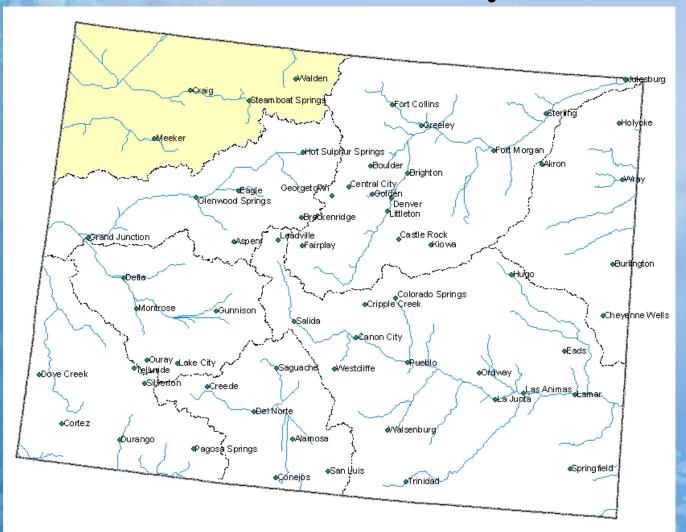
# NRCS – Snow Survey & Water Supply Forecasting

## Water Availability Task Force Meeting March 20th, 2014

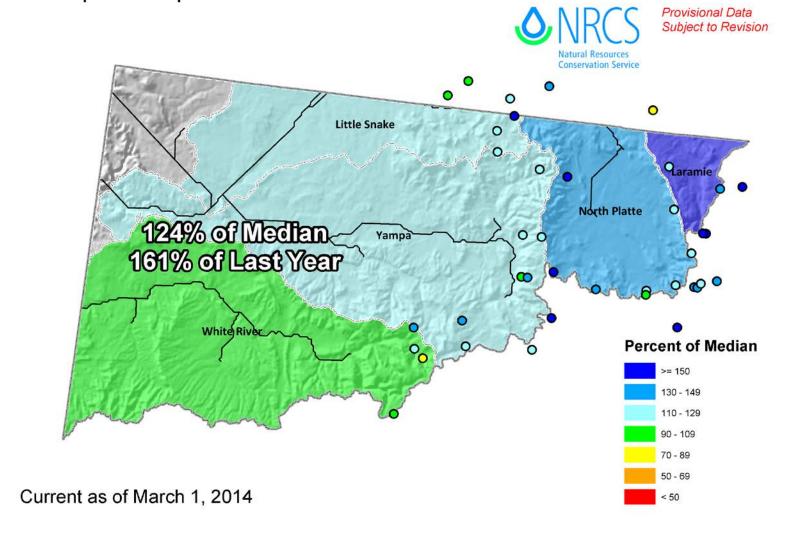
Mage Hultstrand
Assistant Snow Survey Supervisor
720-544-2855

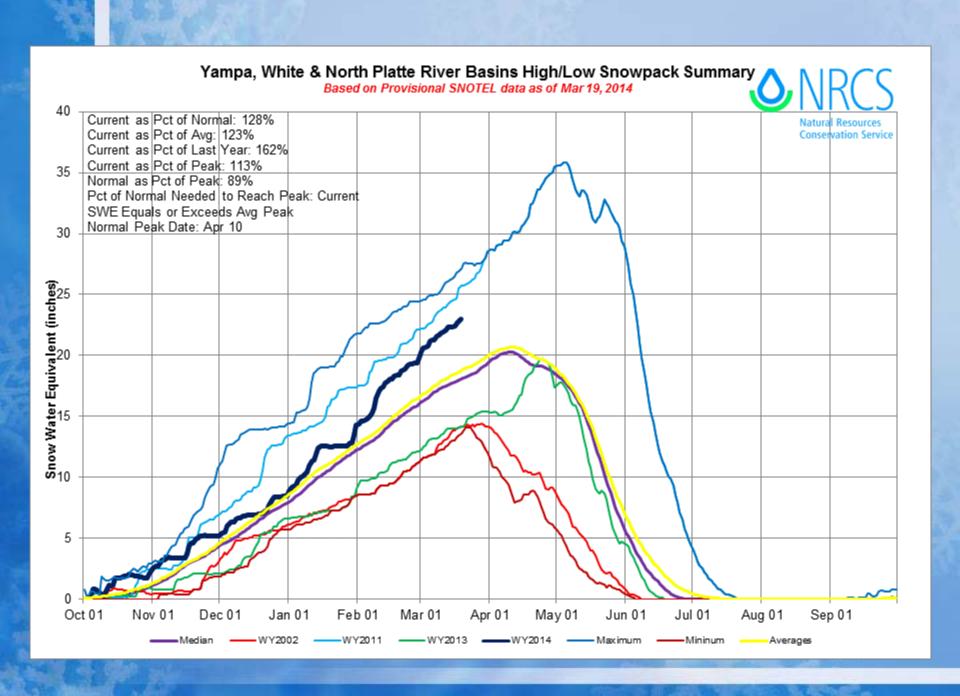
http://www.co.nrcs.usda.gov/snow/

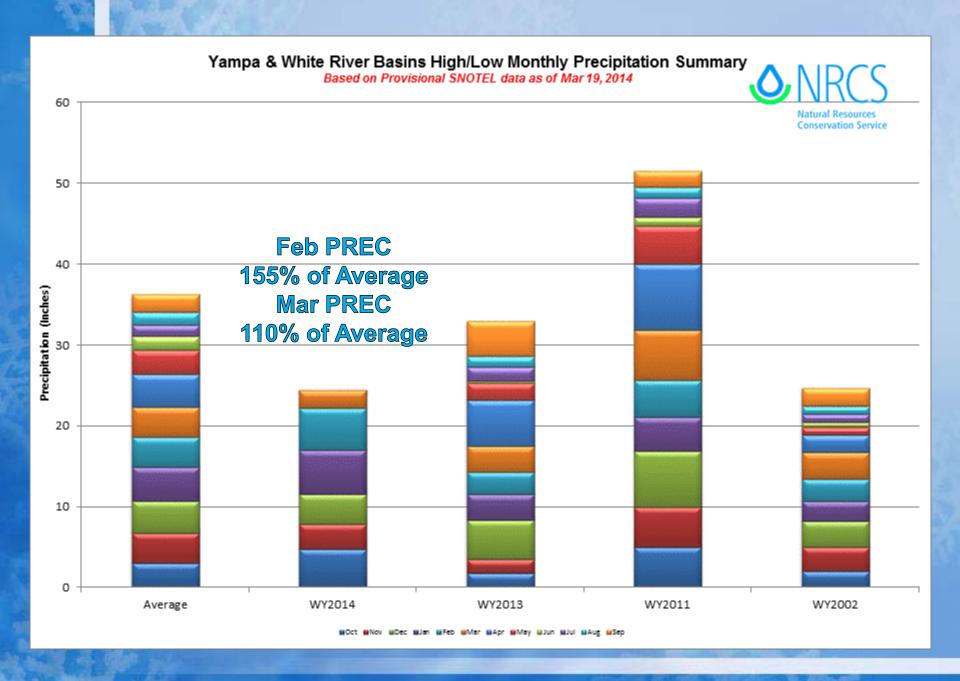
## Yampa, White & North Platte River Basins Summary



Yampa, White and North Platte River Basins Snowpack Map



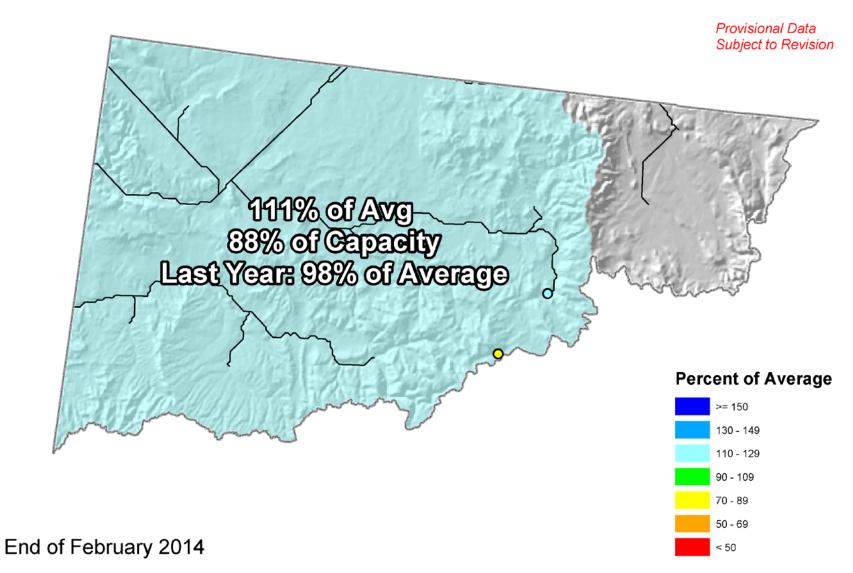




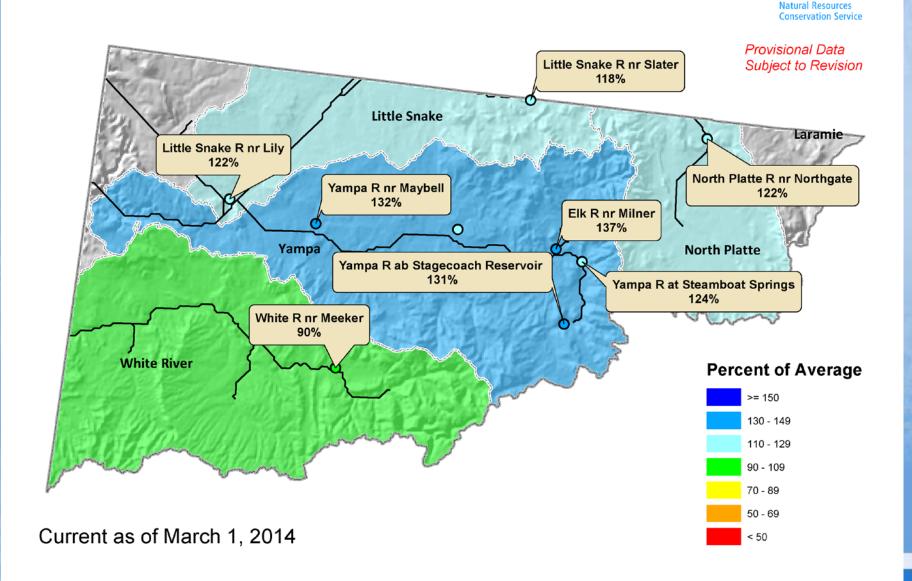
Yampa & White River Basins High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Mar 19, 2014 60.0 Current as Pct of Average: 118% Conservation Service Current as Pct of Median: 121% Current as Pct of Last Year: 152% Current as Pct of Average Annnual Total: 67% Average as Pct of Average Annual Total: 57% 50.0 Pct of Avg Needed to Reach Avg Annual Total: 76% Year-to-Date Precipitation (inches) 40.0 30.0 20.0 10.0 Jan 01 Oct 01 Nov 01 Dec 01 Feb 01 Mar 01 Apr 01 May 01 Jun 01 Jul 01 Aug 01 Sep 01 WY2002 WY2011 WY2013 Maximum

