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SERVICE**

# Outlook: Water and Weather – Spring Flood

April 20, 2023

Presenter: Aldis Strautins, Senior Service Hydrologist, NWS Denver/Boulder



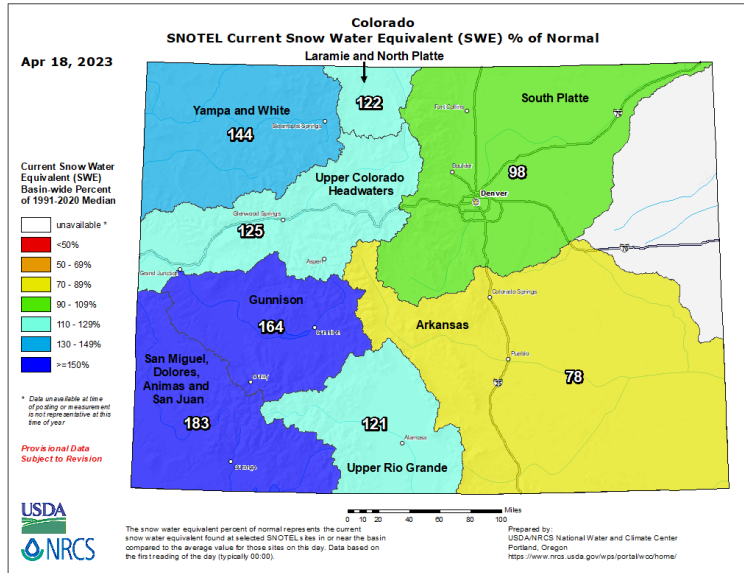
# Outline

- Snowpack
- Spring Runoff Flooding Concerns
- Drought
- Weather outlook

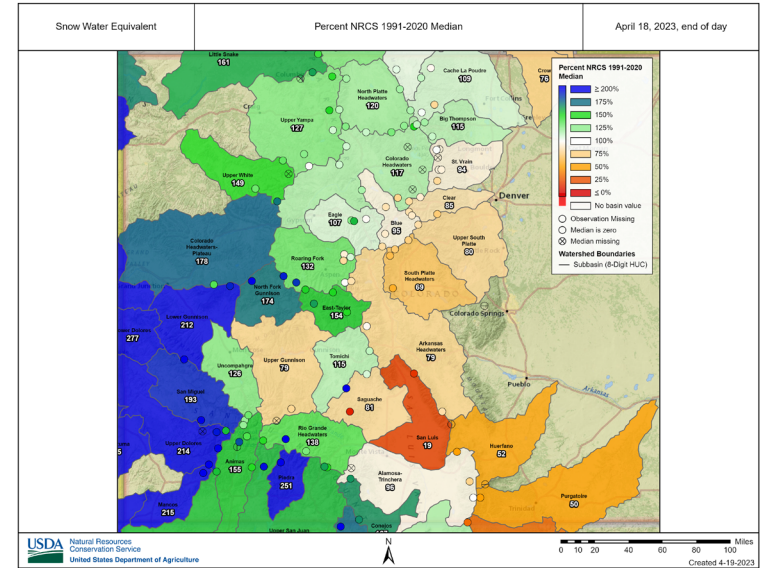


