



## **COLORADO**

### **Colorado Water Conservation Board**

Department of Natural Resources  
1313 Sherman Street, Room 718  
Denver, CO 80203

**TO:** Reservoir Coordinating Committee (RCC) and Environmental Account  
Committee (EAC) Members

**FROM:** Kara Scheel, Endangered Species Recovery Program Manager  
Colorado Water Conservation Board

**DATE:** May 2, 2023

**SUBJECT:** Summary of Flow Conditions and Select Water Storage Information for the  
South Platte River Basin

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The following summarizes climate conditions in the South Platte basin in Colorado leading up to the summer of 2023 that have shaped the available water supply in the South Platte River basin. Additional and up-to-date information for the next several months may be found at the links provided in the reference section.

#### **Drought Status**

In the South Platte River basin, drought conditions are abnormally dry to moderately dry for most of the basin (Figure 1). Over the last six months, drought conditions in much of the basin have improved. However, near the headwaters of the South Platte River, drought conditions have worsened. The drought condition in much of the state has greatly improved, with the exception of the Arkansas River basin (Figure 2).

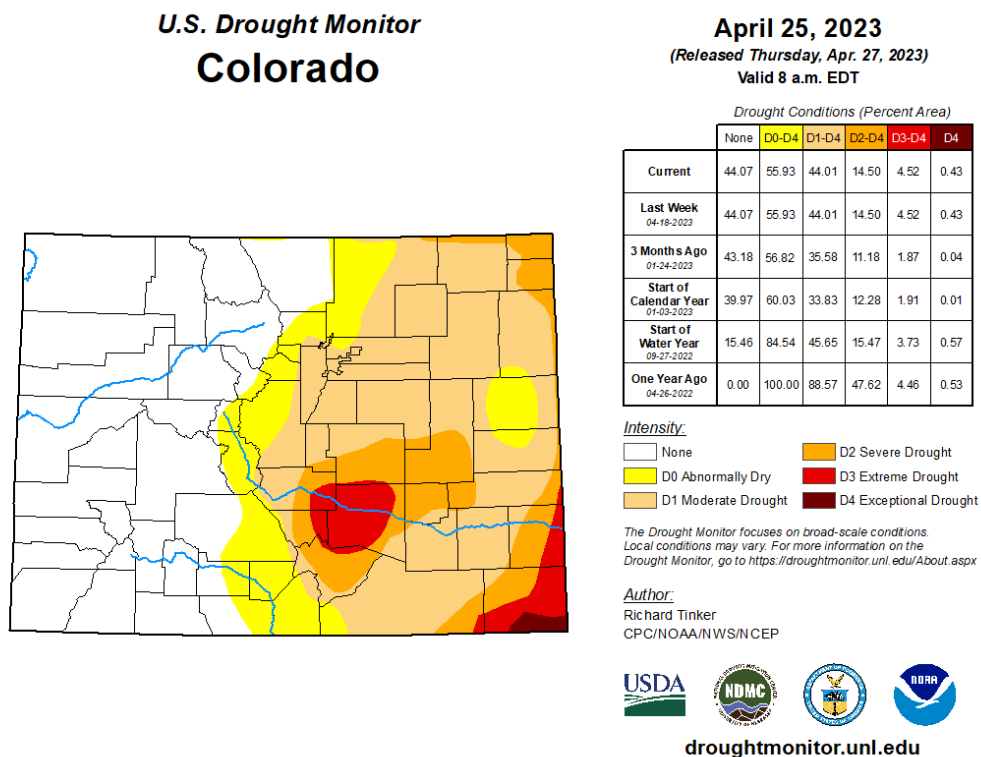
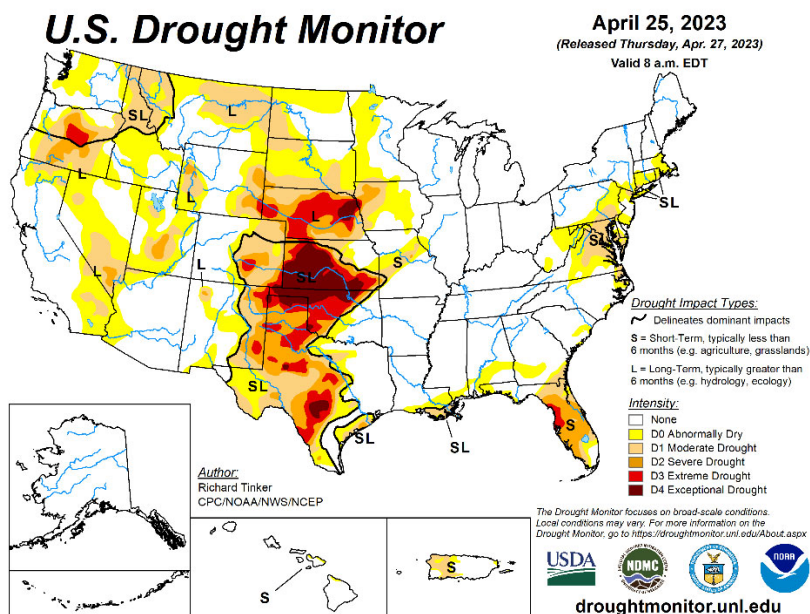


