

NRCS – Snow Survey & Water Supply Forecasting

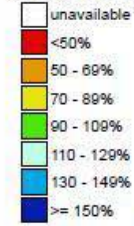
Mage Hultstrand

Water Availability Task Force Meeting
March 22, 2012

Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Mar 21, 2012

Current Snow Water Equivalent (SWE)
Basin-wide Percent
of 1971-2000 Normal



* Data unavailable
at time of posting
or measurement
is not representative
at this time of year

Provisional data
subject to revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon <http://www.wcc.nrcs.usda.gov/gis/>
Based on data from <http://www.wcc.nrcs.usda.gov/reports/>
Science contact: Jim.Marron@por.usda.gov 503 414 3047

Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Mar 01, 2012

Current Snow Water Equivalent (SWE)
Basin-wide Percent
of 1971-2000 Normal



* Data unavailable
at time of posting
or measurement
is not representative
at this time of year

Provisional data
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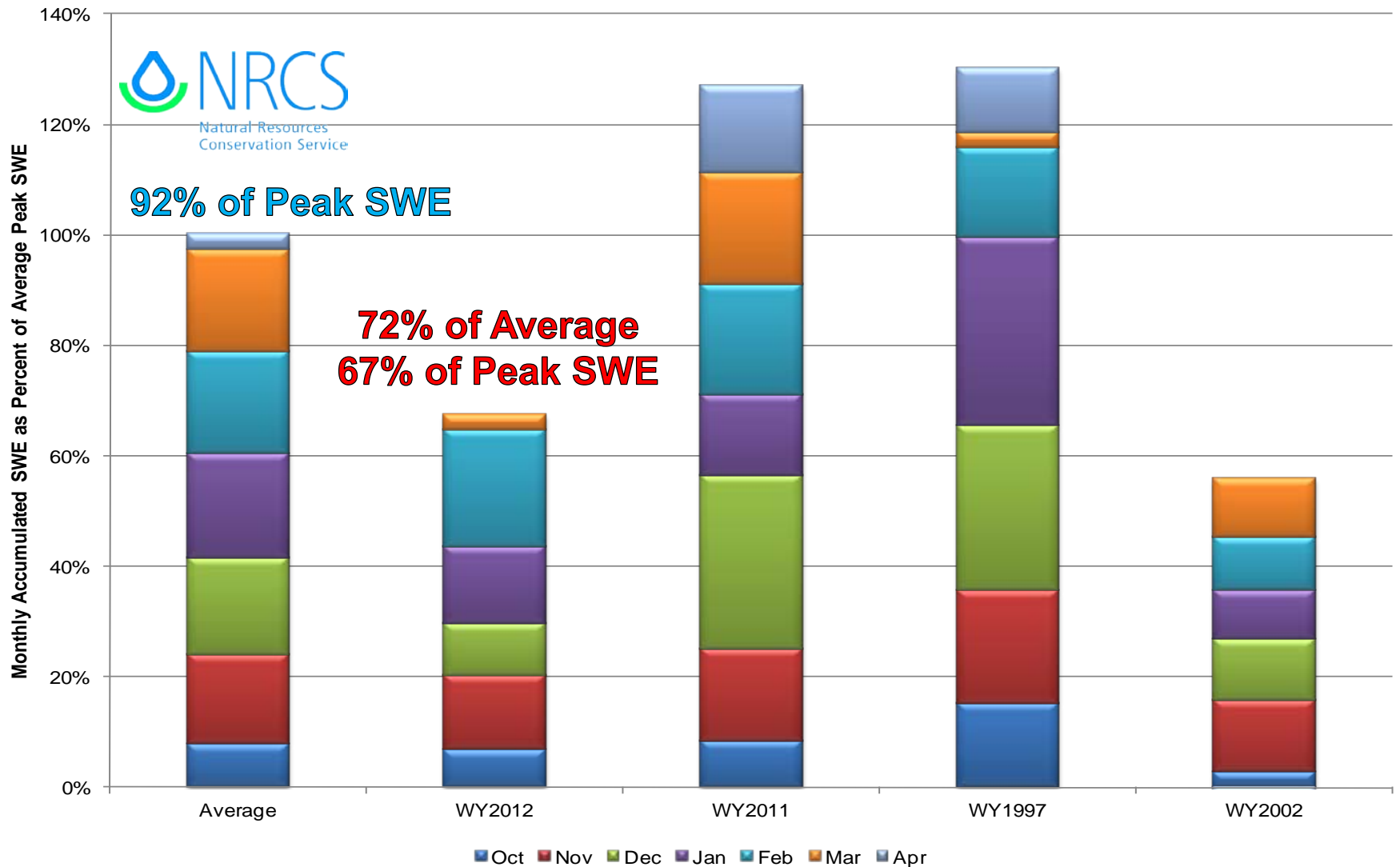
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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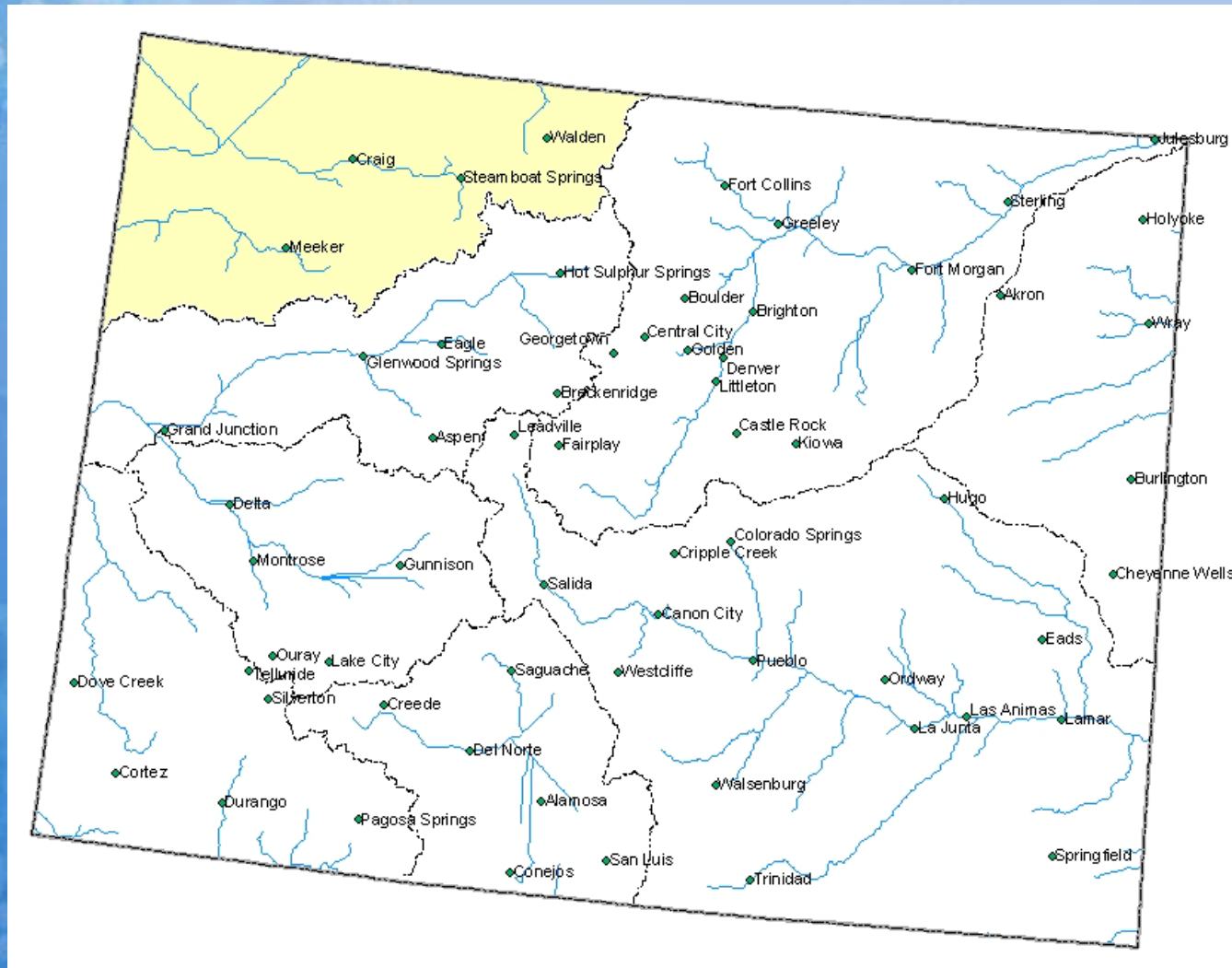
Comparison of the past three weeks shows **significant gains** over the Cascades and Northern Sierra although there, large SWE **deficits** still persist.

Colorado Statewide High/Low Monthly Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012

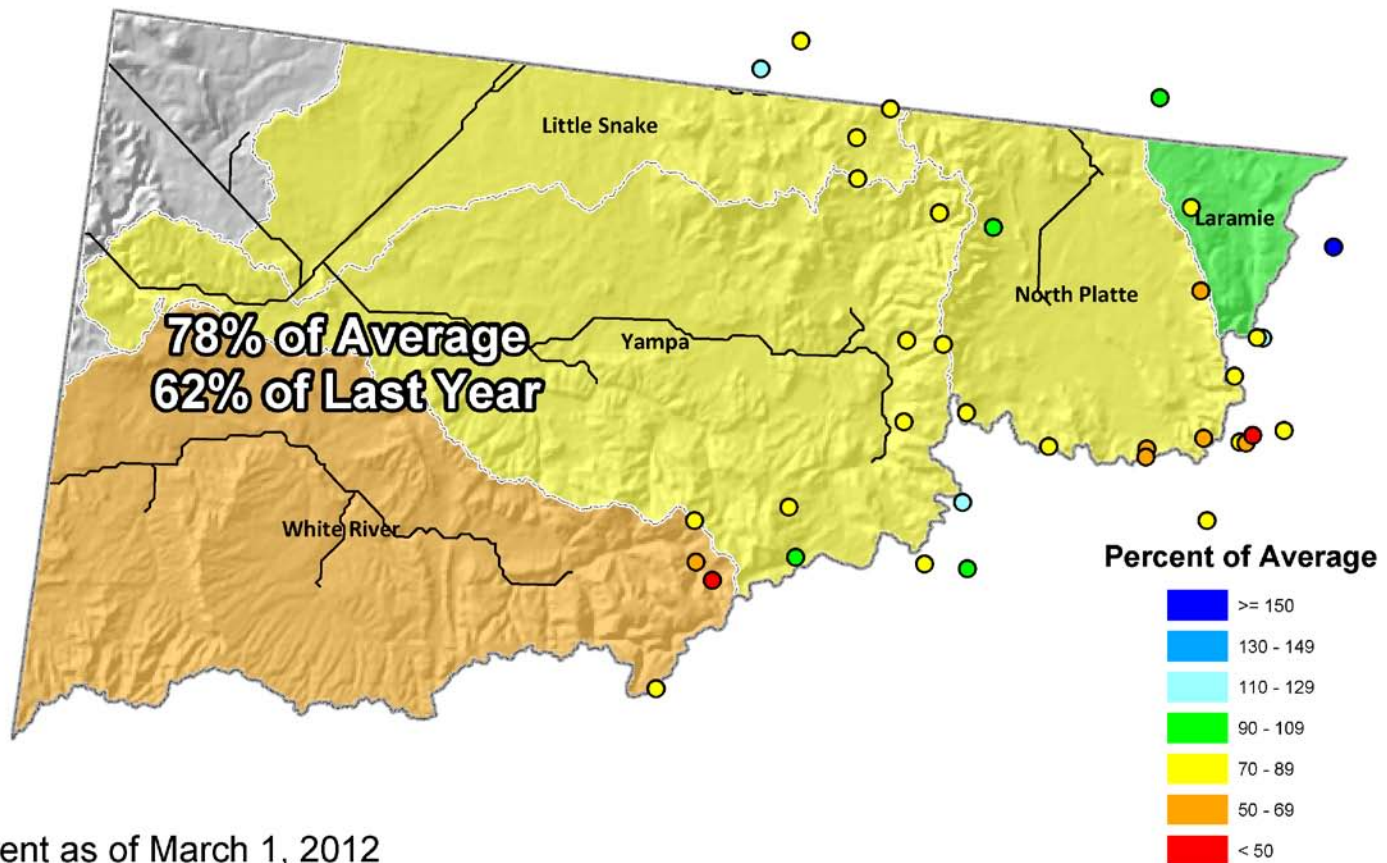


Yampa, White & North Platte River Basins Summary



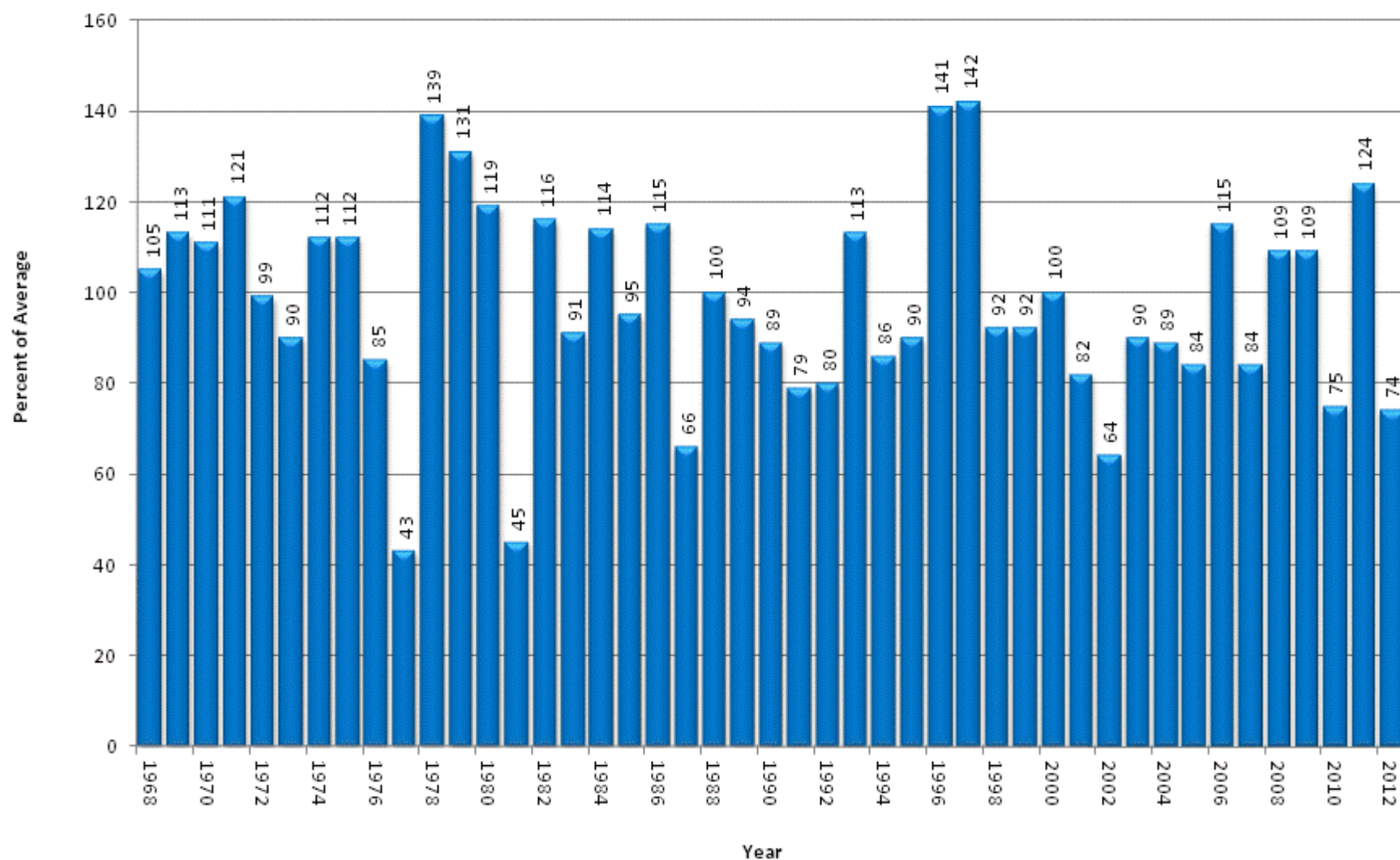
Yampa, White and North Platte River Basins Snowpack Map

