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: **MARCH** YEAR: **2021**

TO: Hydrometeorological Information Center, W/OH12x1
National Weather Service/Office of Hydrology
1325 East-West Highway #7116
Silver Spring, MD 20910

SIGNATURE: Kevin Durfee
(In Charge of Hydrologic Service Area)

DATE: April 3, 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).

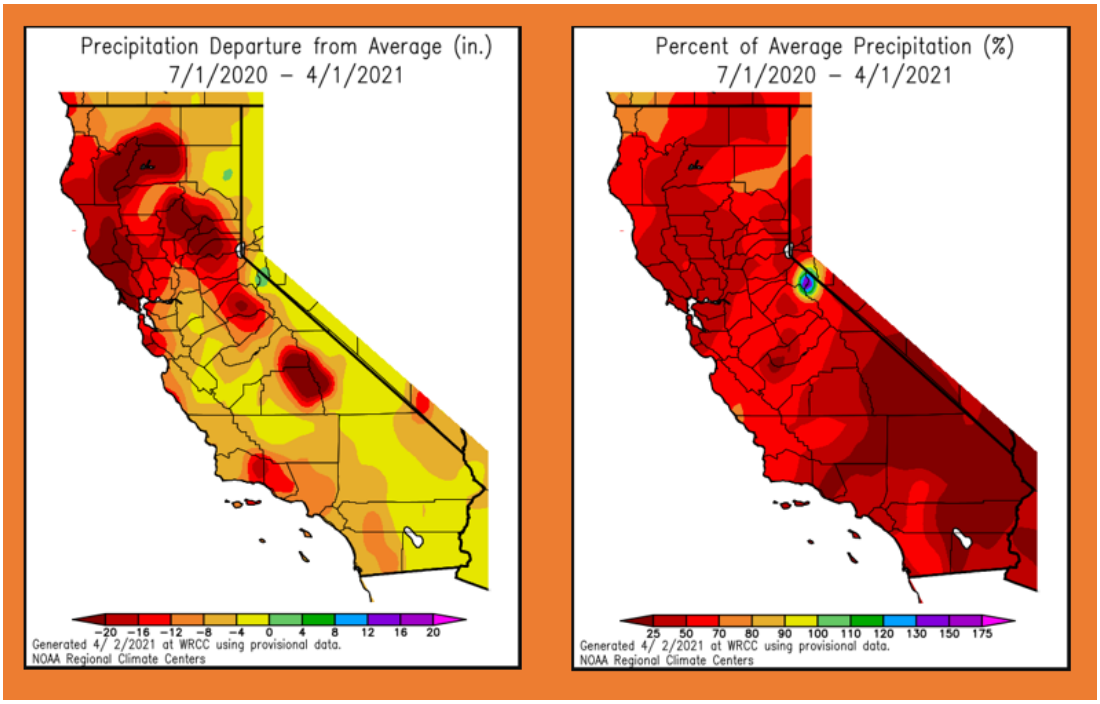
+---+
¦ ¦ An **X** inside this box indicates no flooding occurred for the month within this hydrologic service area.
+---+