Figure 1: Drought conditions

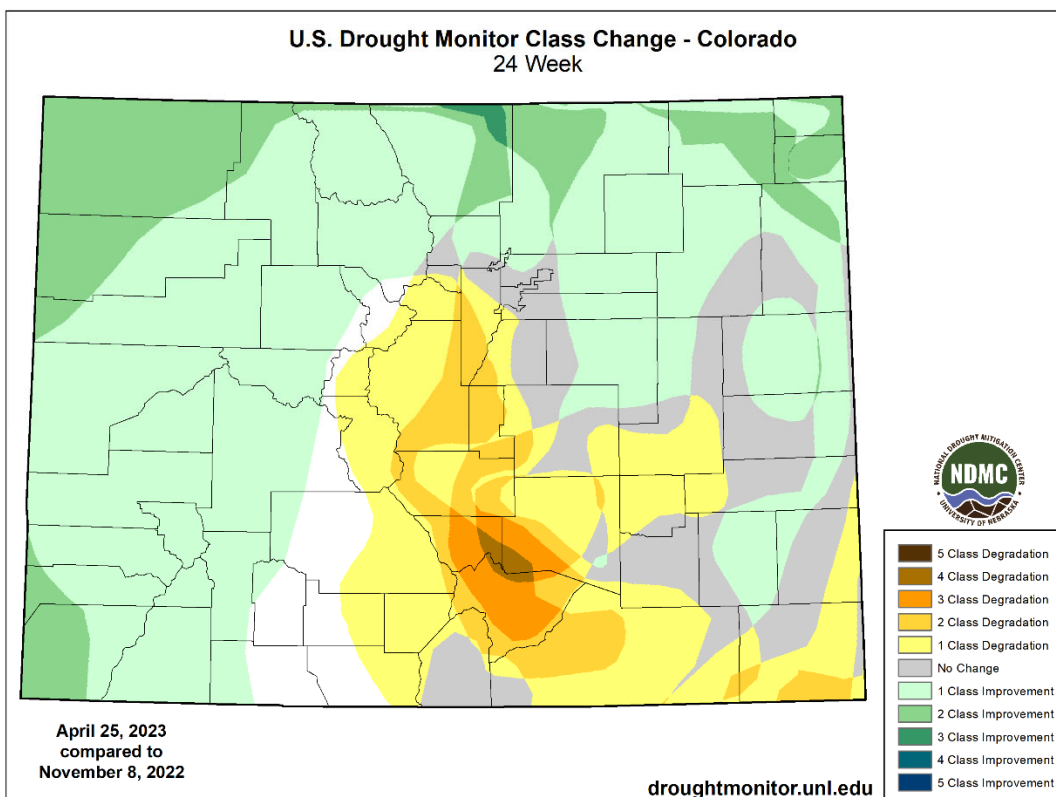
