

Storm Data and Unusual Weather Phenomena - December 2013

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

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

12/01/13 00:00 CST	0	Drought
12/31/13 23:59 CST	0	

The month of December was another dry month for most of the Oklahoma Panhandle, with most precipitation being observed late in the month in a single snowstorm that brought 4 to 6 inches of snow to the central Panhandle. This led to a general degradation of drought conditions across the Oklahoma Panhandle. Portions of Texas County in the central Oklahoma Panhandle remain in Extreme (D3) Drought rating, and the rest of the Panhandle is now at Severe (D2) Drought rating. Guymon recorded 0.31 inches of precipitation for the month (0.33 inches below normal).

Winter wheat was in need of moisture, with some dryland wheat dead or not planted in the driest areas. Upper soil zones remained drier than normal in most of the Oklahoma Panhandle, but moisture levels were near normal in areas having received snowfall during the month. Deeper soil zones ranged from less than 50 percent of normal in the driest areas to greater than 150 percent of normal mainly in the western and eastern Panhandle. The Palmer Drought Severity Index remained at a rating of Near Normal for the Oklahoma Panhandle. No countywide burn bans were in effect.

Reservoirs and stream flows across the majority of the Oklahoma Panhandle were at near normal levels.

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

(OK-Z001) CIMARRON

12/05/13 07:00 CST	0	Winter Weather
12/05/13 23:00 CST	0	

The western Oklahoma Panhandle experienced light snow from the morning through the late evening hours of the 5th. A series of weak mid-level troughs provided enough lift for moist air across the New Mexico Eastern Plains to overrun the cold dry airmass in place across the Southern Plains. Virga developed during the early morning hours of the 5th, but it wasn't until approximately 7 AM CST that the lowest layers of the atmosphere became saturated sufficiently for light snow to reach the ground. Light snow fell for several hours with brief lulls before precipitation ended across the western Oklahoma Panhandle. By the time the snow ended a total of 2 inches had fallen in and around the city of Boise City (Cimarron County). The snow was observed to be dry, and no vehicle accidents were reported in association to slick roadways because of the snow.

(OK-Z001) CIMARRON

12/07/13 02:30 CST	0	Cold/Wind Chill
12/07/13 09:30 CST	0	

A cold airmass over the Oklahoma Panhandle allowed temperatures to plummet into the single digits during the early morning hours of the 7th. The frigid ambient air temperature coupled with light surface winds around 10 mph to cause the wind chill in the city of Boise City (Cimarron County) to drop to minus eleven degrees Fahrenheit. This wind chill persisted through the early morning hours before the ambient air temperature warmed shortly after sunrise.

(OK-Z001) CIMARRON, (OK-Z002) TEXAS

12/21/13 10:00 CST	0	Winter Weather
12/21/13 19:00 CST	0	

A potent winter weather system brought widespread snow across the Oklahoma Panhandle on Dec 21st. A southward digging upper level trough dove into northern Mexico during the late night hours of the 20th. As the trough began to move northeastward out of Mexico and into Texas during the early morning hours of the 21st, light snow began to fall across the Oklahoma Panhandle. By the afternoon hours, the upper level trough progressed eastward sufficiently to remove the broad scale lift and brought an end to precipitation.

The following is a range of snow totals by each county: 2 to 4 inches across Texas County; and 1 to 3 inches across Cimarron County.

(OK-Z003) BEAVER

12/21/13 12:00 CST	0	Winter Storm
12/21/13 19:00 CST	0	

A potent winter weather system brought a swath of 6 to 7 inches of snow across Beaver County on the 21st. A southward digging upper level trough dove into northern Mexico during the late night hours of the 20th. As the trough began to move northeastward out of

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Mexico and into Texas, the eastern Oklahoma Panhandle was placed in the northwestern quadrant of the system. This quadrant is favorable for the development of snow bands which can produce swaths of higher totals. One such snow band developed and produced a swath of higher totals of 6 to 7 inches.

