



# The Weather Wire

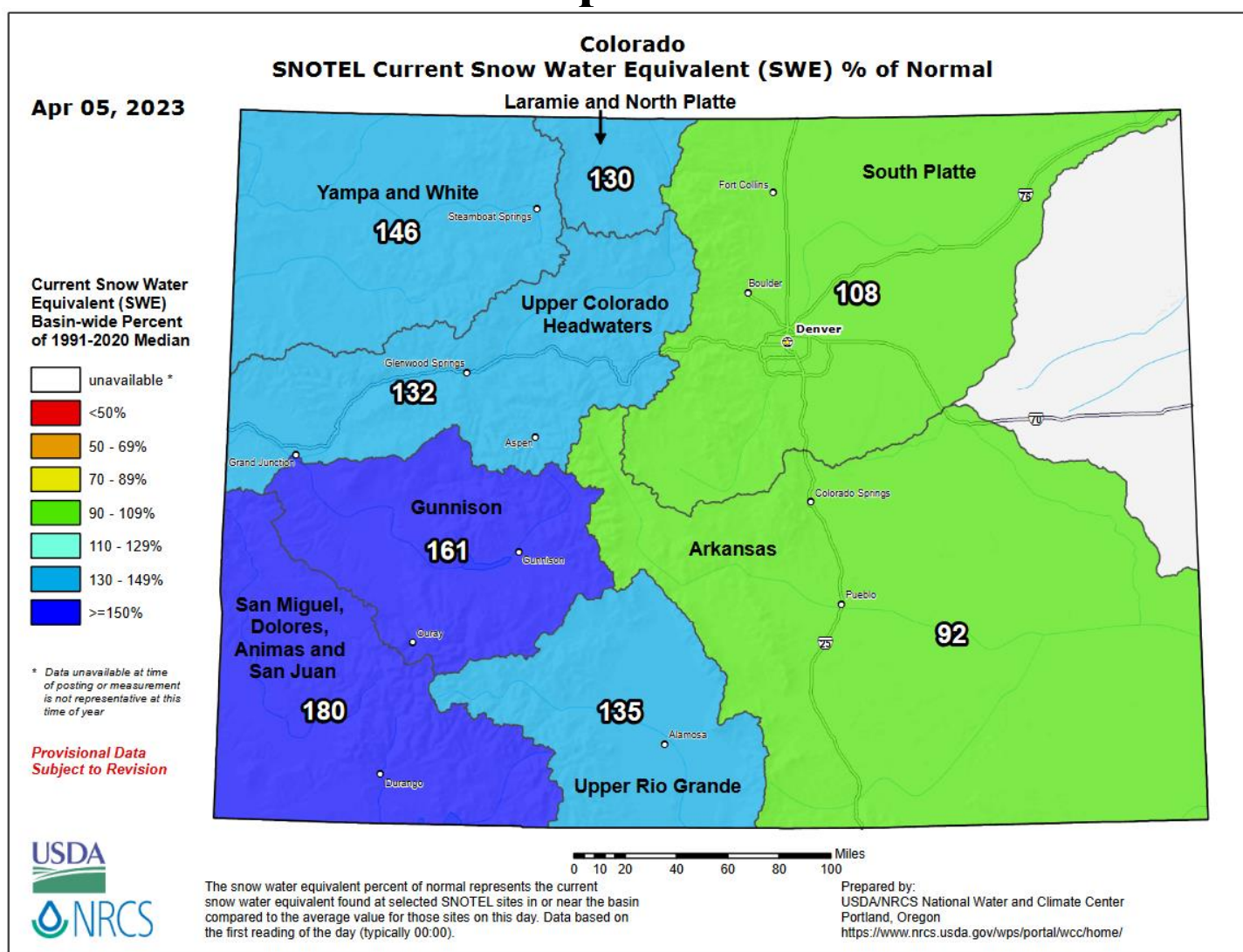
April 2023

Volume 30 Number 4

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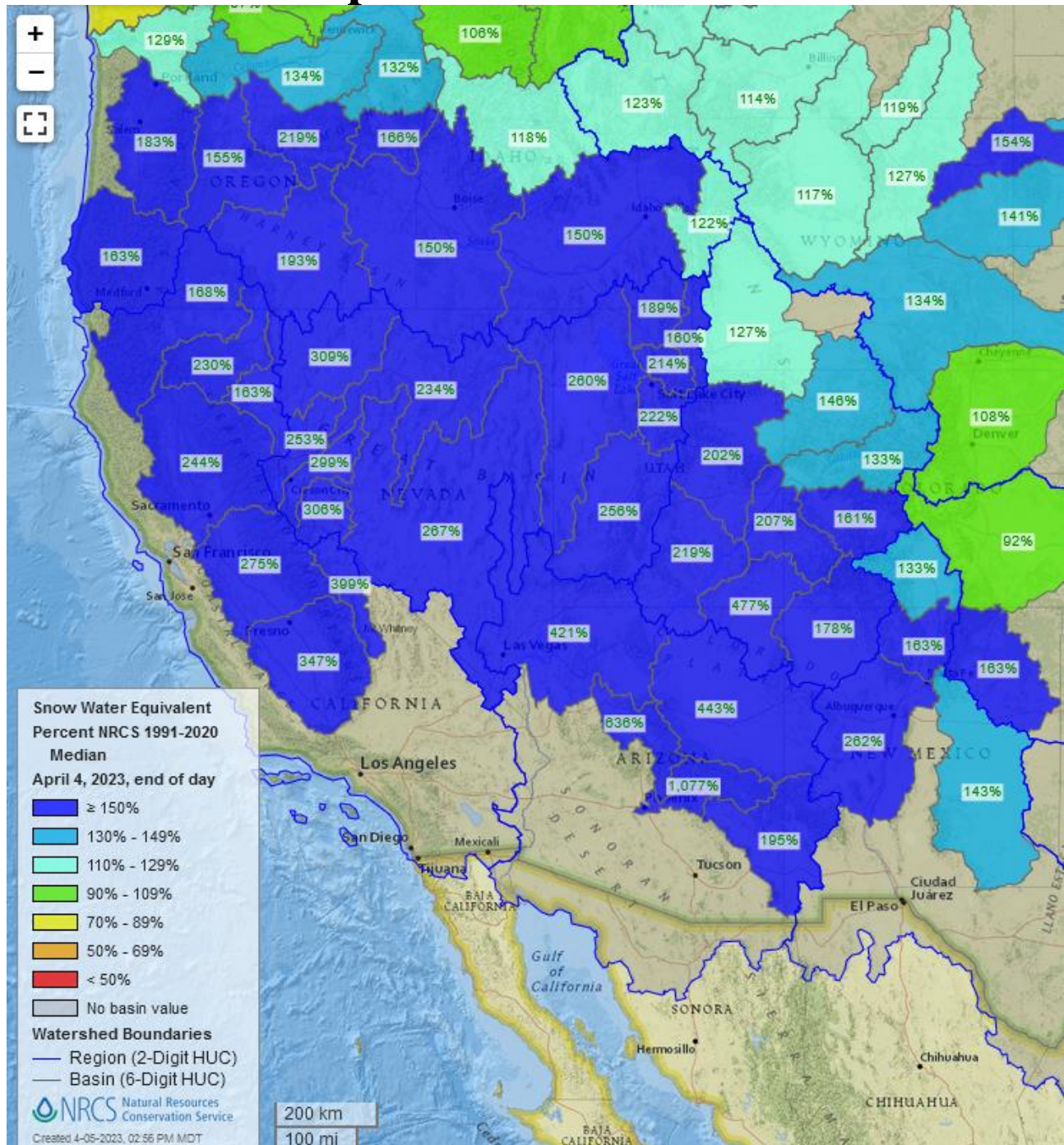
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## Current Colorado Snowpack



Colorado snowpack is above normal for all river basins west of the Continental Divide with slightly above or below normal snowpack for the South Platte and Arkansas river drainages. There is roughly 1 more month of snow accumulation in the high country with the month of May starting the melting and then the melt season accelerates into June and many rivers peak mid to late June or into the first week of July.

