

Utah Water Supply Briefing

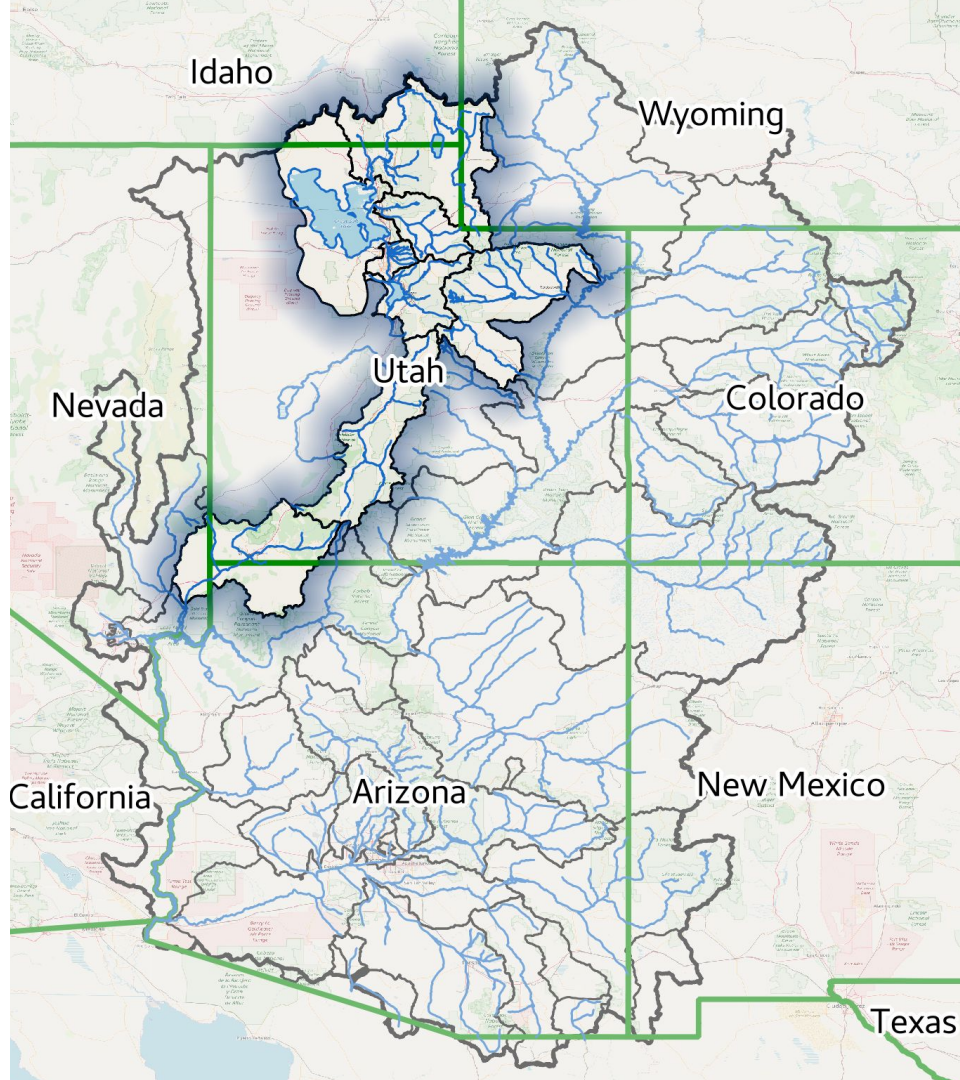
January 8th, 2021

Colorado Basin River Forecast Center

Presenter: Patrick Kormos - Hydrologist

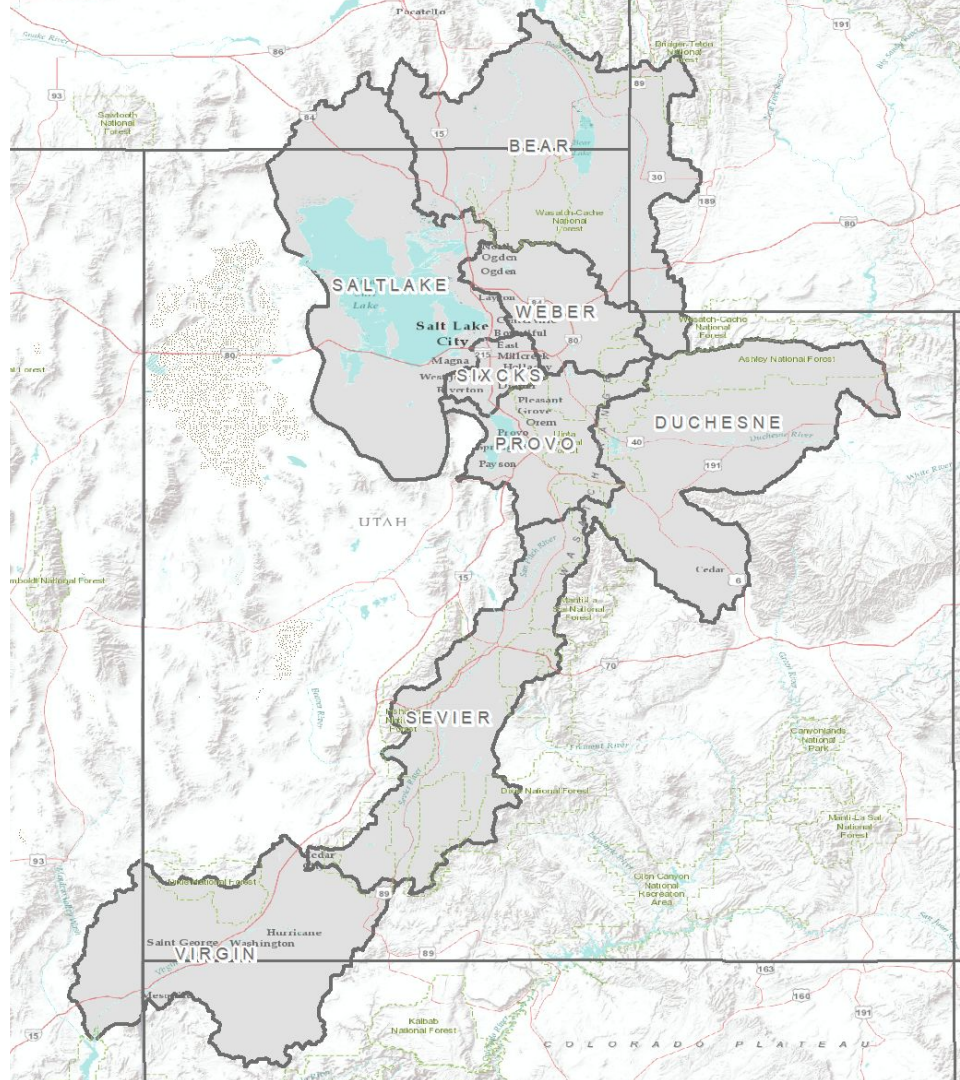
Utah Forecasters: Brent Bernard, Zach Finch,
Patrick Kormos

Questions: Type questions into the 'Questions'
Box or Raise Hand

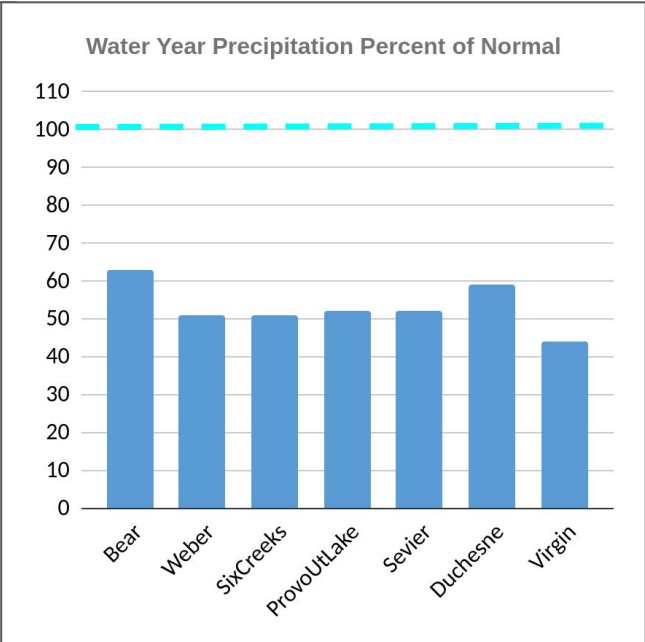
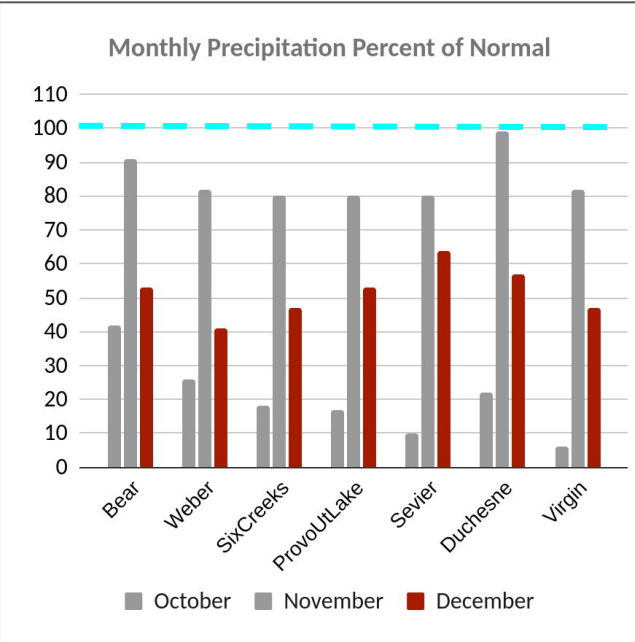


Utah Water Supply Briefing

1. Weather Review (Precipitation)
2. Soil Moisture Conditions
3. Current Snowpack
4. 2021 Water Supply Forecasts
5. Early Season Forecast Error
6. Upcoming Weather
7. Contacts & Questions



Utah Weather Review - Precipitation up to Jan. 1, 2021

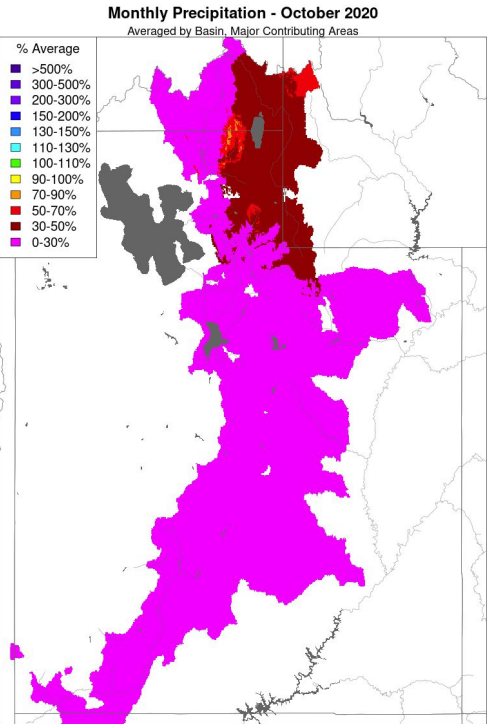


- Below normal precipitation
 - All Basins
 - All Months

Forecast Group	Percent of WY normal
Bear	65
Weber	50
Six Creeks	50
Provo	50
Sevier	50
Duchesne	60
Virgin	45

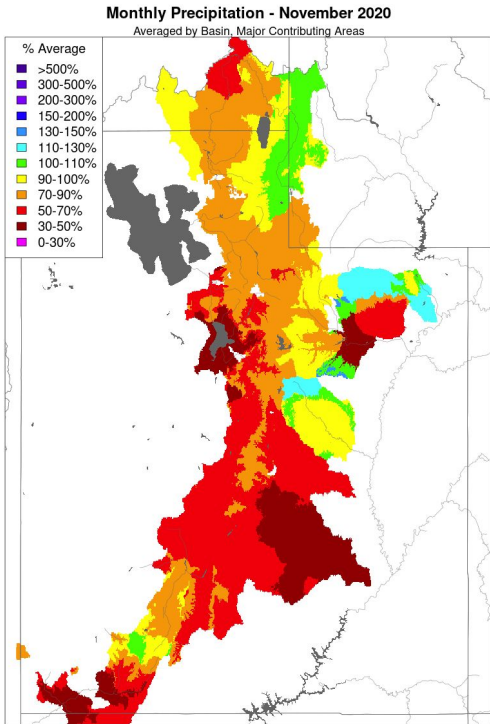
Utah Weather Review - Monthly Precipitation

