

Utah Water Supply Briefing

January 7th, 2022

Colorado Basin River Forecast Center

Presenter: Patrick Kormos - Hydrologist

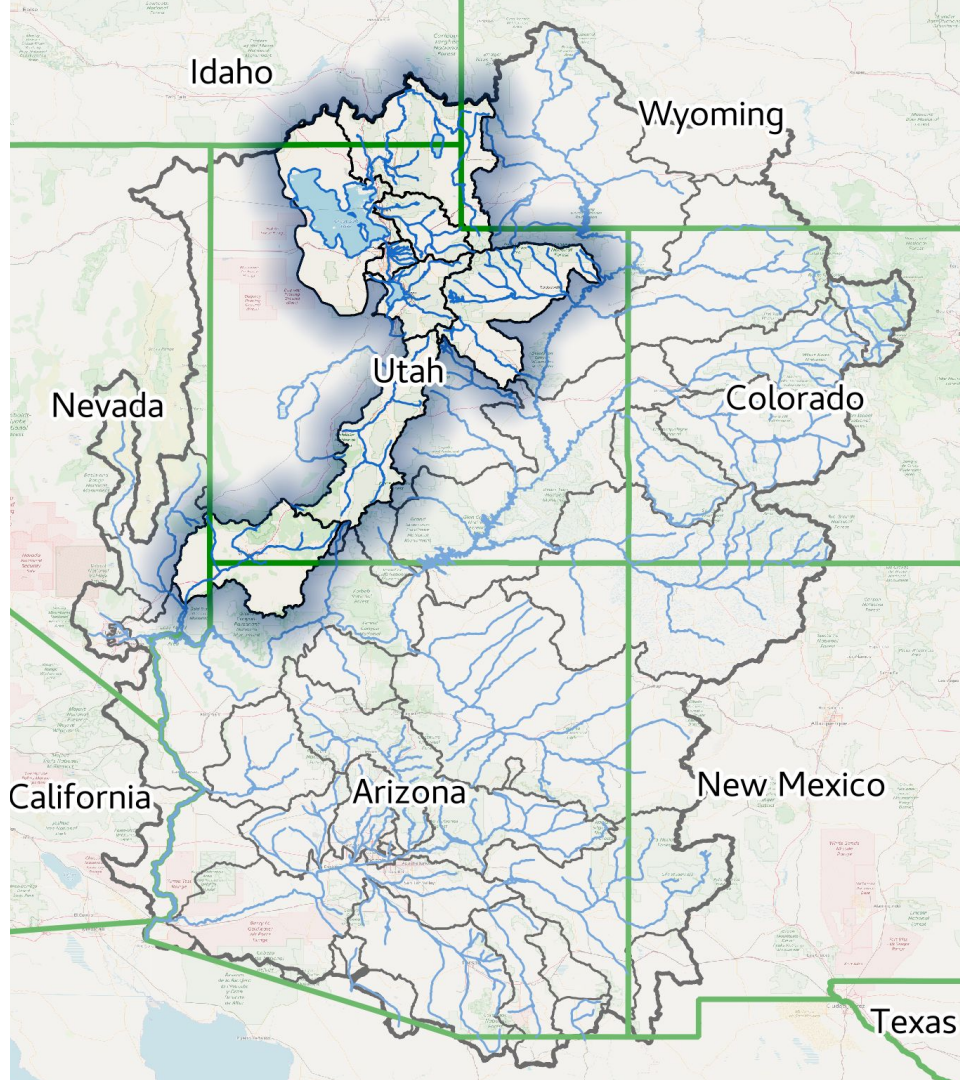
Utah Forecasters: Trevor Grout

Brenda Alcorn

Patrick Kormos

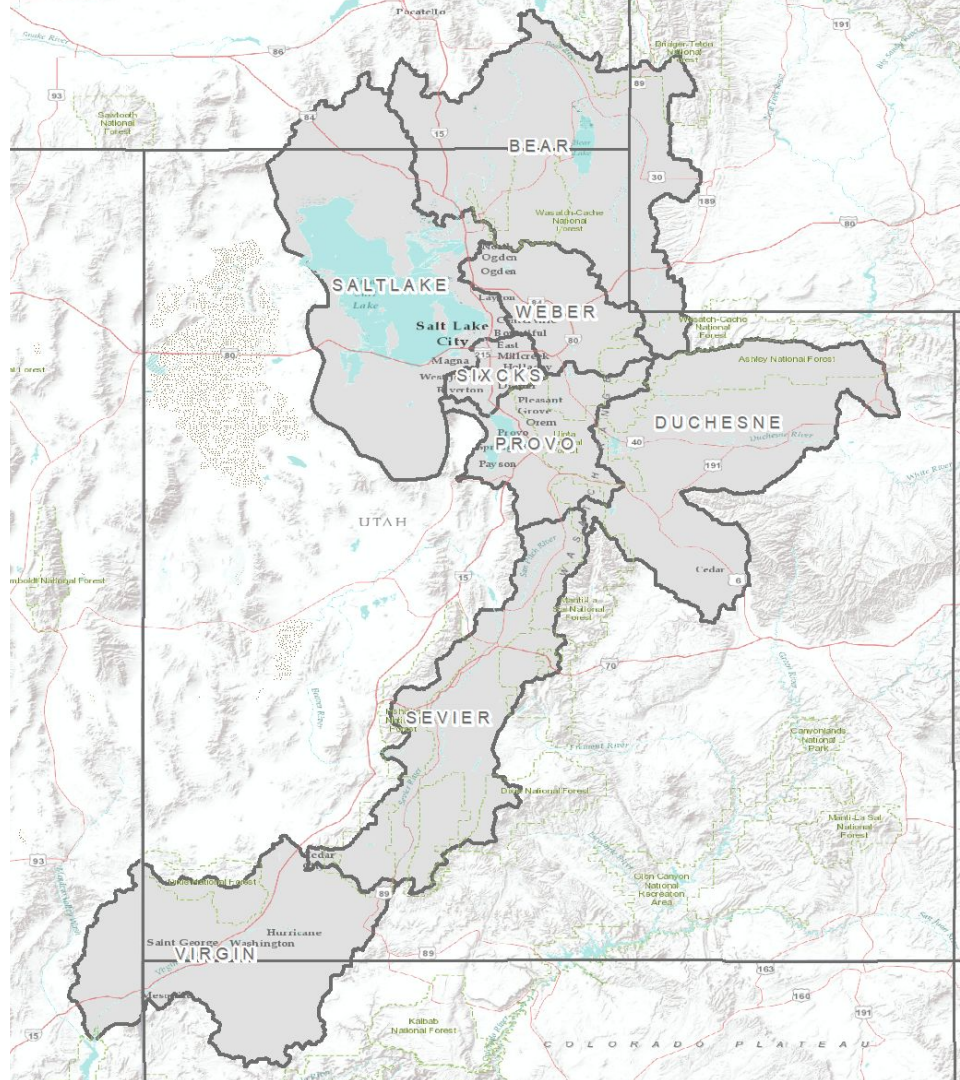
Questions: Type questions into the 'Questions'
Box or Raise Hand

**Webinar recording & slides will be
made available on CBRFC webpage**



Utah Water Supply Briefing

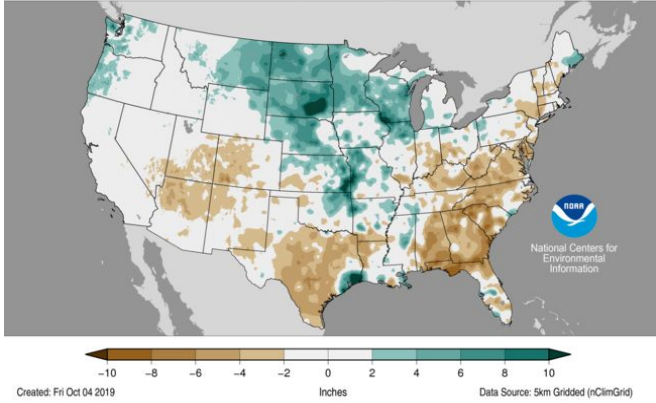
1. Weather Review (Precipitation)
2. Soil Moisture Conditions
3. Current Snowpack
4. 2022 Water Supply Forecasts
5. Early Season Forecast Error
6. Jan. Precip and Upcoming Weather
7. Contacts & Questions



Monsoon: July-September Precipitation

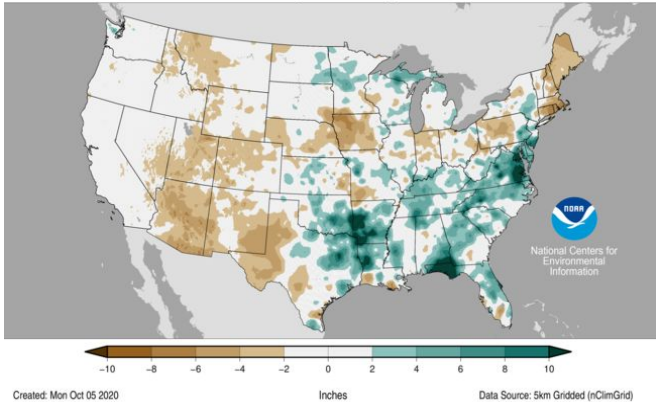
2019

Precipitation Departures from Average
July-September 2019
Average Period: 20th Century



2020

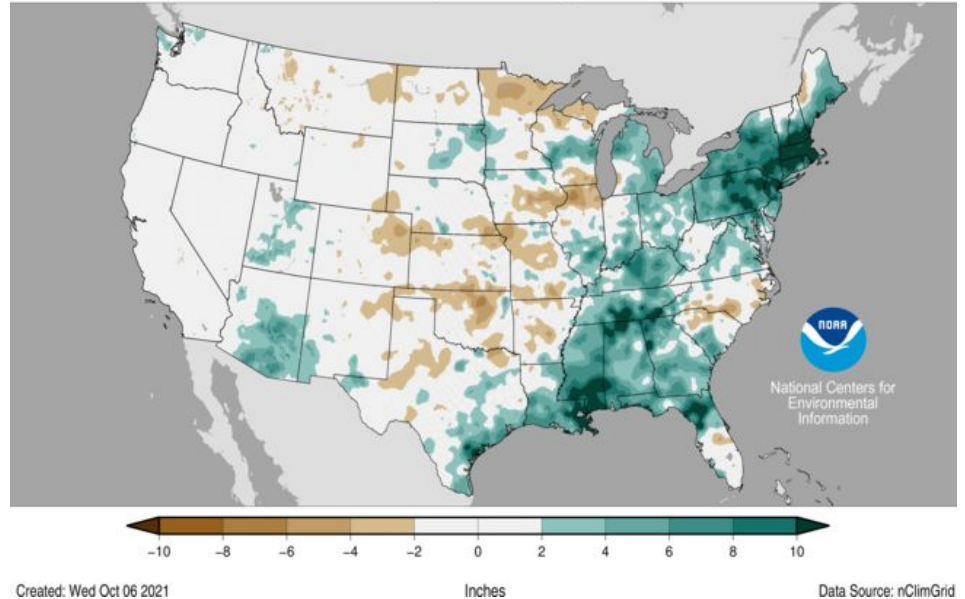
Precipitation Departures from Average
July-September 2020
Average Period: 20th Century



