APRIL 2013 WEATHER SUMMARY
FOR THE CENTRAL CALIFORNIA INTERIOR

By Gary Sanger, Climate Services Focal Point
And Brian Ochs, Assistant Climate Focal Point
WFO San Joaquin Valley-Hanford

April began with an upper-level low tracking eastward across the central California interior. This system, which brought thunderstorms to the region the last two days of March, kept temperatures near average on April 1st. Showers developed over the Temblors and Diablo Range, bringing light rain to parts of the west side of the San Joaquin Valley, and showers also developed along the Southern Sierra Nevada. A tenth of an inch of rain fell at Bodfish, southwest of Lake Isabella, while well to the north, 0.06 inch of rain fell at Ponderosa Basin in Mariposa County.

As the low moved into the Great Basin, an upper-level ridge moved onshore, bringing a short-lived warming trend. Temperatures warmed over the northern parts of the San Joaquin Valley on the 2nd, then over the whole region of the 3rd. However, this was the last day of above-normal temperatures as the next Pacific storm rode over the ridge, pushing the ridge back over the Pacific Ocean.

The night of April 3rd-4th saw an upper-level trough along the California coast. A fetch of subtropical moisture pushed north along the leading edge of the trough and into the west side of the central California interior. Moderate showers developed over the northern half of the San Joaquin Valley, with a sharp fall-off in rain from Madera to Fresno. The Madera Municipal Airport recorded 0.55 inch of rain, while the Fresno-Yosemite International Airport only recorded 0.06 inch of rain.

This moisture moved east across the region as the low pressure system tracked toward the coast, with light showers reaching the Southern Sierra Nevada by the afternoon of the 4th. Clouds associated with this moisture, as well as the subtropical nature of the airmass, kept overnight temperatures well above normal. Fresno tied its record high minimum temperature for April 4th of 57 degrees.

Gusty winds developed across the Kern County mountains and deserts in the wake of the low. Winds gusted as high as 65 mph at Mojave, and the strongest winds of the event were from Jawbone Canyon to the Mojave area. A series of upper-level disturbances riding a westerly flow aloft kept these gusty winds going afternoons and evenings through April 7th.

Another storm system moved into northern California on April 7th, and dropped south during the day and evening. Precipitation was light, with 0.03 inch of rain falling at the Fresno-Yosemite

International Airport, and 0.02 inch at the Madera Municipal and Merced Regional Airports. In contrast to the storm of April 4th which left the south end of the San Joaquin Valley dry, this storm brought measurable rain throughout the Valley. Of the major cities, Bakersfield had the highest rainfall, with 0.05 inch falling at Meadows Field.

The highest rainfall amounts were in the Southern Sierra Nevada. Yosemite Village had 0.71 inch of rain, and Isabella Dam had 0.57 inch. Ponderosa Basin had 0.29 inch of rain, Mountain Mesa reported 0.21 inch, and 0.39 inch fell at Glennville. Snow fell on the higher elevations, with an inch of new snow falling on Ponderosa (elevation 7200 feet in Tulare County). A couple of thunderstorms developed over the Southern Sierra Nevada during the morning of the 8th.

The storm brought very strong winds to the central California interior. Winds gusted to 75 mph at Mojave, 66 mph at Rosamond, 46 mph at Naval Air Station Lemoore and 39 mph at Fresno. A cold airmass associated with the storm dropped high temperatures in the central and southern San Joaquin Valley into the mid 60s to around 70 on April 8th.

A high pressure ridge built into California from the Pacific Ocean beginning on April 9th. This high brought several degrees of warming to the region, with the warmest temperatures on the 12th and 13th. Bakersfield saw its high temperatures rise from 64 on April 8th to 84 on the 12th, and a degree warmer the next day.

An east Pacific storm approached California on April 14th, weakening the ridge and cooling temperatures several degrees. Winds increased during the day as a cooler airmass pushed into the San Joaquin Valley and the upper-level jet stream aligned with the passes and canyons of the Kern County mountains. Winds gusted to 80 mph at Bird Springs Pass in the Kern County Sierra Nevada, and to 62 mph at North Edwards Auxiliary Airfield, Edwards AFB. Elsewhere in the mountains and deserts, several wind gusts were in the 45-55 mph range, and gusty winds persisted into the 15th. With dry conditions, blowing dust proved to be a problem in the Kern County deserts. In the San Joaquin Valley, winds gusted to 25-30 mph at several sites, mainly in the central and southwestern San Joaquin Valley.