## Western US Snowpack



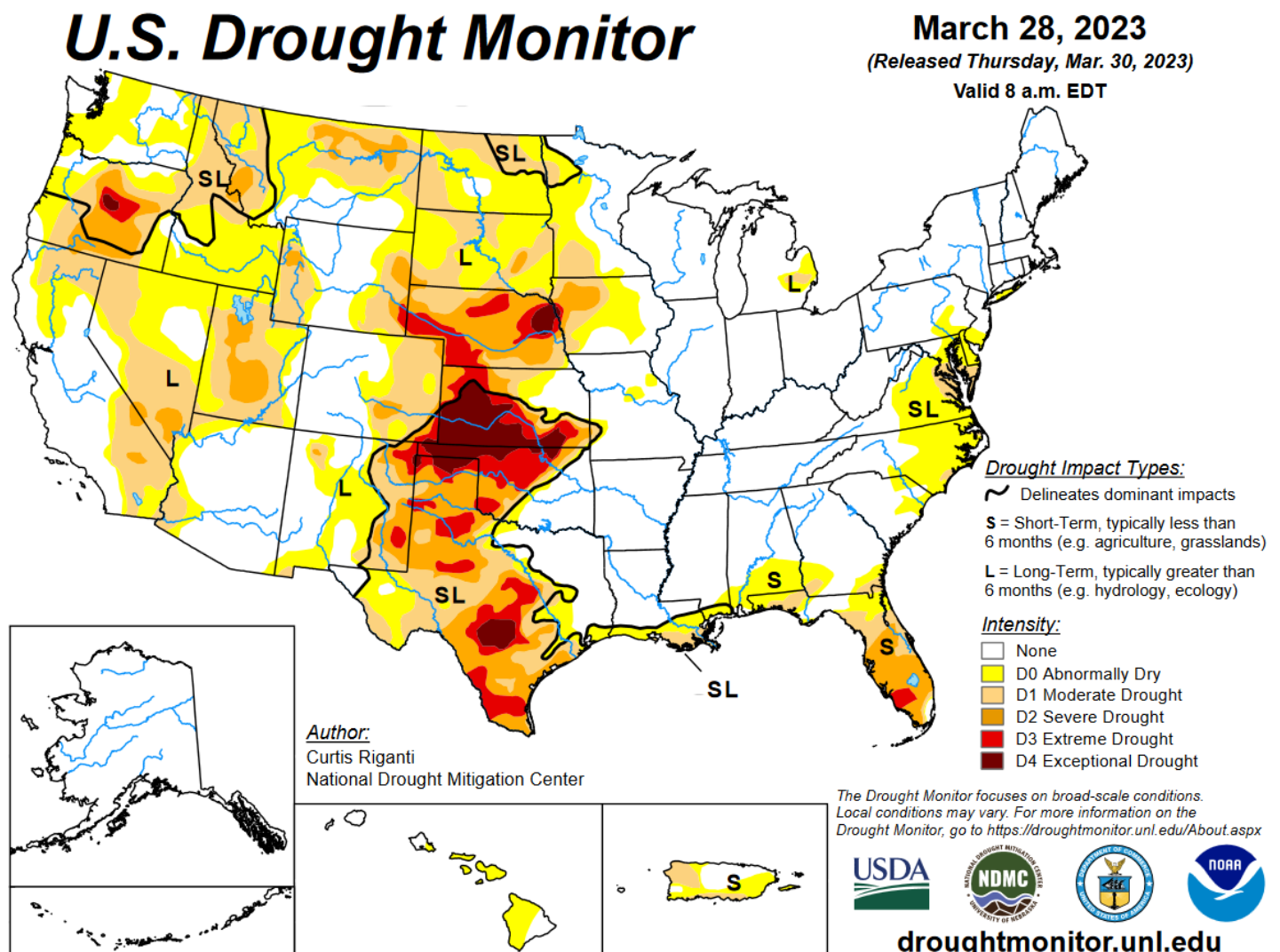
The map above shows snow water equivalent or if all the snow melted, how much water it would melt down to over the western US. This map expands on the Colorado map above and shows how significant the snow cover is over parts of AZ/CA/NV/UT! Record snowpack is being observed over parts of the west including CA and UT and some areas have never experienced snow of this magnitude in our lifetimes. The west will begin to dry out over the coming months and the melting of all this snow will likely result in flooding. The good news is



that all this water trapped in the form of snow will eventually fill reservoirs and help to alleviate a long duration drought that has persisted over parts of the west.

## Drought Update

Overall, much of eastern CO remains under abnormally dry conditions or moderate drought as the month of March did not provide much in the way for moisture for areas south of Larimer and Weld Counties. All of western Colorado is currently drought free thanks to abundant snowfall this winter. Drought conditions remain but have improved significantly over AZ/CA/NV and UT over the past few months. East of the Mississippi river drought coverage is minimal and not severe except for parts of FL. The worst of the drought conditions persist to our east over NB/KS/OK and TX.