October 2020



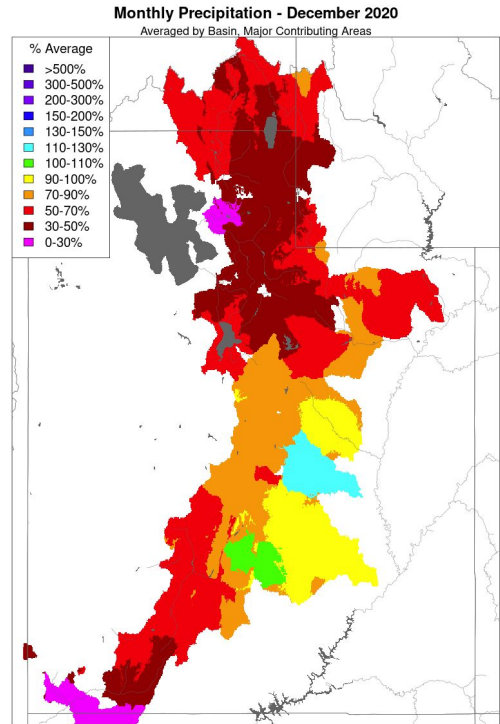
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

November 2020

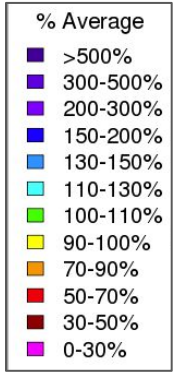


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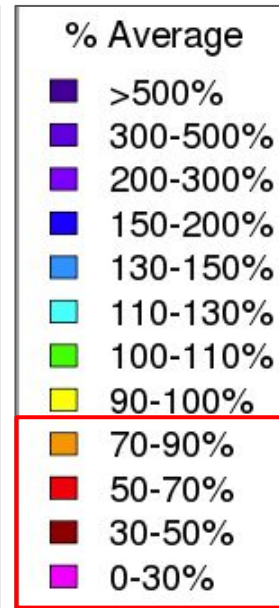
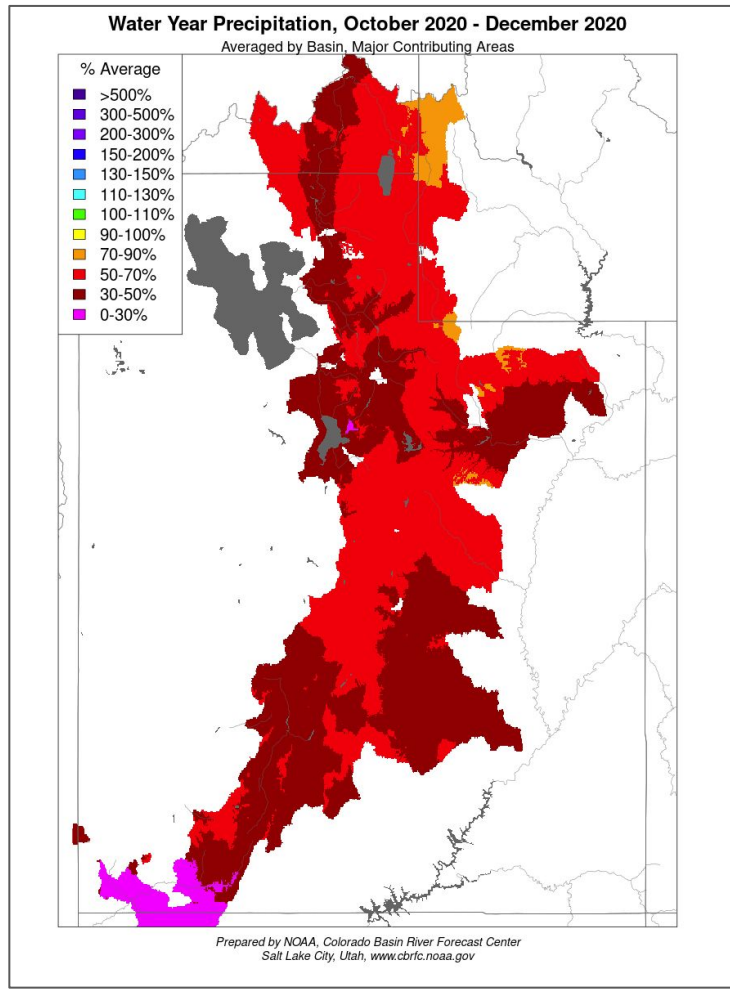
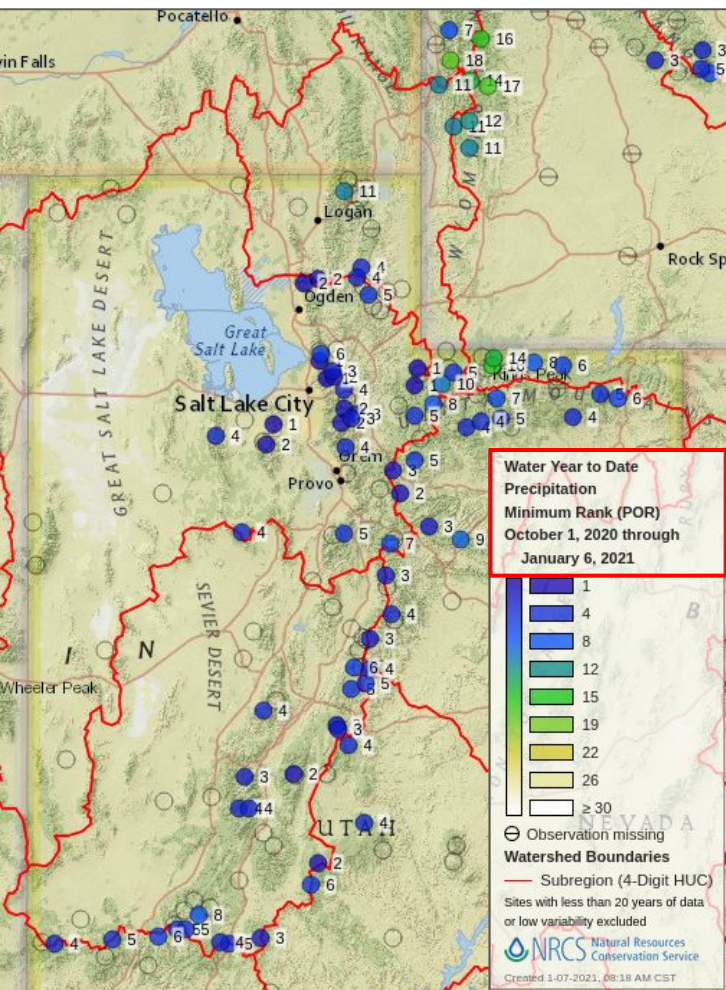
December 2020



Prepared by NOAA, Colorado Basin River Forecast Center
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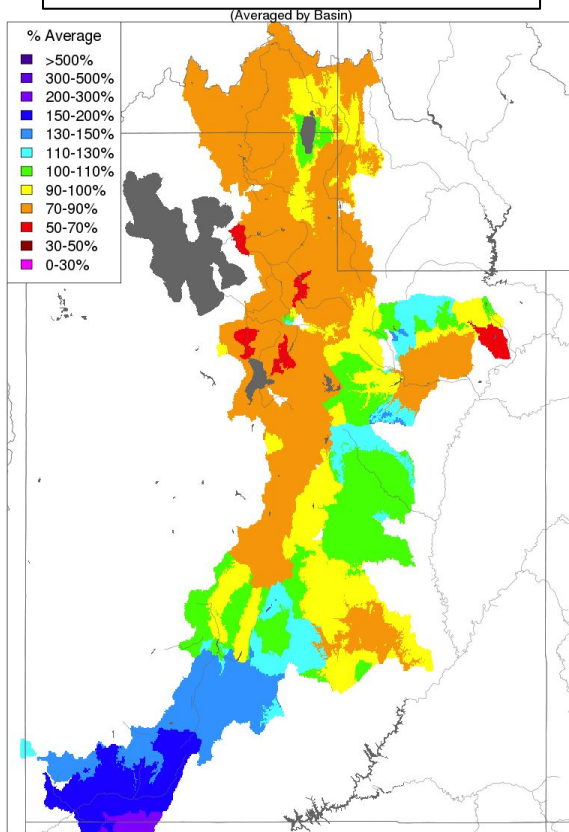
Utah Weather Review - Water Year Precipitation - Min. Rank - %Avg.



- Most stations rank in bottom 10.

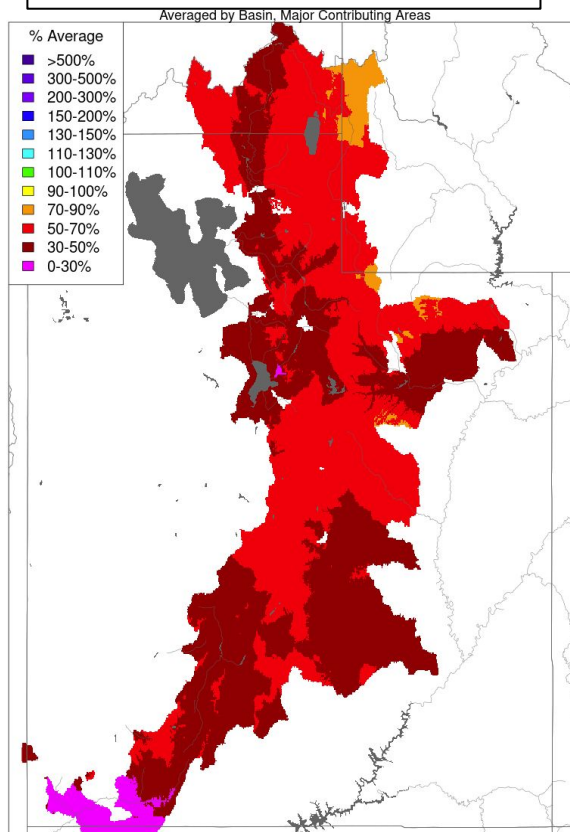
Utah Weather Review - Water Year Precipitation - %Avg.

Oct-Dec 2020 Precip.



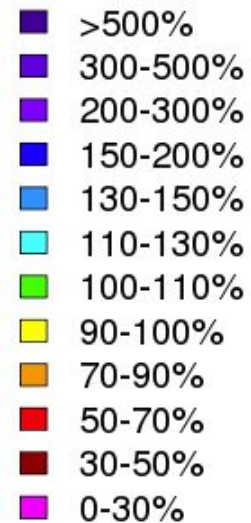
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Oct-Dec 2021 Precip.



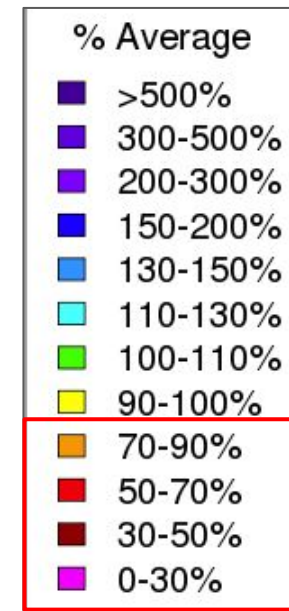
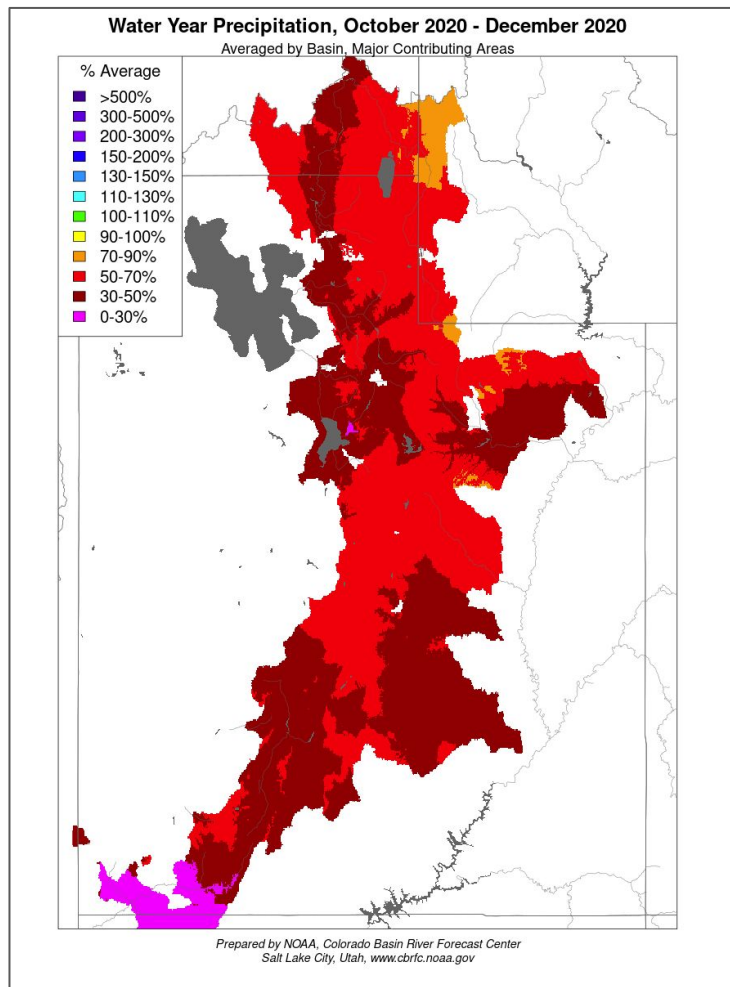
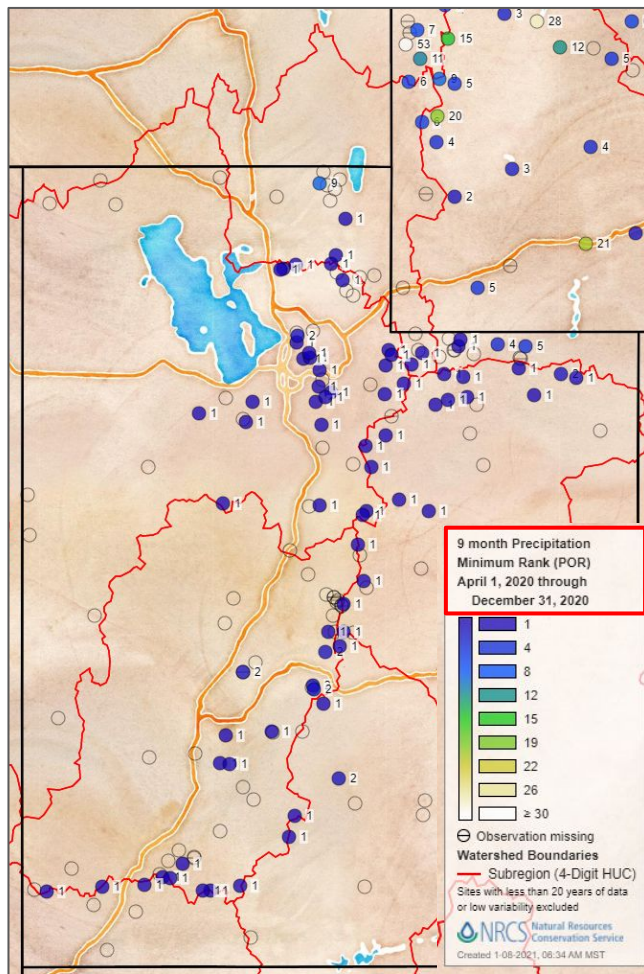
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Salt Lake City, Utah, www.cbrfc.noaa.gov