# SNOTEL

## Snowpack SWE – April 18



**State Wide 131% of Median**  
**(Well above normal west / normal northeast / below normal southeast)**



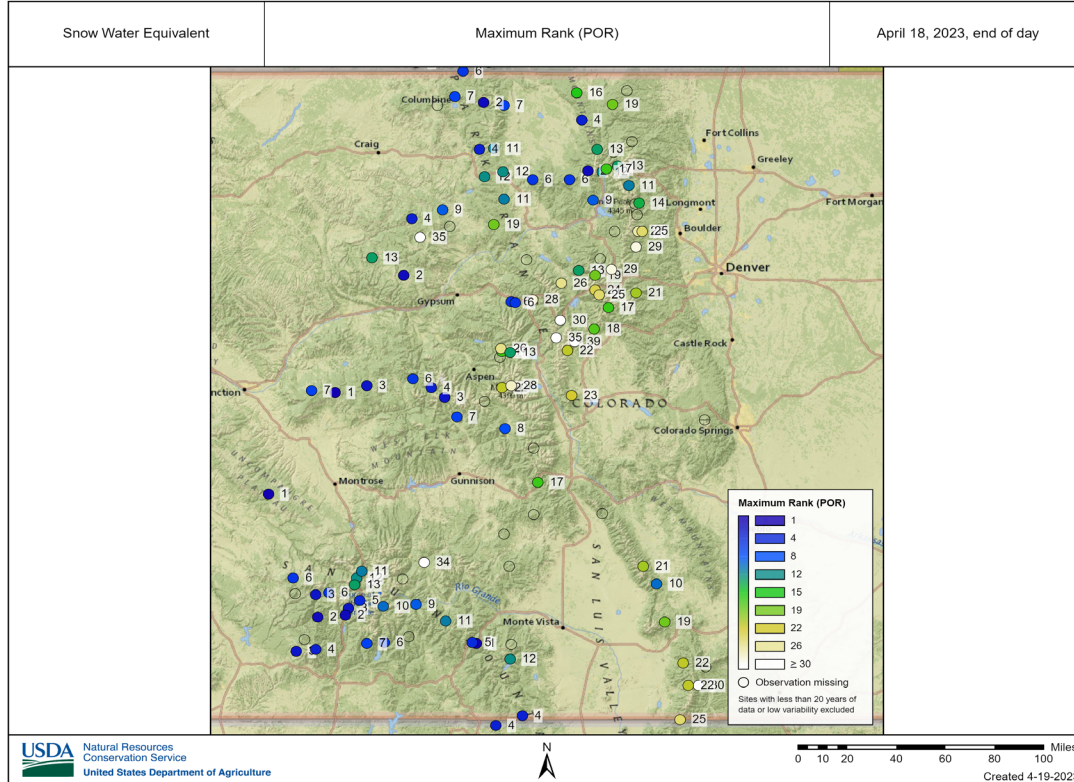
**Sub-Basins – West 125% to over 200% / Northeast 94%-115% / South Central 69%-85%**



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# SNOTEL

## Snowpack SWE – April 19



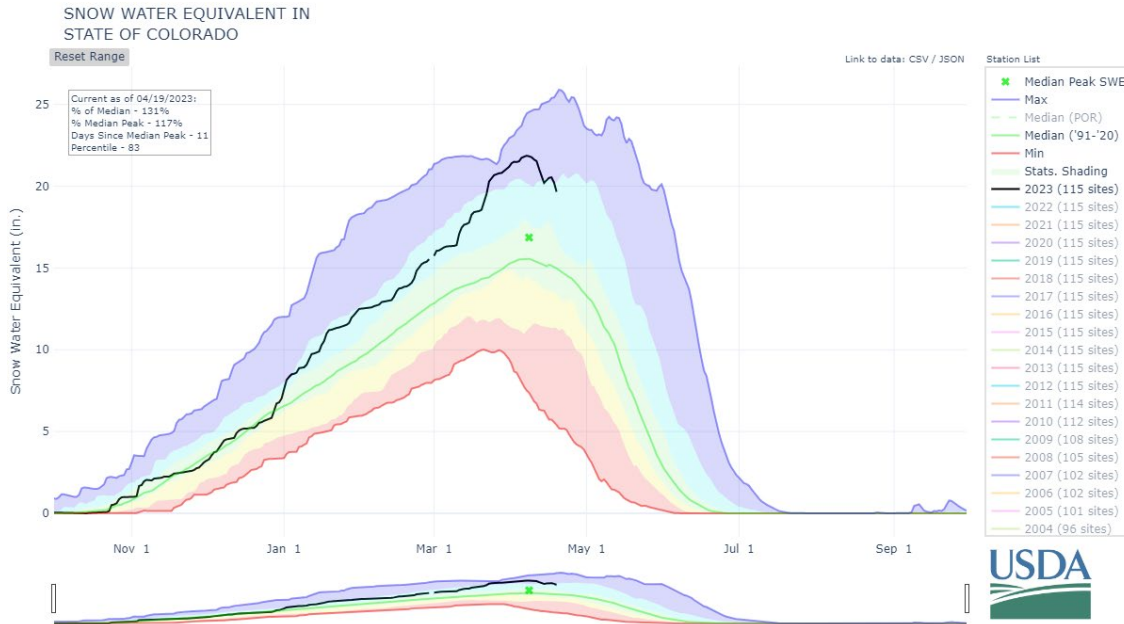
**State Wide Maximum Rank POR. Many sites are top 10 out West.**



