

Peak Flow Forecast Briefing March 2016

11 am March 10, 2016

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Colorado Basin River Forecast Center
National Weather Service
NOAA

Conference Phone #: 877-929-0660

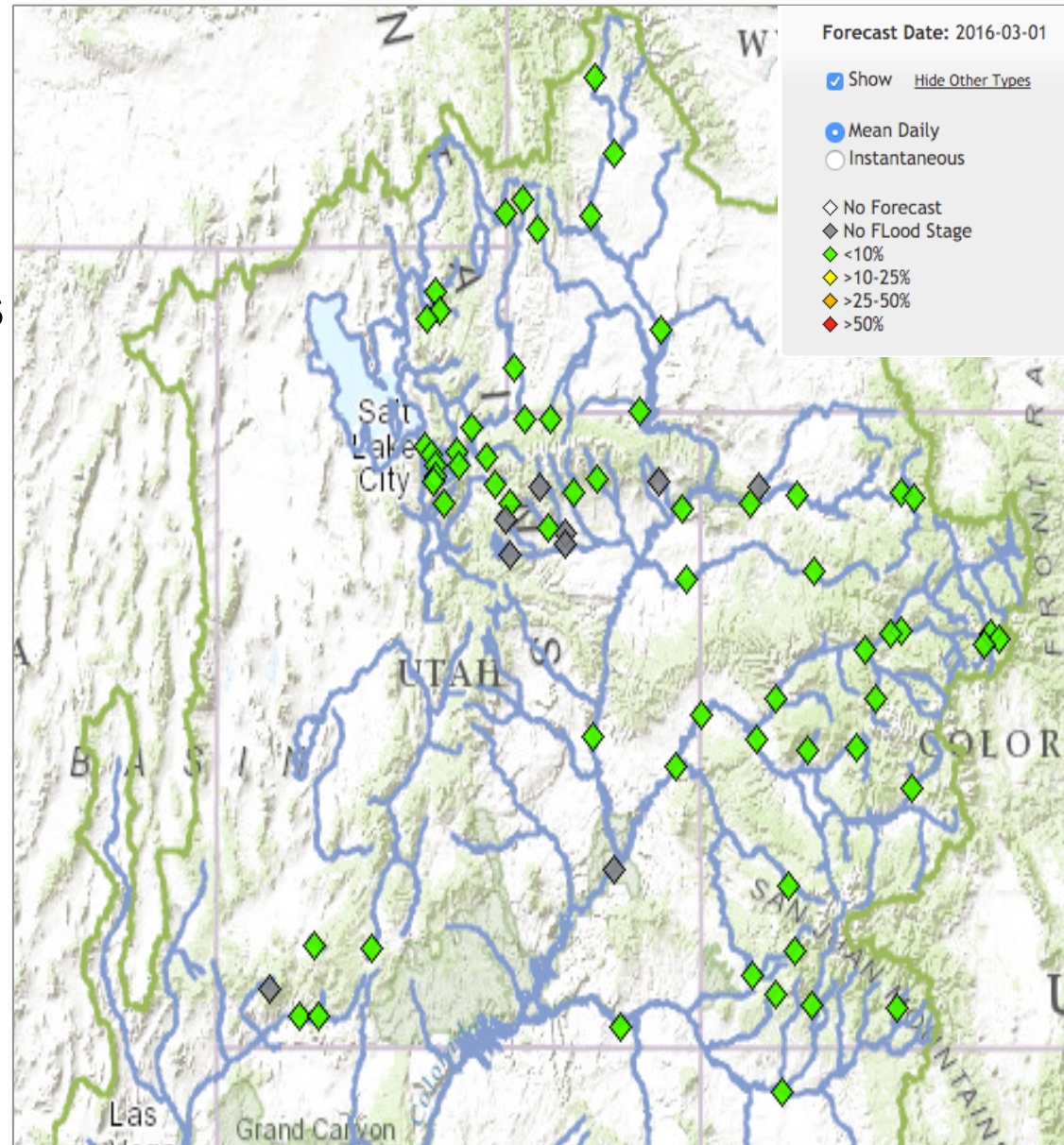
Passcode #: 1706374

* Please mute your phone until you have a question-Thank You *



Today's Presentation

- Peak Flow Information
- Mar 9th Snow Conditions
- Peak Flow Forecasts
- Spring Weather Impacts
- Upcoming Weather

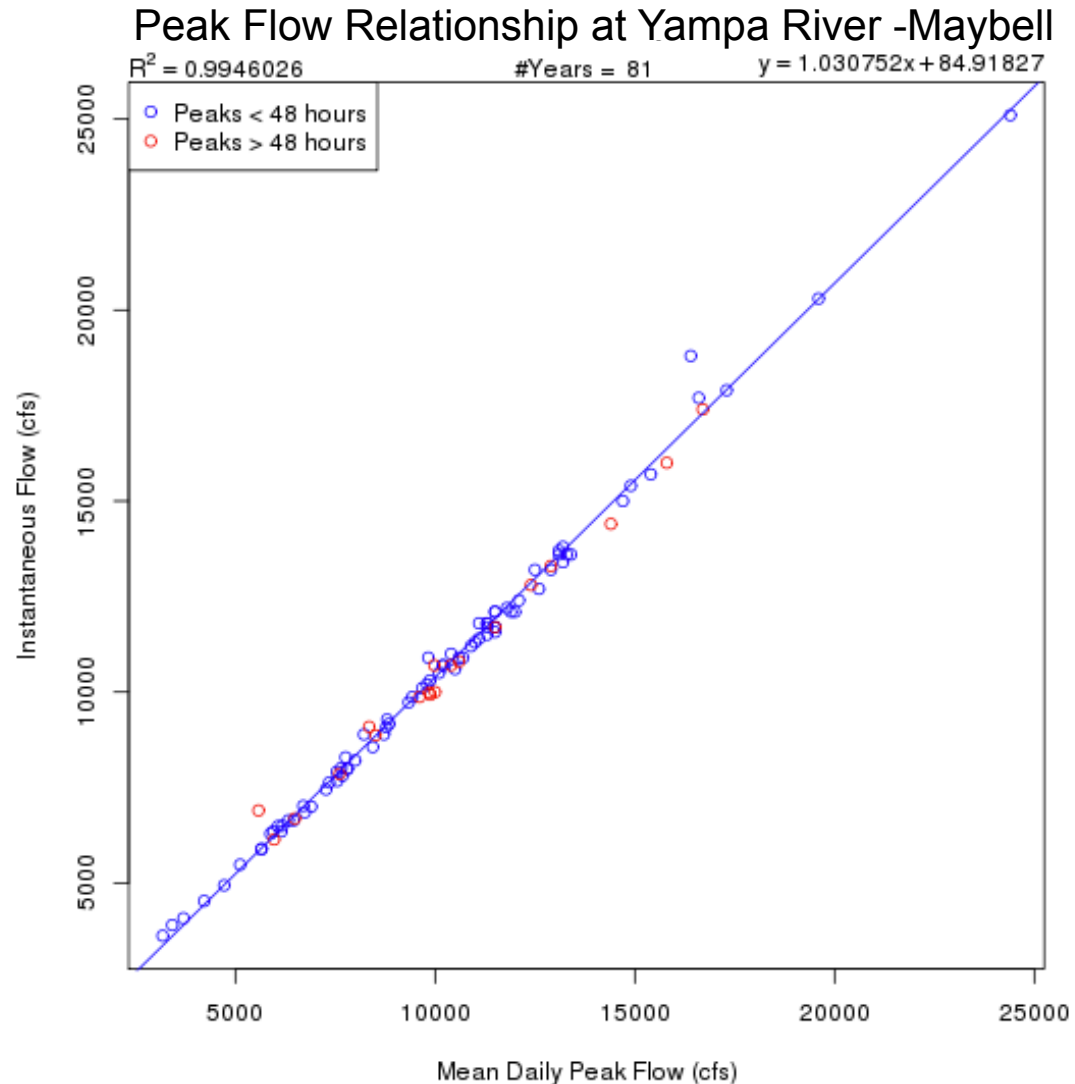


What is a Peak Flow Forecast?

- Maximum Mean Daily Flow due to snowmelt
 - April-July period
- Probabilistic Forecasts
 - Exceedance Probabilities = 10%,25%,50%,75%,90%
- Regulated Flow (Downstream Points)
 - Accounts for reservoirs/diversions
 - Scheduled operations (if known), or assumptions based on past ops.
- Long range outlooks of peak magnitude for several locations
- Do not provide a specific date of the peak forecast
 - May only have a 5-10 day lead time for timing the peak
 - Prior to that we provide the average time period of the peak

Instantaneous Peak Flow Forecasts

- Relationship between max daily flow and instantaneous peak
- Only available for locations with good correlations & historical data
- Sites with frequent heavy rain have poor relationships



Where do I find peak flow forecasts?



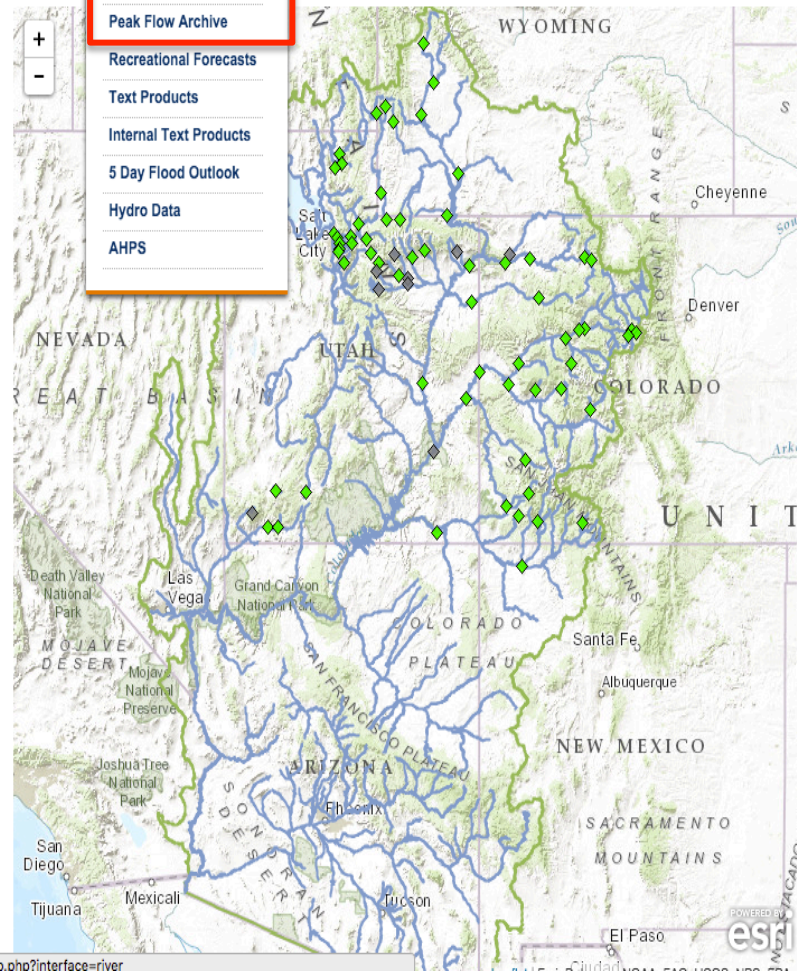
COLORADO BASIN RIVER FORECAST CENTER

NATIONAL WEATHER SERVICE / NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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

- News
 - Conditions Map
 - Conditions List
 - Peak Flow Map**
 - Peak Flow List
 - Peak Flow Archive
 - Recreational Forecasts
 - Text Products
 - Internal Text Products
 - 5 Day Flood Outlook
 - Hydro Data
 - AHPS
- Basin Water Supply Briefing - Fri Mar 4th 1 pm MST - Register here: [Read More...](#)
- Water Supply Briefing - Mon Mar 7th 10 am MST - Register here: [Read More...](#)
- Peak Flow Briefing - Thu Mar 10th 11 am MST - Register here: [Read More...](#)

www.cbrfc.noaa.gov

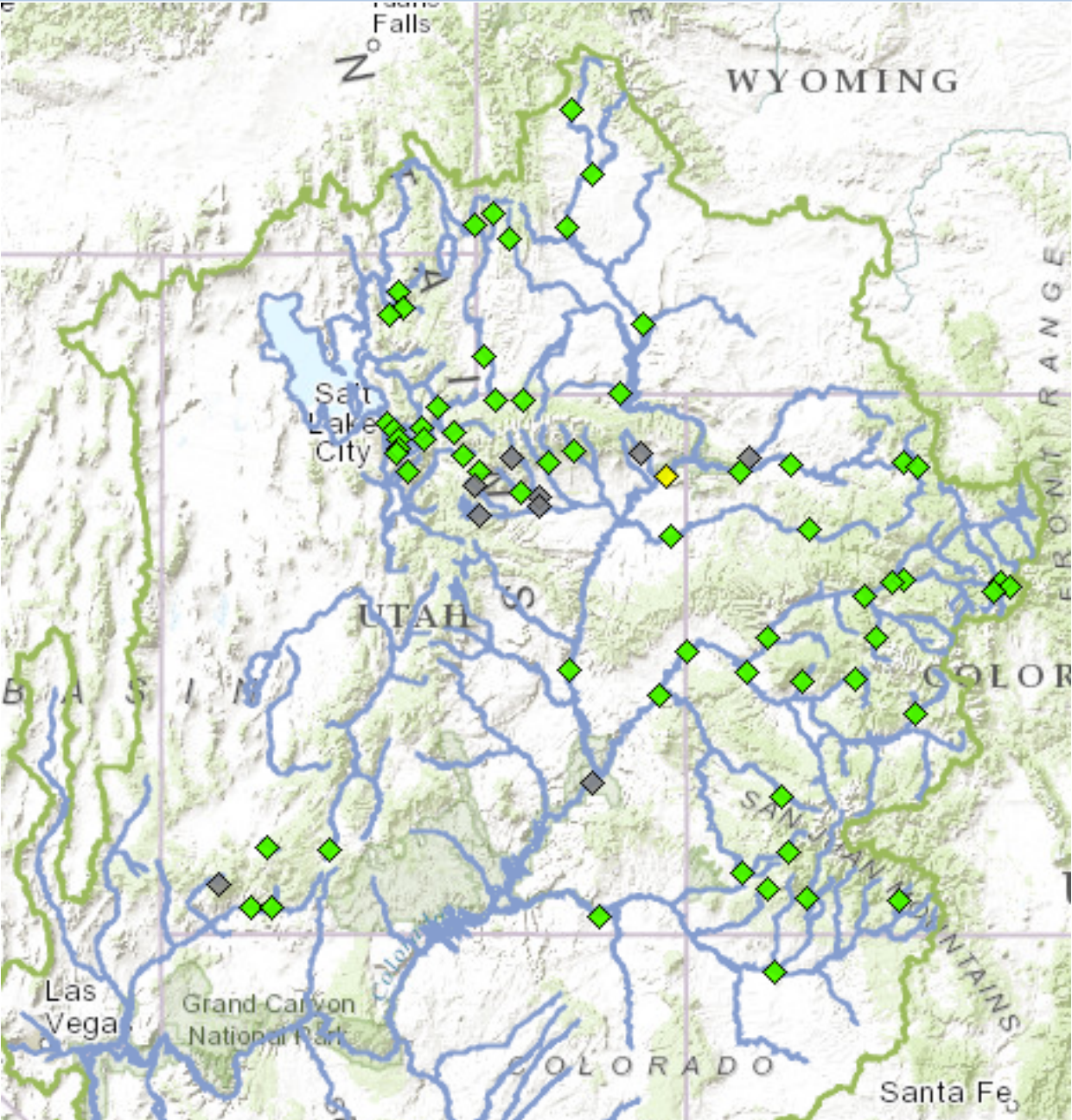


- River Conditions
- Snow Conditions
- Water Supply Forecasts
- Peak Flood Probability**
 - Forecast Date: 2016-03-01 [Help](#)
 - Show [Hide Other Types](#)
 - Mean Daily
 - Instantaneous
 - ◇ No Forecast
 - ◇ No Flood Stage
 - ◇ <10%
 - ◇ >10-25%
 - ◇ >25-50%
 - ◇ >50%
- Reservoir Conditions
- Daily Precipitation
- Monthly Precipitation
- Soil Moisture
- Map Options
- Search Points

Map indicates probability of reaching flood flow

Green = Low probability
Red = High probability

Peak Flood Probability – Instantaneous Peak



Peak Flood Probability

Forecast Date: 2016-03-01

Show [Hide Other Types](#)

Mean Daily
 Instantaneous

◇ No Forecast
◆ No FLOOD Stage
◆ <10%
◆ >10-25%
◆ >25-50%
◆ >50%

Peak Flow List

Peak Flow Forecast List [Help](#) | [Download Data](#) | [Requery](#) | [Rebuild Plots](#)

Peak Flood Probability Legend

◇ No Forecast ◆ No Flood Stage ◆ <10 ◆ >10 ◆ >25 ◆ >50

Options (on/off): [Mean Daily Forecasts](#) [Instantaneous Forecasts](#) [Plot](#)

Select by Area: [CBRFC](#) [Green](#) [Colorado](#) [San Juan](#) [Great](#) [Sevier](#) [Virgin](#) [Low Col](#)

Columns (on/off): [ID](#) [River](#) [Location](#) [Flood Flow](#) [PI](#) [Issue Date](#) [Observed Peak to Date](#) [Observed Date](#) [Historic Peak](#) [Hist Peak Date](#) [Average Peak](#) [Normal Earliest Date](#) [Normal Latest Date](#) [Last Year Peak](#) [Last Year Date](#) [Notes](#) [Area](#) [Sub Area](#) [DS](#)

Click column heading to sort by that data. Click ID to view point info.

