

Utah Water Supply Briefing

March 7th, 2022

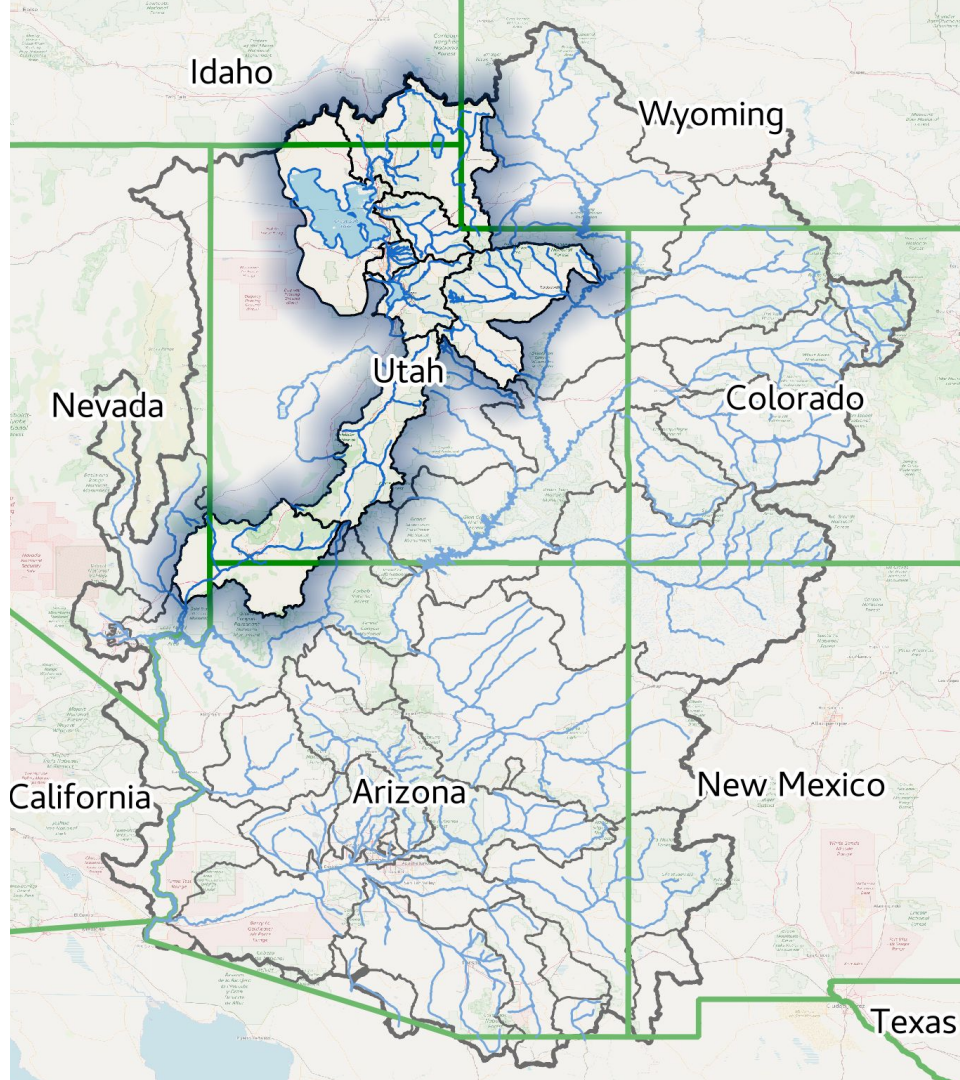
Colorado Basin River Forecast Center

Presenter: - Brenda Alcorn

Utah Forecasters: Trevor Grout
Brenda Alcorn
Patrick Kormos

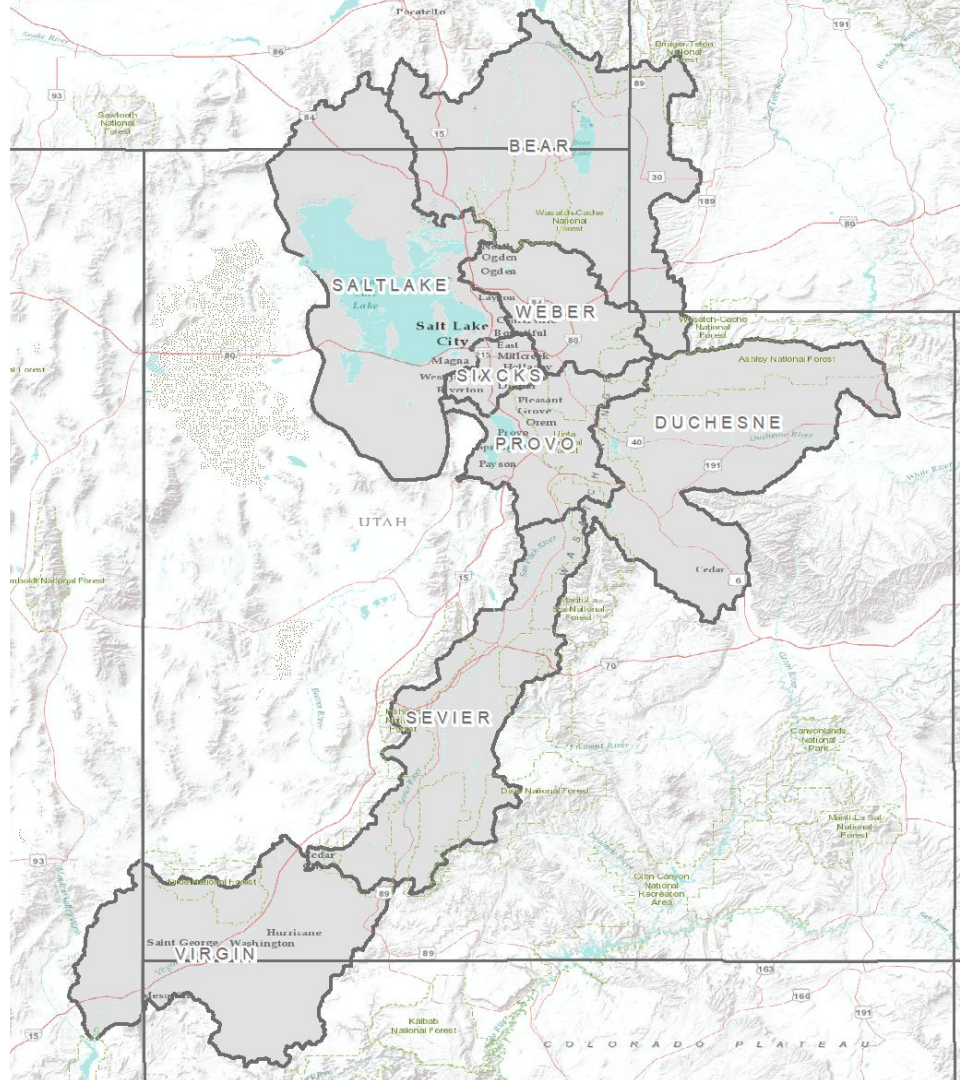
Questions: Type questions into the 'Questions'
Box or Raise Hand

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

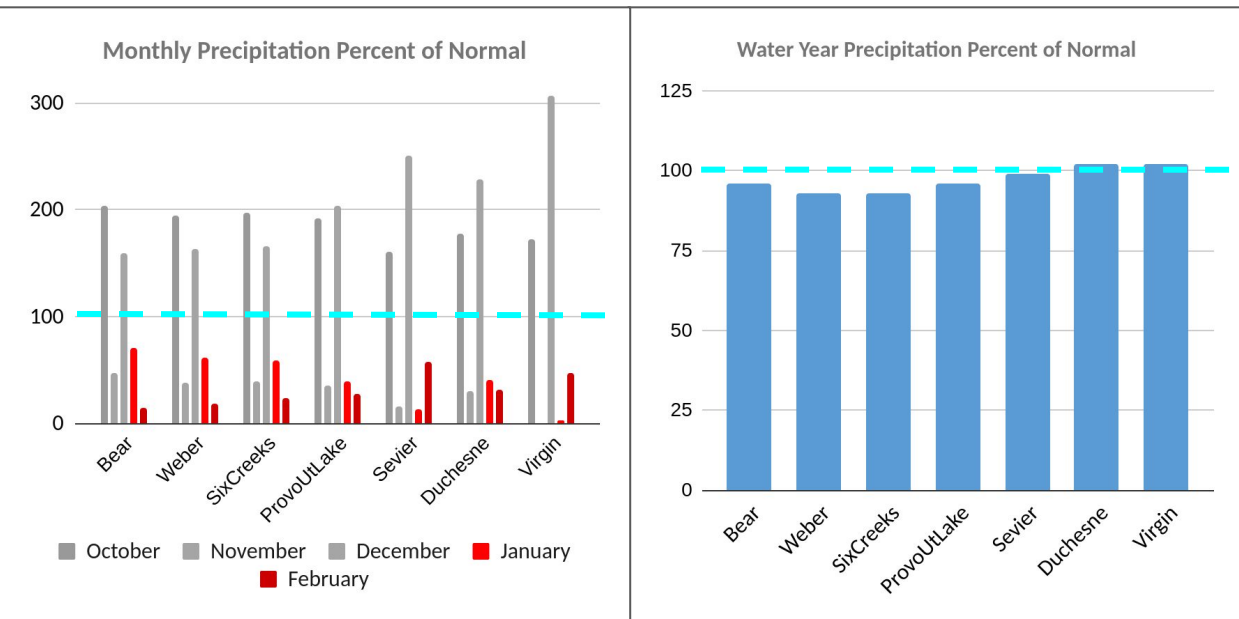


Utah Water Supply Briefing

1. Weather Review (Precipitation)
2. Current Snowpack
3. 2022 Water Supply Forecasts
4. March Forecast Error
5. Recent/Upcoming Weather
6. Contacts & Questions
7. CBRFC Water Supply Web Page



2022 Water Year Precipitation October - February

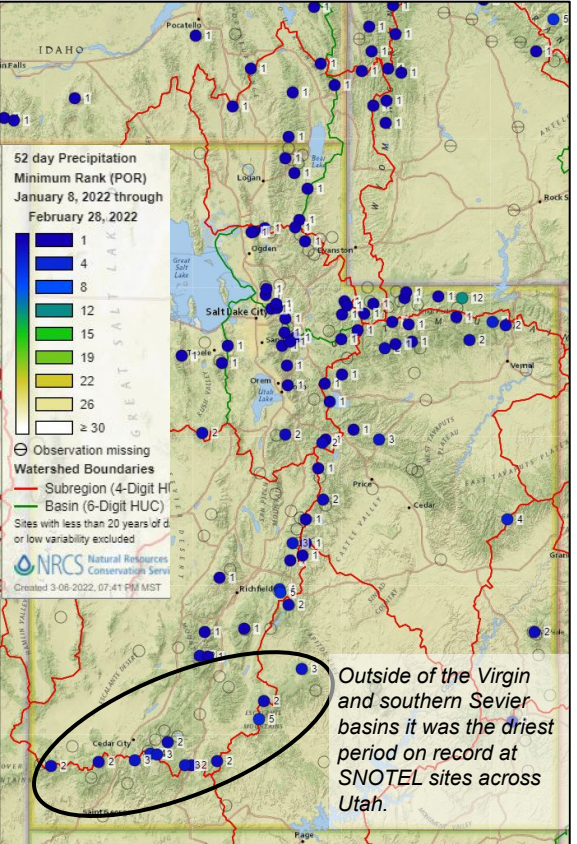


- Much above normal precip.
 - October, December
- Much below normal precip.
 - November, January, February

