

CBRFC
June 2012
Water Supply Webinar

1pm MDT, June 6, 2012

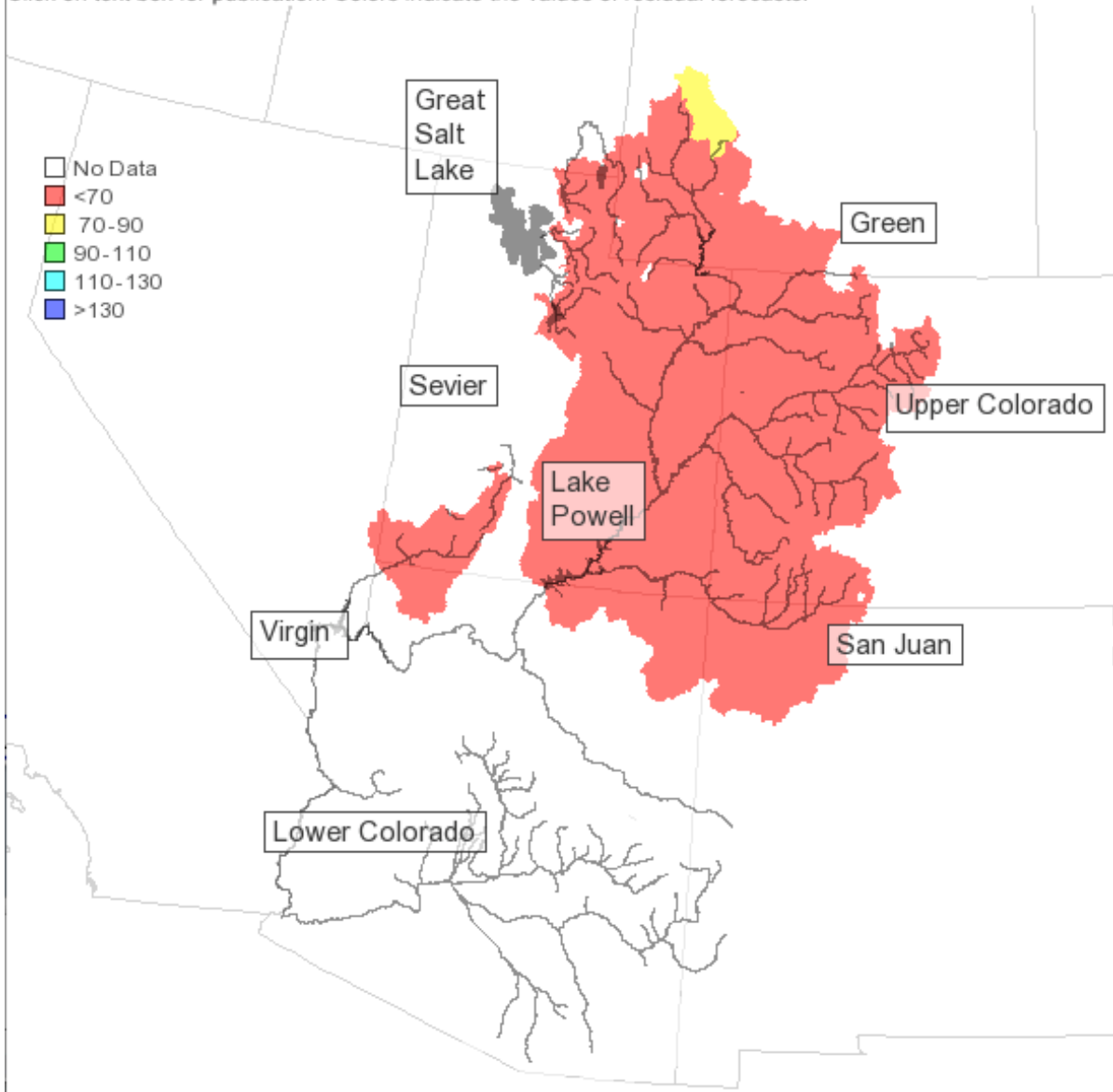
Kevin Werner

New 1981-2010 Averages being used this year.

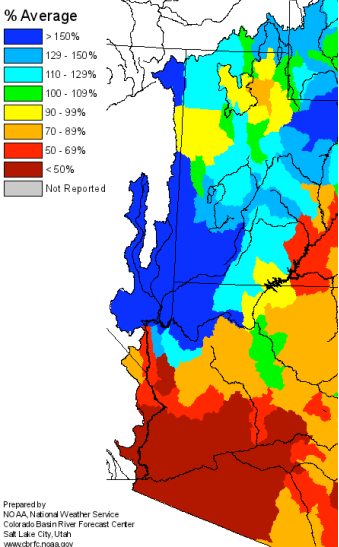
Click on text box for publication. Colors indicate the values of residual forecasts.

Outline

- Recent Weather
- Snow States
- Future Weather/
Climate
- Water Supply
Forecasts



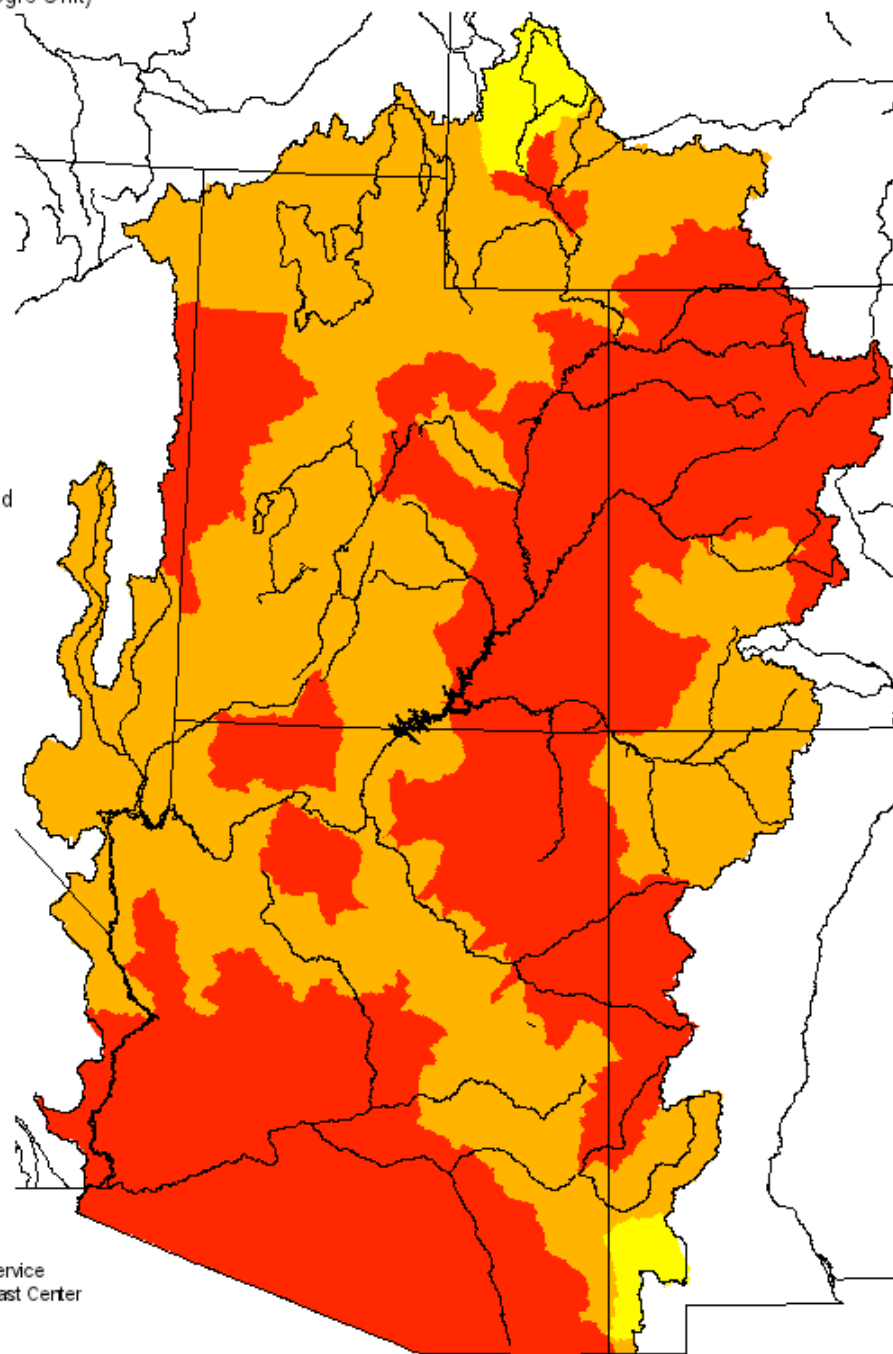
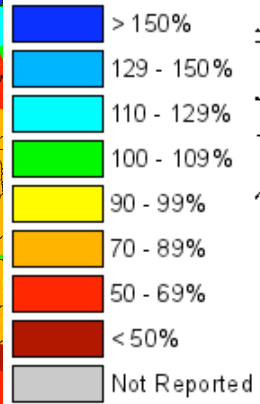
Monthly Precipitation for October 2011
(Averaged by Hydrologic Unit)



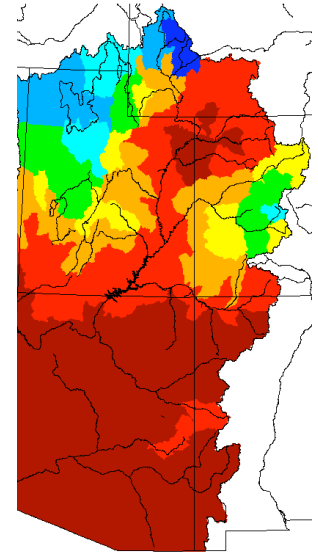
Seasonal Precipitation, October 2011 - May 2012

(Averaged by Hydrologic Unit)

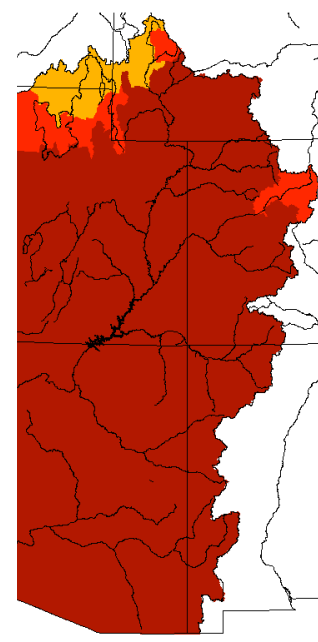
% Average



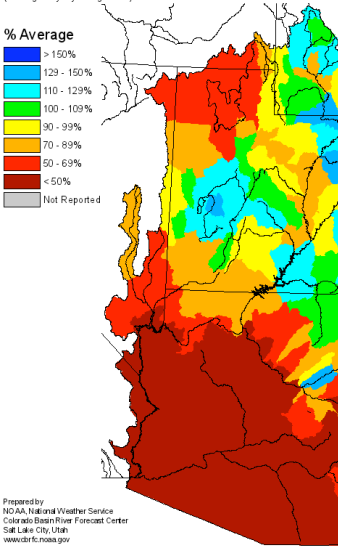
on for January 2012



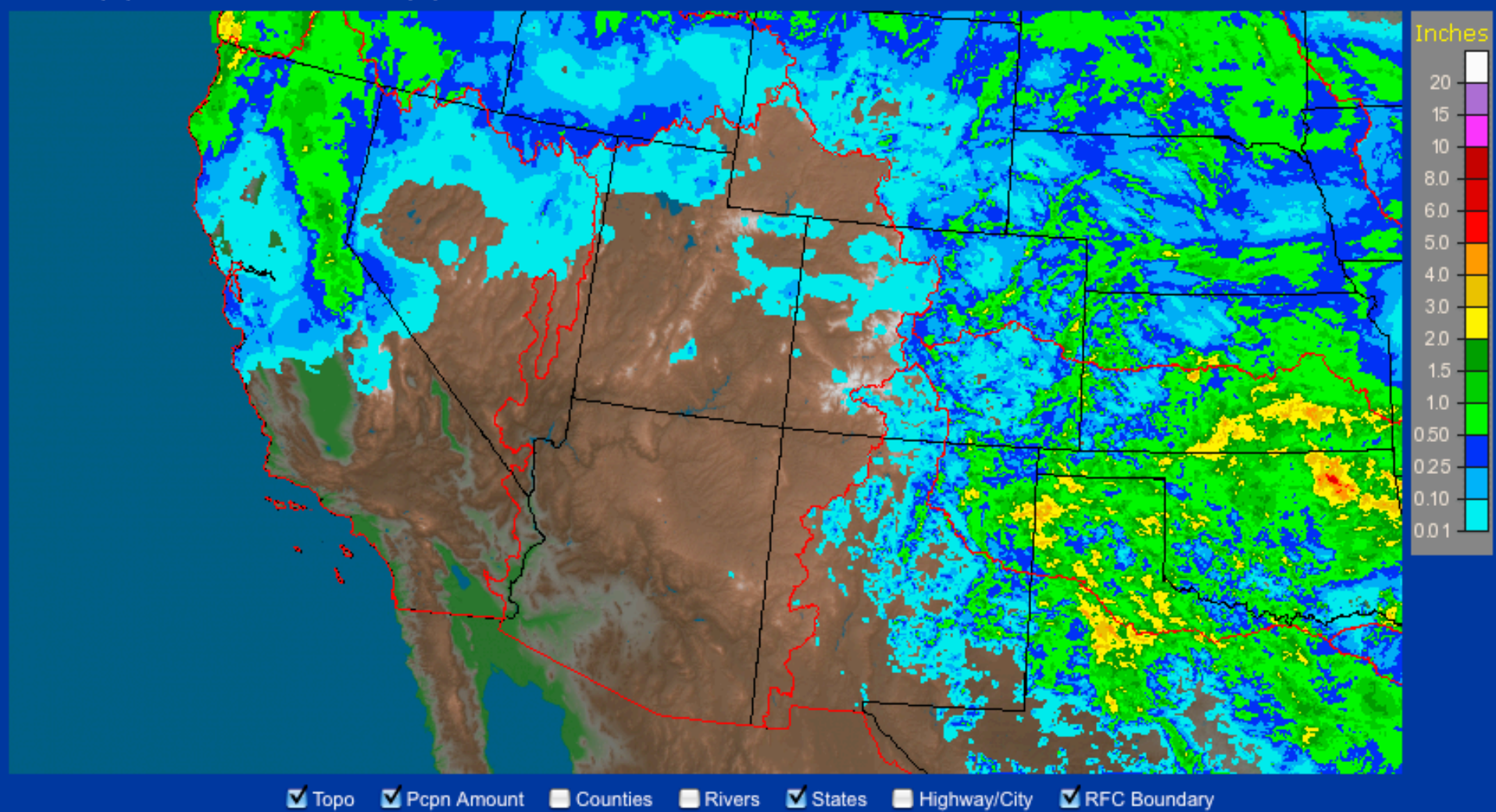
or May 2012



Monthly Precipitation for February 2012
(Averaged by Hydrologic Unit)

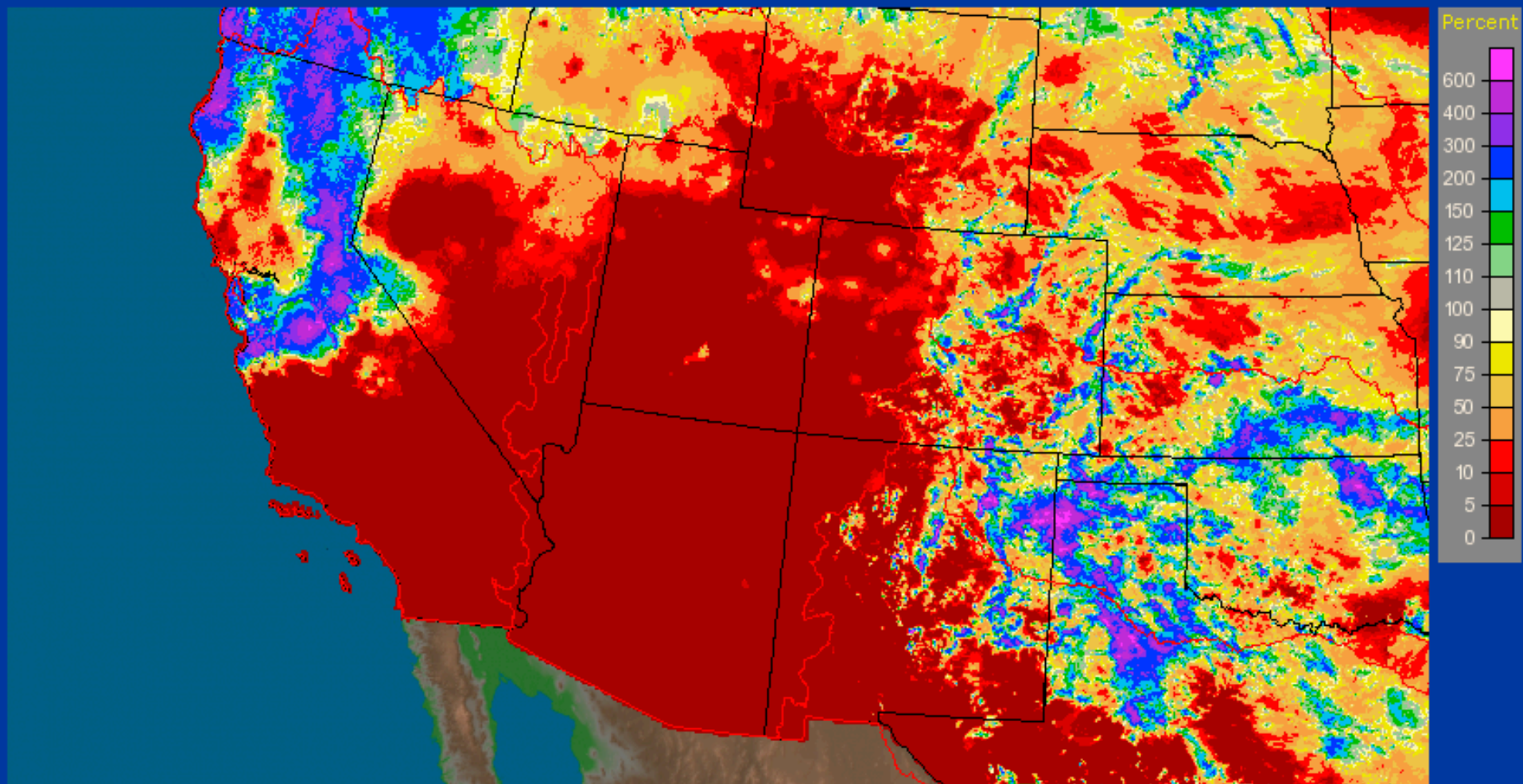


Colorado Basin RFC Salt Lake City, UT: Current 7-Day Observed Precipitation
Valid at 6/6/2012 1200 UTC - Created 6/6/12 15:56 UTC



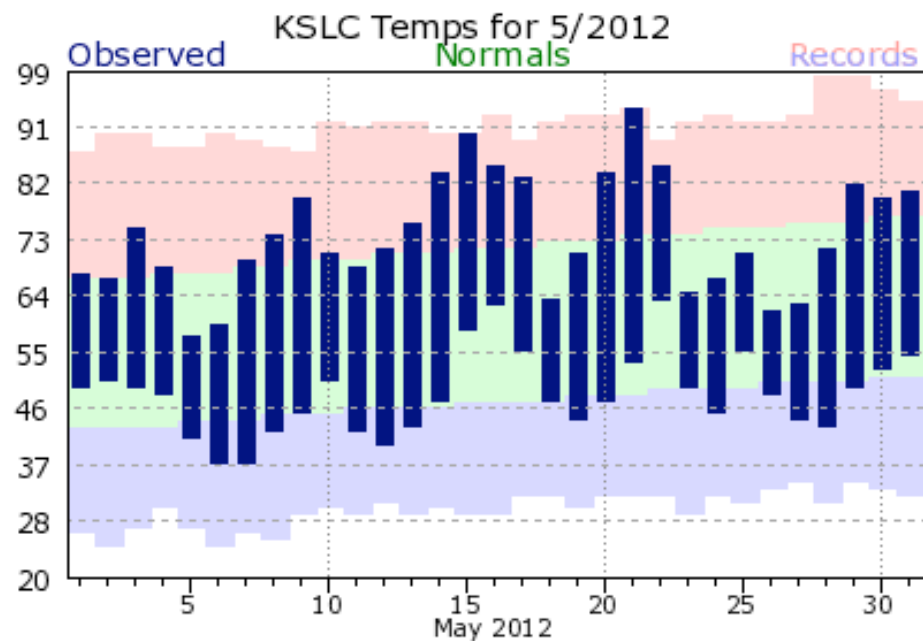
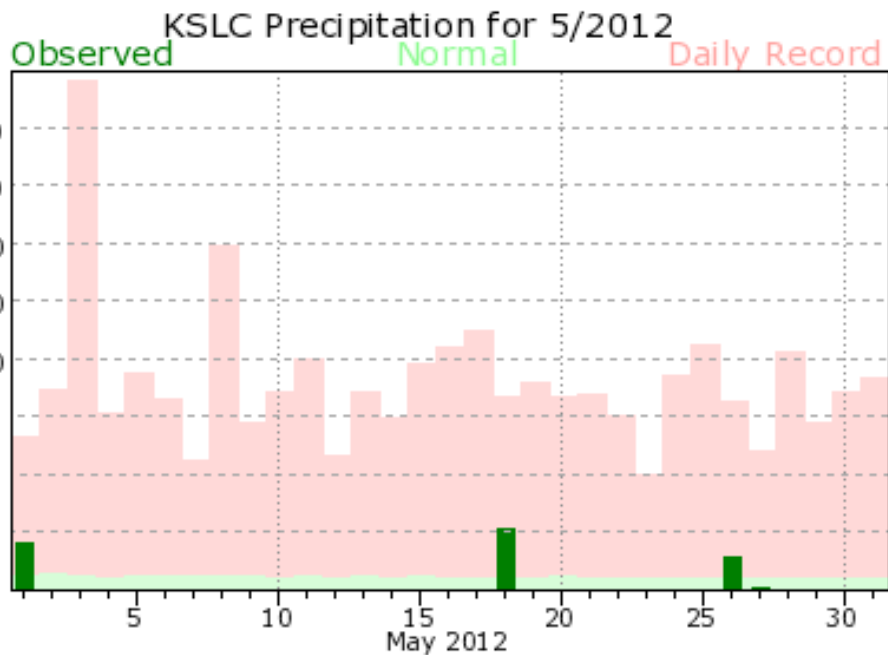
Web Reference: water.weather.gov/precip

Colorado Basin RFC Salt Lake City, UT: Current 7-Day Percent of Normal Precipitation
Valid at 6/6/2012 1200 UTC - Created 6/6/12 15:59 UTC



Topo Pcpn Amount Counties Rivers States Highway/City RFC Boundary

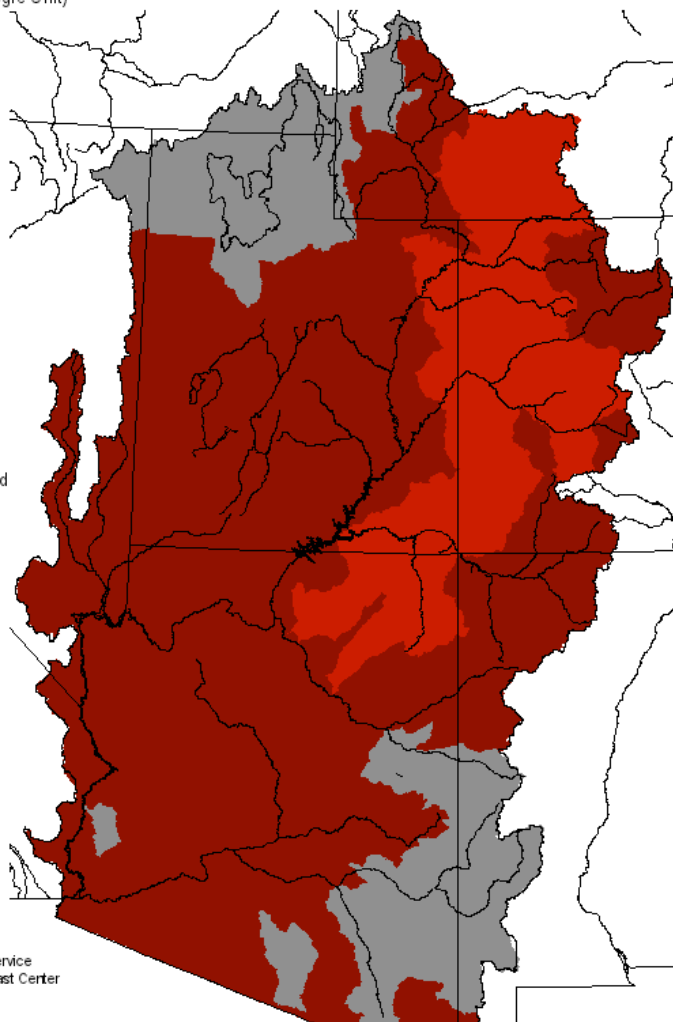
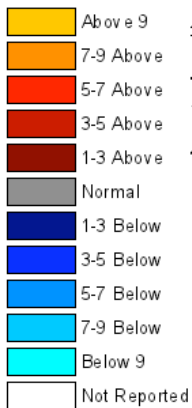
May 2012



Monthly Max Temp Deviation for May 2012

(Averaged by Hydrologic Unit)

Degrees (F)

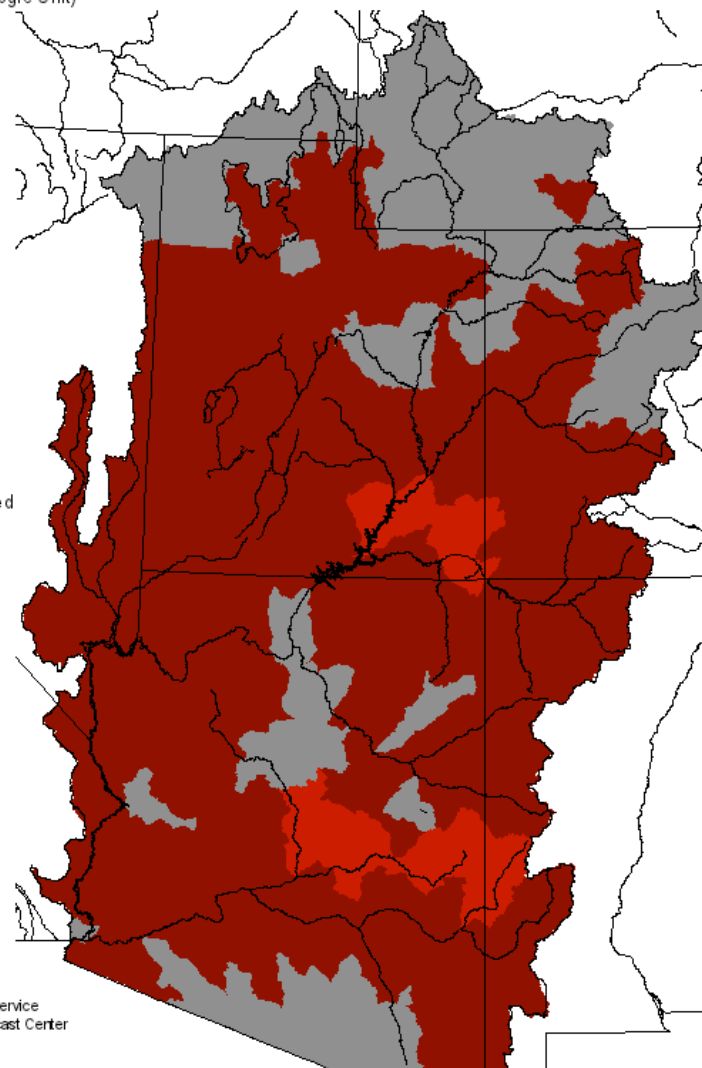
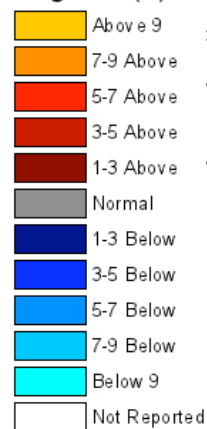


Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

Monthly Min Temp Deviation for May 2012

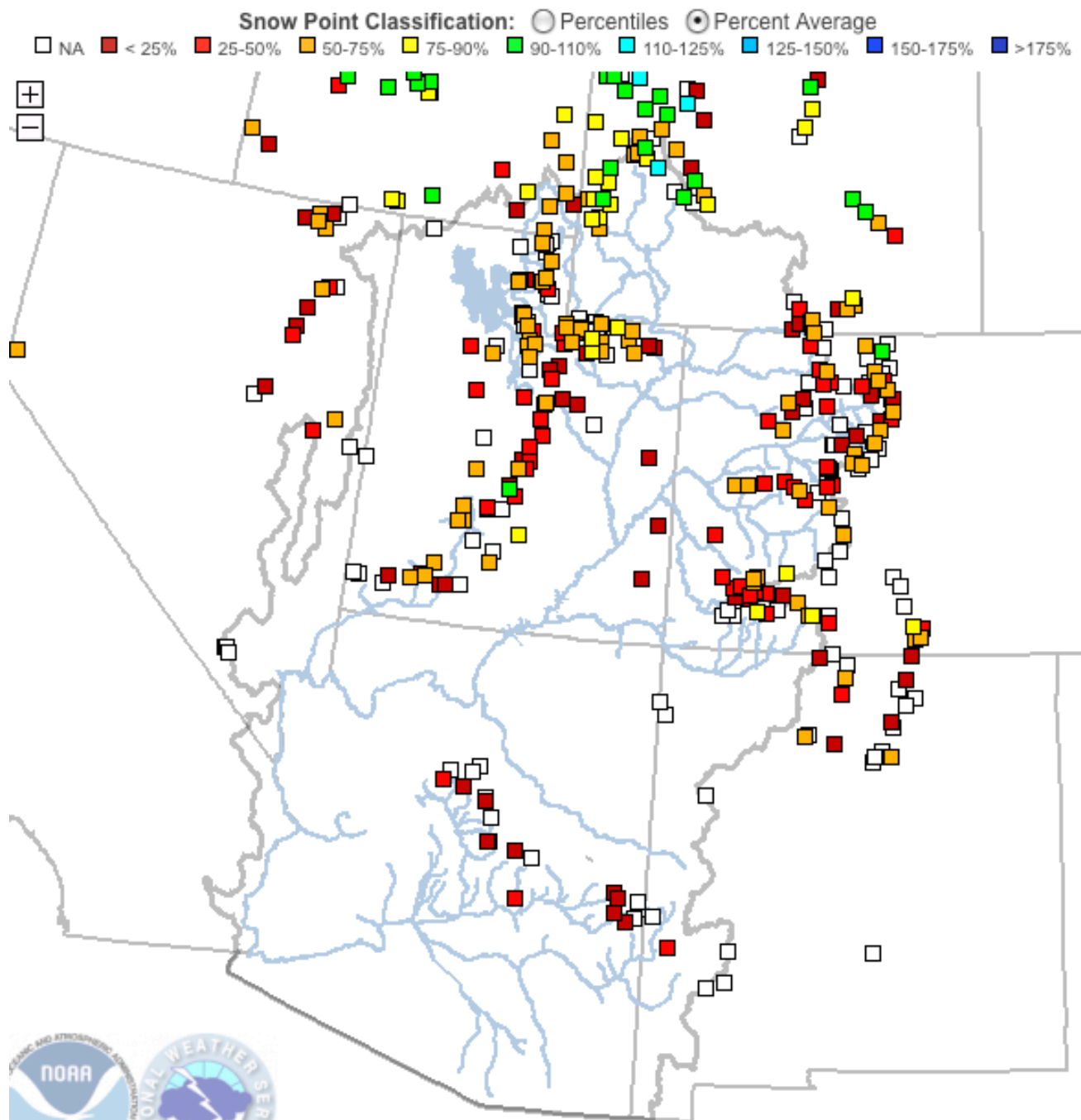
(Averaged by Hydrologic Unit)

Degrees (F)



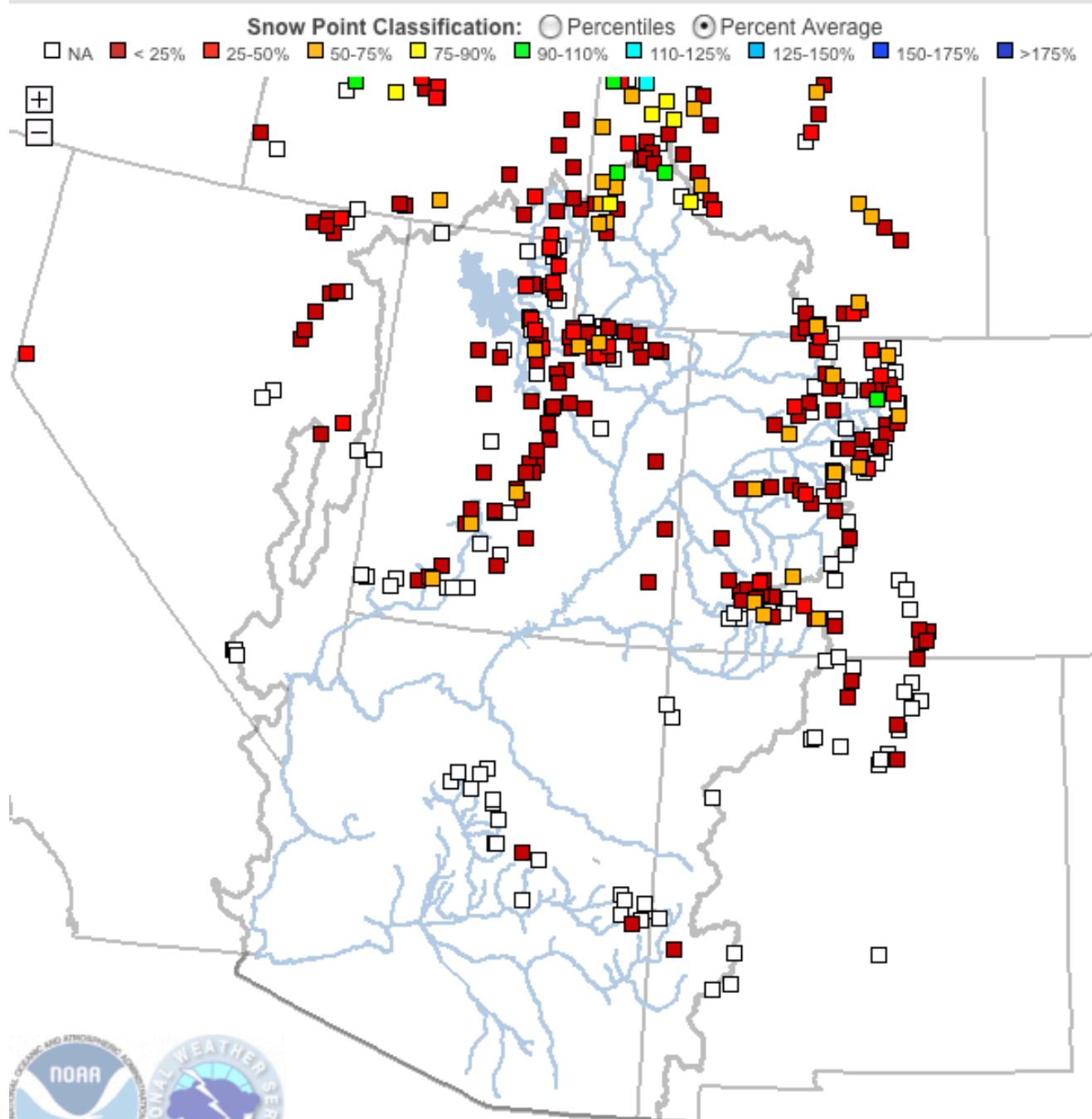
Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

