



The Weather Wire

September 2020

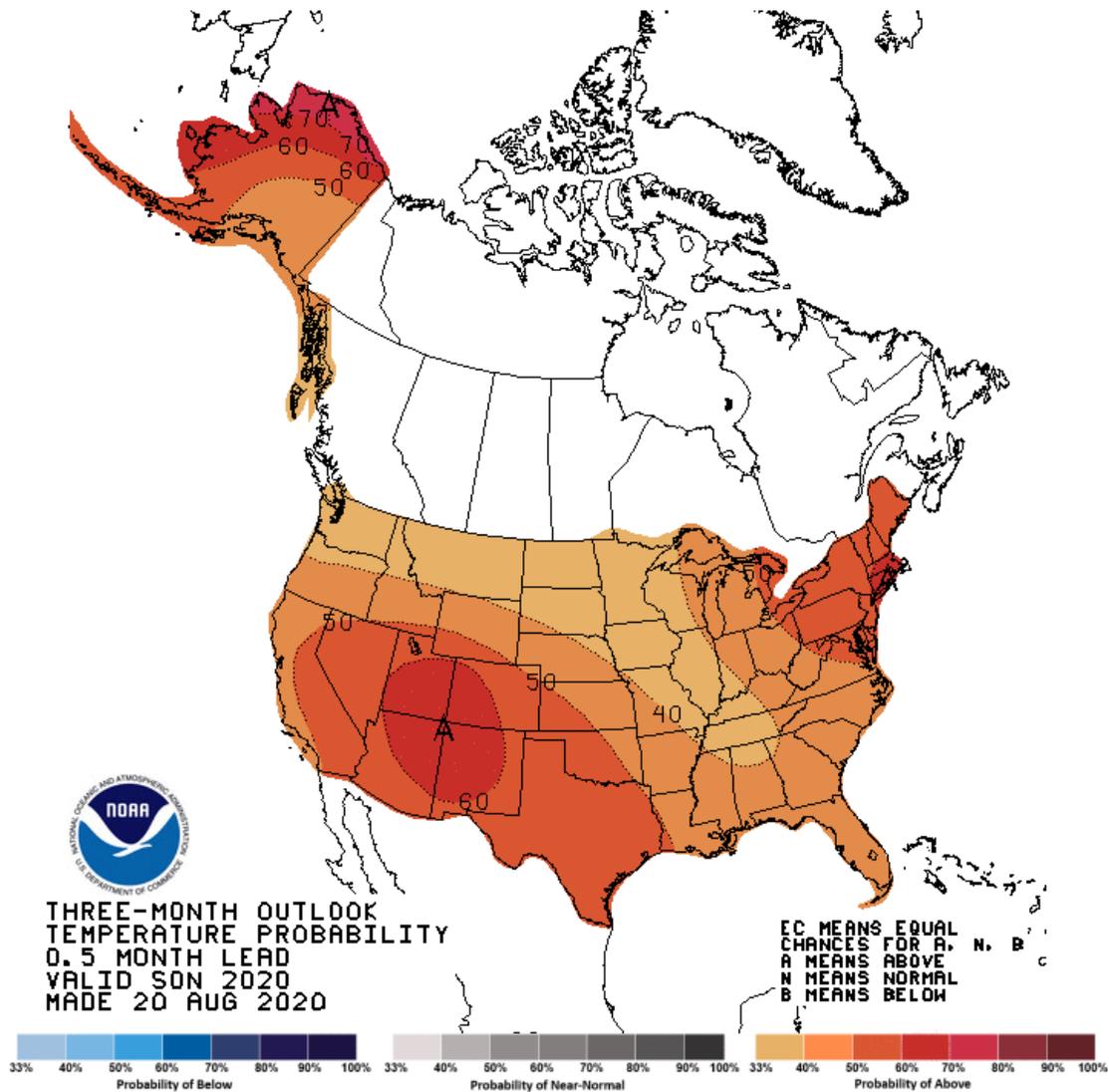
Volume 27 Number 9

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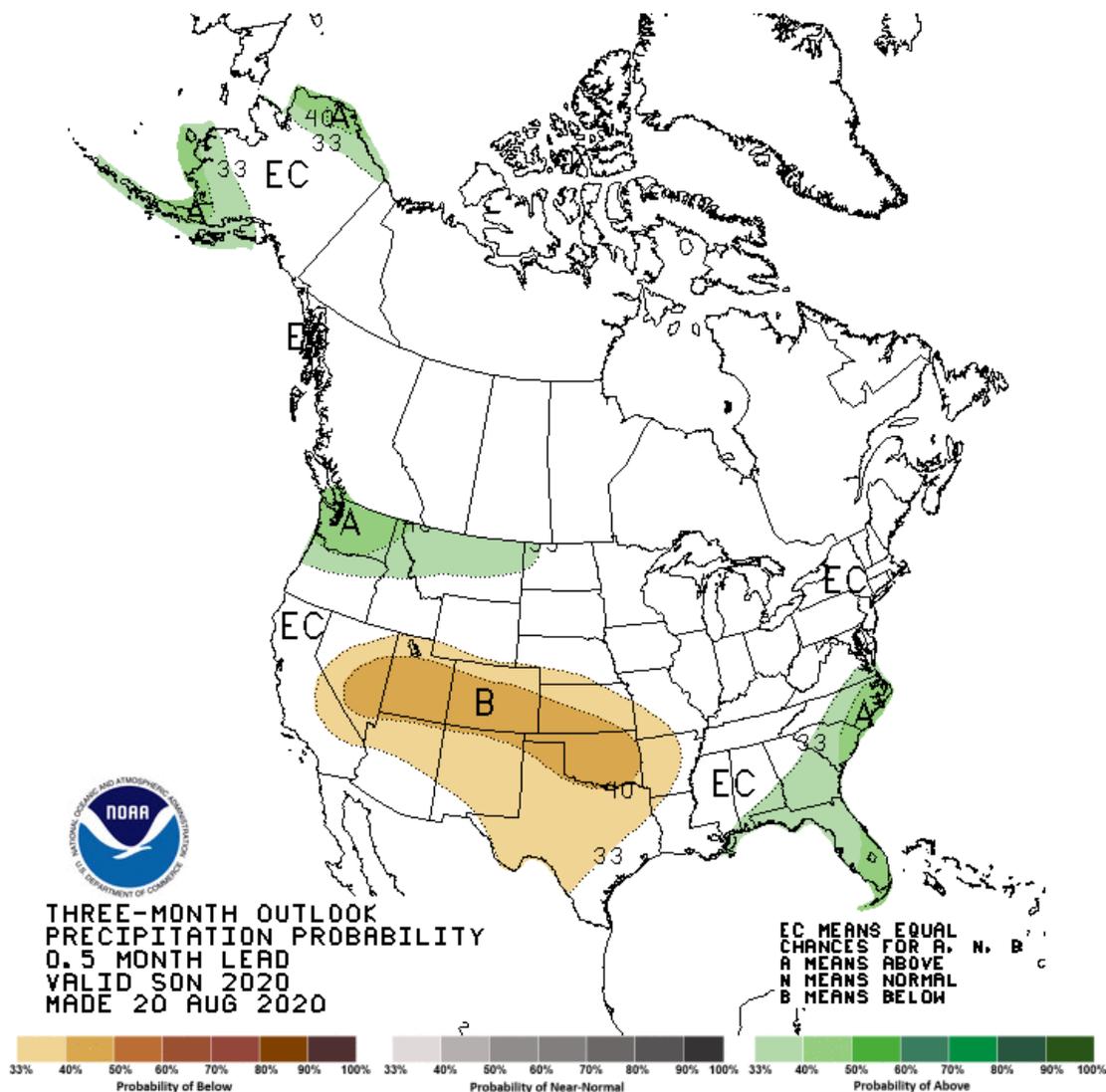
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Brief Winter Preview/Thoughts on 2020-2021 Snow Season...