	ID	River	Location	Flood Flow	PI	Issue Date	Mean Daily 90	Mean Daily 75	Mean Daily 50	Mean Daily 25	Mean Daily 10	Inst 90	Inst 75	Inst 50	Inst 25	Inst 10	Historic Peak	Average Peak	Normal Earliest Date	Normal Latest Date	Last Year Peak	Last Year Date
1	WBRW4	Green	Daniel	6100	◆	2016-03-01	1300	1600	2000	2200	2400	1300	1600	2000	2300	2500	5620	2695	05-27	06-28	2430	2015-06-04
2	BPNW4	New Fork	Big Piney	8840	◆	2016-03-01	1800	2000	3000	3300	4000	1900	2100	3100	3400	4100	9110	4730	05-26	06-23	3720	2015-06-12
3	LABW4	Green	La Barge	11448	◆	2016-03-01	3500	4200	5800	6800	7500	3600	4400	6000	7000	7700	18800	8000	05-26	06-21	7630	2015-06-14
4	GRRW4	Green	Green River	11296	◆	2016-03-01	1000	1500	3000	5500	7000	1100	1600	3100	5600	7100	15400	5790	05-05	07-08	7450	2015-06-17
5	HMFW4	Hams Fork	Frontier	1793	◆	2016-03-01	250	300	450	700	950	260	320	480	750	1000	2000	710	05-09	06-06	483	2015-06-04
6	BNRU1	Blacks Fork	Robertson	2920	◆	2016-03-01	200	300	400	500	700	270	390	500	620	860	2860	1380	05-23	06-17	1110	2015-06-17
7	HFMW4	Henrys Fork	Manila	2928	◆	2016-03-01	600	750	950	1200	1500	NA	NA	NA	NA	NA	3780	750	05-10	06-26	1250	2015-05-26
8	STMC2	Yampa	Steamboat Springs	5930	◆	2016-03-01	2000	2200	2700	3500	4500	2300	2500	3000	3800	4900	5870	3070	05-19	06-10	3320	2015-05-08
9	ENMC2	Elk	Milner	5718	◆	2016-03-01	2000	2500	3000	3600	5000	2300	2800	3400	4000	5600	7000	3865	05-17	06-03	2830	2015-06-04
10	MBLC2	Yampa	Maybell	21241	◆	2016-03-01	5000	6000	7000	9000	11000	5200	6300	7300	9400	11000	24400	10300	05-12	06-05	7540	2015-06-04
11	LILC2	Little Snake	Lily	NA	◆	2016-03-01	1800	2000	3000	4000	5000	2000	2300	3400	4500	5600	13400	4320	05-03	06-04	3390	2015-05-26
12	YDLC2	Yampa	Deerlodge Park	20685	◆	2016-03-01	6500	8500	10000	11500	15500	6900	8900	10000	12000	16000	32300	13470	05-11	06-04	10100	2015-06-05
13	WRMC2	White	Meeker	8597	◆	2016-03-01	1900	2200	2400	2900	3600	2100	2400	2600	3100	3900	6320	3040	05-17	06-09	2580	2015-06-04

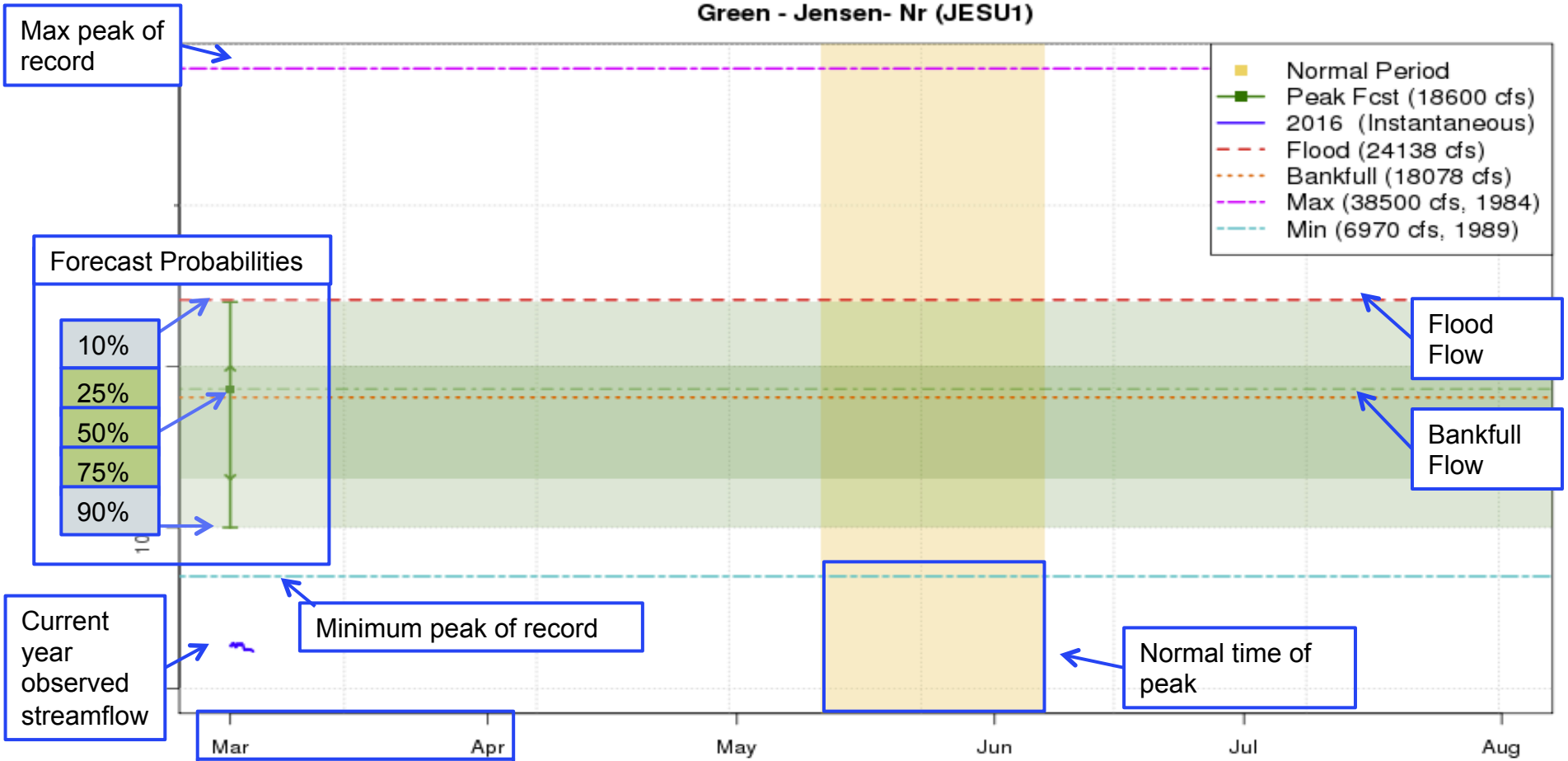
Peak Flow Graphic

JESU1 Peak Flow Forecasts

[Mean Daily Plot](#) [Instantaneous Plot](#) [Forecasts](#) [Observations](#) [Help](#)

Plot Options (on/off): [Record Year Data](#) [Yearly Peaks](#) [Flood Flow](#)