Snow



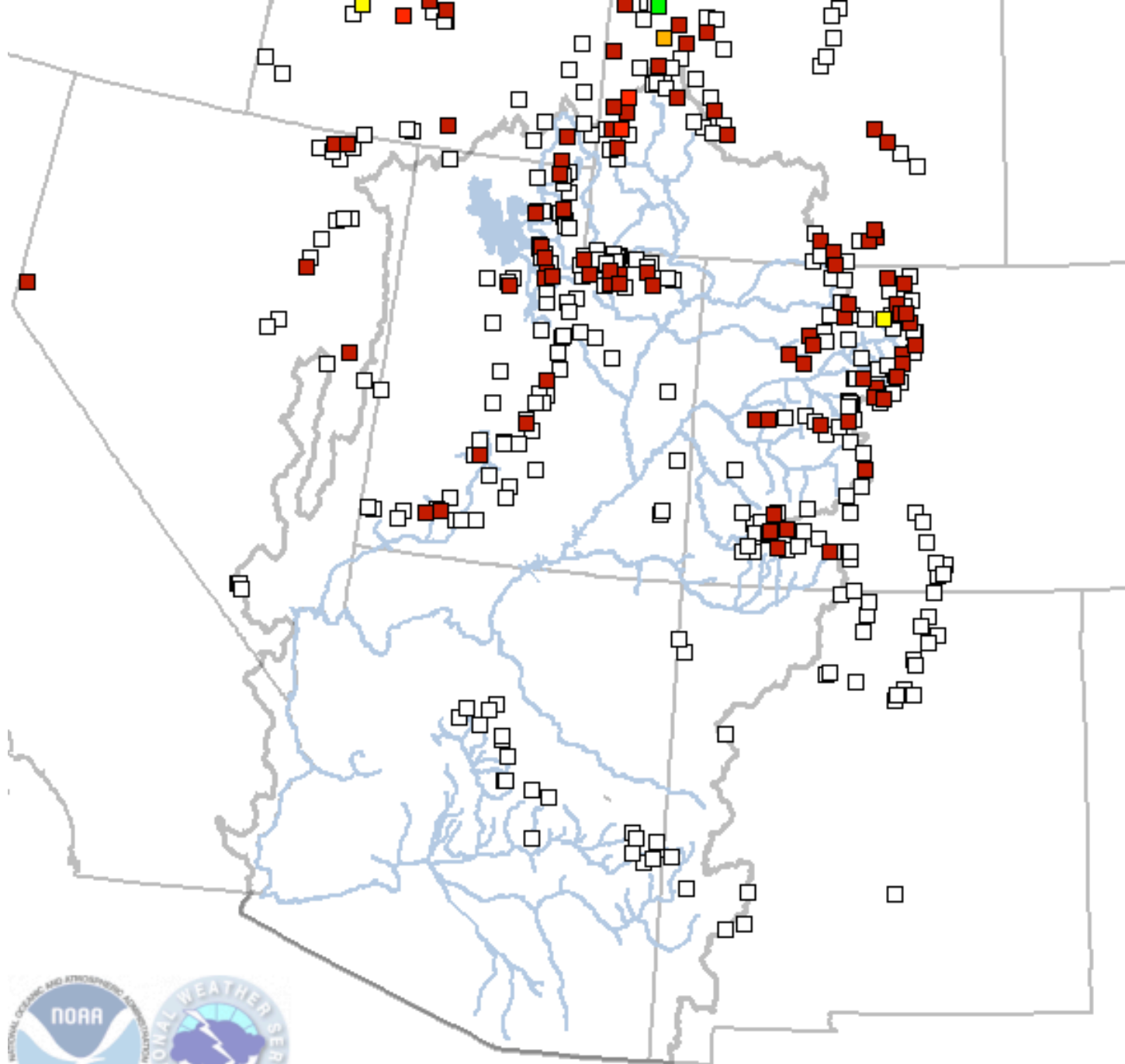
Created: April 5, 2012, 14:15

Snow

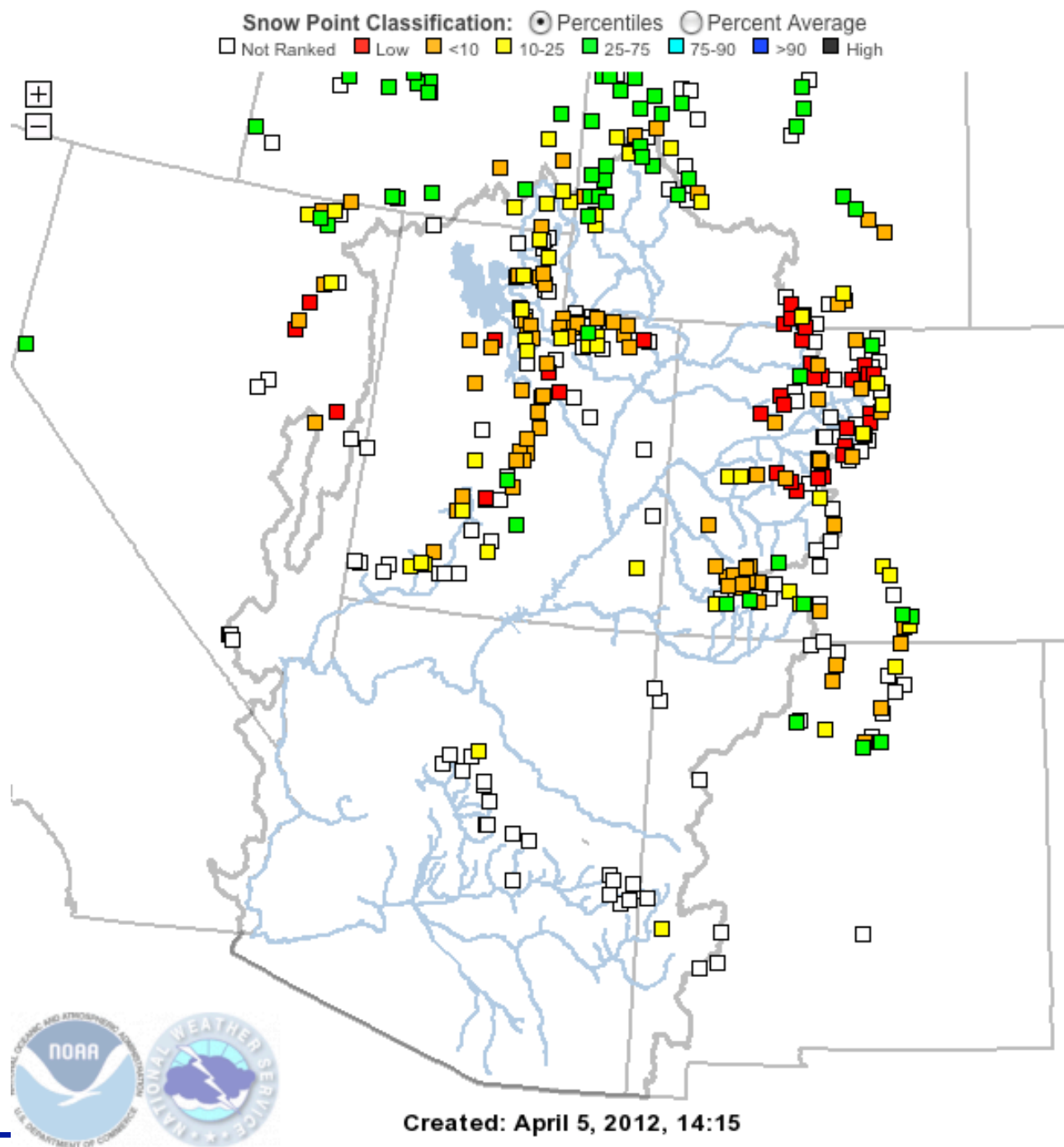


Created: May 2, 2012, 16:45

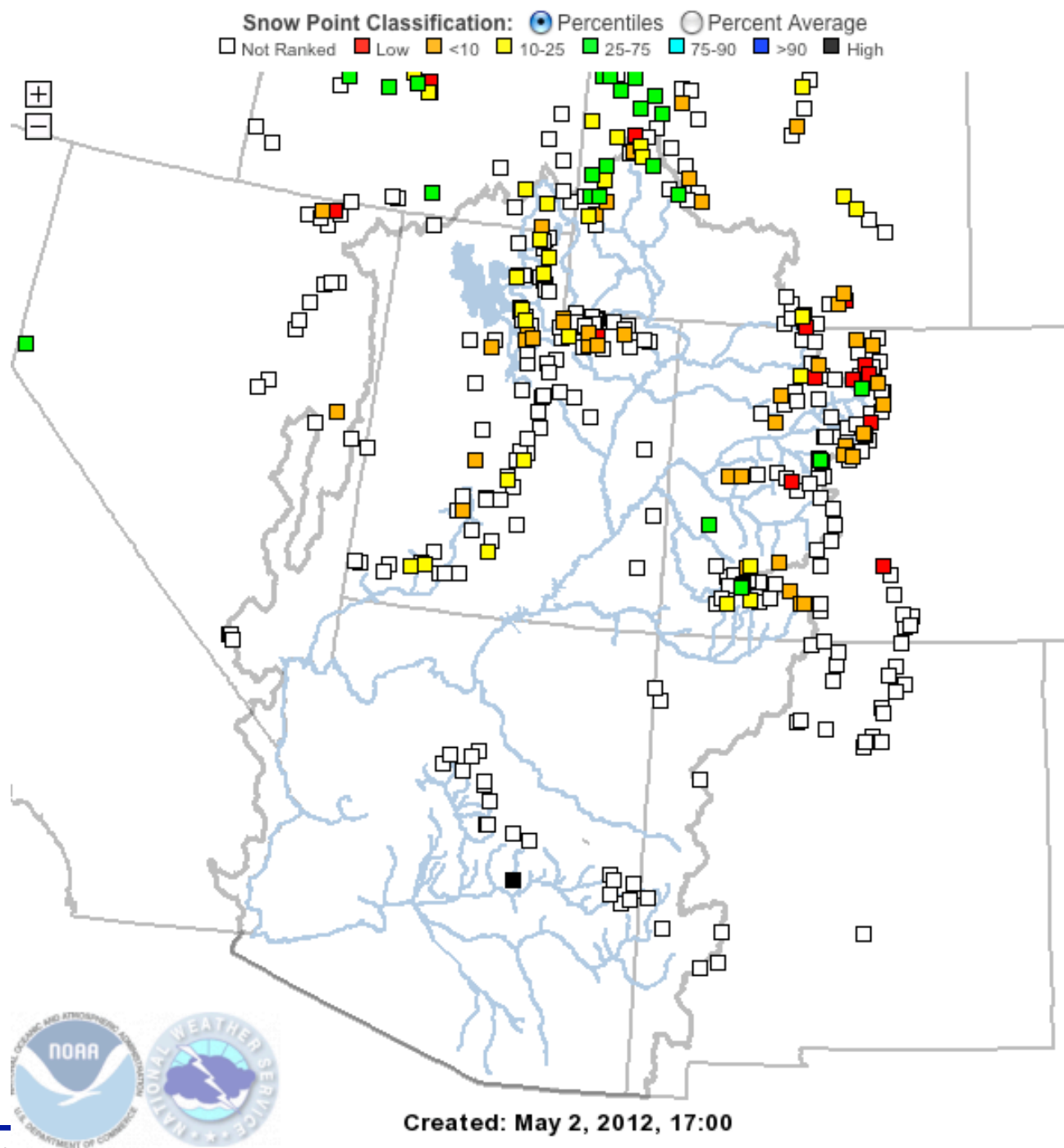
Snow



Snow



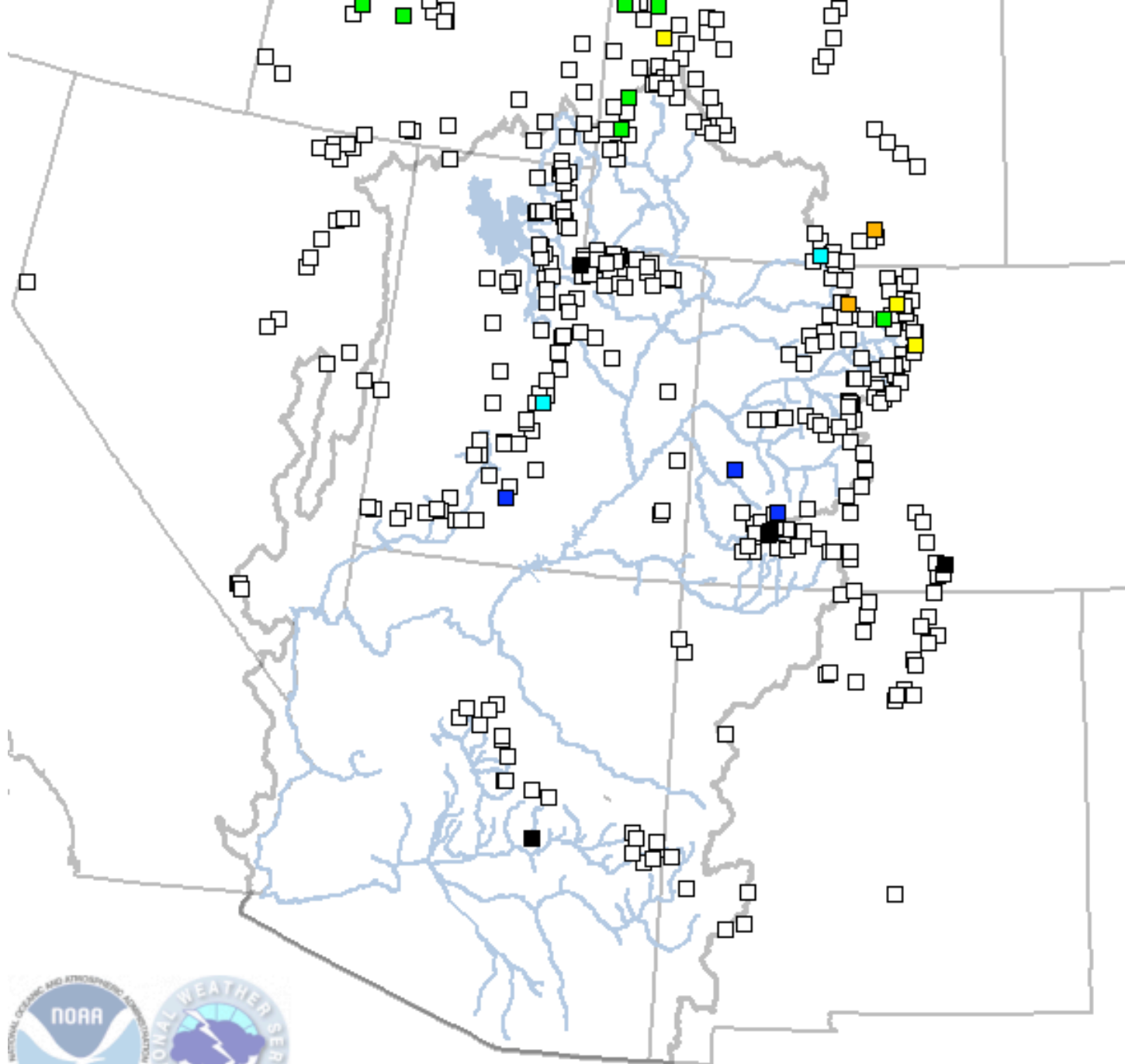
Snow



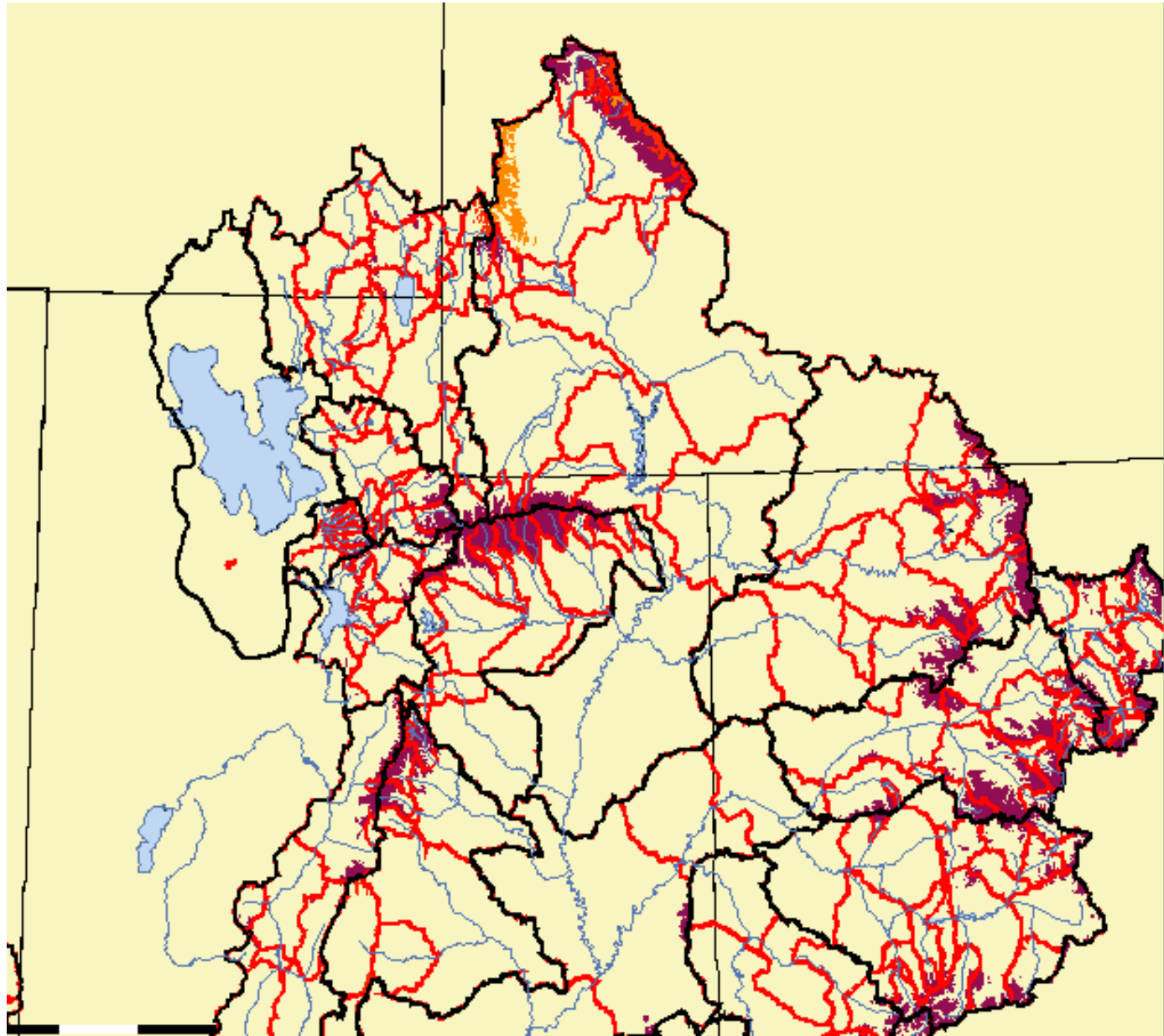
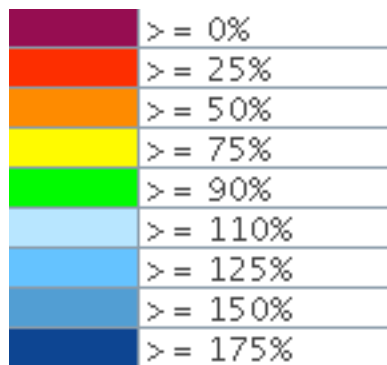
Created: May 2, 2012, 17:00

Web Reference: ht

Snow

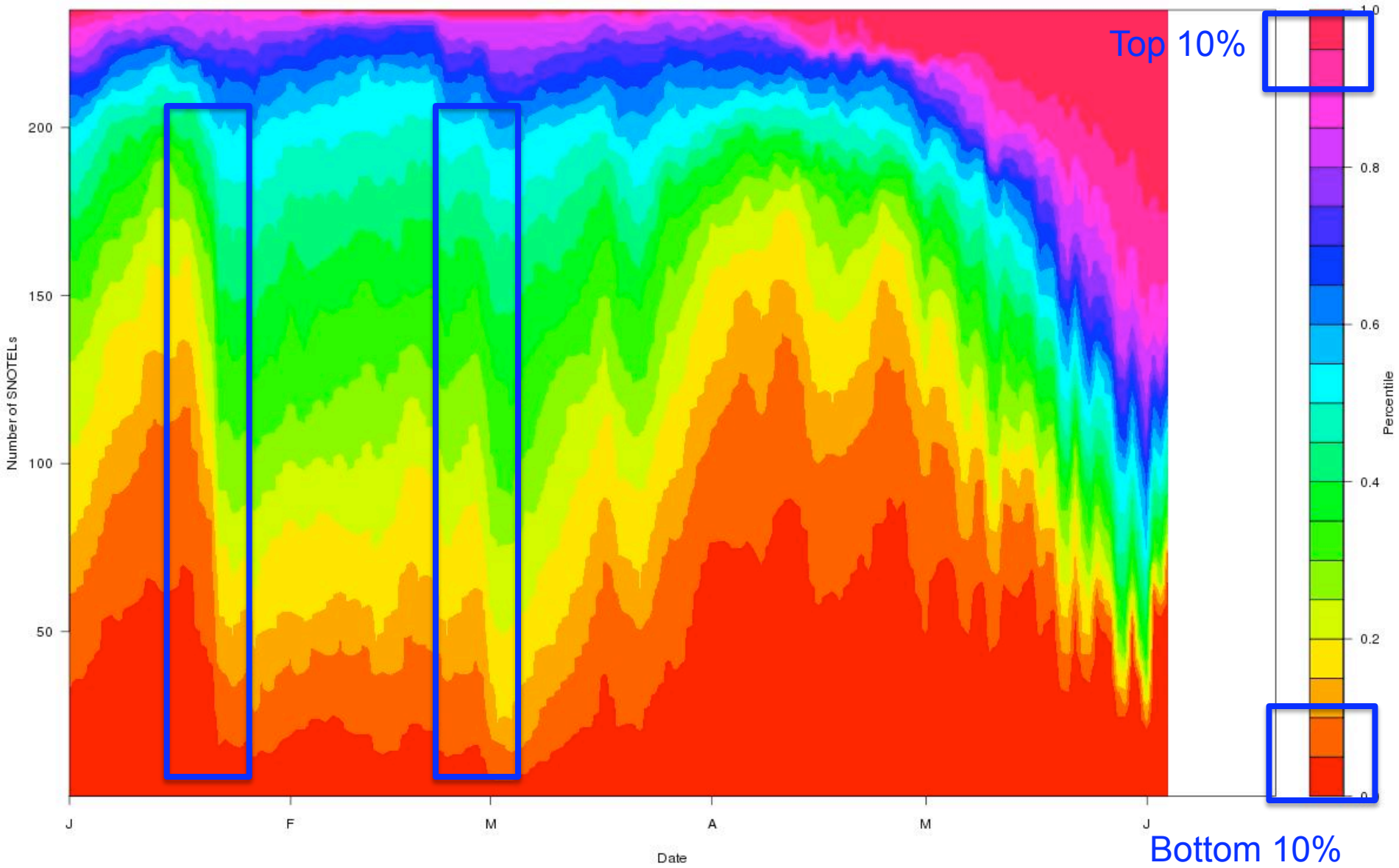


CBRFC Snow Model States

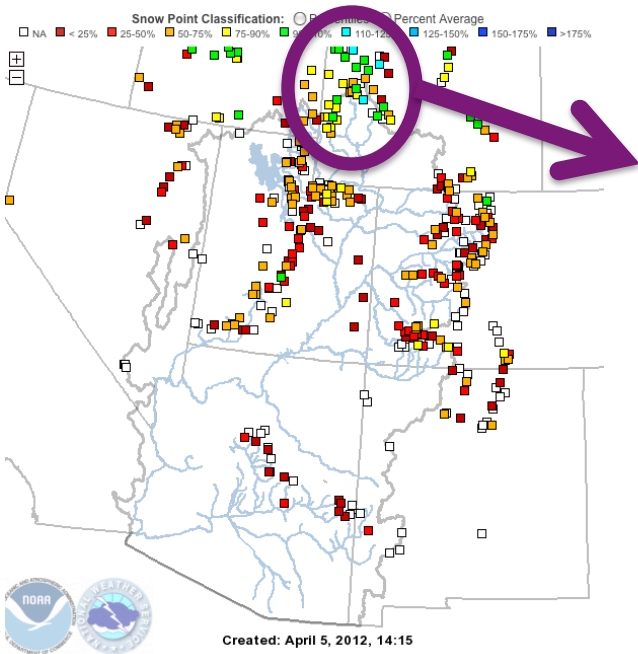


Storms

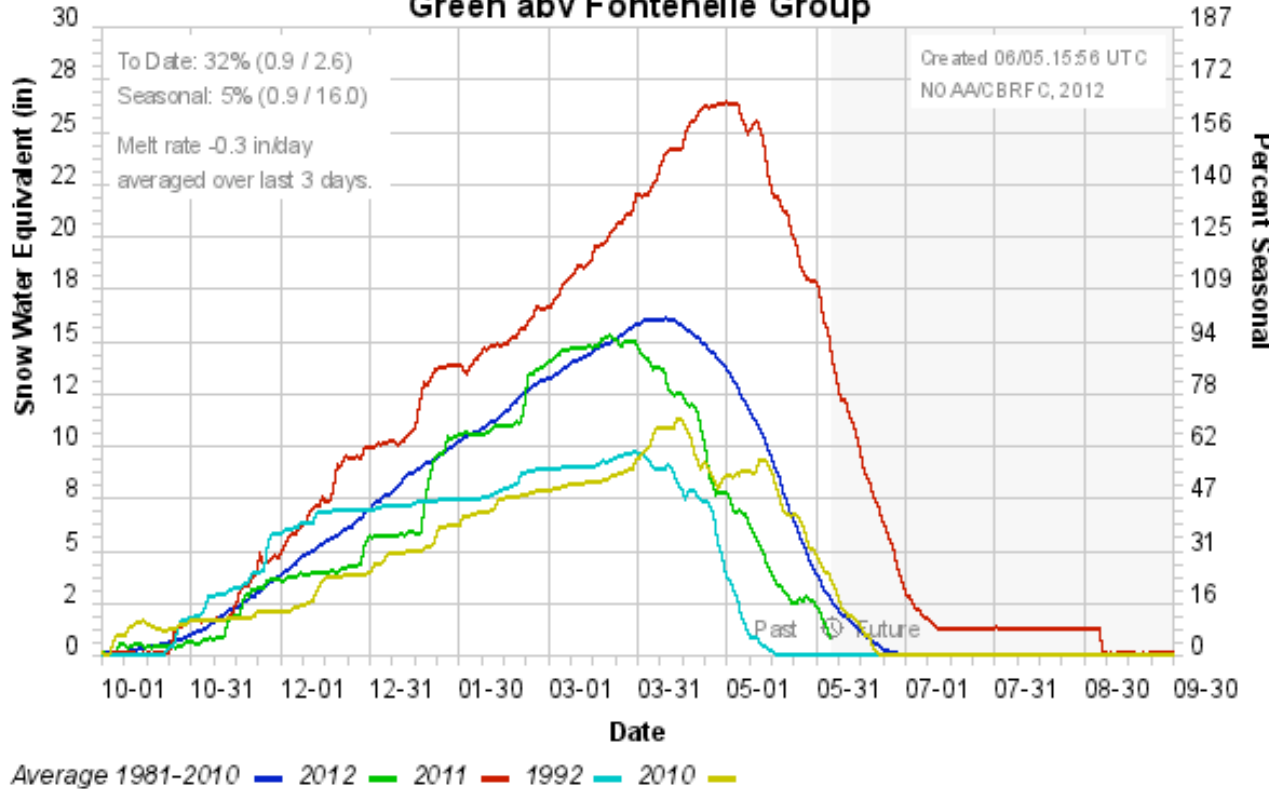
SNOTEL percentile rankings for 2012 for all



Snow: Upper Green Basin (Fontelle)



Colorado Basin River Forecast Center
Green abv Fontenelle Group

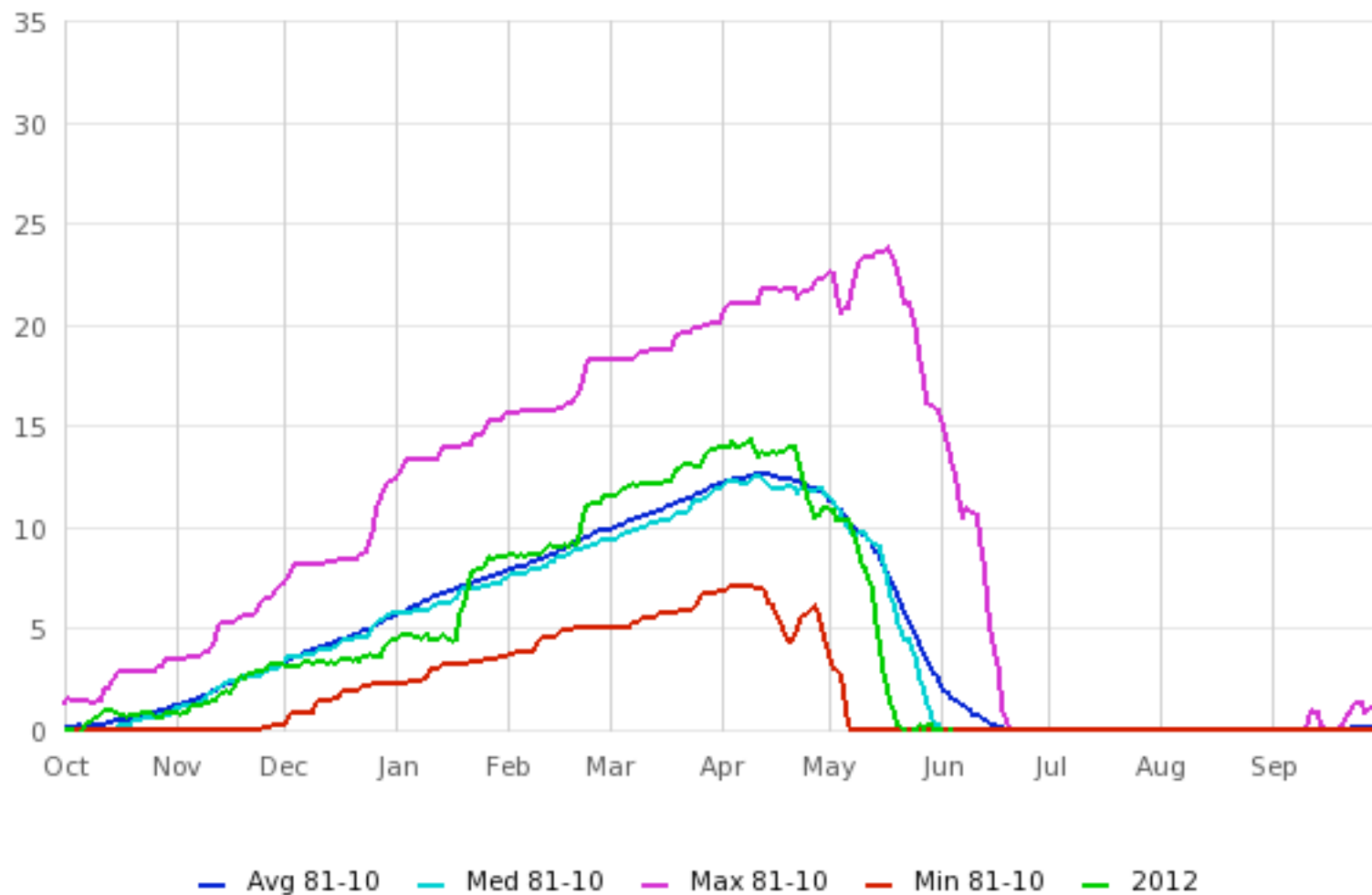


Web Reference: <http://www.cbrfc.noaa.gov/station/swep/plot/swep/plot.cgi???open>

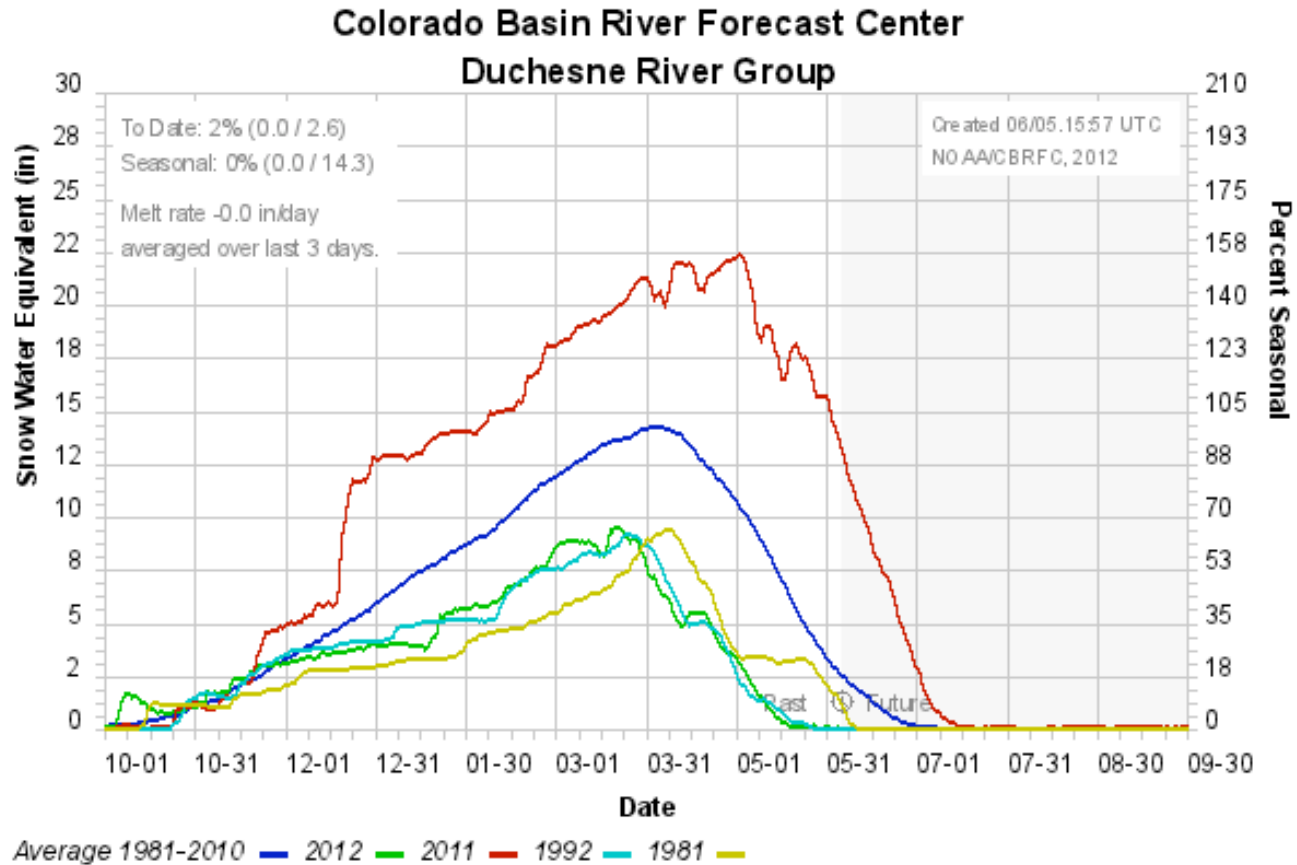
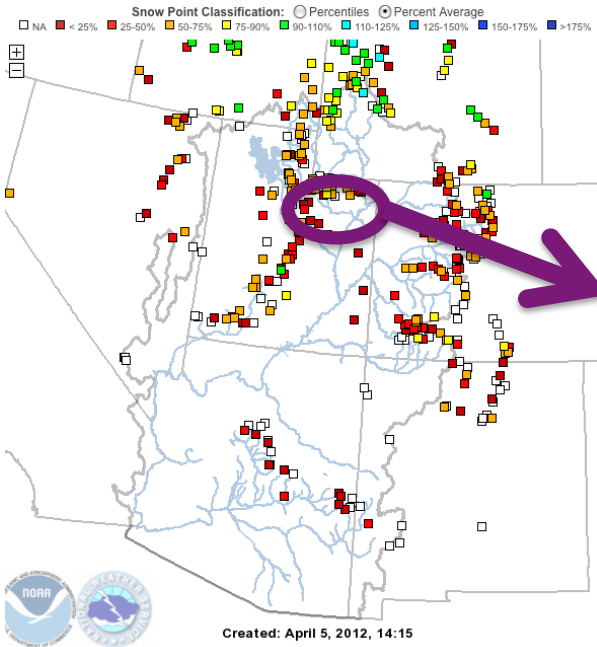
ELKHART PARK G.S. (ekpw4)