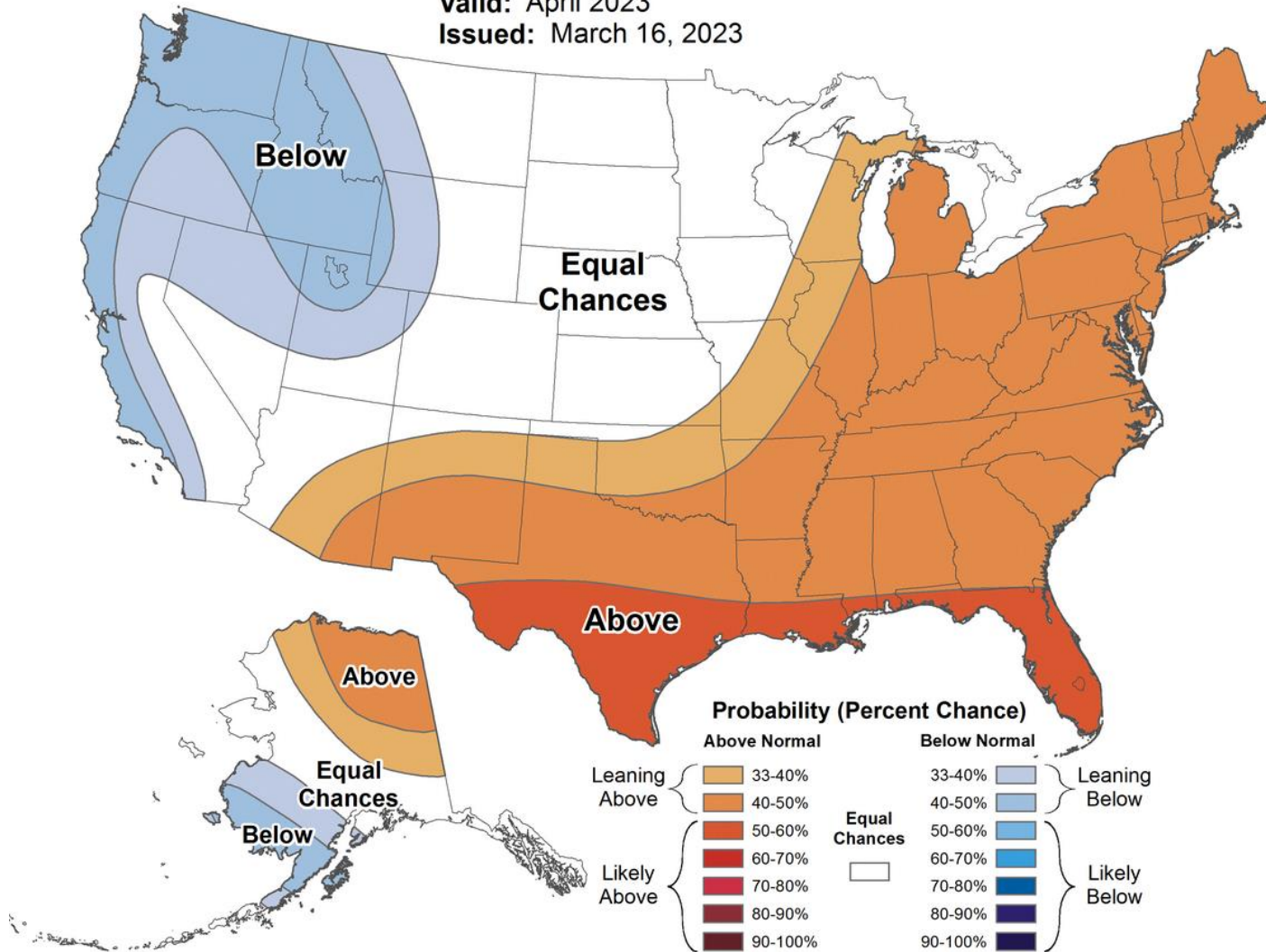
The map below shows forecasted temperature deviances for April 2023. There are equal chances for above or below normal temperatures over the state of Colorado. If you remember last month also had equal chances for above or below normal temperatures and we ended up on the cold side.



# Monthly Temperature Outlook



Valid: April 2023  
Issued: March 16, 2023