Gusty winds continued on April 16th as a low-level jet stream moved into the state along the back side of the storm. The jet stream was oriented mainly north-south, and funneled through the mountain passes and canyons. Winds gusted to 45-55 mph in the Kern County mountains and deserts, and to 35-40 mph in the central and southern San Joaquin Valley. The 16th also saw precipitation falling in the mountains. Snow levels were low, around 3600 feet. Snow fell at Ponderosa Basin (elevation 3600 feet), and the California Highway Patrol reported light snow falling, but not sticking, at Lebec (elevation 3585 feet). On the morning of April 17th, Ponderosa reported a 24-hour total of an inch of new snow. In addition to being cold, the airmass was unstable and a few thunderstorms developed near Bass Lake on the 16th.

An upper-level ridge began building into California on April 18th, and temperatures warmed to near normal on the 18th, then well above normal from the 19th through the 27th. High temperatures in the central and southern San Joaquin Valley reached the mid 80s to around 90 on April 21st, and the warmest locations in the Kern County deserts reached the lower 90s. High temperatures were a couple of degrees warmer on the 22nd, with both Bakersfield and Fresno reaching the 90-degree mark for the first time since October 18th, 2012. The high at Fresno was 91 degrees, and Bakersfield was a degree cooler.

A weak cold front dropped into the Great Basin on April 23rd, bringing a push of colder air into the deserts. Temperatures fell as much as 10 degrees from the 22nd to the 23rd at some desert sites. A weaker influx of cool air into the San Joaquin Valley dropped temperatures in the central Valley by a few degrees on the 23rd, with highs falling back into the mid 80s. The cool air did not penetrate as far as the south end of the San Joaquin Valley, and Bakersfield had a second consecutive day with a high of 90 degrees.

Ahead of the cold front, winds increased in the Kern County mountains and deserts during the evening of April 22nd. Gusts were as high as 49 mph, but were not persistent. Wind speeds would jump to over 40 mph, then drop down to 20-25 mph the next observation before increasing again.

April 24th saw the central California interior between two weather features—an upper-level low southwest of the Channel Islands and a short-wave moving through northern California. Mid-level moisture wrapping around the low moved into the region from the east, while the flow down the back of the short-wave was from the northeast. The two flows collided over Madera County, setting up a convergence zone that supported isolated late afternoon convection over the high country of the Southern Sierra Nevada in northeastern Madera County. At the same time, the aforementioned features allowed the coastal marine layer to deepen. The marine layer was over 4300 feet deep at Fort Ord during the afternoon of the 24th, and marine air spilling through the passes and canyons of the Temblors and Diablo Range triggered 35-40 mph gusts along the west side of the San Joaquin Valley during the late afternoon and evening.

The influx of cool air into the San Joaquin Valley produced a noticeable drop in temperatures on the 25th. The high at Bakersfield only reached 79 degrees, the first time since April 18th that the high at Meadows Field did not reach 80 degrees. Fresno was slightly warmer with a high of 81 degrees, down 10 degrees from the previous day. (Bakersfield's high was down 9 degrees from the 24th.)

High pressure rebuilt into California beginning on April 26th, with temperatures warming through the 29th. A mainly dry upper-level short-wave dropped through California on the 28th, triggering a thunderstorm over the Sierra Nevada crest in Tulare County, and bringing breezy conditions to the west side of the San Joaquin Valley as well as through and below the passes of

the Kern County mountains. Winds gusted up to 42 mph at both Cache Creek and Mojave, and to 37 mph at Ridgecrest.

A stronger upper-level trough moved through northern California on April 30th. Short-waves moving along the periphery of the trough brought narrow bands of high clouds that pushed south across the central California interior. The short-waves also brought gusty winds to the region. Gusts reached 35-40 mph on the west side of the San Joaquin Valley, and 45-50 mph below favorably oriented passes and canyons of the Kern County mountains.

Although the trough brought a cooler airmass to the region, April ended on a warm note as Fresno set a record high minimum temperature on the 30th. Despite only setting two temperature records for the month—both high minimums and one being a tie—Fresno had its warmest April on record. (Fresno temperature records go back to 1887; rainfall records go back further, to 1878.) Bakersfield set no temperature records during April, but did tie its 14th warmest April on record (since 1889).

WARMEST APRILS ON RECORD
/AVERAGE TEMPERATURE IN DEGREES FAHRENHEIT/

	BAKERSFIELD	FRESNO
1.	69.8...1909	*67.6...2013*
2.	69.0...1934	67.5...1934
3.	69.0...1910	67.2...1989
4.	68.8...1989	67.1...1985
5.	68.2...1959	66.8...1992
6.	67.8...1931	66.7...1987
7.	67.5...1977	66.4...1939
8.	67.3...1987	66.1...1888
9.	67.3...1966	66.0...1931
10.	67.2...2004	66.0...1926
11.	66.9...1992	65.8...2004
12.	66.9...1939	65.7...1990
13.	66.8...1949	65.6...1959
14.	*66.7...2013*	65.6...1949
15.	66.7...1990	65.5...1966
16.	66.7...1954	65.5...1898