Inches of Snow Water Equivalent (SWE)

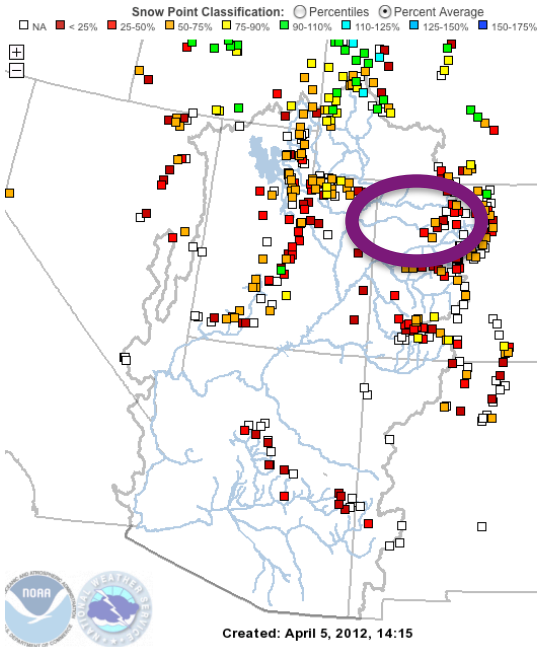
Plot Created June 5, 10:08 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



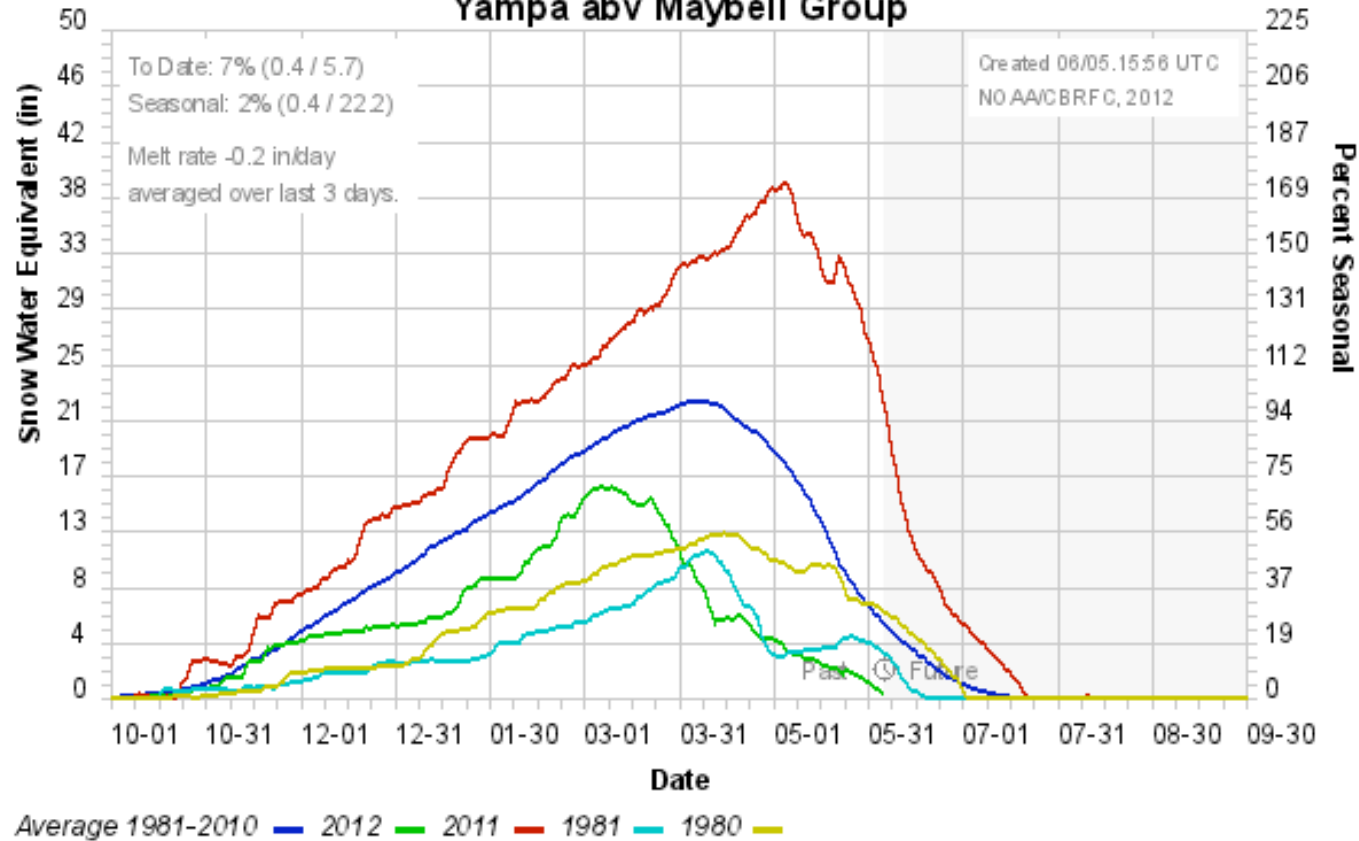
Snow: Duchesne Basin



Snow: Yampa Basin



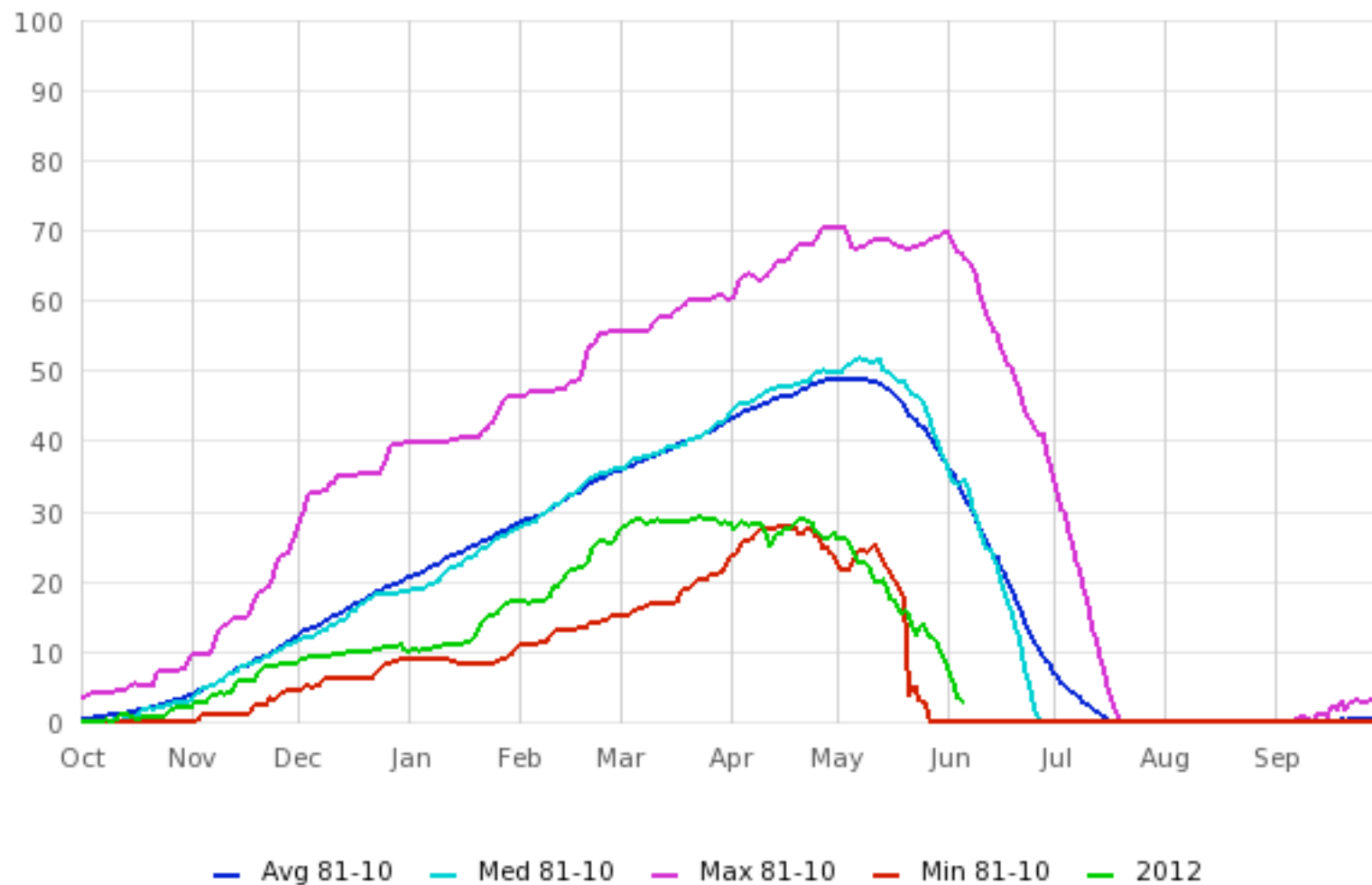
Colorado Basin River Forecast Center
Yampa abv Maybell Group



TOWER (towc2)

Inches of Snow Water Equivalent (SWE)

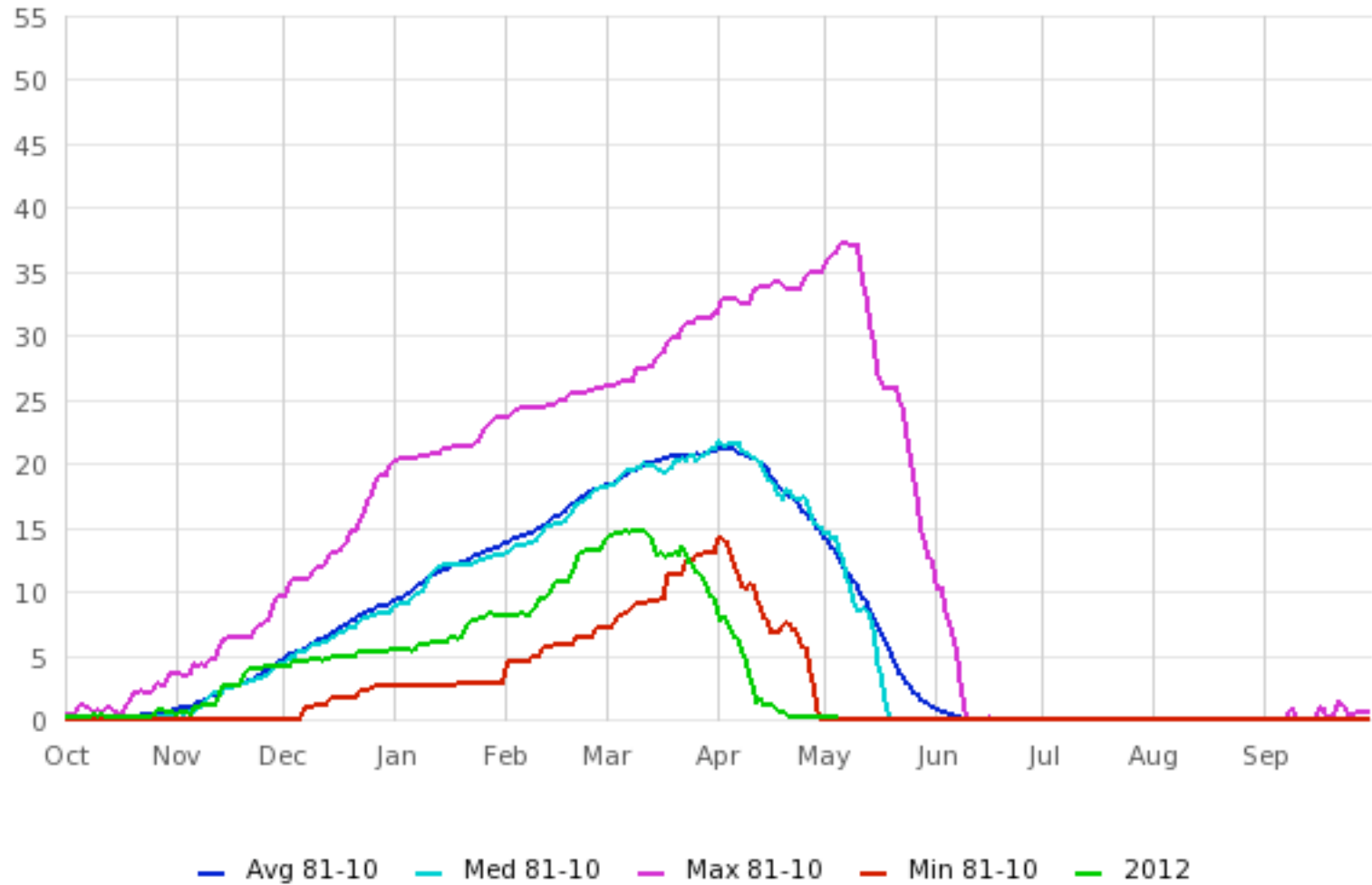
Plot Created June 5, 10:10 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



DRY LAKE (drlc2)

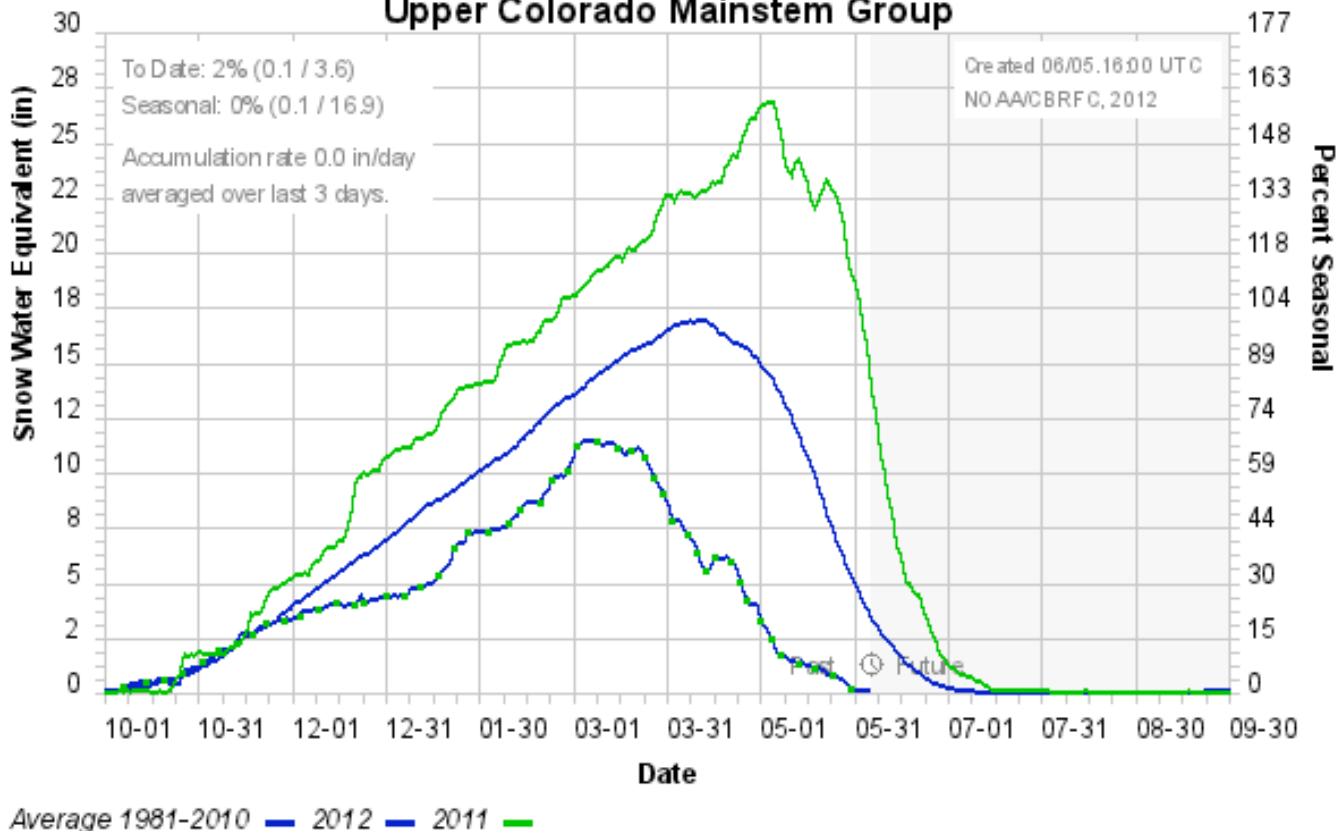
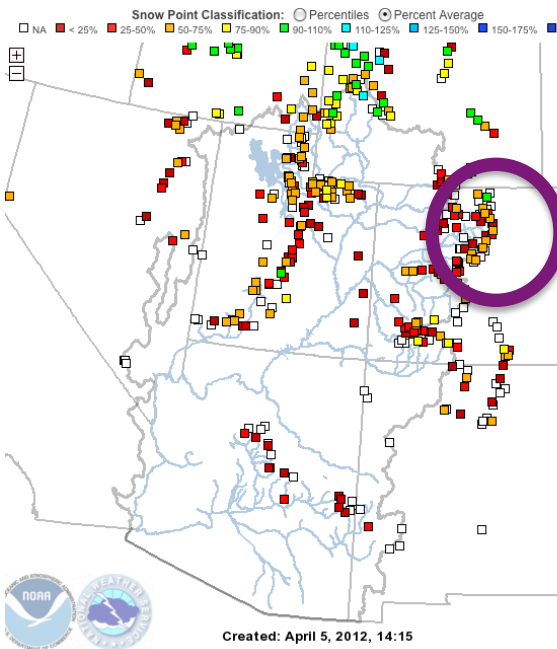
Inches of Snow Water Equivalent (SWE)

Plot Created May 4, 07:57 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)

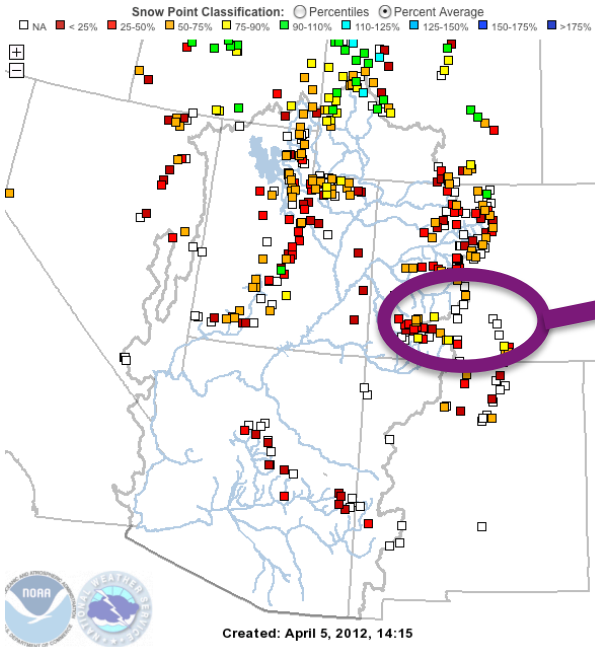


Snow: Colorado Mainstem (above Cameo)

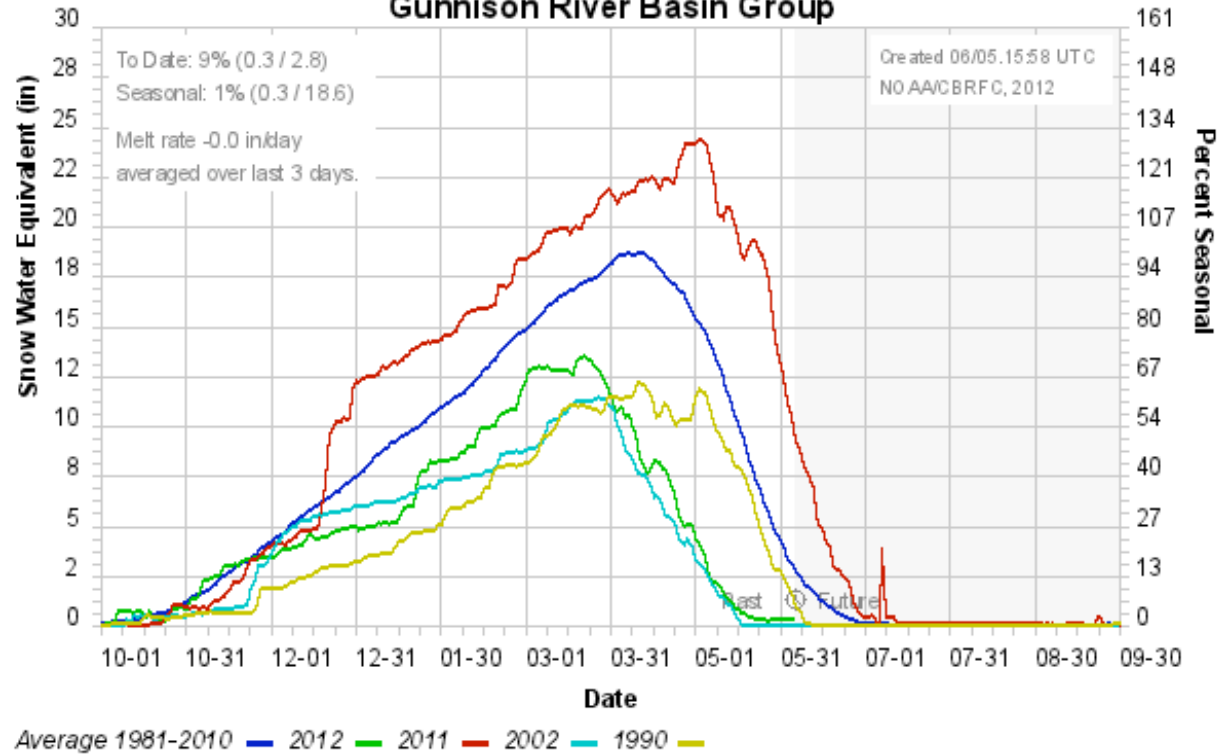
Colorado Basin River Forecast Center Upper Colorado Mainstem Group



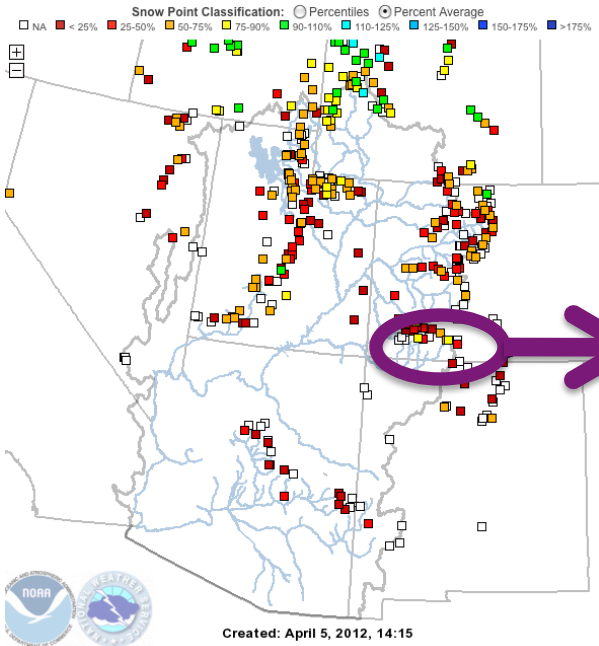
Snow: Gunnison Basin



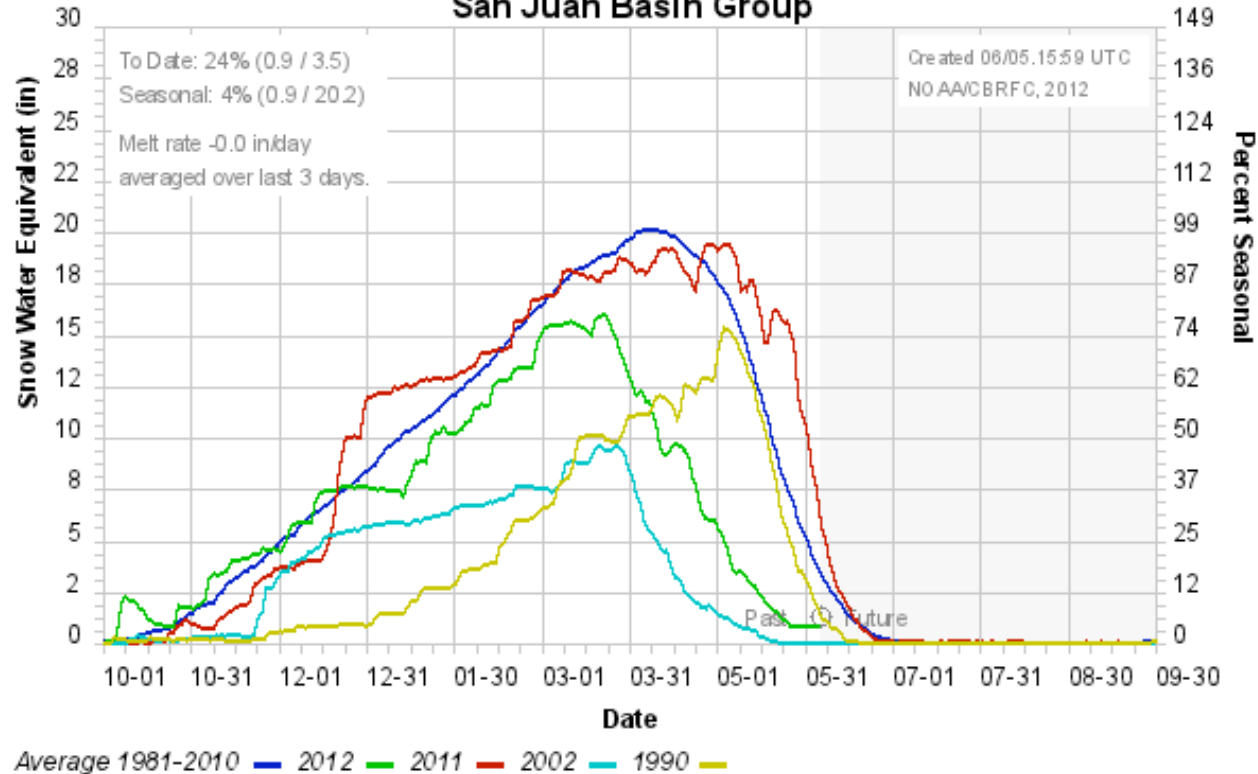
Colorado Basin River Forecast Center
Gunnison River Basin Group



Snow: San Juan Basin



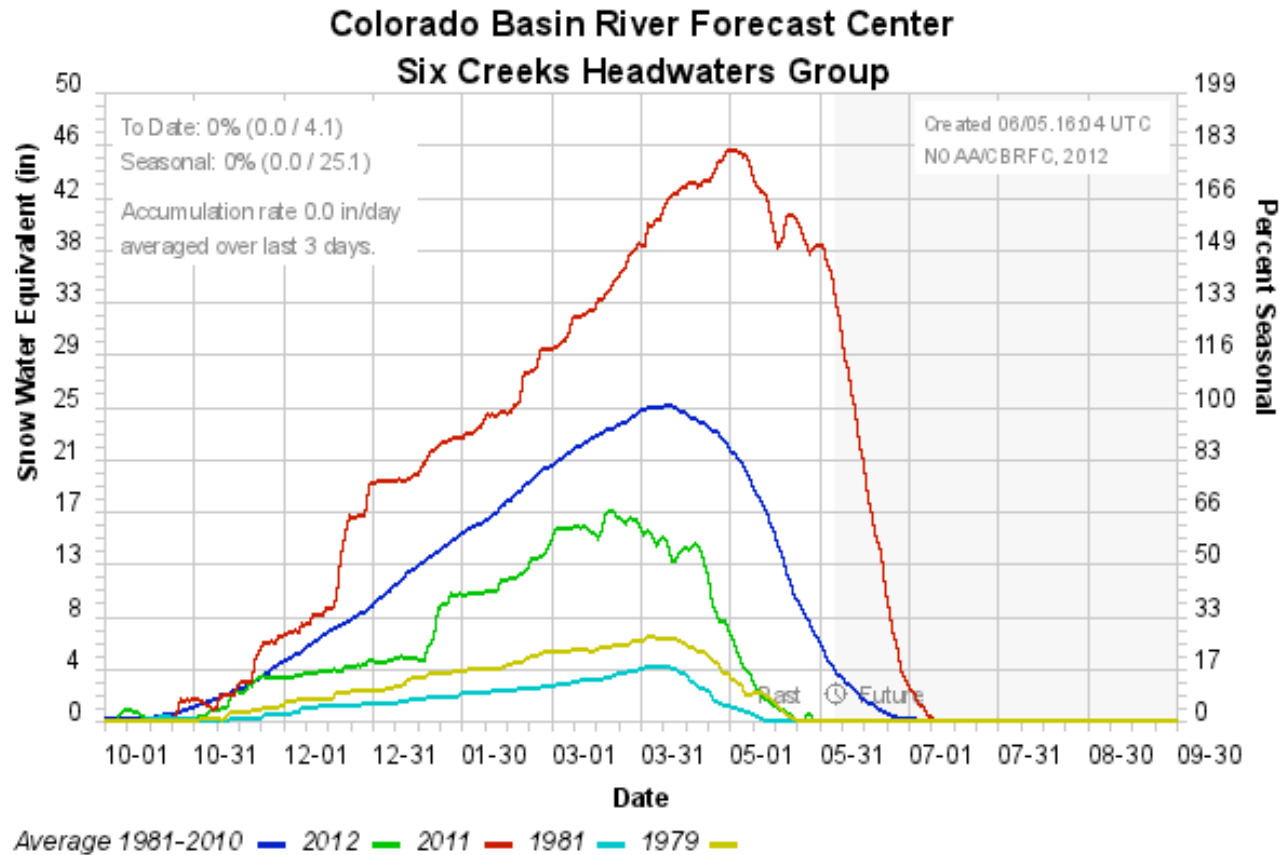
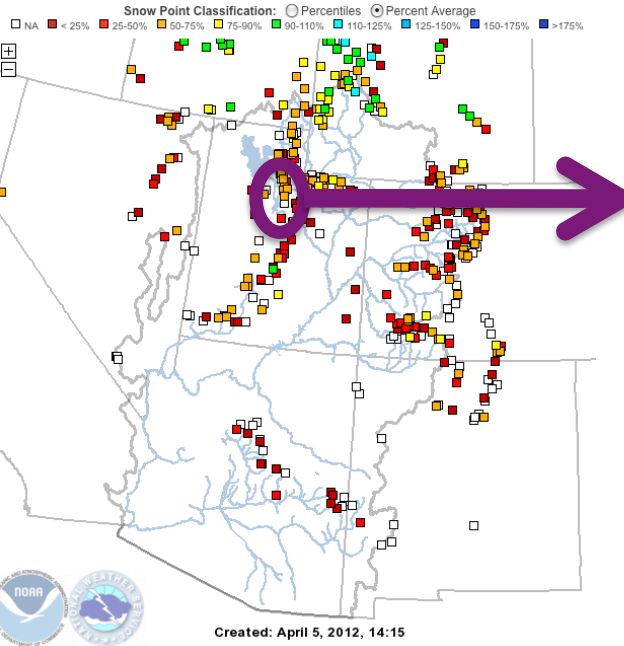
Colorado Basin River Forecast Center
San Juan Basin Group



Web Reference: <http://www.cbrfc.noaa.gov/station/swep/plot/swep/plot.cgi???open>

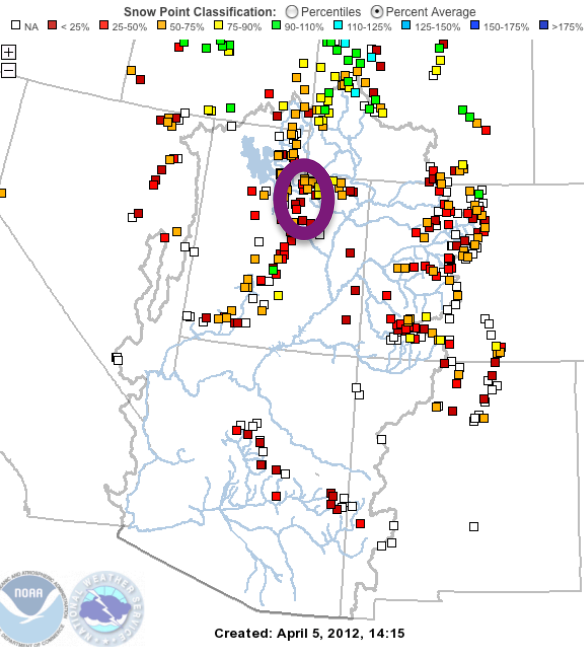
Snow:

Six Creeks in Salt Lake County

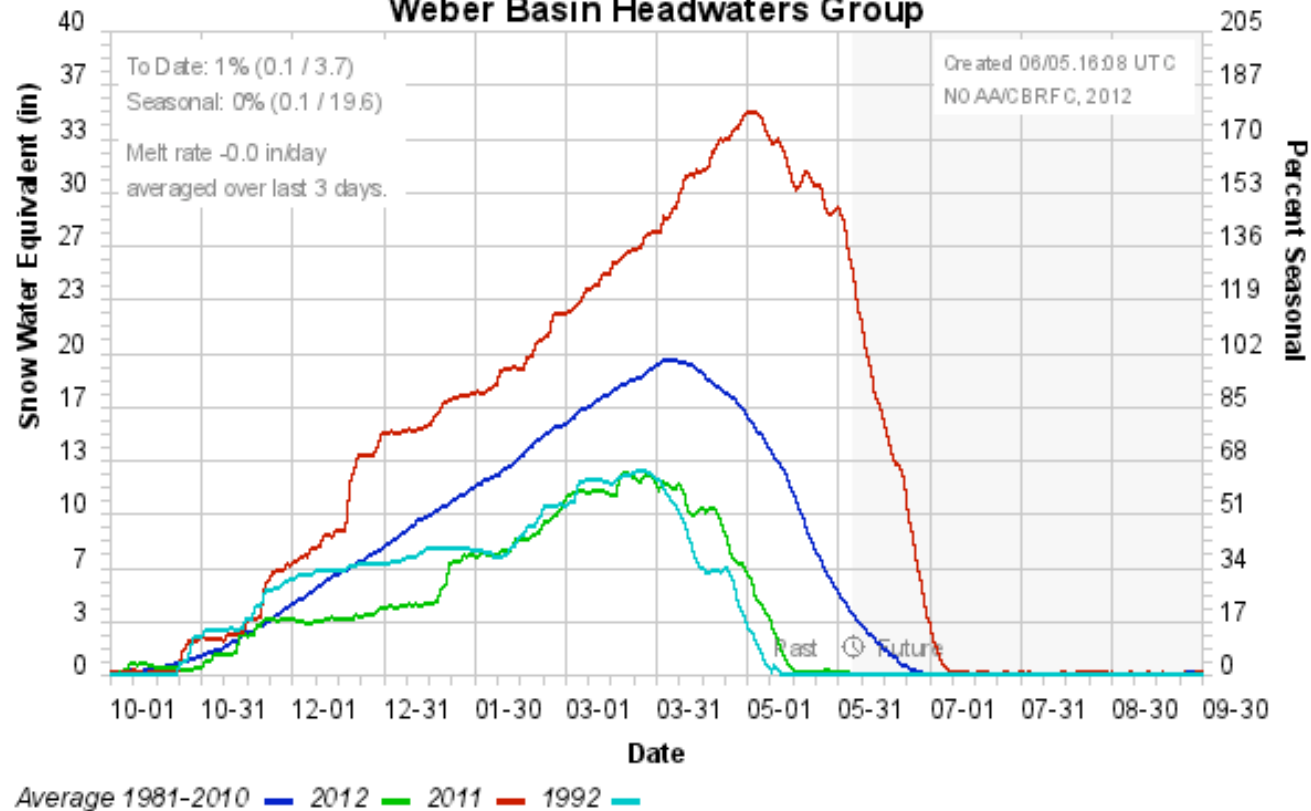


Web Reference: <http://www.cbrfc.noaa.gov/station/swep/plot/swep/plot.cgi???open>

Snow: Weber Basin

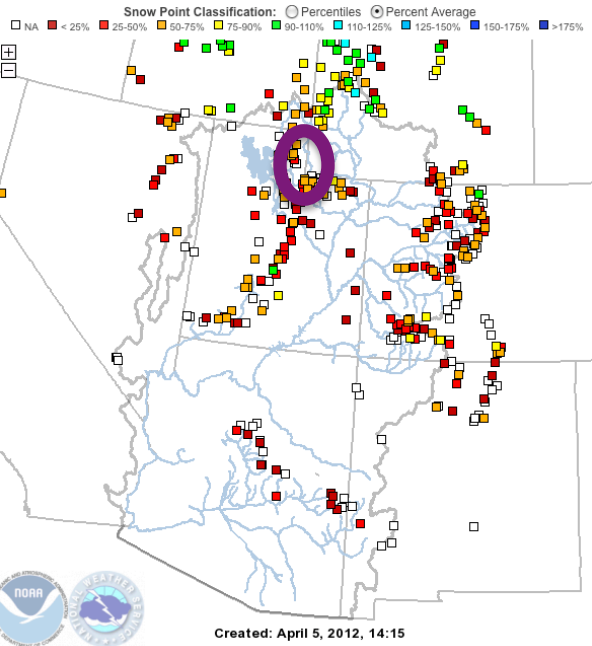


Colorado Basin River Forecast Center
Weber Basin Headwaters Group

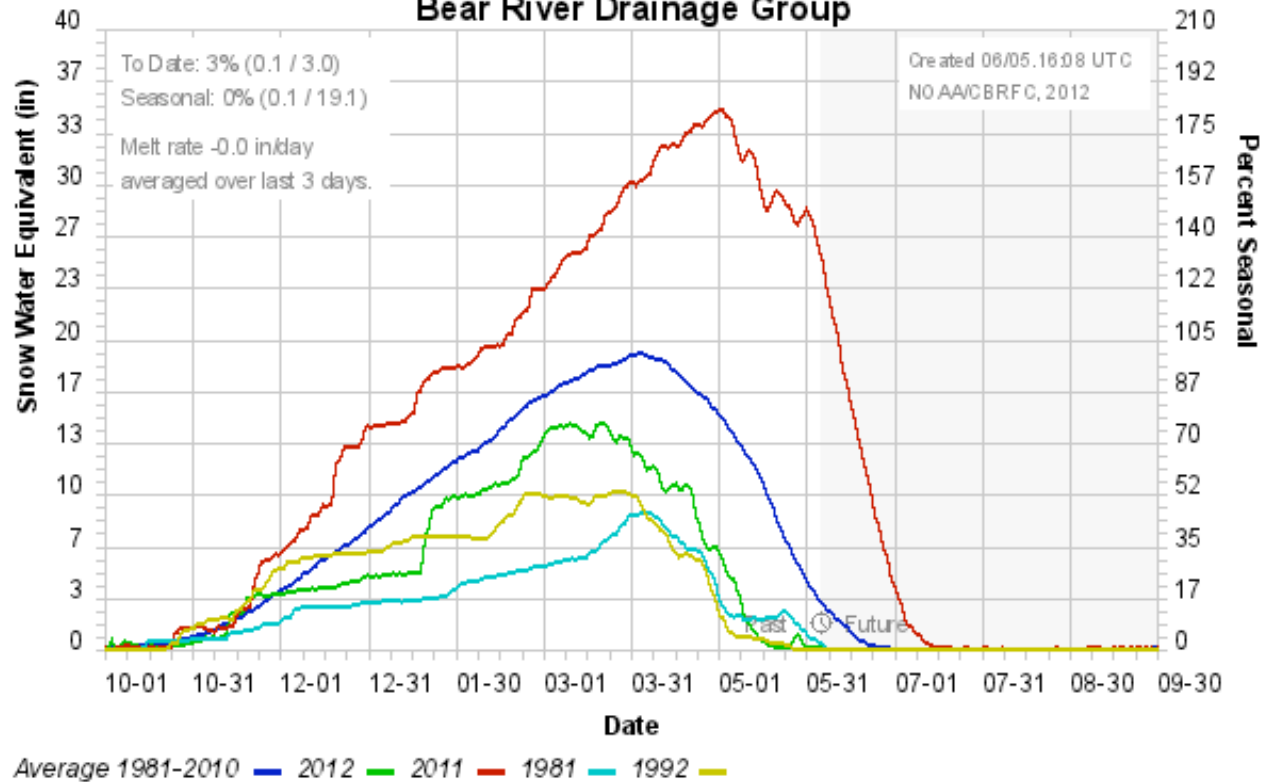


Web Reference: <http://www.cbrfc.noaa.gov/station/swep/plot/swep/plot.cgi???open>

Snow: Bear River Basin



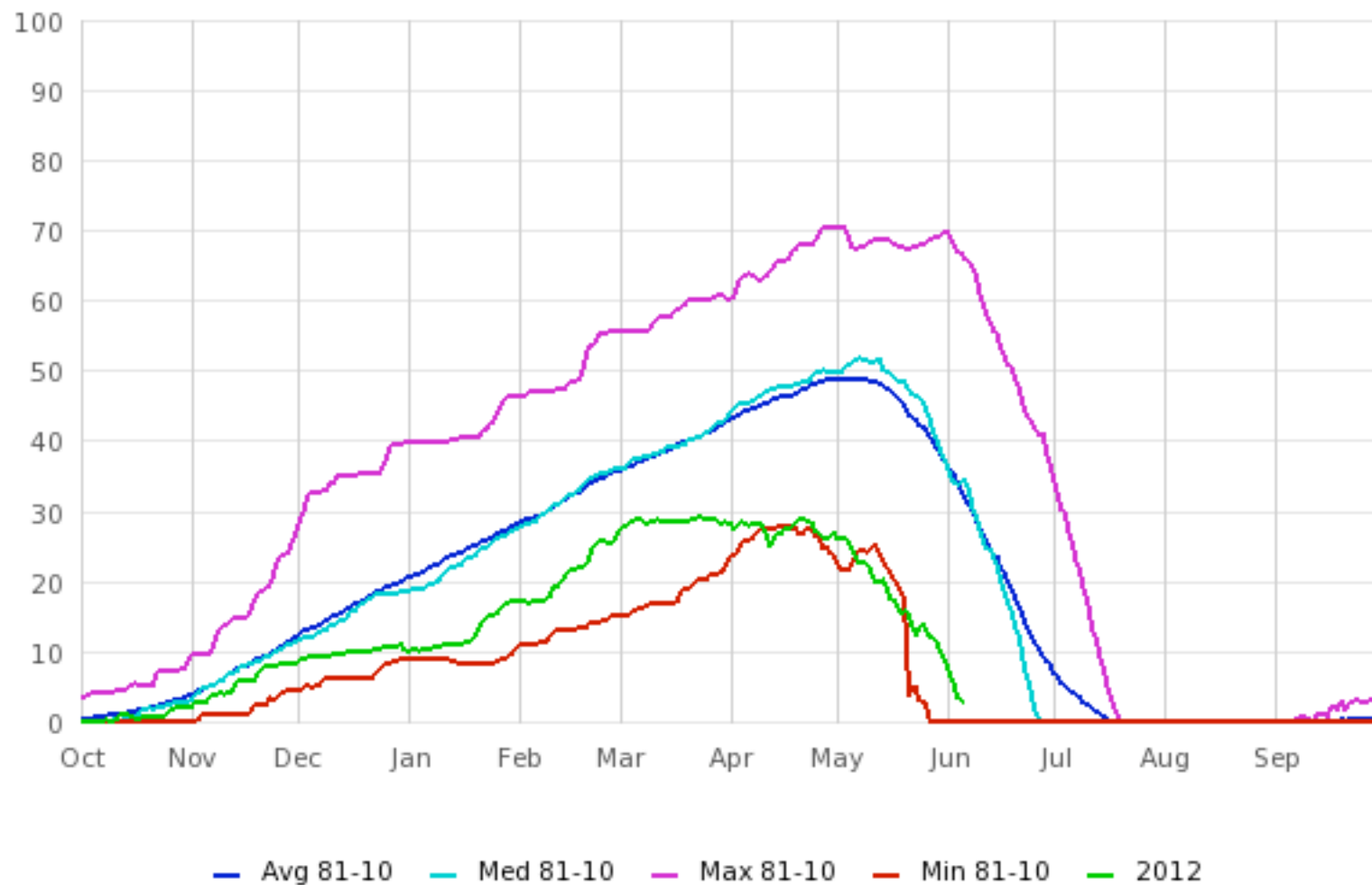
Colorado Basin River Forecast Center
Bear River Drainage Group



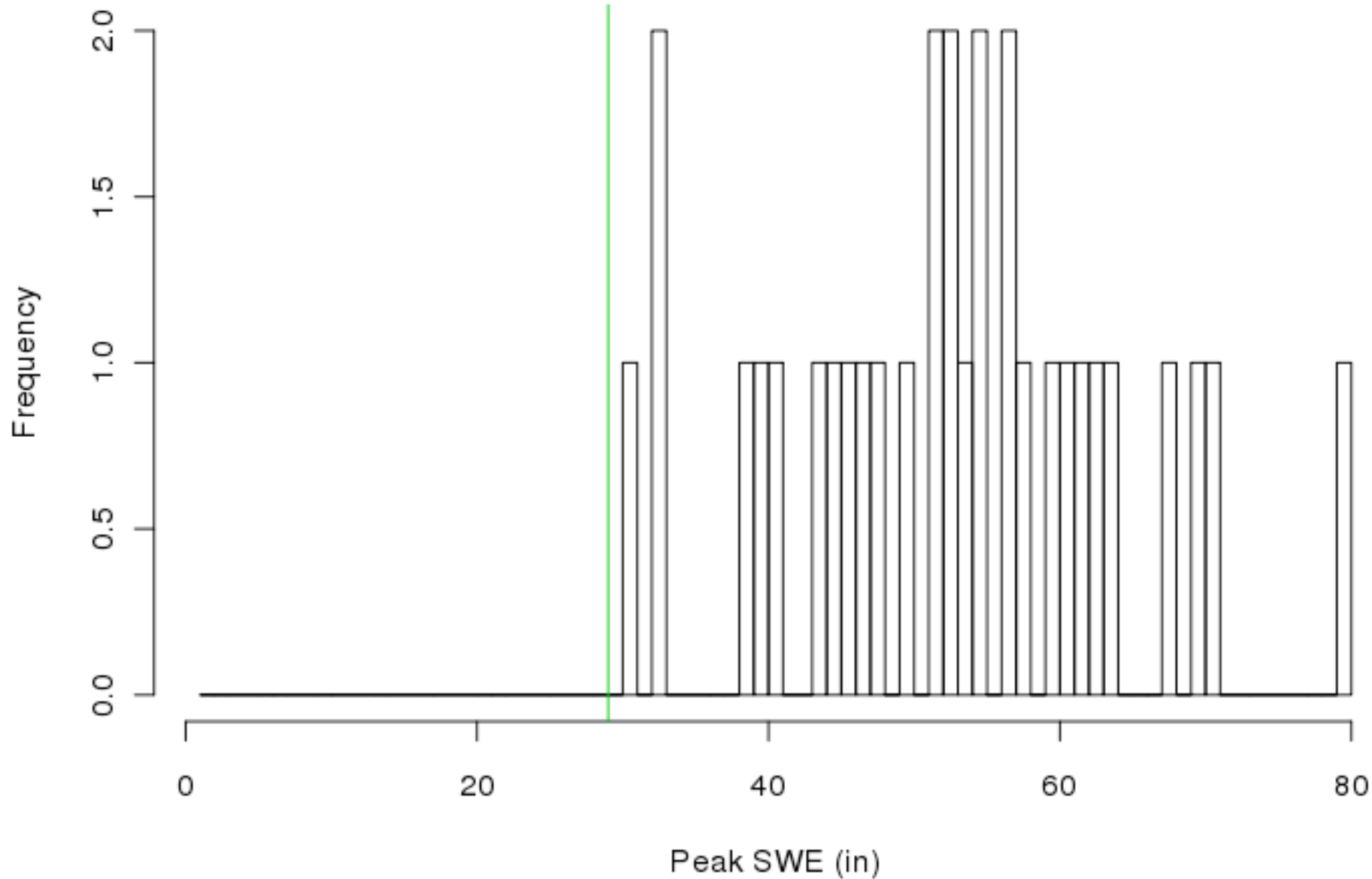
TOWER (towc2)

Inches of Snow Water Equivalent (SWE)

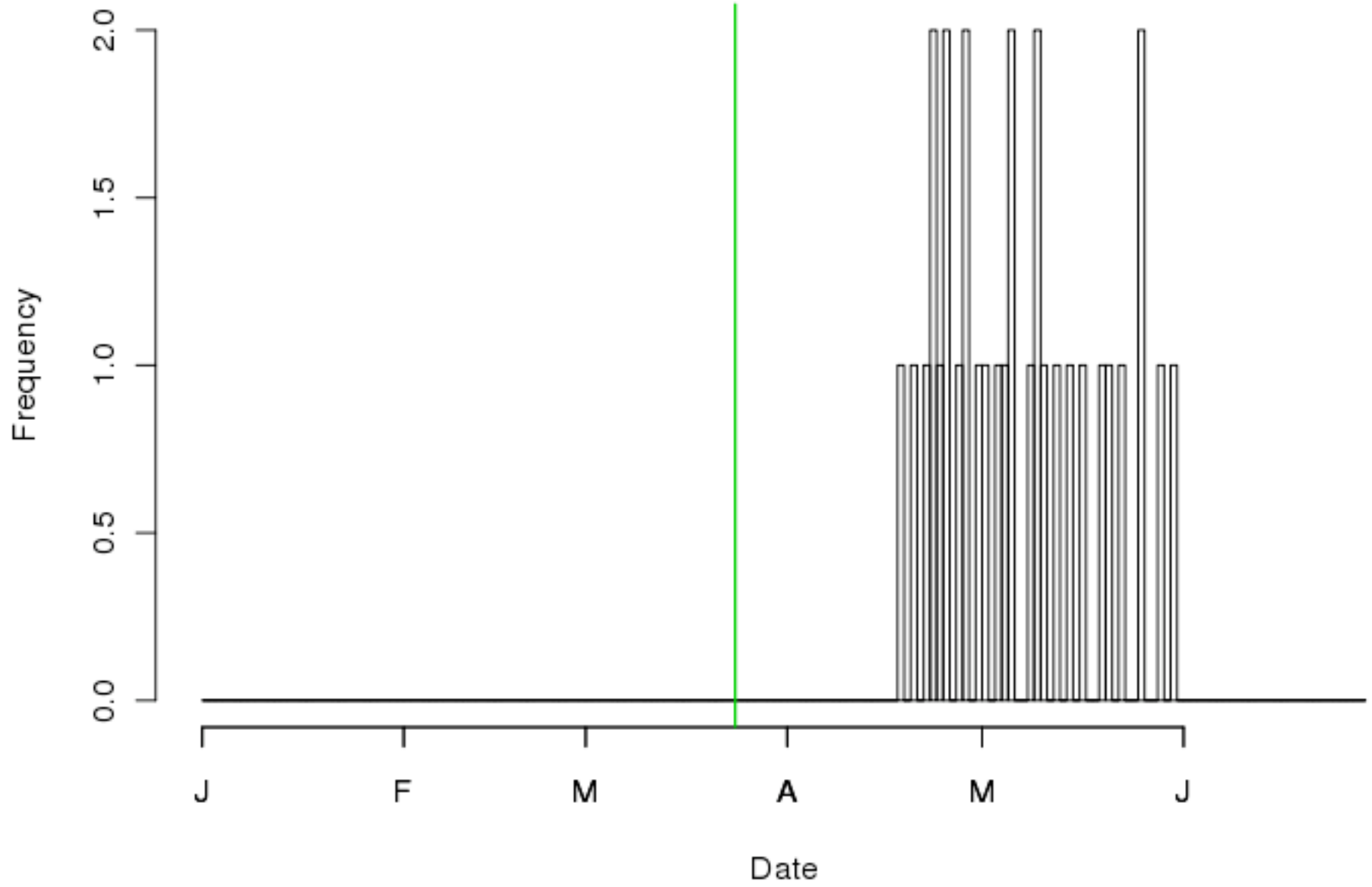
Plot Created June 5, 10:10 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



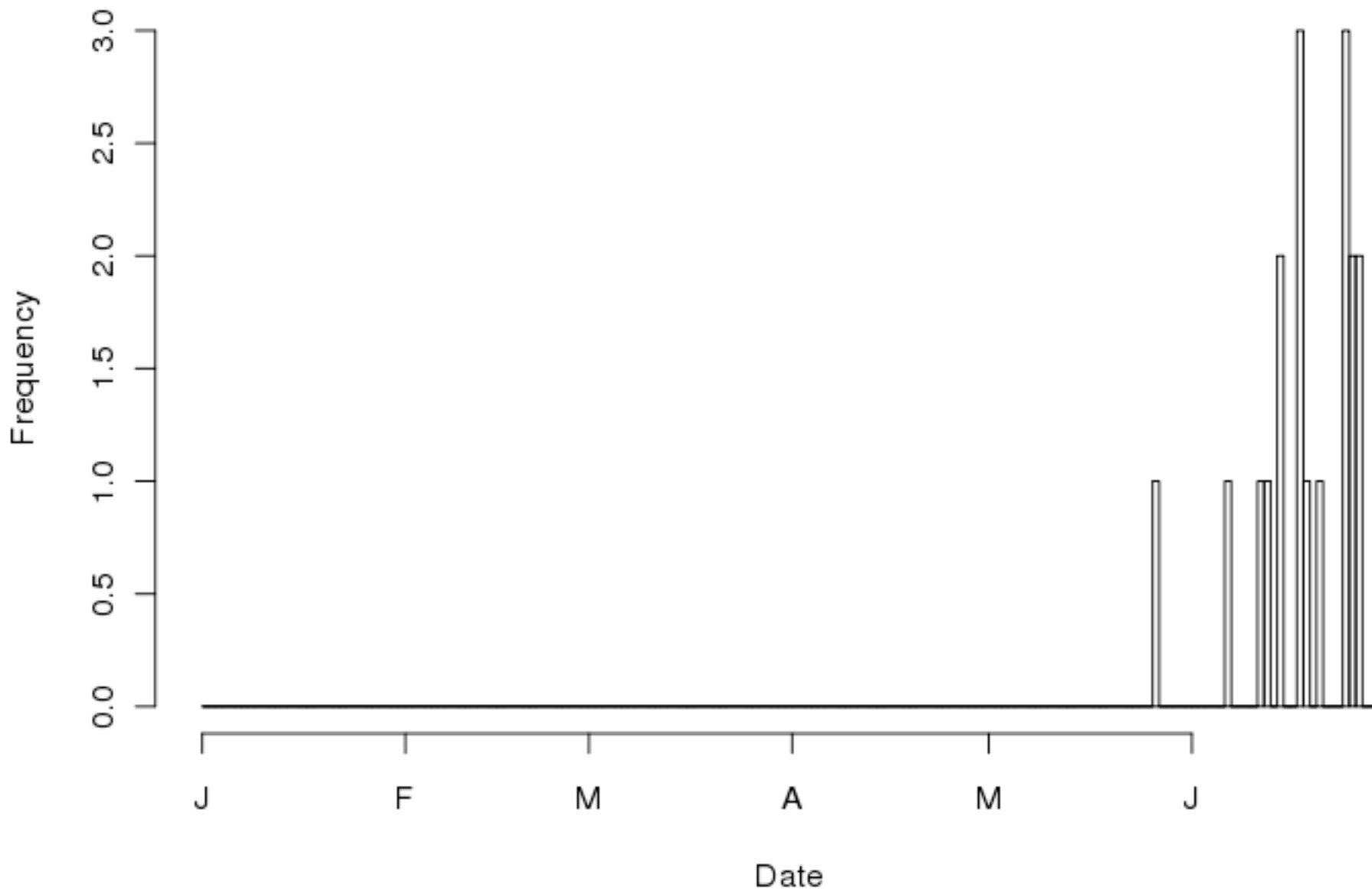
Peak Annual SWE for TOWC2



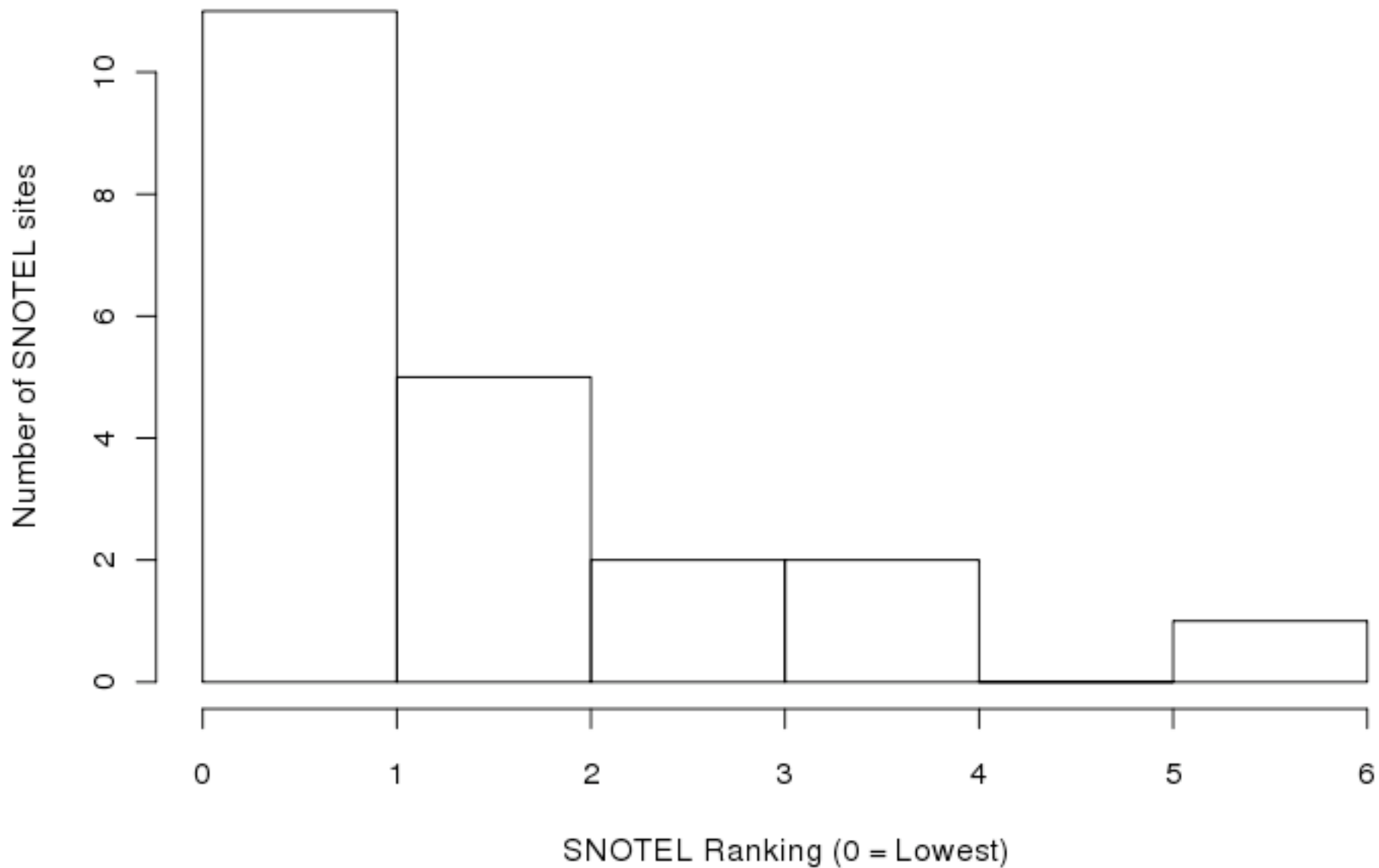
Date of Peak Annual SWE for TOWC2



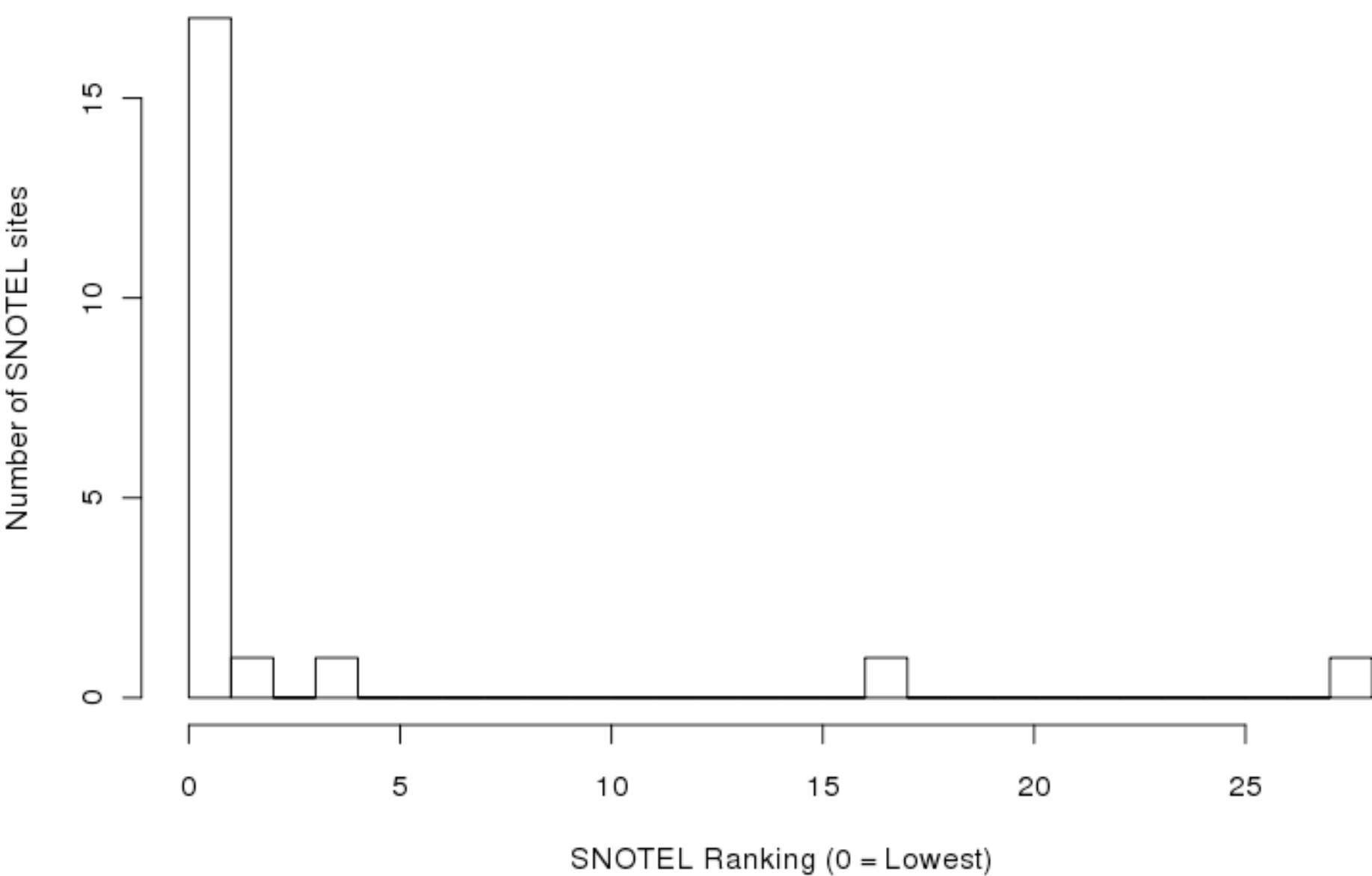
Date of Melt Out (SWE <1in) for TOWC2



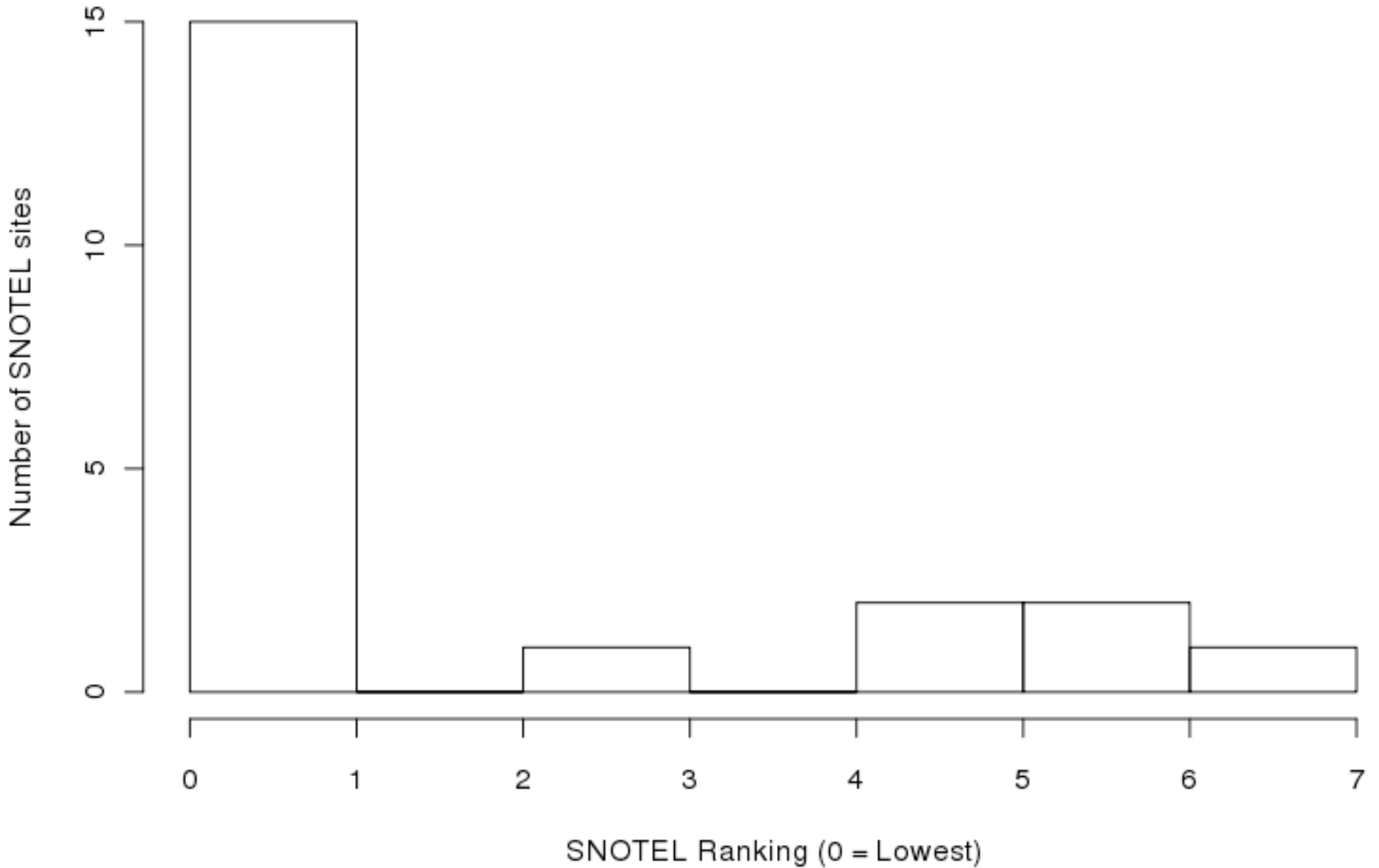
Ranking of 2012's Peak Annual SWE for Upper Colorado