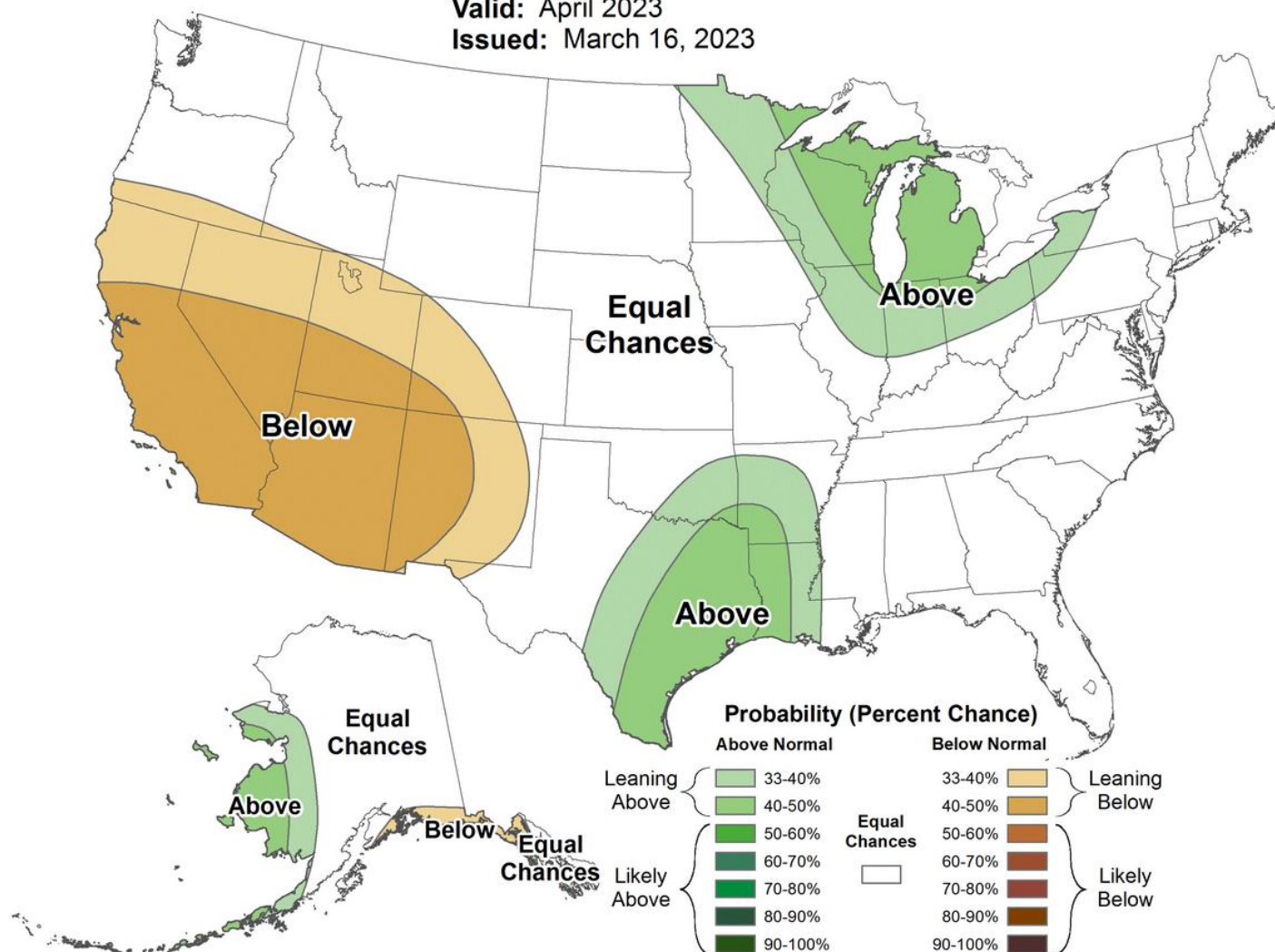
The map below shows forecasted precipitation deviances for April 2023. Colorado is projected to have equal chances for above or below normal precipitation for the month over eastern areas with a bias towards below normal precipitation over W and SW areas of the state. Chances for above normal precipitation reside over the Great Lakes region and parts of the Gulf coast.