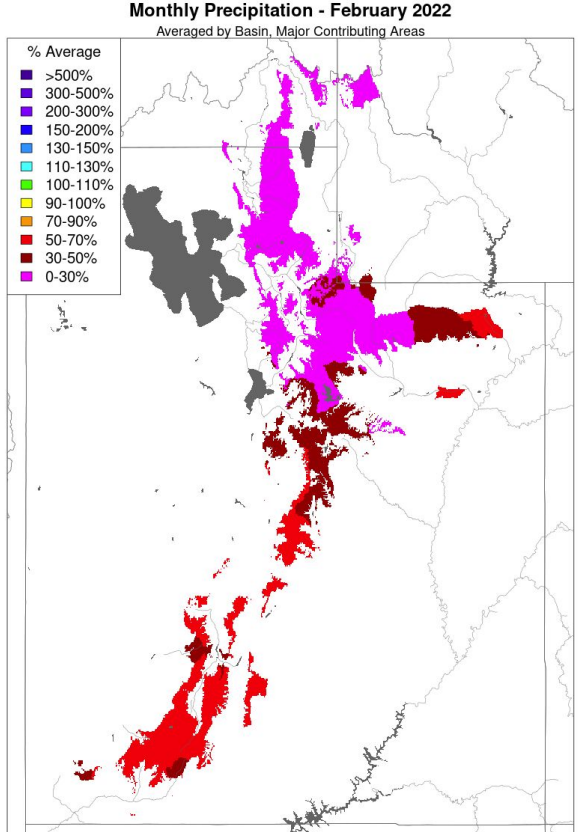
Forecast Group	Percent of WY normal
Bear	96
Weber	93
Six Creeks	93
Provo	96
Sevier	99
Duchesne	102
Virgin	102

Utah Weather Review - Precipitation

January 8 - February 28

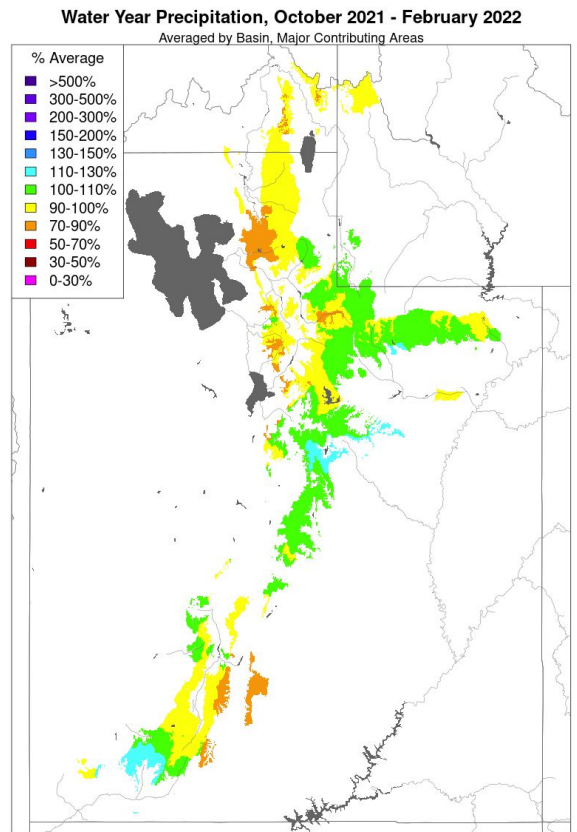


February 2022



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

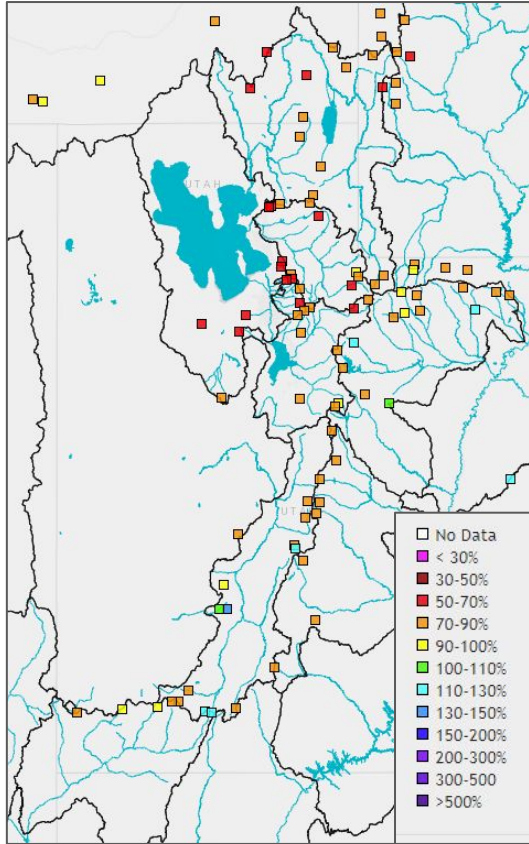
Water Year Precipitation



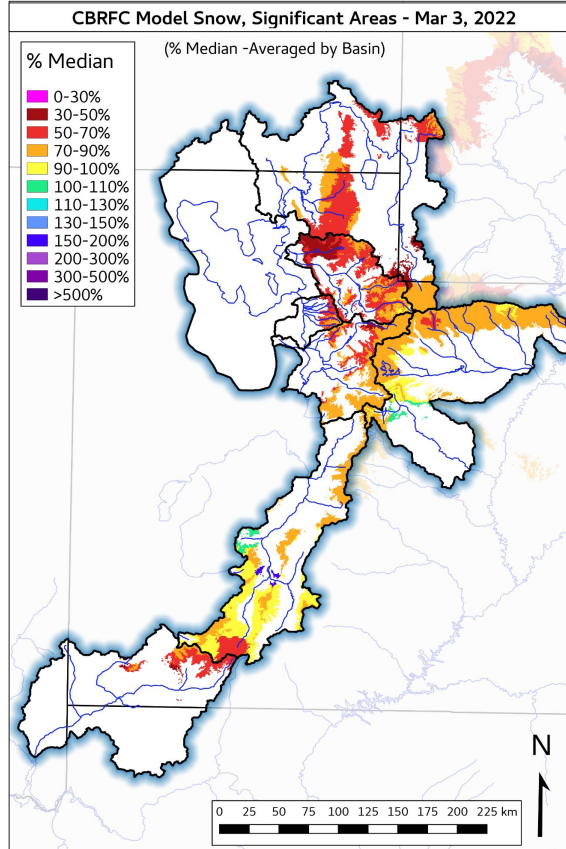
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Utah Current Snowpack - March 3

SNOTEL (Observed)



CBRFC Model Snow, Significant Areas - Mar 3, 2022



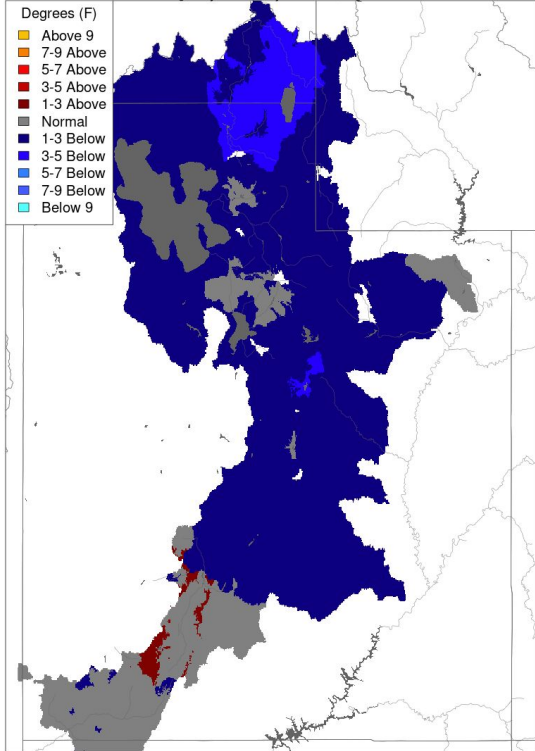
As of March 1, 2022
CBRFC Snow Groups (SNOTEL Stations)