*Provisional Data
Subject to Revision*



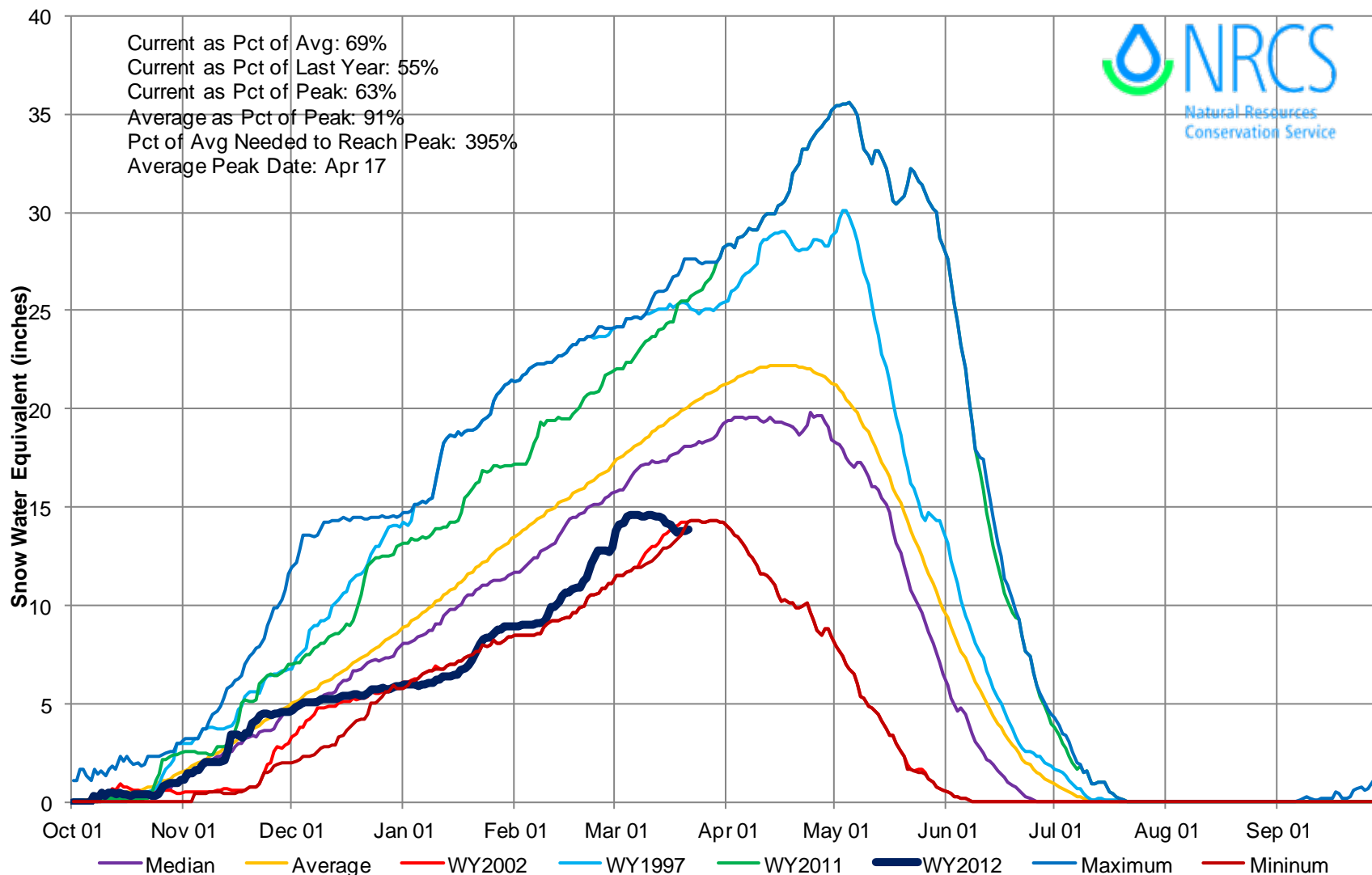
Current as of March 1, 2012

March 1 Total Yampa & White River Basins Snowpack



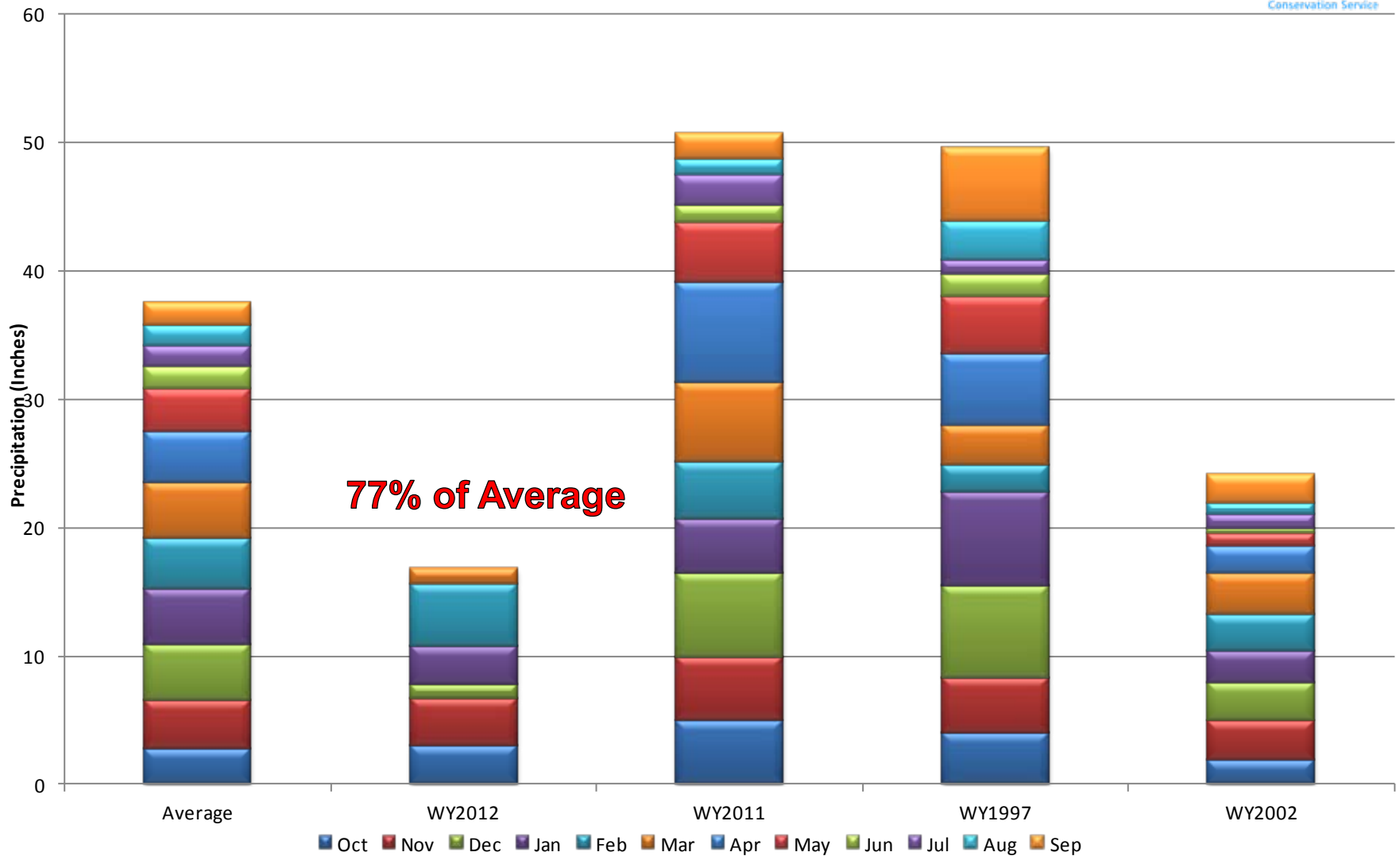
Yampa, White and North Platte River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



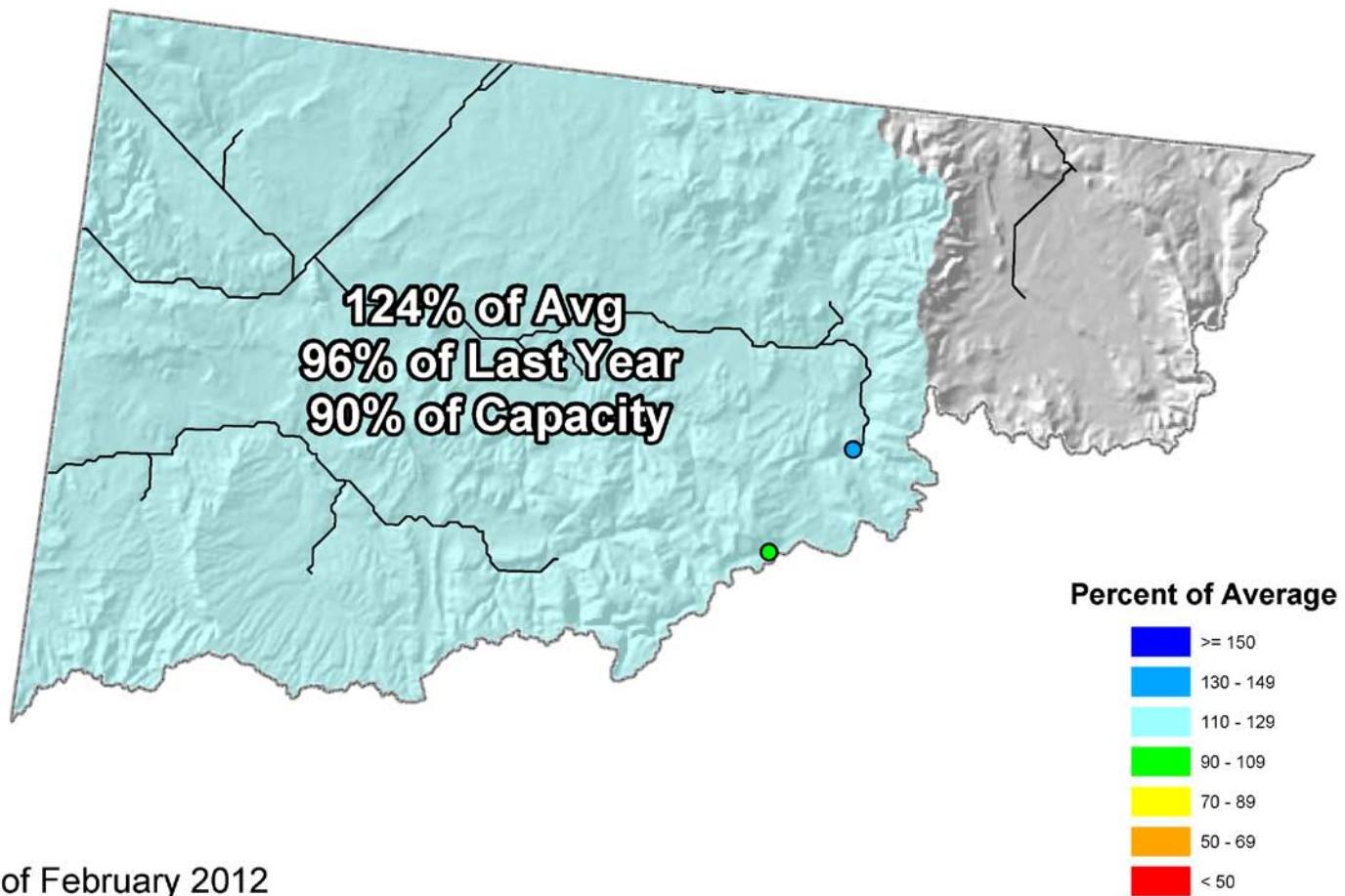
Yampa and White River Basins High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