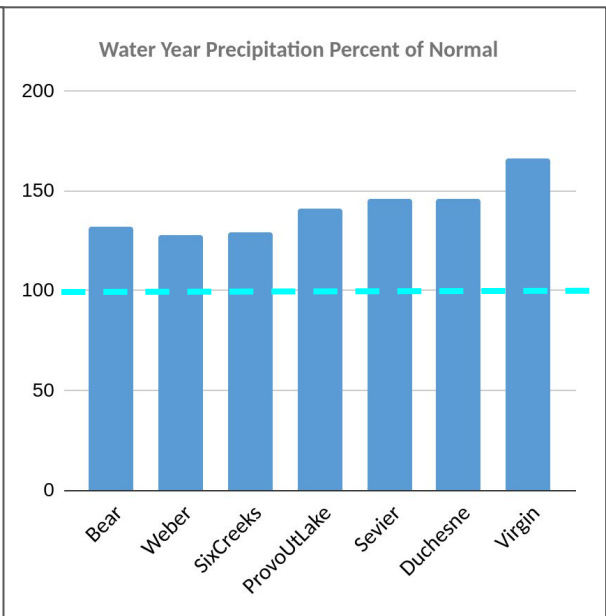
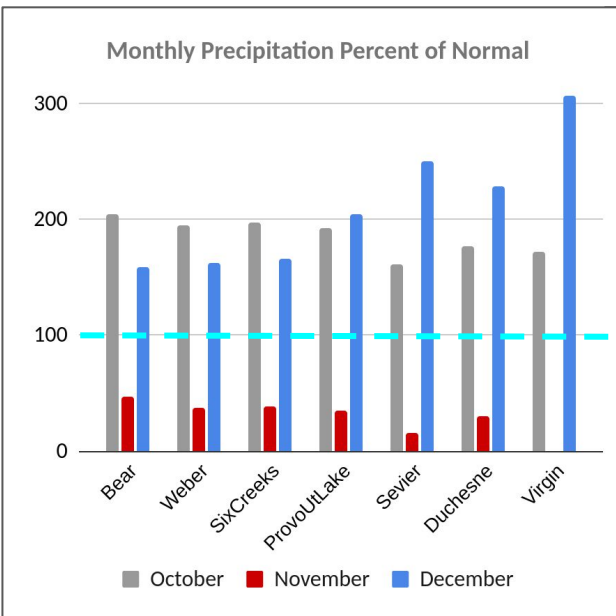
The 2021 monsoon season was much wetter than recent years, especially across southern Arizona and central Utah.

2021

Precipitation Departures from Average
July-September 2021
Average Period: 20th Century



2022 Water Year Precipitation October - December



- Much above normal precip.
 - October, December
- Much below normal precip.
 - November

Forecast Group	Percent of WY normal
Bear	130
Weber	130
Six Creeks	130
Provo	140
Sevier	145
Duchesne	145
Virgin	165

Utah Weather Review - Monthly Precipitation

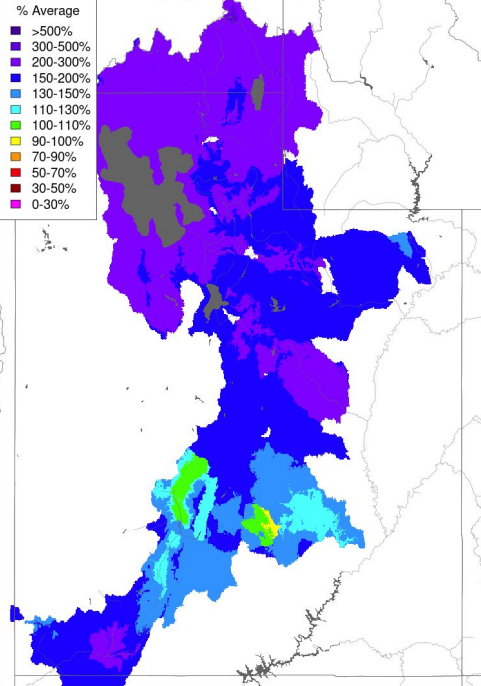
October 2021

November 2021

December 2021

Monthly Precipitation - October 2021

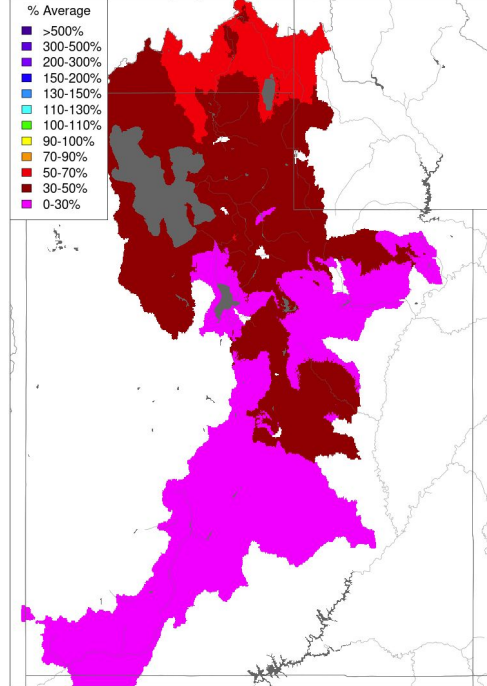
Averaged by Basin, Major Contributing Areas



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

Monthly Precipitation - November 2021

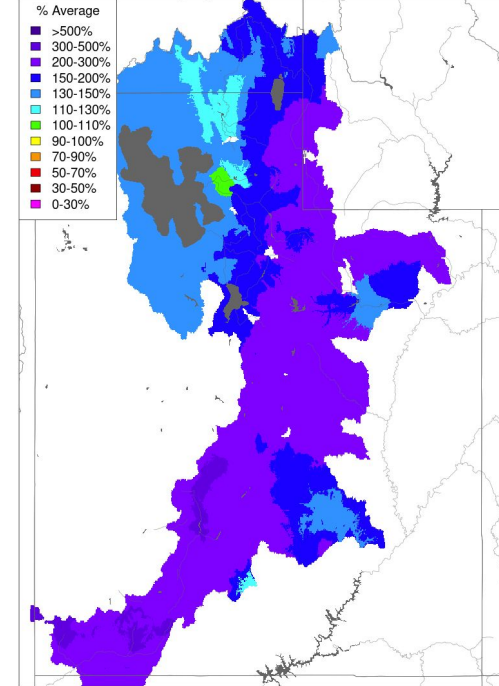
Averaged by Basin, Major Contributing Areas



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

Monthly Precipitation - December 2021

Averaged by Basin, Major Contributing Areas



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

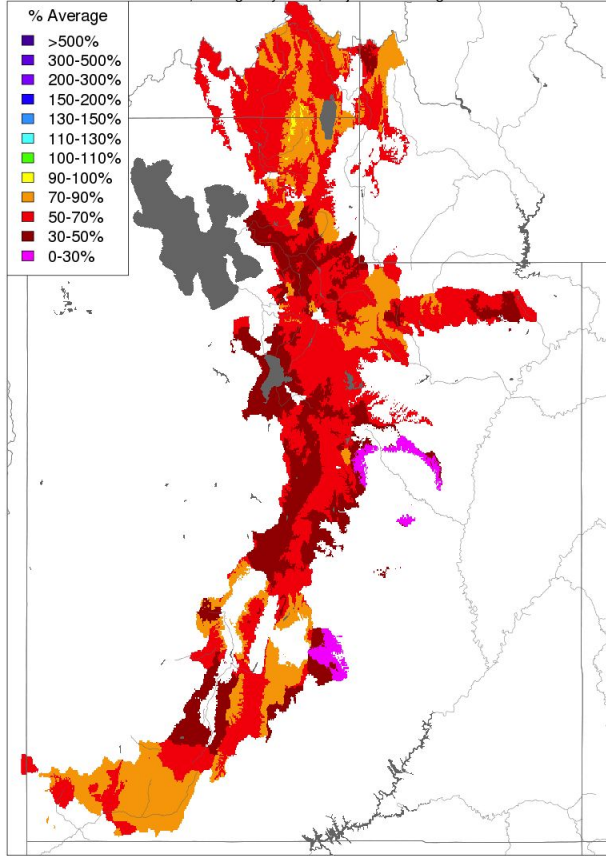
% Average

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%

Fall Model Soil Moisture Conditions: 2020 vs. 2021

Soil Moisture - Fall - 2020 (November 15)

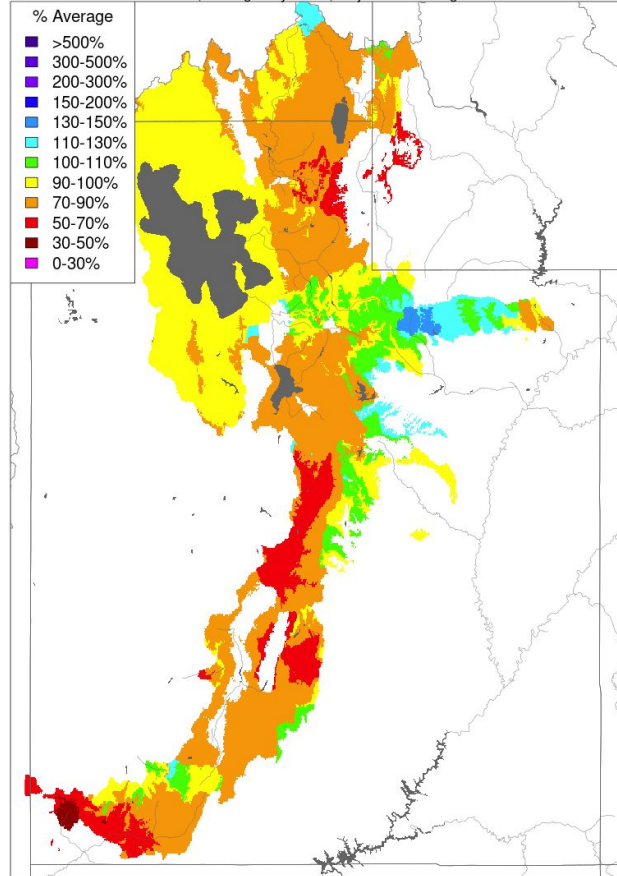
Modeled, Averaged by Basin, Major Contributing Areas



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

Soil Moisture - Fall - 2021 (November 15)

