



Utilities

electric · stormwater · wastewater · water

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MEMORANDUM

DATE: December 8, 2021

TO: Water Commission

FROM: Michael Neale, MSc, Water Resources Engineer
Donnie Dustin, P.E., Water Resources Manager

RE: **November 2021 Water Resources Division Staff Report**

Purpose

This memorandum is intended to update the Water Commission on water resource conditions for the City of Fort Collins Water Utility (Water Utility) over the month of November and provide updated future outlook information. For additional information, please refer to the City's website: <https://www.fcgov.com/utilities/water-status>

Water Resources Summary

Supply and Demand Projections for the remainder of WY2021

- Water Supply- The supply outlook was typical during November. Water supply intake consisted of 43% from Horsetooth and 57% from the Cache la Poudre River.
- Water Demand- Demands for the month of November were slightly below projected. Please refer to the attached graphs and tables. Water demands within the Water Utility service area for the month:
 - Water demand for November: 94.5% of the projected demand.
 - Water demand for calendar year: 97.5% of the projected demand.

Weather: <https://climate.colostate.edu/>

The conditions in November were considerably warmer and drier than average. Measured at the Fort Collins weather station:

- Mean daily high temperature recorded for the month: 60 °F.
 - Long term average daily high temperature for the month is: 51 °F.
- Total recorded monthly precipitation: 0.26 inches.
 - Long term average precipitation for the month: 0.6 inches.

Reservoir Storage: Northern allocated an initial 50% quota in early November. Project reserves are at about 90% quota at this time, which increases the likelihood of receiving additional quota in April. The Northern Water Storage and Delivery report was not presented in the Northern Water Board meeting this month. As of November 1st:

- Colorado-Big Thompson project reservoirs (Granby, Carter, and Horsetooth): 72% full.
- Horsetooth Reservoir: 80% full.

- Joe Wright Reservoir: 69% full (116% of average based on 14 years of data).

Snowpack: Natural Resources Conservation Service SNOTEL program percent of average snow water equivalent totals as of 12/08/2021:

- Upper Colorado Basin: 56% of average.
- South Platte Basin: 60% of average.
- Poudre Basin (Joe Wright & Deadman Hill): 70% of the 1991-2020 combined median.

Poudre River flow: Graphical data for the Poudre River is available on-line at:

- Cache La Poudre River at the Canyon Mouth
<https://dwr.state.co.us/Tools/Stations/CLAFTRCCO?params=DISCHRG>
- Cache La Poudre River at Fort Collins
<https://dwr.state.co.us/Tools/Stations/CLAFORCO?params=DISCHRG>

Drought Monitors:

- Larimer County and Colorado https://climate.colostate.edu/drought_info.html
Larimer County and upper South Platte basin are abnormally dry at this time.
- Colorado and the USA <https://droughtmonitor.unl.edu/>
The Colorado River basin remains in a drought.