2016 Mean Daily Peak Flow Forecast
Green - Jensen- Nr (JESU1)



Forecasts are updated approximately every two weeks between 3/1 and 5/1

Peak Flow Graphic

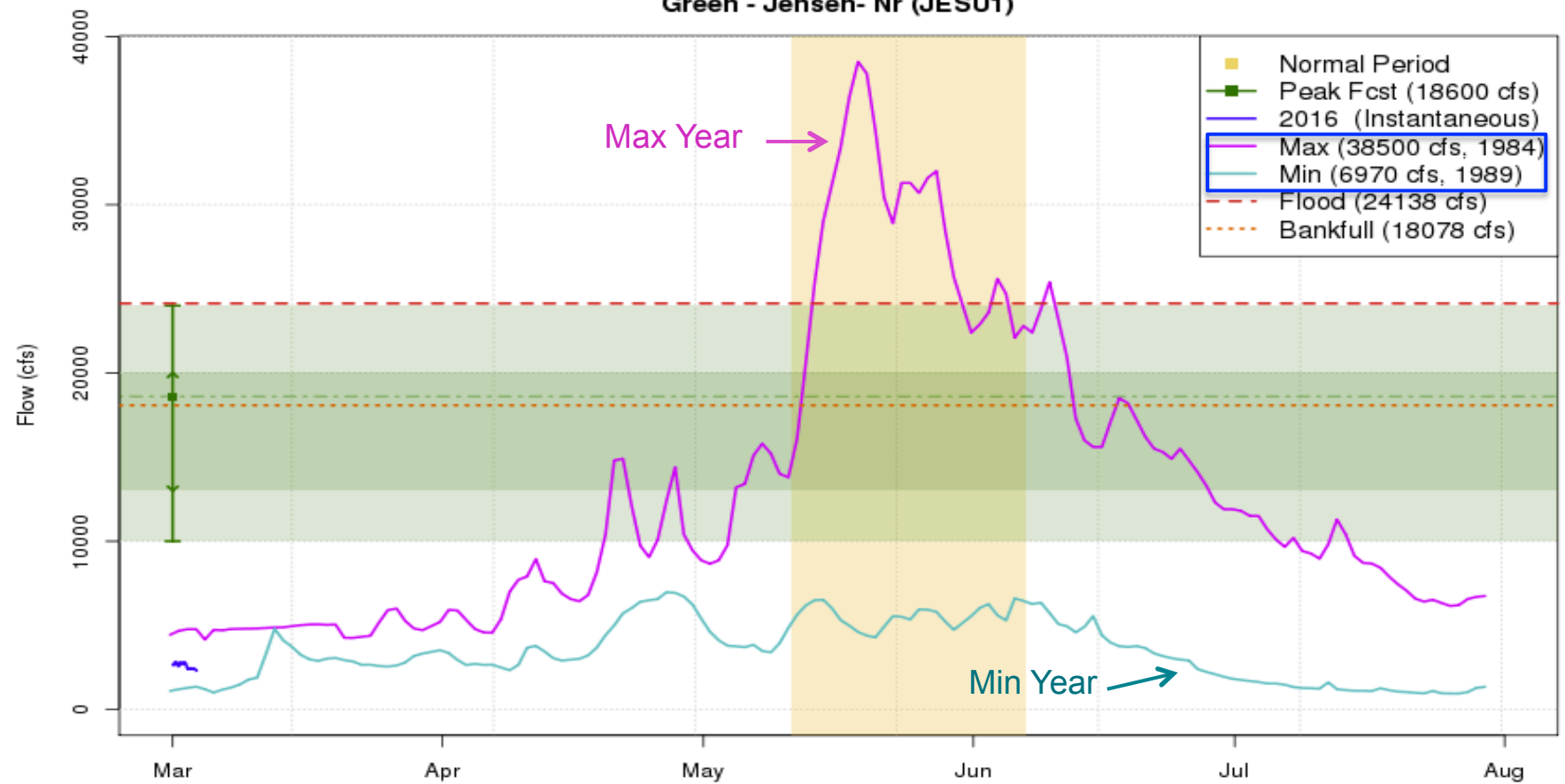
JESU1 Peak Flow Forecasts

Select to plot min and max year hydrographs

Mean Daily Plot Instantaneous Plot Forecasts Observations Help

Plot Options (on/off): Record Year Data Yearly Peaks Flood Flow

2016 Mean Daily Peak Flow Forecast
Green - Jensen- Nr (JESU1)



These graphics are updated approximately every two weeks between 3/1 and 5/1

Plot Created 2016-03-03 12:20:33
CBRFC / NWS / NOAA

Peak Flow Graphic

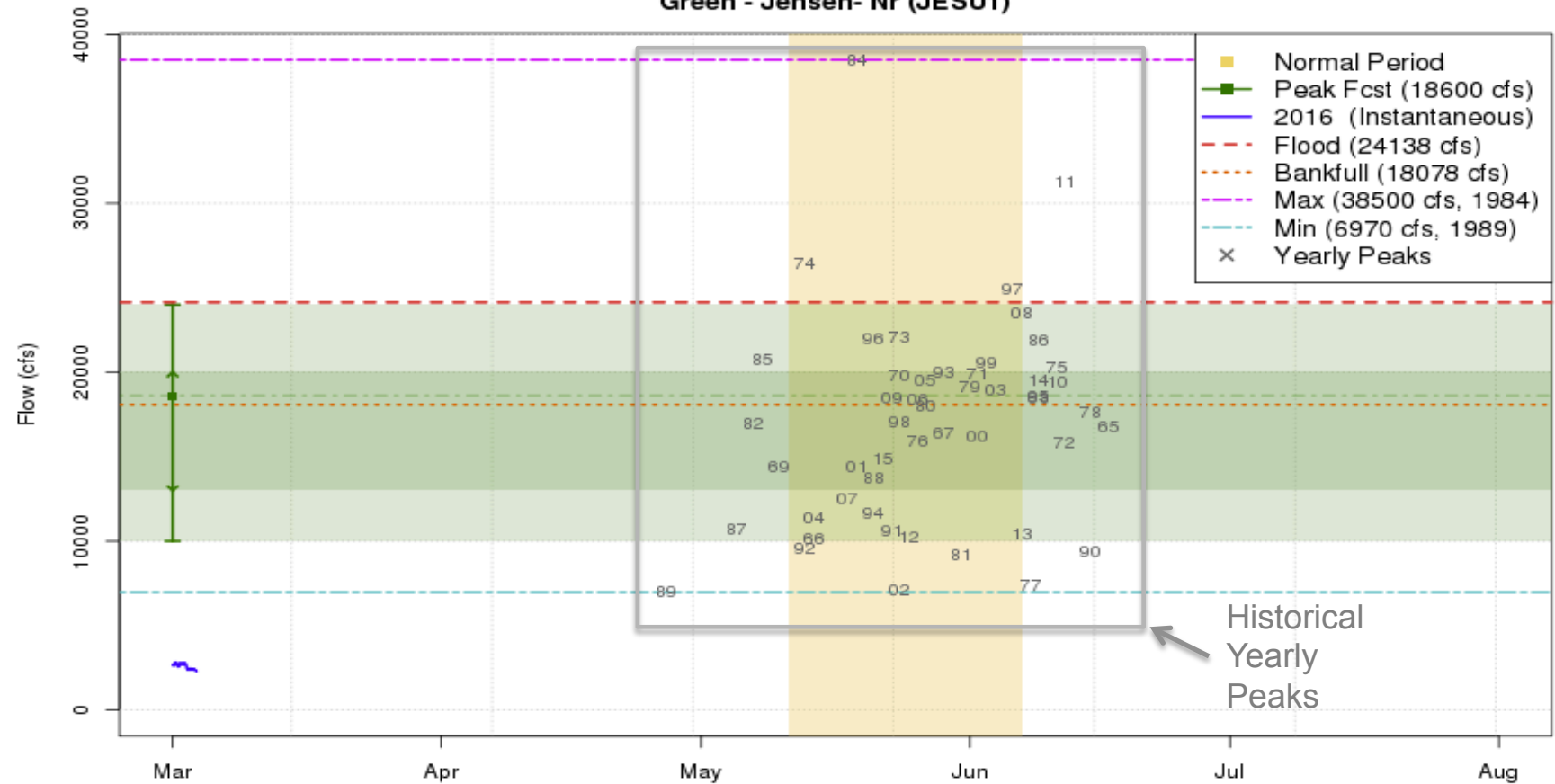
JESU1 Peak Flow Forecasts

Mean Daily Plot Instantaneous Plot Forecasts Observations Help

Plot Options (on/off): Record Year Data **Yearly Peaks** Flood Flow

Select to plot all historical peaks

2016 Mean Daily Peak Flow Forecast
Green - Jensen- Nr (JESU1)

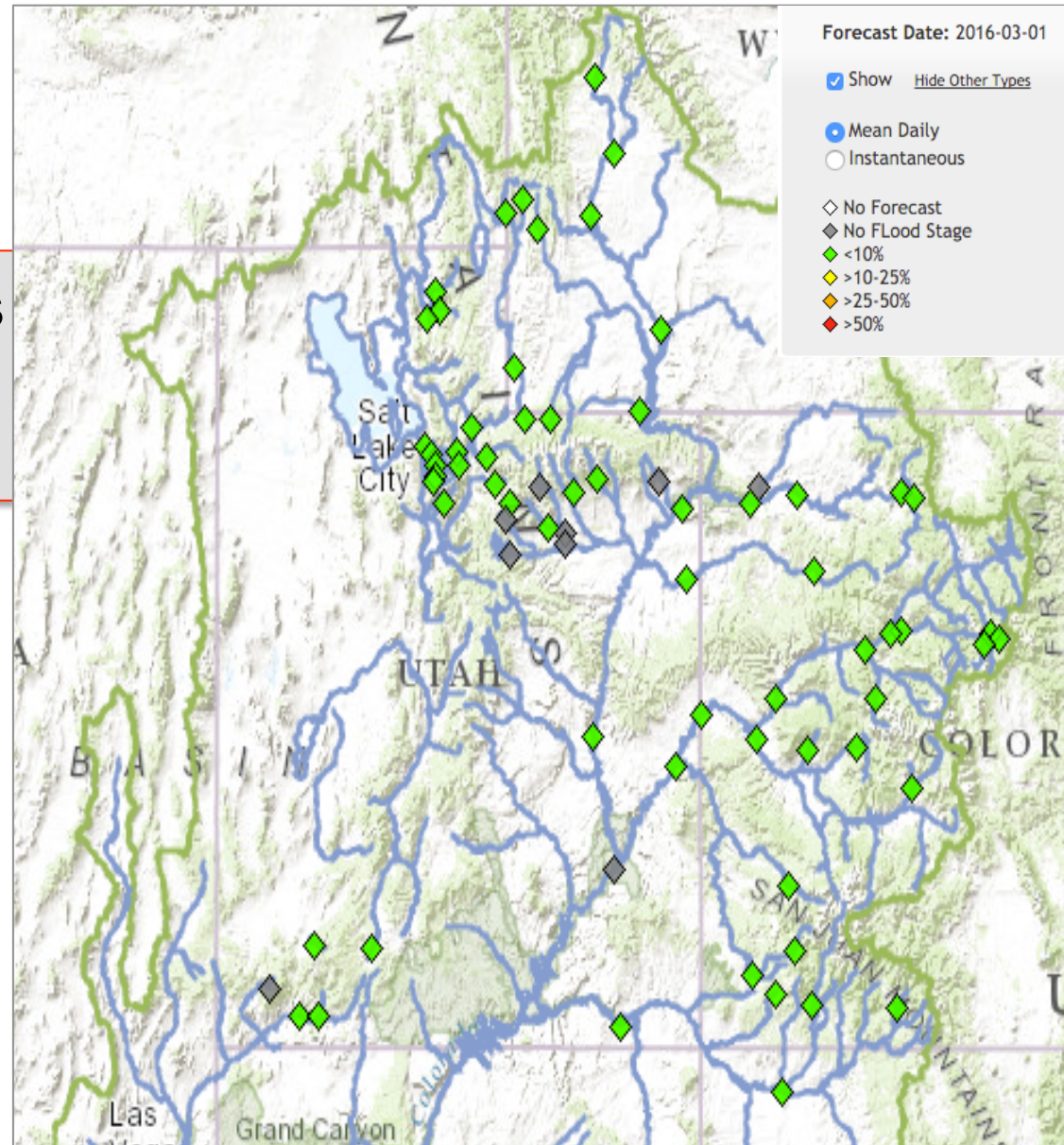


These graphics are updated approximately every two weeks between 3/1 and 5/1

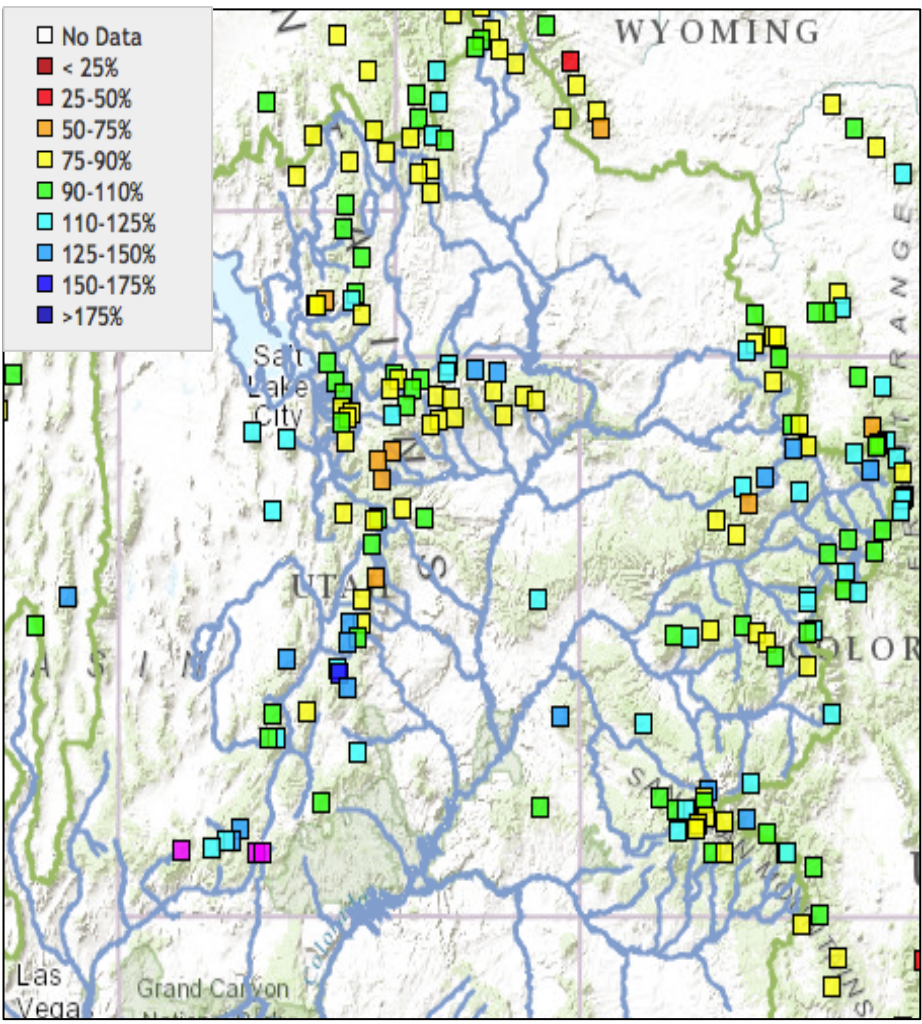
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CBRFC / NWS / NOAA

Today's Presentation

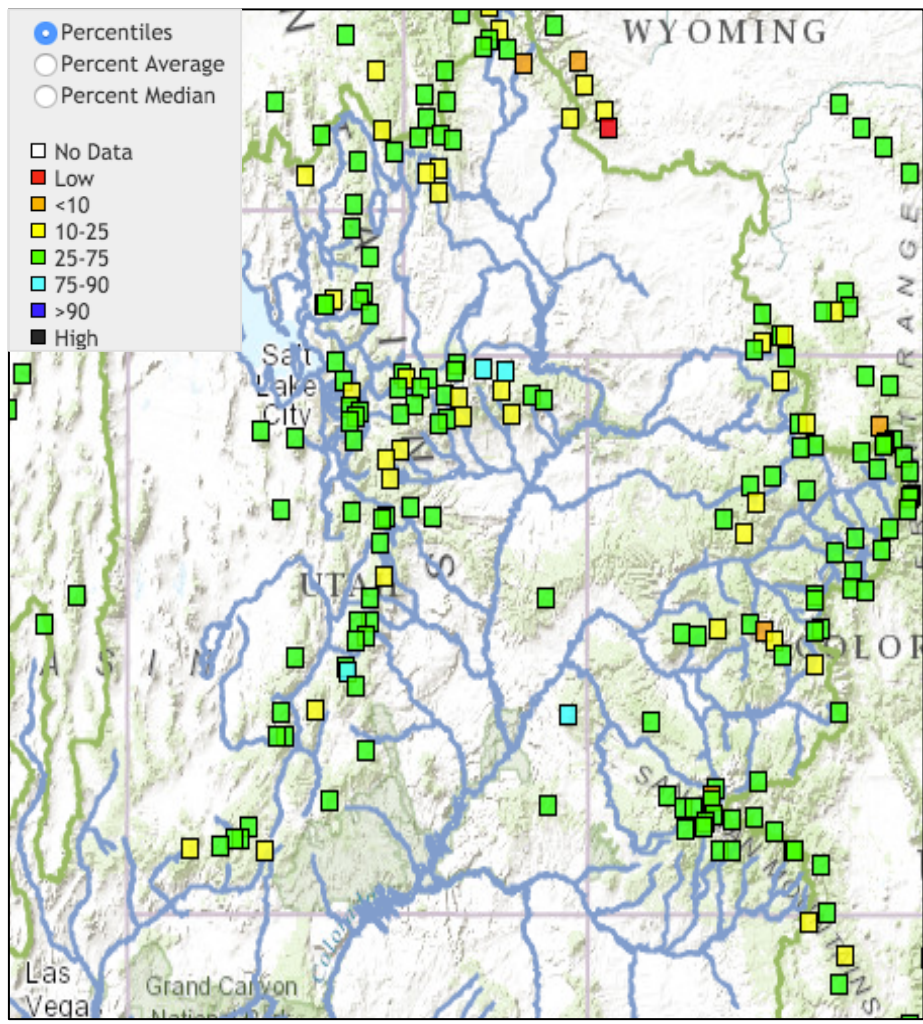
- Peak Flow Information
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Snow Conditions: SNOTEL Network



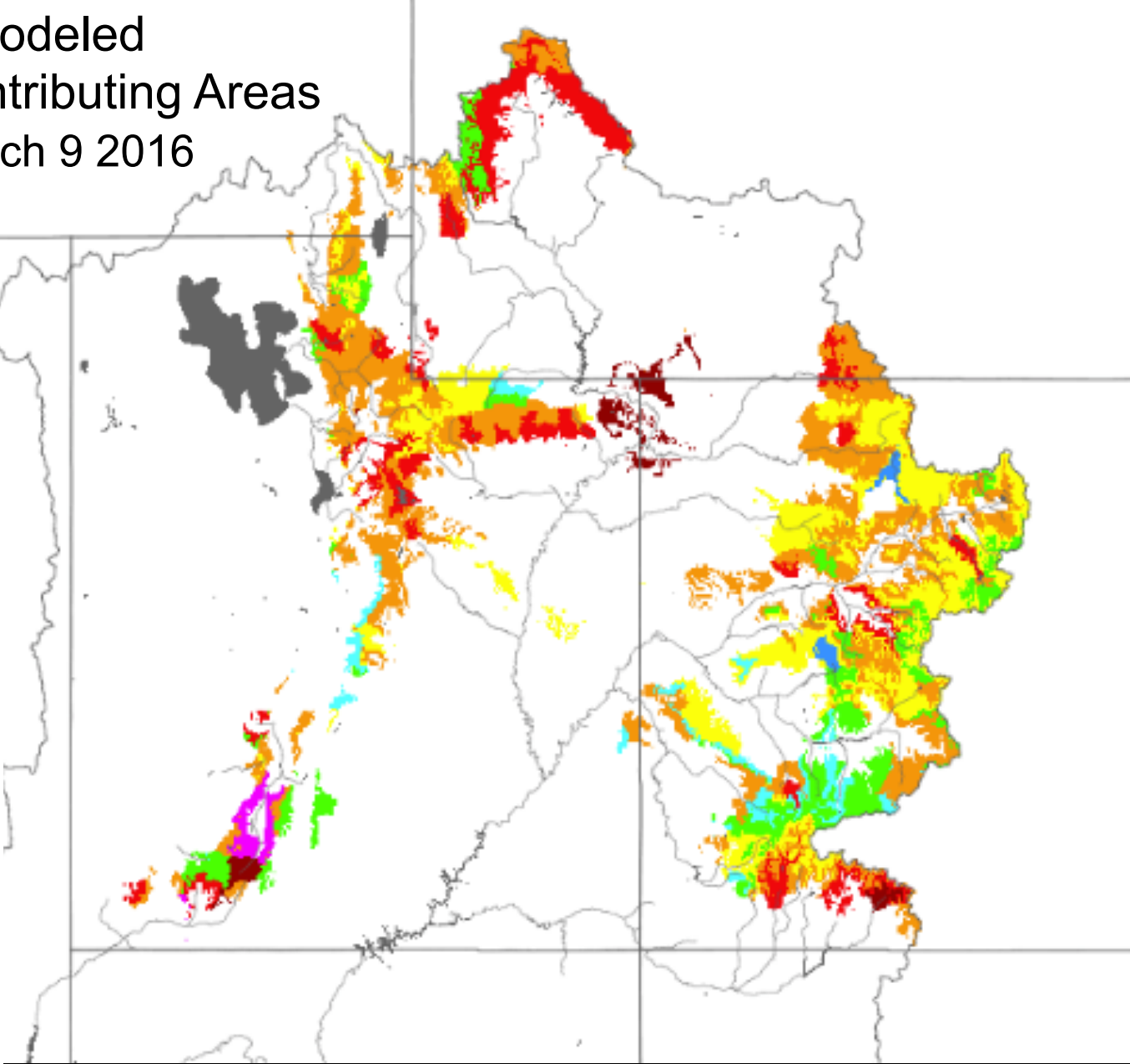
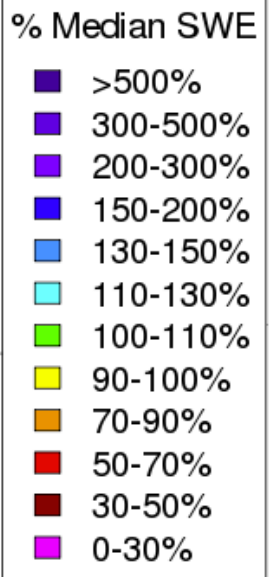
Snow (% median): March 9 2016



Snow (ranking): March 9 2016

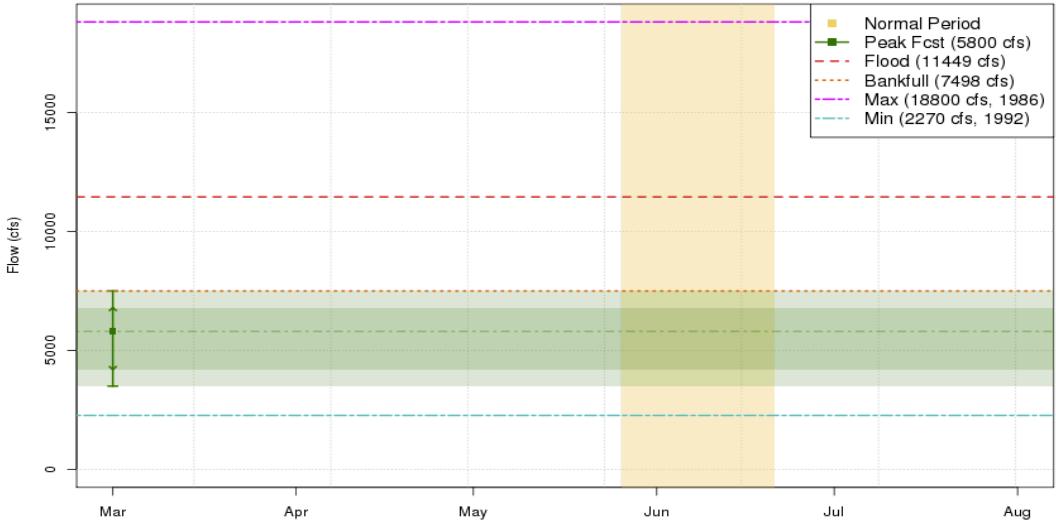
Snow Conditions: CBRFC Hydro Model

Modeled
Major Contributing Areas
March 9 2016



Green River Basin

2016 Mean Daily Peak Flow Forecast
Green - La Barge- Nr (LABW4)

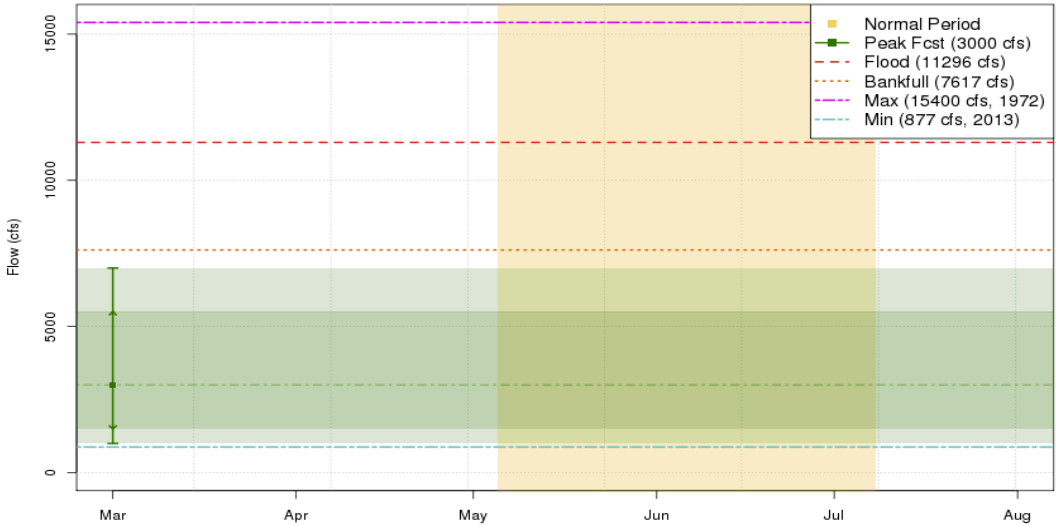


These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:20:49
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Green River – LaBarge