#### Yampa & White River Basins Reservoir Storage Map

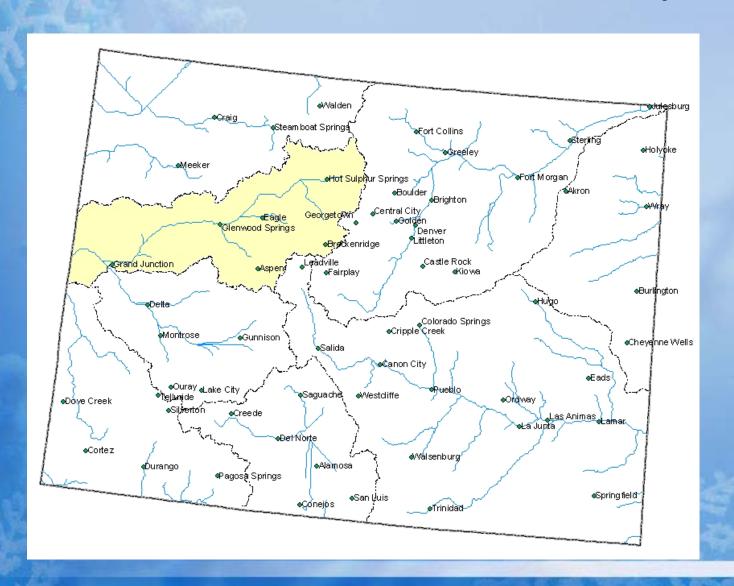




#### Yampa, White and North Platte River Basins Streamflow Map

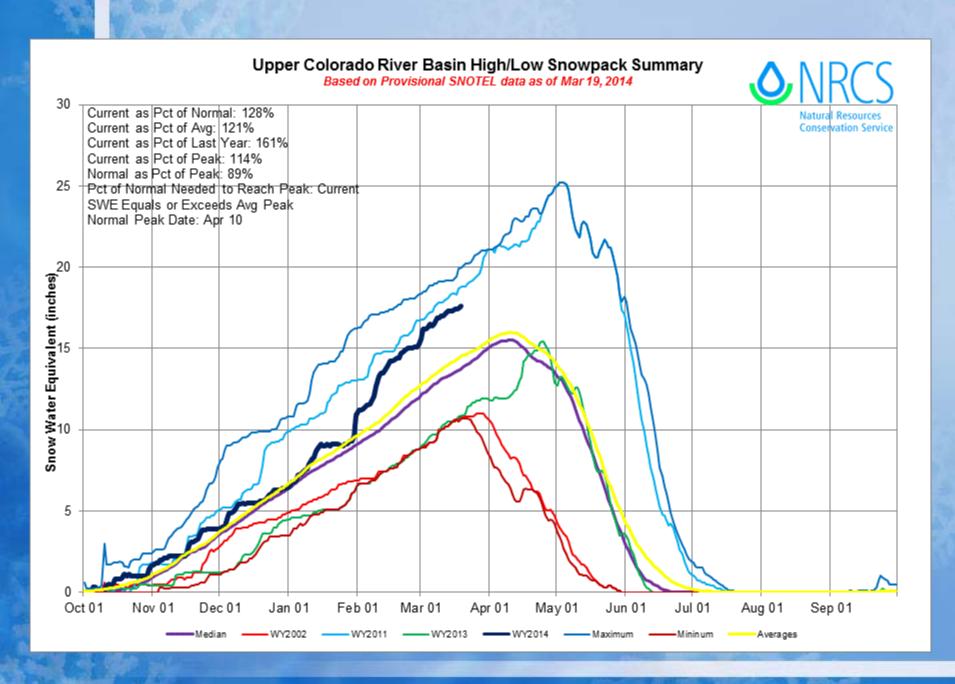


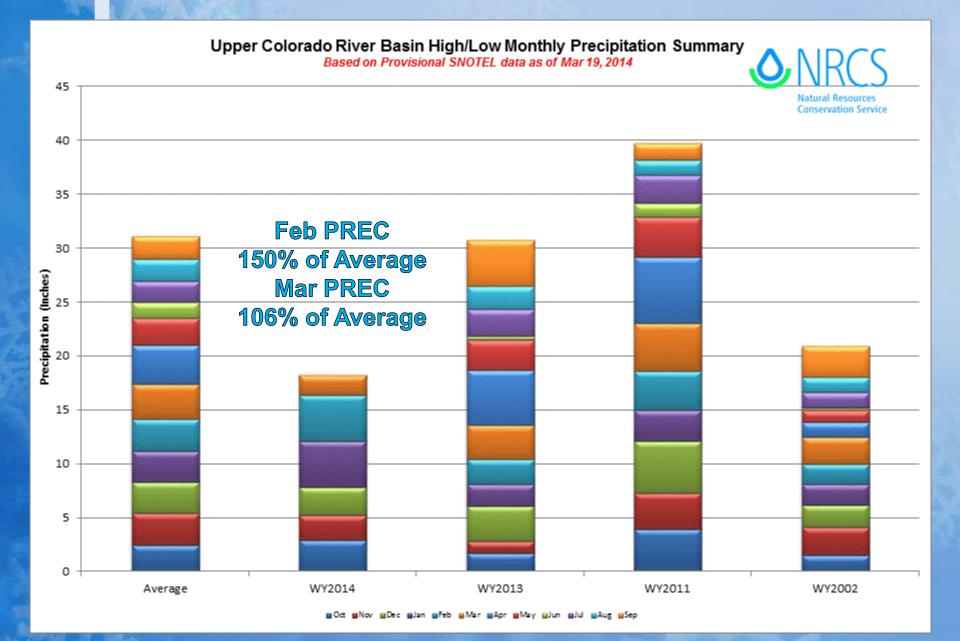
### Colorado River Basin Summary



#### Colorado River Basin Snowpack Map Provisional Data **Percent of Median** Subject to Revision Conservation Service >= 150 130 - 149 110 - 129 90 - 109 70 - 89 50 - 69 < 50 **Upper Colorado** Eagle O Blue River 130% of Median 185% of Last Year Roaring Fork

Current as of March 1, 2014





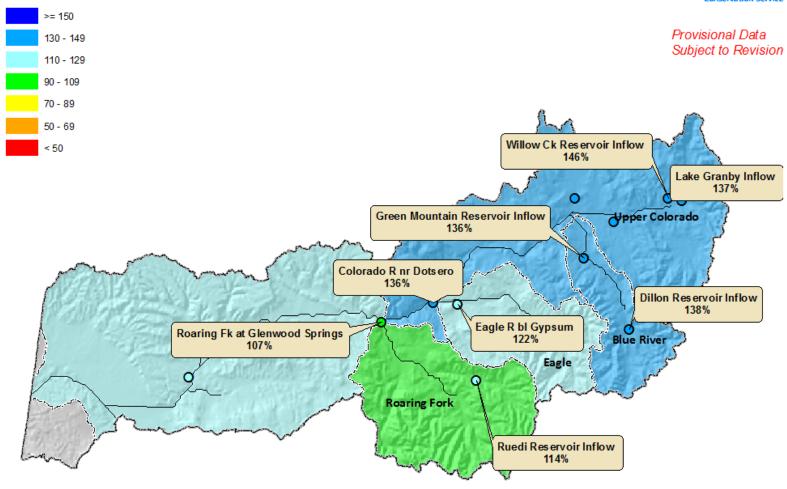
Upper Colorado River Basin High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Mar 19, 2014 45.0 Current as Pct of Average: 114% Current as Pct of Median: 119% Conservation Service Current as Pct of Last Year: 148% Current as Pct of Average Annnual Total: 59% Average as Pct of Average Annual Total: 51% Pct of Avg Needed to Reach Avg Annual Total: 85% 35.0 Year-to-Date Precipitation (inches) 30.0 25.0 20.0 15.0 10.0 5.0 Jan 01 Oct 01 Nov 01 Dec 01 Feb 01 Mar 01 Apr 01 May 01 Jun 01 Jul 01 Aug 01 Sep 01 WY 2002 WY 2011 WY 2013 WY 2014 Median Maximum Mit inum

### Colorado River Basin Reservoir Storage Map **Percent of Average** Conservation Service >= 150 Provisional Data 130 - 149 Subject to Revision 110 - 129 90 - 109 70 - 89 50 - 69 < 50 97% of Avg 67% of Capacity Last Year: 65% of Average

End of February 2014

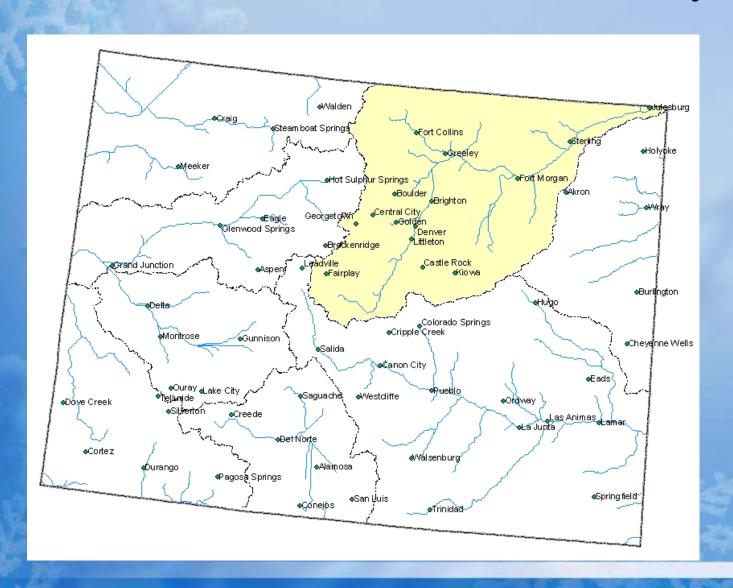
#### Colorado River Basin Streamflow Forecast Map