Yampa & White River Basins Reservoir Storage Map

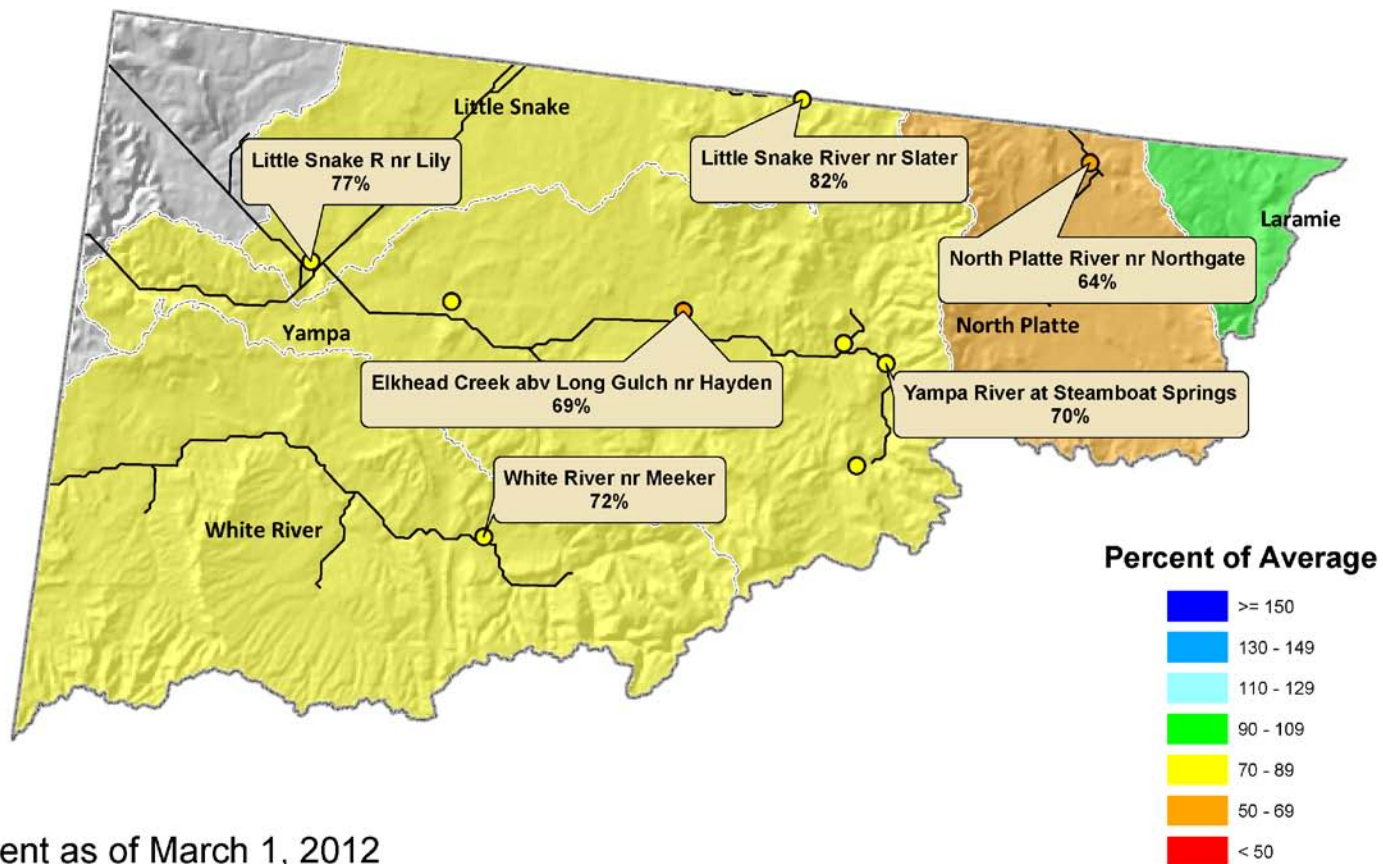
*Provisional Data
Subject to Revision*



End of February 2012

Yampa, White and North Platte River Basins Streamflow Map

*Provisional Data
Subject to Revision*

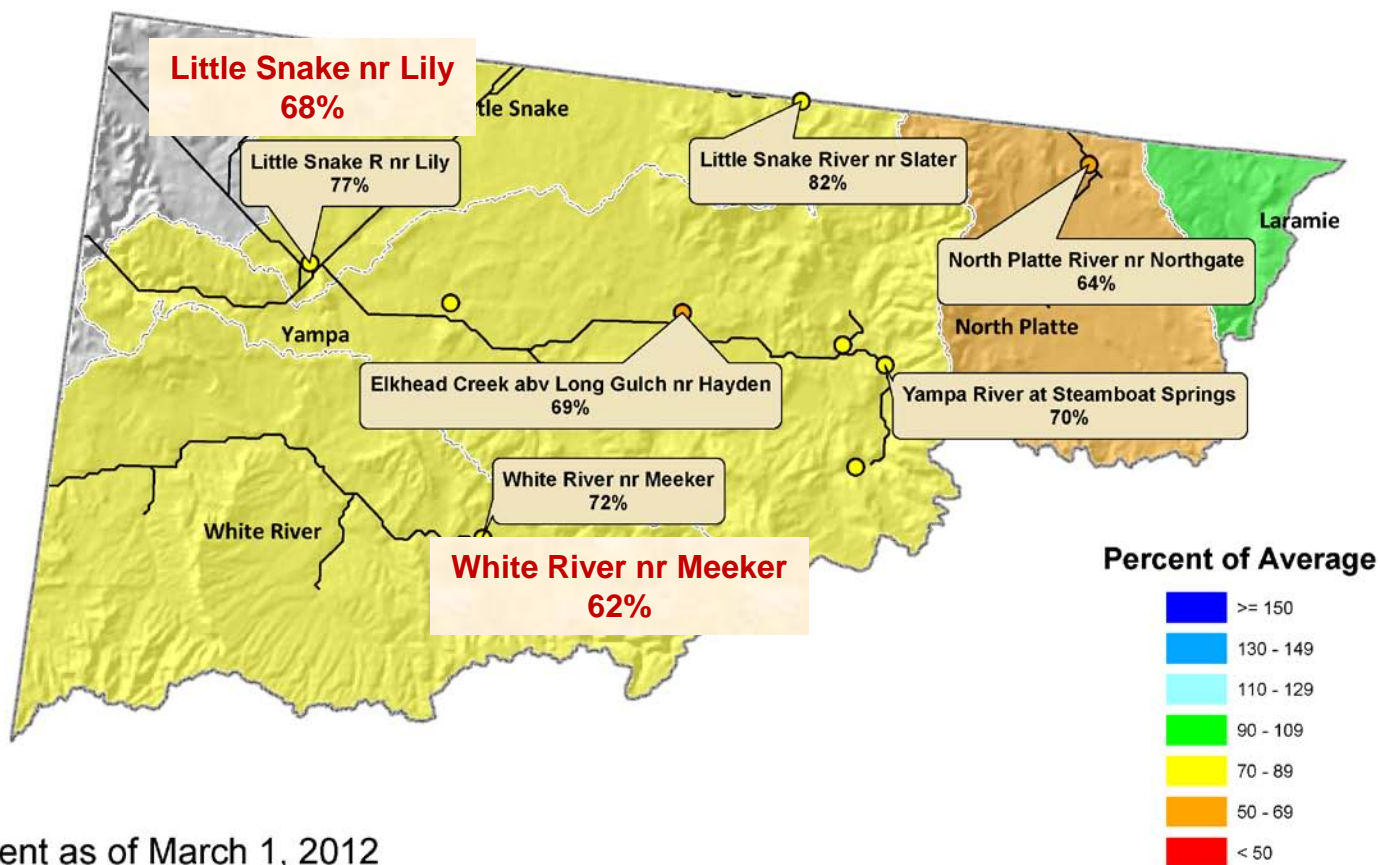


Current as of March 1, 2012

Forecasts Updated March 19, 2012

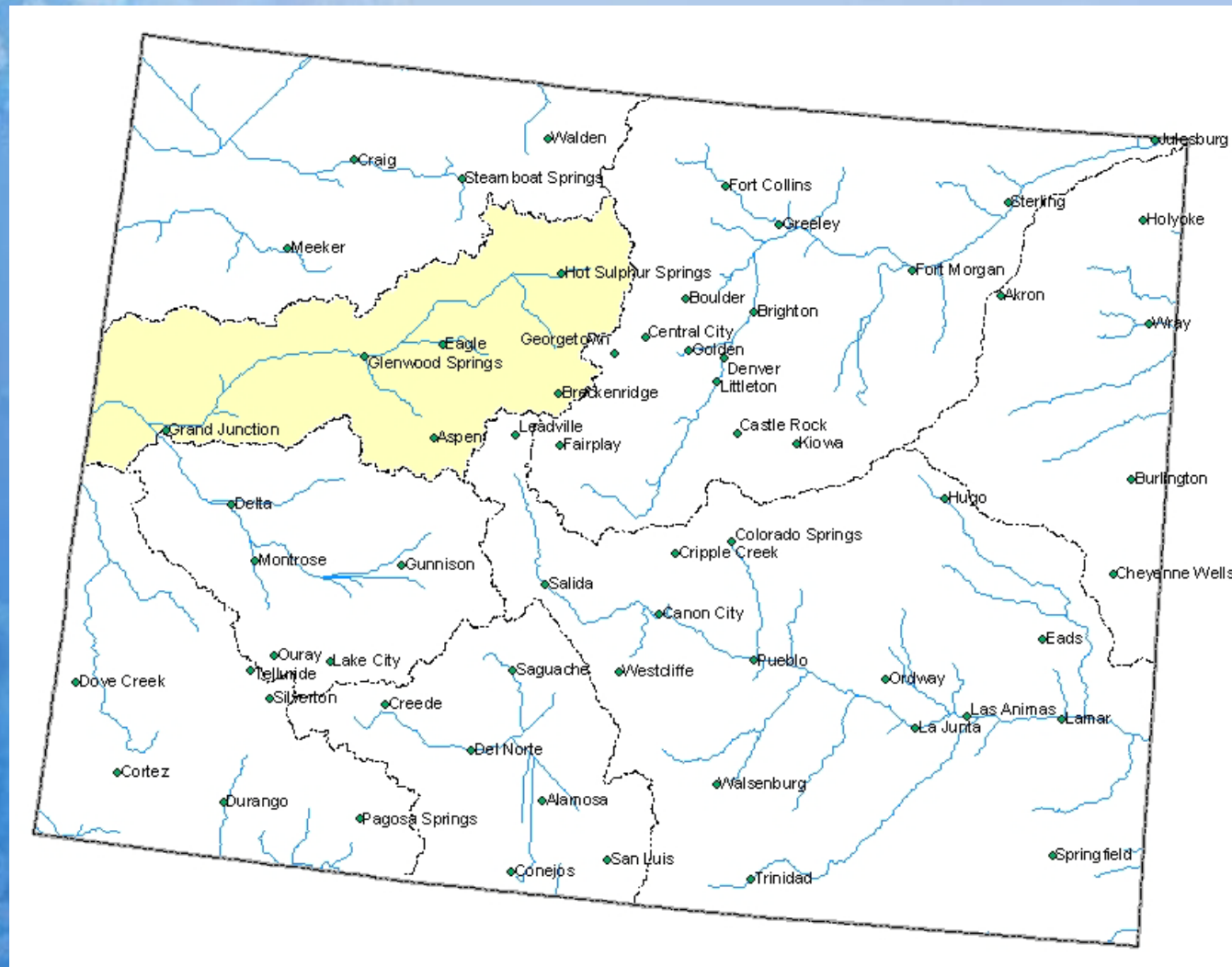
Yampa, White and North Platte River Basins Streamflow Map

*Provisional Data
Subject to Revision*



Current as of March 1, 2012

Colorado River Basin Summary

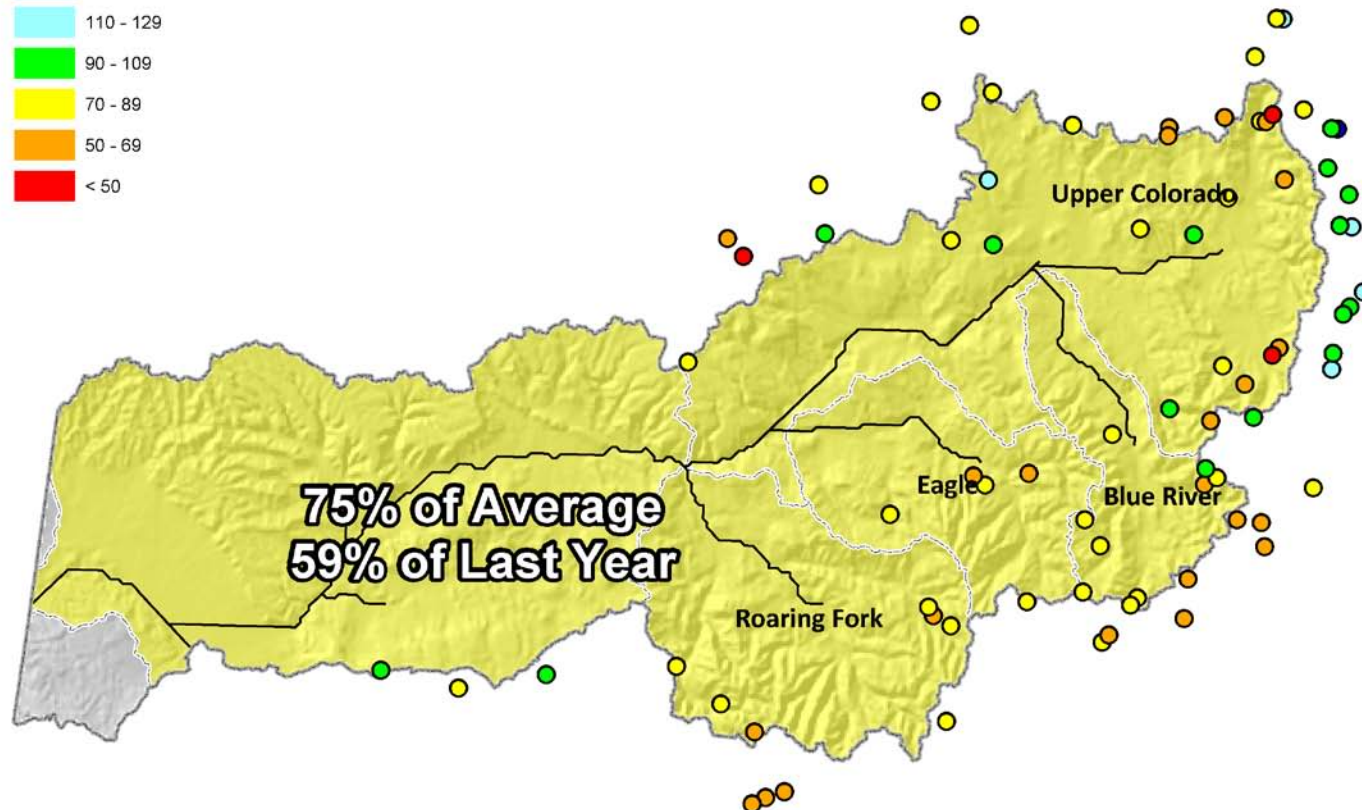


Colorado River Basin Snowpack Map

Percent of Average

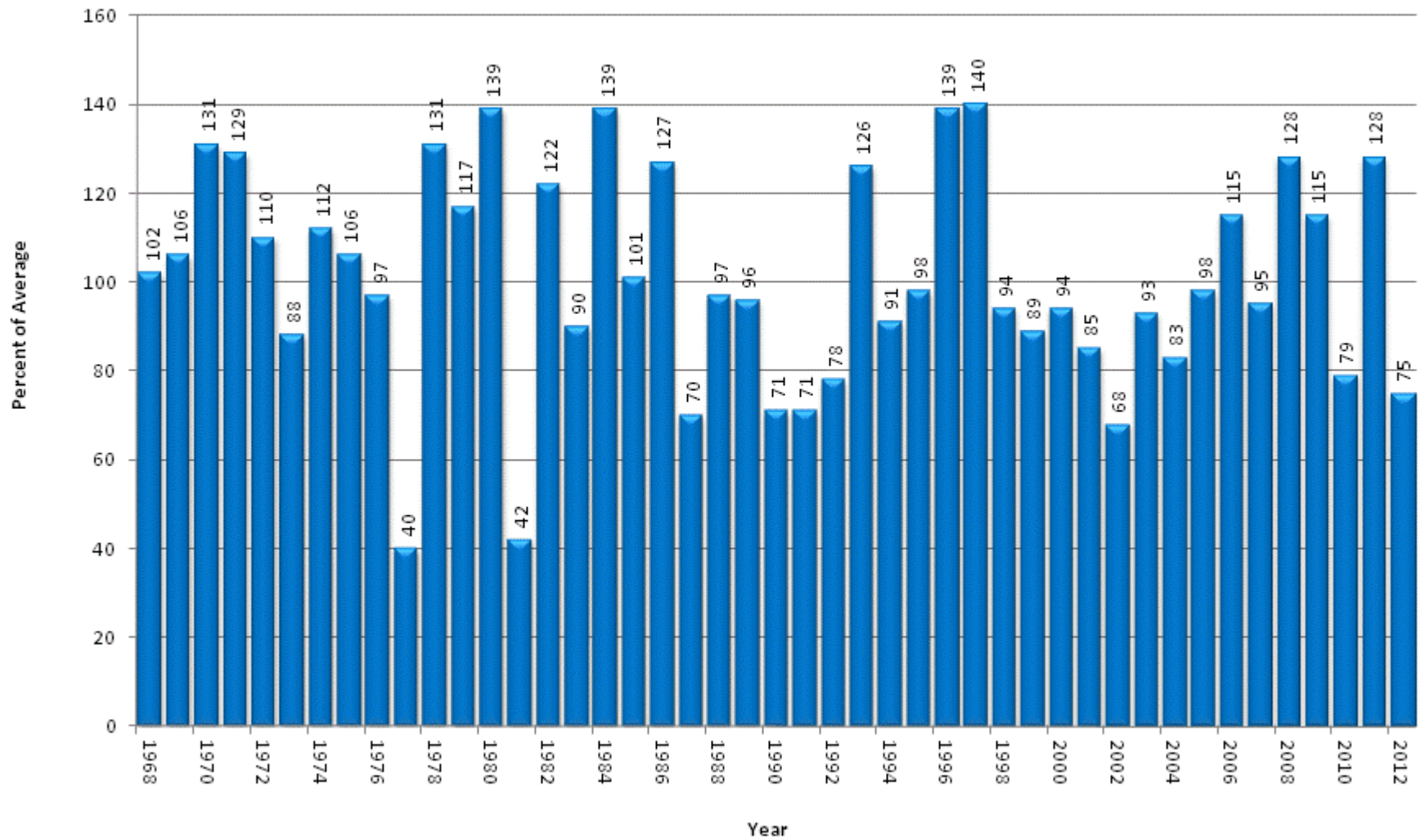


*Provisional Data
Subject to Revision*



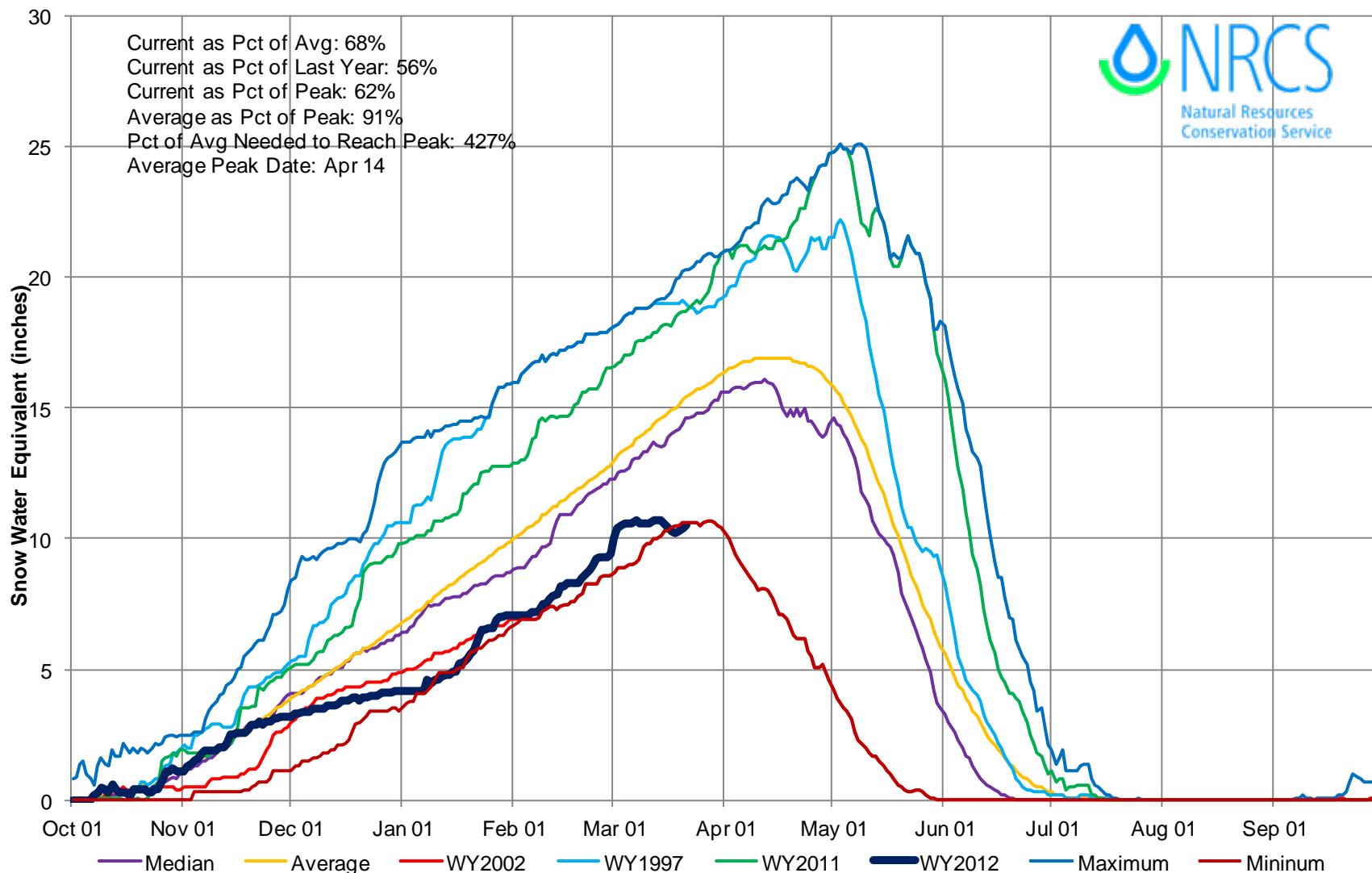
Current as of March 1, 2012

March 1 Total Colorado River Basin Snowpack



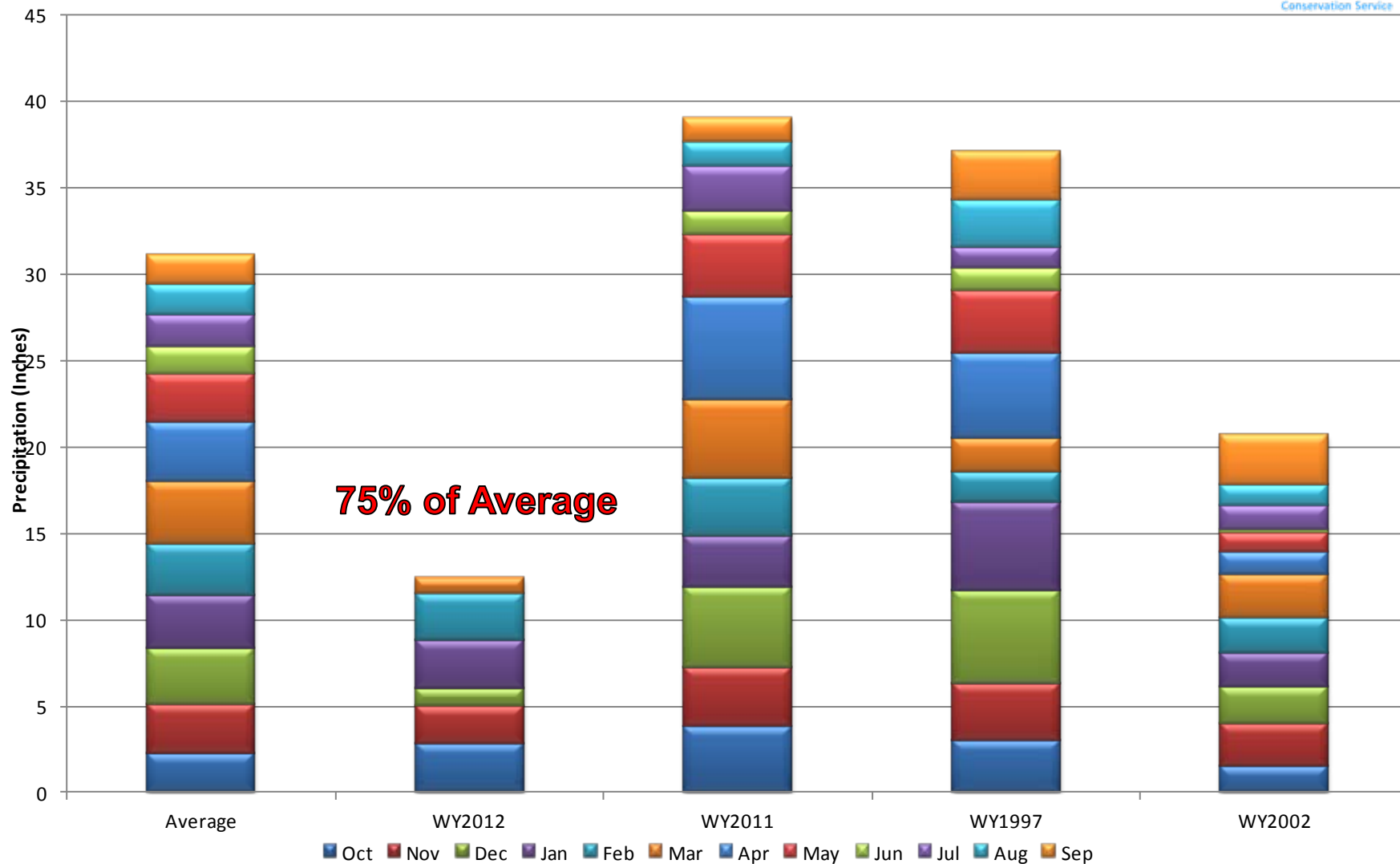
Upper Colorado River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



