Utah Water Assessment & Conditions Monitoring
(Drought Webinar)

The meeting will begin shortly

UTAH CLIMATE CENTER

NOAA

USGS science for a changing world

BUREAU OF RECLAMATION

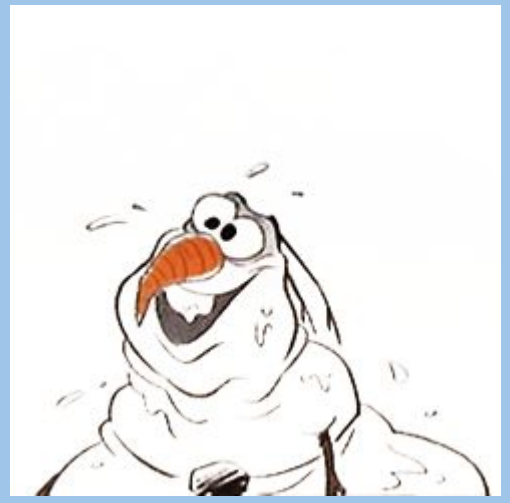
NRCS Natural Resources Conservation Service

UDAF

UTAH DNR WATER RESOURCES

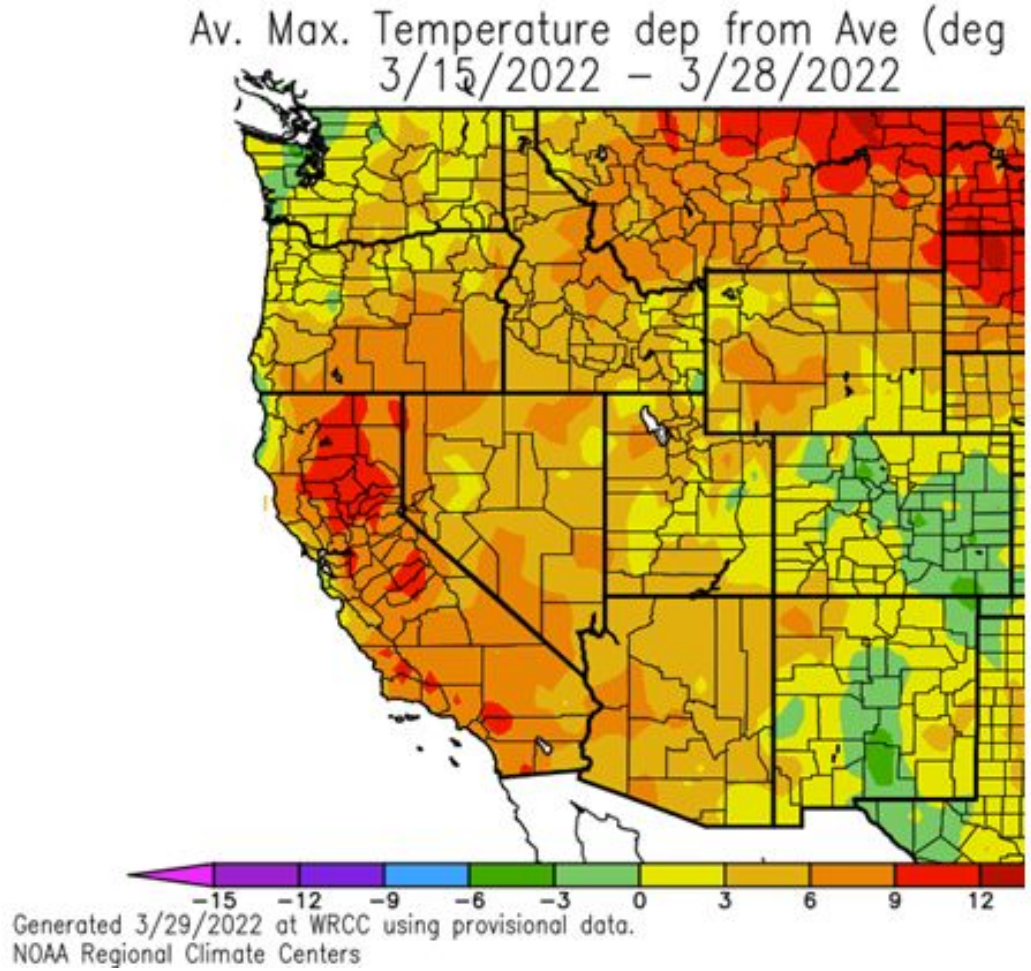
Thank you to our contributors

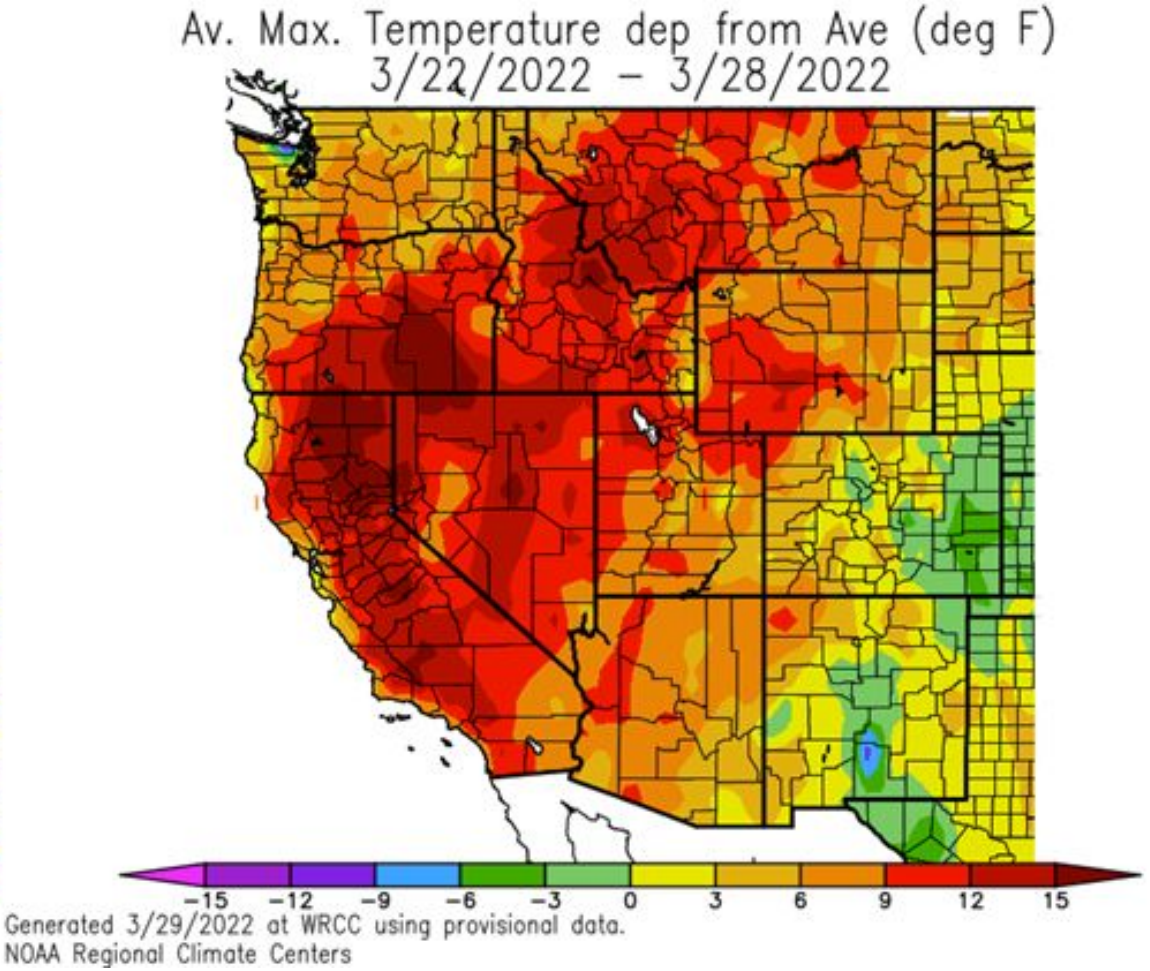
Utah Water Assessment & Conditions Monitoring Webinar



March 29, 2022

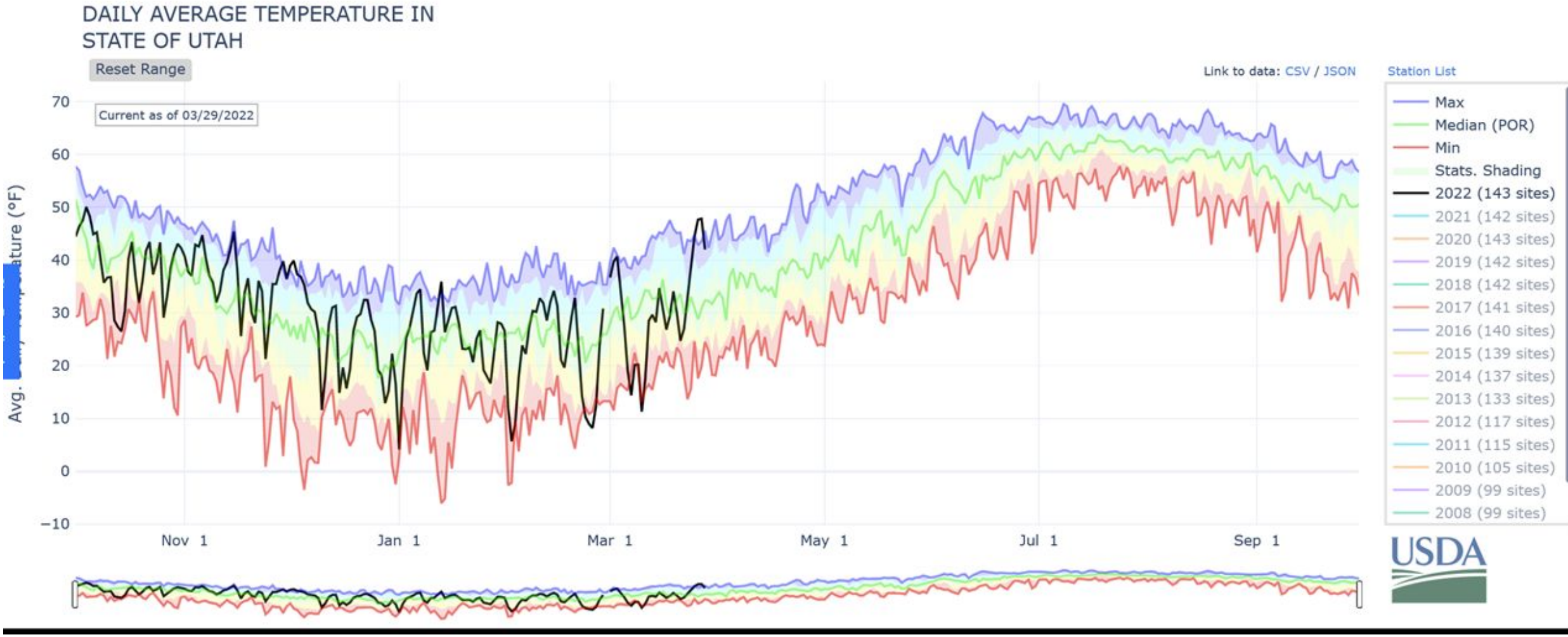
Max. temperatures through the back half of March have been well above normal





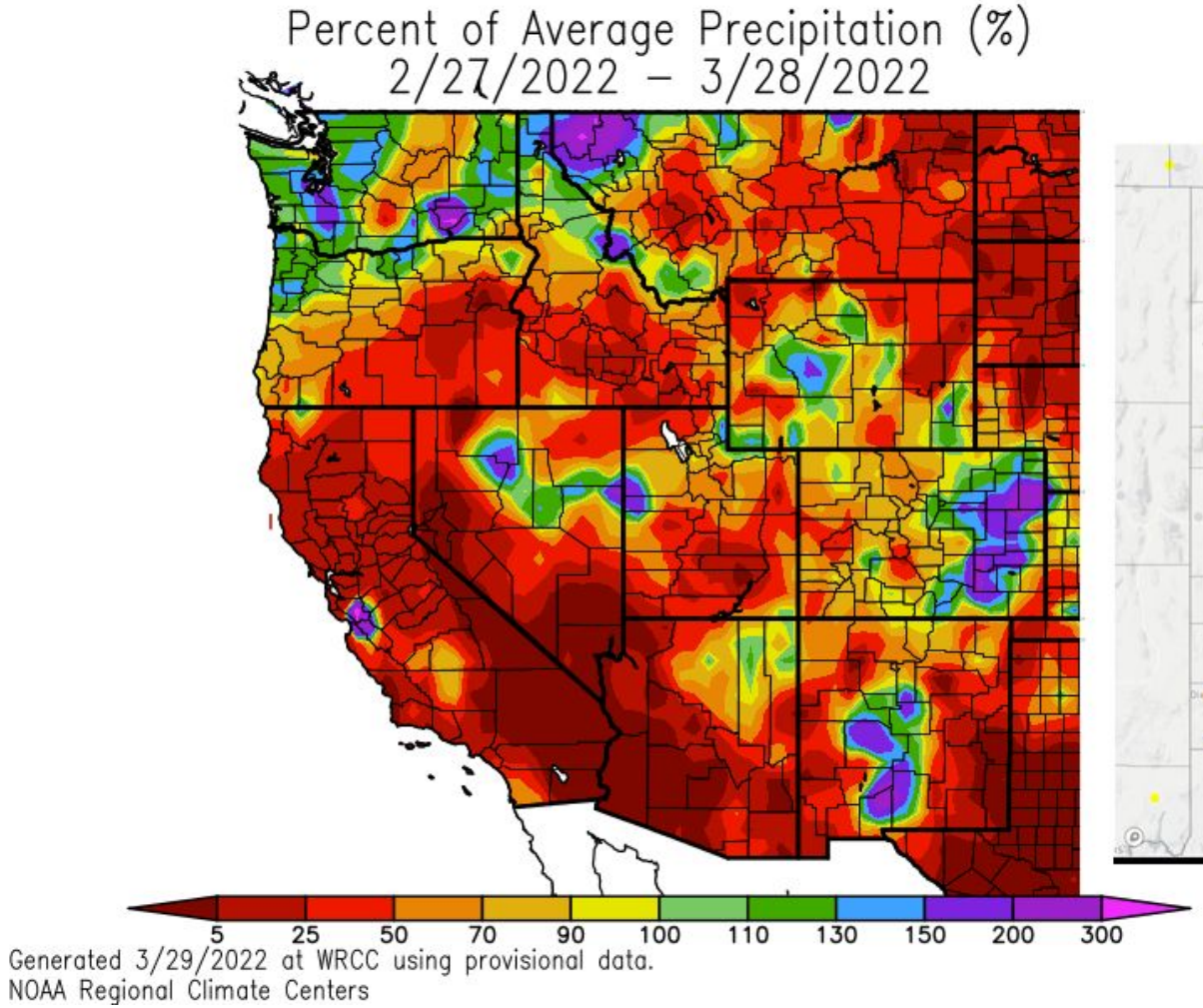
Agency - Utah Climate Center
Presenter - Jon Meyer

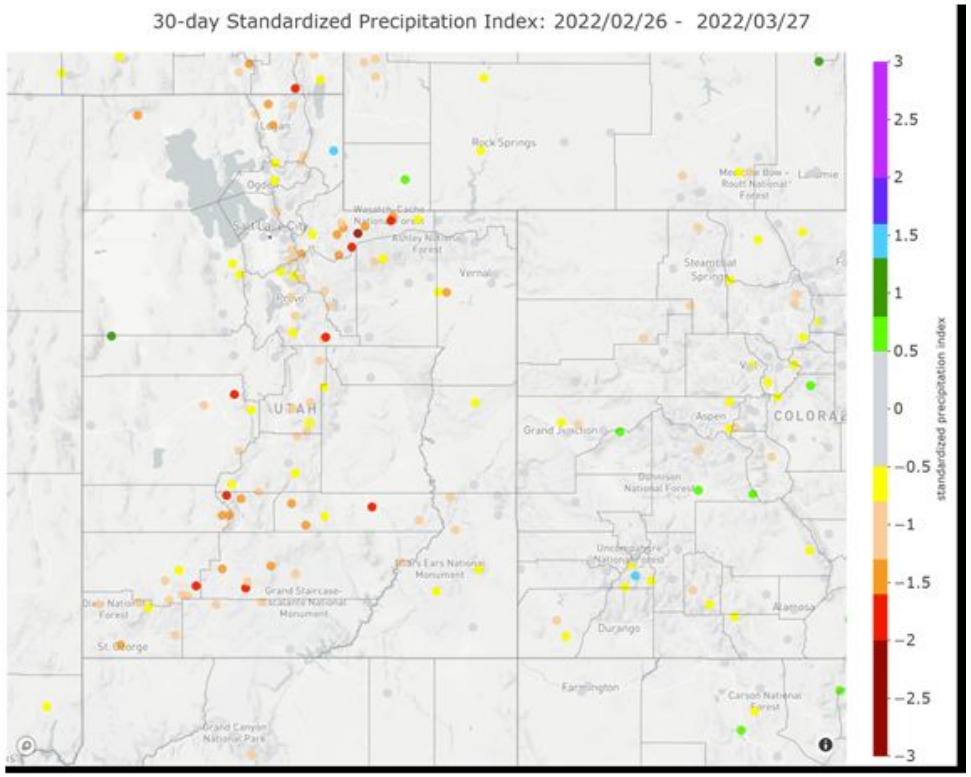
Avg. temperatures for high-elevation SNOTEL stations have been near-record or record breaking for two separate warm events this month



