

Utah Water Supply Briefing

May 6th, 2022

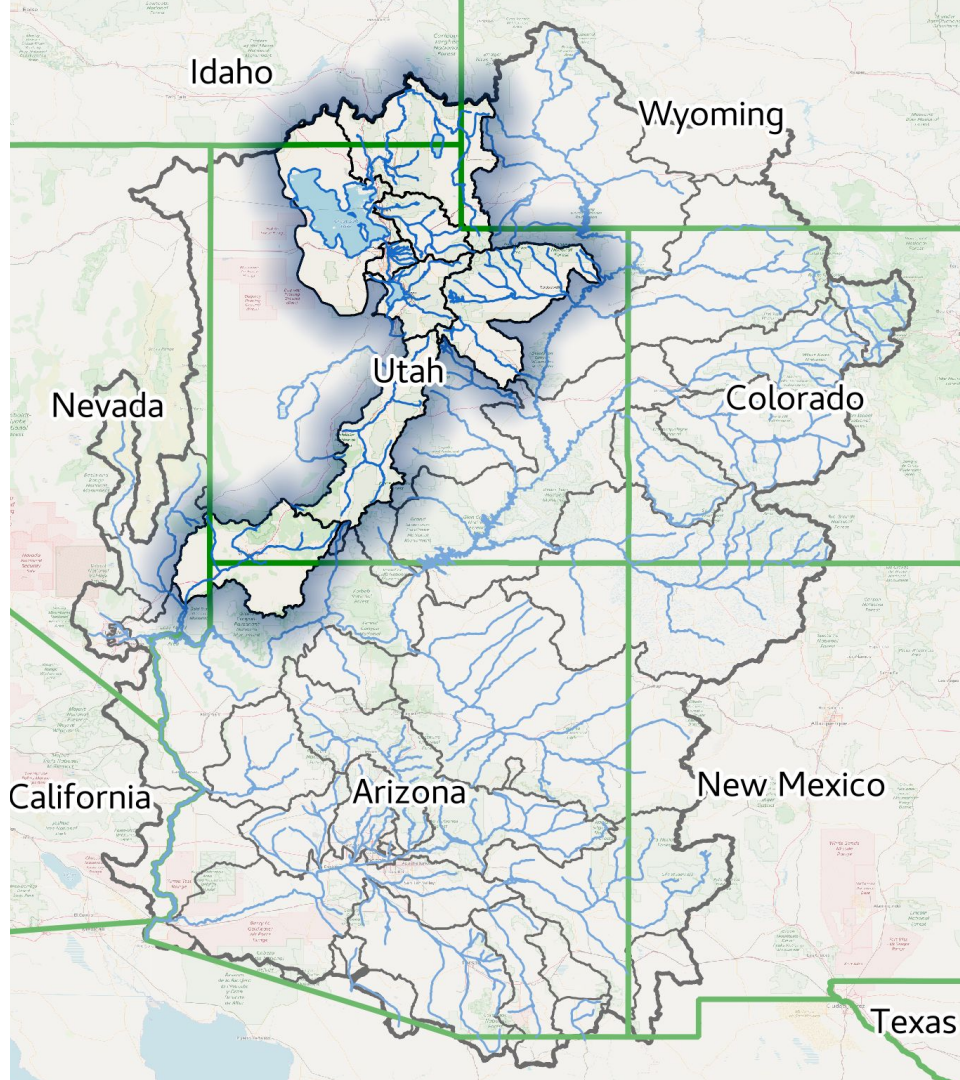
Colorado Basin River Forecast Center

Presenter: - Patrick Kormos

Utah Forecasters: Trevor Grout
Brenda Alcorn
Patrick Kormos

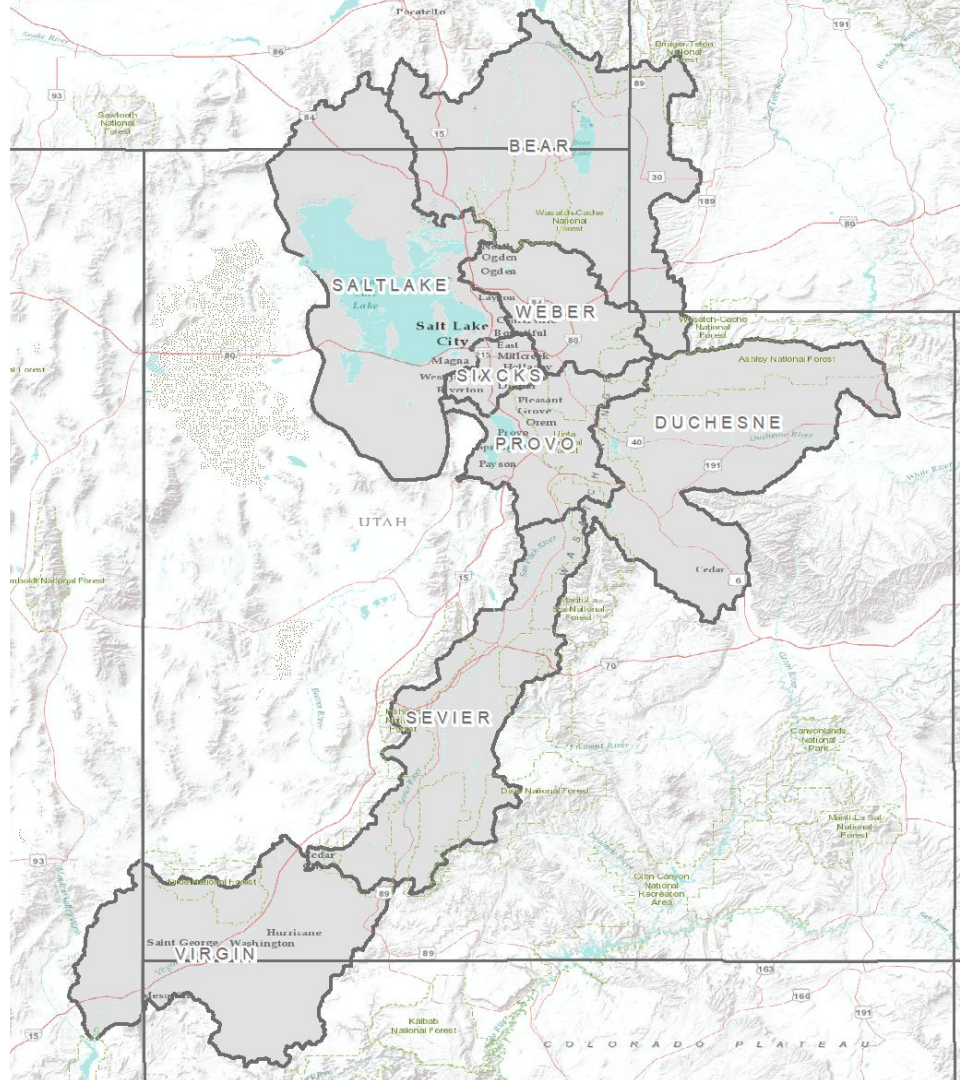
Questions: Type questions into the 'Questions'
Box or Raise Hand

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



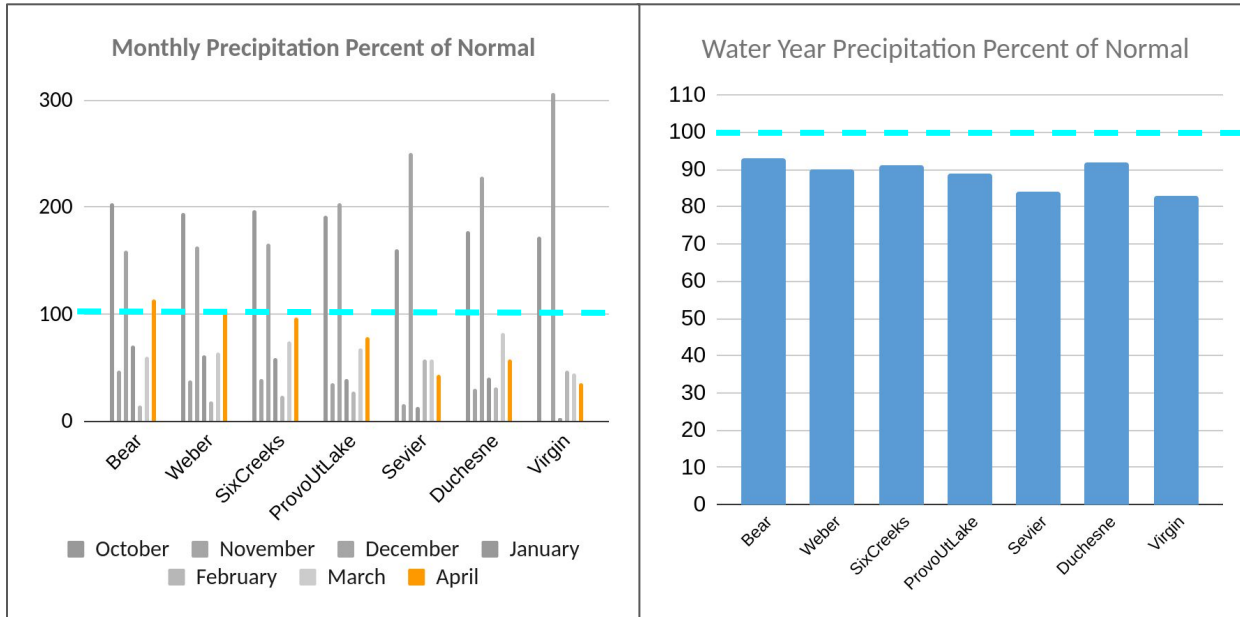
Utah Water Supply Briefing

1. Weather Review
2. Current Snowpack
3. April Runoff
4. 2022 Water Supply Forecasts
5. Typical Forecast Error
6. Upcoming Weather
7. Contacts & Questions



2022 Water Year Precipitation October - April

- Bear (113), Weber (103), Six Creeks (97): near to above normal.
- Water year precipitation is btw 80-95 percent of normal

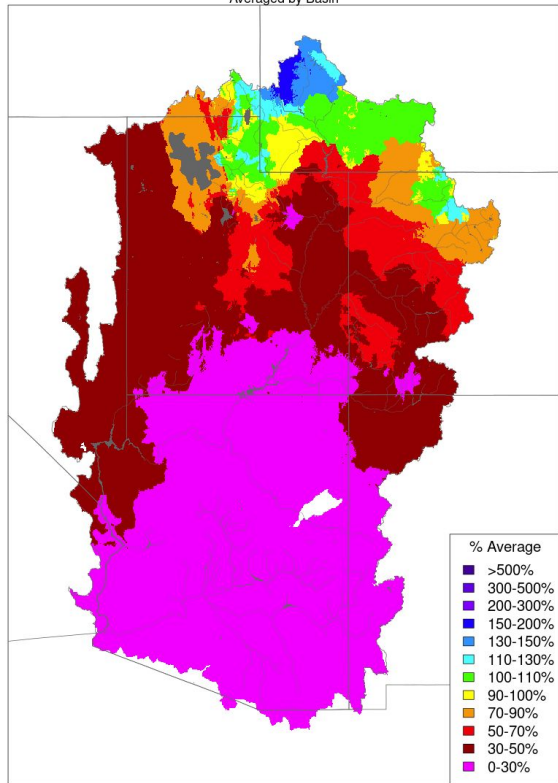


Forecast Group	Percent of WY normal
Bear	93
Weber	90
Six Creeks	91
Provo	89
Sevier	84
Duchesne	92
Virgin	83

