NWS FORM E-5 U.S. DEPARTMENT OF COMMERCE HYDROLOGIC SERVICE AREA:
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE **SAN JOAQUIN VALLEY - HANFORD, CA**

REPORT FOR:
MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

MONTH: **JANUARY** YEAR: **2021**

TO: Hydrometeorological Information Center, W/OH12x1
National Weather Service/Office of Hydrology
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(In Charge of Hydrologic Service Area)

DATE: February 1, 2021

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (WSOM E-41).

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¦ ¦ An **X** inside this box indicates no flooding occurred for the month within this hydrologic service area.
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The first three weeks of 2021 continued to be unseasonably dry with worsening drought conditions throughout the HSA. However, a major change to a wet pattern began on the 22nd and continued into the 29th as a succession of relatively cold storms tracked through the Golden State. Copious precipitation fell throughout the central California interior during this period. Although the precipitation was a beneficial replenishment to the extraordinary deficit that existed beforehand, water year totals to date were still falling short by a few to several inches as the month drew to a close. The maps below this summary show the percentage of normal precipitation for January, 2021 and the departure from normal precipitation for the water year through January 31st. (Note: California's water year begins October 1st.) All in all, January, 2021 ended up with above normal precipitation over much of the HSA. It was also the first month since the Spring of 2020 that ended up wetter than normal over much of central California.

The wettest period with regard to precipitation totals occurred from January 27th into the early morning hours of the 29th. During this time, several hours of rain produced small stream flooding, particularly on the west side of the San Joaquin Valley, and in various foothill locations of the Sierra. Additionally, downed trees, rock slides and mud flows closed some roads from the 27th through the 28th. Normally dry arroyos and creeks on the west side of the San Joaquin Valley quickly filled with water and overflowed in places during this period. The hydrographs below this summary show just how flashy small streams can be on the valley's west side and in the Sierra foothills. Los Gatos Creek crested at 7.47 feet and Panoche Creek crested at 11.26 feet during the morning hours of January 28th. The Dry Creek gage near Snelling peaked at 8.22 feet the same morning. Meanwhile, small rises occurred on the mainstem rivers in the San Joaquin Valley but remained well below their respective monitor stages at all forecast points.

Although relatively minor, the flooding caused by this slow-moving storm could've been far more significant if antecedent conditions had not been so dry. For the 3-day period ending January 29th, up to 4 inches of rain fell in the San Joaquin Valley while 4 to as much as 8 inches of rain fell in the foothills west of I-5 and in the Sierra foothills. Heavy snow accumulations occurred in the mountains above 5,000 feet during this period and ranged from 10 to 20 inches in the Kern county mountains to as much as 7 to 10 feet over the high Sierra! Snow also fell to pass level in Kern county on the 27th and prompted CHP to close I-5 through the Grapevine on two separate occasions that day. Snow levels rose above pass level by the 28th but did not rise much higher than 5,000 feet during the height of the storm and therefore minimized the threat of debris flow flooding over the burn scars in the Sierra. By the time this storm exited south and east of the HSA, snow levels again lowered to pass level during the early morning hours of the 29th and produced a slushy accumulation of snow over the summits. Although I-5 did not close, CHP had to pace motorists over the Grapevine during the predawn hours. Up to a foot of new snow fell at Pine Mountain Club on the night of the 28th. In the southern Sierra, the snow that fell from this storm brought a 20 percent increase in the snowpack with a month ending total averaging 58 percent of normal. Additionally, this storm system was preceded by strong southeasterly winds over the north and south end of the San Joaquin Valley as well as the valley's west side. The winds gusted up to 50 mph in some locations, felled large trees and caused local power outages.

Until the onset of rain, blowing dust in the Kern county portion of the San Joaquin Valley significantly reduced air quality on the 27th. As mentioned earlier in this summary, the weather pattern turned wet and stormy long before this epic storm lashed the central California interior on the 27th and 28th. Two back to back storms that originated in the Gulf of Alaska tracked through the HSA from the 22nd through the 23rd. A colder and wetter storm followed on the heels of these storm systems and brought additional rain and mountain snow to the district from the night of the 24th into the morning hours of the 26th. Accumulating snow with this storm fell as low as 1500 feet and although it was only a light dusting, it was the first snowfall at such a low elevation since December, 2019.

