



Southwest Weather Bulletin

Autumn-Winter 2005-2006 Edition

National Weather Service El Paso/Santa Teresa

Record Hot Dry Spring and Early Summer Before Floods and Severe Thunderstorms Strike the Borderland

After an extremely wet winter across New Mexico and western Texas, a major change occurred in the weather pattern over the western United States during the spring of 2005. As result, high pressure in the upper levels of the atmosphere settled over the southern Rocky Mountains causing a prolonged period of record hot and mostly dry weather for much of the Southwest through the late spring and early summer.

However with the arrival of August deep southerly winds developed while a series of upper disturbances moved across the region. So despite a late beginning to the monsoon, New Mexico and western Texas experienced heavy rains and even flooding during the later portions of the summer.

Westerly winds and high pressure brought a return of hot dry weather later in September.



During the late afternoon and early evening of May 15, 2005, these thunderstorms produced small hail, 50 mph wind gusts and almost an inch of rain in less than 30 minutes over the west El Paso-Santa Teresa area.
(Photographed by Joe Rogash)

Seasonal Weather Highlights

May 5: Severe thunderstorms drop quarter-size hail around Sierra Blanca in west Texas.

May 15: Thunderstorms produce small hail and locally heavy rains around Hillsboro and Santa Teresa, N.M. and also over west El Paso, TX.
(continued on page 2)



National Weather Service El Paso/Santa Teresa

Meteorologist-In-Charge - Bill Alexander

Warning Coordination Meteorologist - John Fausett

Science Officer - Val Macblain

Newsletter Editor-Writer/Senior Forecaster - Joe Rogash



Weather Highlights Continued

May 20-24: Record hot weather scorches southern New Mexico and western Texas with high temperatures over 100 across much of the desert areas. Temperatures soared to 105 at El Paso on the 22nd and 23rd making these days the hottest ever recorded in May over the city. At least two people died from heat stress.

May 26: Heavy rains fall around Alamogordo flooding White Sands Boulevard and other streets in the city.

May 27: Late afternoon and evening thunderstorms deluge the Silver City vicinity with 2 to 3 inches of rain, causing small streams to flood over the area.

June 2005: Hot dry conditions affect much of southern New Mexico and western Texas for most of the month due to high pressure aloft persisting over the southwestern United States. High temperatures at El Paso reach at least 100 degrees on 13 days with a monthly high of 107 on the 30th. In New Mexico Deming hit the 100 degree mark on 11 days. In addition little or no rain falls over most of the deserts and lowlands causing drought conditions.

June 26: Dry thunderstorms produce strong winds and blowing dust from near Lordsburg west to the Arizona border. The low visibilities cause an 11-vehicle crash with multiple injuries along Interstate 10.

July 2005: The hot weather continues. High temperatures at El Paso climb to 100 degrees or higher on 18 days with 16 such days for Deming. Conditions also remain rather dry with most of the desert areas having rainfall amounts less than half of normal.

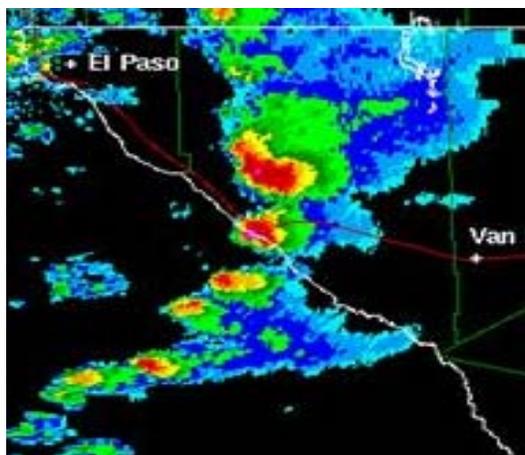
July 6: Severe thunderstorms produce quarter-sized hail and heavy rains around Weed in Otero County.