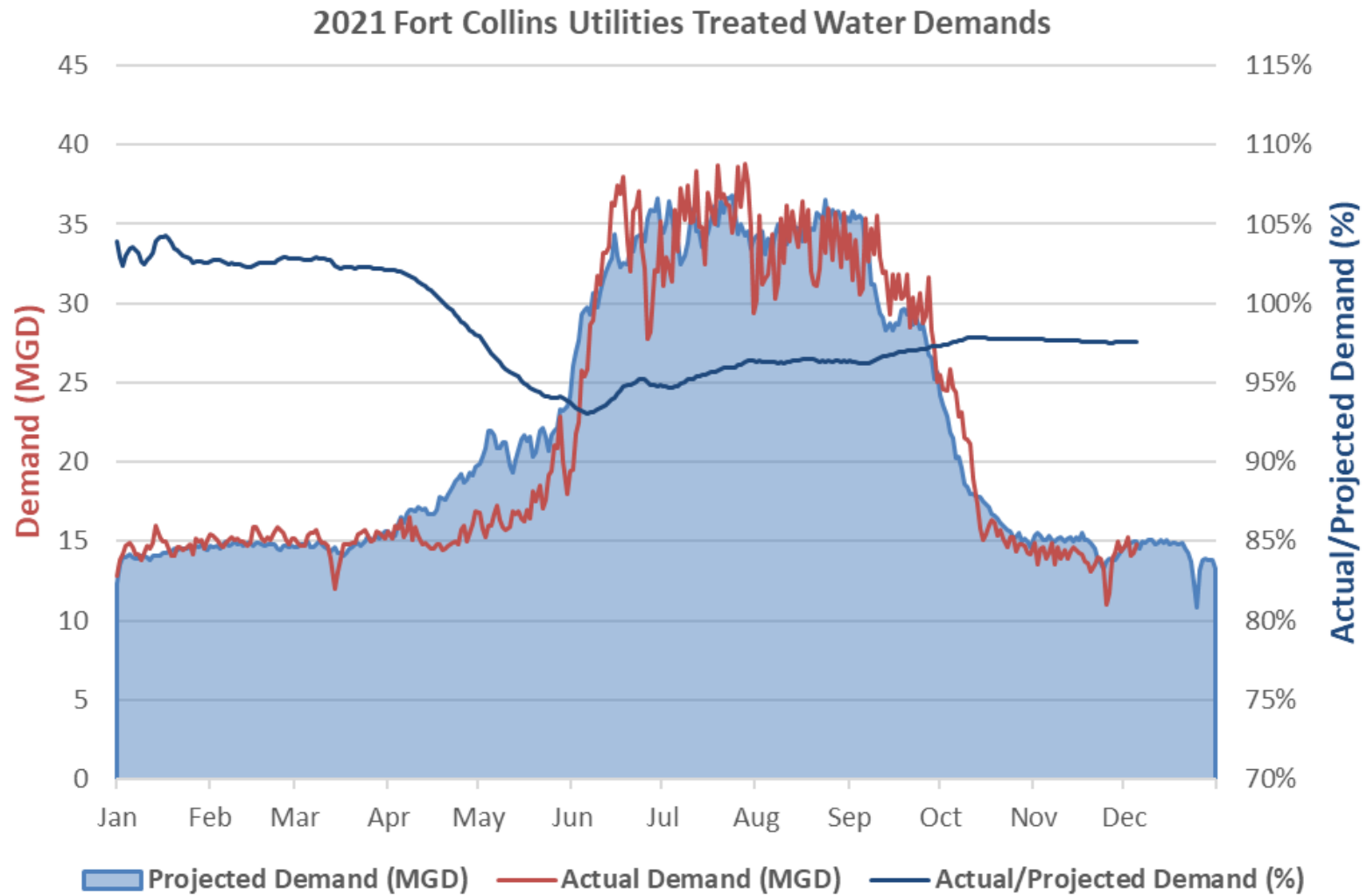
Climate Outlook: <https://www.cpc.ncep.noaa.gov/>

National Oceanic and Atmospheric Administration (NOAA) climate outlooks for the northern Front Range and northern mountains, over the next three months:

- Equal chances of above or below average precipitation
- Leaning above normal temperature.

Other Water Supply Considerations:

- Utilities will be doing work in the Poudre River just above its Gateway Park diversion structure starting in late January. This work will help to minimize impacts from potential sediment build-up near the diversion structure caused from potential storm events over the Cameron Peak Fire burn area. The work is anticipated to last about 4 weeks at which time Utilities will not be able to take Poudre River water for treatment.
- The Colorado River basin remains in a significant drought. Utilities staff will continue to monitor conditions in the new water year.