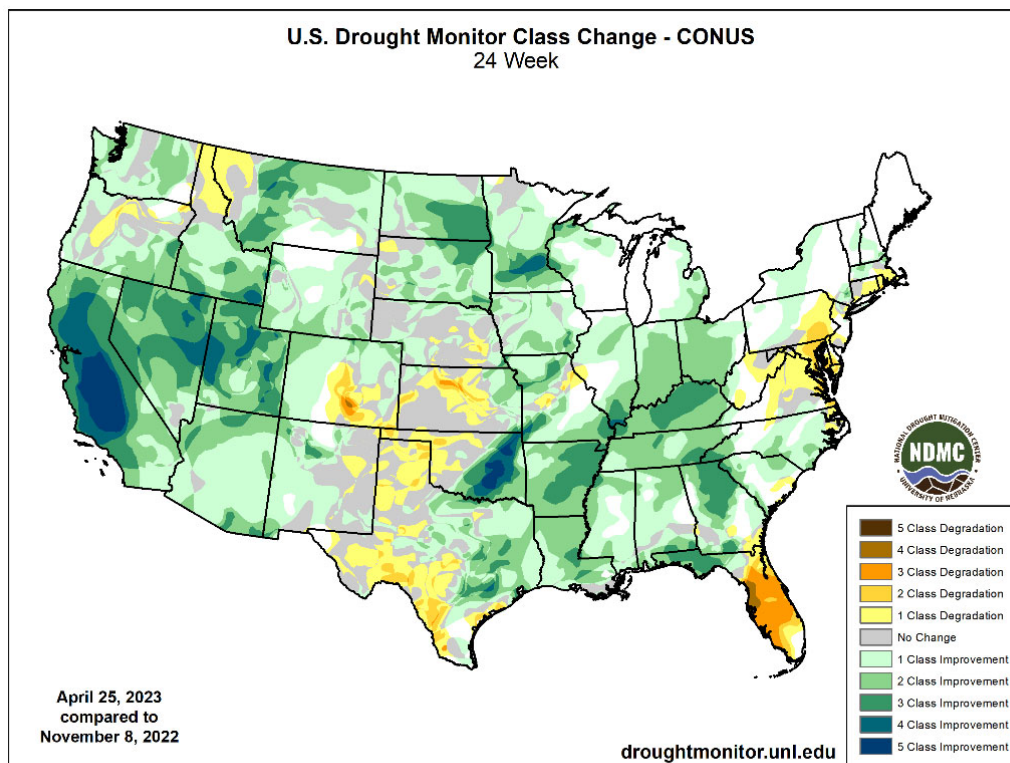
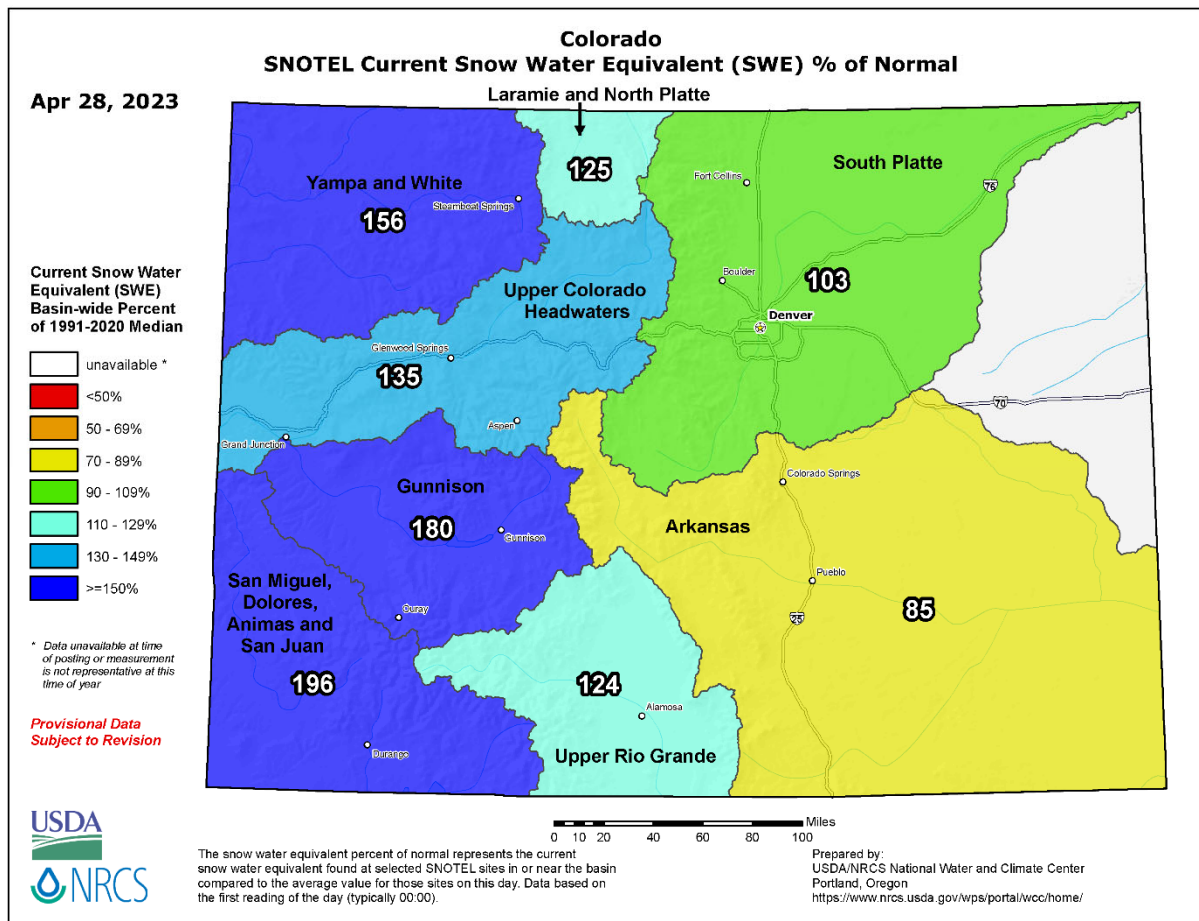