## **Percent of Average**

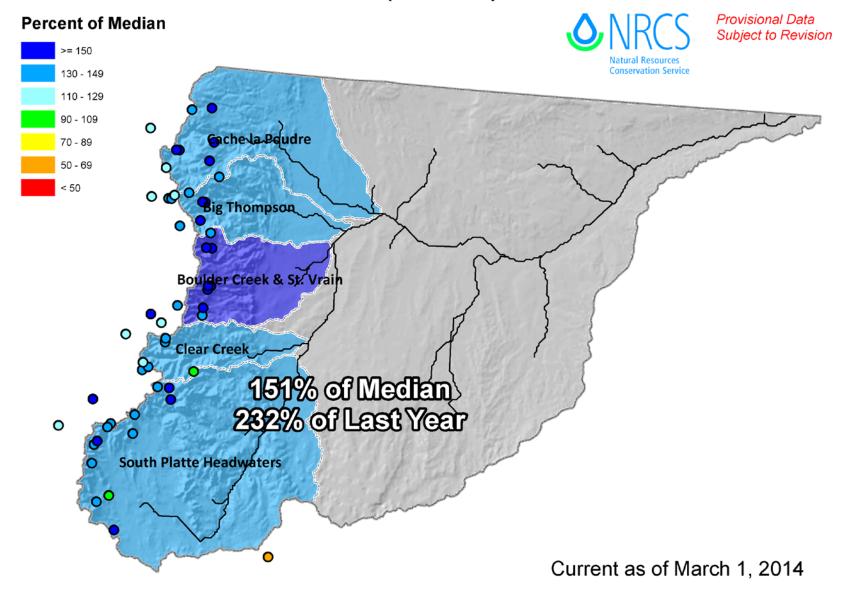


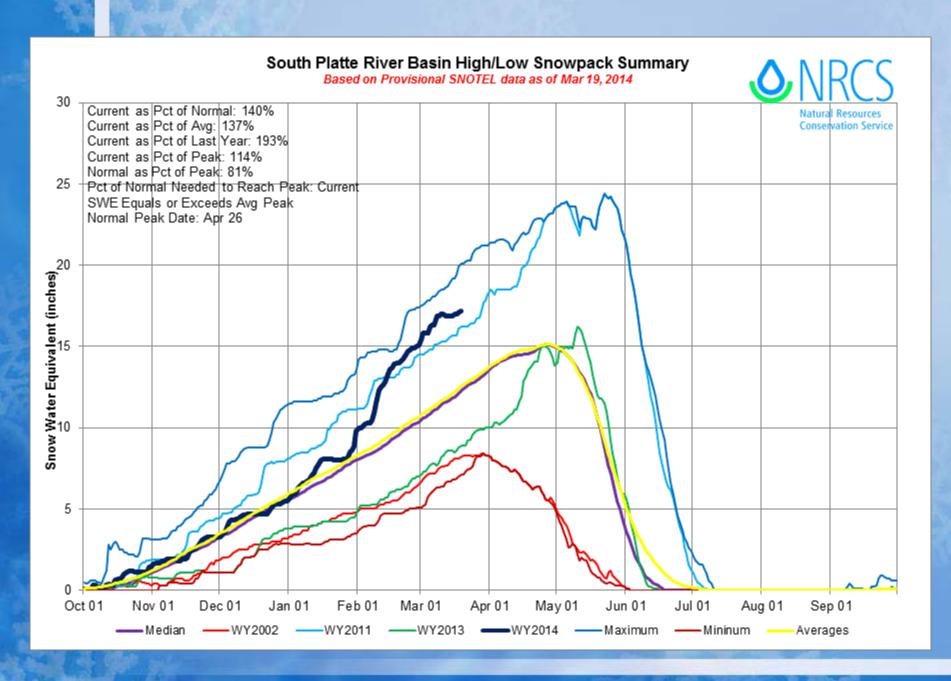
Current as of March 1, 2014

## South Platte River Basin Summary

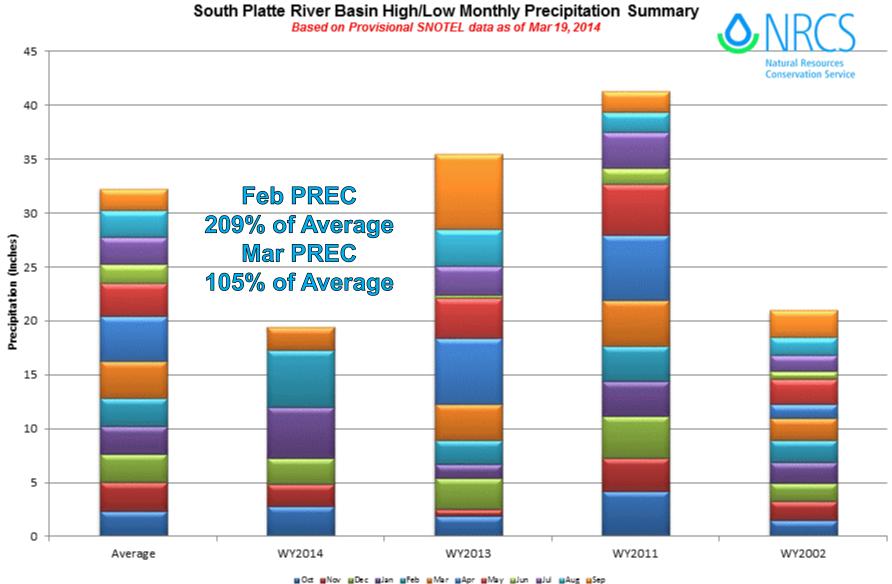


#### South Platte River Basin Snowpack Map





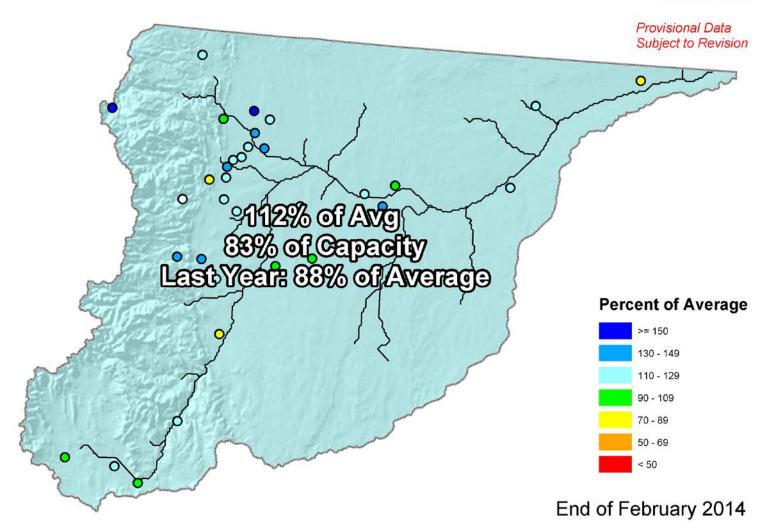




South Platte River Basin High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Mar 19, 2014 45.0 Current as Pct of Average: 130% Current as Pct of Median: 132% Conservation Service Current as Pct of Last Year: 176% Current as Pct of Average Annnual Total: 60% Average as Pct of Average Annual Total: 46% Pct of Avg Needed to Reach Avg Annual Total: 74% 35.0 30.0 Year-to-Date Precipitation (inches) 25.0 20.0 15.0 10.0 5.0 0.0 Jan 01 Oct 01 Nov 01 Dec 01 Feb 01 Mar 01 Apr 01 May 01 Jun 01 Jul 01 Aug 01 Sep 01 WY 2002 WY 2011 WY 2013 WY 2014 Median Maximum Mit inum