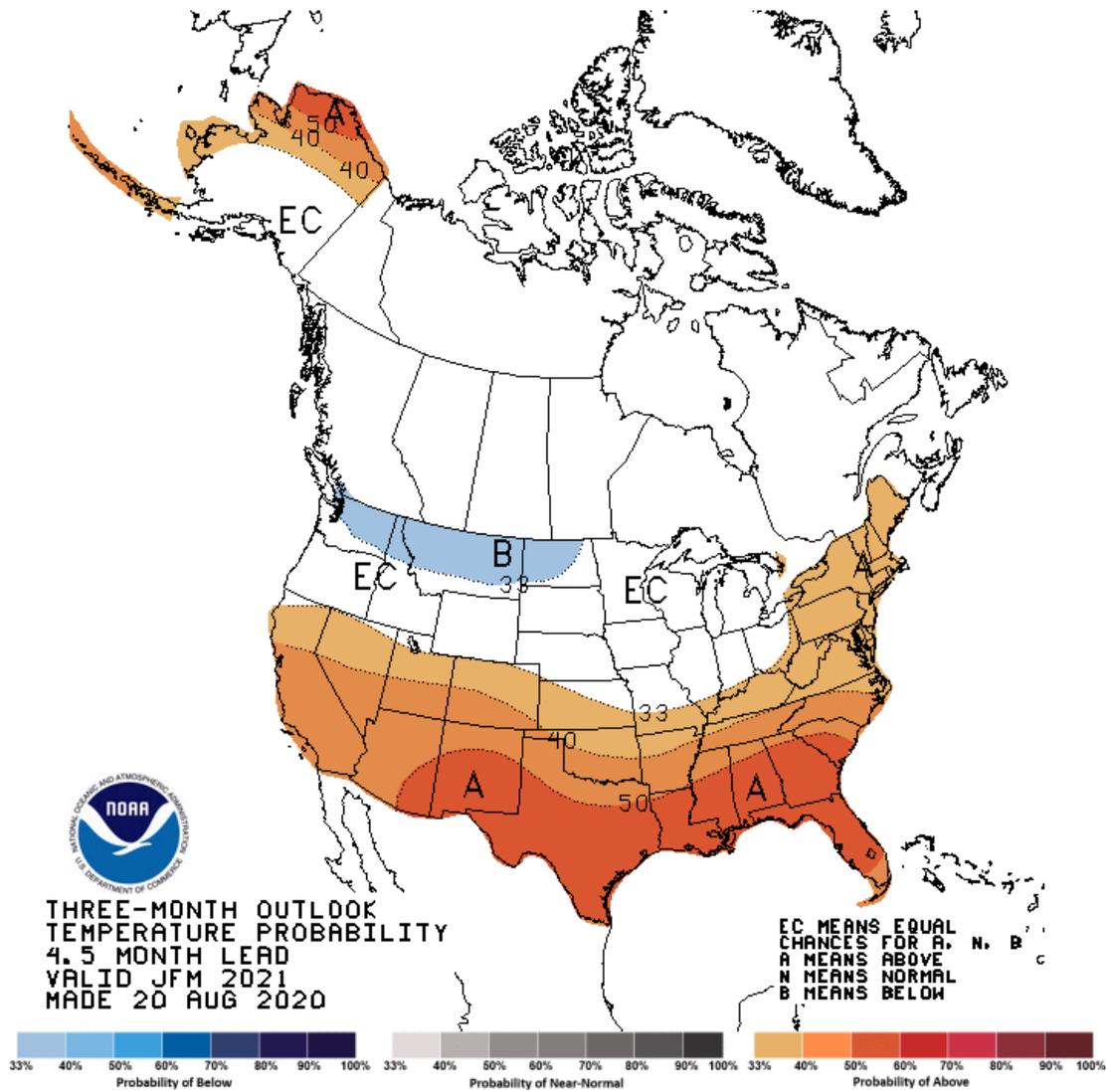
Last winter (2019-2020) featured normal to above normal snowfall for many areas of Colorado along the I-25 corridor from Cheyenne to Pueblo. The exceptions to the near normal to above normal snowfall being the official reporting stations at DIA and Pueblo. Most of the snowfall fell in October of 2019 and January/February of 2020. Although snowfall came in a bit lower than average at DIA, normal to above normal snowfall was common for most areas from the City of Boulder though Denver and surrounding suburbs. Over northern Colorado near normal snowfall was observed from Fort Collins to Longmont with above normal to well above normal snowfall southward over the Palmer Divide including Castle Rock and Monument. Further south into Colorado Springs the airport came in right around normal, but one did not have to travel very far north to get into above normal snowfall in the Colorado Springs area. The one area that came in well below normal snowfall was the Pueblo area as much of the late season snow fell as rain or a mix of rain and snow. With a good snow