Utah Weather Review - Precipitation

April 2022 CBRFC

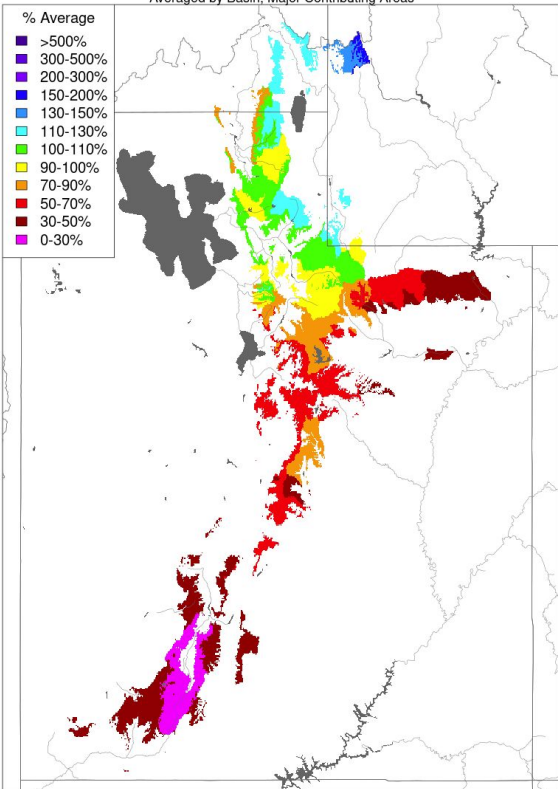
Monthly Precipitation - April 2022
Averaged by Basin



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

April 2022 Utah

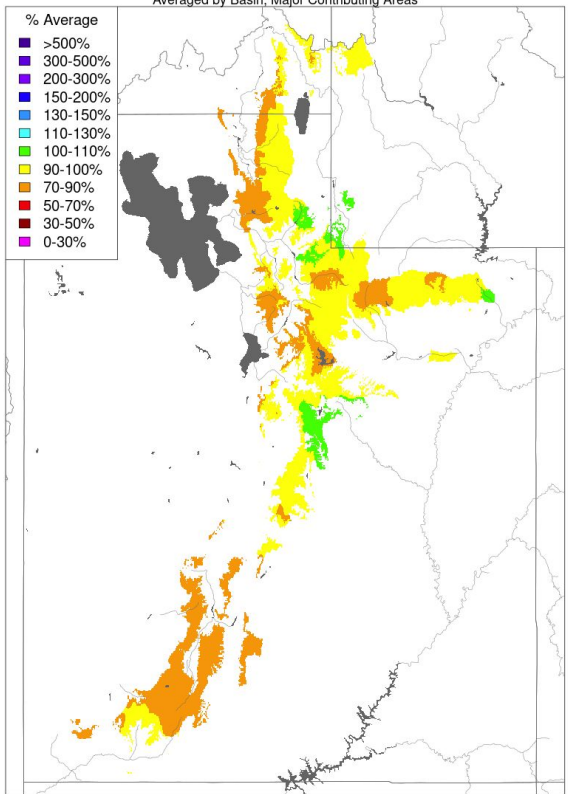
Monthly Precipitation - April 2022
Averaged by Basin, Major Contributing Areas



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

Water Year Precipitation

Water Year Precipitation, October 2021 - April 2022
Averaged by Basin, Major Contributing Areas

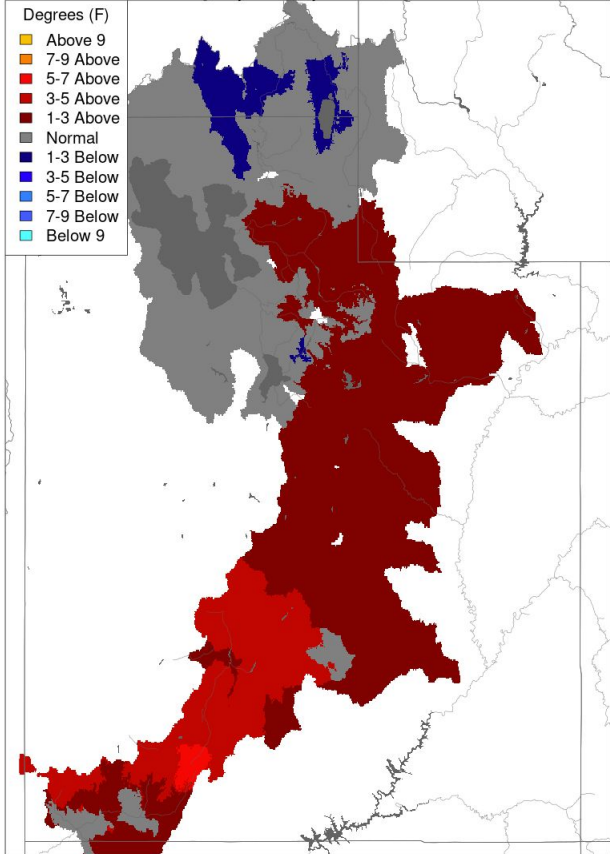


Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

Utah Weather Review - Air Temperature

Min Temp - Monthly Deviation - April 2022

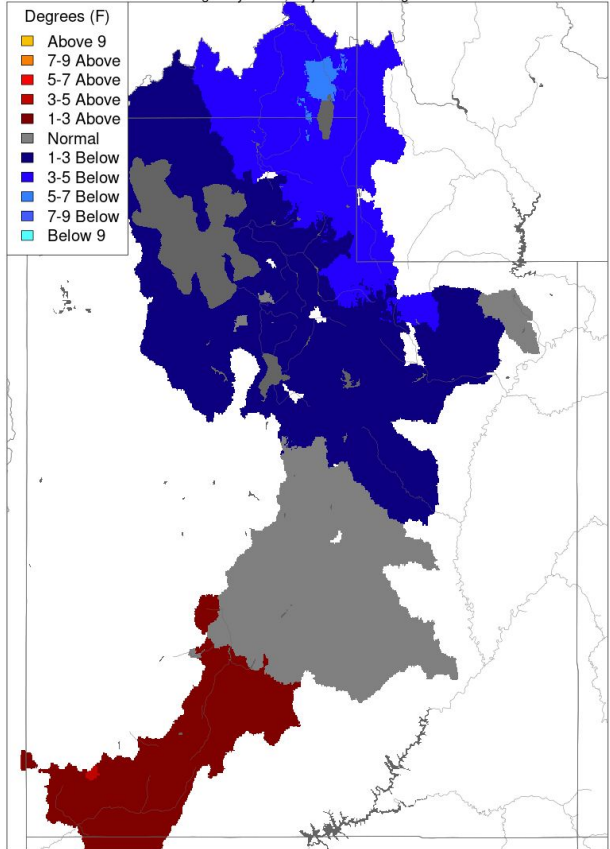
Averaged by Basin, Major Contributing Areas



Prepared by NOAA, Colorado Basin River Forecast Center
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Max Temp - Monthly Deviation - April 2022

Averaged by Basin, Major Contributing Areas



Prepared by NOAA, Colorado Basin River Forecast Center
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Northern Utah Basins

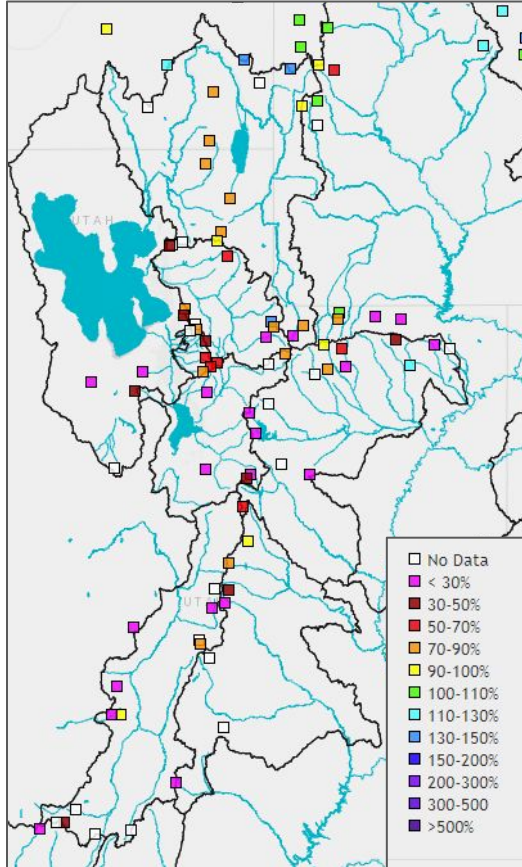
- below normal April temperatures
- less snowmelt

Southern Utah Basins

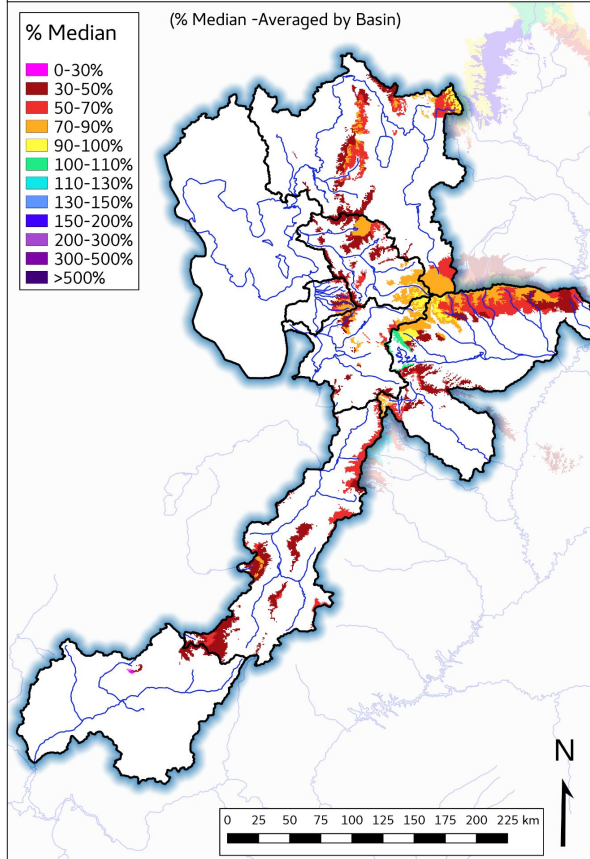
- normal to above normal April temperatures
- more snowmelt

Utah Current Snowpack

SNOTEL (Observed)