% Average



- WY2021 has seen less precipitation than WY2020 so far

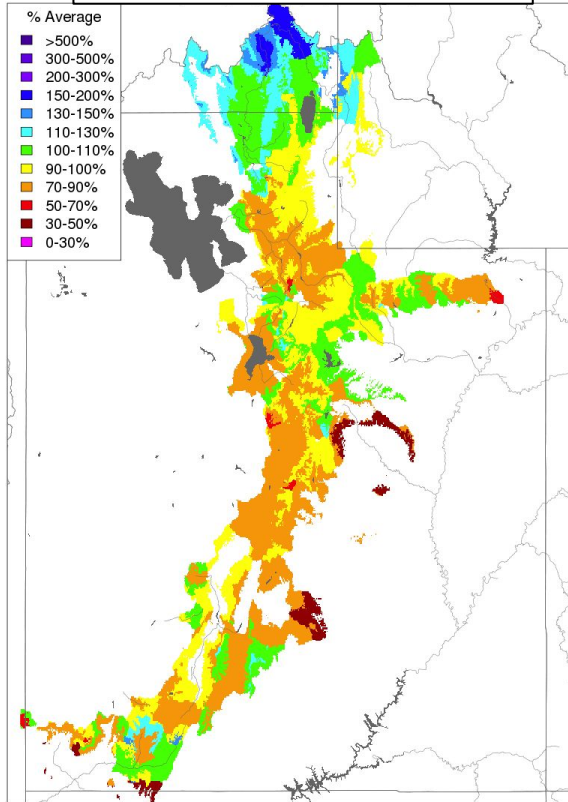
Utah Weather Review - Water Year Precipitation - Min. Rank - %Avg.



- Most stations rank in as lowest on record for April - December 2020.

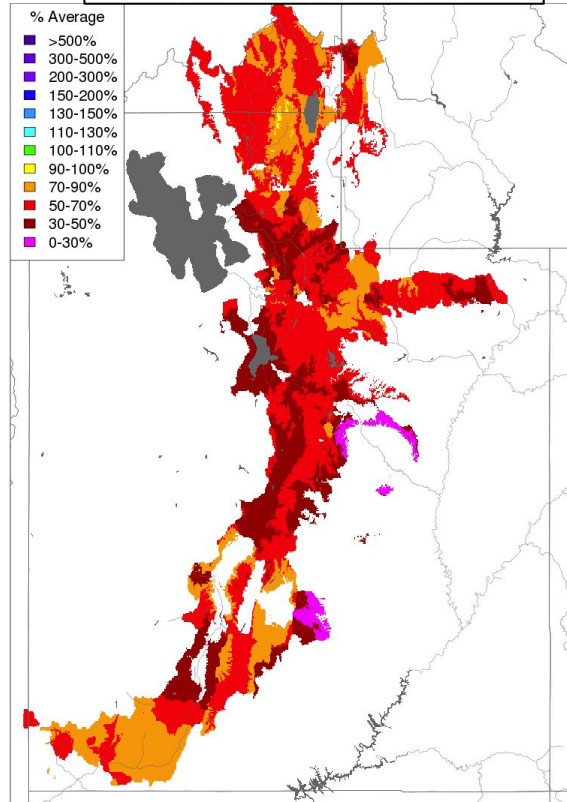
Utah - Soil Moisture Conditions

Start to 2020 Water Year



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Start to 2021 Water Year



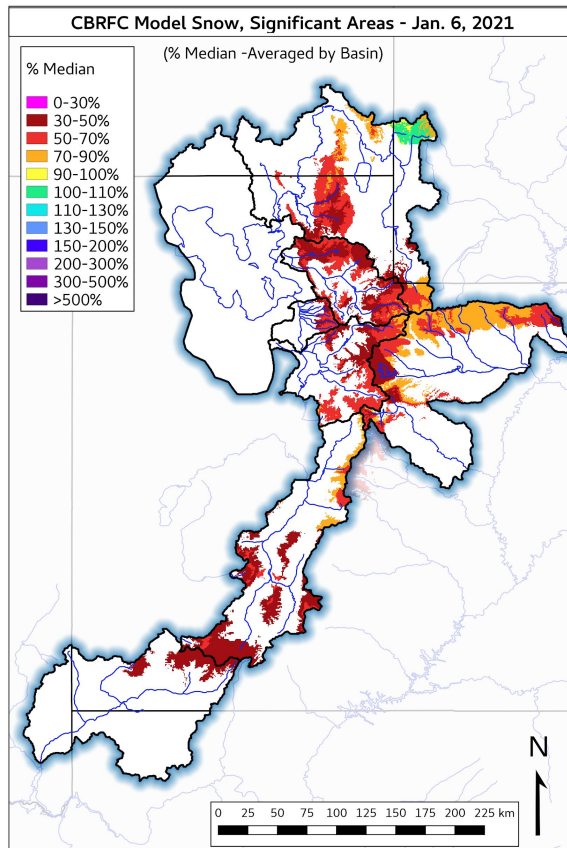
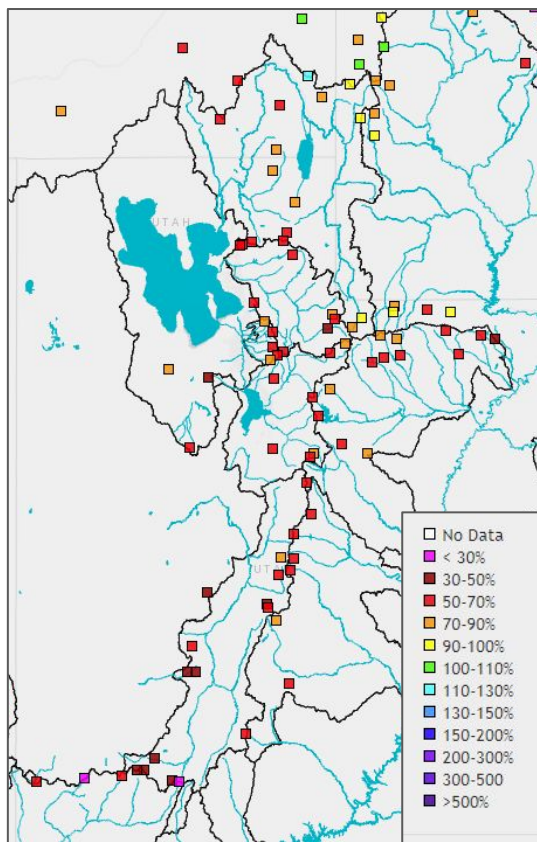
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

WY2021 is starting out with much drier conditions than last year.

Model soil moisture was generally between 40-80% of normal.

Utah Current Snowpack - January 6th

SNOTEL (Observed)

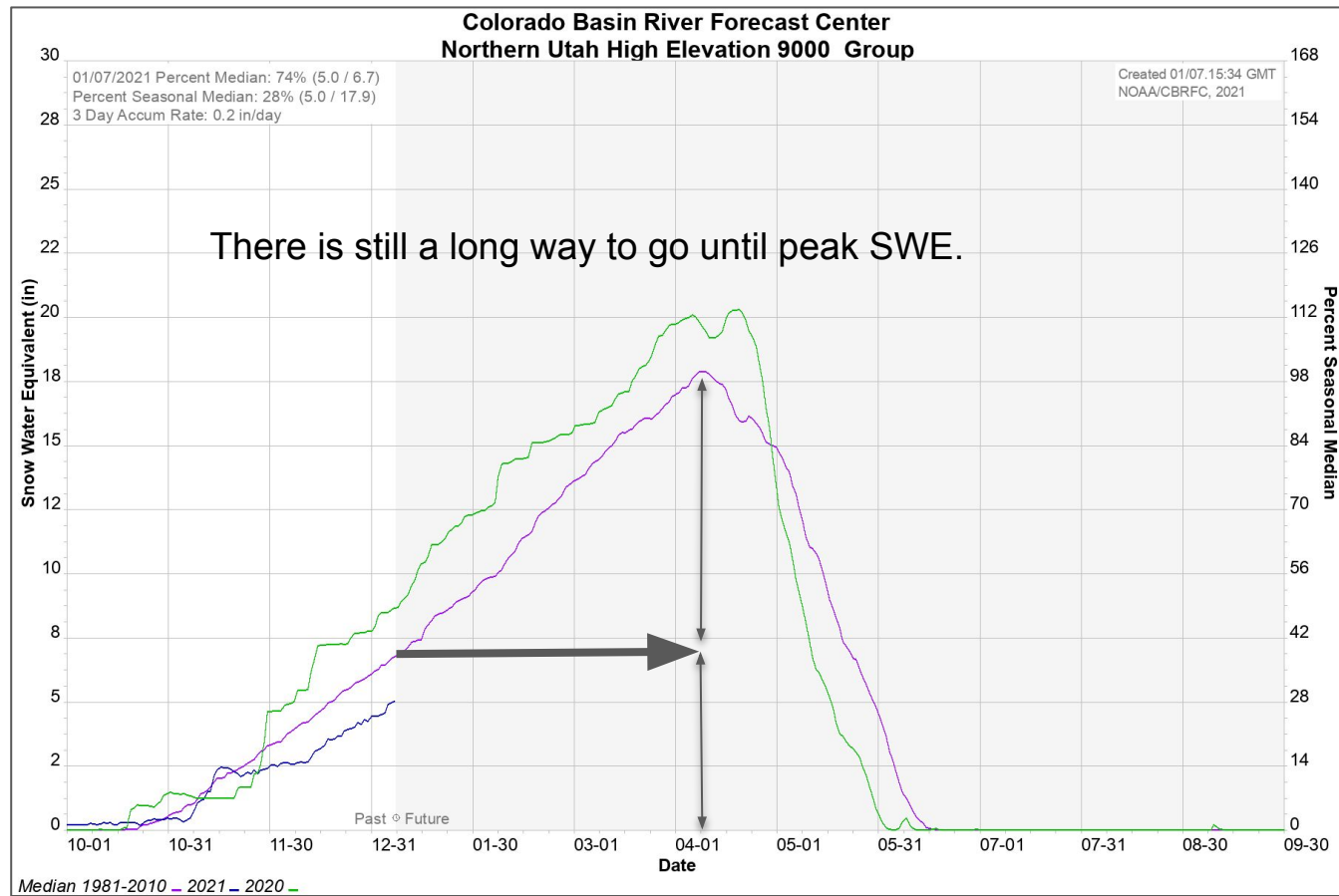
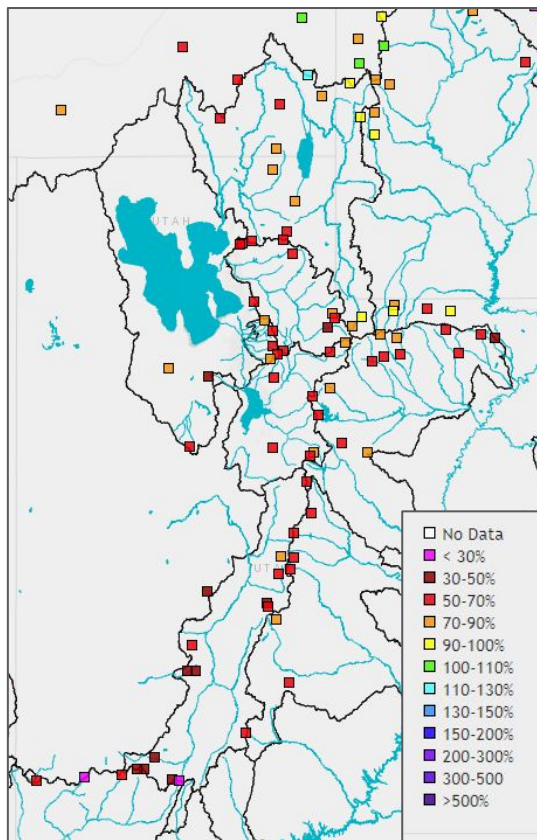


