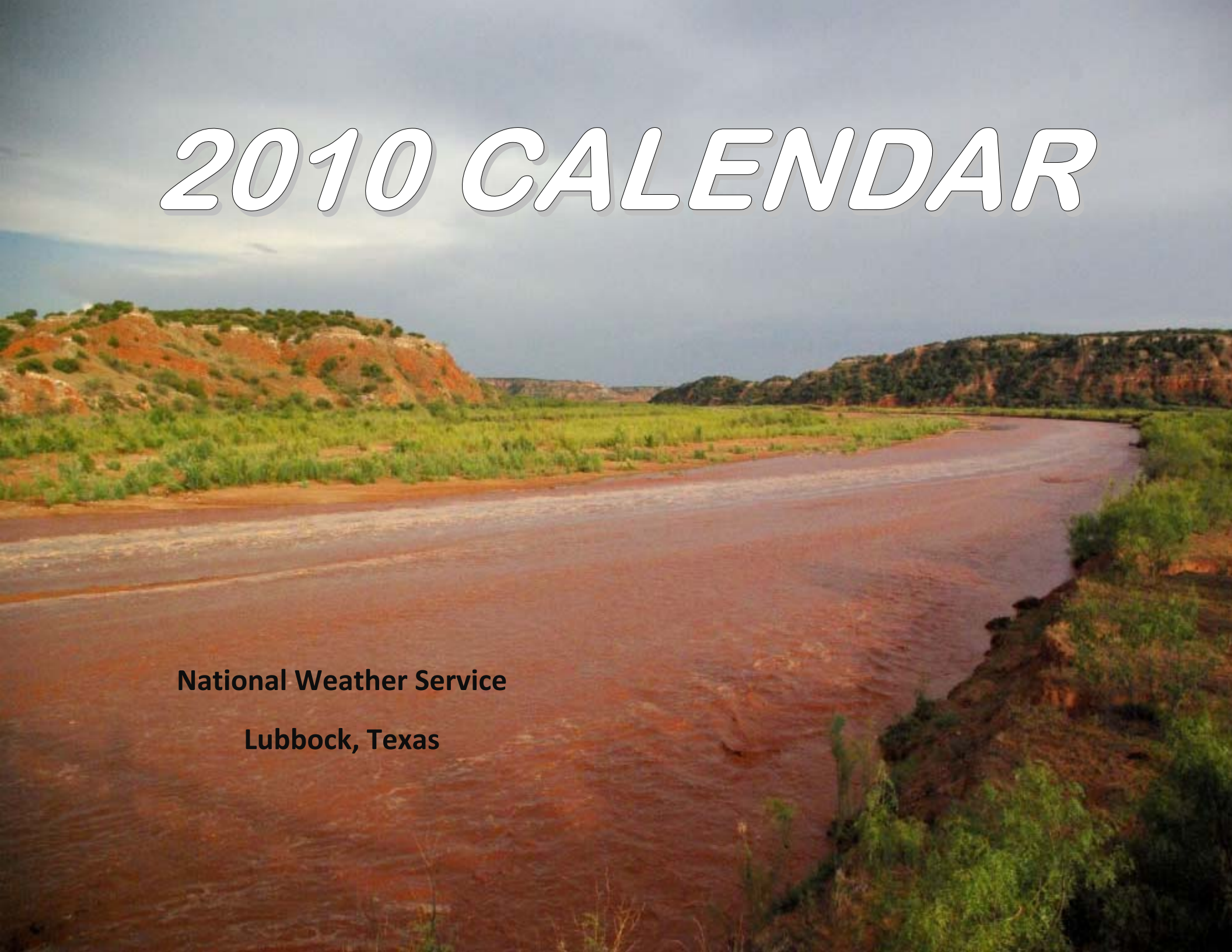
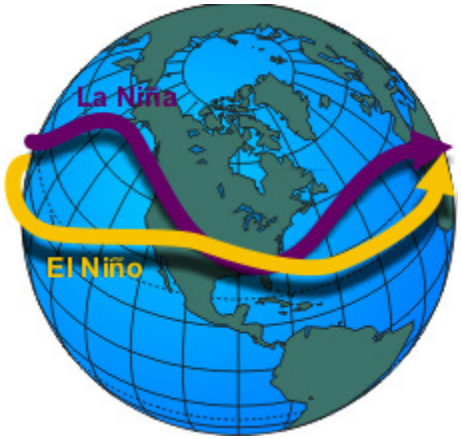
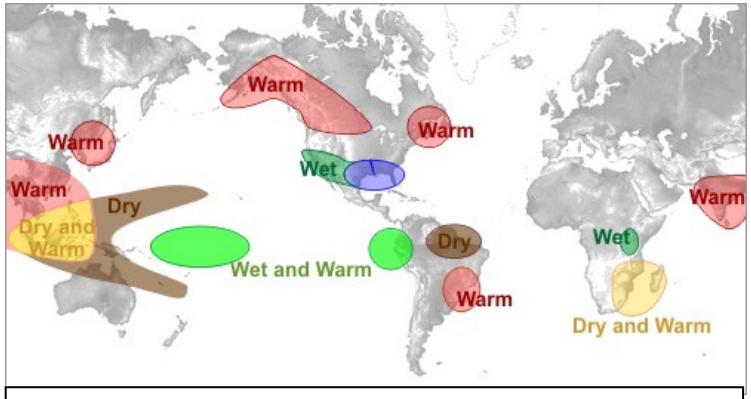

2010 CALENDAR
National Weather Service
Lubbock, Texas



Average jet stream position during El Niño and La Niña.

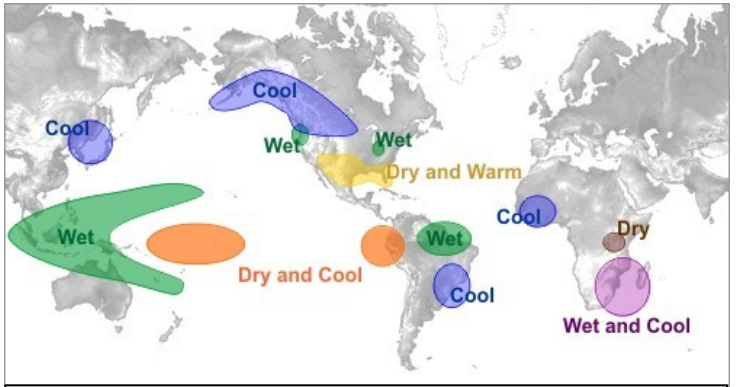
El Niño and La Niña are determined by the position of the warm water along the equator as it shifts back and forth across the Pacific Ocean. The warmest water is also located where the greatest evaporation of water into the atmosphere occurs. This has a profound effect on the average position of the jet stream which, in turn, affects the storm track.

During El Niño, the warmest water along the equator shifts eastward. This causes the jet stream's position to dip in the Eastern Pacific. The stronger the El Niño, the farther east in the Eastern Pacific the dip in the jet stream occurs. Conversely, during La Niña, the warmest water shifts westward. This shift causes the dip in the jet stream to shift west of its normal position toward the Central Pacific. The shift in the jet stream and storm track can have dramatic effects on temperature and precipitation patterns around the world. The South Plains region experiences the greatest impact during the winter months. A strong El Niño is generally associated with wetter and cooler conditions, while a La Niña is generally associated with a drier and warmer winter. Below are the average long term impacts for El Niño and La Niña episodes.

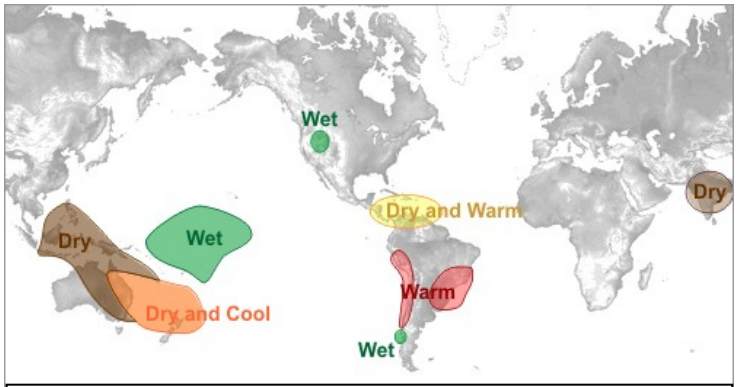


Average El Niño Impact (December-February)

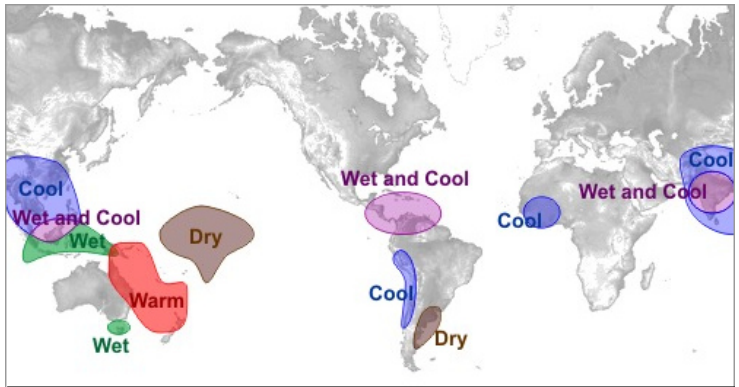
El Niño and La Niña



Average La Niña Impact (December-February)



Average El Niño Impact (June-August)



Average La Niña Impact (June-August)