CBRFC Model Snow, Significant Areas - May 5, 2022

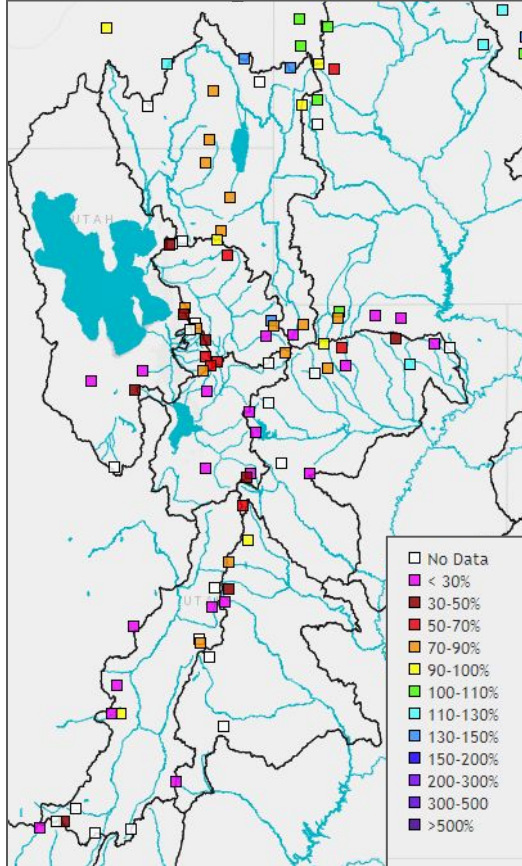


As of May 1, 2022
CBRFC Snow Groups (SNOTEL Stations)

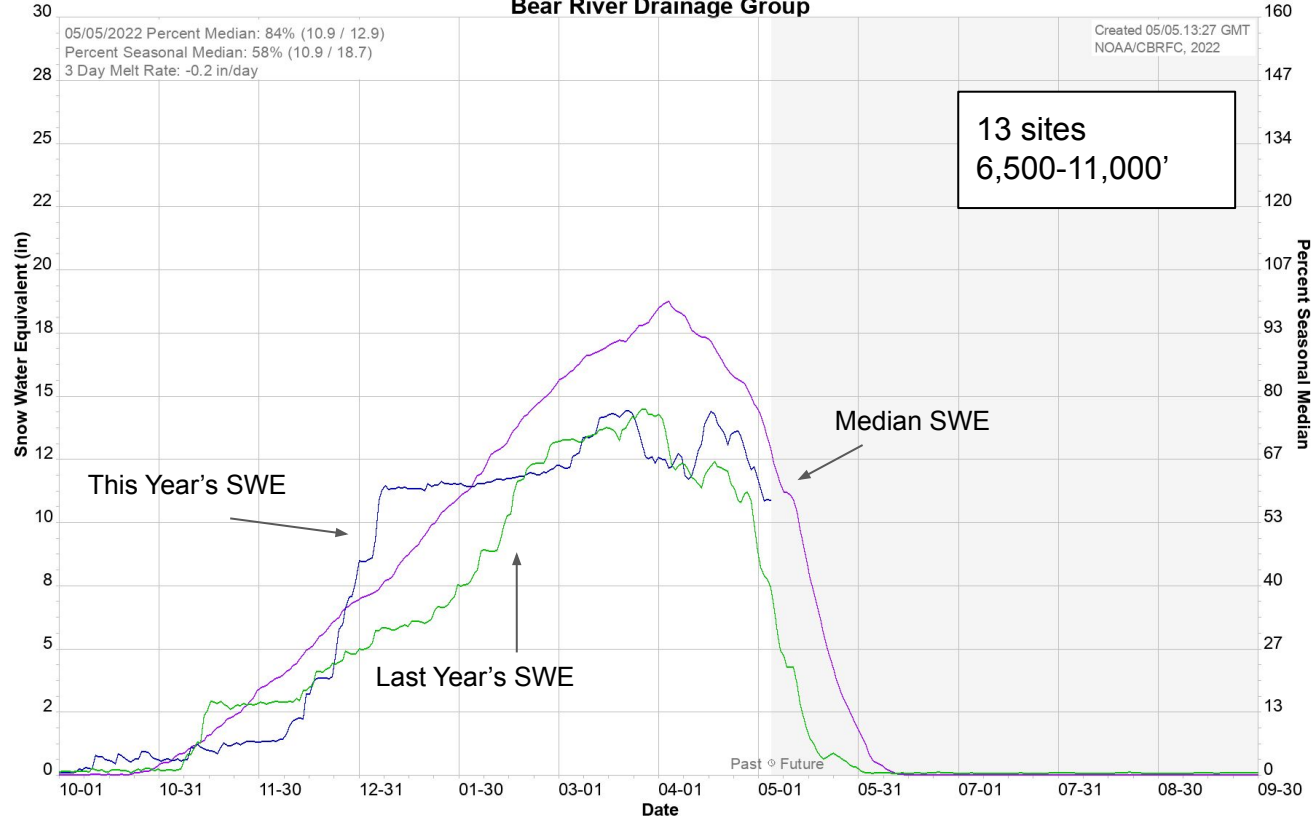
Bear	81%
Weber	75%
Six Creeks	75%
Provo	52%
Duchesne	65%
Sevier	51%
Virgin	40%

Utah Current Snowpack

SNOTEL (Observed)