# Monthly Precipitation Outlook



Valid: April 2023  
Issued: March 16, 2023

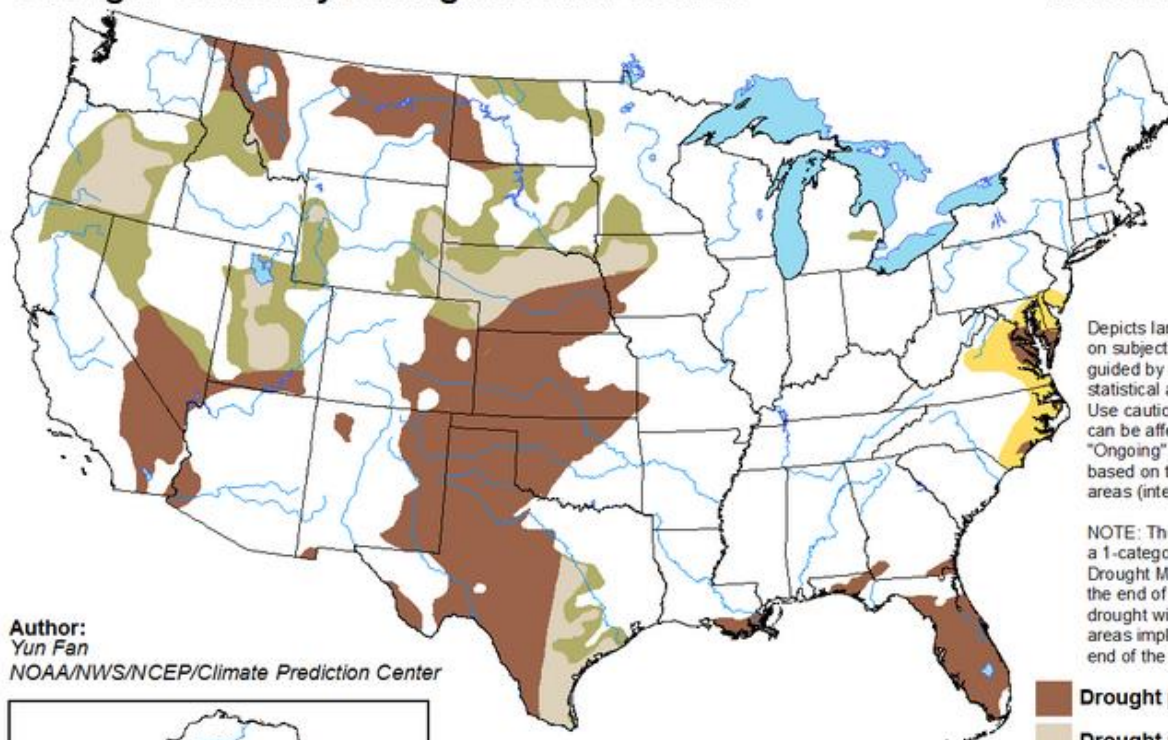




Drought conditions are expected to persist over eastern Colorado during the month of April. Drought conditions are expected to improve dramatically or be removed over parts of CA/NV/OR and UT. Drought development appears likely over parts of the mid-Atlantic.

