



Utah Water Assessment & Conditions Monitoring (Drought Webinar)

The meeting will begin shortly



Thank you to our contributors



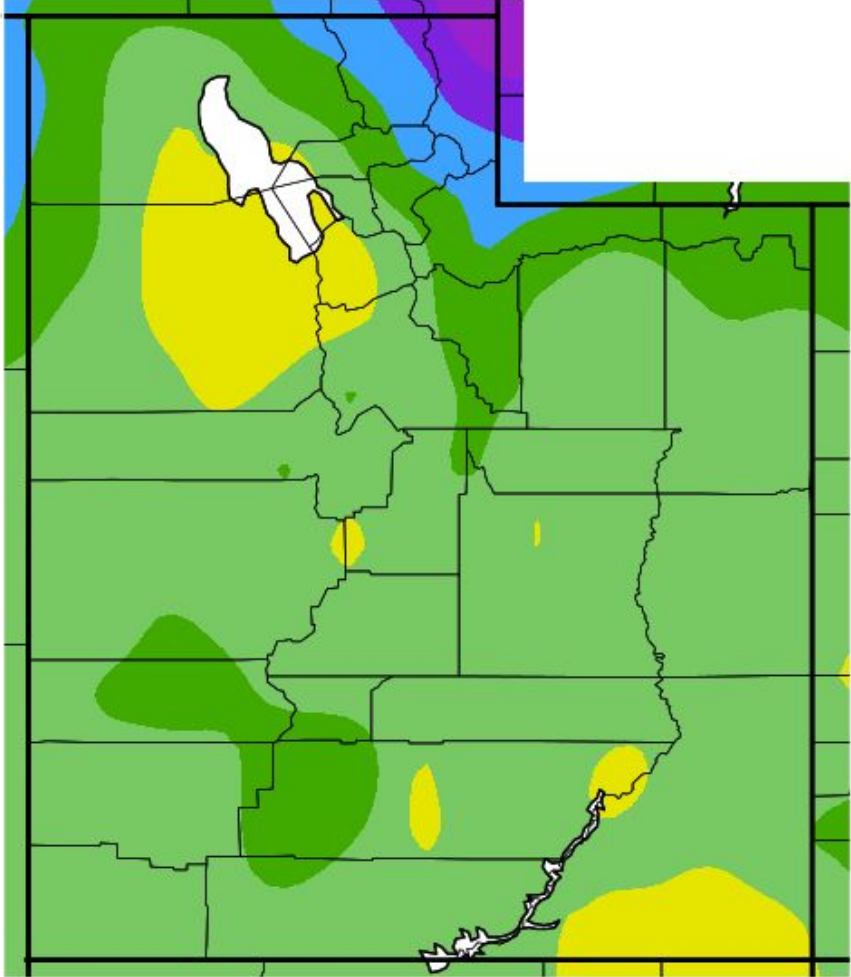


Utah Water Assessment & Conditions Monitoring Webinar

April 18, 2023

2-week Temperature Departure From Average

Av. Max. Temperature dep from Ave (deg F)
4/4/2023 - 4/17/2023



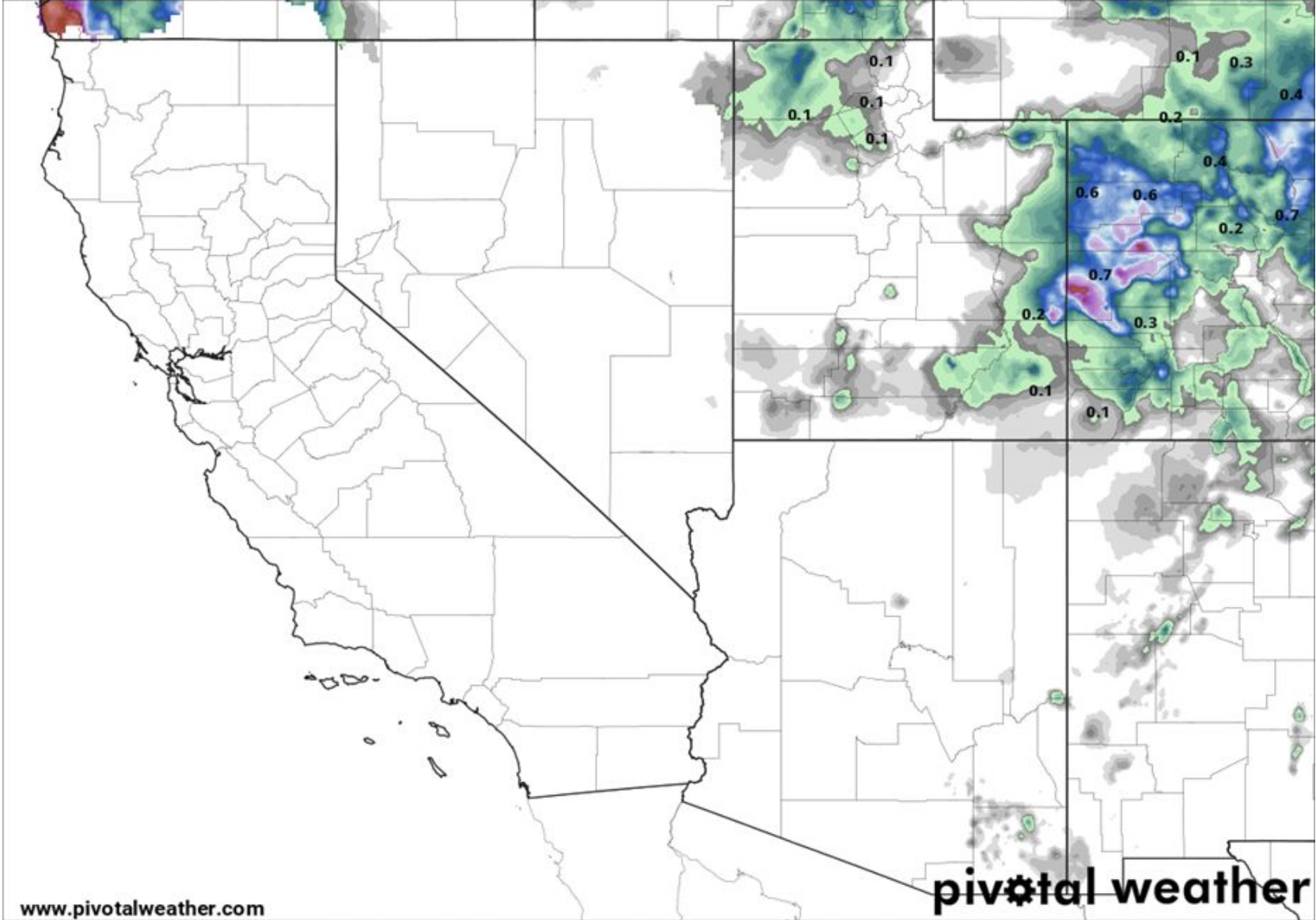
-20 -16 -12 -8 -4 0 4 8 12 16 20
Generated 4/18/2023 at WRCC using provisional data.
NOAA Regional Climate Centers

7-Day Precipitation

168-Hour Stage IV Precipitation Analysis (in)

Ending Monday, Apr. 17, 2023 at 5 a.m. PDT

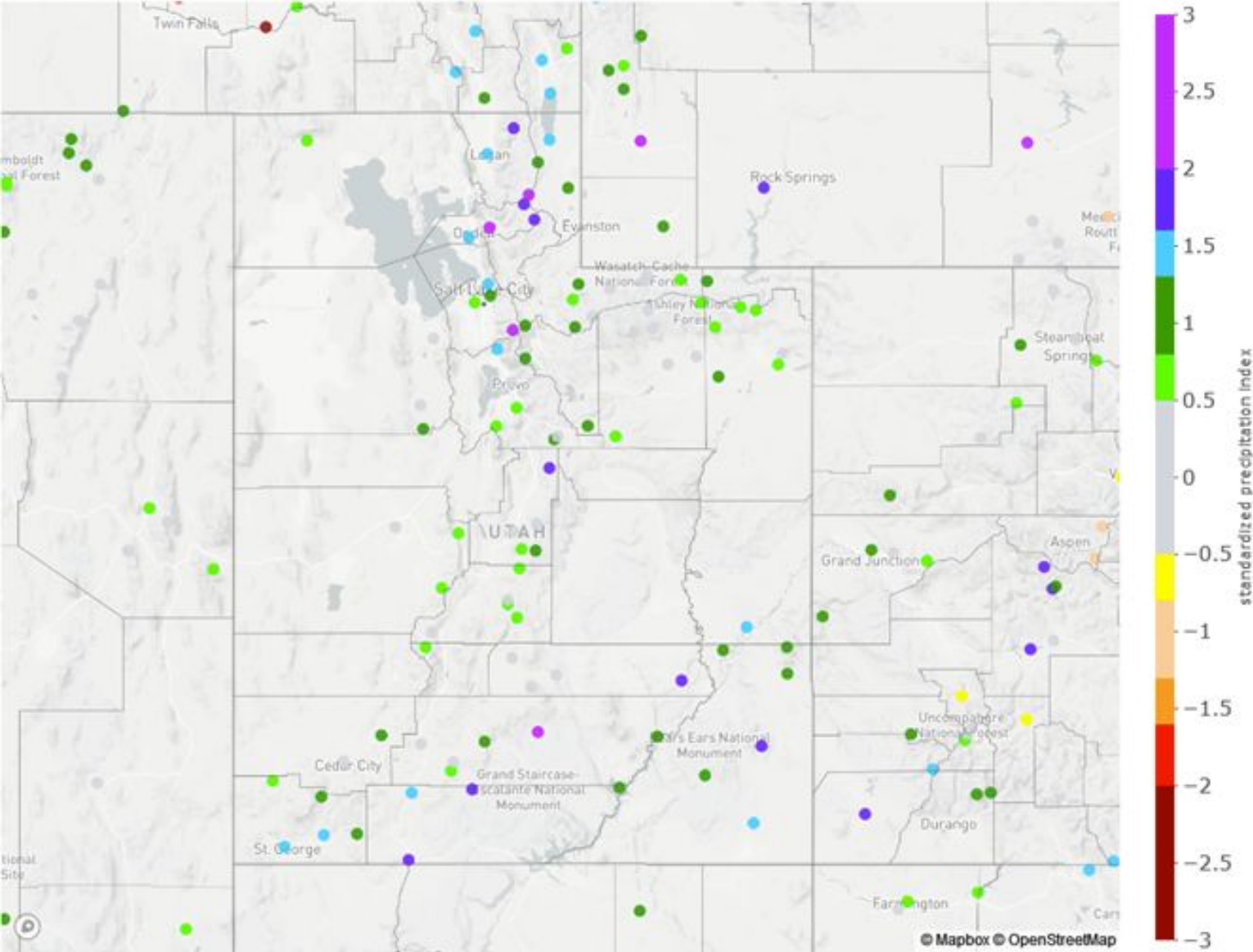
Init: Mon 2023-04-17 12z NCEP Stage IV



Agency - Utah Climate Center
Presenter - Jon Meyer

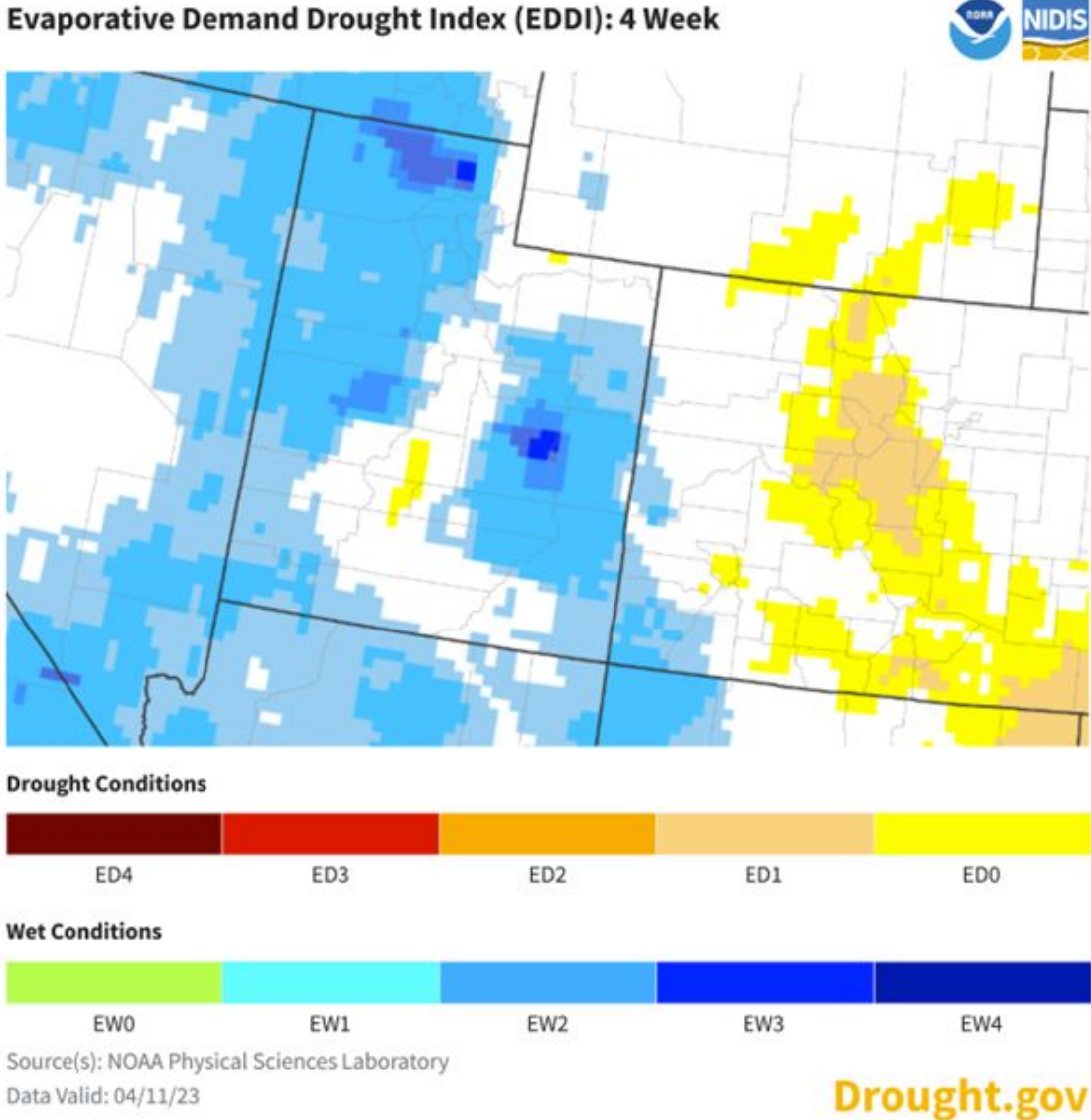
30-day Standardized Precipitation Index (SPI)

30-day Standardized Precipitation Index: 2023/03/18 - 2023/04/16



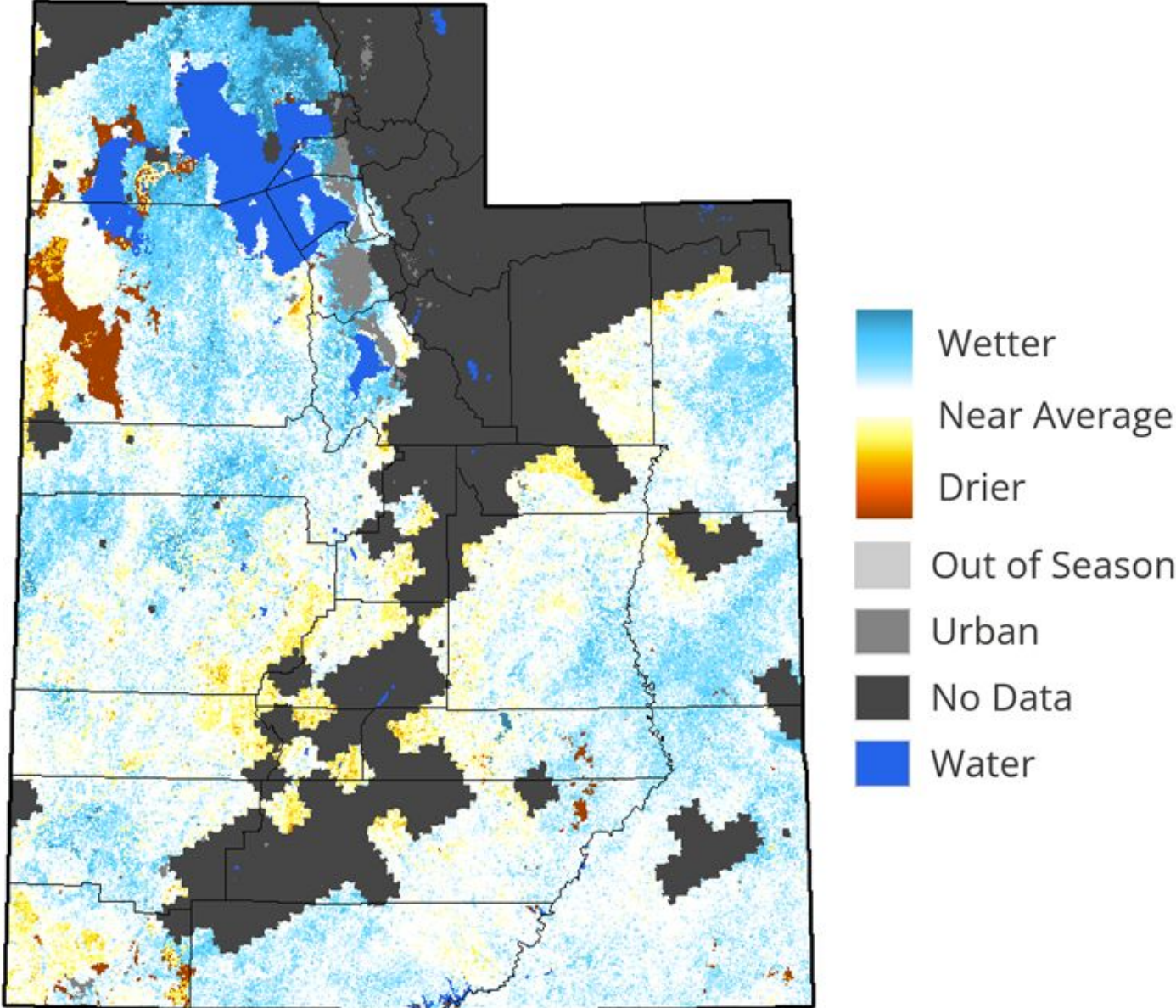
Agency - Utah Climate Center
Presenter - Jon Meyer

One Month Evaporative Demand Drought Index (EDDI)