season in the rear-view mirror we are already getting many questions about what to expect this snow season. This summer we experienced little to no monsoon with a strong winter storm already heading into the region in early September, even though it is still summer until the 22nd of September. The long-range forecast models currently are pointing to below normal snowfall for the beginning of the 2020-2021 snow season along the I-25 corridor from Fort Collins to Pueblo. Below is the 3-month outlook map showing the probability of above or below normal temperatures:



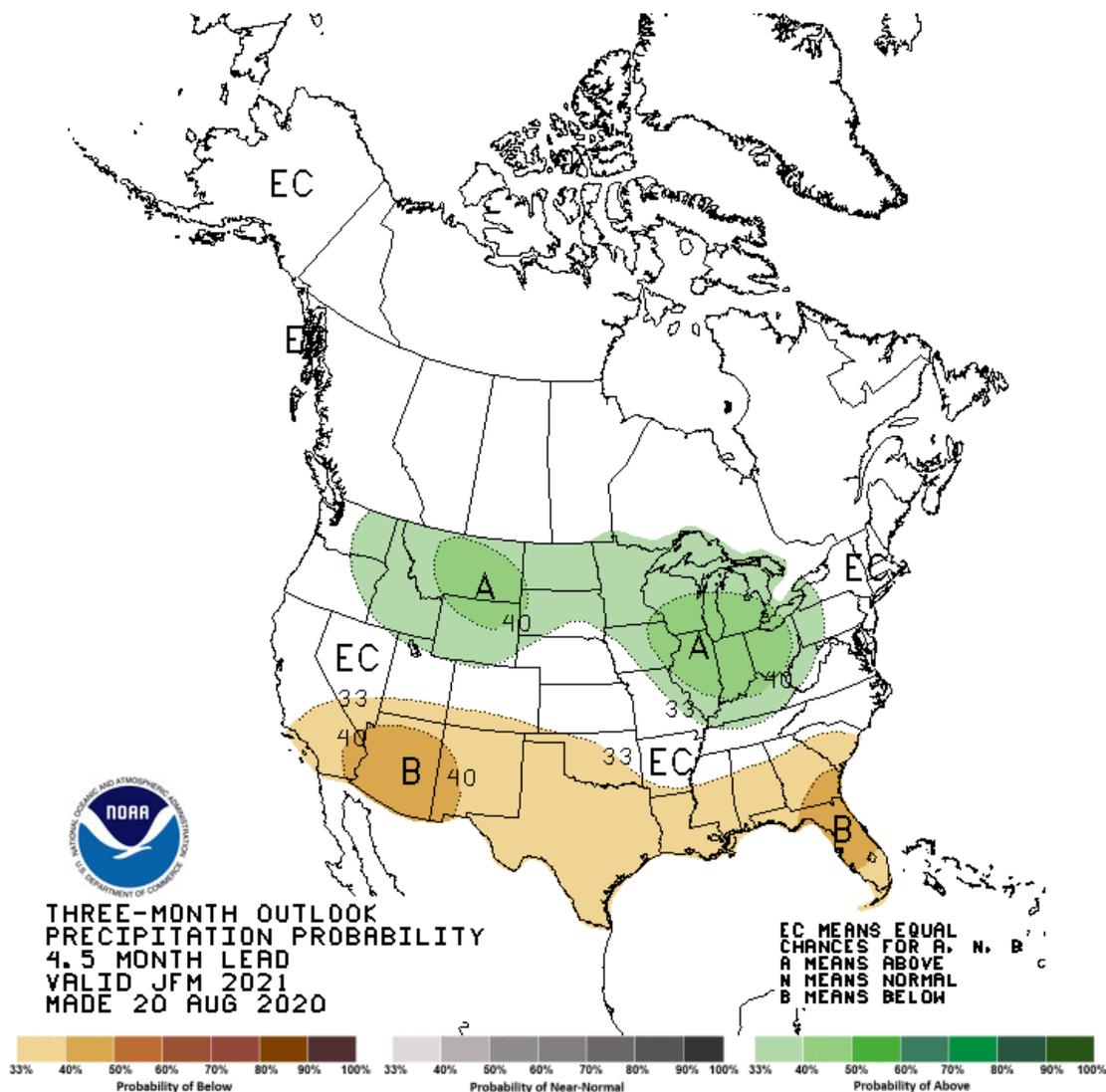
As you probably noticed, the 3-month period has a bias towards above normal temperatures. Skyview Weather believes that it is fairly safe to say that slightly above normal to well above normal temperatures are most likely for the beginning of the snow season as a whole but a week or two may very well end up with below normal temperatures. Above normal temperatures DOES NOT necessarily mean less snow or precipitation in general. Below are 3-month precipitation probability maps from NOAA:



The early part of the snow season shows a bias towards below normal precipitation statewide. The latter part of the snow season has equal chances for above or below normal precipitation across the state. As a whole the probabilities suggest that snowfall will be near normal to above normal north of Denver to Fort Collins with near normal snowfall for portions of the Denver Metro area southward over the Palmer Divide. Near normal to potentially below normal snowfall is most likely south of the Palmer Divide into Colorado Springs and Pueblo. However, as we all know living here in Colorado all it takes is one big early or late season storm to make or break a winter in the snowfall department. With a bias towards below normal precipitation early in the winter this year will likely be less impactful than last year's early snowstorms in October. Temperatures are expected to continue to be above normal through the later part of the winter season as seen below with the January through March temperature outlook seen below:



With right around normal precipitation expected January through March as seen below:



Only time will tell how this snow season will play out and as we move forward. Trends may very well change but this is Skyview Weather’s initial opinion on how this winter will play out. An updated winter outlook may be issued later this month or early October if significant changes in the long-term outlook occur. Here are links to some sites that can give more detailed information of what we have included above if you wish to dig deeper:

<https://www.climate.gov/enso>

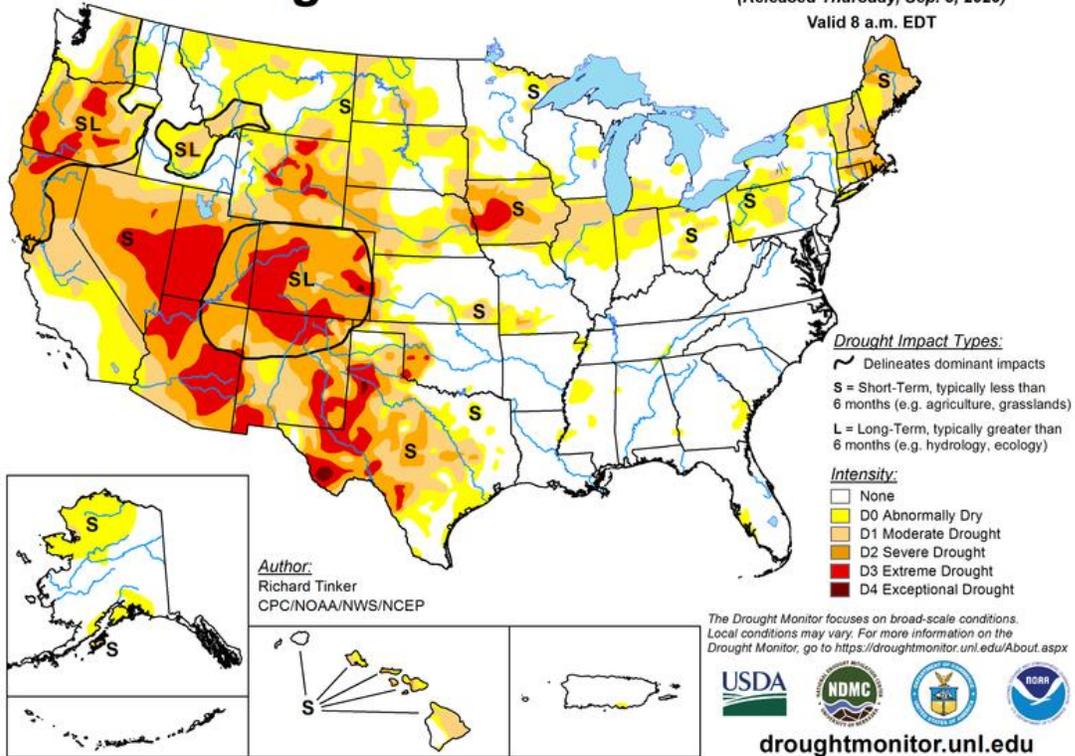
or <https://www.weather.gov/mhx/ensowhat>