Upper Colorado River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 21, 2012

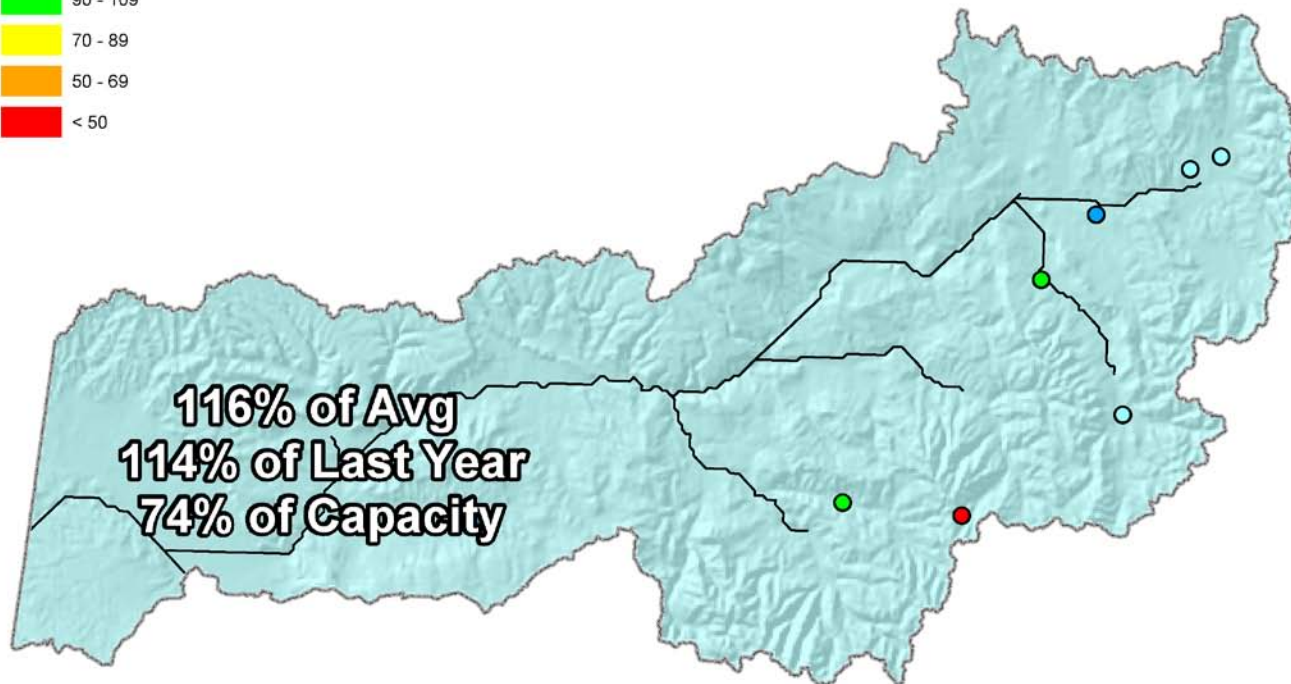


Colorado River Basin Reservoir Storage Map

Percent of Average



*Provisional Data
Subject to Revision*



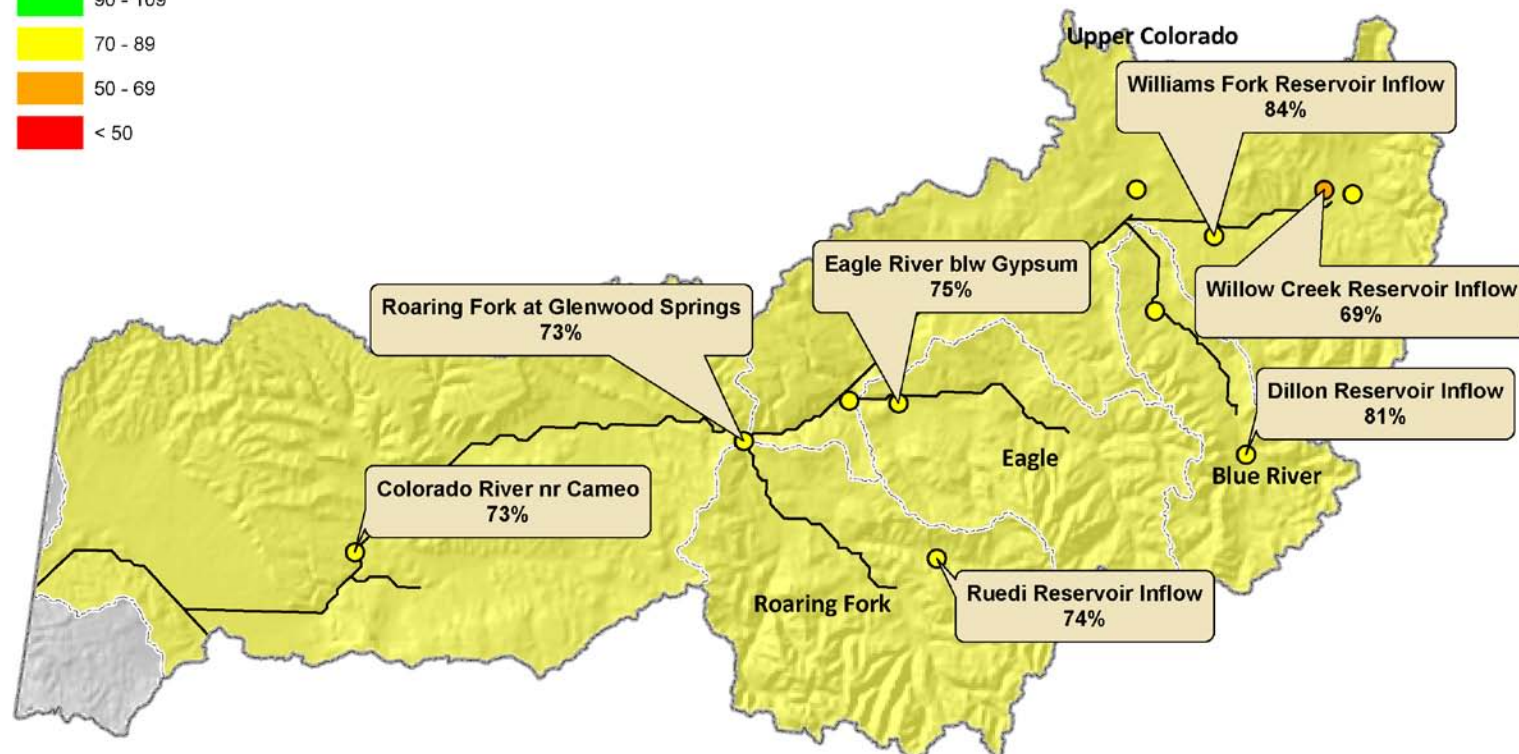
End of February 2012

Colorado River Basin Streamflow Forecast Map

Percent of Average



*Provisional Data
Subject to Revision*



Current as of March 1, 2012

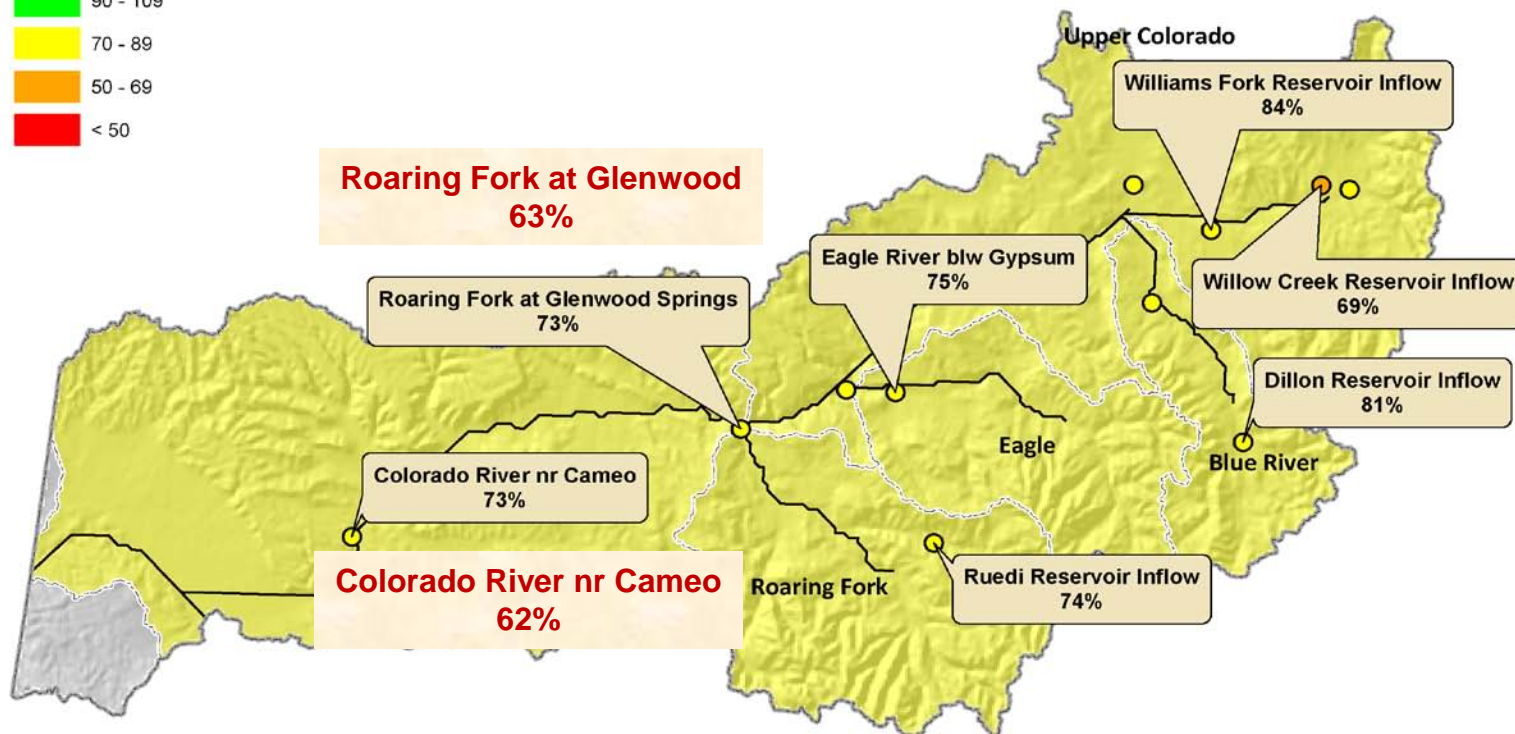
Forecasts Updated March 19, 2012

Colorado River Basin Streamflow Forecast Map

Percent of Average