July 11: An isolated severe thunderstorm develops over El Paso producing almost 70 mph wind gusts with minor damage and numerous trees blown down.

July 16: Strong thunderstorms rumble across Grant and Sierra counties producing locally heavy rains and wind gusts near 50 mph.



The combination of a wet winter and a warm dry spring brought beautiful desert flowers this year. (Photographed by Charlotte Rogash)



Radar images show severe thunderstorms which dropped quarter-sized hail over the Sierra Blanca vicinity on May 5.

July 26: Strong to severe thunderstorms with heavy rains move across southern Otero, El Paso and Hudspeth counties during the evening hours. Up to 2 inches of rain fall over isolated portions of the area with two inches of hail accumulating near Montana Vista.

July 30: Late afternoon thunderstorms drop heavy rains across southern Dona Ana, El Paso and Hudspeth Counties. Major street flooding occurs from near Anthony N.M. to Canutillo TX. with numerous vehicles stranded. Floods also damage several homes and businesses in Canutillo. (Continued on page 3)



During the late morning and afternoon of Aug 12, slow moving thunderstorms deluge the El Paso area with almost 3 inches of rain in some locations. Flooding also occurs just south of the border (above) in Juarez. (Photographed by Mark Lambie/El Paso Times)

Weather Highlights Continued

Aug 4: Thunderstorms with heavy rains cause street flooding across much of El Paso.

Aug 9: Heavy rains flood several homes around Mountain Park and High Rolls in northeastern Otero County.

Aug 12. Slow moving late morning and early afternoon thunderstorms drop almost 3 inches of rain over portions of El Paso causing widespread street flooding and road closures.

Later in the afternoon strong thunderstorms flood much of Deming with the floodwaters damaging a number of homes. The heavy rains also collapse the roof of a funeral chapel.

Aug 13: Thunderstorms bring over 2 inches of rain to portions of Grant County with flooding reported around Santa Clara and Buckhorn.

Aug 14: Thunderstorms cause street flooding around Buckhorn with other storms dropping heavy rains across southern portions of Dona Ana and Otero counties.

Aug 18: Scattered strong thunderstorms move across much of the area with street flooding over eastern sections of Las Cruces.



During the early evening of Aug 11, thunderstorm winds pushed a wall of dust across the El Paso-Santa Teresa area. (Photographed by Joe Rogash)

Aug 23: Strong thunderstorms again rumble through scattered areas of New Mexico and western Texas. Heavy rains wash out roads around Hachita with small arroyos flooding near Silver City. Storms also knock out power and drop small hail in the Sierra Blanca area. (Continued on page 4)



On August 14 a thunderstorm produces a funnel cloud near Tyrone in Grant County.
(Photographed by Mike Jaworski)

Weather Highlights Continued

Aug 26: Cluster of strong to severe thunderstorms move through the borderland with nickel-sized hail and 60 mph winds reported over El Paso. Storms also produce torrential rainfalls with widespread street flooding across the city.

Aug 28: Late afternoon and early evening severe thunderstorms strike El Paso and Hudspeth counties in western Texas. Thunderstorms produce golf ball-sized hail and a small tornado around Cornudas with the hail smashing car windows. Quarter-sized hail also falls over Ft. Hancock.

Later in the evening, another thunderstorm complex produces a swath of 60 to 70 mph wind gusts from Las Cruces to El Paso blowing down trees and power lines and causing minor damage. A few streets were also flooded in Las Cruces.