City of Fort Collins Utilities
Treated Water Monthly Summary
2021

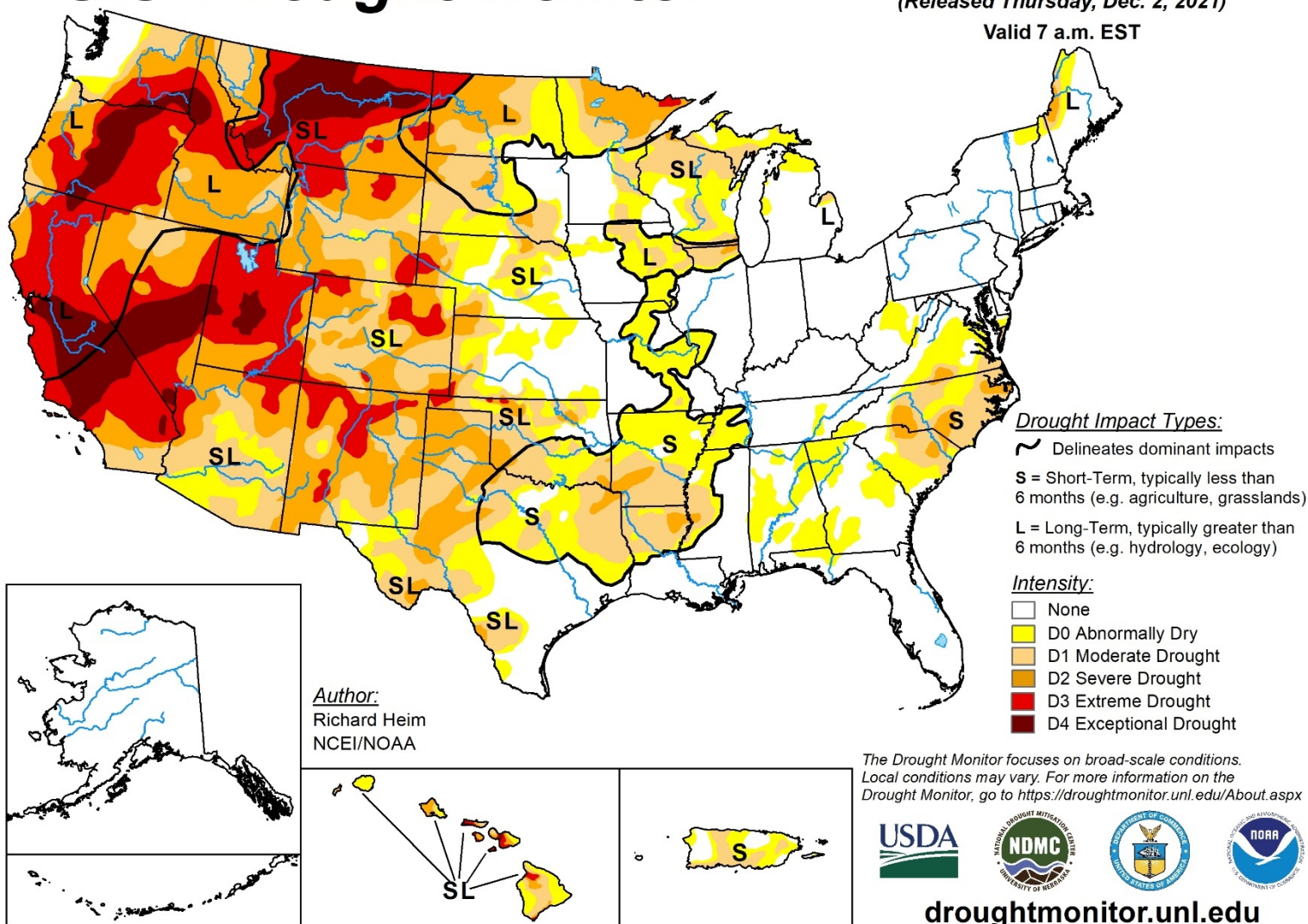
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date
WTF Water Supply (MG)													
From Poudre	304.5	290.0	288.6	155.0	275.5	403.0	241.8	169.6	324.3	277.2	271.2		3,000.7
From Horsetooth	206.3	186.0	218.7	359.0	330.8	681.8	1,019.1	1,036.1	752.1	369.7	200.8		5,360.4
Total Raw Water	510.8	476.0	507.2	514.0	606.4	1,084.9	1,260.8	1,205.7	1,076.4	647.0	472.1		8,361.1
Demands (MG)													
WTF Production	489.7	451.6	478.1	492.0	582.7	1,039.1	1,211.4	1,156.6	1,033.1	626.1	455.6		8,016.2
Change in Storage	9.0	-1.1	-1.1	5.0	-3.9	4.4	-0.9	0.2	0.5	-6.3	0.4		
Demand on WTF	480.7	452.7	479.2	487.1	586.7	1,034.7	1,212.3	1,156.4	1,032.6	632.4	455.2		8,009.9
From Soldier Canyon	10.7	10.3	23.0	21.8	80.7	264.0	340.7	299.1	257.3	104.2	23.7		1,435.3
To Soldier Canyon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