#### South Platte River Basin Reservoir Storage Map

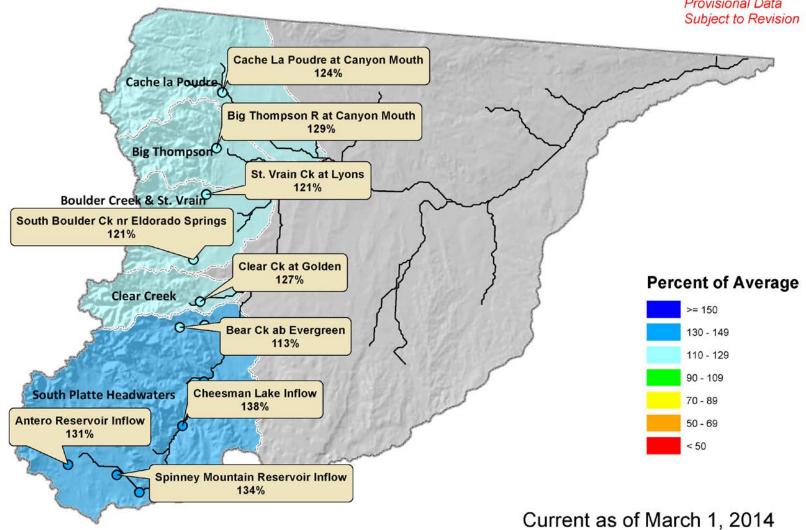




#### South Platte River Basin Streamflow Forecast Map

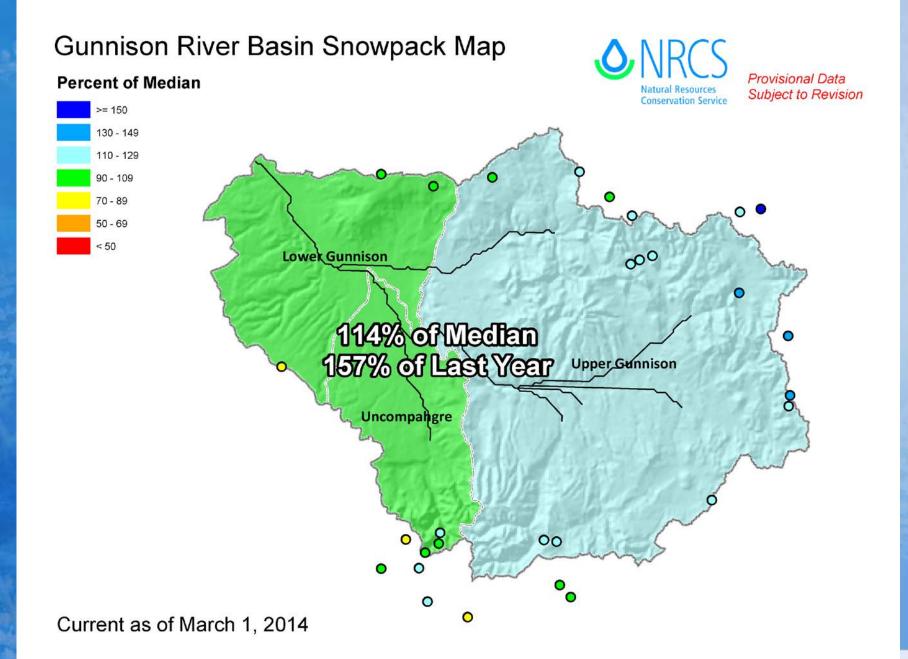


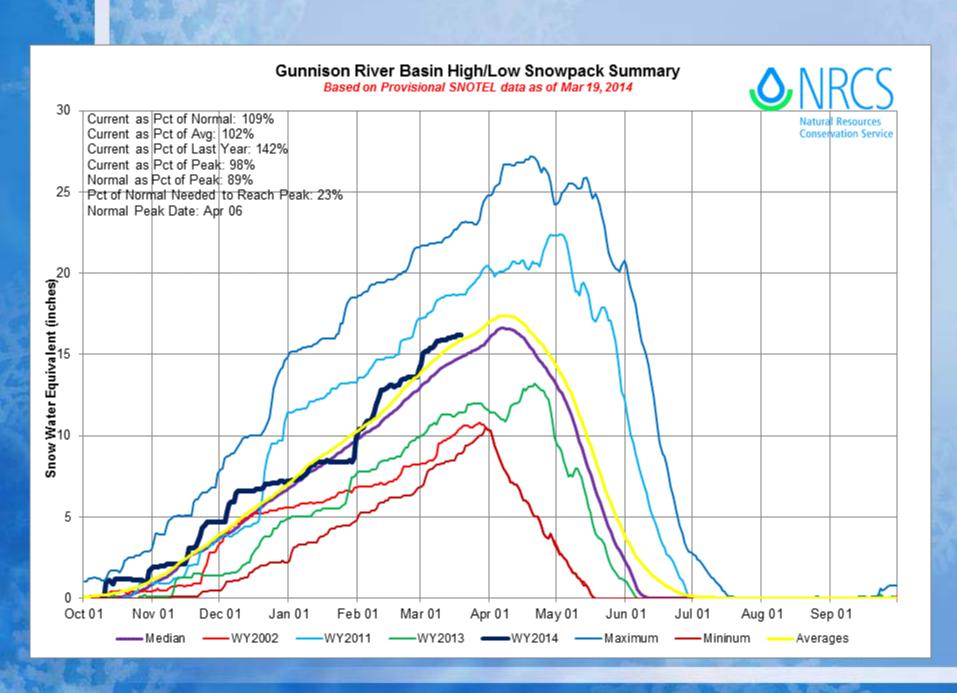


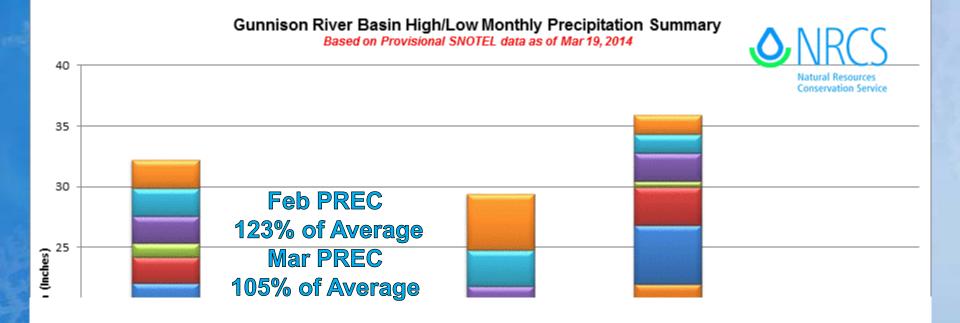


## Gunnison River Basin Summary

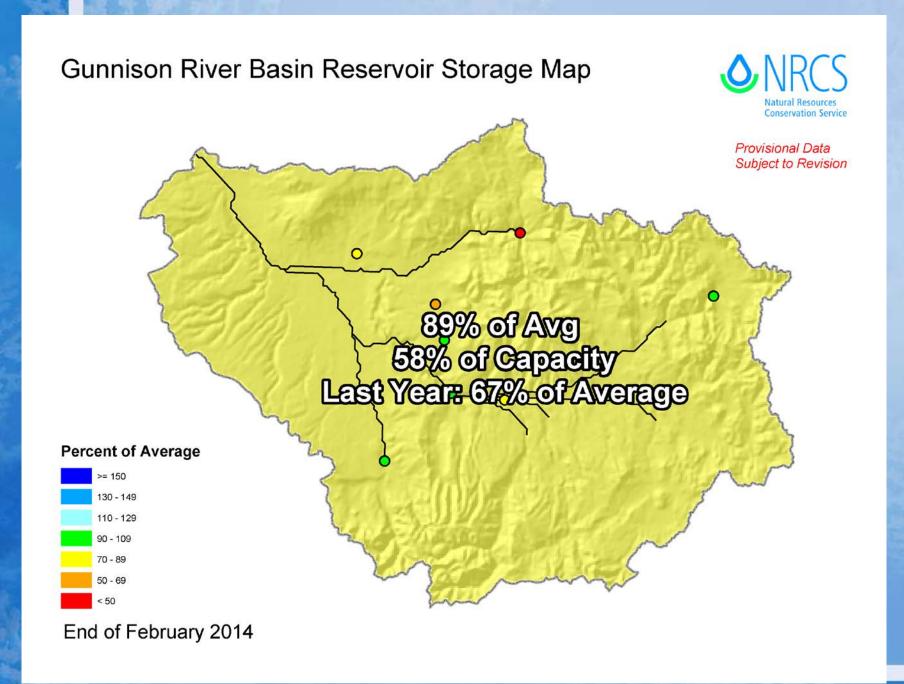


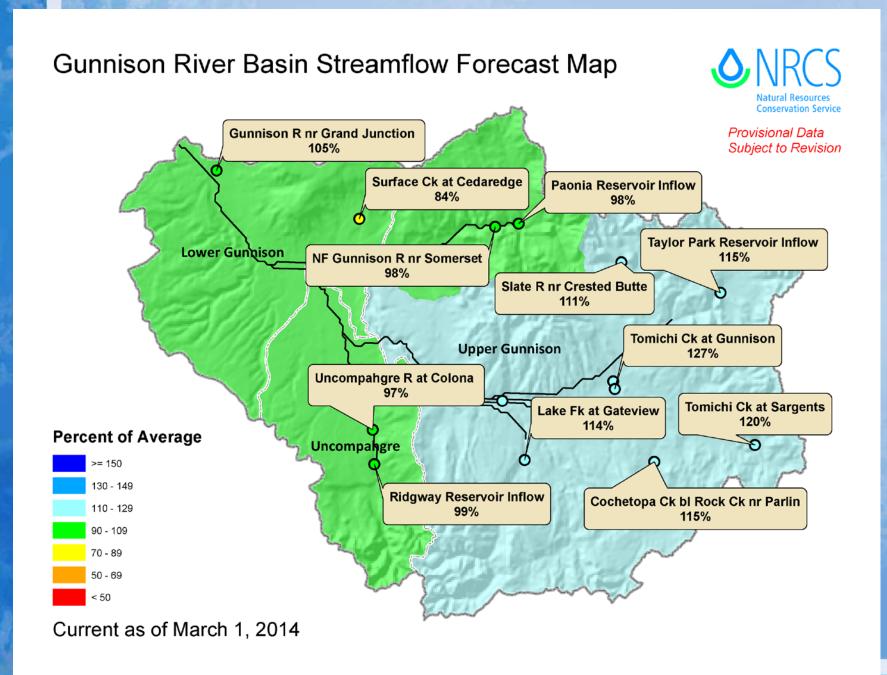




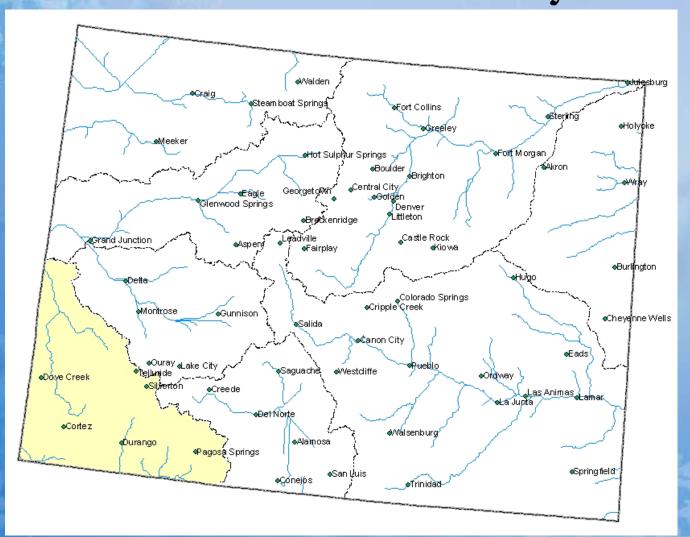


Gunnison River Basin High/Low Year-to-Date Precipitation Summary
Based on Provisional SNOTEL data as of Mar 19, 2014 50.0 Current as Pct of Average: 103% Current as Pct of Median: 108% Conservation Service Current as Pct of Last Year: 142% 45.0 Current as Pct of Average Annnual Total: 55% Average as Pct of Average Annual Total: 53% Pct of Avg Needed to Reach Avg Annual Total: 97% 40.0 35.0 Year-to-Date Precipitation (inches) 30.0 25.0 20.0 15.0 10.0 5.0 0.0 Nov 01 Jan 01 Oct 01 Dec 01 Feb 01 Mar 01 Apr 01 May 01 Jun 01 Jul 01 Aug 01 Sep 01 WY 2002 WY 2011 WY 2013 WY 2014 Median Maximum Mit inum





## San Miguel, Dolores, Animas & San Juan River Basins Summary



San Miguel, Dolores, Animas and San Juan River Basins Snowpack Map

Provisional Data Subject to Revision

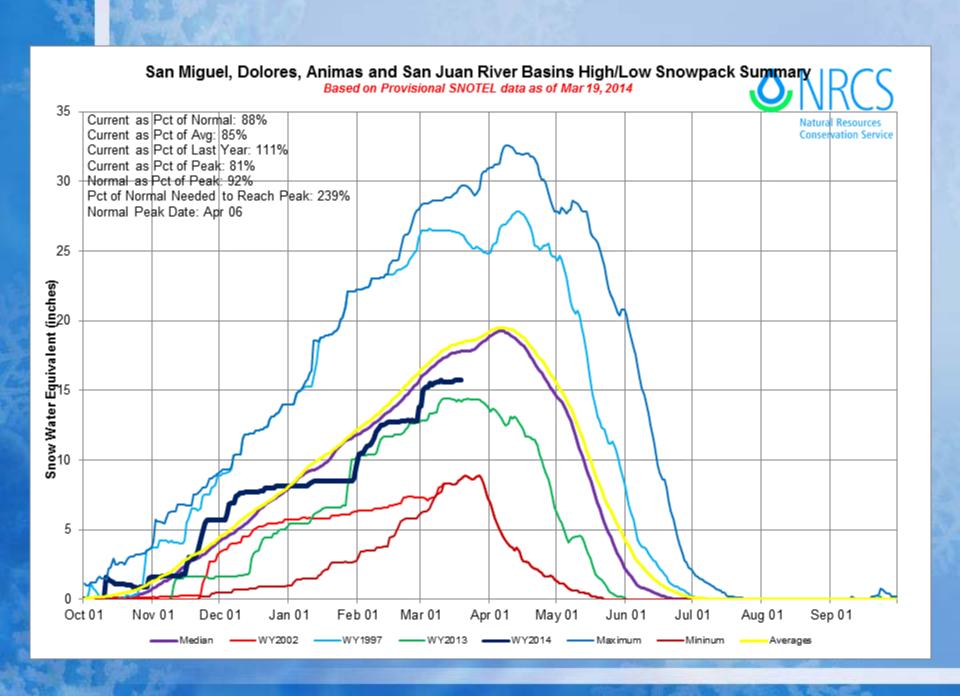
**Percent of Median** >= 150 Conservation Service 130 - 149 Dolores 110 - 129 90 - 109 70 - 89 50 - 69 < 50 San Miguel 85% of Median 103% of Last Year O Animaso O