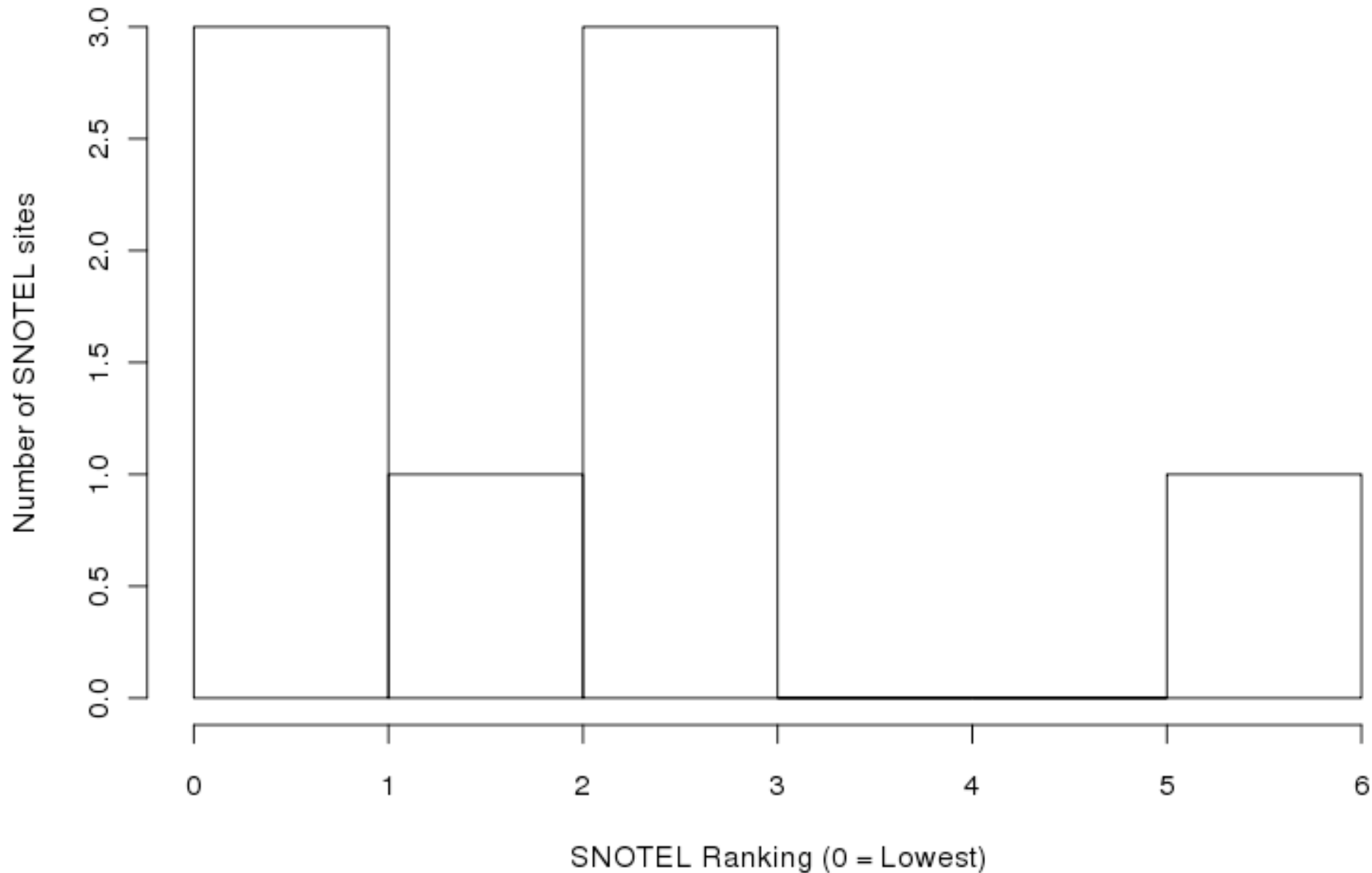
Ranking of 2012's Melt Date for Upper Colorado



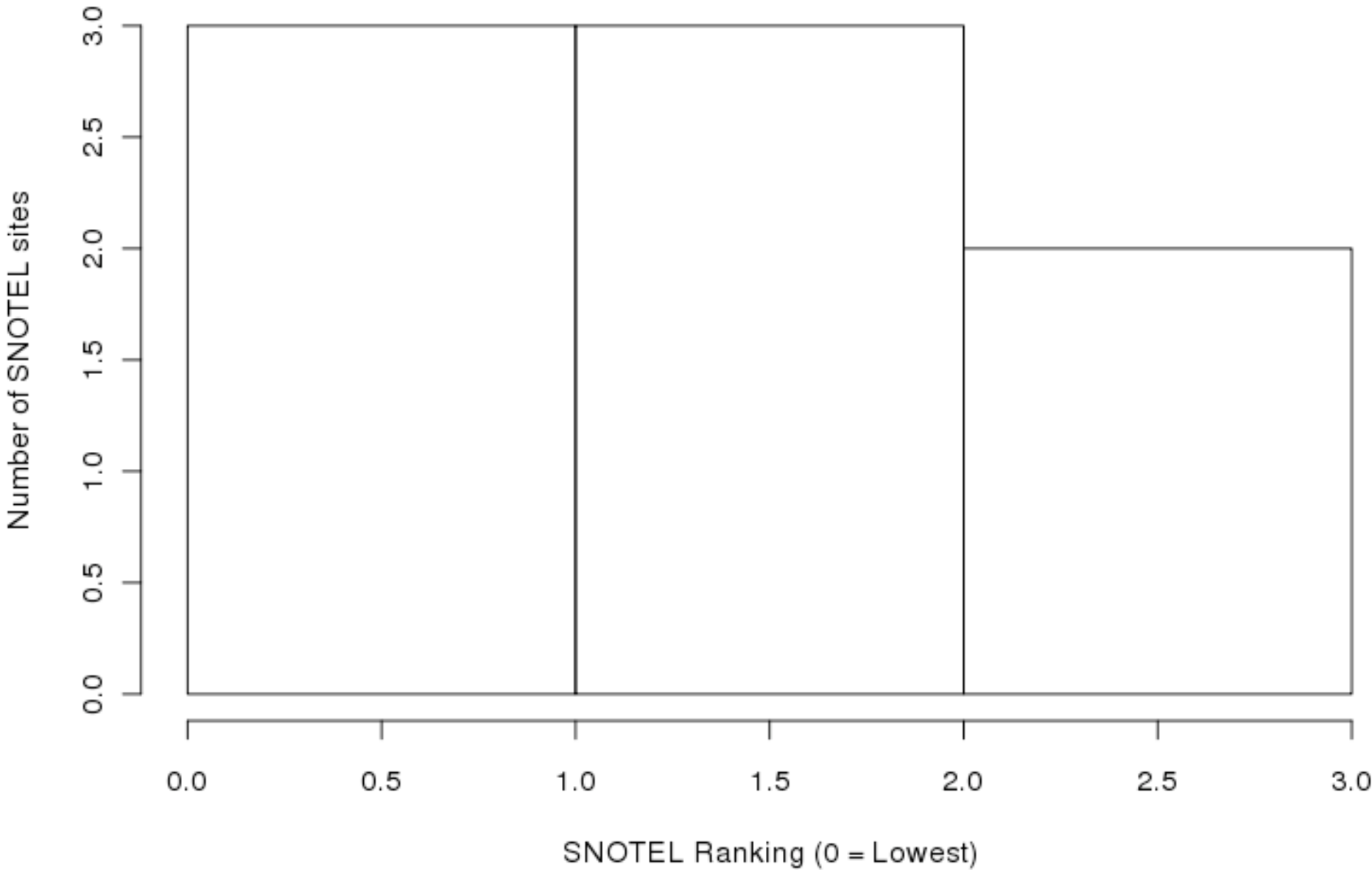
Ranking of 2012's Peak Annual SWE Date for Upper Colorado



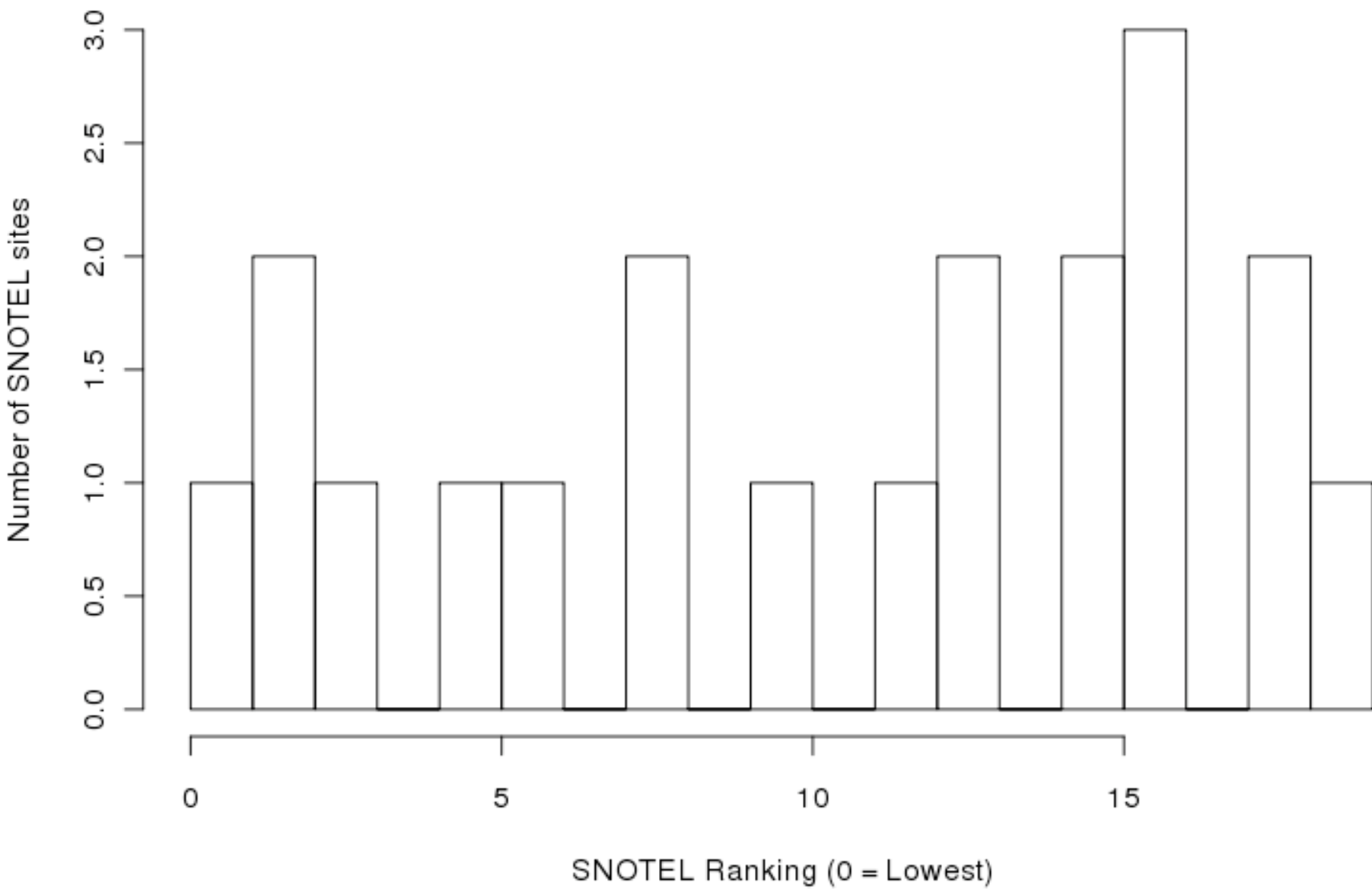
Ranking of 2012's Peak Annual SWE for Salt Lake County



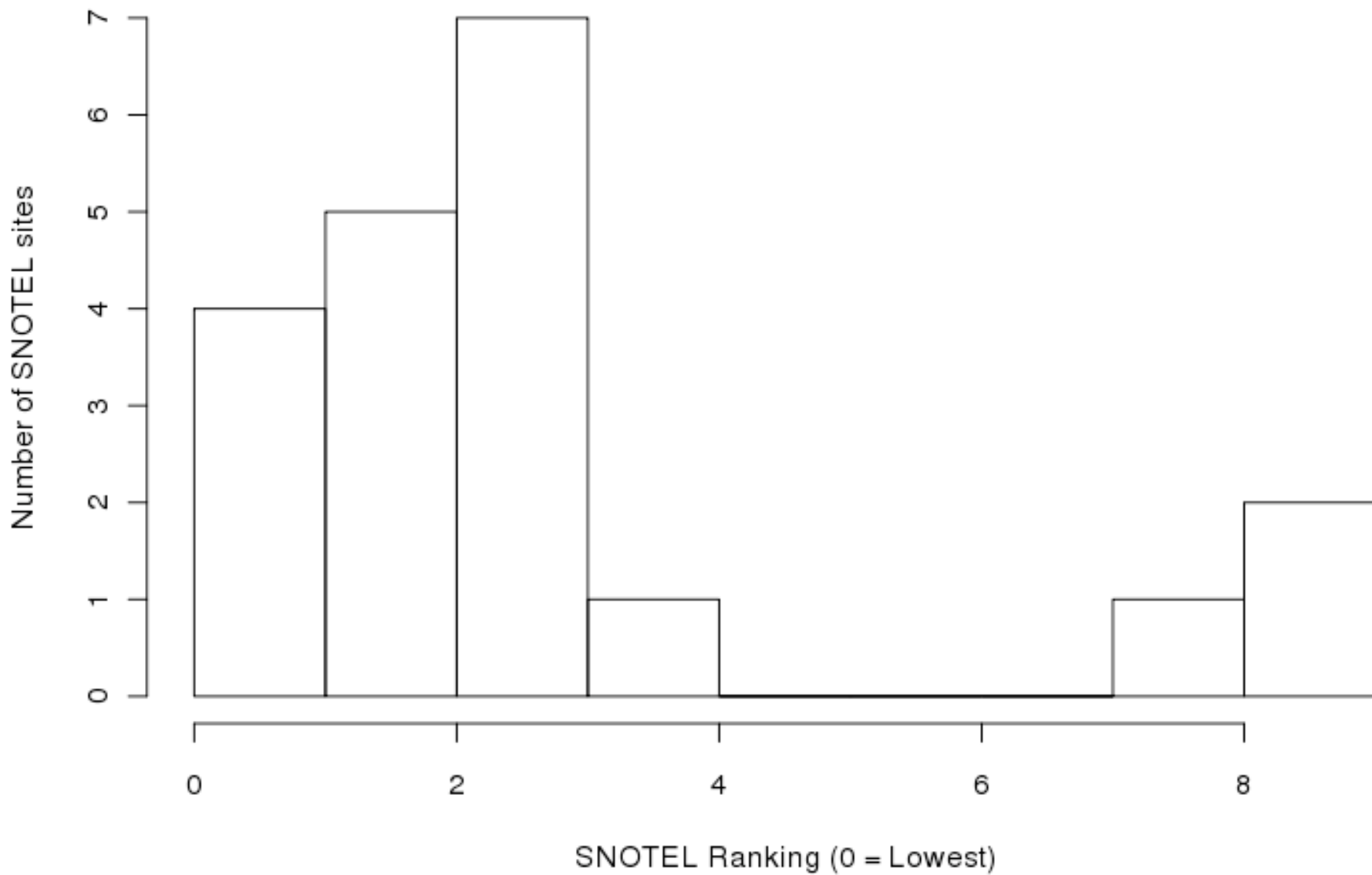
Ranking of 2012's Melt Date for Salt Lake County



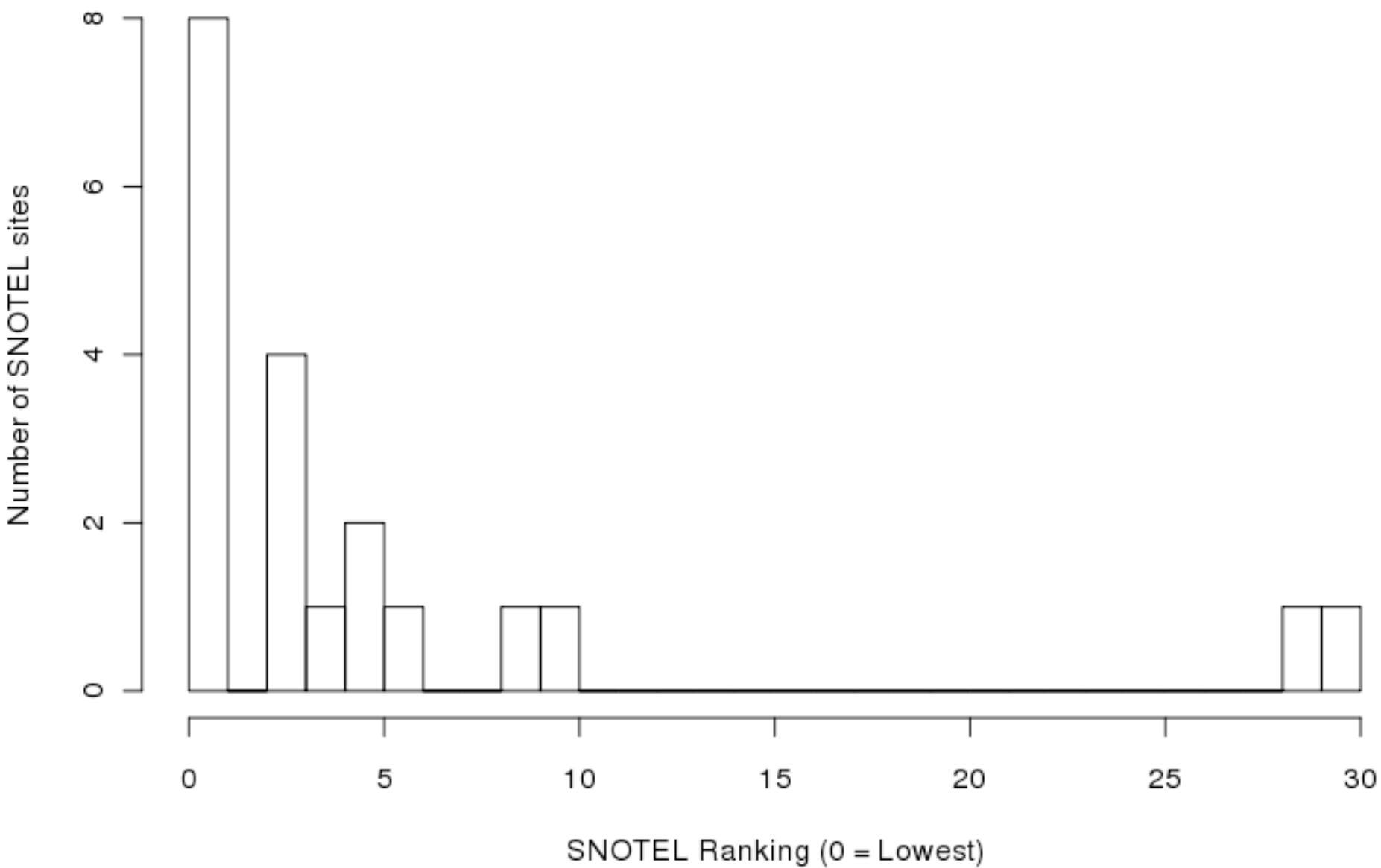
Ranking of 2012's Peak Annual SWE for Upper Green



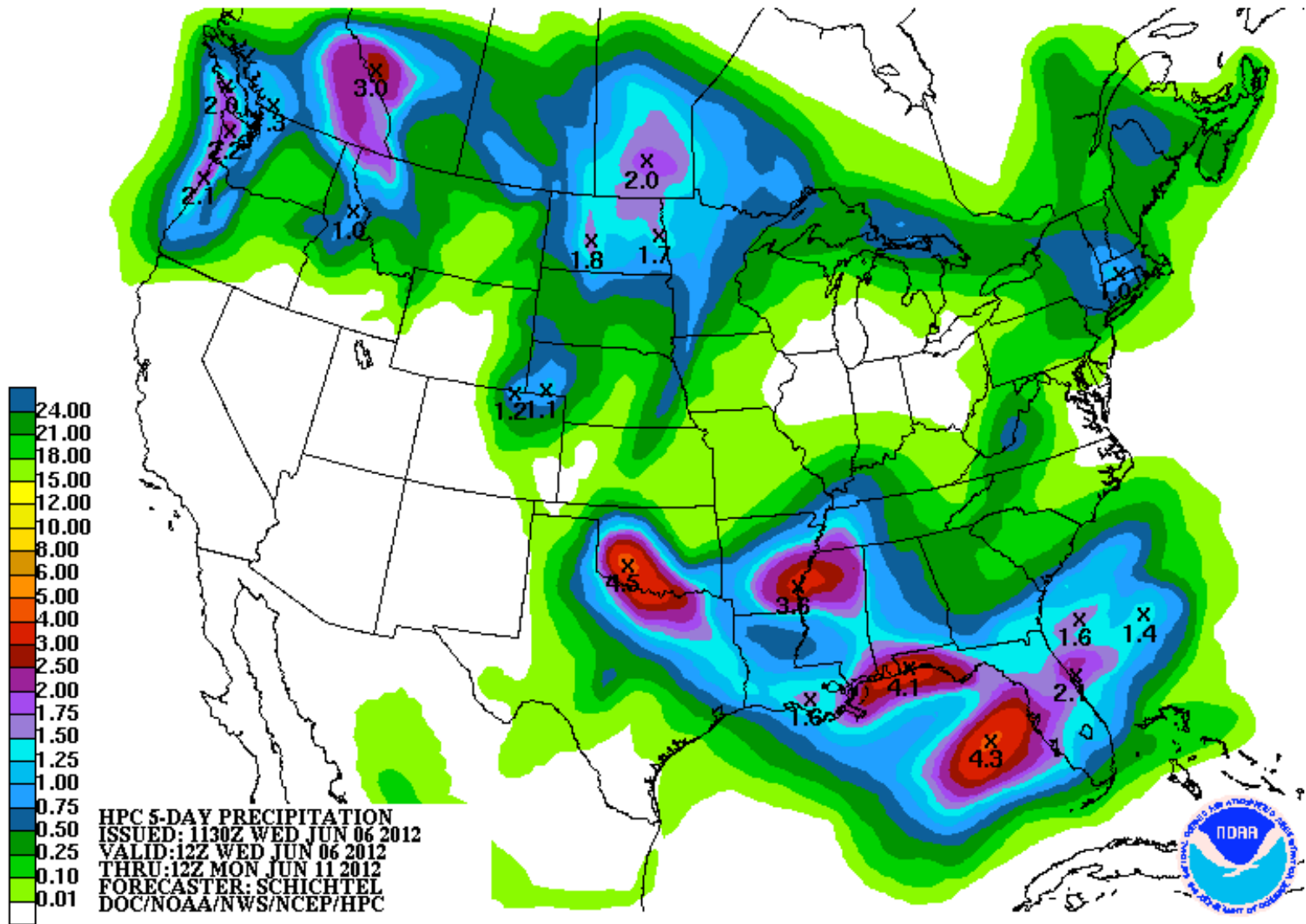
Ranking of 2012's Peak Annual SWE Date for Upper Green



Ranking of 2012's Melt Date for Upper Green

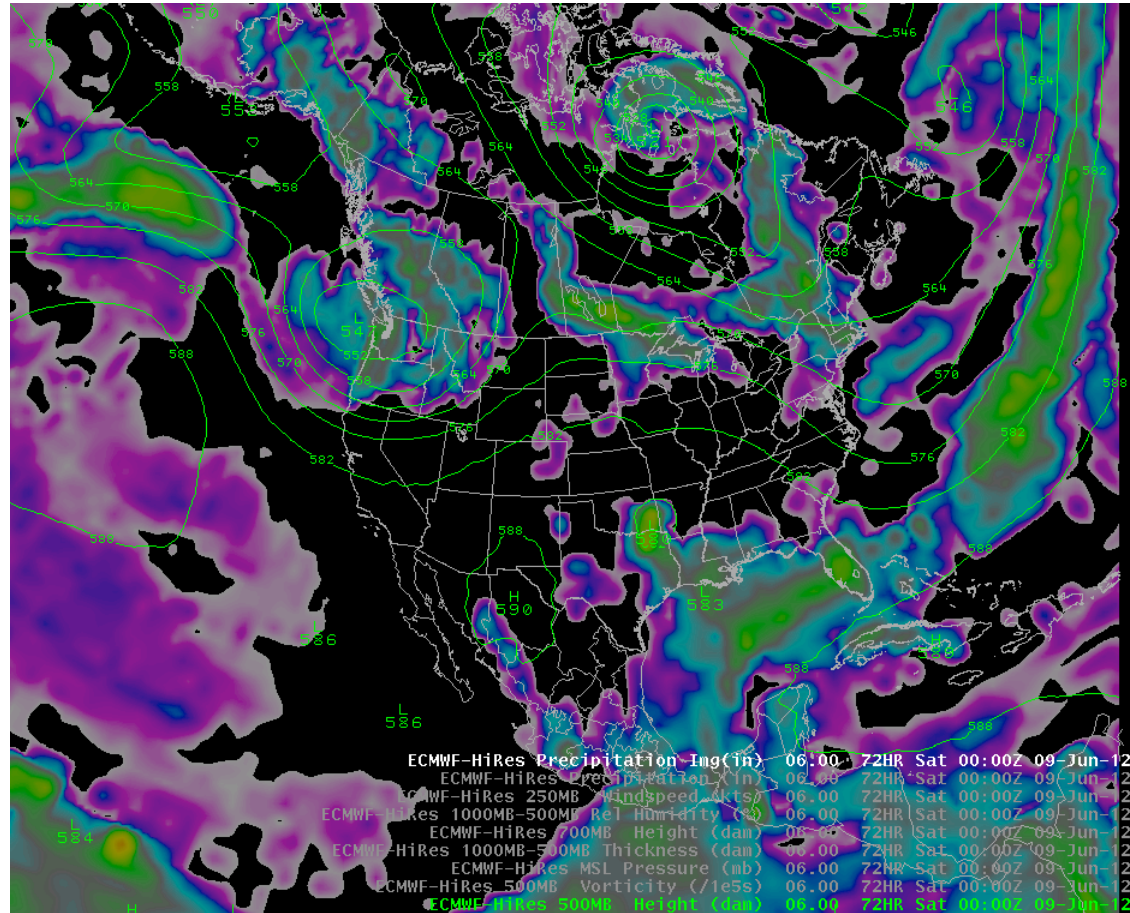


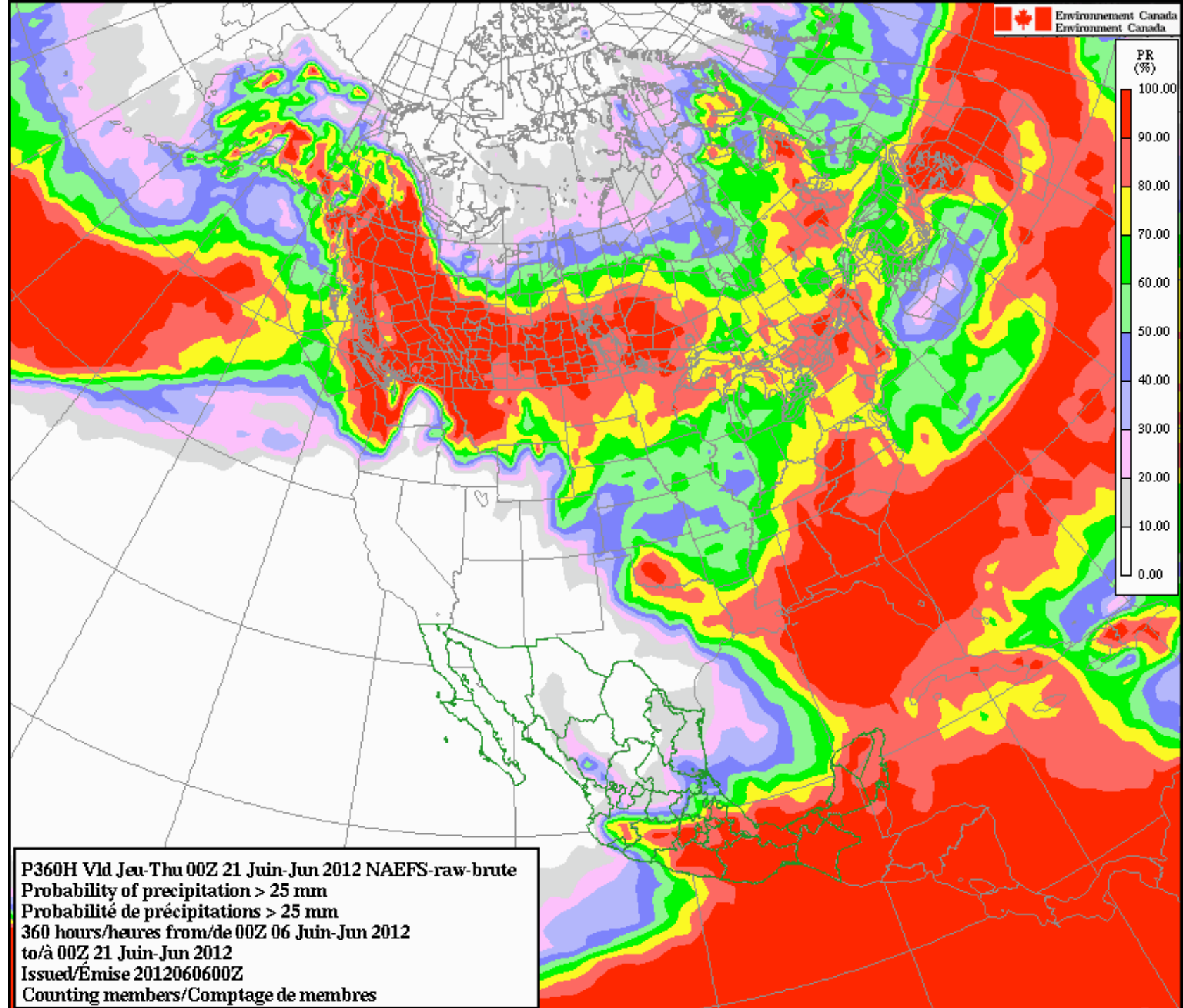
Forecast Precipitation



Weather Forecast

- **Dry Cold Front** passed through northern Colorado Basin yesterday
- **Weak storm track** persists over Pacific Northwest
 - Cool temperatures linger over region for next week or so
 - Dry conditions prevail



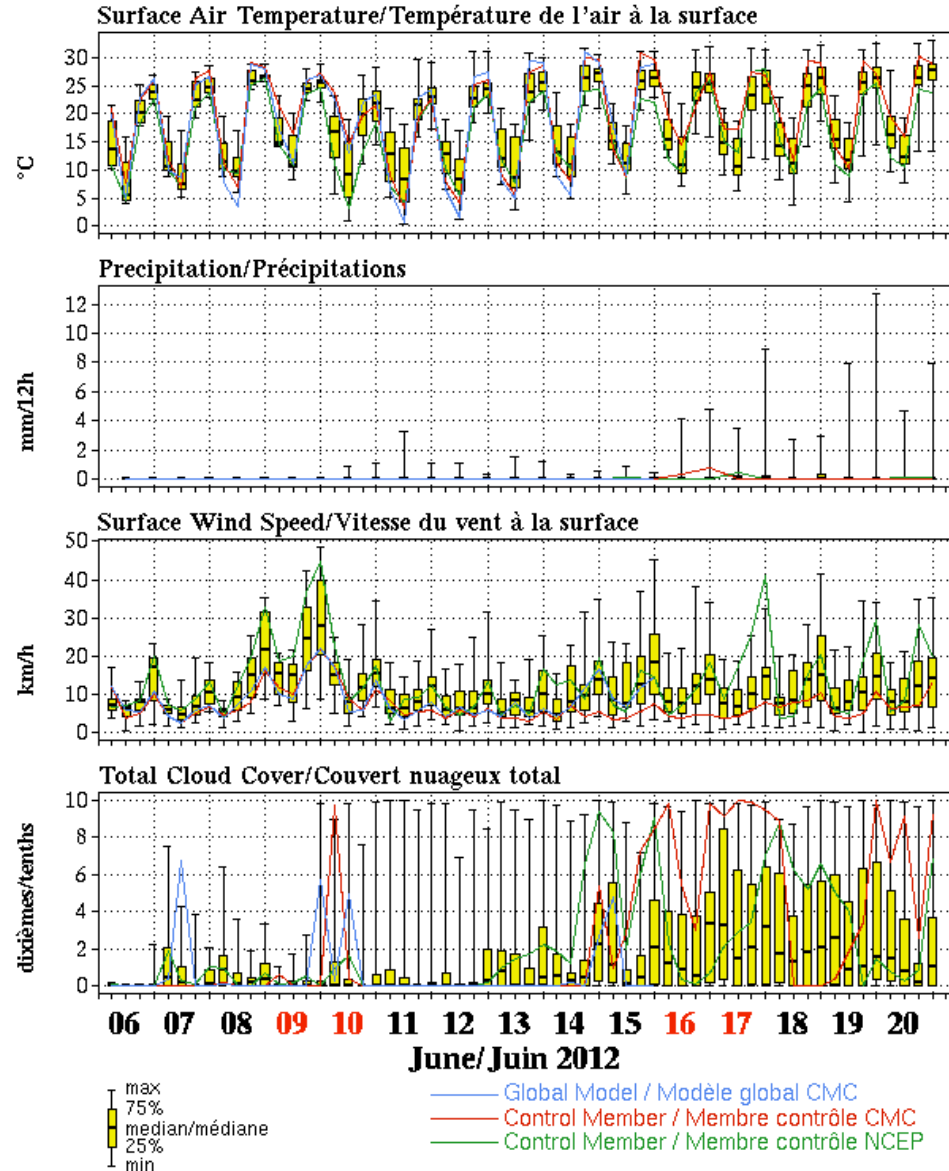


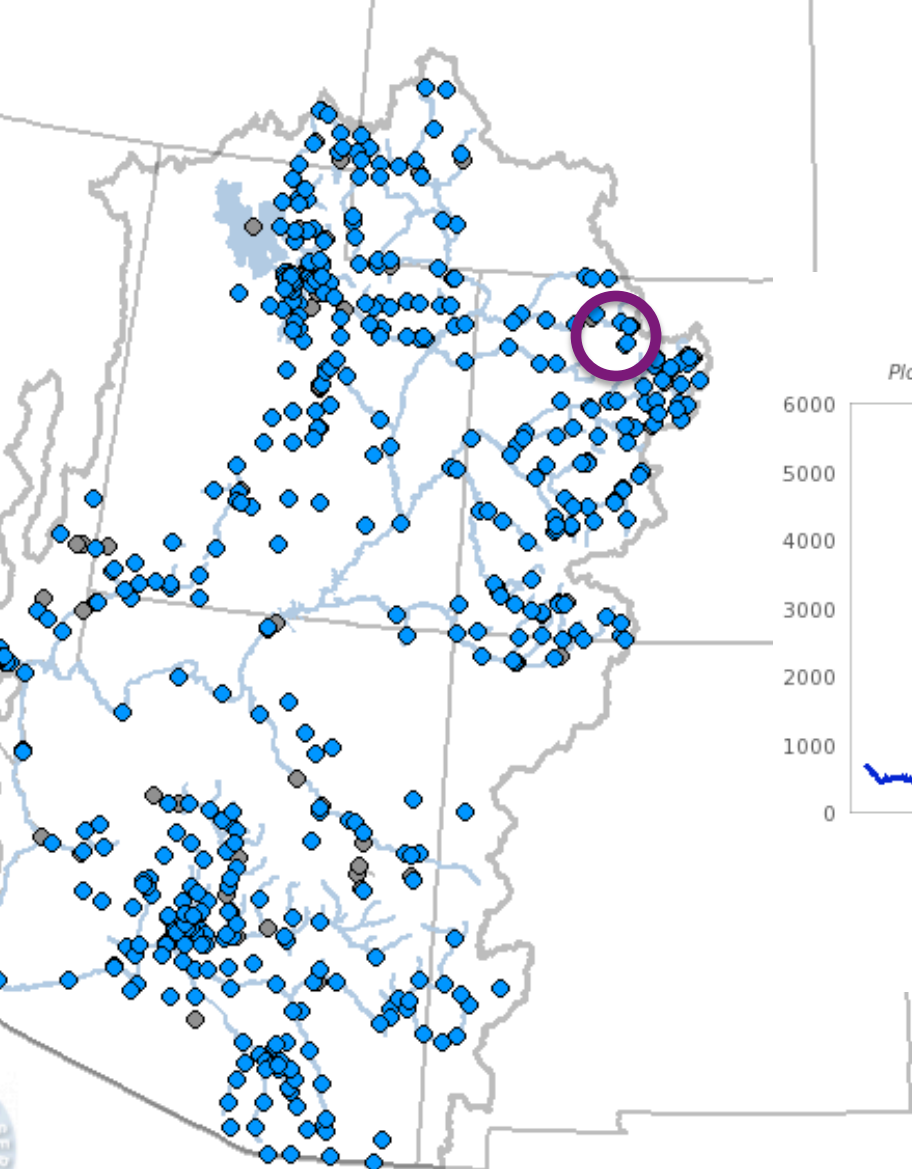
P360H Vld Jeu-Thu 00Z 21 Juin-Jun 2012 NAEFS-raw-brute
Probability of precipitation > 25 mm
Probabilité de précipitations > 25 mm
360 hours/heures from/de 00Z 06 Juin-Jun 2012
to/à 00Z 21 Juin-Jun 2012
Issued/Émise 2012060600Z
Counting members/Comptage de membres