To FC-Lov/NWCWD	-39.8	-37.0	-40.4	-49.6	-123.7	-357.2	-457.9	-417.0	-356.7	-167.5	-60.8		-2,107.5
For City	451.6	426.0	461.8	459.3	543.7	941.6	1,095.1	1,038.4	933.2	569.1	418.1		7,337.7
Daily Deliveries to City (MG)													
Max During Month	16.0	15.9	15.7	16.9	22.8	38.0	38.8	36.4	35.5	25.9	15.0		38.8
Min During Month	12.8	14.7	12.0	14.5	15.2	19.5	29.4	30.2	25.0	14.2	11.0		11.0
Avg During Month	14.6	15.2	14.9	15.3	17.5	31.4	35.3	33.5	31.1	18.4	13.9		21.9
Monthly Deliveries (Ac-Ft)													
Projected	1,351	1,268	1,407	1,605	2,038	2,962	3,317	3,311	2,770	1,700	1,357	1,367	24,453
Actual	1,386	1,307	1,417	1,409	1,668	2,890	3,361	3,187	2,864	1,747	1,283		22,519
Ratio	103%	103%	101%	88%	82%	98%	101%	96%	103%	103%	95%		92%
Year to Date Deliveries (Ac-Ft)													
Projected	1,351	2,619	4,025	5,631	7,668	10,630	13,947	17,258	20,028	21,728	23,086	24,453	24,453
Actual	1,386	2,693	4,110	5,520	7,188	10,078	13,438	16,625	19,489	21,236	22,519		22,519
Ratio	103%	103%	102%	98%	94%	95%	96%	96%	97%	98%	98%		92%

