MAY 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

May began warm and dry. Humidities were in the teens across the mountains of Kern and Tulare Counties on May 1st through the 3rd, and as highs in the southern San Joaquin Valley climbed into the mid 90s on the 2nd, relative humidities in the south end of the Valley fell to 10 percent or lower for several hours.

An upper-level low approached central California on May 4th. The southerly flow ahead of the low funneled through the passes and canyons of the Temblors, Diablo Range and the Tehachapi Mountains. This created gusty winds along the west side of the San Joaquin Valley that persisted from the afternoon of the 4th through the evening of 5th. Winds gusted to 51 mph at Sunflower Valley, and to 50 mph at Panoche Road. A gust to 59 mph was measured at the California Highway Patrol Weigh Station at the base of the Grapevine during the late afternoon of May 5th. Winds also gusted to 45 mph at Meadows Field, Bakersfield during this time. The gust at Meadows Field tied the highest gust on record at Bakersfield for May, last occurring on May 23rd, 1990.

The upper-level low moved to off Monterey Bay on the evening of May 5th. In addition to the gusty winds generated by the cyclonic circulation, the low also spun subtropical moisture into central California, and as a series of upper-level disturbances rotated around the low, they triggered showers and thunderstorms across the region on the 6th. One of the thunderstorms spawned a tornado that touched down at 7:10 PM on May 6th in the dry riverbed of the Kern River near the intersection of Old River Road and Stockdale Highway, not far from the California State University, Bakersfield, campus in west Bakersfield.

The low moved into San Luis Obispo County during the night of May 6th-7th, and tracked across Kern County during the morning of the 7th. Moderate showers continued across parts of the central California interior through the morning hours, and continued over the Southern Sierra Nevada into the afternoon. A few of the stronger showers caused some road flooding, including northeast of Chowchilla and northwest of Bakersfield.

As the low moved east of California on May 8th, the cyclonic flow continued to generate showers over the eastern flanks of the Southern Sierra Nevada, some of which drifted west of the crest and into the central and southern San Joaquin Valley. Showers also moved into the Tehachapi Mountains.

Thunderstorms over the Southern Sierra Nevada during the afternoon and evening of May 9th dropped small hail on the floor of Yosemite Valley. Nearly two inches of rain fell on Yosemite Valley, with 1.87 inch falling in only 30 minutes. This heavy rain caused some road flooding and ponding of water on the Yosemite Valley floor.

Further south, thunderstorms over southeastern Kern County produced little rain, but did generate gusty winds. One thunderstorm generated an outflow wind that was measured at 40 mph at the Edwards AFB North Base Auxiliary Field. Winds also gusted to 55 mph in the Indian Wells Valley

Behind the low, an upper-level ridge that had been over the Pacific Northwest dropped south into California, warming temperatures well above normal. Bakersfield had its first 100-degree day of the year on May 11th, with Fresno hitting triple digits for the first time on the next day. A strong upper-level disturbance moved through Tulare County during the afternoon of the 11th, triggering a few thunderstorms over the Southern Sierra Nevada in Kern and Tulare Counties.

Several high and high minimum temperature records were set between May 11th and the 13th. Fresno set both record high and record high minimum temperatures on May 12th, and Bakersfield tied its record high minimum temperature for the date. The next day, Fresno tied its record high minimum temperature.

An upper-level low approached Monterey Bay on May 14th, deepening the marine layer and allowing cooler marine air to spill into the San Joaquin Valley. This ended the four-day stretch of near-record heat across much of the central California interior. The low also triggered thunderstorms over the Southern Sierra Nevada on the 14th, and Yosemite Valley measured 0.55 inch of rain during the afternoon. Winds funneled through the passes and canyons of the Kern County from the evening of the 14th through the early morning of the 16th. Gusts to as high as 58 mph were measured at the Mojave Air and Space Port, and gusts to 45-55 mph were common in the Mojave Desert below the Tehachapi Pass.

Clouds from this system kept overnight lows in the central and southern San Joaquin Valley warm, and Fresno set a record high minimum temperature for May 15th.

A stronger upper-level low reached California on May 16th. Although it was a mostly dry system, light showers developed over the Southern Sierra Nevada near Yosemite National Park. Tenaya Lake recorded 0.12 inch of rain, while other stations near the park reported only a few hundredths of an inch.

The low deepened the marine layer, with marine air spilling through Pacheco Pass and generating strong gusts in northwestern Merced County. The low also caused gusts to around 45 mph across parts of the Kern County mountains and deserts during the afternoon and evening of the 16th. Stronger winds developed over the desert the next day and continued through the early morning of May 19th. The National Test Pilots School at Mojave recorded a gust to 62 mph during the evening of May 18th, and both the Mojave Air and Space Port and the Union Pacific Railroad gauge at Warren reported gusts to 59 mph during the event/

An upper-level ridge moved into California behind the low, bringing a warming trend to the region. Temperatures warmed into the 90s on May 20th and 21st, and then fell into the 70s the next day as an upper-level low again brought a surge of marine air through the Sacramento Delta. This marine push, combined with synoptic cooling, caused temperature falls of nearly 20 degrees. High temperatures in the central and southern San Joaquin Valley remained in the 70s on the 23rd before warming into the lower 80s on the 24th.

The low deepened the marine layer, and marine air spilled into the San Joaquin Valley through the Sacramento Delta on May 22nd, with gusts to 38 mph at both the Merced Regional Airport and the Castle Airpark. Winds also gusted to 44 mph at NAS Lemoore. Strong winds also developed across the mountains and deserts of Kern County on the 22nd, with gusts to 56 mph recorded.

An upper-level low over the Pacific Northwest brought another dry trough into the northern half of California on May 24th. As the upper-level jet stream dove around the base of the trough, it brought gusty winds to the Cache Creek area where gusts to 49 mph were recorded. The trough also deepened the marine layer, and marine air spilling through Pacheco Pass caused gusts to 35 mph as far east as Los Banos during the night of May 24th-25th and into the morning of the 25th.

The upper-level trough lingered over the state through the 28th, and then moved east of the region the next day. The trough kept gusty winds over the mountains and deserts, and the central and southern San Joaquin Valley saw periods of gusts at 25-35 mph. Light showers developed across the region, but rainfall amounts were only from a trace to a few hundredths of an inch in most spots.

As the upper-level jet dove down the back of the trough, it triggered very strong winds through and below the passes and canyons of the Kern County mountains. Gusts to around 65 mph developed below the Tehachapi Pass and spread across the southeastern Kern County desert. Strong winds created areas of blowing dust south of Rosamond during the afternoon of May 28th. Visibilities fell to near zero, and multi-vehicle accidents on Highway 14 south of the Los Angeles County-Kern County line closed the highway from Rosamond south into northern Los Angeles County.

As the trough moved east of the region on May 29th, winds began subsiding although gusts to around 50 mph continued in the normally windiest parts of the Kern County mountains and deserts. An upper-level ridge began building into California behind the trough, and high temperatures across the central and southern San Joaquin Valley warmed to near normal on May 29th and 30th, and a few degrees above normal on May 31st.

The average temperature for May at Fresno was 73.0 degrees, tying the 7th warmest May on record. Bakersfield had an average temperature of 72.7 degrees, for its 23rd warmest May on record.