Lubbock National Weather Service

January 2010

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500			1 Normals: 51 / 24 0.02 76-1997 / -2-1919 Lubbock Records sr 752 am - sunrise ss 551 pm - sunset New Years Day	2 51 / 24 0.02 77-2009 / -2-1979 sr 752 am ss 551 pm
3 51 / 24 0.02 83-2006 / -2-1947 sr 752 am ss 552 pm	4 51 / 24 0.02 76-1918 / -9-1947 sr 752 am ss 553 pm	5 51 / 24 0.02 82-1927 / -4-1971 sr 752 am ss 554 pm	6 51 / 24 0.02 79-1927 / 0-1971 sr 753 am ss 554 pm	7 51 / 24 0.02 80-2006 / 6-1968 sr 753 am ss 555 pm Last Quarter	8 51 / 24 0.01 82-1969 / 3-1967 sr 753 am ss 556 pm	9 51 / 24 0.01 79-2002 / 2-1920 sr 753 am ss 557 pm
10 51 / 24 0.01 76-1928 / -10-1930 sr 753 am ss 558 pm	11 51 / 24 0.01 75-2006 / -7-1918 sr 752 am ss 559 pm	12 51 / 24 0.01 77-1953 / -10-1918 sr 752 am ss 600 pm	13 51 / 24 0.01 79-1957 / -16-1963 sr 752 am ss 601 pm	14 51 / 24 0.01 82-1928 / 3-1963 sr 752 am ss 602 pm	15 52/ 24 0.01 77-1999 / 4-1963 sr 752 am ss 602 pm New Moon	16 52/ 24 0.01 80-1974 / 6-1930 sr 752 am ss 603 pm
17 52/ 24 0.01 87-1914 / -2-1930 sr 751 am ss 604 pm	18 52/ 24 0.01 79-1914 / -5-1930 sr 751 am ss 605 pm Martin Luther King Jr. Day (Observed)	19 52/ 24 0.01 80-2000 / 0-1963 sr 751 am ss 606 pm	20 52/ 24 0.02 78-1986 / 7-1940 sr 750 am ss 607 pm	21 52/ 24 0.02 81-1950 / -4-1918 sr 750 am ss 608 pm	22 52/ 25 0.02 79-2009 / -6-1918 sr 749 am ss 609 pm	23 52/ 25 0.02 83-1972/ 3-1983 sr 749 am ss 610 pm First Quarter
24 53/ 25 0.02 83-1970 /-1-1915 sr 749 am ss 611 pm	25 53/ 25 0.02 79-1952 / 7-1940 sr 748 am ss 612 pm	26 53/ 25 0.02 78-1975 / 7-1966 sr 747 am ss 613 pm	27 53/ 25 0.02 78-1970 / 5-1925 sr 747 am ss 614 pm	28 53/ 25 0.02 80-2003 / 8-1948 sr 746 am ss 615 pm	29 54/ 25 0.02 79-1927 / 1-1948 sr 746 am ss 616 pm	30 54/ 26 0.02 80-1967 / 6-1951 sr 745 am ss 617 pm Full Moon
31 54/ 26 0.02 77-1963 / 2-1985 sr 744 am ss 618 pm						

NWS Cooperative Observer Program (COOP)

Lubbock NWS COOP observer Travis Smith received the 45-year Length of Service Award from Lubbock Meteorologist-In-Charge (MIC) Justin Weaver.

Lubbock NWS COOP observer Johnnie Wilson received a 45-year Length of Service Award from Lubbock MIC Justin Weaver.

What is the COOP Program?

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the nation's weather and climate observing network of, by, and for the people. The COOP was formally created in 1890 under the Organic Act. More than 11,000 volunteers take observations on farms, in urban and suburban areas, in National Parks, on seashores, and on mountain tops. The data are representative the places people live, work and play.

The NWS Lubbock COOP program has about 40 observers that collect valuable meteorological data every day. These data are widely used by surrounding NWS offices, River Forecast Centers at Tulsa, OK, and Ft. Worth, TX, and the National Climatic Data Center (NCDC).

National Weather Service Lubbock would like to express their sincere appreciation to the many COOP observers who provide these important services.

Lubbock NWS COOP observer Joe Davis and the staff of KLSR radio received the Honored Institution Award for 25 years of service from Lubbock MIC Justin Weaver.

Lubbock NWS COOP observer Emil Macha received the 30-year Length of Service Award from Lubbock MIC Justin Weaver.

Lubbock NWS COOP observer Doug McDonough received a Special Recognition Award from Lubbock MIC Justin Weaver.

Lubbock National Weather Service

February 2010

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Normals: 54 / 26 0.02 83-1963 / -7-1951 Lubbock Records sr 744 am - sunrise ss 619 pm - sunset	**2** 54 / 26 0.02 80-2003 / -4-1951 sr 743 am ss 620 pm Groundhog Day	**3** 55 / 26 0.02 80-1934 / 4-1972 sr 742 am ss 621 pm	**4** 55 / 27 0.02 82-1925 / 3-1989 sr 741 am ss 622 pm	**5** 55 / 27 0.02 81-1937 / 3-1982 sr 741 am ss 623 pm Last Quarter	**6** 55 / 27 0.02 80-2009 / 4-1956 sr 740 am ss 624 pm
7 56 / 27 0.02 84-1918 / -3-1933 sr 739 am ss 625 pm	**8** 56 / 27 0.02 83-1951 / -17-1933 (all-time) sr 738 am ss 626 pm	**9** 56 / 28 0.02 83-1976 / 0-1933 sr 737 am ss 626 pm	**10** 57 / 28 0.02 84-1962 / 1-1929 sr 736 am ss 627 pm	**11** 57 / 28 0.03 85-1962 / 6-1981 sr 735 am ss 628 pm	**12** 57 / 28 0.03 86-1962 / 9-1958 sr 735 am ss 629 pm	**13** 57 / 29 0.03 81-1979 / 7-1963 sr 734 am ss 630 pm New Moon
14 58 / 29 0.03 87-1979 / 12-2004 sr 733 am ss 631 pm St. Valentine's Day	**15** 58 / 29 0.03 83-1945 / 8-1951 sr 732 am ss 632 pm Presidents' Day	**16** 58 / 29 0.03 79-1959 / 13-1979 sr 731 am ss 633 pm	**17** 58 / 29 0.03 85-1970 / 0-1978 sr 730 am ss 634 pm Ash Wednesday	**18** 59 / 30 0.03 83-1996 / -2-1978 sr 728 am ss 635 pm	**19** 59 / 30 0.03 83-1986 / 2-1978 sr 727 am ss 636 pm	**20** 59 / 30 0.03 82-1996 / 4-1918 sr 726 am ss 637 pm
21 60 / 30 0.03 84-1996 / 6-1964 sr 725 am ss 637 pm First Quarter	**22** 60 / 31 0.03 87-1996 / 13-1971 sr 724 am ss 638 pm	**23** 60 / 31 0.03 85-2009 / 9-1914 sr 723 am ss 639 pm	**24** 60 / 31 0.03 89-1918 / 1-1960 sr 722 am ss 640 pm	**25** 61 / 31 0.03 86-1989 / -8-1960 sr 721 am ss 641 pm	**26** 61 / 31 0.02 85-1918 / 8-1935 sr 719 am ss 642 pm	**27** 61 / 32 0.02 81-2006 / 10-1934 sr 718 am ss 643 pm
28 62 / 32 0.02 89-2006 / 7-1960 sr 717 am ss 643 pm Full Moon		NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500				

Severe Weather Awareness Week

If you can hear thunder, you are within striking distance. Seek safe shelter immediately. When Thunder Roars, Go Indoors! If caught outside without a sturdy building nearby, seek shelter in a hard topped metal vehicle.

Severe Thunderstorms

Starting on January 5, 2010, severe thunderstorm warnings will be issued for hail of **1”** in diameter or greater (formerly ¾”). The minimum criterion for severe thunderstorm **winds** will remain the same at **58 mph**.

30-yr national average weather-related deaths:

- Flooding: 99 deaths
- Lightning: 62 deaths
- Tornadoes: 54 deaths
- Hurricanes: 49 deaths

Except for heat-related fatalities, more deaths occur from flooding than any other weather hazard. Why? Most people fail to realize the power of water. Six inches of fast-moving flood water can knock you off your feet, and two feet can carry most cars, trucks, and SUVs away.

When approaching a flooded roadway, it is better to be safe than sorry.

Turn Around, Don’t Drown!