Drought Update

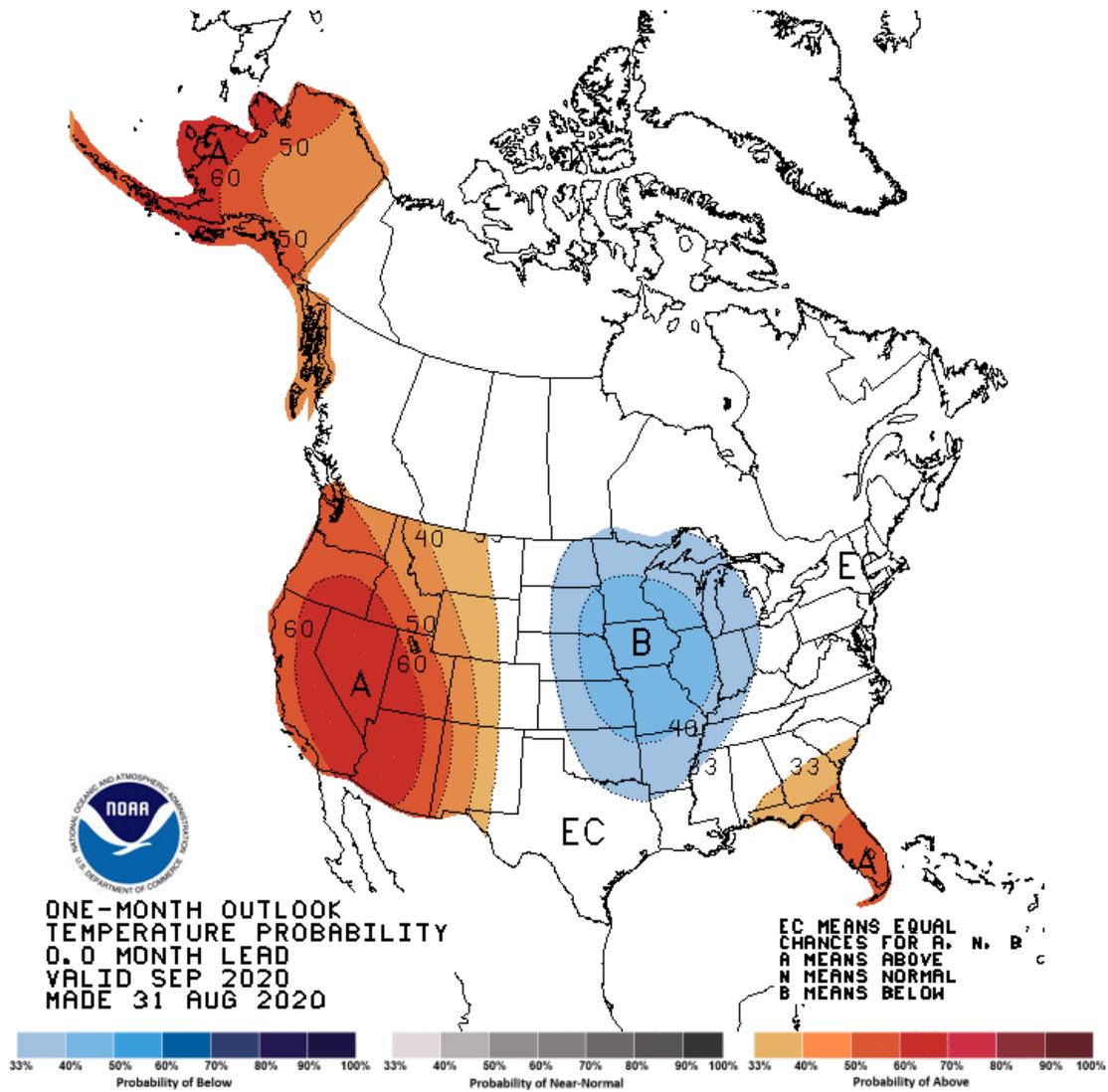
Severe to extreme drought conditions are expanding over much of Colorado with the most extreme drought over west, southwestern and eastern portions of the state.

