## Climate and Weather Summary for June 2023

Temperatures in June averaged well-above normal at San Angelo to slightly above normal at Abilene. Precipitation was below normal at Abilene and well-below normal at San Angelo. Table 1 summarizes June 2023 temperature, precipitation, and departure from normal for Abilene and San Angelo.

Site	Average Temperature (°F)	Departure from Normal (°F)	Normal Average Temperature (°F)	Total Precipitation (In.)	Departure from Normal (In)	Normal June Precipitation (In.)
Abilene	81.9°	0.8°	81.1°	4.05"	0.61″	3.44"
San Angelo	85.8°	3.6°	82.2°	1.67"	-0.64"	2.31"

## Table 1: June Climate Data for Abilene and San Angelo.

Additional temperature and precipitation data for Abilene and San Angelo is summarized in Table 2.

Site	Warmest High Temperature (°F)	Warmest Low Temperature (°F)	Coolest High Temperature (°F)	Coolest Low Temperature (°F)	Maximum Daily Precipitation (In.)
Abilene	108° on June 20	81° June 20, 27	77° on June 5	61° June 3, 6	1.60" June 2
San Angelo	114° June 20, 21	81° June 25, 26	83° on June 4	60° June 5, 6	0.53" June 4, 9

## Table 2: Additional June Climate Data for Abilene and San Angelo.

- New all-time high temperature record of 114° set at San Angelo on June 20, and then tied on June 21 (climate records date back to 1907).
- June was very active with numerous severe weather events in west-central Texas. A total of 133 Severe Thunderstorm Warnings were issued.
- The average daily high temperature for June at San Angelo (101°) was 2<sup>nd</sup> highest on record.
- San Angelo recorded its 5<sup>th</sup> warmest June (average temperature for the month 85.8°).

A Map of total precipitation for June is shown in Figure 1 (below). Percentage of normal precipitation for June is shown in Figure 2.



Figure 1: Total Precipitation for June.



Figure 2: Percentage of Normal Precipitation for June.

Precipitation for June varied widely, from well-above normal to well-below normal across <u>west-central</u> <u>Texas</u>. The monthly precipitation ranged from 8-10 inches (dark red shading in Fig. 1) in a few parts of the northern <u>Big Country</u>, to less than one quarter of an inch (medium to light blue shading in Fig. 1) in some of the <u>Northern Edwards Plateau</u>.

## June 2023 Weather Highlights

Numerous severe weather events occurred in much of June, up until the final week of the month. Temperatures in early June were below normal. This was followed by well-above normal and recordsetting warmth in the middle and late parts of June.

An upper level high pressure system developed over Texas from Mexico in the middle of the month. This high pressure system remained in place over Texas through the late part of June, and then shifted east of the area by June 29. With a combination of subsidence with this system, an usually strong lowlevel (850mb) thermal ridge and ample sunshine, daily temperatures soared over 100 degrees.

- At San Angelo, a new all-time record high temperature of 114° was set on June 20, and then tied the following day. Climate records for San Angelo date back to 1907.
- The San Angelo previous record high of 111° was tied just the previous day (June 19). This record had also been set on 4 separate dates (1960, 1944, 1943, 1933).

• In this month of June alone, daily high temperatures in San Angelo were at or above 111 degrees on 5 days.

At Abilene, high temperatures were at or above 105° on 4 days during June.

June was very active with numerous severe weather events in west-central Texas. The National Weather Service in San Angelo issued a total of 133 Severe Thunderstorm Warnings during the month. This was facilitated by a combination of factors. With a blocked pattern aloft, a persistent and amplified upper level trough was over the southwestern United States. With this setup, upper level disturbances moved northeast into the area and interacted with very unstable air, when drylines, cold fronts and outflow boundaries were present. With favorable vertical shear, numerous severe weather events occurred.

A few of the most significant severe weather events include:

- Wind damage in San Angelo, with a microburst event on June 9. The highest radar estimated wind speeds (not shown) were 75-85 mph.
- Tornado near Hamlin on June 17. The link below shows a video of this tornado (Credit: Adam Cuker)

https://www.youtube.com/watch?v=mZdnxto2aFY

Widespread wind damage in the Big Country in the night hours, between 1030 PM June 21<sup>st</sup> and 115 AM June 22<sup>nd</sup>. A small thunderstorm complex moved quickly southeast across that area. The highest recorded wind gust was 95 mph, from a Mesonet station 5 miles west of Rotan. Wind damage occurred in Rotan, McCaulley, Sweetwater, Hawley, Roby, Hamby, and Abilene.

The map below shows the reports of damaging winds, wind gusts of at least 58 mph, large hail and tornadoes for west-central Texas in the month of June. (Source: Iowa Environmental Mesonet, from Iowa State University).



The following graphics for Abilene and San Angelo (courtesy of Kelli Barendse, forecaster at National Weather Service San Angelo), show daily highs and lows compared to normal and the records.





Additional Tabular and Graphical Daily Climate Data