Figure 2: Drought monitor class change across the country and in Colorado.

## Snow Water Equivalent

Snow water equivalent (SWE) across much of the state is above median, with the exception of the Arkansas River basin (Figure 3). The western half of the state experienced a well above average year. The South Platte basin is currently sitting just above median SWE, at 103% of median.



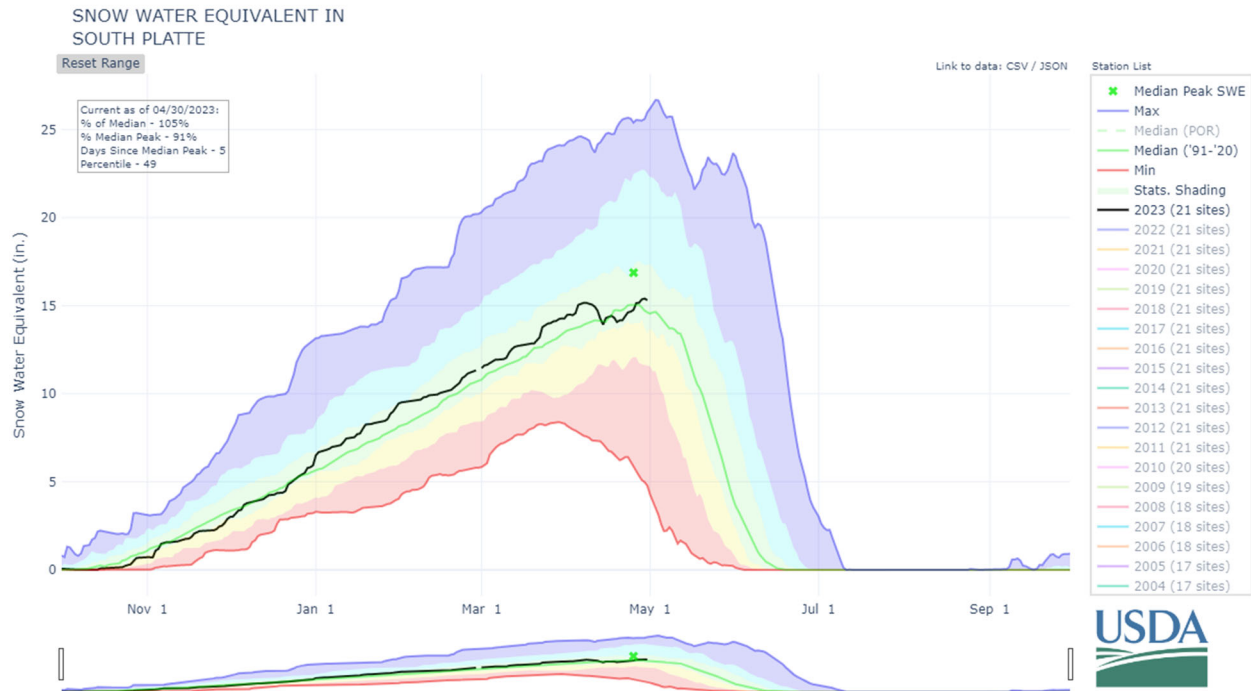
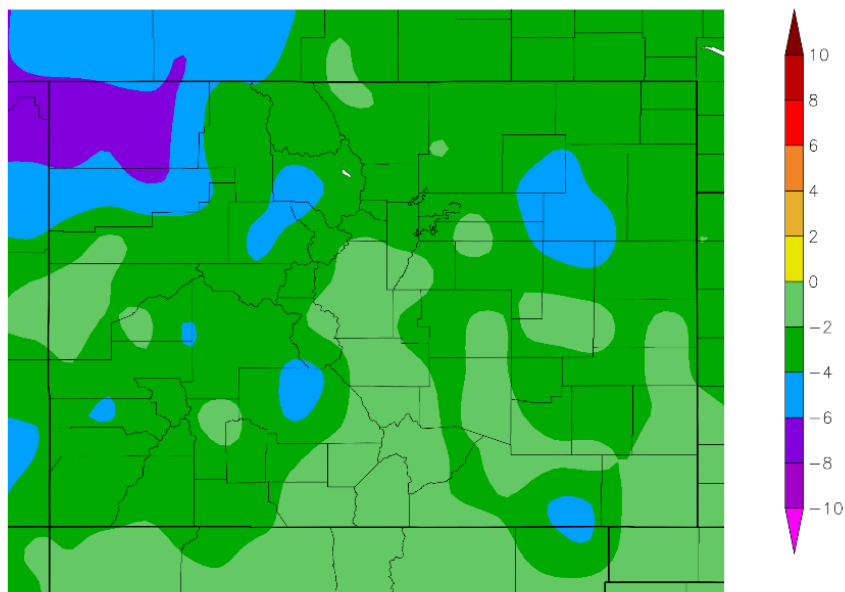