Agency - Utah Climate Center
Presenter - Jon Meyer

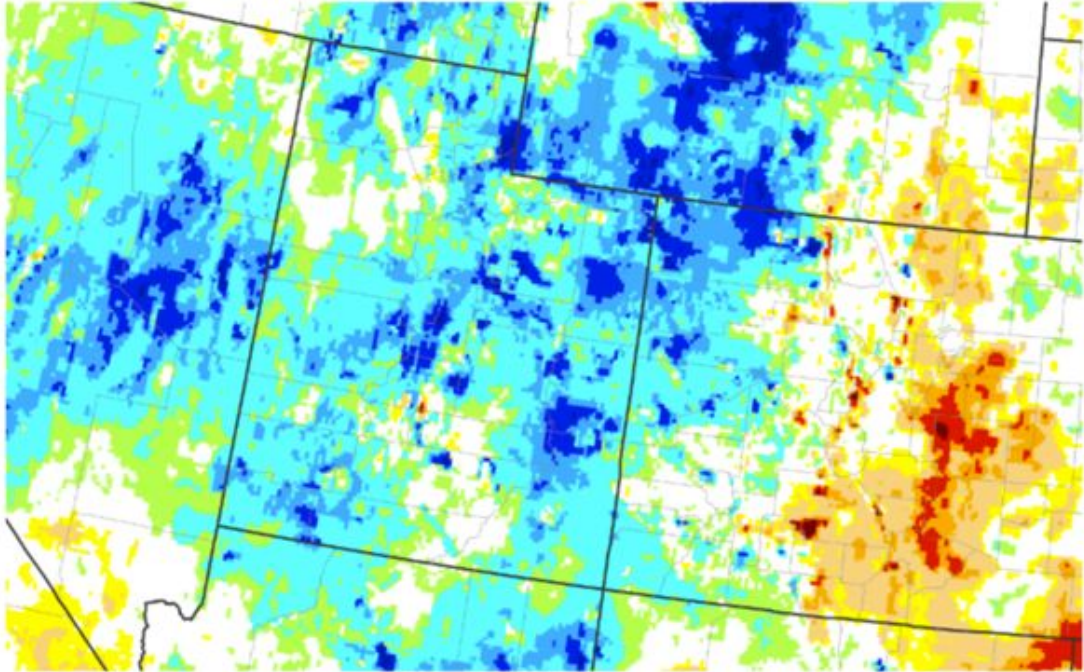
Quick Drought Response Index (Quick DRI)



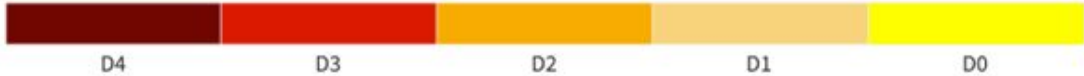
Agency - Utah Climate Center
Presenter - Jon Meyer

NIDID Long-Term Multi-Indicator Drought Index

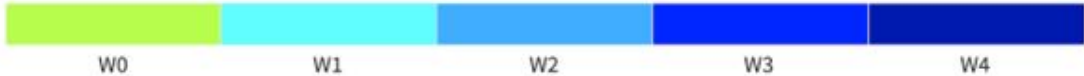
Long-Term Multi-Indicator Drought Index (MIDI)



Dry Conditions



Wet Conditions



Source(s): UC Merced, via Climate Engine
Data Valid: 04/10/23

Drought.gov

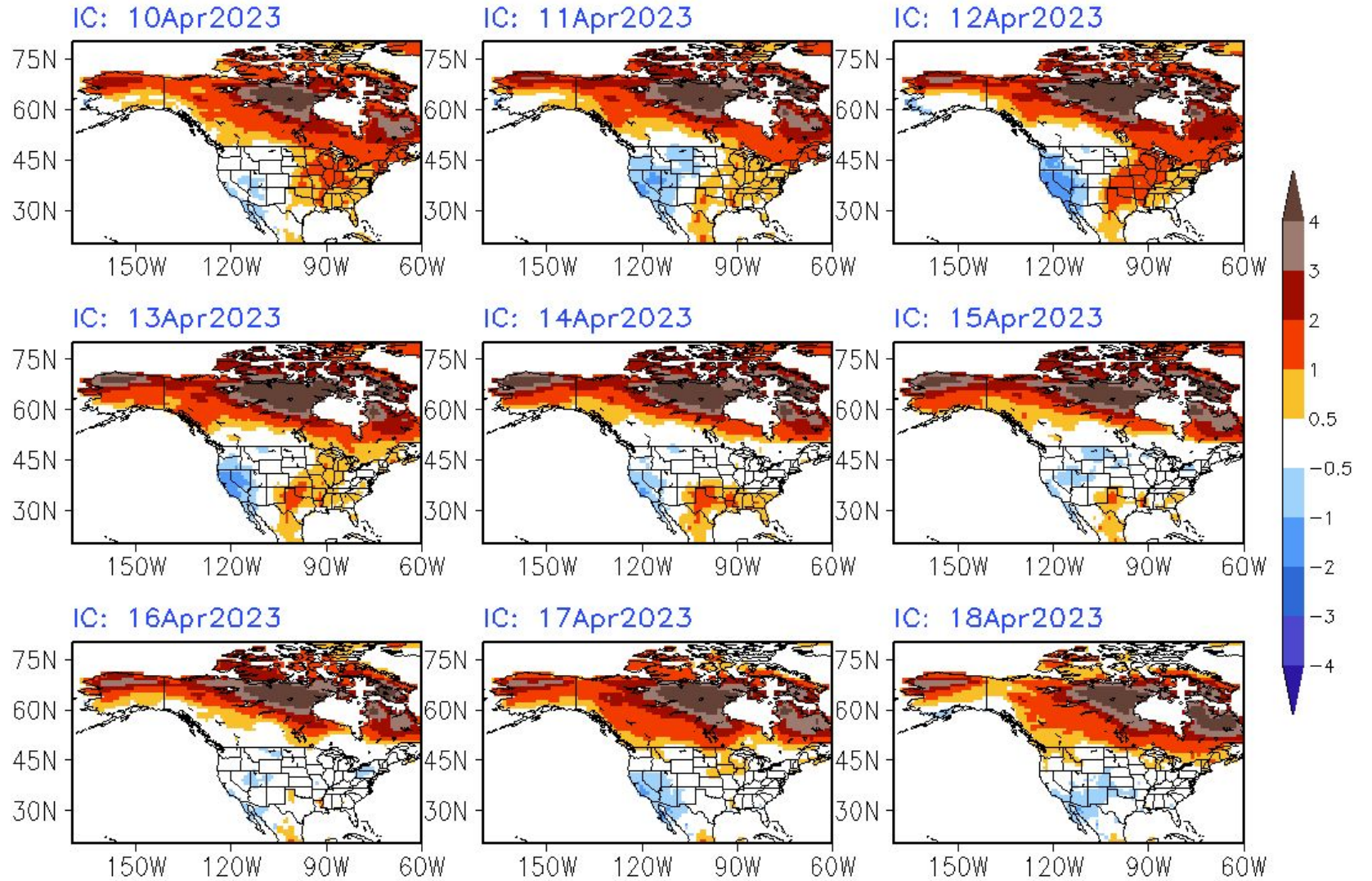
CFSv2 May temperature outlook

Last update: Tue Apr 18 2023



NWS/NCEP/CPC

CFSv2 monthly T2m(K) forecast for May2023



Snowpack

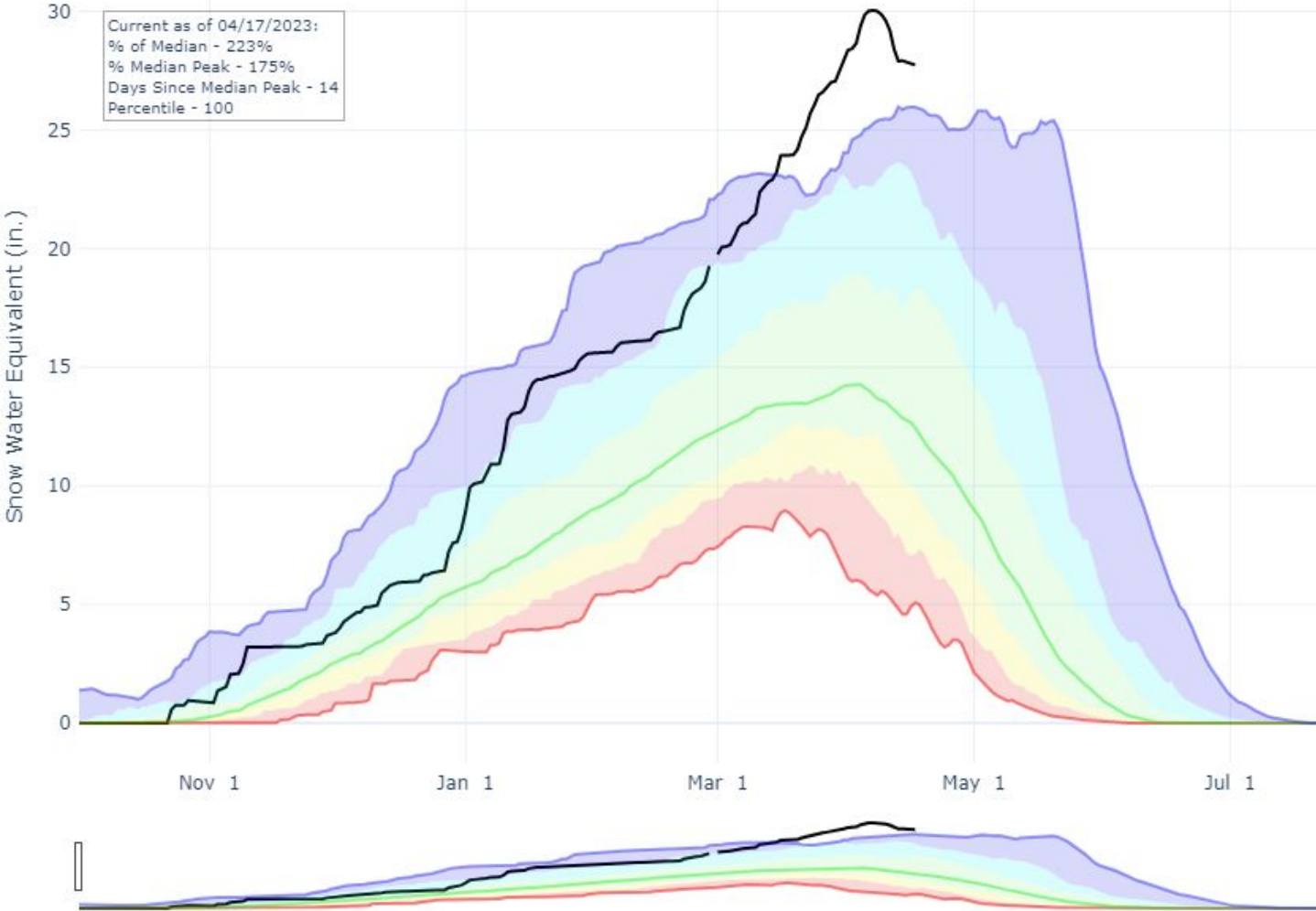
Statewide snowpack is still above previous observations.

Be mindful of inflated %normal values as we transition into snowmelt season.

SNOW WATER EQUIVALENT IN STATE OF UTAH

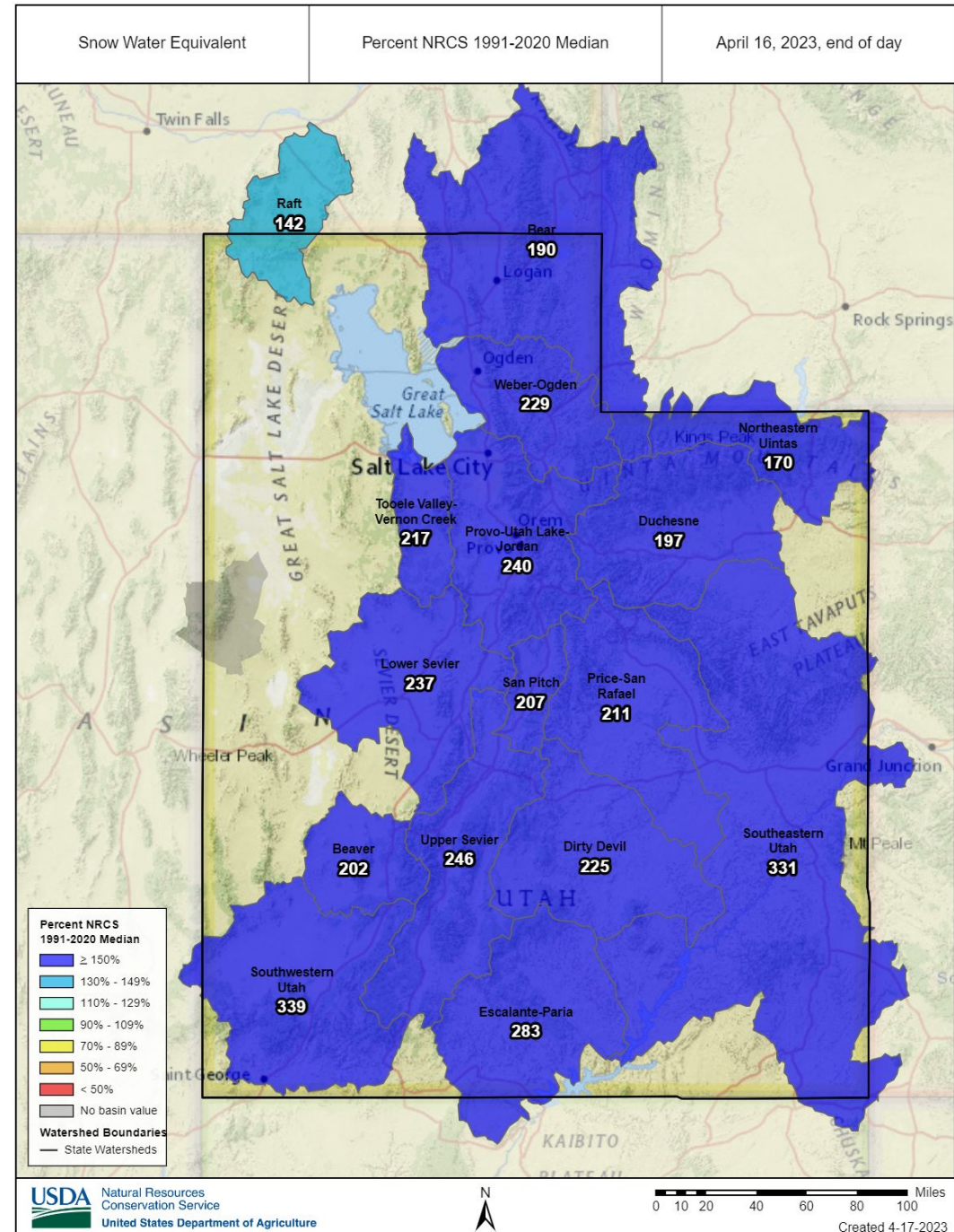
Reset Range

Current as of 04/17/2023:
 % of Median - 223%
 % Median Peak - 175%
 Days Since Median Peak - 14
 Percentile - 100