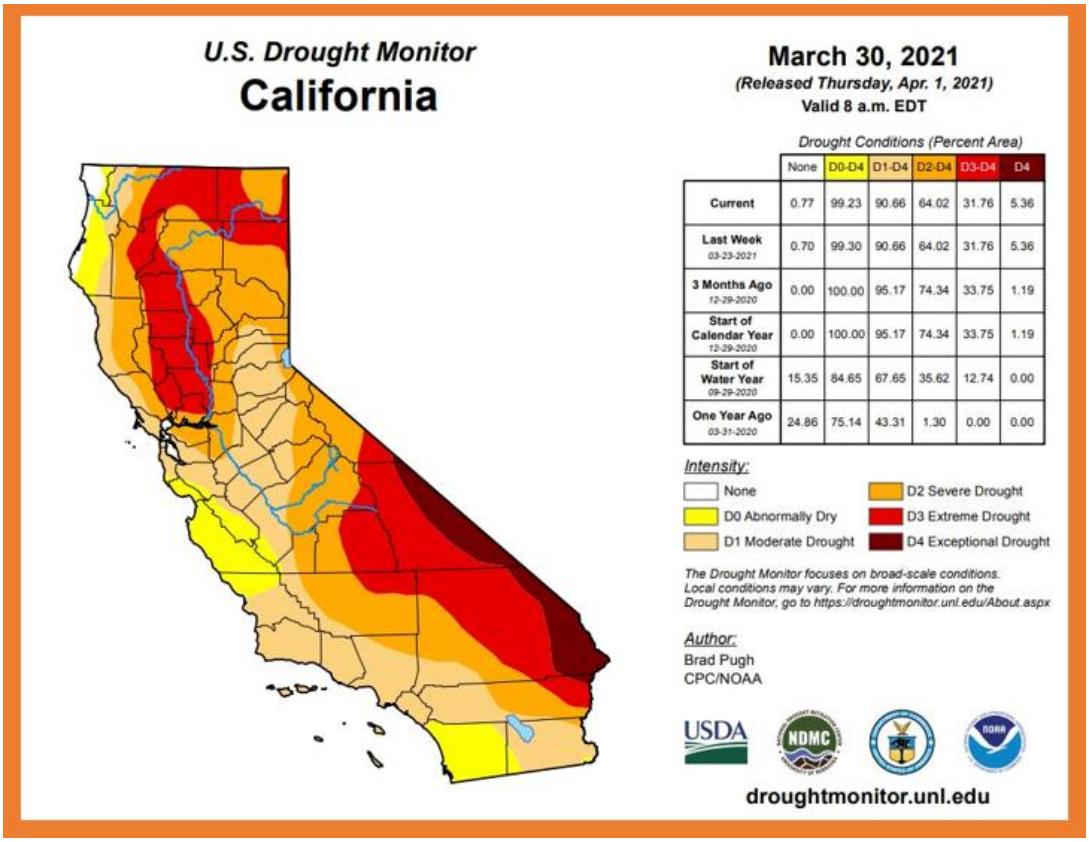
March, 2021 ended up drier than normal over much of the central California interior. Although you couldn't really call it a "miserable March", it certainly wasn't the "miracle March" that all central Californians were desperately hoping for. With an already large precipitation deficit at the start of the month, March, 2021's drier than normal weather pushed the state deeper into its drought. By April 1st, extreme drought conditions existed in the Sierra from Kings Canyon National Park southward into the Sequoia National Forest. A moderate to severe drought existed over the remainder of the HSA. In the charts and maps below this summary, we can see how exceptionally dry the season has been so far, particularly over the southern Sierra where a precipitation deficit of at least 20 inches has been observed over the higher elevations of Tulare County. The 2020-21 season so far has been the driest ever recorded for the Tulare Lake 6 station index and is the second driest on record for the Sierra 5 station index. The five month period between November 1st and April 1st was the second driest on record for the Tulare Lake 6 station index and the 7th driest on record for the Sierra 5 station index.

There were three storm systems that brought rain and mountain snow to the central California interior during the month. The first storm moved through the HSA from the 9th into the 12th and was followed by another storm from the 14th into the 16th. Both of these storms were cold storms that originated in the Gulf of Alaska which brought accumulating snow down to pass level. A light dusting of snow was observed as low as 2500 feet from each of these storms. Travel was disrupted along I-5 through the Grapevine and Highway 58 through Tehachapi pass from the evening of the 9th into the morning hours of the 10th and again from the evening of the 11th into the 12th and for a final time during the early morning hours of the 16th. In each case, CHP had to pace and escort traffic over Tejon Pass. Snow and ice closed I-5 through the Grapevine for a few hours prior to daybreak on the 16th. Meanwhile, several inches of snow fell from these storm systems at higher elevations with up to a foot and a half of new snow above 7,000 feet. Additionally, scattered showers and isolated thunderstorms with hail occurred in the lower elevations on the afternoons of the 10th and 15th. The third and final storm system of the month moved through the central California interior from the 18th into the 20th. Each of these storms brought up to a half inch of precipitation in the San Joaquin Valley and the Kern County mountains with little more than five hundredths of an inch in the Kern County desert. The foothills and higher elevations of the Sierra received the highest totals where a third of an inch to nearly two inches of precipitation fell.