Lubbock National Weather Service

March 2010

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Normals: 62 / 32 0.03 89-2006 / 5-1922 Lubbock Records sr 716 am - sunrise ss 644 pm – sunset	**2** 62 / 32 0.03 86-1974 / -2-1922 sr 715 am ss 645 pm	**3** 62 / 33 0.02 88-2009 / 7-1943 sr 713 am ss 646 pm	**4** 63 / 33 0.02 89-2009 / -1-1917 sr 712 am ss 647 pm	**5** 63 / 33 0.02 90-1916 / 11-1989 sr 711 am ss 647 pm	**6** 63 / 33 0.02 87-1934 / 10-1943 sr 710 am ss 648 pm
7 64 / 34 0.02 88-2006 / 11-1996 sr 708 am ss 649 pm Last Quarter	**8** 64 / 34 0.02 87-1918 / 12-1967 sr 707 am ss 650 pm	**9** 64 / 34 0.02 83-1993 / 13-1969 sr 706 am ss 651 pm	**10** 64 / 35 0.02 86-1989 / 4-1948 sr 704 am ss 651 pm	**11** 65 / 35 0.02 95-1989 / 2-1948 sr 703 am ss 652 pm	**12** 65 / 35 0.02 94-1989 / 10-1948 sr 702 am ss 653 pm	**13** 65 / 35 0.02 91-1916 / 12-1950 sr 701 am ss 654 pm
14 66 / 36 0.02 86-1972 / 13-1954 sr 759 am ss 755 pm Daylight Saving Time begins	**15** 66 / 36 0.02 86-1966 / 17-1947 sr 758 am ss 755 pm New Moon	**16** 66 / 36 0.02 87-1966 / 16-1923 sr 757 am ss 756 pm	**17** 67 / 36 0.02 89-1989 / 18-1970 sr 755 am ss 757 pm St. Patrick's Day	**18** 67 / 37 0.02 88-1916 / 11-1923 sr 754 am ss 758 pm	**19** 67 / 37 0.02 87-1995 / 11-1923 sr 753 am ss 758 pm	**20** 67 / 37 0.03 90-1916 / 8-1965 sr 751 am ss 759 pm Spring Equinox (12:32 pm)
21 68 / 38 0.03 93-1997 / 17-1983 sr 750 am ss 800 pm	**22** 68 / 38 0.03 86-1935 / 18-1952 sr 749 am ss 801 pm	**23** 68 / 38 0.03 84-2009 / 13-1952 sr 747 am ss 801 pm First Quarter	**24** 69 / 38 0.03 88-1929 / 22-1965 sr 746 am ss 802 pm	**25** 69 / 39 0.03 90-1998 / 20-1996 sr 744 am ss 803 pm	**26** 69 / 39 0.03 88-1956 / 16-1965 sr 743 am ss 804 pm	**27** 69 / 39 0.03 94-1971 / 12-1931 sr 742 am ss 804 pm
28 70 / 40 0.03 90-1963 / 16-1931 sr 740 am ss 805 pm	**29** 70 / 40 0.03 89-1967 / 18-1944 sr 739 am ss 806 pm Full Moon	**30** 70 / 40 0.03 90-1946 / 16-1987 sr 738 am ss 807 pm	**31** 70 / 40 0.03 95-1946 / 19-1931 sr 736 am ss 807 pm	NATIONAL WEATHER SERVICE		NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500

Flood Safety Awareness Week

Number of "observed" tornadoes - 1950 to 2009

Parmer Total 48 F3+ 3	*Castro* Total 54 F3+ 1	*Swisher* Total 66 F3+ 5	*Briscoe* Total 42 F3+ 3	*Hall* Total 44 F3+ 2	*Childress* Total 25 F3+ 0
Bailey Total 49 F3+ 2	*Lamb* Total 82 F3+ 7	*Hale* Total 122 F3+ 3	*Floyd* Total 52 F3+ 3	*Motley* Total 20 F3+ 2	*Cottle* Total 23 F3+ 1
Cochran Total 28 F3+ 1	*Hockley* Total 57 F3+ 6	*Lubbock* Total 90 F3+ 3 F5 1	*Crosby* Total 51 F3+ 2	*Dickens* Total 31 F3+ 1	*King* Total 19 F3+ 0
Yoakum Total 25 F3+ 0	*Terry* Total 31 F3+ 0	*Lynn* Total 40 F3+ 1	*Garza* Total 19 F3+ 0	*Kent* Total 22 F3+ 0	*Stonewall* Total 22 F3+ 0

April 2010

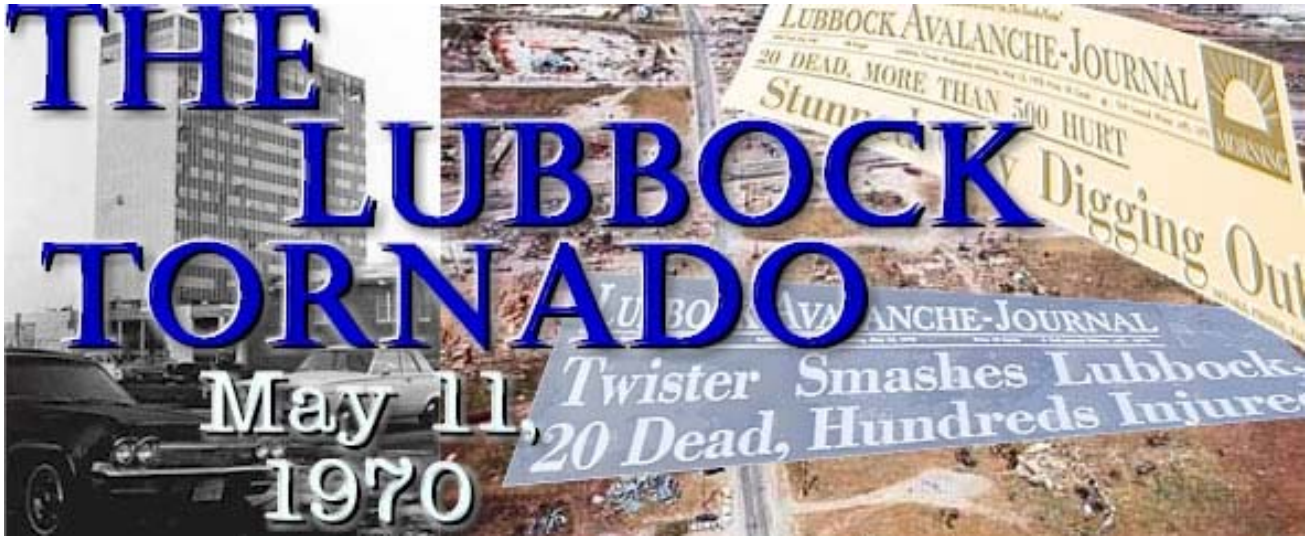
Lubbock National Weather Service

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500			Normals: 71 / 41 0.03 **1** 96-1946 / 22-1948 Lubbock Records sr 735 am - sunrise ss 808 pm - sunset April Fool's Day	71 / 41 0.03 **2** 90-2003 / 20-1936 sr 734 am ss 809 pm	71 / 41 0.03 **3** 90-1950 / 26-1975 sr 732 am ss 810 pm
72 / 42 0.03 **4** 92-1928 / 18-1920 sr 731 am ss 810 pm Easter	72 / 42 0.03 **5** 92-2006 / 21-1917 sr 730 am ss 811 pm	72 / 42 0.03 **6** 96-1972 / 21-1936 sr 728 am ss 812 pm Last Quarter	72 / 43 0.04 **7** 93-1930 / 21-1936 sr 727 am ss 812 pm	73 / 43 0.04 **8** 91-1930 / 23-1938 sr 726 am ss 813 pm	73 / 43 0.04 **9** 94-1939 / 23-1973 sr 725 am ss 814 pm	73 / 44 0.04 **10** 93-1972 / 26-1952 sr 723 am ss 815 pm
73 / 44 0.04 **11** 94-1972 / 25-1932 sr 722 am ss 815 pm	74 / 44 0.04 **12** 96-1972 / 22-1997 sr 721 am ss 816 pm	74 / 45 0.04 **13** 91-2006 / 26-1957 sr 720 am ss 817 pm	74 / 45 0.04 **14** 93-2006 / 27-1933 sr 718 am ss 818 pm New Moon	75 / 45 0.04 **15** 92-2006 / 25-1928 sr 717 am ss 818 pm	75 / 45 0.04 **16** 100-1925 / 31-1947 sr 716 am ss 819 pm	75 / 46 0.04 **17** 94-2006 / 23-1921 sr 715 am ss 820 pm
75 / 46 0.05 **18** 96-1987 / 29-1953 sr 713 am ss 821 pm	76 / 46 0.05 **19** 92-2001 / 31-1922 sr 712 am ss 821 pm	76 / 47 0.05 **20** 93-1925 / 30-1933 sr 711 am sr 822 pm	76 / 47 0.05 **21** 98-1989 / 28-1918 sr 710 am ss 823 pm First Quarter	76 / 47 0.05 **22** 100-1989 / 29-1927 sr 709 am ss 824 pm Earth Day	77 / 48 0.05 **23** 97-1989 / 30-1928 sr 708 am ss 824 pm	77 / 48 0.05 **24** 95-1996 / 30-1968 sr 706 am ss 825 pm
77 / 49 0.05 **25** 96-1959 / 35-1927 sr 705 am ss 826 pm	78 / 49 0.05 **26** 96-1943 / 29-1947 sr 704 am ss 827 pm	78 / 49 0.05 **27** 97-1996 / 27-1920 sr 703 am ss 828 pm Full Moon	78 / 50 0.05 **28** 94-1992 / 35-1994 sr 702 am ss 828 pm	78 / 50 0.06 **29** 96-1928 / 31-1968 sr 701 am ss 829 pm	79 / 50 0.06 **30** 93-2008 / 33-1918 sr 700 am ss 830 pm	NATIONAL WEATHER SERVICE

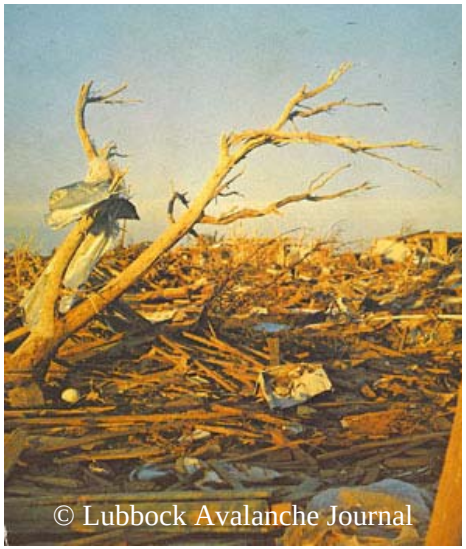
What Happened?

On May 11th, 1970, the Lubbock landscape was forever altered by a devastating tornado. The second of two tornadoes that hit the city that night touched down around 9:30 in the evening southwest of downtown. The tornado moved northeast, destroying buildings, airplanes and taking human lives until it dissipated around the Lubbock Municipal Airport shortly after 10:00 pm.



What Did the Tornado Do?