Figure 3. Snow Water Equivalent in Colorado

### Temperature and Precipitation

The South Platte River basin, and much of the state, has experienced cooler than normal temperatures so far in water year 2023 (October 1, 2022 - September 30, 2023) (Figure 4). Temperatures have been greatly different from water year 2022 when temperatures were the 6<sup>th</sup> hottest on record in Colorado (Figure 5).

Departure from Normal Temperature (F)  
10/1/2022 – 4/28/2023

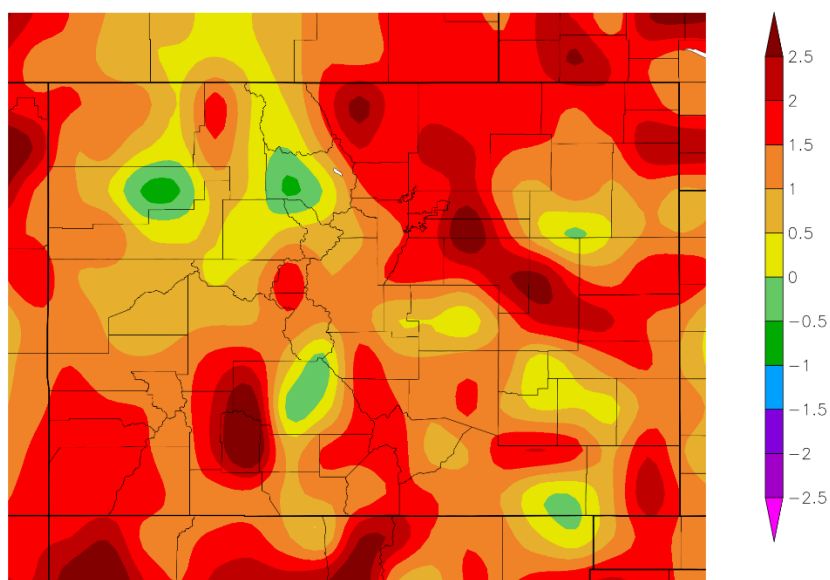


Generated 4/29/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Figure 4: Departure from normal temperatures for water year 2023