Forecast: 5800 CFS
Average: 8000 CFS
Flood: 11500 CFS
Last Year: 7630 CFS

2016 Mean Daily Peak Flow Forecast
Green - Green River- Wy- Nr (GRRW4)



These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:20:53
CBRFC / NWS / NOAA

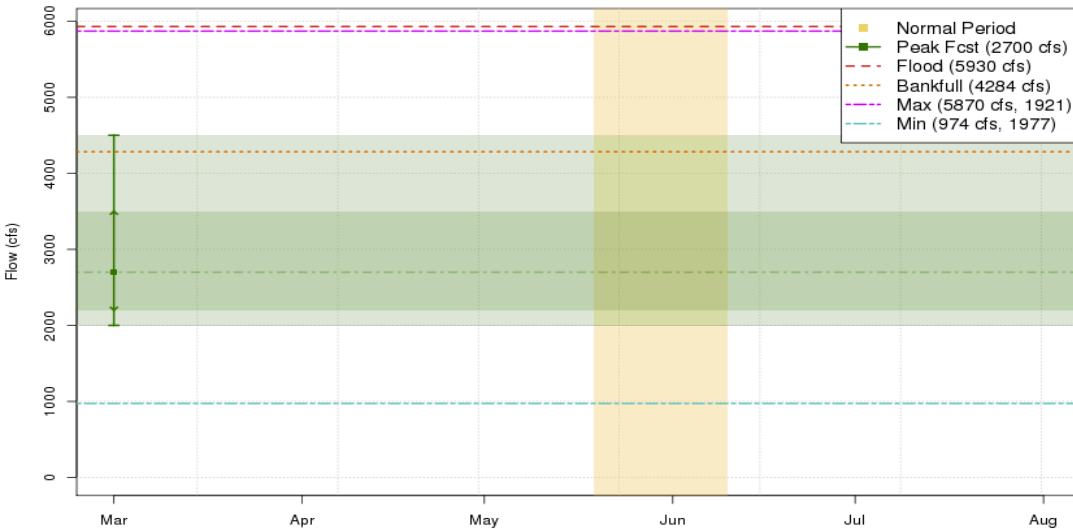
Green River – Green River, WY

Forecast: 3000 CFS
Average: 5790 CFS
Flood: 11300 CFS
Last Year: 7450 CFS

Forecasts are 50% Exceedance

Yampa River Basin

2016 Mean Daily Peak Flow Forecast
Yampa - Steamboat Springs (STMC2)

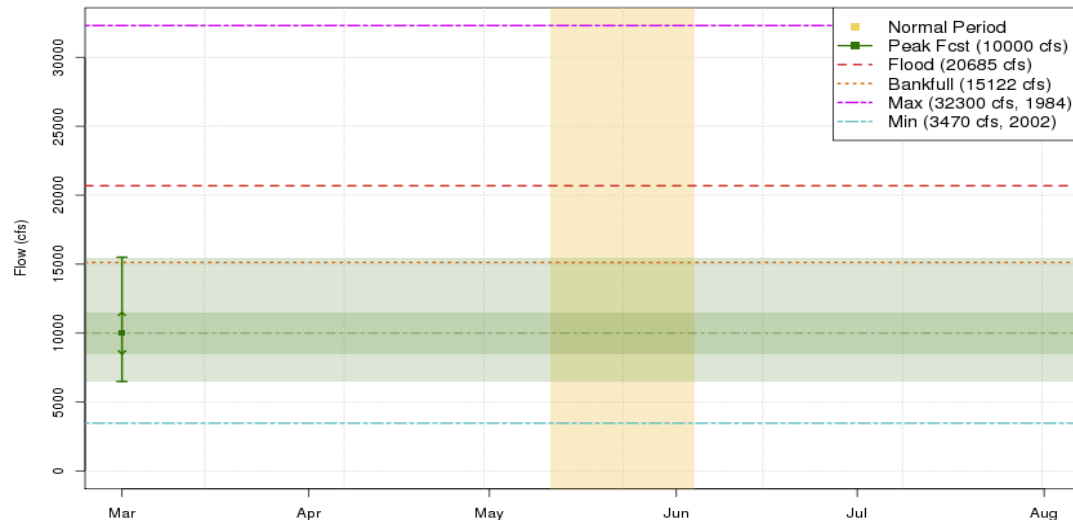


These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:21:11
CBRFC / NWS / NOAA

Yampa River-Steamboat Springs

Forecast: 2700 CFS
Average: 3070 CFS
Flood: 5930 CFS
Last Year: 3320 CFS

2016 Mean Daily Peak Flow Forecast
Yampa - Deerlodge Park (YDLC2)



These graphics are updated approximately every two weeks between 3/1 and 5/1
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CBRFC / NWS / NOAA

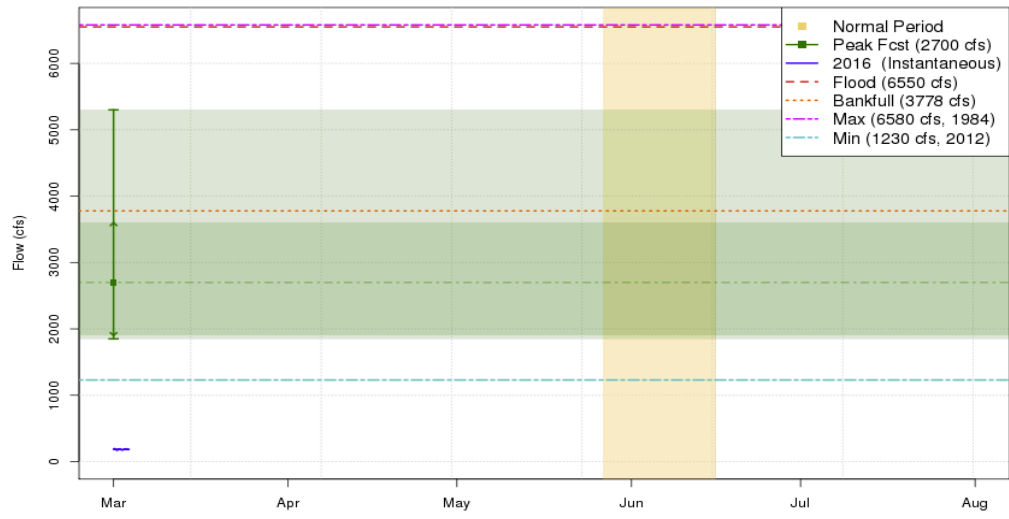
Yampa River - Deerlodge

Forecast: 10000 CFS
Average: 13500 CFS
Flood: 20700 CFS
Last Year: 10100 CFS

Forecasts are 50% Exceedance

Upper Colorado River Basin

2016 Mean Daily Peak Flow Forecast
Eagle - Gypsum- Blo (GPSC2)

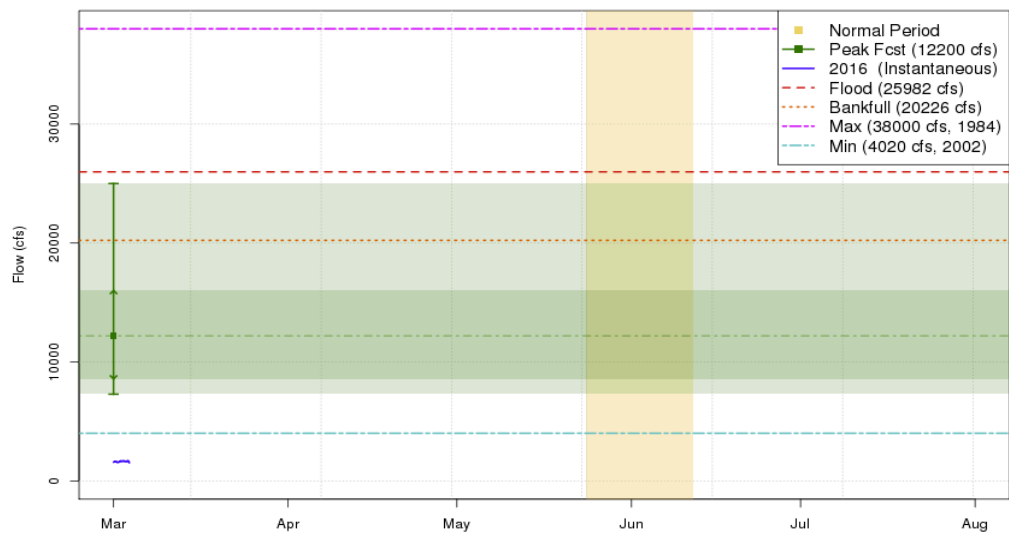


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Plot Created 2016-03-03 12:22:21
CBRFC / NWS / NOAA

Eagle River - Gypsum

Forecast: 2700 CFS
Average: 3600 CFS
Flood: 6500 CFS
Last Year: 4870 CFS

2016 Mean Daily Peak Flow Forecast
Colorado - Cameo- Nr (CAMC2)



These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:22:38
CBRFC / NWS / NOAA

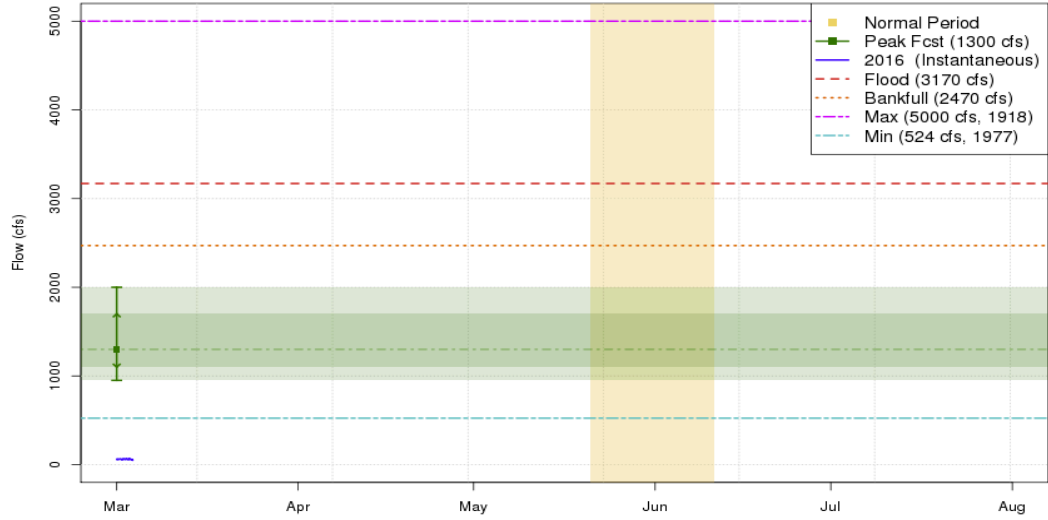
Colorado River - Cameo

Forecast: 12200 CFS
Average: 17000 CFS
Flood: 26000 CFS
Last Year: 21200 CFS

Forecasts are 50% Exceedance

Gunnison River Basin

2016 Mean Daily Peak Flow Forecast
East - Almont (ALEC2)

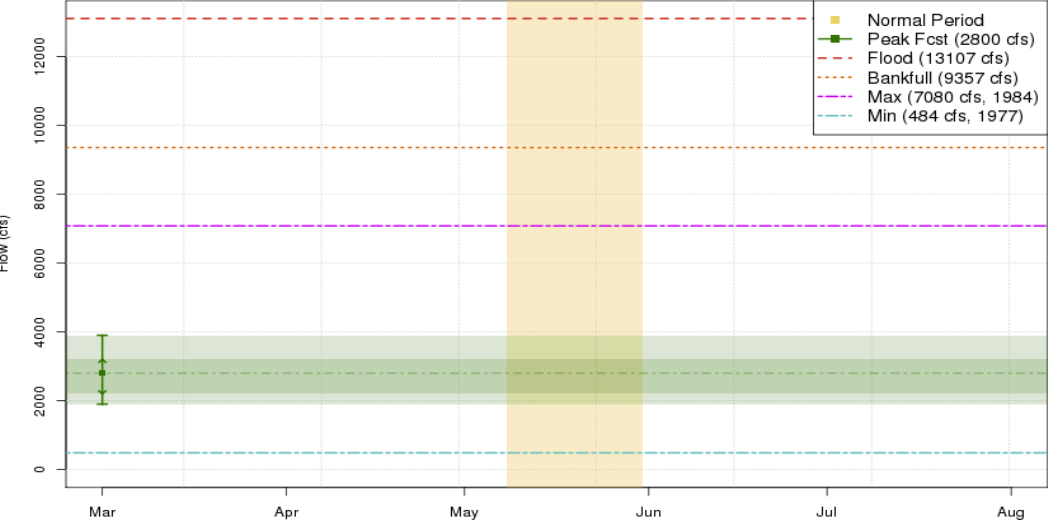


These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:24:06
CBRFC / NWS / NOAA

East River - Almont

Forecast: 1300 CFS
Average: 2000 CFS
Flood: 3170 CFS
Last Year: 2410 CFS

2016 Mean Daily Peak Flow Forecast
Nf Gunnison - Somerset - Nr (SOMC2)



These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:24:11
CBRFC / NWS / NOAA

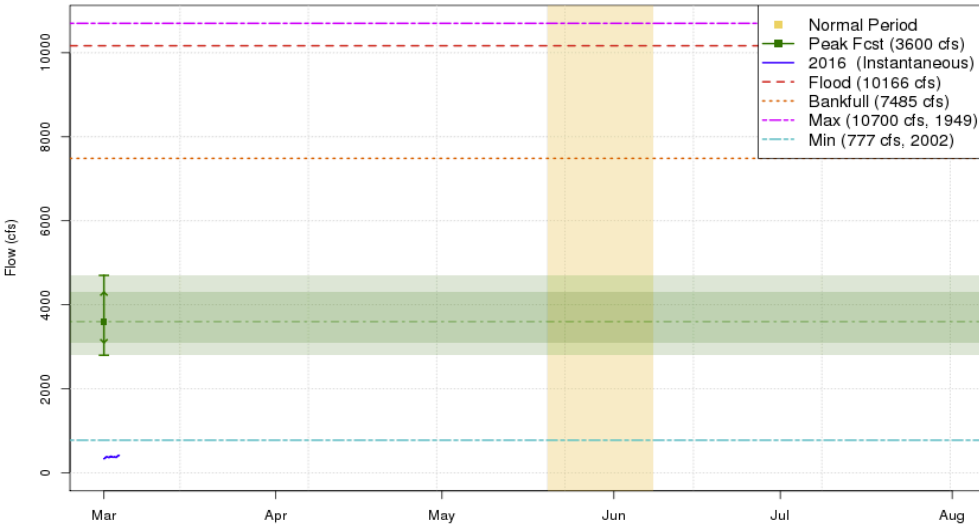
NF Gunnison - Somerset

Forecast: 2800 CFS
Average: 3120 CFS
Flood: 13100 CFS
Last Year: 3130 CFS

Forecasts are 50% Exceedance

San Juan River Basin

2016 Mean Daily Peak Flow Forecast
Animas - Durango (DRGC2)

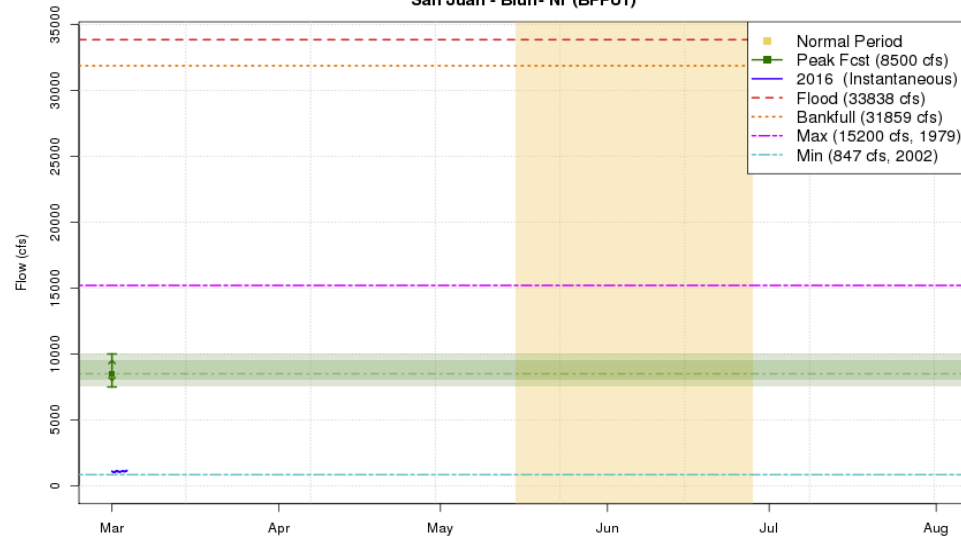


These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:21:46
CBRFC / NWS / NOAA