Sep 4: Late afternoon thunderstorms cause street flooding over portions of El Paso including the downtown area. (Continued on page 5)

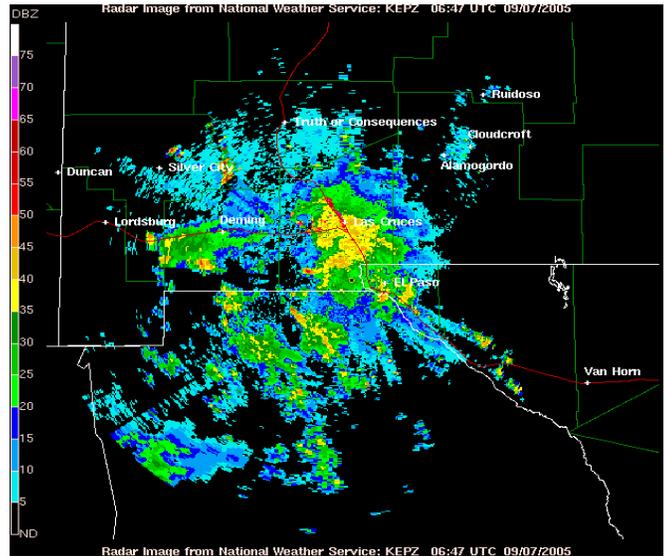


During the evening of Aug 28, thunderstorms produce wind gusts of almost 70 mph causing minor damage across Las Cruces.
(Photographed by Norm Dettlaff/Las Cruces Sun News)

Sep 6: A cluster of showers and thunderstorms becomes almost stationary over Dona Ana and El Paso counties during the evening dropping torrential rains across portions of the area. Heaviest rains occur over Las Cruces with 2 to 4 inches falling upon most of the city. The rains flooded homes and other buildings forcing some city residents to evacuate their neighborhoods. The flooding rains also cause numerous road closures with a number of drivers forced to abandoned their vehicles. Lightning strikes also knock out power around the area.

Further south, 1 to 2 inches of rain fall across portions of El Paso. Several drivers have to be rescued over eastern El Paso after their cars become stranded due to the flooded roads.

Sep 16-28: Hot weather returns with high temperatures in the 90s across the deserts. Santa Teresa reaches 98 degrees on both the 16th and the 26th. El Paso's high of 97 on the 26th ties a record.



Doppler weather radar shows the cluster of slow moving thunderstorms which brought torrential rains and flooding to Las Cruces and El Paso.

Spotters...Please call the National Weather Service If You Observe:

Tornado or Funnel Cloud...Report Time, Location and Movement

Hail...1/2 Inch or Larger

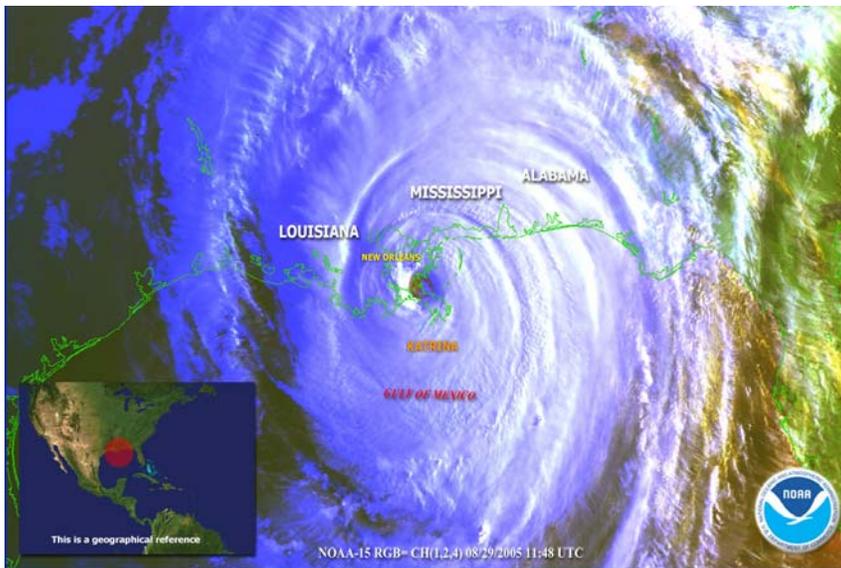
Damaging Winds...Damage To Buildings, Motor Vehicles, Trees, Power Lines And Other Structures

Flash Flooding...Flooding Of Streets and Buildings , Or If Rivers, Streams And Arroyos Flood Or Overflow

Heavy Rains...1/2 Inch of Rain In Less Than 30 Minutes Or At Least 1 Inch Of Rain In Less Than 2 Hours

Blowing Dust...Whenever Blowing Dust Reduces The Visibility To Less Than 2 Miles





NOAA visible satellite image of Hurricane Katrina making landfall just south of New Orleans at about 7 AM CDT Aug 29th 2005.