The tornado killed 26 people and injured more than 1500 along its 8.5 mile long track, and covered about 15 square miles. The tornado caused extensive damage to the northeast side of Lubbock and resulted in approximately 250 million dollars worth of damage (in 1970 dollars), equivalent to about 1.39 billion now.



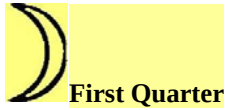
Interesting Facts:

- The tornado was initially 1 1/2 miles wide, but narrowed to about 1/4 mile wide when it reached the airport
- 10,000 automobiles were damaged or destroyed
- 119 aircraft were demolished at the airport
- 600 apartment units were demolished**,** 250 businesses damaged or destroyed, and 8,800 family units were damaged (430 which were destroyed)
- In downtown Lubbock, an estimated 80% of all plate glass windows were smashed
- 3.25 inches of precipitation (rain and hail) fell at the airport that night, with baseball- to grapefruit-sized hail falling in some locations around Lubbock
- The tornado was rated an F5 on the old Fujita Tornado Damage Scale - the highest a tornado can be rated.
- No known photographs were taken of the tornado, which is attributed to the fact that the storm occurred after the sun had set
- Dr. Theodore "Ted" Fujita determined that all but one of the deaths occurred along the path of suction spots. These suction spots, which result in localized areas of increased damage, are created when smaller-scale vortices develop and rotate around the larger parent tornado.

Lubbock National Weather Service

May 2010

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500			Normals: 79 / 51 0.06 **1** 96-1992 / 32-1970 Lubbock Records sr 659 am - sunrise ss 831 pm – sunset
2 79 / 51 0.06 97-1943 / 30-1967 sr 658 am ss 831 pm	**3** 79 / 51 0.06 98-1996 / 30-1918 sr 657 am ss 832 pm	**4** 80 / 52 0.06 104-1947 / 35-1935 sr 656 am ss 833 pm	**5** 80 / 52 0.06 99-1940 / 34-1953 sr 655 am ss 834 pm Cinco De Mayo	**6** 80 / 52 0.06 99-2000 / 32-1917 sr 654 am ss 834 pm  Last Quarter	**7** 80 / 53 0.06 100-2009 / 29-1917 sr 653 am ss 835 pm	**8** 81 / 53 0.06 102-1989 / 31-1938 sr 652 am ss 836 pm
9 81 / 53 0.07 97-1996 / 38-1961 sr 652 am ss 837 pm Mother's Day	**10** 81 / 54 0.07 99-2000 / 33-1918 sr 651 am ss 837 pm	**11** 81 / 54 0.07 101-2000 / 37-1930 sr 650 am ss 838 pm 40th Anniversary of the Lubbock Tornado	**12** 82 / 54 0.07 98-1962 / 35-1960 sr 649 am ss 839 pm	**13** 82 / 55 0.07 100-2006 / 37-1971 sr 648 am ss 840 pm  New Moon	**14** 82 / 55 0.07 100-1996 / 35-1953 sr 648 am ss 840 pm	**15** 83 / 55 0.07 103-1996 / 34-1967 sr 647 am ss 841 pm
16 83 / 56 0.07 102-1996 / 37-1945 sr 646 am ss 842 pm	**17** 83 / 56 0.08 101-1996 / 41-1986 sr 646 am ss 843 pm	**18** 83 / 56 0.08 103-2003 / 42-1916 sr 645 am ss 843 pm	**19** 84 / 57 0.08 105-1996 / 42-1971 sr 644 am ss 844 pm	**20** 84 / 57 0.08 102-2006 / 40-1931 sr 644 am ss 845 pm  First Quarter	**21** 84 / 57 0.08 101-1989 / 39-1967 sr 643 am ss 845 pm	**22** 84 / 58 0.08 105-1996 / 40-1931 sr 643 am ss 846 pm
23 85 / 58 0.08 105-2000 / 45-1917 sr 642 am ss 847 pm **30** 87 / 60 0.09 103-1998 / 45-1983 sr 639 am ss 851 pm	**24** 85 / 58 0.08 109-2000 / 40-1930 sr 642 am ss 848 pm **31** 87 / 60 0.09 102-1916 / 43-1983 sr 639 am ss 852 pm Memorial Day	**25** 85 / 59 0.09 101-1953 / 44-1924 sr 641 am ss 848 pm	**26** 85 / 59 0.09 101-1945 / 43-1950 sr 641 am ss 849 pm	**27** 86 / 59 0.09 103-1984 / 48-1961 sr 640 am ss 827 pm  Full Moon	**28** 86 / 59 0.09 102-1974 / 43-1917 sr 640 am ss 850 pm	**29** 86 / 60 0.09 104-1938 / 38-1947 sr 639 am ss 851 pm

Wild Weather of 2009

April 16th

The Tulia area was hit particularly hard by extremely heavy rain and hail. Above is a picture of fallen hail and a disabled truck in the Tulia area. The rain and hail forced portions of I-27 to be closed for many hours. Another storm brought large hail to parts of Lubbock. Additionally, several tornadoes were observed around the region.

April 29th

Severe thunderstorms producing several tornadoes and copious amounts of large hail affected portions of the northeast South Plains into the Rolling Plains. The above picture is of a tornado that touched down near Cedar Hill in northeast Floyd County.

June 13th

This was an active weather day, but one especially intense thunderstorm produced large hail, severe straight-line winds, funnel clouds and a tornado as it moved through portions of King, Stonewall, and Haskell Counties. The above picture shows this severe storm just before it hit Aspermont. The storm produced a wind gust of 100 mph at the West Texas Mesonet Station located 3 miles northeast of Aspermont.

July 29th

Several clusters of severe thunderstorms raked across the region. Many storms created wind gusts between 50-70 mph. One particularly intense storm produced a wind gust of 102 mph at the Childress airport. The violent winds caused damage in and around Childress, and destroyed the metal building pictured to the right.

June 2010

Lubbock National Weather Service

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500		Normals: 87 / 61 0.10 **1** 107-1998 / 45-1964 Lubbock Records sr 638 am - sunrise ss 853 pm - sunset Beginning of the Atlantic Hurricane Season	87 / 61 0.10 **2** 107-1998 / 39-1917 sr 638 am ss 853 pm	88 / 61 0.10 **3** 104-1998 / 43-1919 sr 638 am ss 854 pm	88 / 61 0.10 **4** 101-2008 / 47-1970 sr 638 am ss 854 pm Last Quarter	88 / 62 0.10 **5** 106-1990 / 45-1928 sr 637 am ss 855 pm
88 / 62 0.10 **6** 107-1990 / 45-1917 sr 637 am ss 855 pm	89 / 62 0.10 **7** 103-1994 / 45-1915 sr 637 am ss 856 pm	89 / 63 0.10 **8** 106-1981 / 43-1915 sr 637 am ss 856 pm	89 / 63 0.10 **9** 107-1981 / 50-1955 sr 637 am ss 857 pm	89 / 63 0.10 **10** 105-1917 / 47-1955 sr 637 am ss 857 pm	90 / 63 0.10 **11** 105-2008 / 50-1955 sr 637 am ss 858 pm	90 / 64 0.10 **12** 105-2001 / 53-1951 sr 637 am ss 858 pm New Moon
90 / 64 0.11 **13** 105-1931 / 52-1945 sr 637 am ss 858 pm	90 / 64 0.11 **14** 106-1939 / 44-1947 sr 637 am ss 859 pm Flag Day	90 / 64 0.10 **15** 109-1939 / 49-1927 sr 637 am ss 859 pm	90 / 64 0.10 **16** 108-1924 / 49-1981 sr 637 am ss 859 pm	91 / 65 0.10 **17** 107-1924 / 53-1999 sr 637 am ss 900 pm	91 / 65 0.10 **18** 107-1924 / 47-1945 sr 637 am ss 900 pm	91 / 65 0.10 **19** 106-1998 / 52-1945 sr 637 am ss 900 pm First Quarter
91 / 65 0.10 **20** 108-1935 / 49-1973 sr 638 am ss 901 pm Father's Day	91 / 65 0.10 **21** 107-1981 / 54-1973 sr 638 am ss 901 pm Summer Solstice (6:28 am)	91 / 66 0.10 **22** 106-1978 / 50-1927 sr 638 am ss 901 pm	91 / 66 0.10 **23** 107-1980 / 56-1964 sr 638 am ss 901 pm	91 / 66 0.10 **24** 110-1990 / 56-1957 sr 639 am ss 901 pm	91 / 66 0.10 **25** 108-1994 / 54-1940 sr 639 am ss 901 pm	91 / 66 0.10 **26** 111-1994 / 53-1958 sr 639 am ss 901 pm Full Moon
92 / 66 0.09 **27** 114-1994 / 56-1958 (all-time) sr 640 am ss 902 pm	92 / 66 0.09 **28** 108-1980 / 56-1946 sr 640 am ss 902 pm	92 / 67 0.09 **29** 107-1957 / 57-1948 sr 640 am ss 902 pm	92 / 67 0.09 **30** 106-1957 / 57-1940 sr 641 am ss 902 pm			

Lightning Safety Awareness Week

The HEAT is ON!

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

Heat Index Chart

Safety under the Sun

Summer brings the promise of toasty weather, outdoor activities, and plenty of fun in the sun. However, the warm weather also brings the risk of heat-related illnesses, including:

- Sunburn
- Heat Cramps
- Heat Exhaustion
- Heat Stroke (or sunstroke)

To minimize the risk of heat-related illnesses:

- Slow down
  - Reduce strenuous activities or save them for the coolest time of day
- Dress for summer
  - Lightweight, light-colored clothes
- Eat lighter meals
- Drink plenty of water
- Do not drink alcoholic beverages
- Spend more time in air-conditioning
- Don't get too much sun

The **heat index**, which represents the temperature perceived by the body, not only depends on the actual temperature but also on the relative humidity. Extremely humid conditions will inhibit evaporation and the body's ability to cool, thus making it feel warmer. As the above chart shows, **all heat is not created the same**. For example, a temperature of 100ºF and a relative humidity of 40% results in a heat index of 109ºF, whereas the same temperature will feel like 129ºF if the relative humidity is raised to 60%. Thankfully, even as the temperature soars over West Texas, typically the relative humidity will remain quite low. Thus, oftentimes the heat index will be below the ambient temperature.