U.S. Drought Monitor

November 30, 2021

(Released Thursday, Dec. 2, 2021)

Valid 7 a.m. EST



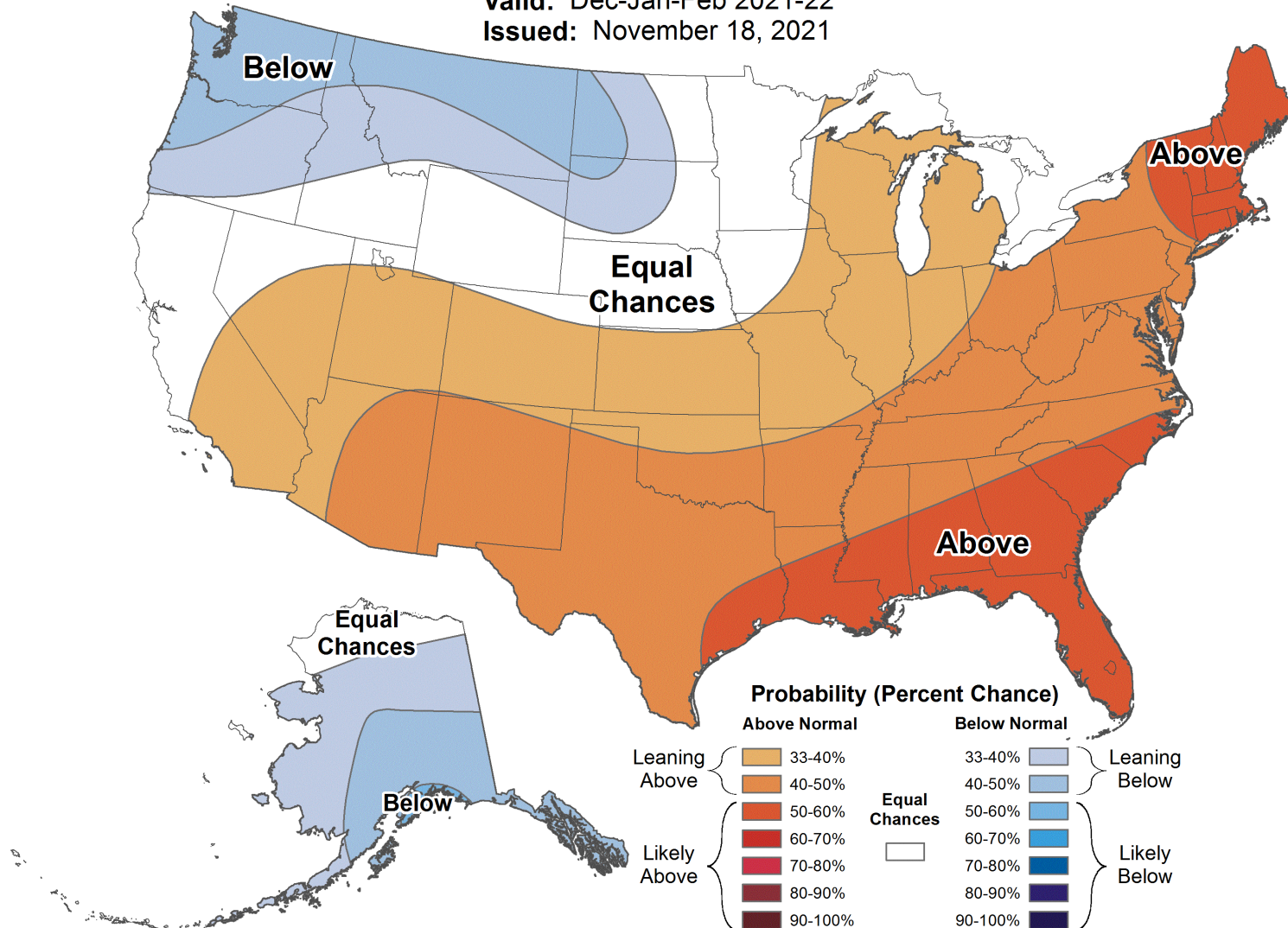


Seasonal Temperature Outlook



Valid: Dec-Jan-Feb 2021-22

Issued: November 18, 2021



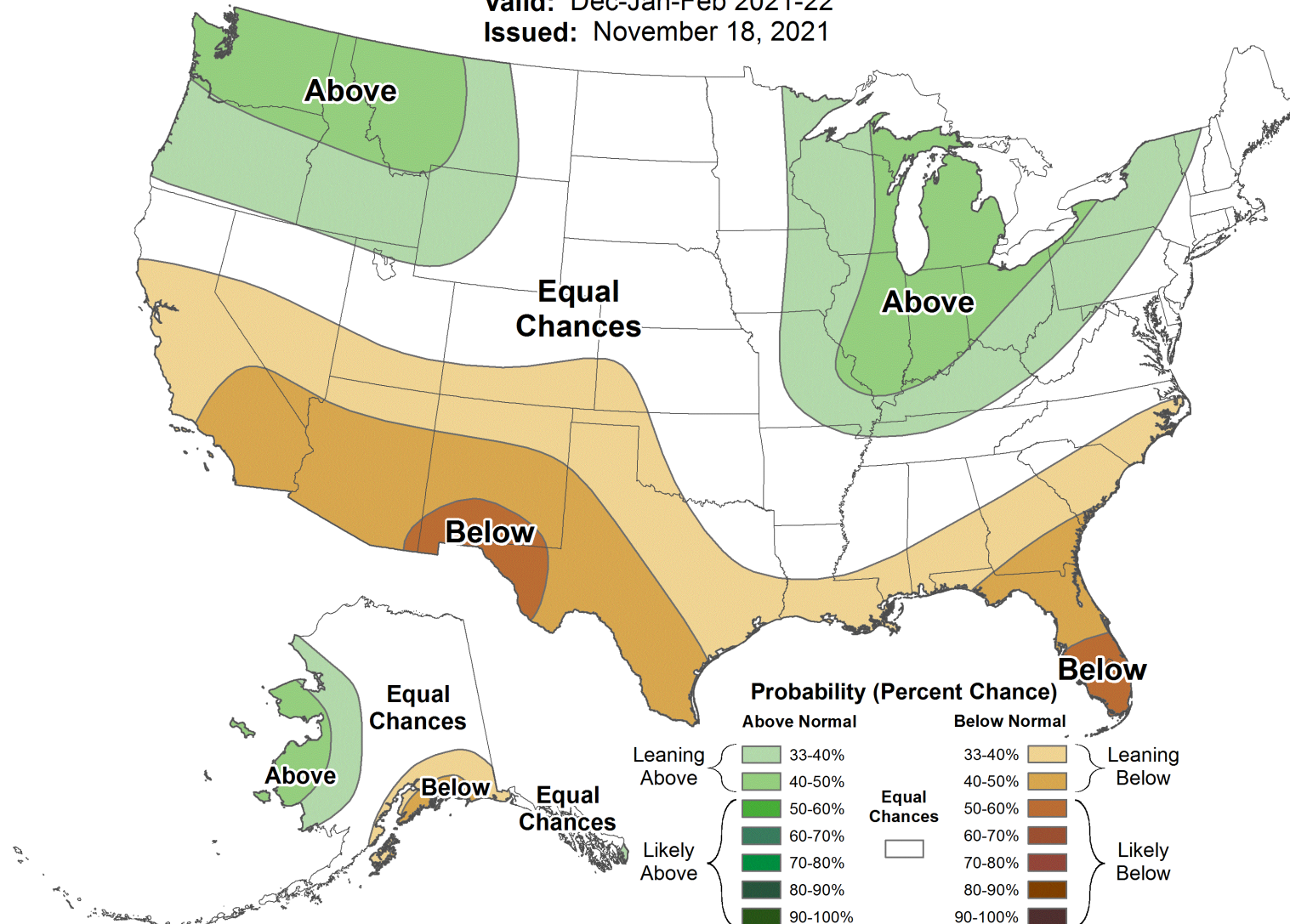


Seasonal Precipitation Outlook