Bear	80%
Weber	70%
Six Creeks	75%
Provo	80%
Duchesne	90%
Sevier	95%
Virgin	95%

Utah Current Snowpack

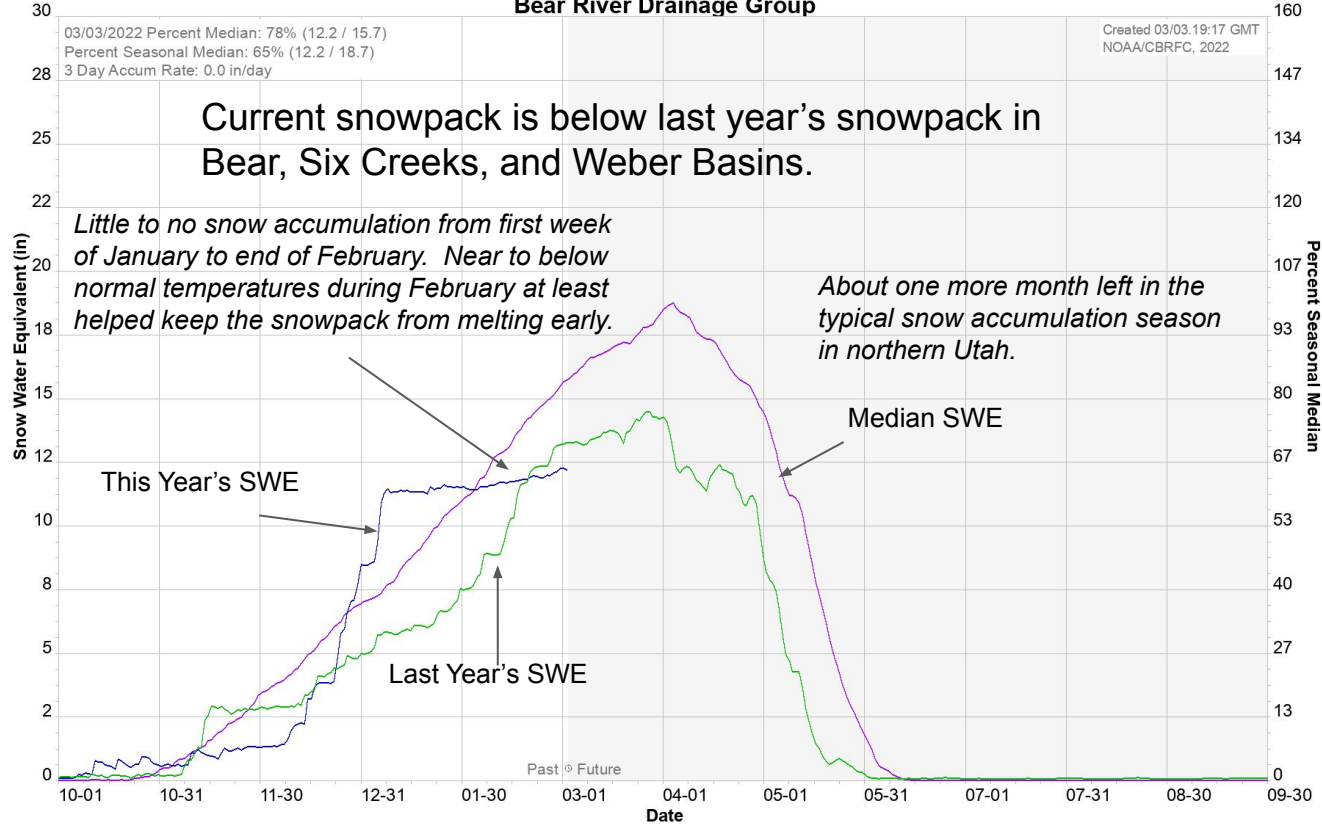
Max Temp - Monthly Deviation - February 2022

Averaged by Basin, Major Contributing Areas

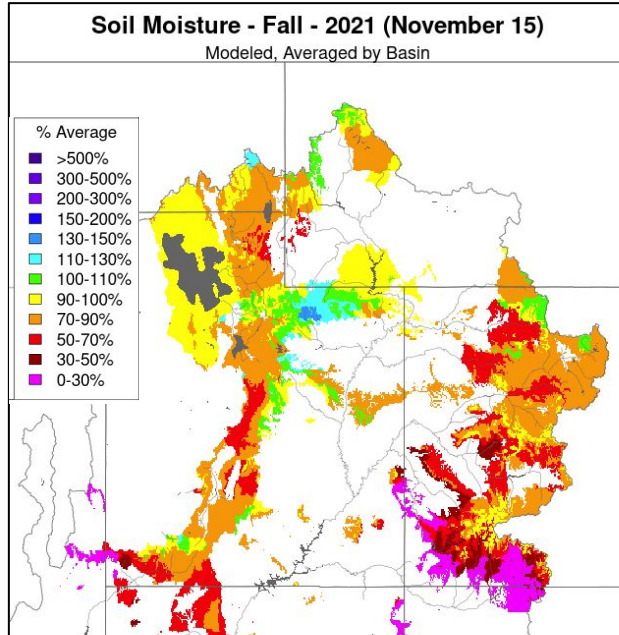


Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Colorado Basin River Forecast Center
Bear River Drainage Group



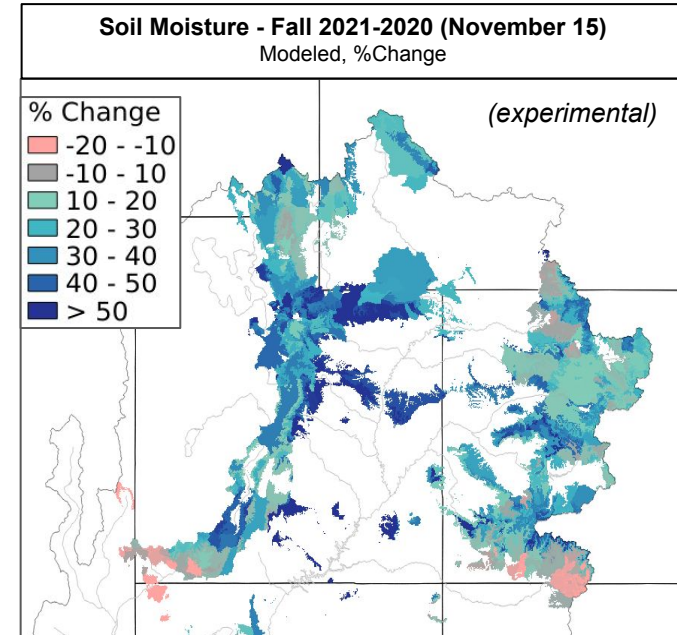
Fall Model Soil Moisture Conditions: 2020 vs. 2021



The timing and magnitude of spring runoff is ultimately a result of SWE conditions, spring weather, and antecedent soil moisture conditions.

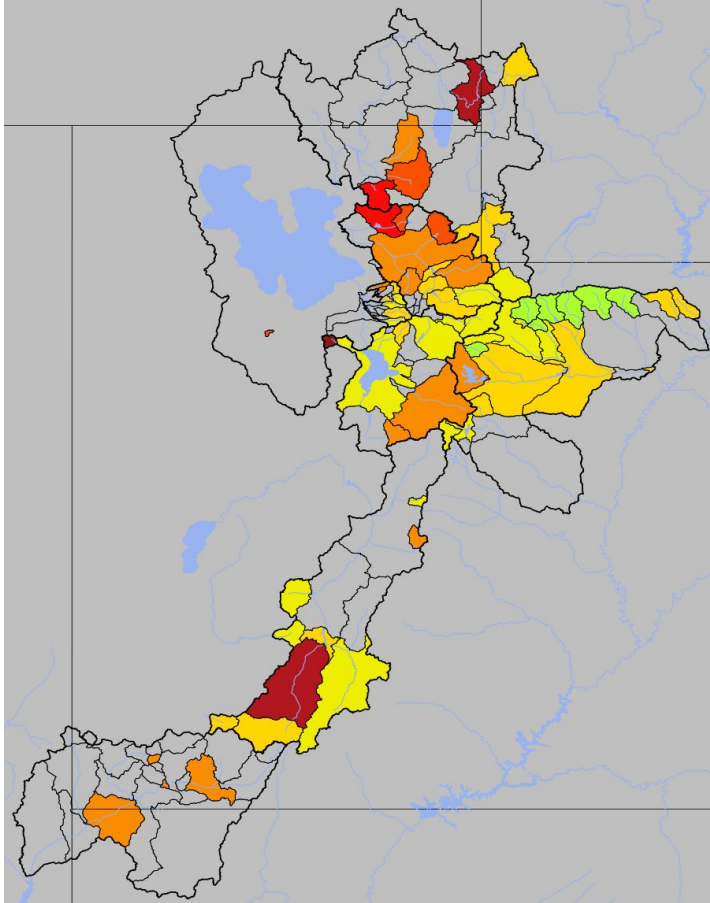
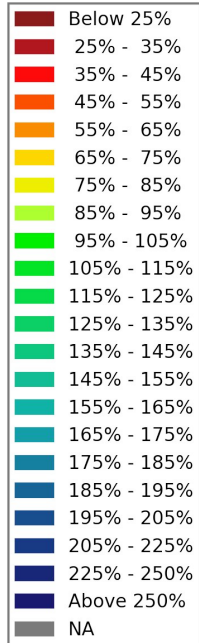
CBRFC model soil moisture conditions are improved from their record/near record dry levels a year ago but remain below to well below normal across much of Utah with the exception of the Duchesne River Basin and headwaters of the Bear, Weber, and Provo Rivers.

Basins with above average soil moisture conditions can be expected to experience more efficient runoff from rainfall or snowmelt while basins with below average soil moisture conditions can be expected to have lower runoff efficiency until soil moisture deficits are fulfilled.



Utah Water Supply Forecasts - Overview

Percent of Average



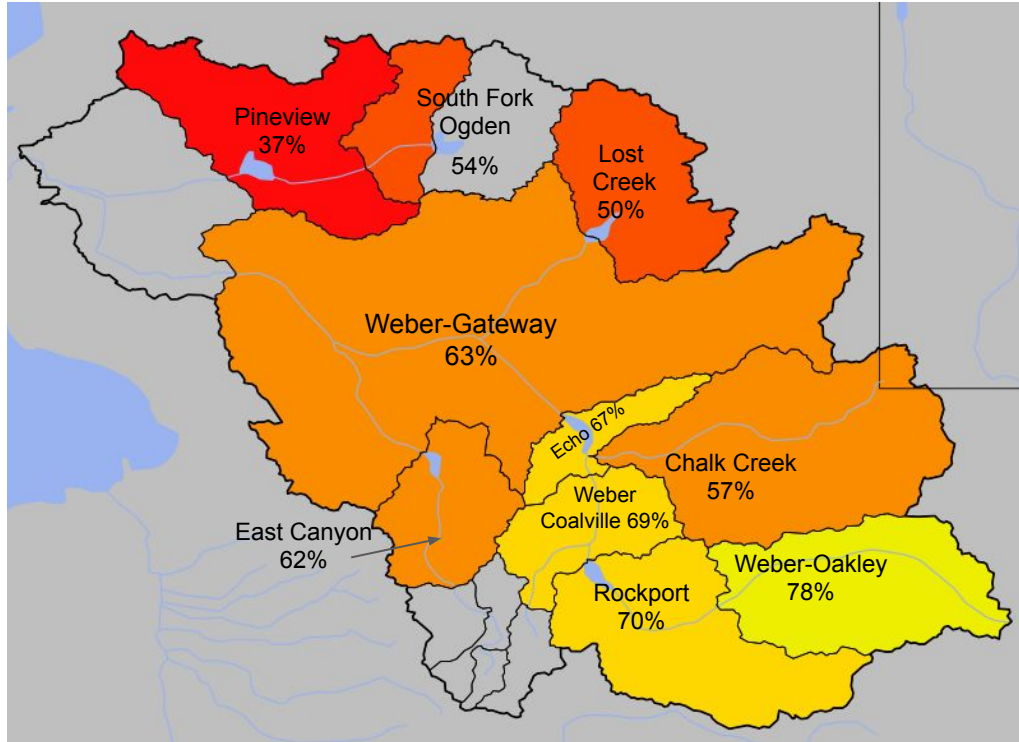
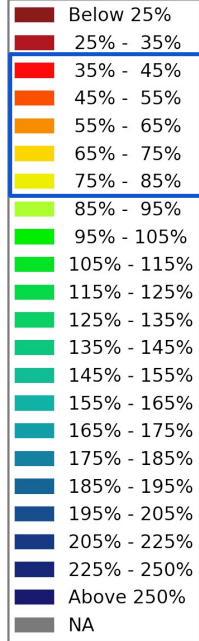
- March 1 Forecast for April-July Volume
- April-July Forecast Streamflow Volumes are in percent of 1991-2020 average
- 15-25% declines in forecasts from Feb. 1