July 2010

Lubbock National Weather Service

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500				Normals: 91 / 67 0.09 **1** 105-1994 / 56-1924 Lubbock Records sr 641 am - sunrise ss 902 pm - sunset	92 / 67 0.08 **2** 106-1989 / 56-1944 sr 642 am ss 902 pm	92 / 67 0.08 **3** 108-1983 / 54-1929 sr 642 am ss 901 pm
92 / 67 0.08 **4** 105-1987 / 56-1924 sr 642 am ss 901 pm Independence Day Last Quarter	92 / 67 0.08 **5** 104-1971 / 49-1915 sr 643 am ss 901 pm	92 / 67 0.08 **6** 105-1994 / 53-1946 sr 643 am ss 901 pm	92 / 67 0.08 **7** 103-1998 / 51-1952 sr 644 am ss 901 pm	92 / 67 0.07 **8** 106-2009 / 51-1952 sr 644 am ss 901 pm	92 / 67 0.07 **9** 107-2009 / 56-1952 sr 645 am ss 900 pm	92 / 68 0.07 **10** 109-1940 / 58-1968 sr 646 am ss 900 pm
92 / 68 0.07 **11** 104-1970 / 57-1999 sr 646 am ss 900 pm New Moon	92 / 68 0.07 **12** 105-1933 / 57-1999 sr 647 am ss 859 pm	92 / 68 0.07 **13** 107-1933 / 54-1953 sr 647 am ss 859 pm	92 / 68 0.07 **14** 108-1933 / 55-1990 sr 648 am ss 859 pm	92 / 68 0.07 **15** 105-2001 / 58-1926 sr 648 am ss 858 pm	92 / 68 0.07 **16** 105-2001 / 58-1935 sr 649 am ss 858 pm	92 / 68 0.07 **17** 105-1989 / 59-1930 sr 650 am ss 857 pm
92 / 68 0.06 **18** 103-1978 / 60-1935 sr 650 am ss 857 pm First Quarter	92 / 68 0.06 **19** 108-1936 / 55-1947 sr 651 am ss 856 pm	92 / 68 0.06 **20** 105-1936/ 59-1971 sr 652 am ss 856 pm	92 / 68 0.06 **21** 102-1966 / 57-1988 sr 652 am ss 855 pm	92 / 68 0.06 **22** 104-2003 / 55-1915 sr 653 am ss 855 pm	92 / 68 0.06 **23** 104-2001 / 54-1915 sr 654 am ss 854 pm	92 / 68 0.06 **24** 104-1958 / 57-1915 sr 654 am ss 853 pm Full Moon
92 / 68 0.06 **25** 104-1940 / 59-1956 sr 655 am ss 853 pm	92 / 68 0.06 **26** 105-1995 / 58-1959 sr 656 am ss 852 pm	92 / 68 0.06 **27** 106-1995 / 57-1933 sr 656 am ss 851 pm	92 / 68 0.06 **28** 105-1995 / 54-2005 sr 657 am ss 851 pm	92 / 68 0.06 **29** 102-1948 / 60-2004 sr 658 am ss 850 pm	91 / 68 0.07 **30** 104-1946 / 60-2000 sr 658 am ss 849 pm	91 / 68 0.07 **31** 104-1934 / 56-1971 sr 659 am ss 848 pm

The Tropics

Average Atlantic Hurricane Season	
Named Storms	11
Hurricanes	6
Major Hurricanes (Category 3 or higher)	2

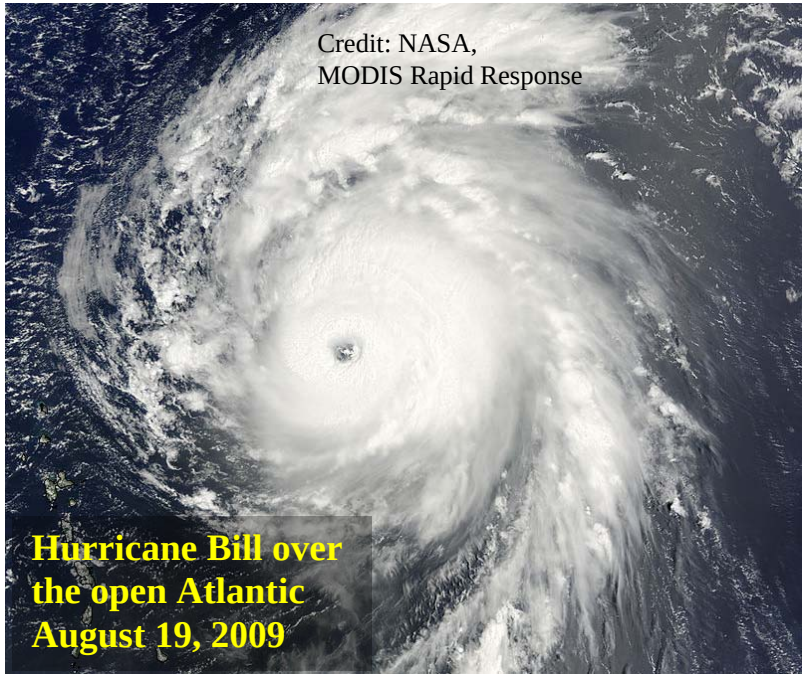
2010 Atlantic Names

Alex	Karl
Bonnie	Lisa
Colin	Matthew
Danielle	Nicole
Earl	Otto
Fiona	Paula
Gaston	Richard
Hermine	Shary
Igor	Tomas
Julia	Virginie
Karl	Walter

2009 was a Quiet Year for Texas

The 2009 Atlantic hurricane season was slightly below average, having produced 9 named storms and 3 hurricanes (2 of which become major). None of these storms directly impacted Texas. Only 2 made landfall in the United States, both as tropical storms. Bill was the strongest of the cyclones, becoming a major category 4 storm in mid-August.

Saffir-Simpson Scale	
Type	**Maximum Wind Speeds (mph)**
Tropical Depression	< 39
Tropical Storm	39 - 73
Category 1 Hurricane	74 - 95
Category 2 Hurricane	96 -110
Category 3 Hurricane	111 - 130
Category 4 Hurricane	131 -155
Category 5 Hurricane	156 +



How are Tropical Systems Powered?

The warm tropical waters provide the fuel for the engine that drives tropical systems. Specifically, ocean waters of at least 80°F through a sufficient depth are needed. Although this is an absolute requirement for a tropical system to develop and persist, it by no means guarantees that a tropical storm or hurricane will develop. In addition to having the warm water available, many other factors are needed, including:

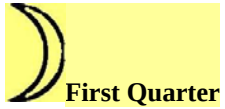
-an atmosphere which cools quickly with height
-relatively moist layers well above ground level
-a distance of at least 300 miles from the equator
-a pre-existing weather disturbance
-low values of vertical wind shear

Even having all the above conditions does not ensure a tropical system will develop, but it does increase the likelihood.