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# SNOTEL

## Snowpack SWE – April 19



**State Wide SWE. 131% of  
Median / 117% of Median Peak**

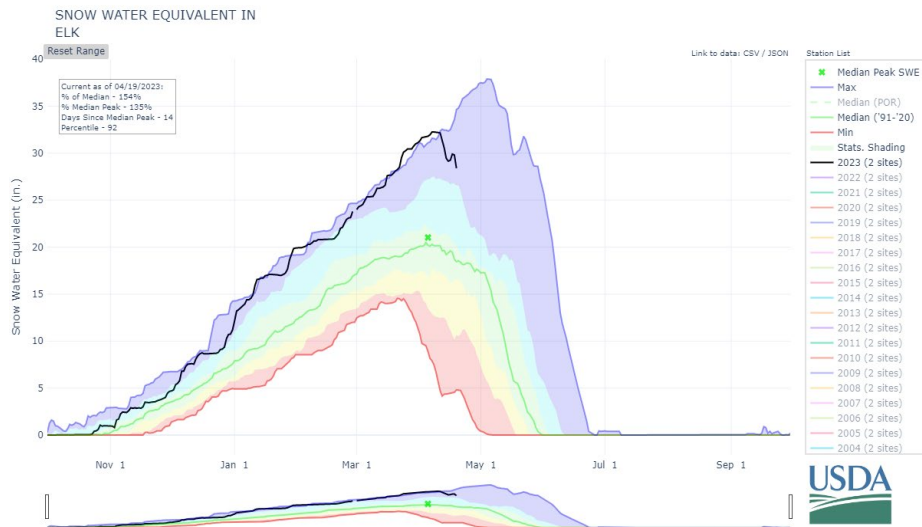


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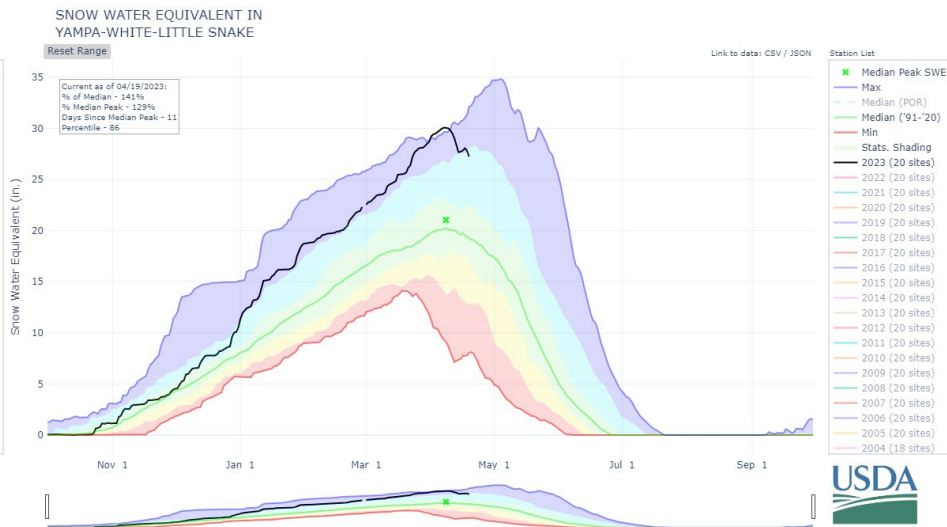


