

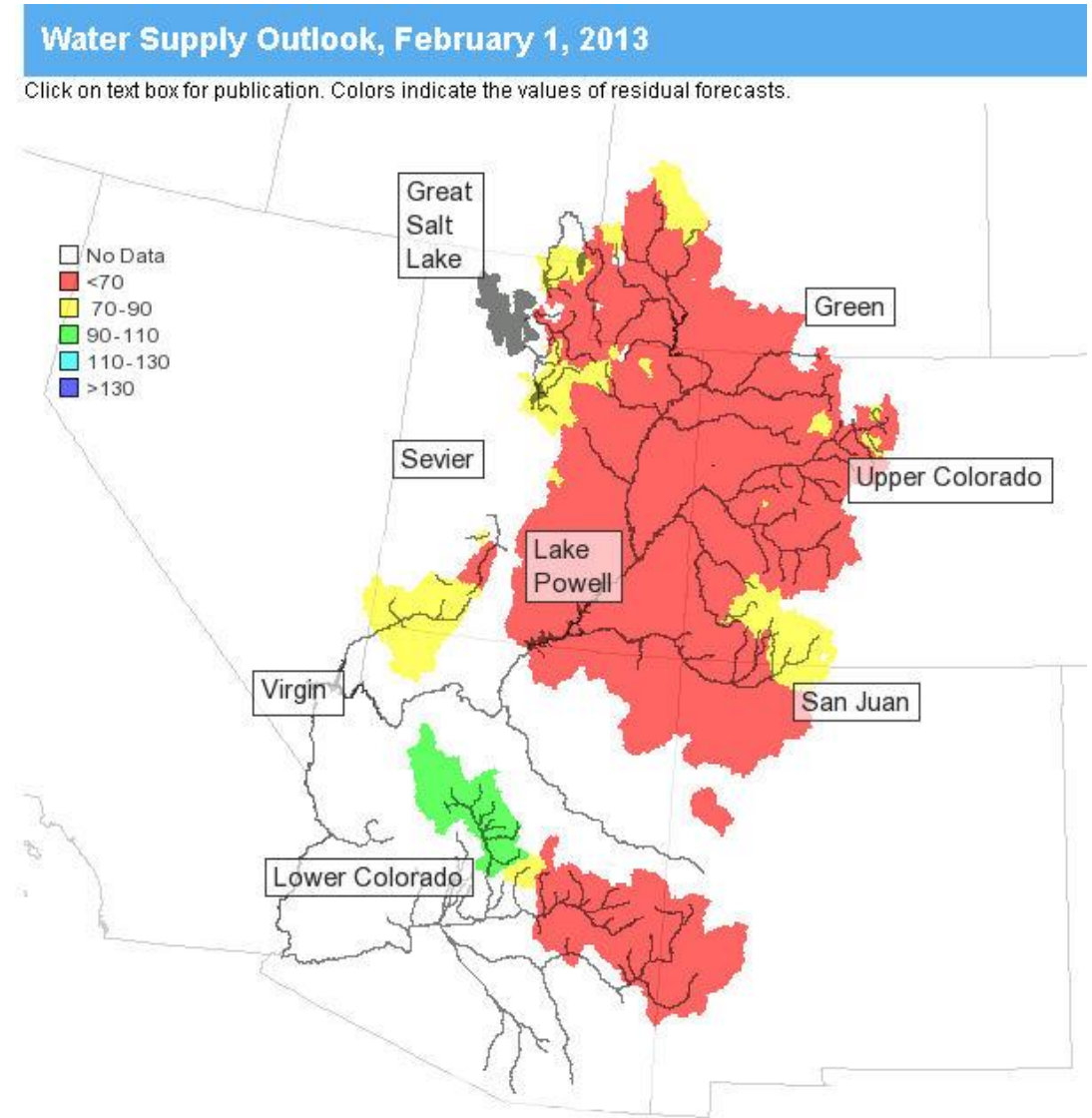
CBRFC
February 2013
Water Supply Webinar

February 6, 2013

Brenda Alcorn

Outline

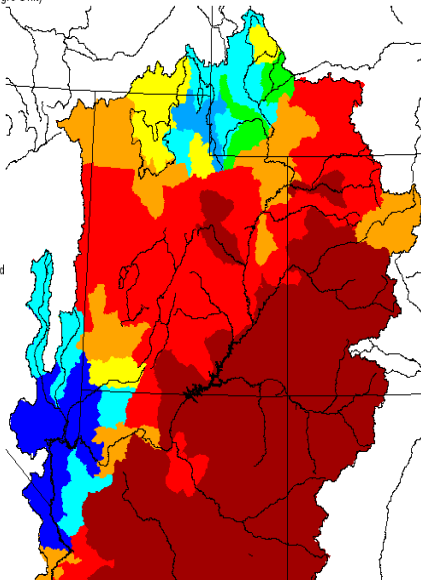
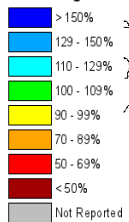
- January Weather Review
- Snow States
- Water Supply Forecasts



Monthly Precipitation for October 2012

(Averaged by Hydrologic Unit)

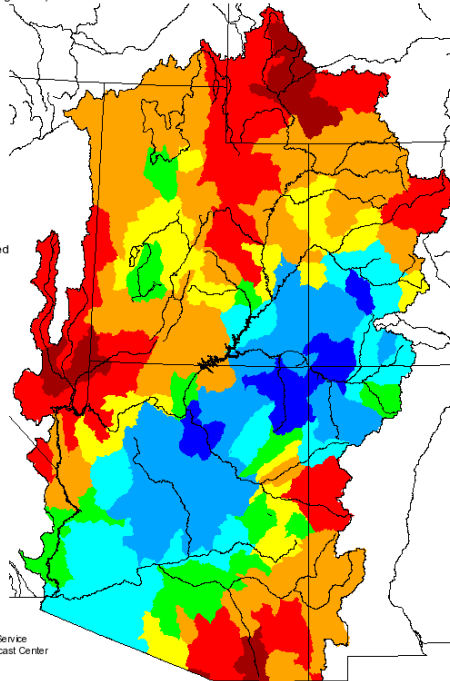
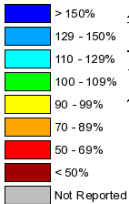
% Average



Monthly Precipitation for January 2013

(Averaged by Hydrologic Unit)

% Average

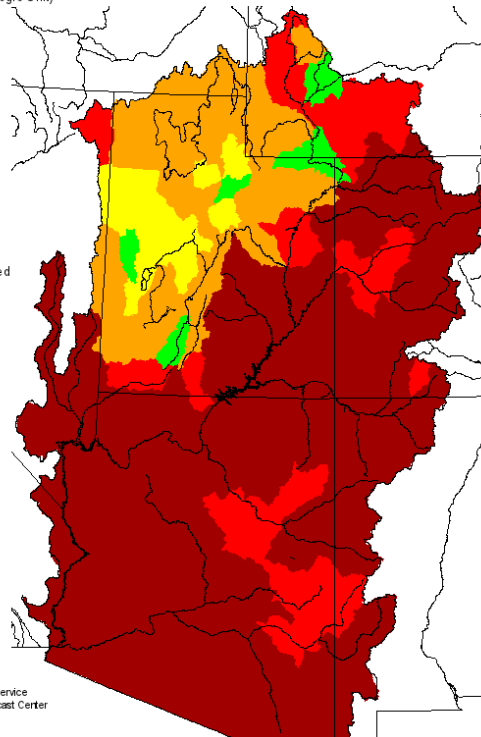
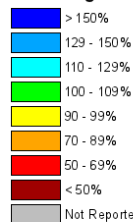


Prepared by
 NOAA, National Weather Service
 Colorado Basin River Forecast Center
 Salt Lake City, Utah
www.cbrfc.noaa.gov

Monthly Precipitation for November 2012

(Averaged by Hydrologic Unit)

% Average

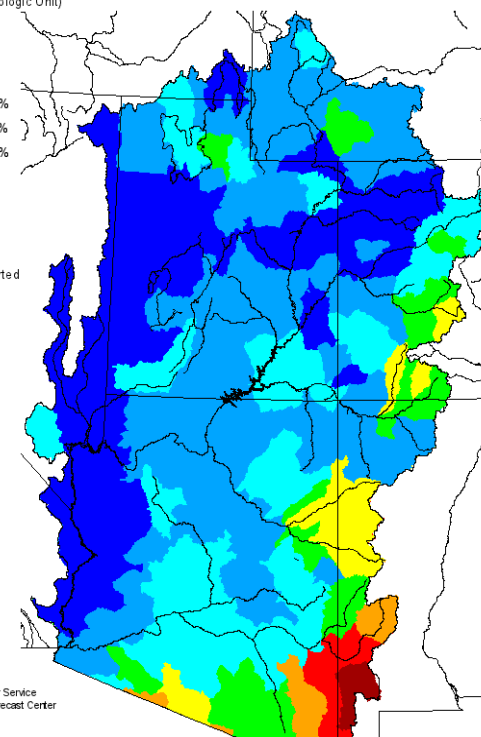
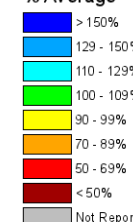


Prepared by
 NOAA, National Weather Service
 Colorado Basin River Forecast Center
 Salt Lake City, Utah
www.cbrfc.noaa.gov

Monthly Precipitation for December 2012

(Averaged by Hydrologic Unit)

% Average

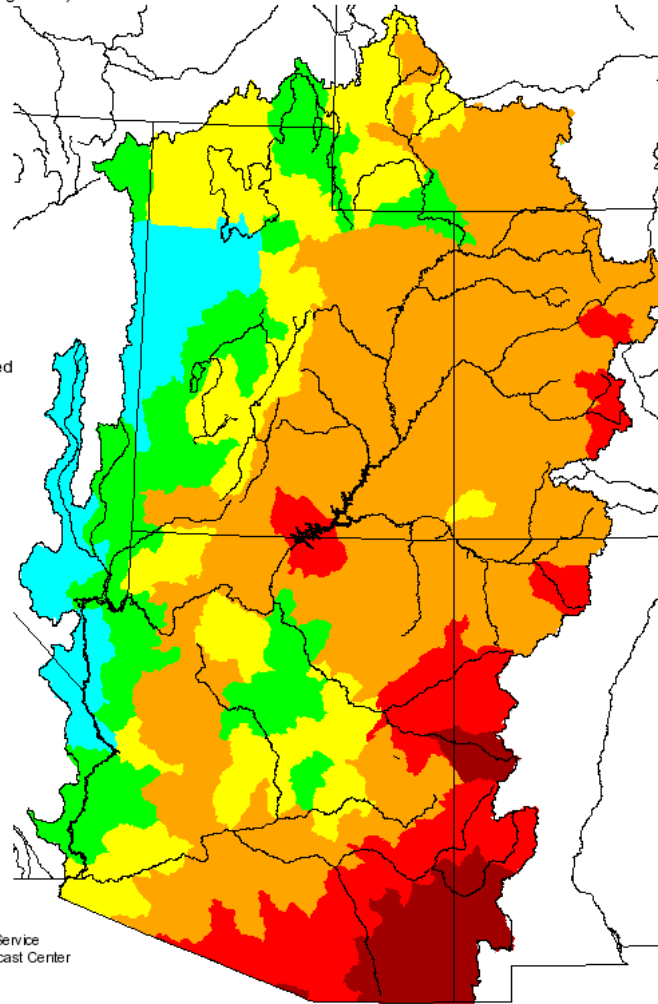
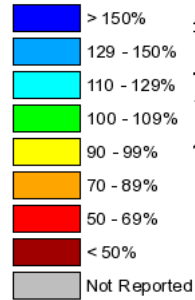


Prepared by
 NOAA, National Weather Service
 Colorado Basin River Forecast Center
 Salt Lake City, Utah
www.cbrfc.noaa.gov

Seasonal Precipitation, October 2012 - January 2013

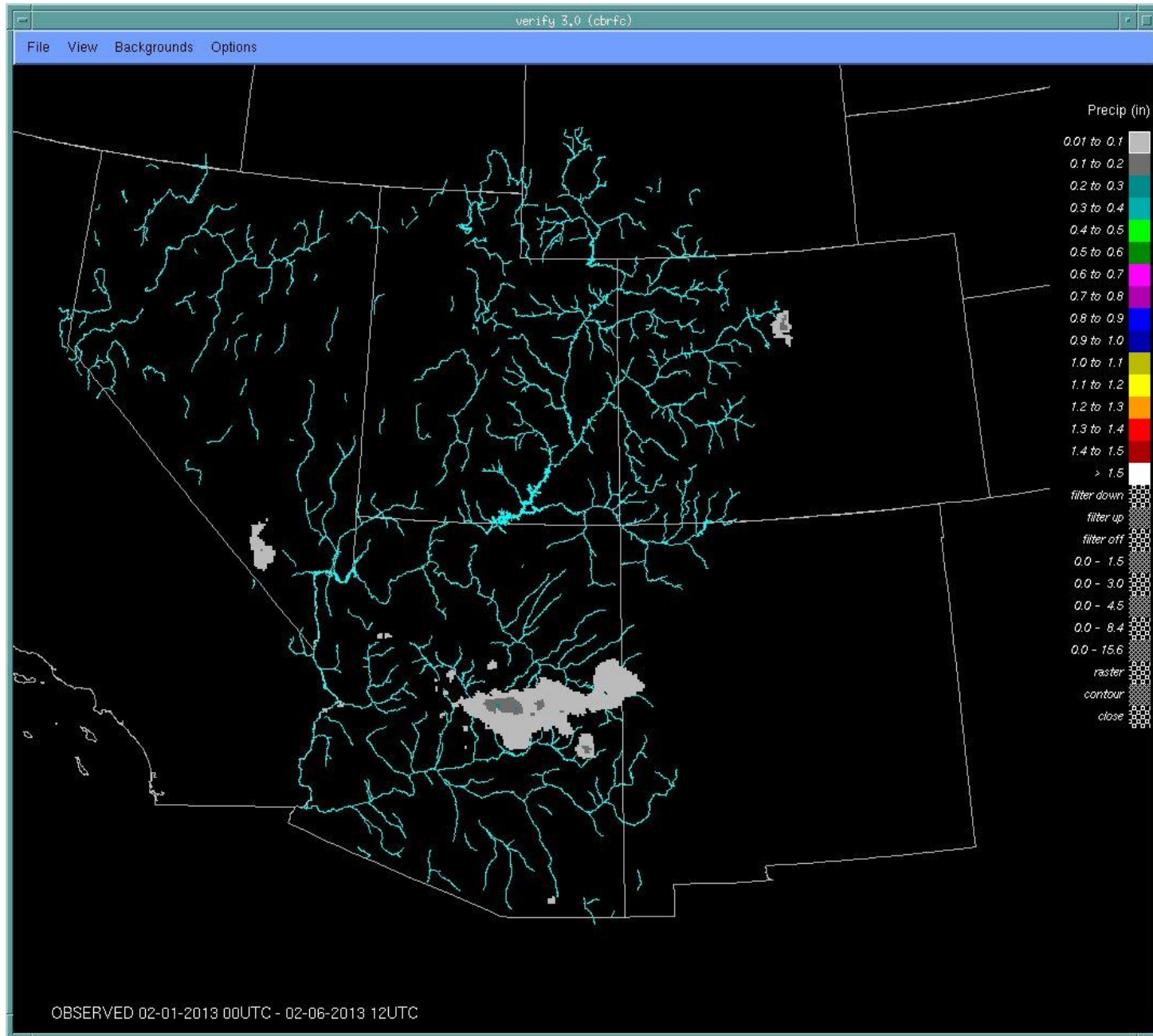
(Averaged by Hydrologic Unit)

