



Keepers of the Kern Snow and Water Report – January 2, 2021



"The earth, the air, the land, and the water are not an inheritance from our forefathers but on loan from our children.
So we have to handover to them at least as it was handed over to us." - Gandhi

Summary: As of today there is an average of 2" water content in the Kern River drainage snowpack or 24% of normal for this date. Annual river runoff is forecast to be 40% of average or 289,000 acre feet. The Riverkern weather station reports 7% of average annual rainfall. The peak Kern River drainage flow is forecast to be 4,100 acre feet on May 7.

Kern River Drainage Snowpack

Currently in the Kern River drainage there is an average of 2" water content on the ground or 11% of the California annual April 1 snow pack water content benchmark date.

Rainfall¹

Democrat - 1.51"	Ponderosa - 1.13"
Johnsondale - 2.44"	Riverkern ² - 0.88", 7% of annual average
Lake Isabella Dam - 1.33"	Walker Pass - 0.64"
Peppermint - 0.73"	Wofford Heights - 2.1"

¹ The water year is from October 1 to September 30.

² Kern River Powerhouse Number 3 thirty year average annual rainfall is 12.49".

Kern River and Lake Isabella Water Volume³

Observed Water Year Flow to Date: 41% of average - 28,600 acre feet⁴ (af)

Average Water Year to Date Flow: 69,600 af

Forecast Water Year Most Probable Volume: 40% - 289,000 af

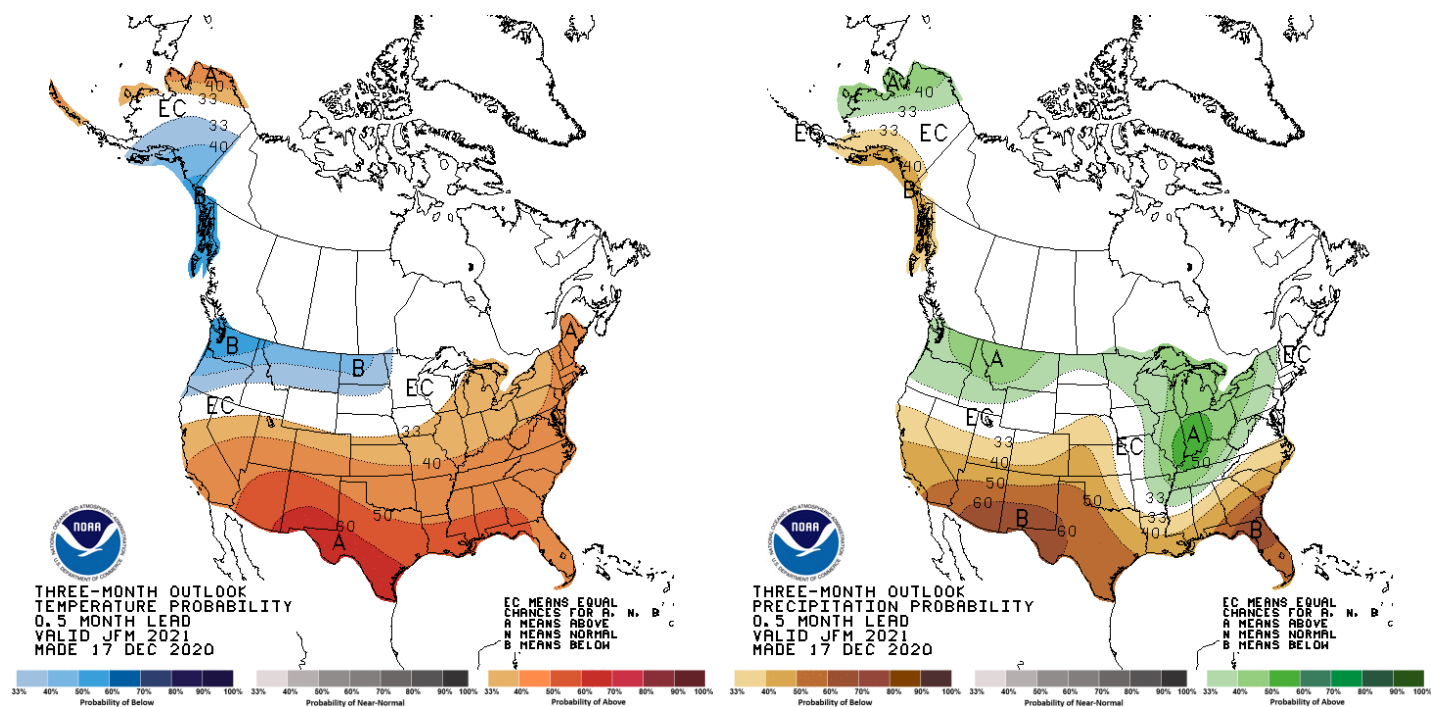
Average Kern River Drainage Water Year Volume: 722,200 af (1930-2020)