# SNOTEL – SWE as of Apr 19

## % of Normal



**Elk | 154% (Above daily max)**



**Yampa | 141%**



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# SNOTEL – SWE as of Apr 19

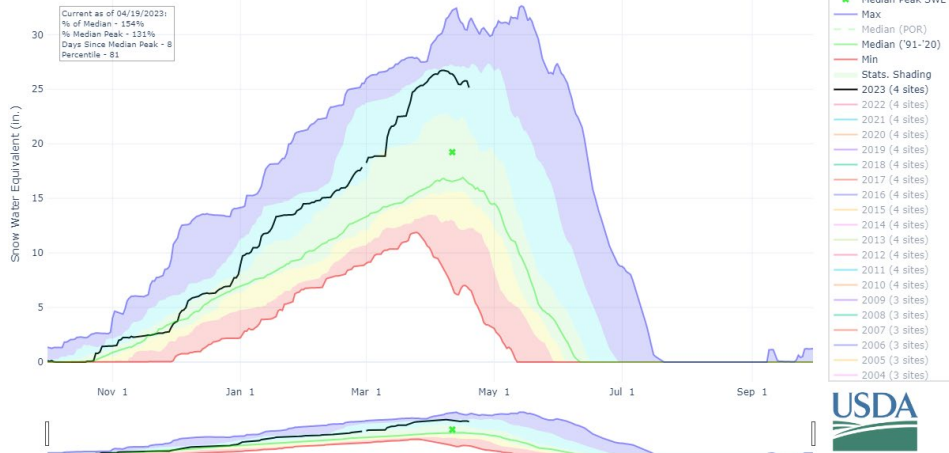
## % of Normal

SNOW WATER EQUIVALENT IN  
EAST-TAYLOR

[Reset Range](#)

[Link to data: CSV / JSON](#)

Station List



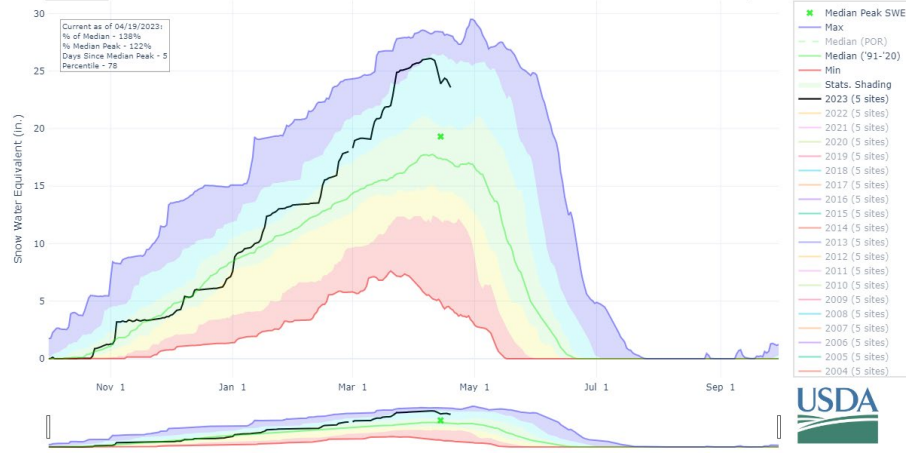
East and Taylor | 154%

SNOW WATER EQUIVALENT IN  
HEADWATERS RIO GRANDE

[Reset Range](#)

[Link to data: CSV / JSON](#)