% Average



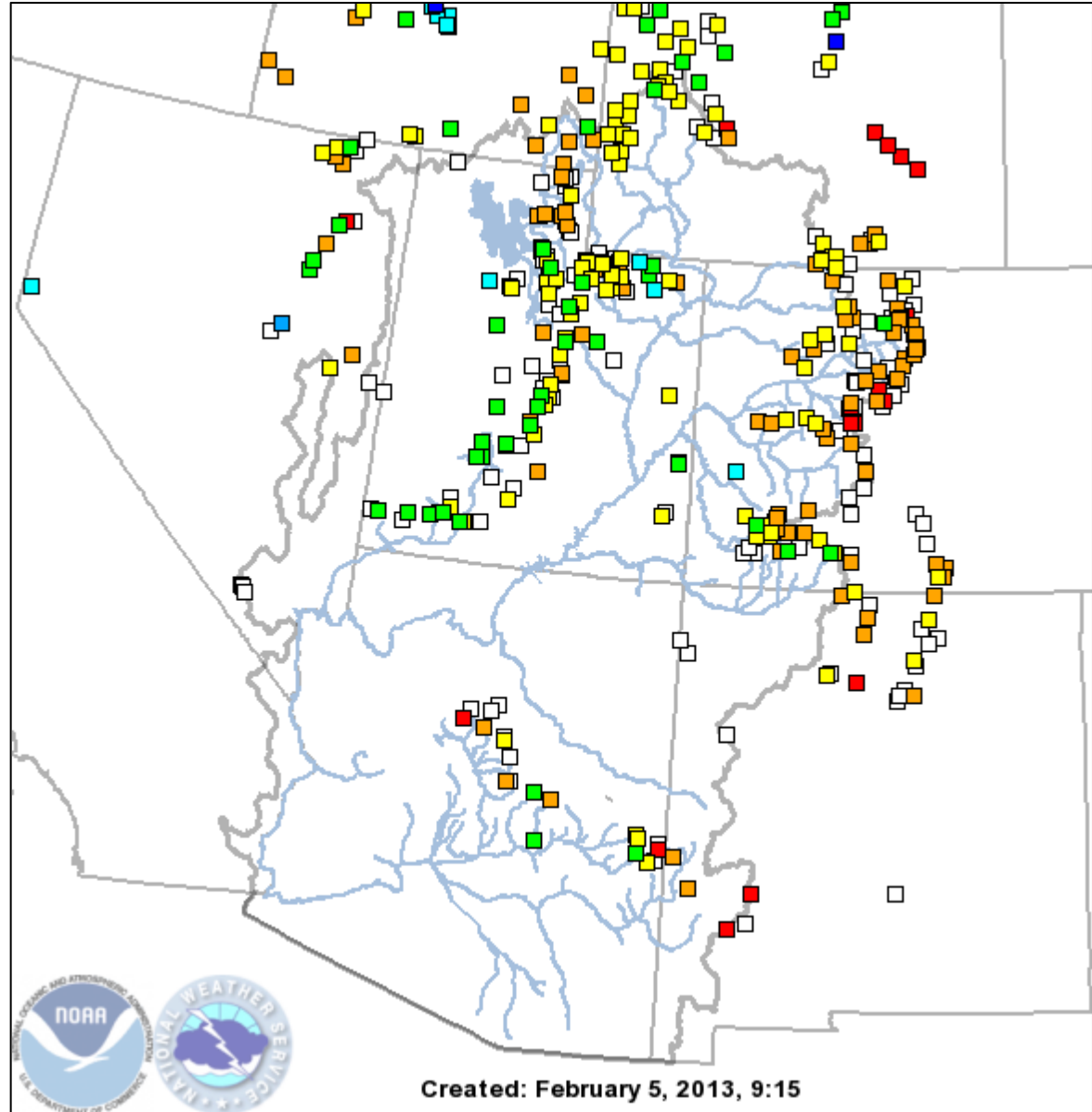
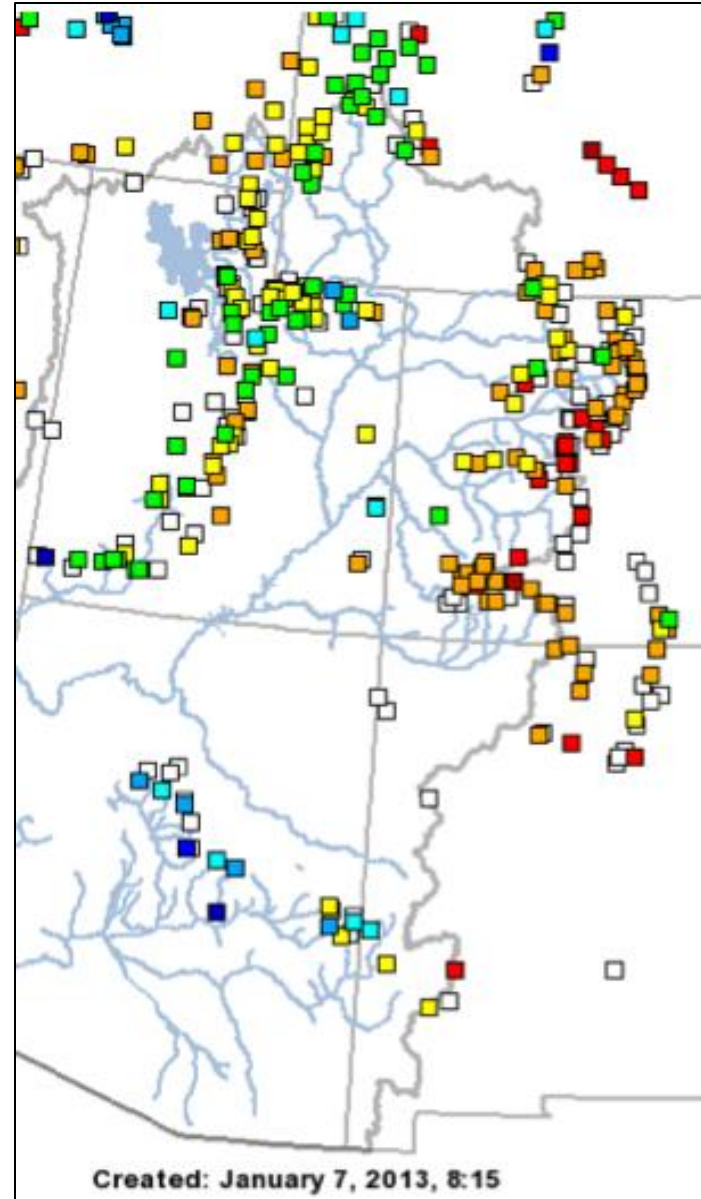
Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

February 1-6 Precipitation in the CBRFC area



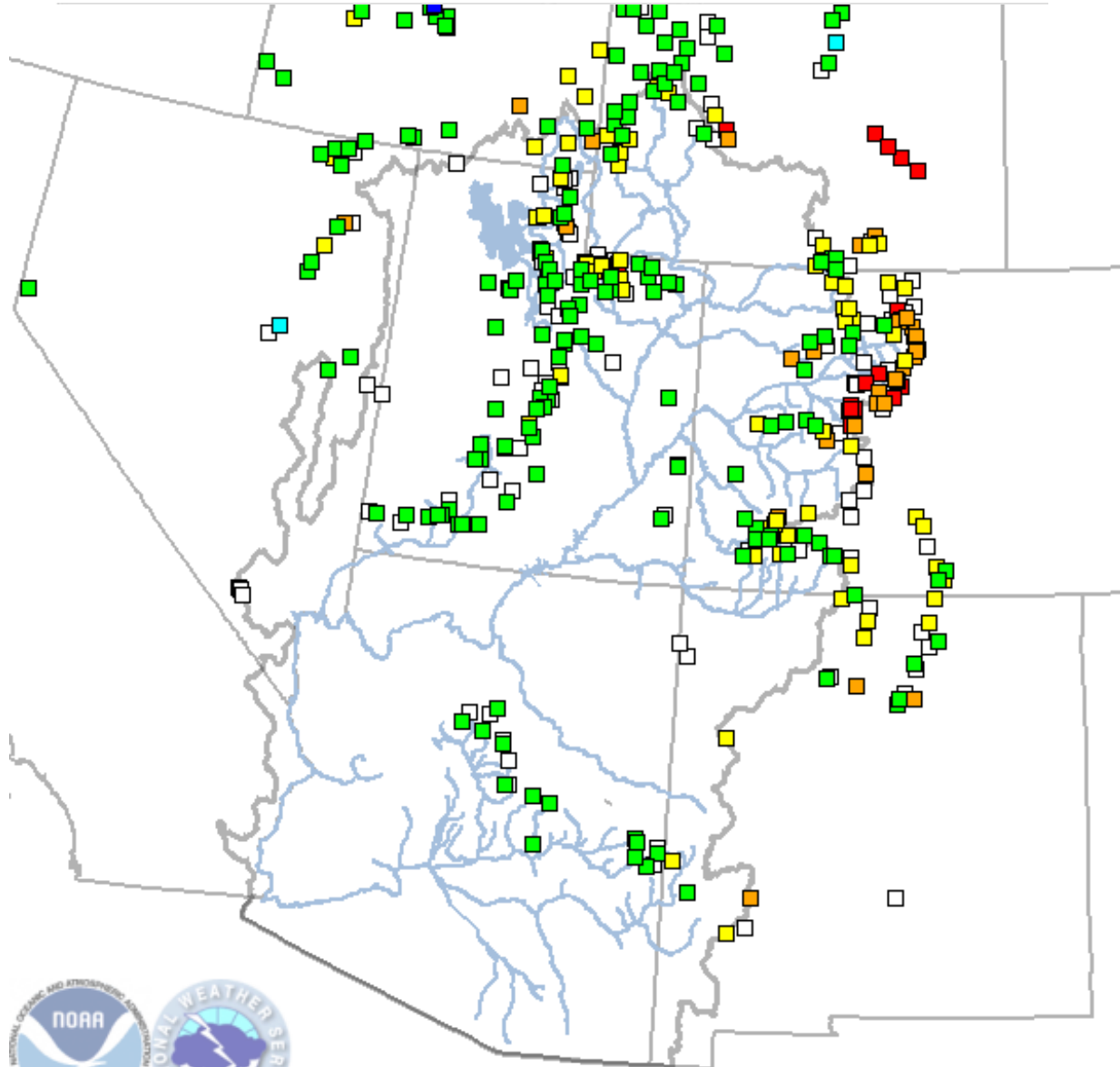
Snow

Snow Point Classification: ○ Percentiles ● Percent Average
□ NA ■ < 25% ■ 25-50% ■ 50-75% ■ 75-90% ■ 90-110% ■ 110-125% ■ 125-150% ■ 150-175% ■ >175%



Snow

Snow Point Classification: ● Percentiles ○ Percent Average
□ Not Ranked ■ Low ■ <10 ■ 10-25 ■ 25-75 ■ 75-90 ■ >90 ■ High



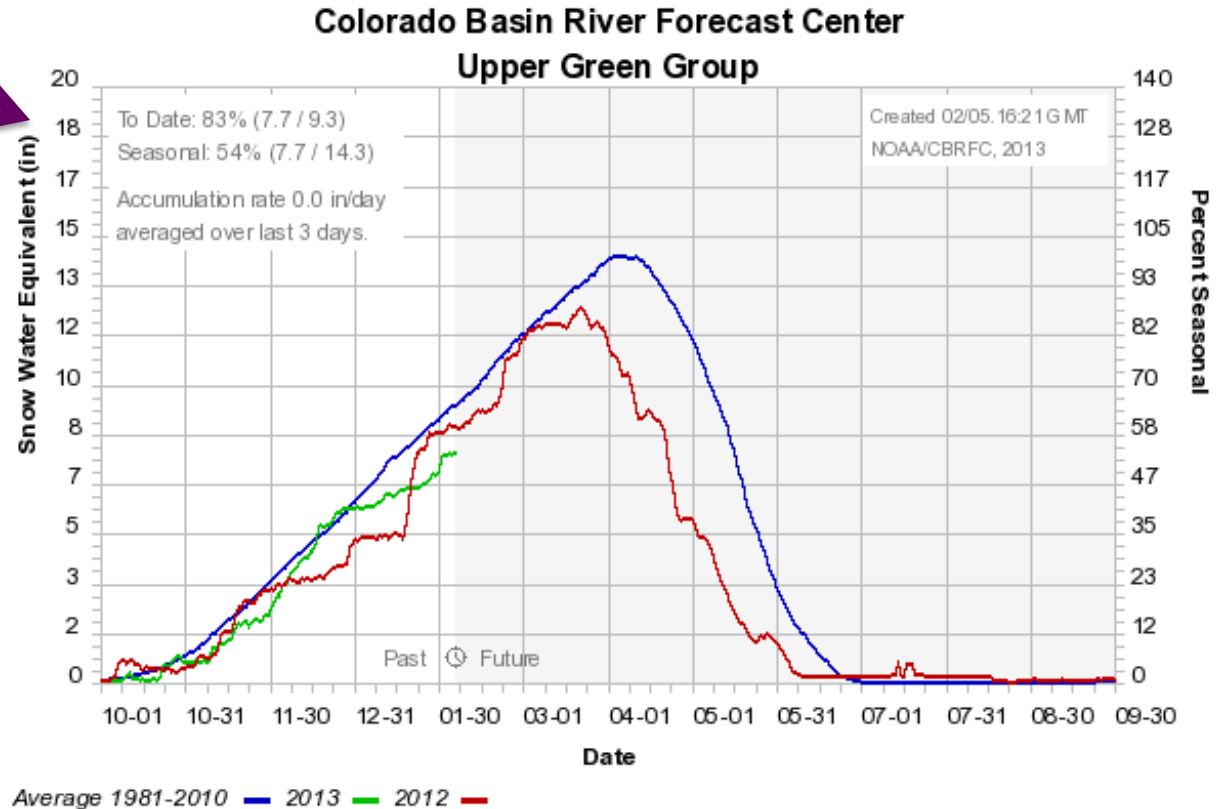
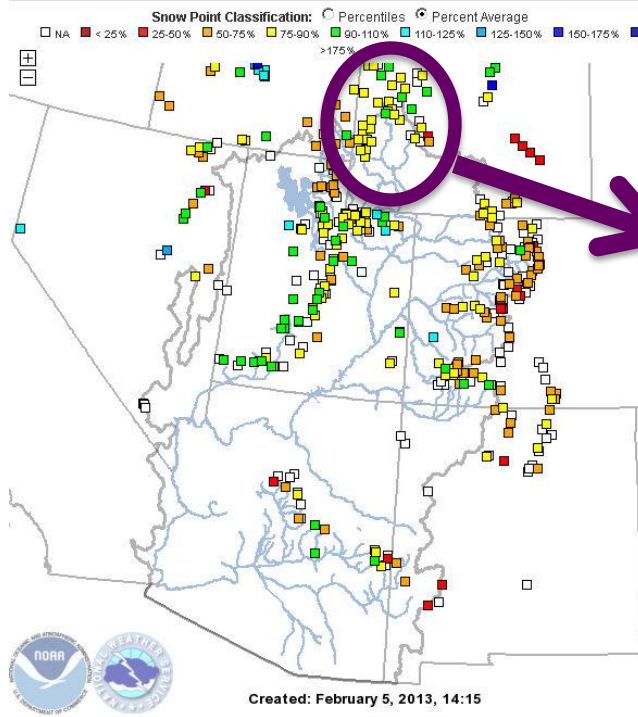
February 5, 2013