Forecast Peak Flow Day: May 7, 2021 - 4,100 af

Notable High Volume Years	Notable Low Volume Years
2019 – 1,273,000 af, 176%	2020 – 354,100 af, 49%
2017 – 1,811,000 af, 251%	2015 – 130,400 af, 18%
1983 – 2,318,000 af, 321%	1977 – 186,000 af, 26%
1969 – 2,227,000 af, 308%	1961 – 175,000 af, 20%

National Weather Service Climate Prediction Center Seasonal Outlook

The Climate Prediction Center is forecasting above average temperatures and below average precipitation for the southern Sierra Nevada from January through March, 2021.



³ Includes total inflow into Lake Isabella.

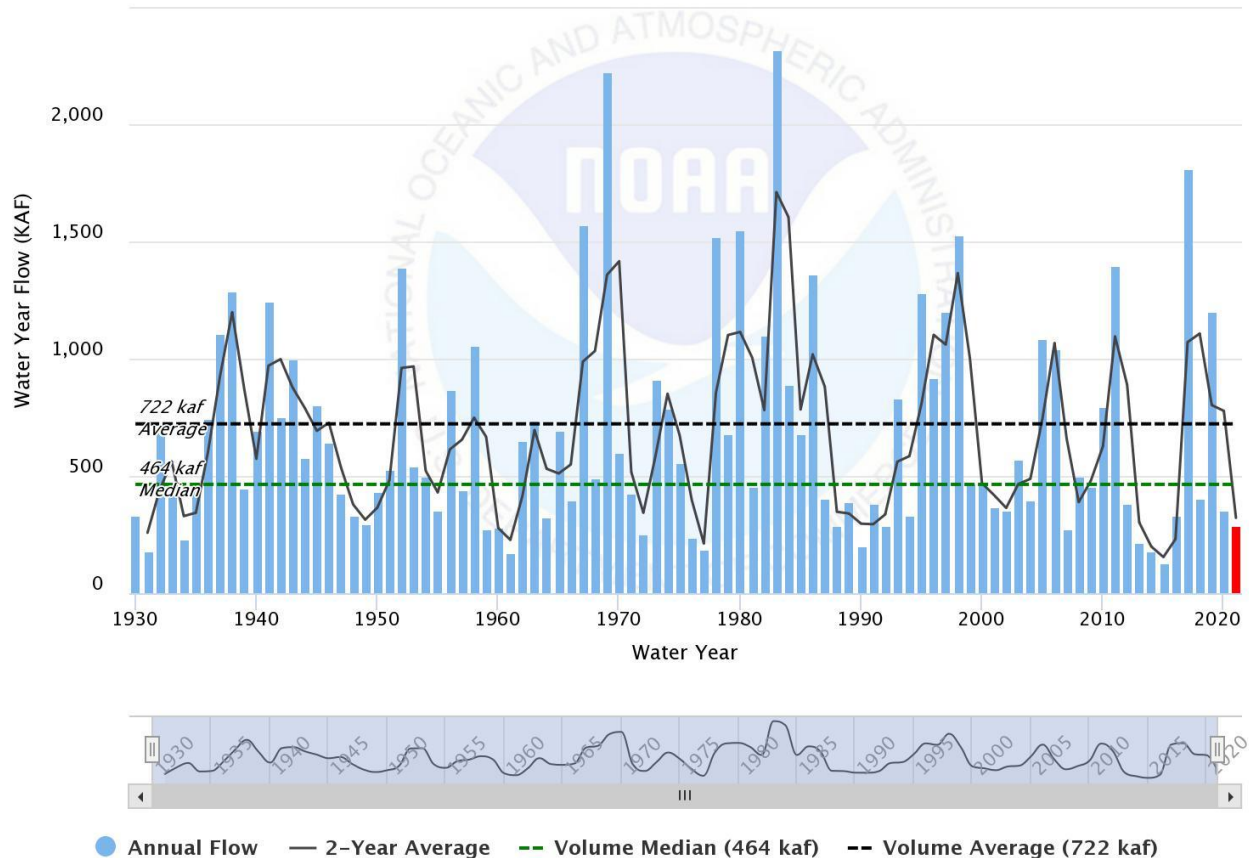
⁴ One acre-foot equals 326,000 gallons, or enough water to cover an acre of land, about the size of a football field, one foot deep.