Departure from Normal Temperature (F)  
10/1/2021 – 9/30/2022



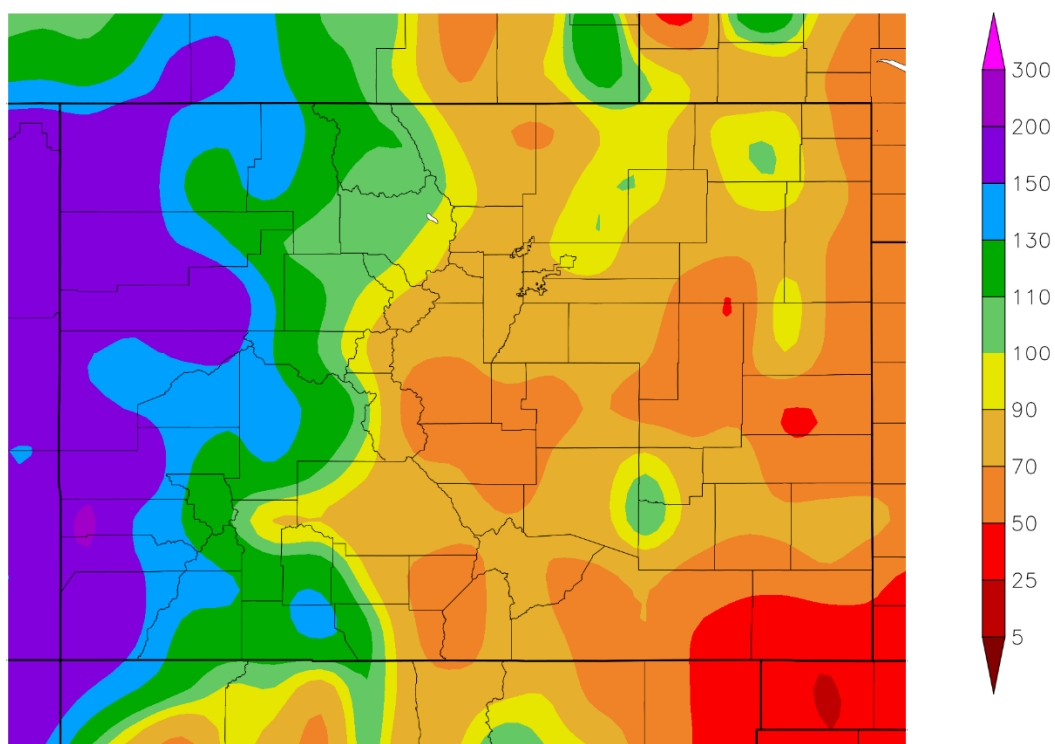
Generated 10/20/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

Figure 5: Departure from normal temperatures for water year 2022

Precipitation for the majority of the South Platte basin in water year 2023 is below or near normal. Precipitation on much of the eastern plains of the basin is around 71-90% of normal (Figure 6). Figure 7 shows the average temperature and precipitation ranking for the Platte drainage. Since October 2022, the Platte drainage has been cool with near normal precipitation.