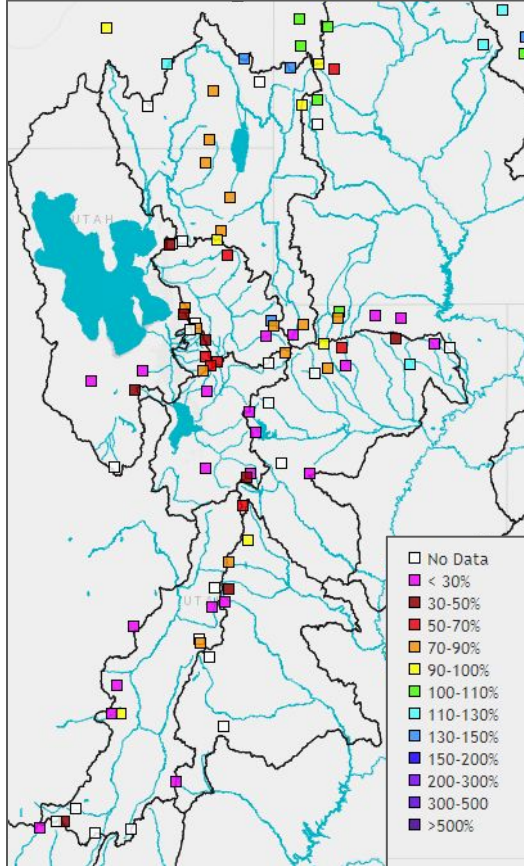


Colorado Basin River Forecast Center
Bear River Drainage Group

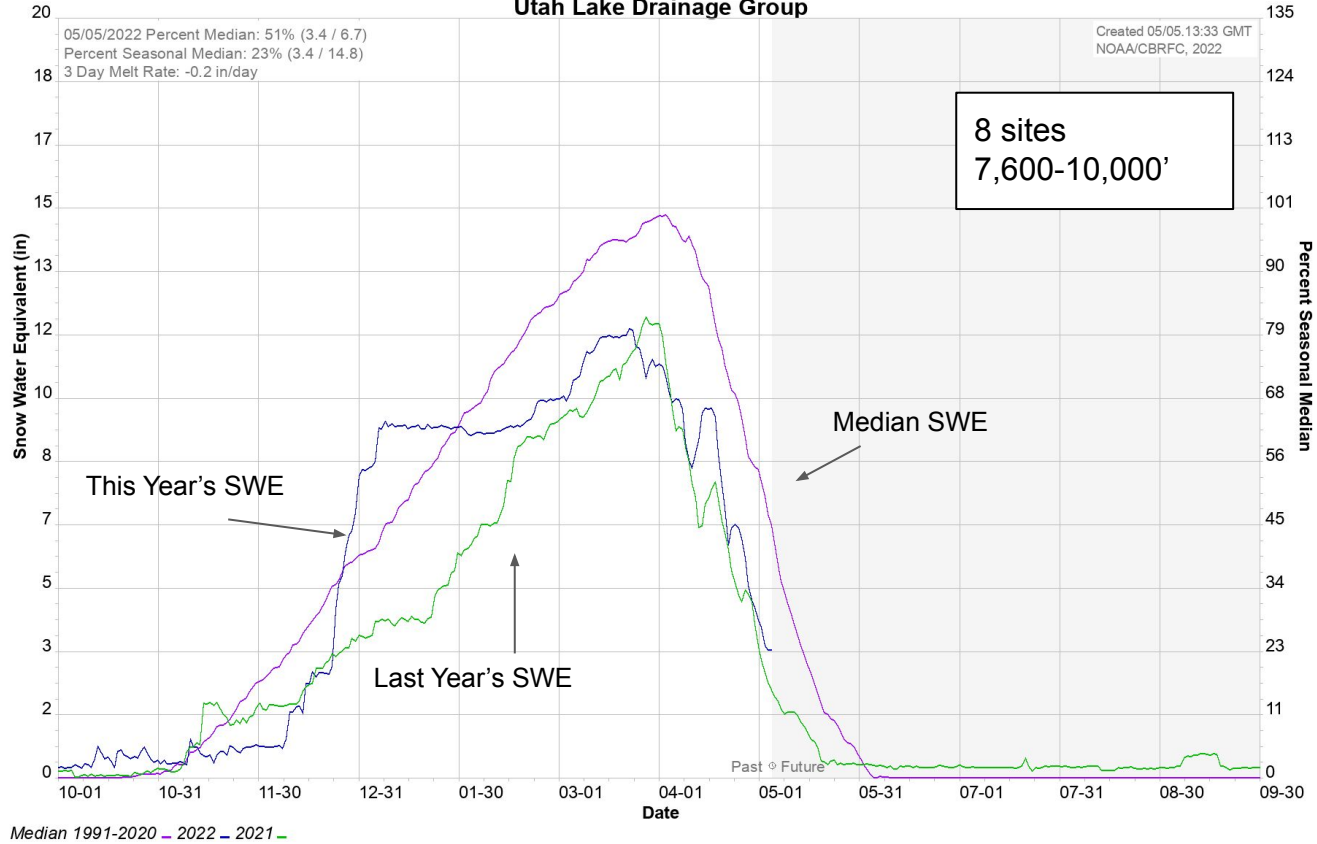


Utah Current Snowpack

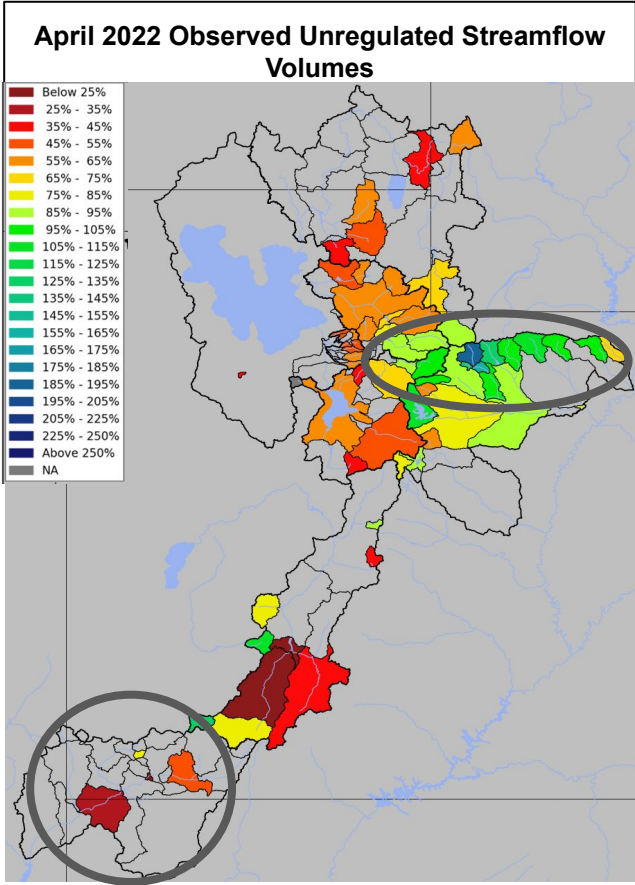
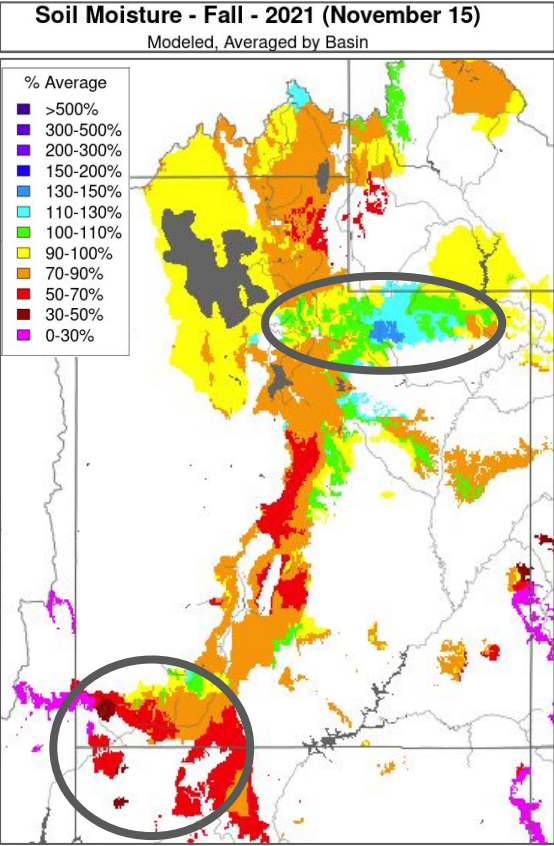
SNOTEL (Observed)



Colorado Basin River Forecast Center
Utah Lake Drainage Group



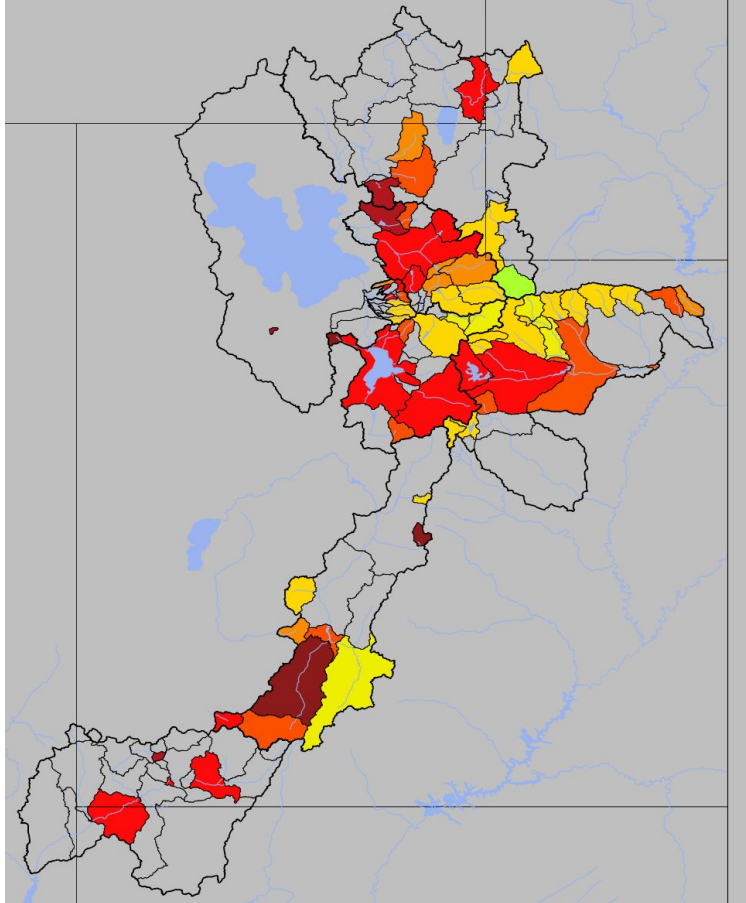
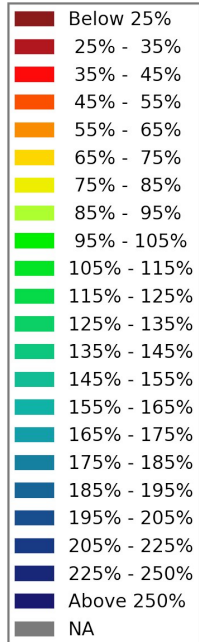
Antecedent Model Soil Moisture Conditions & April Observed Flow



Fall soil moisture conditions are impacting runoff efficiency at water supply locations.

Utah Water Supply Forecasts - Overview

Percent of Average



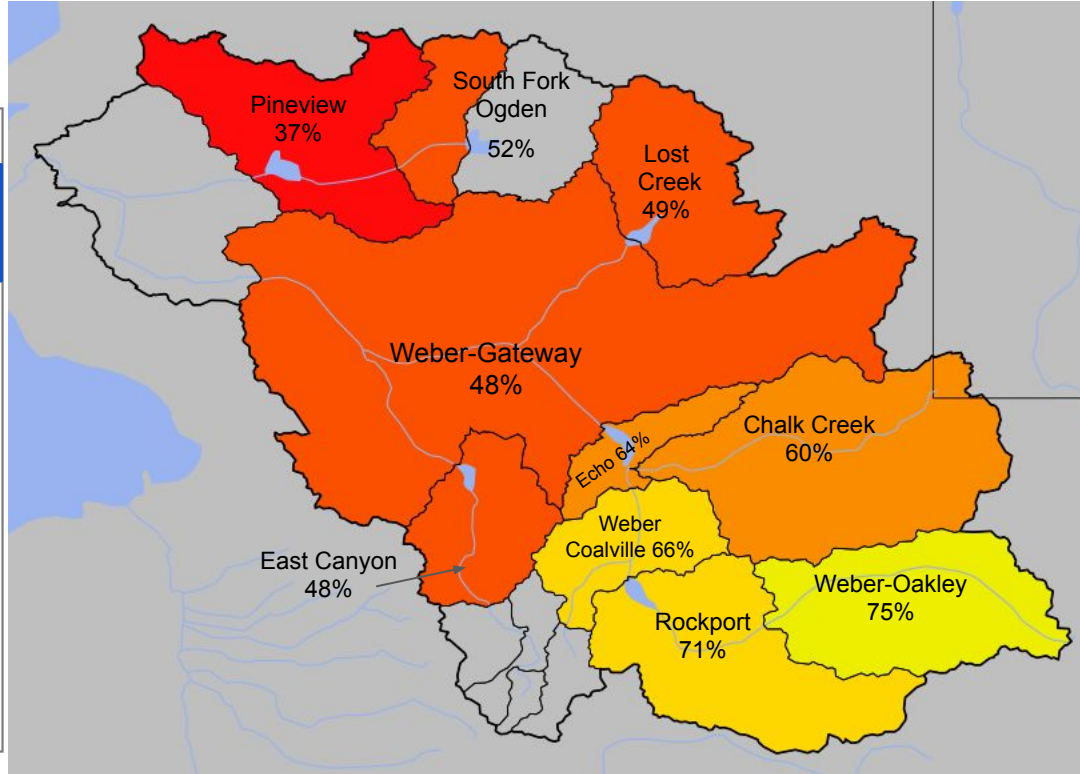
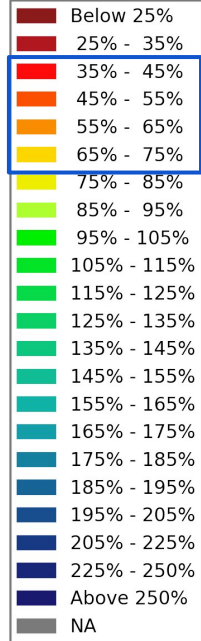
- May 1 Forecast for April-July Volume (includes April observations)
- April-July Forecast Streamflow Volumes are in percent of 1991-2020 average
- Increase in Bear, down or same elsewhere

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

Weber	55%
Bear	60%
Six Creeks	60%
Provo / Utah Lake	60%
Sevier	55%
Duchesne	70%
Virgin	40%

Utah Water Supply Forecasts - Weber

Percent of Average



Weber River Basin Forecasts

January: 110% of Normal

February: 85% of Normal

March: 65% of Normal

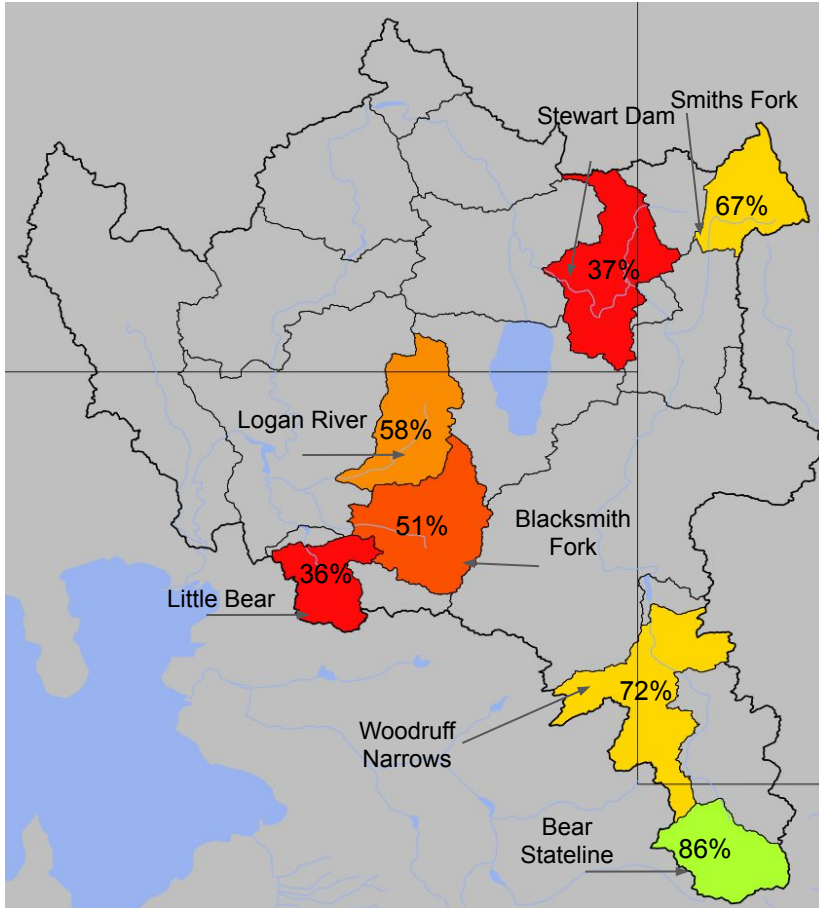
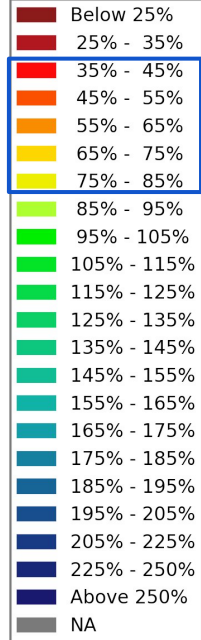
April: 55% of Normal