The chart shows the annual Lake Isabella flows from 1930 to 2021.

The water year is from October 1 to September 30.

KAF = thousands of acre feet

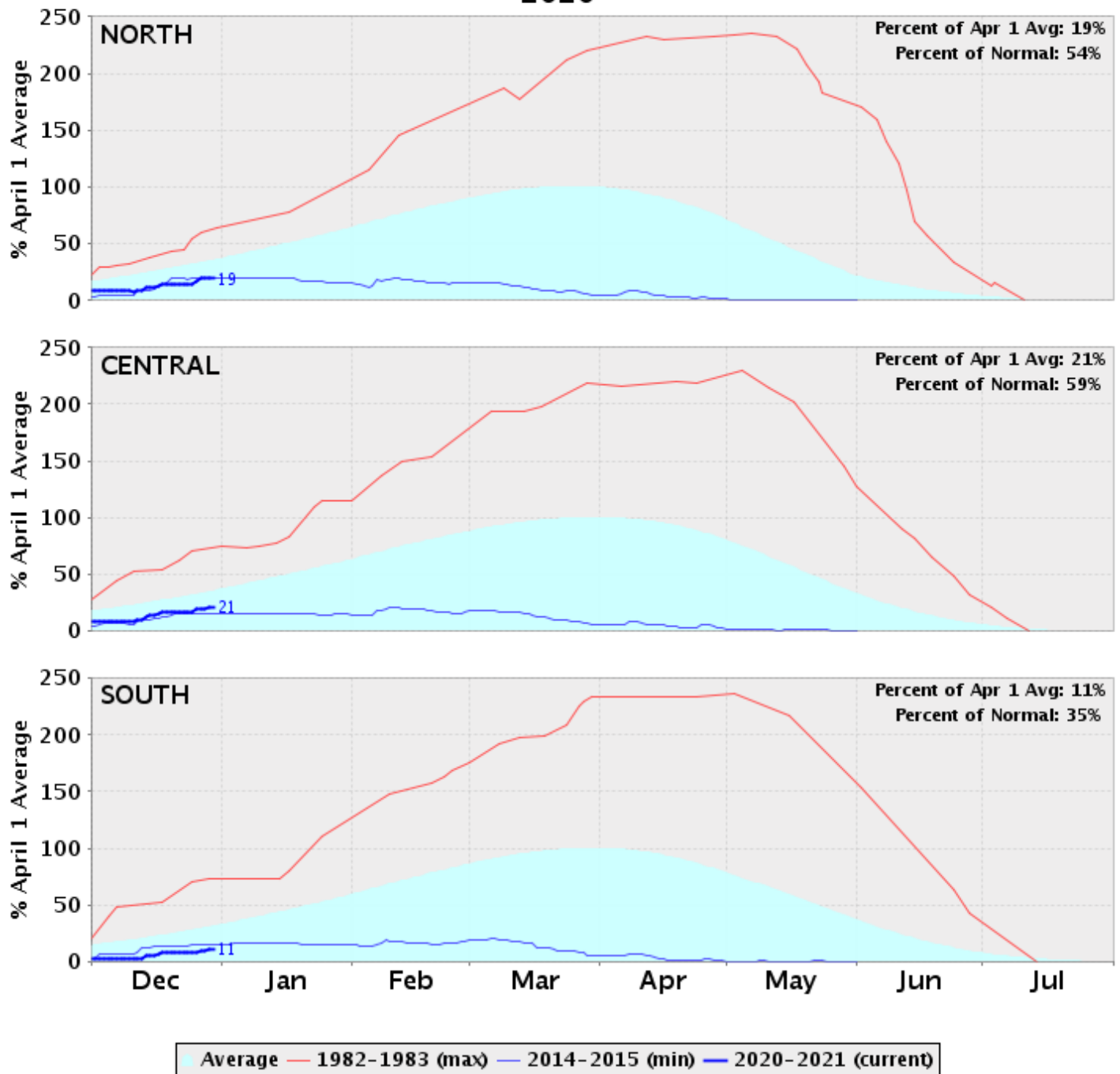
Water Year Historical Flow for ISAC1



Fun Facts

- The 2020 Kern River water volume was 354,100 acre feet and that amount of water is the equivalent of a water column that is one acre square in area by 67 miles high. In 1983 Kern River water volume was 2,318,000 acre feet or equivalent to a one acre square in area by 439 miles high.
- The International Space Station orbits the earth at 220 miles above the earth's surface.
- What is the measurement of flow in a river?
Answer: The measurement used to determine the flow in a river is "CFS", which is Cubic Feet per Second flowing past a measurement point. Gauges along the river indicate how much water is moving past a given point. The higher the "CFS" the higher the flow.
- The Kern River supplies 20% of Kern County's municipal, industrial and agriculture water usage.
- Annually, who uses the water in Kern County?
Answer: Municipal and Industrial: 166,000 acre-feet; Agricultural: 2,294,000 acre-feet.