Ensemble and Deterministic Forecasts issued 6 June 2012 00 UTC
Prévision d'ensemble et déterministe émises le 6 Juin 2012 00 UTC
for/pour **NAEFS / SPENA**

GRAND JUNCTION (GJT) 39.12 N 108.53 W/O



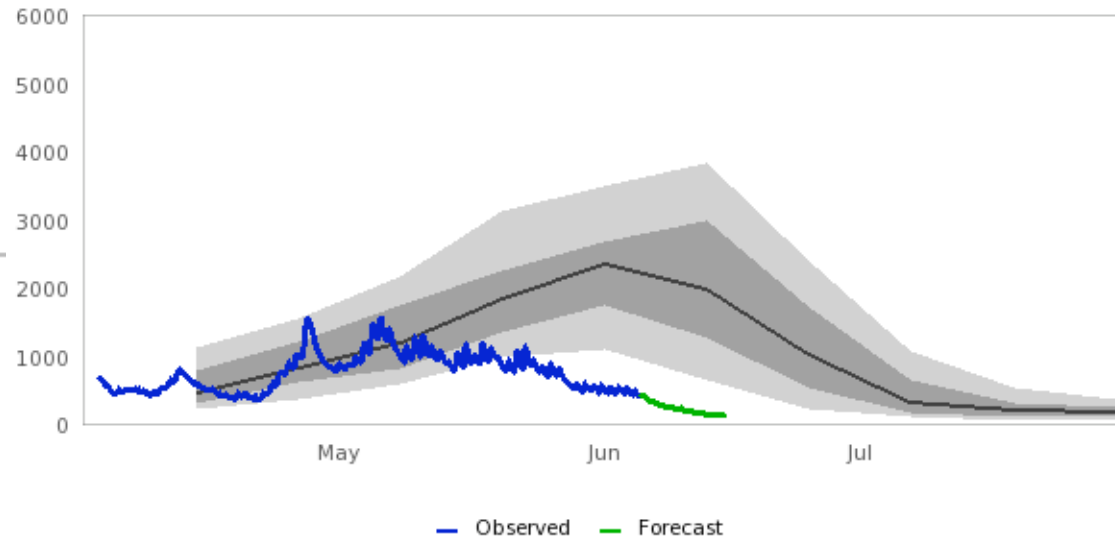


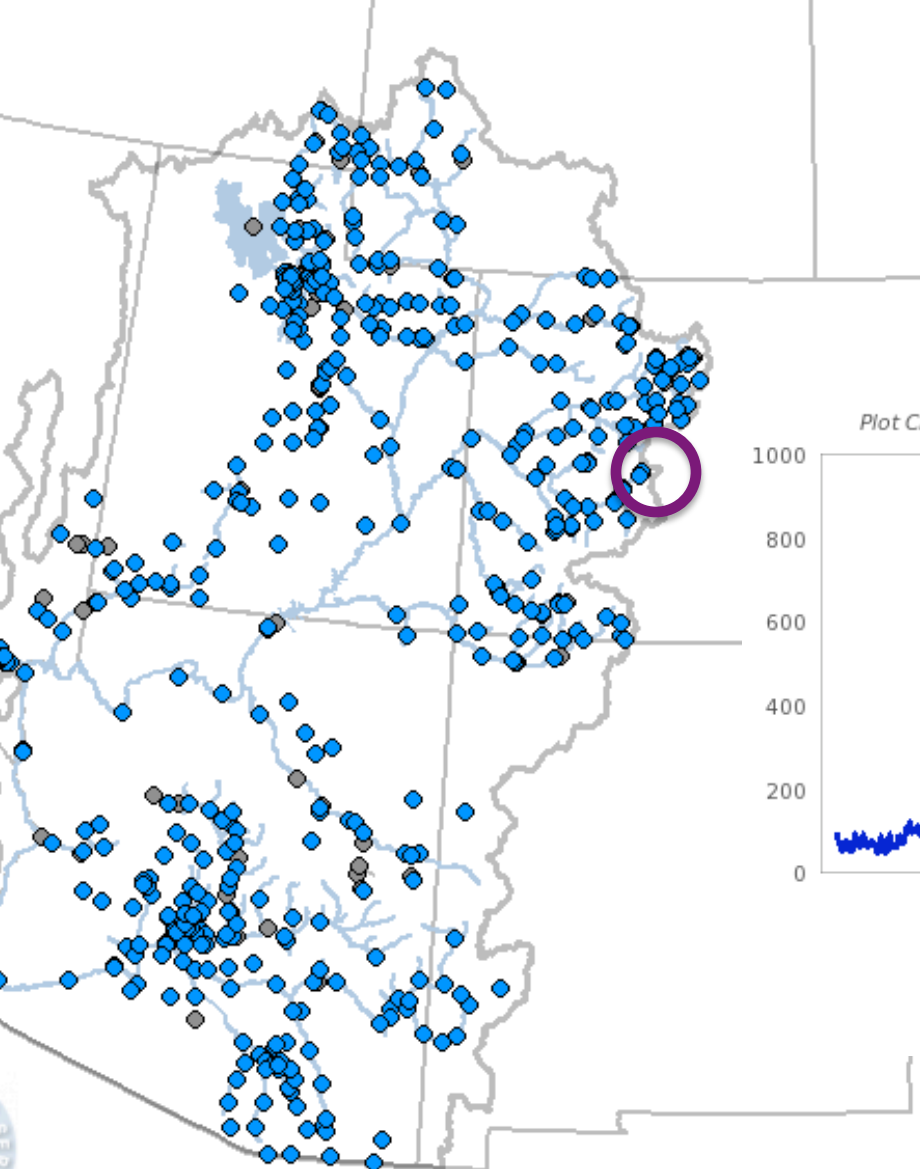
Created: April 5, 2012, 15:30

YAMPA - STEAMBOAT SPRINGS (stmc2)

Flow (cfs) for April-July, Forecast run 2012-06-05 16:00 GMT

Plot Created June 5, 10:14 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



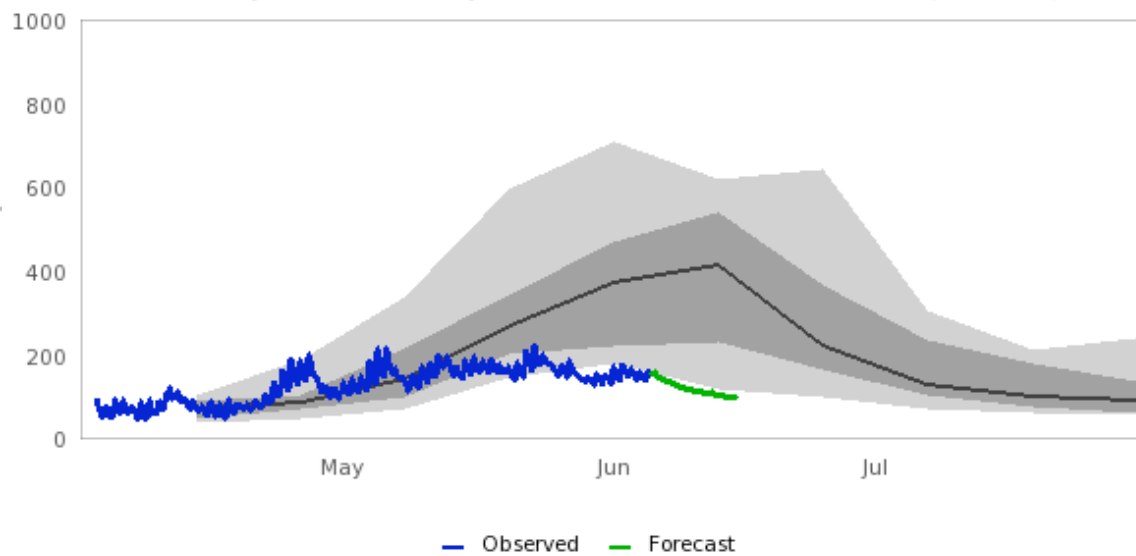


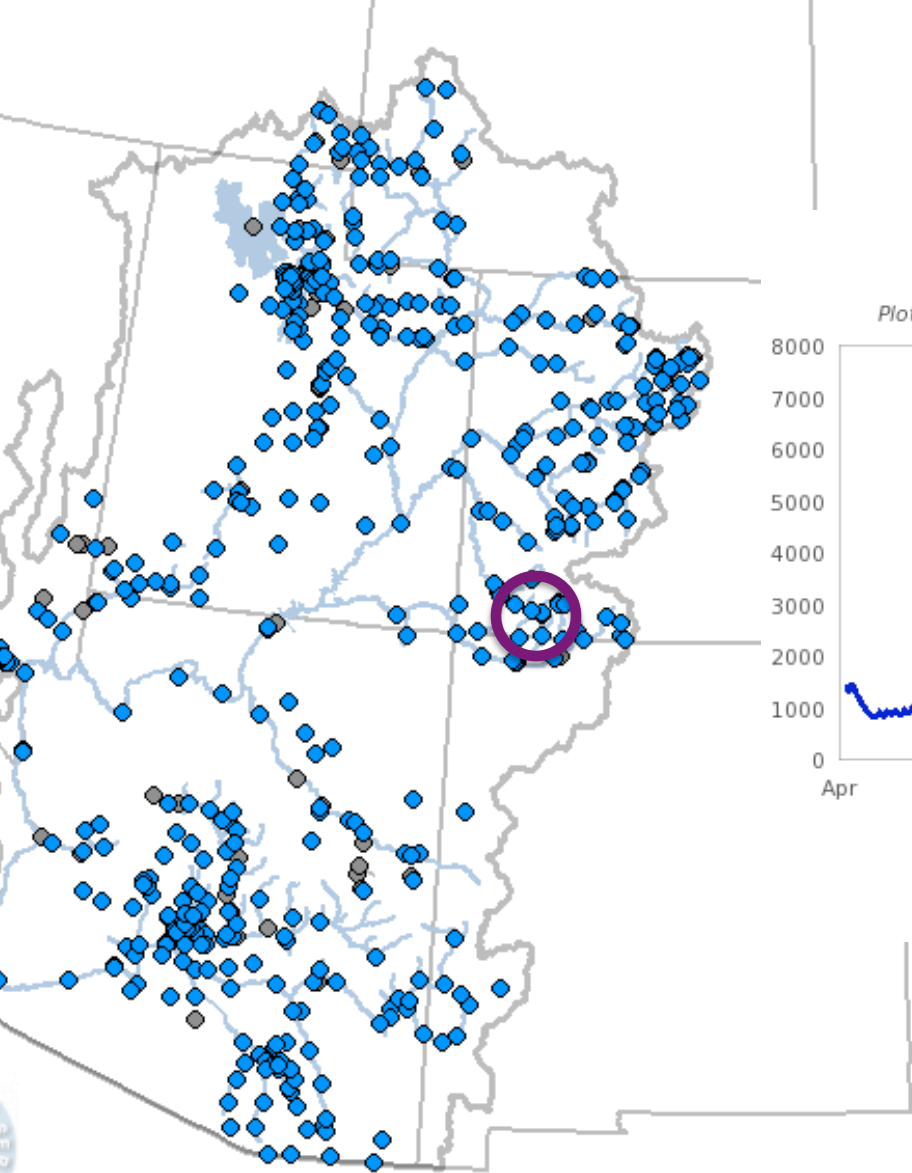
Created: April 5, 2012, 15:30

TAYLOR - TAYLOR PARK (trac2)

Flow (cfs) for April-July, Forecast run 2012-06-05 16:00 GMT

Plot Created June 5, 10:17 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



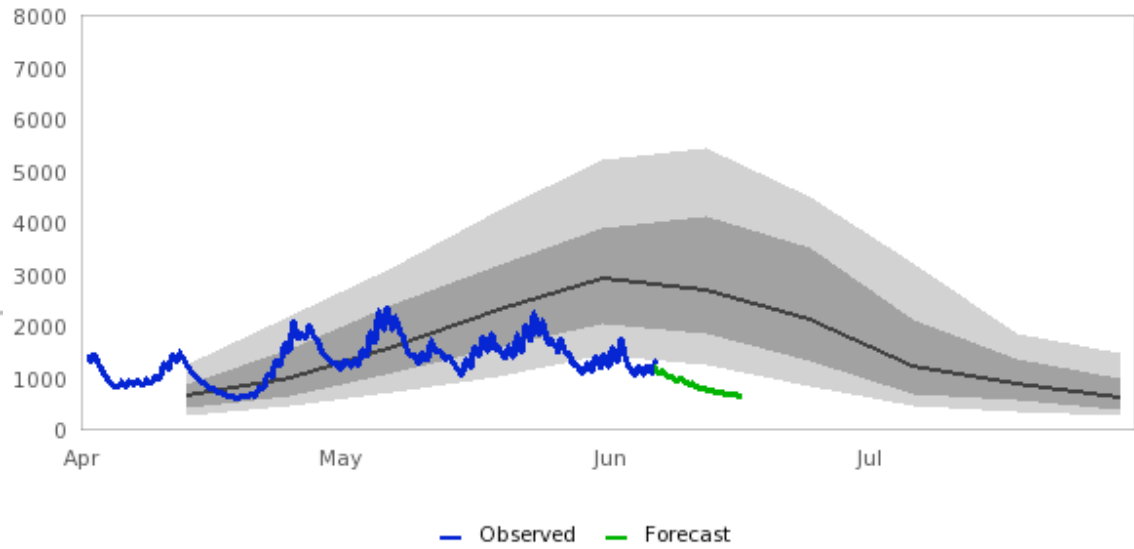


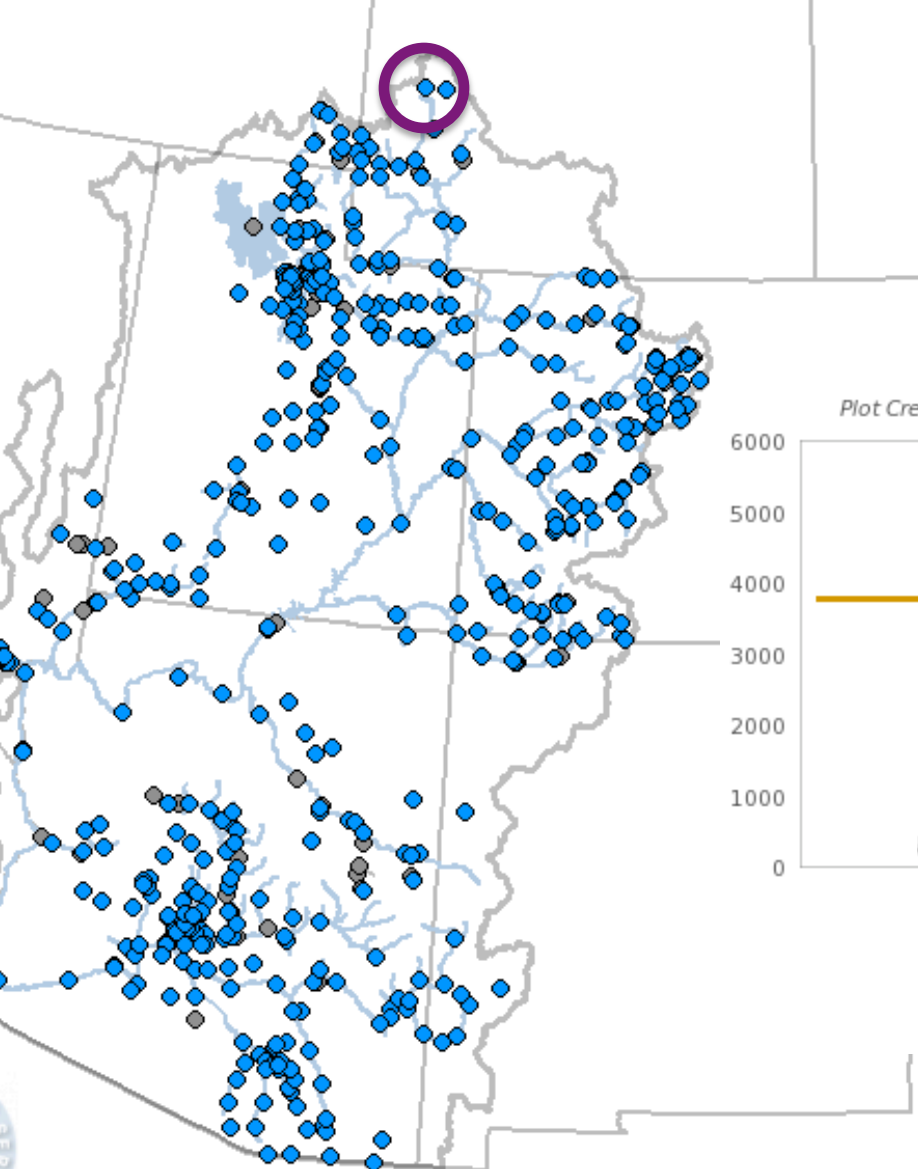
Created: April 5, 2012, 15:30

ANIMAS - DURANGO (drgc2)

Flow (cfs) for April-July, Forecast run 2012-06-06 14:00 GMT

Plot Created June 6, 12:37 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



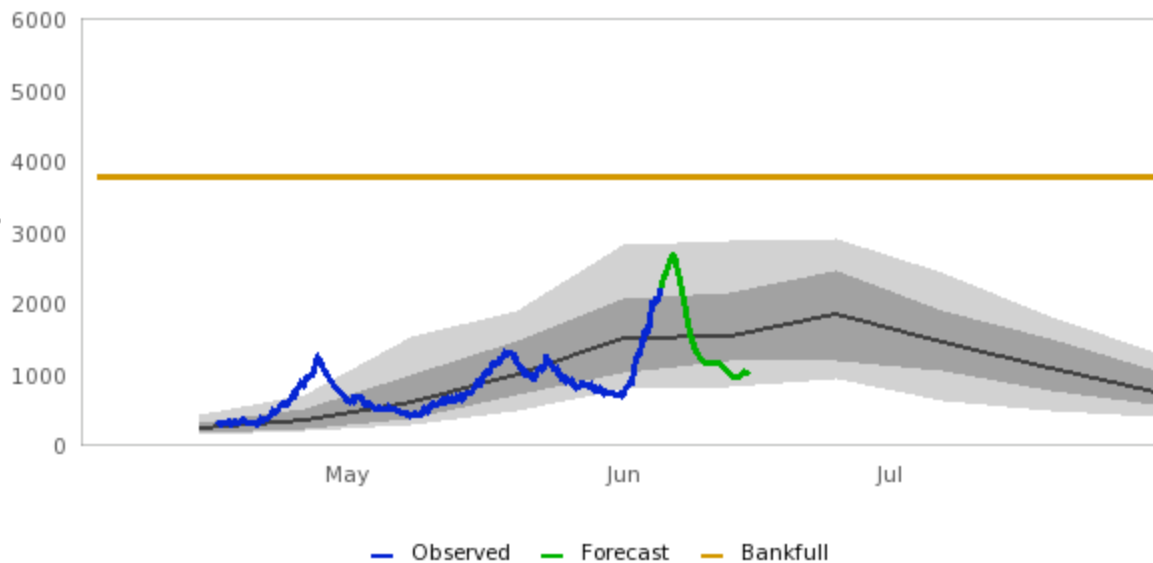


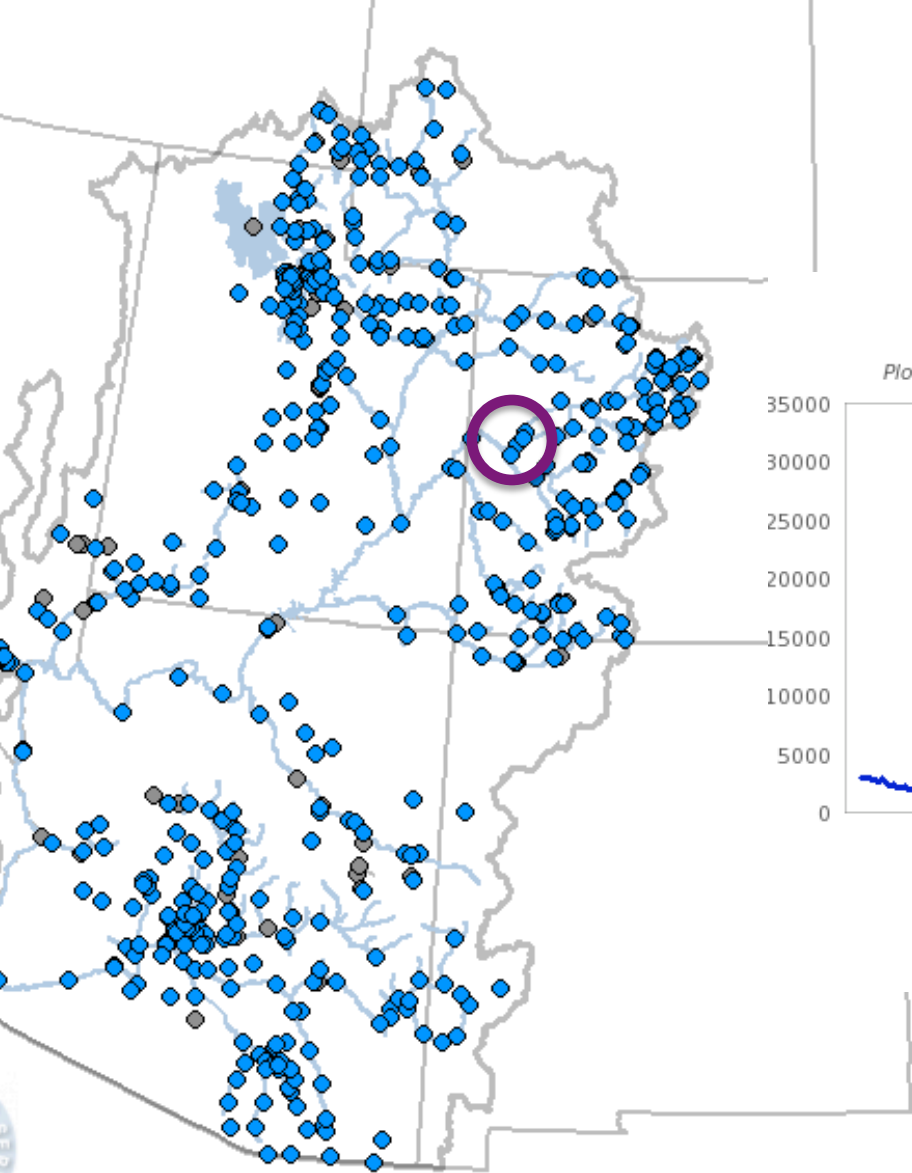
Created: April 5, 2012, 15:30

GREEN - DANIEL, NR, WARREN BRIDGE, AT (wbrw4)

Flow (cfs) for April-July, Forecast run 2012-06-05 16:00 GMT

Plot Created June 5, 10:17 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



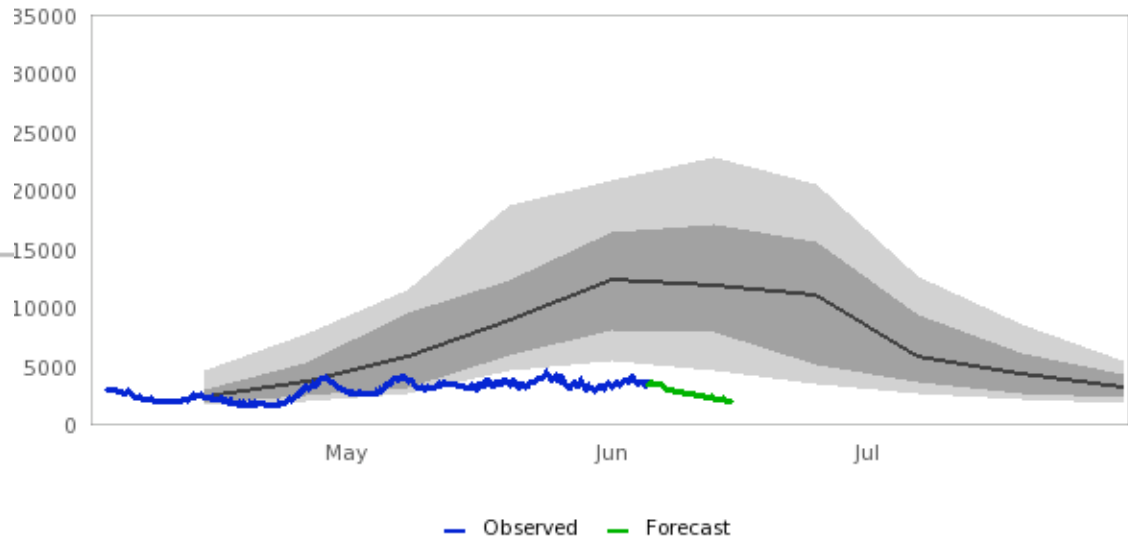


Created: April 5, 2012, 15:30

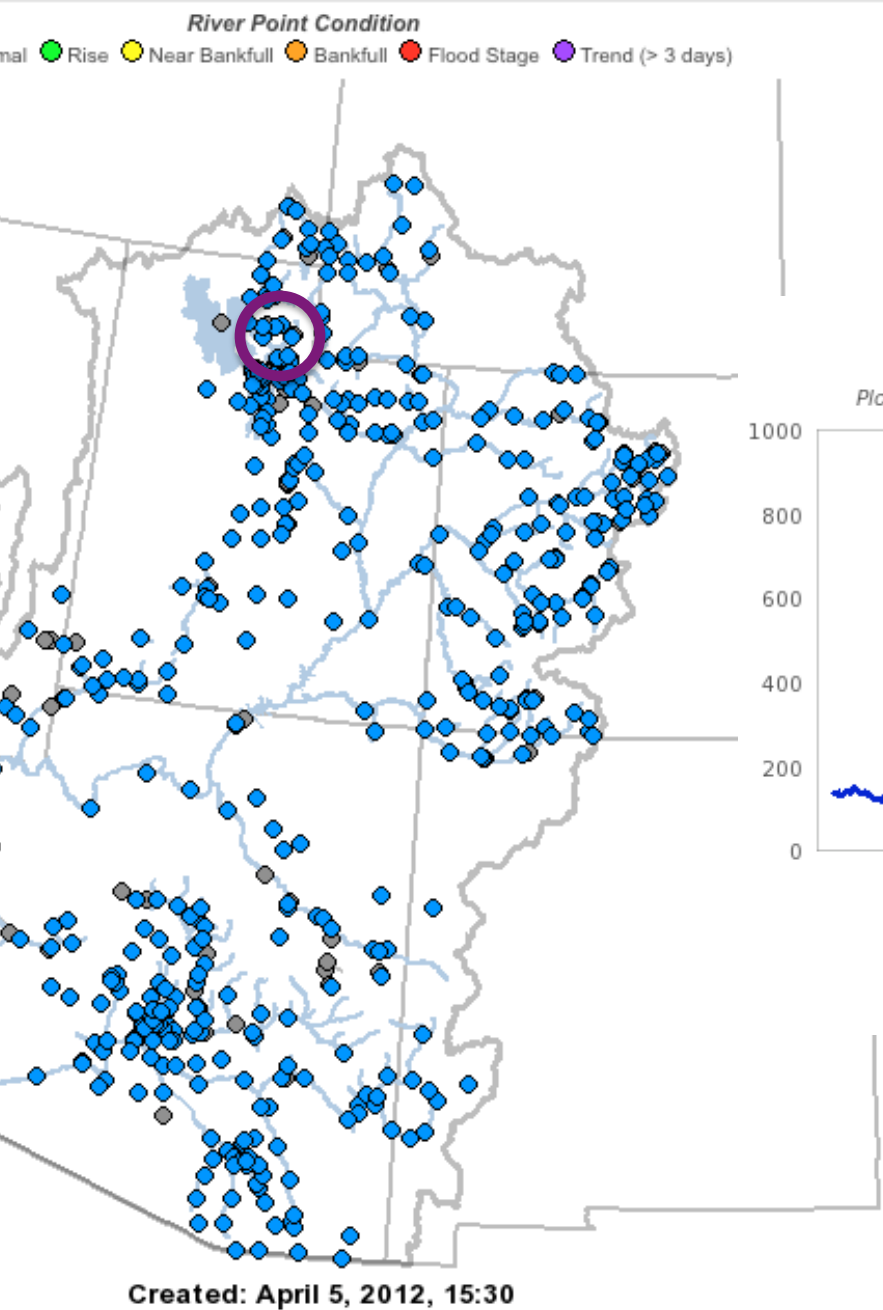
COLORADO - CAMEO, NR (camc2)

Flow (cfs) for April-July, Forecast run 2012-06-05 16:00 GMT

Plot Created June 5, 10:15 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)



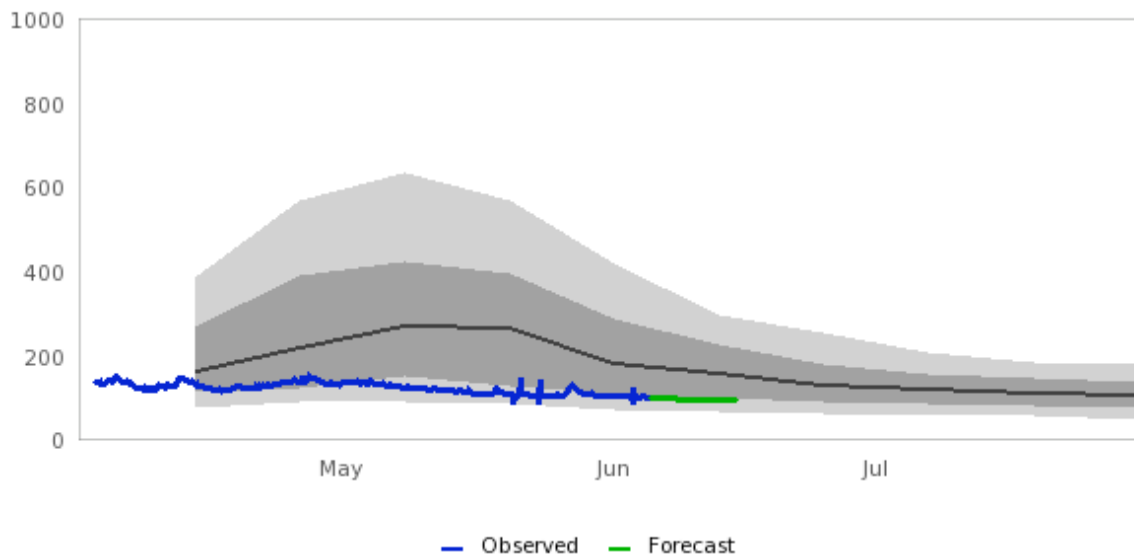
— Observed — Forecast



BLACKSMITH FORK - HYRUM, NR, UPNL DAM, ABV (hrmu1)

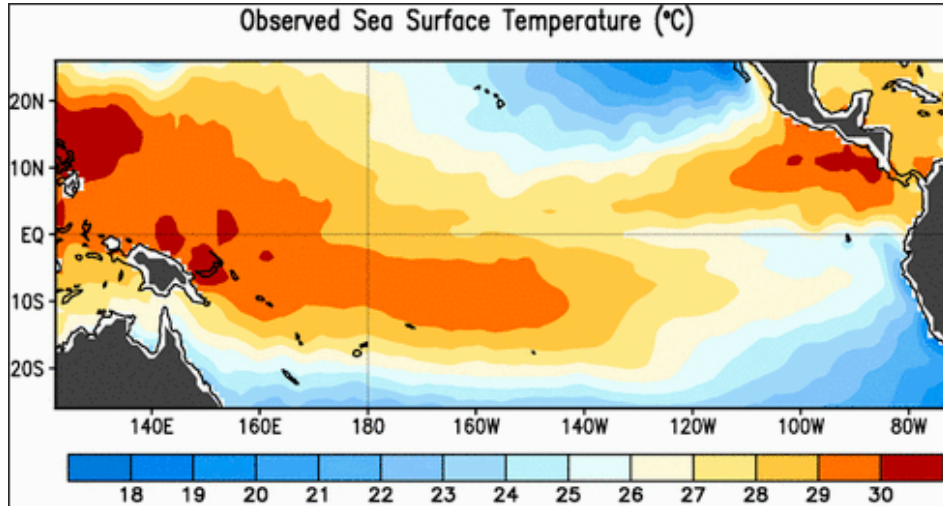
Flow (cfs) for April-July, Forecast run 2012-06-05 16:00 GMT

Plot Created June 5, 10:13 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)

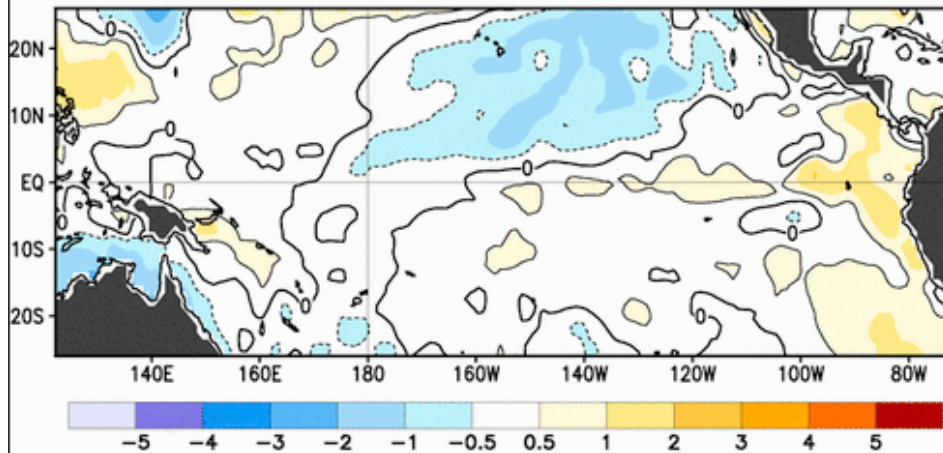


La Nina Update

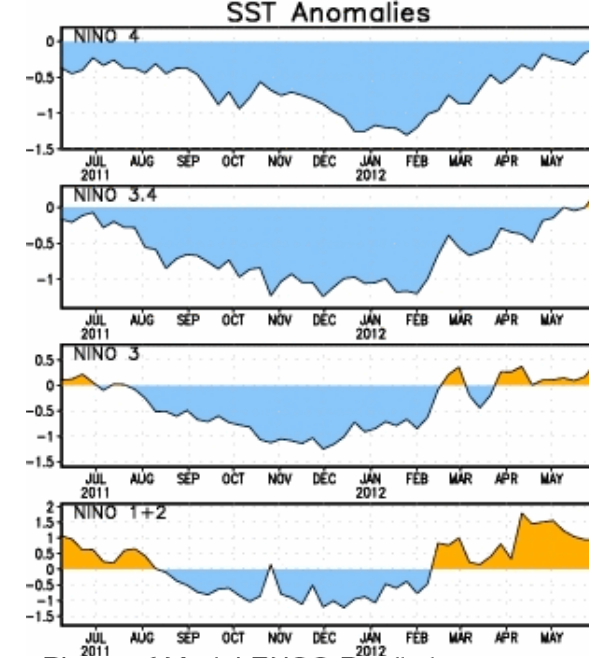
Observed Sea Surface Temperature (°C)