Hurricane Katrina Devastates Gulf Coast

About 1000 Evacuees Come to the El Paso Area

Hurricane Katrina became one of the most destructive storms on record after slamming into southern portions of Louisiana, Mississippi and Alabama Aug 29-30, 2005. Having sustained winds of 140 mph when it made landfall, the storm had a minimum pressure of 920 millibars , the third lowest reading on record.

As a result Katrina caused widespread devastation with the cities of New Orleans, Mobile and Gulfport suffering severe wind damage. However most of the deaths and much of the destruction would be caused by flooding. The high winds, torrential rainfalls and storm surge all combined to destroy portions of a levee protecting New Orleans from nearby Lake Pontchartrain, resulting in over 80 percent of the city being flooded. Storm surges of 20 to 30 feet also seriously flooded Biloxi and Gulfport Ms.

As of Sep 20, over 1000 people were reported dead from the storm with damage estimates at 200 billion dollars and thousands of people homeless.

An estimated 1000 storm evacuees were relocated to the El Paso and Las Cruces areas. Some of the newcomers indicated they were considering settling permanently in the region due to its warm dry climate and picturesque scenery.



New Orleans suffered widespread flooding (above) after a levee failure allowed water from Lake Pontchartrain to inundate most of the city. Massive rescue operations (left) were required as thousands were stranded. (Photographed by Liz Roll/FEMA)



**Snow covers Mount Sierra Blanca in southern New Mexico
(photographed by Greg Lundeen)**

Winter Weather Over the Borderland

While it is true western Texas and southern New Mexico are popular for their warm, sunny and dry climate, major snowstorms can occur throughout the region from late autumn through early spring. For example, from December 13-14, 1987, **TWO FEET** of snow fell over El Paso, virtually paralyzing the city for two days. Another major storm struck the area from April 4-7, 1983, when 17 inches of snow fell around El Paso with almost a foot of snow at White Sands Missile Range.

Although heavy snow is otherwise infrequent across the deserts and lower elevations, it is relatively common over the mountains, especially at elevations above 7000 feet. This is due to the atmosphere's tendency to cool around 4 degrees F for every thousand feet of elevation.

In addition, when air flows over the mountains it is lifted, a process which causes cooling and the release of water vapor in the form of snow or ice. Thus Cloudcroft, N.M., which is almost 9000 feet above sea level, receives an average of 84 inches of snow a year, more than Burlington, Vermont or Duluth, Minnesota. It is therefore important to remember that blizzard conditions may exist over the mountains even though it may be mild and dry over the lowlands.

In addition to snow, the region occasionally experiences ice storms or sleet. This occurs when rain forms in warmer air aloft but then falls through colder air near the ground. While not as common as snow or rain, ice or sleet can be especially dangerous since they create very hazardous driving conditions due to extremely slippery roads.

Winter Weather Safety

1. Before traveling or beginning other outdoor activities **ALWAYS** obtain the latest weather forecasts from NOAA Weather Radio or local television and radio stations.
2. Avoid driving or hiking in areas of heavier snow or ice and sleet.
3. When traveling or hiking **ALWAYS** bring along warm clothing including heavy jackets, gloves and boots. During the cold season, winter storms can strike suddenly and temperatures can fall rapidly, especially over the mountains.
4. When heavy snow or ice storms are forecasted, have available such items as extra food and water, first aid and medical supplies, flashlights and extra batteries, and a battery powered radio for emergency information.