As of January 1, 2021
CBRFC Snow Groups (SNOTEL Stations)

- Bear: 70% of WY normal
- Weber: 60% of WY normal
- Six Cr: 70% of WY normal
- Provo: 65% of WY normal
- Duchesne: 70% of WY normal
- Sevier: 50% of WY normal
- Virgin: 50% of WY normal

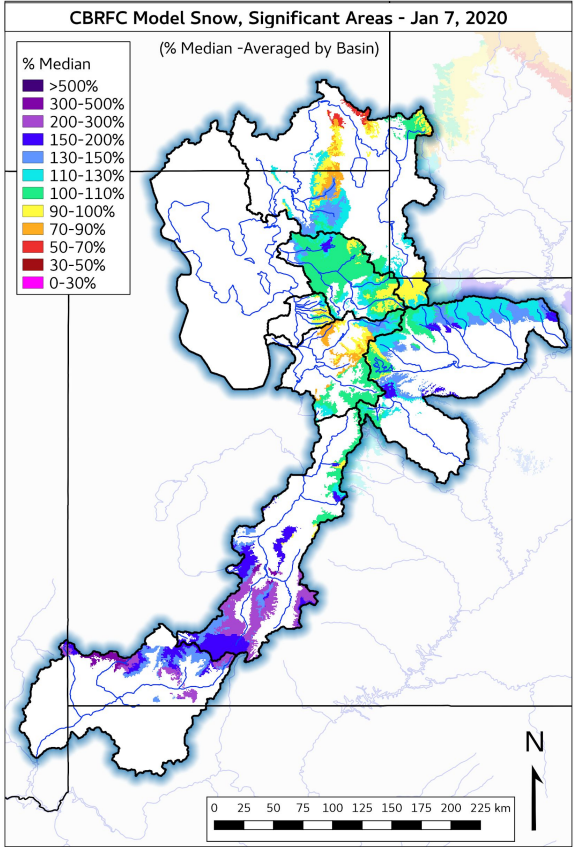
Utah Current Snowpack

SNOTEL (Observed)

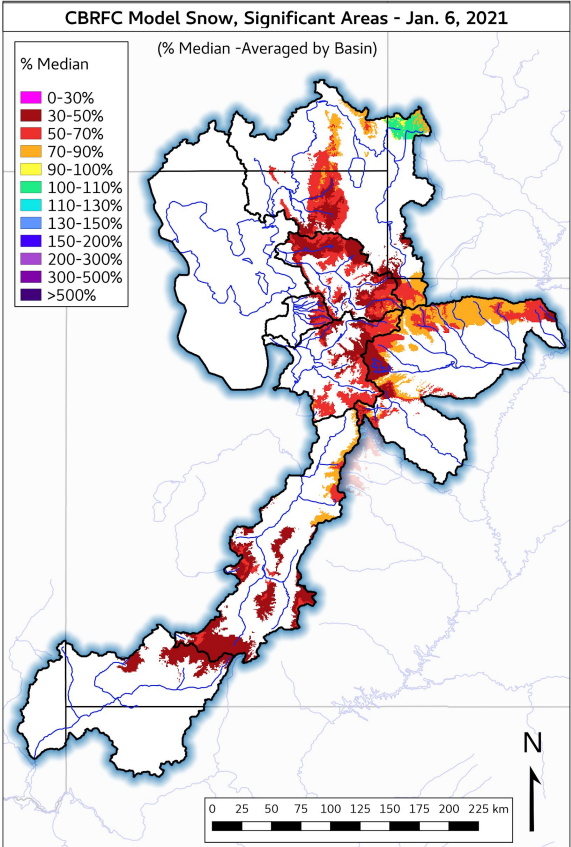


Utah Current Snowpack - Early January

Early January 2020

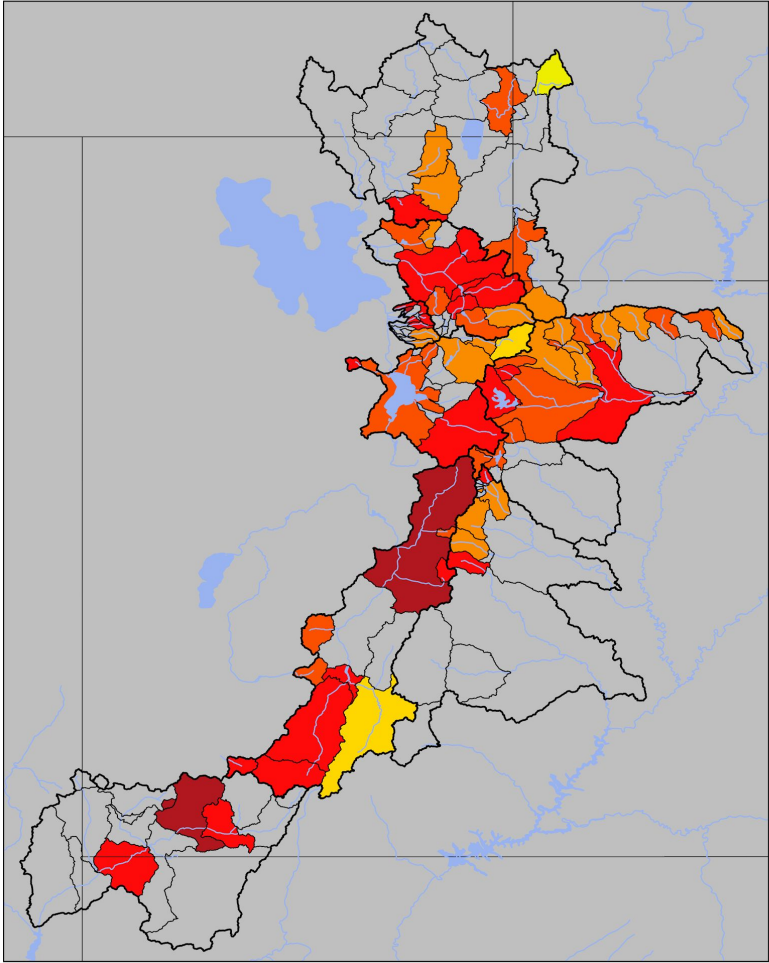


Early January 2021



We are starting the year with a smaller snowpack than last year.

Utah Water Supply Forecasts - Overview

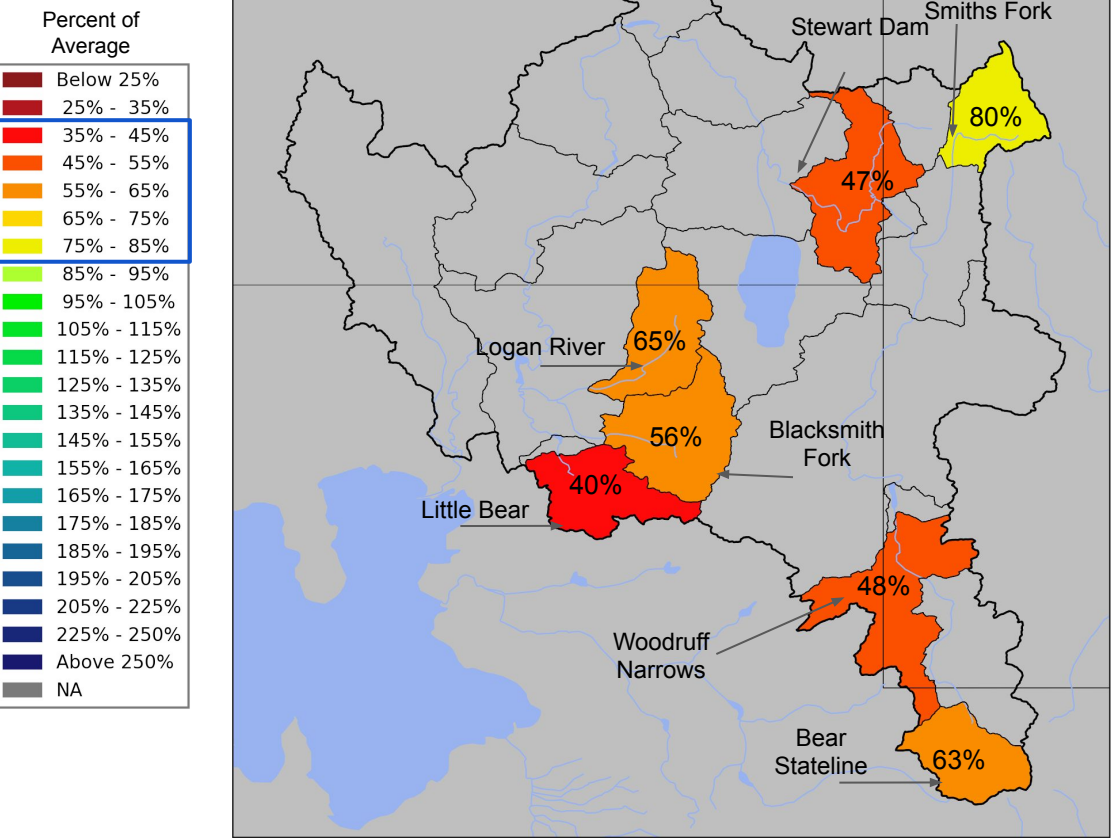


- January 1 Forecast for April-July Volume in 1000's acre feet (KAF)
- April-July Forecast Streamflow Volumes are in percent of 1981-2010 average

Median value of the...
...individual forecasts (in % of average)
...by Forecast Group.

Bear	55
Weber	45
Six Creeks	40
Provo / Utah Lake	50
Sevier	40
Duchesne	50
Virgin	35