U.S. Drought Monitor

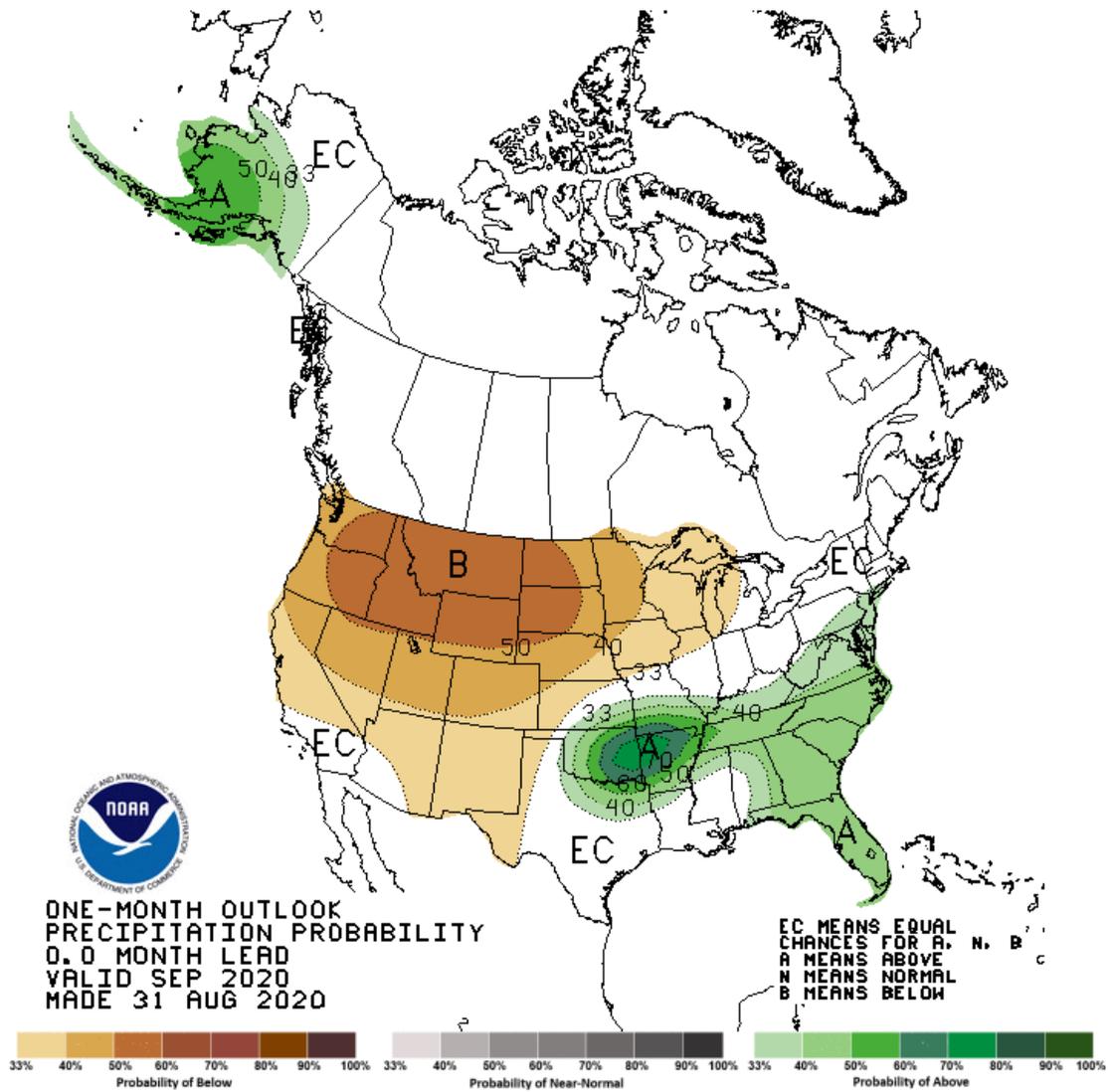
September 1, 2020
(Released Thursday, Sep. 3, 2020)
Valid 8 a.m. EDT



The map below shows forecasted temperature deviances for September 2020. The map shows a bias towards above normal temperatures over western Colorado with normal temperatures for eastern Colorado.



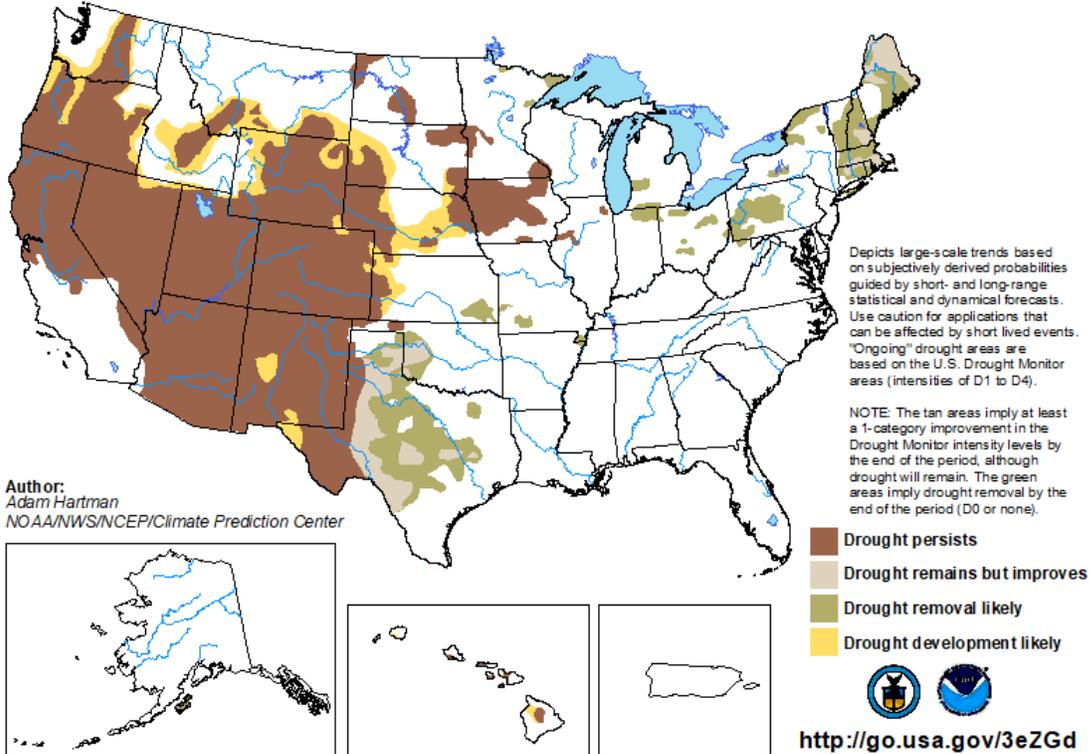
The map below shows forecasted precipitation deviances for September 2020. The map shows a chance for below normal precipitation over all of Colorado favoring northwestern portions of the state.