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

Weber	65%
Bear	60%
Six Creeks	75%
Provo / Utah Lake	70%
Sevier	75%
Duchesne	75%
Virgin	60%

Utah Water Supply Forecasts - Weber

Percent of Average



Weber River Basin Forecasts

January: 110% of Normal

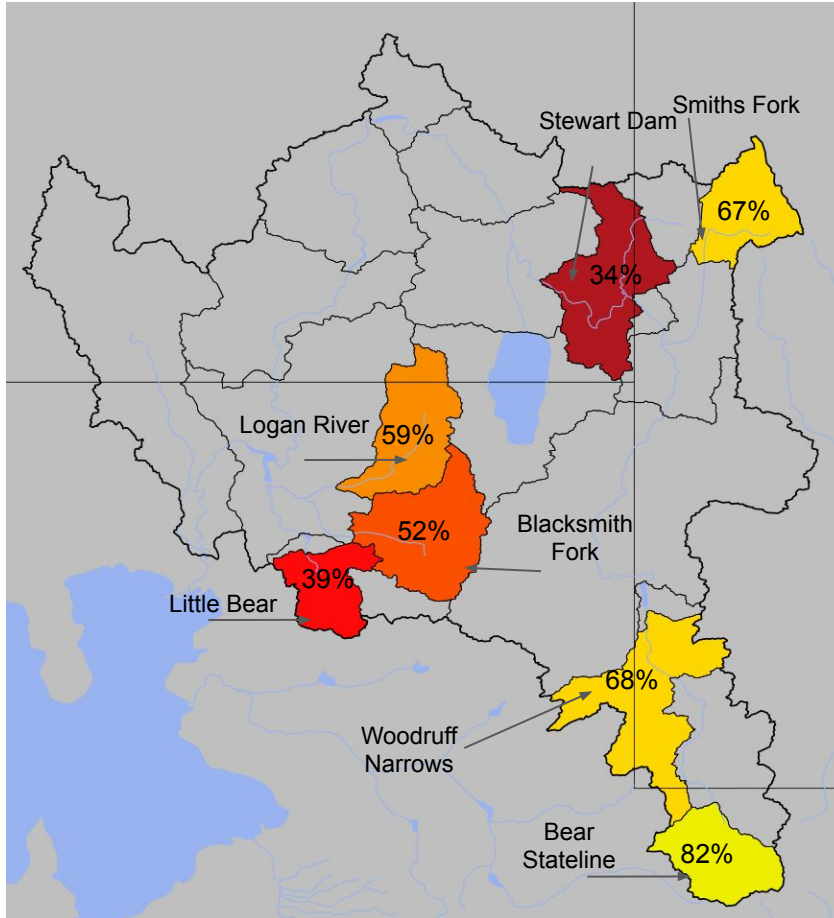
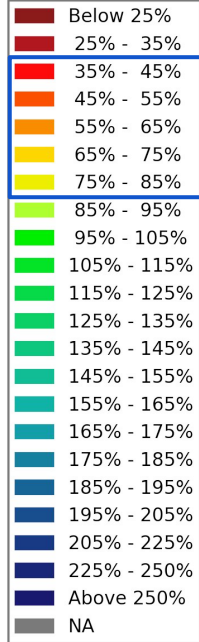
February: 85% of Normal

March: **65%** of Normal

- Forecasts range from 35-80% of normal

Utah Water Supply Forecasts - Bear

Percent of Average



Bear River Basin Forecasts

January: 95% of Normal

February: 80% of Normal

March: **60%** of Normal

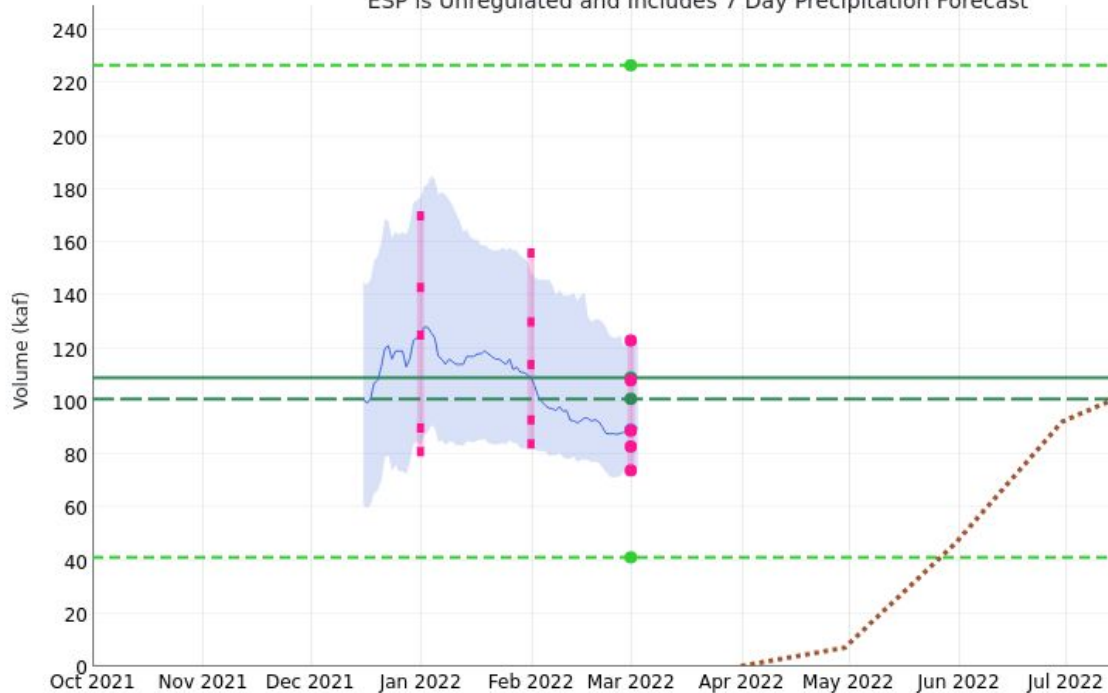
- Forecasts range from 35-80% of normal

Utah Water Supply Forecasts - Bear

Bear - Utah-Wyoming State Line, Nr (BERU1)

Period: Apr-Jul, Official 50% Forecast (2022-03-01): **89 kaf (82% Average, 88% Median)**

ESP is Unregulated and Includes 7 Day Precipitation Forecast



2022/03/01:

Max 2011: 226.82

Min 1977: 41.21

Average: 109

Median: 101

ESP: 89.3

Official 10: 123

Official 30: 108

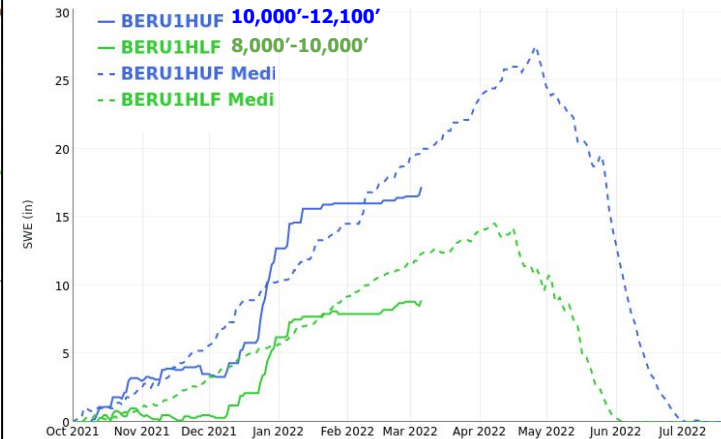
Official 50: 89

Official 70: 83

Official 90: 74

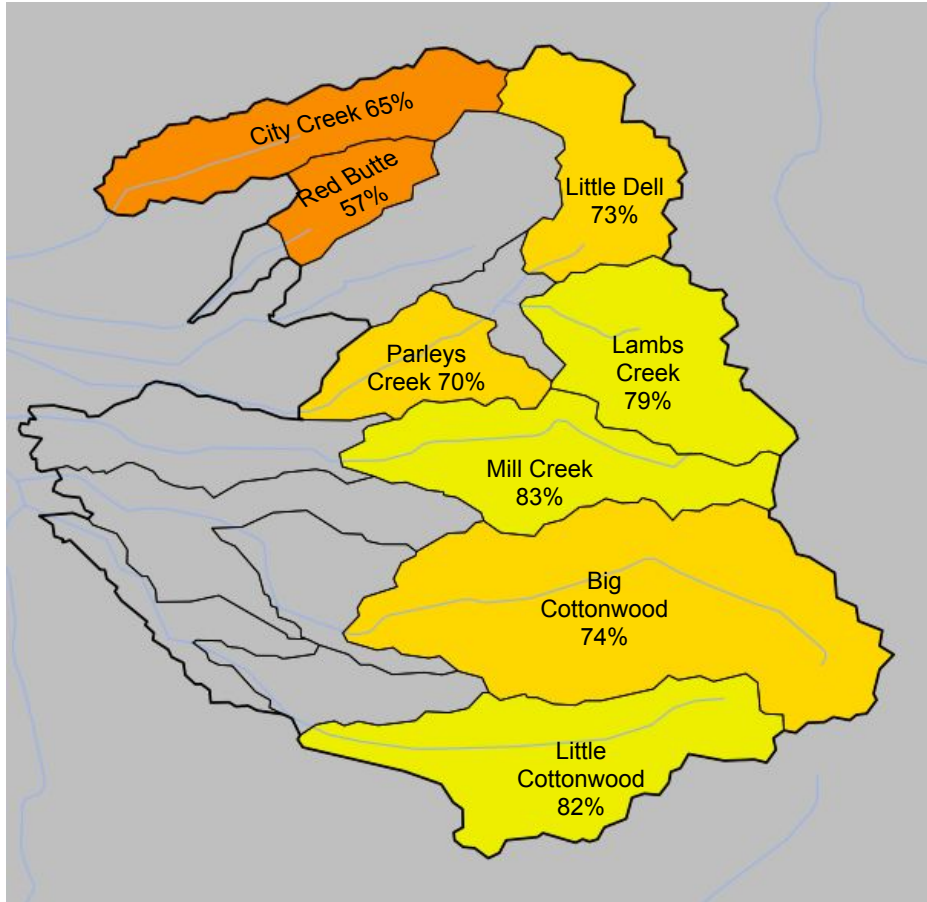
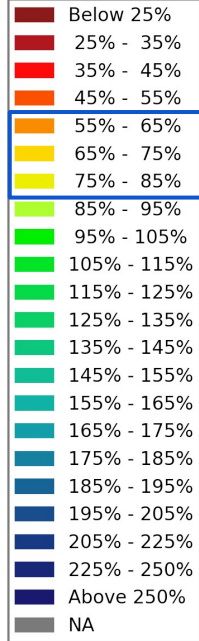
Model Snow