Modeled, Averaged by Basin, Major Contributing Areas



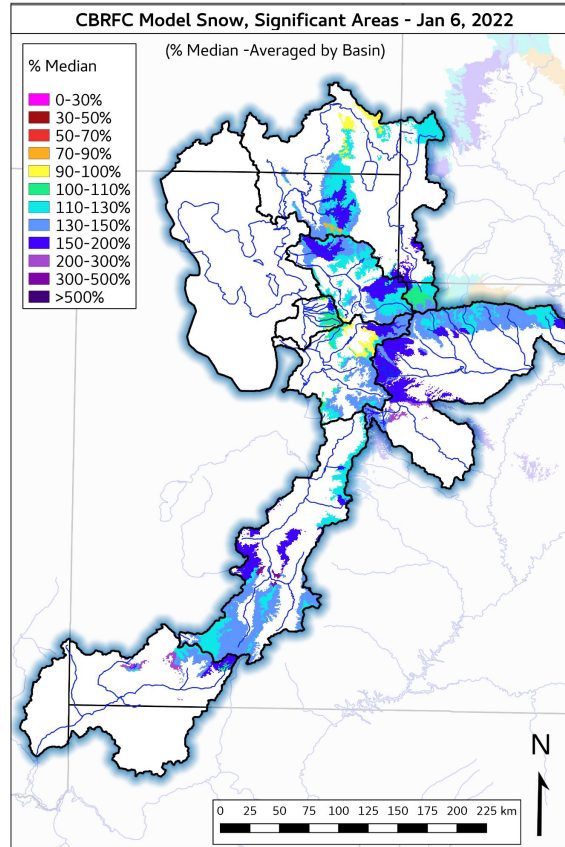
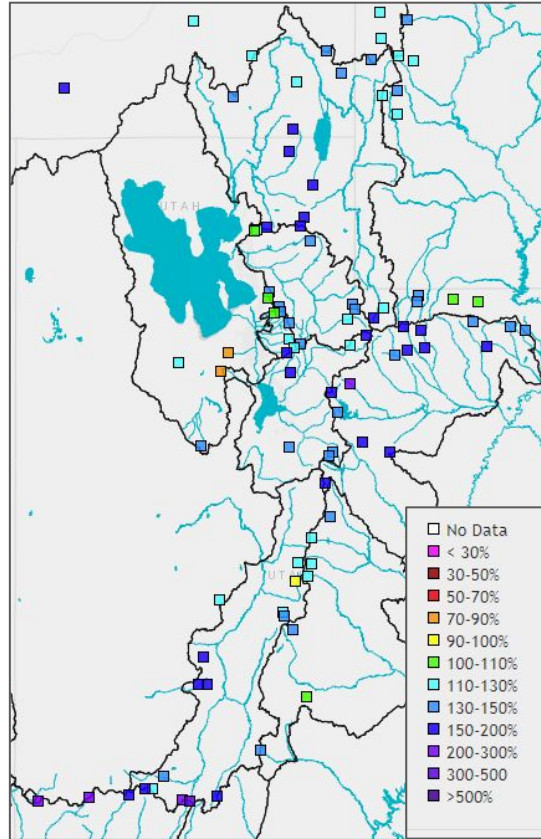
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

CBRFC model soil moisture conditions are improved from their record/near record dry levels a year ago.

- Still low in a large portion of Utah
- Duchesne: mostly above normal
- Uinta headwaters are near normal
 - Bear
 - Weber
 - Provo

Utah Current Snowpack - January 6th

SNOTEL (Observed)

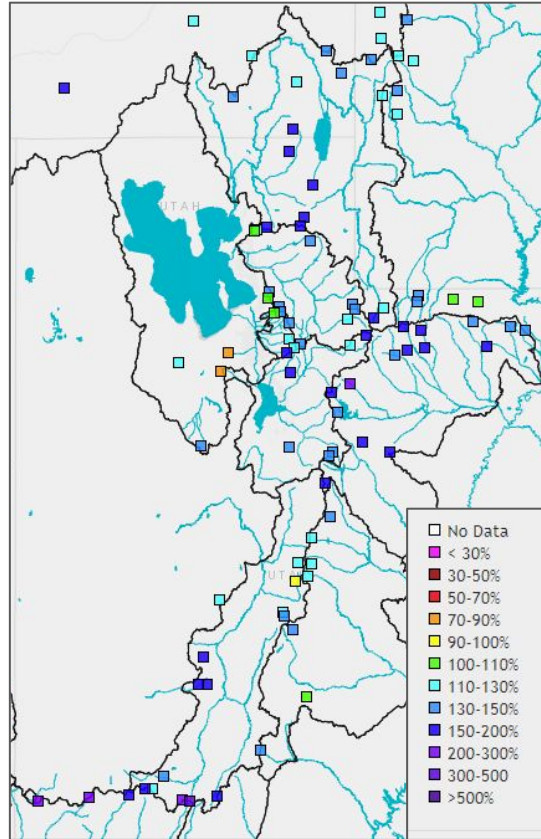


As of January 1, 2022
CBRFC Snow Groups (SNOTEL Stations)

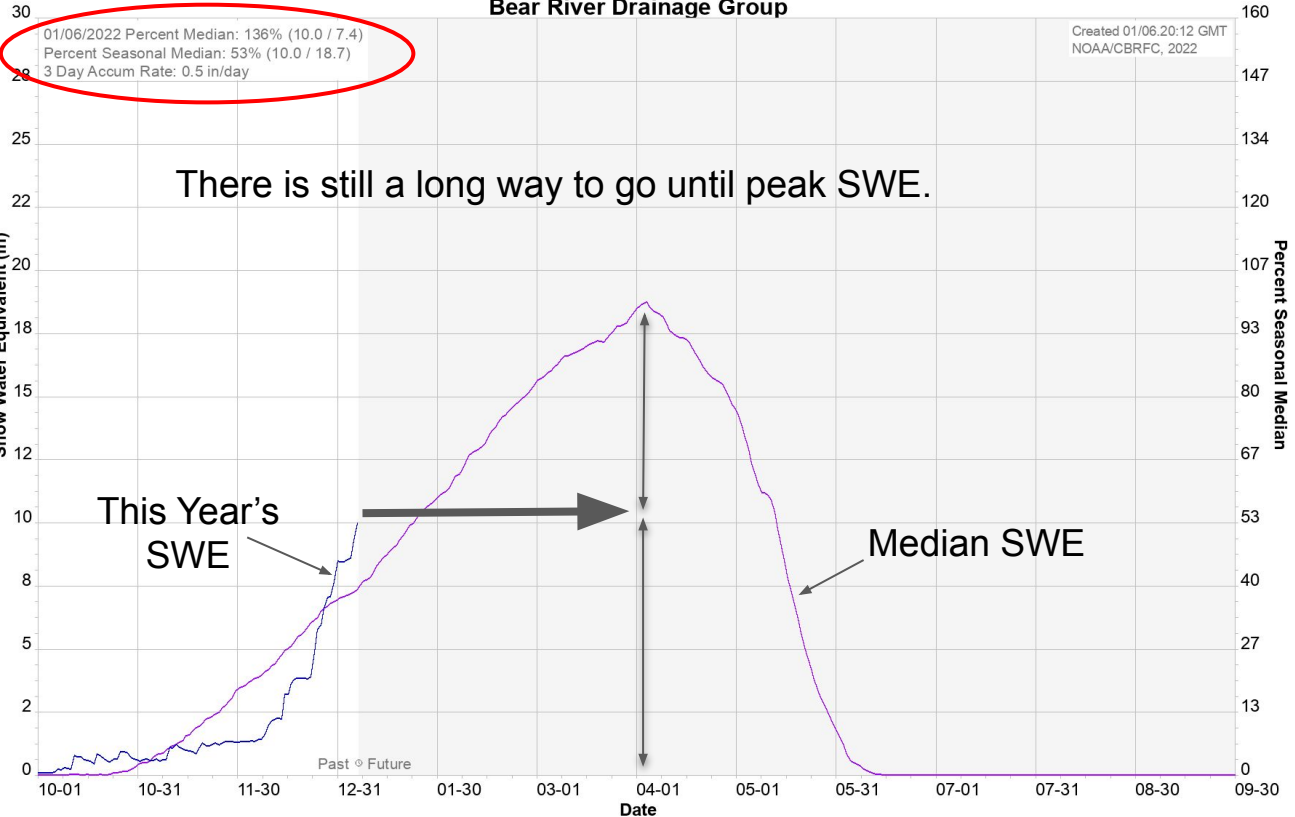
- Bear: 120%
- Weber: 115%
- Six Cr: 120%
- Provo: 135%
- Duchesne: 155%
- Sevier: 160%
- Virgin: 200%

Utah Current Snowpack

SNOTEL (Observed)



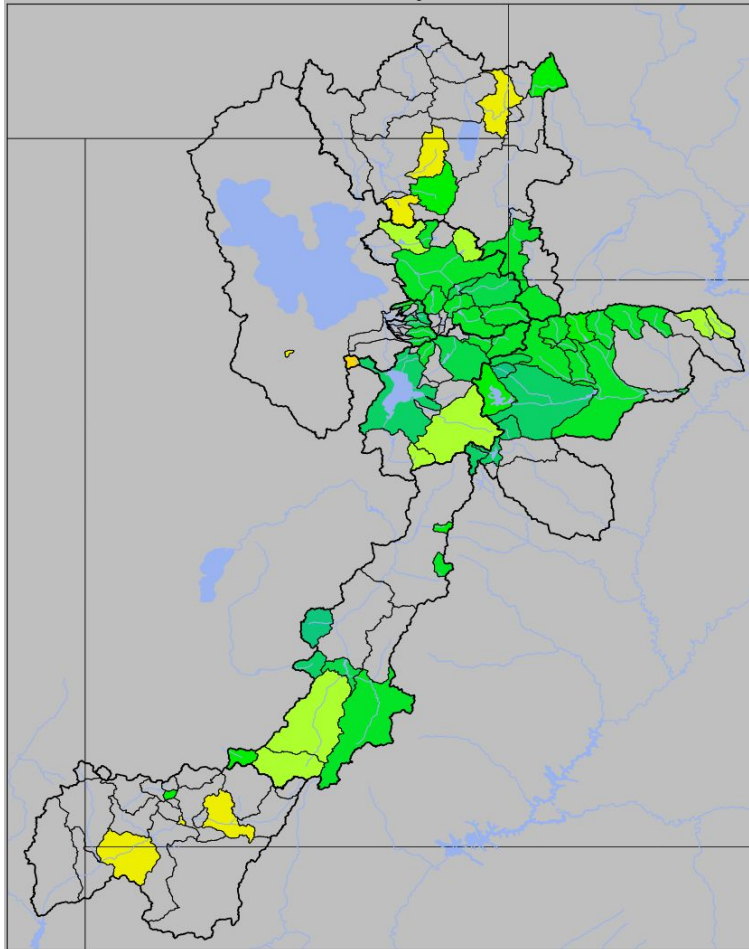
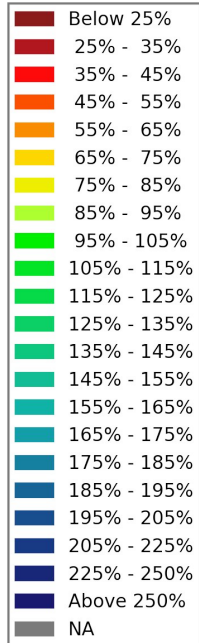
Colorado Basin River Forecast Center
Bear River Drainage Group