May: **55%** of Normal

- Forecasts range from 35-75% 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

April: 50% of Normal

May: **60%** of Normal

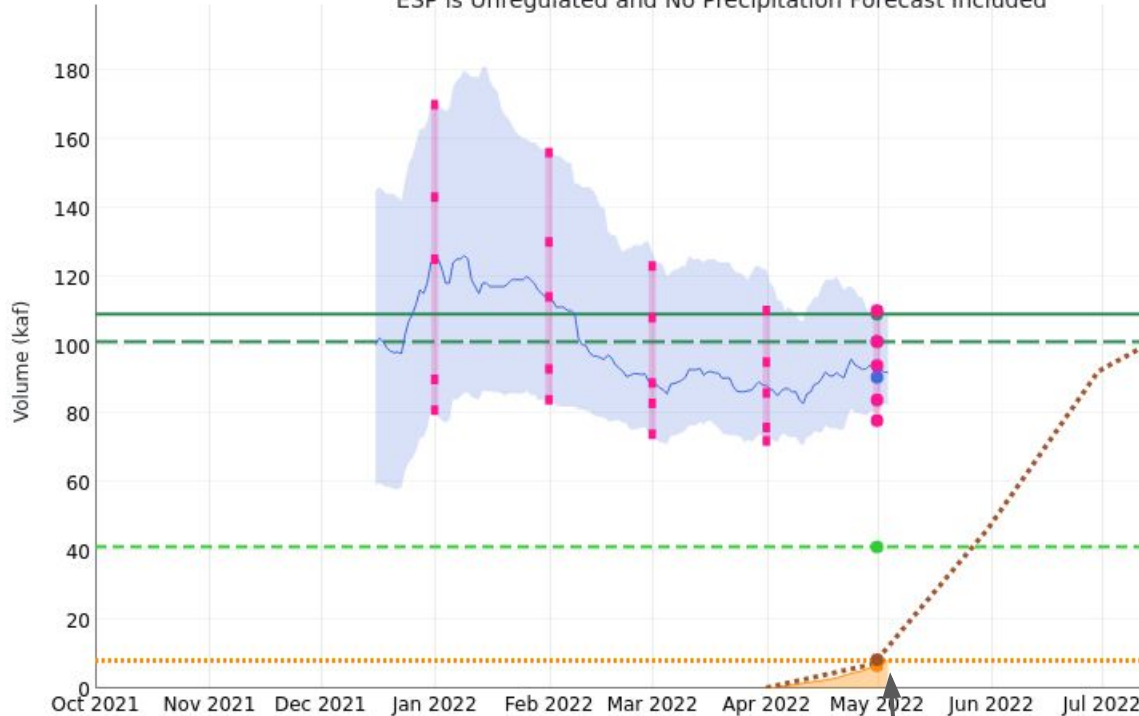
- Forecasts range from 35-85% of normal

Utah Water Supply Forecasts - Bear

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

Period: Apr-Jul, Official 50% Forecast (2022-05-01): **94 kaf (86% Average, 93% Median)**

ESP is Unregulated and No Precipitation Forecast Included



2022/05/01:

Min 1977: 41.21

Average: 109

Median: 101

Observed Accumulation: 6.63

Observed Total: 8.15

Normal Accumulation: 8.38

ESP: 90.6

Official 10: 110

Official 30: 101

Official 50: 94

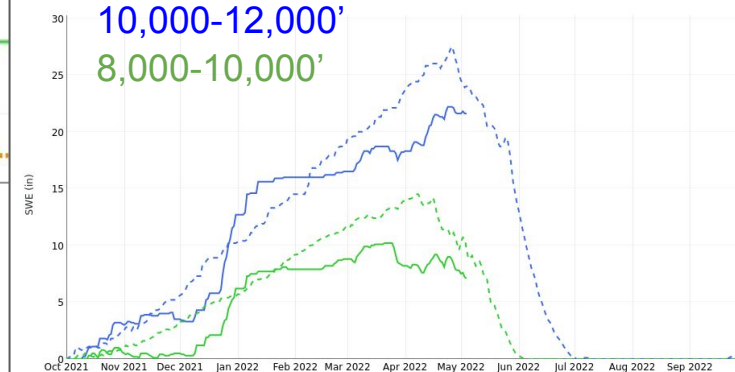
Official 70: 84

Official 90: 78

After April 1 observed data must be added to the ESP forecast to produce a complete April-July value.

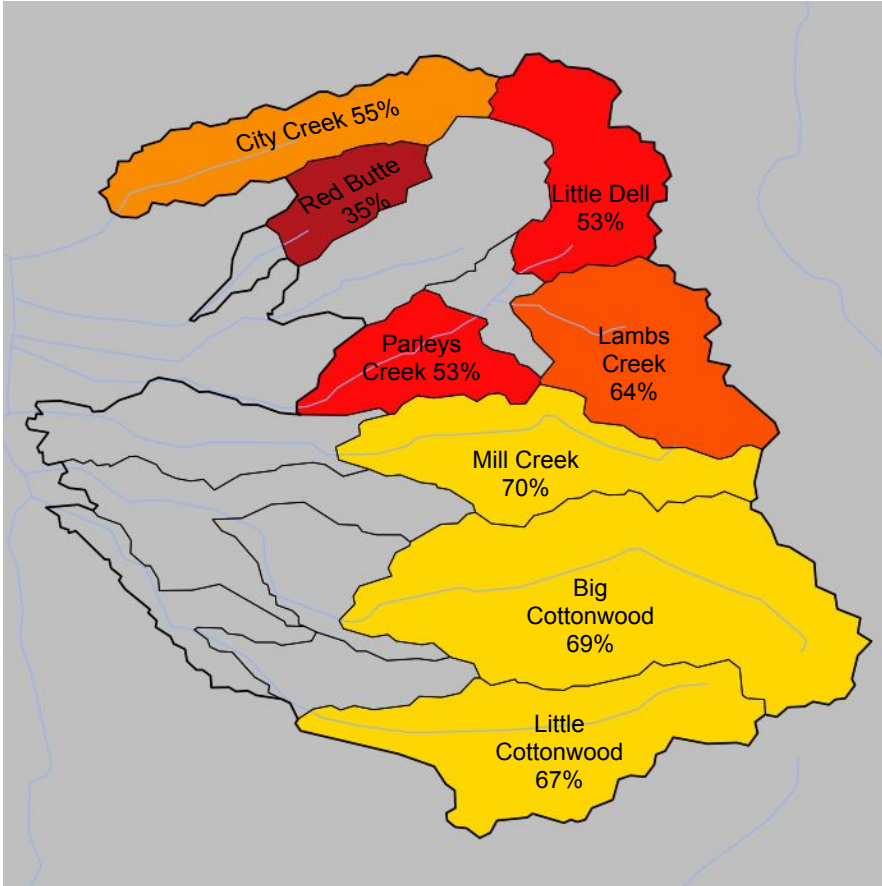
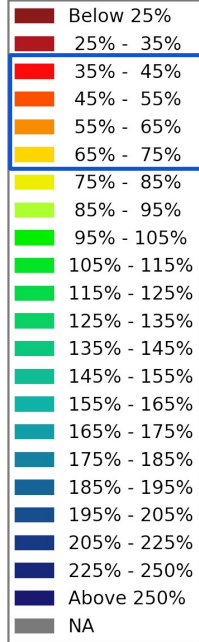
Model Snow