Bear - Utah-Wyoming State Line, Nr (BERU1)



Utah Water Supply Forecasts - Six Creeks

Percent of Average



Six Creeks Basin Forecasts

January: 115% of Normal

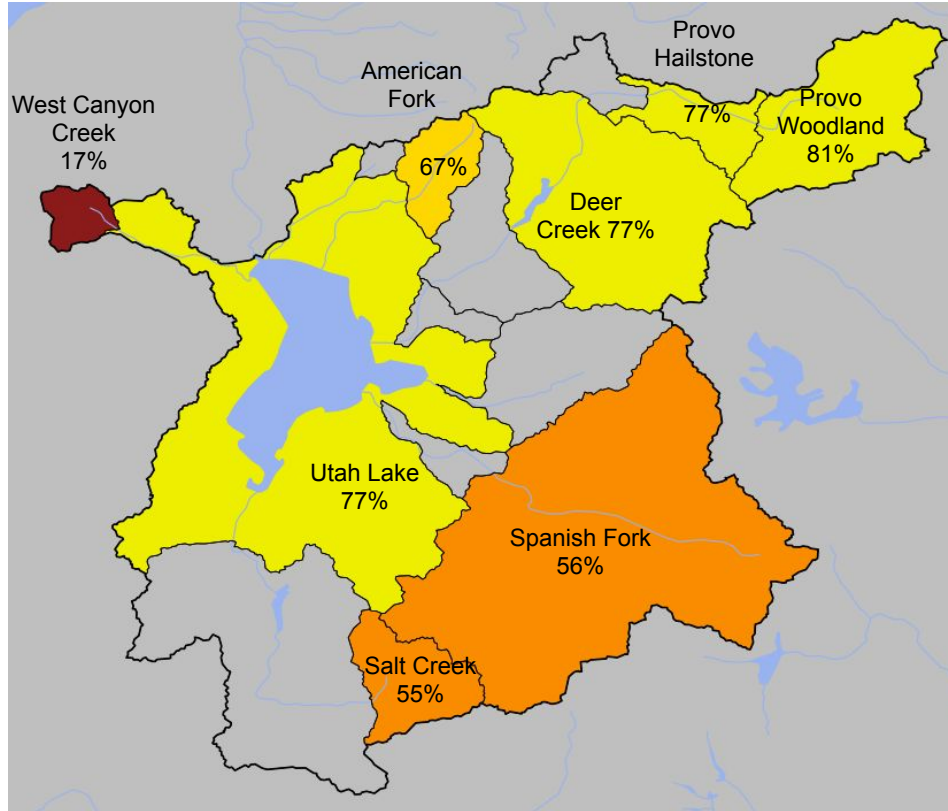
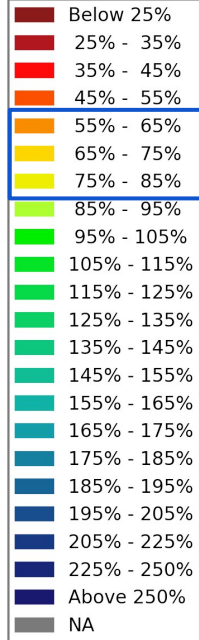
February: 100% of Normal

March: **75%** of Normal

- Forecasts range from 55-85% of normal

Utah Water Supply Forecasts - Utah Lake Basin

Percent of Average



Utah Lake Basin Forecasts

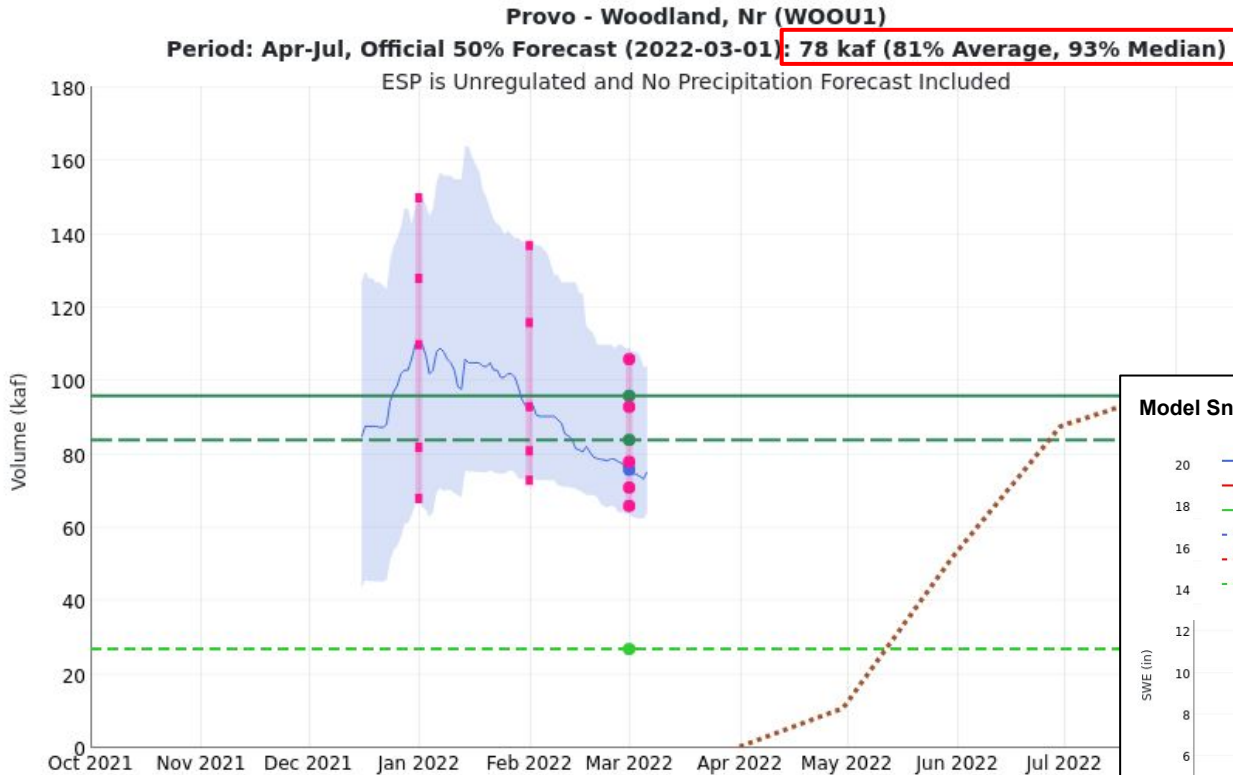
January: 110% of Normal

February: 85% of Normal

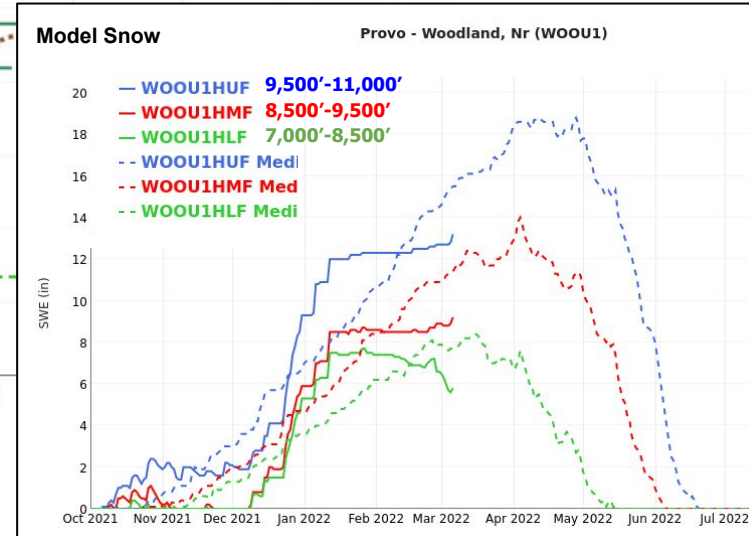
March: **70%** of Normal

- Forecasts range from 55-80% of normal

Utah Water Supply Forecasts - Utah Lake Basin

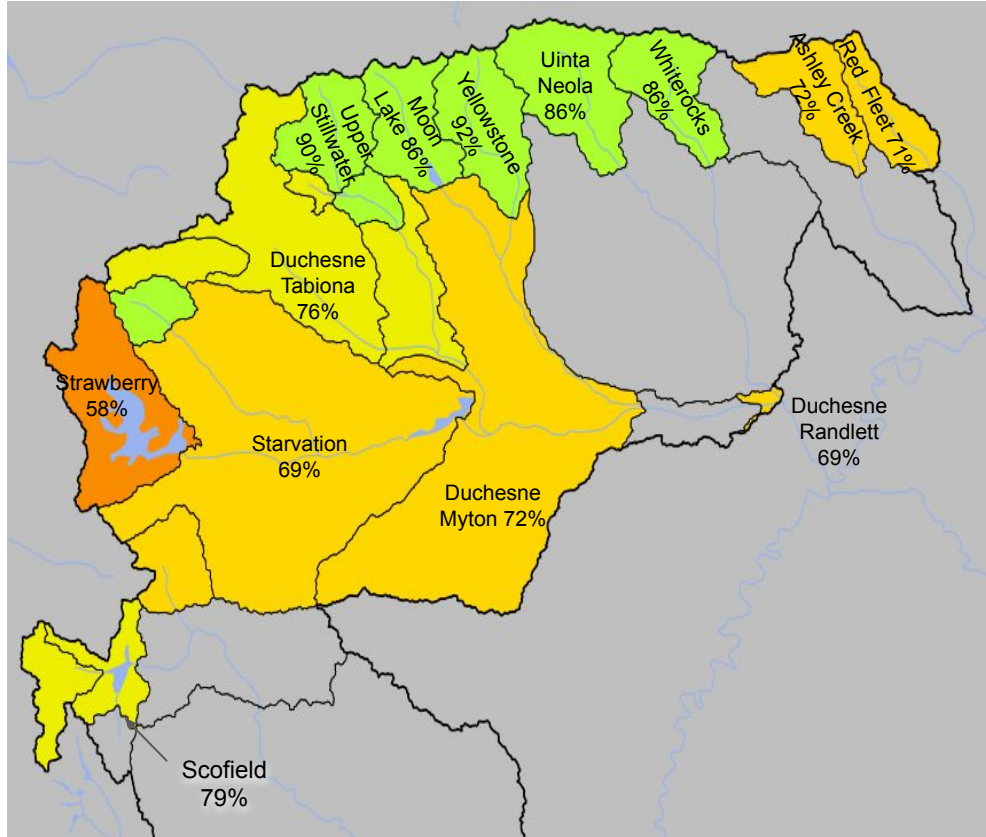
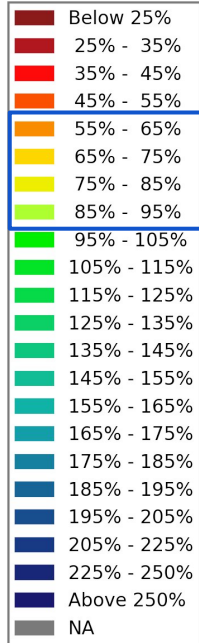