Utah Water Supply Forecasts - Bear

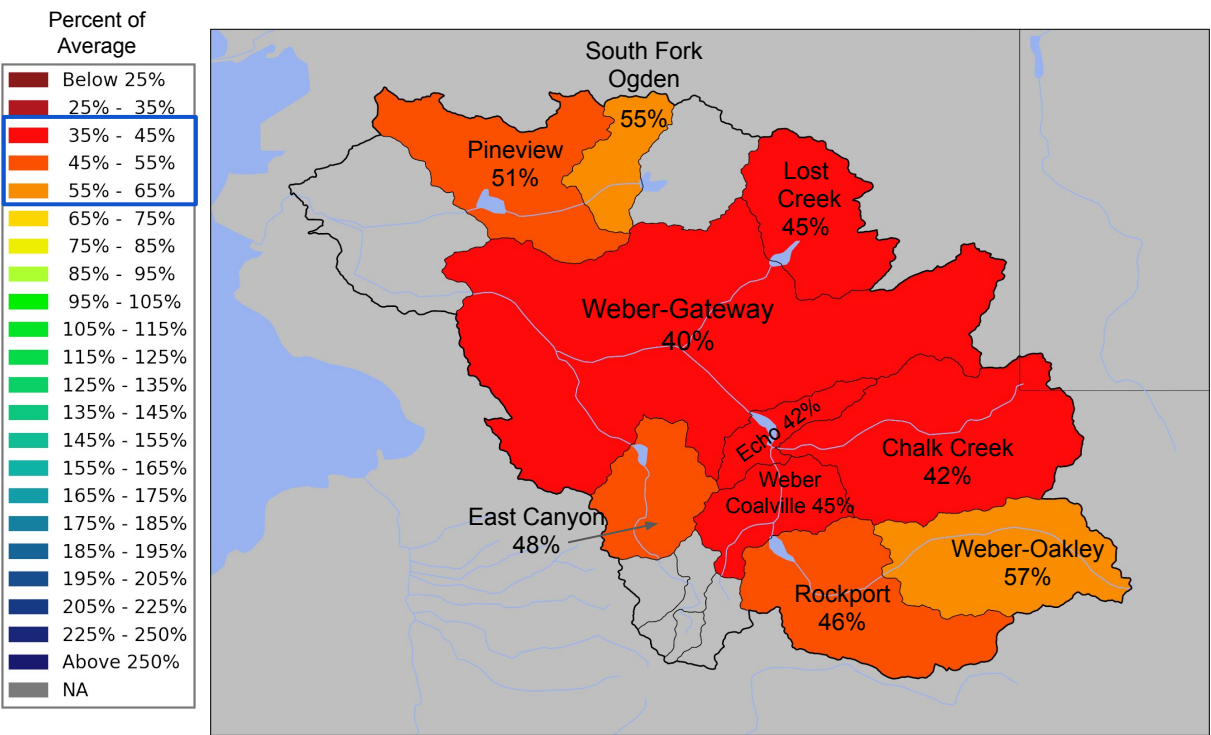


Bear River Basin Forecasts

January: **55%** of Normal

- Forecasts range from 40-80% of normal

Utah Water Supply Forecasts - Weber



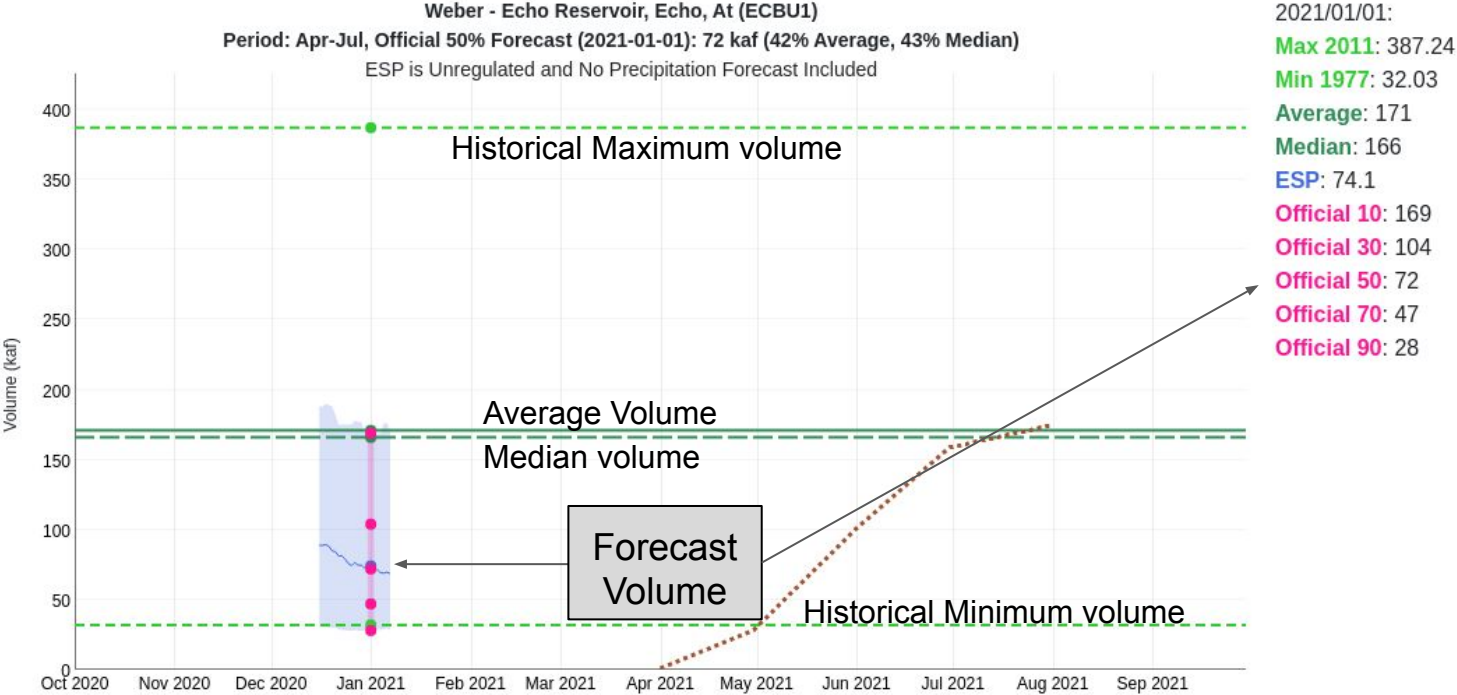
Weber River Basin Forecasts

January: **45%** of Normal

- Forecasts range from 40-57% of normal

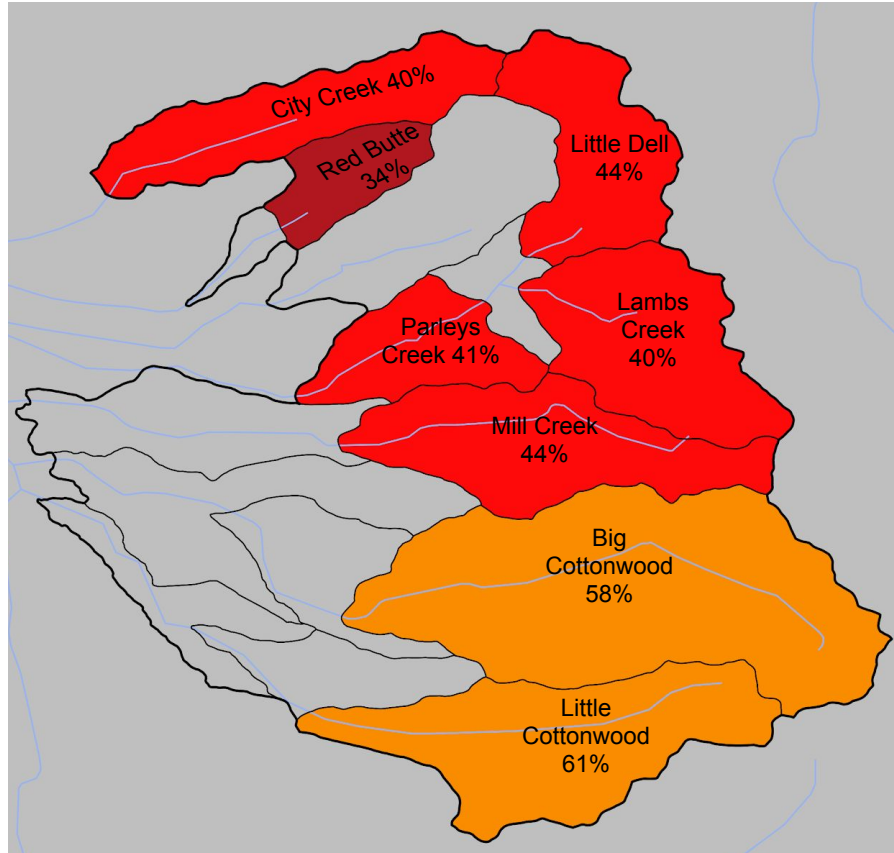
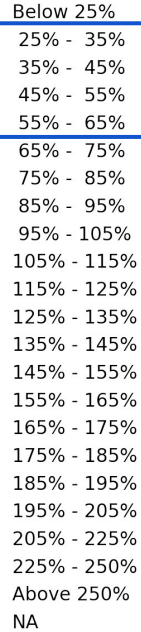
Utah Water Supply Forecasts - Weber

Echo Reservoir



Utah Water Supply Forecasts - Six Creeks

Percent of
Average



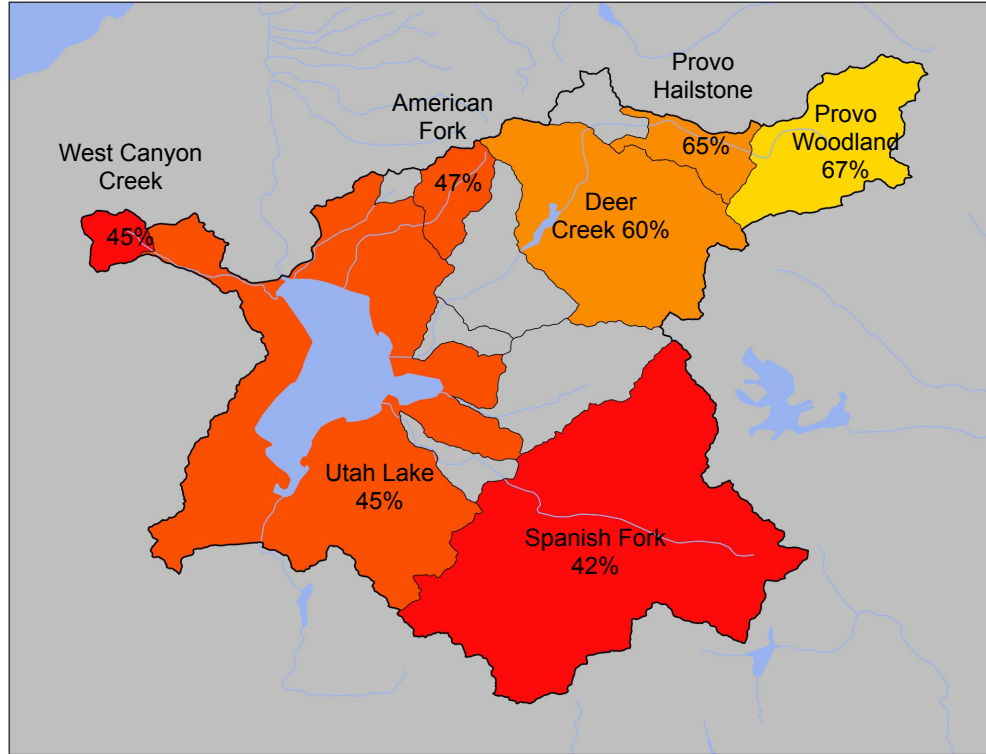
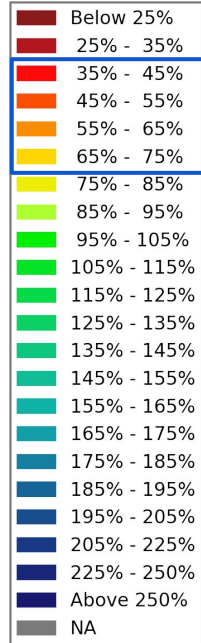
Six Creeks Basin Forecasts