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

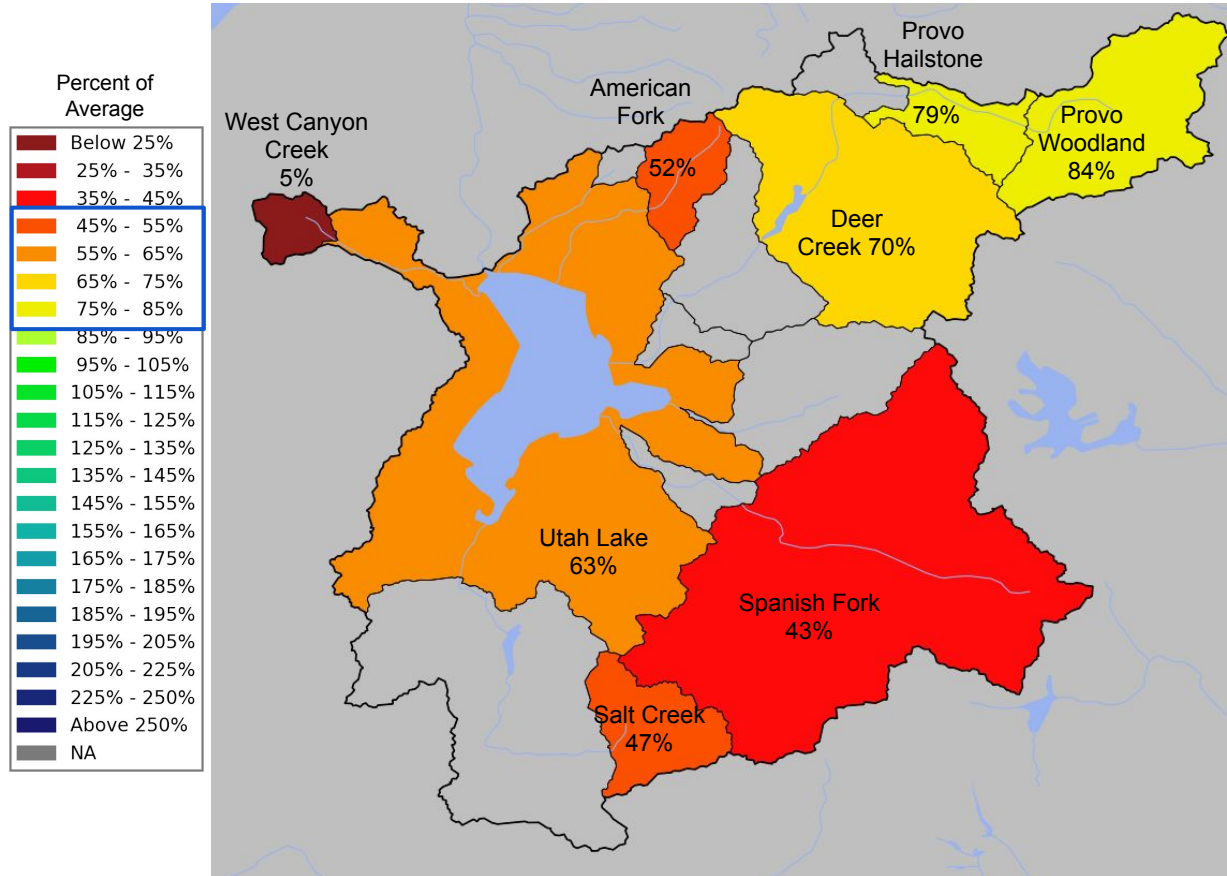
March: 75% of Normal

April: 65% of Normal

May: **60%** of Normal

- Forecasts range from 35-70% of normal

Utah Water Supply Forecasts - Utah Lake Basin



Utah Lake Basin Forecasts

January: 110% of Normal

February: 85% of Normal

March: 70% of Normal

April: 60% of Normal

May: **60%** of Normal

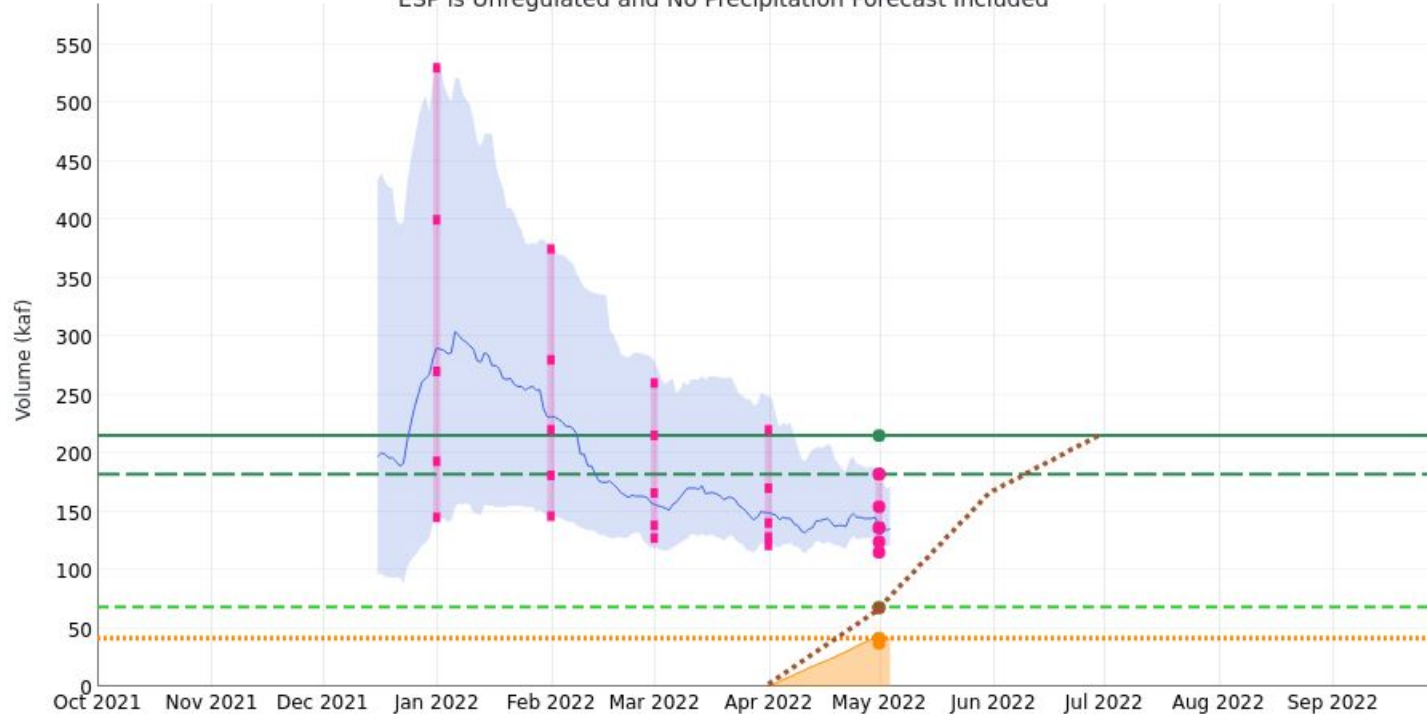
- Forecasts range from 45-85% of normal

Utah Water Supply Forecasts - Provo / Utah Lake

Jordan - Utah Lake, Provo, Nr (UTLU1)

Period: Apr-Jul, Official 50% Forecast (2022-05-01) **136 kaf (63% Average, 75% Median)**

ESP is Unregulated and No Precipitation Forecast Included



2022/05/01:

Min 1961: 68.03

Average: 215

Median: 182

Observed Accumulation: 37

Observed Total: 41.6

Normal Accumulation: 67.4

ESP: 136

Official 10: 182

Official 30: 154

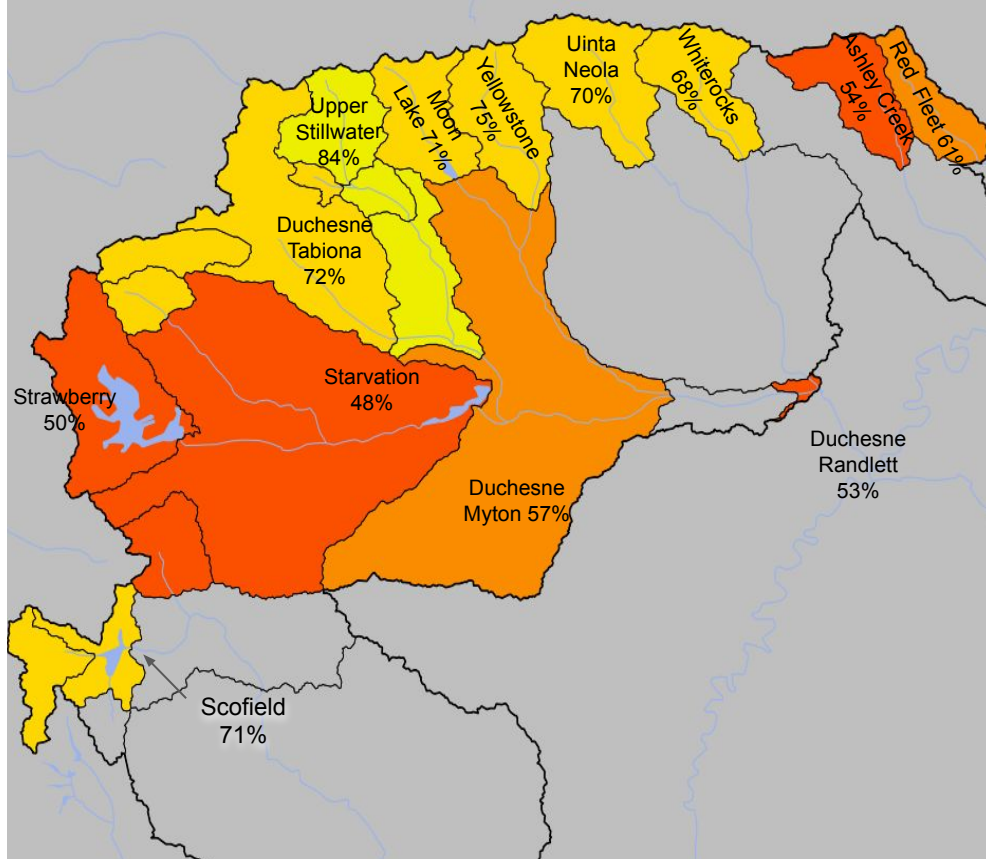
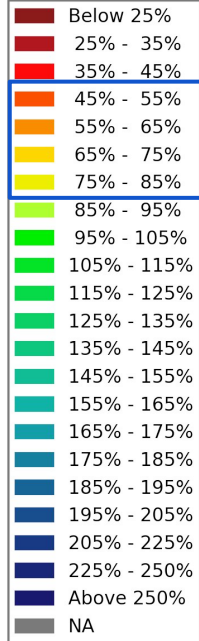
Official 50: 136

Official 70: 124

Official 90: 115

Utah Water Supply Forecasts - Duchesne

Percent of Average



Duchesne River Basin

January: 110% of Normal

February: 90% of Normal

March: 75% of Normal

April: 75% of Normal

May: **70% of Normal**

- Forecasts range from 50-85% of normal

Price River Basin

January: 125% of Normal

February: 85% of Normal

March: 80% of Normal

April: 80% of Normal

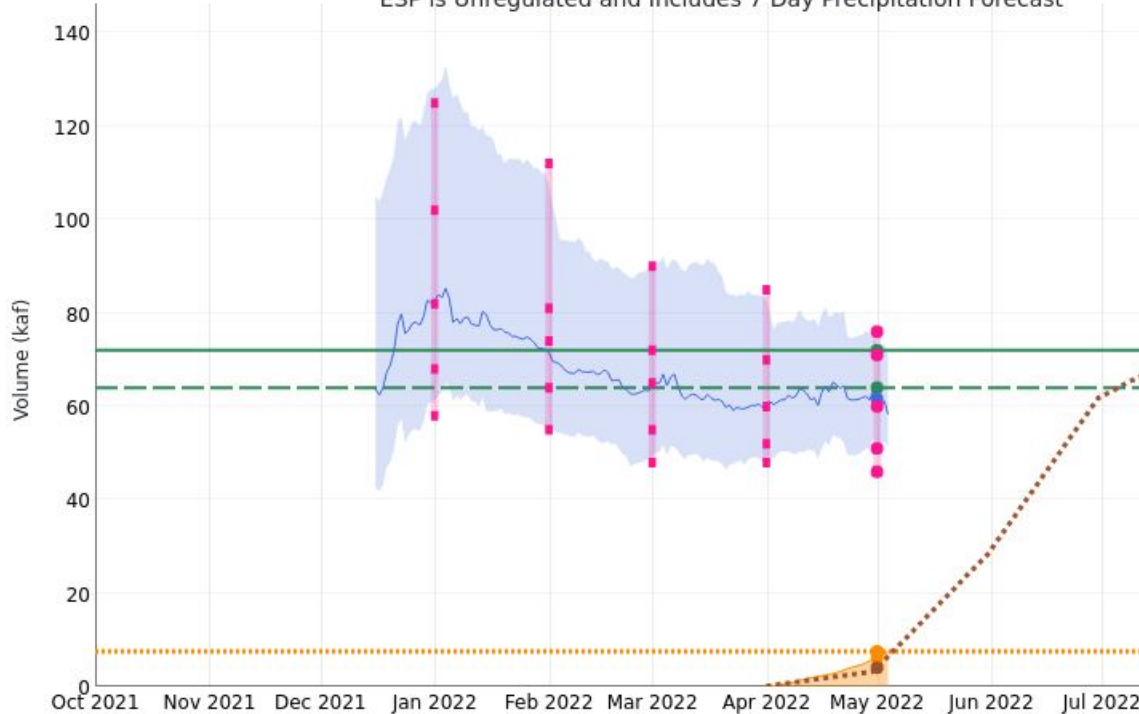
May: 70% of Normal

Utah Water Supply Forecasts - Duchesne

Rock Ck - Upper Stillwater Reservoir (USTU1)