Although we will get a decent snowstorm in early September, Colorado is expected to see persistent and/or worsening drought conditions this month.

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

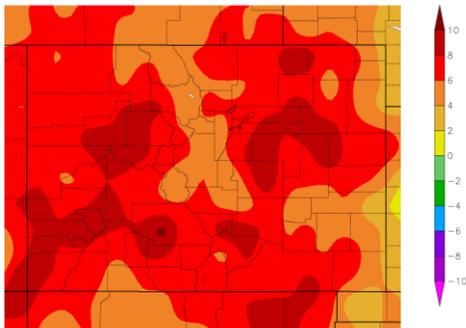
Valid for September 2020
Released August 31, 2020



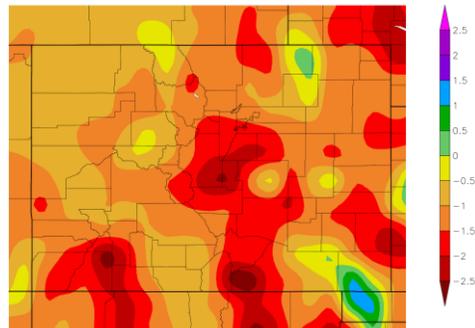
August Summary

August of 2020 was another dry month with above normal temperatures. Average highs for the month was 93.5 degrees at DIA with average combined monthly mean temperature of 77 degrees which was 4.5 degrees above the normal of 72.5 degrees. There were 26 days during the month with a high temperature of 100 on August 18th.

Departure from Normal Average Maximum Temperature (F)
8/7/2020 - 9/5/2020



Departure from Normal Precipitation (in)
8/7/2020 - 9/5/2020



Generated 9/6/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 9/6/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

Over most of Colorado, August of 2020 also resulted in above normal temperatures and below normal precipitation. The airport in Colorado Springs recorded a monthly mean temperature of 74.0 degrees which is 5.3 degrees above normal and results in August of 2020 being the 2nd warmest in history with 21 days above 90 degrees beating the record of 16 days in 2011. COS reported 2.74" of moisture for the month which

was 0.60" below normal. Further S into Pueblo the airport there recorded an average monthly mean temperature of 78.2 degrees which was 4.8 degrees above normal and ranks as the 5th warmest August on record. Pueblo reported 0.31" of rainfall which was 2.01" below normal making it the 8th driest August on record. Some areas of SE CO reported above normal monthly precipitation along the Arkansas River E/SE of Pueblo.

August Stats

TEMPERATURE (IN DEGREES F)

AVERAGE MAX	93.5	NORMAL 88.0	DEPARTURE 5.5
AVERAGE MIN	60.6	NORMAL 58.0	DEPARTURE 2.6
MONTHLY MEAN	77.0	NORMAL 72.5	DEPARTURE 4.5
HIGHEST	100 on the 18 th		
LOWEST	53 on the 29 th and 30 th		

DAYS WITH MAX 90 OR ABOVE	26	NORMAL	11.5
DAYS WITH MAX 32 OR BELOW	0	NORMAL	0.0
DAYS WITH MIN 32 OR BELOW	0	NORMAL	0.0
DAYS WITH MIN ZERO OR BELOW	0	NORMAL	0.0

TEMPERATURE RECORDS

None

HEATING DEGREE DAYS

MONTHLY TOTAL	1	NORMAL 10	DEPARTURE -9
SEASONAL TOTAL	1	NORMAL 10	DEPARTURE -9

COOLING DEGREE DAYS

MONTHLY TOTAL	380	NORMAL 244	DEPARTURE 136
YEARLY TOTAL	998	NORMAL 688	DEPARTURE 310

PRECIPITATION (IN INCHES)

MONTHLY TOTAL	0.35	NORMAL	1.69	DEPARTURE -1.34
YEARLY TOTAL	5.22	NORMAL	10.44	DEPARTURE -5.22
GREATEST IN 24 HOURS	0.15" on the 26 th			
DAYS WITH MEASURABLE PRECIP.	5			

SNOWFALL (IN INCHES)

MONTHLY TOTAL	0.0	NORMAL 0.0	DEPARTURE 0.0
SEASONAL TOTAL	0.0	NORMAL 0.0	DEPARTURE 0.0
GREATEST IN 24 HOURS	NA		
GREATEST DEPTH	NA		

WIND (IN MILES PER HOUR)