Animas River - Durango

Forecast: 3700 CFS
Average: 4710 CFS
Flood: 10200 CFS
Last Year: 6210 CFS

2016 Mean Daily Peak Flow Forecast
San Juan - Bluff- Nr (BFFU1)



These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:22:02
CBRFC / NWS / NOAA

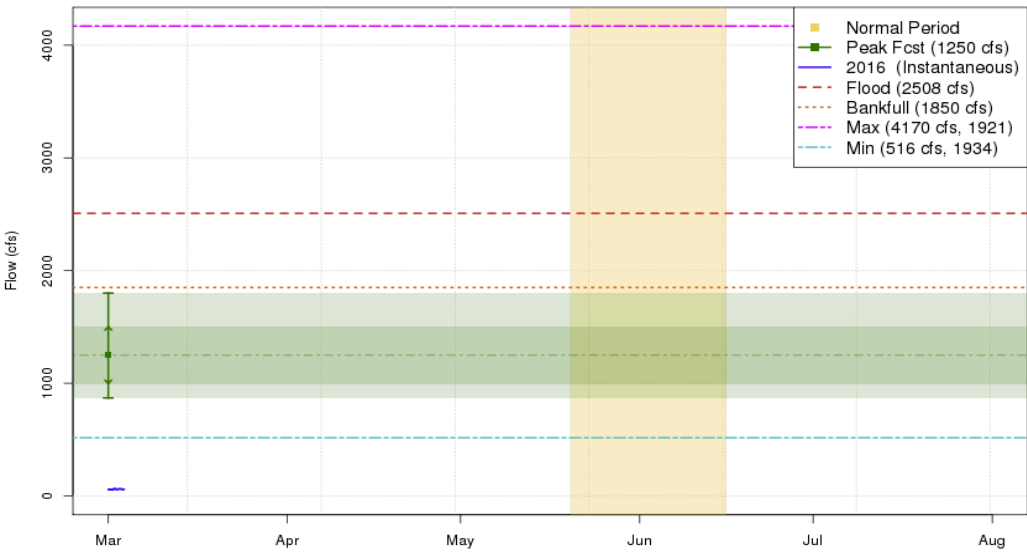
San Juan River - Bluff

Forecast: 8500 CFS
Average: 7340 CFS
Flood: 33800 CFS
Last Year: 8120 CFS

Forecasts are 50% Exceedance

Great Basin

2016 Mean Daily Peak Flow Forecast
Weber - Oakley- Nr (OAWU1)

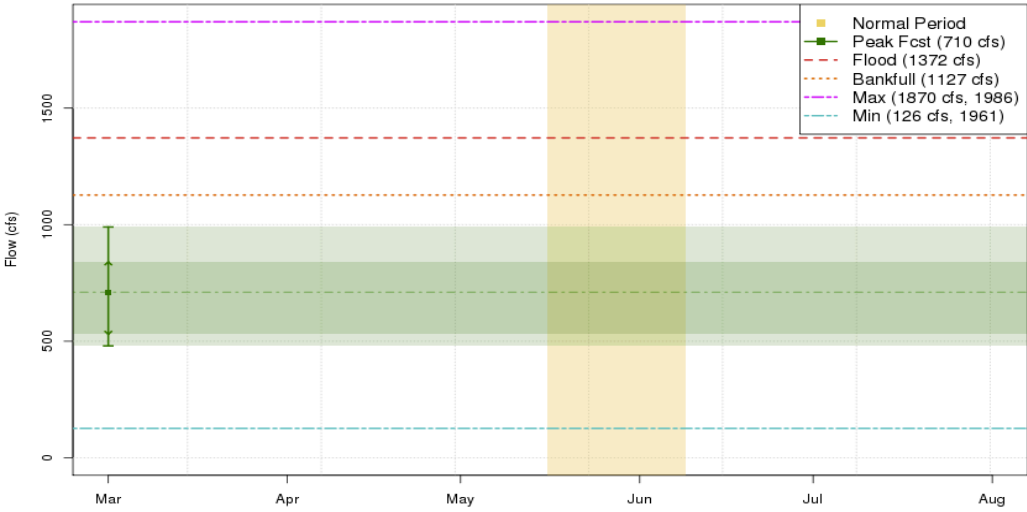


These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:23:45
CBRFC / NWS / NOAA

Weber River - Oakley

Forecast: 1250 CFS
Average: 1645 CFS
Flood: 2510 CFS
Last Year: 978 CFS

2016 Mean Daily Peak Flow Forecast
Logan - Logan- Nr- State Dam- Abv (LGNU1)



These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:23:12
CBRFC / NWS / NOAA

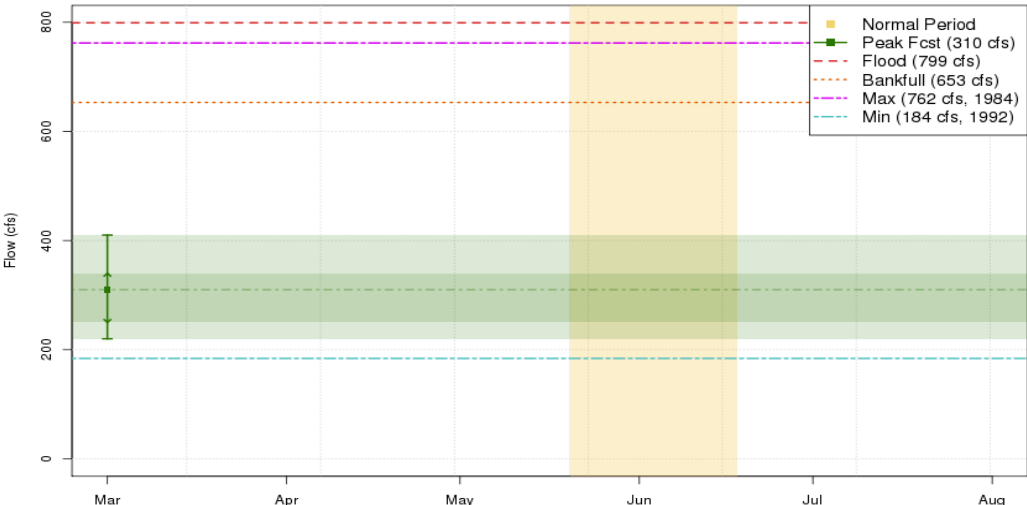
Logan River - Logan

Forecast: 710 CFS
Average: 950 CFS
Flood: 1370 CFS
Last Year: 545 CFS

Forecasts are 50% Exceedance

Great Basin

2016 Mean Daily Peak Flow Forecast
Little Cottonwood Ck - Salt Lake City- Nr (LCTU1)

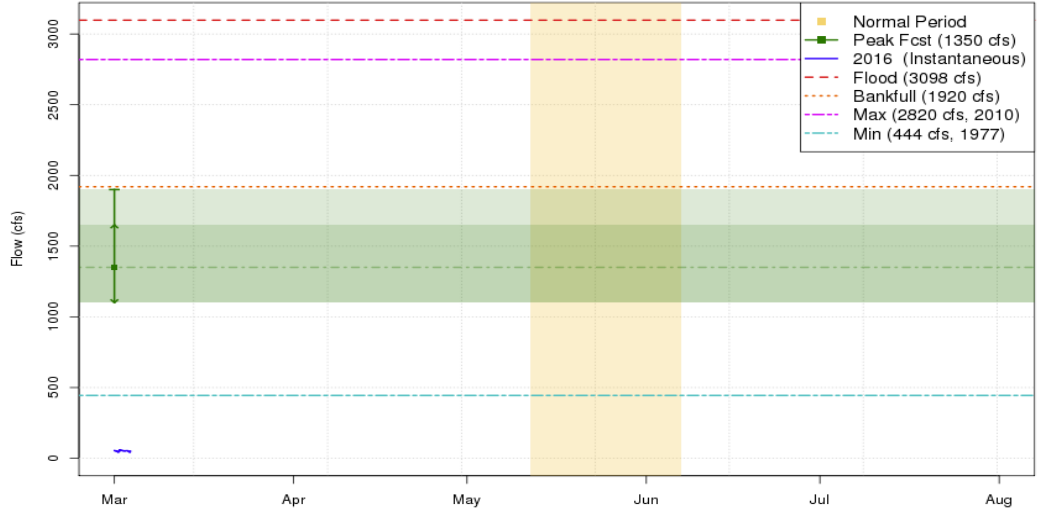


These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:23:26
CBRFC / NWS / NOAA

Little Cottonwood - SLC

Forecast: 310 CFS
Average: 455 CFS
Flood: 800 CFS
Last Year: 205 CFS

2016 Mean Daily Peak Flow Forecast
Provo - Woodland- Nr (WOUU1)



These graphics are updated approximately every two weeks between 3/1 and 5/1
Plot Created 2016-03-03 12:23:37
CBRFC / NWS / NOAA

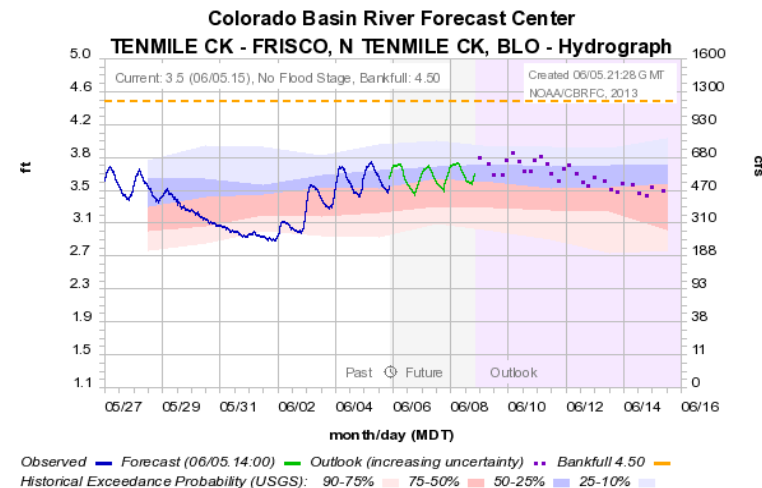
Provo River - Woodland

Forecast: 1350 CFS
Average: 1795 CFS
Flood: 3100 CFS
Last Year: 1110 CFS

Forecasts are 50% Exceedance

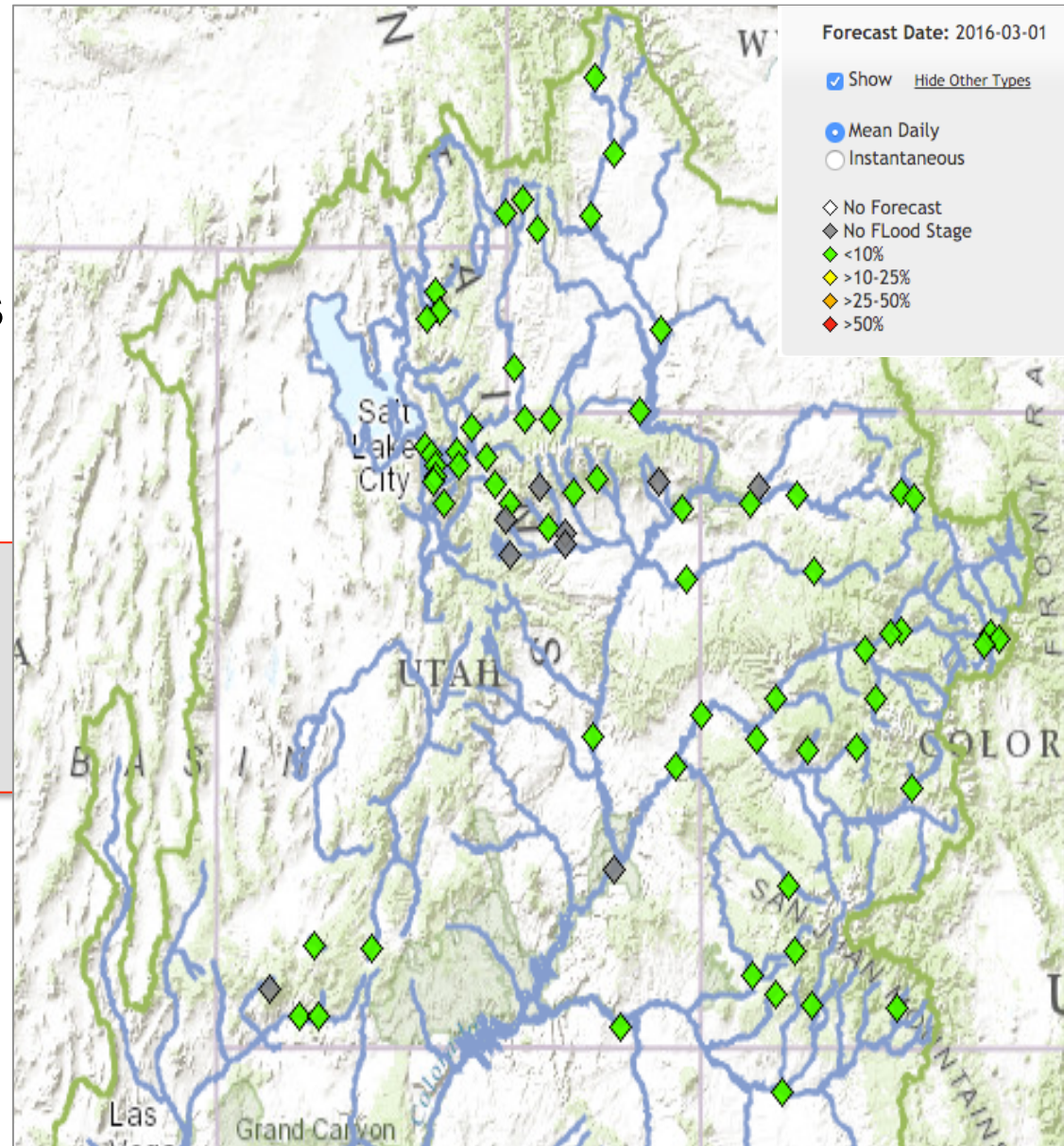
Peak Flow Forecast Summary

- Below or near average peak flows expected across the Colorado River and eastern Great Basins
- No locations are currently forecast to exceed flood level at any forecast probability
- Forecast procedures do not exist for all locations
- Not a forecast of peak timing
- See daily forecast hydrographs as peak nears
 - Peak flow list may indicate:
“Peaking Soon” or “Peak has Already Occurred”