## U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

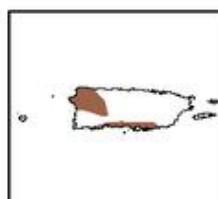
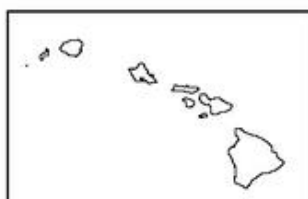
Valid for April 2023  
Released March 31, 2023



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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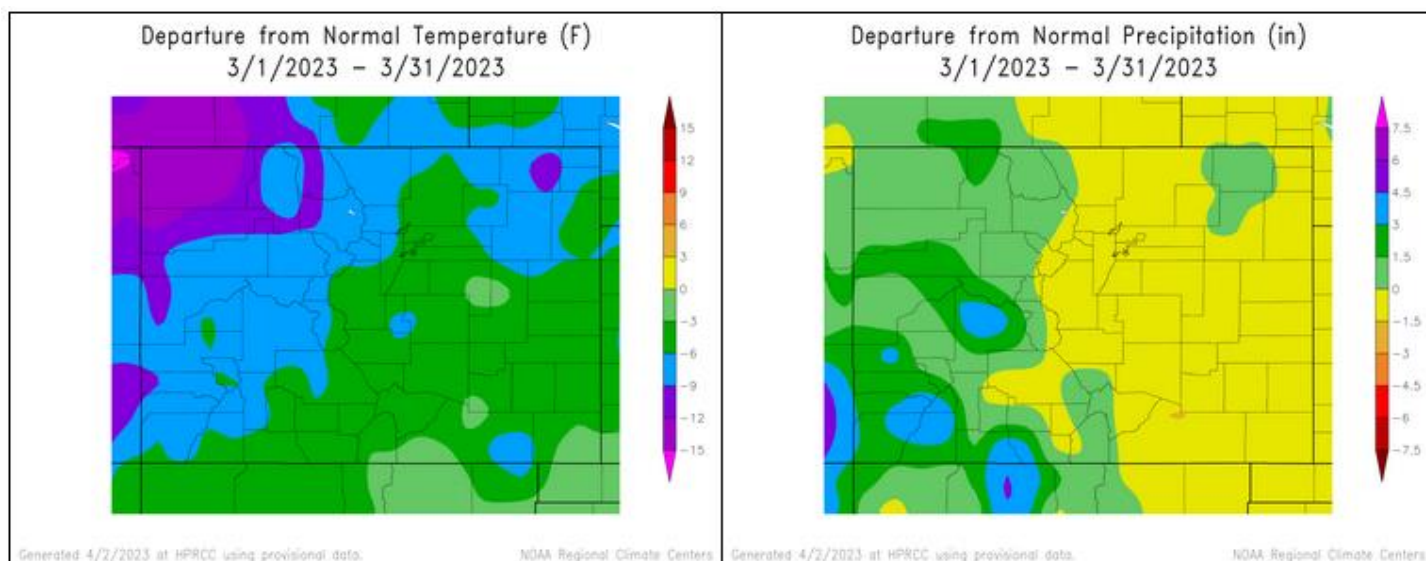
- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZGd>

# March Summary

March of 2023 continued the trend of below normal temperatures with above normal to well below normal snowfall from Fort Collins to Castle Rock. Average high temperatures for the month of March at DIA were 49.1°F which was 6.6 degrees below the normal of 55.7°F. Average low temperatures were 22.7°F, 4.8 degrees below the normal of 27.5°F. Combining the average high and low temperature resulted in a monthly mean temperature of 35.9°F which was 5.7 degrees below the normal of 41.6°F. The highest temperature during the month was 71° which occurred on the 15<sup>th</sup> with a low temperature of 13°F recorded on the 18<sup>th</sup> and 28<sup>th</sup>. Total precipitation at DIA was 0.49” which is 0.37” below the normal of 0.86”. There were 3-4 events that produced measurable snow along the I-25 corridor with 10 or more total events in the foothills. DIA reported a trace of snow on the 1<sup>st</sup>, 3<sup>rd</sup>, 10<sup>th</sup>, 22<sup>nd</sup> and 23<sup>rd</sup> with some areas in and around Denver reporting more than a trace. The 3 measurable snow events at DIA occurred on the 15-16<sup>th</sup>, 24-25<sup>th</sup> and 26-27<sup>th</sup> and produced a combined 5.1” of snow at DIA. The 5.1” of snow was 3.7” below the normal of 8.8”. Most areas in and around the Denver Metro area reported below normal snowfall with between 2.5-6.0” of snow with isolated higher and lower amounts with 10-18” in the foothills. Further north into Fort Collins snowfall was more abundant and came in above normal from Loveland northward into Fort Collins and east into Greeley with 10-17” of snow reported. Boulder County tallied 3-8” of snow over the lower elevations with isolated higher and lower amounts with 10-18” in the foothills. For reference, the city of Boulder typically averages 15.7” of snow in March but only reported 4.3” which was 11.4” below normal!