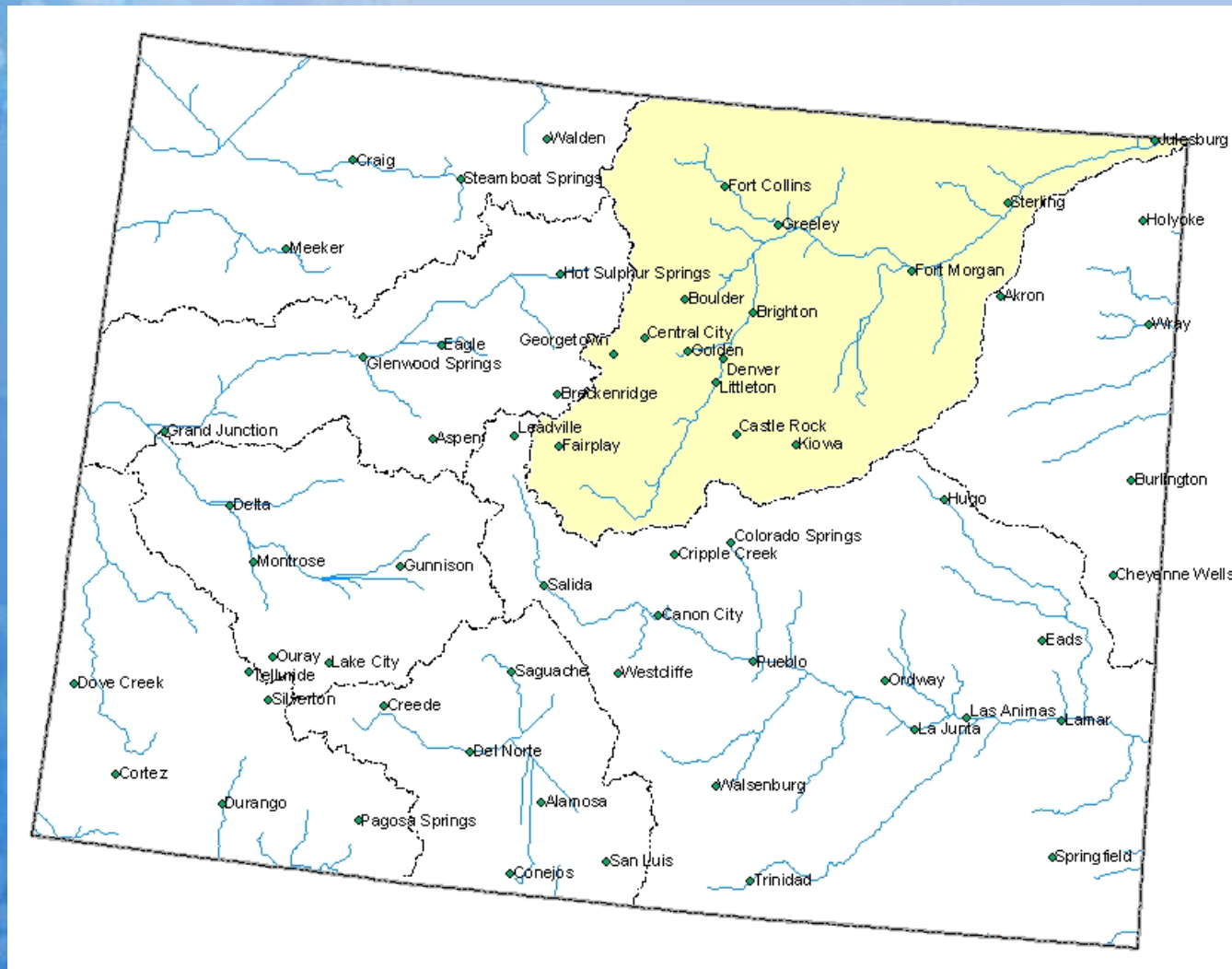


*Provisional Data
Subject to Revision*



Current as of March 1, 2012

South Platte River Basin Summary

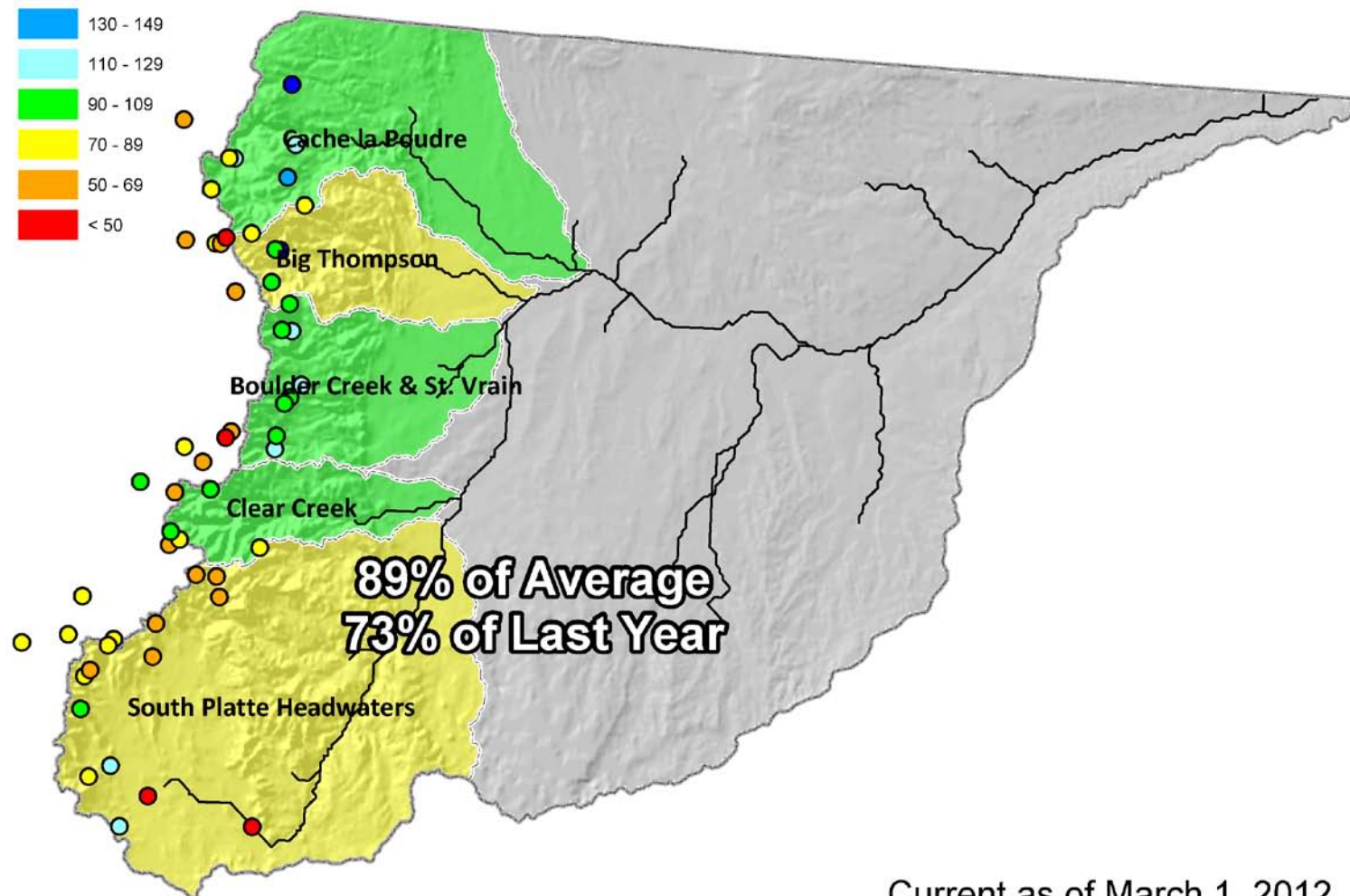


South Platte River Basin Snowpack Map

Percent of Average

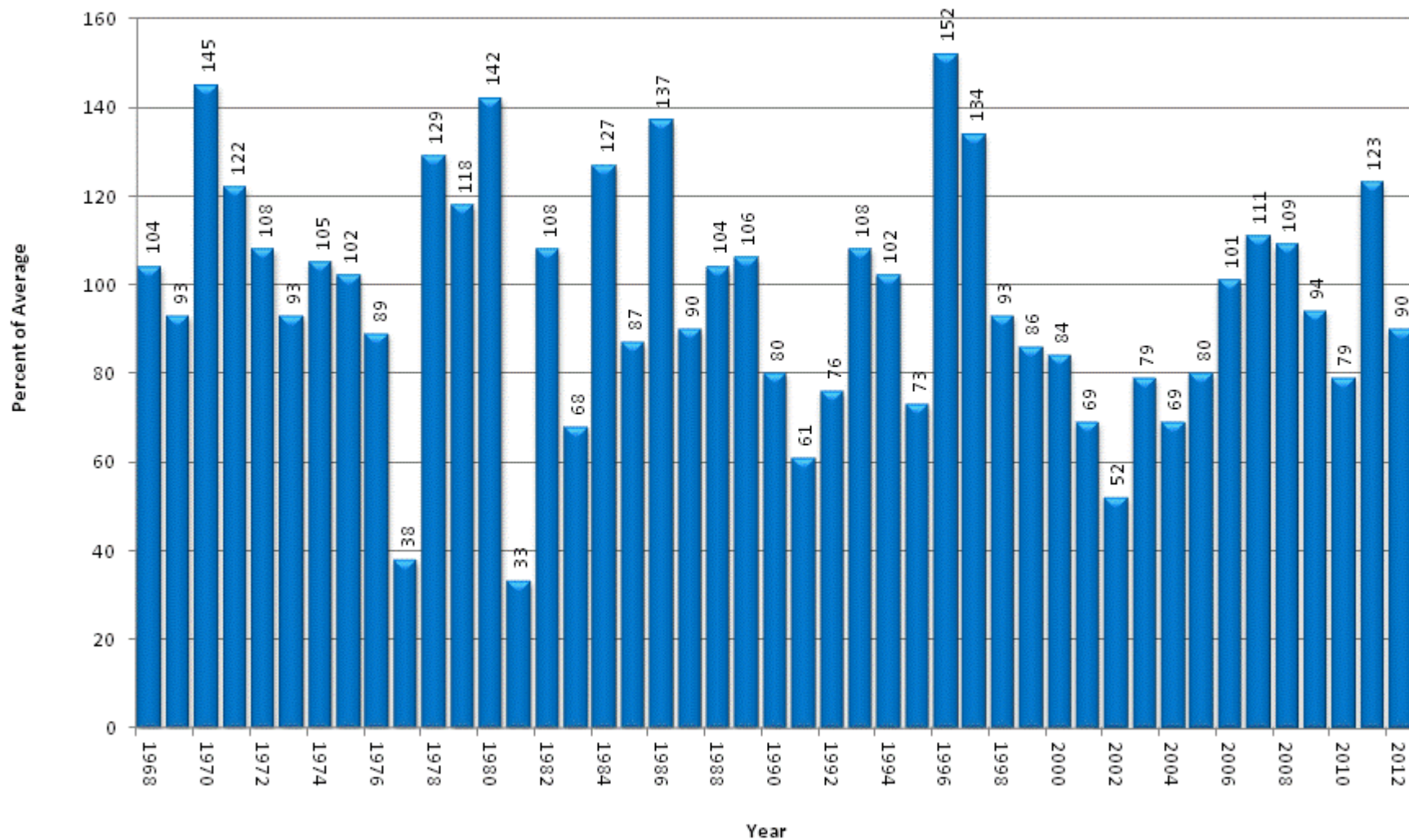


*Provisional Data
Subject to Revision*



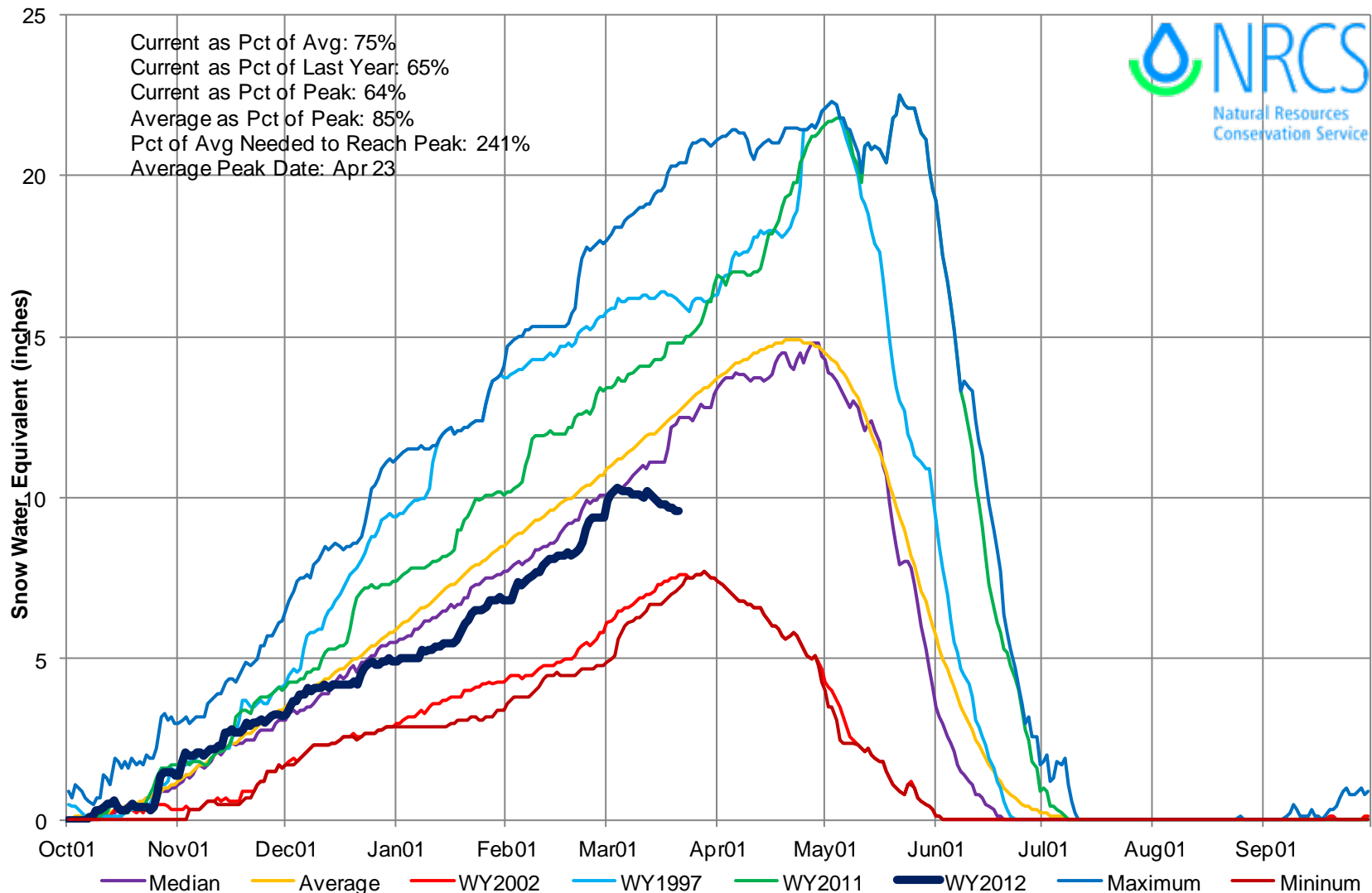
Current as of March 1, 2012

March 1 Total South Platte River Basin Snowpack



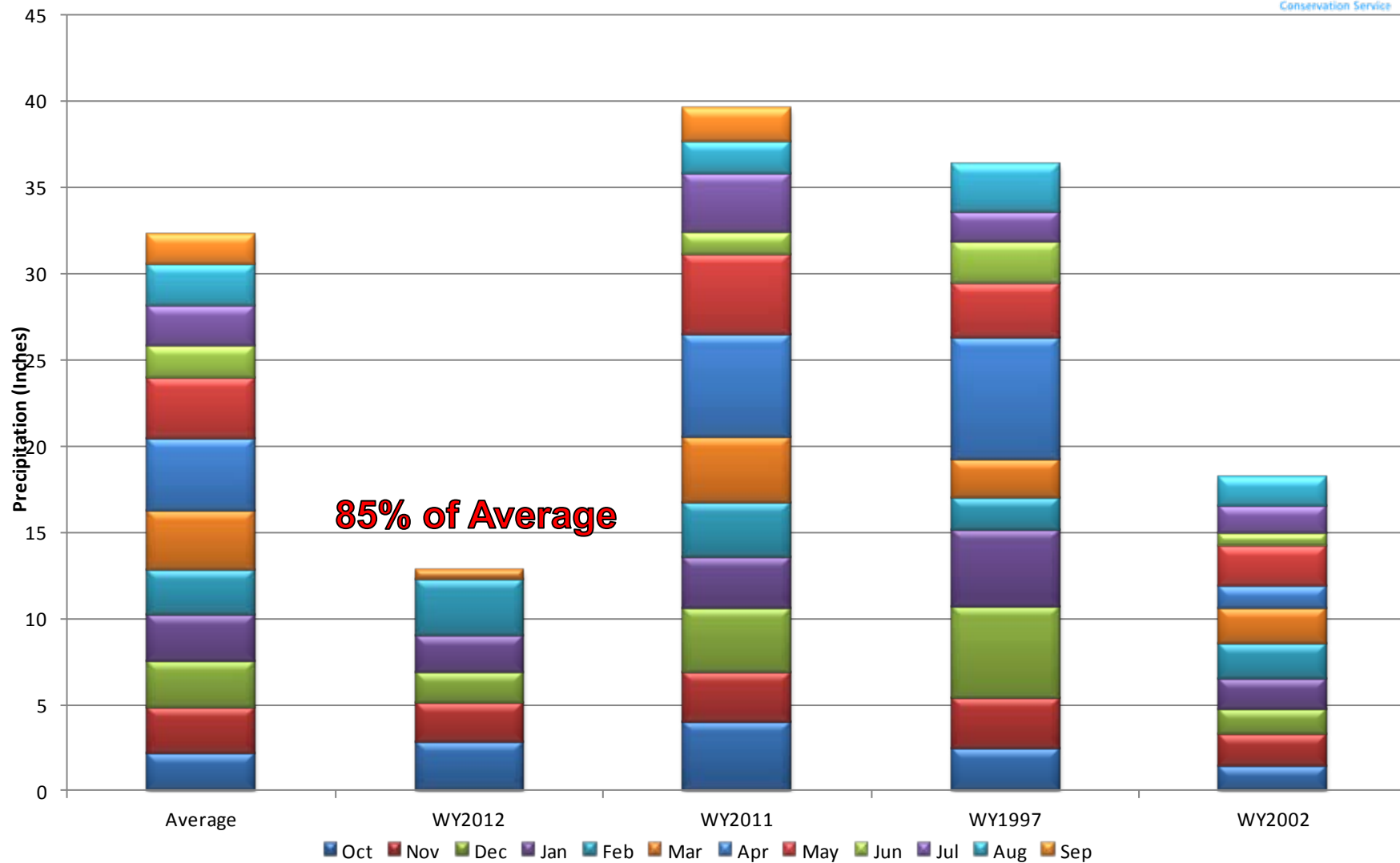
South Platte River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