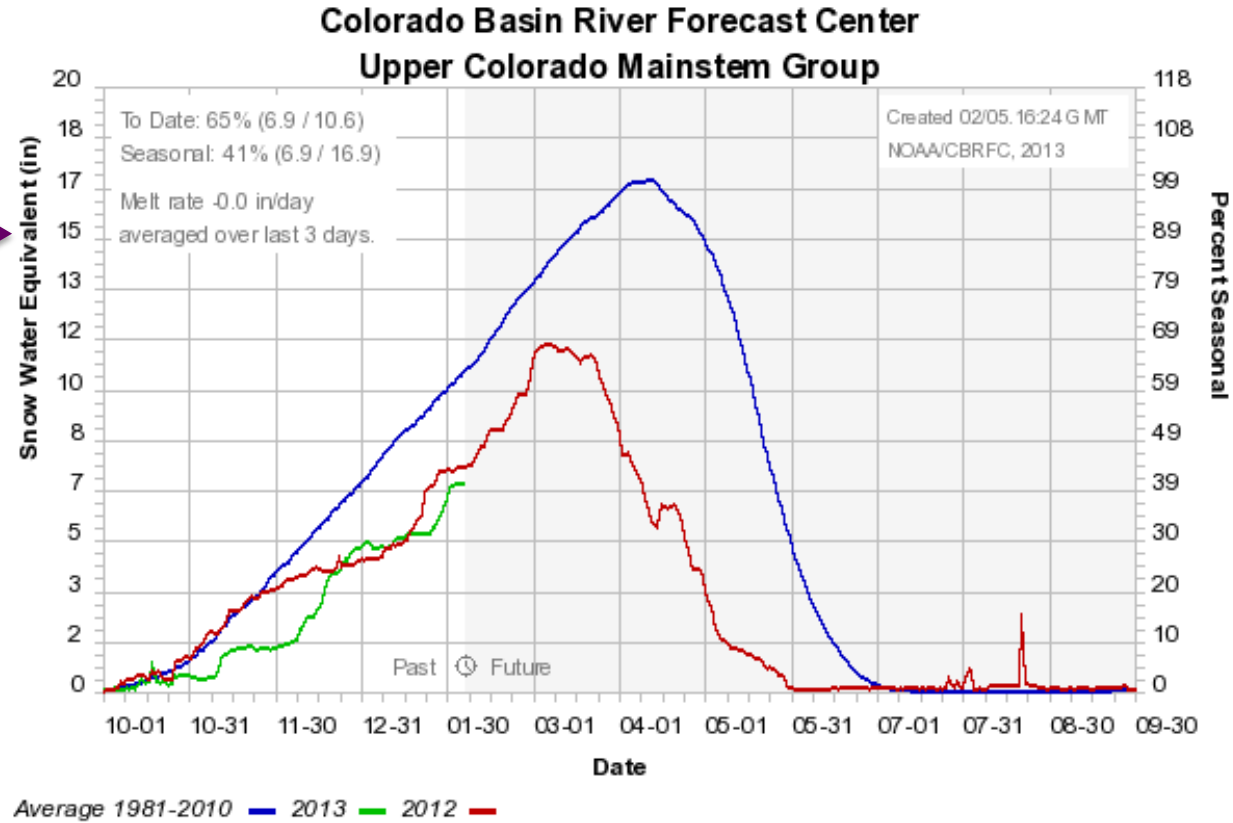
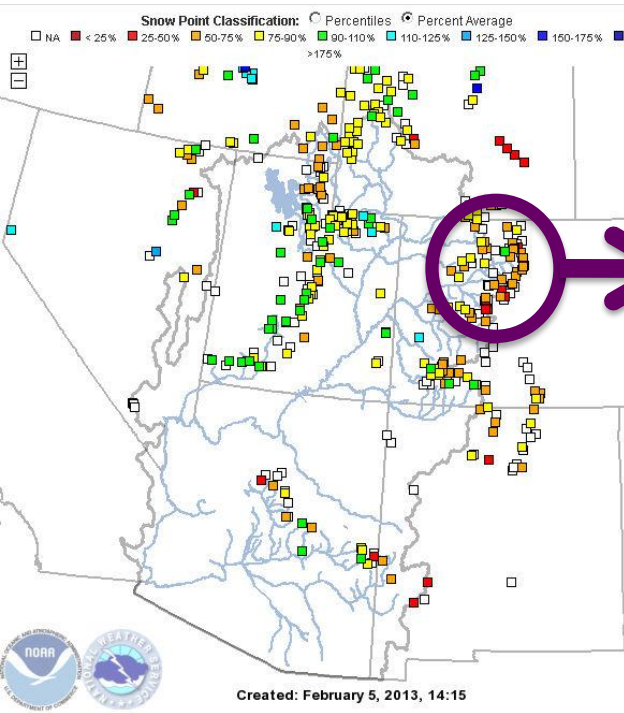
Created: February 5, 2013, 9:15

Web Reference: <http://www.cbrfc.noaa.gov/gmap/cmap2.php?con=snow>

Snow: Upper Green Basin (above Flaming Gorge)

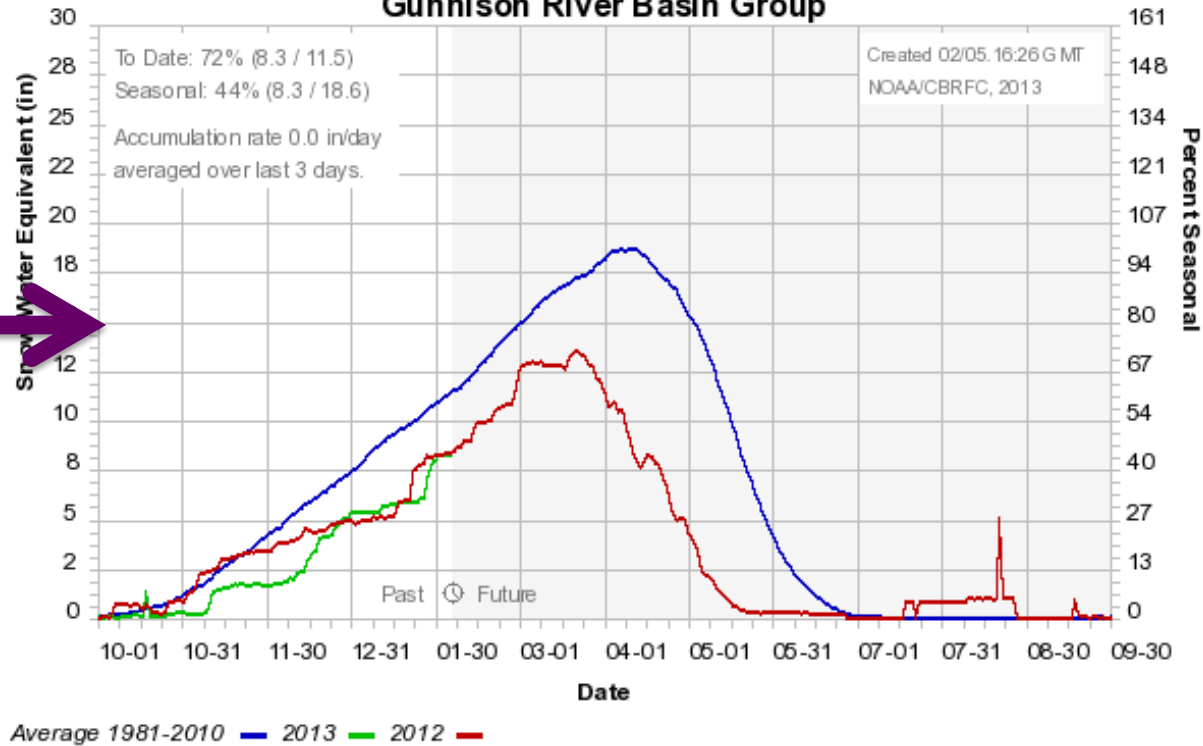
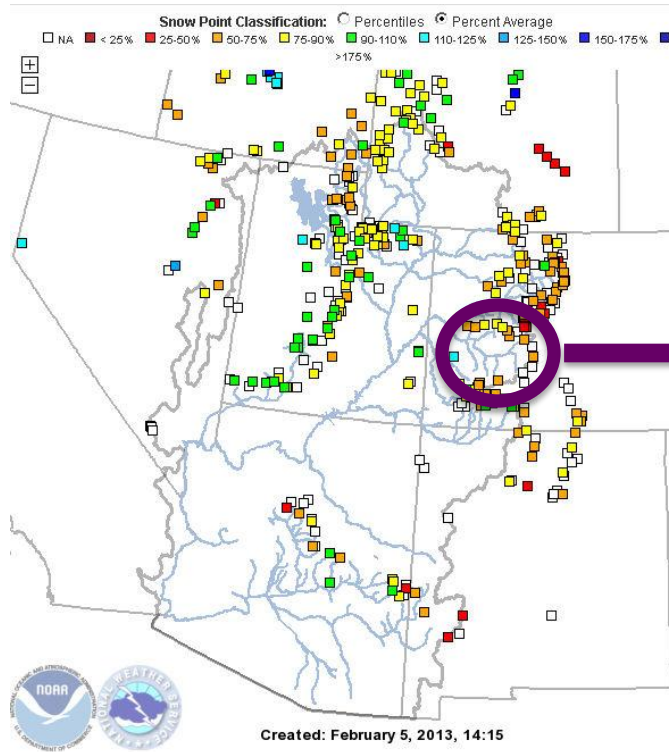


Snow: Colorado Mainstem (above Cameo)

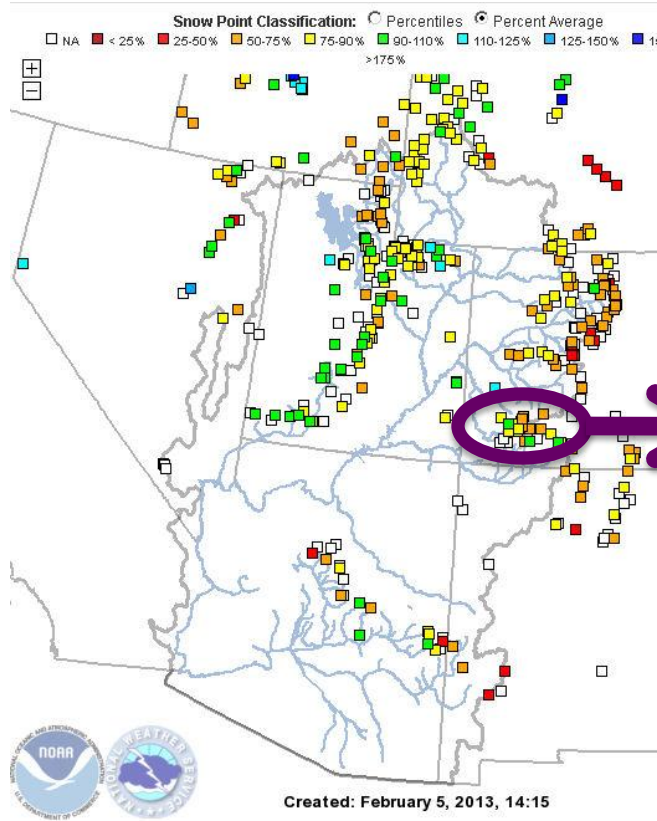


Snow: Gunnison Basin

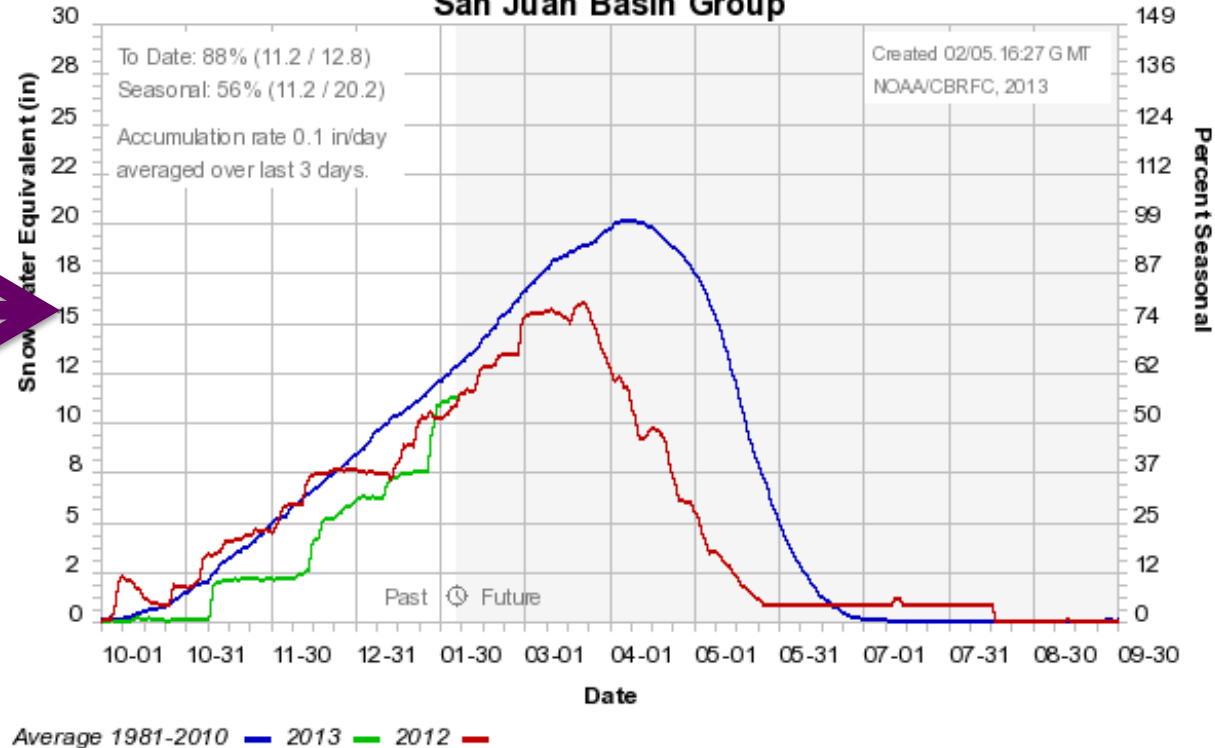
Colorado Basin River Forecast Center Gunnison River Basin Group



Snow: San Juan Basin

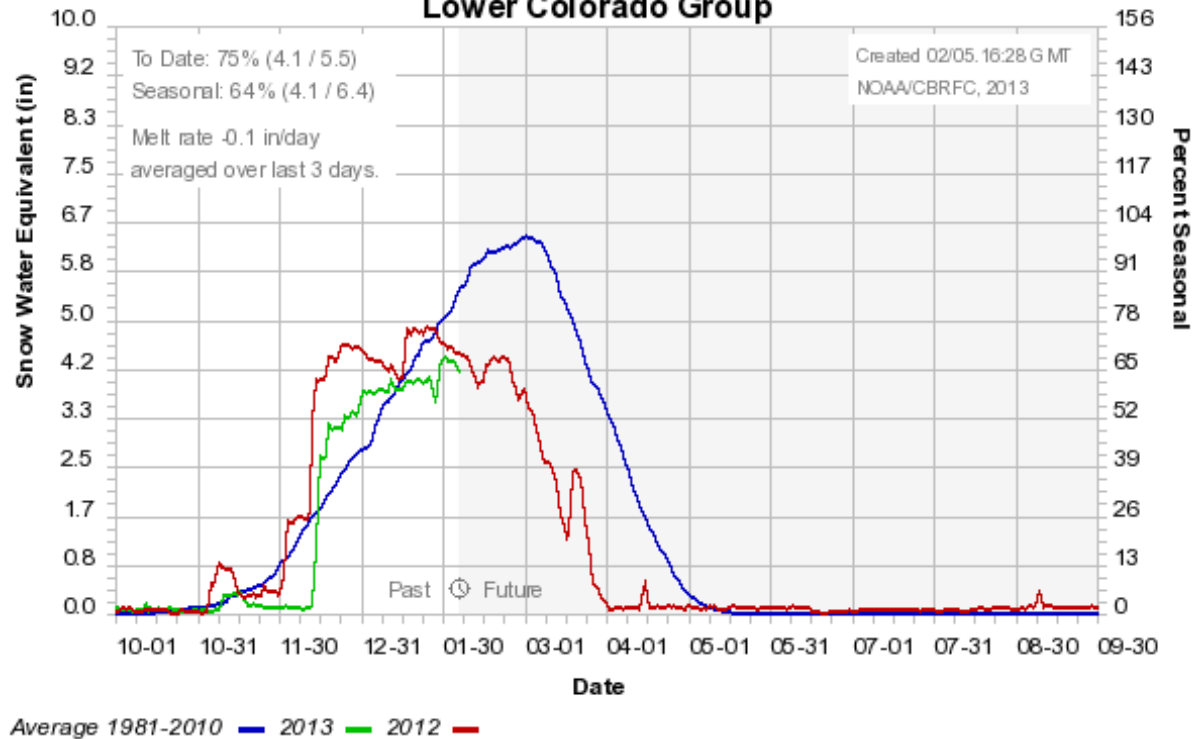
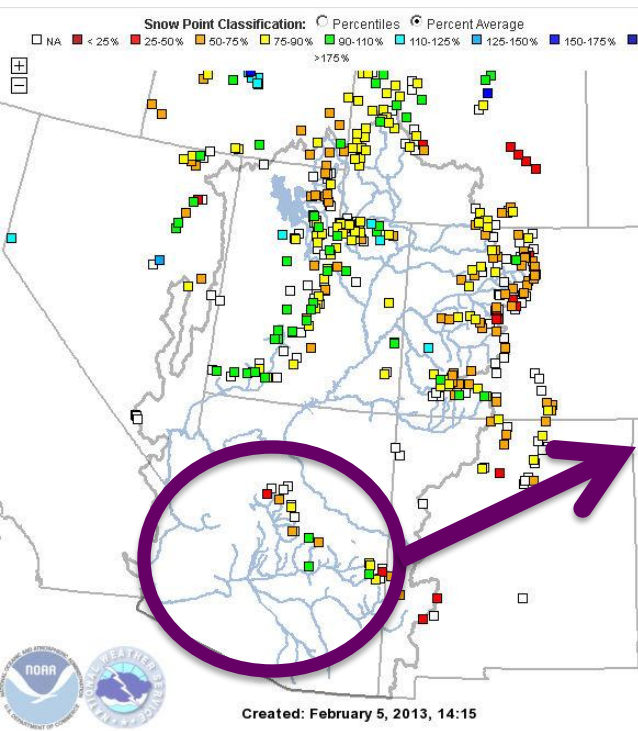