Station List



Rio Grande Headwaters | 138%

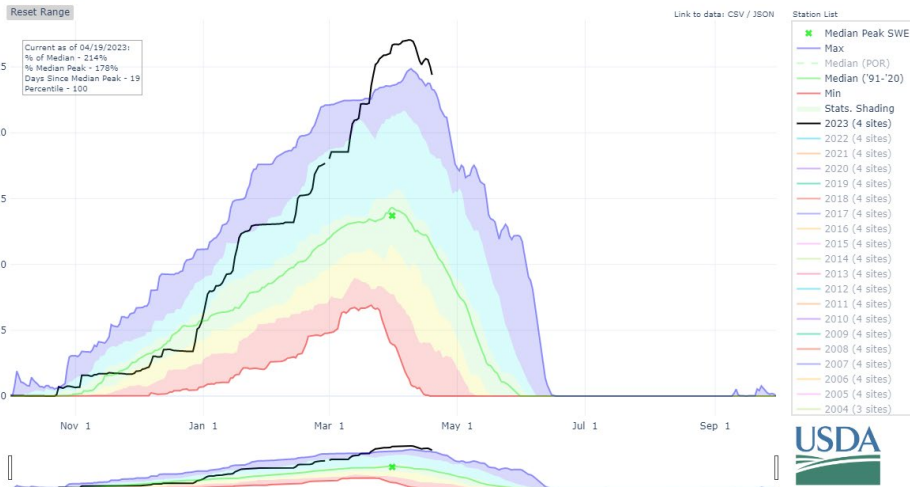


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# SNOTEL – SWE as of Apr 19

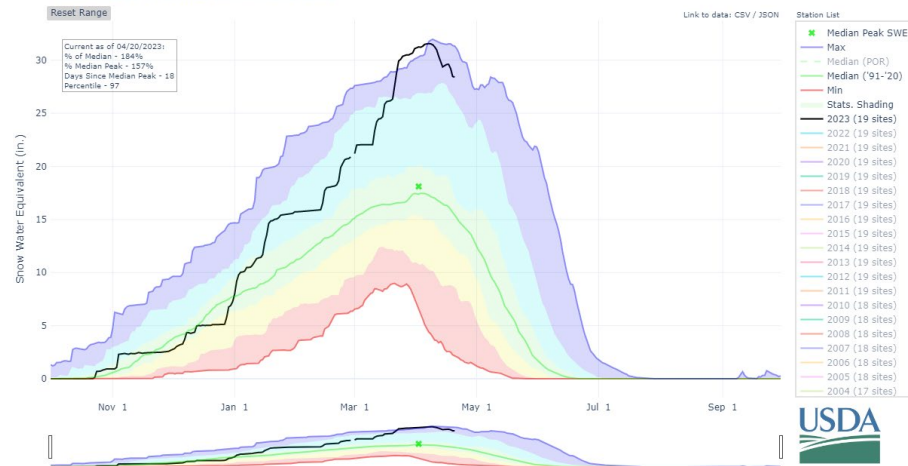
## % of Normal

SNOW WATER EQUIVALENT IN  
DOLORES



**Upper Dolores | 214% (well  
above daily max) / 178% above  
Median peak**

SNOW WATER EQUIVALENT IN  
SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN



**San Juan Basin overall | 184%**

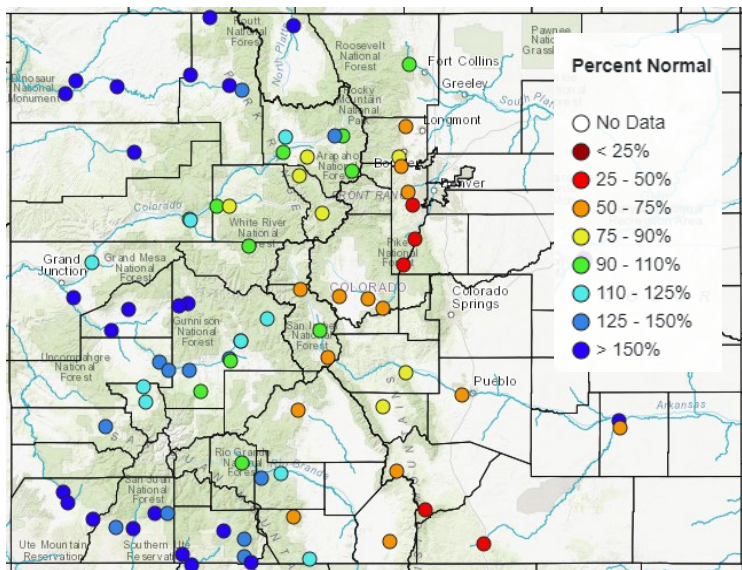


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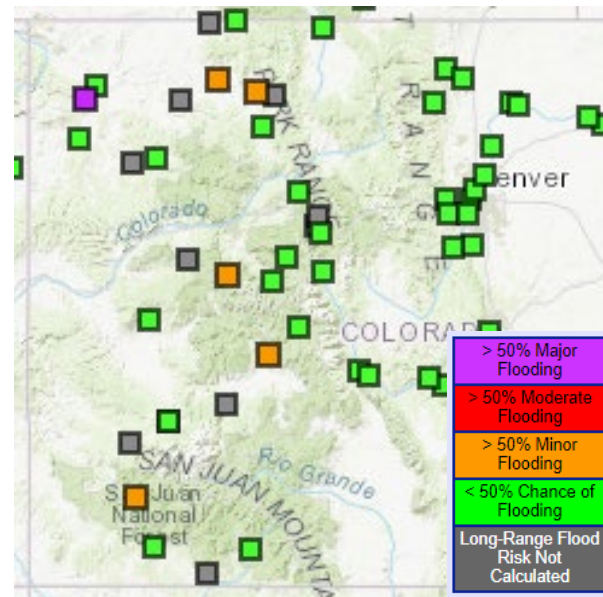
# Outlook – Spring Runoff

## Water Supply and Spring Flood potential for select sites



- Spring runoff volume forecasts are well above normal Western CO

- Spring Flood potential is above normal, from snow melt runoff alone, for multiple sites in Western CO



**Water Supply (Apr 19, 2023)**

(mid to late April snow accumulation could change the forecast)

**Greater than 50% chance of flooding Apr - Jun**



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# River Basins to Watch For Runoff Flooding from snowmelt alone

- Yampa, Elk, Elkhead and Little Snake
- East and Taylor, Ohio
- North Fork of the Gunnison, Crystal
- Dolores
- San Juan Basin, Piedra and Animas
- Upper Rio Grande
- North Platte (higher potential in WY)

Minor flooding from  
local snowpack:  
Towns of Dolores,  
Gateway, Mancos,  
near Hayden (Lately)

Yellow – Higher Concern  
for flooding

Green – Lower concern for  
flooding

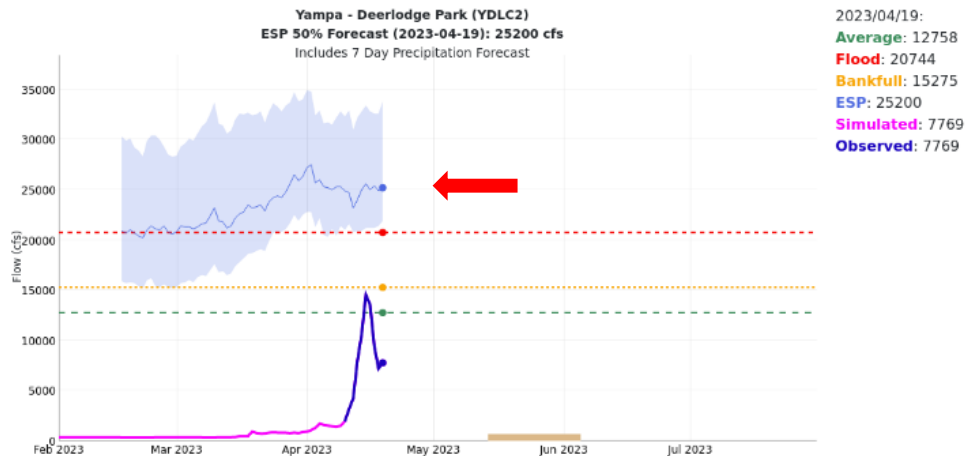


# Peak Forecast

## Daily Peak Flow Forecast – April 19

### Daily Peak Flow Forecast - YDLC2 - Yampa - Deerlodge Park

Model Run Date	2023-04-18 (Incl 7 Day Precip Forecast)
Flood Flow	20744 cfs
50% Forecast	24851 cfs
Rank of 50% Forecast	3rd Highest Flow / 38 Total Years
Percentile	94% of Years Below Forecast
Peak to Date	
Average Peak	12758 cfs
Percent Average	194%
Normal Time of Peak	05-13 - 06-06
Last Year's Peak	11300 cfs, on 2022-05-21