Period: Apr-Jul, Official 50% Forecast (2022-05-01): **60 kaf (83% Average, 94% Median)**

ESP is Unregulated and Includes 7 Day Precipitation Forecast



2022/05/01:

Average: 72

Median: 64

Observed Accumulation: 6.2

Observed Total: 7.53

Normal Accumulation: 4.04

ESP: 61.6

Official 10: 76

Official 30: 71

Official 50: 60

Official 70: 51

Official 90: 46

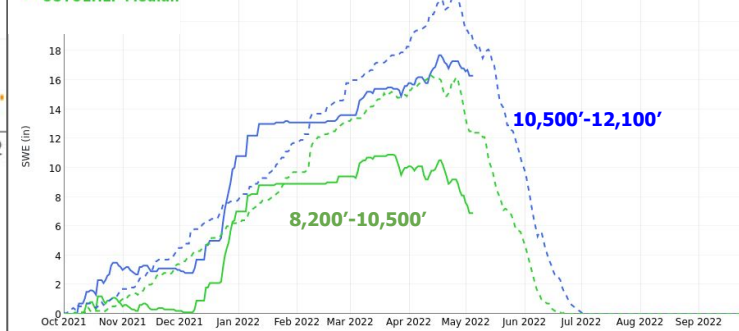
Model Snow

— USTU1HUF

— USTU1HLF

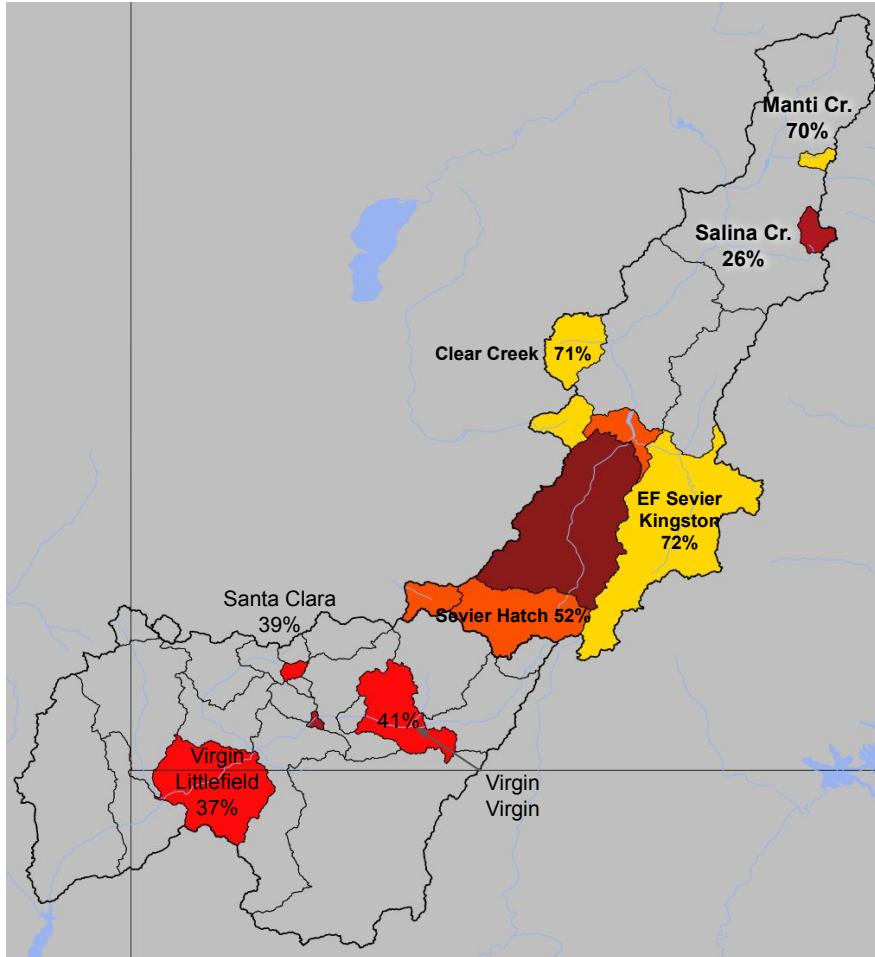
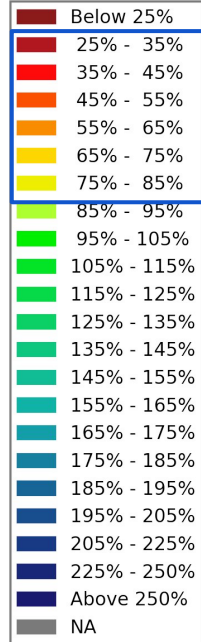
-- USTU1HUF Median

-- USTU1HLF Median



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

April: 65% of Normal

May: **55%** of Normal

- Forecasts range from 25-70% of normal

Virgin River Basin Forecasts

January: 90% of Normal

February: 75% of Normal

March: 60% of Normal

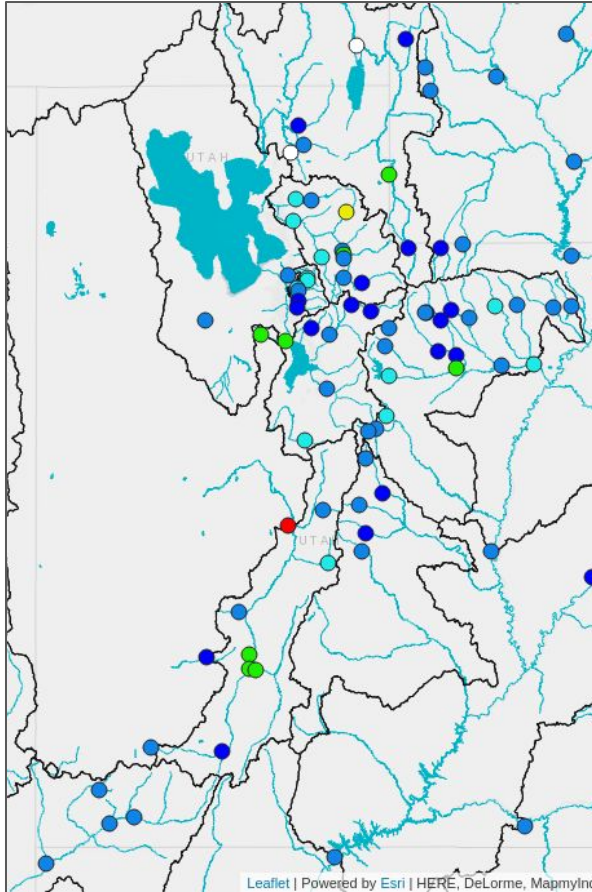
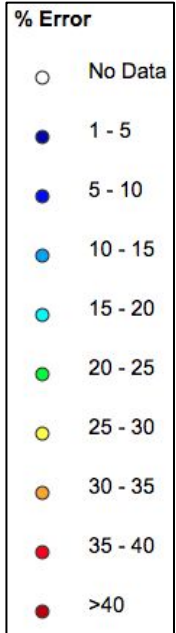
April: 50% of Normal

May: **40%** of Normal

- Forecasts range from 35-40% of normal

Historical (1981-2010) Forecast Verification

May 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
 PROVO - WOODLAND- NR
 PROVO - DEER CK RES
 VIRGIN - VIRGIN

May 1 Forecast Error

BEAR - UTAH-WYOMING STATE	13%	
BEAR - WOODRUFF NARROWS	27%	
LOGAN - LOGAN- NR	12%	
WEBER - OAKLEY- NR	11%	
WEBER - ROCKPORT RES		16%
BIG COTTONWOOD CK	13%	
PROVO - WOODLAND- NR	14%	
PROVO - DEER CK RES	18%	
VIRGIN - VIRGIN		15%

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

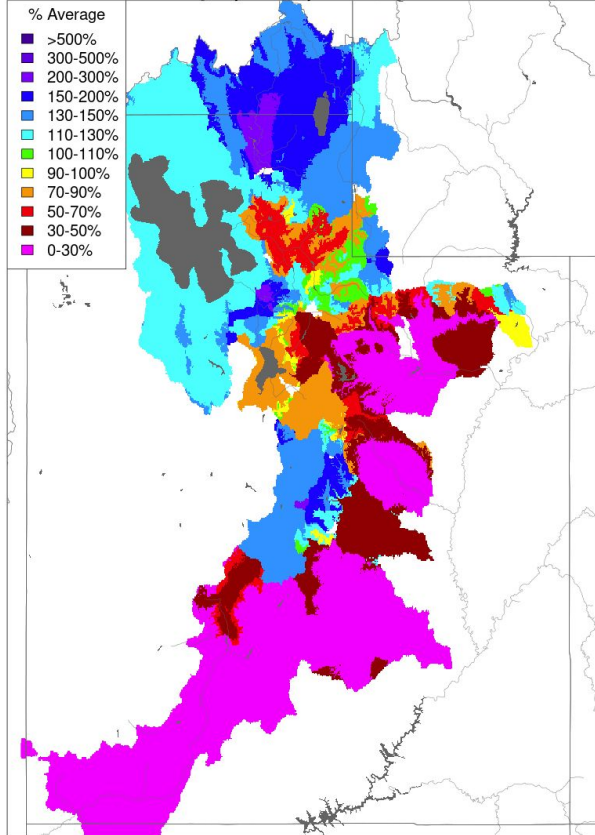
Where Forecasts are Worse:

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

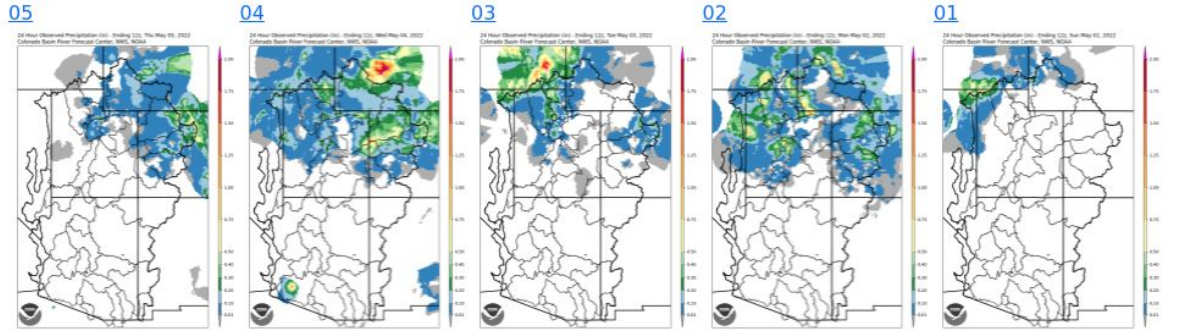
May 2022 Month-To-Date Precipitation

Month to Date Precipitation - May 05 2022

Averaged by Basin, Major Contributing Areas

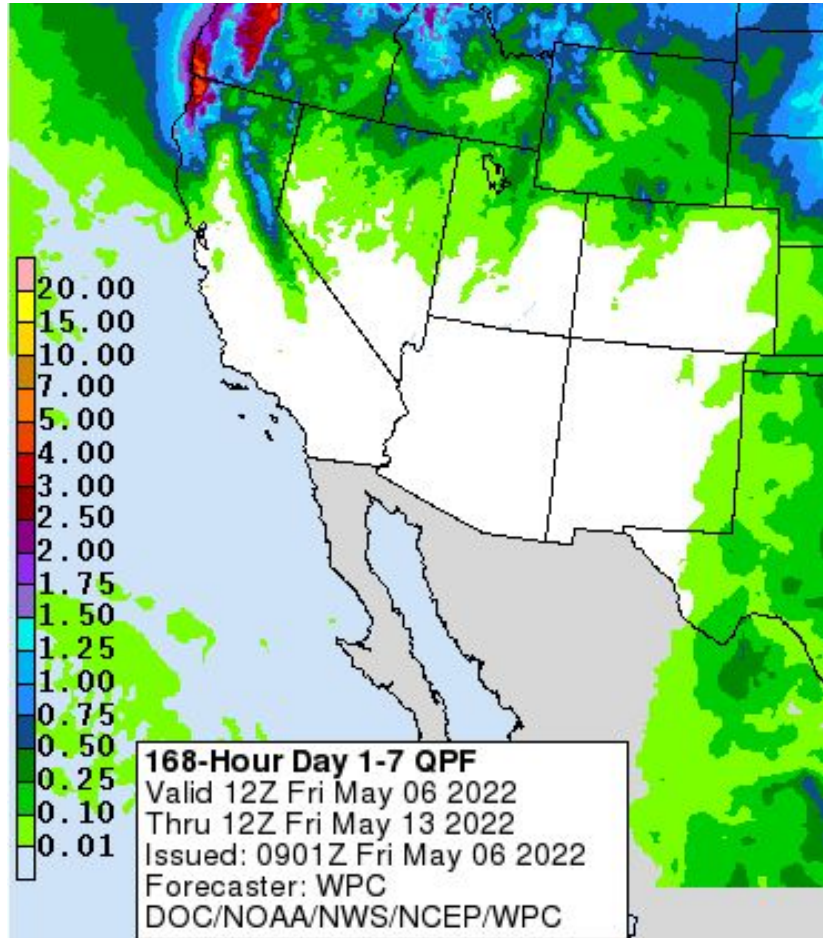


Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov



Precipitation has continued across north and central Utah into early May.

Upcoming Weather: WPC May 6-12 Precipitation Outlook



- Unsettled weather in northern Utah
- Warm and dry weather in southern Utah
- Significant precipitation is not expected in the 7-day period (0.25" in northern mountains, few inches of snow, Sunday-Monday)
- There is disagreement among various weather models in regards to the track of the storms at the end of the period (Wednesday-Thursday)

Upcoming Weather: 8-14 Day Outlook (May 13-19)

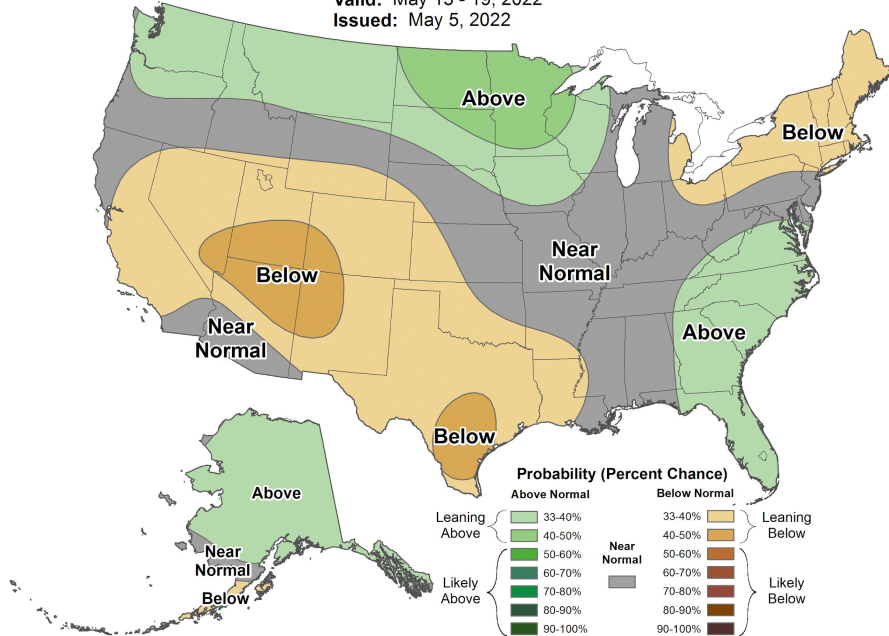
Elevated odds of below average precipitation across all basins.

Near average temperatures favored across most basins.



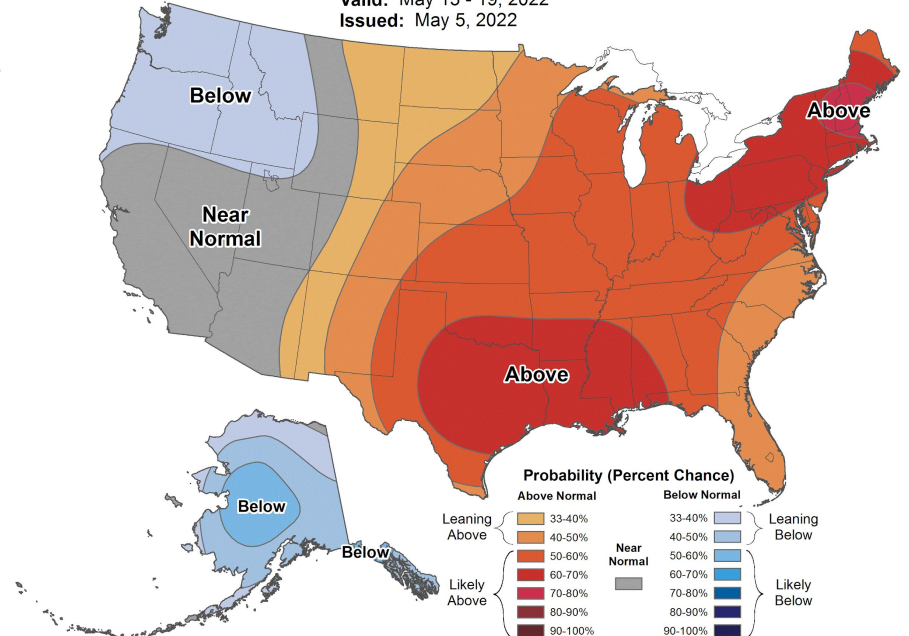
8-14 Day Precipitation Outlook

Valid: May 13 - 19, 2022
Issued: May 5, 2022



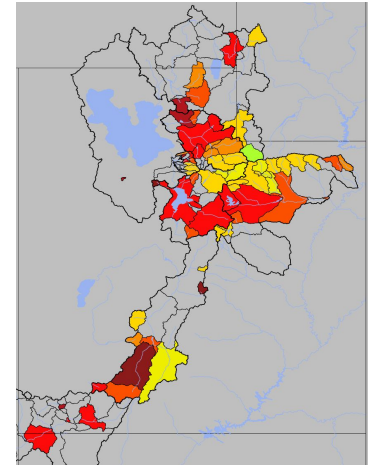
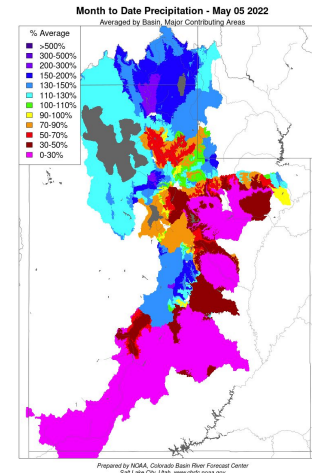
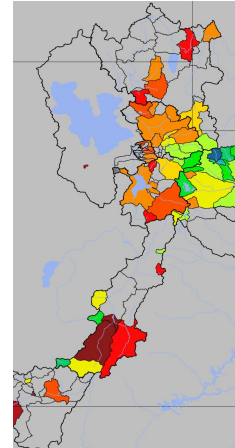
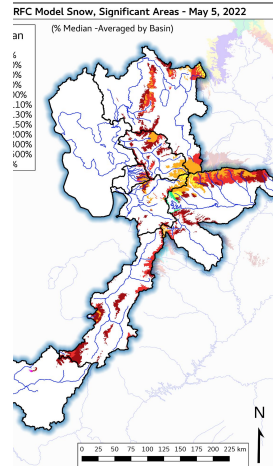
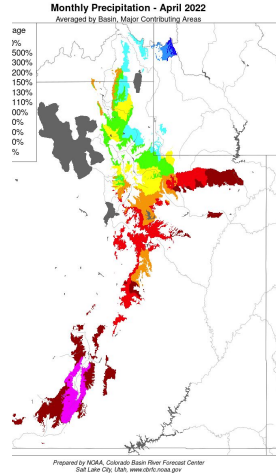
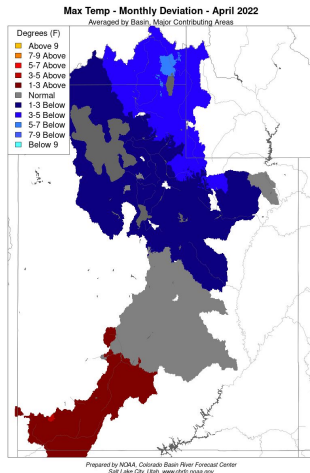
8-14 Day Temperature Outlook

Valid: May 13 - 19, 2022
Issued: May 5, 2022



Summary

- Northern Utah received above average April precipitation
- High elevation northern Utah basins have had April snow accumulation
- Runoff efficiency for April observed streamflow is related to fall soil moisture conditions
- Water supply forecasts increased in the Bear, and remained the same or decreased in other basins
- The active weather pattern will continue for days 1-7 in northern Utah, but 8-14 day forecasts point towards drier conditions.



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

- This concludes our regularly scheduled water supply webinars
- Please contact us directly for updates or with questions / issues
- We will issue one additional official forecast in early June
- Peak flow forecasts will be issued this Monday



Colorado Basin
River Forecast Center
National Weather Service

CBRFC Contacts & WY22 Basin Focal Points

Basin Focal Points (Forecasters)

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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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Tracy Cox - Hydrometeorologist
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CBRFC Water Supply Presentations
<https://www.cbrfc.noaa.gov/present/present.php>