Colorado Basin River Forecast Center San Juan Basin Group



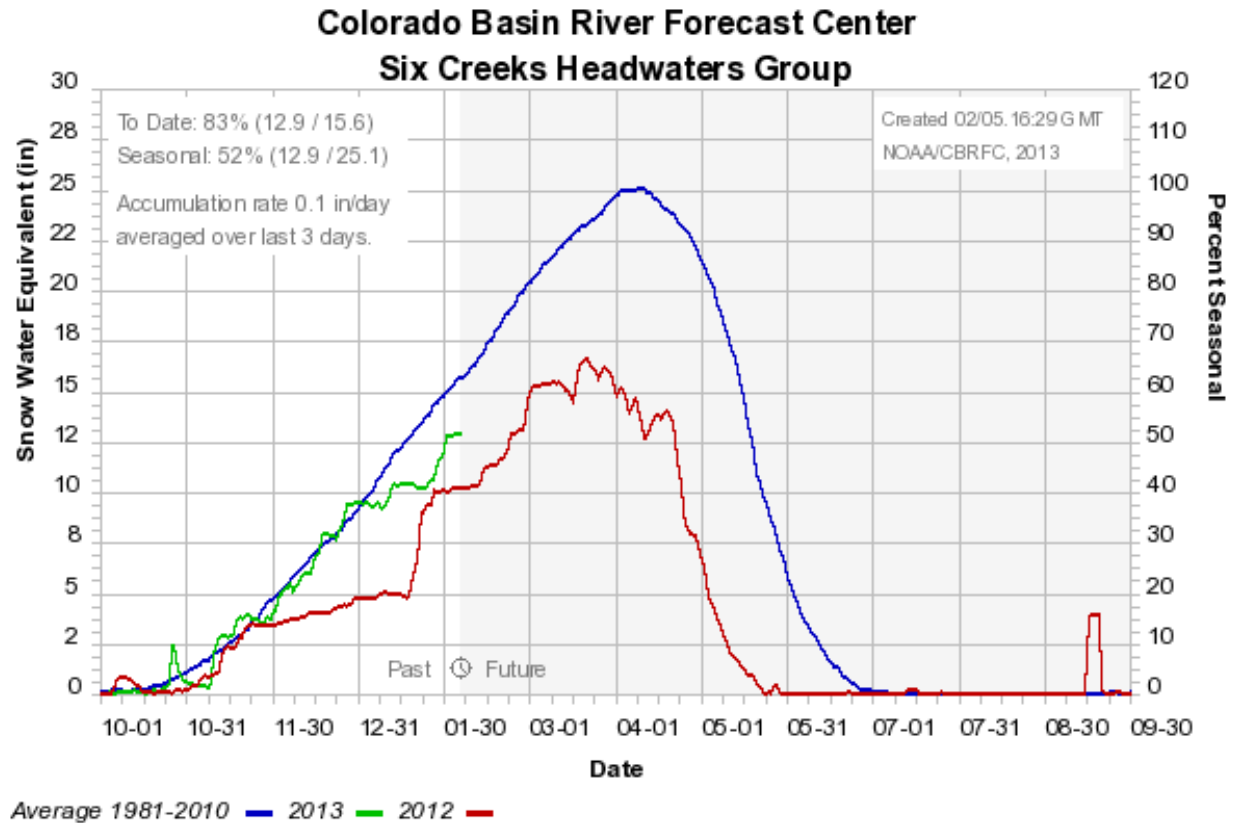
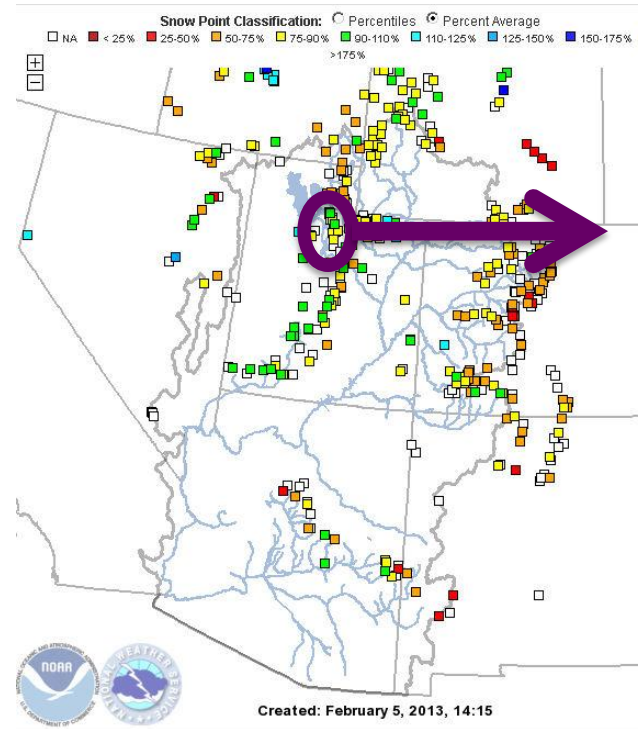
Snow: Lower Colorado

Colorado Basin River Forecast Center Lower Colorado Group



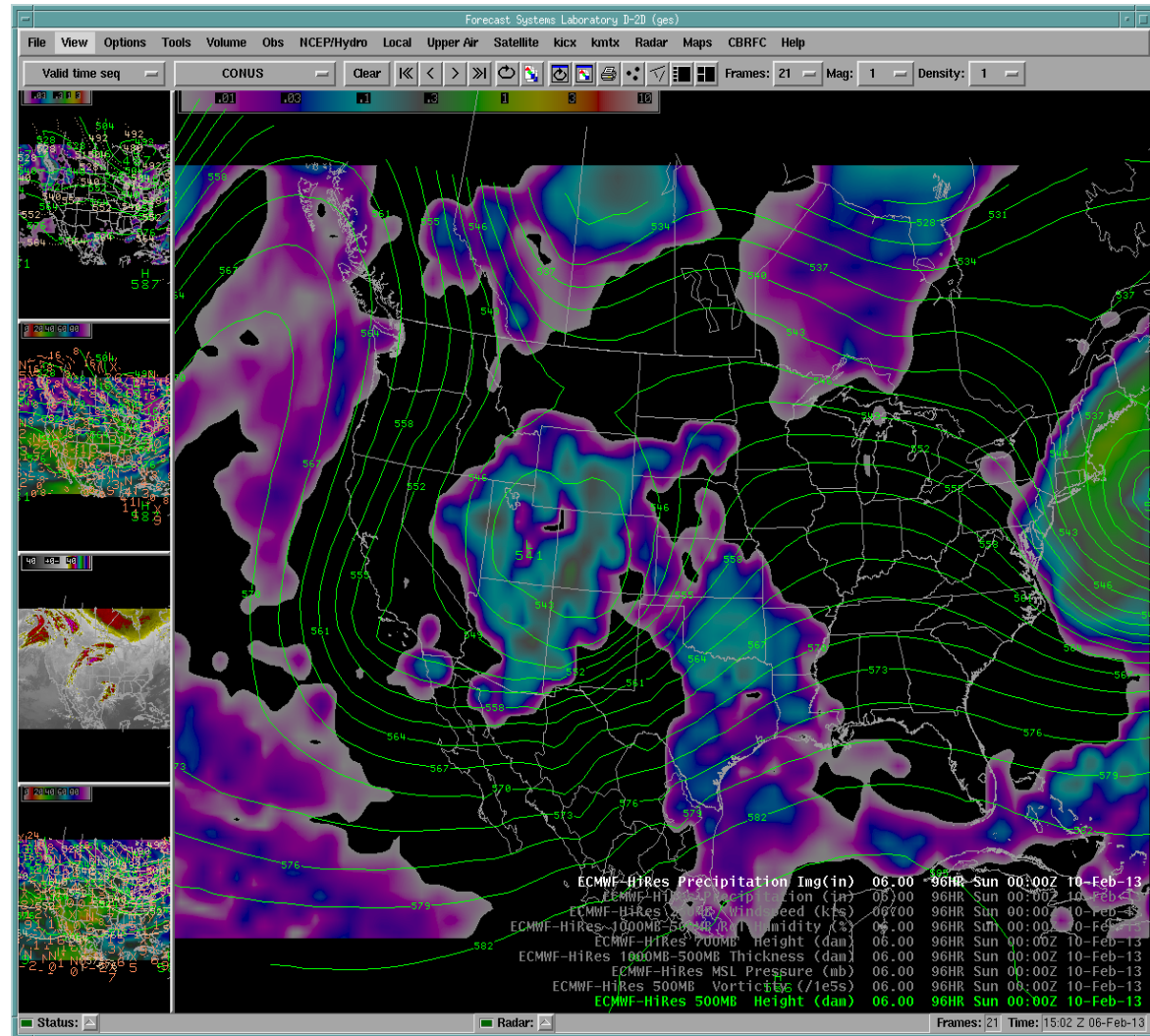
Snow:

Six Creeks in Salt Lake County

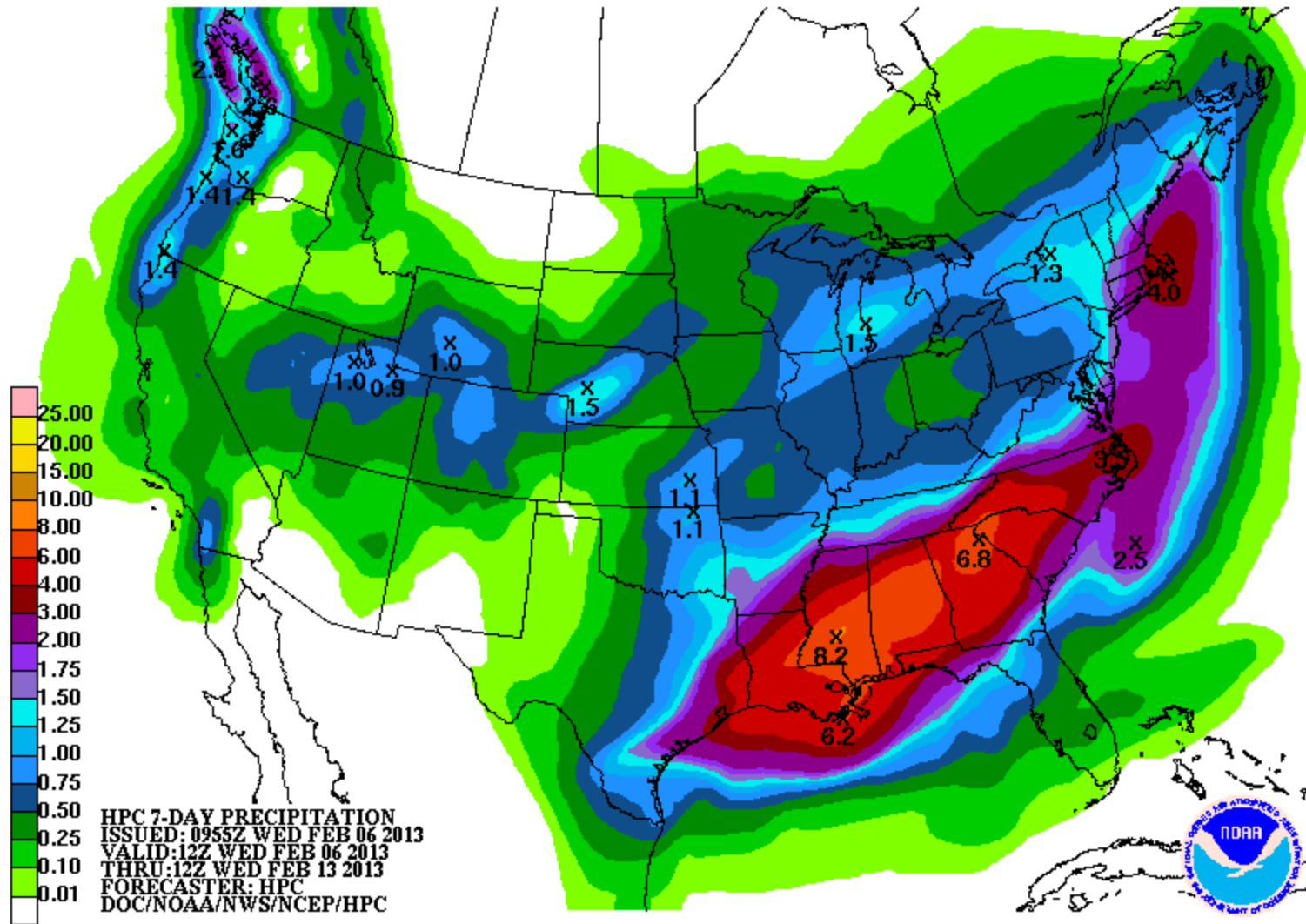


Forecast Precipitation

- Broad closed low will move across the region over the coming weekend.
- Widespread precipitation likely during this period. Amounts will vary with precipitation becoming more showery by late in the weekend.