Percent of Normal Precipitation (%)  
10/1/2022 – 4/29/2023



Generated 4/30/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

**Figure 6: Percent of normal precipitation for water year 2023**



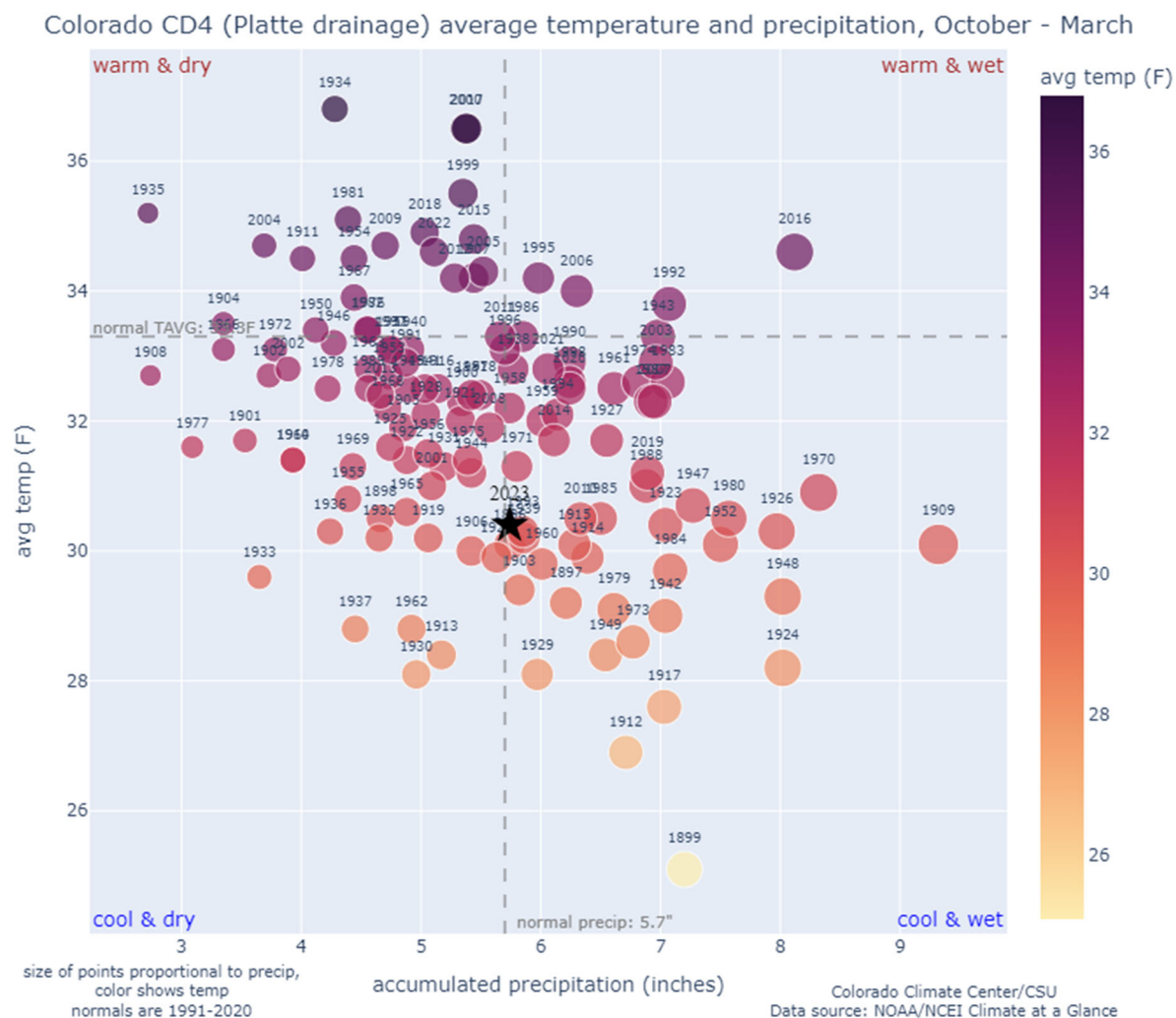


Figure 7: Plot of average temperature and precipitation for the Platte drainage in Colorado for water year 2023



### Reservoir Storage

Reservoirs in the lower South Platte basin (Water Districts 1 and 64) have been slow to fill this year due to persistent cold, snow, and ice making it difficult to run water. All reservoirs, with the exception of North Sterling, are now full (Table 1). North Sterling is currently filling at about 1% per day and is expected to fill in the next couple of weeks, assuming that more senior direct flow diversions don't diminish the rate at which North Sterling is currently filling at. Because of the late filling season for many of these reservoirs, junior recharge projects have not been able to divert, which may affect well pumping later in the season.

Table 1. Reservoir Storage levels in Water Districts 1 and 64

April 19th, 2023 Estimated Reservoir Levels			
Reservoir	Acre Feet in Reservoir	Full AF	% Full
EMPIRE	33817.5	33817.5	100
RIVERSIDE	63303	63303	100
JACKSON	27256	27256	100
NORTH STERLING	63889	75164	85
PREWITT	28597	28597	100
JUMBO aka JULESBURG	22666	22666	100



Figure 8: February conditions at North Sterling Ditch. Snow and ice conditions persisted for much of the winter making reservoir filling conditions slow this season. (Photo credit Joe Frank)

### Long-Term Forecast

NOAA climate prediction center is showing that over the next three months, there are equal chances of above and below normal temperature and precipitation in the South Platte basin (Figure 9).