South Platte River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 21, 2012

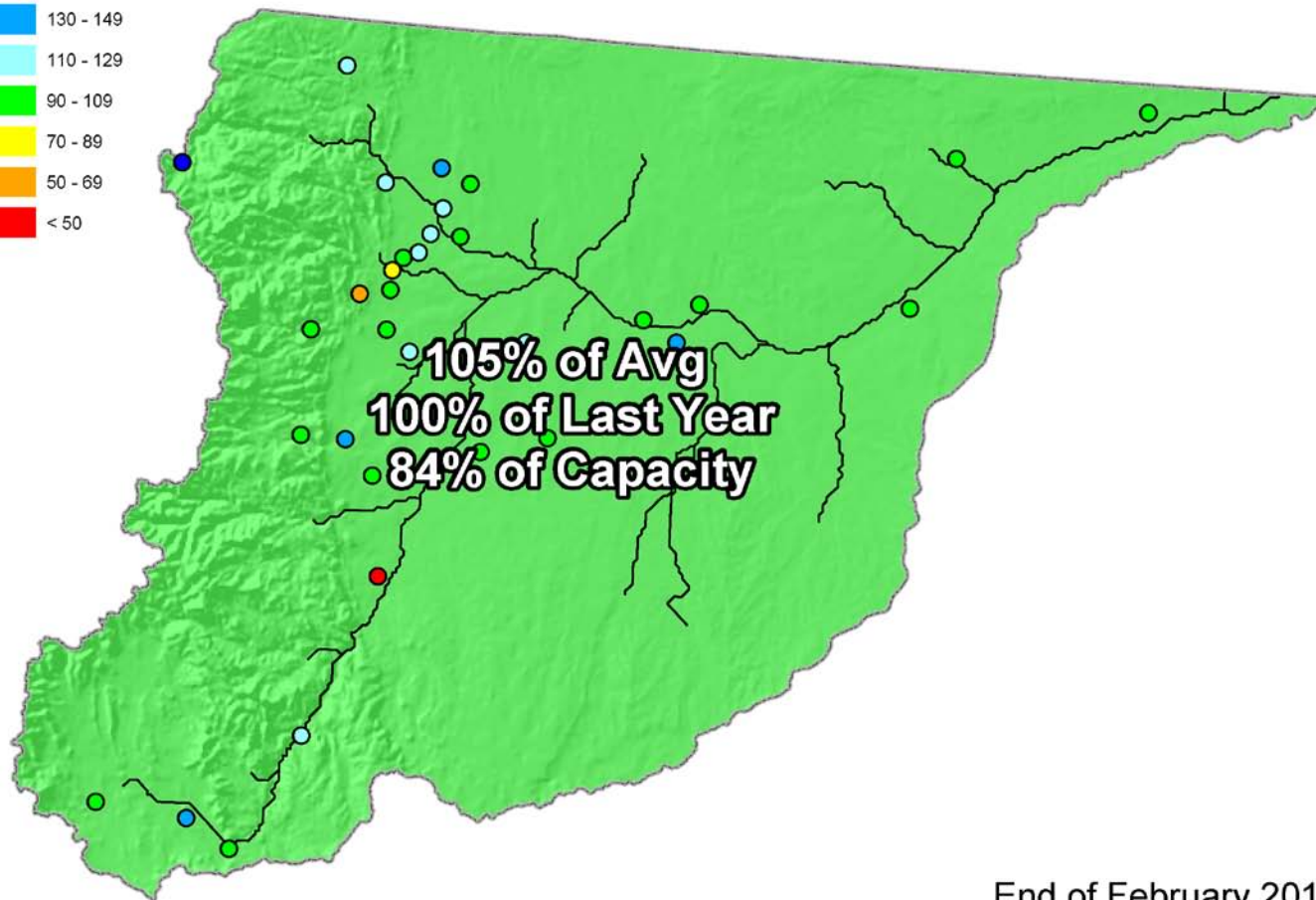


South Platte River Basin Reservoir Storage Map

Percent of Average



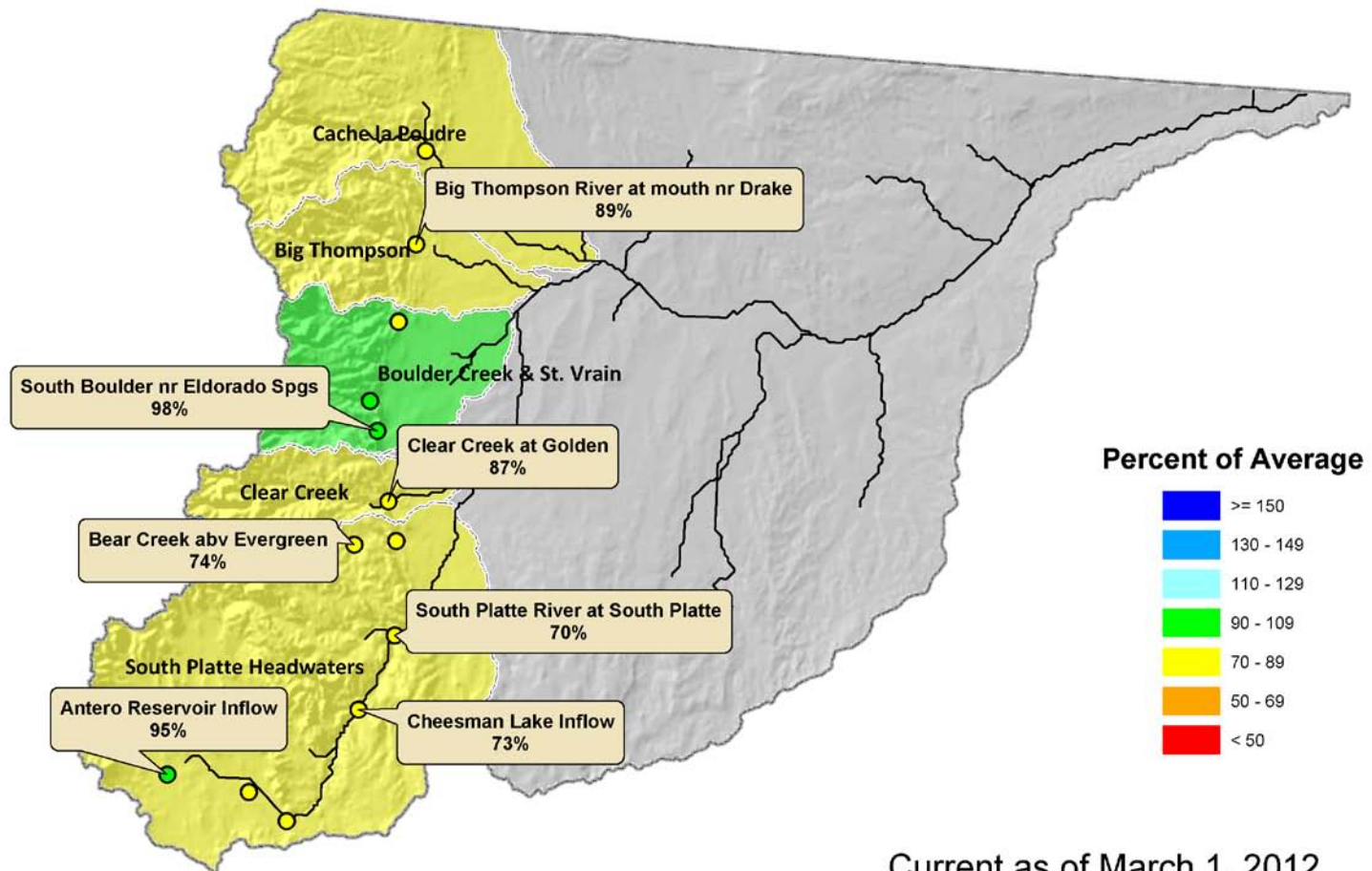
*Provisional Data
Subject to Revision*



End of February 2012

South Platte River Basin Streamflow Forecast Map

*Provisional Data
Subject to Revision*

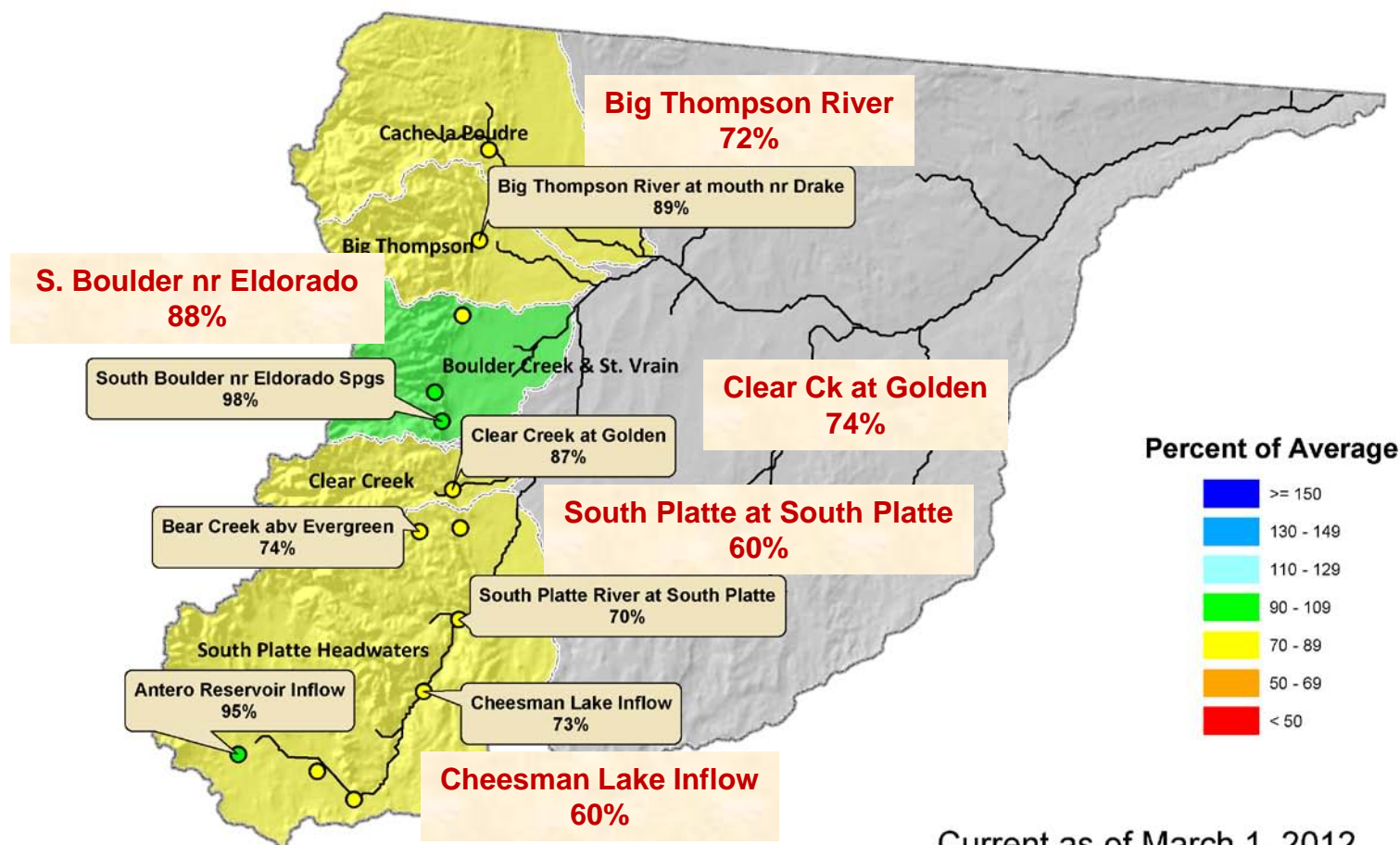


Current as of March 1, 2012

Forecasts Updated March 21, 2012

South Platte River Basin Streamflow Forecast Map

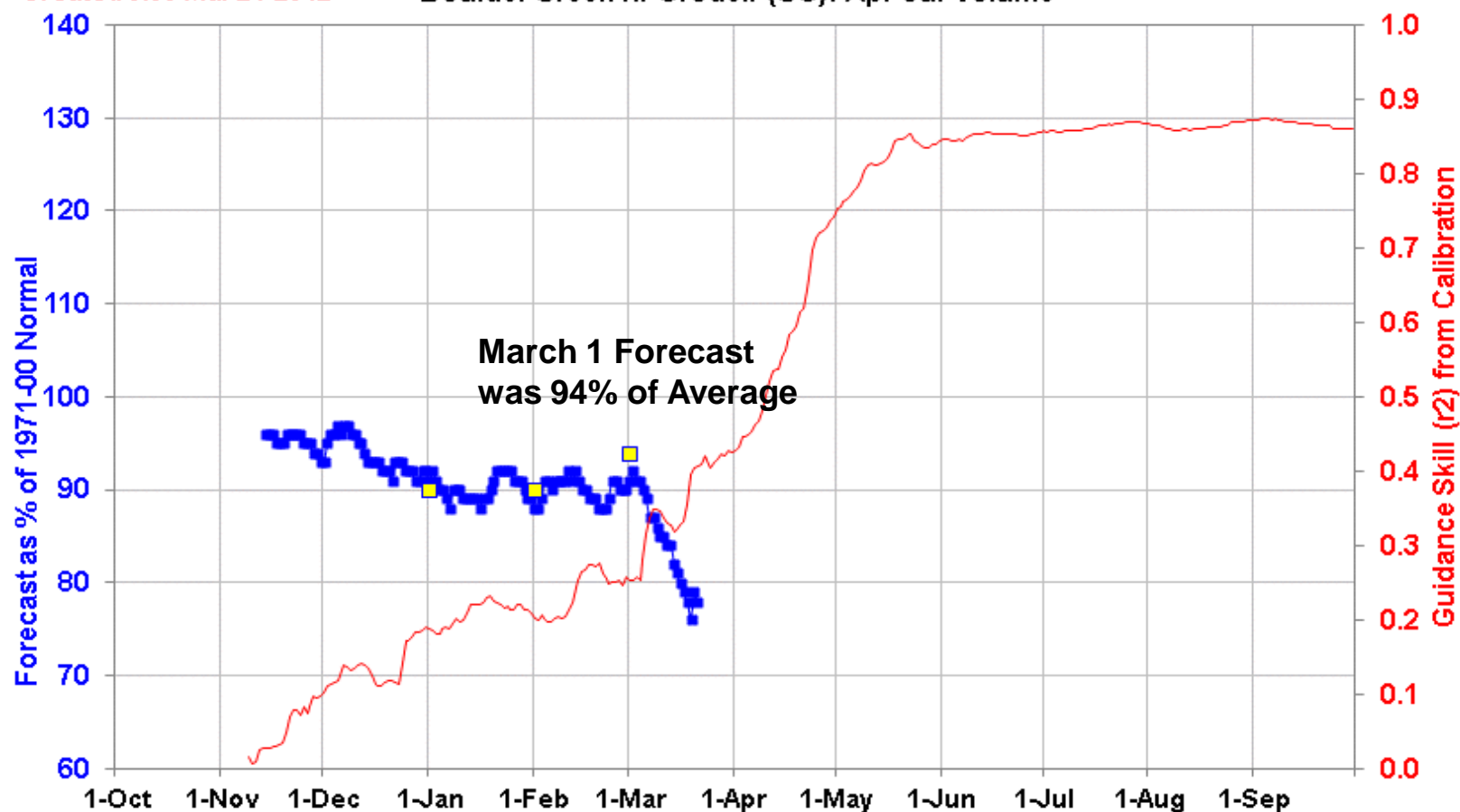
*Provisional Data
Subject to Revision*



Current as of March 1, 2012

Created 6:50 Mar 21 2012

Boulder Creek nr Orodell (CO): Apr-Jul Volume

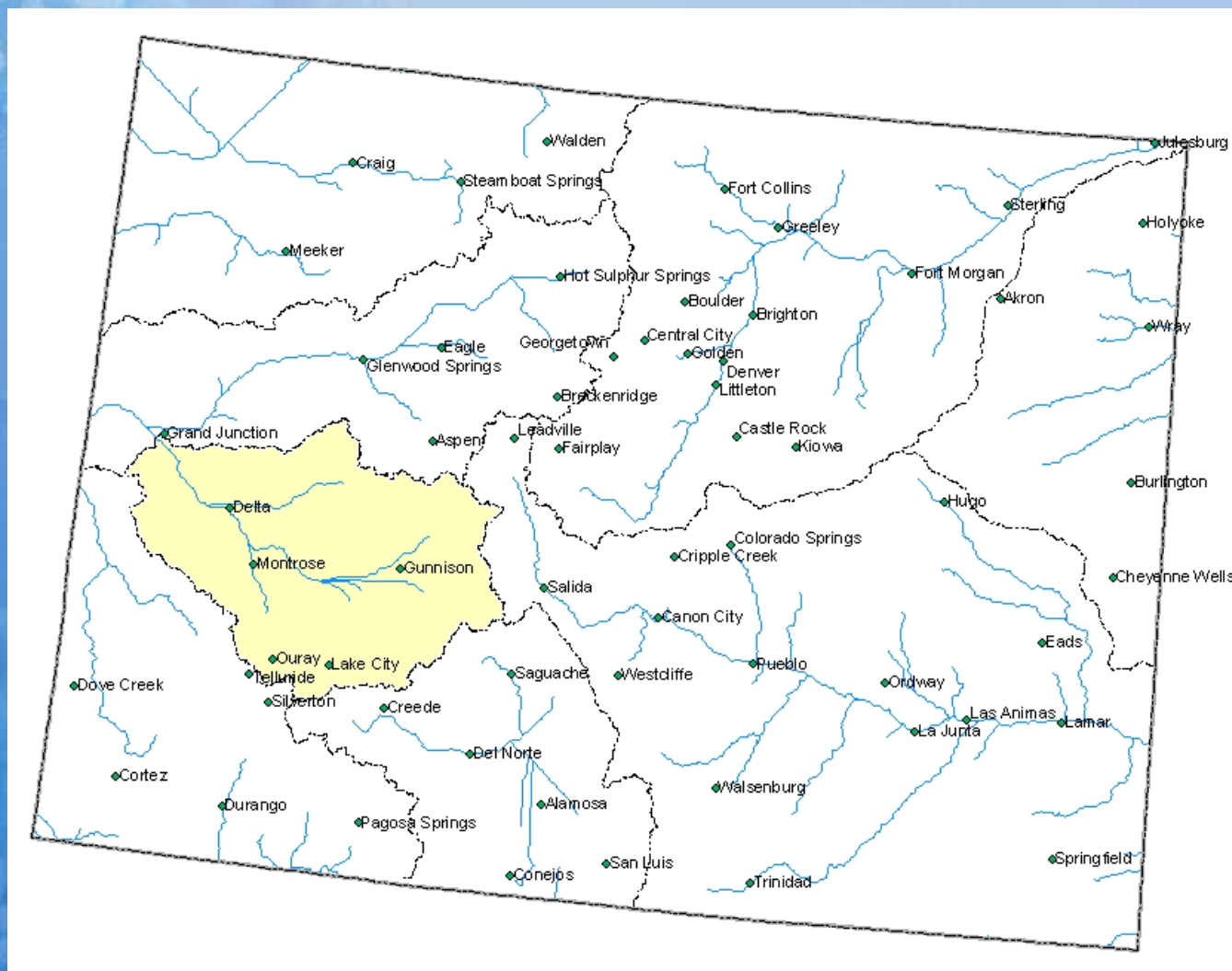


- Guidance fcst % norm
- Official fcst % norm
- Guidance Skill (r^2)

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Gunnison River Basin Summary