2022/03/01:
Min 1977: 26.99
Average: 96
Median: 84
ESP: 75.9
Official 10: 106
Official 30: 93
Official 50: 78
Official 70: 71
Official 90: 66



Utah Water Supply Forecasts - Duchesne

Percent of Average



Duchesne River Basin

January: 110% of Normal

February: 90% of Normal

March: **75%** of Normal

- Forecasts range from 60-90% of normal

Price River Basin

January: 125% of Normal

February: 85% of Normal

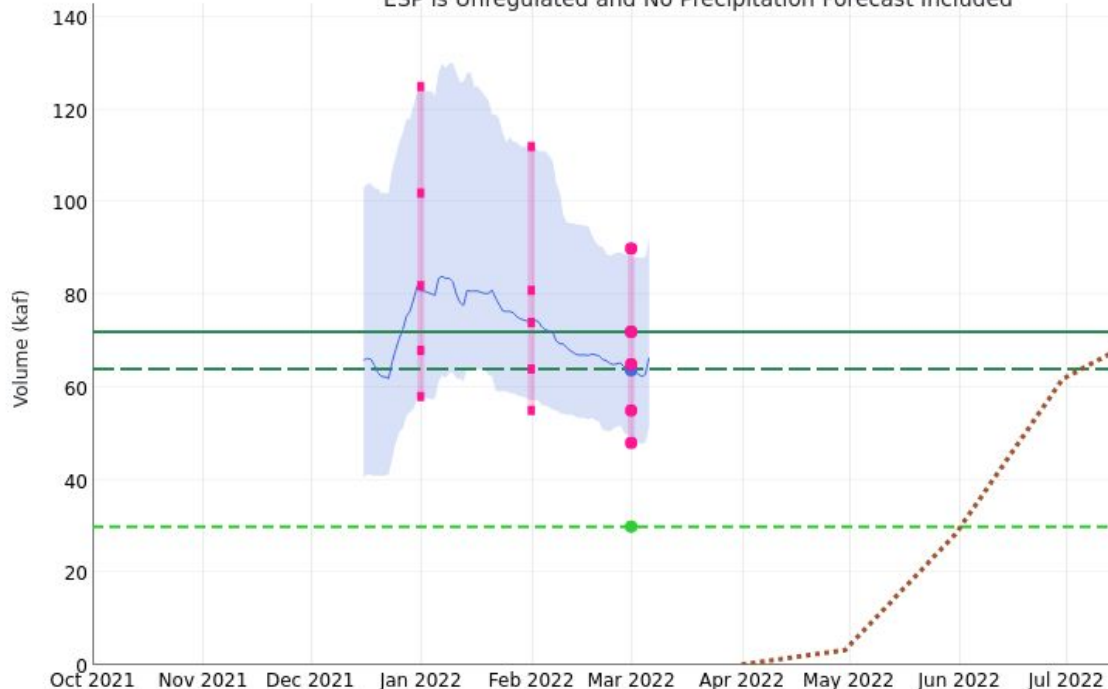
March: **80%** of Normal

Utah Water Supply Forecasts - Duchesne

Rock Ck - Upper Stillwater Reservoir (USTU1)

Period: Apr-Jul, Official 50% Forecast (2022-03-01): **65 kaf (90% Average, 102% Median)**

ESP is Unregulated and No Precipitation Forecast Included



2022/03/01:

Min 1977: 29.9

Average: 72

Median: 64

ESP: 63.7

Official 10: 90

Official 30: 72

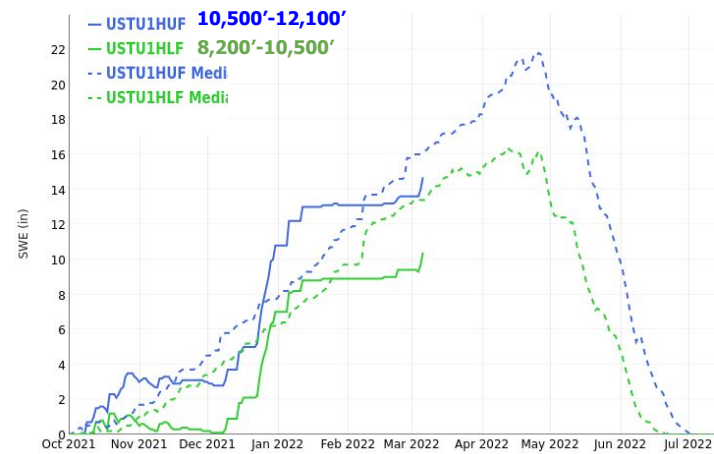
Official 50: 65

Official 70: 55

Official 90: 48

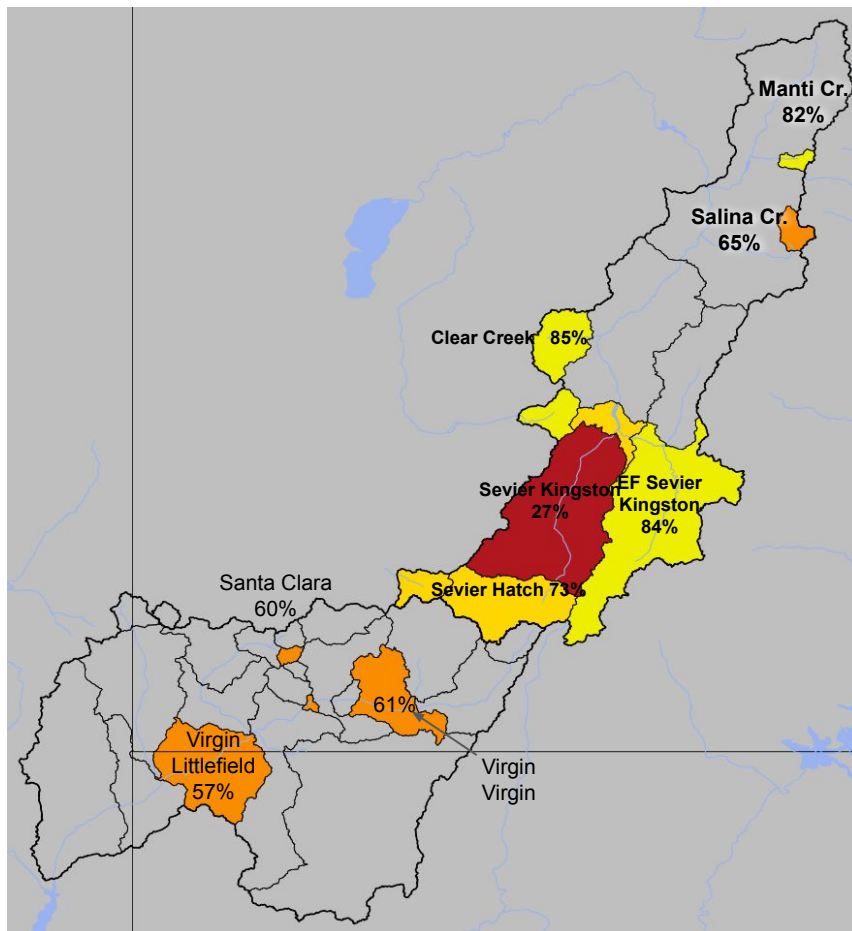
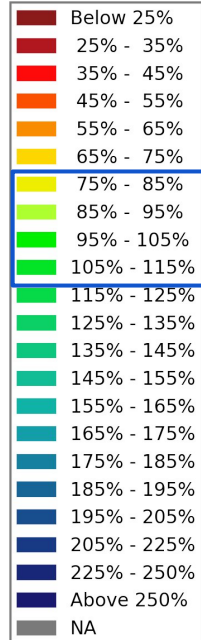
Model Snow

Rock Ck - Upper Stillwater Reservoir (USTU1)



Utah Water Supply Forecasts - Sevier and Virgin

Percent of Average



Sevier River Basin Forecasts (regulated)