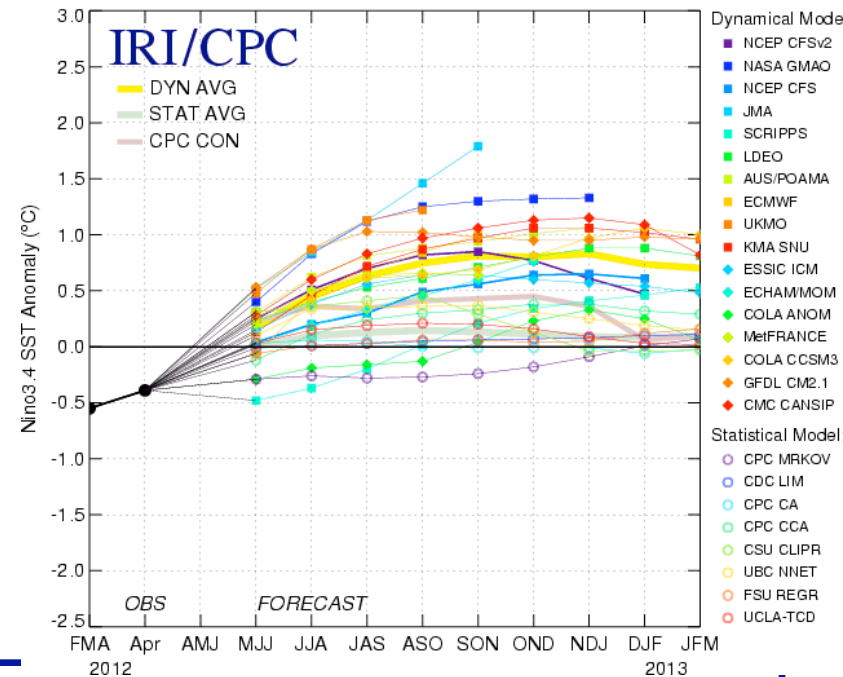
Observed Sea Surface Temperature Anomalies (°C)

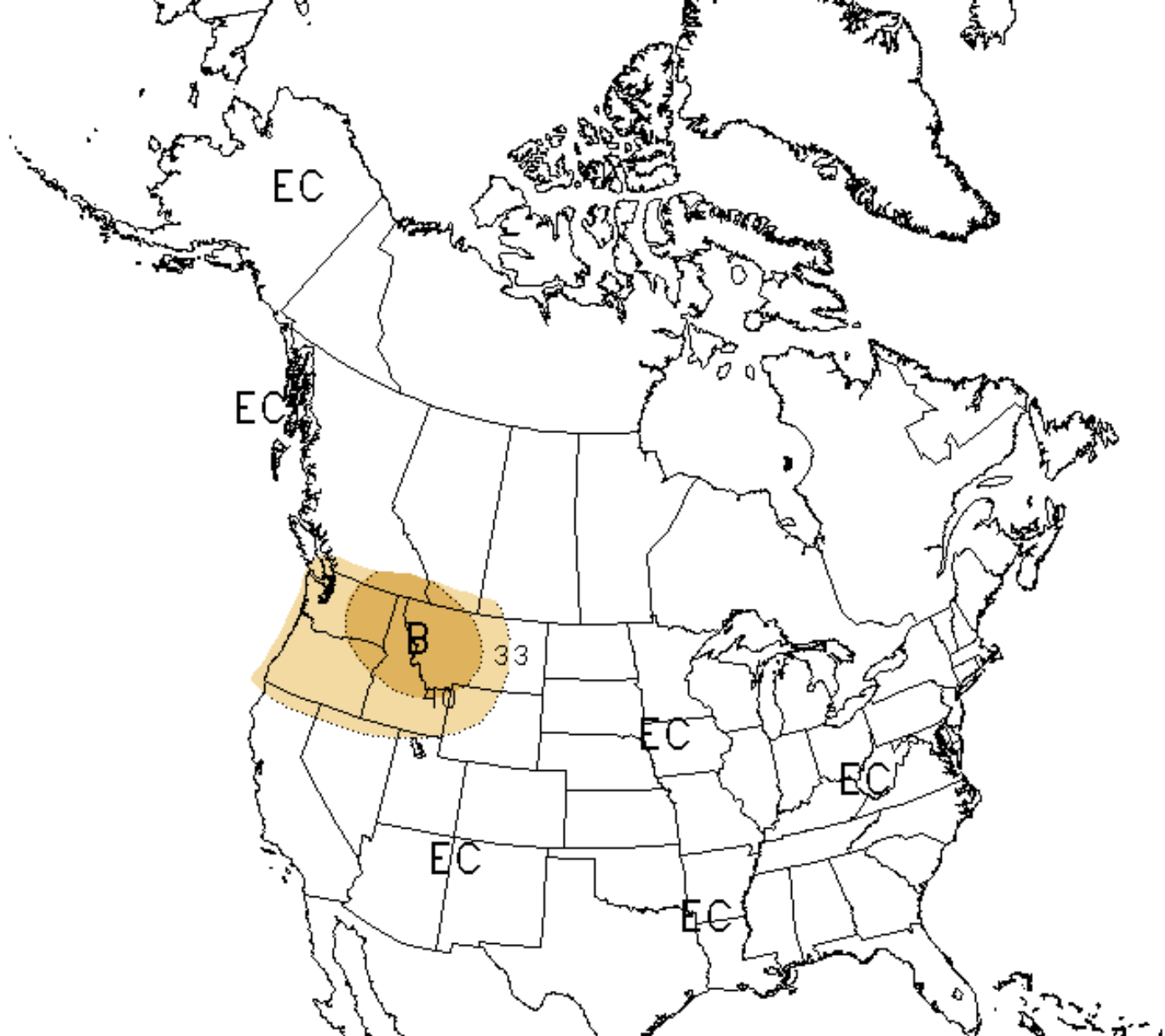


7-day Average Centered on 30 May 2012



Mid-May 2012 Plume of Model ENSO Predictions





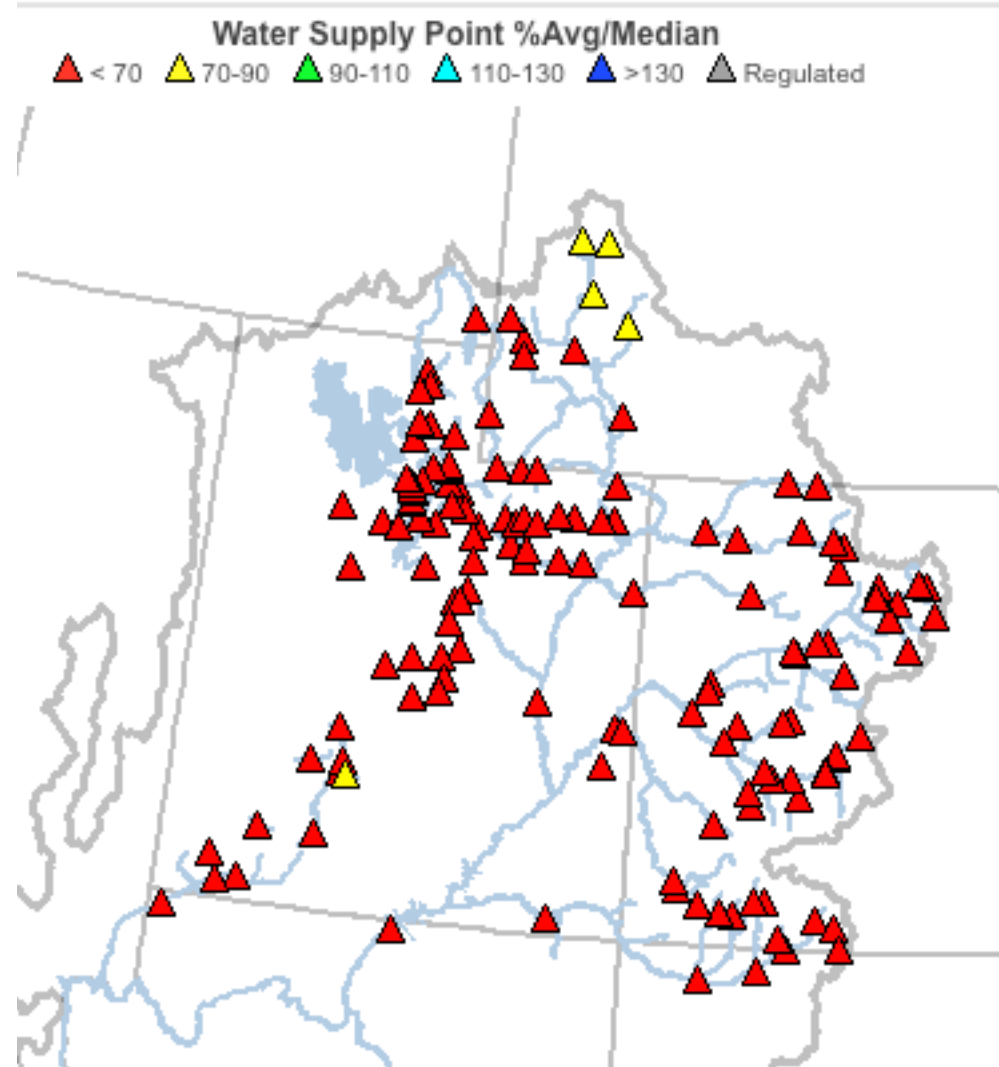
THREE-MONTH OUTLOOK
 PRECIPITATION PROBABILITY
 0.5 MONTH LEAD
 VALID JJA 2012
 MADE 17 MAY 2012

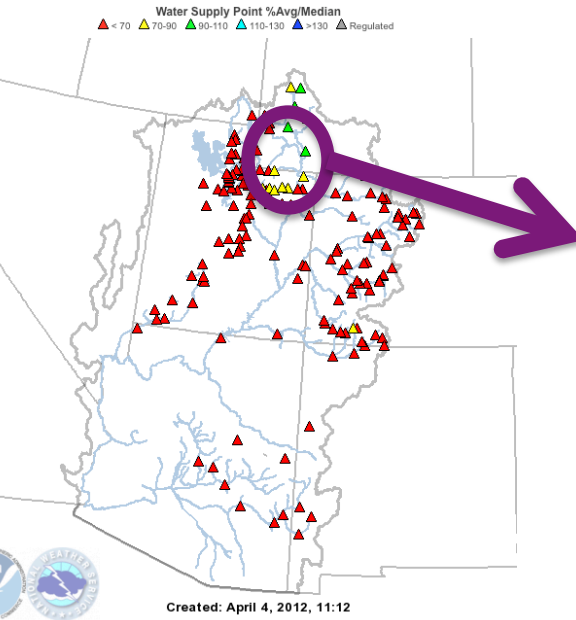
EC MEANS EQUAL
 CHANCES FOR A, N, B
 A MEANS ABOVE
 N MEANS NORMAL
 B MEANS BELOW

June 2012 Water Supply Forecasts

Highlights:

- Reductions – albeit not as much as the April and May forecasts – everywhere.





Created: April 4, 2012, 11:12

Seasonal Water Supply Forecast

560 kaf
50% Exceedence (Official Forecast)

67%
of Historical Median

57%
of Historical Mean

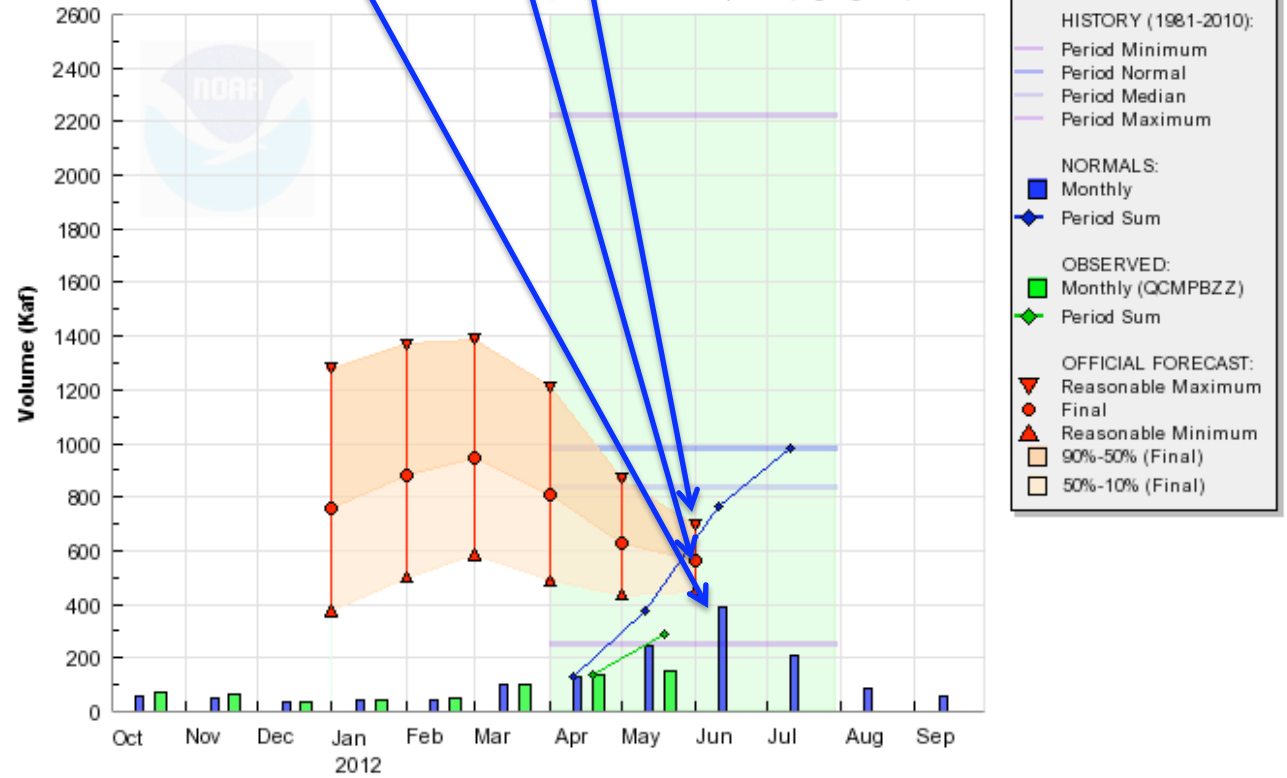
450 kaf (90% Exceedence) **695 kaf** (50% Exceedence)

63rd of 72
Official Historical Flows

Forecast Issued: Jun 1 2012 [View Water Supply Forecast Plot](#)

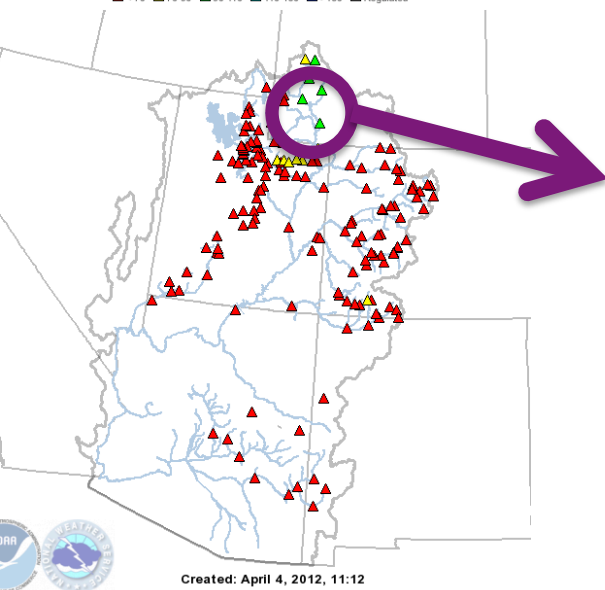
GREEN - FLAMING GORGE RES, FLAMING GORGE DAM, AT (GRNL1)

Water Year 2012, Forecast Period Apr-Jul (highlighted)



CBRFC/NWS/NOAA 06/06/12 16:33:23 UTC

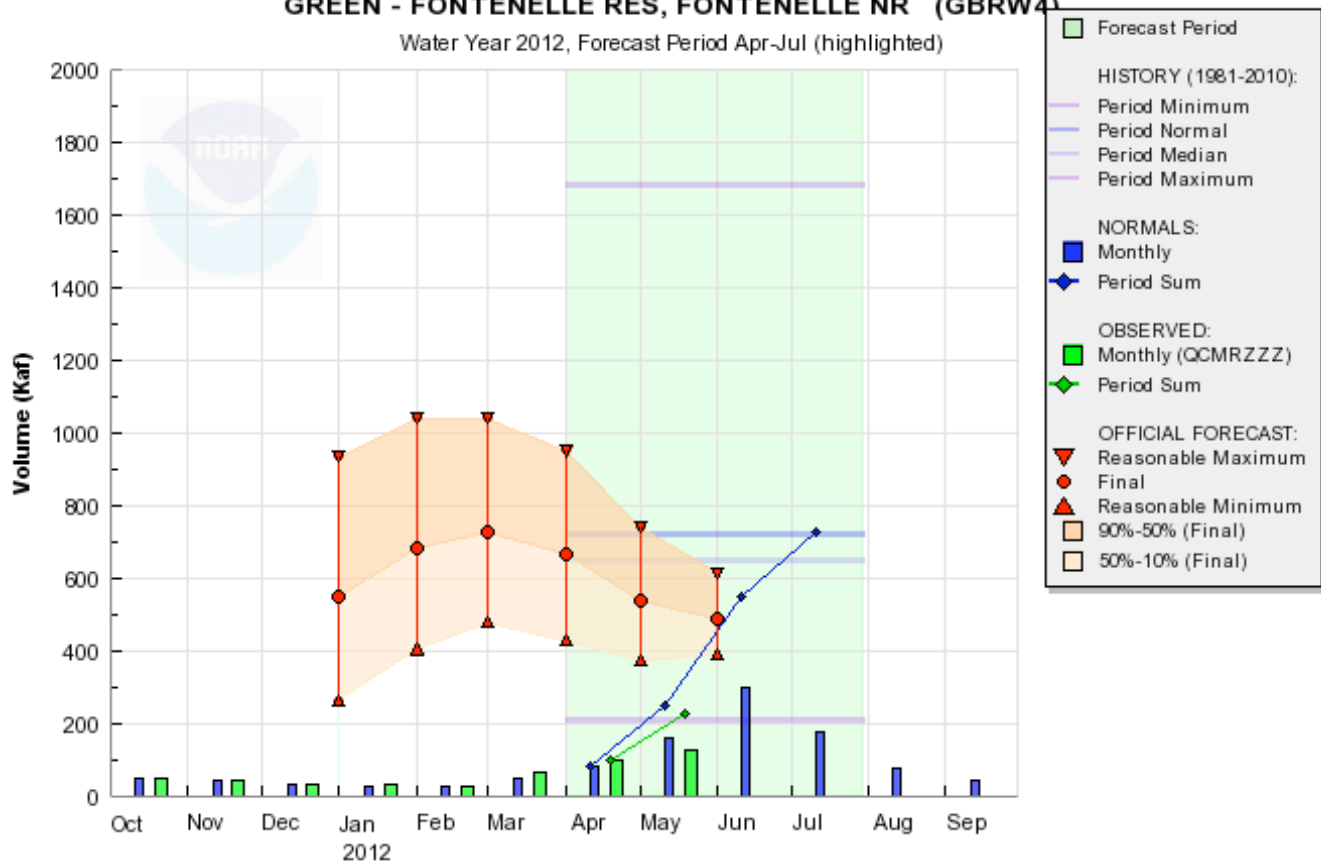
Web Reference: www.cbrfc.noaa.gov/gmap/gmapm.php?wcon=checked



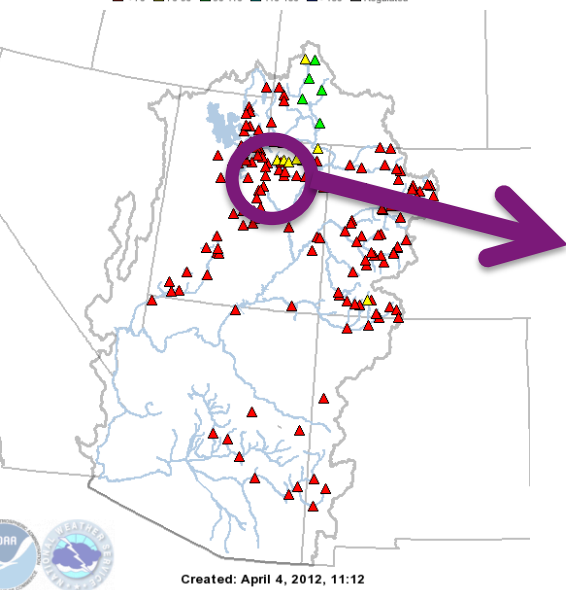
| | | | |
|--|--|--|--|
| <h2>490 kaf</h2> <p>50% Exceedence (Official Forecast)</p> | | <h2>75%</h2> <p>of Historical Median</p> | <h2>68%</h2> <p>of Historical Mean</p> |
| <h2>390 kaf</h2> <p>90% Exceedence</p> | <h2>615 kaf</h2> <p>10% Exceedence</p> | <h2>41st of 54</h2> <p>Official Historical Flows</p> | |
| <p>Forecast Issued: Jun 1 2012</p> | | <p>View Water Supply Forecast Plot</p> | |

GREEN - FONTENELLE RES, FONTENELLE NR (GBRW4)

Water Year 2012, Forecast Period Apr-Jul (highlighted)



Web Reference: www.cbrfc.noaa.gov/gmap/gmapm.php?wcon=checked



Created: April 4, 2012, 11:12

Seasonal Water Supply Forecast ?

Forecast Period: Apr-Jul

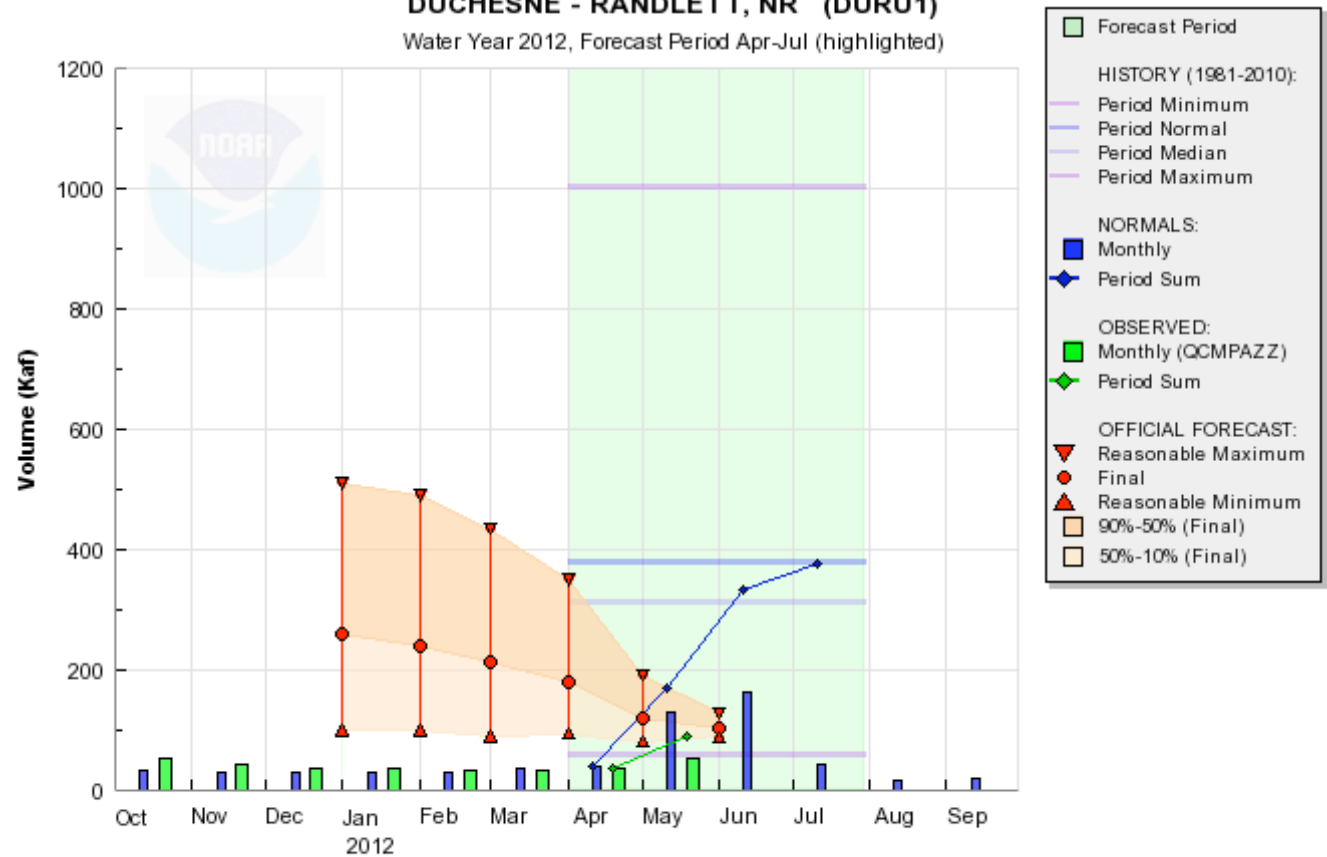
| | | | |
|--|----------------------------------|--|----------------------------------|
| 104 kaf 50% Exceedence (Official Forecast) | | 33% of Historical Median | 27% of Historical Mean |
| 89 kaf 90% Exceedence | 129 kaf 10% Exceedence | 57th of 70 Official Historical Flows | |

Forecast Issued: Jun 1 2012

[View Water Supply Forecast Plot](#)

DUCHESNE - RANDLETT, NR (DURU1)

Water Year 2012, Forecast Period Apr-Jul (highlighted)

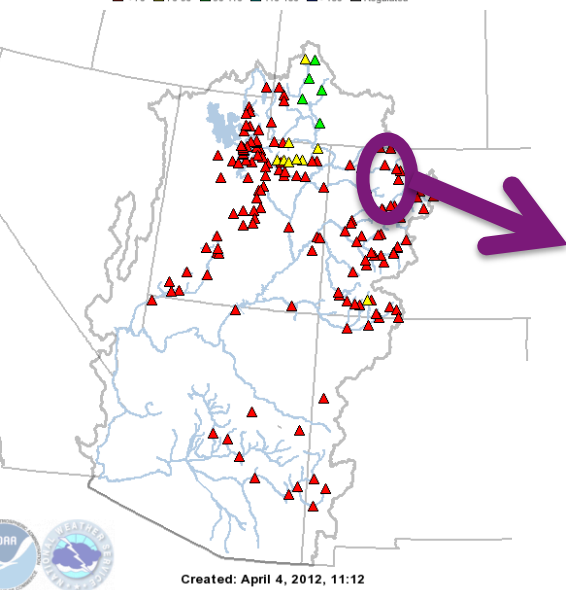


CBRFC/NWS/NOAA 06/06/12 17:01:05 UTC

Web Reference: www.cbrfc.noaa.gov/gmap/gmapm.php?wcon=checked

Seasonal Water Supply Forecast ?

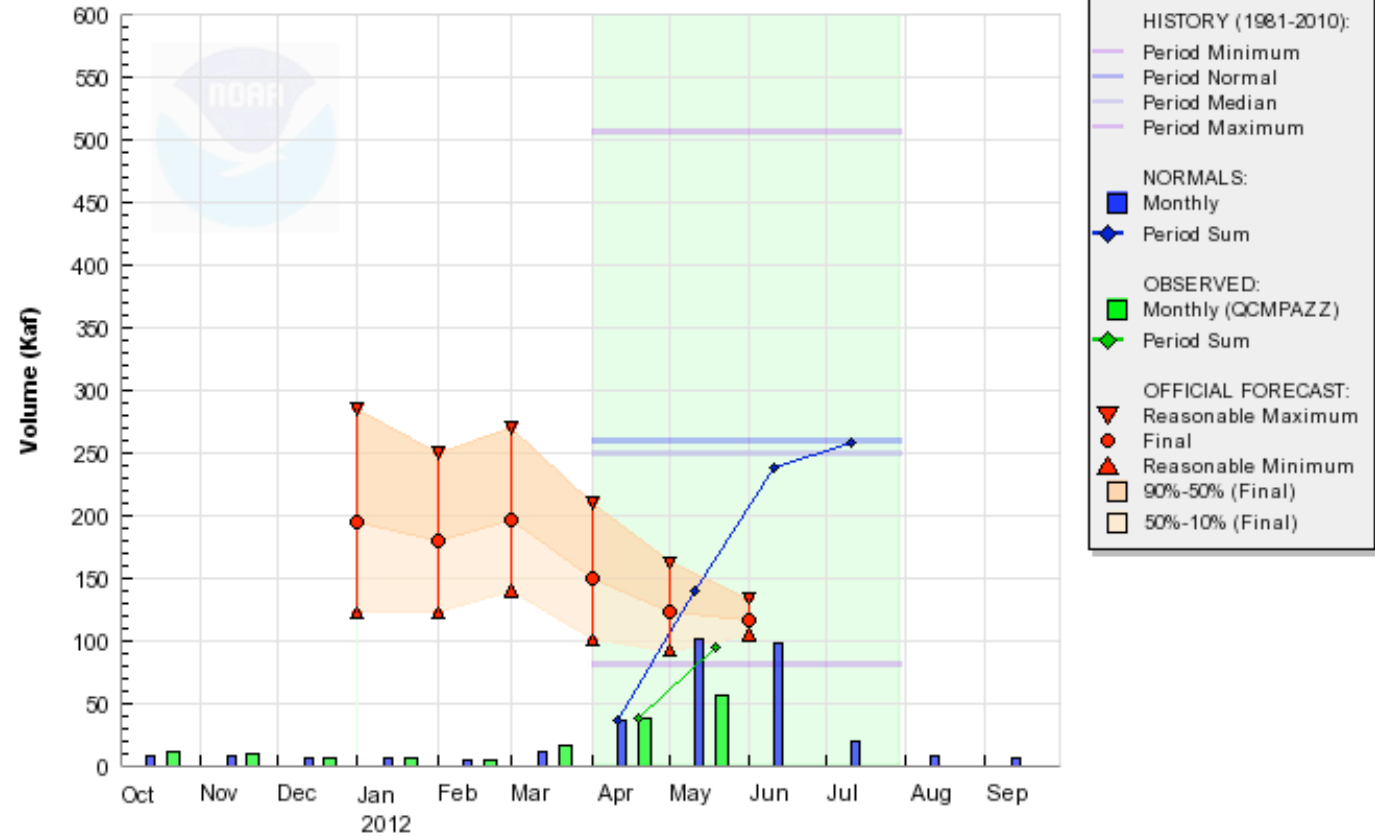
Forecast Period: Apr-Jul



| | | | |
|--|--|---|--|
| <h2>117 kaf</h2> <p>50% Exceedence (Official Forecast)</p> | | <h2>47%</h2> <p>of Historical Median</p> | <h2>45%</h2> <p>of Historical Mean</p> |
| <h2>105 kaf</h2> <p>90% Exceedence</p> | <h2>134 kaf</h2> <p>10% Exceedence</p> | <h2>98th of 102</h2> <p>Official Historical Flows</p> | |
| Forecast Issued: Jun 1 2012 | | View Water Supply Forecast Plot | |

YAMPA - STEAMBOAT SPRINGS (STMC2)

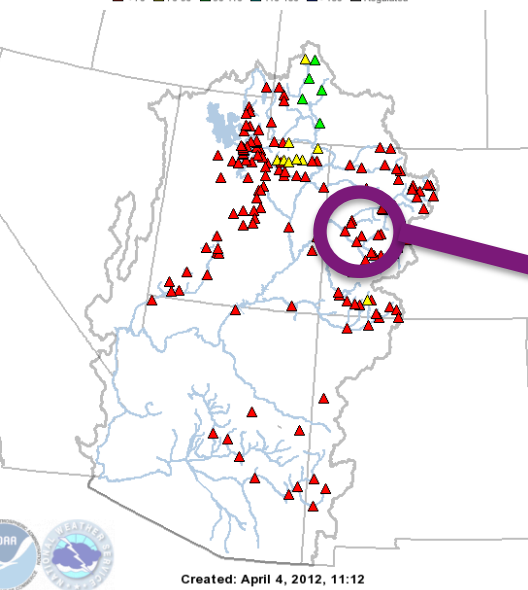
Water Year 2012, Forecast Period Apr-Jul (highlighted)



Created: April 4, 2012, 11:12

CBRFC/NWS/NOAA 06/06/12 17:01:40 UTC

Web Reference: www.cbrfc.noaa.gov/gmap/gmapm.php?wcon=checked



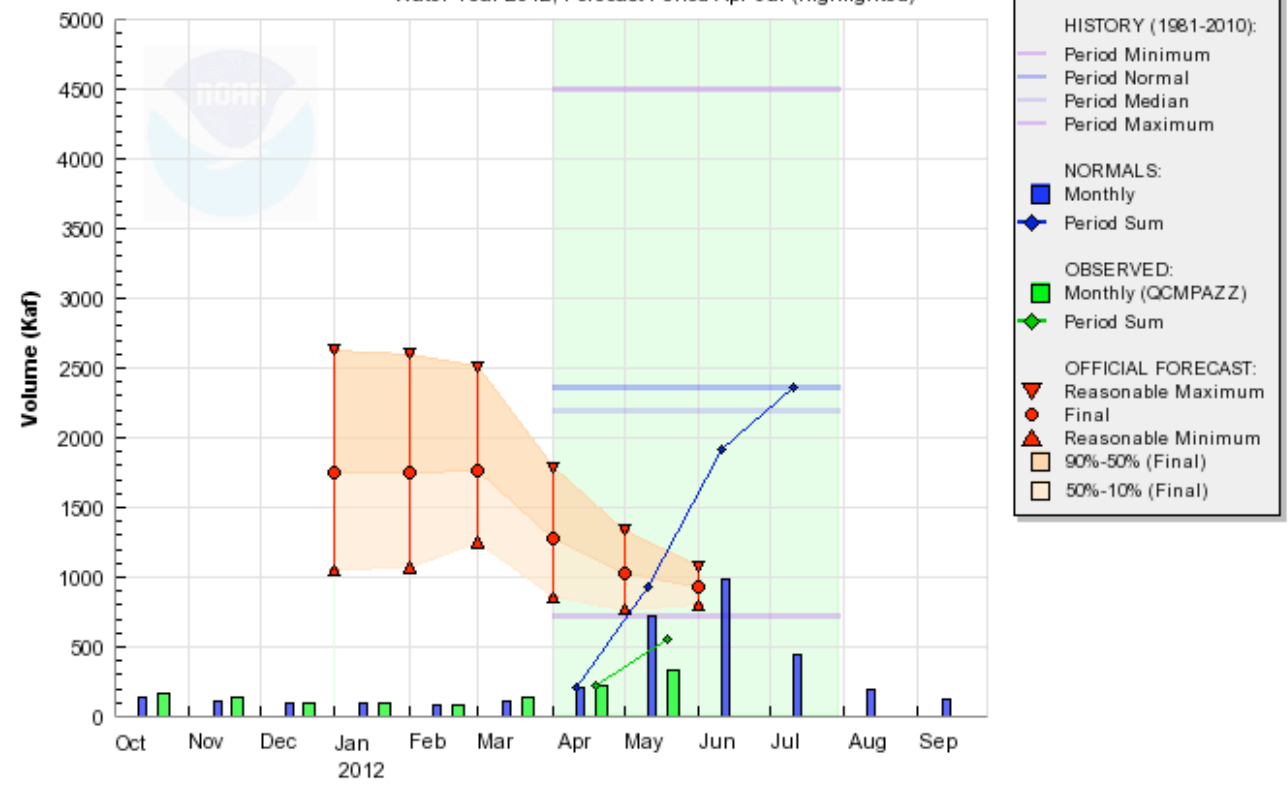
Seasonal Water Supply Forecast ?