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

12/23/13 16:00 CST	0	Freezing Fog
12/24/13 10:00 CST	0	

The combination of light surface winds and ample near surface moisture from pre-existing accumulated snow lead to the formation of freezing fog during the evening hours of the 23rd into the morning hours of the 24th. Freezing fog affected both Texas and Beaver Counties of the Oklahoma Panhandle, and caused light ice accumulations on top of accumulated snow and elevated surfaces. Visibilities improved above 6 miles by the mid-morning hours of the 24th.

TEXAS, North Panhandle

(TX-Z001) DALLAM, (TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z011) OLDHAM, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z016) DEAF SMITH, (TX-Z018) ARMSTRONG

12/01/13 00:00 CST	0	Drought
12/31/13 23:59 CST	0	

The month of December was another dry month for most of the Texas Panhandle, with most precipitation being observed late in the month in a single snowstorm that brought 6 to 10 inches of snow to the northwest Texas Panhandle. This led to a general degradation of drought conditions across the Panhandle and an expansion of drought into areas which were drought-free after summer 2013. Exceptional (D4) Drought conditions returned to portions of the northwest Texas Panhandle while Extreme (D3) Drought conditions also expanded in that area. The remainder of the western half of the Texas Panhandle remains at Moderate (D1) to Severe (D2) Drought rating. The eastern half of the Texas Panhandle remains below Severe (D2) Drought rating, but most of the Abnormally Dry (D0) conditions there degraded to Moderate Drought by the end of December. Amarillo recorded 0.32 inches of precipitation for the month (0.39 inches below normal), Dalhart recorded 0.21 inches of precipitation (0.33 inches below normal), and Borger recorded 0.27 inches of precipitation (0.50 inches below normal).

Winter wheat was in need of moisture, but most winter wheat was in fair to good condition during the month according to reports received by the Texas A&M Agrilife Program. Upper soil zones remained drier than normal in most of the Texas Panhandle, but moisture levels were near normal in areas having received snowfall during the month. Deeper soil zones ranged from less than 30 to around 50 percent of normal in the western Texas Panhandle, but values of greater than 150 percent of normal were reported in the northeastern Texas Panhandle. The Palmer Drought Severity Index remained at a rating of Moderate Drought conditions for the Texas Panhandle. Countywide burn bans continue to be supported in Moore, Roberts, Hemphill, Randall, and Armstrong Counties.

Reservoirs and stream flows across the majority of the Panhandle were at near or below normal levels, causing Moderate to Severe Hydrologic Drought especially in the southern Texas Panhandle. The reservoirs of Palo Duro and Greenbelt Lake are both below 15 percent capacity, and Lake Meredith is at zero percent capacity. Water watches for several public water systems persisted through December while voluntary to mandatory mild water restrictions have been enacted.

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

(TX-Z001) DALLAM

12/05/13 07:00 CST	0	Winter Weather
12/05/13 23:00 CST	0	

The northwestern Texas Panhandle experienced light snow from the morning through the late evening hours of the 5th. A series of weak mid-level troughs provided enough lift for moist air across the New Mexico Eastern Plains to overrun the cold dry airmass in place across the Southern Plains. Virga developed during the early morning hours of the 5th, but it wasn't until approximately 7 AM CST that the lowest layers of the atmosphere became saturated sufficiently for light snow to reach the ground. Light snow fell for several hours with brief lulls before precipitation ended across the northwestern Texas Panhandle. By the time the snow ended a total of 2 inches had fallen in Texline (Dallam County). The snow was observed to be dry, and no vehicle accidents were reported in association to slick roadways because of the snow.

(TX-Z001) DALLAM, (TX-Z006) HARTLEY, (TX-Z007) MOORE, (TX-Z011) OLDHAM, (TX-Z016) DEAF SMITH

12/07/13 02:30 CST	0	Cold/Wind Chill
12/07/13 09:30 CST	0	

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A cold airmass over the Texas Panhandle allowed temperatures to plummet into the single digits during the early morning hours of the 7th. The frigid ambient air temperatures coupled with light surface winds around 10 mph to cause wind chill values to drop into the minus 5 to minus 12 degrees Fahrenheit range. The wind chills persisted through the early morning hours before ambient air temperatures began to warm shortly after sunrise.