**Yampa River by Deerlodge Park. (3rd highest in 38 years)  
(Maybell 3<sup>rd</sup> highest in 107 years)**



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# Peak Forecast

## Daily Peak Flow Forecast – April 19

### Daily Peak Flow Forecast - ENMC2 - Elk - Milner Nr

Model Run Date	2023-04-18 (Incl 7 Day Precip Forecast)
Flood Flow	5916 cfs
50% Forecast	6271 cfs
Rank of 50% Forecast	3rd Highest Flow / 53 Total Years
Percentile	96% of Years Below Forecast
Peak to Date	
Average Peak	3946 cfs
Percent Average	158%
Normal Time of Peak	05-16 - 06-06
Last Year's Peak	4190 cfs, on 2022-05-19



Elk River near Milner. (3th highest in 53 years)



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# Peak Forecast

## Daily Peak Flow Forecast – April 19

### Daily Peak Flow Forecast - ALEC2 - East - Almont

Model Run Date	2023-04-18 (Incl 7 Day Precip Forecast)
Flood Flow	3119 cfs
50% Forecast	3320 cfs
Rank of 50% Forecast	9th Highest Flow / 100 Total Years
Percentile	92% of Years Below Forecast
Peak to Date	
Average Peak	1949 cfs
Percent Average	170%
Normal Time of Peak	05-21 - 06-09
Last Year's Peak	1660 cfs, on 2022-05-20



East River by Almont. (9th highest in 100 years)



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# Peak Forecast

## Daily Peak Flow Forecast – April 19

### Daily Peak Flow Forecast - DRRC2 - Dolores - Rico Blo

Model Run Date	2023-04-19 (Incl 7 Day Precip Forecast)
Flood Flow	1772 cfs
50% Forecast	1542 cfs
Rank of 50% Forecast	8th Highest Flow / 69 Total Years
Percentile	89% of Years Below Forecast
Peak to Date	
Average Peak	897 cfs
Percent Average	171%
Normal Time of Peak	05-10 - 06-09
Last Year's Peak	638 cfs, on 2022-05-10



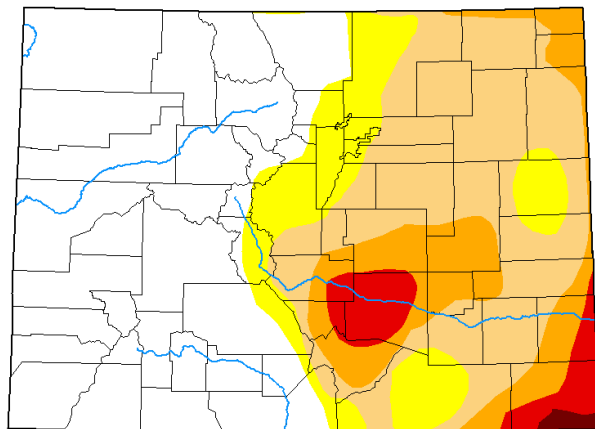
**Dolores River near Rico. (8th highest in 69 years)  
(In Dolores 11<sup>th</sup> highest in 111 years)**



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# Drought

April 11, 2023



April 11, 2023

April 12, 2022

## Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

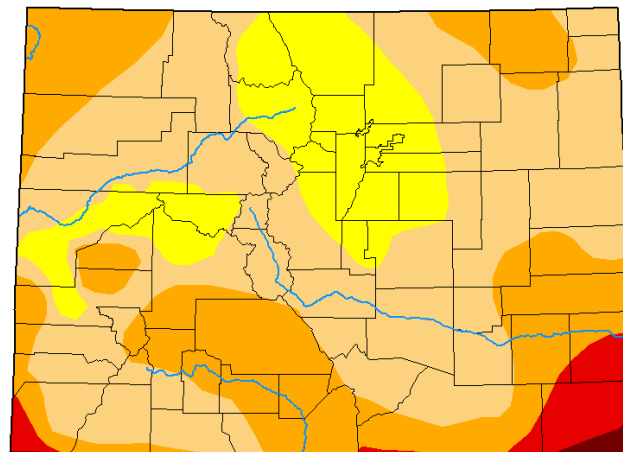
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <http://droughtmonitor.unl.edu/About.aspx>