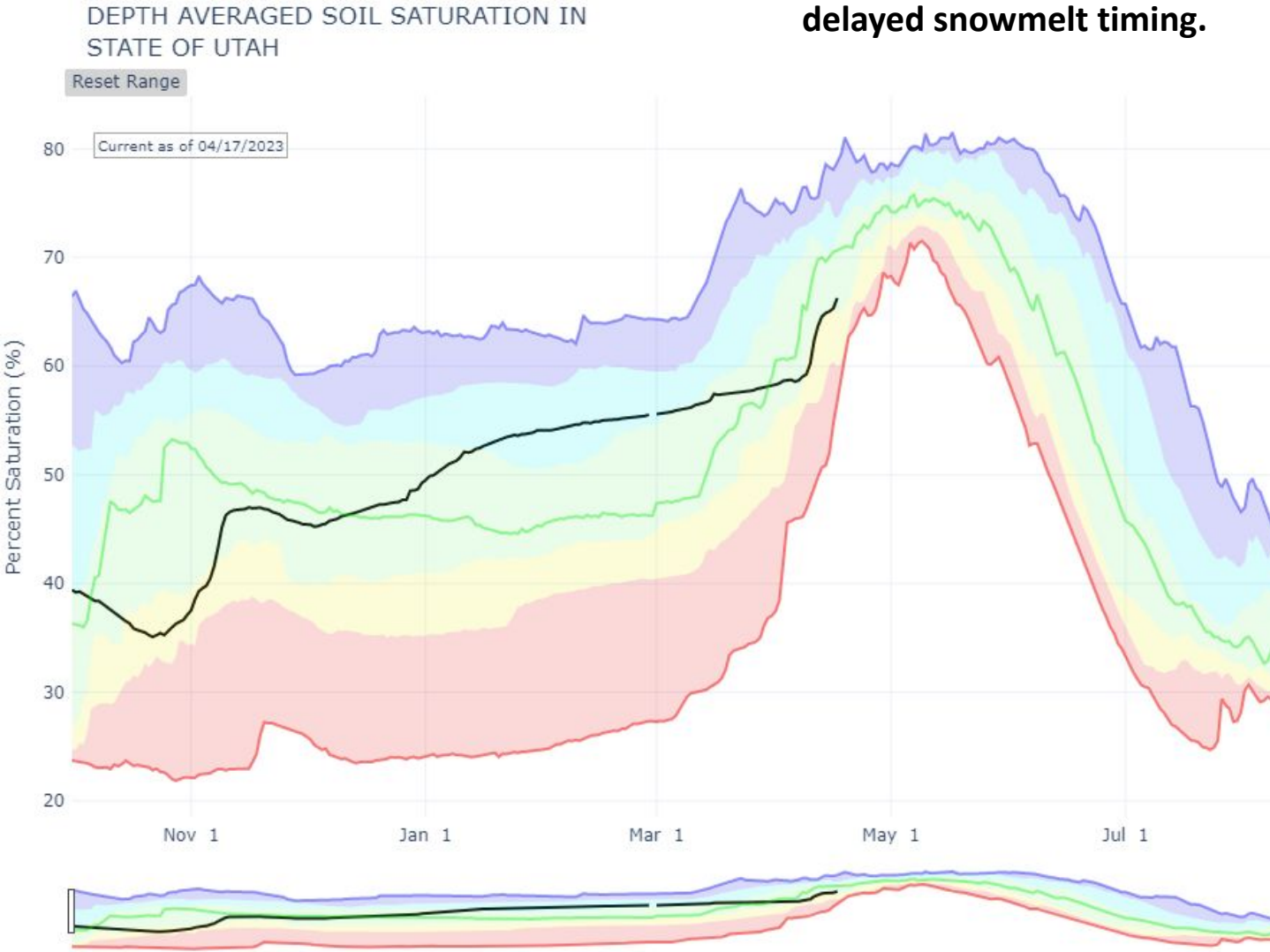
Agency - NRCS Snow Survey

Presenter - TBD, slide prepared by Jordan Clayton



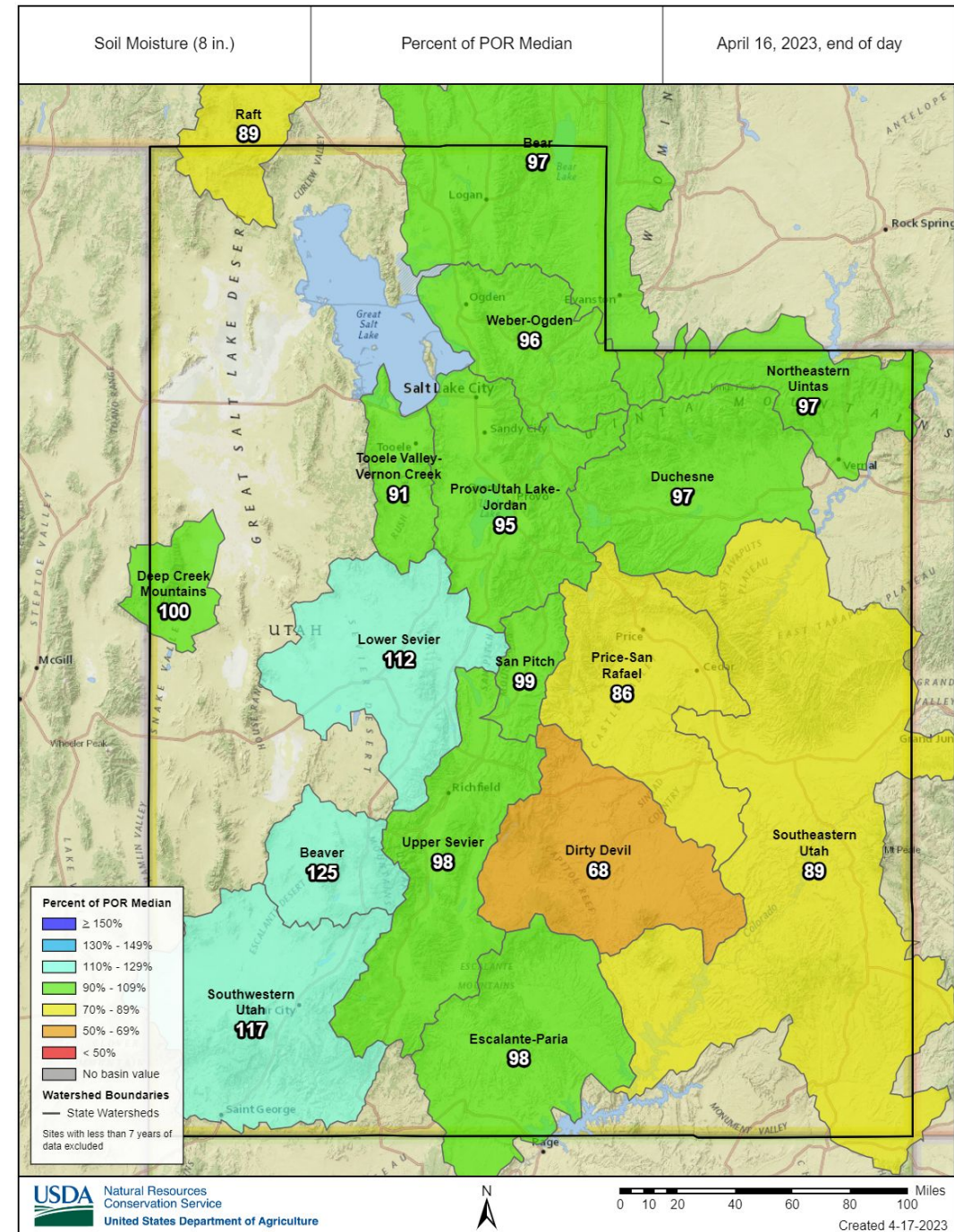
Soil Moisture

Below normal soil moisture conditions are simply due to delayed snowmelt timing.



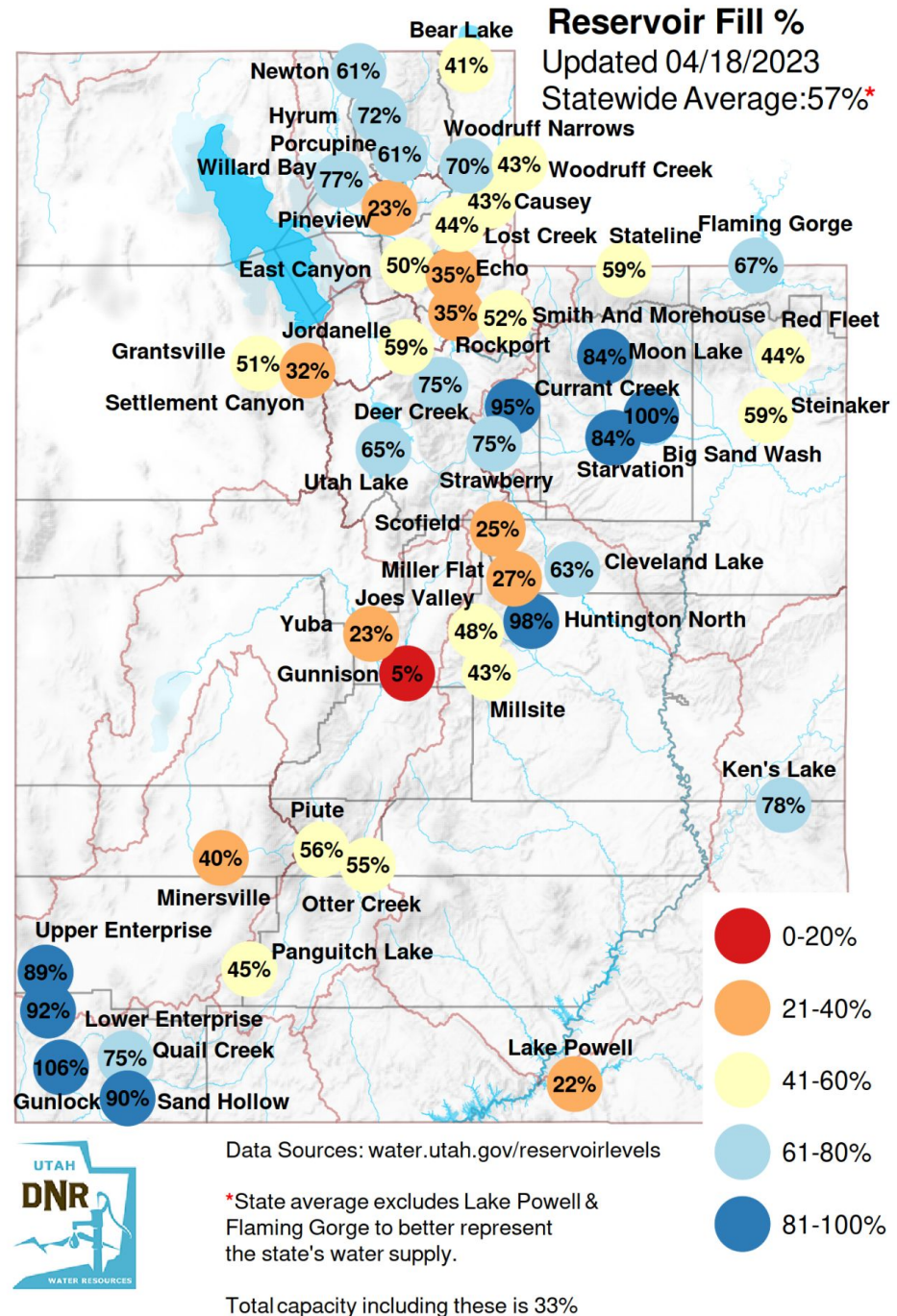
Agency - NRCS Snow Survey

Presenter - TBD, slide prepared by Jordan Clayton



Scofield: 15% low in November, expected to fill
 Deer Creek: 27% low in November, expected to fill
 Pineview: 17% low in November, expected to fill

Great Salt Lake: new record low in November, not likely to come up to Strike Team ideal level



Reservoir Levels

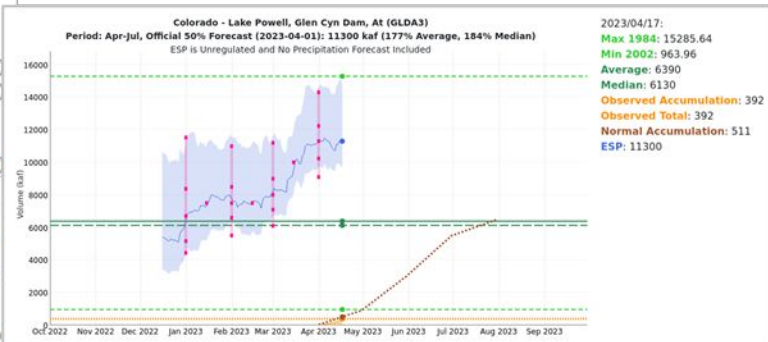
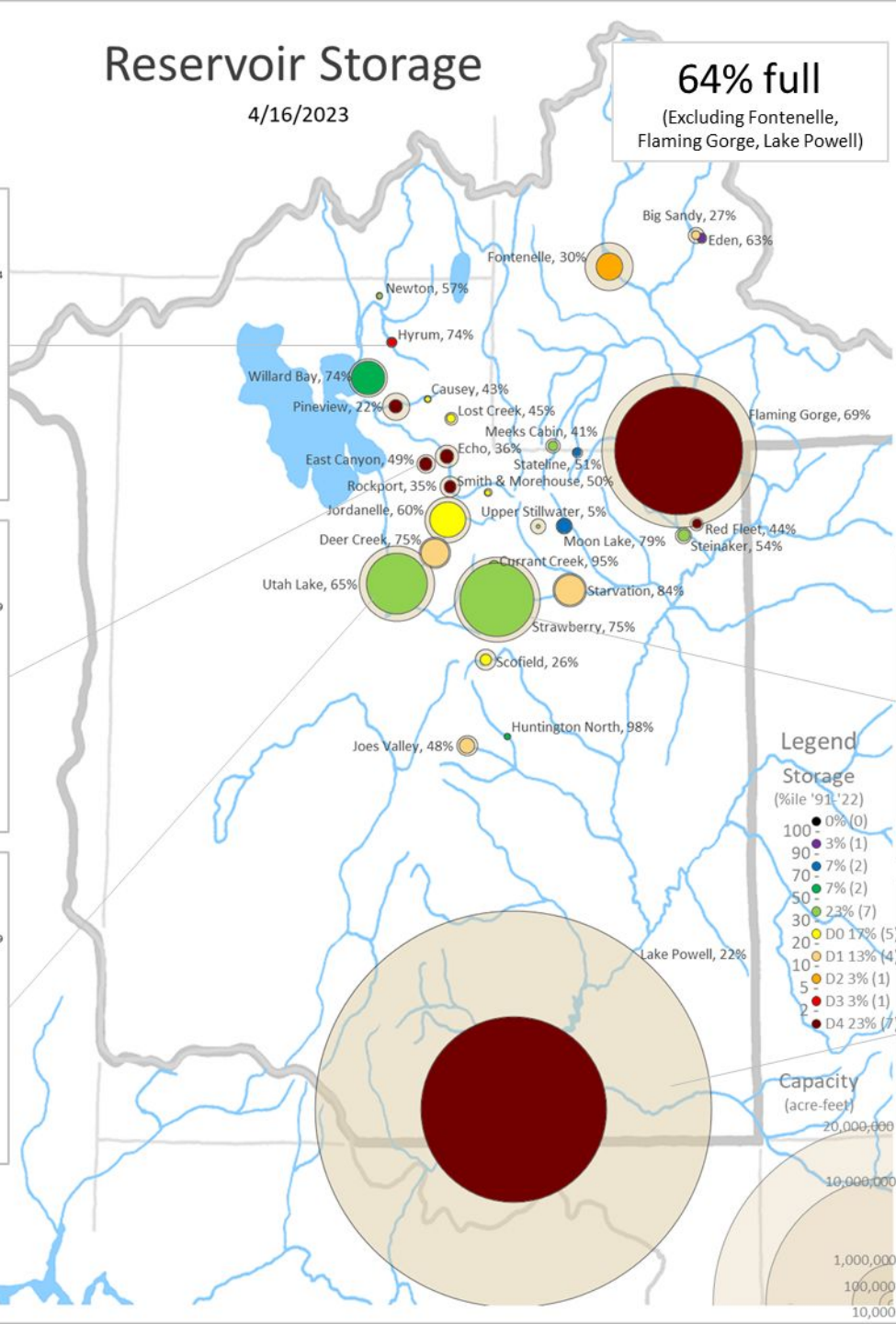
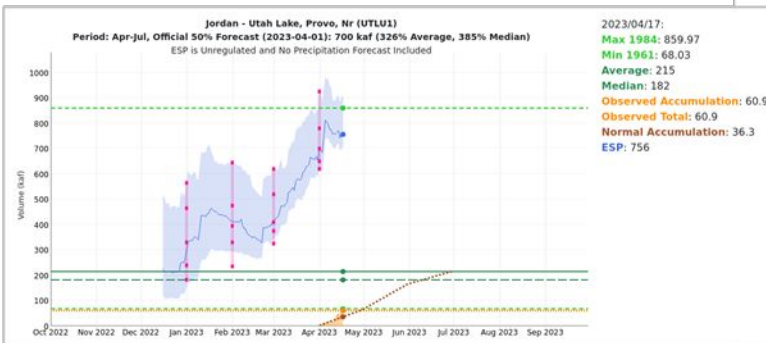
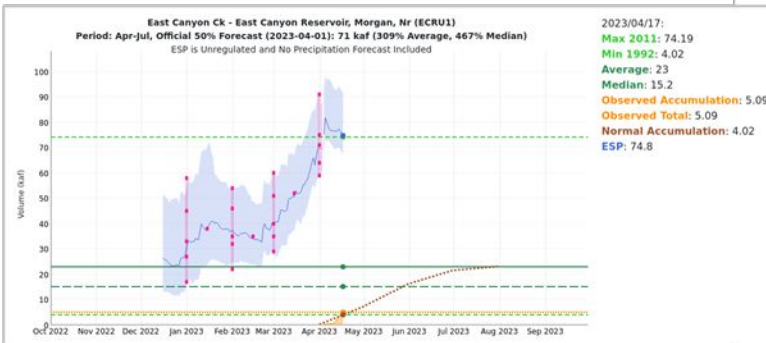
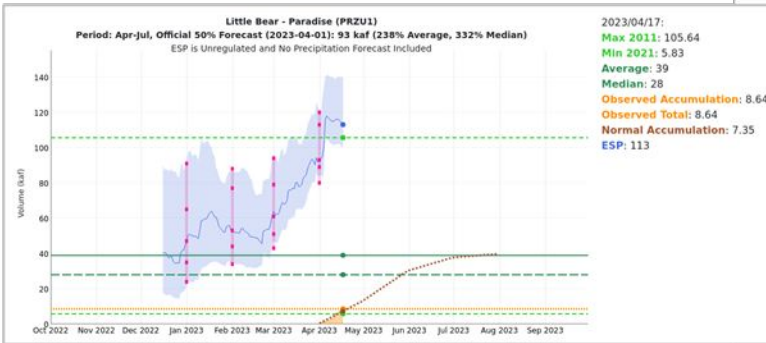
Reservoir Storage

4/16/2023

64% full
(Excluding Fontenelle, Flaming Gorge, Lake Powell)

Since last meeting:

- Many April-July Runoff Volume Forecasts have increased.
- Reservoir inflows are starting to increase.
- Rain-on-snow concerns for low elevation reservoirs.
- Many reservoirs are releasing water prior to peak runoff.



Agency - BOR
Presenter - Gary Henrie

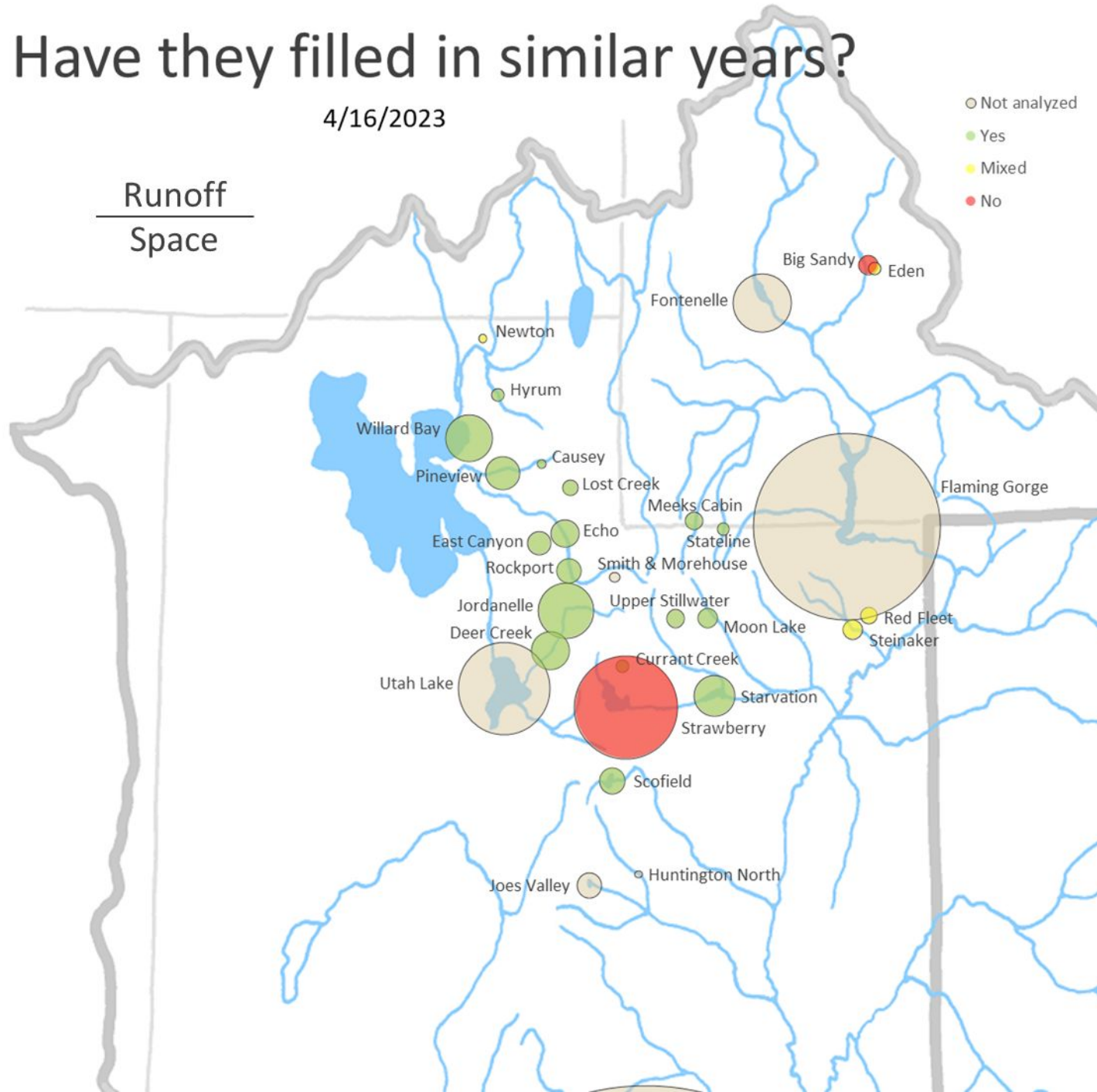
Reservoir Levels

Have they filled in similar years?