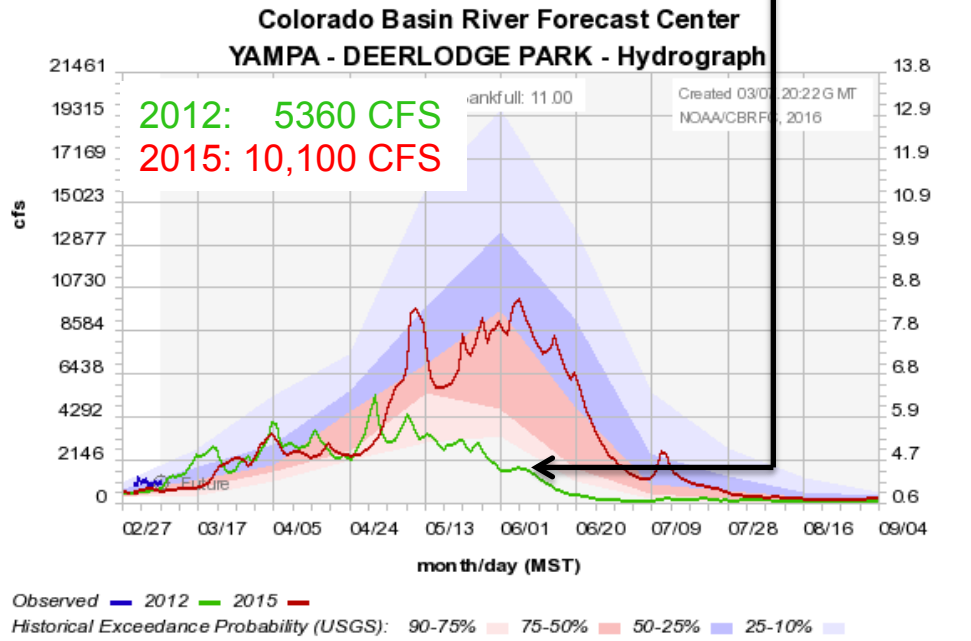
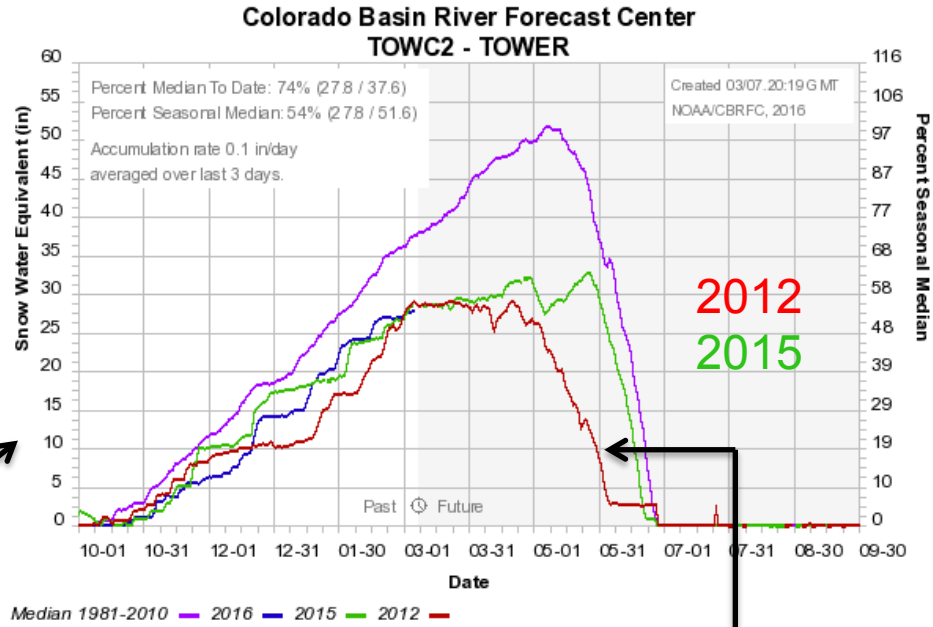
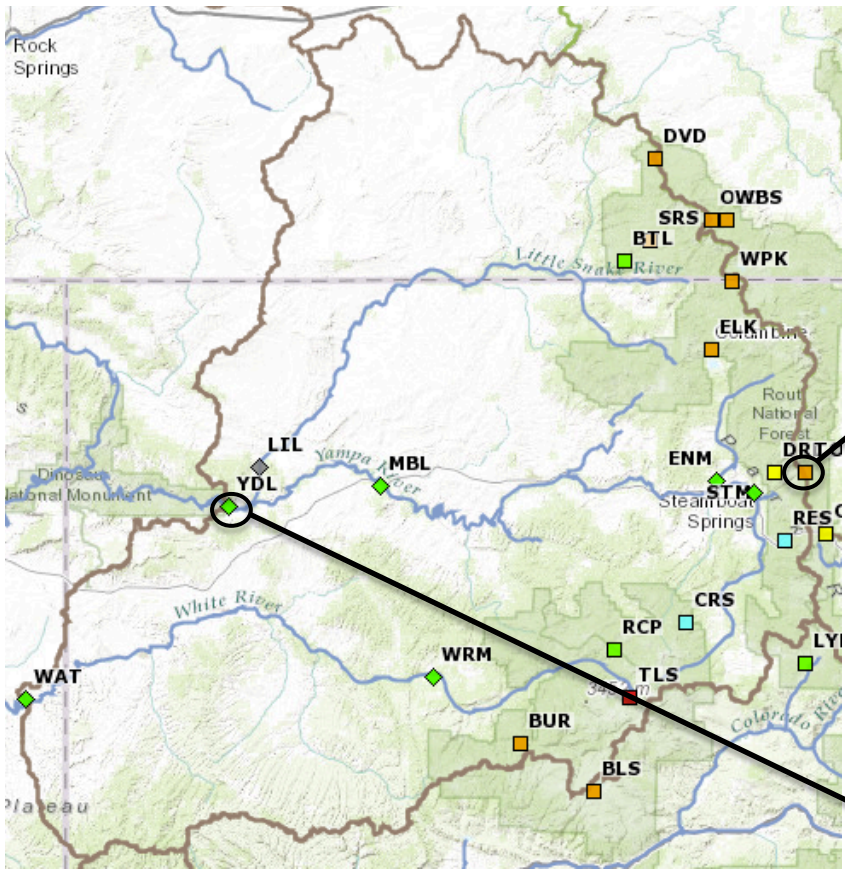
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Impacts of Spring Weather

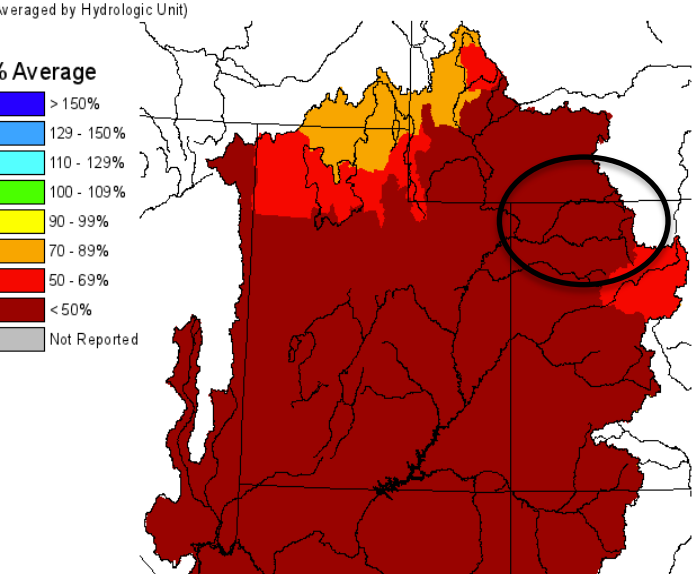
Yampa River Basin



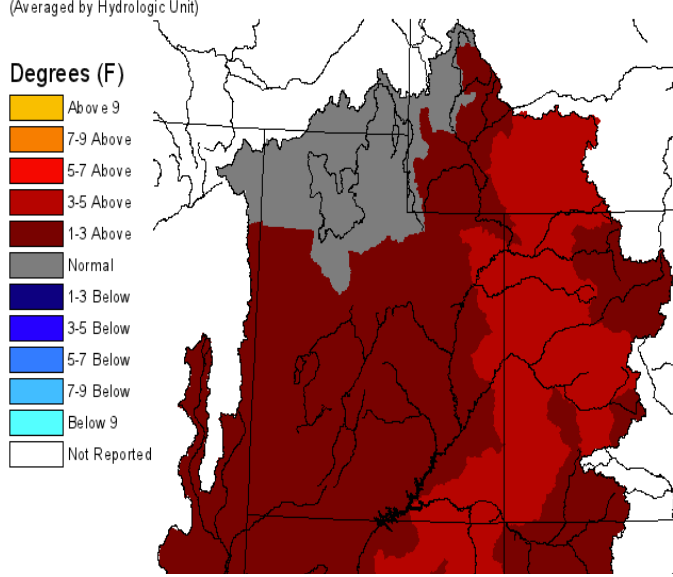
Impacts of Spring Weather

Yampa River Basin

Monthly Precipitation for May 2012
(Averaged by Hydrologic Unit)

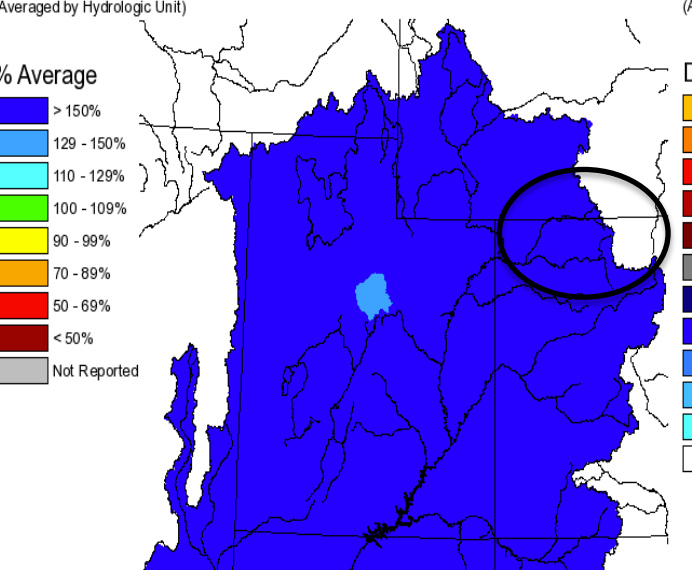


Monthly Max Temp Deviation for May 2012
(Averaged by Hydrologic Unit)

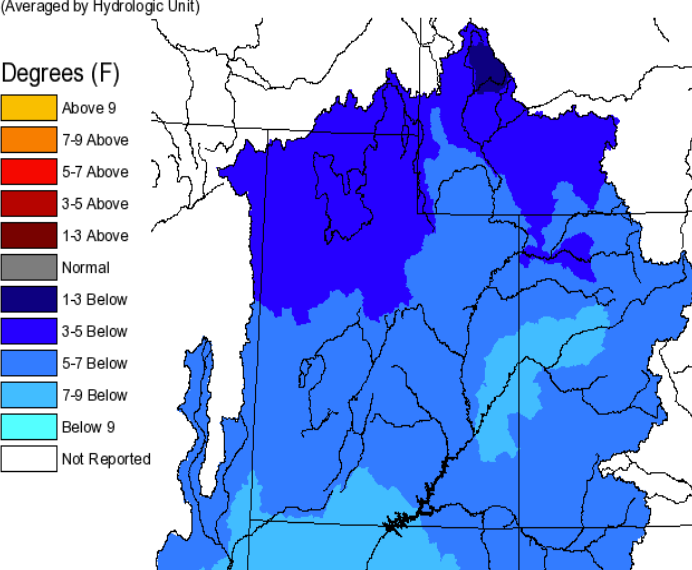


May 2012
Dry and Warm
Peak Flow= 5360 CFS (40%)

Monthly Precipitation for May 2015
(Averaged by Hydrologic Unit)



Monthly Max Temp Deviation for May 2015
(Averaged by Hydrologic Unit)



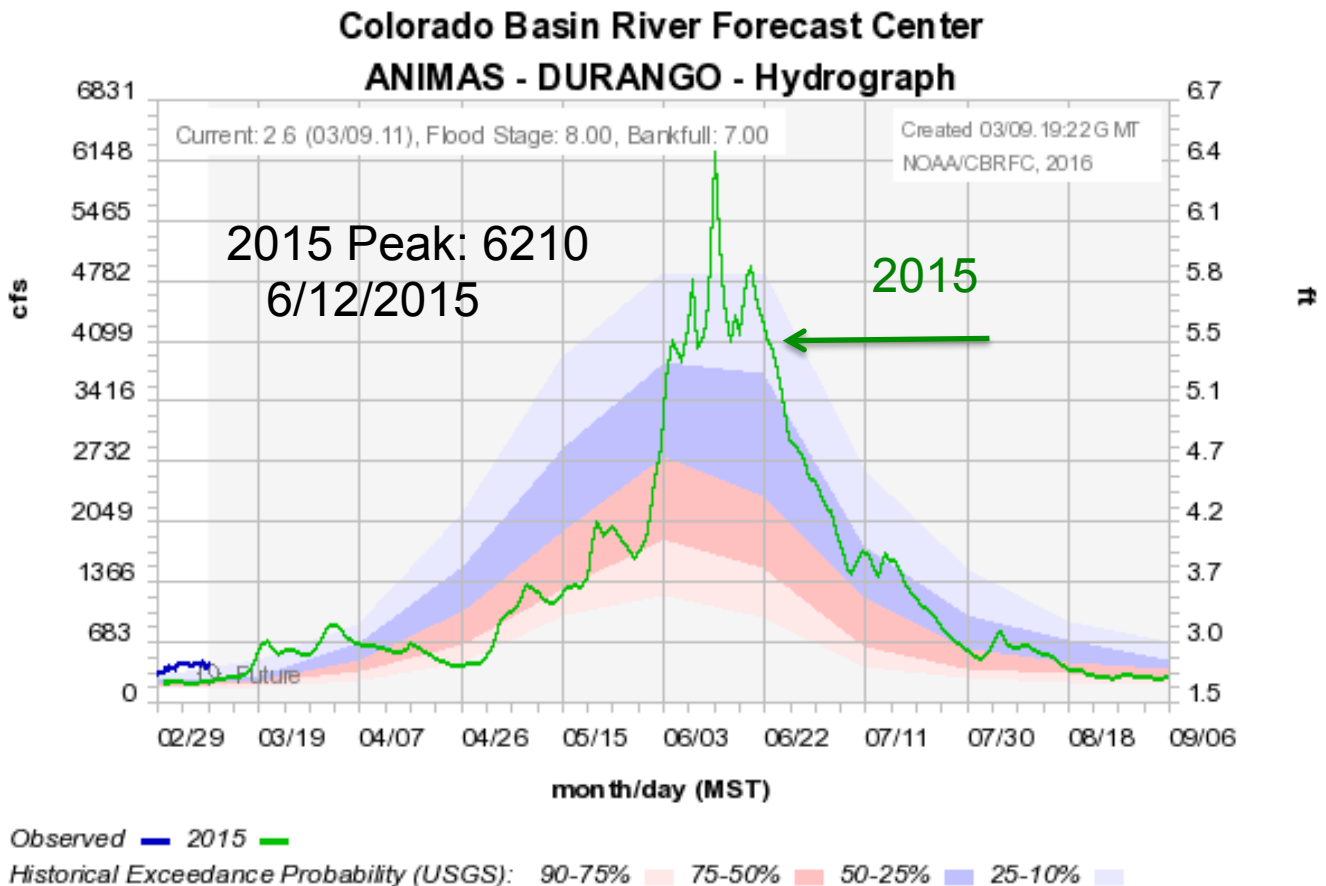
May 2015
Wet and Cold
Peak Flow: 10100 CFS(100%)

Impacts of Spring Weather

Animas – Durango March 1 2015 Forecast

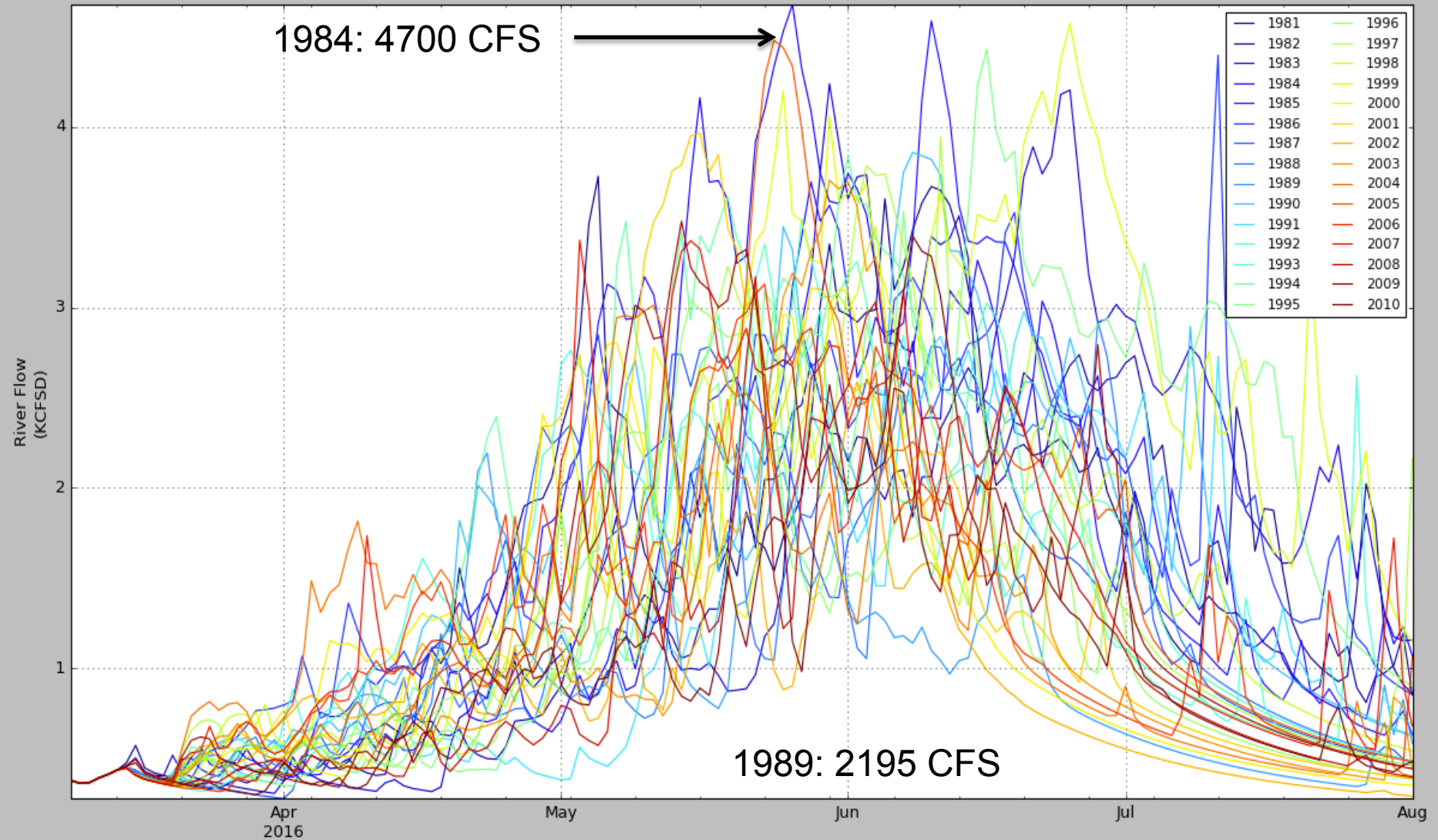
90%	75%	50%	25%	10%
2200	2700	3200	3700	4100