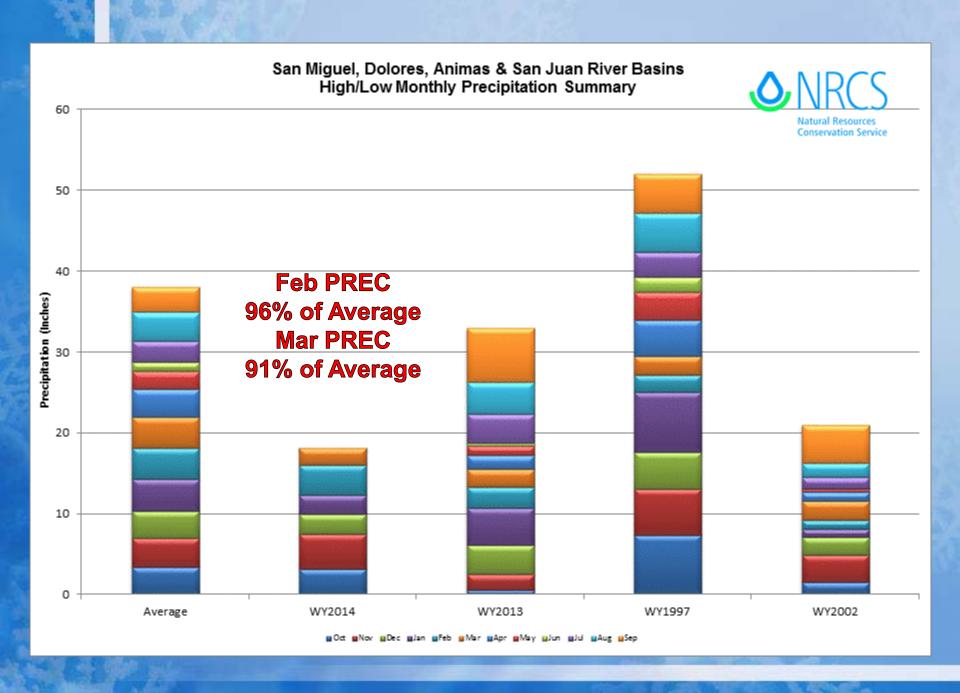
La Plata

San Juan

Mancos

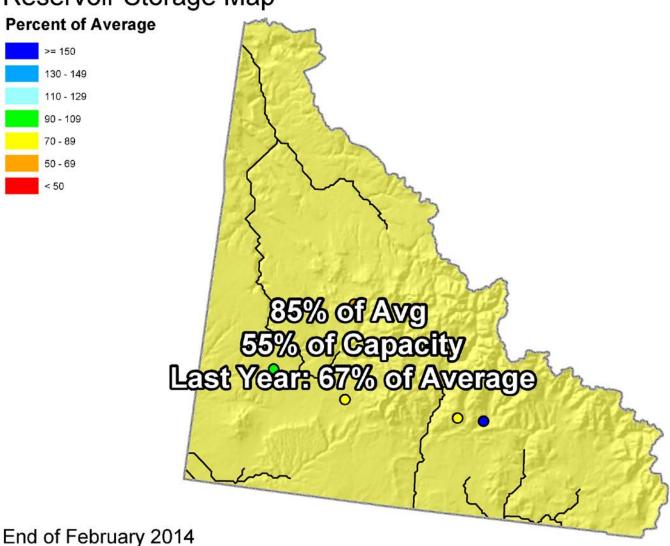
Current as of March 1, 2014





San Miguel, Dolores, Animas & San Juan River Basins High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Mar 19, 2014 60.0 Current as Pct of Average: 89% Conservation Service Current as Pct of Median: 92% Current as Pct of Last Year: 121% Current as Pct of Average Annnual Total: 48% Average as Pct of Average Annual Total: 54% 50.0 Pct of Avg Needed to Reach Avg Annual Total: 113% Year-to-Date Precipitation (inches) 10.0 Feb 01 Mar 01 Jun 01 Jul 01 Oct 01 Nov 01 Dec 01 Jan 01 Apr 01 May 01 Aug 01 Sep 01 WY 2002 WY 1997 WY 2013 WY 2014 Maximum Mit inum

San Miguel, Dolores, Animas and San Juan River Basins Reservoir Storage Map



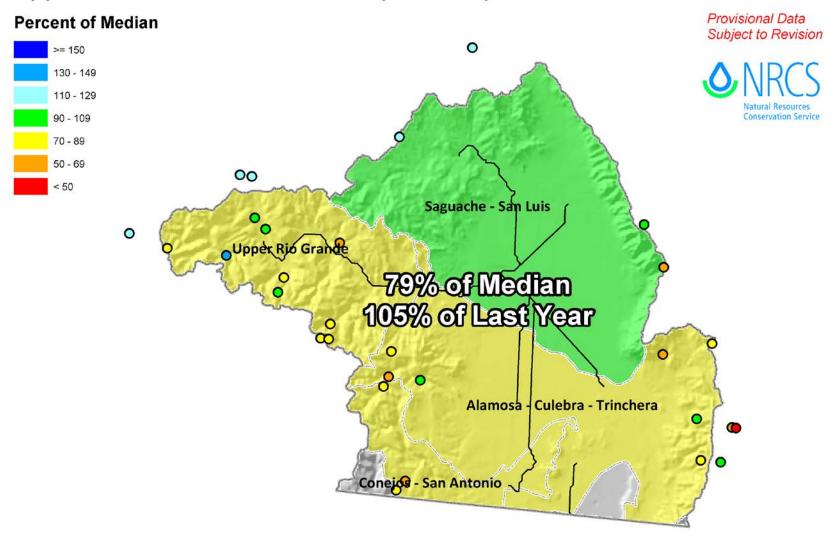


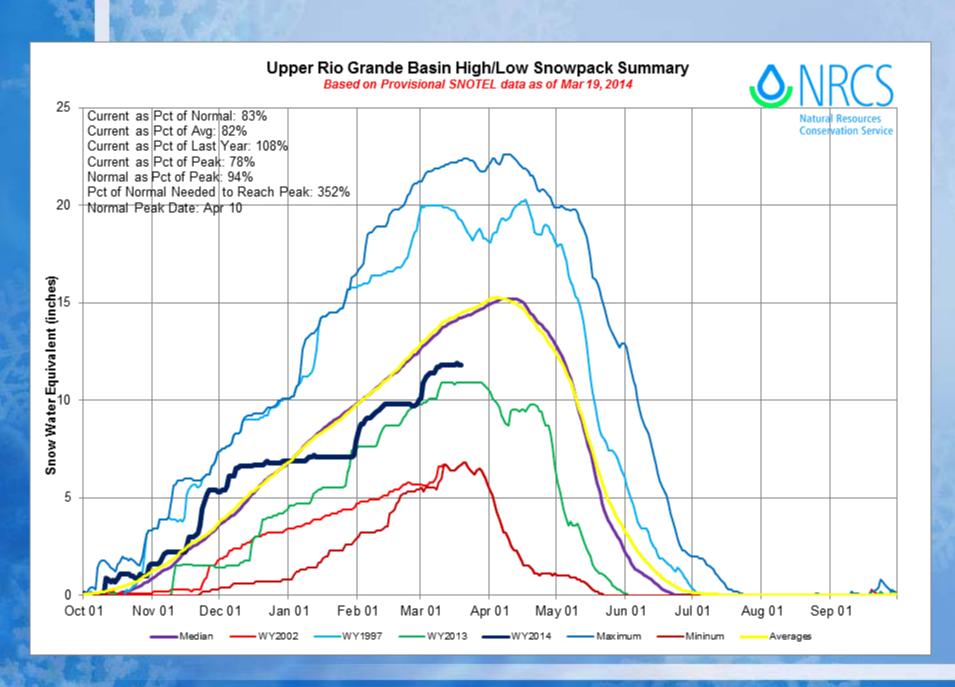
Provisional Data Subject to Revision San Miguel, Dolores, Animas and San Juan River Basins Streamflow Forecast Map Provisional Data Subject to Revision Dolores San Miguel River nr Placerville San Miguel 107% McPhee Reservoir Inflow 85% Percent of Average Mancos River nr Mancos 68% >= 150 **Dolores River at Dolores** Vallecito Reservoir Inflow 130 - 149 85% Animas 110 - 129 Mancos 90 - 109 Lemon Reservoir Inflow 70 - 89 90% 50 - 69 Animas River at Durango San Juan 96% San Juan River nr Carracus Current as of March 1, 2014 77%