4/16/2023

Runoff
Space

- Not analyzed
- Yes
- Mixed
- No



Agency - BOR
Presenter - Gary Henrie



BUREAU OF
RECLAMATION

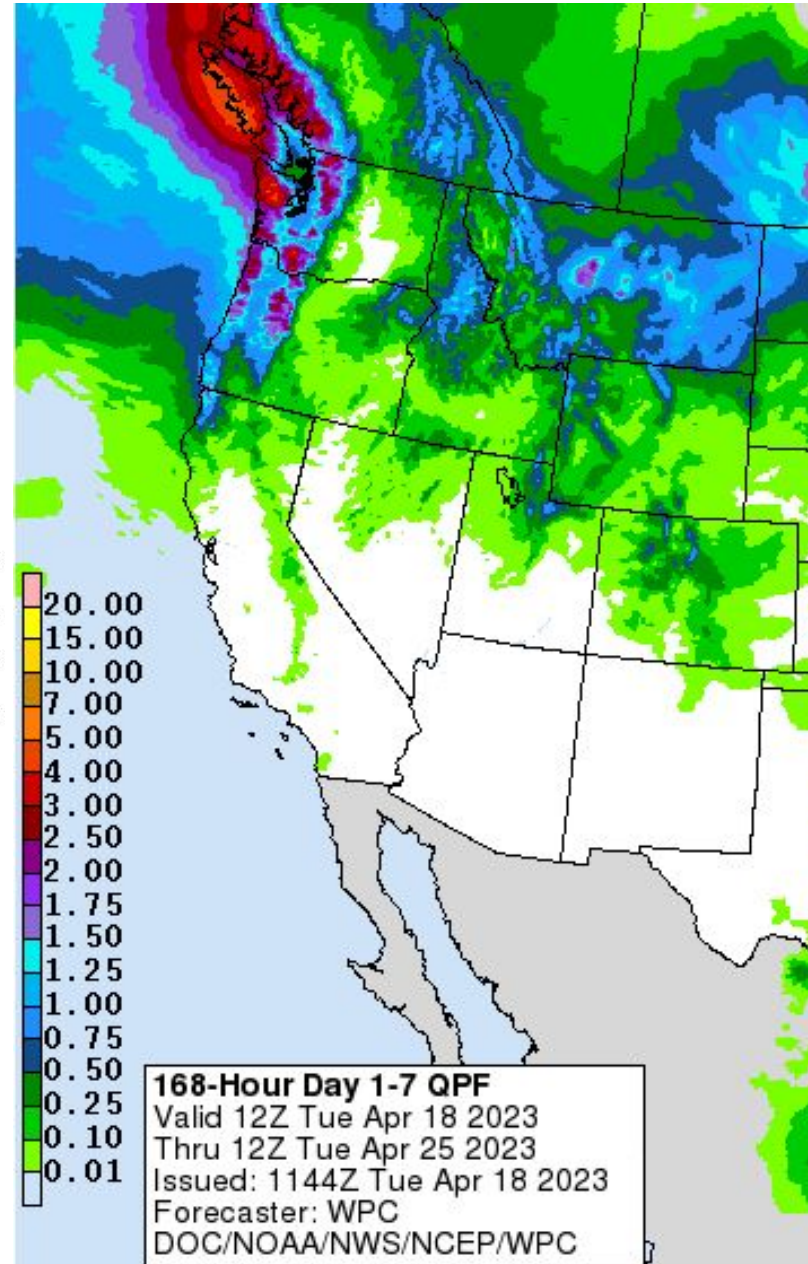
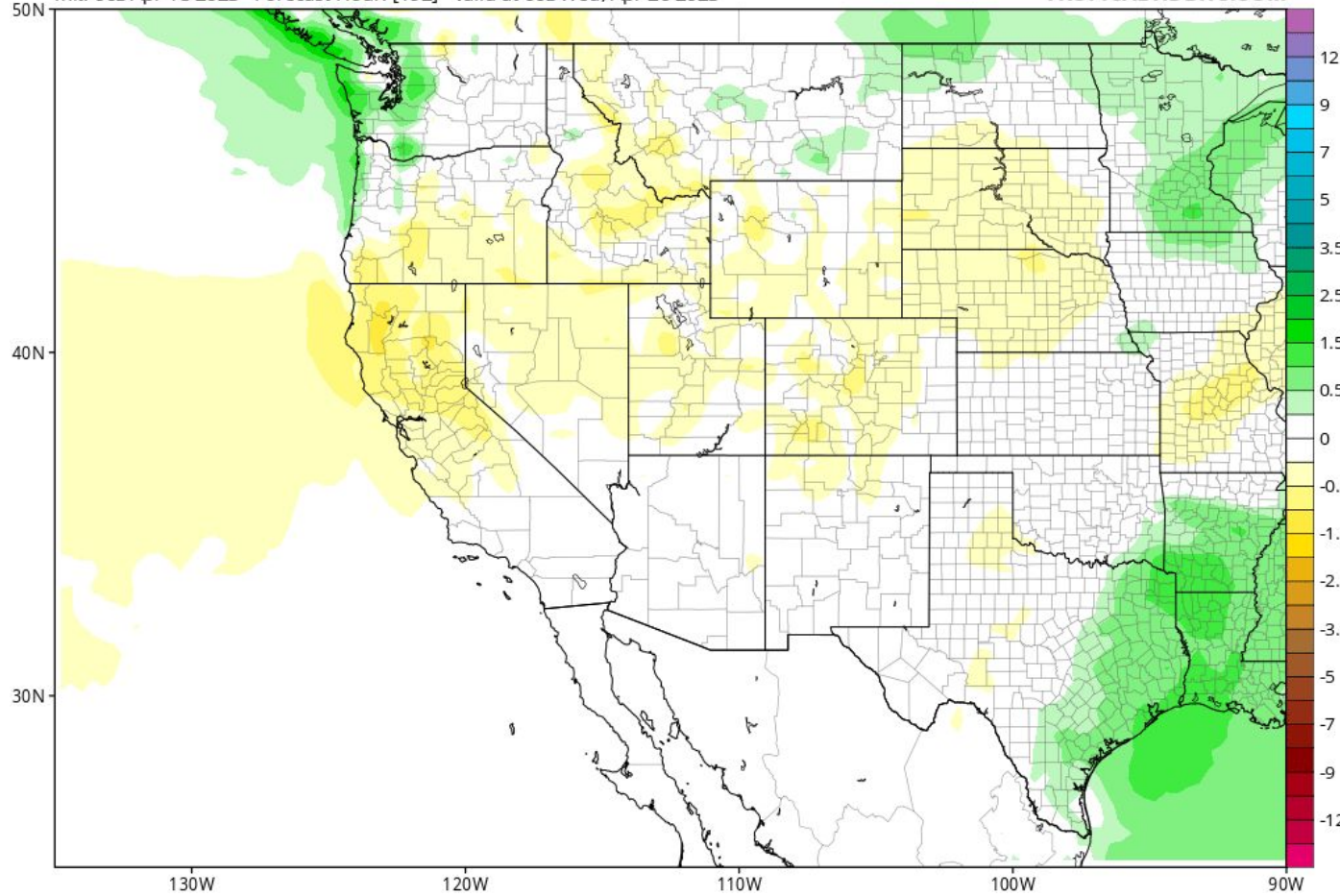
Weather Forecast Office Utah Day 1-7 Outlook



EPS Accumulated Precip. Anomaly (in) from 00z19Apr2023 to 00z26Apr2023 (Days 2-8)

Init: 00z Apr 18 2023 Forecast Hour: [192] valid at 00z Wed, Apr 26 2023

TROPICALTIDBITS.COM

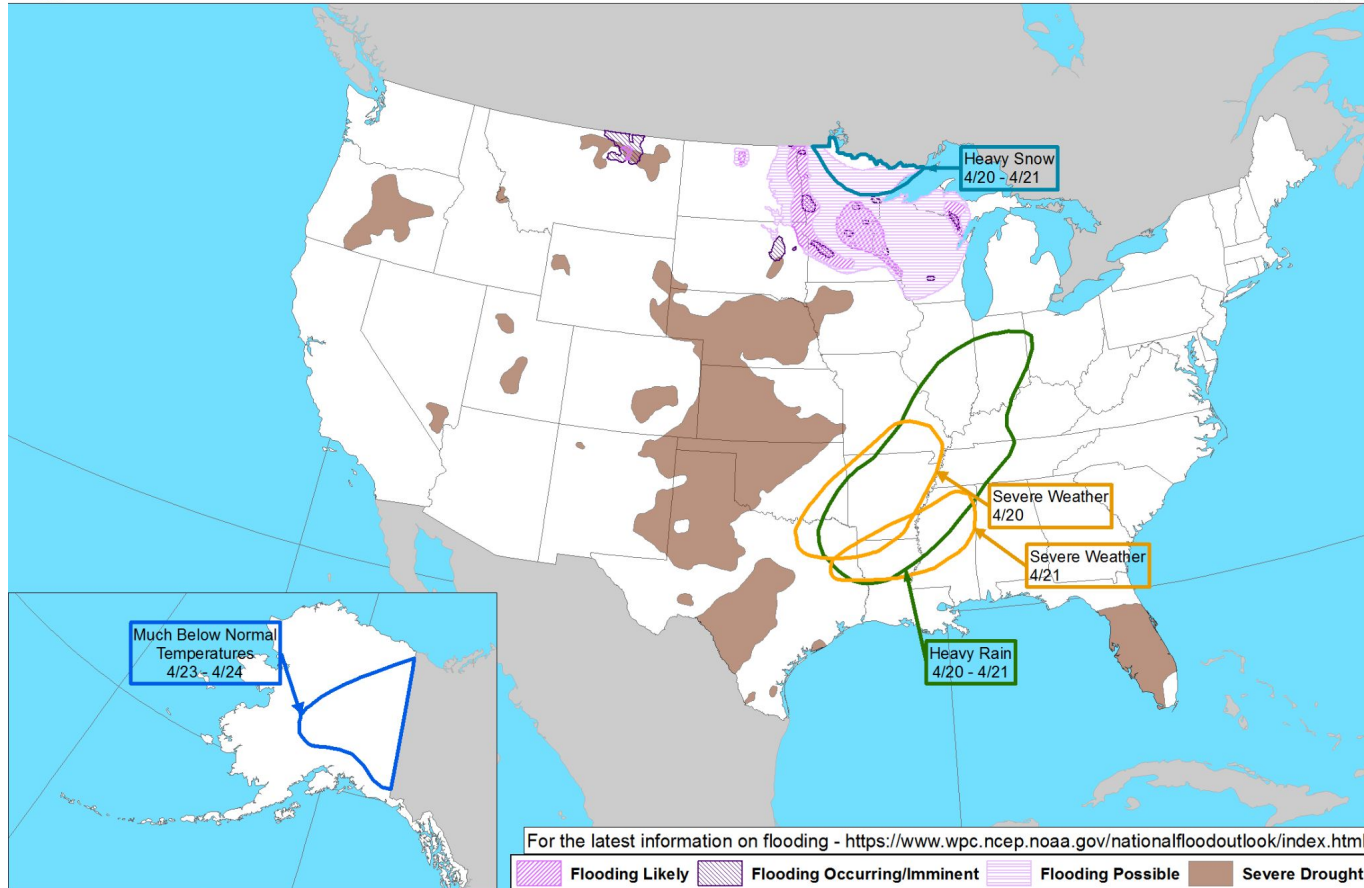


Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill

Weather Prediction Center U.S. Day 3-7 Hazards Outlook



Day 3-7 U.S. Hazards Outlook
Valid: 04/20/2023-04/24/2023



Weather Prediction Center
Made: 04/17/2023 3PM EDT

Follow us: www.facebook.com/NOAAWeather
www.wpc.ncep.noaa.gov

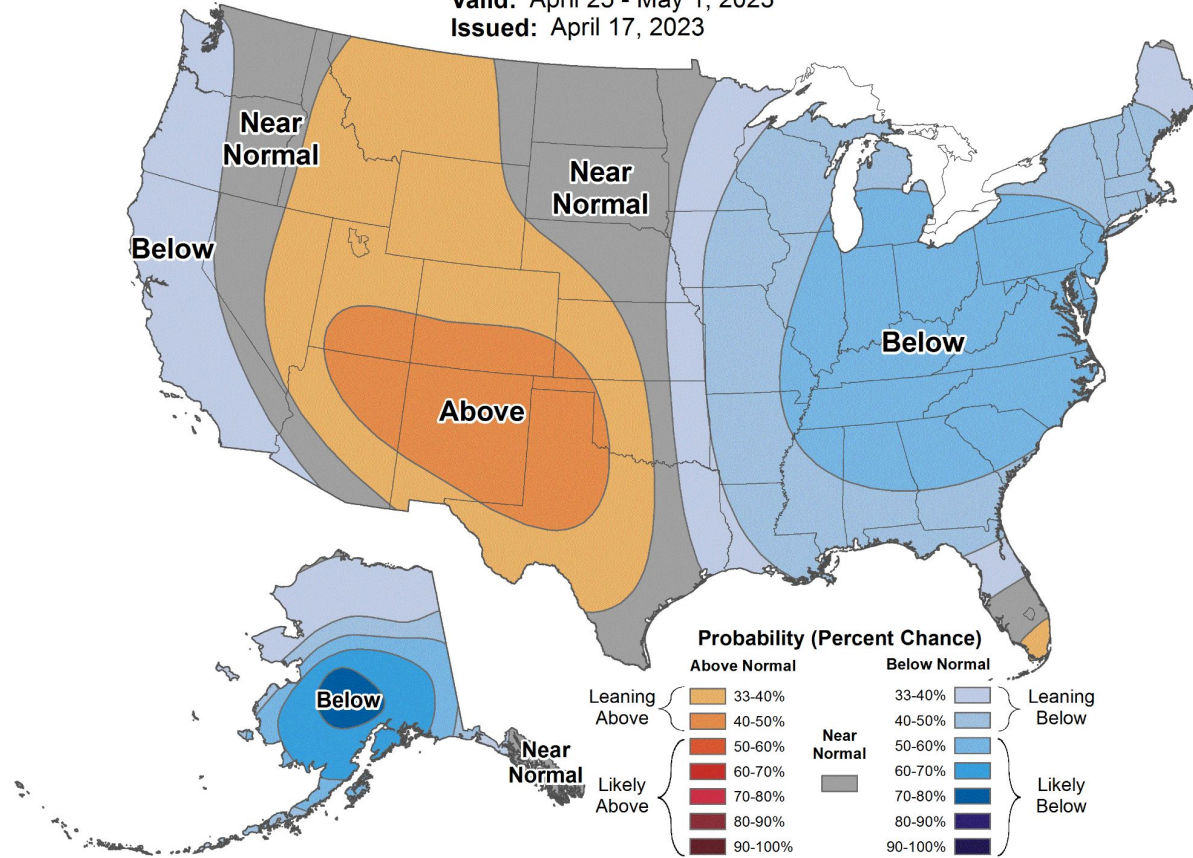
Climate Prediction Center 8 to 14 Day Outlooks - Temperature



8-14 Day Temperature Outlook



Valid: April 25 - May 1, 2023
Issued: April 17, 2023



Agency - National Weather Service Weather Forecast Office

Presenter - Glen Merrill

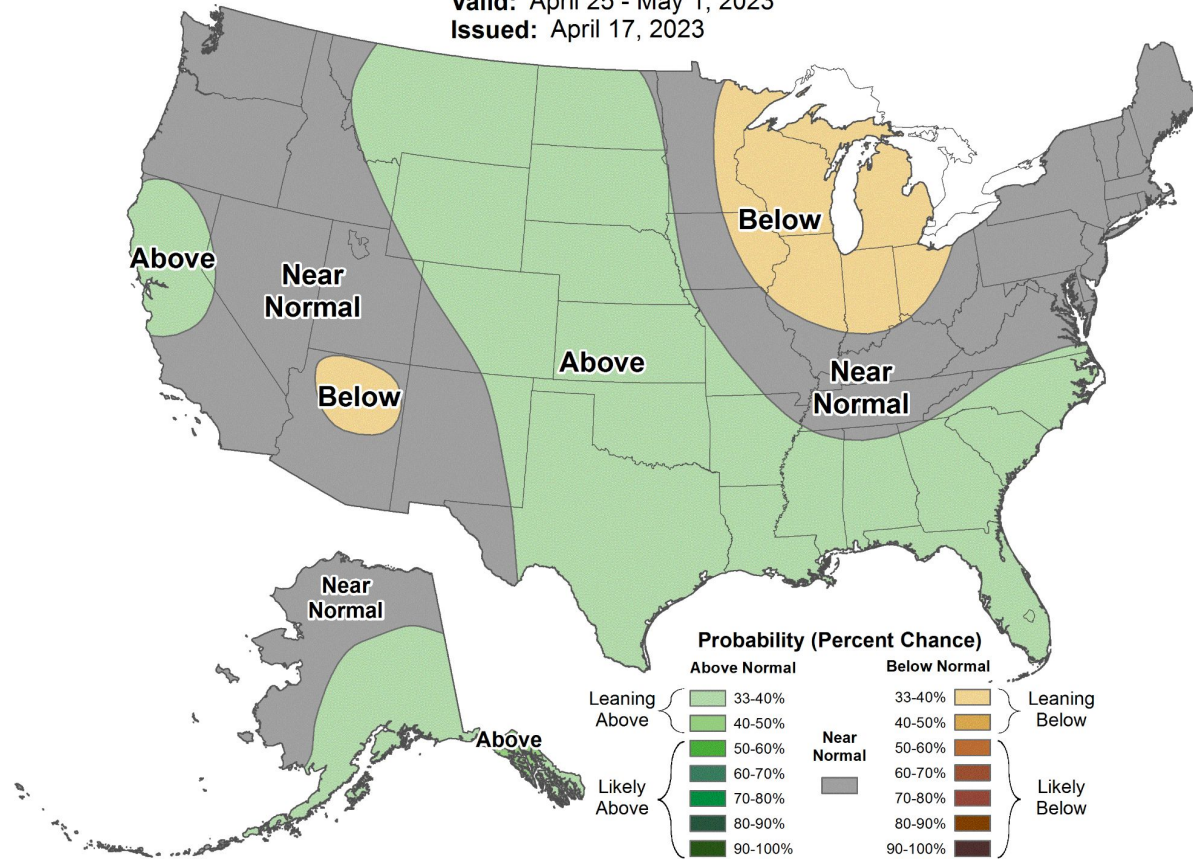
Climate Prediction Center 8 to 14 Day Outlooks - Precipitation