Created 01/06/2022 12:12 GMT
NOAA/CBRFC, 2022

Utah Water Supply Forecasts - Overview

Percent of Average



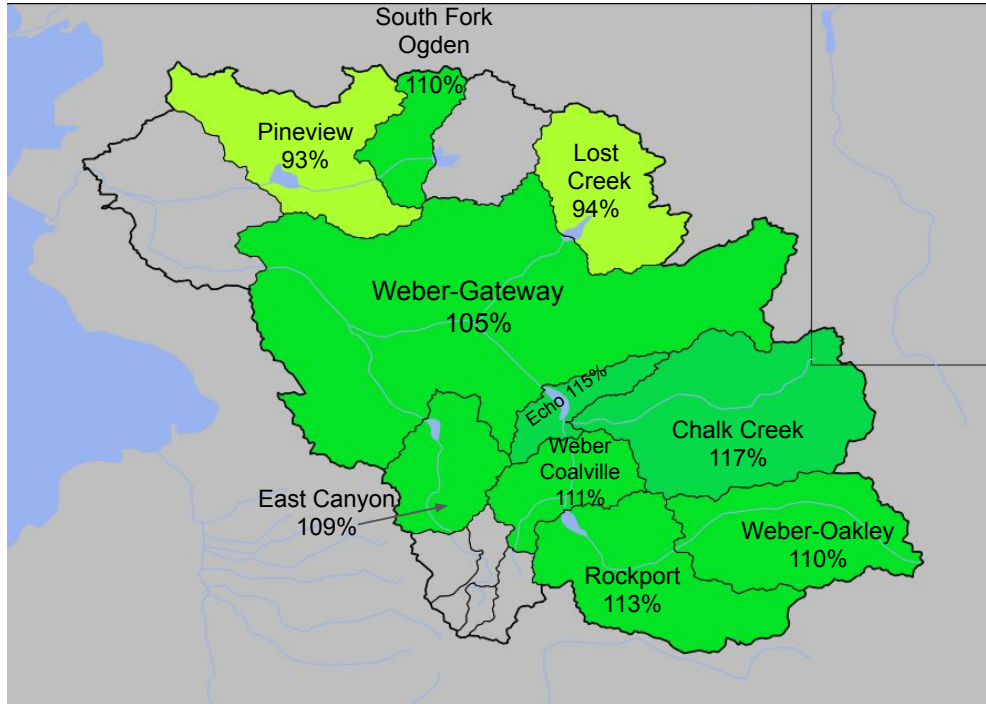
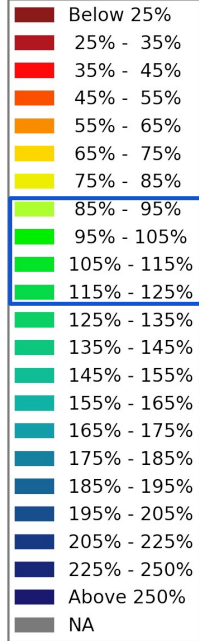
- January 1 Forecast for April-July Volume in 1000's acre feet (KAF)
- April-July Forecast Streamflow Volumes are in percent of 1991-2020 average

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

Weber	110
Bear	95
Six Creeks	115
Provo / Utah Lake	110
Sevier	105
Duchesne	110
Virgin	90

Utah Water Supply Forecasts - Weber

Percent of Average



Weber River Basin Forecasts

January: **110%** of Normal

- Forecasts range from 95-115% of normal

	POA 81-10	POA 91-20
Gateway	89%	105%
Echo	103%	115%
East Canyon	93%	109%

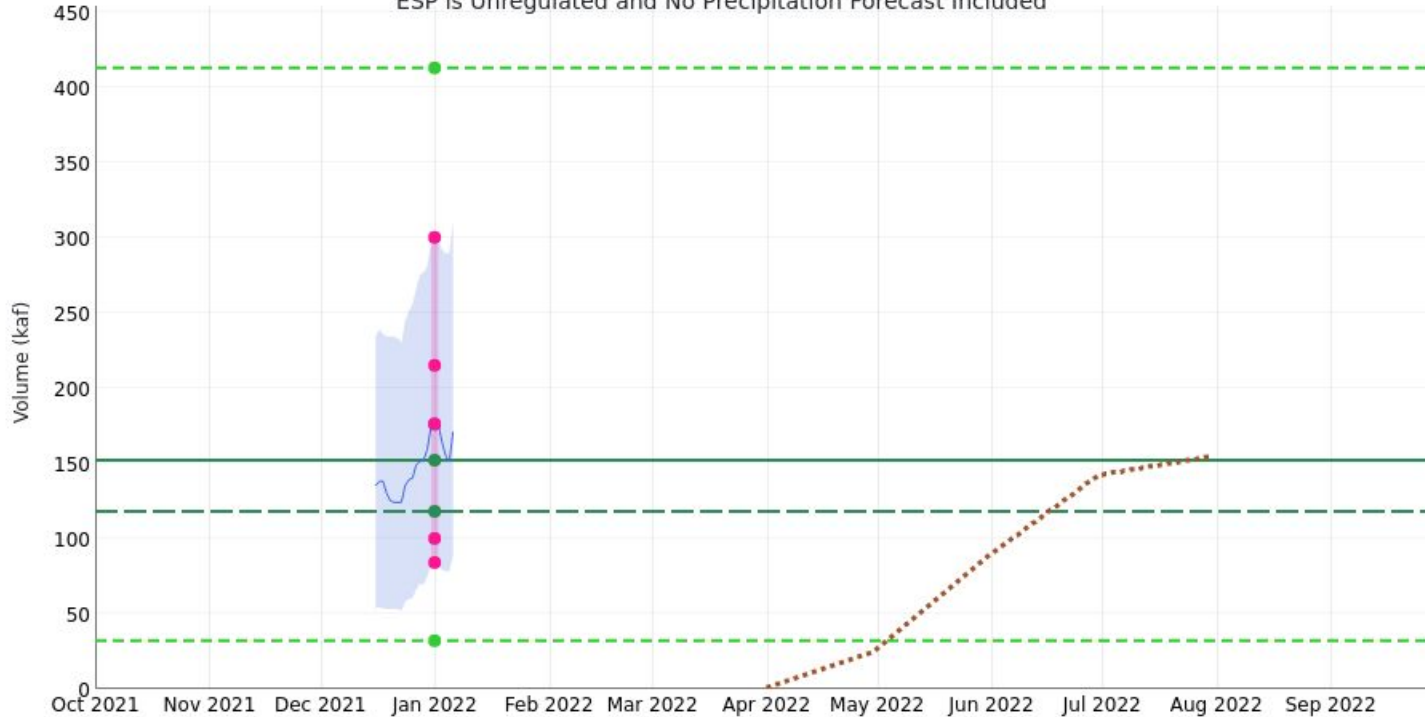
Utah Water Supply Forecasts - Weber

Echo Reservoir

Weber - Echo Reservoir, Echo, At (ECBU1)

Period: Apr-Jul, Official 50% Forecast (2022-01-01): 176 kaf (116% Average, 149% Median)

ESP is Unregulated and No Precipitation Forecast Included



2022/01/01:

Max 2011: 412.59

Min 1977: 32.03

Average: 152

Median: 118

ESP: 176

Official 10: 300

Official 30: 215

Official 50: 176

Official 70: 100

Official 90: 84

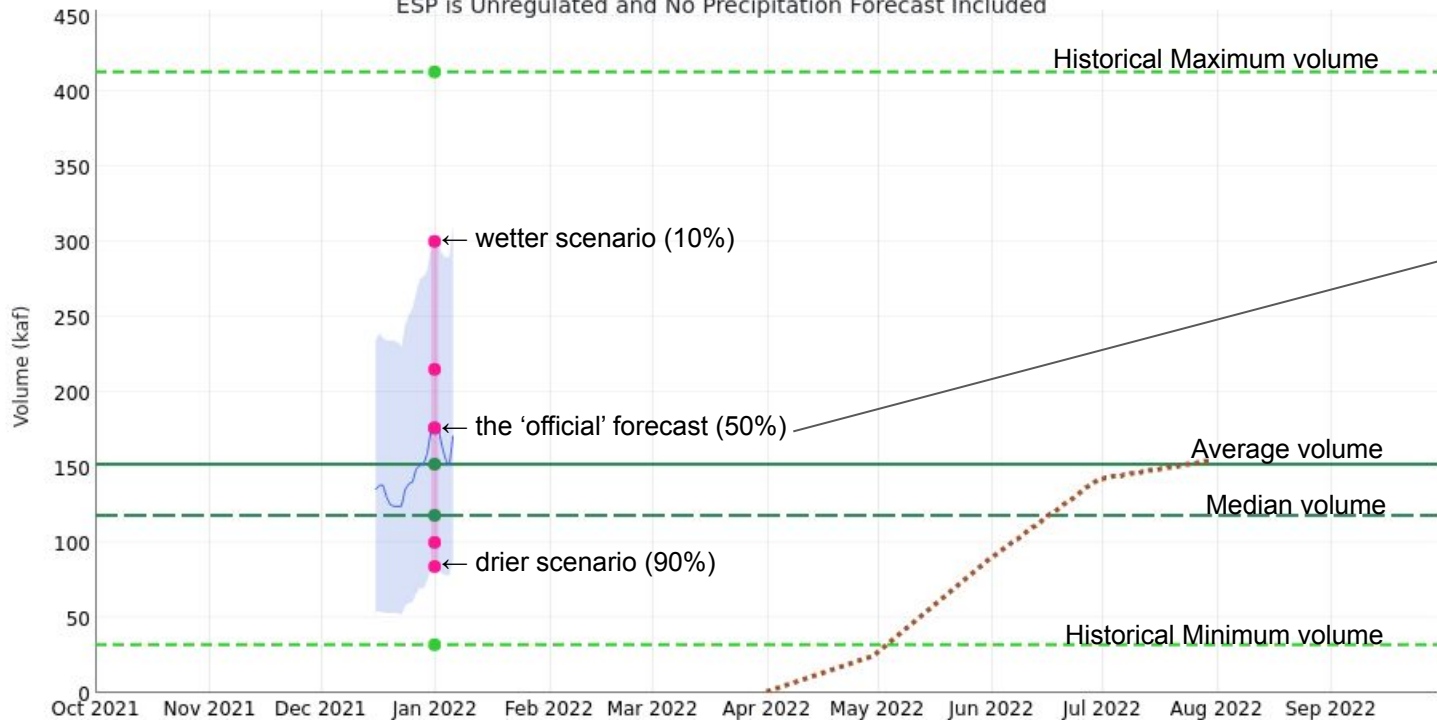
Utah Water Supply Forecasts - Weber

Echo Reservoir

Weber - Echo Reservoir, Echo, At (ECBU1)