August 2010

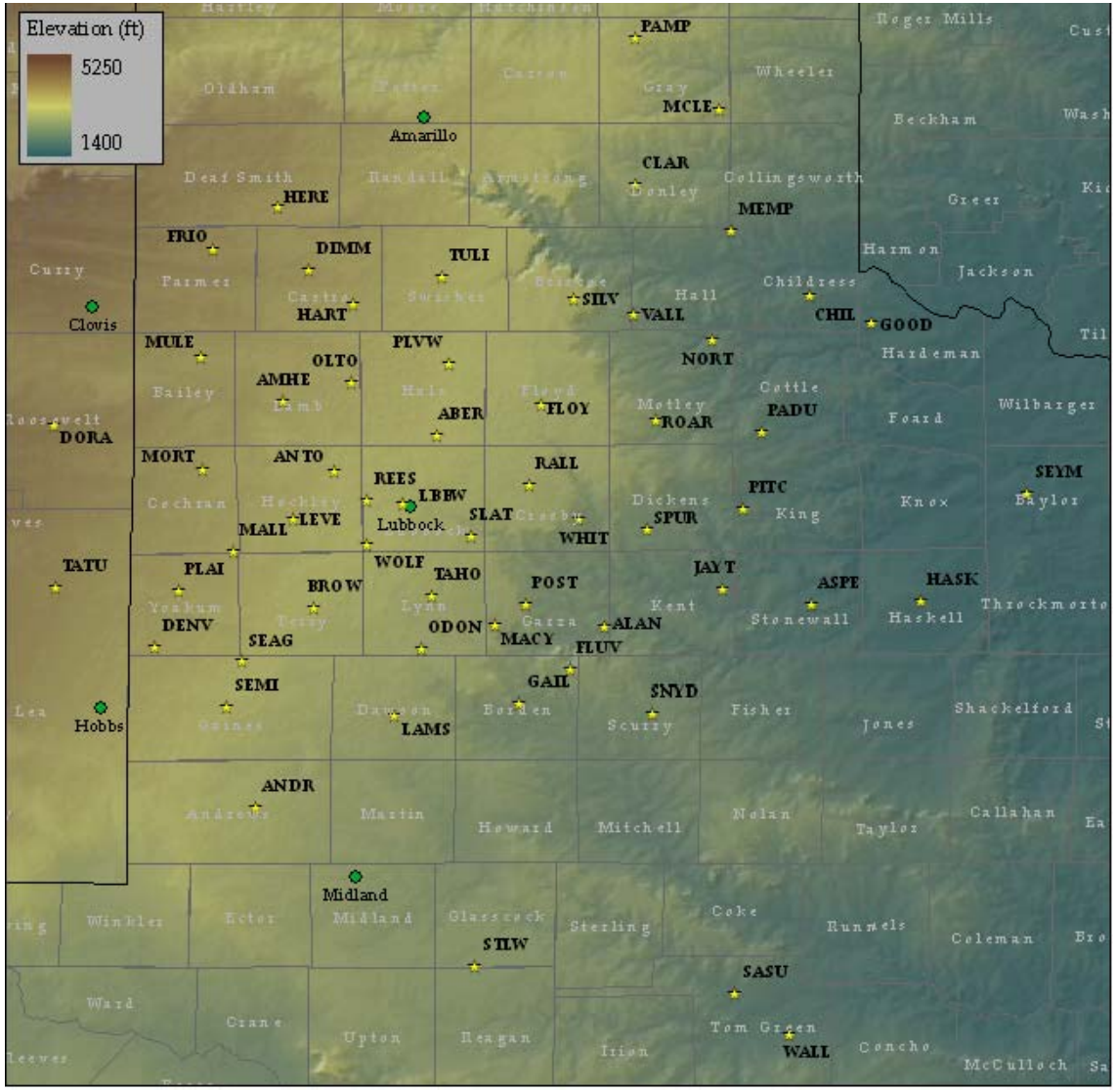
Lubbock National Weather Service

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 Normals: 92 / 68 0.07 106-1966 / 55-1925 Lubbock Records sr 700 am - sunrise ss 847 pm – sunset	**2** 92 / 68 0.07 105-1943 / 54-1936 sr 701 am ss 846 pm	**3** 92 / 68 0.07 107-1944 / 56-1921 sr 701 am ss 846 pm  Last Quarter	**4** 92 / 68 0.07 105-2003 / 57-1915 sr 702 am ss 845 pm	**5** 91 / 68 0.07 102-2003 / 57-1915 sr 703 am ss 844 pm	**6** 91 / 67 0.07 102-2003 / 57-1990 sr 703 am ss 843 pm	**7** 91 / 67 0.07 104-2003 / 58-1971 sr 704 am ss 842 pm
8 91 / 67 0.07 105-2003 / 58-1990 sr 705 am ss 841 pm	**9** 91 / 67 0.07 101-1970 / 51-1946 sr 706 am ss 840 pm  New Moon	**10** 91 / 67 0.07 103-1935 / 55-1915 sr 706 am ss 839 pm	**11** 91 / 67 0.07 103-1936 / 56-1931 sr 707 am ss 838 pm	**12** 91 / 67 0.07 107-1936 / 54-1979 sr 708 am ss 837 pm	**13** 91 / 67 0.07 107-1936 / 54-1920 sr 708 am ss 836 pm Perseids Meteor Shower (Aug 12-14)	**14** 91 / 67 0.07 103-1946 / 53-1920 sr 709 am ss 835 pm
15 90 / 66 0.08 103-1982 / 56-1920 sr 710 am ss 834 pm	**16** 90 / 66 0.08 104-1943 / 55-1931 sr 710 am ss 832 pm  First Quarter	**17** 90 / 66 0.08 103-1978 / 56-1931 sr 711 am ss 831 pm	**18** 90 / 66 0.08 103-1994 / 55-1943 sr 712 am ss 830 pm	**19** 90 / 66 0.08 103-1994 / 58-1950 sr 713 am ss 829 pm	**20** 90 / 66 0.08 103-1943 / 54-1915 sr 713 am ss 828 pm	**21** 89 / 65 0.08 103-1930 / 52-1956 sr 714 am ss 827 pm
22 89 / 65 0.08 100-1999 / 58-1967 sr 715 am ss 825 pm	**23** 89 / 65 0.08 101-1985 / 54-1923 sr 715 am ss 824 pm	**24** 89 / 65 0.08 101-1936 / 51-1916 sr 716 am ss 823 pm  Full Moon	**25** 89 / 65 0.08 105-1936 / 54-1962 sr 717 am ss 822 pm	**26** 88 / 64 0.08 102-1922 / 53-1962 sr 717 am ss 821 pm	**27** 88 / 64 0.08 100-1931 / 53-1926 sr 718 am ss 819 pm	**28** 88 / 64 0.08 100-1943 / 54-1916 sr 719 am ss 818 pm
29 88 / 64 0.08 99-1943 / 54-1917 sr 719 am ss 817 pm	**30** 88 / 63 0.09 101-1943 / 44-1915 sr 720 am ss 815 pm	**31** 87 / 63 0.09 100-1930 / 43-1915 sr 721 am ss 814 pm		NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500		

West Texas Mesonet

(http://www.mesonet.ttu.edu/)



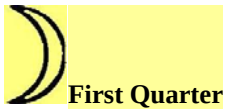
These two pictures show West Texas Mesonet observation stations.

The West Texas Mesonet project was initiated in 1999 to provide **free real-time** weather and agricultural information for residents of the South Plains of West Texas. Over the years, the project has expanded to include observation towers well beyond the South Plains, including two sites in eastern New Mexico. To the left is a map of the 57 mesonet stations (yellow stars) around the region. Temperature, moisture, wind, pressure, solar radiation, and precipitation data are available at all sites, with soil data available at most sites.