8-14 Day Precipitation Outlook



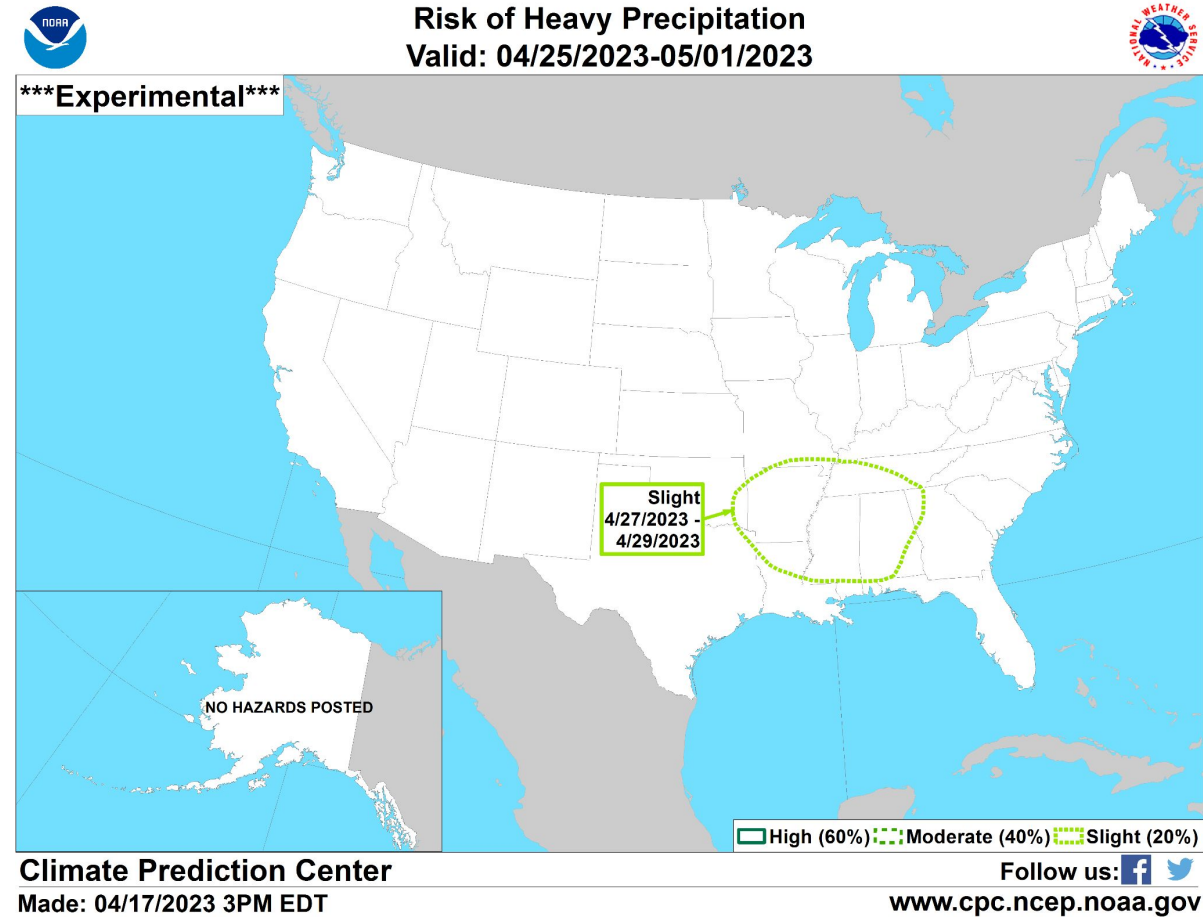
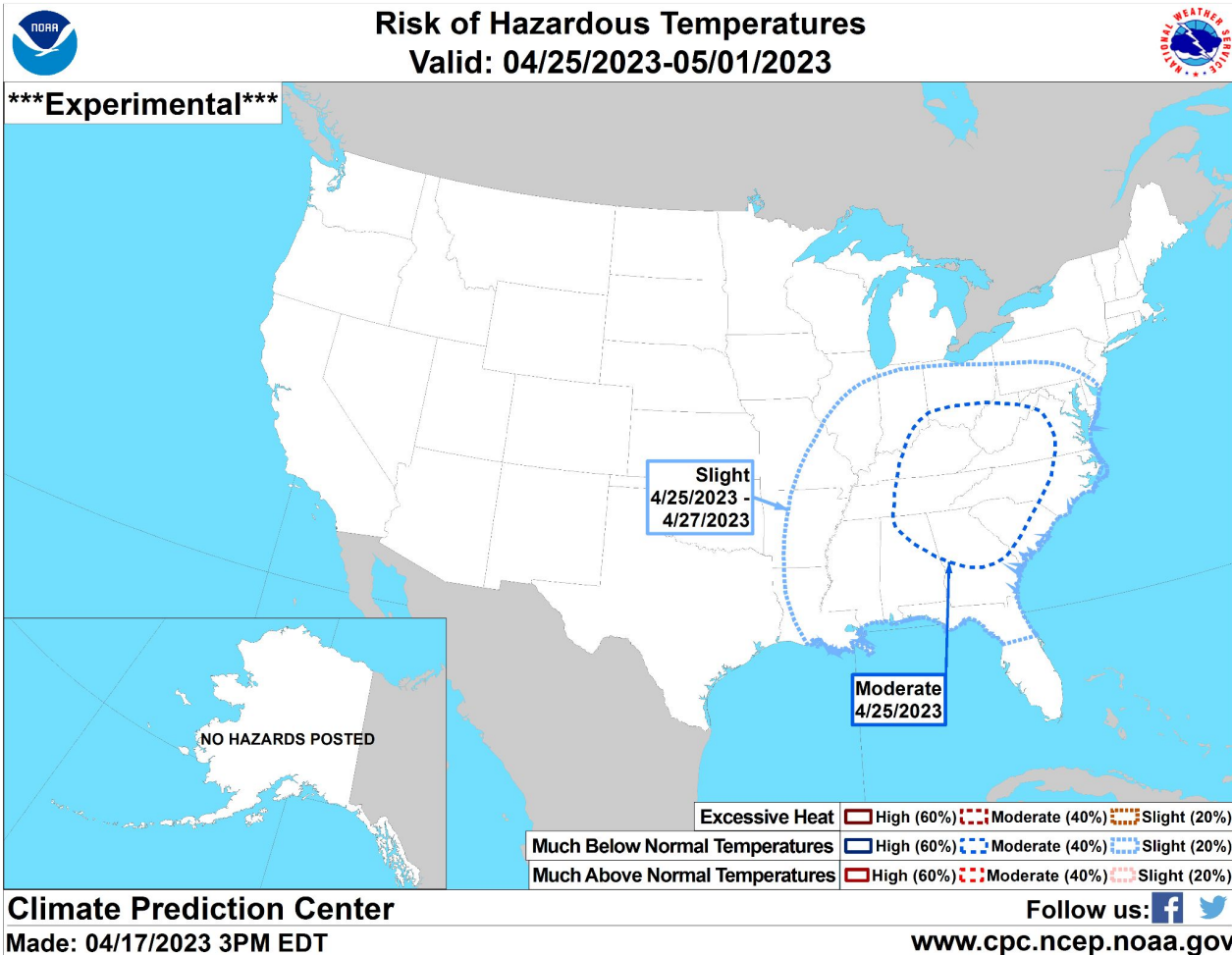
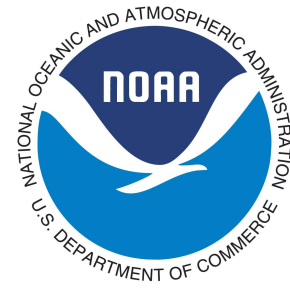
Valid: April 25 - May 1, 2023
Issued: April 17, 2023



Agency - National Weather Service Weather Forecast Office

Presenter - Glen Merrill

Climate Prediction Center U.S. Week-2 Hazards Outlook



Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill

Water Supply Forecasts / Runoff (Percent of Average)



Map of seasonal water supply forecasts

Summary of conditions at:

Weber

Bear

Six Creeks

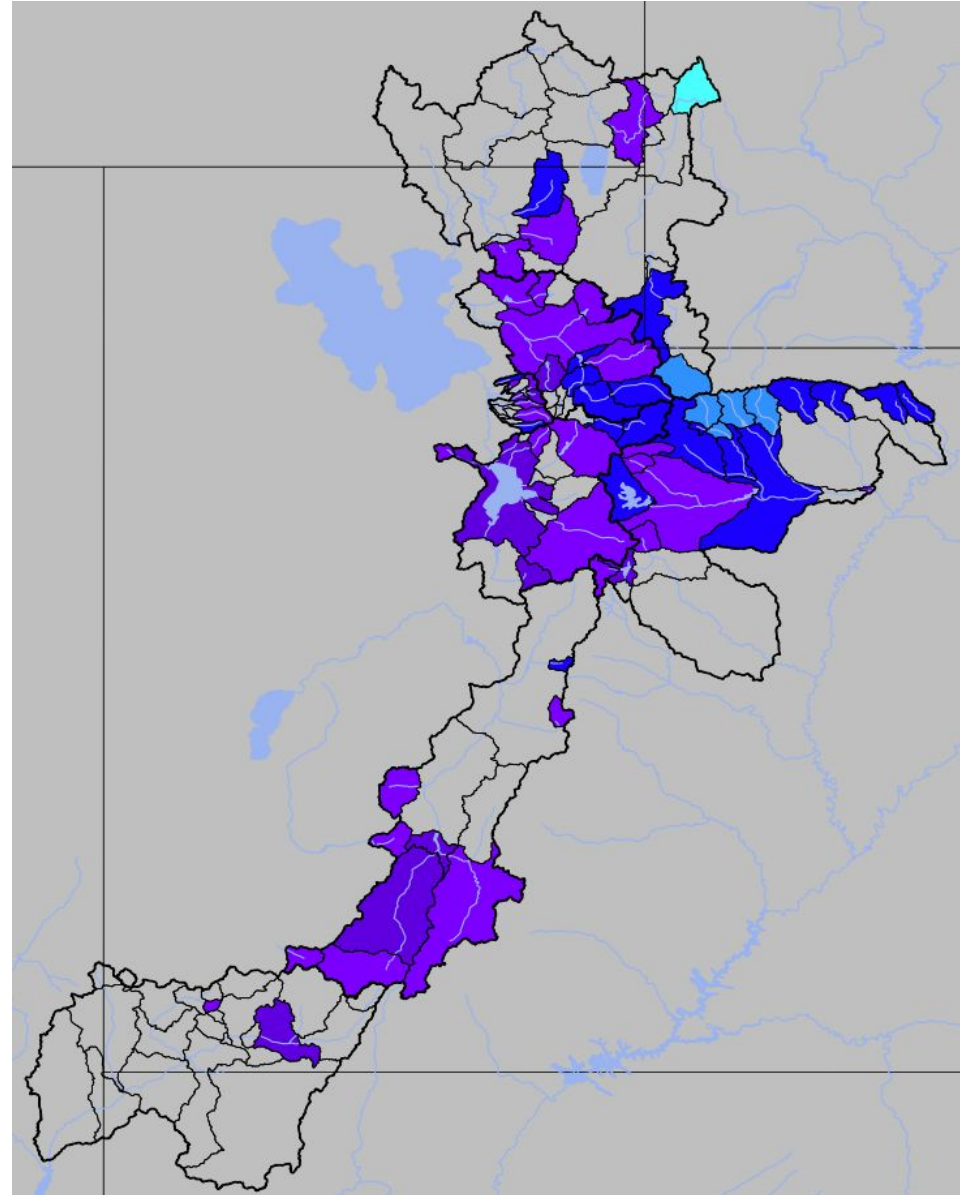
Utah Lake

Sevier

Green River

San Juan

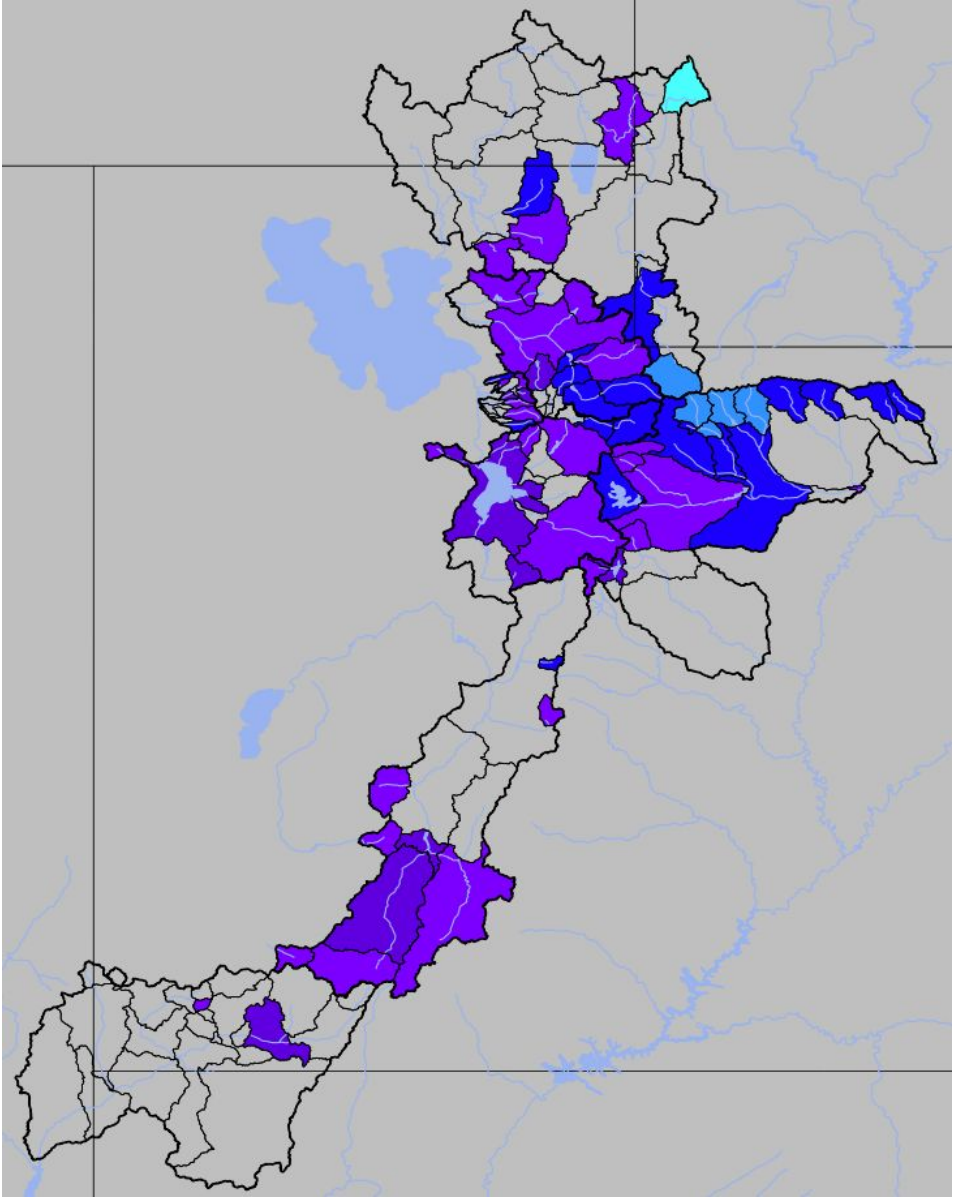
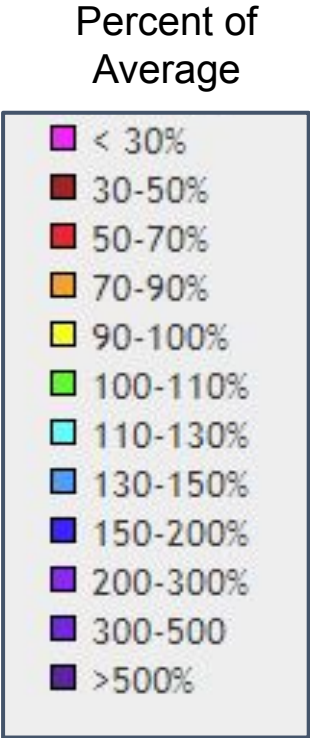
Lake Powell



Agency - CBRFC

Presenter - Patrick Kormos

Utah Water Supply Forecasts

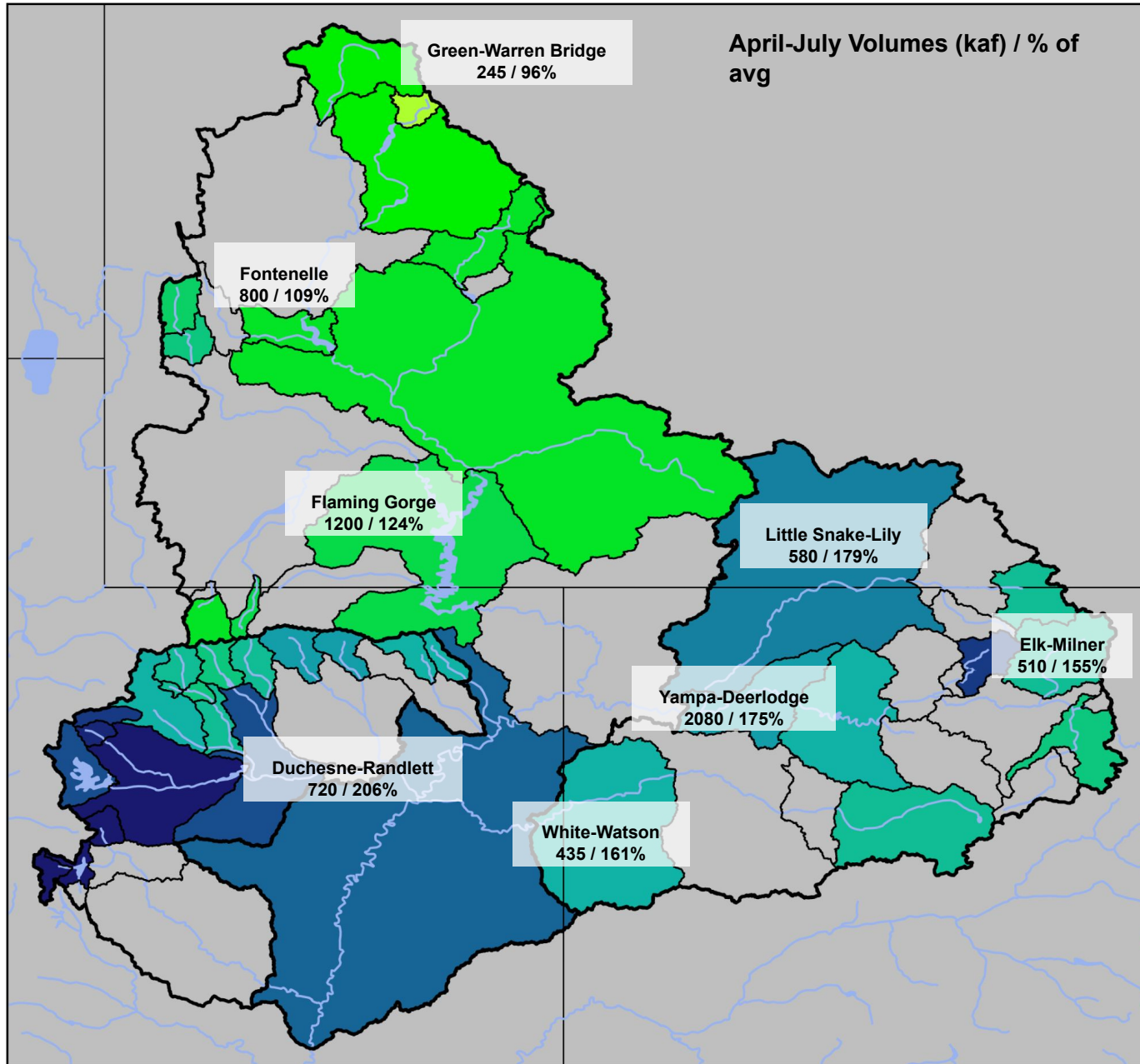


- April 1 forecast for April-July volume
- April-July forecast streamflow volumes are in percent of 1991-2020 average.

