JULY 2013 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

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This month began with very hot temperatures for most locations throughout the central California interior as strong high pressure continued to dominate. Highs reached near 110 degrees in many San Joaquin Valley locations with overnight lows dropping only into the upper 70s to low 80s until the 4th. In fact, Bakersfield did reach 110 degrees on the 2nd, with a low temperature of only 83 degrees (2 degrees shy of the record high minimum for the date). Record high minimum temperatures were reached in Bakersfield on July 1st and 3rd, and in Fresno on the 2nd and 3rd. Thunderstorms developed over the high country of the southern Sierra Nevada and the Kern County deserts. Outflow winds from collapsing thunderstorms hit Ridgecrest during the morning of July 2nd, with gusts estimated at 75 mph knocking down trees and power lines, and damaging roofs. Pea-size hail fell at the White Wolf campground in Yosemite National Park during the afternoon of July 3rd.

By the 5th, intrusions of marine air filtered into the San Joaquin Valley but remained north of Fresno, especially at Pacheco Pass and Merced. It was enough to dry to the airmass so that locations were much cooler at night, but daytime high temperatures continued to remain from the upper 90s to around 100 degrees in most southern and central San Joaquin Valley locations. Although some weakening of the upper-level ridge occurred during the July 5th through the 7th, high pressure continued to remain in control over much of the region for the first half of the month.

By July 8th, high pressure began to rebuild over the region. High temperatures and nighttime lows trended back upward until around the 9th before they slightly moderated on July 10th. On the 10th, there was mid-level cloud cover over the region, which brought showers and thunderstorms to the Kern County desert areas, Tehachapi Mountains, southern Sierra Nevada, and even some sprinkles to parts of the San Joaquin Valley. This weather was due to an influx of monsoonal moisture from the southeast as the axis of the prevailing ridge of high pressure shifted to southern Nevada.

From the 12th until the 15th, high pressure remained in control with little change in temperatures over the region. A typical summer southwest flow aloft prevailed, allowing thunderstorm activity to remain confined over the Sierra Nevada crest.

A break in the long string of above normal temperatures finally ended by the 16th for some valley locations as a fairly strong push of marine air filtered into the San Joaquin Valley. In fact, Fresno recorded 19 consecutive days of maximum temperatures of 100 degrees or greater from June 27th until July 15th, and this ties for the 4th longest period of consecutive days of triple digit temperatures (see table below).

The high pressure ridge over the region began to rebuild once again by July 17th. The flow aloft remained southwesterly, and skies remained generally clear until the 18th. Some development of convective clouds (i.e., mainly in the form of cumulus clouds) returned to the higher elevations of the southern Sierra Nevada by July 19th, then began to increase the 20th as the flow aloft turned more southerly and brought more moisture over the central California interior. By the 21st, the mountains and desert were once again under the influence of southeasterly monsoonal flow, and showers and thunderstorms returned. One thunderstorm that moved through Grant Grove knocked down a few trees and power lines.

Even more active weather occurred in the Kern and Tulare County mountains, as well as the Kern County desert on July 22nd. During this time, monsoonal moisture was abundant with increased atmospheric instability which led to the issuance of some flash flood warnings in the Kern and Tulare County mountains and even a flash flood and severe thunderstorm warning in the Kern County desert. Flash flooding due to slow moving thunderstorms occurred at several locations, including Pine Mountain Club, Johnsondale (in the Tulare County mountains), and in the Kern County desert south of Ridgecrest, along Red Rock-Randsburg Road, a favored locale for flash flooding due to the topography in this area. This desert road was shut down during the late afternoon and evening hours due to both flooding and debris flow. Garlock Road near Randsburg also flooded, just west of the junction with U.S. 395, and U.S. 395 was closed north of Johannesburg due to flooding. Around one inch to one and a half inches of rain fell in a relatively short period of time in these areas, with Pine Mountain Club getting 1.86 inch of rain in less than an hour, and hail up to a half inch in diameter fell near Pine Mountain Club. In addition, some thunderstorms drifted from the southern Sierra Nevada into the foothills, and eventually the San Joaquin Valley. Both Fresno and Lemoore reported thunderstorms at their airports, and a thunderstorm passed over the National Weather Service office at Hanford during the afternoon.

Monsoonal moisture tracked northward on the 23rd, and Merced reported some light rain as showers passed over the area. Thunderstorms initiated over southeastern Tulare County, and parts of the Kern County mountains, including the Piute Mountains and Walker Pass during the afternoon. A flash flood warning was even issued for the Piute Mountains by late in the afternoon as a strong thunderstorm developed over this area and produced heavy rain.

The monsoonal moisture continued to wrap around the upper-level level ridge over the Desert Southwest. The flow around the ridge brought repeated surges of this warm moist air, with mountain and desert thunderstorms continuing through July 28th. Debris clouds from mountain thunderstorms moved over parts of the southern San Joaquin Valley on the 26th, bringing light rain. Bakersfield recorded a trace of rain, but this was the first rain to fall in that city since records began in 1889,

Thunderstorms brought heavy rain to parts of the Indian Wells Valley during the evening of July 27th. Small hail fell on southwest Ridgecrest. The next day, outflow winds from a collapsing thunderstorm caused a gust to 46 mph on part of the China Lake Naval Weapons Test Center range. Another thunderstorm brought heavy rain to the southern Tulare County mountains. The Mahogany RAWS in the southern Tulare County mountains received 2.24 inch of rain from the storm.

Fresno ended July with an average temperature of 87.1 degrees, for its 3rd warmest July on record. Bakersfield was slightly warmer with an average temperature of 87.6 degrees, tying its 6th warmest July since records began.

THE 10 WARMEST JULY/S ON RECORD

	BAKERSFIELD	FRESNO
1.	89.7...1931	87.8...2006
2.	88.8...1908	87.6...1931
3.	88.3...1933	**87.1...2013**
4.	88.2...1970	87.0...1984
5.	87.9...2006	86.8...2005
6.	**87.6...2013**	86.5...2003
7.	87.6...2005	86.5...1908
8.	87.4...2003	86.1...1906
9.	87.3...1910	86.0...1917
10.	87.2...1945	85.9...1985

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LONGEST STRINGS OF CONSECUTIVE 100+ DEGREE HIGHS AT FRESNO

	DAYS	DATES
1.	21	23 JULY - 12 AUGUST 2005
2.	20	1 - 20 JULY 1984
TIE	20	11 - 30 JULY 1933
4.	**19	27 JUNE - 15 JULY 2013**
TIE	19	6 - 24 AUGUST 2012
TIE	19	18 JUNE - 6 JULY 1981
TIE	19	1 - 19 AUGUST 1966
TIE	19	17 JULY - 4 AUGUST 1931
TIE	19	3 - 21 JULY 1896
10.	18	1 - 18 JULY 1985

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100-DEGREE DAYS SO FAR

	BAKERSFIELD	FRESNO
MAY	2	2
JUNE	6	7
JULY	21	24
TOTAL	29	33