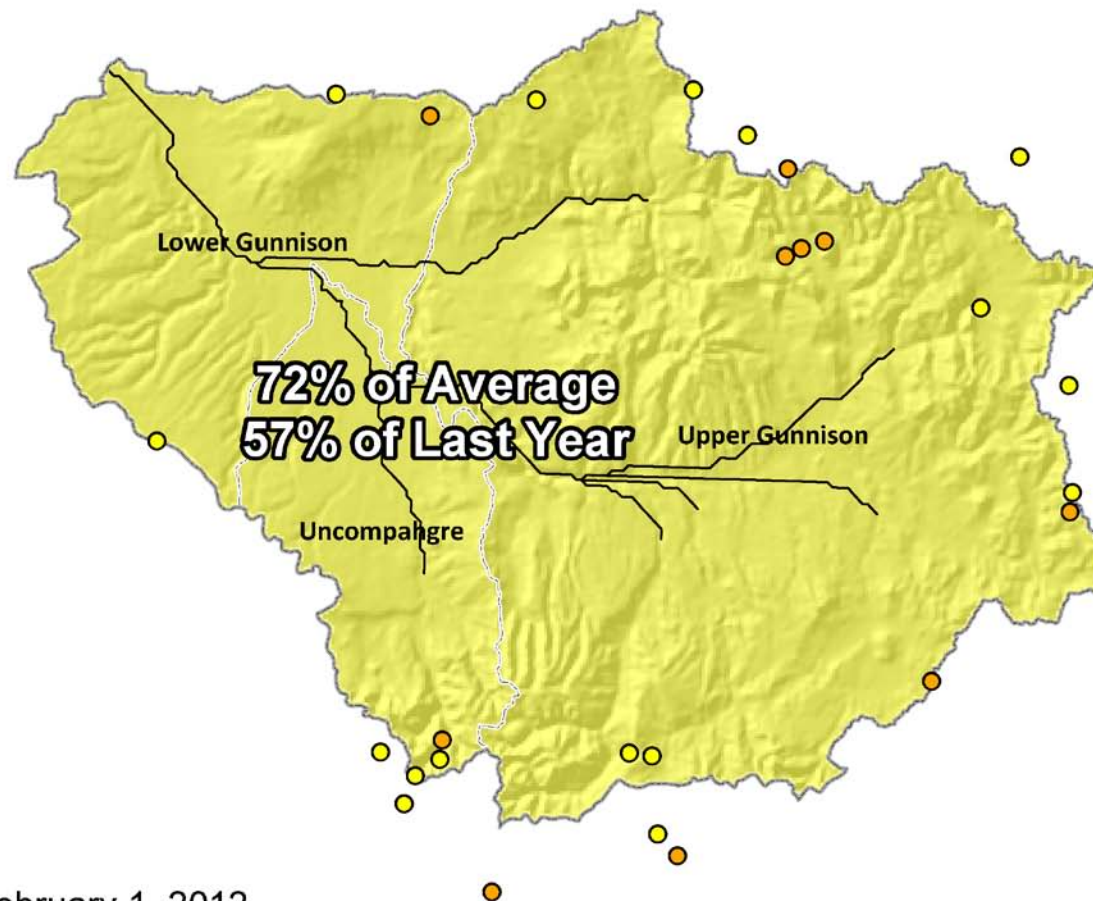


Gunnison River Basin Snowpack Map

Percent of Average

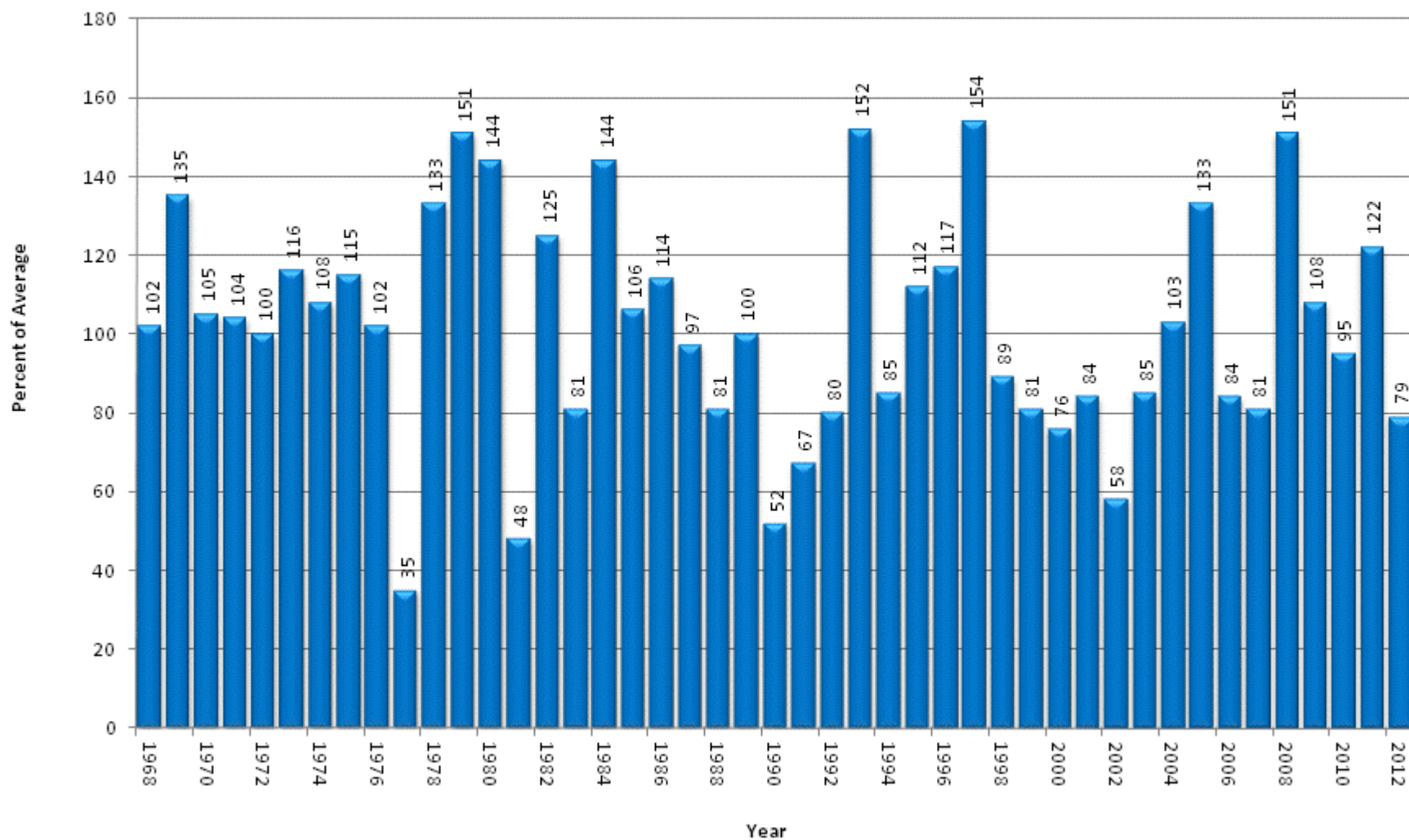


*Provisional Data
Subject to Revision*



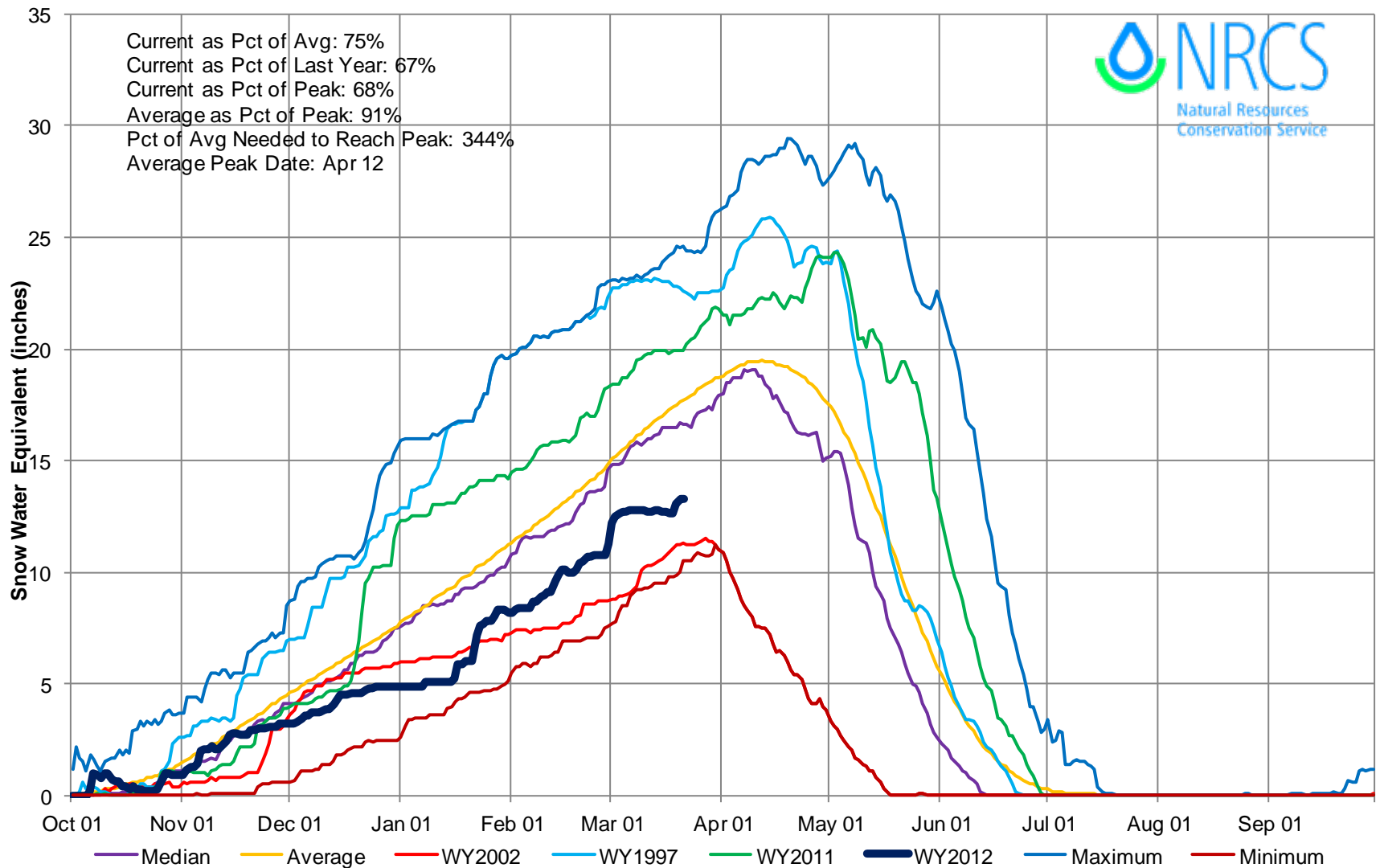
Current as of February 1, 2012

March 1 Total Gunnison River Basin Snowpack



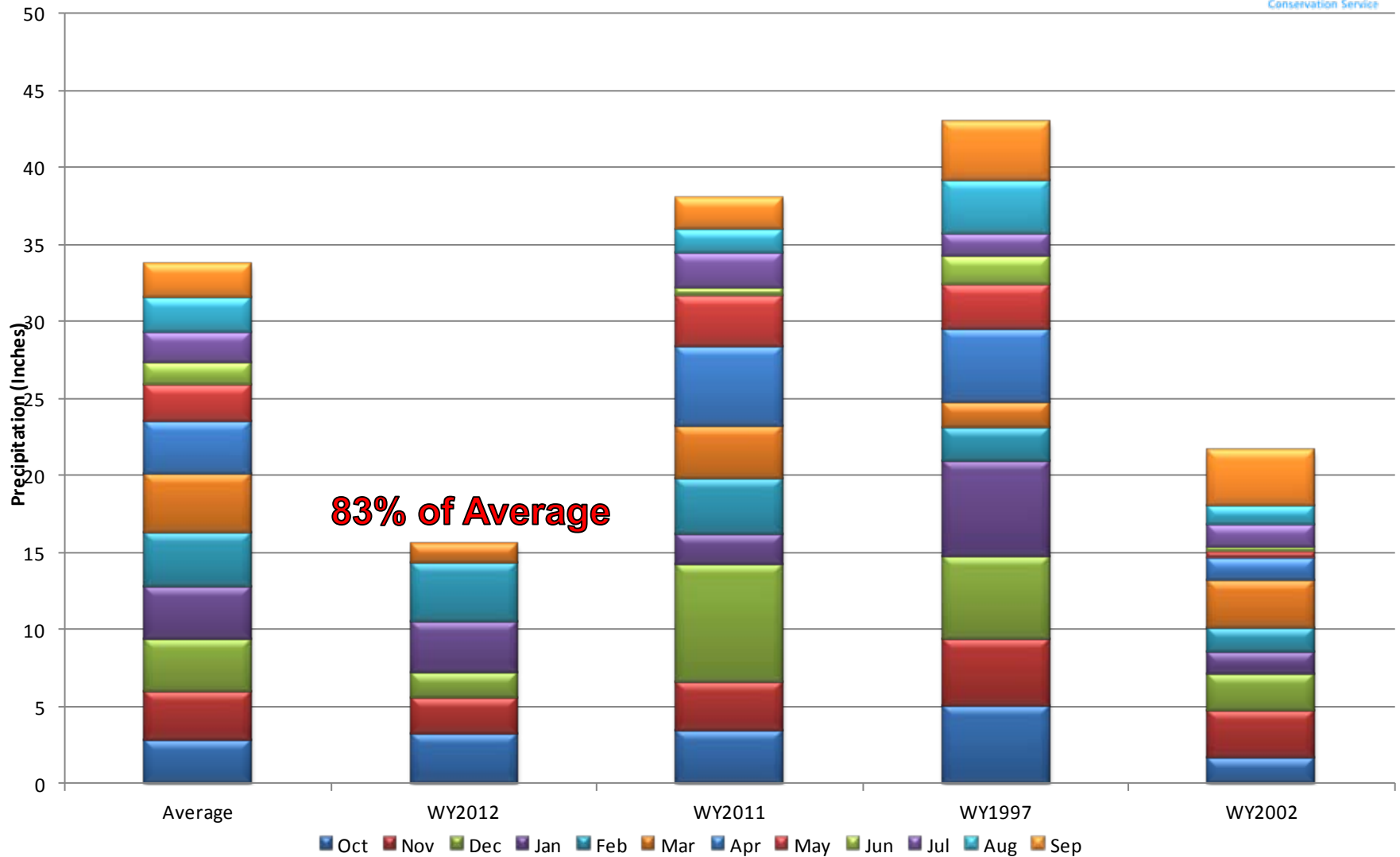
Gunnison River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



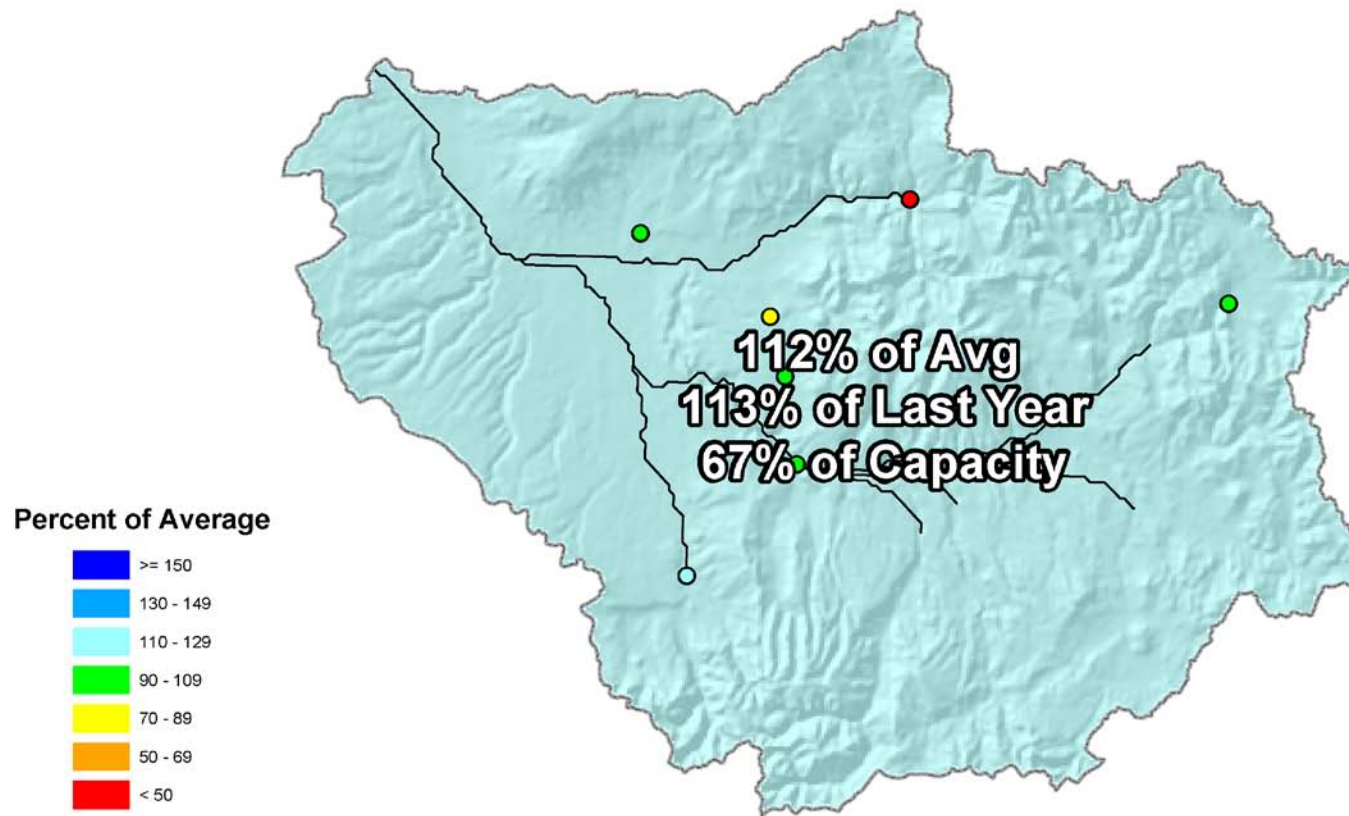
Gunnison River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