## Author:

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CPC/NOAA



[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)



April 12, 2022 (last year)



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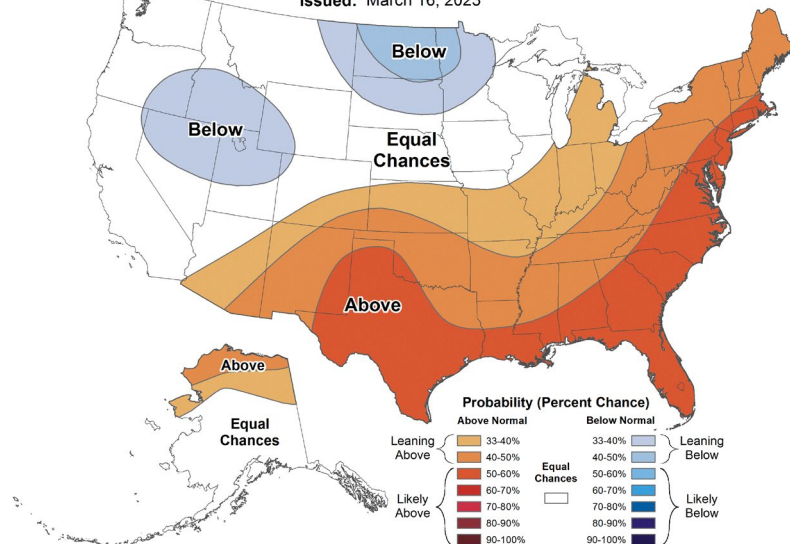
# Outlook – Temp and Precip



## Seasonal Temperature Outlook



Valid: Apr-May-Jun 2023  
Issued: March 16, 2023



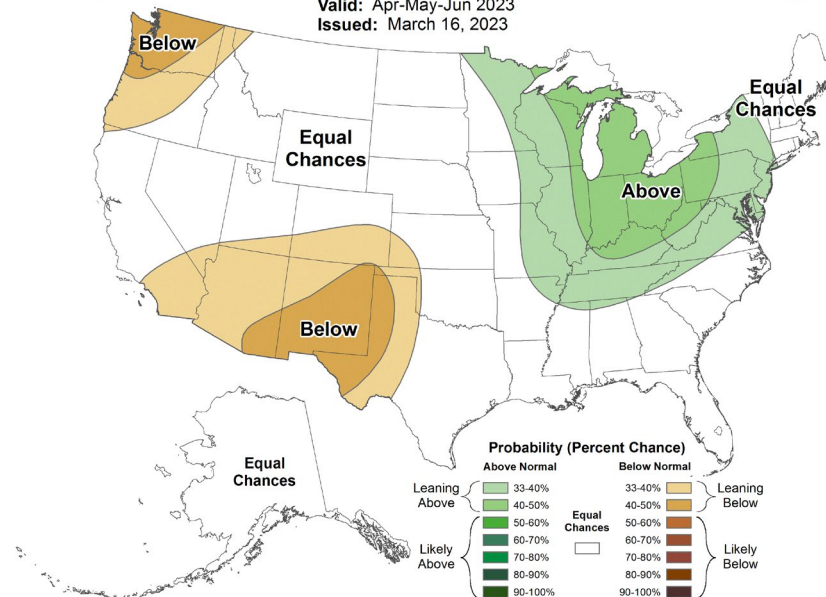
Temperature



## Seasonal Precipitation Outlook



Valid: Apr-May-Jun 2023  
Issued: March 16, 2023



Precipitation



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# Questions