Valid: Dec-Jan-Feb 2021-22

Issued: November 18, 2021

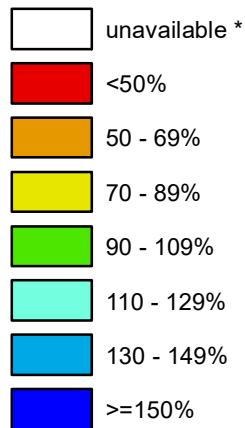


Colorado SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Dec 08, 2021

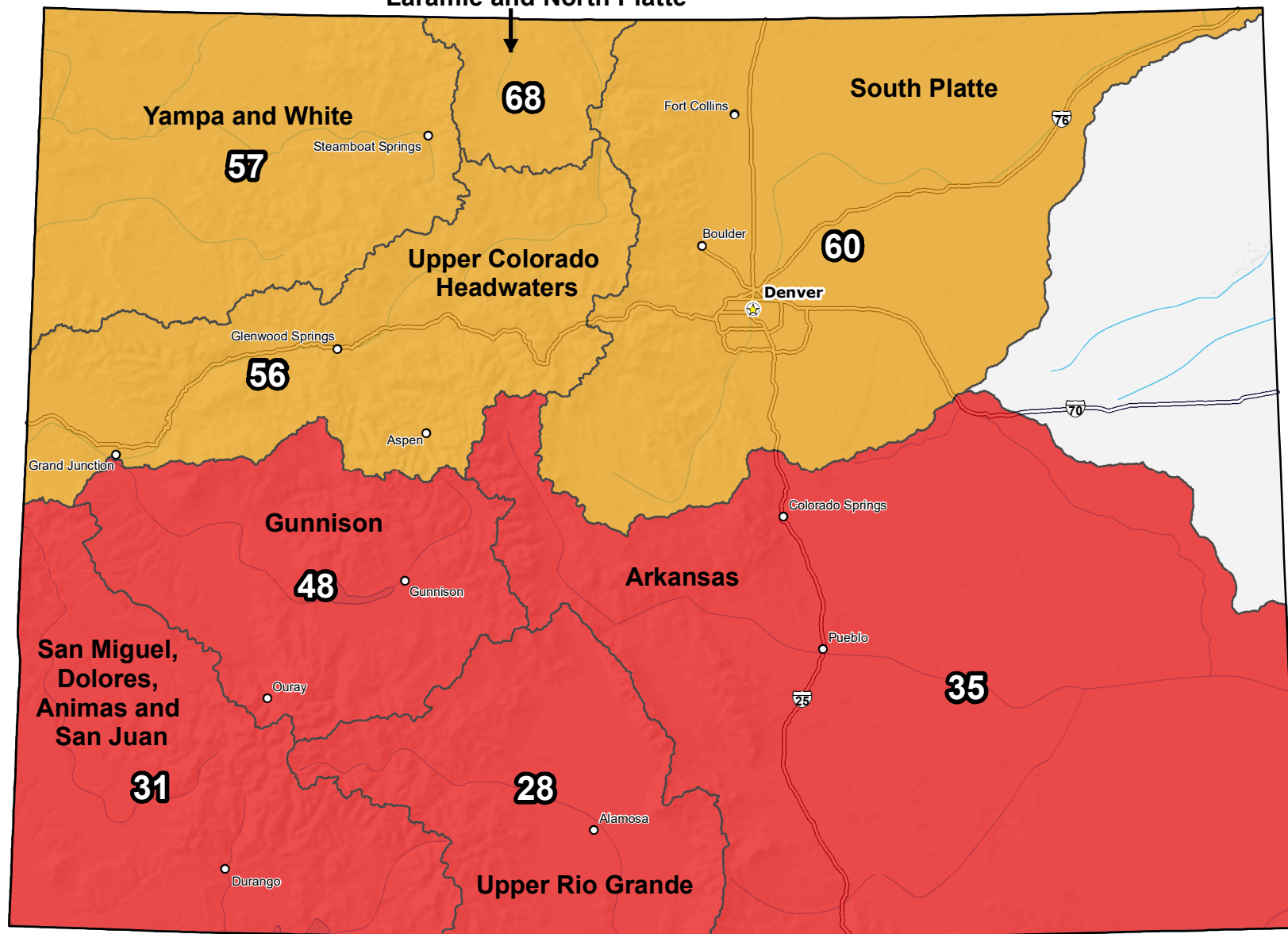
Laramie and North Platte

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1991-2020 Median



* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data
Subject to Revision



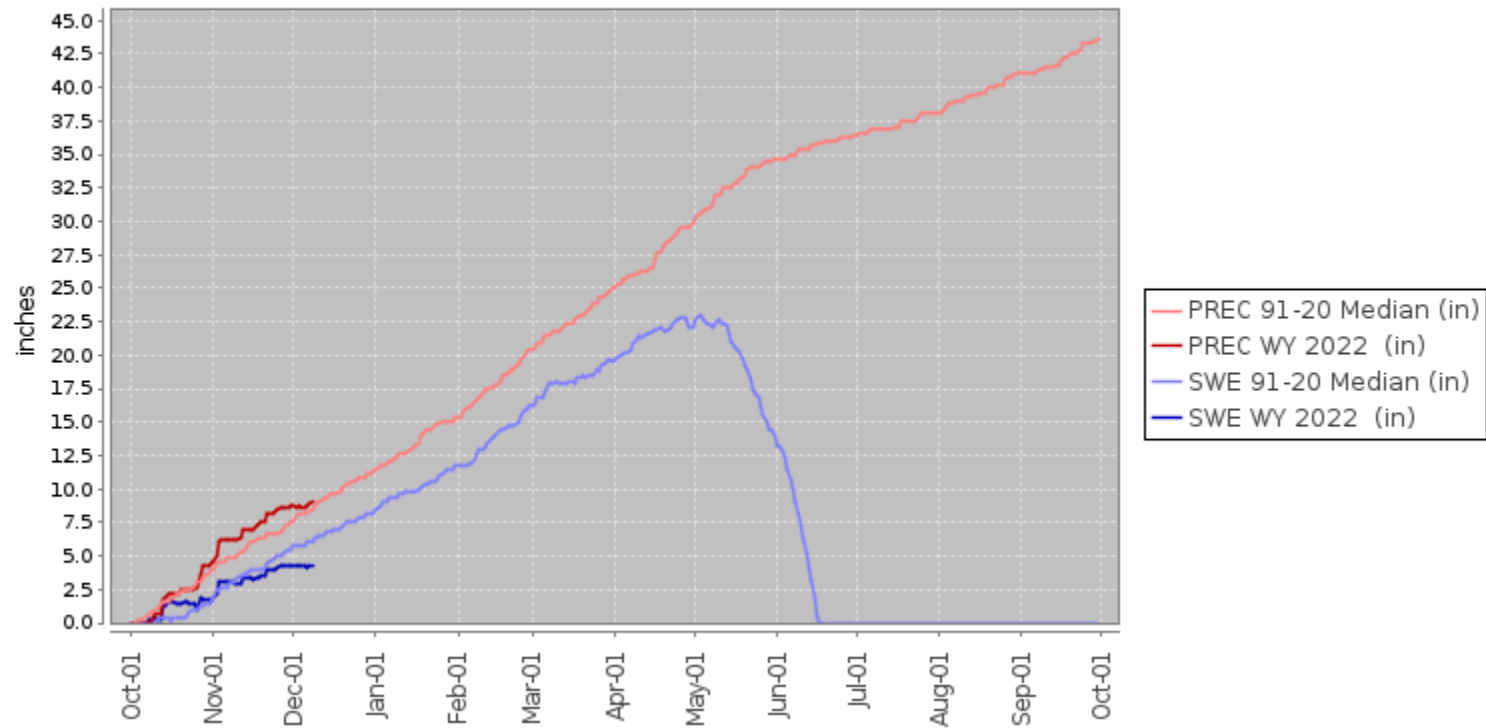
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<https://www.nrcs.usda.gov/wps/portal/wcc/home/>

Upper Cache la Poudre Basin SNOTEL stations of interest - Daily time series for water year 2022

- **Joe Wright:**

Station (551) WATERYEAR=2022 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Wed Dec 08 10:26:24 GMT-08:00 2021



- **Deadman Hill:**

Station (438) WATERYEAR=2022 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Wed Dec 08 10:37:38 GMT-08:00 2021