Median forecasts by forecast group.

Bear	160
Weber	215
Six Creeks	235
Provo / Utah Lake	260
Sevier	245
Duchesne	165
Virgin	305

April 1st Water Supply Forecasts: Green, Yampa, White, Duchesne



April 1st 2023 Forecasts

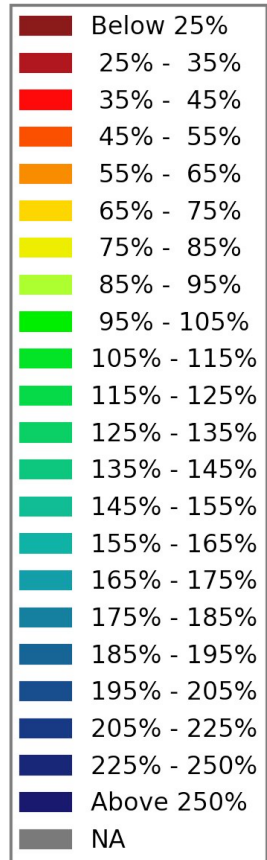
Volume (kaf) / % of 1991-2020 avg

Forecast Ranges & (1-month Trend)

Upper Green: 95 - 145%
(10-40% increase)

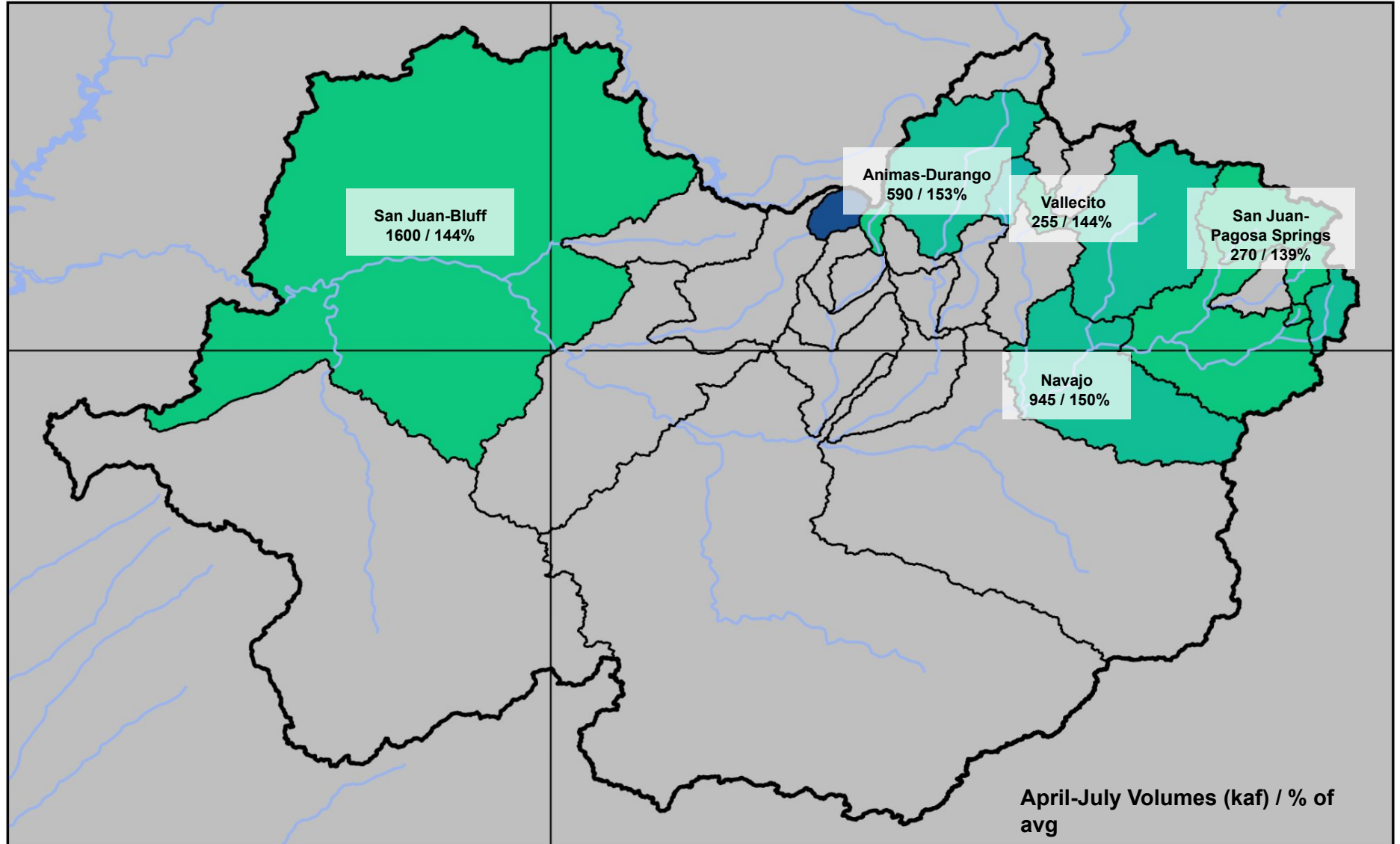
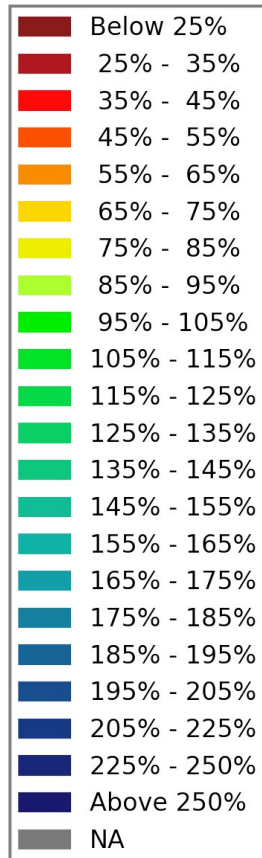
Yampa/White: 135 - 210%
(15-40% increase)

Duchesne: 140 - 260%
(25-125% increase)



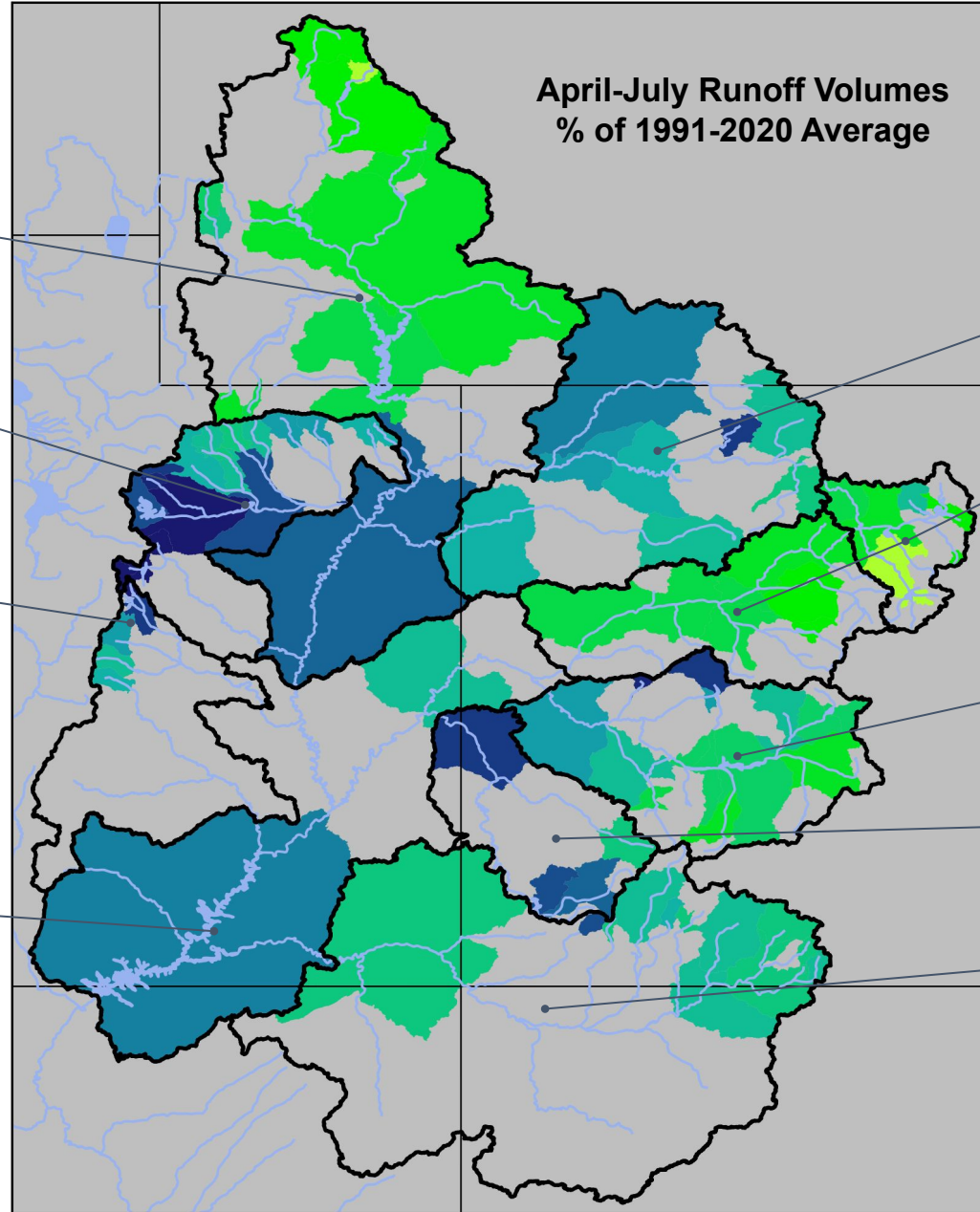
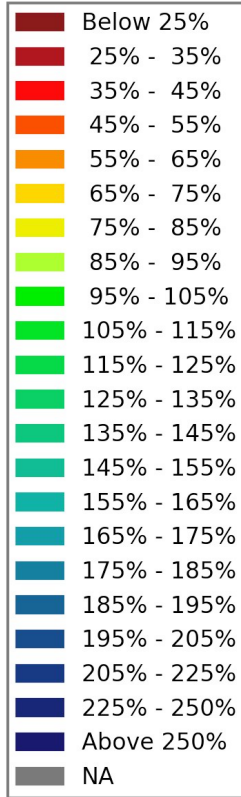
April 1st Water Supply Forecasts: San Juan

Forecast Range & (1-month Trend):
135 - 200% of average (25-35% increase)



April 1st Water Supply Forecasts: Upper Colorado

Water supply forecast volumes increased over the past month across the Colorado River Basin as a result of above normal March precipitation.



Upper Green: 95-145%

Duchesne: 140-260%

**San Rafael/Dirty Devil:
150-305%**

Lake Powell: 177%

Lake Powell summarizes the hydrologic conditions throughout the Upper Colorado River Basin.

**April-July Runoff Volumes
% of 1991-2020 Average**

White/Yampa: 135-210%

Upper CO: 90-150%

Gunnison: 110-225%

Dolores: 140-210%

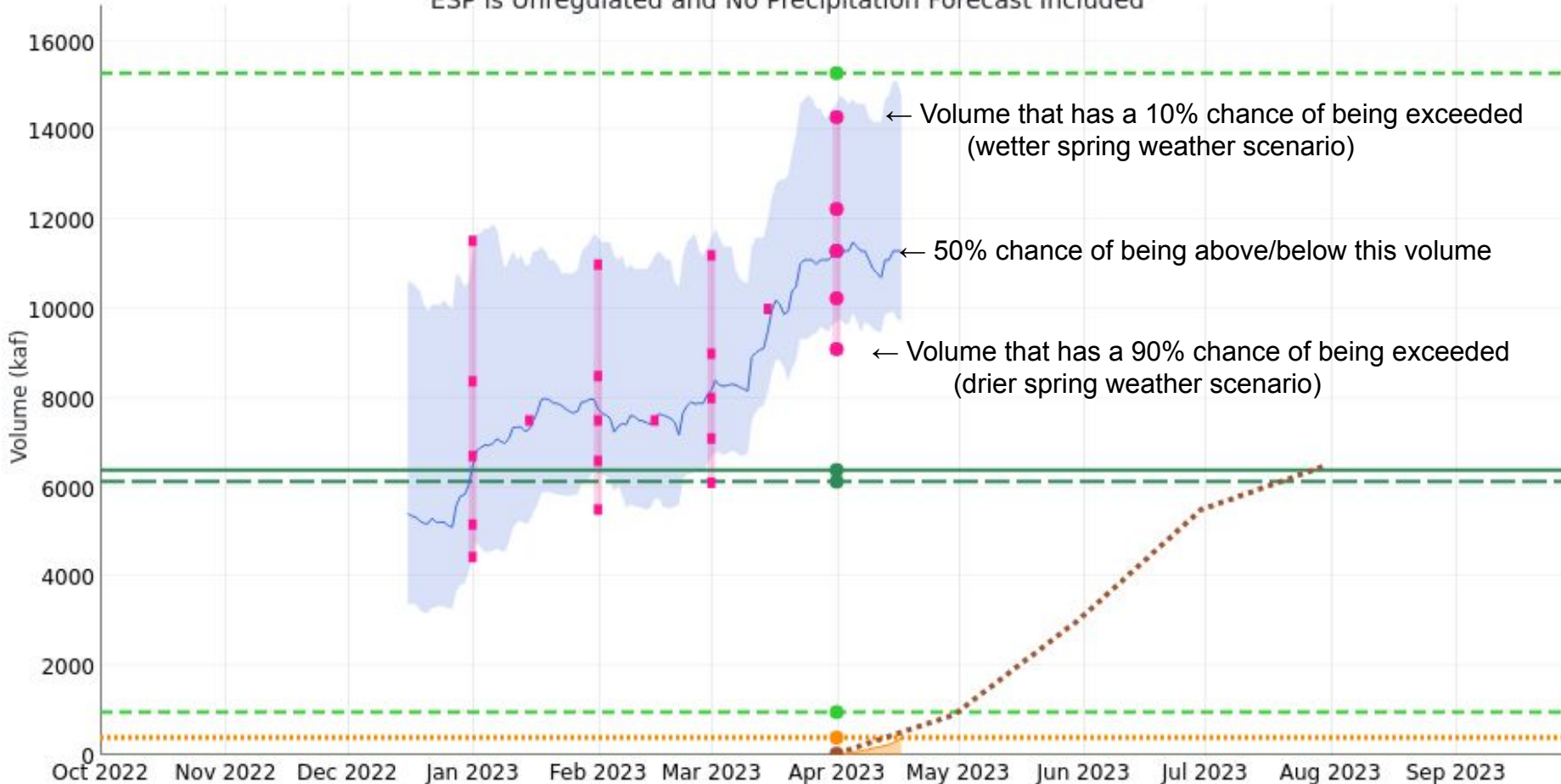
San Juan: 135-200%

April 1st Water Supply Forecast - Lake Powell

Colorado - Lake Powell, Glen Cyn Dam, At (GLDA3)

Period: Apr-Jul, Official 50% Forecast (2023-04-01): 11300 kaf (177% Average, 184% Median)

ESP is Unregulated and No Precipitation Forecast Included



2023/04/01:

Max 1984: 15285.64

Min 2002: 963.96

Average: 6390

Median: 6130

Observed Total: 392

Normal Accumulation: 30.1

ESP: 11300

Official 10: 14300

Official 30: 12240

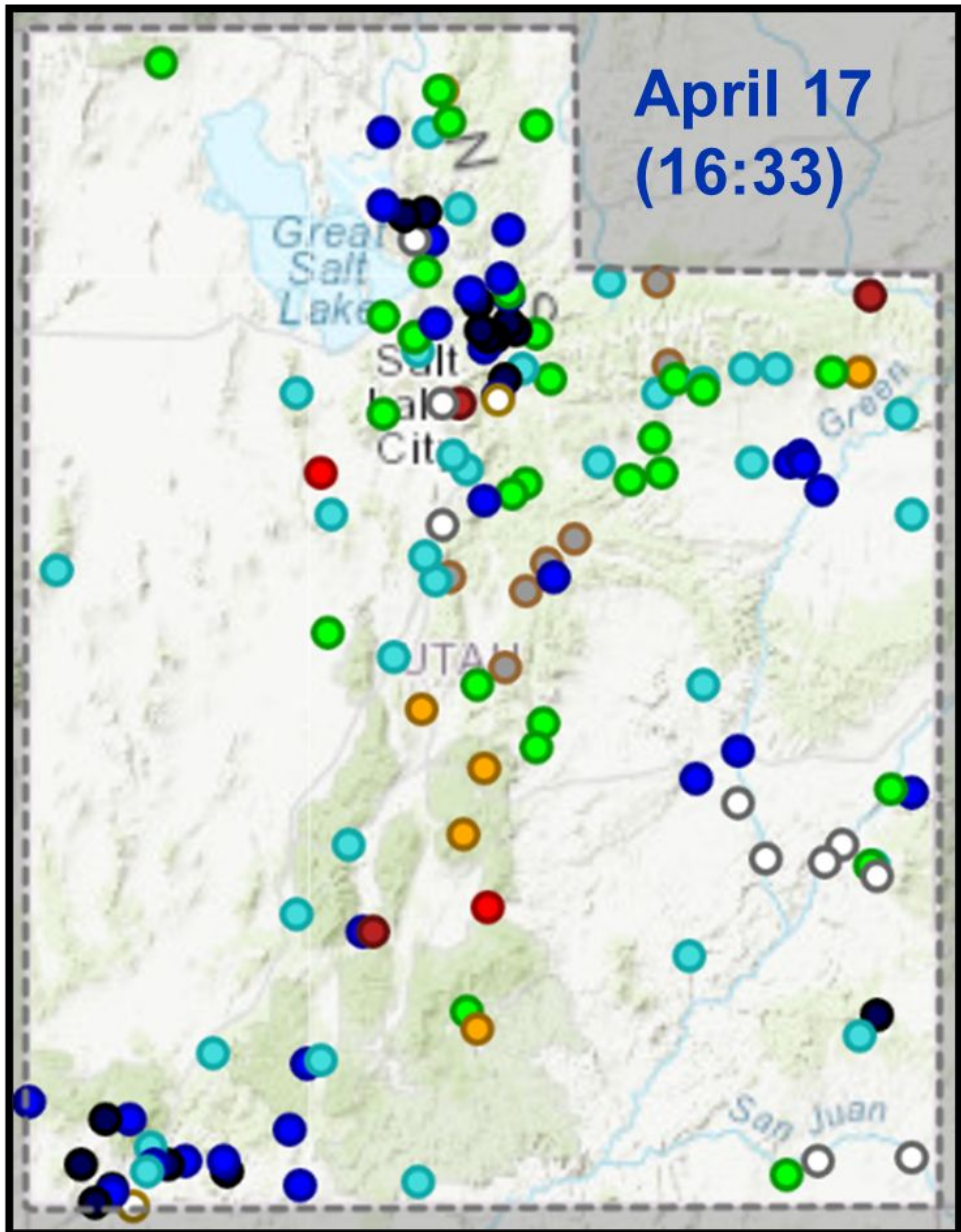
Official 50: 11300

Official 70: 10240

Official 90: 9100

20% chance observed runoff volume could be outside of the 10/90 forecast range.