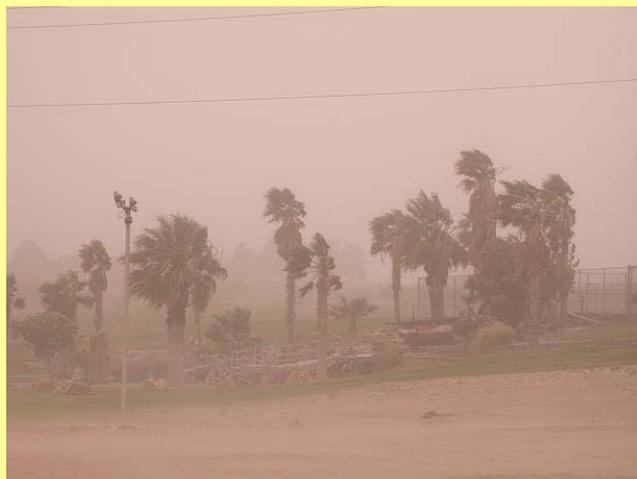
Wind and Dust Storms Across the Southwest

During the late autumn, winter and especially the early spring, large-scale dust storms occasionally blow through southern New Mexico and western Texas. In the more severe events, winds gust over 50 mph blowing dense clouds of dust and sand into the air with visibilities less than 50 feet in some areas. The clouds of dust are lifted thousands of feet above the ground so that even the sun is obscured as the sky turns an eerie yellowish brown. Due to the low visibilities and high winds, driving becomes very hazardous with collisions and even multiple-vehicle pile-ups causing injury and in some instances death. The blowing dust is also a serious health danger making breathing difficult for people with chronic lung ailments such as asthma or bronchitis. In more extreme cases, wind gusts exceeding 70 mph will seriously damage buildings and overturn higher-profile vehicles such as tractor-trailers.

Major wind and dust storms which affect most of the region are the result of weather disturbances known as **LEE CYCLONES**. The lee cyclone is actually a surface low pressure system which develops over the eastern plains of Colorado, eastern New Mexico or the Texas panhandle. During high wind events, a strong upper-level trough will move across northern Arizona and New Mexico while the lee cyclone strengthens at the surface to the east of the Rockies, generating strong winds which may extend from eastern Colorado to southern New Mexico and western Texas.

While lee cyclones are causing dust and wind storms over the Borderland, they are often associated with destructive weather further east. By pulling warm moist unstable air from the Gulf or Mexico northward, the resultant circulations and air mass collisions attendant with lee cyclones can produce flash floods, hail and even violent tornadoes across western and central Texas, Oklahoma and Kansas.

From late autumn through spring but particularly during the months of March and April, area residents should stay alert for weather forecasts which include high winds and blowing dust. If wind and dust storms are forecasted, people traveling should be prepared for dangerous driving conditions and low visibilities. Remember during strong winds, blowing dust and sand are especially severe along portions of Interstate 10 between El Paso and Las Cruces and also from



On April 16, 2003, a strong lee cyclone produced wind gusts over 60 mph with widespread blowing dust across southern New Mexico and far western Texas including the Santa Teresa (above) and El Paso areas. (Photographed by Charlotte Rogash)



Strong thunderstorm winds produced this locally intense dust storm near Columbus New Mexico. (Photographed by Len Zgonina)

near Deming west to Lordsburg. When visibilities are reduced, persons should drive well below normal speed limits or even pull off to the side of the road until conditions improve.

Dust storms are also possible during the late spring and summer months. Under certain conditions, dry thunderstorms develop which produce little rainfall but very strong winds. Under these conditions, blowing dust will occur over localized areas. They can be very dangerous however since wind and dust storms produced by thunderstorms can happen very suddenly with little or no warning.