Agency - Utah Climate Center
Presenter - Jon Meyer

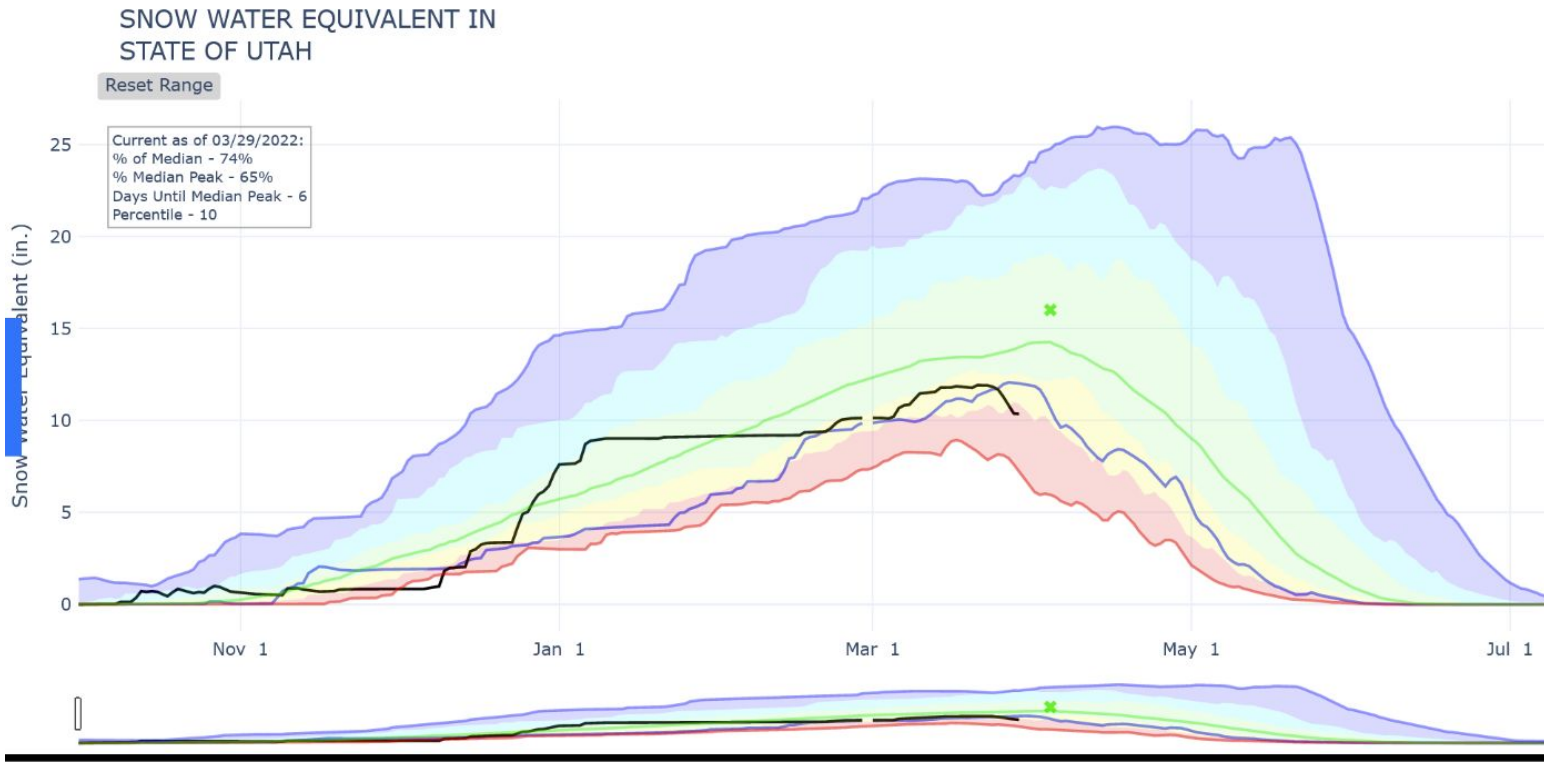
Statewide precipitation over the last 30 days has been underwhelming with parts of the state seeing little to no March precipitation (which should be one of the wettest months of the year)

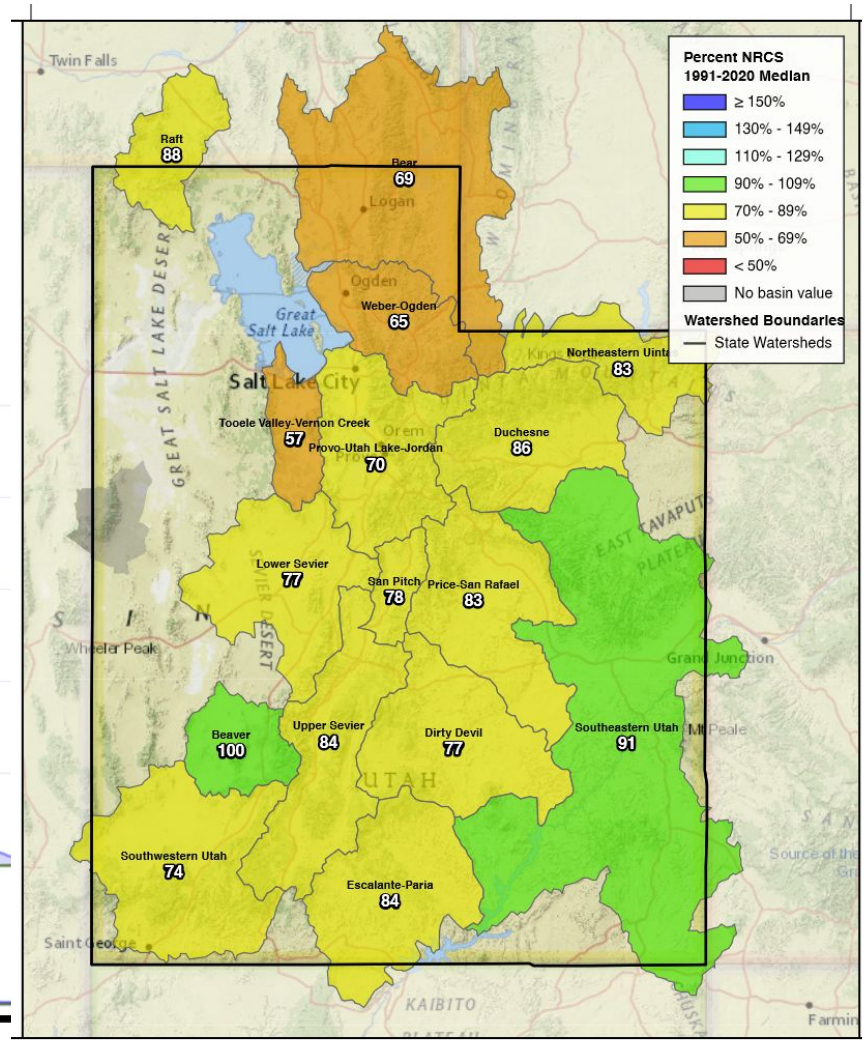




Agency - Utah Climate Center
Presenter - Jon Meyer

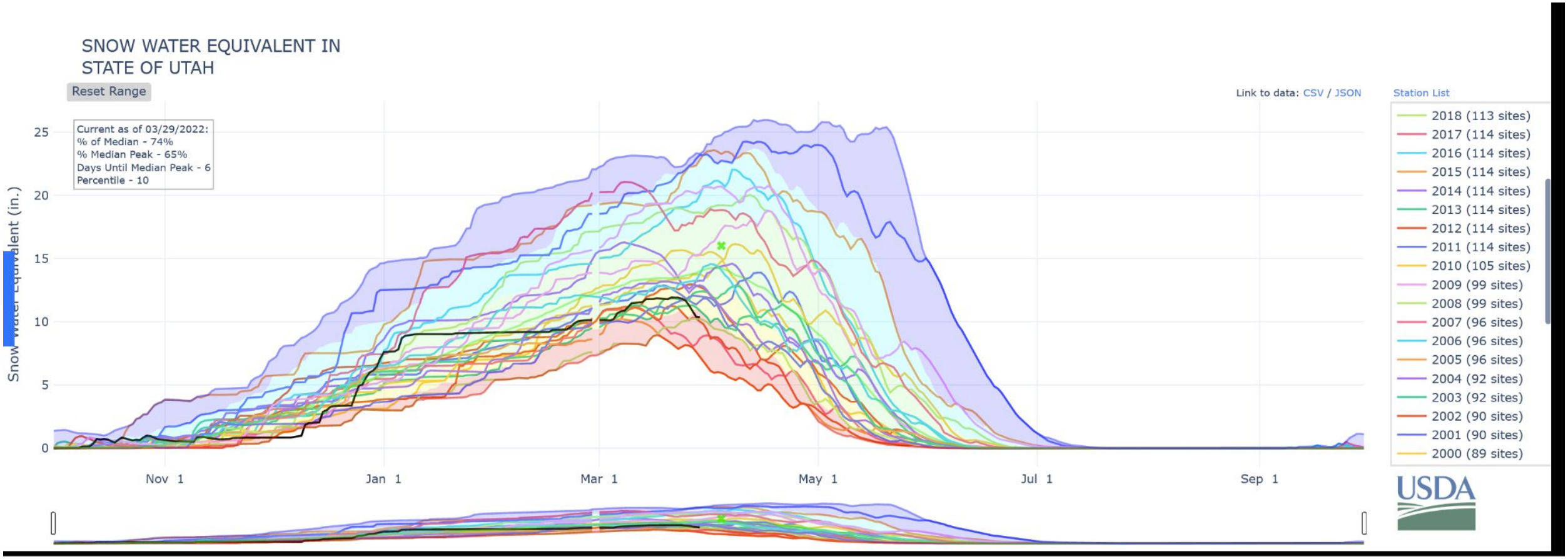
Snowpack peaked early and is rapidly dropping at all elevations in response to the recent warmth. The current spring storm will bring a “pause”, but the snowpack is ripe for melting and will respond accordingly to any warm event going to forward..





Current statewide SWE has dipped below last year’s value for this date due to this year’s early melt

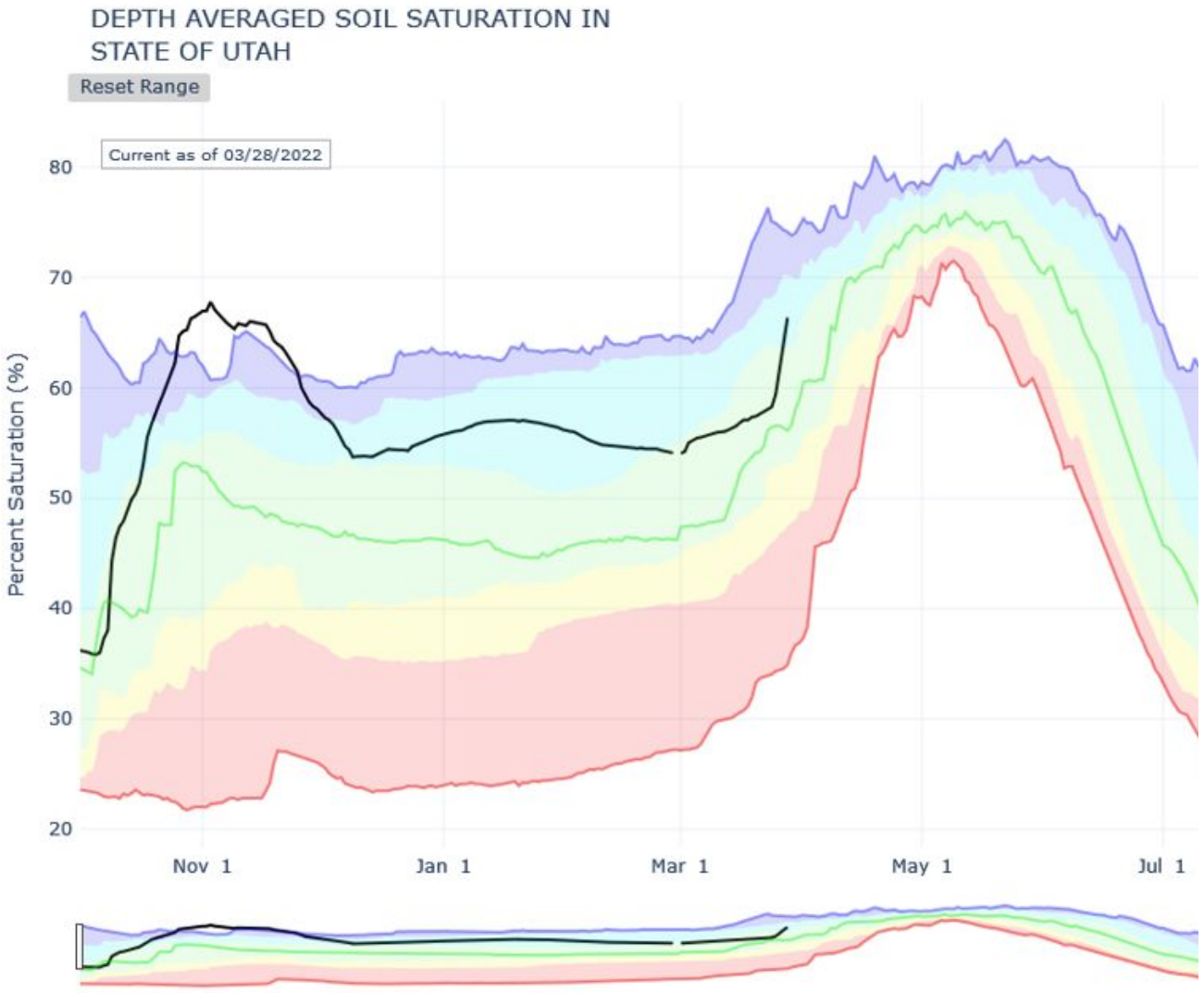
Agency - NRCS Snow Survey
Presenter - Jon Meyer