Forecast Period: Apr-Jul

| | | | |
|--|-----------------------------------|---|----------------------------------|
| 930 kaf 50% Exceedence (Official Forecast) | | 43% of Historical Median | 39% of Historical Mean |
| 800 kaf 90% Exceedence | 1080 kaf 10% Exceedence | 77th of 79 Official Historical Flows | |
| Forecast Issued: Jun 1 2012 | | View Water Supply Forecast Plot | |

Created: April 4, 2012, 11:12

COLORADO - CAMEO, NR (CAMC2) Water Year 2012, Forecast Period Apr-Jul (highlighted)

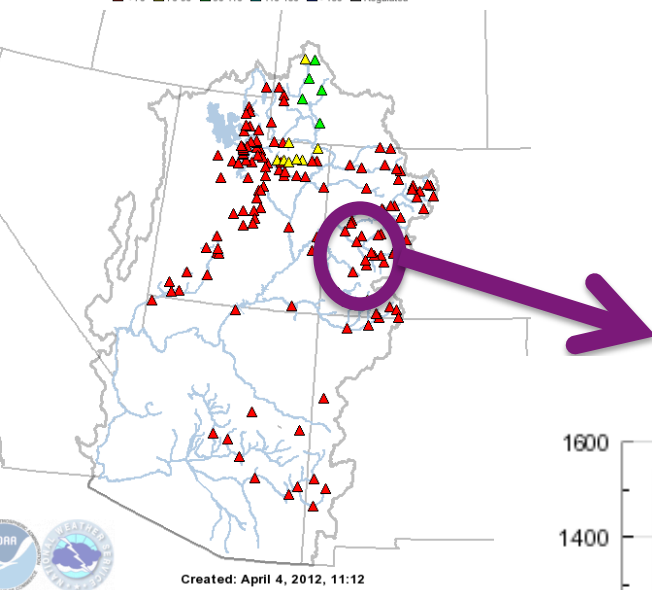


CBRFC/NWS/NOAA 06/06/12 16:34:44 UTC

Web Reference: www.cbrfc.noaa.gov/gmap/gmapm.php?wcon=checked

Seasonal Water Supply Forecast

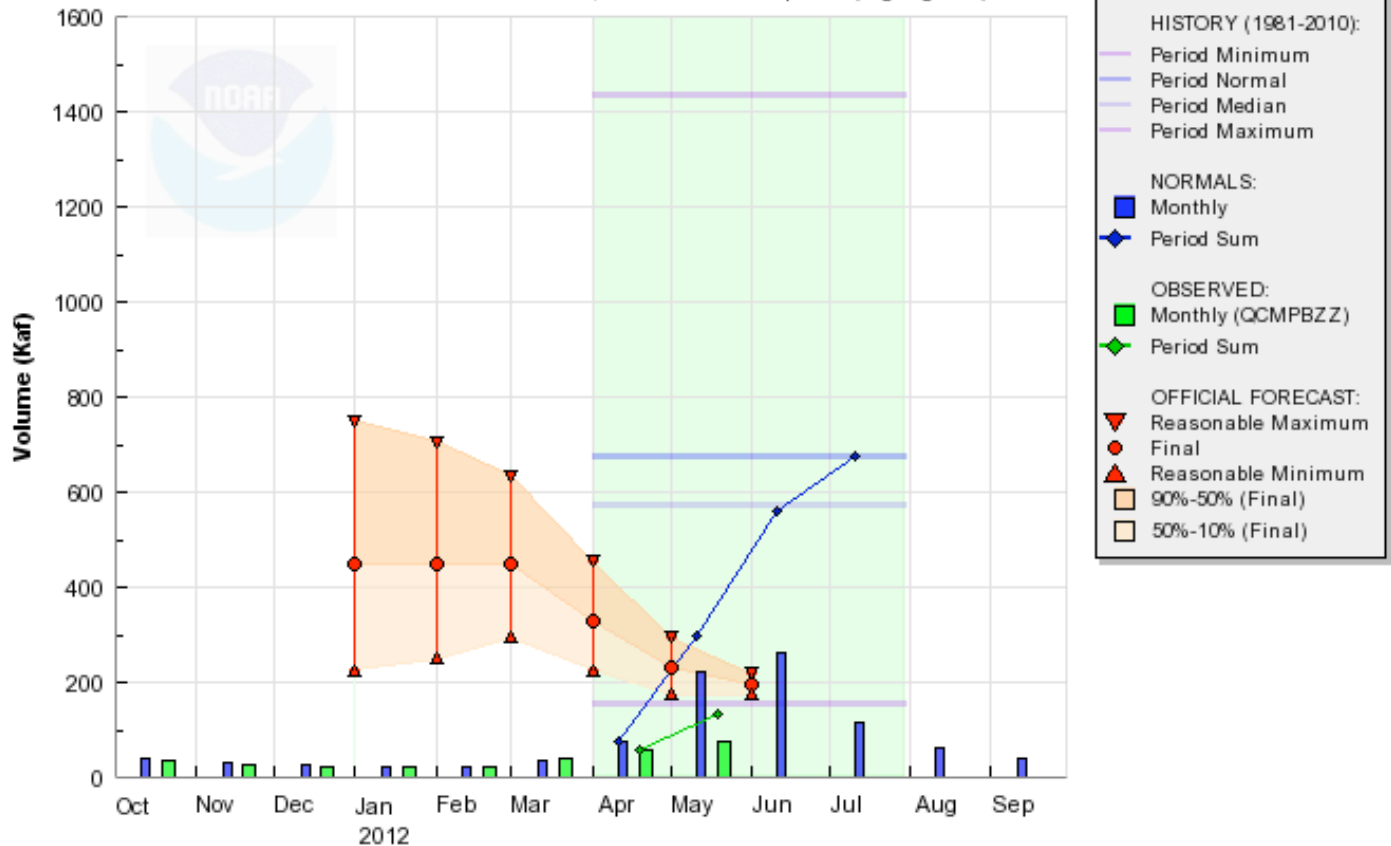
Forecast Period: Apr-Jul



| | | |
|--|------------------------------------|---|
| 196 kaf 50% Exceedence (Official Forecast) | 34% of Historical Median | 29% of Historical Mean |
| 174 kaf 90% Exceedence | 220 kaf 10% Exceedence | 40th of 42 Official Historical Flows |
| Forecast Issued: Jun 1 2012 | | View Water Supply Forecast Plot |

GUNNISON - BLUE MESA RES (BMDC2)

Water Year 2012, Forecast Period Apr-Jul (highlighted)

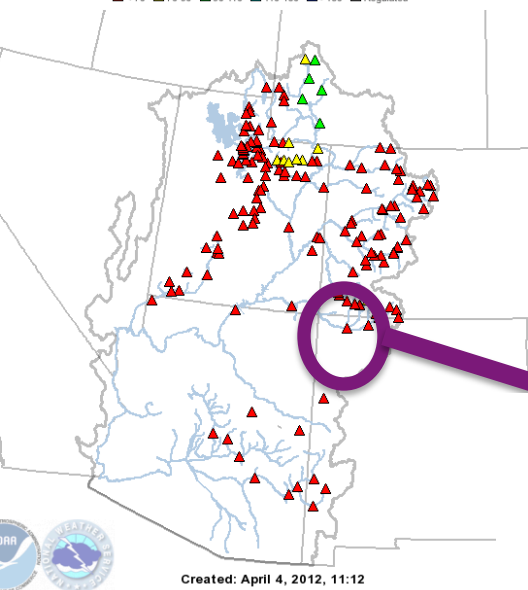


CBRFC/NWS/NOAA 06/06/12 16:39:28 UTC

Web Reference: www.cbrfc.noaa.gov/gmap/gmapm.php?wcon=checked

Seasonal Water Supply Forecast ?

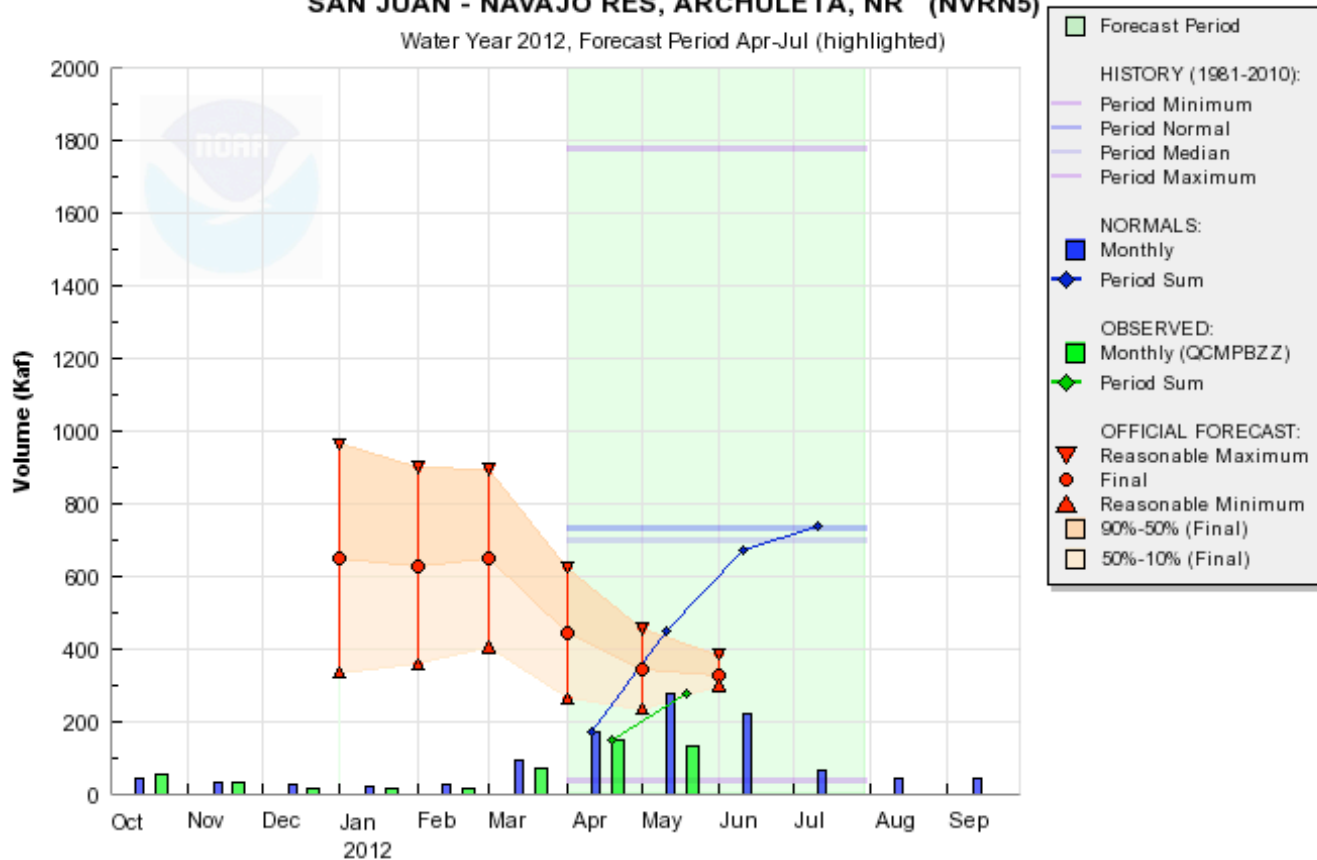
Forecast Period: Apr-Jul



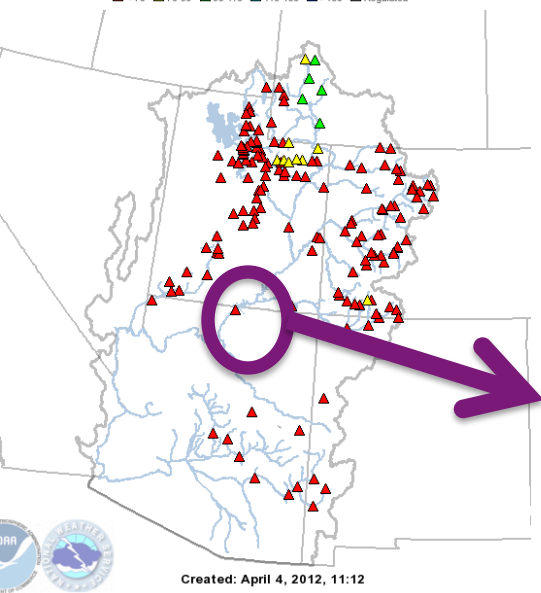
| | | | |
|--|----------------------------------|---|----------------------------------|
| 330 kaf 50% Exceedence (Official Forecast) | | 47% of Historical Median | 45% of Historical Mean |
| 300 kaf 90% Exceedence | 385 kaf 10% Exceedence | 55th of 65 Official Historical Flows | |
| Forecast Issued: Jun 1 2012 | | View Water Supply Forecast Plot | |

SAN JUAN - NAVAJO RES, ARCHULETA, NR (NVRN5)

Water Year 2012, Forecast Period Apr-Jul (highlighted)



Created: April 4, 2012, 11:12



Created: April 4, 2012, 11:12

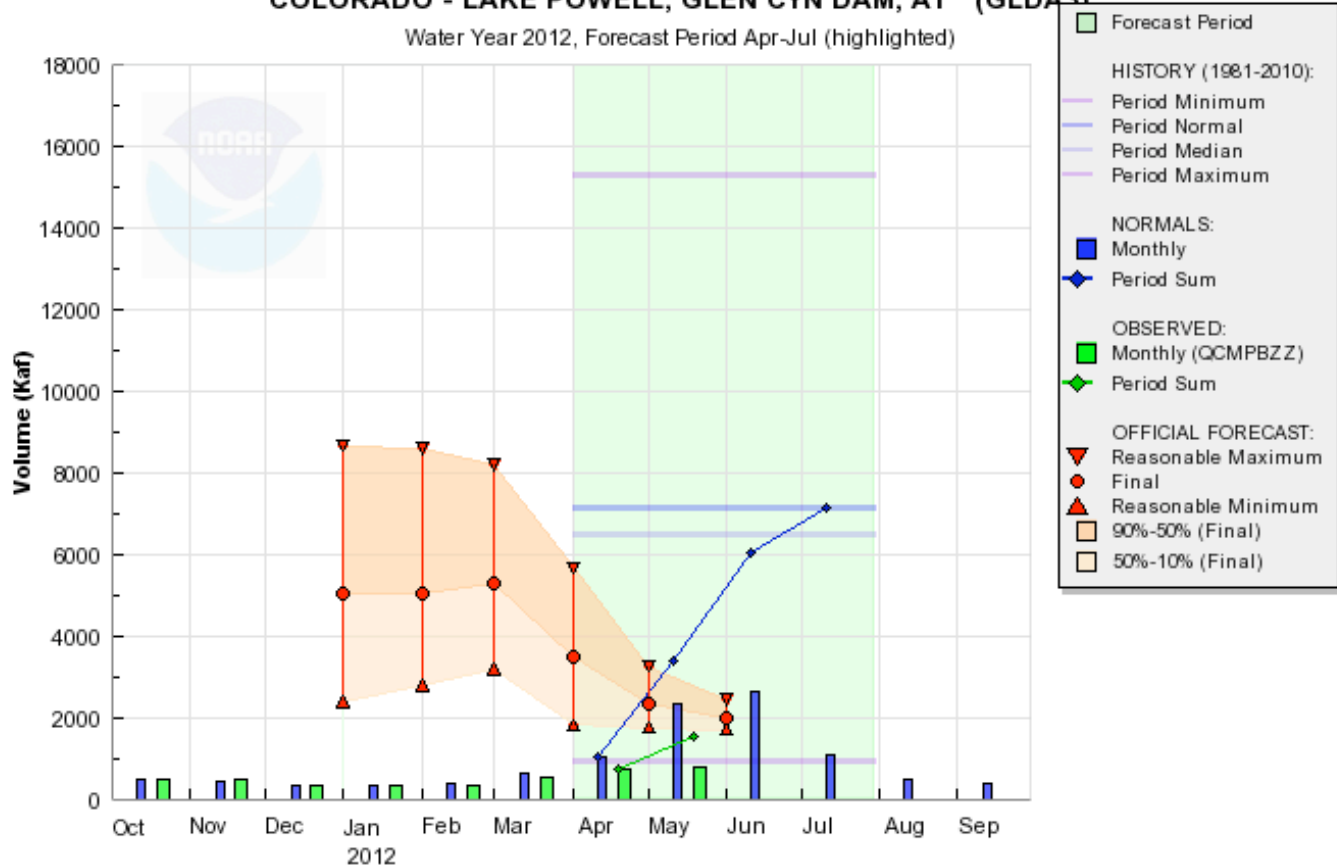
Seasonal Water Supply Forecast ?

Forecast Period: Apr-Jul

| | | | |
|---|---|--|--|
| <h2>2010 kaf</h2> <p>50% Exceedence (Official Forecast)</p> | | <h2>31%</h2> <p>of Historical Median</p> | <h2>28%</h2> <p>of Historical Mean</p> |
| <h2>1710 kaf</h2> <p>90% Exceedence</p> | <h2>2450 kaf</h2> <p>10% Exceedence</p> | <h2>100th of 103</h2> <p>Official Historical Flows</p> | |
| <p>Forecast Issued: Jun 1 2012</p> | | <p>View Water Supply Forecast Plot</p> | |

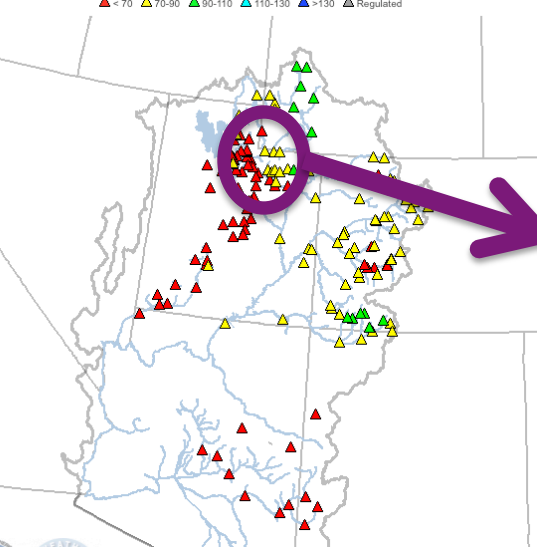
COLORADO - LAKE POWELL, GLEN CYN DAM, AT (GLDA3)

Water Year 2012, Forecast Period Apr-Jul (highlighted)



| Rank | Year | Flow (kaf) | Percent Mean |
|------|------|------------|--------------|
| 1 | 1917 | 15,739.00 | 219.8 |
| 2 | 1984 | 15,406.41 | 215.2 |
| 3 | 1983 | 14,838.93 | 207.2 |
| 4 | 1920 | 14,731.00 | 205.7 |
| 5 | 1921 | 14,183.00 | 198.1 |
| 6 | 1952 | 13,814.00 | 192.9 |
| 7 | 1914 | 13,356.00 | 186.5 |
| 8 | 1957 | 13,057.00 | 182.4 |
| 9 | 1986 | 12,601.21 | 176.0 |
| 10 | 2011 | 12,584.32 | 175.8 |

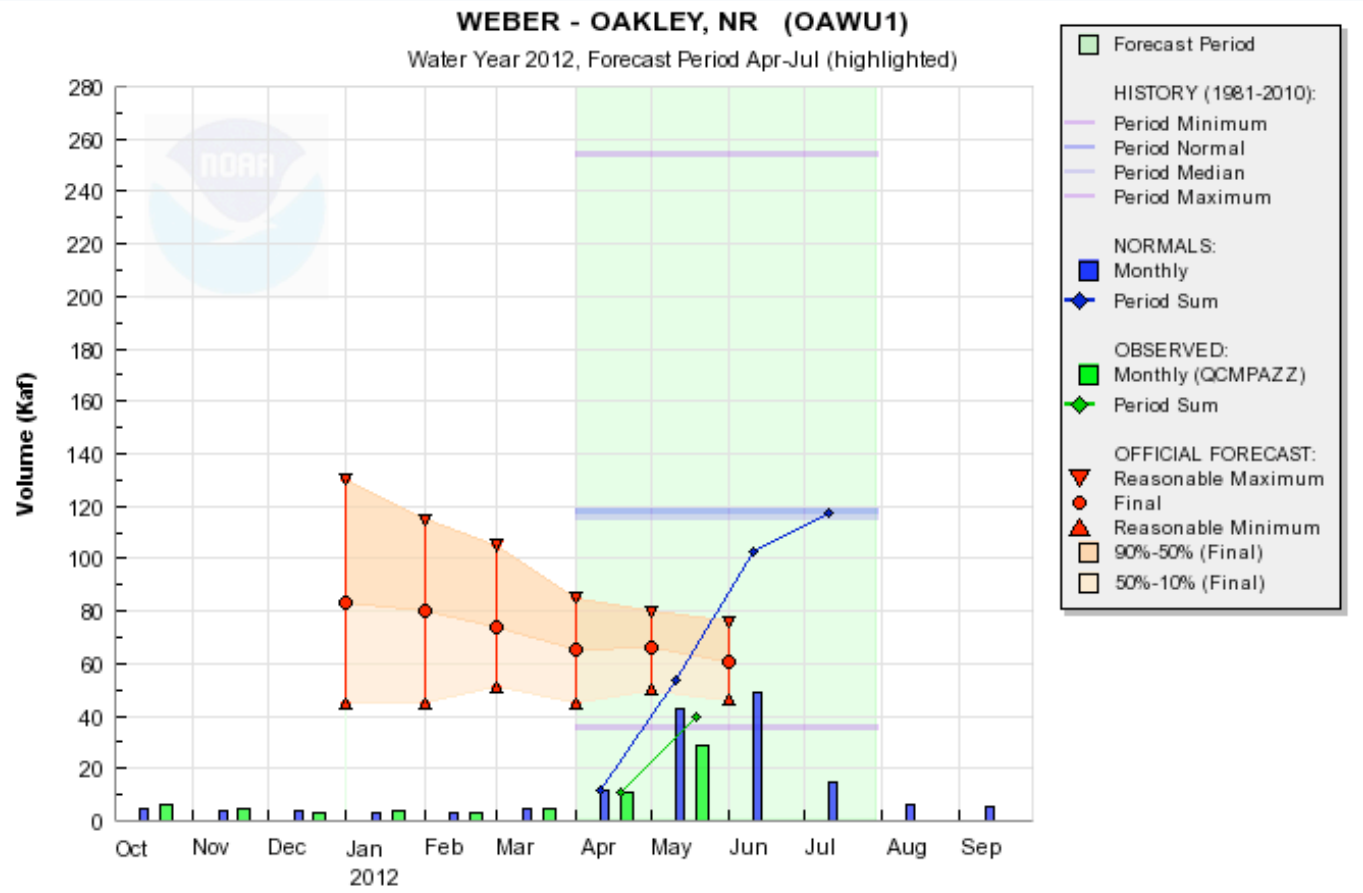
| | | | |
|-----------------|-------------|-----------------|-------------|
| 80 | 1946 | 5,127.00 | 71.6 |
| 81 | 1966 | 4,712.44 | 65.8 |
| 82 | 1988 | 4,567.47 | 63.8 |
| 83 | 2000 | 4,367.05 | 61.0 |
| 84 | 1955 | 4,345.00 | 60.7 |
| 85 | 2001 | 4,300.30 | 60.1 |
| 86 | 1940 | 4,263.00 | 59.5 |
| 87 | 1992 | 4,124.42 | 57.6 |
| 88 | 1959 | 4,063.00 | 56.7 |
| 89 | 2007 | 4,053.47 | 56.6 |
| 90 | 2003 | 3,917.41 | 54.7 |
| 91 | 1994 | 3,766.48 | 52.6 |
| 92 | 1961 | 3,677.00 | 51.4 |
| 93 | 2004 | 3,542.01 | 49.5 |
| 94 | 1989 | 3,524.63 | 49.2 |
| 95 | 1954 | 3,289.00 | 45.9 |
| 96 | 1963 | 3,274.48 | 45.7 |
| 97 | 1990 | 3,228.85 | 45.1 |
| 98 | 1931 | 3,172.00 | 44.3 |
| 99 | 1981 | 3,058.61 | 42.7 |
| Forecast | 2012 | 2,010.00 | 28.1 |
| 100 | 1934 | 1,872.00 | 26.1 |
| 101 | 1977 | 1,277.39 | 17.8 |
| 102 | 2002 | 1,098.45 | 15.3 |



Seasonal Water Supply Forecast ?

Forecast Period: Apr-Jul

| | | | |
|---|---|--|--|
| <p>61 kaf 50% Exceedence (Official Forecast)</p> | | <p>53% of Historical Median</p> | <p>52% of Historical Mean</p> |
| <p>46 kaf 90% Exceedence</p> | <p>76 kaf 10% Exceedence</p> | <p>102nd of 108 Official Historical Flows</p> | |
| <p>Forecast Issued: Jun 1 2012</p> | | <p>View Water Supply Forecast Plot</p> | |

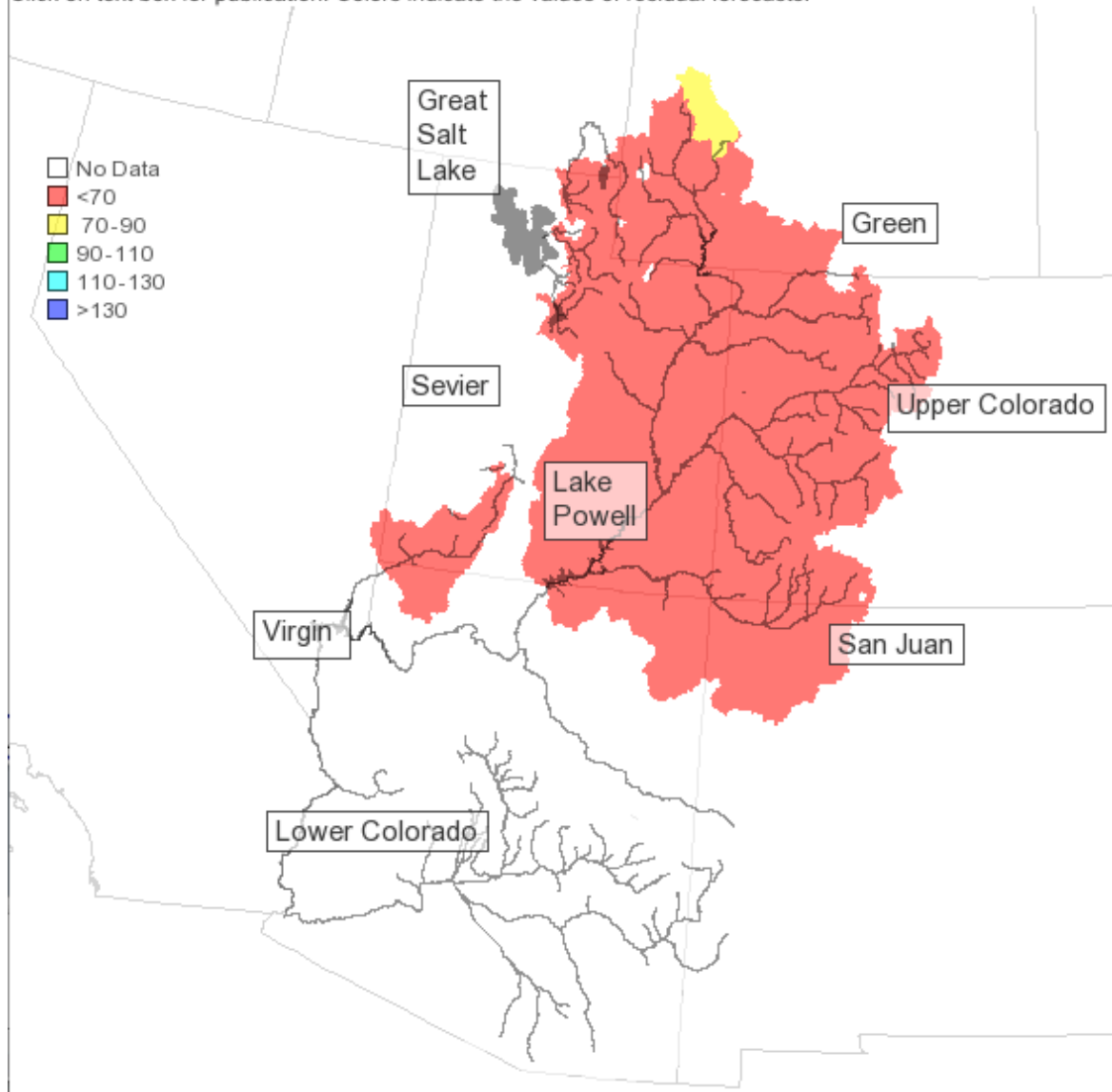


Online Publication

Water Supply Outlook, May 1, 2012

New 1981-2010 Averages being used this year.

Click on text box for publication. Colors indicate the values of residual forecasts.



Web Reference: www.cbrfc.noaa.gov/wsup/pub2/map/html/cpub.php

Upper Colorado Water Supply Outlook, January 1, 2011

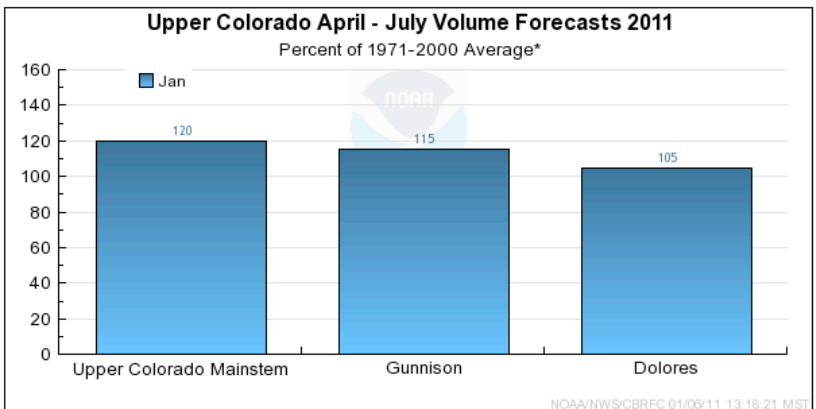


Prepared by Brenda Alcorn, Tracy Cox
 NOAA, National Weather Service
 Colorado Basin River Forecast Center
 Salt Lake City, Utah
www.cbrfc.noaa.gov

Contents

- Upper Colorado Summary
- Upper Colorado Mainstem Basin Conditions
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- Dolores Basin Conditions
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- Reservoir Contents
- Monthly Streamflows
- Precipitation Maps
- Definitions
- Additional Information
- Questions or Comments

Upper Colorado Summary



*Median of forecasts within each basin.

Click site name for graph.

| | Forecast Period | 90% Exceedance Volume | 50% Exceedance Volume | Percent Average | 10% Exceedance Volume |
|---------------------------------|-----------------|-----------------------|-----------------------|-----------------|-----------------------|
| Colorado | | | | | |
| Lake Granby, Granby, Nr | April-July | 200 | 280 | 124 | 370 |
| Willow Ck | | | | | |
| Willow Ck Res, Granby, Nr | April-July | 44 | 70 | 137 | 102 |
| Fraser | | | | | |
| Winter Park | April-July | 15 | 23 | 115 | 29 |
| Williams Fork | | | | | |
| Williams Fork Res, Parshall, Nr | April-July | 76 | 110 | 116 | 150 |
| Muddy Ck | | | | | |
| Wolford Mtn Res, Blo | April-July | 46 | 76 | 127 | 114 |
| Blue | | | | | |
| Dillon Res | April-July | 134 | 200 | 120 | 280 |
| Green Mtn Res | April-July | 225 | 335 | 120 | 465 |
| Colorado | | | | | |
| Kremmling, Nr | April-July | 725 | 1070 | 123 | 1450 |
| Eagle | | | | | |
| Gypsum, Blo | April-July | 250 | 380 | 113 | 535 |
| Colorado | | | | | |
| Dotsero, Nr | April-July | 1140 | 1720 | 119 | 2410 |
| Frying Pan | | | | | |
| Ruedi Res, Basalt, Nr | April-July | 112 | 160 | 113 | 215 |
| Roaring Fork | | | | | |
| Glenwood Springs | April-July | 570 | 840 | 118 | 1160 |
| Colorado | | | | | |
| Glenwood Springs, Blo | April-July | 1700 | 2560 | 119 | 3600 |
| Cameo, Nr | April-July | 1980 | 2910 | 120 | 4020 |
| Plateau Ck | | | | | |
| Cameo, Nr | April-July | 100 | 160 | 139 | 250 |
| Colorado | | | | | |
| Cisco, Nr | April-July | 3640 | 5620 | 121 | 8020 |
| Mill Ck | | | | | |
| Moab, Nr, Sheley Tun, At | April-July | 2.9 | 6 | 120 | 10.8 |
| Colorado | | | | | |
| Lake Powell, Glen Cyn Dam, At | April-July | 5860 | 9500 | 120 | 14000 |

CBRFC News

- Basin Focal Points (Available to discuss forecasts: 801.524.5130)
 - Upper Colorado: Brenda Alcorn / John Lhotak
 - Green: Ashley Nielson
 - San Juan / Gunnison: Greg Smith
 - Great Basin: Brent Bernard
 - Sevier / Virgin: Stacie Bender
 - Lower Colorado (below Lake Powell): Tracy Cox
- Future Webinars:
 - May 17 at 1pm MDT focus on peaks
 - June 6 at 1pm MDT focus on water supply

2012 CBRFC Stakeholder Forum

- July 31, 2012
- SLC, UT
- Theme: Observing System
- More details:
[www.cbrfc.noaa.gov/present/
2012/2012forum.htm](http://www.cbrfc.noaa.gov/present/2012/2012forum.htm)
- Contact: kevin.werner@noaa.gov

More Resources

- www.cbrfc.noaa.gov
- Wateroutlook.nwrfc.noaa.gov
- Next Webinar: ~November 2012 Year in Review

Feedback, Questions, Concerns always welcome....



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