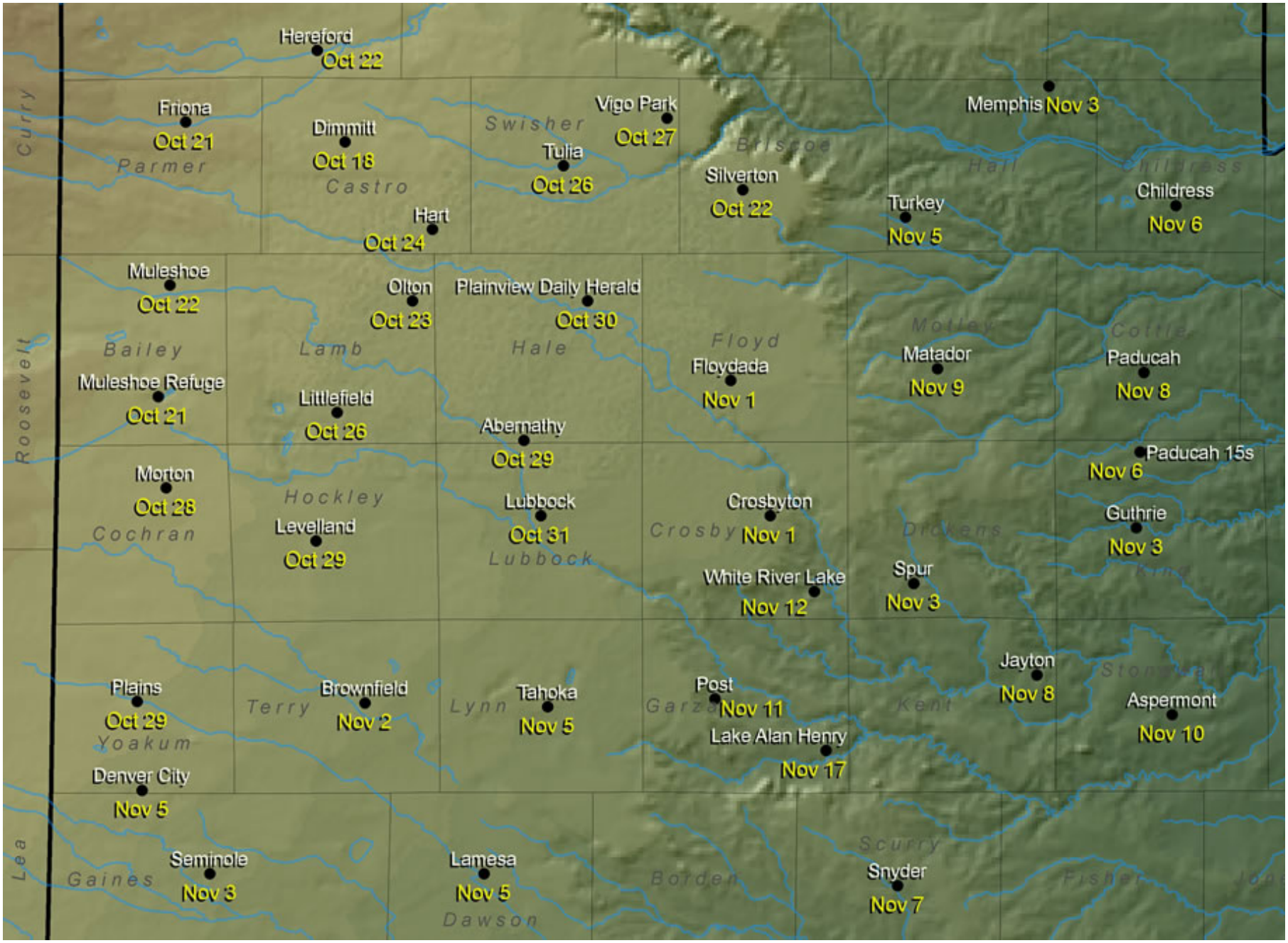
September 2010

Lubbock National Weather Service

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			Normals: 87 / 63 0.09 **1** 99-1951 / 43-1915 Lubbock Records sr 721 am - sunrise ss 813 pm – sunset  Last Quarter	**2** 87 / 63 0.09 101-1947 / 50-1955 sr 722 am ss 811 pm	**3** 87 / 62 0.09 101-2000 / 48-1974 sr 723 am ss 810 pm	**4** 86 / 62 0.09 101-2000 / 46-1915 sr 724 am ss 809 pm
5 86 / 62 0.09 102-2000 / 46-1961 sr 724 am ss 807 pm	**6** 86 / 61 0.09 103-1948 / 51-1918 sr 725 am ss 806 pm Labor Day	**7** 86 / 61 0.09 98-2000 / 45-1918 sr 726 am ss 805 pm	**8** 85 / 61 0.09 97-1985 / 47-2004 sr 726 am ss 803 pm  New Moon	**9** 85 / 61 0.09 99-1984 / 47-1956 sr 727 am ss 802 pm	**10** 85 / 60 0.09 100-2000 / 47-1962 sr 728 am ss 801 pm	**11** 85 / 60 0.09 103-2000 / 47-1959 sr 728 am ss 759 pm
12 84 / 60 0.09 100-1930 / 44-1959 sr 729 am ss 758 pm	**13** 84 / 59 0.09 101-1930 / 43-1959 sr 730 am ss 757 pm	**14** 84 / 59 0.09 100-1965 / 42-1945 sr 730 am ss 755 pm	**15** 84 / 59 0.09 99-1965 / 42-1993 sr 731 am ss 754 pm  First Quarter	**16** 83 / 58 0.09 100-1965 / 42-1951 sr 732 am ss 752 pm	**17** 83 / 58 0.09 98-2005 / 42-1951 sr 732 am ss 751 pm	**18** 83 / 58 0.09 98-1997 / 43-1971 sr 733 am ss 750 pm
19 82 / 57 0.08 105-1930 / 42-1991 sr 734 am ss 748 pm	**20** 82 / 57 0.08 98-1977 / 41-1991 sr 734 am ss 747 pm	**21** 82 / 57 0.08 98-1998 / 33-1983 sr 735 am ss 746 pm	**22** 82 / 56 0.08 98-1977 / 40-1995 sr 736 am ss 744 pm Autumnal Equinox (10:09 pm)	**23** 81 / 56 0.08 98-1926 / 41-2009 sr 736 am ss 743 pm  Full Moon	**24** 81 / 56 0.08 97-1953 / 38-1989 sr 737 am ss 741 pm	**25** 81 / 55 0.08 100-2005 / 36-2000 sr 738 am ss 740 pm
26 81 / 55 0.08 99-1997 / 36-1926 sr 738 am ss 739 pm	**27** 80 / 55 0.08 100-1953 / 39-1942 sr 739 am ss 737 pm	**28** 80 / 54 0.08 98-1994 / 36-1918 sr 740 am ss 736 pm	**29** 80 / 54 0.08 97-1977 / 33-1916 sr 740 am ss 735 pm	**30** 80 / 53 0.07 99-1977 / 35-1985 sr 741 am ss 733 pm  Last Quarter		NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500

Average First Freeze Dates



October 2010

Lubbock National Weather Service

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500		Normals: 79 / 53 0.07 **1** 98-2000 / 39-1985 Lubbock Records sr 742 am - sunrise ss 732 pm - sunset	79 / 53 0.07 **2** 99-2000 / 40-2009 sr 743 am ss 730 pm
79 / 52 0.07 **3** 100-2000 / 35-1961 sr 743 am ss 729 pm	79 / 52 0.07 **4** 96-2000 / 41-1961 sr 744 am ss 728 pm	78 / 51 0.07 **5** 97-1934 / 33-1932 sr 745 am ss 726 pm	78 / 51 0.07 **6** 94-1939 / 34-2001 sr 745 am ss 725 pm	78 / 51 0.07 **7** 98-1979 / 31-1952 sr 746 am ss 724 pm New Moon	77 / 50 0.07 **8** 98-1979 / 31-1976 sr 747 am ss 723 pm	77 / 50 0.06 **9** 93-1965 / 29-1970 sr 748 am ss 721 pm
77 / 50 0.06 **10** 93-1965 / 37-2009 sr 748 am ss 720 pm	77 / 49 0.06 **11** 93-1979 / 34-2009 sr 749 am ss 719 pm Columbus Day	76 / 49 0.06 **12** 92-1989 / 33-1969 sr 750 am ss 717 pm	76 / 48 0.06 **13** 92-1992 / 28-1969 sr 751 am ss 716 pm	75 / 48 0.06 **14** 93-2009 / 31-1969 sr 751 am ss 715 pm First Quarter	75 / 47 0.06 **15** 92-1965 / 31-1966 sr 752 am ss 714 pm	75 / 47 0.05 **16** 92-2003 / 30-2001 sr 753 am ss 713 pm
74 / 47 0.05 **17** 93-1988 / 32-1999 sr 754 am ss 711 pm	74 / 46 0.05 **18** 90-2001 / 32-1968 sr 755 am ss 710 pm	74 / 46 0.05 **19** 92-1940 / 24-1917 sr 755 am ss 709 pm	73 / 45 0.05 **20** 92-2007 / 25-1916 sr 756 am ss 708 pm	73 / 45 0.05 **21** 90-2003 / 26-1917 sr 757 am ss 707 pm	72 / 45 0.05 **22** 89-1961 / 28-1945 sr 758 am ss 706 pm Full Moon	72 / 44 0.05 **23** 91-2003 / 22-1917 sr 759 am ss 704 pm
71 / 44 0.04 **24** 91-1933 / 26-1929 sr 800 am ss 703 pm 68 / 41 0.04 **31** 88-1934 / 20-1991 sr 806 am ss 656 pm Halloween	71 / 43 0.04 **25** 91-1959 / 30-1955 sr 800 am ss 702 pm	71 / 43 0.04 **26** 88-1979 / 26-1913 sr 801 am ss 701 pm	70 / 42 0.04 **27** 87-1922 / 26-1997 sr 802 am ss 700 pm	70 / 42 0.04 **28** 91-1943 / 25-1970 sr 803 am ss 659 pm	69 / 42 0.04 **29** 90-2003 / 20-1917 sr 804 am ss 658 pm	69 / 41 0.04 **30** 88-1945 / 18-1993 sr 805 am ss 657 pm Last Quarter

Winter Weather

Lubbock

Snowfall Normals (1971-2000) and Records (1911-present)

Month	Oct	Nov	Dec	Jan	Feb	Mar	Apr	**Season**
Normals	0.3”	1.6”	2.4”	3.0”	2.4”	0.5”	0.2”	10.4”
Records (year)	7.5” (1976)	21.4” (1980)	10.5” (1942)	25.3” (1983)	16.8” (1956)	16.5” (1915)	6.8” (1942)	41.2” (1982-83)

The record season of 1982-1983 also produced the record snowfall from a single storm (16.9”, which fell January 20-21) and the record maximum snow depth (17” on January 21-22). This record winter season was characterized by a strong El Niño (reference January for details about El Niño).

Interesting Facts and Safety Information

Injuries due to ice and snow:

- About 70% result from vehicle accidents
- About 25% occur from people caught out in the storm

Plan your travel around winter storms!

If you must travel during a winter storm be prepared:

- Fully check and winterize your vehicle
- Carry a winter storm survival kit
- Keep your gas tank near full
- Avoid travelling alone
- Let someone know your timetable

If you get caught in a winter storm:

- Stay in your vehicle
  - Wind-driven snow & cold will quickly disorient
  - Run the motor about 10 min. each hour for heat
  - Open the window a little for fresh air
  - Make sure the exhaust pipe is not blocked
- Be visible to rescuers
  - Turn on the dome light at night when running the vehicle
  - Tie a colored cloth to your antenna or door
  - Raise the car hood after the snow stops falling
- Exercise

November 2010

Lubbock National Weather Service

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	Normals: 68 / 40 0.03 **1** 85-1994 / 23-1951 Lubbock Records sr 806 am - sunrise ss 655 pm – sunset	67 / 40 0.03 **2** 83-2001 / 19-1991 sr 807 am ss 654 pm Election Day	67 / 39 0.03 **3** 88-2005 / 7-1991 sr 808 am ss 654 pm	66 / 39 0.03 **4** 86-1916 / 20-1950 sr 809 am ss 653 pm	66 / 38 0.03 **5** 86-1924 / 22-1959 sr 810 am ss 652 pm	65 / 38 0.03 **6** 85-1975 / 16-1959 sr 811 am ss 651 pm New Moon
65 / 38 0.03 **7** 89-1916 / 19-1947 sr 712 am ss 550 pm Daylight Saving Time Ends	64 / 37 0.03 **8** 88--2005 / 20-1943 sr 713 am ss 549 pm	64 / 37 0.03 **9** 90-2006 / 21-1943 sr 714 am ss 549 pm	64 / 36 0.03 **10** 85-1927 / 19-1950 sr 715 am ss 548 pm	63 / 36 0.03 **11** 82-1956 / 16-1950 sr 715 am ss 547 pm Veteran's Day	63 / 36 0.02 **12** 85-1995 / 19-1919 sr 716 am ss 547 pm	62 / 35 0.02 **13** 82-1973 / 14-1976 sr 717 am ss 546 pm First Quarter
62 / 35 0.02 **14** 85-1933 / 4-1976 sr 718 am ss 545 pm	62 / 35 0.02 **15** 85-1965 / 10-1916 sr 719 am ss 545 pm	61 / 34 0.02 **16** 83-1966 / 11-1916 sr 720 am ss 544 pm	61 / 34 0.02 **17** 85-1966 / 10-1959 sr 721 am ss 544 pm Leonids Meteor Shower (Nov 17-18)	60 / 33 0.02 **18** 82-1999 / 16-1951 sr 722 am ss 543 pm	60 / 33 0.02 **19** 85-1996 / 14-1937 sr 723 am ss 543 pm	60 / 33 0.02 **20** 88-1996 / 17-1937 sr 724 am ss 542 pm
59 / 32 0.02 **21** 84-1927 / 18-1956 sr 725 am ss 542 pm Full Moon	59 / 32 0.02 **22** 82-2006 / 6-1957 sr 726 am ss 541 pm	59 / 32 0.02 **23** 84-1965 / -1-1957 sr 727 am ss 541 pm	58 / 31 0.02 **24** 82-1915 / 7-1938 sr 728 am ss 541 pm	58 / 31 0.02 **25** 86-1965 / 15-1993 sr 728 am ss 540 pm Thanksgiving Day	58 / 31 0.02 **26** 82-1970 / 8-1980 sr 729 am ss 540 pm	57 / 30 0.02 **27** 81-1949 / 12-1976 sr 730 am ss 540 pm Last Quarter
57 / 30 0.02 **28** 83-1949 / 5-1976 sr 731 am ss 540 pm	57 / 30 0.02 **29** 76-1927 / 1-1976 sr 732 am ss 540 pm	56 / 30 0.02 **30** 80-1946 / 10-1918 sr 733 am ss 539 pm End of the Atlantic Hurricane Season		NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500		NATIONAL WEATHER SERVICE

2010 Celestial Events

Total Eclipse !!