Normal Peak Period 5/20 – 6/8



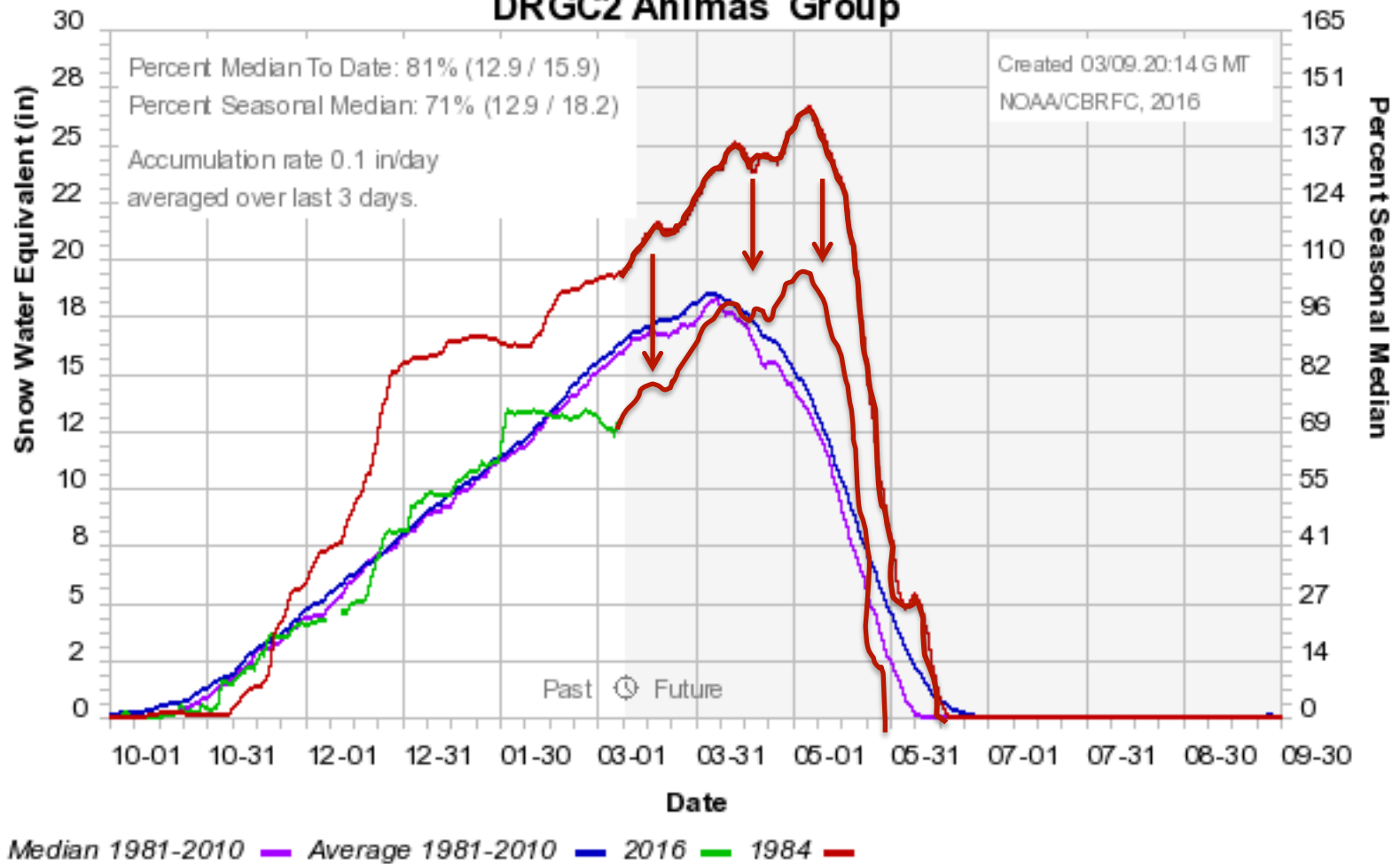
A range of possibilities

Trace Ensemble for
ANIMAS - DURANGO
Forecast Period: 2016-03-09 - 2016-08-01 Simulation date: 2016-03-09



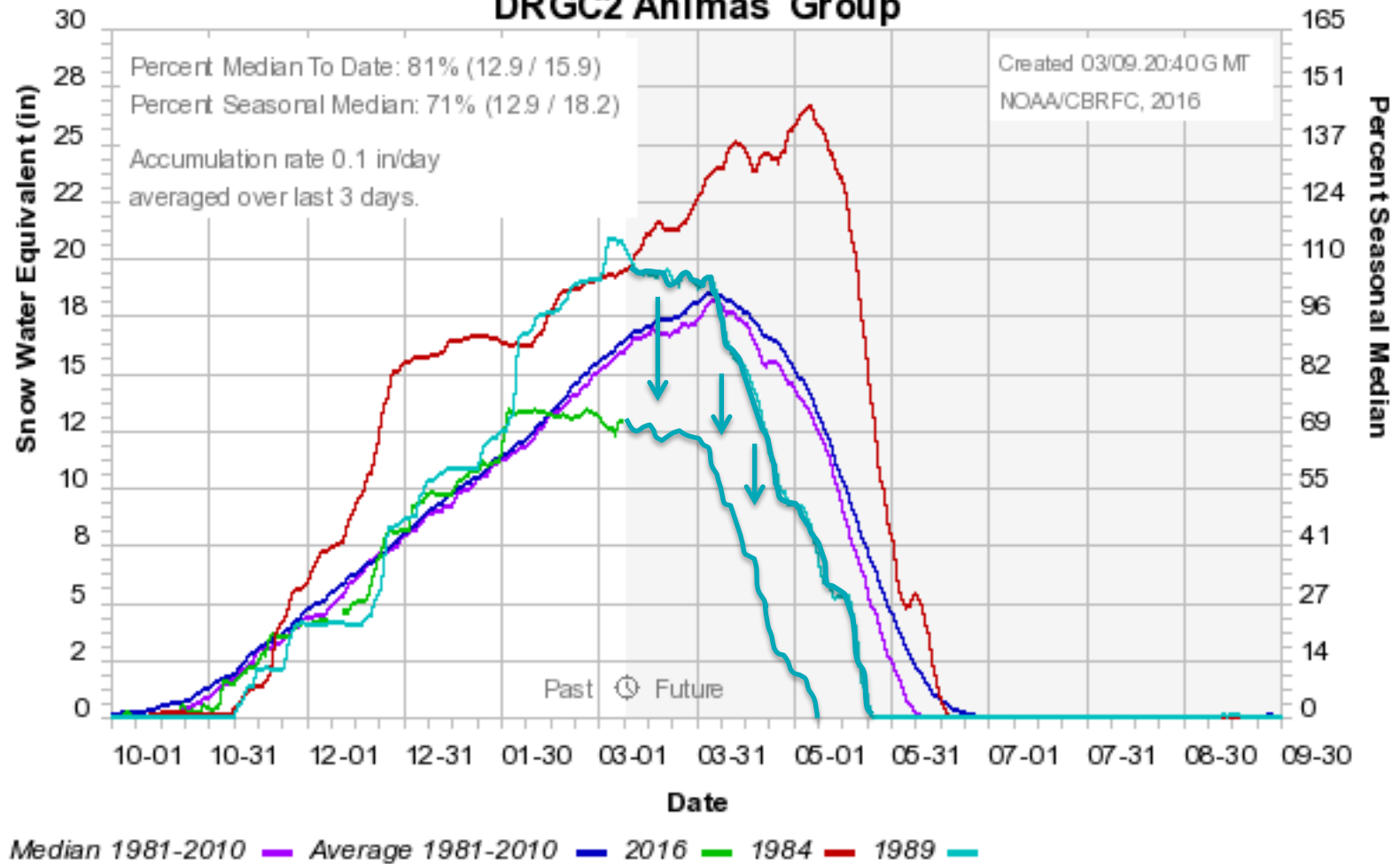
A range of possibilities

Colorado Basin River Forecast Center DRGC2 Animas Group



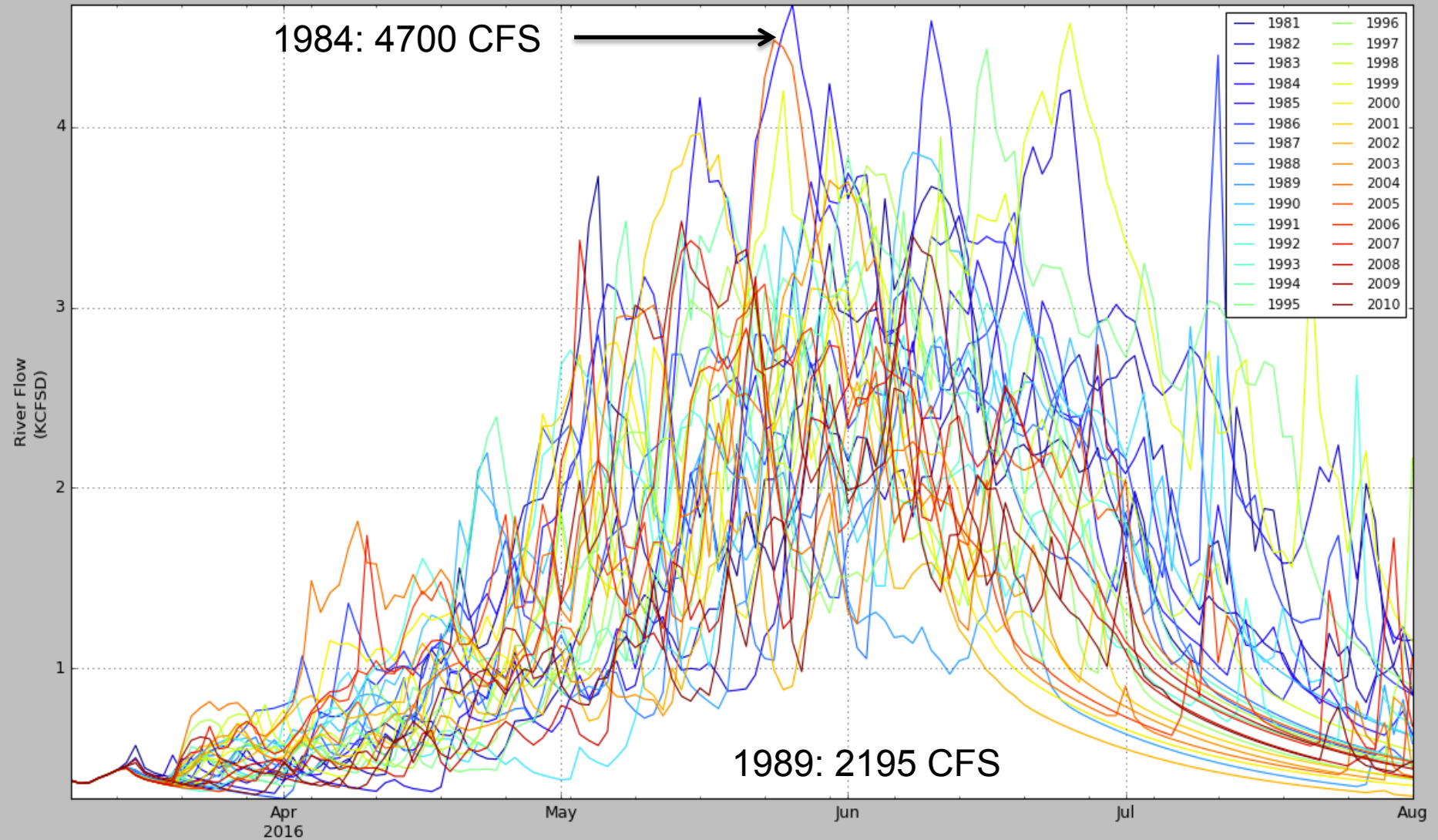
A range of possibilities

Colorado Basin River Forecast Center DRGC2 Animas Group



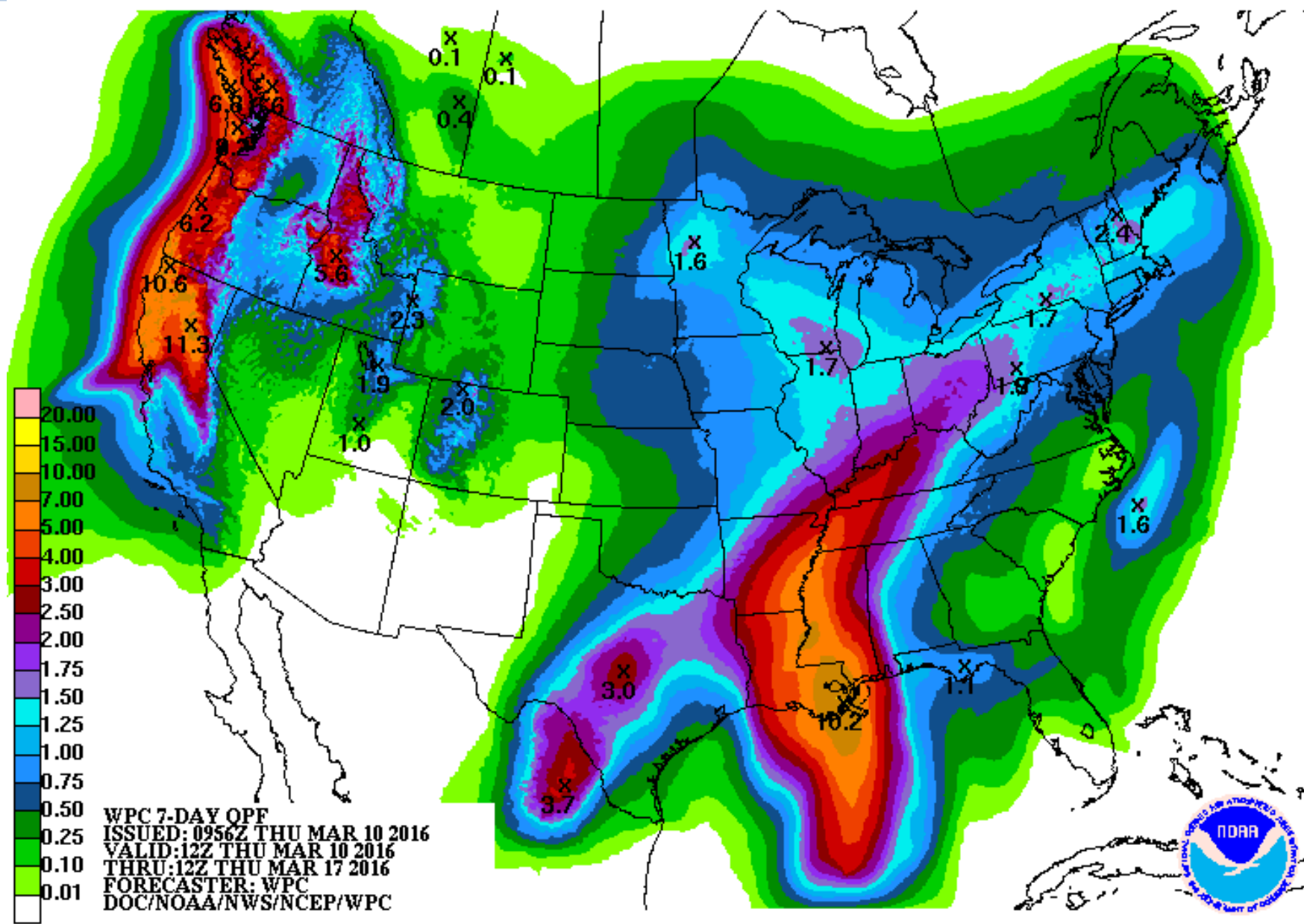
A range of possibilities

Trace Ensemble for
ANIMAS - DURANGO
Forecast Period: 2016-03-09 - 2016-08-01 Simulation date: 2016-03-09



