 degrees at Clarendon (Donley County); and minus 6 degrees at Wellington (Collingsworth County).

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(TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z019) DONLEY, (TX-Z020) COLLINGSWORTH				
	02/08/14 02:30 CST		0	Freezing Fog
	02/08/14 10:00 CST		0	

The combination of light surface winds, clear skies, and sub-freezing temperatures led to the development of freezing fog across the eastern Texas Panhandle during the early morning hours of the 8th. Visibilities dropped below 3 miles at Pampa (Gray County), Wheeler (Wheeler County), Miami (Roberts County), and Canadian (Hemphill County). Visibilities dropped below a quarter of a mile at Clarendon (Donley County), Wellington (Collingsworth County), Perryton (Ochiltree County), and Lipscomb (Lipscomb County).

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(TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z008) HUTCHINSON, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z017) RANDALL, (TX-Z018) ARMSTRONG, (TX-Z019) DONLEY, (TX-Z020) COLLINGSWORTH				
	02/08/14 23:00 CST		0	Freezing Fog
	02/09/14 14:00 CST		0	

Freezing fog developed on the warm side of a stalled frontal boundary across western Oklahoma and southwestern Kansas during the late night hours of the 8th. As the stalled front began retreating westward during the early evening hours the freezing fog followed and spread across the Texas Panhandle. Visibilities dropped to less than a quarter mile with temperatures in the 20s. The freezing fog dissipated during the early evening hours of the 9th as low level mixing increased.

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(TX-Z008) HUTCHINSON, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z017) RANDALL				
	02/10/14 04:00 CST		0	Winter Weather
	02/10/14 14:00 CST		0	

A very rare weather phenomenon occurred during the day of the 10th and brought one to four inches of snow to the south central Texas Panhandle. A cold and saturated air mass was already in place, with freezing fog and light flurries ongoing. Steam being released from

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several local industrial power plants provided additional moisture and condensation nuclei which enhanced snowfall. Narrow bands of enhanced snow production produced 3 to 4 inches of snow across and south of the city of Borger (Hutchinson and Carson counties) and 1 to 2 inches across the city of Amarillo (Randall and Potter counties). The enhanced snowfall ended by the early afternoon as steam production at the power plants diminished.

**(TX-Z008) HUTCHINSON**

	02/18/14 13:50 CST	0	Wildfire
	02/18/14 20:00 CST	0	

The Turkey Track Wildfire began on February 18, 2014 in Hutchinson county on the Turkey Track Ranch around 1350CST about seventeen miles east northeast of Stinnett Texas. The large wildfire consumed an estimated six hundred acres which threatened four homes and ten other structures. However, no structures were damaged or lost. There were also no reports of injuries or fatalities but there was one near miss. The cause of the wildfire was determined to be from downed power lines. A total of thirteen fire departments and other fire agencies responded to the wildfire including the National Park Service, personnel from the Crutch Ranch and the Big Creek Ranch, a Texas Department of Public Safety helicopter, a privately owned helicopter which spotted for the fire fighters and a third helicopter which performed water drops along with crews from Spearman, Gruver, Skellytown, Stinnett, Fritch and Borger. The wildfire was contained around 2000CST.



*The Turkey Track Wildfire on February 18, 2014 courtesy of KAMR Channel 4.*

**(TX-Z007) MOORE**

	02/20/14 03:57 CST	0	High Wind (MAX 54 kt)
	02/20/14 04:38 CST	0	

A cold front moved through the Texas Panhandle during the early morning hours of the 20th. A strong pressure gradient behind the front caused several hours of sustained winds of 30 to 35 mph. However, mid-level winds aloft of 55 to 65 mph were able to mix to the surface to cause a 58 mph gust at Dumas (Moore County) and a 62 mph gust at Perryton (Ochiltree County). No further high wind gusts occurred after 6:40 AM CST due to the surface pressure gradient relaxing and the stronger winds aloft moving eastward.

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