A **Total Lunar Eclipse** will occur **2:17 am on December 21st**. The above photo shows the progression to totality during a similar eclipse on August 28, 2007.

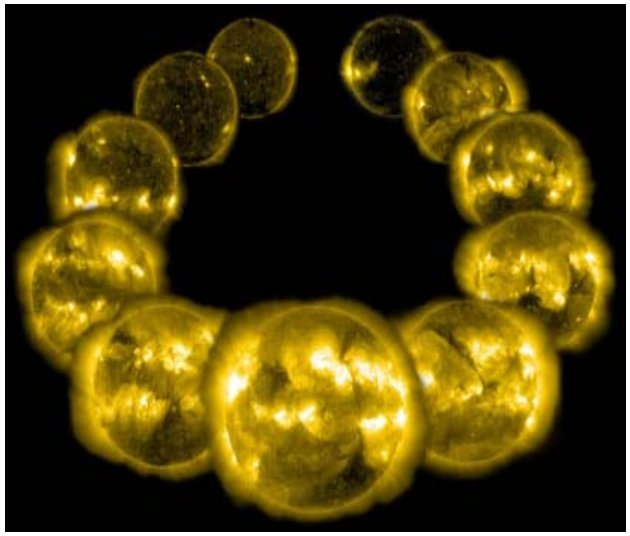
Space Weather Prediction Center: **http://www.swpc.noaa.gov/**

2010 Major Meteor Showers

Shower	Peak Dates	Notes
Quadrantids	Jan 3-4	sharp peak
Lyrids	Apr 21-22	sporadic
Delta Aquarids	Jul 28-29	sporadic
Perseids	Aug 12-13	one of best
Orionids	Oct 21-22	sporadic
Leonids	Nov 17-18	variable
Geminids	Dec 13-14	one of best

Someone Wake Up The Sun!

Our sun goes through cycles of increased solar activity that typically span an average of 11 years. Since 2007, however, the sun has failed to emerge from what is now the deepest solar minimum in more than a century. In 2008 and 2009 the sun set records for low sun spot activity, solar wind, and solar flux. In the seventeenth-century the sun was nearly spotless for 70-years. Now known as the Maunder Minimum, that period of solar inactivity contributed to a dramatic decrease in global temperatures and a climatic change recognized as the "Little Ice Age". Today, scientists await the return of an active sun cautiously, since powerful solar flare-induced geomagnetic storms in earth's atmosphere have the potential to cause immense chaos and damage to modern technology. These storms can also cause the sky to glow with beautiful auroras (northern lights). A super-geomagnetic storm occurred in September 1859 that caused telegraph wires to spark wildfires across the country, and Havana residents reportedly read newspapers at night by the auroral glow over Cuba. At the end of the last solar maximum, red aurora graced the skies above West Texas in October 2003, November 2004, and briefly in December 2006. What kind of *space weather* will 2010 bring?



Lubbock National Weather Service — December 2010

WWW.WEATHER.GOV/LUBBOCK

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 Normals: 56 / 29 0.02 76-1995 / 12-1918 Lubbock Records sr 734 am - sunrise ss 539 pm – sunset	**2** 56 / 29 0.02 81-1995 / 13-1985 sr 735 am ss 539 pm	**3** 56 / 29 0.02 79-1926 / 15-1967 sr 735 am ss 539 pm	**4** 55 / 28 0.02 81-1958 / 15-1921 sr 736 am ss 539 pm
5 55 / 28 0.02 79-1939 / 10-1950 sr 737 am ss 539 pm New Moon	**6** 55 / 28 0.02 83-1939 / 1-1950 sr 738 am ss 539 pm	**7** 55 / 28 0.02 79-2007 / 8-2005 sr 739 am ss 539 pm	**8** 55 / 27 0.02 78-1970 / 3-1917 sr 739 am ss 539 pm	**9** 54 / 27 0.02 80-1939 / 5-1978 sr 740 am ss 539 pm	**10** 54 / 27 0.02 81-1933 / 5-1917 sr 741 am ss 540 pm	**11** 54 / 27 0.03 80-1939 / 6-1917 sr 742 am ss 540 pm
12 54 / 27 0.03 82-1937 / 6-1961 sr 742 am ss 540 pm	**13** 53 / 26 0.03 79-1921 / 5-1917 sr 743 am ss 540 pm First Quarter	**14** 53 / 26 0.03 75-1922 / 8-1987 sr 744 am ss 541 pm Geminids Meteor Shower (Dec 13-14)	**15** 53 / 26 0.03 76-1977 / 2-1987 sr 744 am ss 541 pm	**16** 53 / 26 0.02 77-2006 / 3-1987 sr 745 am ss 541 pm	**17** 53 / 26 0.02 78-1980 / 5-1932 sr 746 am ss 542 pm	**18** 53 / 26 0.02 77-1980 / 6-1996 sr 746 am ss 542 pm
19 52 / 25 0.02 76-1921 / 0-1924 sr 747 am ss 543 pm	**20** 52 / 25 0.02 80-1921 / 3-1924 sr 747 am ss 543 pm	**21** 52 / 25 0.02 78-1981 / 2-1983 sr 748 am ss 543 pm Winter Solstice (5:38 pm) Full Moon Full Lunar Eclipse	**22** 52 / 25 0.02 79-1969 / -2-1989 sr 748 am ss 544 pm	**23** 52 / 25 0.02 80-1964 / -1-1989 sr 749 am ss 544 pm	**24** 52 / 25 0.02 80-1955 / 0-1983 sr 749 am ss 545 pm	**25** 52 / 25 0.02 76-1955 / -1-1924 sr 750 am ss 546pm Christmas
26 52 / 24 0.02 77-2005 / 0-1918 sr 750 am ss 546 pm	**27** 52 / 24 0.02 76-2006 / 3-1918 sr 750 am ss 547 pm Last Quarter	**28** 51 / 24 0.02 81-1928 / -2-1924 sr 751 am ss 548 pm	**29** 51 / 24 0.02 77-1920 / -1-1939 sr 751 am ss 548 pm	**30** 51 / 24 0.02 80-2008 / 7-2000 sr 751 am ss 549 pm	**31** 51 / 24 0.02 75-2005 / 8-1923 sr 752 am ss 550 pm New Year's Eve	NOAA WEATHER RADIO CAN BE FOUND AT THE FOLLOWING FREQUENCIES: Lubbock 162.400 Dimmitt 162.500 Plainview 162.450 Childress 162.525 Dickens 162.500

Severe Weather Safety Tips

Prepare a Home Severe Weather Plan—

- Pick a place where family members could gather if a tornado is headed your way. It could be your basement or, if there is no basement, a center hallway, bathroom, or closet on the lowest floor. Keep this place uncluttered.
- If you are in a high-rise building, you may not have enough time to go to the lowest floor. Pick a place in a hallway in the center of the building.

Assemble a Disaster Supplies Kit containing—

- First aid kit and essential medications.
- Canned food and can opener.
- At least three gallons of water per person.
- Protective clothing, bedding, or sleeping bags.
- Battery-powered radio, flashlight, and extra batteries.
- Special items for infant, elderly, or disabled family members.

When a Severe Thunderstorm or Tornado WATCH is issued—

- Listen to NOAA Weather Radio, local radio and TV stations for further updates.
- Be alert to changing weather conditions.

When a Severe Thunderstorm or Tornado WARNING is issued—

- If you are inside, go to the safe place you picked to protect yourself from glass and other flying objects.
- If you are outside, hurry to the basement of a nearby sturdy building or lie flat in a ditch or low-lying area.
- If you are in a car or mobile home, get out immediately and head for safety (as above).

After the Severe Thunderstorm or Tornado passes—

- Watch out for fallen power lines and stay out of the damaged area.
- Listen to the radio for information and instructions.
- Use a flashlight to inspect your home for damage.

Conduct periodic Severe Weather drills so everyone remembers what to do. Stay tuned for warnings—

- Listen to your local radio and TV stations for updated storm information.
- Severe Thunderstorm and Tornado WATCHES and WARNINGS are issued by county.
- Know what a Severe Thunderstorm or Tornado WATCH and WARNING means:
  - A Tornado/Severe Thunderstorm WATCH means a Tornado/Severe Thunderstorm is possible in your area.
  - A Tornado/Severe Thunderstorm WARNING means a Tornado/Severe Thunderstorm has been sighted and may be headed for your area. Go to a safe location immediately.