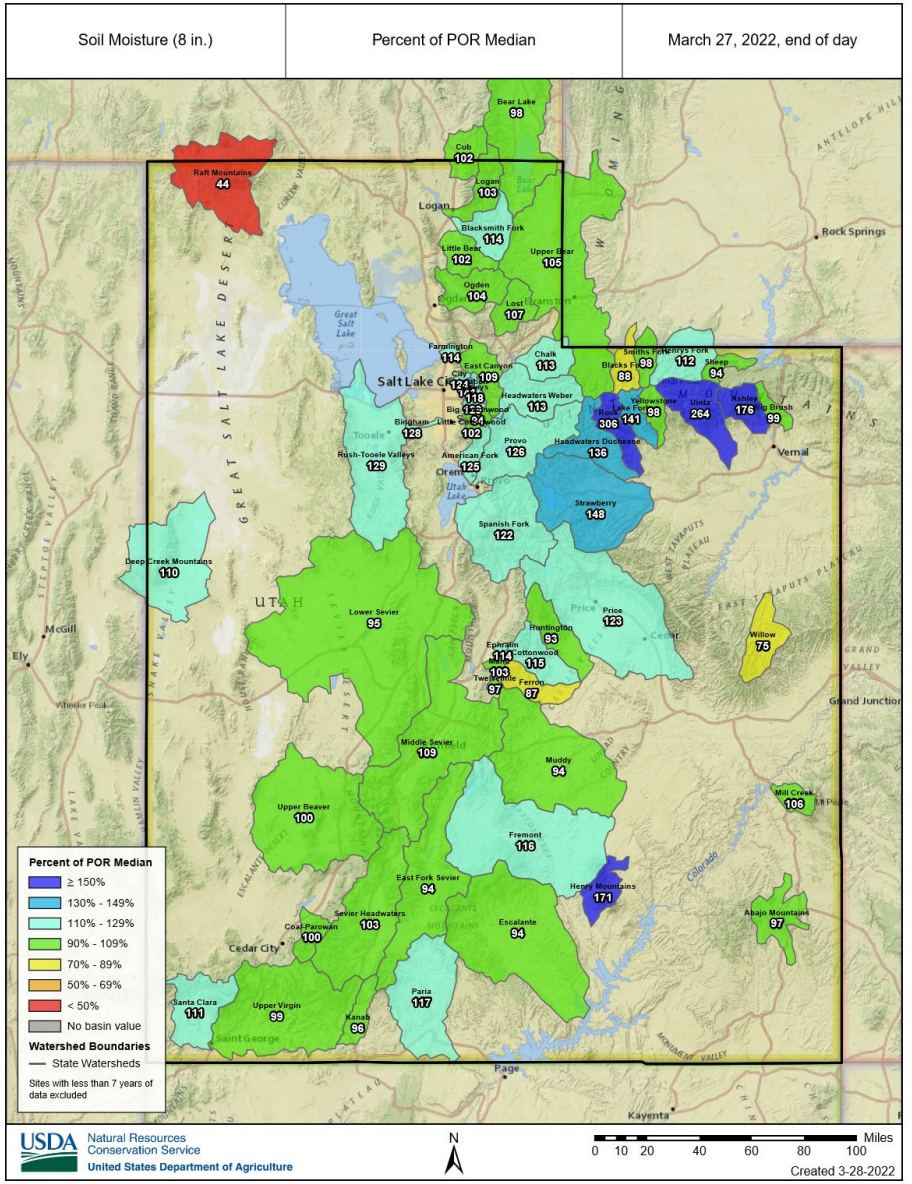


The early melt leads to a potential host of issues, including a lower runoff response (if spreading it out over a longer period), a potentially longer summer dry period which could increase demand for withdrawals and also fire hazard as soils dry out earlier, etc. Not good…

Agency - NRCS Snow Survey
Presenter - Jon Meyer

Soil Moisture

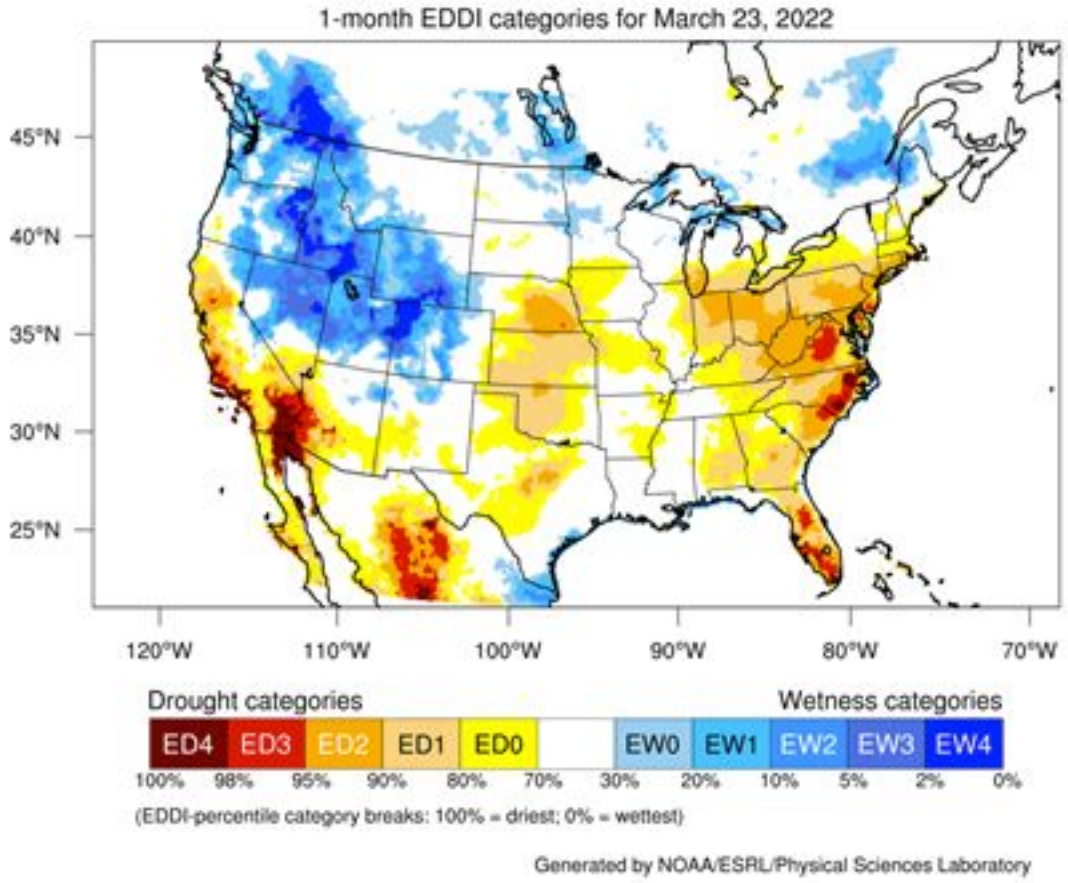


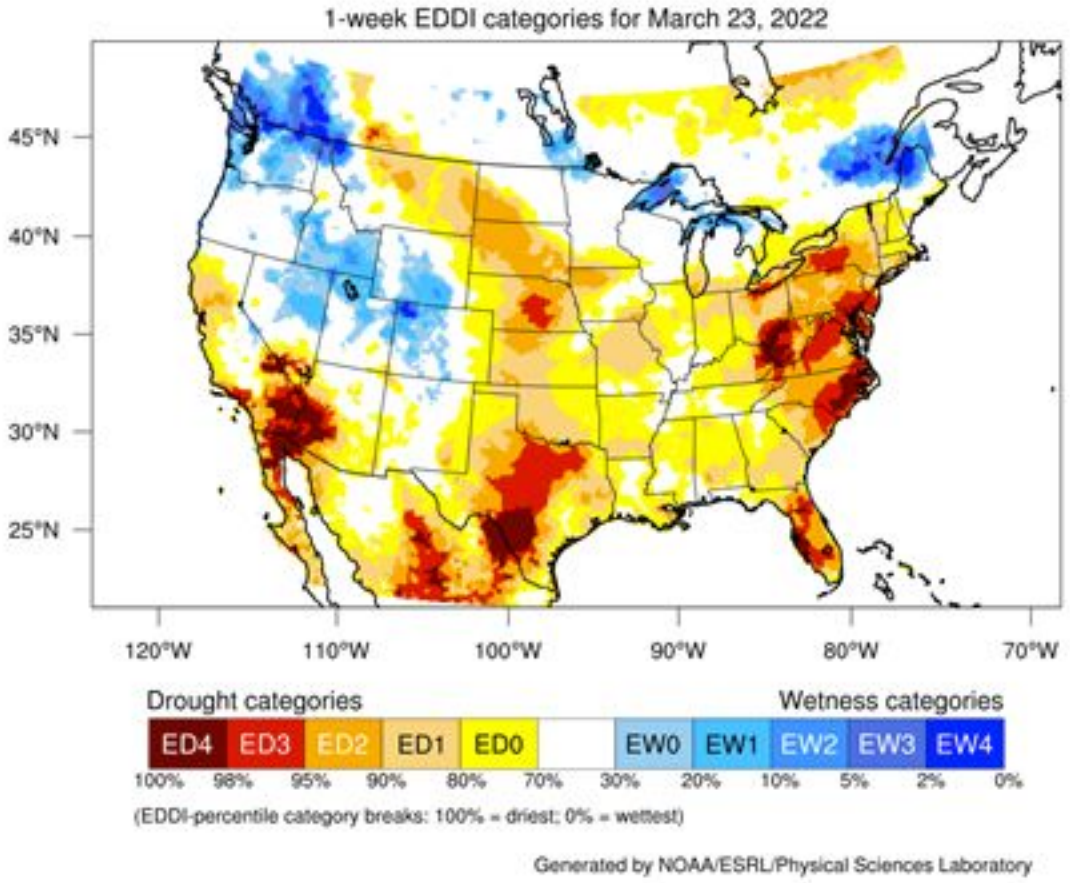


- soil moisture rising rapidly due to early snowmelt
- will likely lead to longer dry period during summer warm months
  - may increase fire risk (depending on summer conditions)

Agency - NRCS Snow Survey
Presenter - Jon Meyer

Evaporative demand maps have not included the recent hot/dry pattern, and as such show beneficially low EDDI for the first 3 weeks of March…but one-week maps showcase the direction the state began to trend recently. Updates to EDDI in next week expected to flip into the drought categories.





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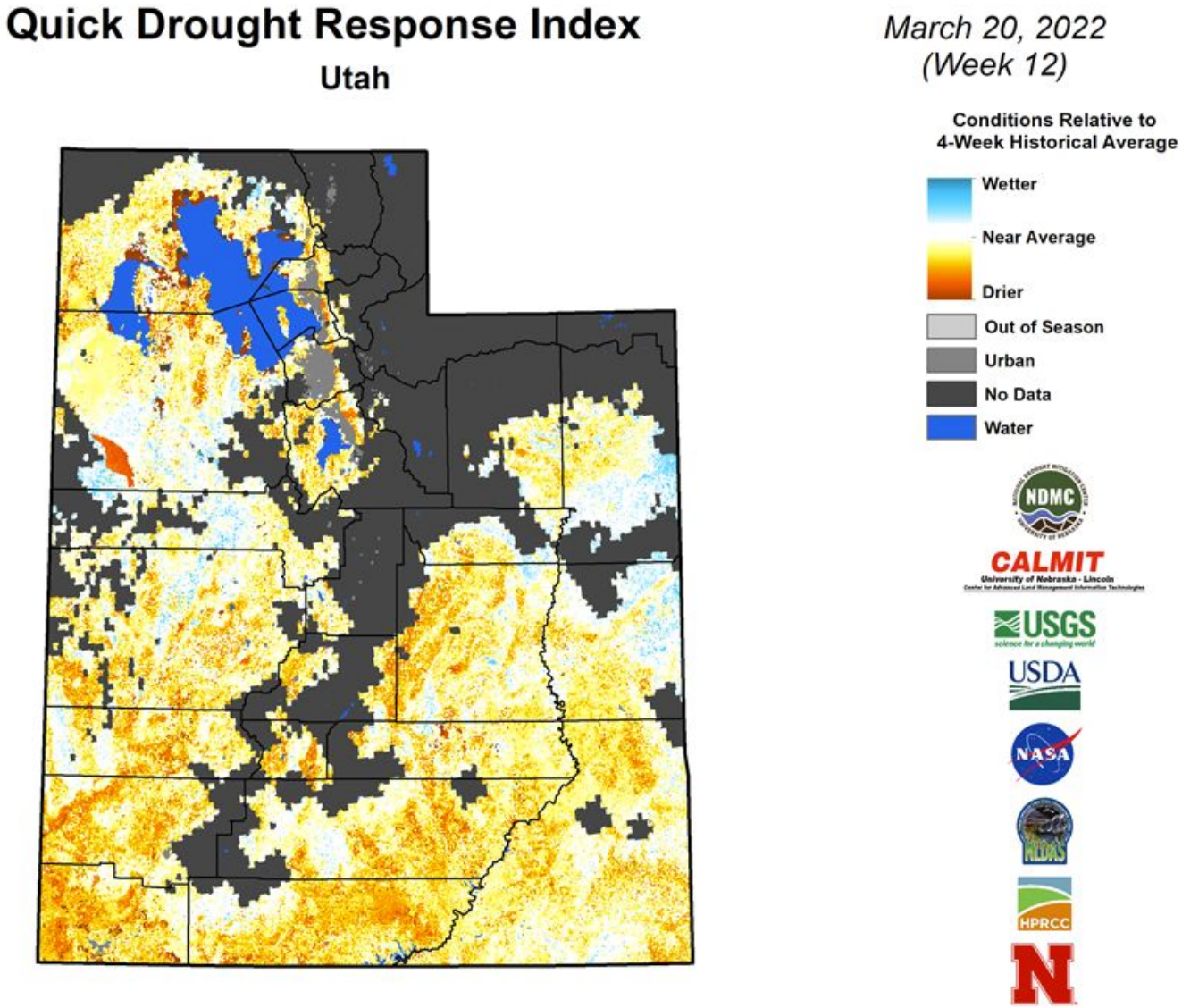
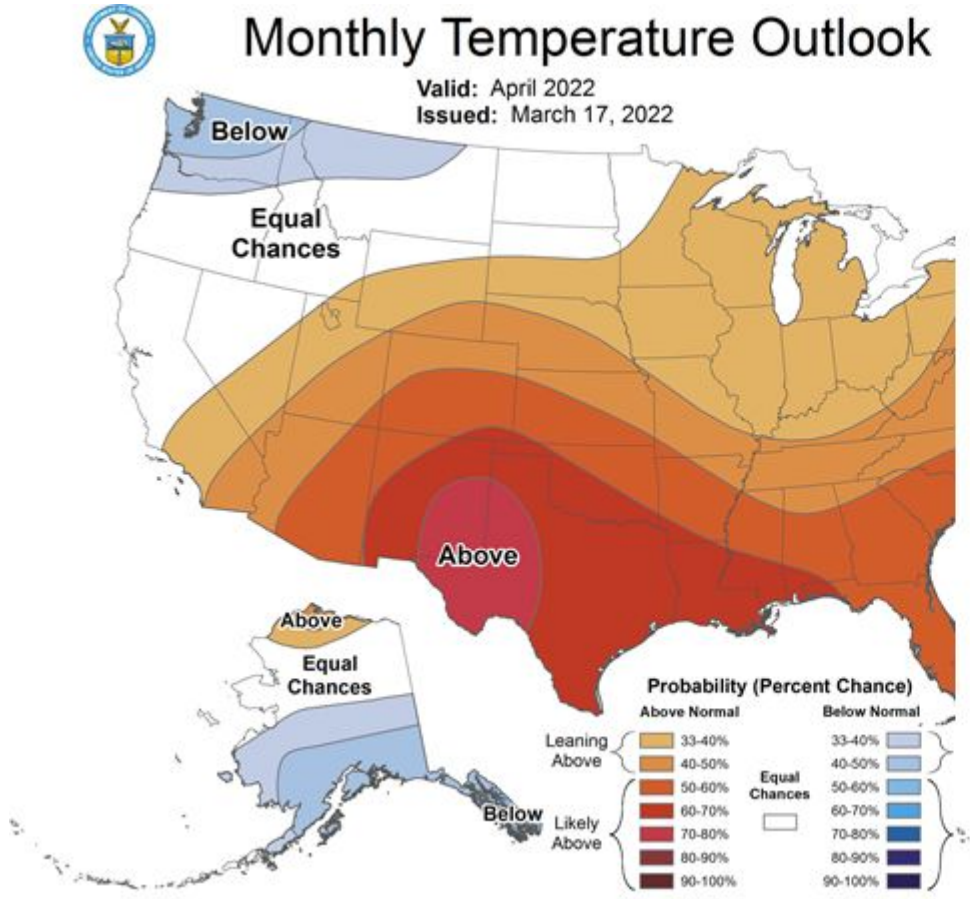
Presenter - Jon Meyer

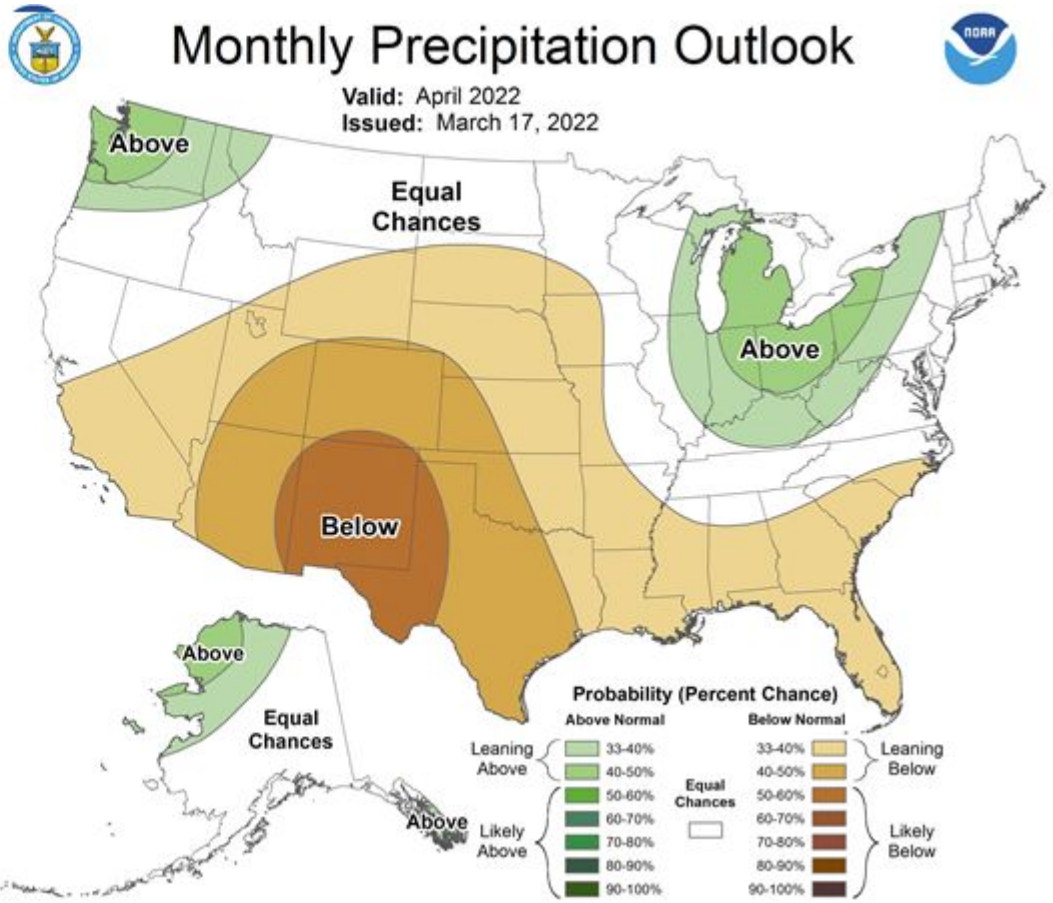
Short-term drought index conditions (9 days old) continue to show low-elevation drought amplification is to be expected. Recent hot/dry conditions should further amplify this expectation in the next update.