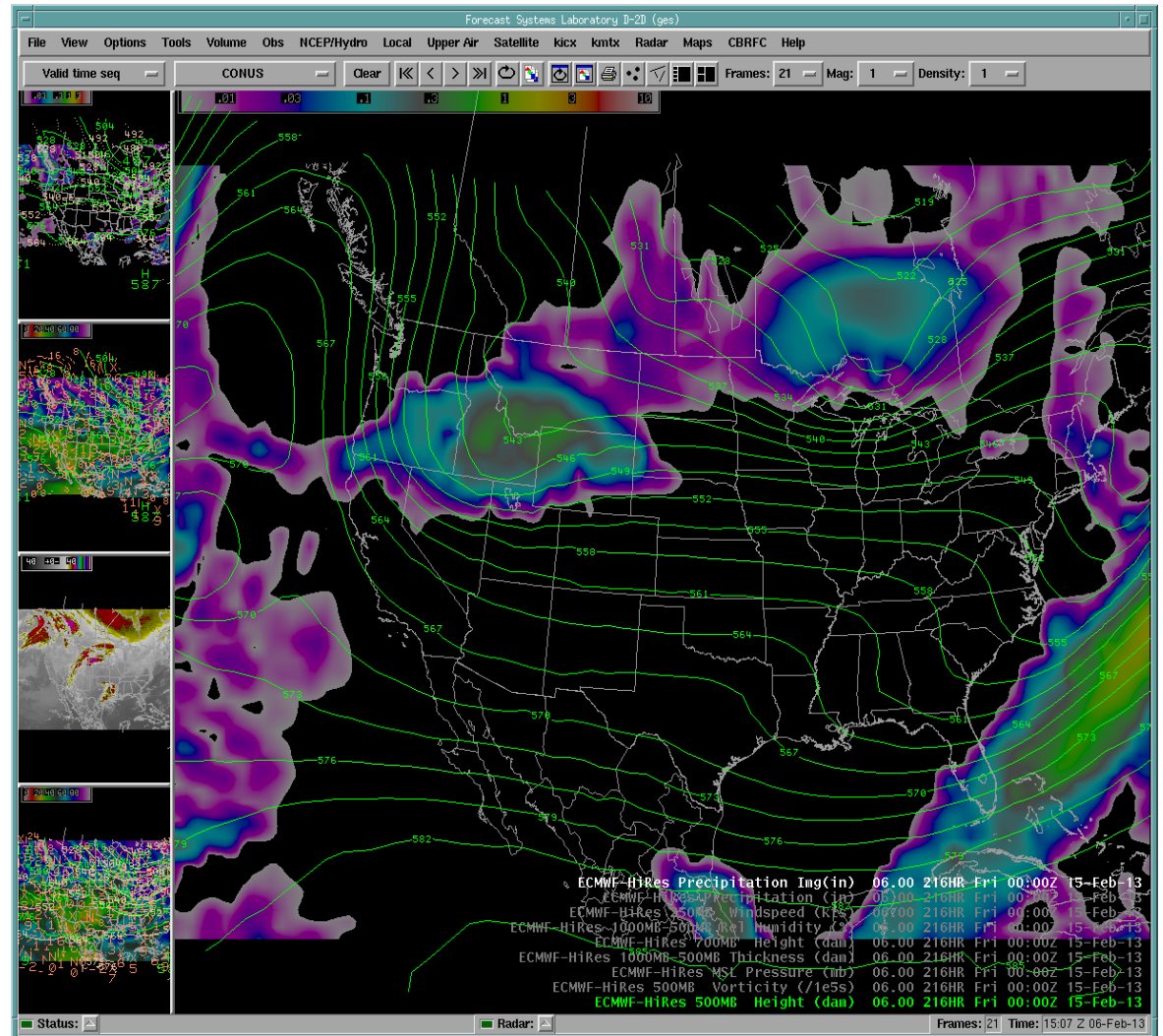


Forecast Precipitation (Feb 6 - Feb 13)



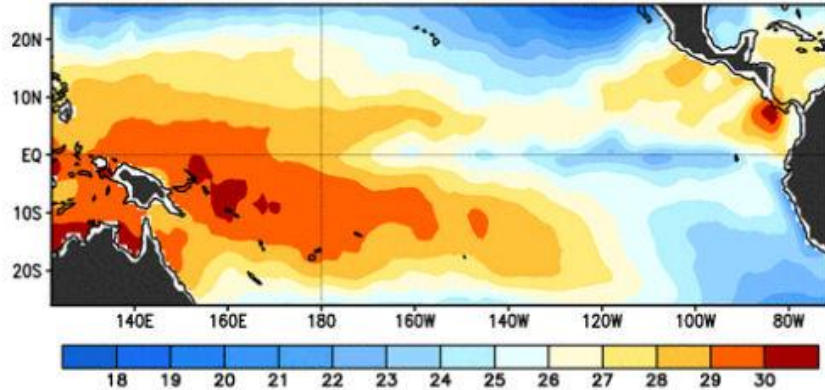
Forecast Precipitation

- Beyond this weekend and extending into mid Feb, weak storms in a northerly flow occasionally drop into the area.
- Only light precipitation is anticipated with these storms.

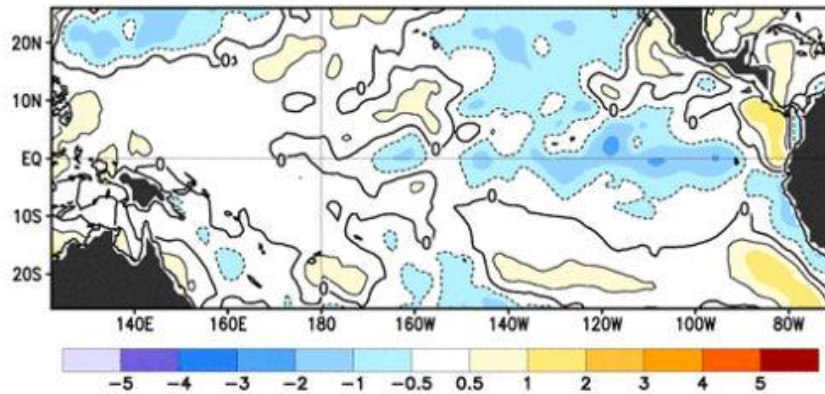


ENSO Update: Neutral Conditions

Observed Sea Surface Temperature (°C)

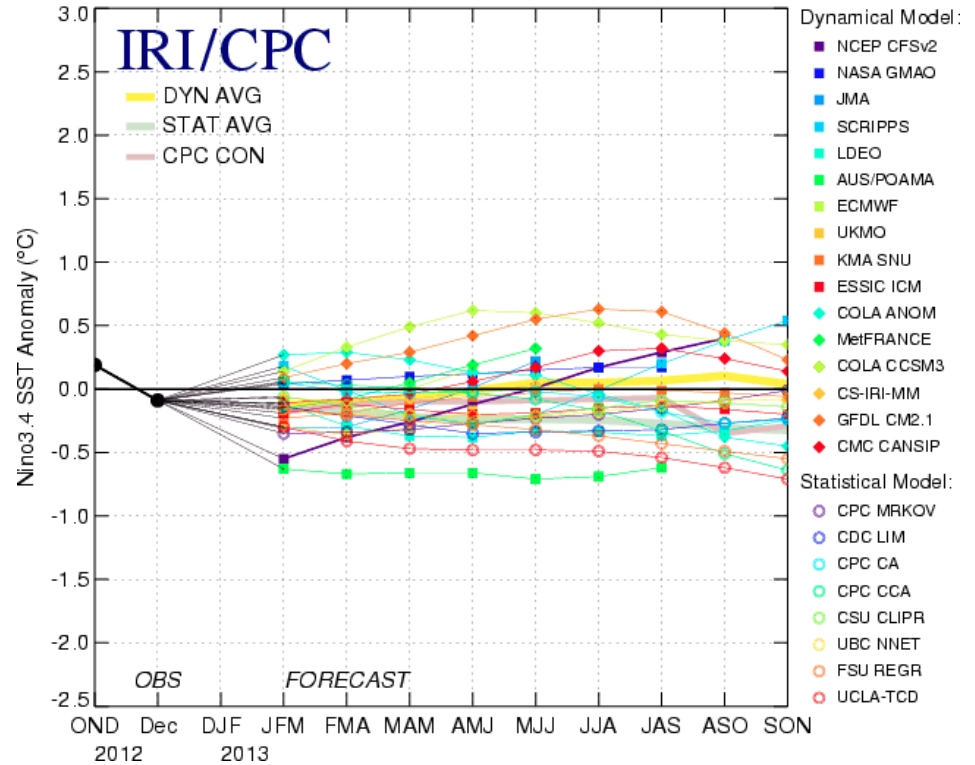


Observed Sea Surface Temperature Anomalies (°C)

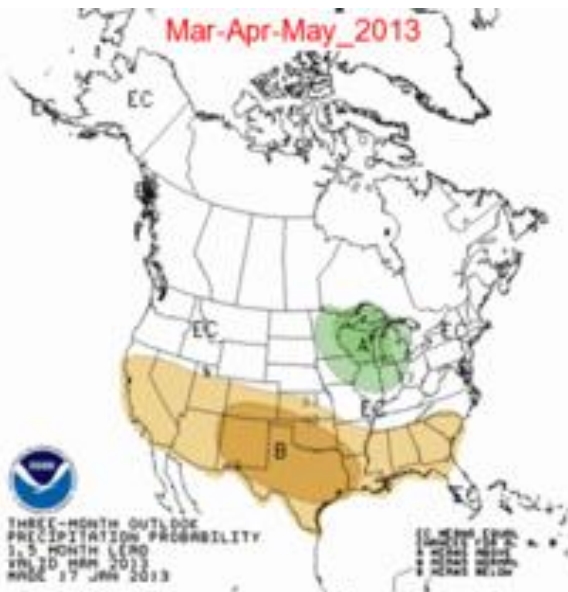


7-day Average Centered on 30 January 2013

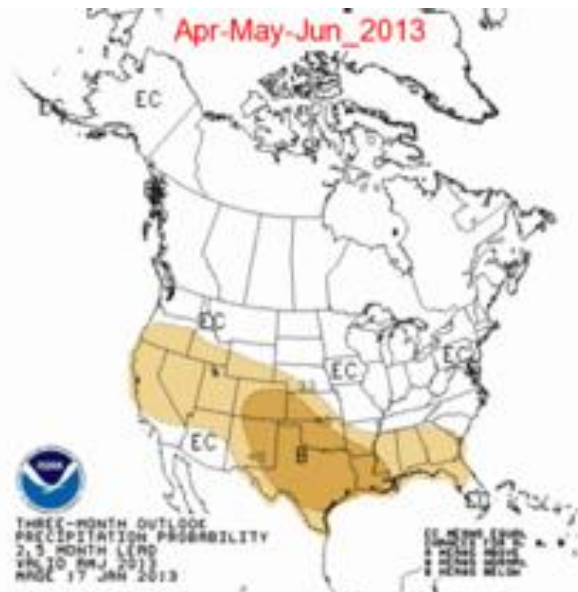
Mid-Jan 2013 Plume of Model ENSO Predictions