Current Streamflow Conditions



Provisional data
subject to revision

Mar 28 Apr 17

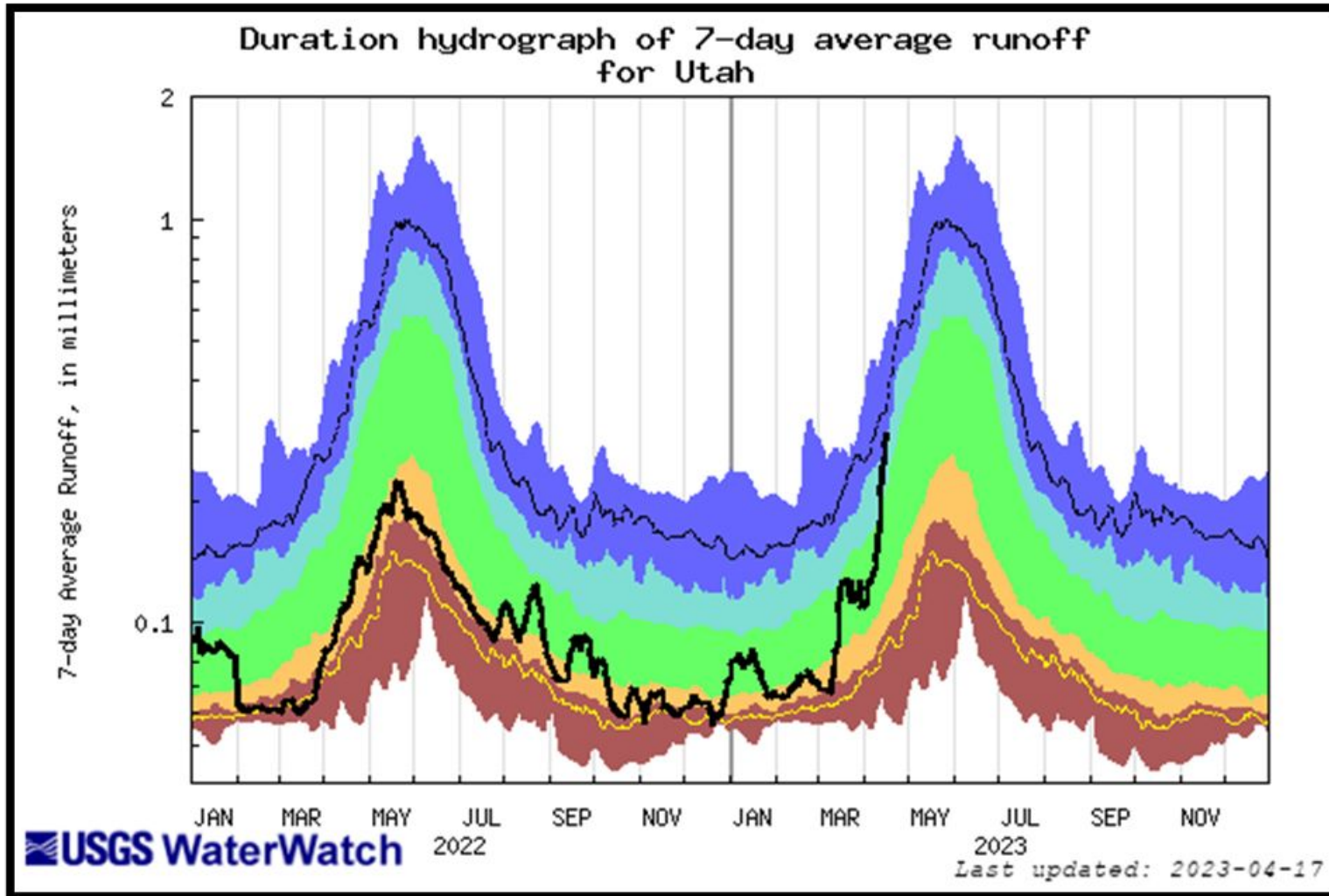
Day-of-Year Status	% Gages	% Gages
All-time high for this day-of-year	1.5%	13.1% ■
Much above normal for this day-of-year	3.6% ■	21.2% ■
Above normal for this day-of-year	10.9% ■	23.4% ■
Normal for this day-of-year	24.1% ■	20.4% ■
Below normal for this day-of-year	9.5% ■	2.9% ■
Much below normal for this day-of-year	13.1% ■	2.9% ■
All-time low for this day-of-year	5.8% ■	1.5% ■
Not ranked - insufficient record	7.3% ■	7.3% ■
Not ranked - no measurement	19.7% ■	4.4% ■
Not ranked - no recent measurement	1.5%	0.7%
Not ranked - stream not flowing	2.9%	2.2%

Streamflow: Status

- Above flood stage
- All-time high for this day (100th percentile (maximum))
- Much above normal (>90th percentile)
- Above normal (76th - 90th percentile)
- Normal (25th - 75th percentile)
- Below normal (10th - 24th percentile)
- Much below normal (<10th percentile)
- All-time low for this day (0th percentile (minimum))
- Not flowing
- Not ranked
- Measurement flag
- Recent measurement unavailable



Utah Area-Based Runoff Duration Hydrograph

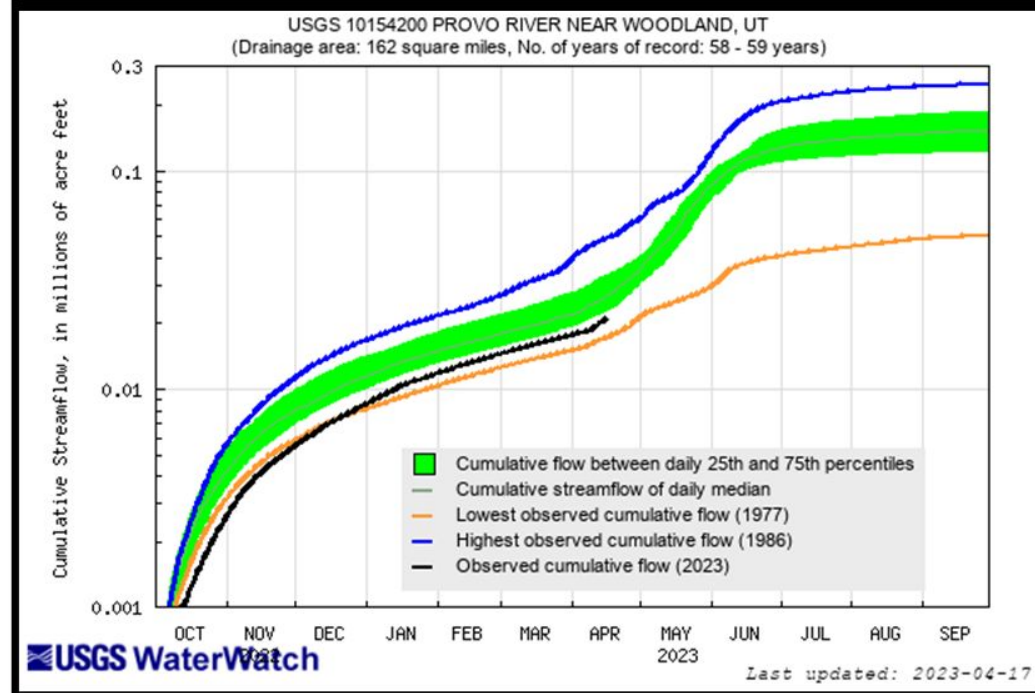
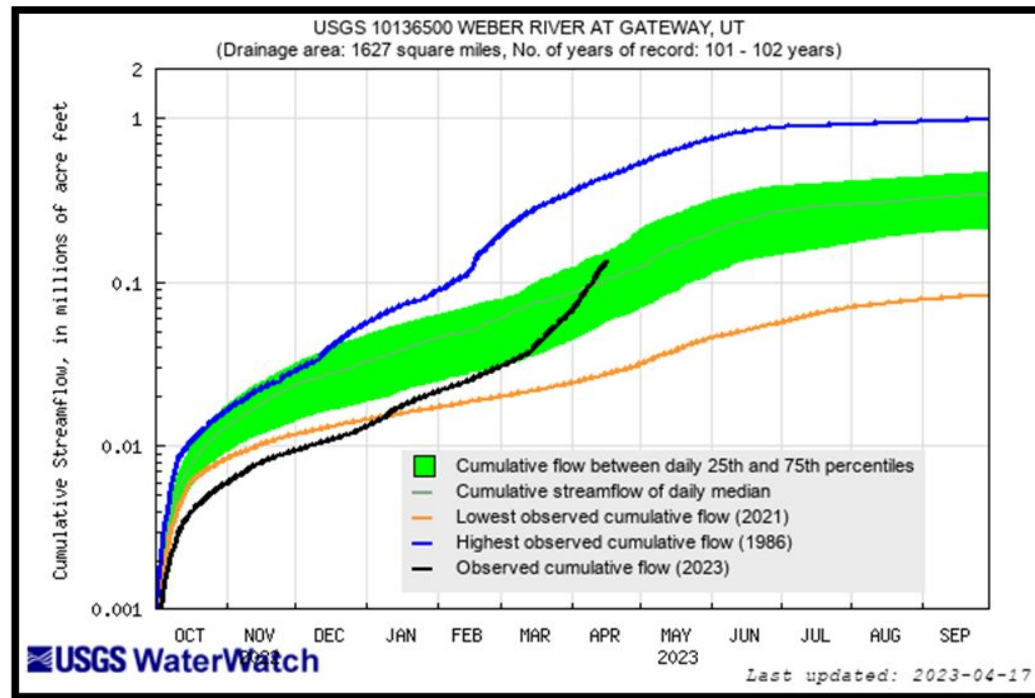
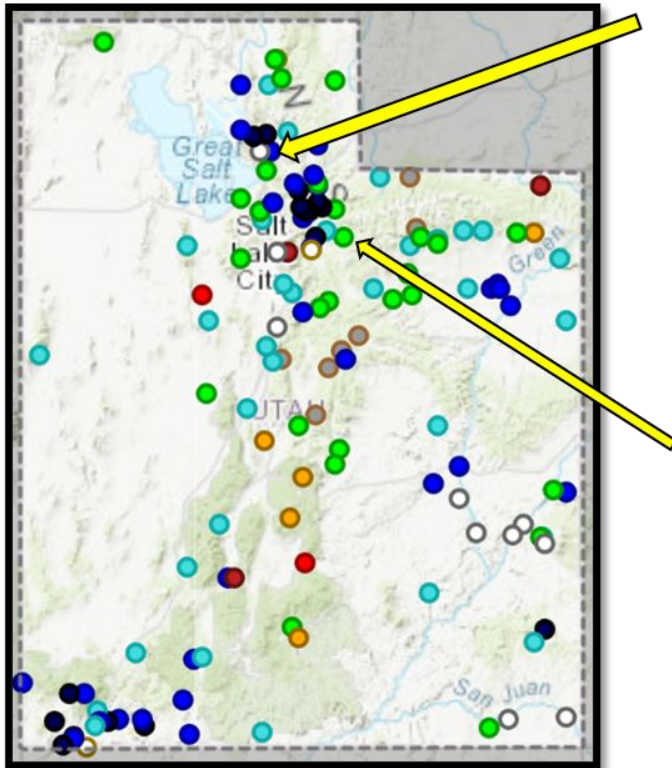


Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Runoff

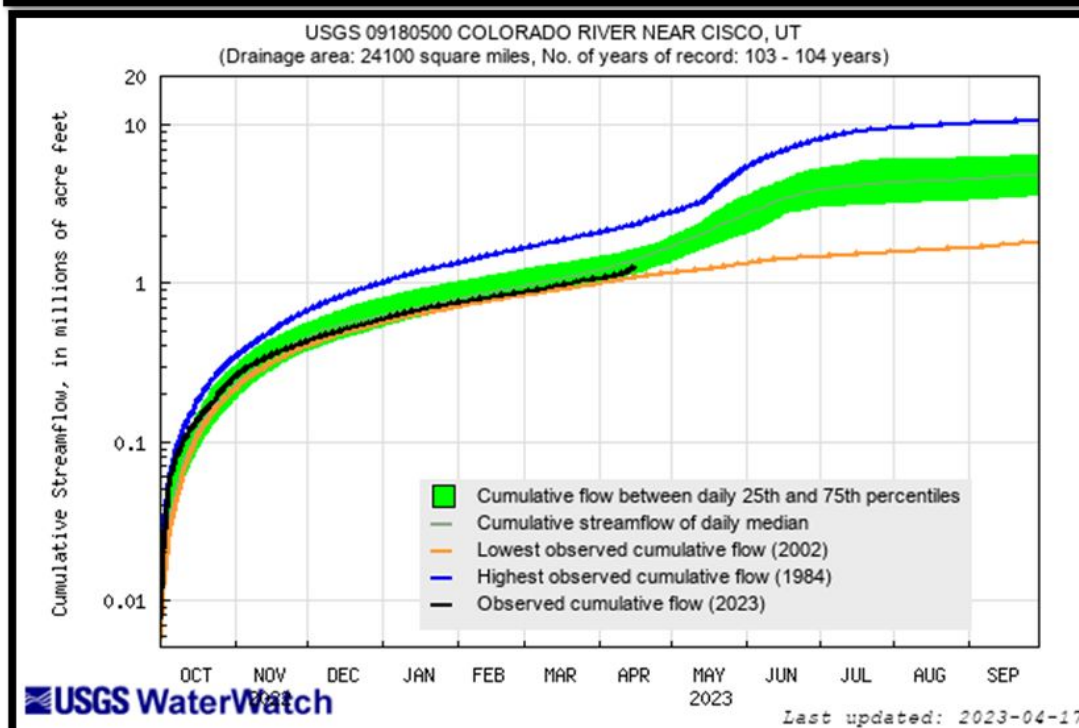
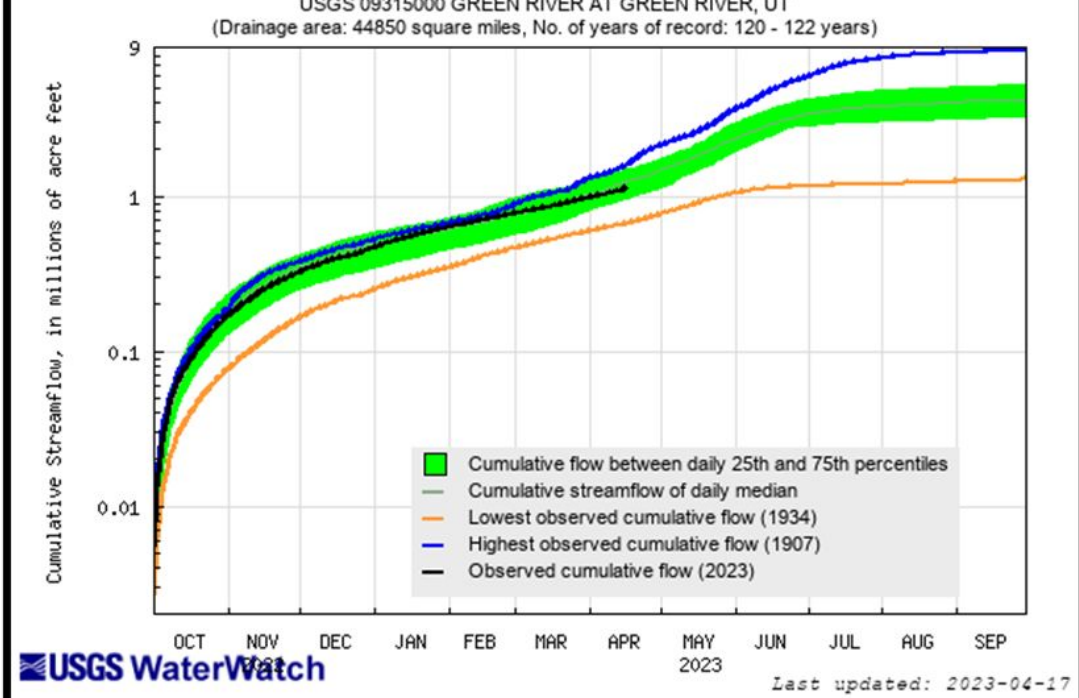
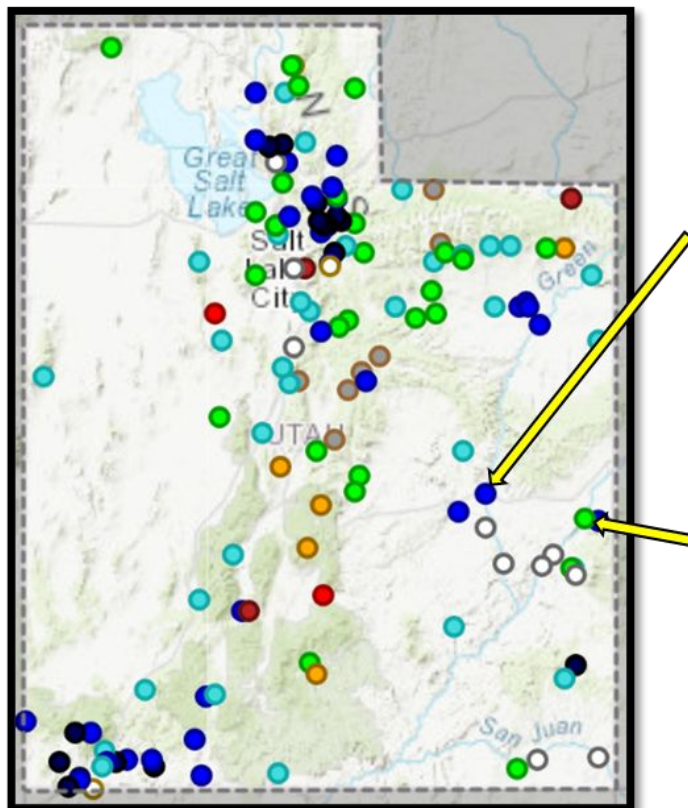
Provisional data subject to revision