January: 105% of Normal

February: 90% of Normal

March: **75%** of Normal

- Forecasts range from 25-85% of normal

Virgin River Basin Forecasts

January: 90% of Normal

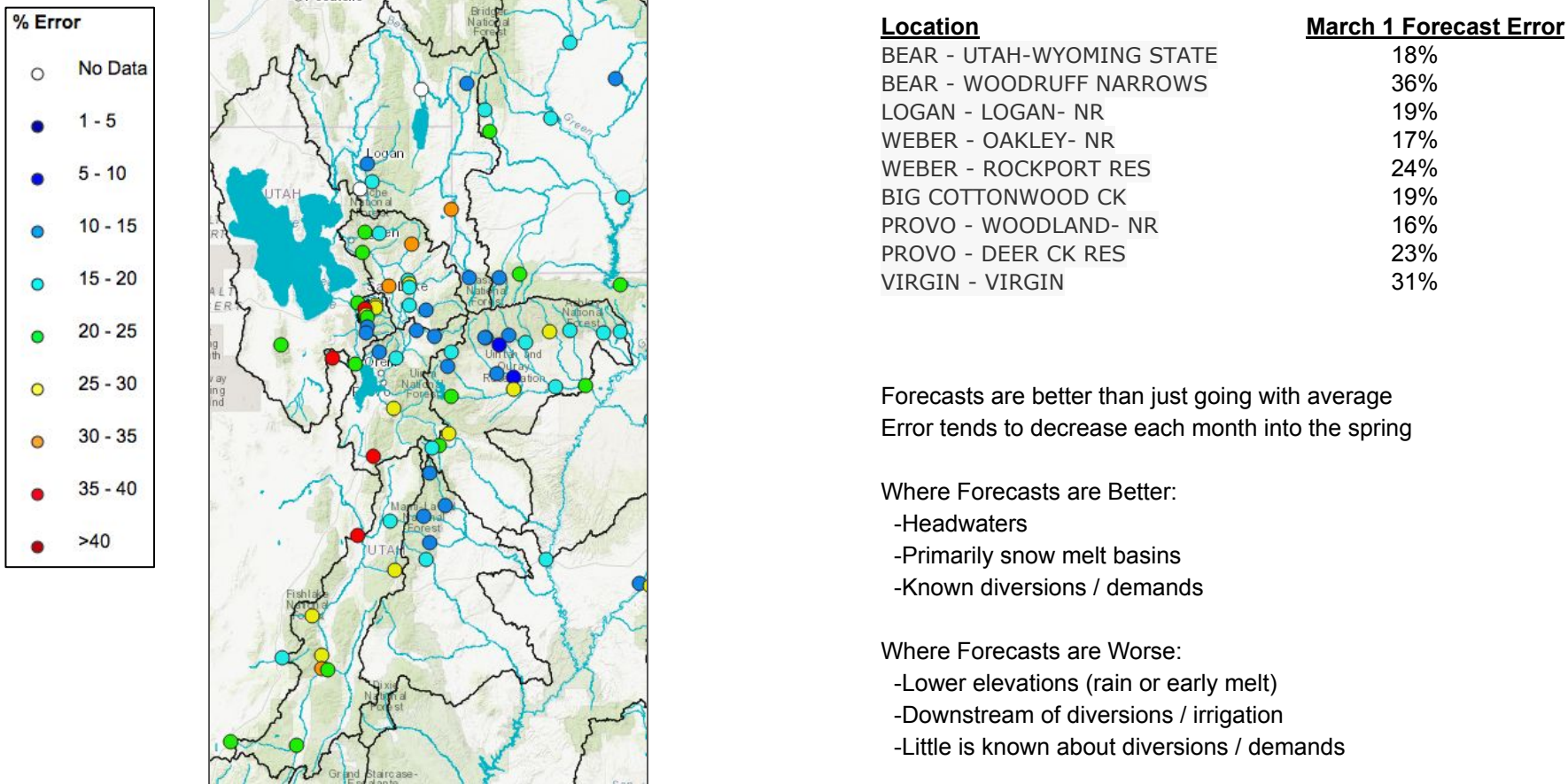
February: 75% of Normal

March: **60%** of Normal

- Forecasts range from 55-60% of normal

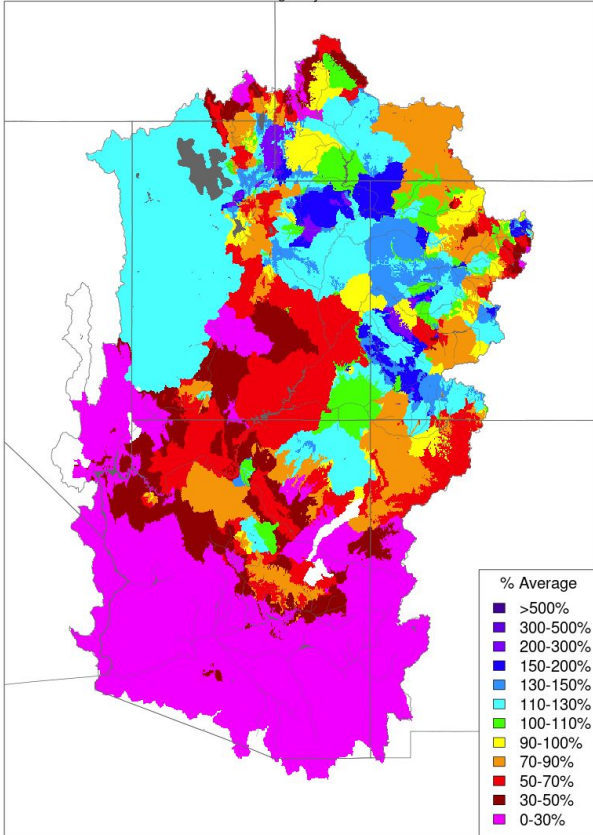
Historical (1981-2010) Forecast Verification

March Forecast Error: April-July Volume

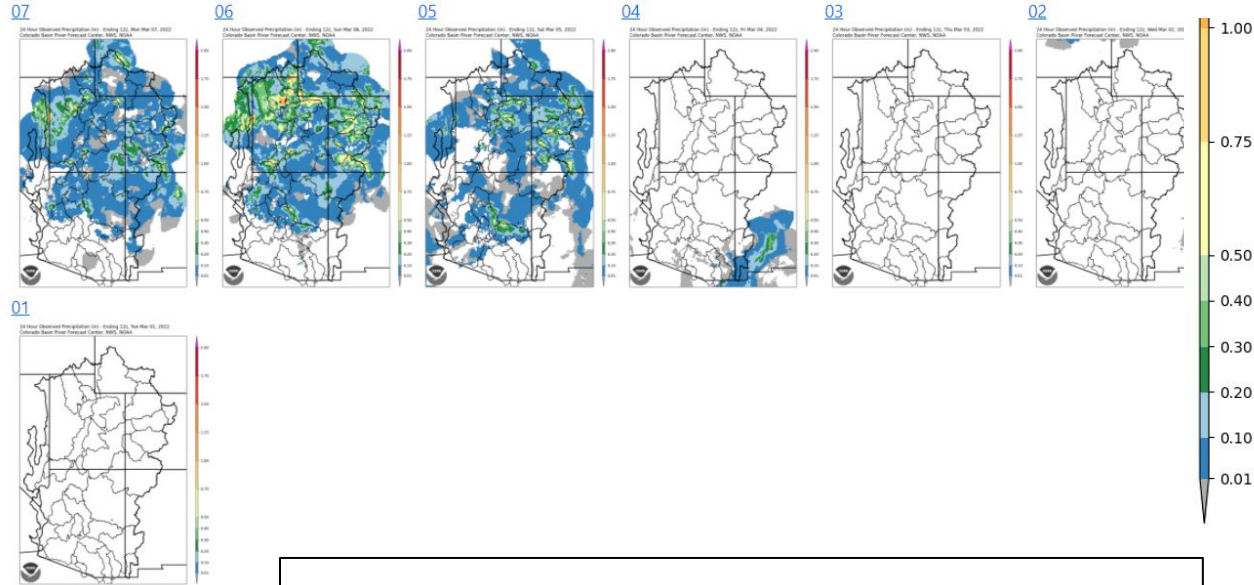


March 2022 Month-To-Date Precipitation

Month to Date Precipitation - March 07 2022
Averaged by Basin



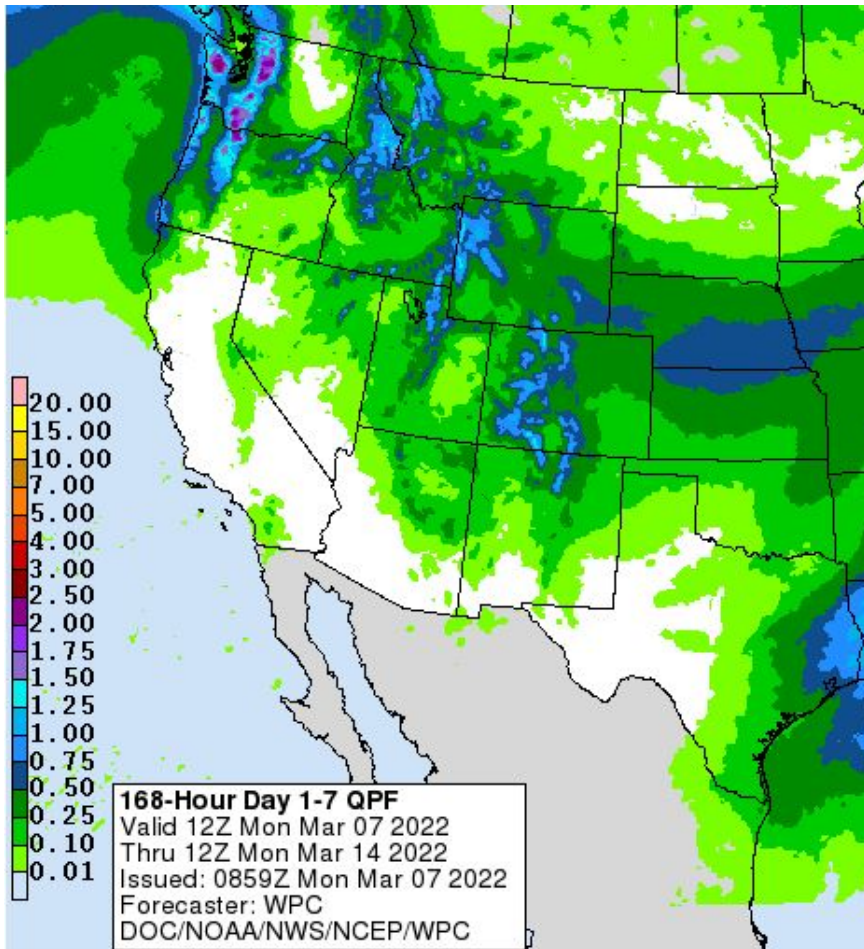
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov



Much above normal temperatures in early March caused some low elevation snowmelt across Utah.

A storm system brought widespread precipitation to the state March 5-7.

Upcoming Weather: WPC March 7-14 Precipitation Outlook



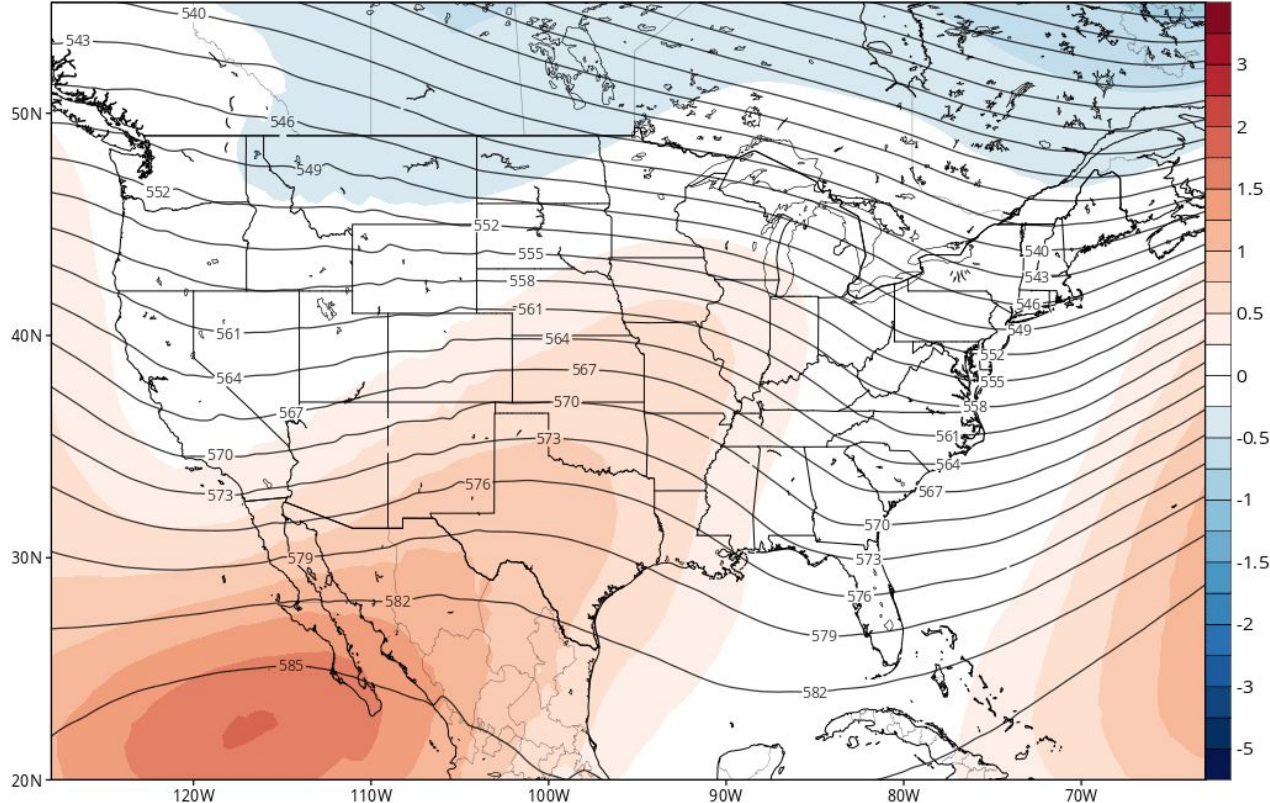
- A southward moving trough will bring precipitation to Utah Tuesday-Wednesday this week.
 - Highest totals around 1" expected for the high terrain of northern Utah, less elsewhere
- An upper-level ridge will move over the Western US during the latter half of the week, bringing quiet weather through the weekend.