Prior to January 22nd, an upper level ridge of high pressure dominated the pattern over central California and kept the storm track well north of the HSA. At one point, this ridge shifted far enough westward to allow a weak cold front to move southward through the Golden State. This front was relatively moisture deficient and produced little more than sprinkles in the San Joaquin Valley from the evening of January 3rd into the 4th. Up to a half inch of precipitation fell in the Sierra from Fresno county northward and some locations above 7,000 feet picked up a few inches of snow. Otherwise, the upper level ridge maintained dry weather over the HSA and was responsible for several days of Springlike afternoon temperatures. Thermometer readings topped 70 degrees on the warmest days in the San Joaquin Valley. In the warmest locations of the Sierra foothills and the Kern county desert, high temperatures were well into the 70s. Although most nights were relatively chilly, minimum temperatures during the month rarely fell below 32 degrees in the San Joaquin Valley. January 20th, 21st and 26th were the coldest mornings with frost and daybreak temperatures as low as the upper 20s in some locations. Nonetheless, January, 2021 averaged warmer than normal over much of the HSA.

The other weather highlight of the month was the occurrence of a Mono Wind event during the overnight hours of January 18th into the midday hours of the 19th. A powerful northeast to southwest oriented 140 knot jet on the northwestern flank of a cold, upper level low produced very strong northeast winds in the foothills and higher elevations of the Sierra from Fresno county northward as this low pressure system tracked from Nevada into the coastal waters off northern Baja. Wind gusts of 45 to 55 mph buffeted the Sierra for several hours, downed trees and power lines and damaged roofs of many homes in the Madera county foothills. One weather station in the hills northeast of North Fork, (Cascadel Heights) reported a wind gust of 110 mph shortly before 1 am PST on January 19th.

Perhaps the only normal weather phenomenon of the month was the occurrence of night and morning fog in the San Joaquin Valley which commonly formed in the rural areas of the middle of the valley. Dense morning fog was a frequent occurrence in Hanford and Merced and was observed on 14 of the first 18 days of the month.

In summary, although the frequency of wet storms during the last week of the month produced relatively minor hydrologic impacts throughout the HSA, the rain and mountain snow was a welcome addition to an otherwise abysmally dry start to the year. As of February 1st, the major reservoirs still had plenty of storage room for water and were holding roughly 23 percent of their normal water capacity.

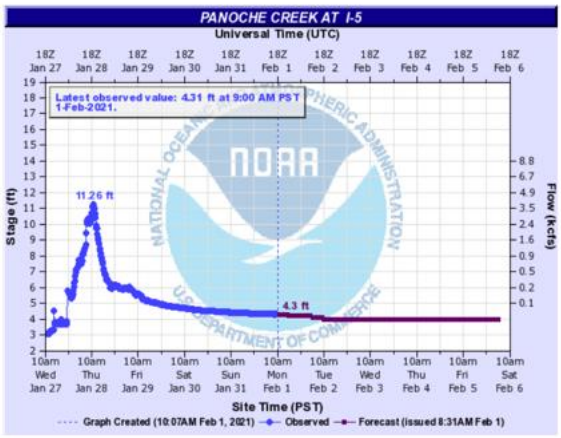
HYDROLOGIC PRODUCTS ISSUED THIS MONTH

Hydrologic Outlooks

The entire HSA with the exception of the Kern county desert	2123Z	26-JAN

Flood Advisories

Urban/Small Stream (northern and central San Joaquin Valley)	1729Z	27-JAN
Urban/Small Stream (central San Joaquin Valley; Mariposa Co foothills	1950Z	27-JAN
Urban/Small Stream (northern and central San Joaquin Valley; Mariposa Co foothills	2247Z	27-JAN
Urban/Small Stream (west side of San Joaquin Valley in Merced Co, Fresno Co)	0449Z	28-JAN
Urban/Small Stream (west side of San Joaquin Valley in Fresno County)	1459Z	28-JAN
Urban/Small Stream (San Joaquin Valley and adjacent foothills-Fresno Co north)	1629Z	28-JAN
Urban/Small Stream (San Joaquin Valley and adjacent foothills-Fresno Co north)	1941Z	28-JAN
Urban/Small Stream (central San Joaquin Valley – Kings Co and SW Fresno Co)	2253Z	28-JAN
Urban/Small Stream (San Joaquin Valley, Sierra foothills north of Fresno Co)	0053Z	29-JAN
Urban/Small Stream (San Joaquin Valley – Fresno Co south)	0452Z	29-JAN
Urban/Small Stream (San Joaquin Valley; Sierra foothills north of Kern Co)	0943Z	29-JAN



Stream gages on the west side of the San Joaquin Valley showed fast rises in water levels on the morning of January 28th. Large boulders and mud closed a portion of Highway 198 in the vicinity of Coalinga. Mud and rock debris covered a section of Little Panoche Road. Flooding was also observed on SR 269 near Huron.