January: **40%** of Normal

- Forecasts range from 34-61% of normal

Utah Water Supply Forecasts - Provo - Utah Lake

Percent of
Average



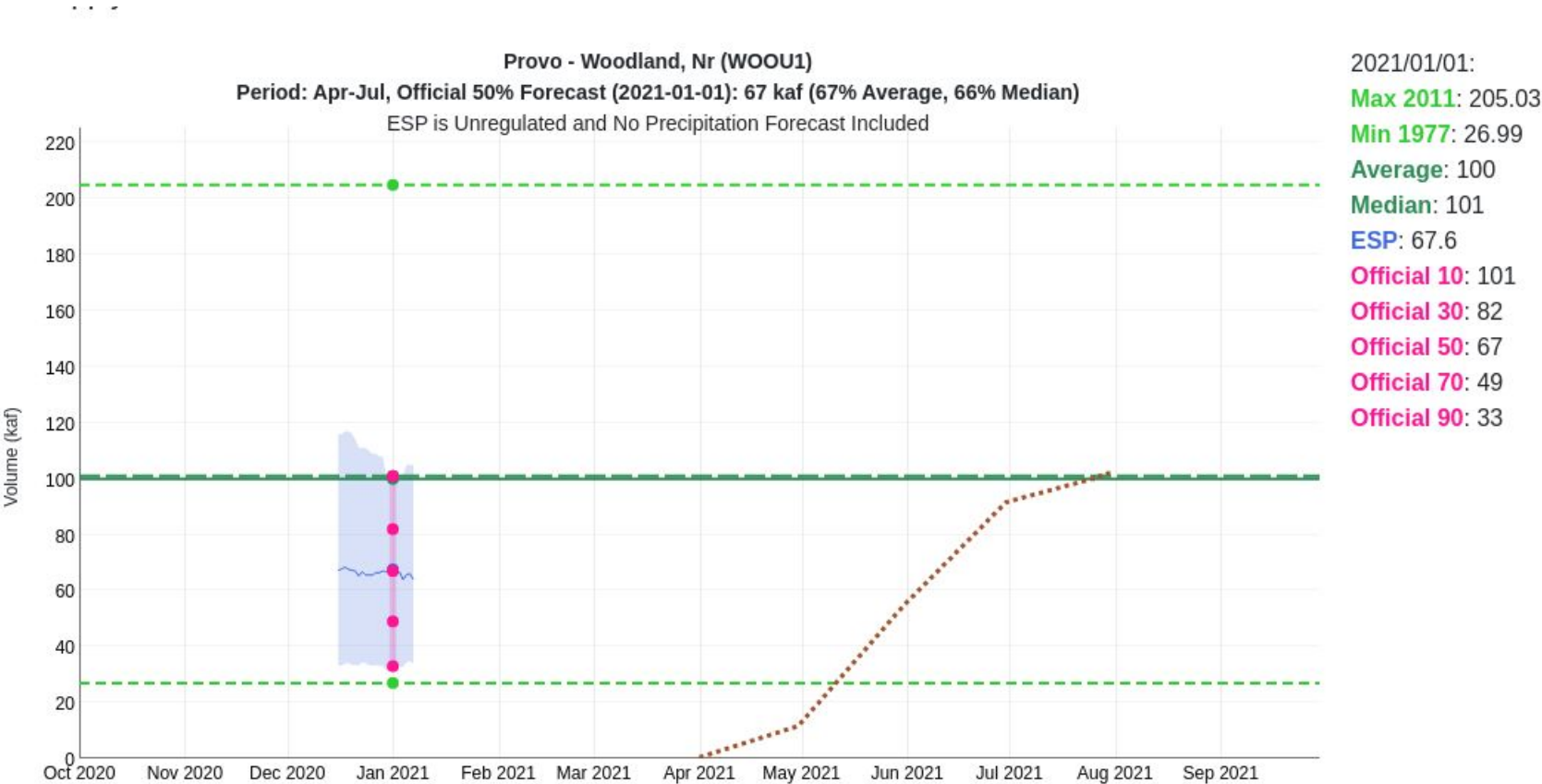
Provo River Basin Forecasts

January: **50%** of Normal

- Forecasts range from 42-67% of normal

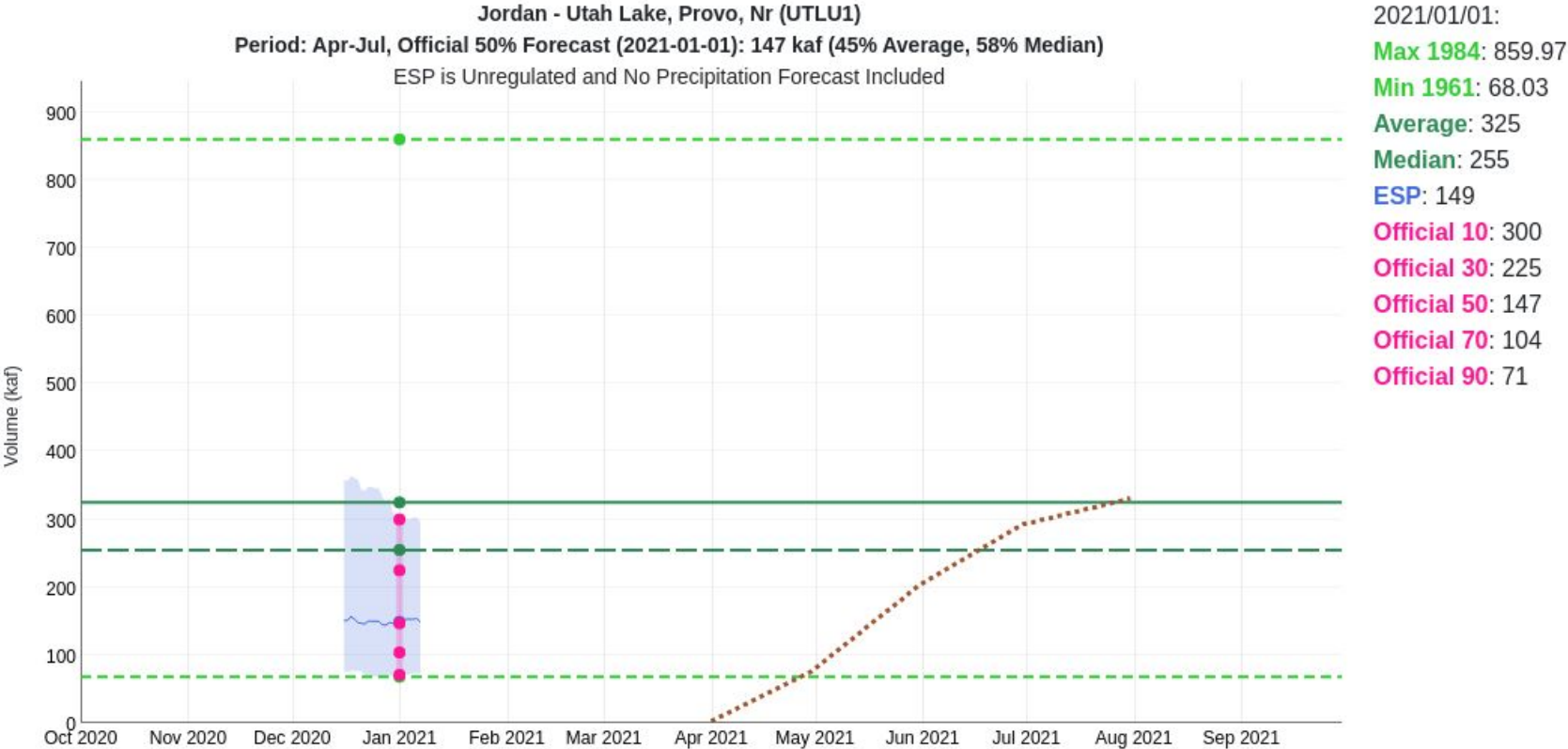
Utah Water Supply Forecasts - Provo

Provo near Woodland



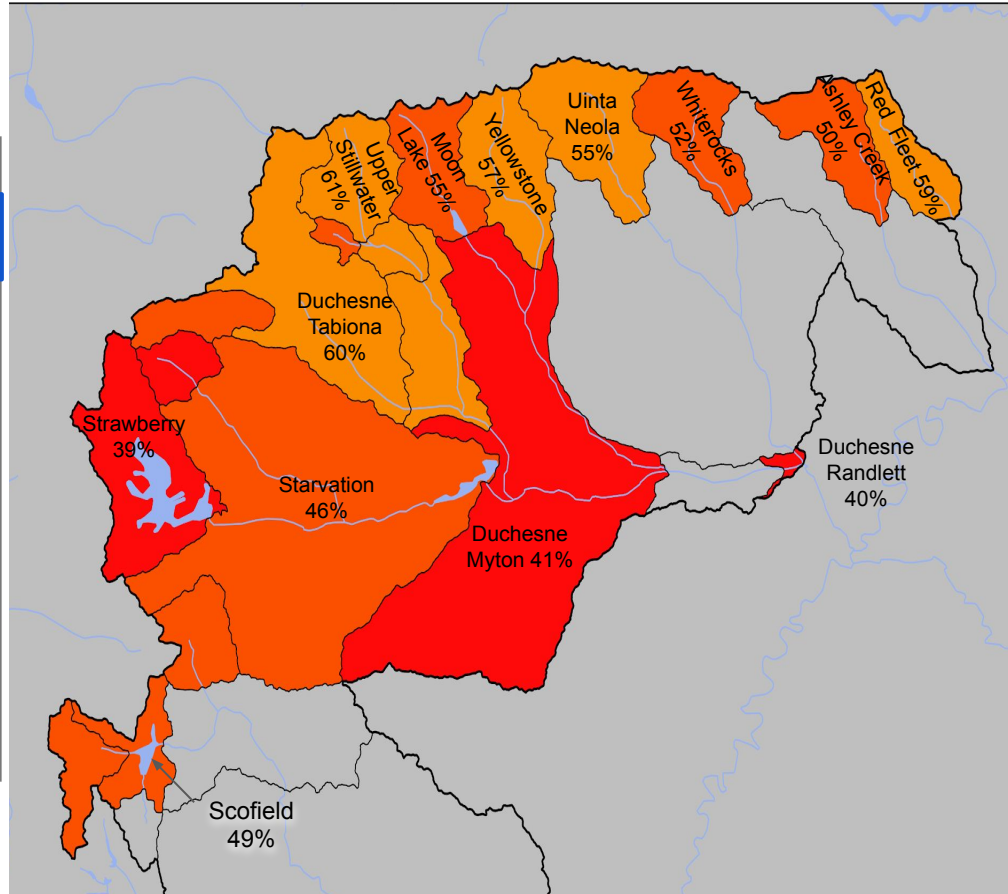
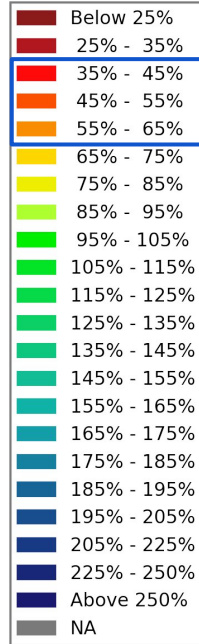
Utah Water Supply Forecasts - Provo

Utah Lake



Utah Water Supply Forecasts - Duchesne

Percent of
Average



Duchesne River Basin

January: **50%** of Normal

- Forecasts range from 39-61% of normal

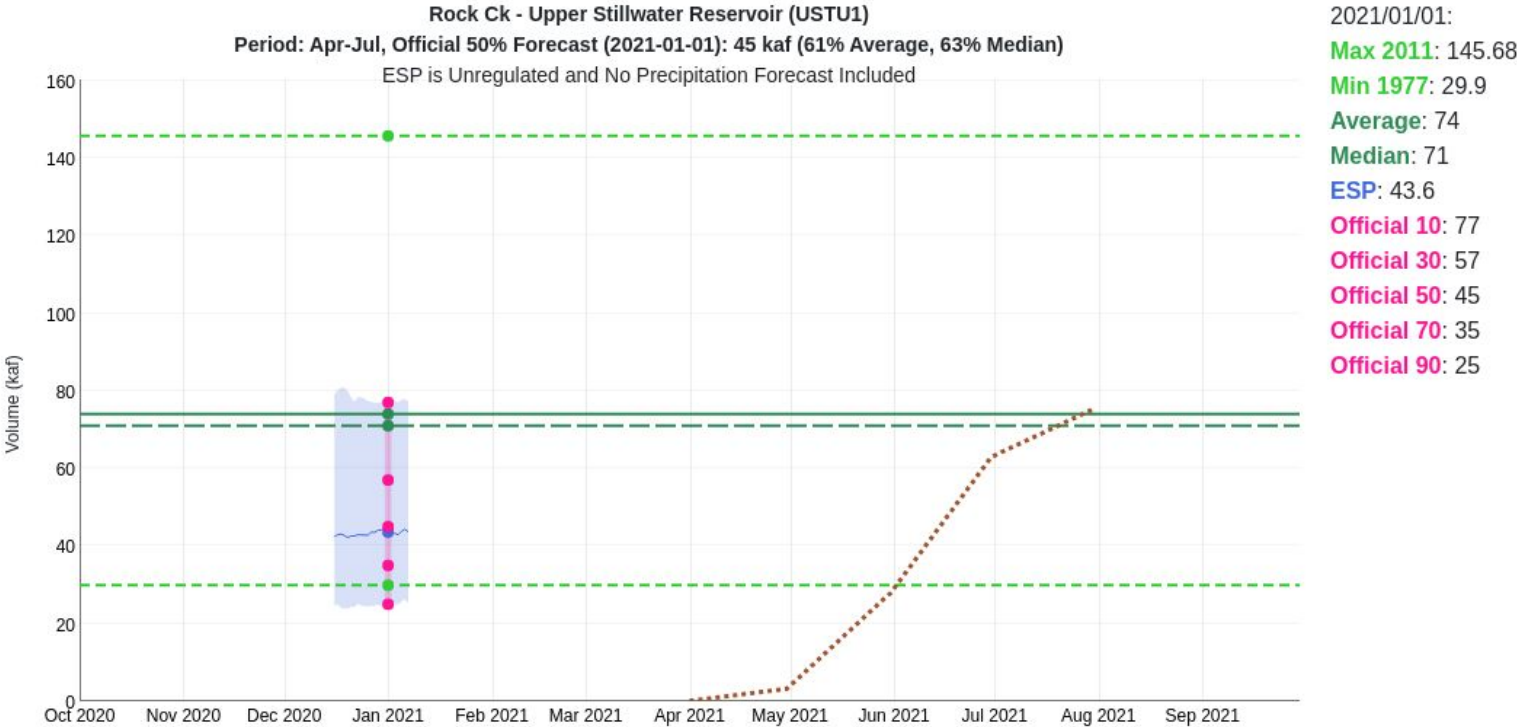
Price River Basin

January: **50%** of Normal

- Forecasts range from 49-52% of normal

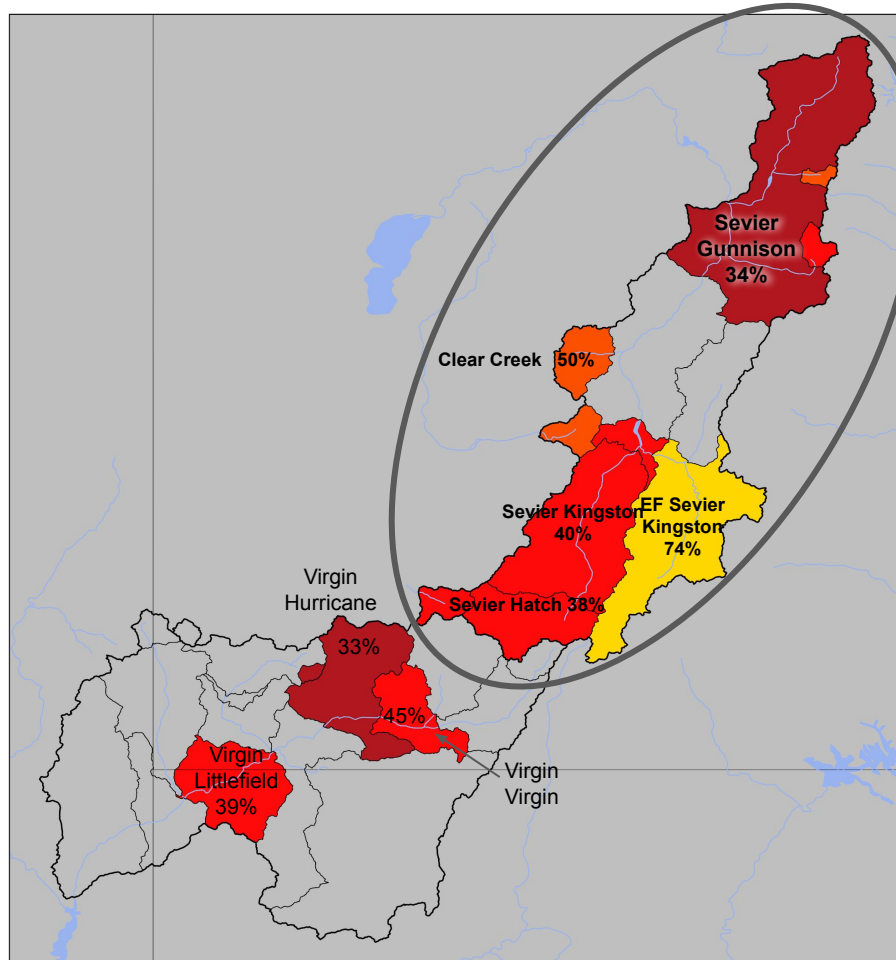
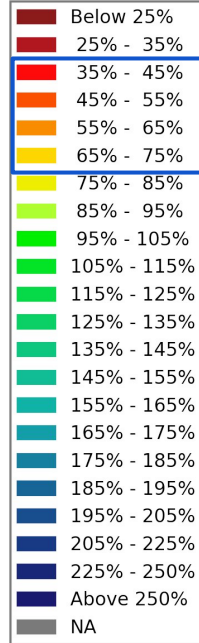
Utah Water Supply Forecasts - Duchesne