Temperature-wise, the month ended up averaging slightly below normal over much of the HSA. Although most days brought seasonable afternoon temperatures, several nights ended up much chillier than normal. In the coldest locations of the San Joaquin Valley, thermometer readings dipped to frosty levels (below 32 degrees). The last five days of March were the warmest with high temperatures at or above 80 degrees in parts of the San Joaquin Valley, lower foothills and the Kern County desert. Melting snow over the higher elevations of the Sierra during the last week of March brought slight increases in water levels on many rivers as well as in the reservoirs. By April 1st, the water capacity in the reservoirs averaged 27 percent of normal. The snowpack over the southern Sierra averaged 39 percent of normal by the beginning of April as well.

NO HYDROLOGIC PRODUCTS WERE ISSUED THIS MONTH.





SIERRA PRECIP INDEX SUMMARY

31-Mar-21

SIERRA INDEX	2020-2021 Rainfall Season TOTAL	Seasonal Rainfall Average to Date	Percent Season to Date Average	Annual Rainfall Season Average	Percentage Annual Rainfall Season Average	Amount Left to Reach Avg. Total Rainfall Season
NS8SI	22.55	37.52	60.1%	54.52	41.4%	-31.97
SJ5SI	17.74	36.32	48.8%	42.57	41.7%	-24.83
TL6SI	9.36	26.23	35.7%	30.50	30.7%	-21.14

HISTORICAL CLIMATE RECORDS FOR THE SJ5SI

Top 12 Driest Rainfall Season		Driest 6 Months; Nov-Apr		Wettest 6 Months; Nov-Apr		Top 12 Wettest Rainfall Season	
17.03	1923-1924	9.22	1976-1977	66.26	1982-1983	78.71	1982-1983
17.74	2020-2021	12.71	1923-1924	64.65	2016-2017	71.40	2016-2017
18.67	1976-1977	13.67	1975-1976	62.86	1968-1969	70.90	1994-1995
18.86	2014-2015	15.90	2014-2015	60.65	1977-1978	68.16	1968-1969
19.52	2013-2014	17.35	2013-2014	60.36	1994-1995	64.37	2010-2011
22.80	1975-1976	17.57	1930-1931	56.35	1937-1938	64.07	1997-1998
23.09	1993-1994	17.68	2020-2021	56.25	1981-1982	63.55	1981-1982
23.10	1930-1931	18.31	1938-1939	53.15	1966-1967	61.62	1977-1978
23.37	1986-1987	18.45	1986-1987	53.05	1997-1998	59.03	1937-1938
23.43	1960-1961	18.59	1989-1990	53.03	2005-2006	57.75	1985-1986
24.44	1967-1968	19.29	1933-1934	52.32	1955-1956	56.63	1955-1956
24.55	1933-1934	19.54	1993-1994	51.83	1985-1986	56.38	2005-2006

HISTORICAL CLIMATE RECORDS FOR THE TL6SI

Top 12 Driest Rainfall Season		Driest 6 Months; Nov-Apr		Wettest 6 Months; Nov-Apr		Top 12 Wettest Rainfall Season	
9.36	2020-2021	5.97	1976-1977	51.54	1968-1969	58.31	1982-1983
13.04	2014-2015	9.35	2020-2021	48.82	1982-1983	55.86	1968-1969
13.65	1923-1924	10.40	2014-2015	47.83	1966-1967	53.59	1997-1998
14.31	1958-1959	10.44	1923-1924	45.52	1937-1938	49.04	1966-1967
14.70	2013-2014	11.20	1975-1976	45.19	1977-1978	47.11	1937-1938
15.15	1960-1961	11.78	1958-1959	44.17	2016-2017	46.59	1977-1978
15.45	2012-2013	12.26	2013-2014	42.59	1951-1952	46.08	2016-2017
15.87	1933-1934	12.48	1933-1934	42.48	1997-1998	45.83	1994-1995
16.10	1976-1977	13.12	1960-1961	41.57	1942-1943	44.72	2010-2011
16.24	1975-1976	13.65	2012-2013	39.87	1985-1986	44.30	1951-1952
16.30	1971-1972	13.69	1971-1972	38.57	1936-1937	42.69	1985-1986
16.77	2006-2007	13.94	1989-1990	38.55	2010-2011	42.49	1942-1943

CC:
W/OH12X1
W/WR2
CNRFC
WFO HNX
WFO STO