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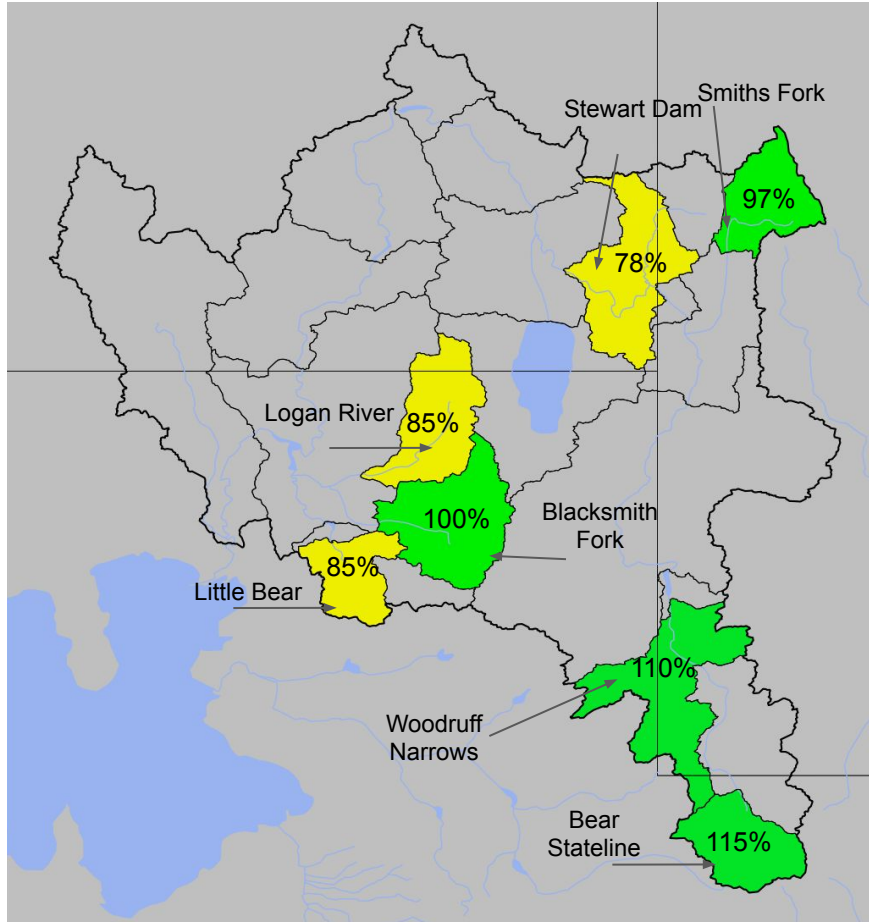
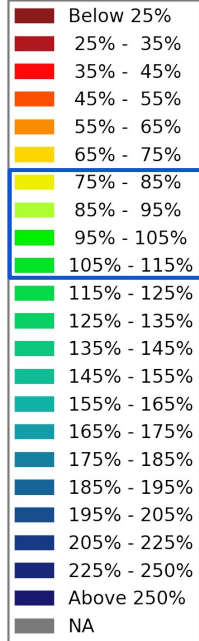
Official 50: 176

Official 70: 100

Official 90: 84

Utah Water Supply Forecasts - Bear

Percent of Average



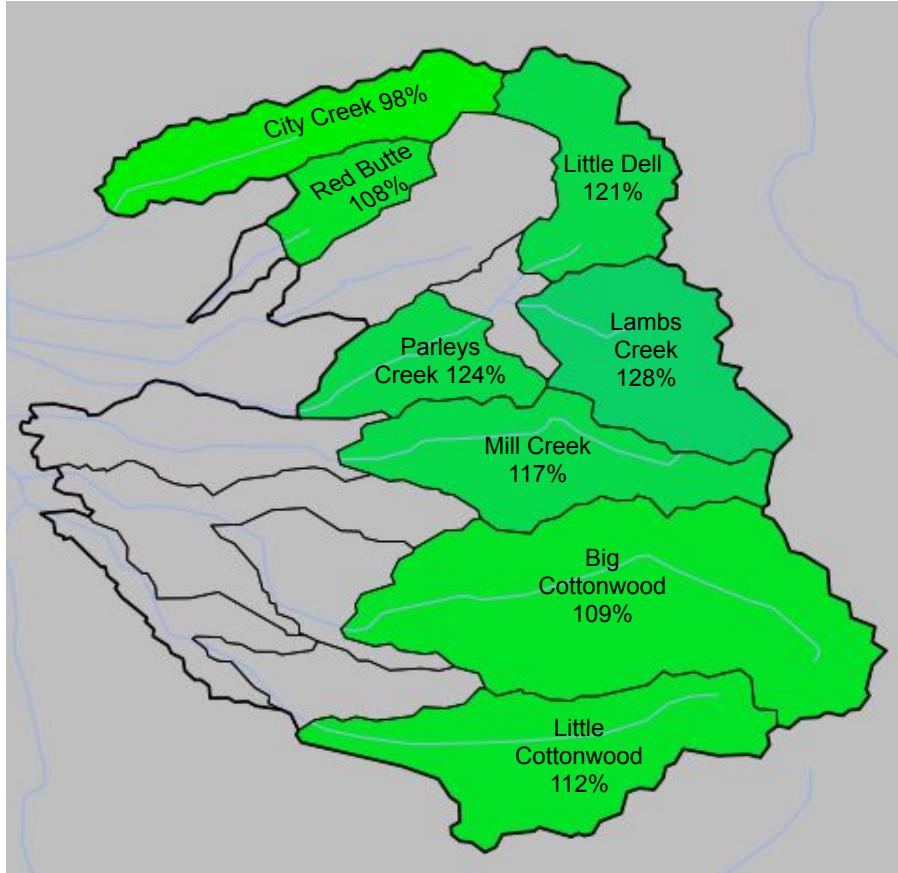
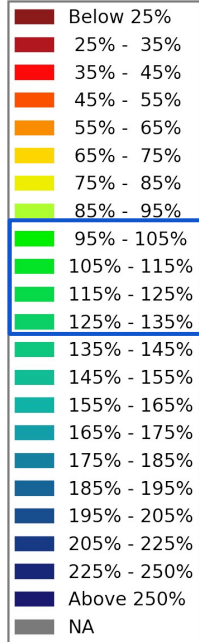
Bear River Basin Forecasts

January: **95%** of Normal

- Forecasts range from 80-115% of normal

Utah Water Supply Forecasts - Six Creeks

Percent of Average



Six Creeks Basin Forecasts

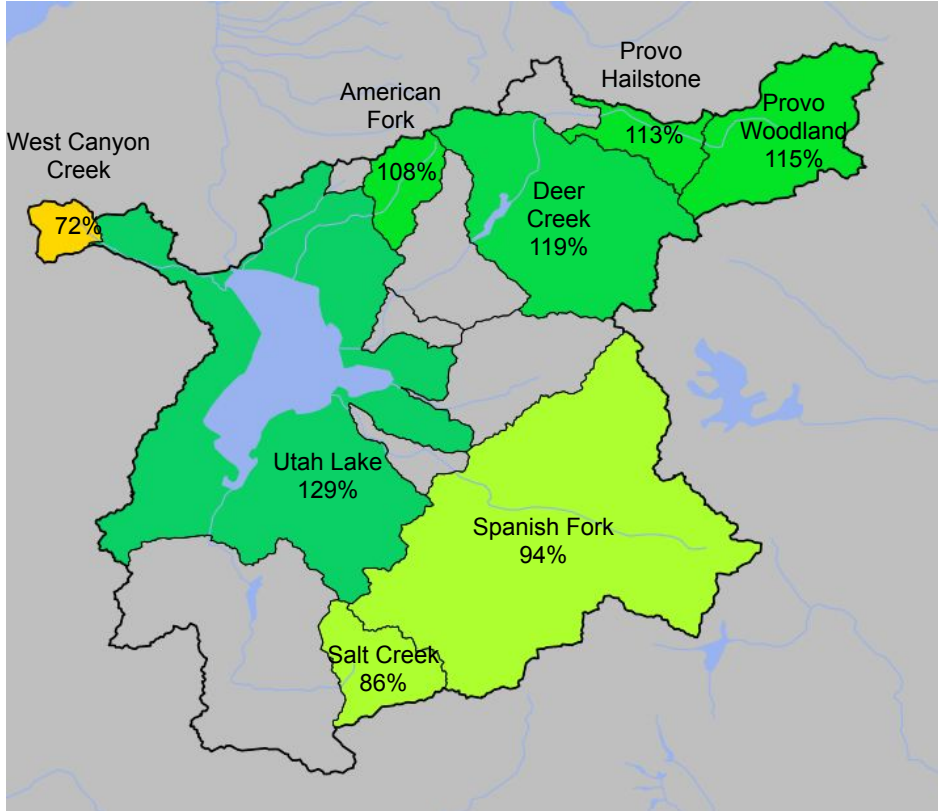
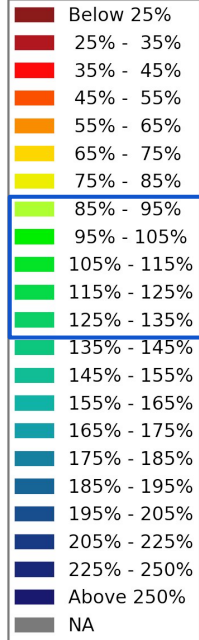
January: **115%** of Normal