Agency - Utah Climate Center
Presenter - Jon Meyer

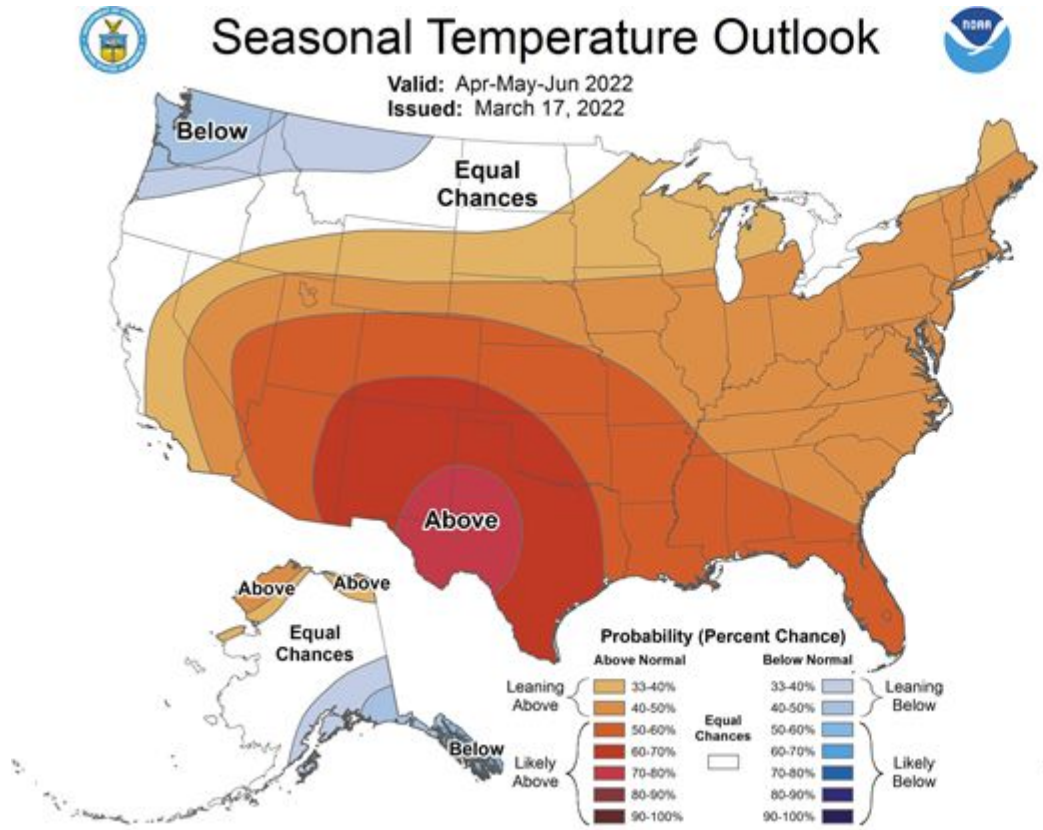
One-month Outlooks by CPC (12-days old) suggest April will likely see a continuation of the hot and dry conditions March has experienced.

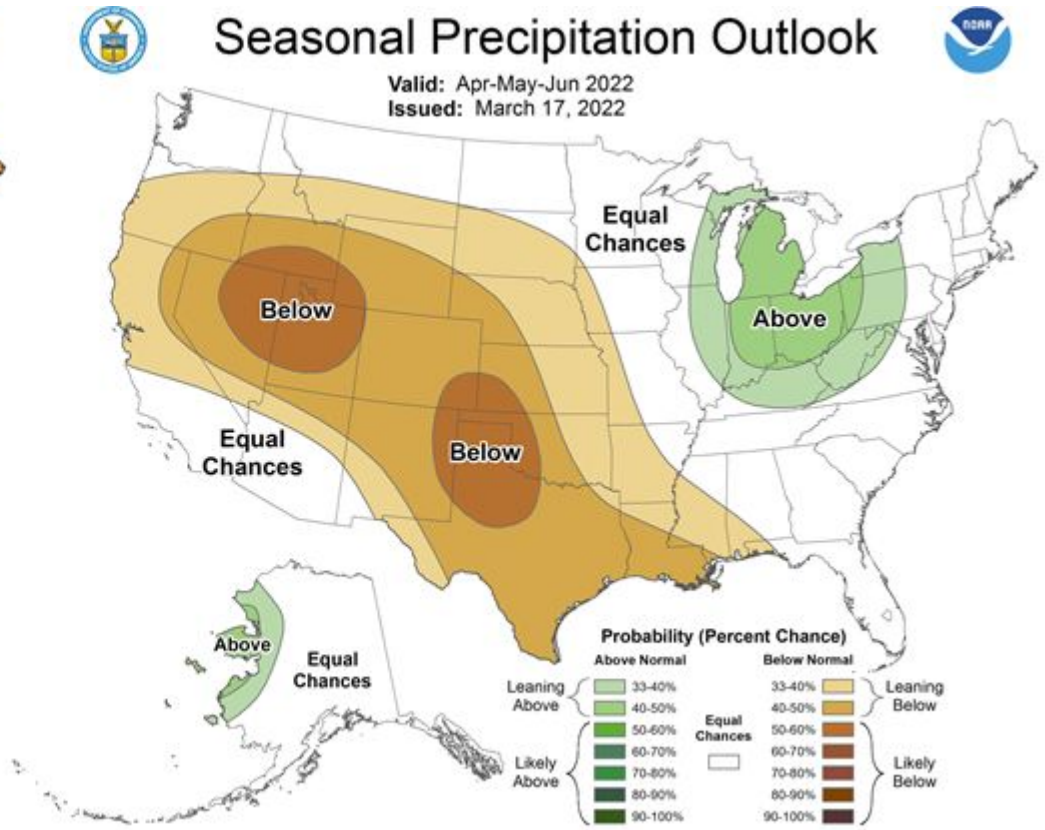




Agency - Division of Water Resources
Presenter - Laura Haskell

Three-month Outlooks by CPC (12-days old) suggest the months leading up to Summer will see drought amplification throughout the entire region.





Agency - Utah Climate Center
Presenter - Jon Meyer

Reservoir Levels

Basin Reservoir percent of capacity

Bear River is 53% current 62% last year
Cedar Beaver is 30% current 35% last year

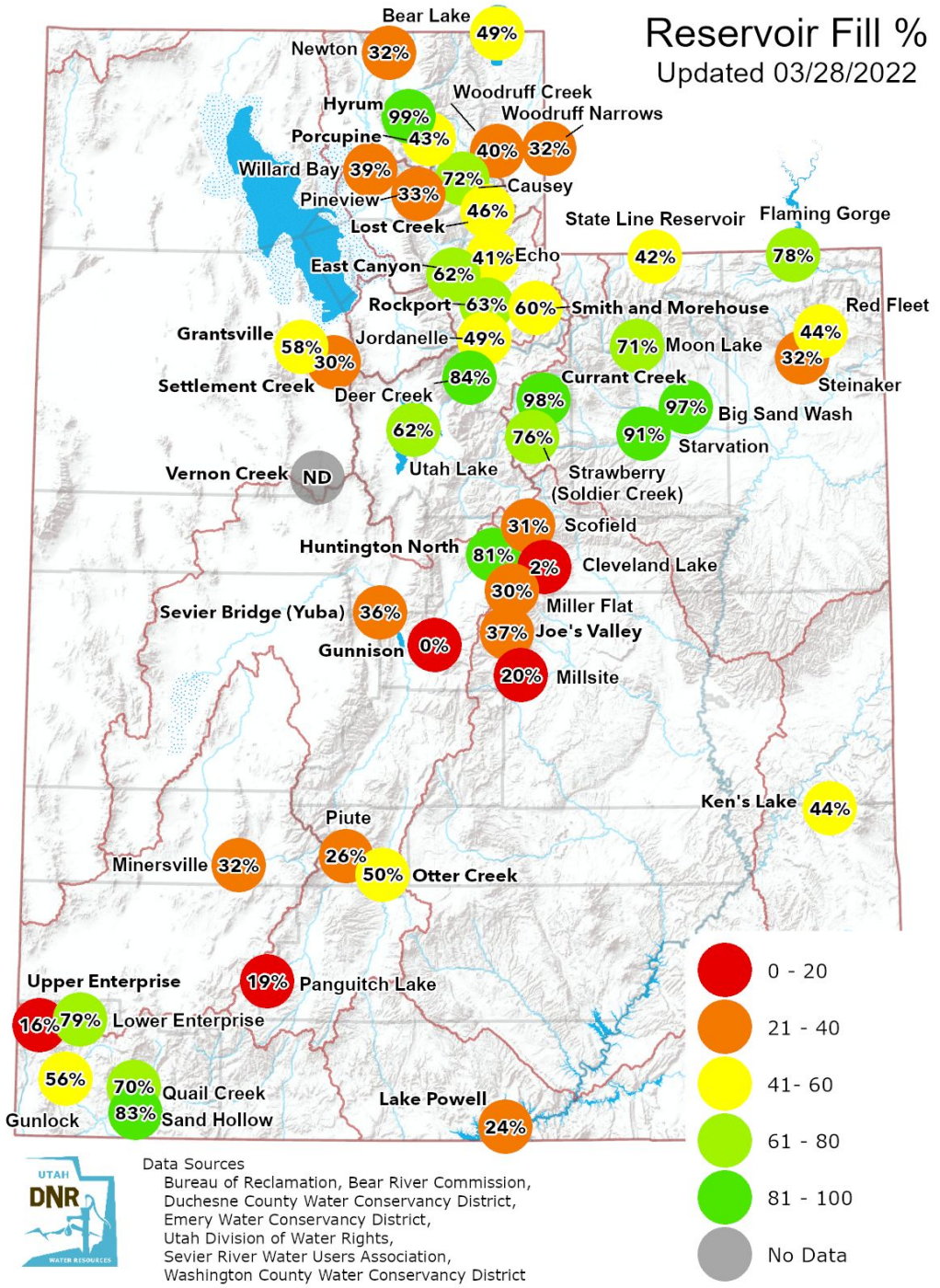
Sevier is 32% current 42% last year
Uintah is 76% current 82% last year

Utah is 61% current 74% last year
Virgin is 76% current 80% last year

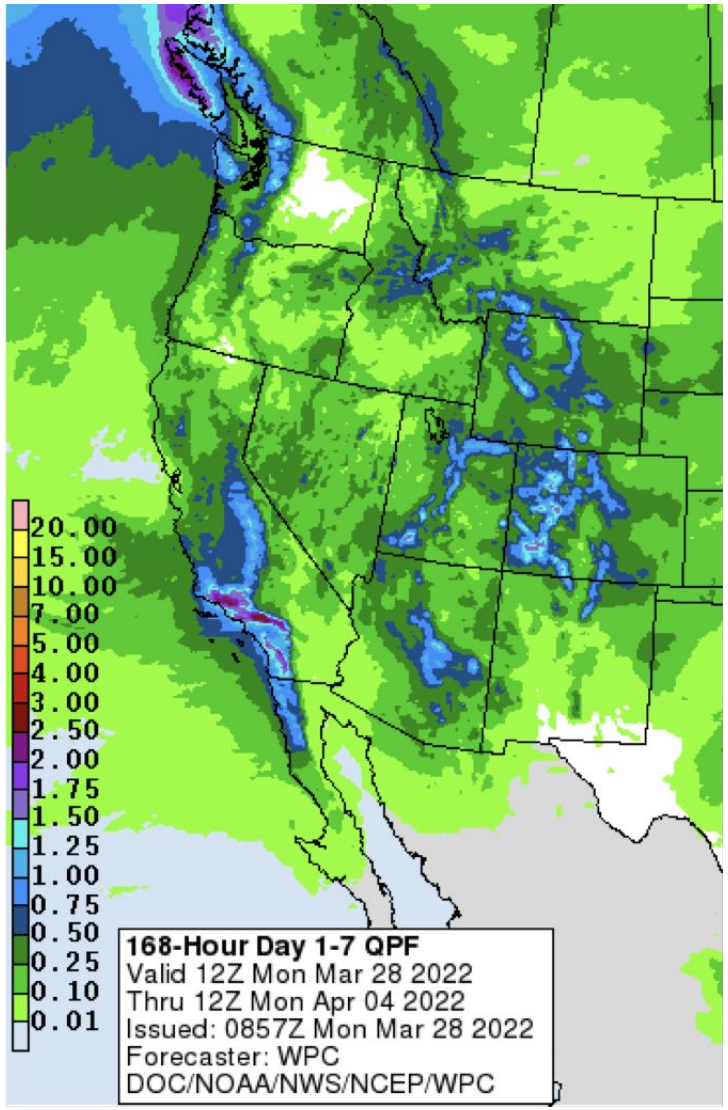
Weber River is 44% current 57% last year
West Colorado is 34% current 55% last year