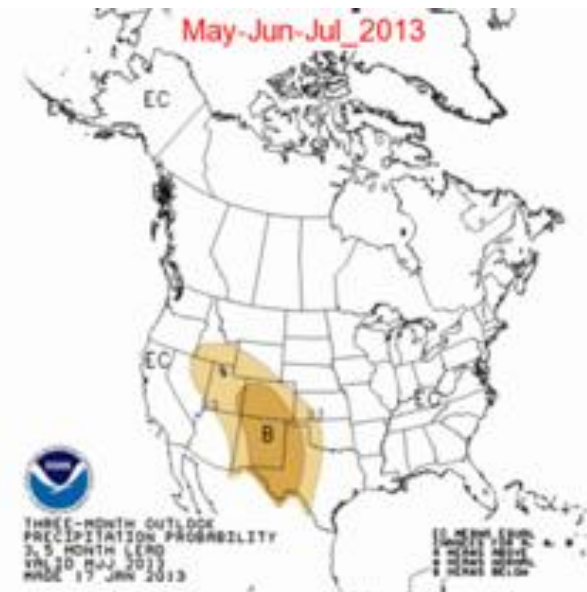
Mar-Apr-May_2013



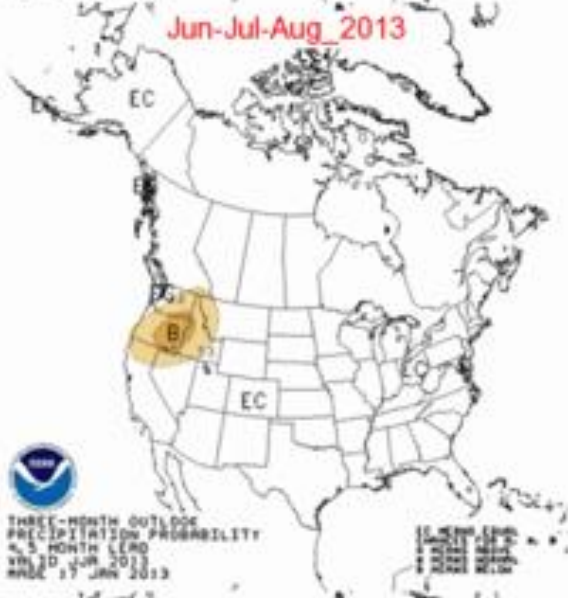
Apr-May-Jun_2013



May-Jun-Jul_2013



Jun-Jul-Aug_2013



Jul-Aug-Sep_2013

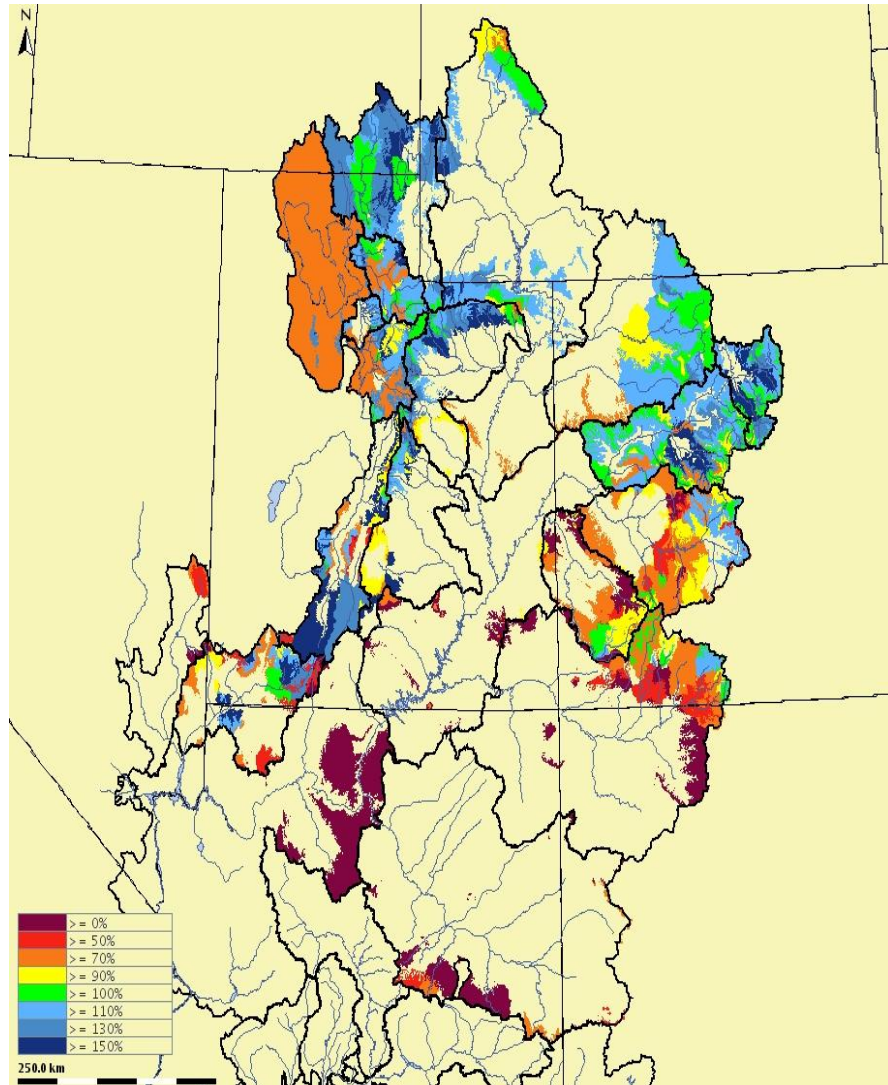


Aug-Sep-Oct_2013

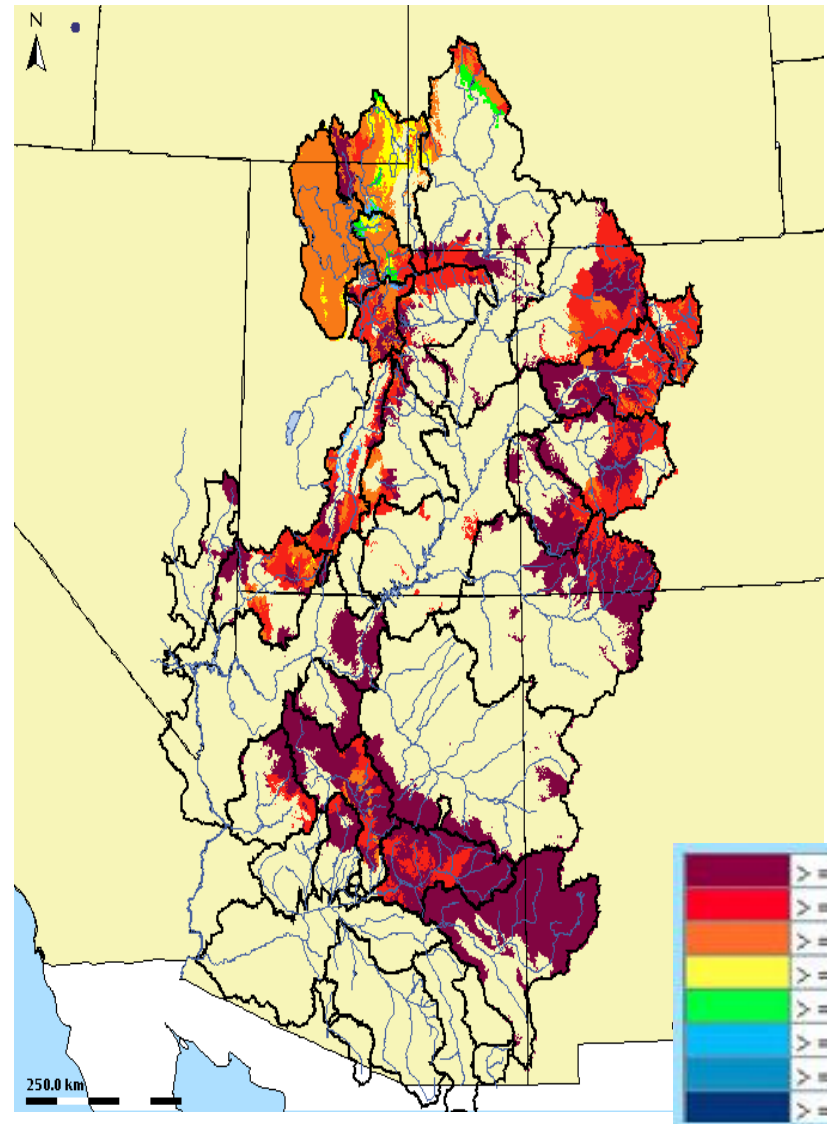


Modeled Soil Moisture

December 2011



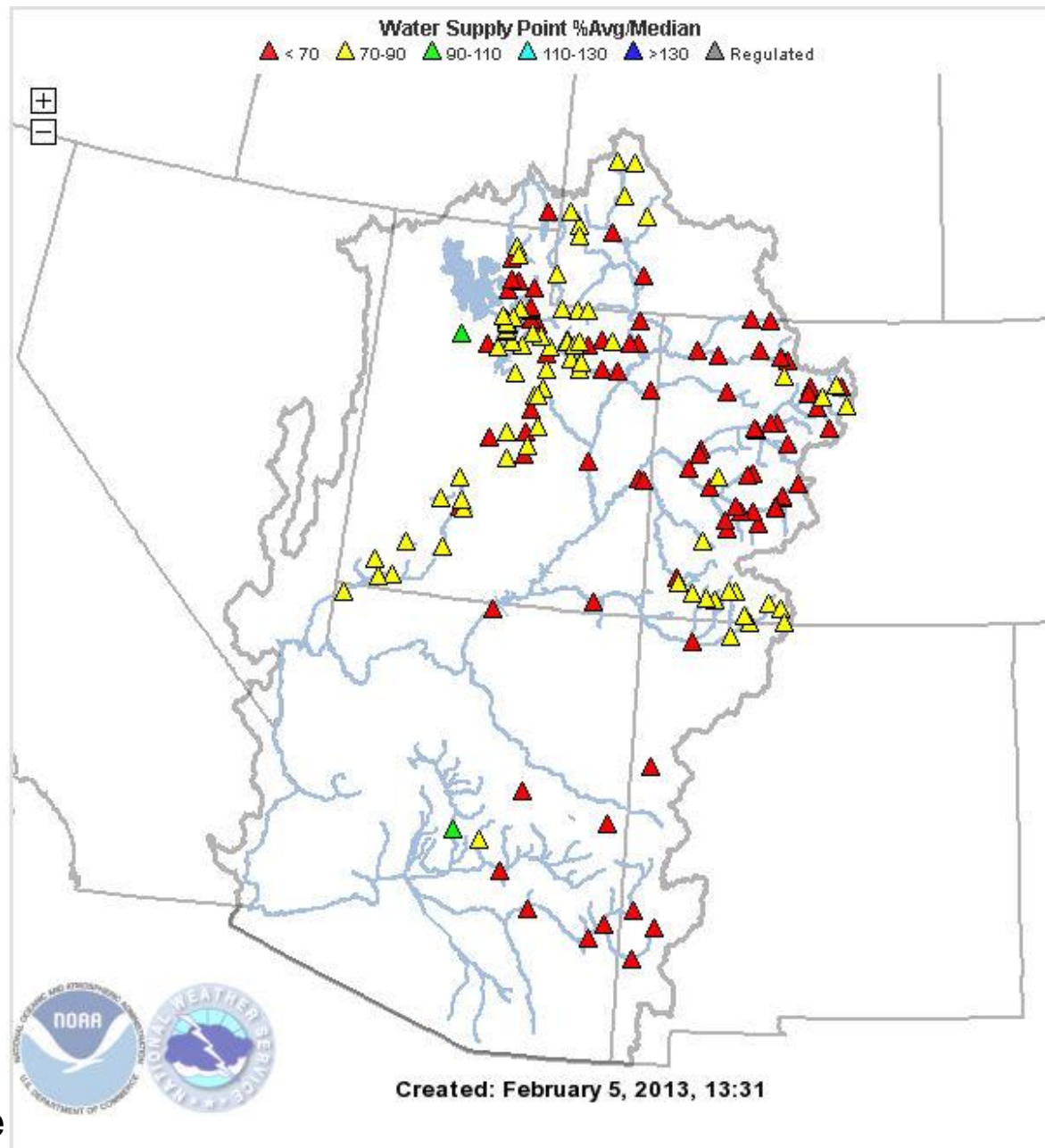
December 2012

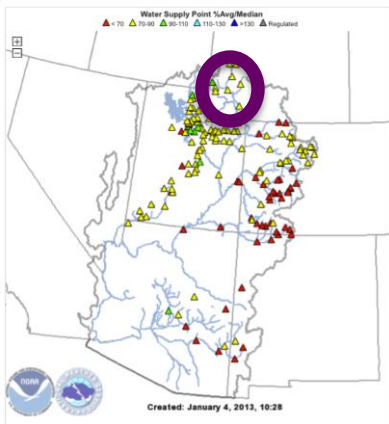


February 1, 2013 Water Supply Forecasts

Highlights:

- Below average/median forecasts nearly everywhere
- Major factors:
 - Dry antecedent soil moisture conditions
 - Dry fall (Oct – Nov)
 - Below average snow in the Upper Colorado Basin
 - Near normal snow in parts of the Great Basin and Lower Green.
- Some improvement in the San Juan and Uncompahgre Basins since January 1st





Green - Flaming Gorge Res Flaming Gorge DamAt GRNU1

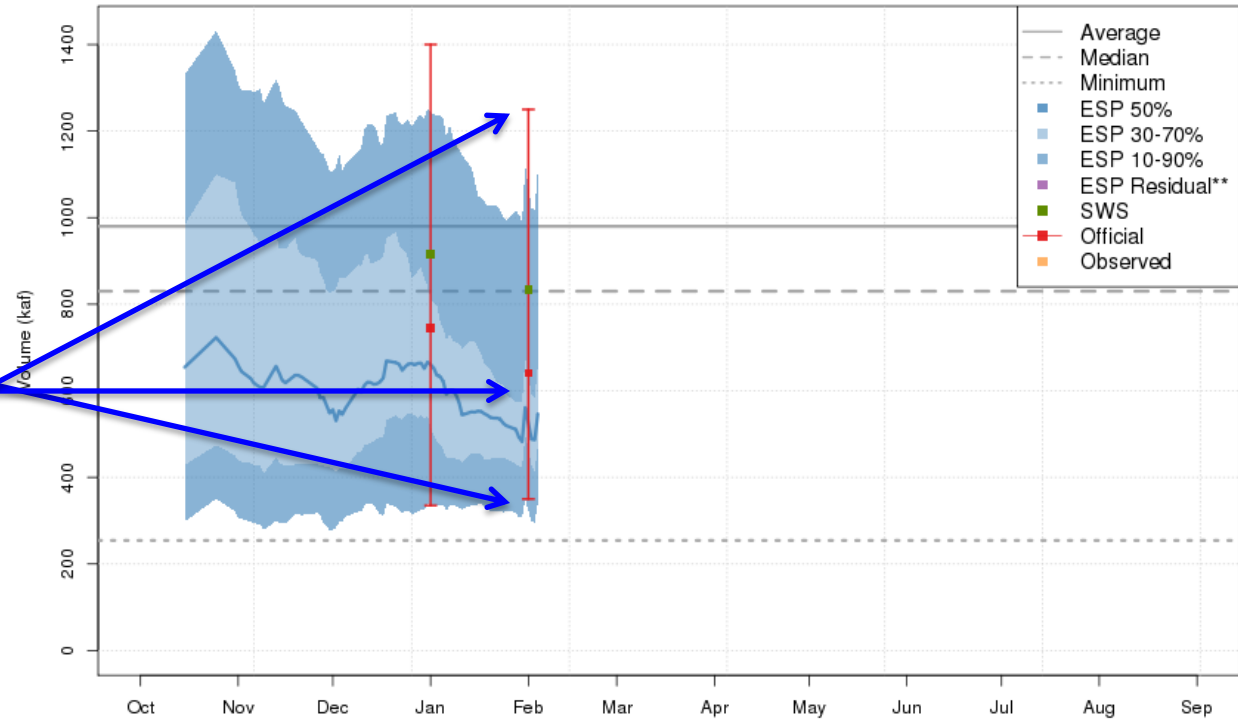
Official Forecast Date: 2013-02-01
 Official Min (90%): 350 kaf
 Official MP (50%): **640 kaf**
 Official Max (10%): 1250 kaf
 Official Percent Avg: **65%**
 Official Percent Med: **77%**

Average: 980 kaf
 Median: 830 kaf

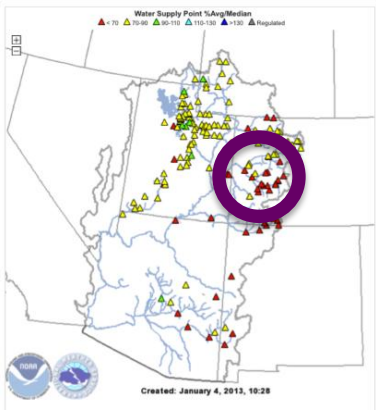
ESP Min (90%): 332 kaf
 ESP Min (70%): 465 kaf
 ESP MP (50%): **538 kaf**
 ESP Min (30%): 651 kaf
 ESP Max (10%): 1092 kaf

ESP Percent Average: **55%**
 ESP Percent Median: **65%**
 ESP Date: 2013-02-05

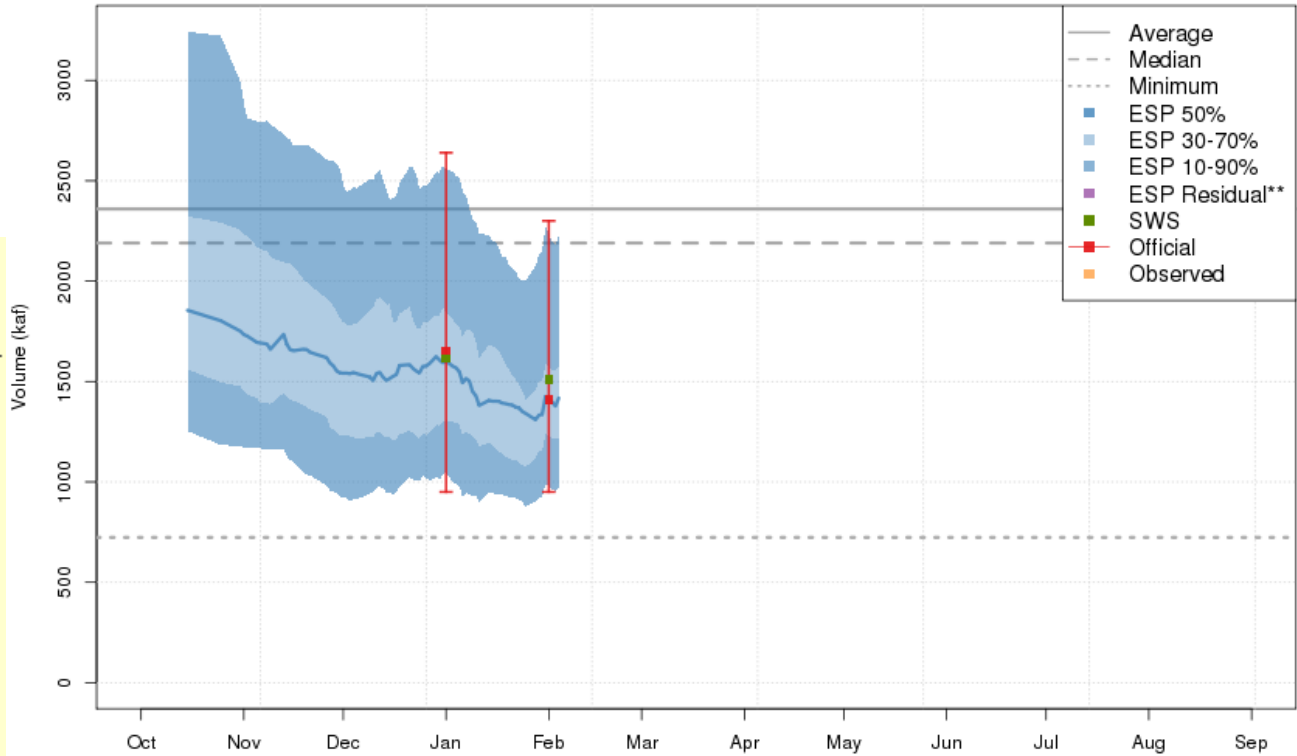
2013 Runoff Forecast
Green - Flaming Gorge Res- Flaming Gorge Dam- At (GRNU1)



Plot Created 2013-02-04 17:45:31, Lastest ESP Run from 2013-02-04, CBRFC / NWS / NOAA
 Maximum of 2224.3 in 1986, Minimum of 254.3 in 1977, Average/Median for 1981-2010.