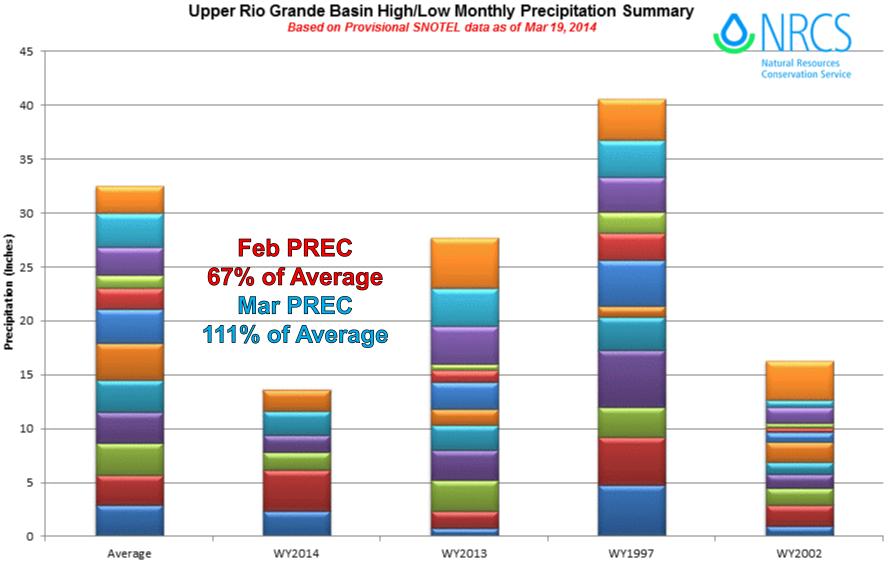
# Upper Rio Grande Basin Summary



# Upper Rio Grande Basin Snowpack Map

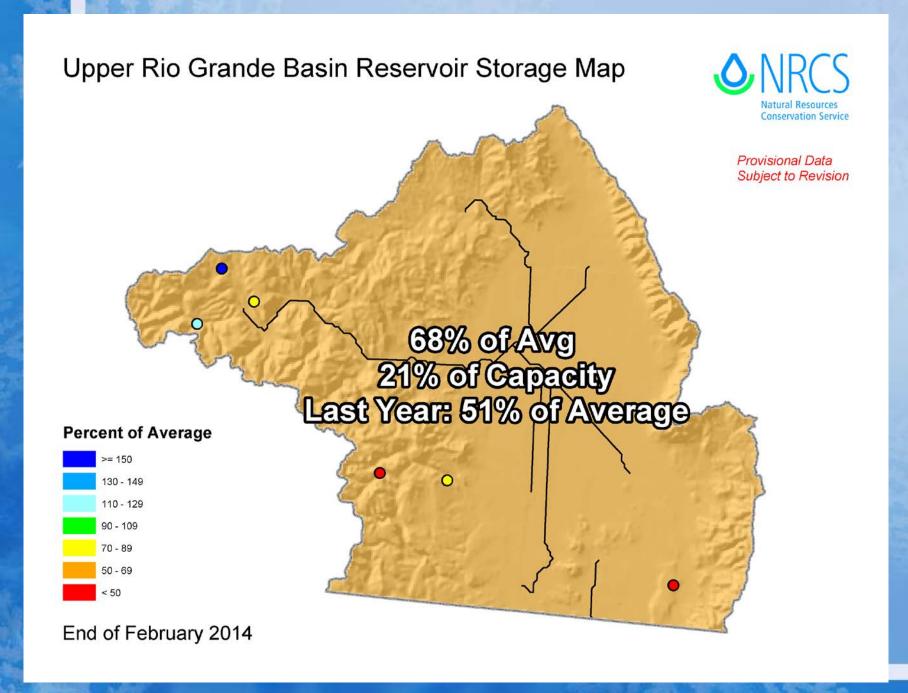


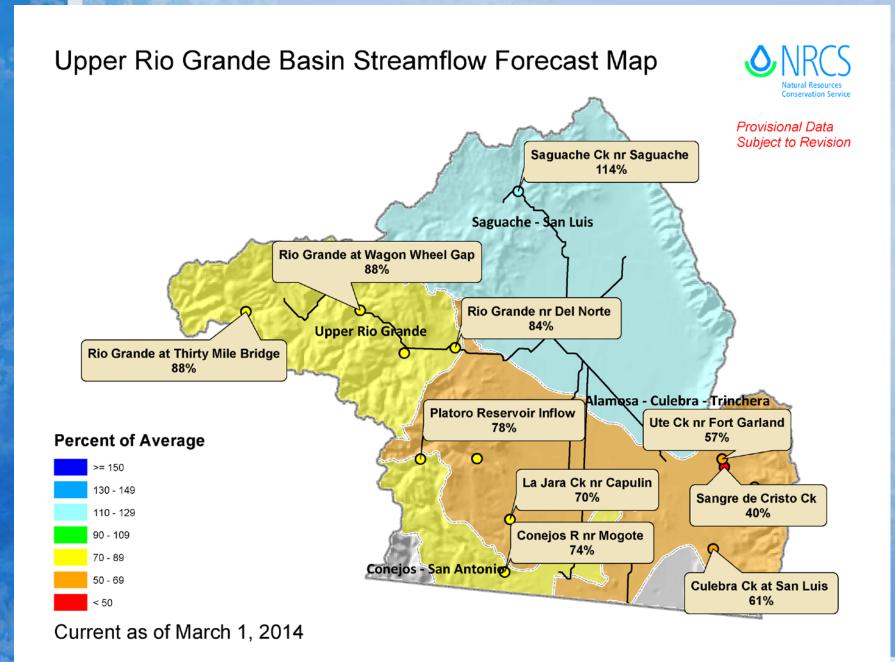




■Oct ■Nov ■Dec ■Jan ■Feb ■Mar ■Apr ■May ■Jun ■Jul ■Aug ■Sep

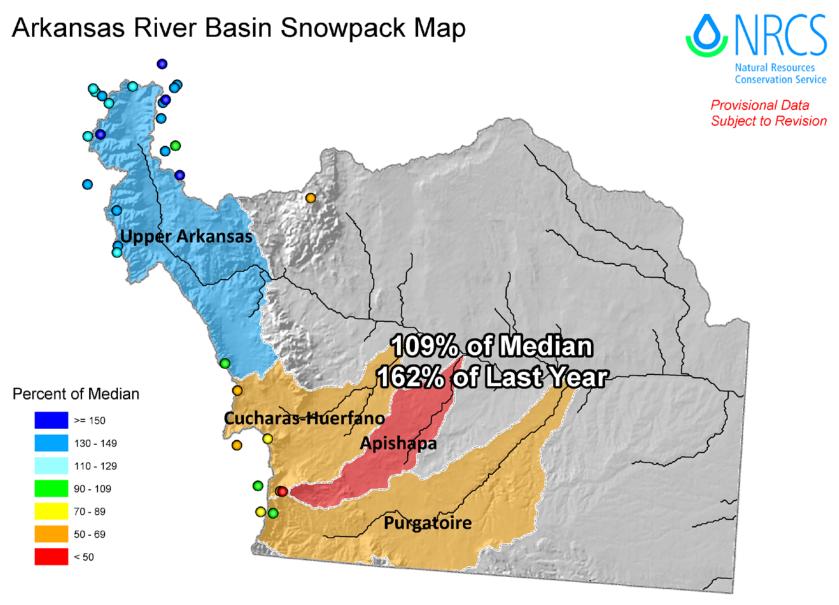
Upper Rio Grande Basin High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Mar 19, 2014 50.0 Current as Pct of Average: 83% Current as Pct of Median: 84% Conservation Service Current as Pct of Last Year: 117% 45.0 Current as Pct of Average Annnual Total: 42%
Average as Pct of Average Annual Total: 51%
Pct of Avg Needed to Reach Avg Annual Total: 118% 40.0 Vear-to-Date Precipitation (inches) 15.0 10.0 5.0 Jan 01 Mar 01 Jun 01 Oct 01 Nov 01 Dec 01 Feb 01 Apr 01 May 01 Jul 01 Aug 01 Sep 01 WY 2002 WY 1997 WY 2013 WY 2014 Median Maximum Mit inum

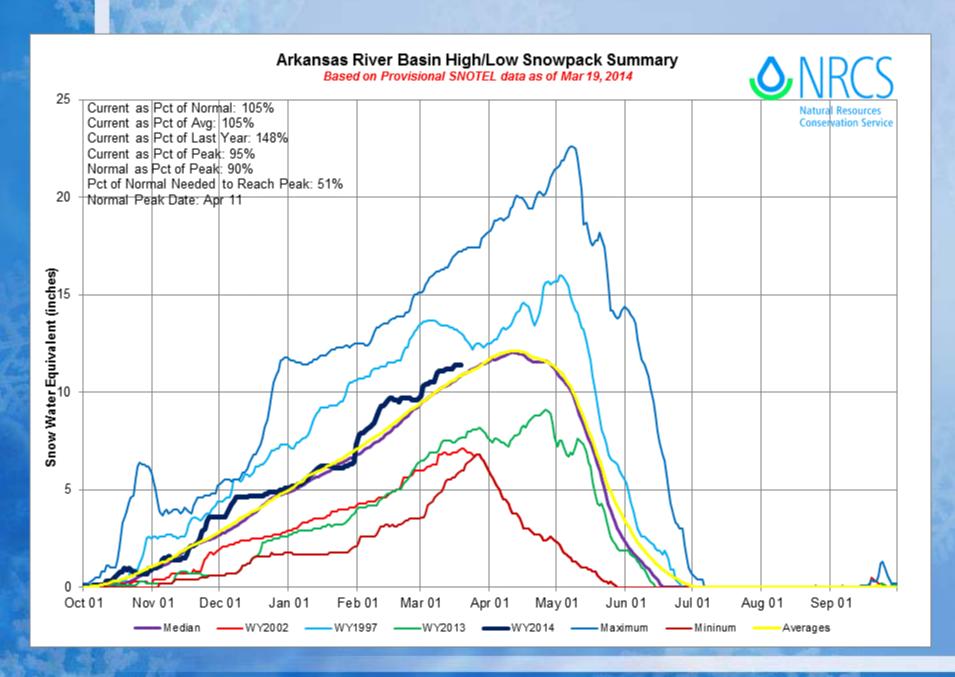




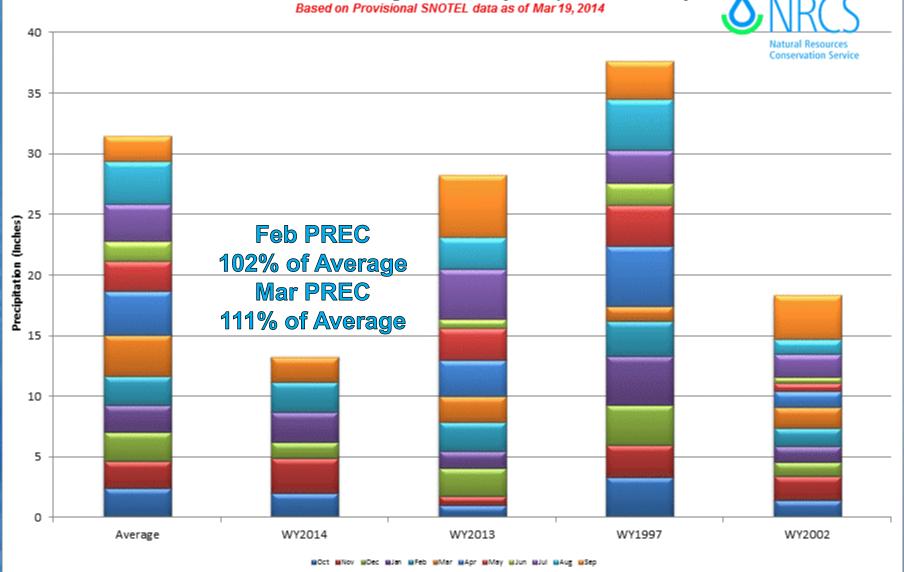
# Arkansas River Basin Summary



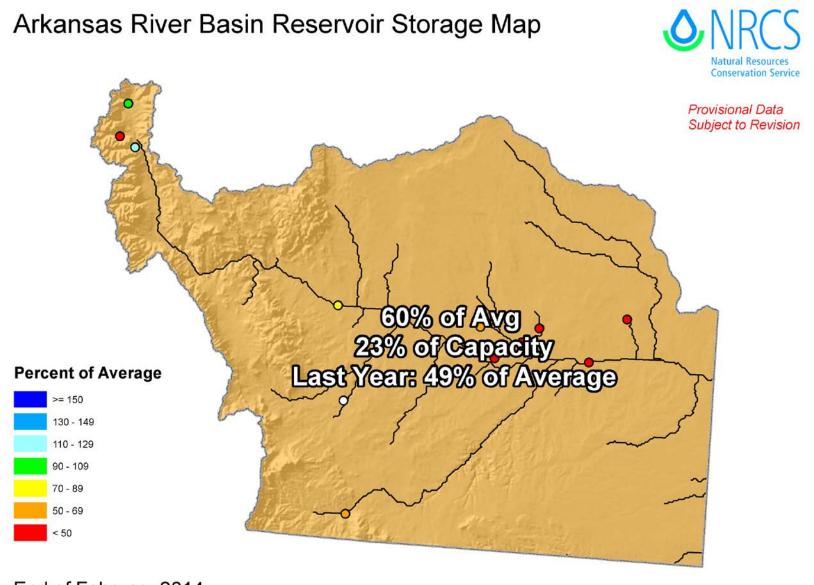








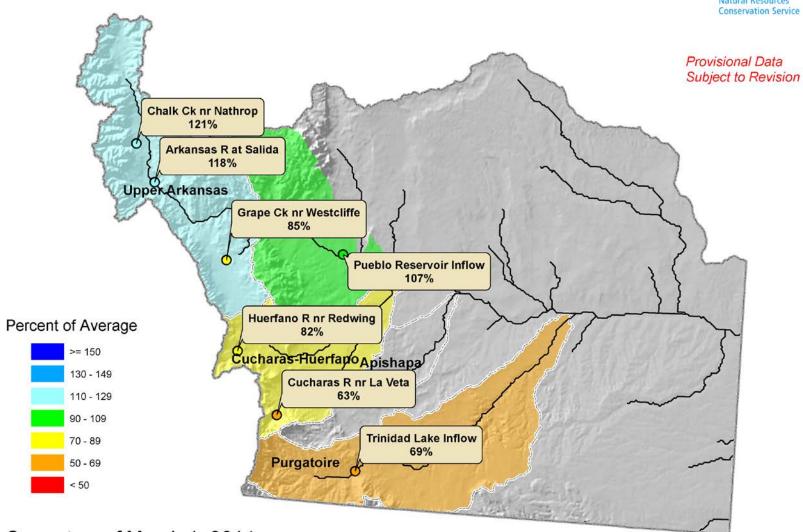
Arkansas River Basin High/Low Year-to-Date Precipitation Summary Based on Provisional SNOTEL data as of Mar 19, 2014 45.0 Current as Pct of Average: 98% Current as Pct of Median: 102% Conservation Service Current as Pct of Last Year: 143% Current as Pct of Average Annnual Total: 42% Average as Pct of Average Annual Total: 43% Pct of Avg Needed to Reach Avg Annual Total: 101% 35.0 Year-to-Date Precipitation (inches) 0.07 0.12 0.07 10.0 5.0 0.0 Jan 01 Feb 01 Jun 01 Jul 01 Oct 01 Nov 01 Dec 01 Mar 01 Apr 01 May 01 Aug 01 Sep 01 WY2013 Maximum