AVERAGE SPEED	9.4	mph
PEAK WIND GUST	35	mph from the N/NW on 8/4

MISCELLANEOUS WEATHER

NUMBER OF DAYS WITH THUNDERSTORM	5	NORMAL	8
NUMBER OF DAYS WITH HEAVY FOG	0	NORMAL	1
NUMBER OF DAYS WITH HAIL	0		
NUMBER OF SUNNY DAYS	4		
NUMBER OF PARTLY CLOUDY DAYS	27		
NUMBER OF CLOUDY DAYS	0		
AVERAGE RELATIVE HUMIDITY	50%		

September Preview

September is the first month of meteorological autumn and a season of transition across the Denver metro area and Colorado. Temperatures start to cool off noticeably over the course of the month with an average monthly high of 78.5 and an average monthly low of 48.3. Hot weather can still occur during September, typically during the first half of the month, with an average of 3.4 days reaching or exceeding 90 degrees. For the first time last year the temperature reached 100 degrees in September, with another all-time record high of 101 this year on September 5th at DIA. Although not common, Denver can occasionally see early season tastes of winter in September. The earliest snowfall on record in Denver occurred on September 3rd, 1961 with this year's first snow occurring September 8th. More often than not, Septembers end up snowless in Denver, but it does happen on occasion with a long-term average of 1.3" of snow during the month. There have even been some years in which heavy snow occurred in September, most notably in 1971 when a monthly record of 17.2" fell. The heaviest single-storm snowfall in September occurred in 1936 when 16.5" was recorded, which actually ranks as one of Denver's top 25 snowfalls of all-time. The Denver area is actually experiencing a September snow drought, as the last time measurable snow officially occurred in September was in 2000 with this year being the first in 20 years to receive snow in September. On average, the first freeze of the season in Denver occurs in early October, but it occasionally happens in September. The earliest freeze on record occurred on September 8, 1962. September is typically one of Denver's

drier and more pleasant months with an average monthly precipitation of only 0.96". However, there are exceptions such as during the historic flood event of 2013, which resulted in a monthly record of 5.61". Typically, however, thunderstorm season quickly winds down in early September with an average of just 4 thunderstorm days over the course of the month. Sunny days are more common through September, but the first early season wet system of the fall often occurs during the month, bringing a day or two of cooler temperatures and steady light rain to the metro area, as well as the first meaningful snows of the season to the higher elevations of the Front Range. We have not had any rain events over the Front Range through the first 7 days of the month but for the month as a whole Skyview Weather believes September 2020 will generally feature near normal to above normal precipitation, mainly due to the early season snowstorm, and above normal temperatures.

**DENVER'S SEPTEMBER CLIMATOLOGICALLY NORMAL
(NORMAL PERIOD 1981-2010 DIA Data)**

TEMPERATURE

AVERAGE HIGH	87.2
AVERAGE LOW	57.9
MONTHLY MEAN	72.5
DAYS WITH HIGH 90 OR ABOVE	12
DAYS WITH HIGH 32 OR BELOW	0
DAYS WITH LOW 32 OR BELOW	0
DAYS WITH LOWS ZERO OR BELOW	0

PRECIPITATION

MONTHLY MEAN	1.69"
DAYS WITH MEASURABLE PRECIPITATION	9
AVERAGE SNOWFALL IN INCHES	0.0"
DAYS WITH 1.0 INCH OF SNOW OR MORE	0

MISCELLANEOUS AVERAGES

HEATING DEGREE DAYS	10
COOLING DEGREE DAYS	244
WIND SPEED (MPH)	8.0mph
WIND DIRECTION	South
DAYS WITH THUNDERSTORMS	8
DAYS WITH DENSE FOG	1
PERCENT OF SUNSHINE POSSIBLE	71%

EXTREMES

RECORD HIGH	105 on 8/18/1878
RECORD LOW	40 on multiple dates
WARMEST	77.0 in 2011
COLDEST	66.5 in 1915
WETTEST	5.85" in 1979
DRIEST	0.02" in 1924
SNOWIEST	0.0"

LEAST SNOWIEST

0.0"

Rainfall

May 2020 to September 2020

City	May	Jun	Jul	Aug	Sep	Total
Aurora (Central)	1.61	1.77	0.51	0.35		4.24
Brighton	1.34	1.42	1.02	0.43		4.21
Broomfield	0.94	1.14	0.47	0.36		2.91
Castle Rock	1.03	2.11	1.35	0.83		5.32
Colo Sprgs Airport	1.15	0.78	1.53	2.74		6.20
Denver DIA	1.65	0.71	0.95	0.35		3.66
Denver Downtown	1.38	1.14	0.67	0.16		3.35
Golden	1.77	1.38	0.75	0.16		4.06
Fort Collins	2.33	1.69	0.33	0.35		4.70
Highlands Ranch	0.98	0.55	0.43	0.16		2.12
Lakewood	1.38	1.42	0.94	0.12		3.86
Littleton	1.06	0.83	0.20	0.20		2.29
Parker	1.18	0.98	0.43	0.43		3.02
Sedalia - Hwy 67	1.26	0.98	0.71	0.39		3.34
Thornton	1.10	1.02	0.47	0.55		3.14
Westminster	2.01	1.30	0.71	0.43		4.45
Wheat Ridge	1.38	2.20	0.63	0.24		4.45

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