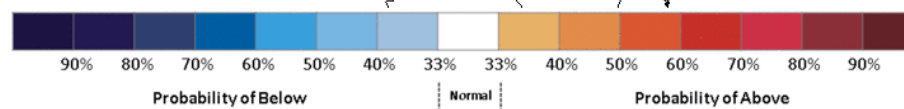
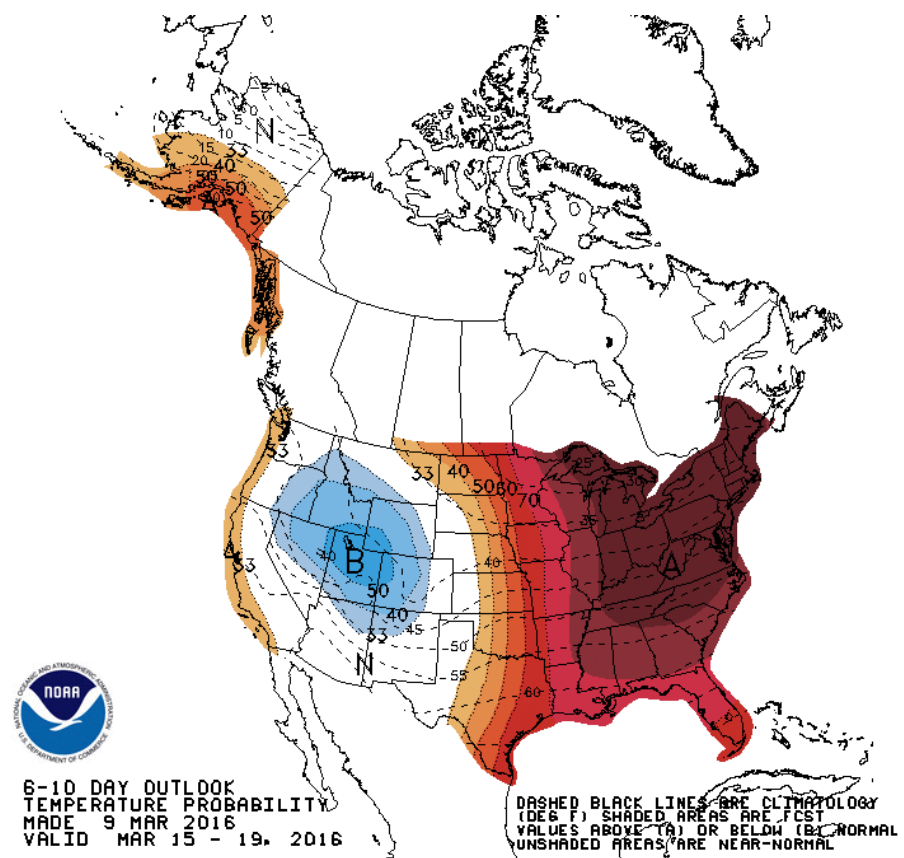
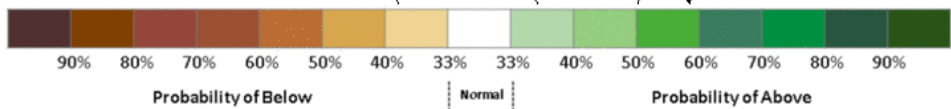
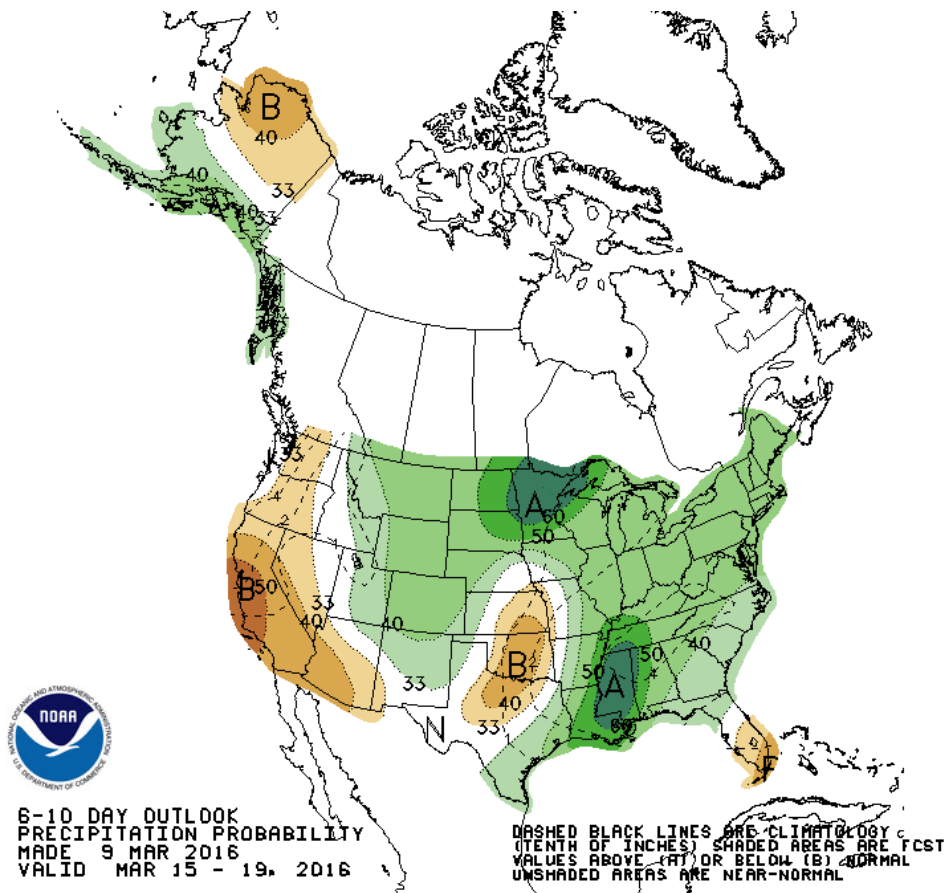
Upcoming Weather

Precipitation Forecast March 10 - March 17 2016



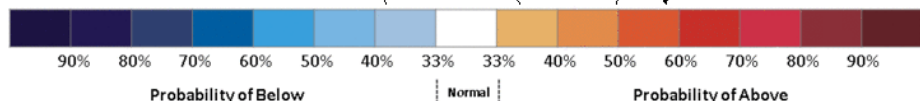
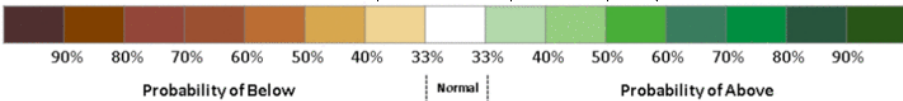
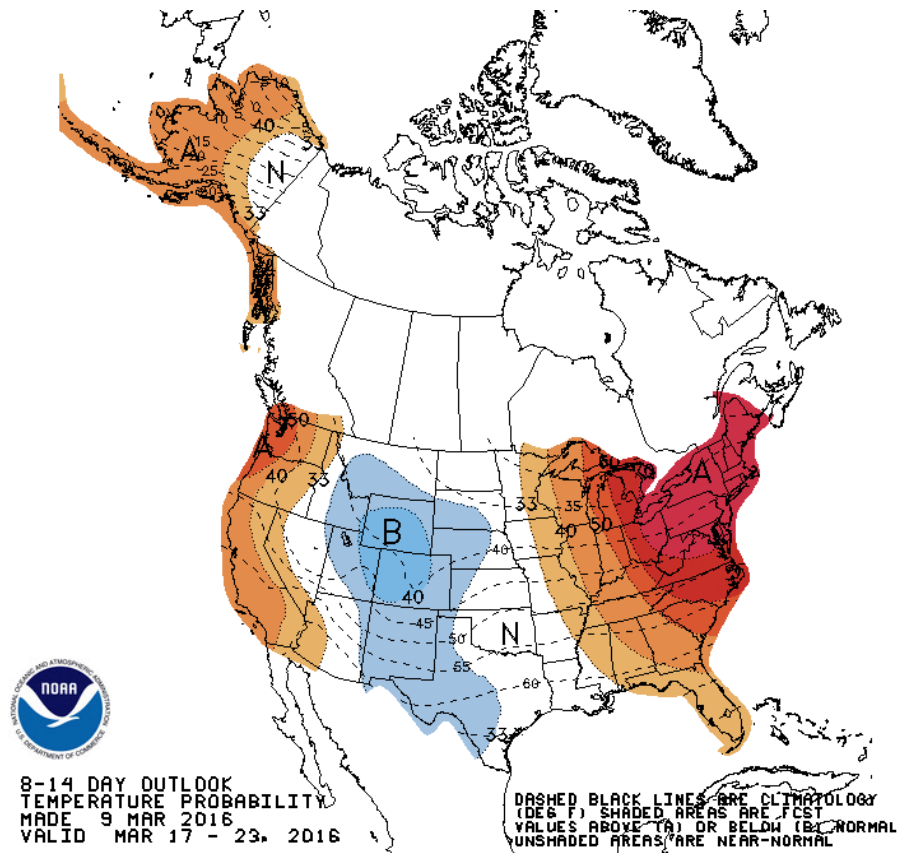
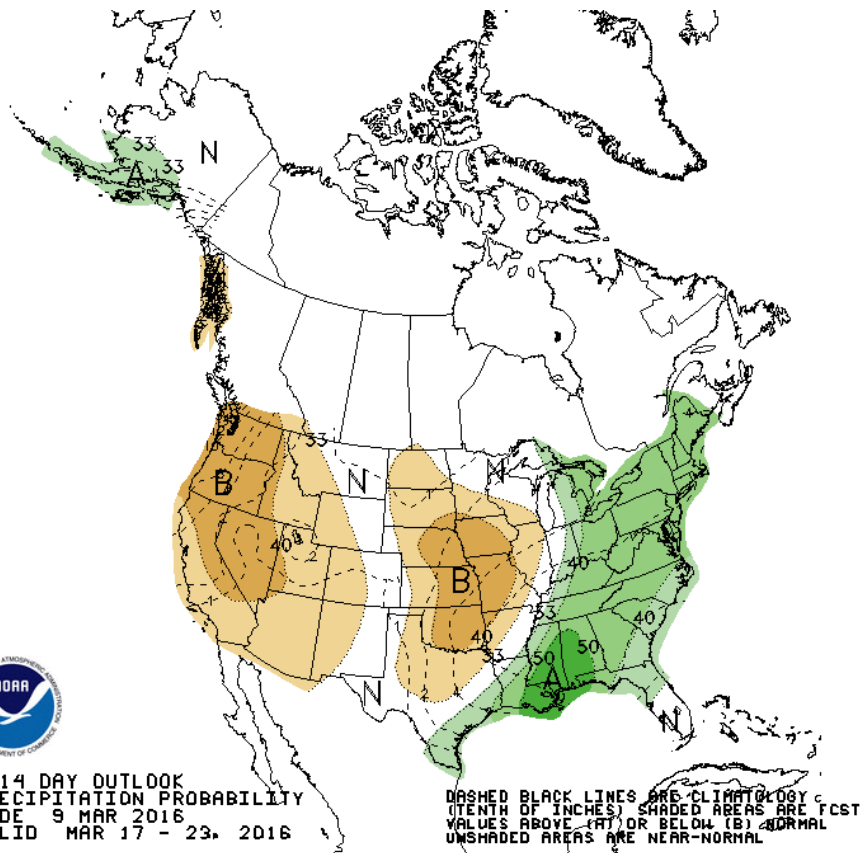
Upcoming Weather

6-10 day outlook
March 15 - March 19 2016



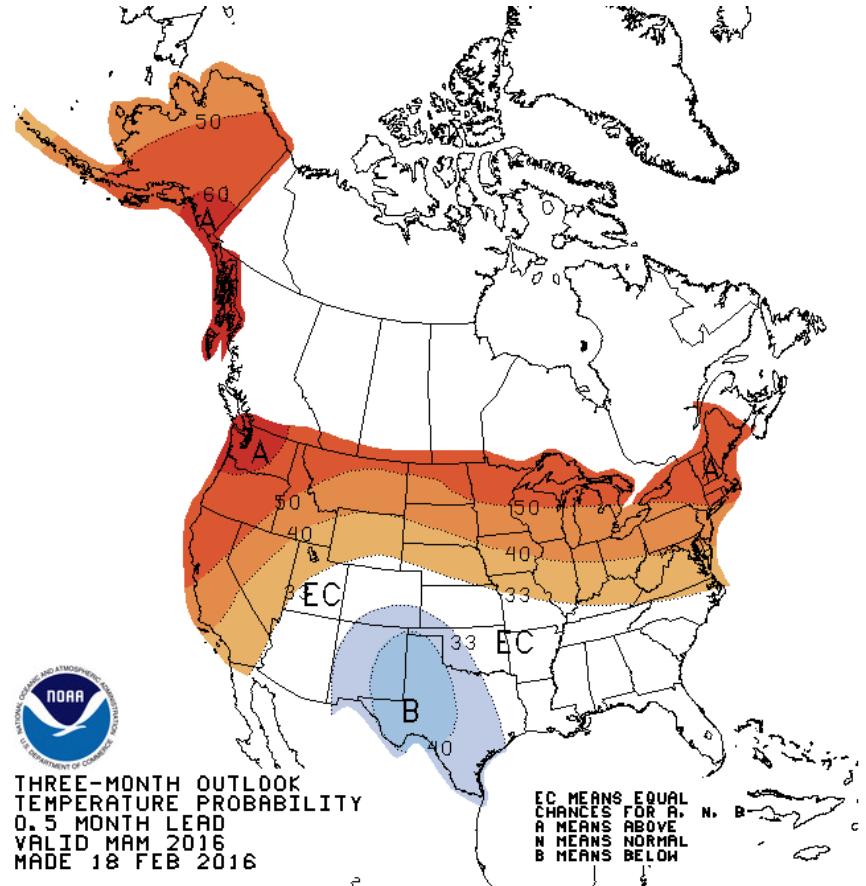
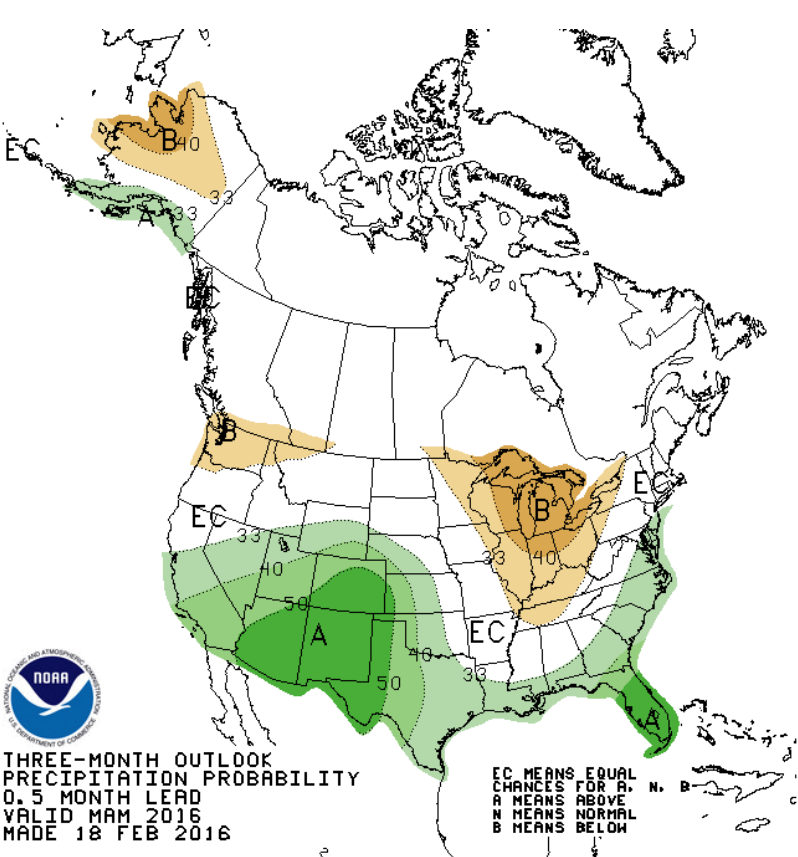
Upcoming Weather

8-16 day outlook
March 17 - March 23 2016



Long range outlook: Climate Prediction Center

CPC outlook for March - May 2016



Up Next

- Peak Flow updates twice a month (next week)
- Another peak flow webinar if conditions change significantly
- April - Colorado River Basin water supply briefing
 - April 7th at 11 am MDT (www.cbrfc.noaa.gov)
- April - Great Basin water supply briefing
 - April 7th at 1 pm MDT (www.cbrfc.noaa.gov)

These slides are available at: www.cbrfc.noaa.gov/present/present2016.cgi