The following is a list of wind chill values of less than minus 5 degrees Fahrenheit across the Texas Panhandle: Dalhart (Dallam and Hartley County) minus 9 degrees; Dumas (Moore County) minus 11 degrees; Adrian (Oldham County) minus 7 degrees; and Bootleg (Deaf Smith County) minus 7 degrees.

(TX-Z001) DALLAM, (TX-Z008) HUTCHINSON, (TX-Z009) ROBERTS, (TX-Z010) HEMPHILL, (TX-Z011) OLDHAM, (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				
	12/21/13 07:00 CST		0	Winter Weather
	12/21/13 21:00 CST		0	

A potent winter weather system brought widespread snow across the Texas Panhandle on Dec 21st. A southward digging upper level trough dove into northern Mexico during the late night hours of the 20th. As the trough began to move northeastward out of Mexico and into Texas during the early morning hours of the 21st, light freezing drizzle and snow began to fall across the Texas Panhandle. As the morning hours progressed, freezing rain transitioned to all snow across the Panhandle. By the afternoon hours, the upper level trough progressed eastward sufficiently to remove the broad scale lift and brought an end to precipitation.

The following is a range of snow totals by each county: 3 to 5 inches across Hutchinson County; 2 to 4 inches across Roberts County; 2 to 3 inches across Hemphill County; 2 to 4 inches across Carson County; 2 to 4 inches across Gray County; 1 to 2 inches across Wheeler County; 1 to 2 inches across Armstrong County; 1 to 2 inches across Donley County; 2 to 3 inches across Potter County; 1 to 2 inches across Randall County; 2 to 5 inches across Dallam County; and 3 to 5 inches across Oldham County.

(TX-Z002) SHERMAN, (TX-Z003) HANSFORD, (TX-Z004) OCHILTREE, (TX-Z005) LIPSCOMB, (TX-Z006) HARTLEY, (TX-Z007) MOORE				
	12/21/13 07:00 CST		0	Winter Storm
	12/21/13 21:00 CST		0	

A potent winter weather system brought widespread snow across the Texas Panhandle with a swath of higher localized totals ranging from 7 to 9 inches. A southward digging upper level trough dove into northern Mexico during the late night hours of the 20th. As the trough began to move northeastward out of Mexico and into Texas, the Texas Panhandle were placed in the northwestern quadrant of the system. This quadrant of the system is favorable for the development of snow bands which can produce swaths of higher totals. One such snow band developed and would go on to produce a swath of 6 to 9 inches across the northern Texas Panhandle. The snow caused roads to become snow packed and traveling became hazardous.

The following is a range of snow totals by each county: 6 to 8 inches across Hartley County; 6 to 7 inches across Hansford County; 6 to 7 inches across Ochilree County; 6 to 7 inches across Lipscomb County; 6 inches of snow in Sherman County; and 7 to 9 inches across Moore County.

(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) OLDHAM, (TX-Z012) POTTER, (TX-Z013) CARSON, (TX-Z014) GRAY, (TX-Z015) WHEELER, (TX-Z017) RANDALL, (TX-Z018) ARMSTRONG, (TX-Z019) DONLEY, (TX-Z020) COLLINGSWORTH				
	12/23/13 16:00 CST		0	Freezing Fog
	12/24/13 10:00 CST		0	

The combination of light surface winds and ample near surface moisture from pre-existing accumulated snow lead to the formation of freezing fog during the evening hours of the 23rd into the morning hours of the 24th. Freezing fog affected all of the Texas Panhandle except Deaf Smith County, and caused light ice accumulations on top of accumulated snow and elevated surfaces. Visibilities improved above 6 miles by the mid-morning hours of the 24th.