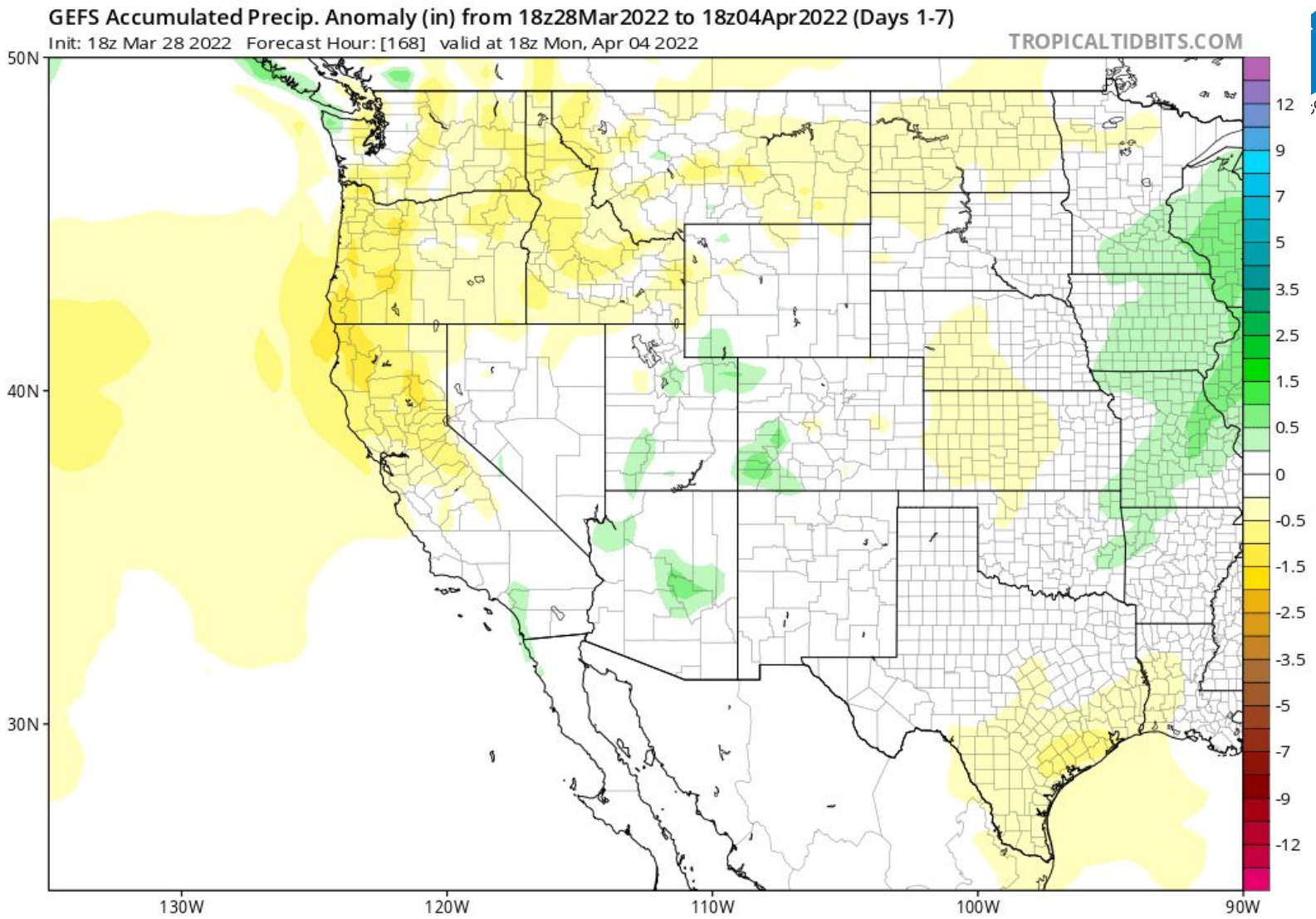
West Desert is 53% current 51% last year

Agency - Division of Water Resources w/NRCS data
Presenter - Laura Haskell



Weather Forecast Office Utah Day 1-7 Outlook

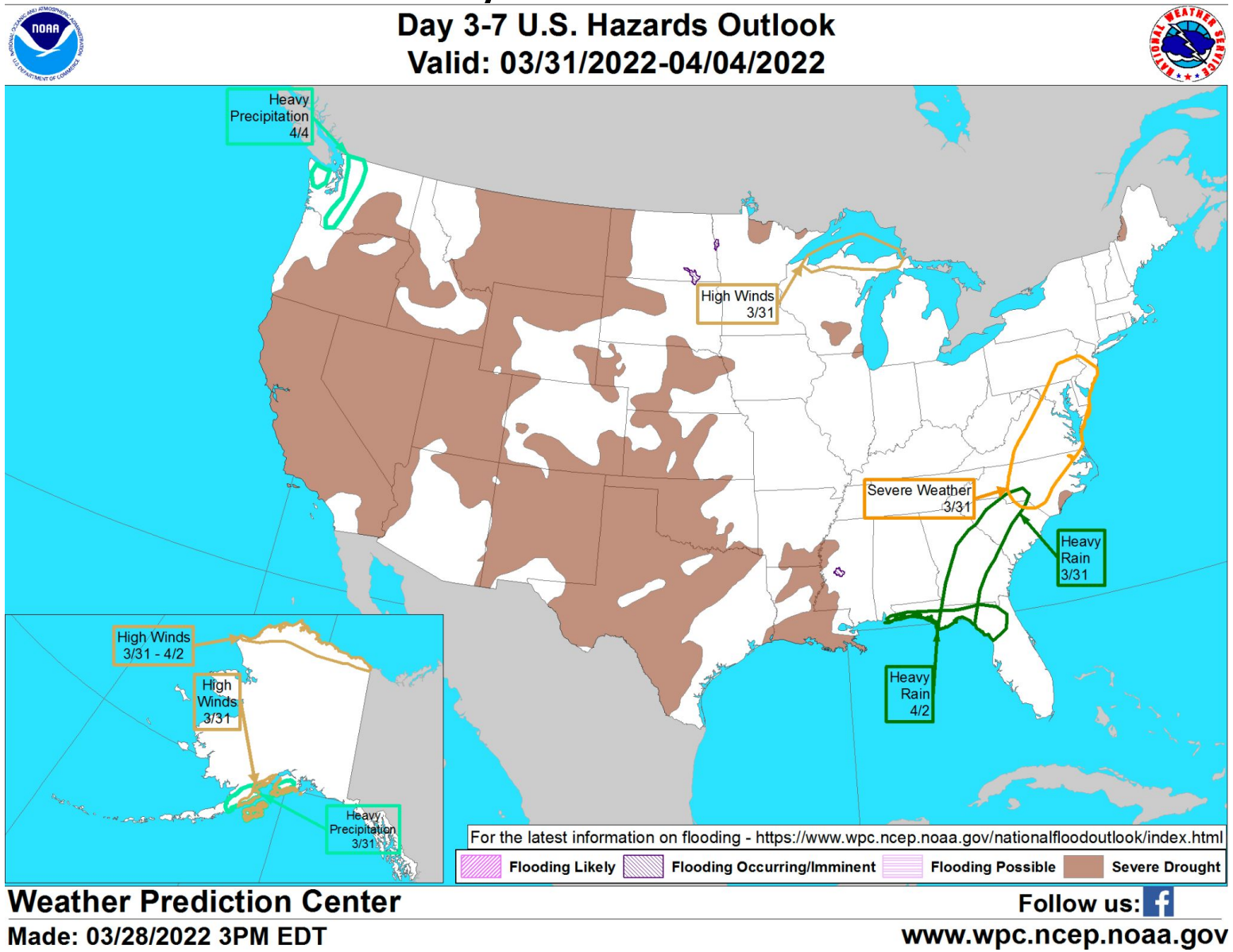




Agency - National Weather Service Weather Forecast Office

Presenter - Glen Merrill

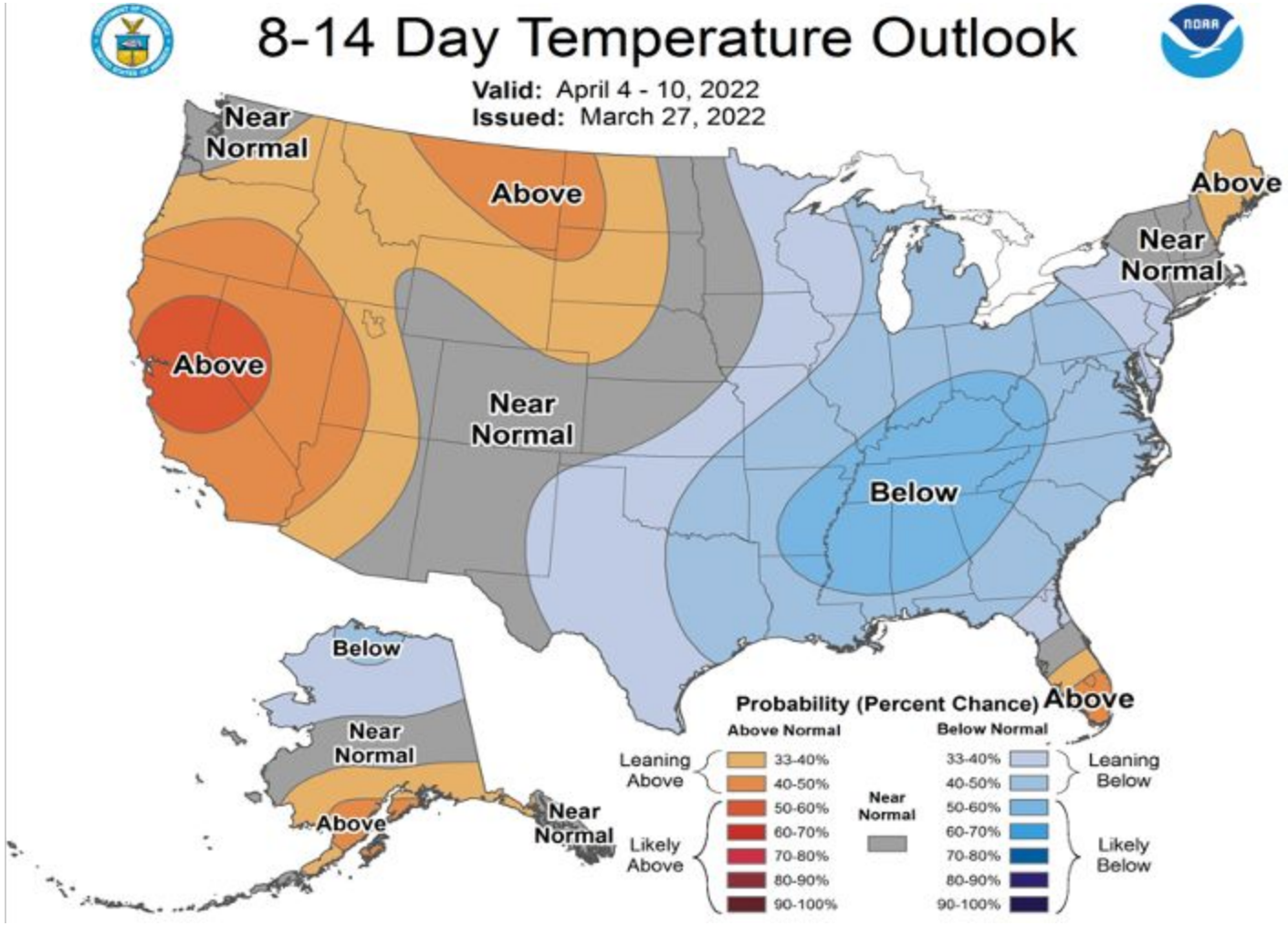
Weather Prediction Center U.S. Day 3-7 Hazards Outlook



Agency - National Weather Service Weather Forecast Office

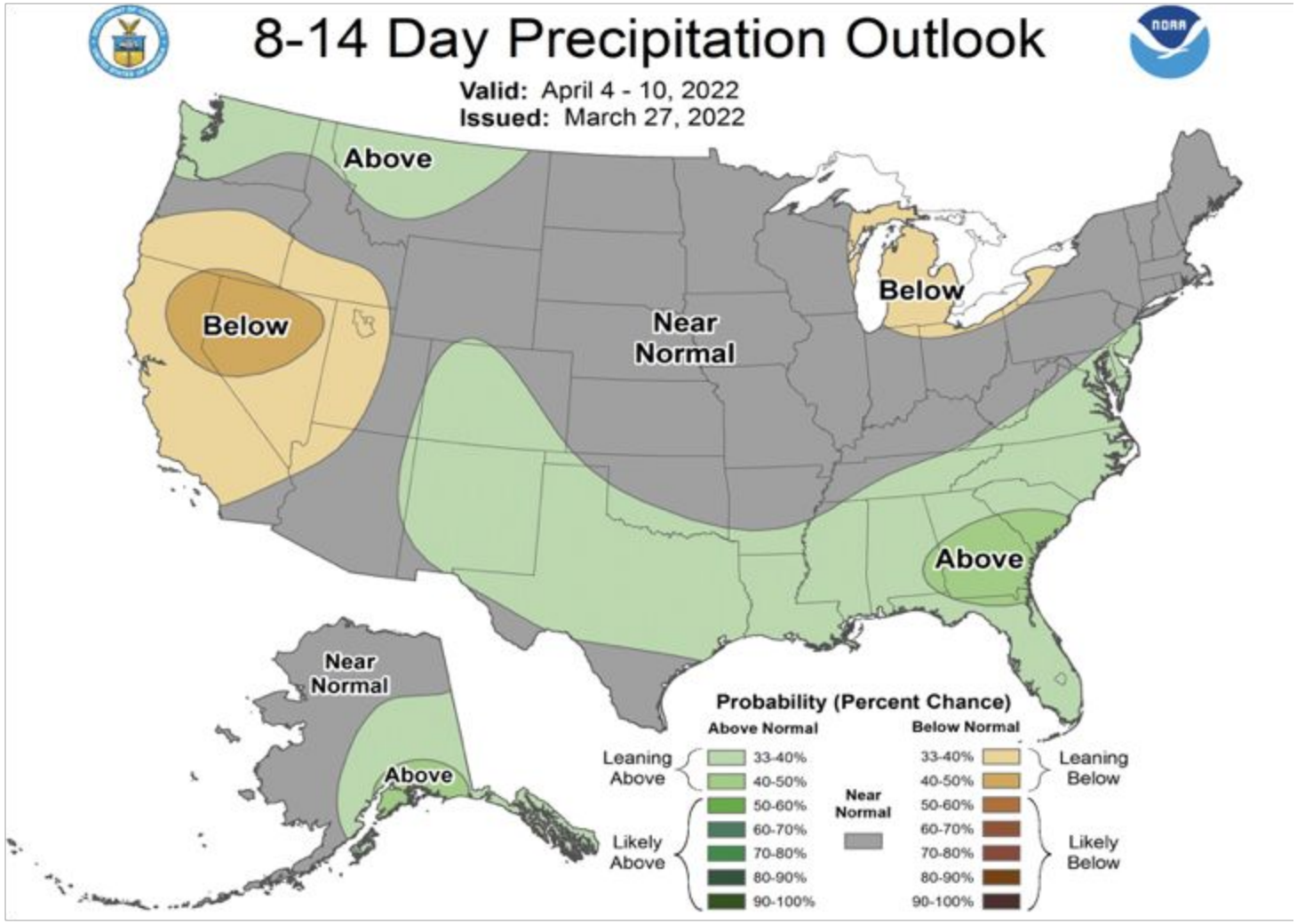
Presenter - Glen Merrill

Climate Prediction Center 8 to 14 Day Outlooks - Temperature



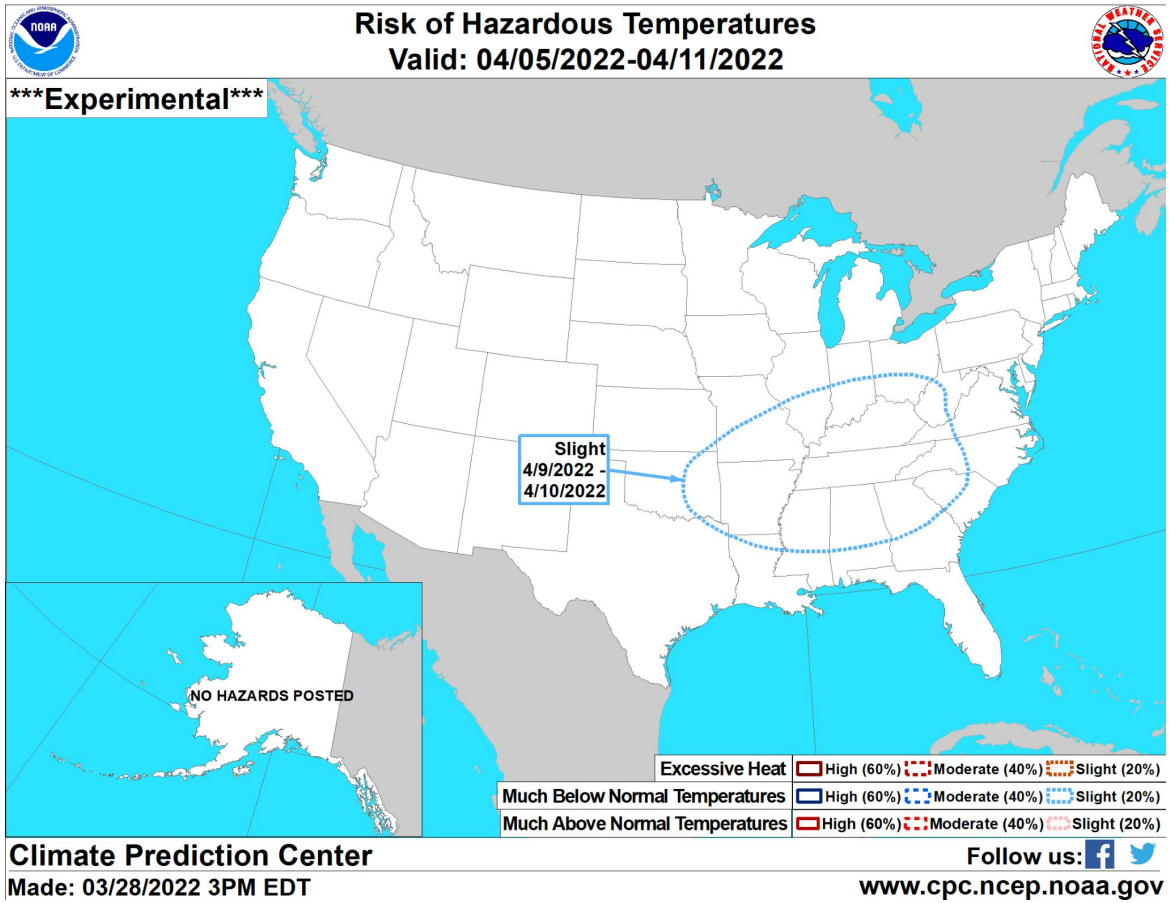
Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill

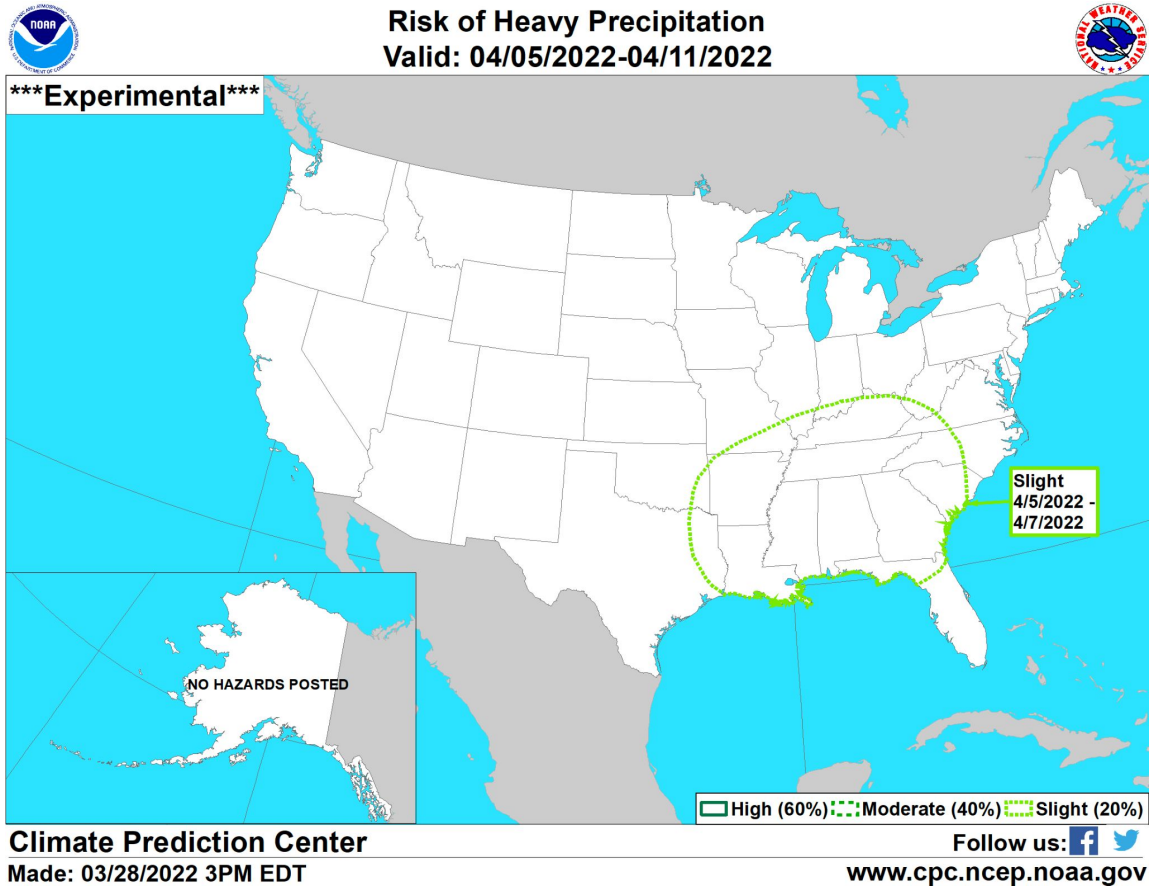
Climate Prediction Center 8 to 14 Day Outlooks - Precipitation



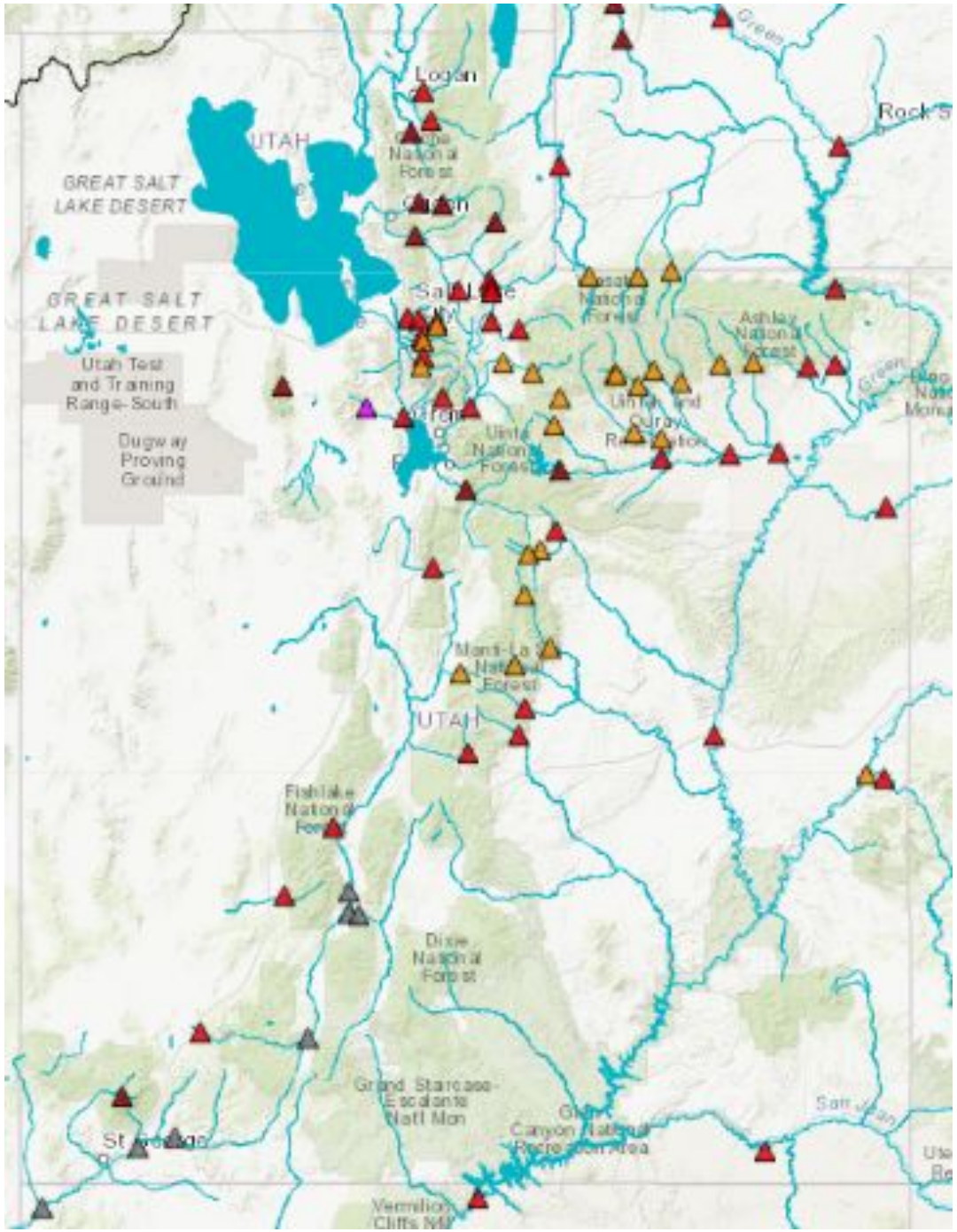
Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill

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





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

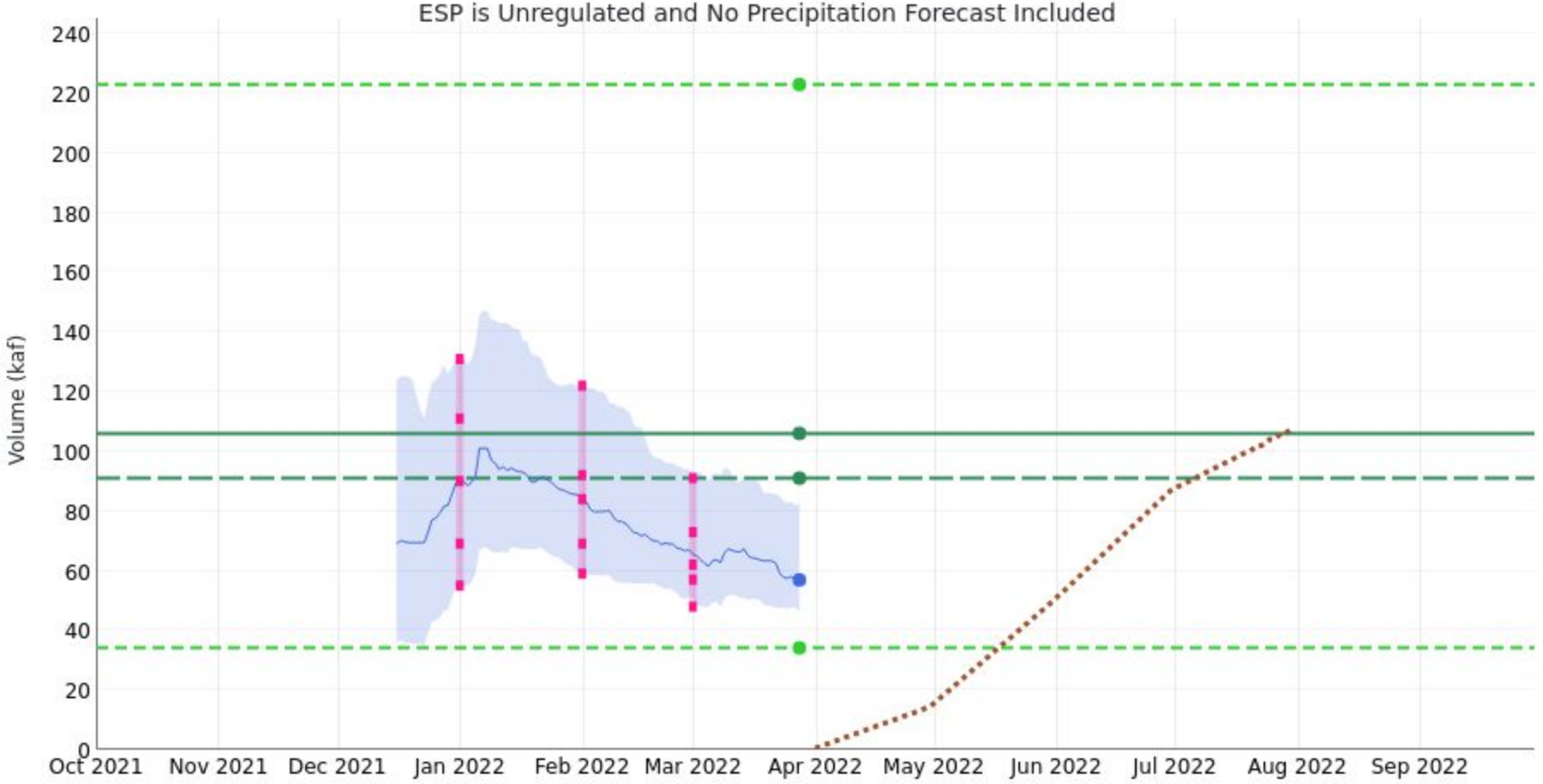


- Dry conditions throughout March have continued to drive volumetric water supply forecasts down
- Recent, historically warm temperatures have resulted in early season snowmelt, particularly at low elevations
- Recently met with Washington County Water Conservation District to hopefully begin to improve services in the area

Logan - Logan, Nr, State Dam, Abv (LGNU1)

Period: Apr-Jul, Official 50% Forecast (2022-03-01): 62 kaf (58% Average, 68% Median)

ESP is Unregulated and No Precipitation Forecast Included



2022/03/28:

Max 1986: 222.92

Min 1977: 34.12

Average: 106

Median: 91

ESP: 56.9

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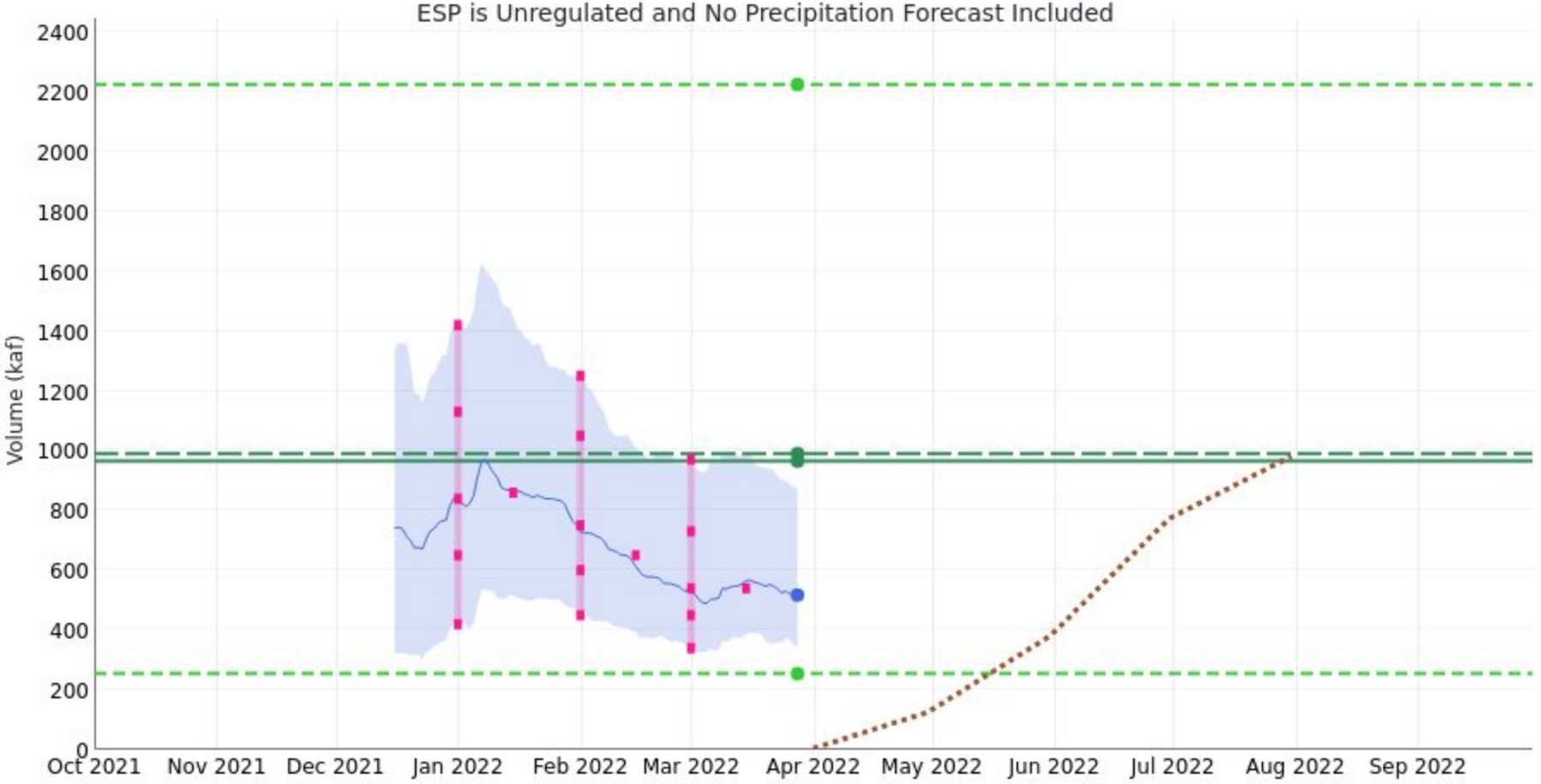
U.S. DEPARTMENT OF COMMERCE