Upcoming Weather: March 14-21

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

Init: 06z Mar 07 2022 Forecast Hour: [222] valid at 12z Wed, Mar 16 2022

TROPICALTIDBITS.COM



- Possibility of a long-wave trough forming over the Western US
 - Models are not in agreement at this time
 - A trough would favor precipitation in Utah
- High uncertainty in precipitation amounts and placement

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

Slightly elevated odds of above average precip and below average temperatures across far northern basins.
Slightly elevated odds of below average precip and above average temperatures across southern basins.

Precipitation Outlook

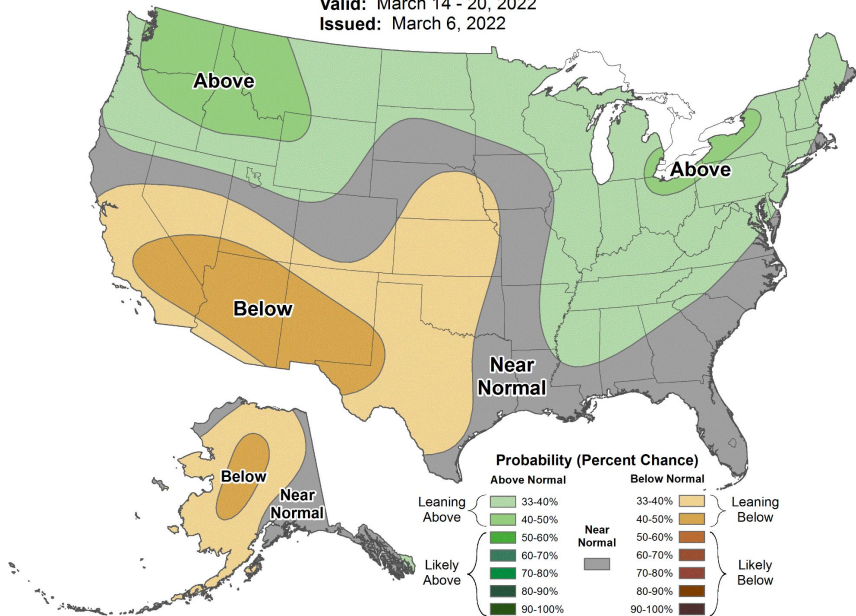
Temperature Outlook



8-14 Day Precipitation Outlook



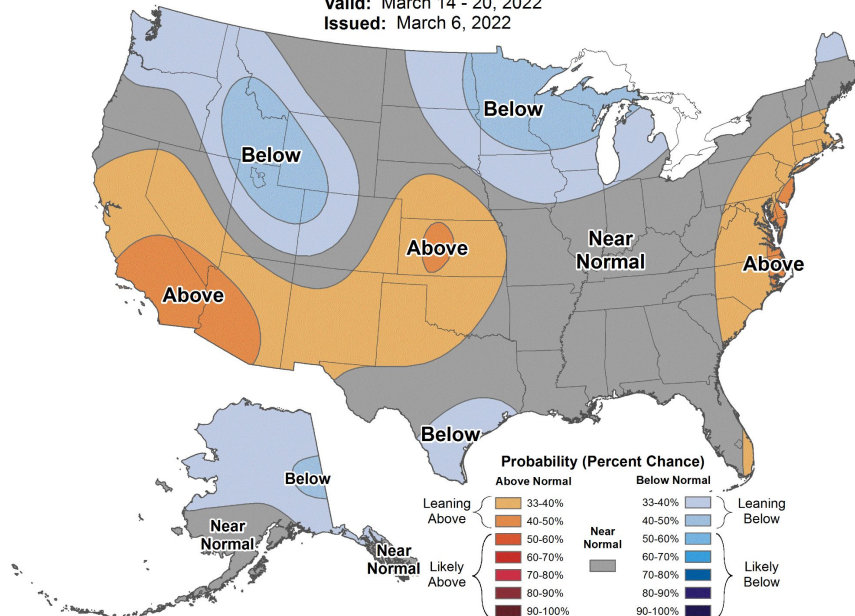
Valid: March 14 - 20, 2022
Issued: March 6, 2022



8-14 Day Temperature Outlook



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



Summary

- Thanks to October and December, the water year precipitation is still near normal even with the extremely dry January and February.
 - February precipitation was much below normal with record to near record low amounts across Utah.
- Snowpack conditions have declined as a percent of normal since the end of January with little new snow accumulation across the state during February.
 - Duchesne, Virgin and Sevier River Basin snowpack was still near normal as of March 1.
 - Bear, Weber, Six Creeks, and Provo basins all had below normal snowpack.
- Fall soil moisture was below normal in general (Duchesne River Basin is the exception)
- Water Supply Forecasts have declined from February 1 in response to the lack of precipitation.
- A good start to March so far.
- Future weather shows chances for additional precipitation this week and possibly next week as well.

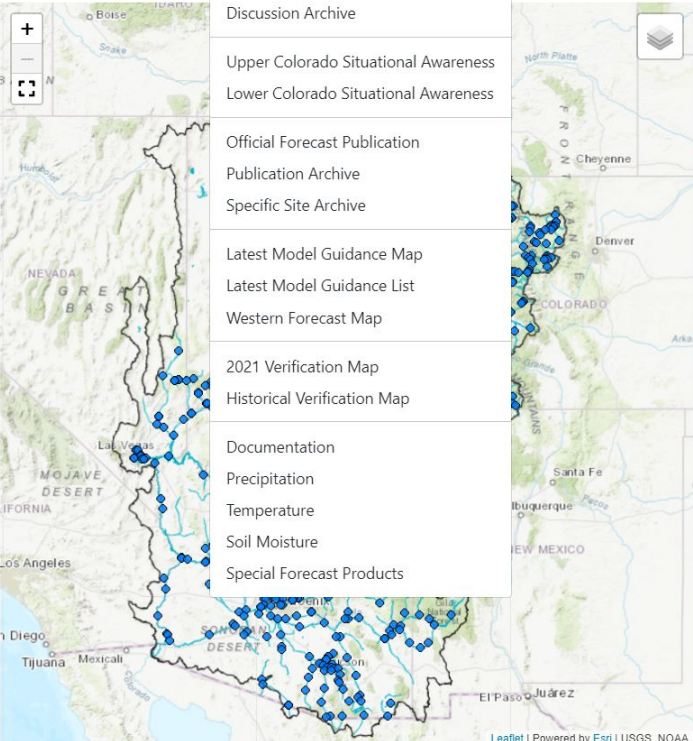
CBRFC Web Water Supply Live Demo

Home Rivers ▾ Snow ▾ Water Supply ▾ Reservoirs ▾ Weather ▾ Climate ▾ Help ▾ About ▾ News ▾

Monday, March 7, 2022: CBRFC [Info](#)

Conditions Map He

- Official Forecast Map
- Official Forecast List
- Official Forecast Discussion
- Discussion Archive
- Upper Colorado Situational Awareness
- Lower Colorado Situational Awareness
- Official Forecast Publication
- Publication Archive
- Specific Site Archive
- Latest Model Guidance Map
- Latest Model Guidance List
- Western Forecast Map
- 2021 Verification Map
- Historical Verification Map
- Documentation
- Precipitation
- Temperature
- Soil Moisture
- Special Forecast Products



River Conditions

Data Updated: 03/04/18Z Help

Show Hide Other Types

- Data
- Forecast
- Reservoir Inflow
- Reservoir Outflow
- Official Flood
- Active

- ◆ Not Available
- ◆ Normal
- ◆ Significant Rise
- ◆ Near Action
- ◆ Above Action
- ◆ Above Flood Stage
- ◆ Outlook (> 3 days)

Popup Alerts

Old Hydrographs

- Snow Conditions
- Water Supply Forecasts
- Peak Flow Forecasts
- Reservoir Conditions
- Daily Precipitation
- Monthly Precipitation
- Soil Moisture

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You can access most of the graphics and maps that we use in our webinars through the Water Supply drop down menu on our web page (www.cbrfc.noaa.gov).

There is also a lot of additional information and documentation available here.

Please see the webinar recording for more information and a live web demo.

We encourage you to explore and let us know if you have any questions.

2022 Water Supply Webinar Schedule

**All Times Mountain Time (MT)*

Colorado River Basin

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

Great Basin

Friday	Jan 7th	11:30 am
Monday	Feb 7th	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 **rescheduled** to Monday, March 21, 1:00 pm MT

Additional briefings scheduled as needed

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

CBRFC Contacts & WY22 Basin Focal Points

Basin Focal Points (Forecasters)

Brenda Alcorn - Green, Duchesne, White/Yampa
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Ashley Nielson – Gunnison, San Juan, Dolores, Lake Powell
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Cody Moser – Upper Colorado Mainstem
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Patrick Kormos – Great Basin/Sevier
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Trevor Grout - Virgin, Lower Colorado
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Brent Bernard – Hydrologist
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Tracy Cox - Hydrometeorologist
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Nanette Hosenfeld - Senior Hydrometeorologist
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Michelle Stokes – Hydrologist In Charge
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Paul Miller– Service Coordination Hydrologist
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John Lhotak – Development and Operations Hydrologist
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CBRFC Webpage

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CBRFC Operations

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801-524-4004

CBRFC Water Supply Presentations

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