- Forecasts range from 100-130% of normal

	POA 81-10	POA 91-20
L. Cottonwood	100%	105%
Mill Cr.	97%	117%
City Cr.	82%	98%

Utah Water Supply Forecasts - Provo - Utah Lake

Percent of Average



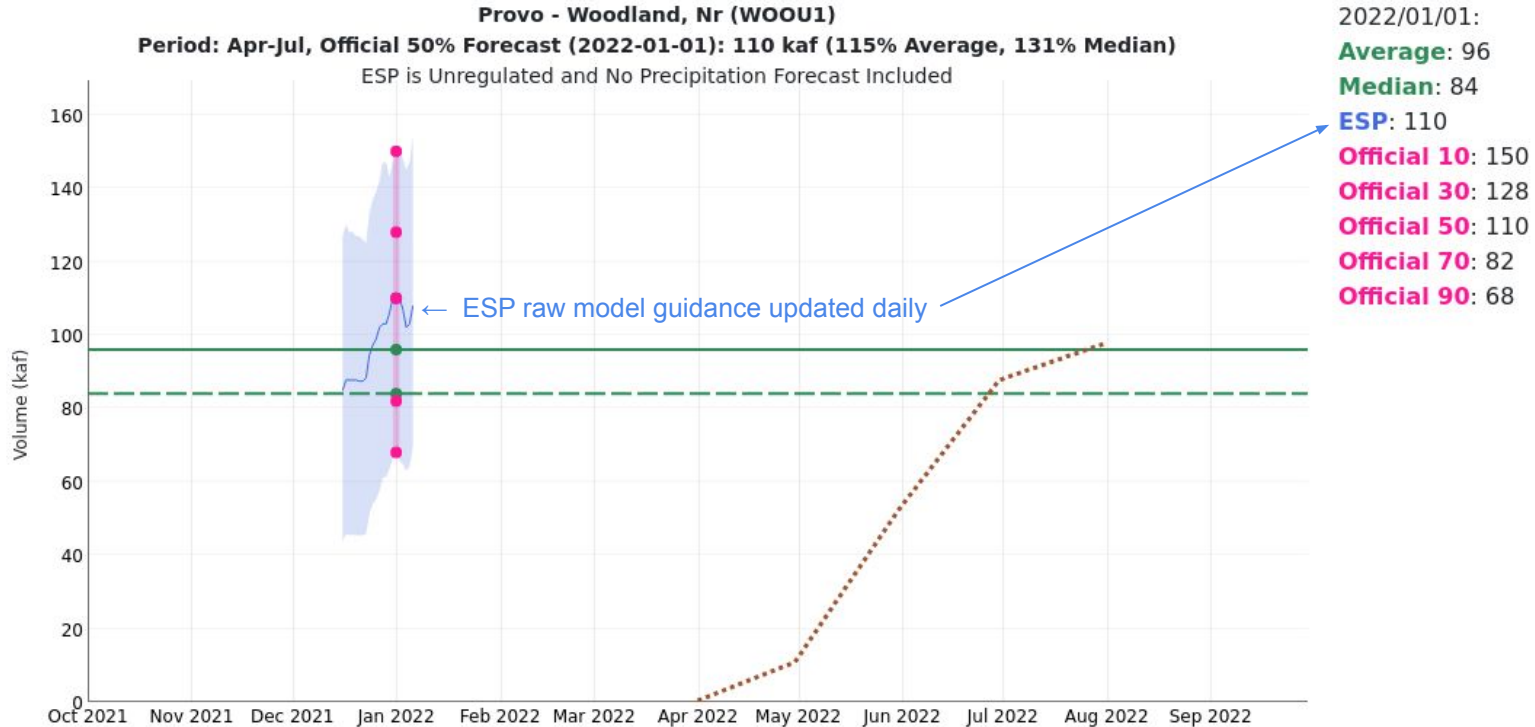
Provo River Basin Forecasts

January: **110%** of Normal

- Forecasts range from 85-130% of normal

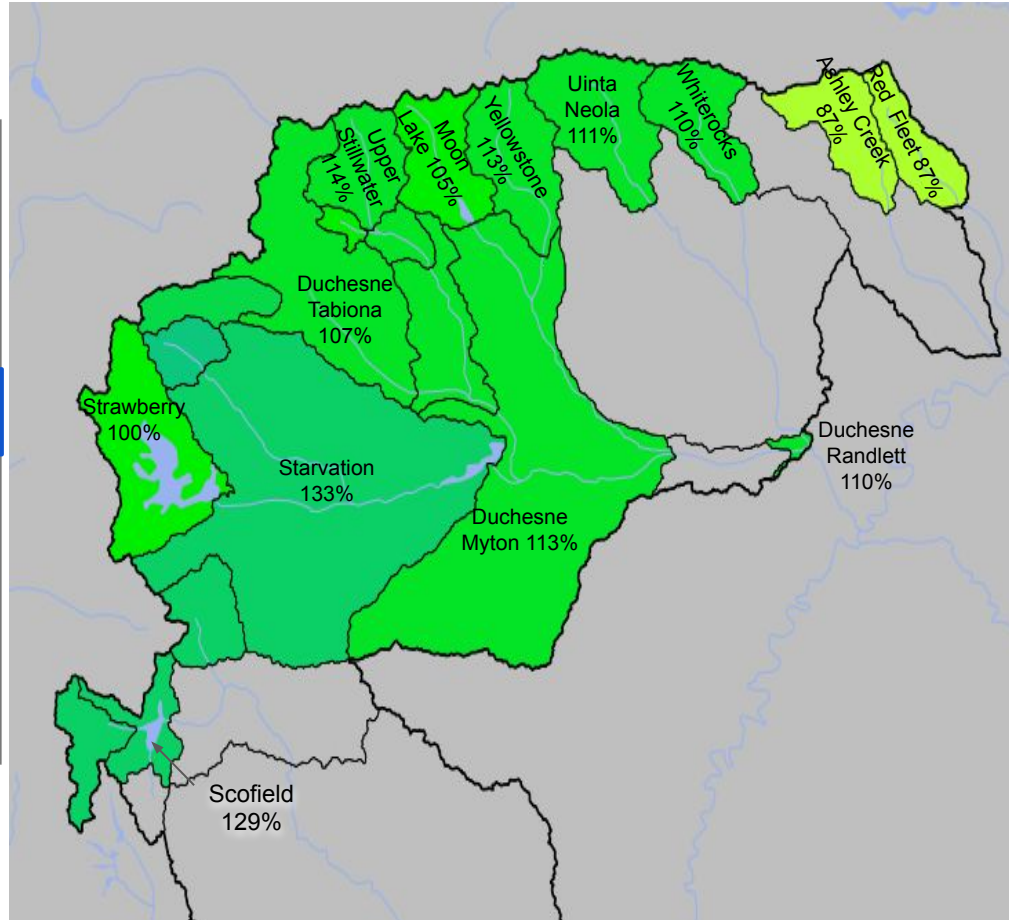
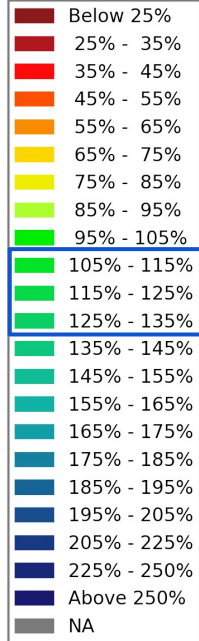
Utah Water Supply Forecasts - Provo

Provo near Woodland



Utah Water Supply Forecasts - Duchesne

Percent of Average



Duchesne River Basin

January: **110%** of Normal

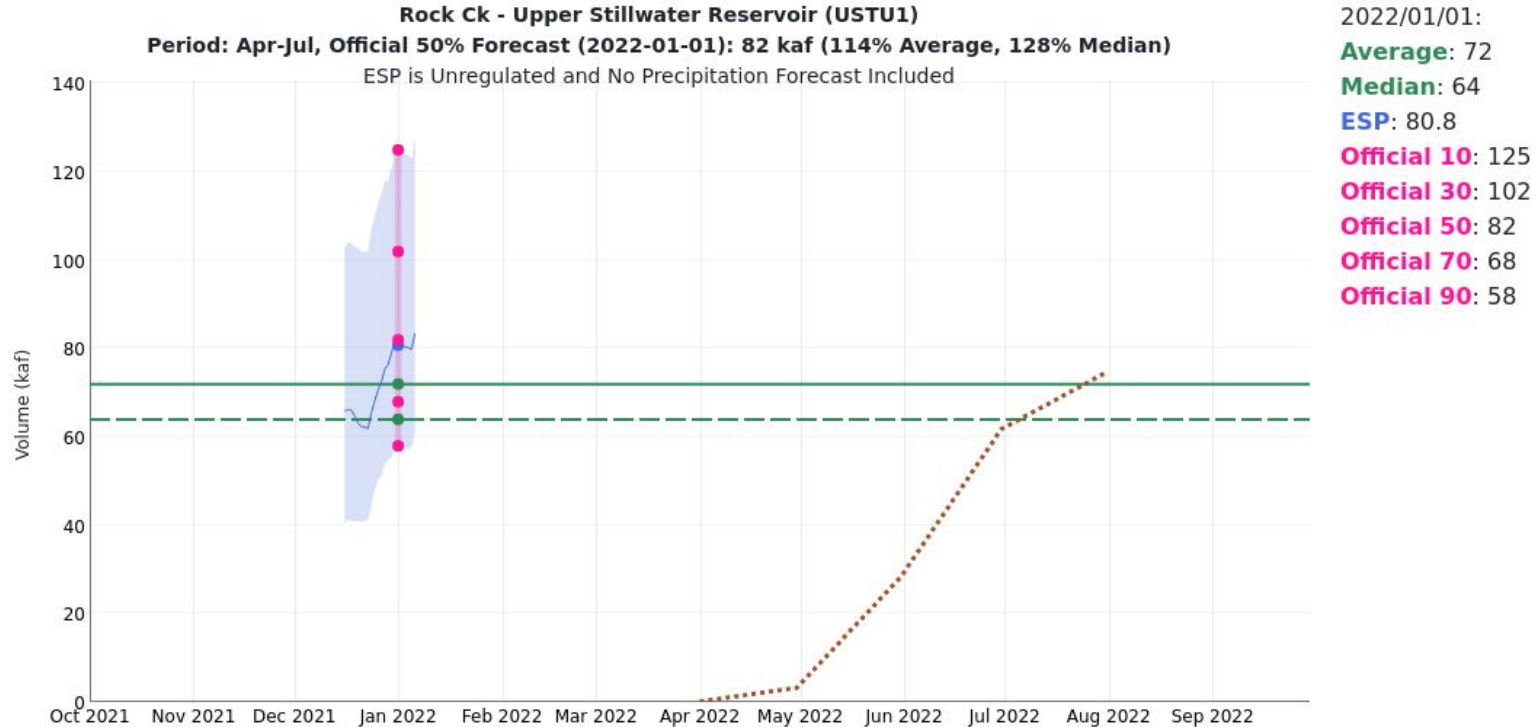
- Forecasts range from 85-140% of normal

Price River Basin

January: **130%** of Normal

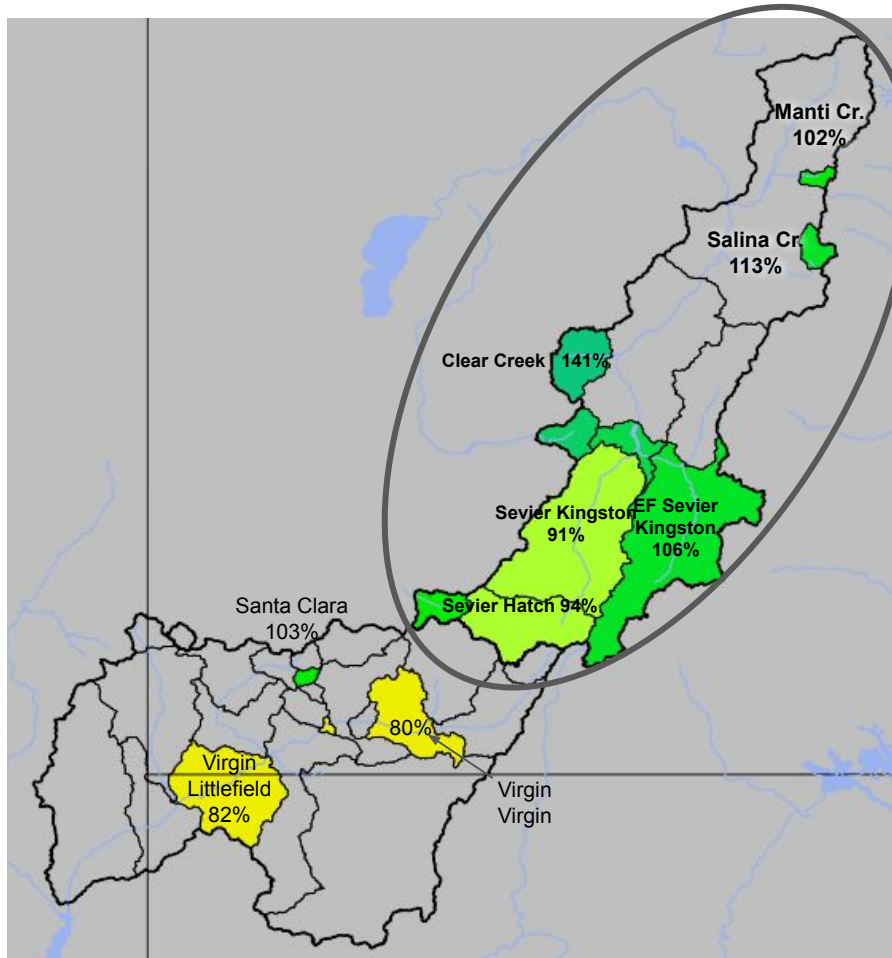
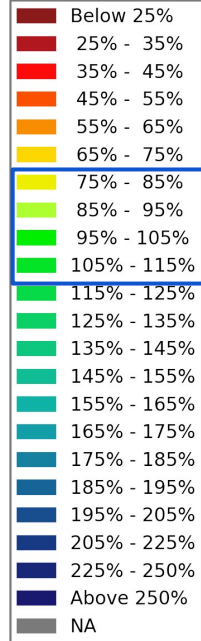
Utah Water Supply Forecasts - Duchesne

Upper Stillwater Reservoir



Utah Water Supply Forecasts - Sevier and Virgin

Percent of Average



Sevier River Basin Forecasts (regulated)