2013 Runoff Forecast Colorado - Cameo- Nr (CAMC2)



Colorado - Cameo Nr
CAMC2

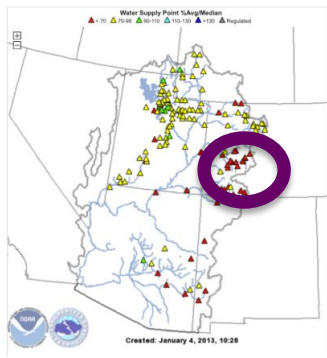
Official Forecast Date: 2013-02-01
 Official Min (90%): 950 kaf
 Official MP (50%): **1410 kaf**
 Official Max (10%): 2300 kaf
 Official Percent Avg: **60%**
 Official Percent Med: **64%**

Average: 2360 kaf
 Median: 2190 kaf

ESP Min (90%): 932 kaf
 ESP Min (70%): 1185 kaf
 ESP MP (50%): **1386 kaf**
 ESP Min (30%): 1533 kaf
 ESP Max (10%): 2191 kaf

ESP Percent Average: **59%**
 ESP Percent Median: **63%**
 ESP Date: 2013-02-05

Plot Created 2013-02-04 17:45:04, Lastest ESP Run from 2013-02-04, CBRFC / NWS / NOAA
 Maximum of 4503 in 1984, Minimum of 723.6 in 2002, Average/Median for 1981-2010.



more info

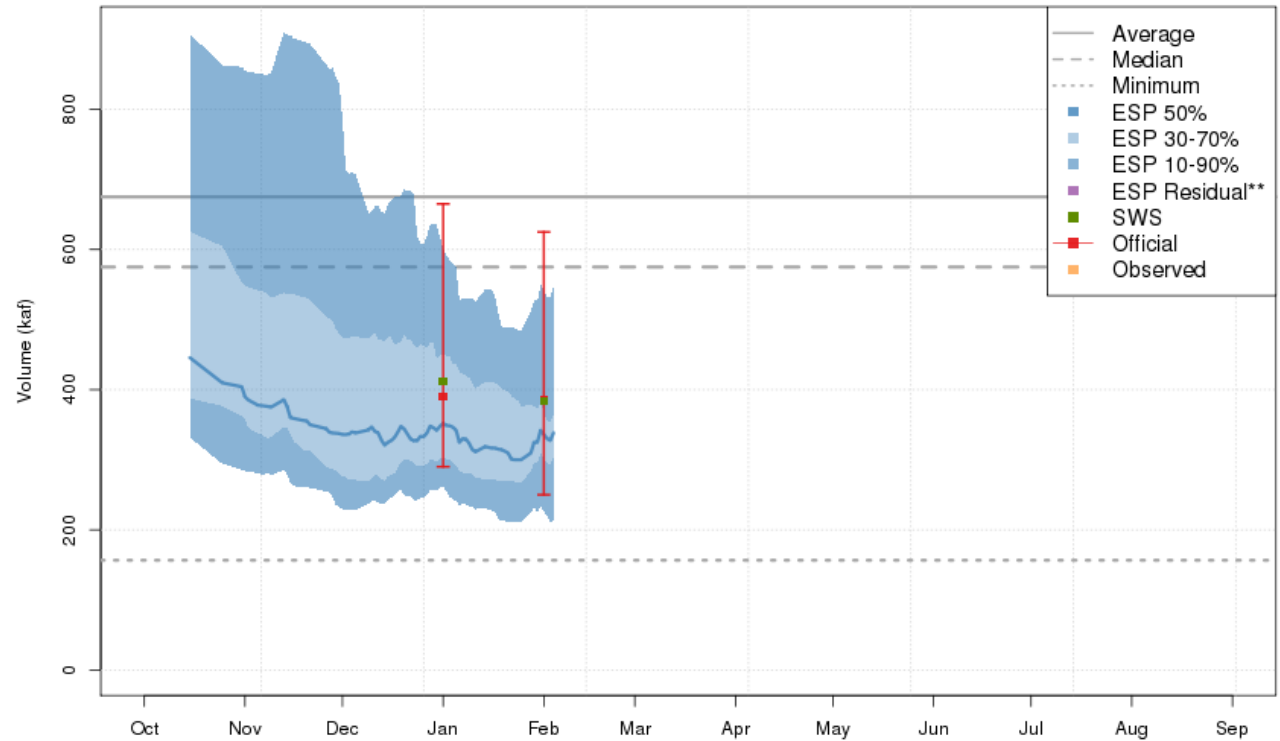
Gunnison - Blue Mesa Res
 BMDC2

Official Forecast Date: 2013-02-01
 Official Min (90%): 250 kaf
 Official MP (50%): **385 kaf**
 Official Max (10%): 625 kaf
 Official Percent Avg: **57%**
 Official Percent Med: **67%**

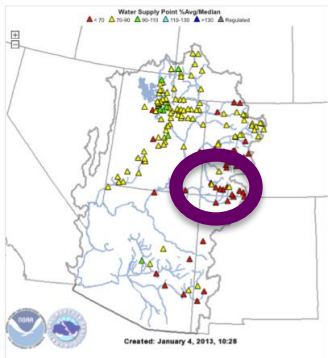
Average: 675 kaf
 Median: 575 kaf

ESP Min (90%): 206 kaf
 ESP Min (70%): 298 kaf
 ESP MP (50%): **329 kaf**
 ESP Min (30%): 362 kaf
 ESP Max (10%): 545 kaf
 ESP Percent Average: **49%**
 ESP Percent Median: **57%**
 ESP Date: 2013-02-05

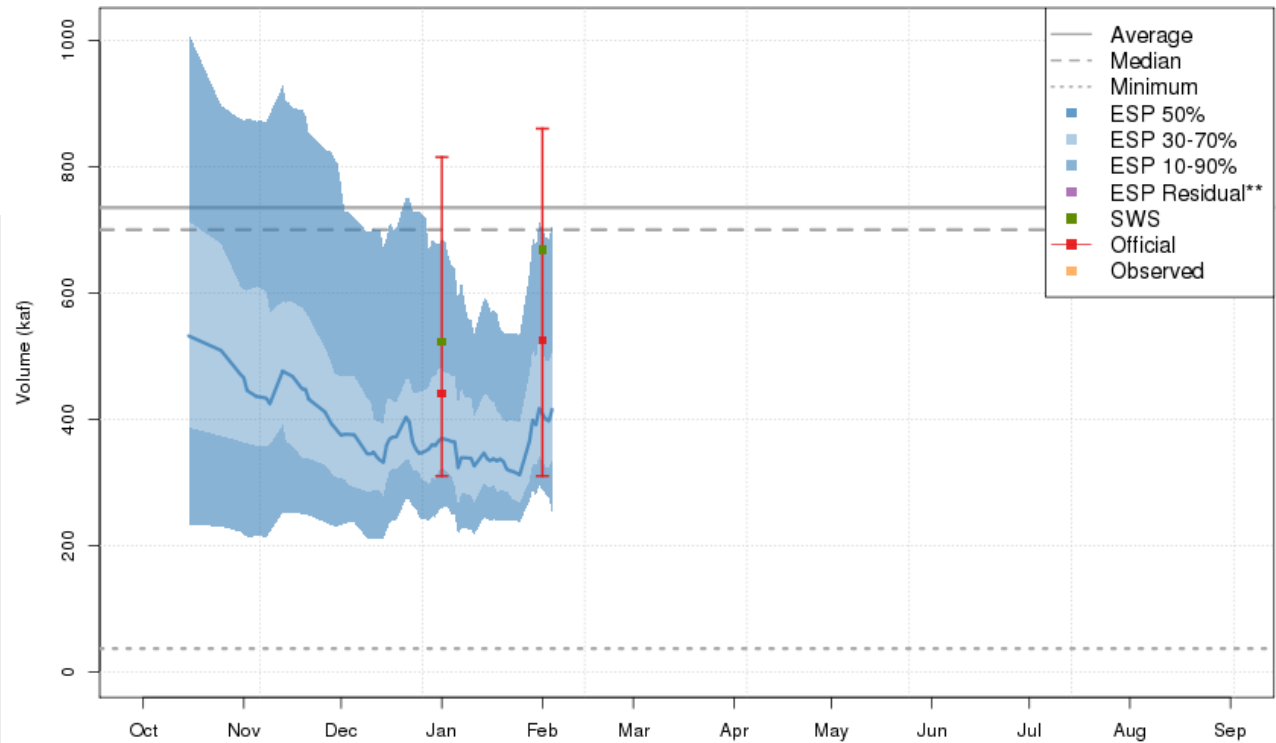
2013 Runoff Forecast
 Gunnison - Blue Mesa Res (BMDC2)



Plot Created 2013-02-04 17:45:00, Lastest ESP Run from 2013-02-04, CBRFC / NWS / NOAA
 Maximum of 1433 in 1984, Minimum of 156.6 in 2002, Average/Median for 1981-2010.



2013 Runoff Forecast San Juan - Navajo Res- Archuleta- Nr (NVRN5)



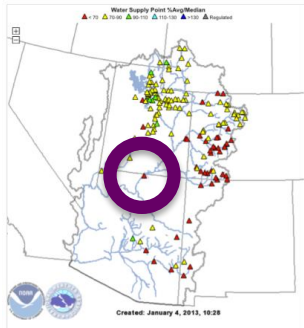
San Juan - Navajo Res Archuleta Nr
NVRN5

Official Forecast Date: 2013-02-01
 Official Min (90%): 310 kaf
 Official MP (50%): **525 kaf**
 Official Max (10%): 860 kaf
 Official Percent Avg: **71%**
 Official Percent Med: **75%**

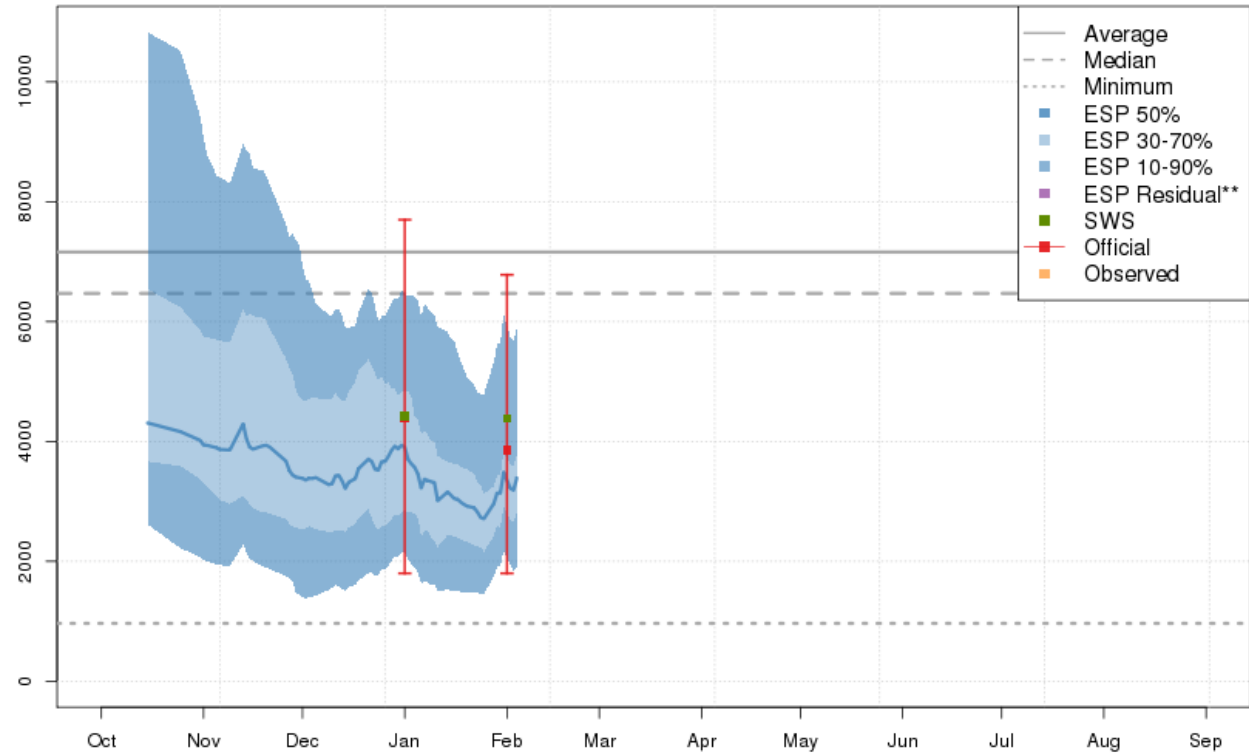
Average: 735 kaf
 Median: 700 kaf

ESP Min (90%): 223 kaf
 ESP Min (70%): 333 kaf
 ESP MP (50%): **416 kaf**
 ESP Min (30%): 490 kaf
 ESP Max (10%): 701 kaf
 ESP Percent Average: **57%**
 ESP Percent Median: **59%**
 ESP Date: 2013-02-05

Plot Created 2013-02-05 07:52:22, Lastest ESP Run from 2013-02-04, CBRFC / NWS / NOAA
 Maximum of 1776.8 in 1979, Minimum of 36.7 in 2002, Average/Median for 1981-2010.



2013 Runoff Forecast Colorado - Lake Powell- Glen Cyn Dam- At (GLDA3)



Colorado - Lake Powell Glen Cyn Dam At
 GLDA3

Official Forecast Date: 2013-02-01
 Official Min (90%): 1800 kaf
 Official MP (50%): **3850 kaf**
 Official Max (10%): 6780 kaf
 Official Percent Avg: **54%**
 Official Percent Med: **60%**

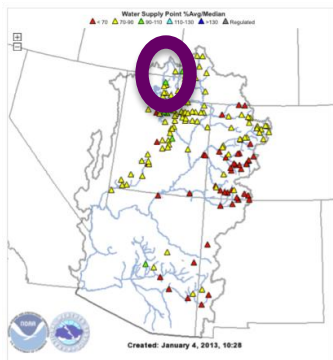
Average: 7160 kaf
 Median: 6470 kaf

ESP Min (90%): 1795 kaf
 ESP Min (70%): 2755 kaf
 ESP MP (50%): **3324 kaf**
 ESP Min (30%): 3682 kaf
 ESP Max (10%): 5798 kaf

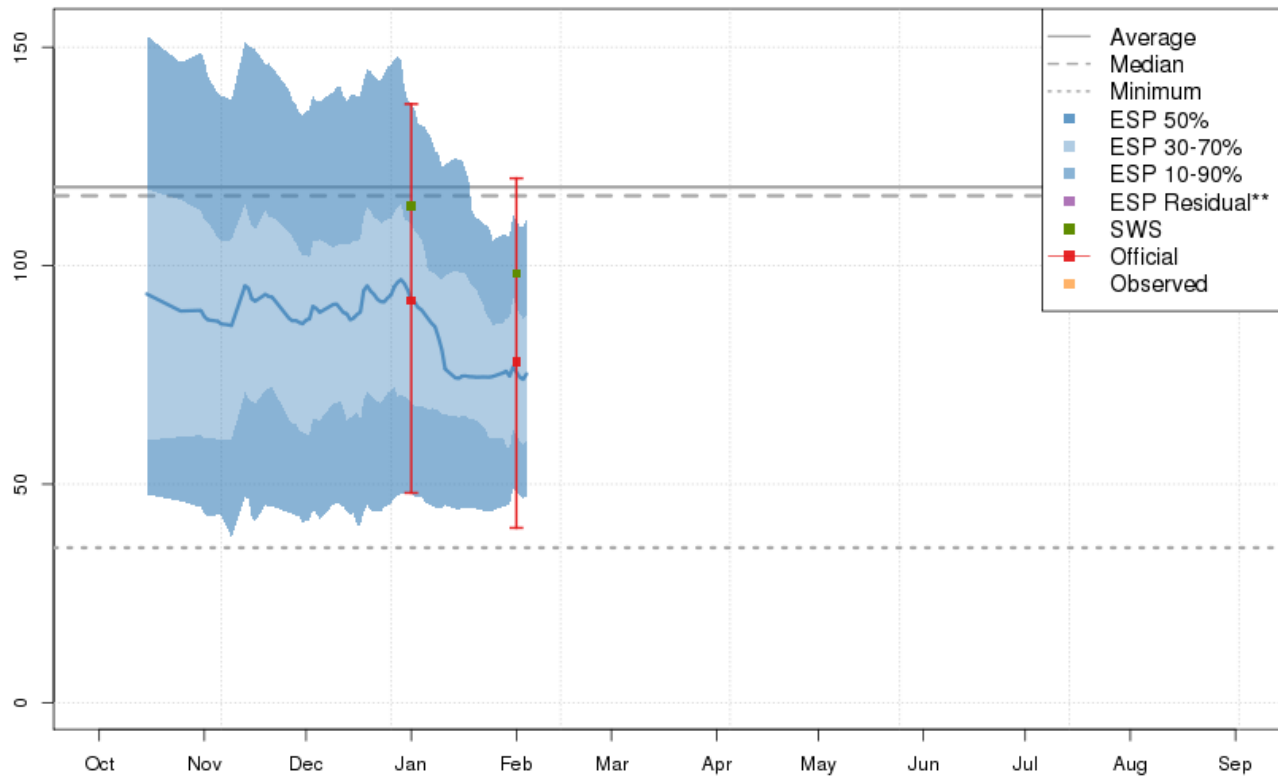
ESP Percent Average: **46%**
 ESP Percent Median: **51%**

ESP Date: 2013-02-05

Plot Created 2013-02-05 06:44:18, Lastest ESP Run from 2013-02-04, CBRFC / NWS / NOAA
 Maximum of 15316.1 in 1984, Minimum of 964 in 2002, Average/Median for 1981-2010.



2013 Runoff Forecast Weber - Oakley- Nr (OAWU1)

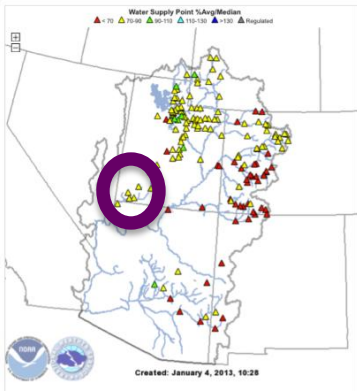


Weber - Oakley Nr
 OAWU1
 Official Forecast Date: 2013-02-01
 Official Min (90%): 40 kaf
 Official MP (50%): **78 kaf**
 Official Max (10%): 120 kaf
 Official Percent Avg: **66%**
 Official Percent Med: **67%**

 Average: 118 kaf
 Median: 116 kaf

 ESP Min (90%): 47 kaf
 ESP Min (70%): 60 kaf
 ESP MP (50%): **74 kaf**
 ESP Min (30%): 89 kaf
 ESP Max (10%): 110 kaf
 ESP Percent Average: **63%**
 ESP Percent Median: **64%**
 ESP Date: 2013-02-05

Plot Created 2013-02-04 17:45:52, Lastest ESP Run from 2013-02-04, CBRFC / NWS / NOAA
 Maximum of 254.2 in 1907, Minimum of 35.5 in 1934, Average/Median for 1981-2010.