- **The Runoff Duration Hydrograph is a graphical presentation of area-based runoff (the black line) calculated as a weighted average of HUC 8-runoff, plotted over the long-term statistics of runoff for each day or month of the year for each area.**

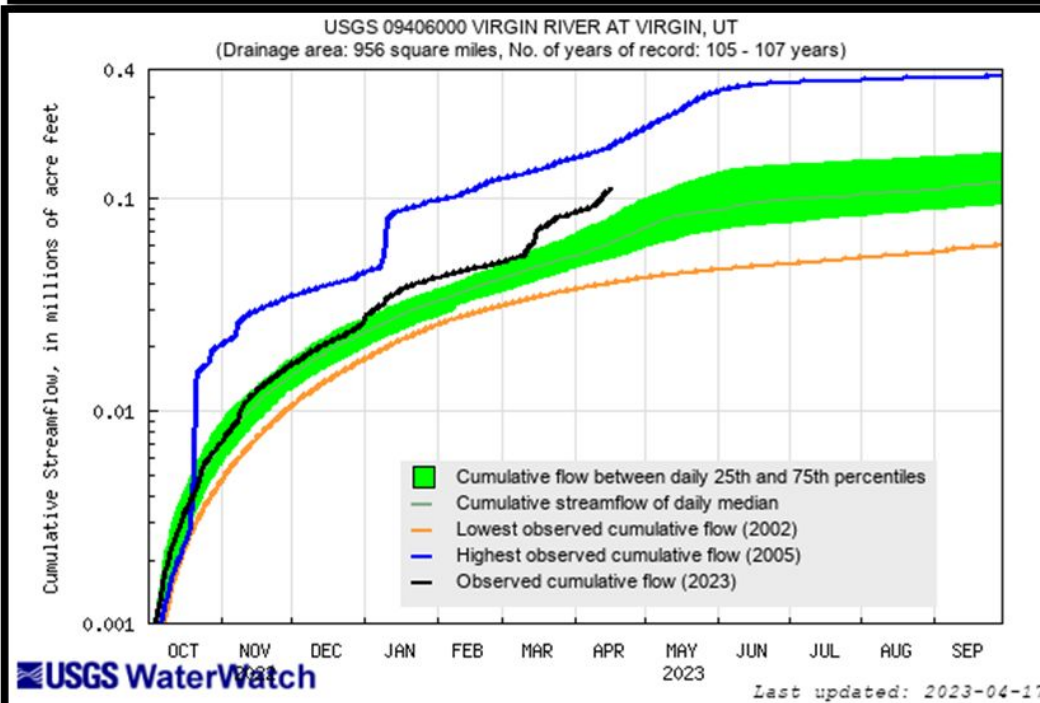
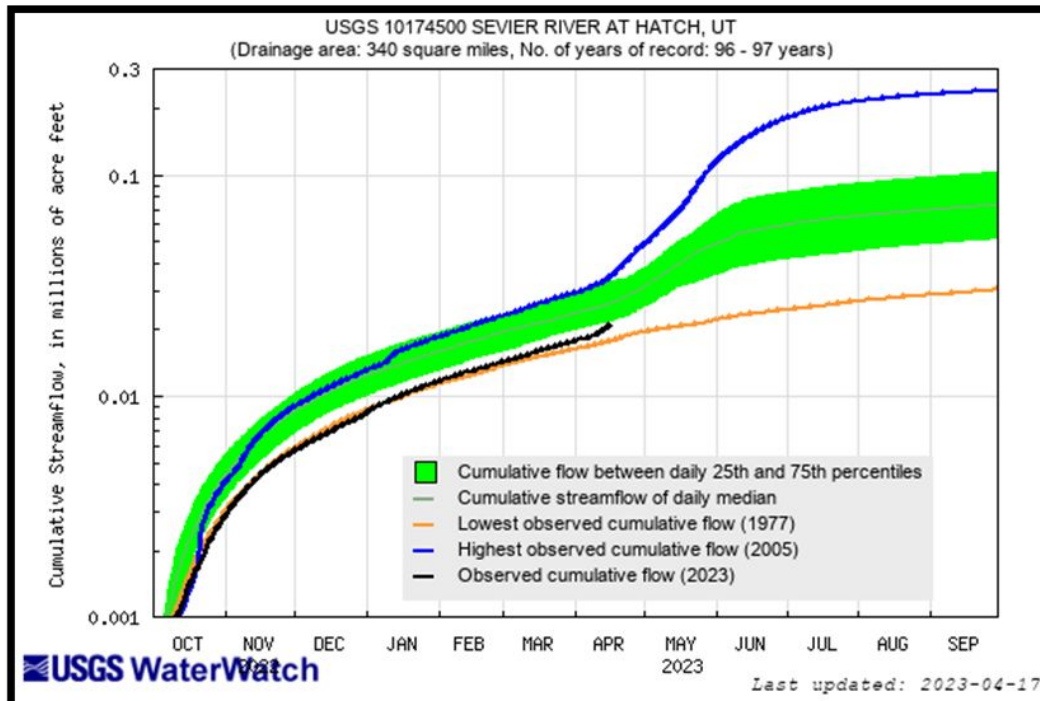
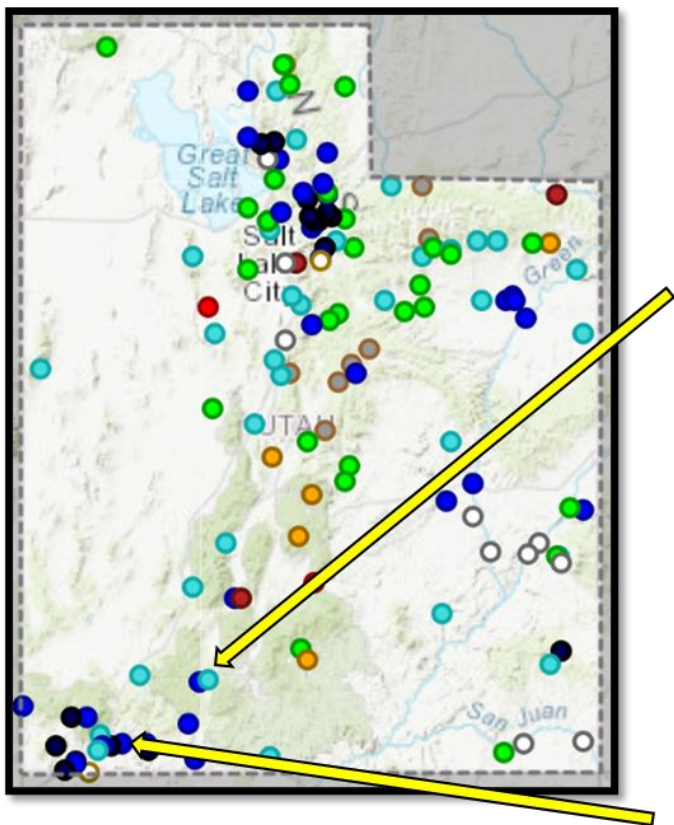
Cumulative streamflow for Selected Gages



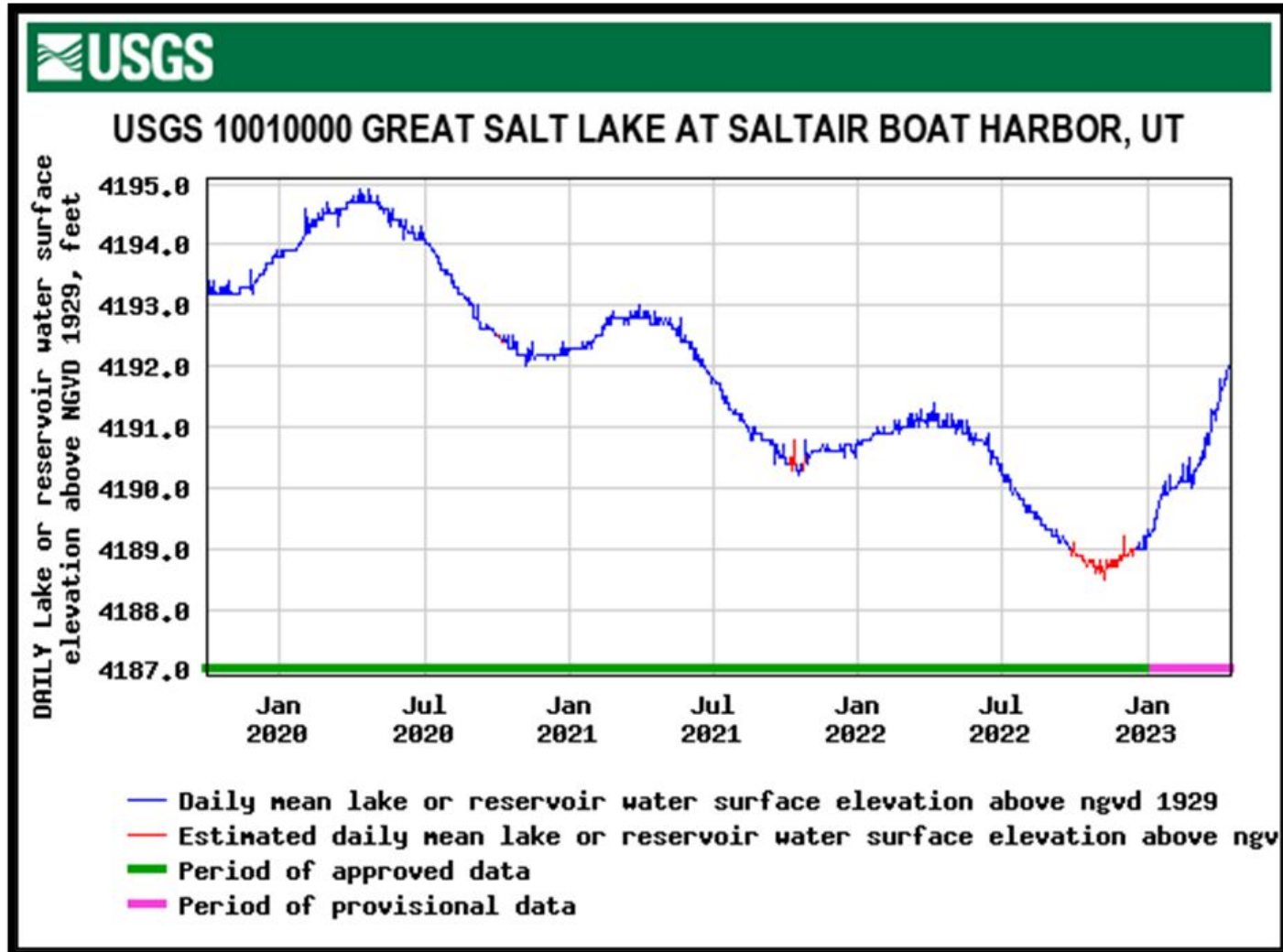
Cumulative streamflow for Selected Gages



Cumulative streamflow for Selected Gages

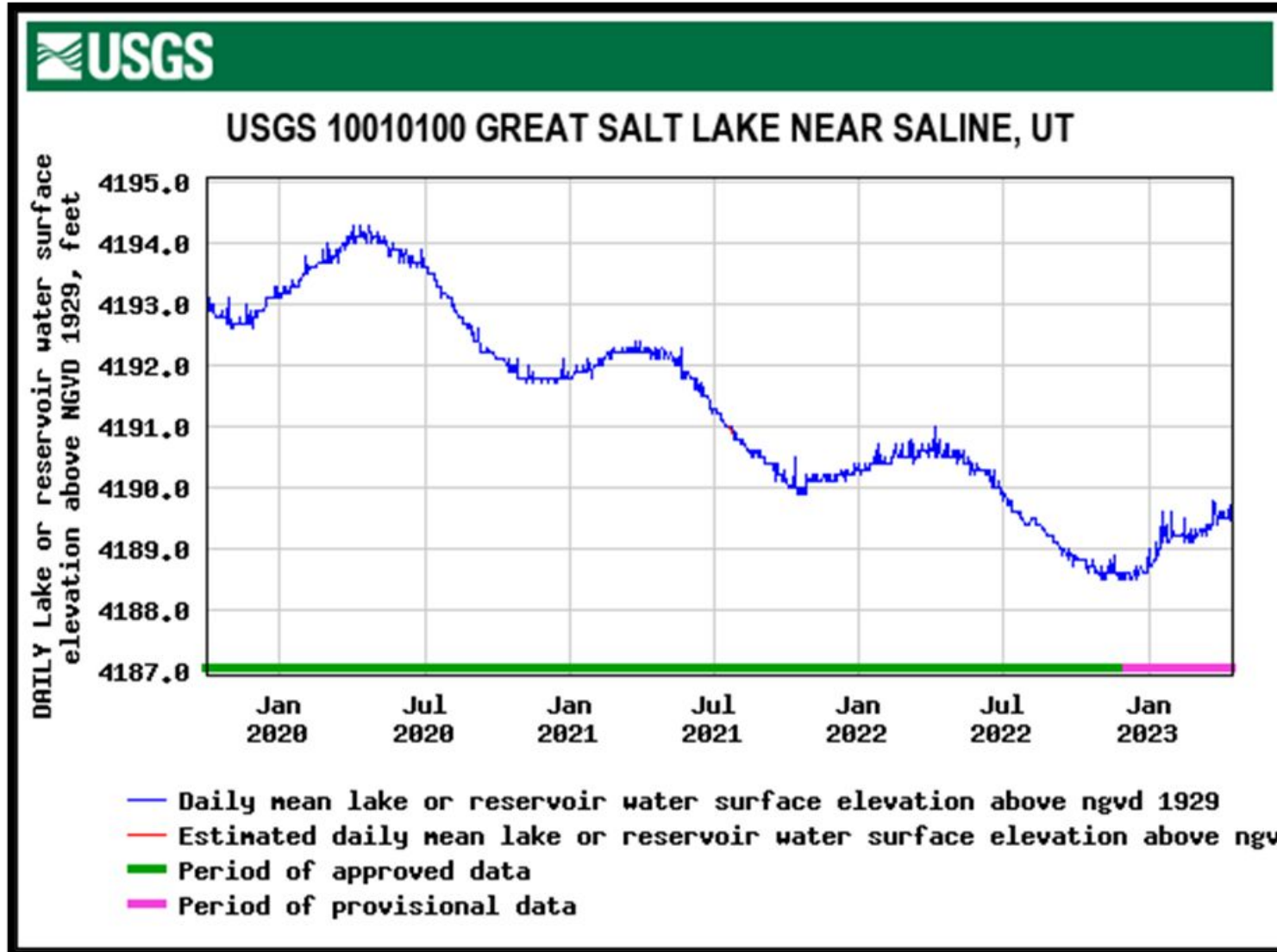


Great Salt Lake Water Surface Elevation – South Arm



- ❑ Daily value 4/16/2023 = 4,192.0'
- ❑ Daily value 3/27/2023 = 4,191.2'
- ❑ Up 3.5' since November
- ❑ Berm at causeway breach raised to 4,192' 2/9/2023

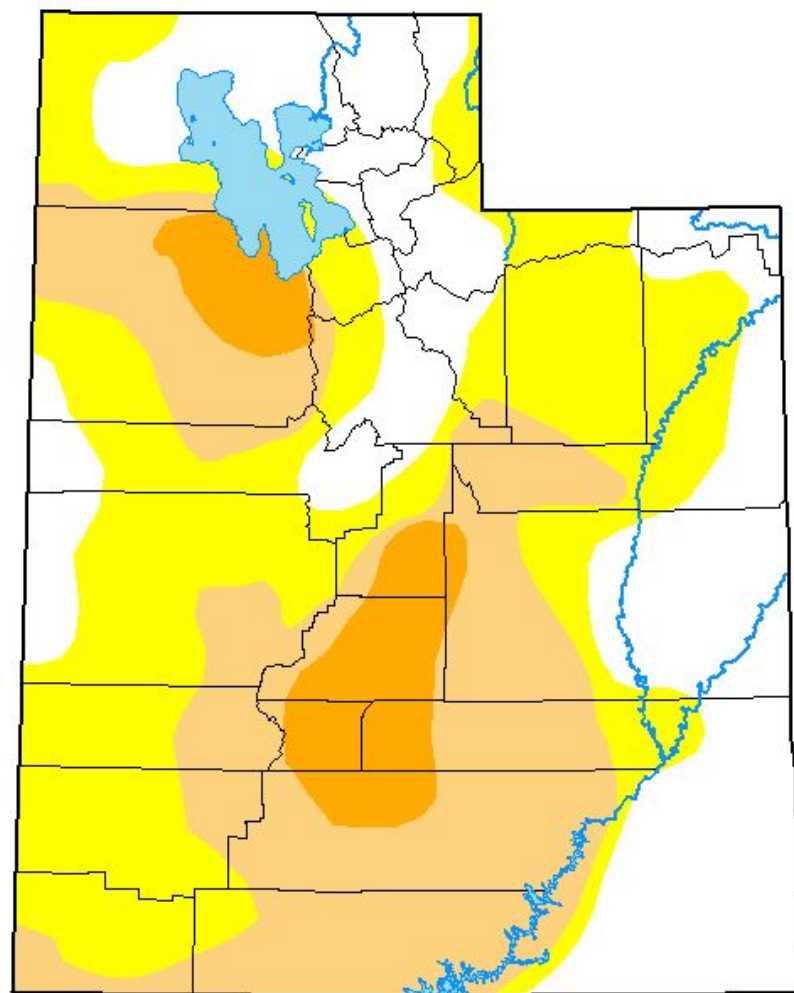
Great Salt Lake Water Surface Elevation – North Arm



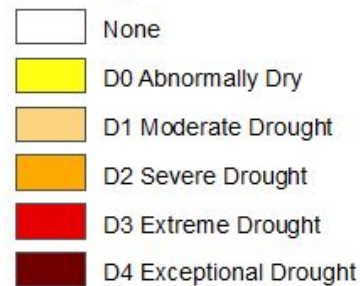
- Daily value 4/16/2023 = 4,189.4'
- Daily value 3/27/2023 = 4,189.5'
- Up 0.9' since November
- Berm at causeway breach raised to 4,192' 2/9/2023

U.S. Drought Monitor Utah

April 11, 2023
(Released Thursday, Apr. 13, 2023)
Valid 8 a.m. EDT



Intensity:



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

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Western Regional Climate Center



droughtmonitor.unl.edu