January: **105%** of Normal

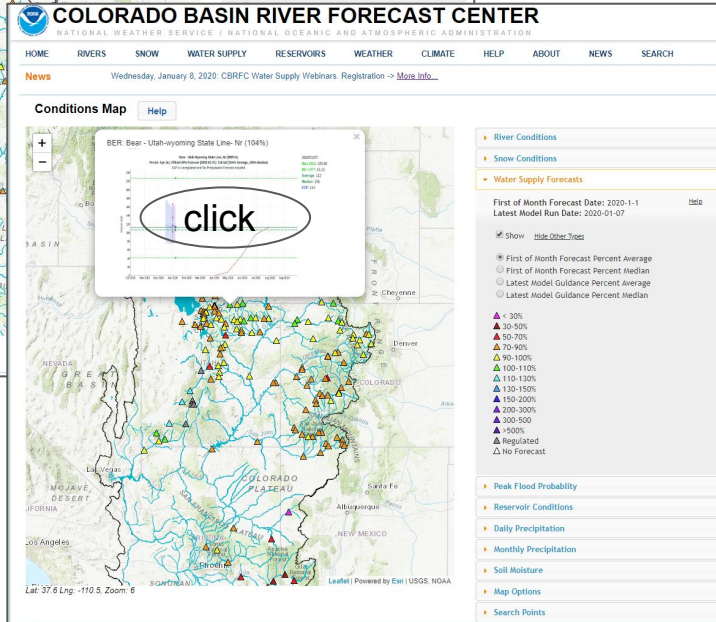
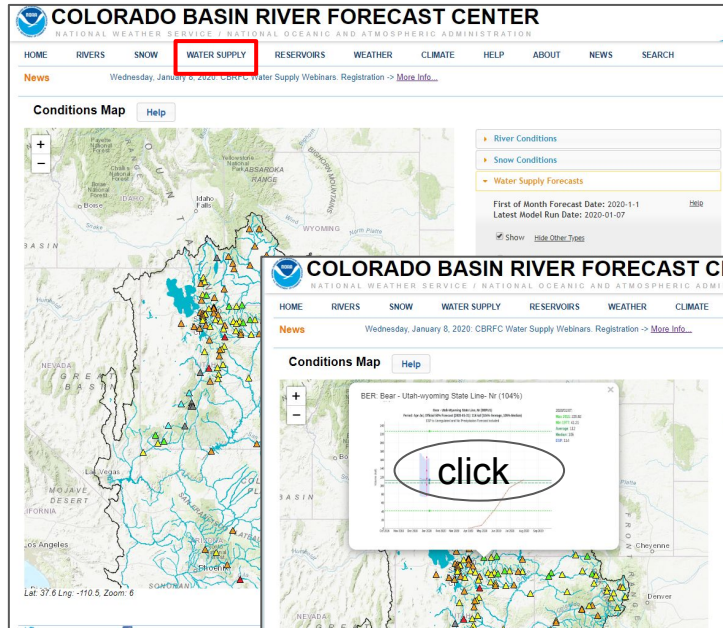
- Forecasts range from 90-140% of normal

Virgin River Basin Forecasts

January: **90%** of Normal

- Forecasts range from 80-85% of normal

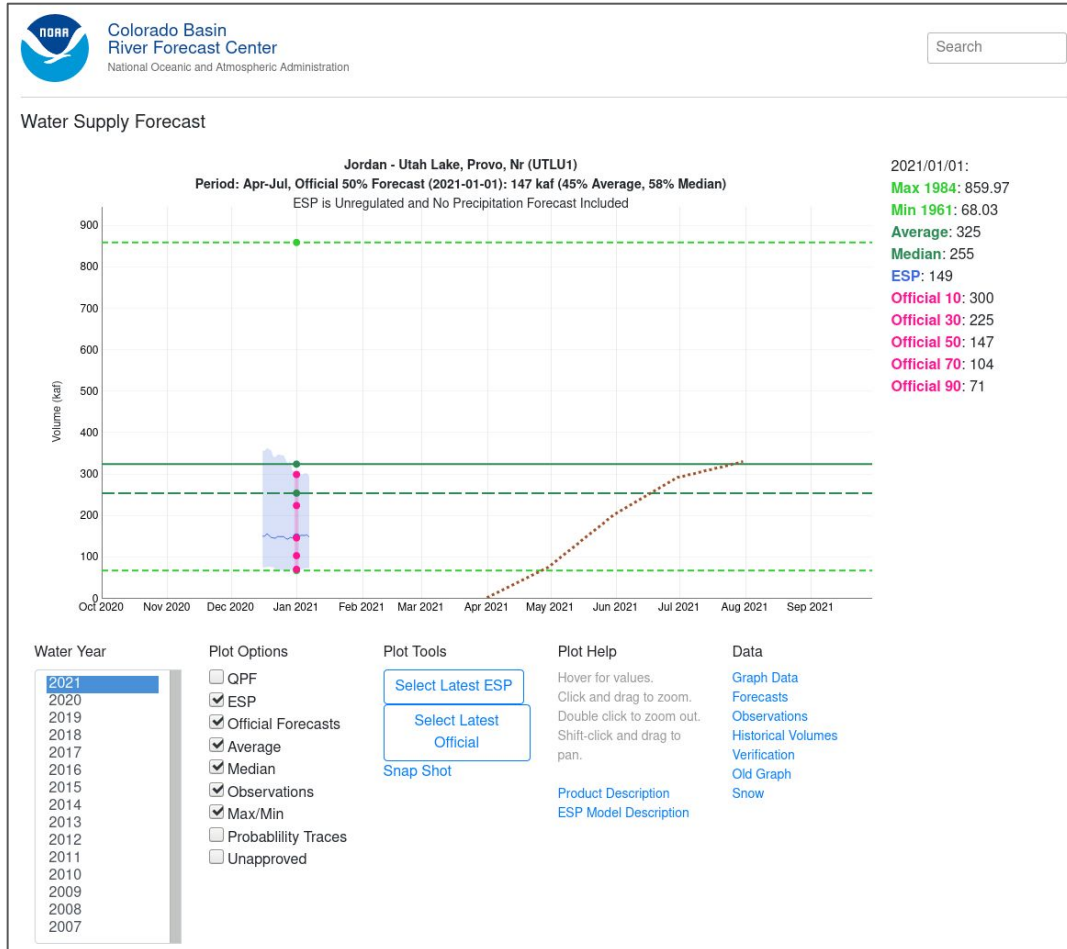
Utah Water Supply Forecasts - Evolution Plots



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

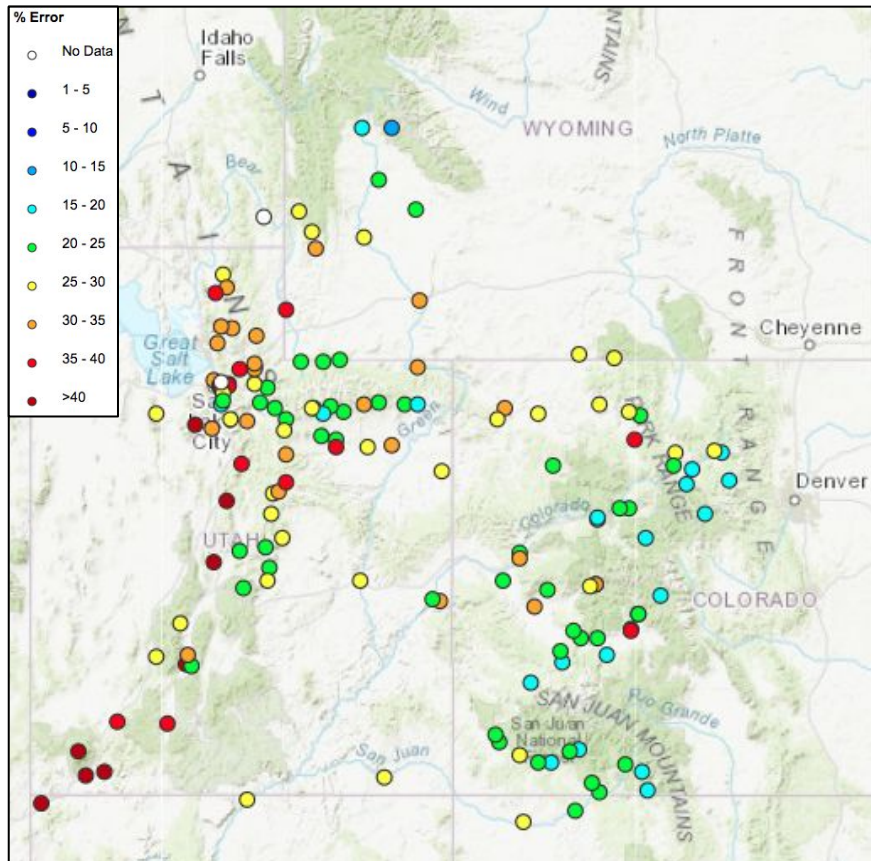


Evolution Plots allow one to:

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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

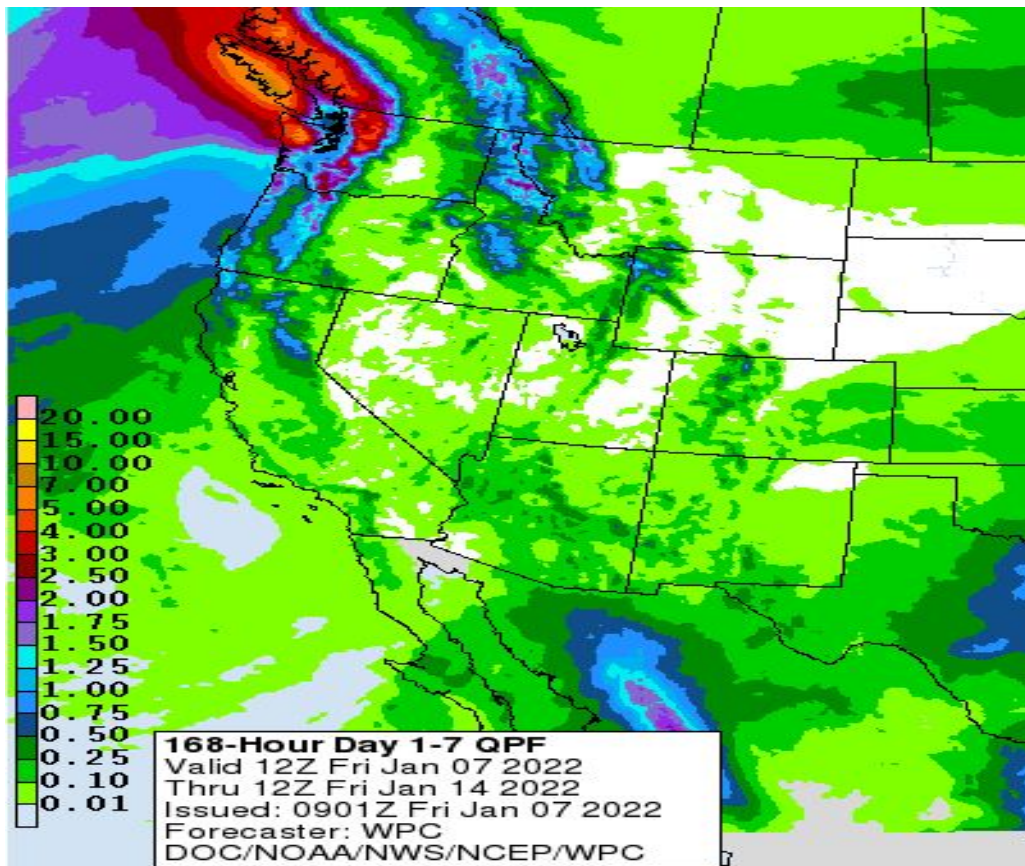
Where Forecasts are Better:

- 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 7-14 Precipitation Outlook



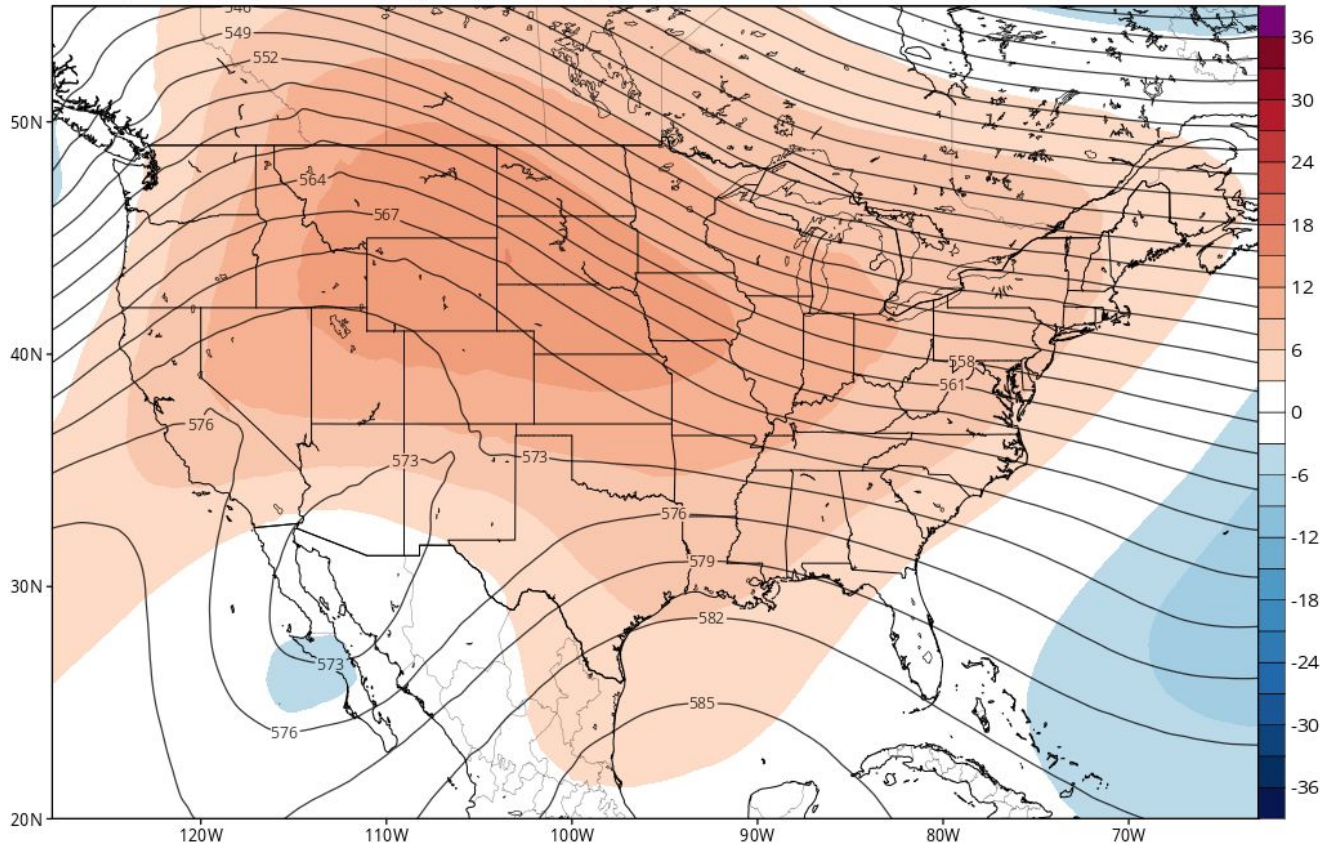
- A trough moves through Utah and Colorado today, exiting the region tomorrow (Saturday)
- Generally less than one inch of precipitation is forecast for the higher elevations of UT, WY, and CO
- A ridge quickly builds over the Western US, bringing quieter weather

Upcoming Weather: January 13-18: Western Ridge and a Closed Low

GEFS 500mb Geopotential Height & Anomaly (dam) (based on CFSR 1981-2010 Climatology)

Init: 00z Jan 07 2022 Forecast Hour: [144] valid at 00z Thu, Jan 13 2022

TROPICALTIDBITS.COM



- Western ridge persists through next week
- A closed low will move to the south of the ridge over the Lower Basin, bringing slight chances of precipitation before dissipating

Upcoming Weather: 8-14 Day Outlook (January 14-20)

Slightly elevated odds of near to below average precipitation (below primarily across Utah and northwest Arizona) & above average temperatures.

Precipitation Outlook

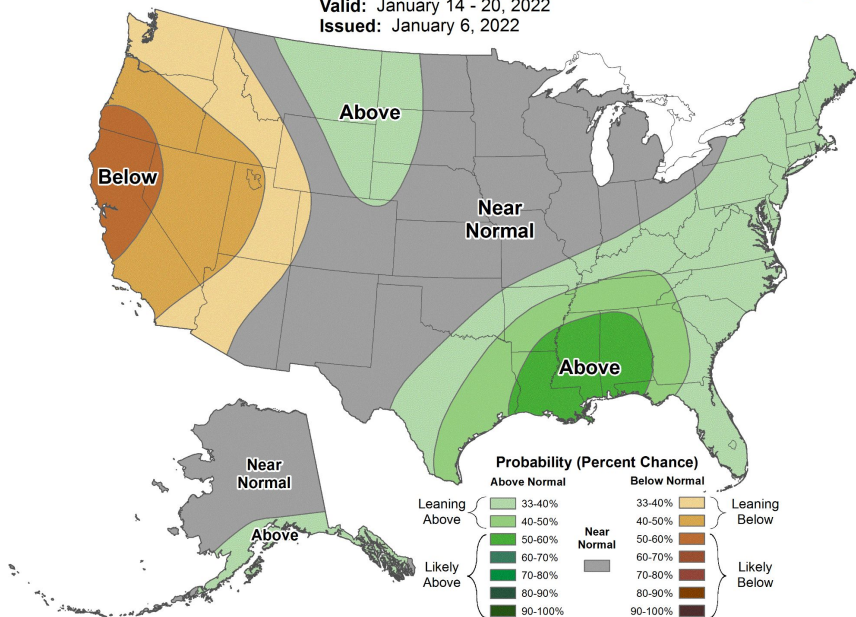
Temperature Outlook



8-14 Day Precipitation Outlook



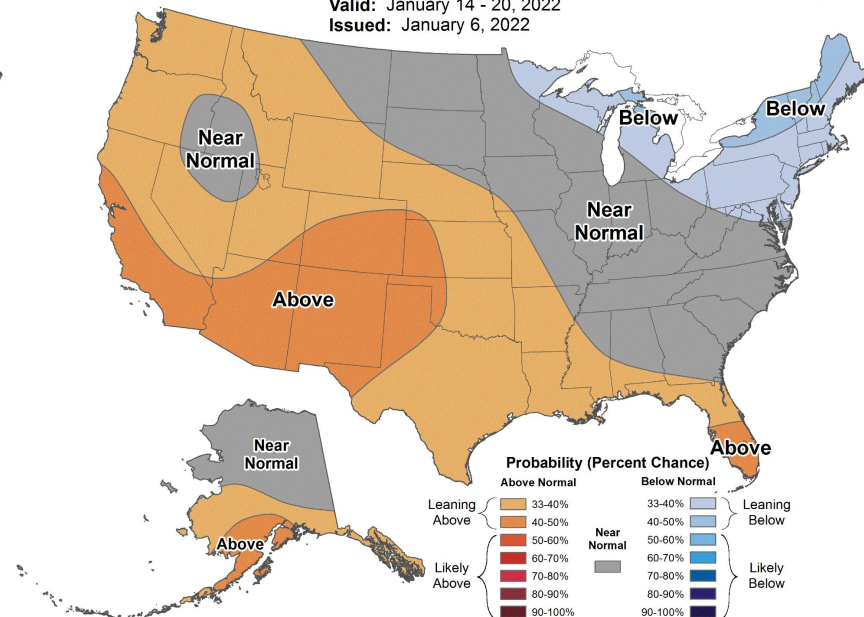
Valid: January 14 - 20, 2022
Issued: January 6, 2022



8-14 Day Temperature Outlook



Valid: January 14 - 20, 2022
Issued: January 6, 2022



Summary

- Year to date precipitation and snowpack totals are near to above normal
- Fall soil moisture is still below normal in general (Duchesne and Uinta Headwaters are the exception)
- January precipitation is off to a good start in Northern Utah, but below normal precipitation is forecast for the next 2 weeks.
- Water Supply Forecasts reflect fall soil moisture conditions and current snow/precipitation conditions.
 - Water supply forecasts are near to above normal.
- It is still early in the water year.

2022 Water Supply Webinar Schedule

**All Times Mountain Time (MT)*

Colorado River Basin

Friday	Jan 7 th	10 am
Monday	Feb 7 th	10 am
Monday	Mar 7 th	10 am
Thursday	Apr 7 th	10 am
Friday	May 6 th	10 am

Great Basin

Friday	Jan 7 th	11:30 am
Monday	Feb 7 th	11:30 am
Monday	Mar 7 th	11:30 am
Thursday	Apr 7 th	11:30 am
Friday	May 6 th	11:30 am

Peak flow forecast webinar Thursday, March 17th, 10 am MT

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



- HOME
- RIVERS
- SNOW
- WATER SUPPLY
- RESERVOIRS
- WEATHER
- CLIMATE
- HELP
- ABOUT
- NEWS
- SEARCH

News 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...](#)

- Contact Us
- Organization
- Cooperating Offices
- Papers and Presentations
- Projects
- Downloads

- CBRFC News
- Email Updates**
- RSS

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 & WY22 Basin Focal Points

Basin Focal Points (Forecasters)

Brenda Alcorn - Green, Duchesne, White/Yampa
brenda.alcorn@noaa.gov

Ashley Nielson – Gunnison, San Juan, Dolores, Lake Powell
ashley.nielson@noaa.gov

Cody Moser – Upper Colorado Mainstem
cody.moser@noaa.gov

Patrick Kormos – Great Basin/Sevier
patrick.kormos@noaa.gov

Trevor Grout - Virgin, Lower Colorado
trevor.grout@noaa.gov

Brent Bernard – Hydrologist
brent.bernard@noaa.gov

Tracy Cox - Hydrometeorologist
tracy.cox@noaa.gov

Nanette Hosenfeld - Senior Hydrometeorologist
nanette.hosenfeld@noaa.gov

Wolfgang Hanft - Hydrometeorologist
wolfgang.hanft@noaa.gov

Michelle Stokes – Hydrologist In Charge
michelle.stokes@noaa.gov

Paul Miller– Service Coordination Hydrologist
paul.miller@noaa.gov

John Lhotak – Development and Operations Hydrologist
john.lhotak@noaa.gov

CBRFC Webpage

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

CBRFC Operations

cbrfc.operations@noaa.gov

801-524-4004

CBRFC Water Supply Presentations

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