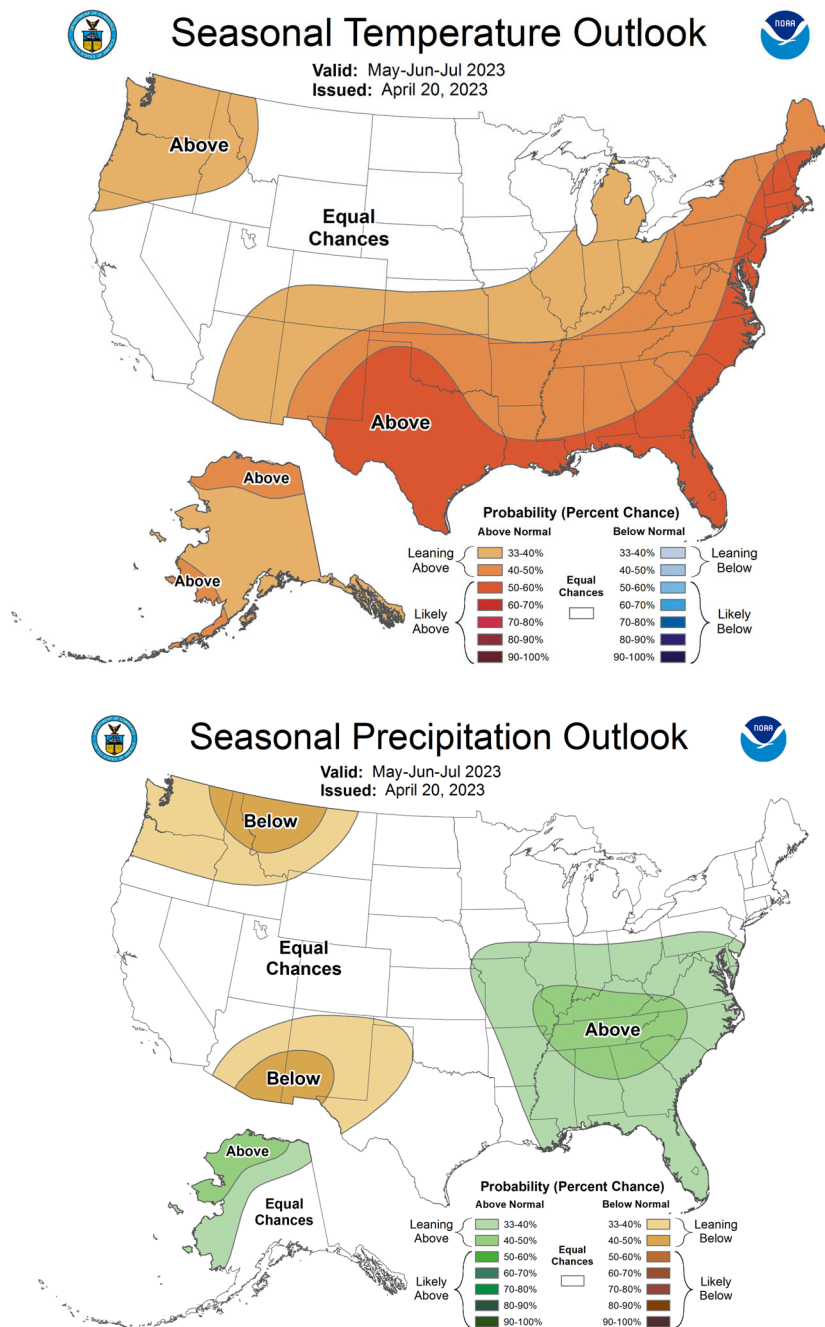


Figure 9: Three month temperature and precipitation outlook

## References

30-day forecast: <https://www.cpc.ncep.noaa.gov/products/predictions/30day/>

Colorado Climate Center: <https://climate.colostate.edu/>

Colorado DWR, Division 1 office: <https://dwr.colorado.gov/division-offices/division-1-office>

Colorado DWR, Drought & Surface Water Supply Index:  
<https://dwr.colorado.gov/services/water-administration/drought-and-swsi>

Colorado's Water Availability Task Force: <https://cwcb.colorado.gov/water-availability-flood-task-forces>

Drought Monitor: <https://droughtmonitor.unl.edu/Maps/MapArchive.aspx>

Drought Monitor Class Change: <https://droughtmonitor.unl.edu/Maps/ChangeMaps.aspx>

High Plains Regional Climate Center: <https://hprcc.unl.edu/maps.php?map=ACISClimateMaps>

National Weather Service: [https://www.weather.gov/bou/co\\_precipitationtemperature](https://www.weather.gov/bou/co_precipitationtemperature)

NRCS, Water Supply and Data Products:  
<https://www.nrcs.usda.gov/wps/portal/wcc/home/quicklinks/states/colorado/products/watersupply>

Snow Water Equivalent, Colorado: [https://www.weather.gov/bou/co\\_snowpack](https://www.weather.gov/bou/co_snowpack)

Snow Water Equivalent, South Platte Basin:  
[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/co/snow/products/?cid=nrcs144p2\\_063323](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/co/snow/products/?cid=nrcs144p2_063323)

Three Month Precipitation and Temperature Outlooks:  
[http://www.cpc.ncep.noaa.gov/products/predictions/long\\_range/seasonal.php?lead=1](http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1)