Upper Stillwater Reservoir

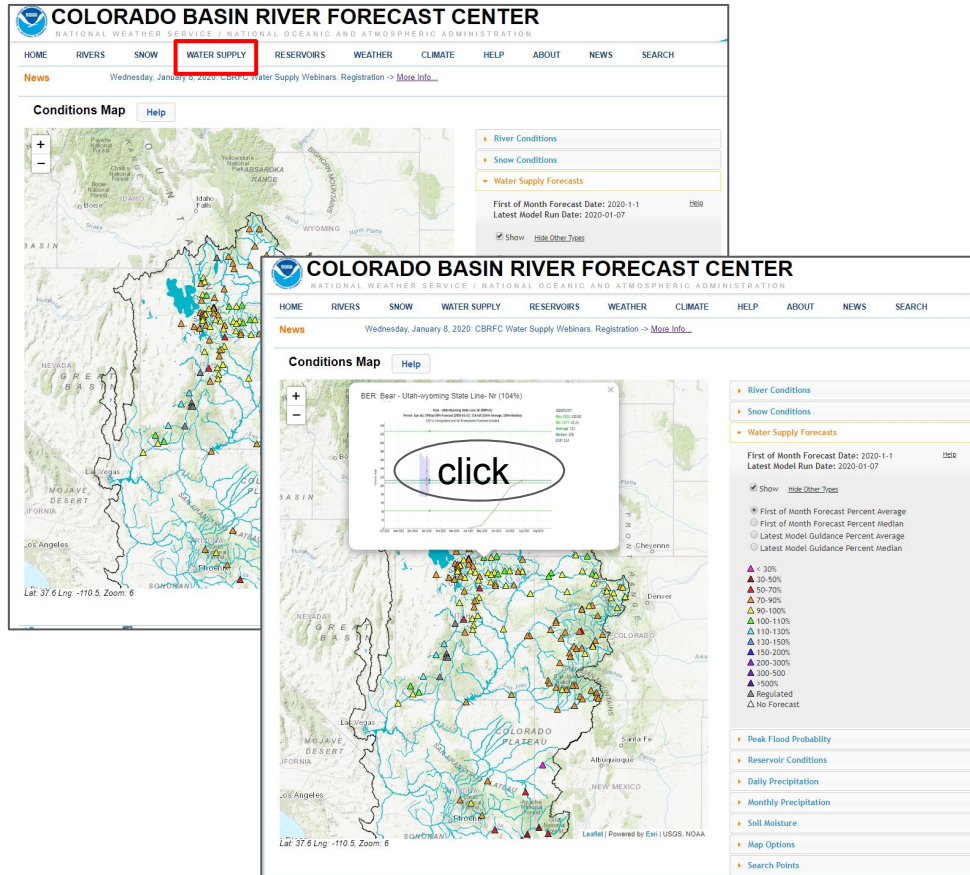


Utah Water Supply Forecasts - Sevier and Virgin

Percent of
Average



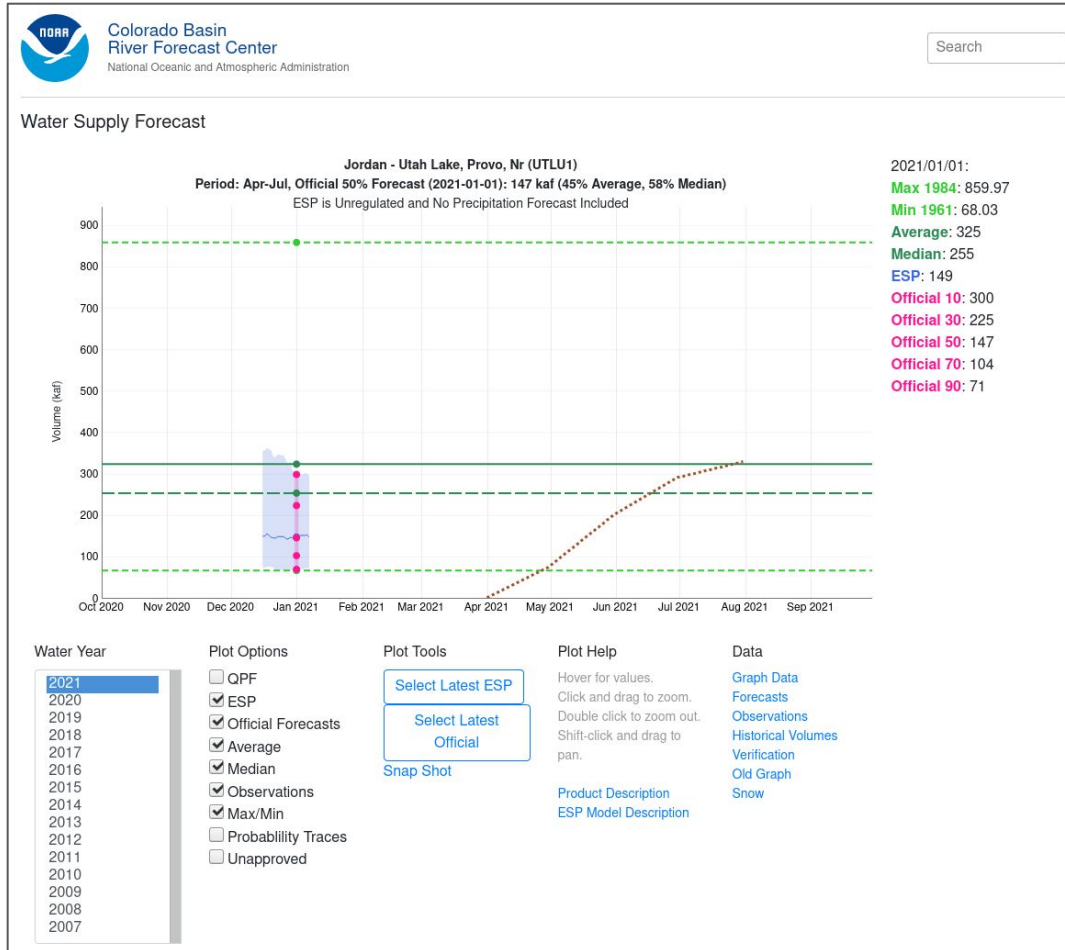
Utah Water Supply Forecasts - Evolution Plots



Evolution Plots allow one to:

- Follow daily changes to Water Supply Forecast Guidance
- Follow daily changes to exceedance values
- Review previous years
- Compare current values to Min., Max., Avg. Median values
- Follow observed and Avg. volume (accumulation)

Utah Water Supply Forecasts - Evolution Plots

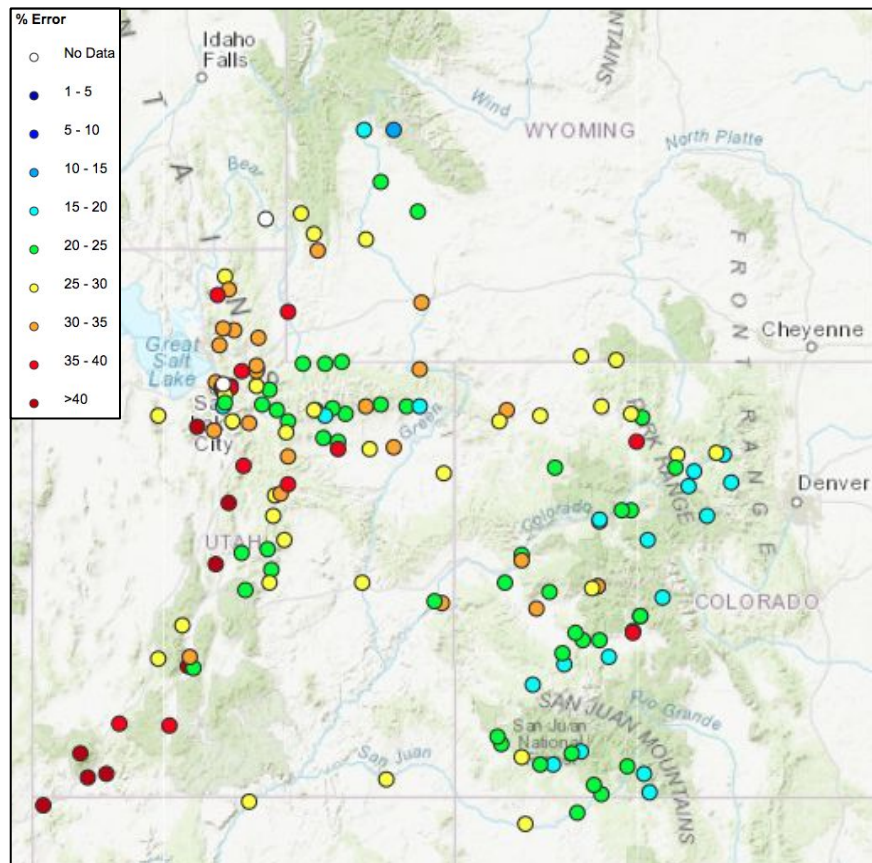


Evolution Plots allow one to:

- Follow daily changes to Water Supply Forecast Guidance
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- Compare current values to Min., Max., Avg. Median values
- Follow observed and Avg. volume (accumulation)

Historical (1981-2010) Forecast Verification

January Forecast Error: April-July Volume



Location

BEAR - UTAH-WYOMING STATE
 BEAR - WOODRUFF NARROWS
 LOGAN - LOGAN- NR
 WEBER - OAKLEY- NR
 WEBER - ROCKPORT RES
 BIG COTTONWOOD CK
 PARLEYS CK
 PROVO - WOODLAND- NR
 PROVO - DEER CK RES
 VIRGIN - VIRGIN

January Forecast Error

21%
 40%
 27%
 23%
 30%
 21%
 39%
 25%
 33%
 44%

Forecasts are better than just going with average
 Error tends to decrease each month into the spring

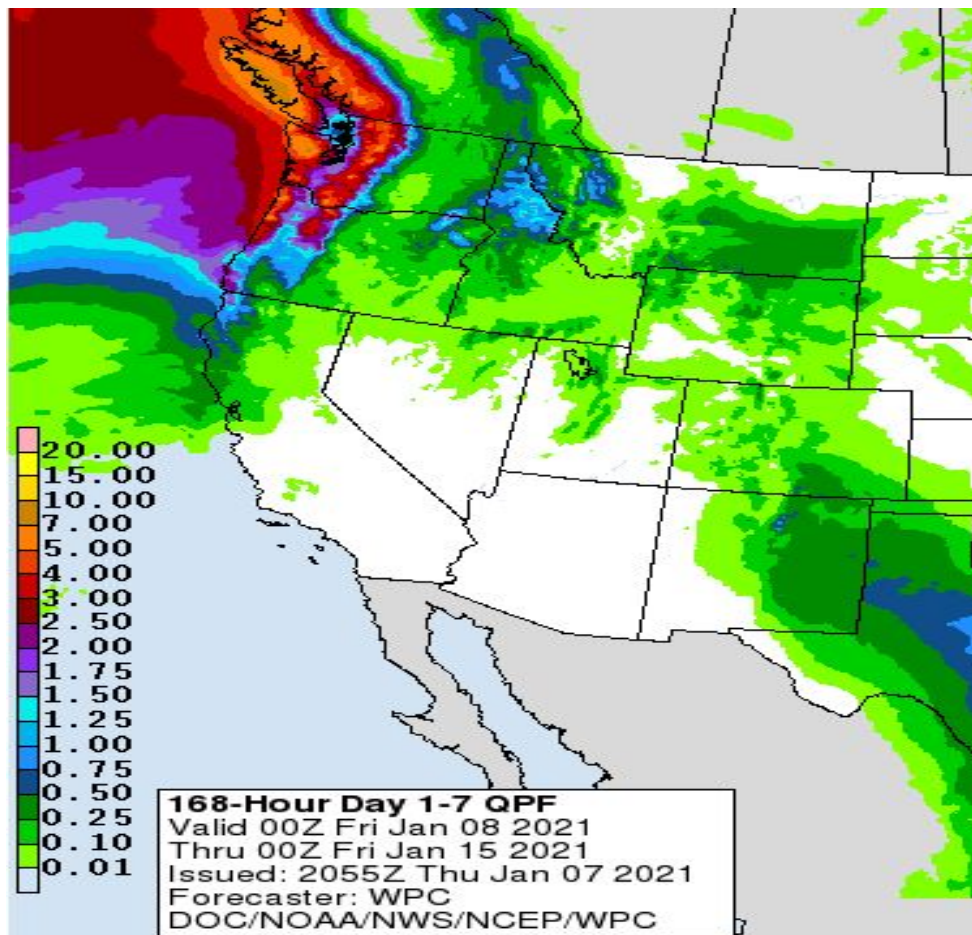
Where Forecasts are Better:

- Headwaters
- Primarily snow melt basins
- Known diversions / demands

Where Forecasts are Worse:

- Lower elevations (rain or early melt)
- Downstream of diversions / irrigation
- Little is known about diversions / demands

Upcoming Weather: WPC January 8th-14th Precipitation Outlook



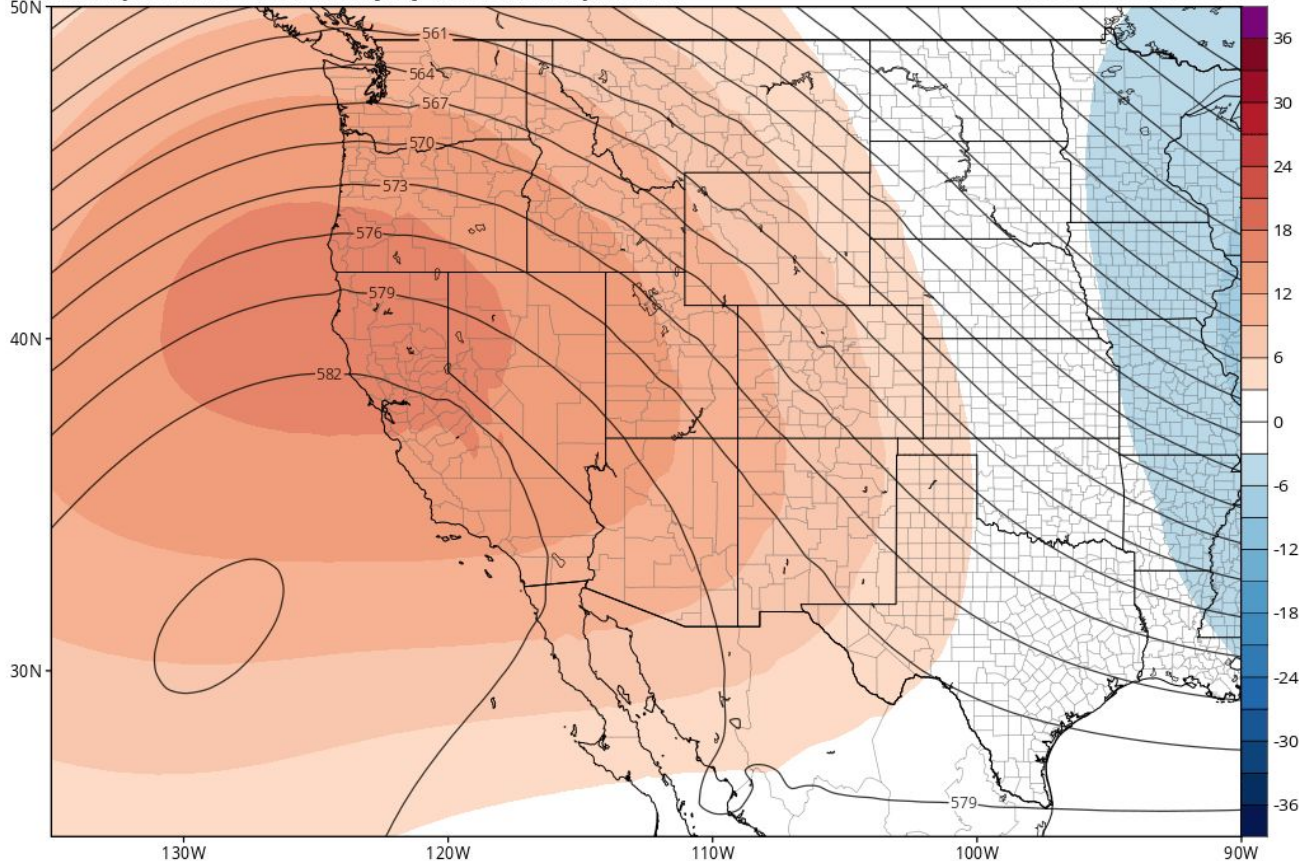
- Short wave moves through Utah and Colorado later today and tomorrow
- Less than a half inch is forecast in the upper most elevations
- Otherwise, ridging will dominate the weather pattern.

Upcoming Weather: 7-10 days: Persistent Western Ridge

GEFS Mean 500mb GPH & Anomaly (dam) from 12z13Jan2021 to 12z18Jan2021 (Days 7-11)

Init: 12z Jan 07 2021 Forecast Hour: [264] valid at 12z Mon, Jan 18 2021

TROPICALTIDBITS.COM

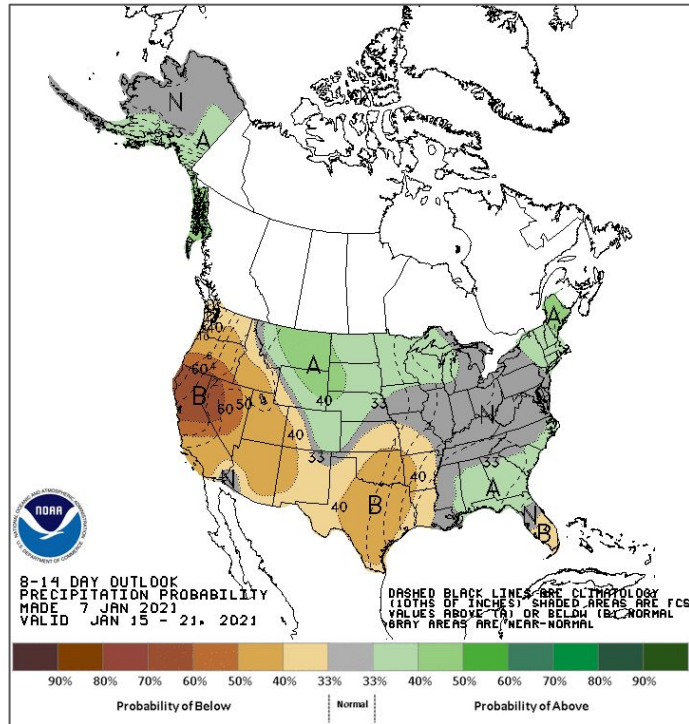


- Ridge to persist through the third week of January
- Northwest flow could allow weak storm systems to clip the northern areas by late next week.

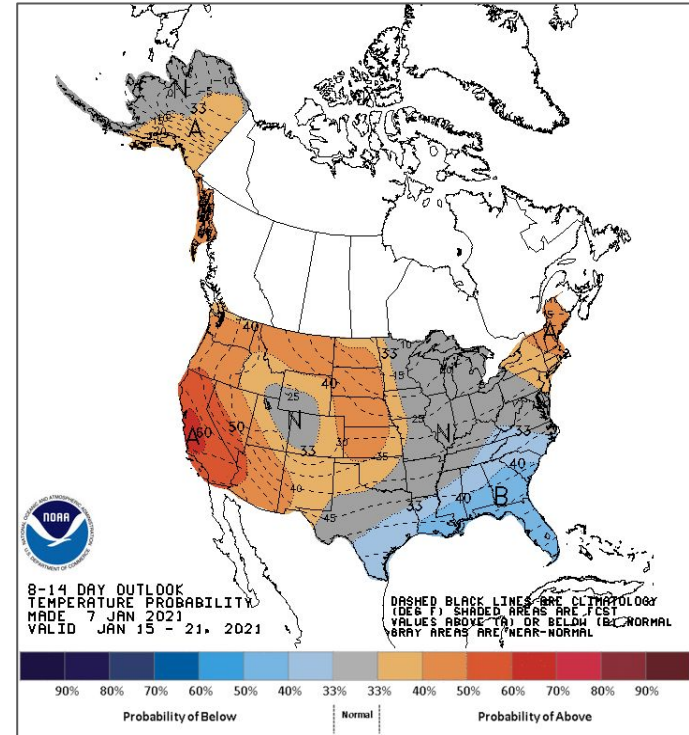
Upcoming Weather: 8-14 Day Outlook

Elevated odds of below average precipitation & above average temperature

Precipitation Outlook



Temperature Outlook



Summary

- We have low precipitation, low soil moisture, low snowpack start to WY2021.
- The current dry weather pattern shows no signs of changing for the next 3 weeks. (forecasts from daily model guidance will likely drop)
- Water Supply Forecasts reflect the dry start to the season and dry weather pattern.
 - All water supply forecasts are below normal
- It is still early in the water year.

2021 Water Supply Webinar Schedule

**All Times Mountain Time (MT)*

Colorado River Basin

Friday	Jan 8 th	10 am
Friday	Feb 5 th	10 am
Friday	Mar 5 th	10 am
Wednesday	Apr 7 th	10 am
Friday	May 7 th	10 am

Utah

Friday	Jan 8 th	11:30 am
Friday	Feb 5 th	11:30 am
Friday	Mar 5 th	11:30 am
Wednesday	Apr 7 th	11:30 am
Friday	May 7 th	11:30 am

Peak flow forecast webinar Thursday, March 18th, 10 am MT

Additional briefings scheduled as needed

Webinar schedule & registration information has been posted to the CBRFC web page



COLORADO BASIN RIVER FORECAST CENTER

NATIONAL WEATHER SERVICE / NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Thursday December 17, 2020, 1:00 pm MT: CBRFC Early Season Water Supply Outlook Webinar. Register for the 2021 Water Supply Forecast Webinar Schedule and Registration -> [More Info...](#)

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CBRFC Water Supply Forecast Webinar Schedule & Registration - Water Year 2021

The Colorado Basin River Forecast Center (CBRFC) produces water supply forecasts for the Colorado River Basin and the east. CBRFC conducts December through May webinars explaining the forecasts and current conditions.

Follow the links below to register for a webinar.

Early Season Water Supply Outlook Webinar

[Thursday Dec 17 @ 1 pm MT](#)

Colorado River Basin Water Supply Webinars

[Friday January 8th @ 10 am MT](#)

[Friday February 5th @ 10 am MT](#)

[Friday March 5th @ 10 am MT](#)

[Wednesday April 7th @ 10 am MT](#)

[Friday May 7th @ 10 am MT](#)

Utah Water Supply Webinars

[Friday January 8th @ 11:30 am MT](#)

[Friday February 5th @ 11:30 am MT](#)

[Friday March 5th @ 11:30 am MT](#)

[Wednesday April 7th @ 11:30 am MT](#)

[Friday May 7th @ 11:30 am MT](#)

Peak Flow Webinar

[Thursday March 18th @ 10 am MT](#)

email cbrfc.webmasters@noaa.gov
subject line: **email notification list**

This list is used to provide notification when webinars are scheduled, water supply forecasts are updated, and for other news of interest to our stakeholders regarding CBRFC operations.

A notification email will be sent if a date or time change occurs. Additional webinars are scheduled as needed. The webinar slides will be available from the [CBRFC presentations page](#) soon after each briefing.

CBRFC Contacts & WY21 Basin Focal Points

Michelle Stokes

Hydrologist In Charge

Ashley Nielson

*Upper Green, Yampa
San Juan, Dolores, Powell*

Brenda Alcorn

Senior Hydrologist

John Lhotak

Development and Operations Hydrologist

Craig Peterson

Senior Hydrometeorologist

Paul Miller

Service Coordination Hydrologist

Patrick Kormos

*Lower Green, Duchesne
Weber, Provo*

Tracy Cox

Hydrometeorologist

Cass Goodman

Computer Systems Analyst

Cody Moser

Upper CO Mainstem, Gunnison

Brent Bernard

Bear, Sevier, Six Creeks

Valerie Offutt

Administrative Assistant

Zach Finch

Lower Colorado River Basin

CBRFC Webpage

<https://www.cbrfc.noaa.gov/>

CBRFC Operations

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CBRFC Water Supply Presentations

<https://www.cbrfc.noaa.gov/present/present.php>

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