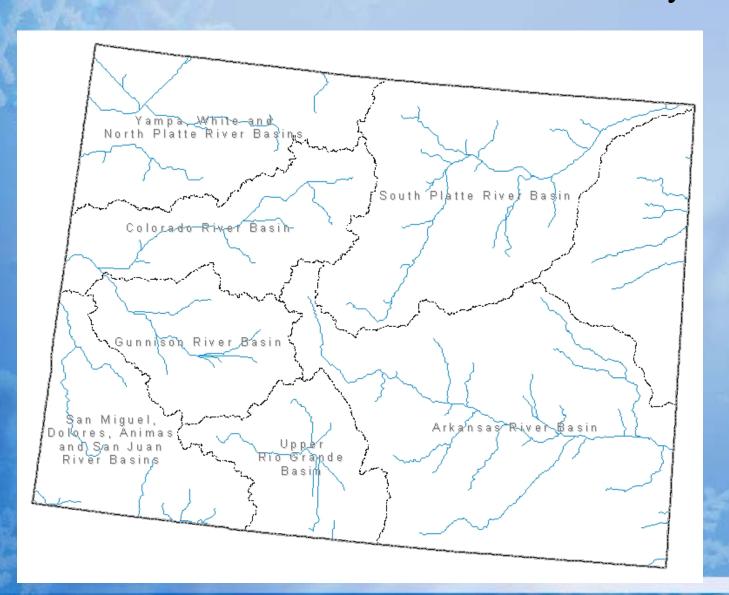
End of February 2014

## Arkansas River Basin Streamflow Forecast Map



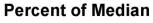


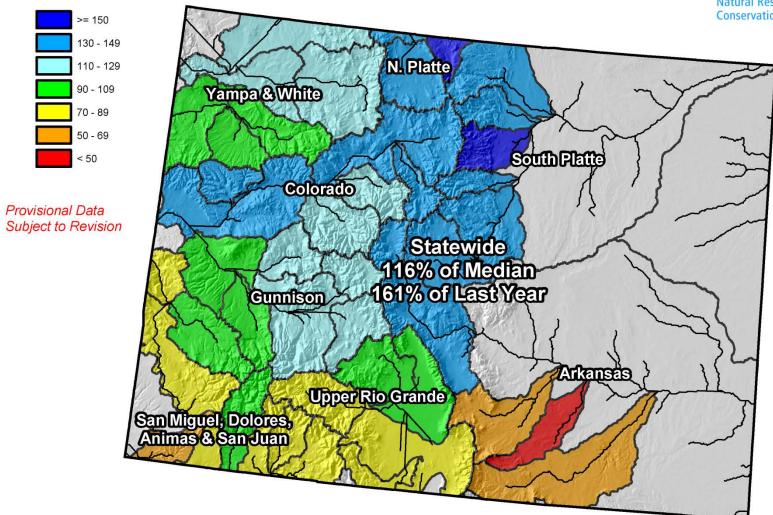
# Colorado Statewide Summary

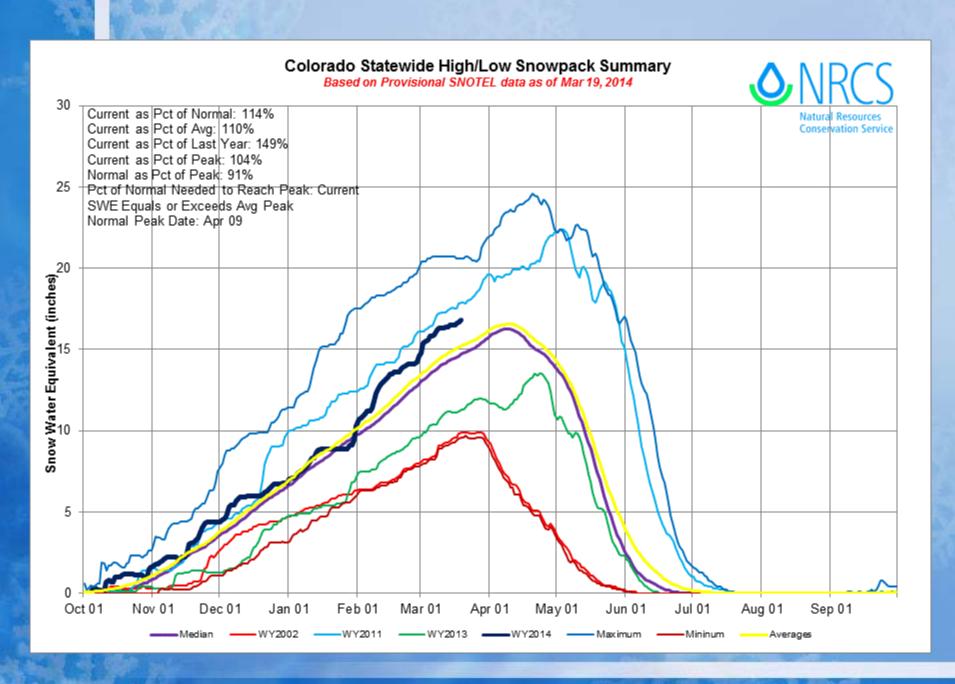


## Colorado Snowpack Map



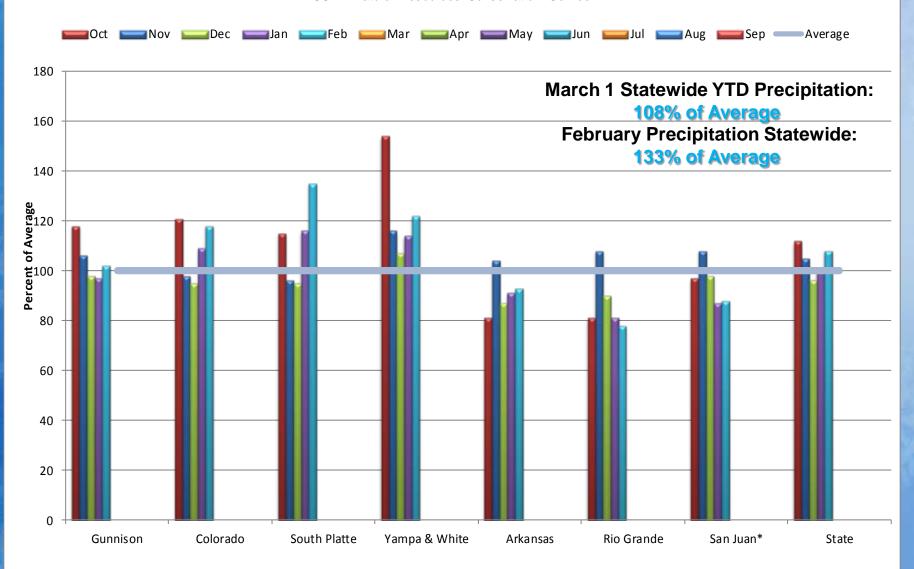






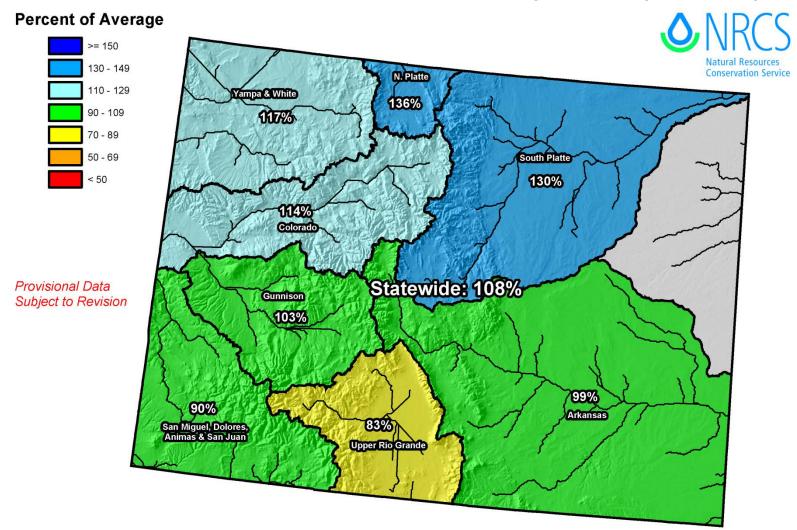
### Colorado Year-to-Date Precipitation Summary for WY2014

USDA Natural Resources Conservation Service



\*Includes Animas, Dolores, San Miguel Basins

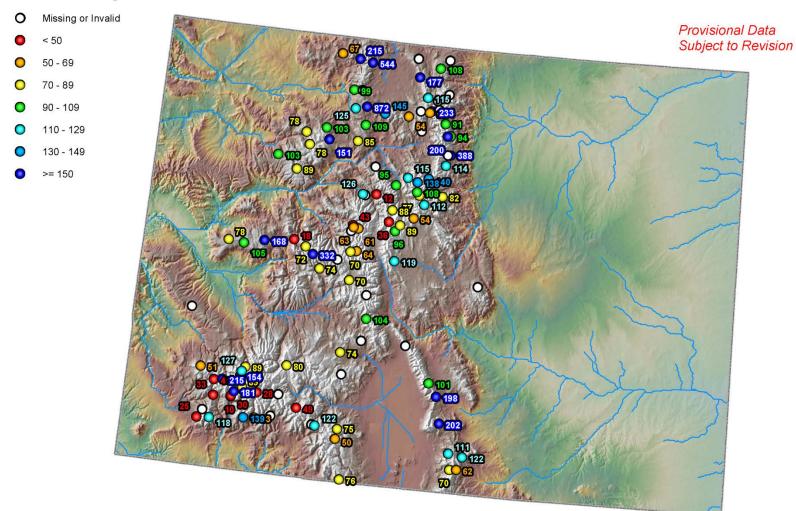
# Colorado SNOTEL Water Year-to-Date Precipitation Update Map