Green - Flaming Gorge Reservoir (GRNU1)

Period: Apr-Jul, Official 50% Forecast (2022-03-15): 540 kaf (56% Average, 55% Median)

ESP is Unregulated and No Precipitation Forecast Included



2022/03/28:

Max 1986: 2224.35

Min 1977: 254.3

Average: 965

Median: 990

ESP: 517

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U.S. DEPARTMENT OF COMMERCE

Spanish Fork - Castilla, Nr (CASU1)

Period: Apr-Jul, Official 50% Forecast (2022-03-01): 30 kaf (56% Average, 94% Median)

ESP is Unregulated and No Precipitation Forecast Included

2022/03/28:

Max 1984: 251.76

Min 2002: 7.72

Average: 54

Median: 32

ESP: 23.8

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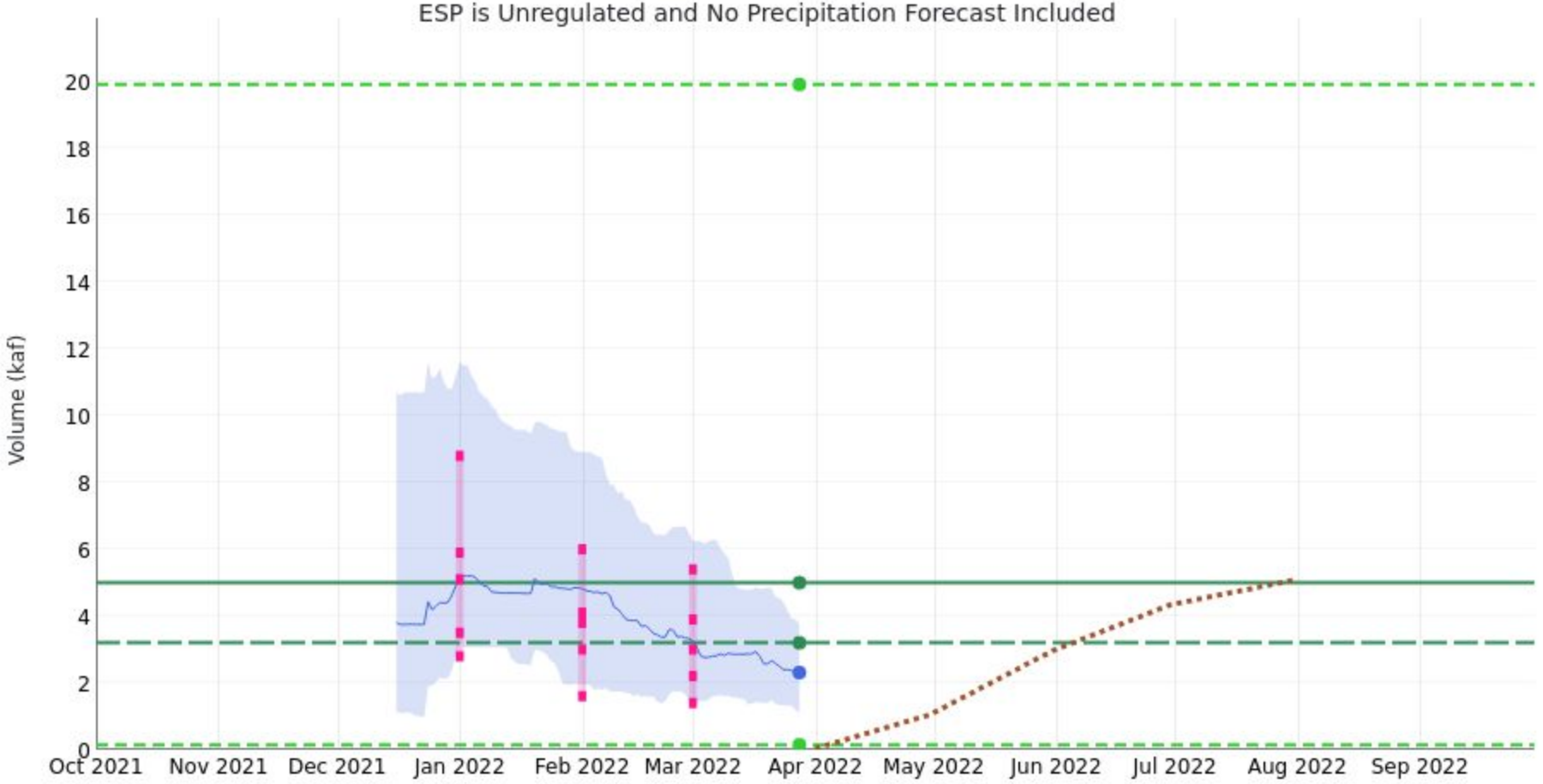
Santa Clara - Pine Valley, Nr (STCU1)

Period: Apr-Jul, Official 50% Forecast (2022-03-01): 3 kaf (60% Average, 94% Median)

ESP is Unregulated and No Precipitation Forecast Included



2022/03/28:

Max 2005: 19.91

Min 2002: 0.15

Average: 5

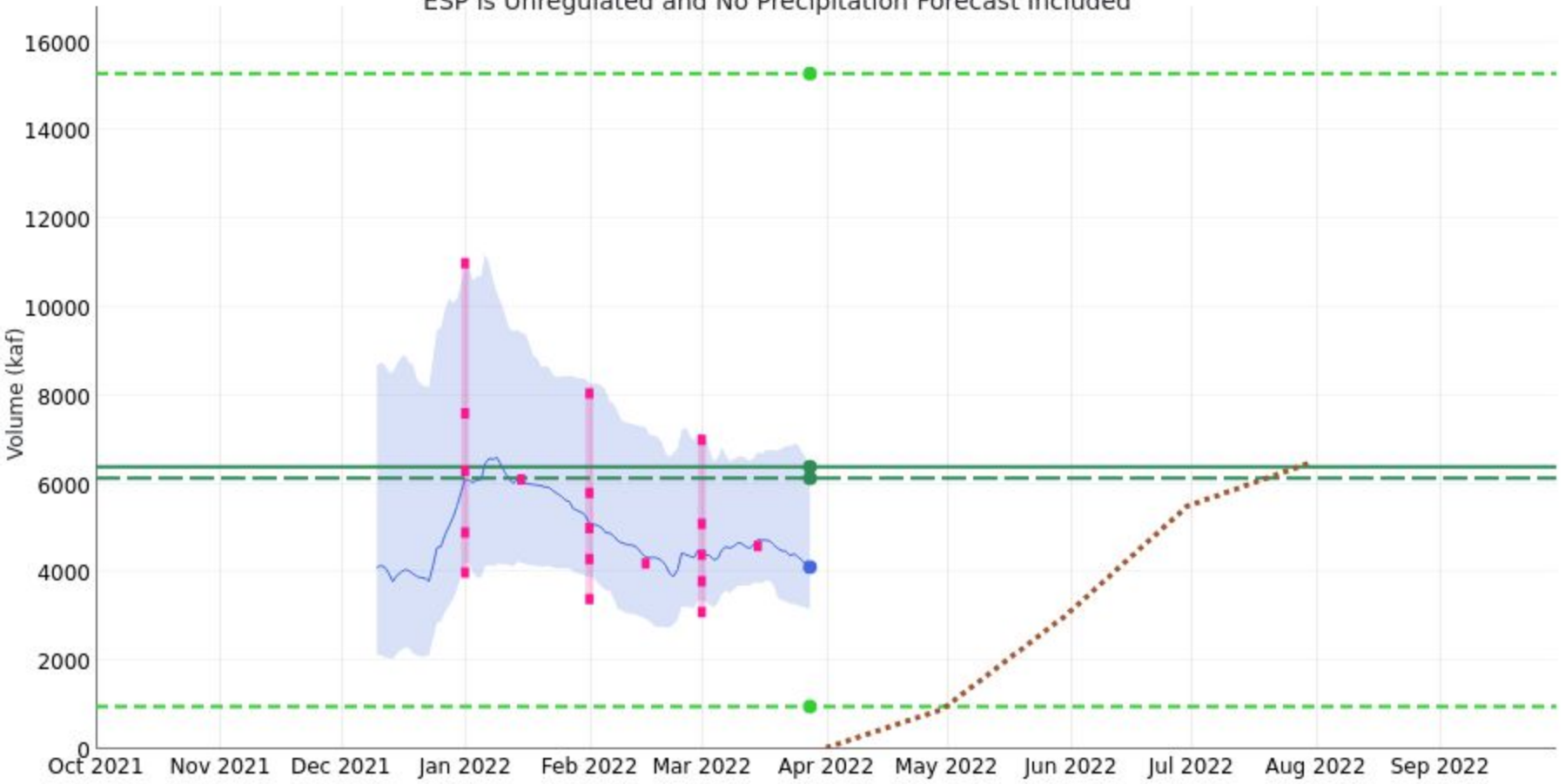
Median: 3.2

ESP: 2.31

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

Period: Apr-Jul, Official 50% Forecast (2022-03-15): 4600 kaf (72% Average, 75% Median)

ESP is Unregulated and No Precipitation Forecast Included



2022/03/28:

Max 1984: 15285.64

Min 2002: 963.96

Average: 6390

Median: 6130

ESP: 4120

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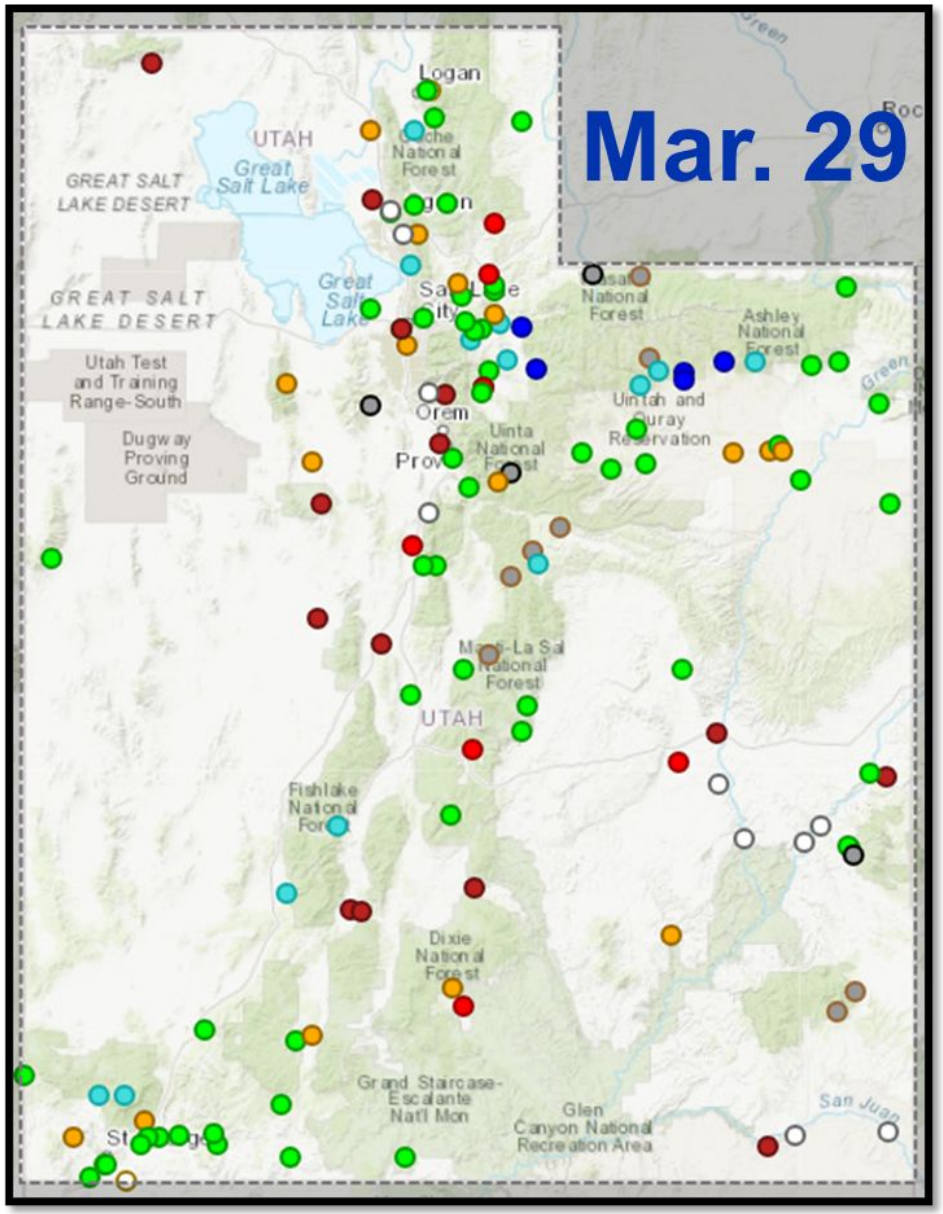
U.S. DEPARTMENT OF COMMERCE

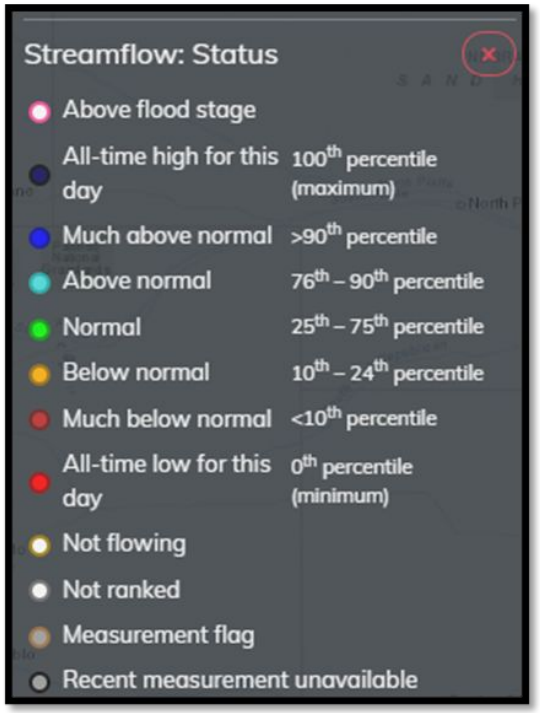
Current Streamflow Conditions



Day-of-Year Status	# Gages	% Gages
All-time high for this day-of-year	0	0.0%
Much above normal for this day-of-year	5	3.6%
Above normal for this day-of-year	13	9.5%
Normal for this day-of-year	58	42.3%
Below normal for this day-of-year	16	11.7%
Much below normal for this day-of-year	14	10.2%
All-time low for this day-of-year	7	5.1%
Not ranked - insufficient record	11	8.0%
Not ranked - no measurement	7	5.1%
Not ranked - stream not flowing	2	1.5%
Not ranked - no recent measurement	4	2.9%