Over SE Colorado the month of March 2023 continued the trend of below normal temperatures with precipitation and snowfall also coming in below normal from Monument to Pueblo despite the cold weather. Average high temperatures for the month of March at the municipal airport in Colorado Springs were 51.5°F which was 3.4 degrees below the normal of 54.9°F. Average low temperatures were 24.0°F, 3.3 degrees below the normal of 27.3°F. Combining the average high and low temperature resulted in a monthly mean temperature of 37.8°F which was 3.3 degrees below the normal of 41.1°F. The highest temperature during the month was 70° which occurred on the 15<sup>th</sup> with a low temperature of 9°F recorded on the 28<sup>th</sup>. Total precipitation at the airport in Colorado Springs was only 0.08” which is 0.71” below the normal of 0.79”. There were only 2 events that produced measurable snow in Colorado Springs with 6 additional events that produced a trace, but some other areas did report minor snow accumulations. The 2 measurable snow events in Colorado Springs occurred on the 15-16<sup>th</sup> with 0.1” reported and 26-27<sup>th</sup> with 0.2” and produced a combined 0.3” of snow. The 0.3” of snow was 5.4” below the normal of 5.7” and is now the 8<sup>th</sup> least snowiest March on record. Most areas in and around Colorado Springs reported between 0.5-3.0” of snow with isolated higher and lower amounts with 4.0-7.0” or more from Palmer Lake into Black Forest which is well below normal. Further south into Pueblo temperatures were also below normal with below normal snowfall for most areas with the exception being the Penrose area.

Pueblo reported a monthly mean temperature of 39.9°F which was 4.0 degrees below the normal of 43.9°F. Pueblo tallied 1.4” of snow, more than Colorado Springs but 3.1” below the normal of 4.7”. Pueblo recorded 0.10” of moisture, 0.72” below the normal of 0.82”. Typical snow totals in and around Pueblo ranged from 0.5-2.2” with up to 4.0” reported in Canon City and 7.0” reported on the north side of Penrose.

## March Statistics DIA

TEMPERATURE (IN DEGREES F)	OBSERVED VALUE	NORMAL VALUE		DEPARTURE FROM NORMAL
AVERAGE MAX	49.1°F	55.7°F		-6.6°F
AVERAGE MIN	22.7°F	27.5°F		-4.8°F
MONTHLY MEAN	35.9°F	41.6°F		-5.7°F
DAYS WITH MAX 90 OR ABOVE	0.0	0.0		0.0
DAYS WITH MAX 32 OR BELOW	1	1.7		-0.7
DAYS WITH MIN 32 OR BELOW	30	23.2		6.8
DAYS WITH MIN 0 OR BELOW	0	0.2		-0.2
	OBSERVED VALUE	DATE(S)	NORMAL VALUE	DEPARTURE FROM NORMAL
HIGHEST	71°F	3/15		
LOWEST	13°F	3/18, 3/28		
HEATING DEGREE DAYS				
MONTHLY TOTAL	892		726	166
SEASONAL TOTAL (since 7/1)	5432		5035	397
COOLING DEGREE DAYS				
MONTHLY TOTAL	0		0	0
YEARLY TOTAL (since 1/1)	0		0	0
PRECIPITATION (IN INCHES)				
MONTHLY TOTAL	0.49”		0.86”	-0.37”
YEARLY TOTAL	1.99”		1.65”	0.34”
GREATEST IN 24 HOURS	0.25”	3/15-3/16		
DAYS WITH MEASURABLE PRECIP.	6		6.2	-0.2
SNOWFALL (IN INCHES)				



MONTHLY TOTAL	5.1"		8.8"	-3.7"
SEASONAL TOTAL	46.7"		41.8"	4.9"
GREATEST IN 24 HOURS	2.2"	3/25		
GREATEST DEPTH	2.0"	3/16, 3/25		

## April Preview

If you believe the Drought monitor outlooks, April is projected to have equal chances for above or below normal temperatures and precipitation over the I-25 corridor of eastern CO. With the way this winter into spring is playing out it would not be surprising to see below normal temperatures once again but we are due to break out of this cold spell and near normal temperatures are expected. Snowfall most likely will come in near normal as well but all it takes in April is one good storm to make or break the month in the snowfall department. The highest probability of snow will be through the first 3 weeks of the month then the chances for meaningful snow begin to decrease and a larger % of the precipitation will fall as rain. Overall, there are typically 2-4 snow events below 6,000' (only 1-2 plowable events) with more snow events for the Front Range foothills and Palmer Divide where elevations reach and exceed 7,000'. Snow that falls this time of year will typically melt off pavement and is limited to grass, especially if snow falls during the day. If snow falls at night with temperatures in the 24-28 degree range pavement accumulations can and do occur with periods of icing due to the melting during the day. Storms that produce accumulating snow in April are often accompanied by wind and the snow can fall heavily at times. Sometimes the entire monthly total in snowfall can occur from just one storm! Hopefully we can get a decent storm this month and end up with near normal totals for the snow season. 6.1" of snow is typical in April over recent years but many years we experience higher or lower totals and normal only happens on paper. Temperature wise we begin the month with average highs at 60 degrees and end the month with average highs at 65 degrees. Average monthly lows start off at 31 and warm to 38 by the end of the month. If you are thinking of starting a garden in April, DON'T... but you can start some seeds indoors to stage for outdoor planting in the 2<sup>nd</sup> or 3<sup>rd</sup> week of May. There are typically a couple days where temperatures can dip into the teens with a record low of -2 set on 4/2/1975 and we have already hit a low of 11°F on the morning of the 5<sup>th</sup> which broke a daily record low temperature. Even on the last day of April the record low is still in the teens at 19 degrees. There are 72 minutes of sunlight gained in April, 43 minutes on the sunrise time and 29 minutes on the sunset time. The additional daylight and higher sun angle helps to melt snow fairly quickly after it falls and the "green up" typically begins to occur over the native landscape helping to alleviate fire danger. Precipitation for the month of April increases to 1.68" and is one of the wetter months of the year climatologically speaking, falling just behind May. Almost 1 out of 3 days can have precipitation with on average 9 days during the month having measurable precipitation.