Current as of 03/19/2014

# Colorado SNOTEL Month-to-Date Precipitation

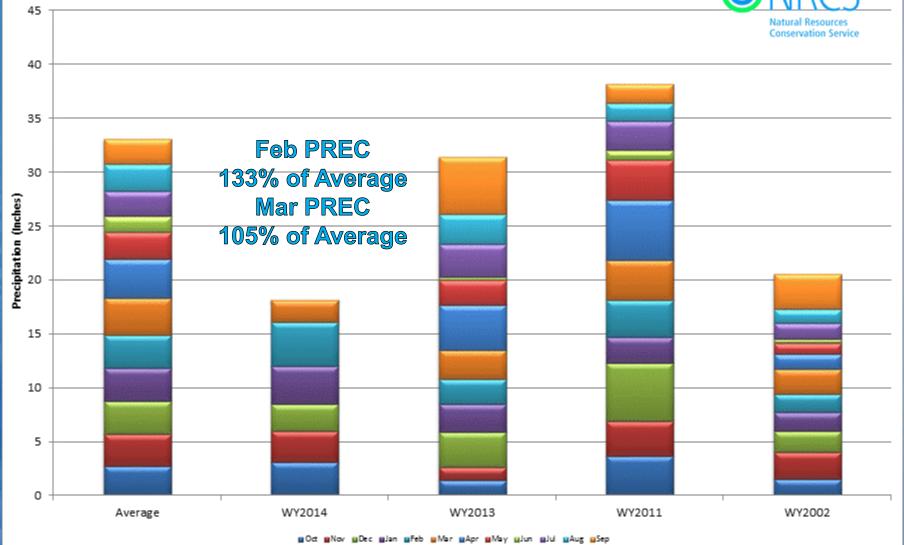
#### Percent of Average

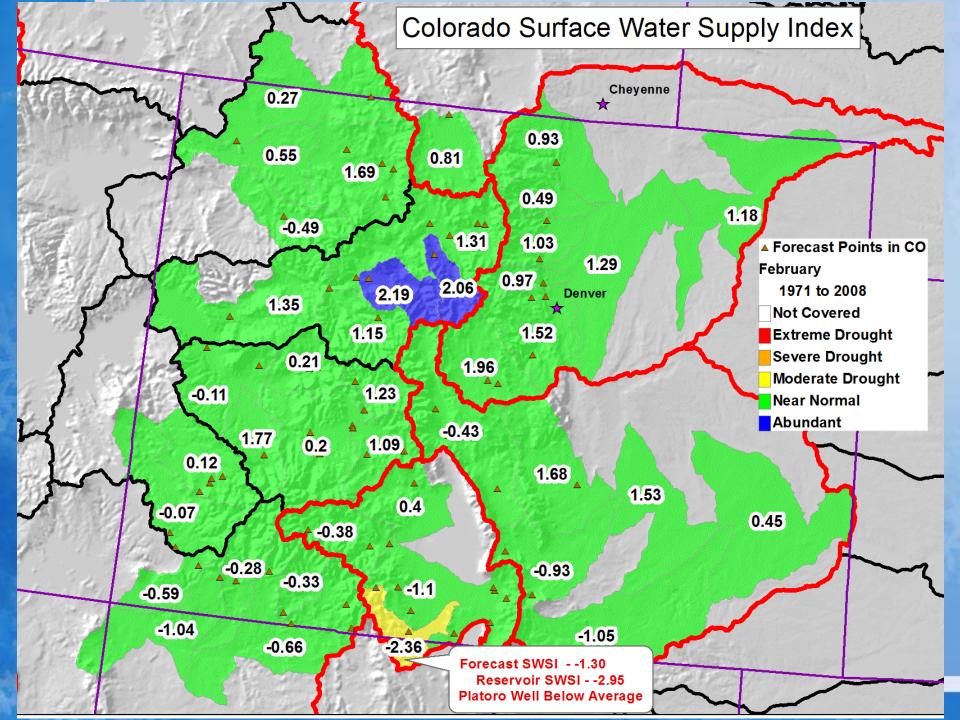


Current as of 03 19, 2014

# Colorado Statewide High/Low Monthly Precipitation Summary Based on Provisional SNOTEL data as of Mar 19, 2014



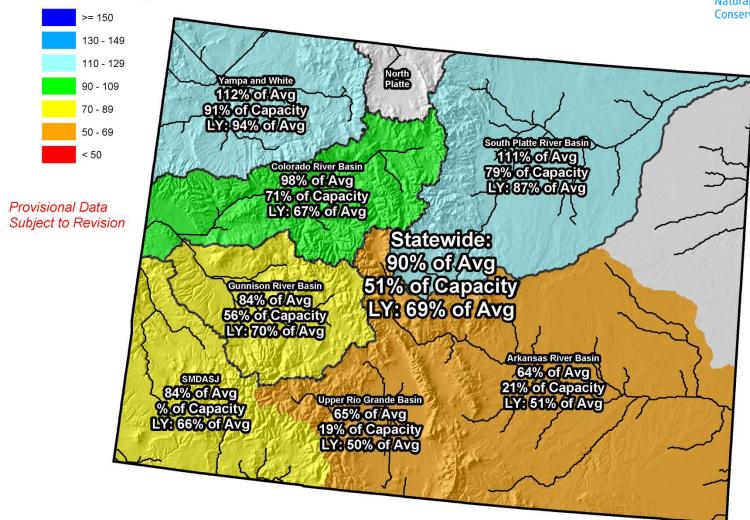




## Colorado Reservoir Storage Map

# Natural Resources Conservation Service

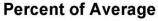
#### **Percent of Average**

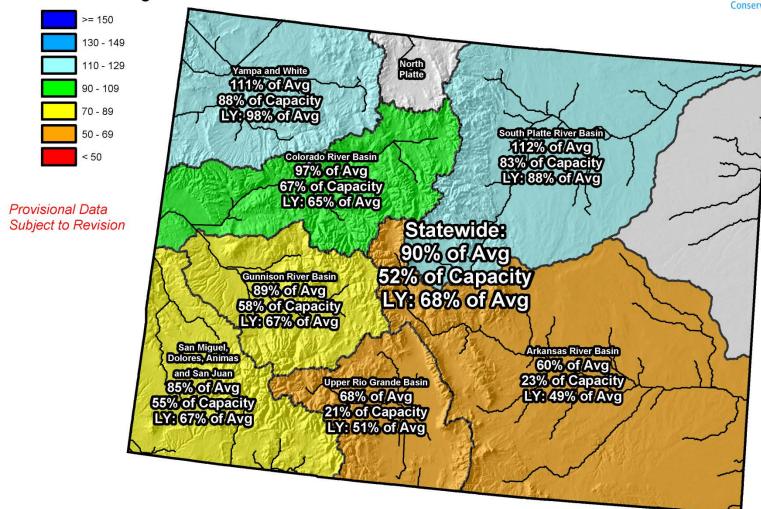


End of January 2014

## Colorado Reservoir Storage Map



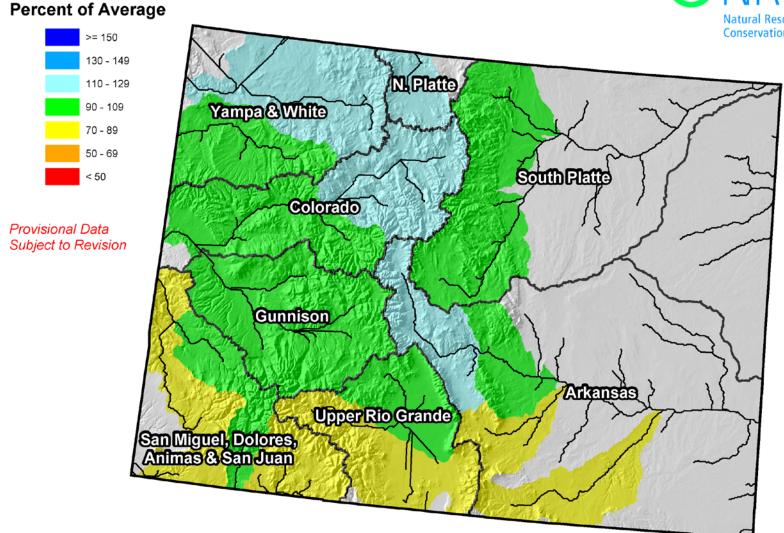




End of February 2014

# Colorado Streamflow Forecast Map

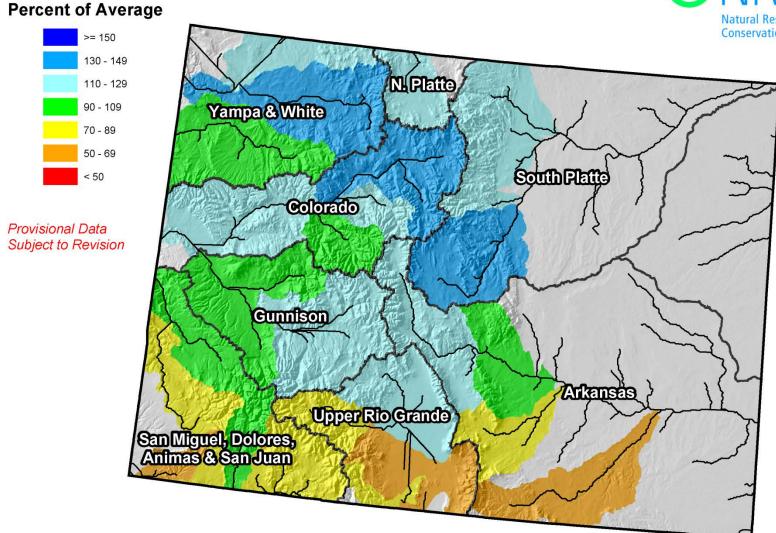


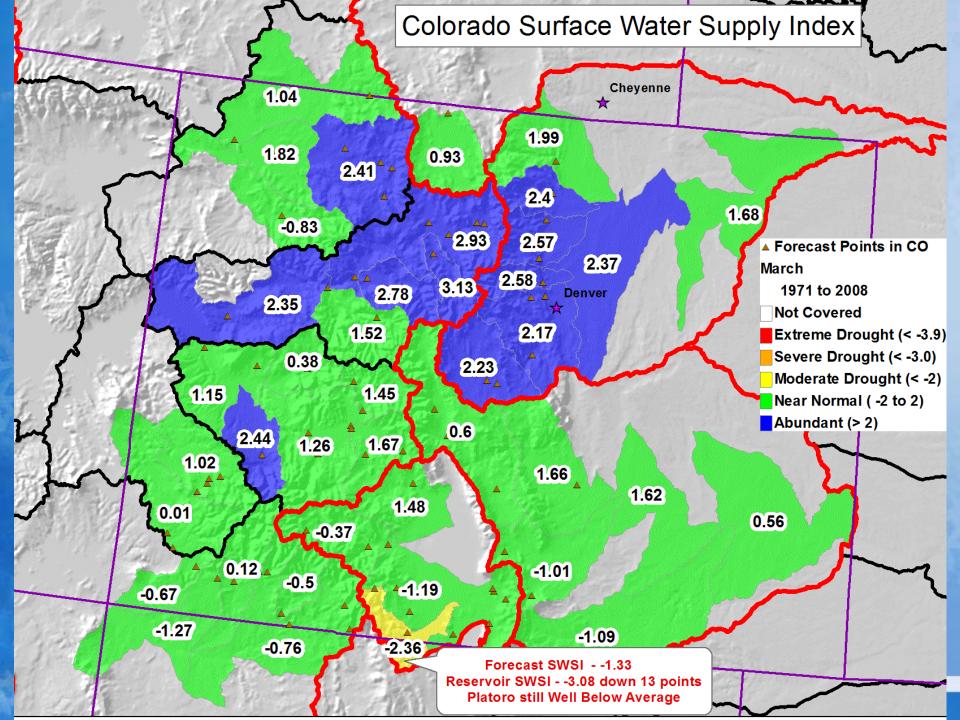


Current as of February 1, 2014

# Colorado Streamflow Forecast Map







# WY2014 Summary

- •OCT: The northern basins had well above average precipitation for the 2<sup>nd</sup> consecutive month. All basins received some good early season snow accumulation.
- •NOV: Basins flip flopped with the southern basins seeing above average precip and northern basins slightly below average. All basins still accumulating snow.
- •DEC: Things dried up in the southwest part of the state in early December. Snowpack totals were above to near normal across the state.
- •JAN: The northern basins continued to accumulate snow at near normal rates the first couple of weeks. Most of the state was pretty dry the latter half of the month until the very last week. Those storms boosted northern basins back to above normal and helped the southern basins as well.
- •FEB: February statewide precipitation was above normal. All basins benefited from a storm passing through at the end of the month.
- •MAR: March so far has been drier in the northern basins. Again the state is split with respect to water supply conditions, the north being wet and the south being dry.