Mar. 8

# Gages	% Gages
0	0.0%
2	1.5%
5	3.6%
28	20.4%
25	18.2%
25	18.2%
11	8.0%
11	8.0%
23	16.8%
1	0.7%
6	4.4%



Agency - USGS Utah WSC
Presenter - Ryan Rowland

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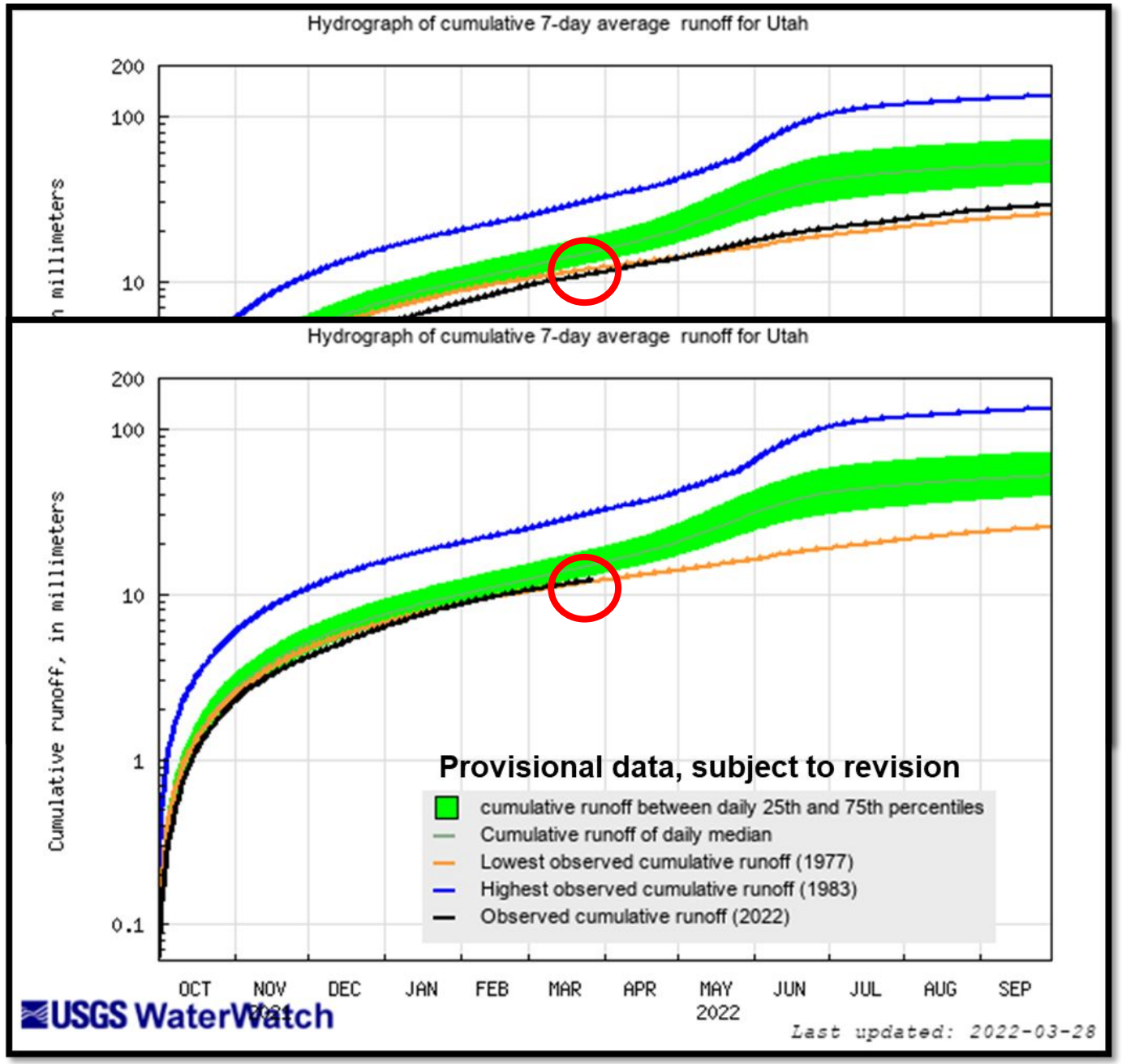
Area Based Cumulative Runoff



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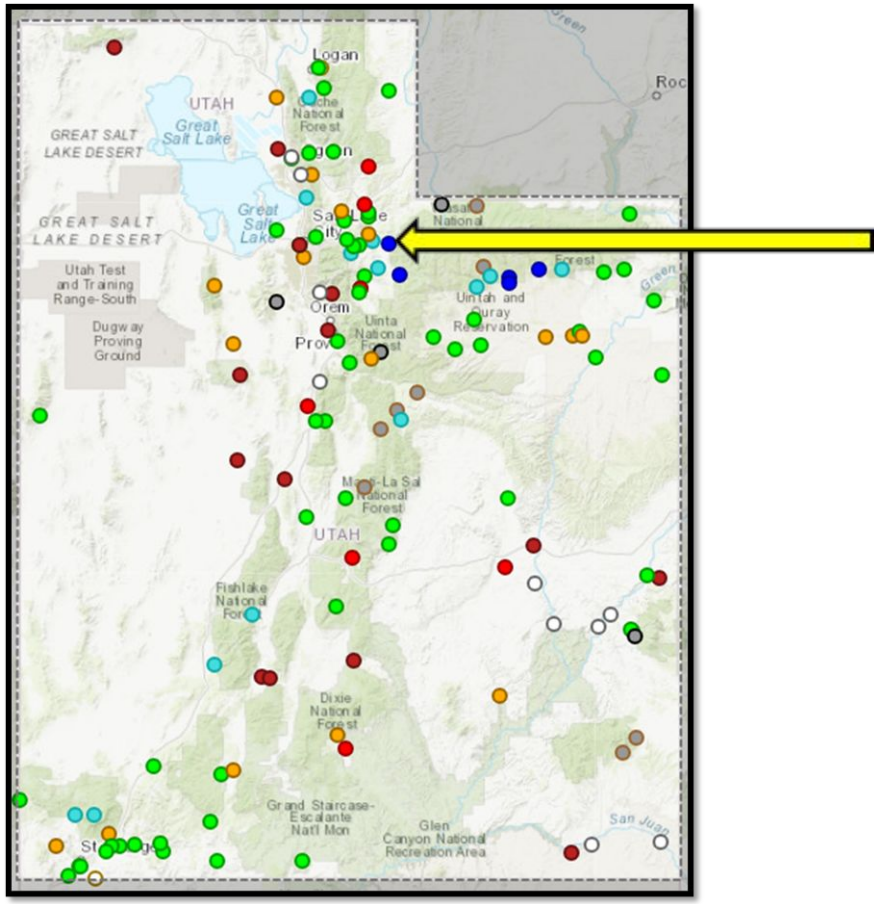
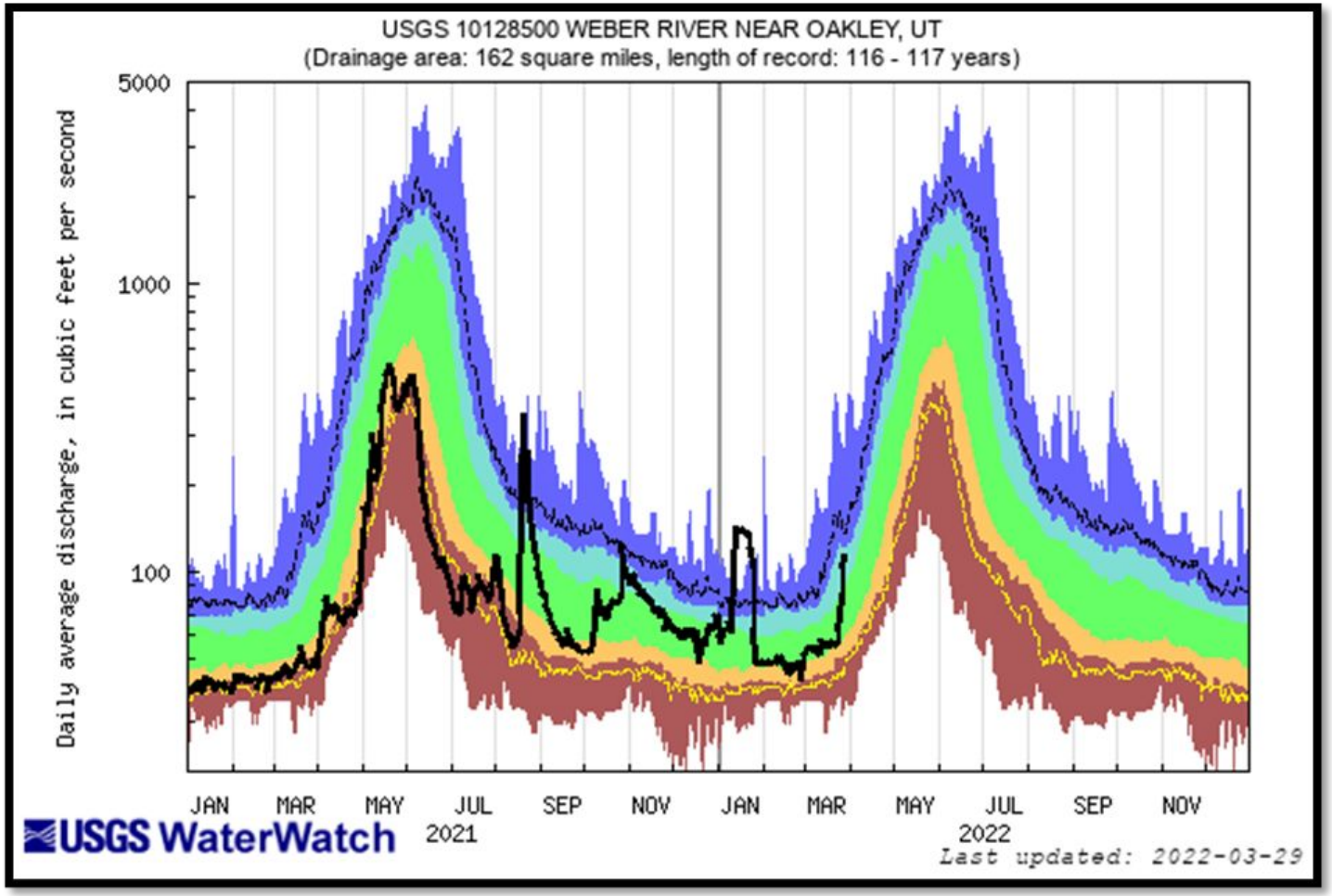
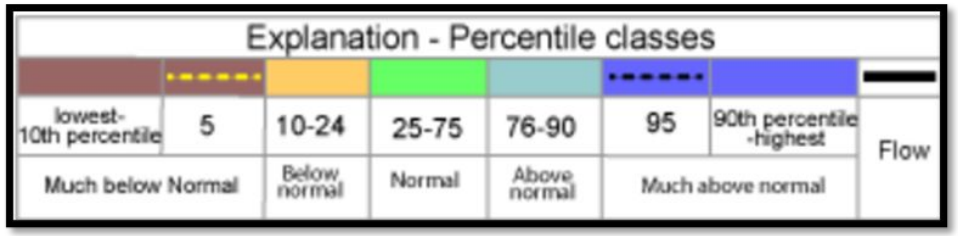
Presenter - Ryan Rowland

Weber River near Oakley, UT







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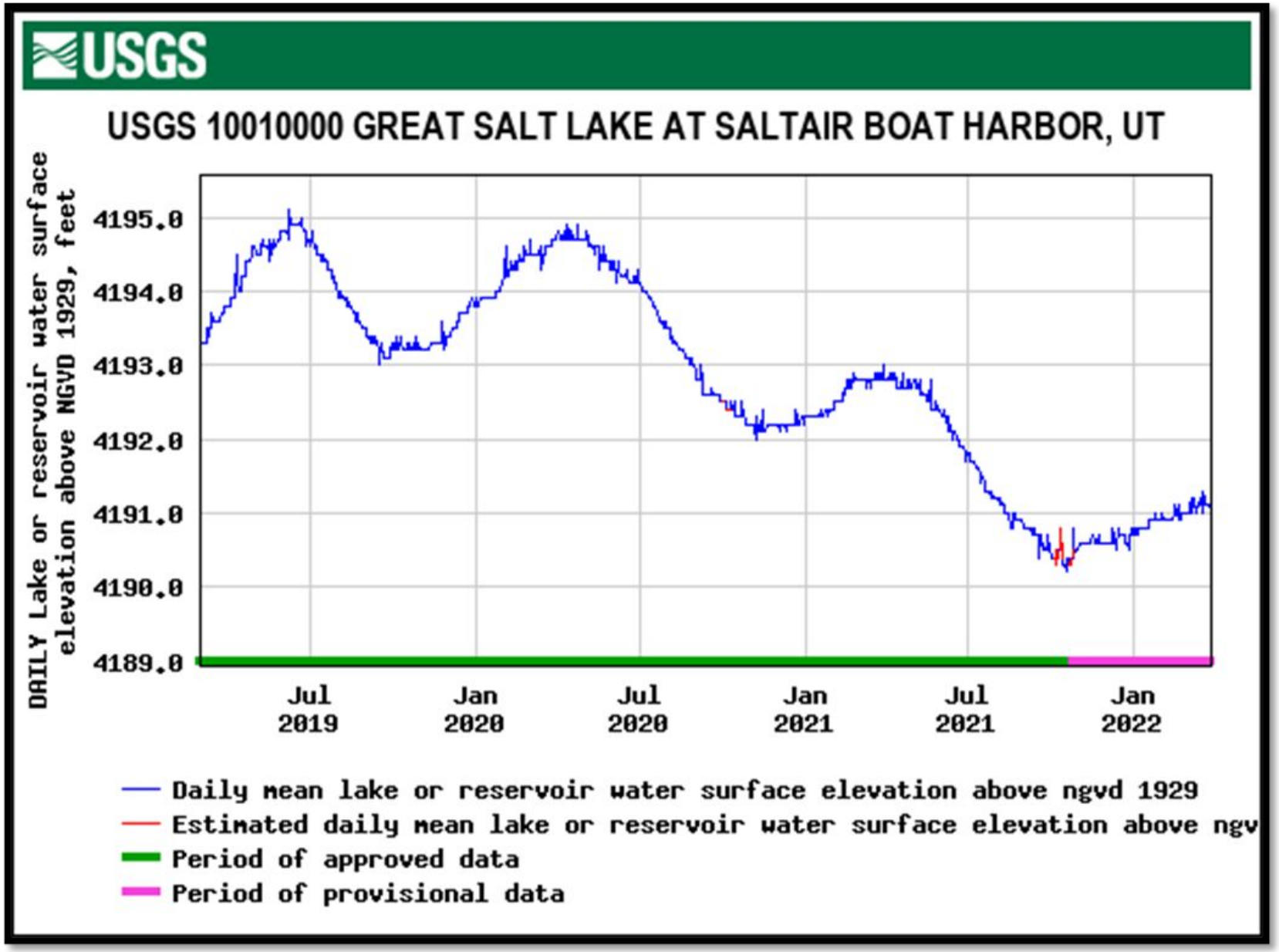
Great Salt Lake Water Surface Elevation



- Mean daily value 3/28/2022 = 4,191.0’
- 4,190.2’ 10/18/2021 (new historic low)

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Presenter - Ryan Rowland

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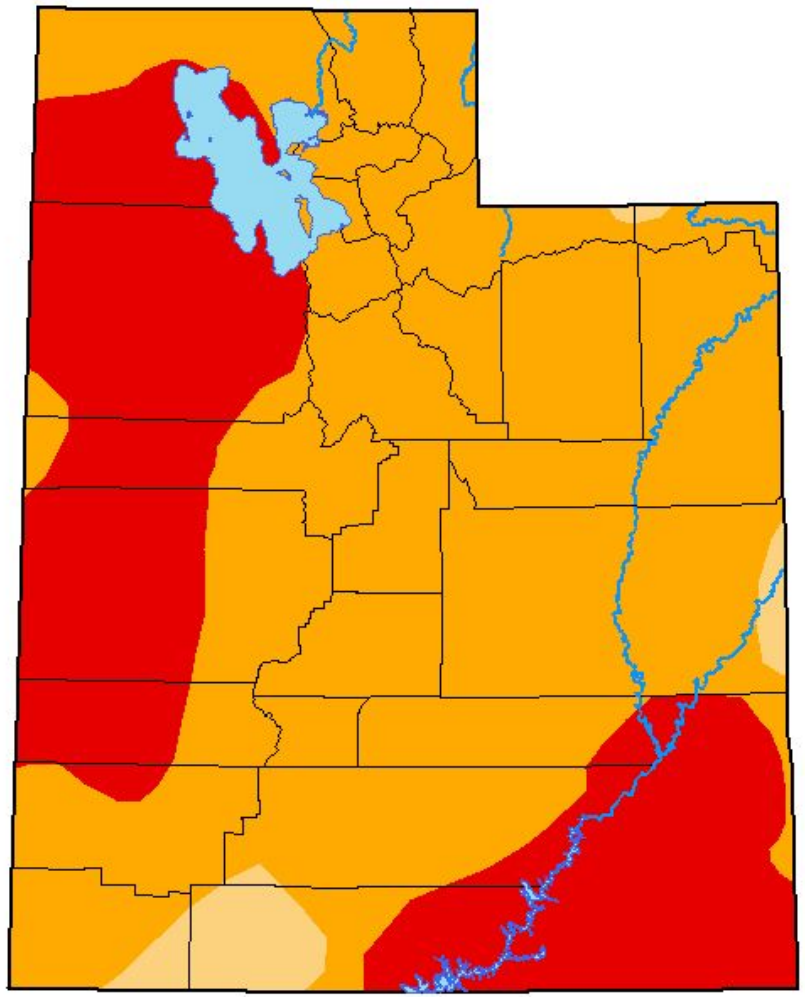
U.S. Drought Monitor

Utah

March 15, 2022

(Released Thursday, Mar. 17, 2022)

Valid 8 a.m. EDT



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 https://droughtmonitor.unl.edu/About.aspx

Author:

Adam Hartman
NOAA/NWS/NCEP/CPC

droughtmonitor.unl.edu