✕ More info

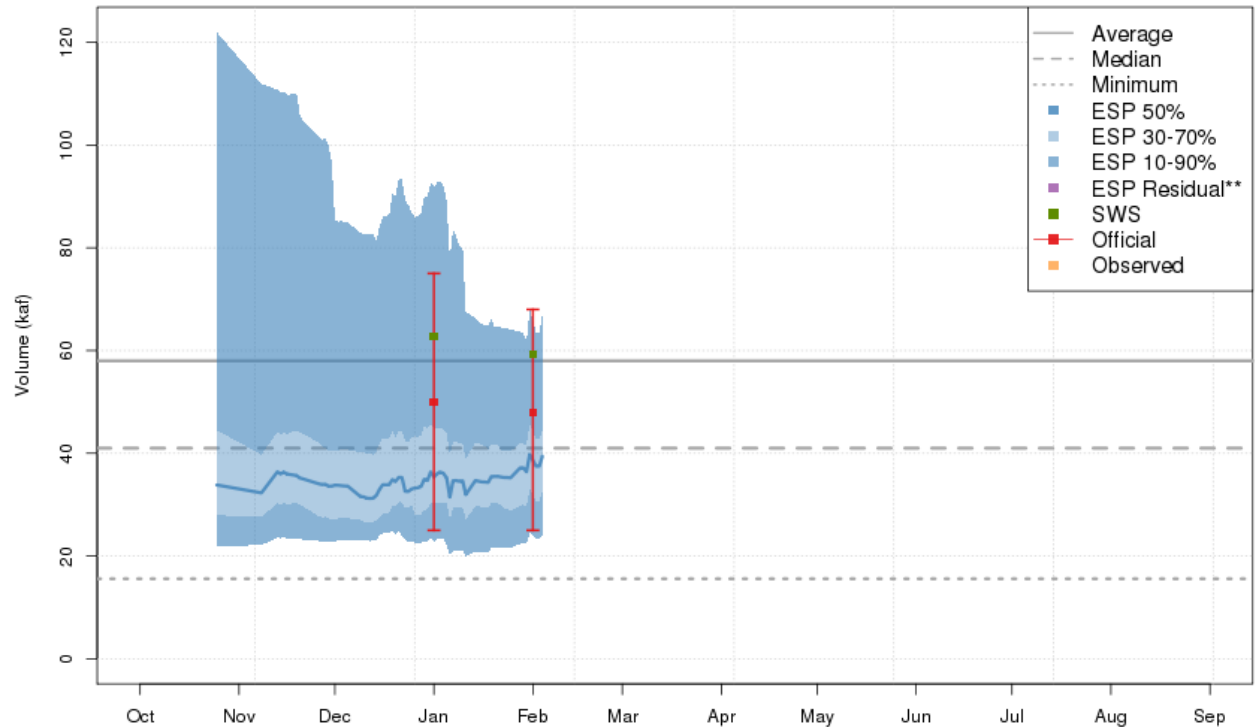
Virgin - Virgin
VIRU1

Official Forecast Date: 2013-02-01
 Official Min (90%): 25 kaf
 Official MP (50%): **48 kaf**
 Official Max (10%): 68 kaf
 Official Percent Avg: **83%**
 Official Percent Med: **117%**

Average: 58 kaf
 Median: 41 kaf

ESP Min (90%): 23 kaf
 ESP Min (70%): 33 kaf
 ESP MP (50%): **39 kaf**
 ESP Min (30%): 44 kaf
 ESP Max (10%): 67 kaf
 ESP Percent Average: **68%**
 ESP Percent Median: **96%**
 ESP Date: 2013-02-05

2013 Runoff Forecast Virgin - Virgin (VIRU1)



Plot Created 2013-02-04 17:46:15, Lastest ESP Run from 2013-02-04, CBRFC / NWS / NOAA
 Maximum of 208.3 in 2005, Minimum of 15.6 in 2002, Average/Median for 1981-2010.



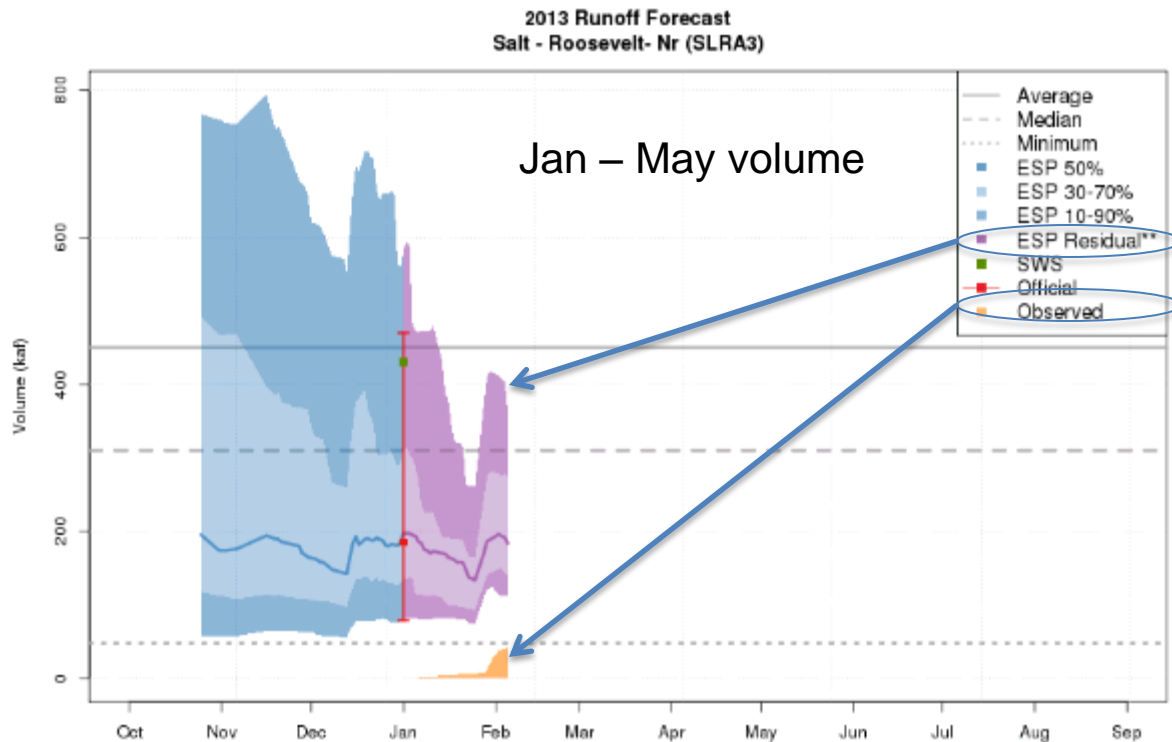
Salt - Roosevelt Nr
 SLRA3 **Feb – May volume**

Official Forecast Date: 2013-02-01
 Official Min (90%): 72 kaf
 Official MP (50%): **142 kaf**
 Official Max (10%): 320 kaf
 Official Percent Avg: **50%**
 Official Percent Med: **46%**

Average: 285 kaf
 Median: 310 kaf

ESP Min (90%): 69 kaf
 ESP Min (70%): 98 kaf
 ESP MP (50%): **141 kaf**
 ESP Min (30%): 232 kaf
 ESP Max (10%): 322 kaf

ESP Percent Average: **31%**
 ESP Percent Median: **46%**
 ESP Date: 2013-02-05

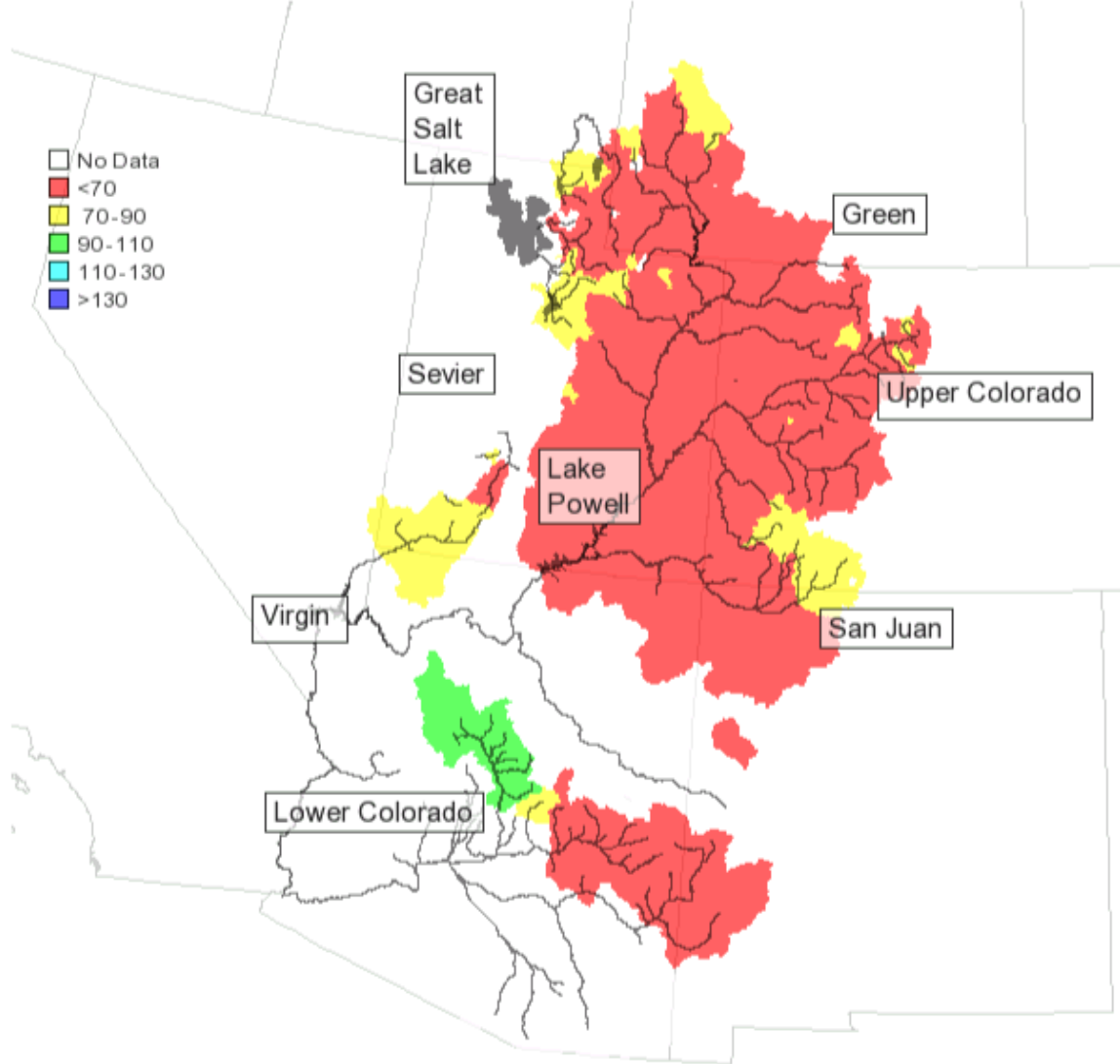


Plot Created 2013-02-05 14:12:32, Latest ESP Run from 2013-01-01, CBRFC / NWS / NOAA
 Maximum of 2120.2 in 1916, Minimum of 48.2 in 2002, Average/Median for 1981-2010.
 **Residual forecasts include observed

Online Publication

Water Supply Outlook, February 1, 2013

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

Contents

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- Gunnison Basin Conditions
- Dolores Basin Conditions
- Upper Colorado Mainstem Specific Site Forecasts
- Gunnison Specific Site Forecasts
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- Precipitation Maps
- Definitions
- Additional Information
- Questions or Comments

Water Supply Forecast Discussion

[CLICK HERE](#) For a narrative describing last months weather conditions, current hydrologic conditions, a

Upper Colorado Summary

February 1, 2013 Water Supply Forecast Discussion

The CBRFC geographic forecast area includes the Upper Colorado River Basin, Lower Colorado River Basin, and Eastern Great Basin.

Seasonal Water Supply Forecasts:

Quick Summary: Some Improvement in the San Juan, Uncompahgre and Salt Rivers Elsewhere Forecasts Generally Lower

Below average spring and summer April-July streamflow volumes are forecast throughout the Upper Colorado River Basin and Great Basin. Near median to below median February-May volumes are expected in the Lower Colorado River Basin.

The highest runoff volumes relative to average are expected in the Great Basin of northern Utah and Green River Basin of southeast Utah. Lowest volumes relative to average are forecast for the Blue, Eagle and Roaring Fork Rivers. In the Lower Colorado River Basin highest volumes relative to median are expected in the Verde Basin with lowest volumes in the Gila Basin

Water Supply Discussion

Weather Synopsis:

The weather pattern during January was dominated by a mostly dry northwest flow over the CBRFC area. There was a brief but significant event that took place towards the end of January. A moist, warm southwest flow became established for a few days over the Southern portions of the CBRFC including most of Arizona, New Mexico and portions of Southern Colorado. This event brought several inches of precipitation to these areas and resulted in a large increase in snow over the San Juan mountains and a significant rain event over Arizona.

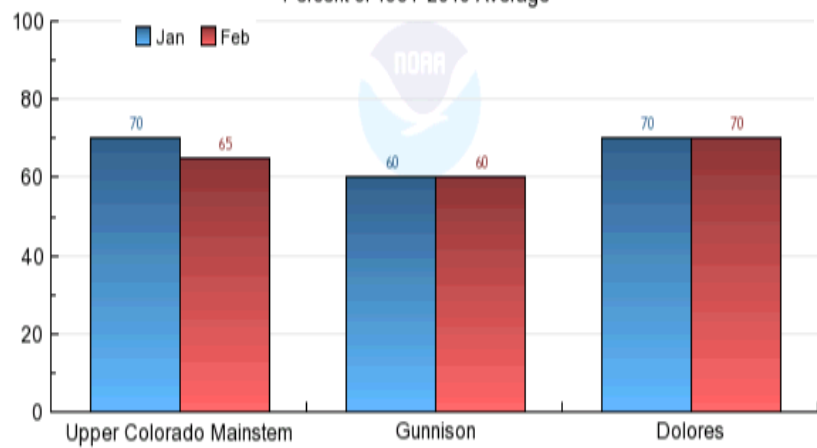
Snowpack:

Snow conditions in early February deteriorated over the northern Great Basin and upper Green Basin, with some improvement over the San Juan basin and southern portions of the Gunnison basin. In general, as of February 1st, most SNOTEL sites in the CBRFC area are at or below average.

Snow in the the Roaring Fork, Blue, and Eagle River Basins continue to record some of the lowest values for their respective periods of record (red sites on the map below). Several other sites are in the bottom 10 percent of record (orange on the map). Most SNOTEL sites in this area have periods of record around 30 to 35 years so they rank near the 2nd or 3rd lowest for this time of year.

Upper Colorado April - July Volume Forecasts 2013

Percent of 1981-2010 Average*



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*Median of forecasts within each basin.

CBRFC News

- Basin Focal Points (Available to discuss forecasts: 801.524.5130)
 - Upper Colorado: Brenda Alcorn
 - Green: Ashley Nielson
 - San Juan / Gunnison: Greg Smith
 - Dolores: John Lhotak
 - Great Basin: Brent Bernard
 - Sevier / Virgin: Stacie Bender
 - Lower Colorado (below Lake Powell): Tracy Cox
- Misc:
 - Sign up for next webinar Mar 6
 - Email product updates via govdelivery no longer working – we are working on a new email list

More Resources

- www.cbrfc.noaa.gov
- wateroutlook.nwrfc.noaa.gov
- March webinar: 11am Mar 6

Feedback, Questions, Concerns always welcome....



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