- In 2019 Kern County's highest value crops were almonds valued at \$1,643,241,000 (226,000 acres), followed by grapes valued at \$1,425,274,000 (105,700 acres).

California Snow Water Content – Percent of April 1 Average For: 30-Dec-2020



The south region includes the San Joaquin, Kings, Mono, Owens, Kaweah, Tule and Kern River drainages.

Map of the Kern River Drainage



Source

- Kings-Kern Divide
- Location: Sequoia National Park
- Elevation: 13,608 feet (4,148 m)

Mouth

- Buena Vista Lake Bed
- Location: San Joaquin Valley
- Elevation: 299 feet (91 m)

Length: 164 miles (264 km)

Basin Size: 3,612 square miles (9,360 km²)

Links

Most Recent Snow (Water Content) Data

http://cdec.water.ca.gov/cgi-progs/getAll?sens_num=3

California Snow Water Content Chart

<http://cdec.water.ca.gov/snowapp/swcchart.action>

Kern River - Lake Isabella (ISAC1)

<https://www.cnrfc.noaa.gov/ensembleProduct.php?id=ISAC1&prodID=12>

California Nevada River Forecast Center Interactive Map Interface

<https://www.cnrfc.noaa.gov/ol.php?type=snow>

National Weather Service Climate Prediction Center Seasonal Outlook

https://www.cpc.ncep.noaa.gov/products/predictions//multi_season/13_seasonal_outlooks/color/churchill.php



KeepersOfTheKern.org

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