DENVER'S MARCH CLIMATOLOGICALLY NORMAL	
(NORMAL PERIOD 1991-2020 DIA Data)	OBSERVED VALUE
<b>TEMPERATURE</b>	
AVERAGE HIGH	61.7°F
AVERAGE LOW	33.9°F
MONTHLY MEAN	47.8°F
DAYS WITH HIGH 90 OR ABOVE	0.0
DAYS WITH HIGH 32 OR BELOW	0.5

DAYS WITH LOW 32 OR BELOW	13.2
DAYS WITH LOWS ZERO OR BELOW	0.0
<b>PRECIPITATION</b>	
MONTHLY AVERAGE	1.68"
DAYS WITH MEASURABLE PRECIPITATION	9.0
AVERAGE SNOWFALL IN INCHES	6.1"
DAYS WITH 1.0 INCH OF SNOW OR MORE	NA
<b>MISCELLANEOUS AVERAGES</b>	
HEATING DEGREE DAYS	517
COOLING DEGREE DAYS	1
WIND SPEED (MPH)	10.0 mph
WIND DIRECTION	South
DAYS WITH THUNDERSTORMS	2
DAYS WITH DENSE FOG	1
% POSSIBLE SUNSHINE	67%
<b>EXTREMES</b>	
RECORD HIGH	90 on 4/30/1992
RECORD LOW	-2 on 4/2/1975
WARMEST	56.4 in 1946, 1981
COLDEST	38.8 in 1920
WETTEST	8.42" in 1900
DRIEST	0.03" in 1963
SNOWIEST	33.8" in 1933
LEAST SNOWY	0.0" in 1882, 1930, 1943, 1995

## Snowfall

City	Oct	Nov	Dec	Jan	Feb	Mar	Apr/May	Total
Aurora (Central)	TR	8.2"	12.4"	10.5"	5.8"	3.4"		40.3"
Boulder	0.1"	24.5"	16.0"	9.3"	17.3"	4.3"		71.5"
Brighton	0.0"	9.0"	10.2"	11.6"	5.2"	5.4"		41.4"
Broomfield	TR	15.1"	16.1"	10.7"	8.6"	6.2"		56.7"

Castle Rock	3.8"	5.6"	11.1"	13.3"	5.2"	6.0"		45.0"
Colo Sprgs Airport	TR	7.4"	3.9"	5.3"	12.4"	0.3"		29.3"
Denver DIA	TR	10.9"	13.0"	13.0"	4.7"	5.1"		46.7"
Denver Downtown	TR	9.1"	9.6"	9.7"	8.0"	2.0"		38.4"
Fort Collins	0.2"	9.2"	4.0"	8.8"	4.8"	15.0"		42.0"
Golden	2.0"	22.6"	16.2"	10.5"	14.7"	7.2"		73.2"
Highlands Ranch	2.5"	10.6"	11.2"	8.6"	5.8"	2.7"		41.4"
Lakewood	TR	10.6"	14.2"	9.0"	8.7"	3.3"		45.8"
Littleton	1.2"	14.1"	11.0"	8.8"	7.8"	2.7"		45.6"
Monument	5.5"	5.8"	13.2"	13.3"	10.0"	4.5"		52.3"
Parker	1.0"	6.9"	11.0"	12.6"	5.8"	5.6"		42.9"
Sedalia - Hwy 67	5.2"	7.6"	10.6"	15.2"	8.0"	3.2"		49.8"
Thornton	TR	12.6"	12.5"	11.8"	6.3"	6.7"		49.9"
Westminster	TR	13.3"	15.5"	10.2"	9.6"	6.3"		54.9"
Wheat Ridge	TR	15.2"	14.4"	12.0"	9.1"	4.5"		55.2"
Windsor	0.0"	8.6"	7.3"	9.9"	6.0"	12.3"		44.1"

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