Gunnison River Basin Reservoir Storage Map

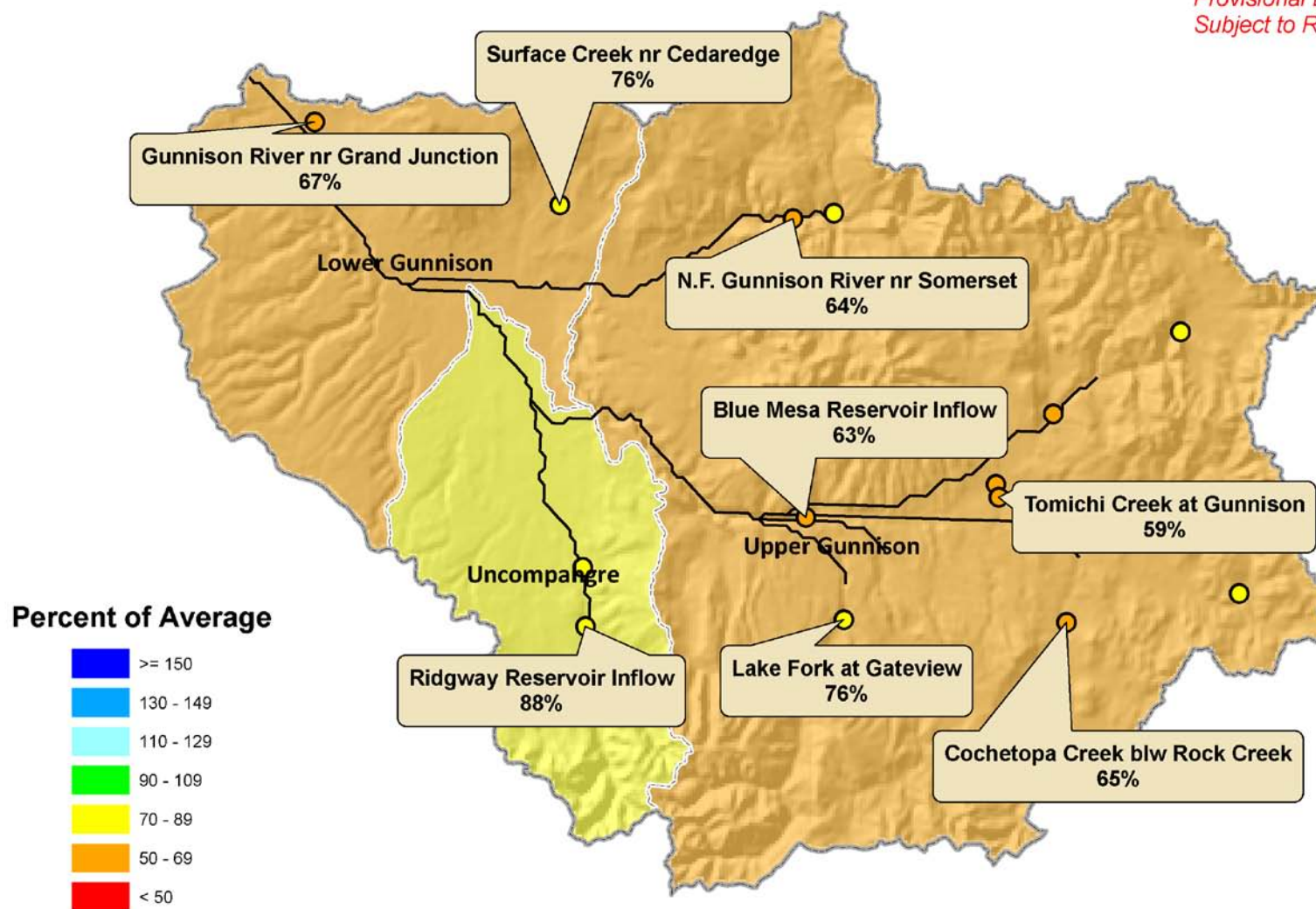
*Provisional Data
Subject to Revision*



End of February 2012

Gunnison River Basin Streamflow Forecast Map

*Provisional Data
Subject to Revision*

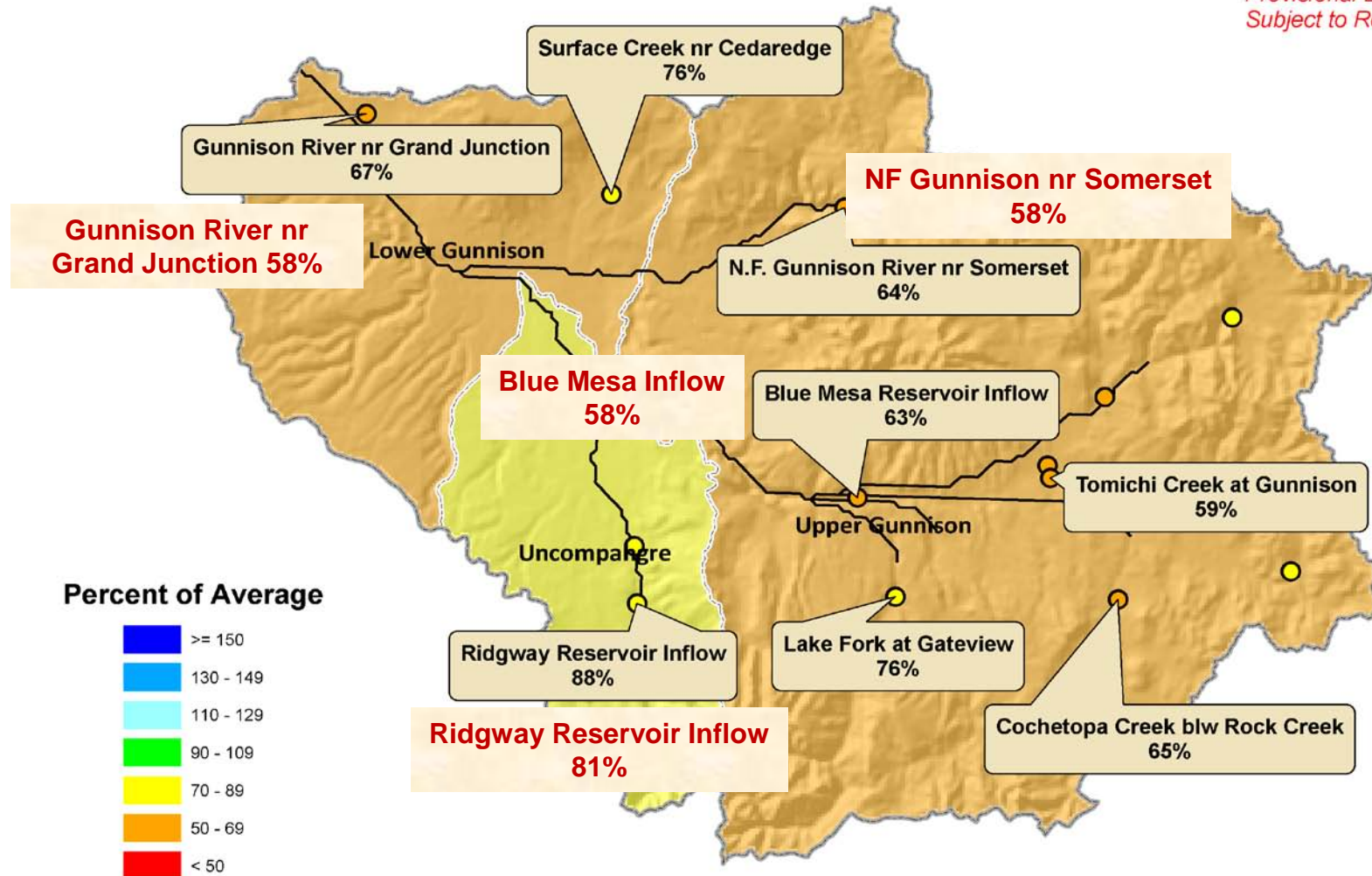


Current as of March 1, 2012

Forecasts Updated March 19, 2012

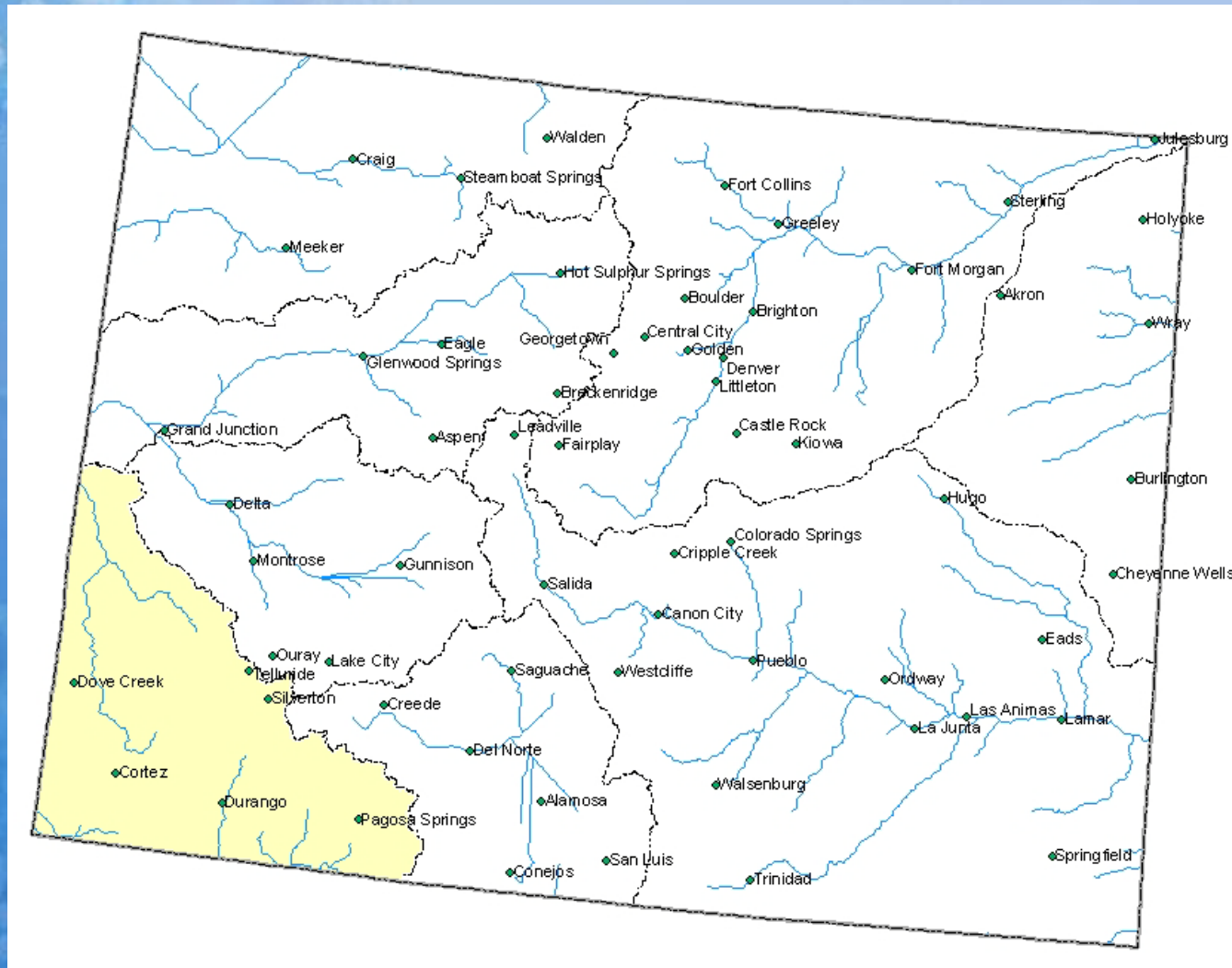
Gunnison River Basin Streamflow Forecast Map

*Provisional Data
Subject to Revision*



Current as of March 1, 2012

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

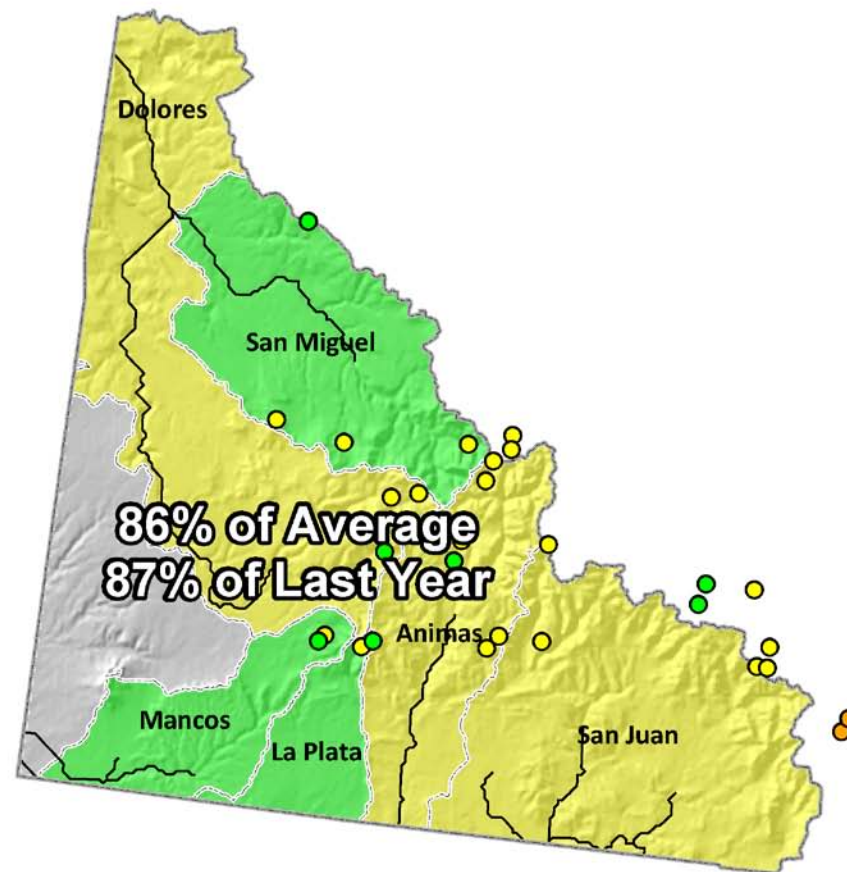


San Miguel, Dolores, Animas and San Juan River Basins Snowpack Map

Percent of Average

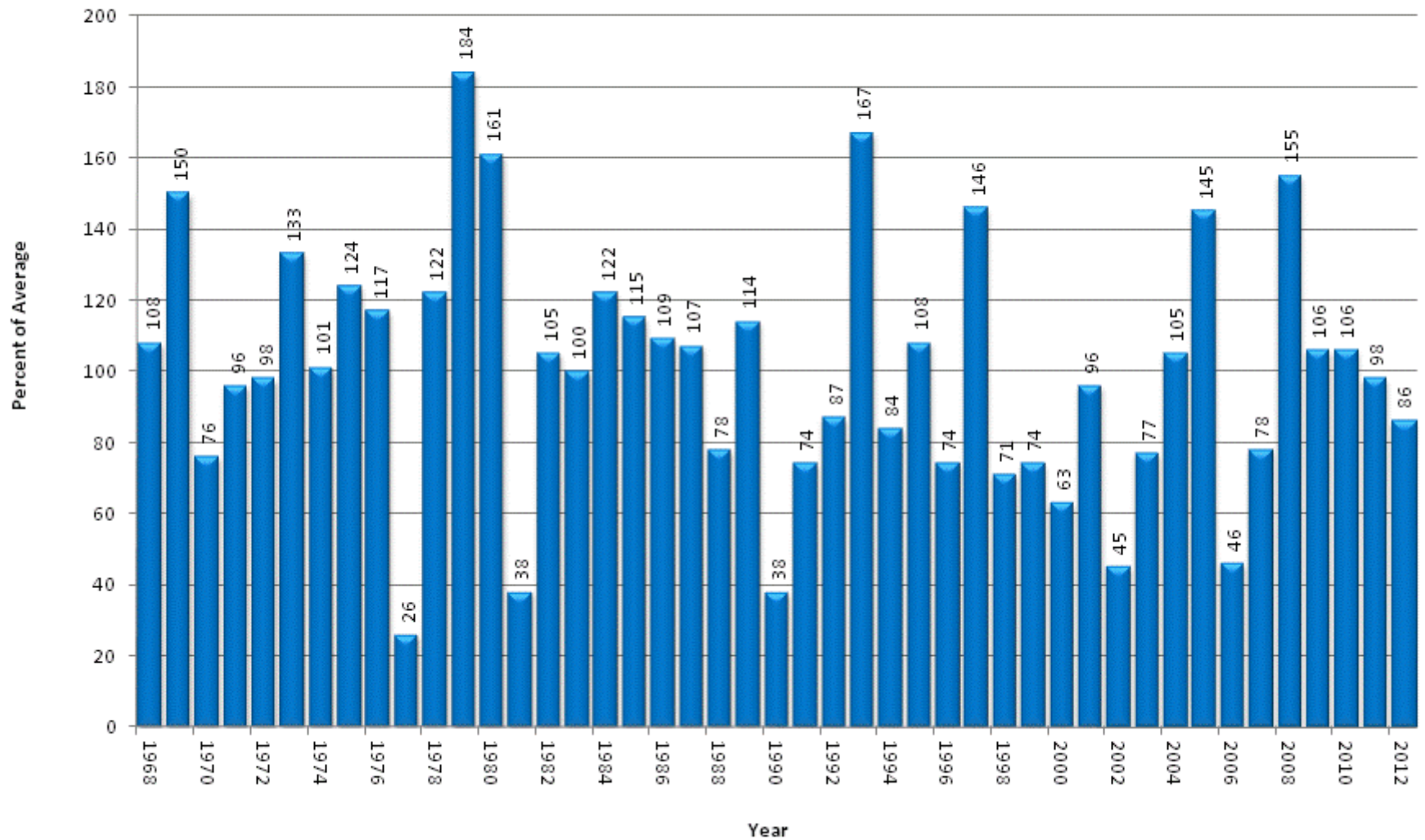


*Provisional Data
Subject to Revision*



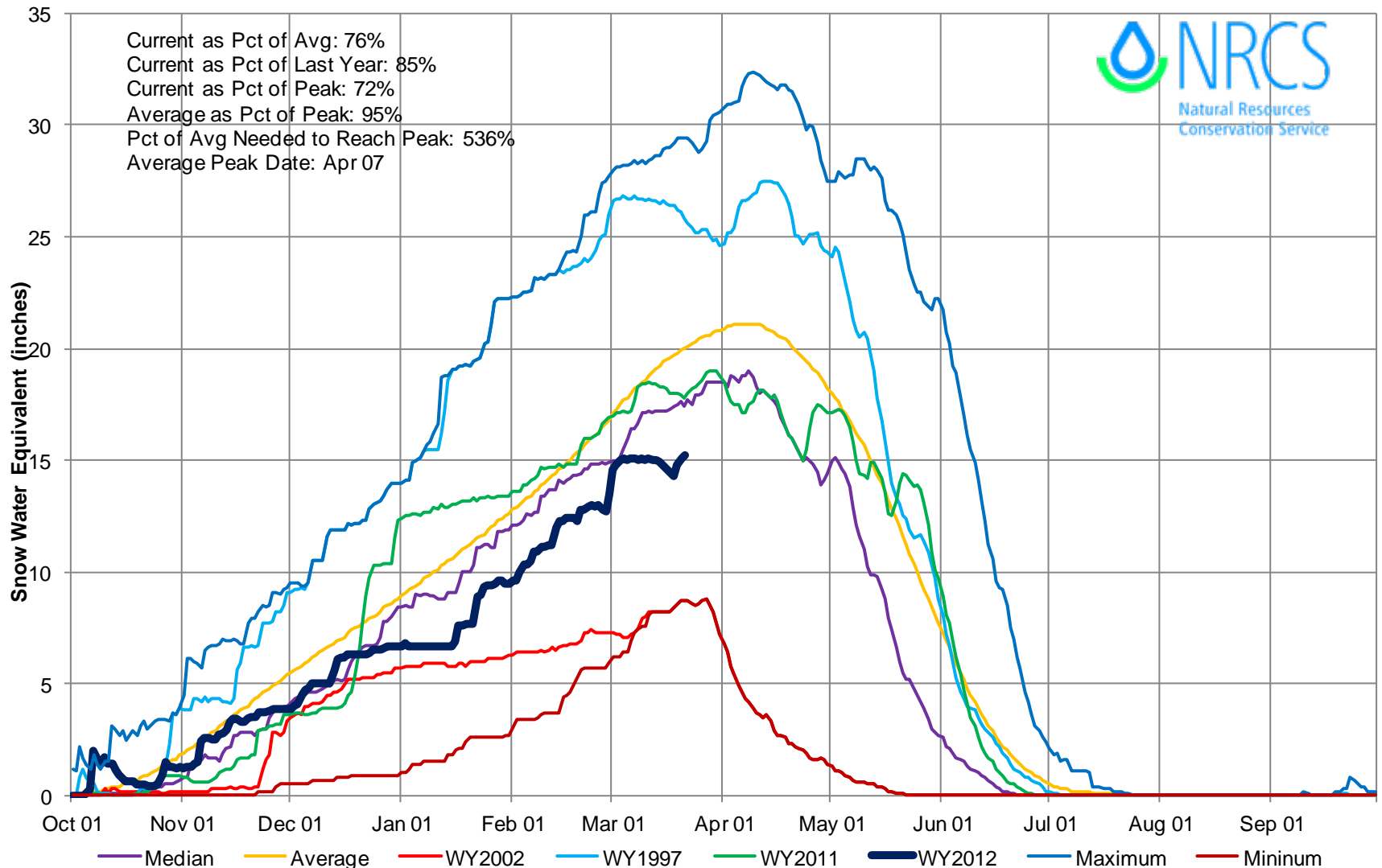
Current as of March 1, 2012

March 1 Total San Miguel, Dolores, Animas & San Juan River Basins Snowpack



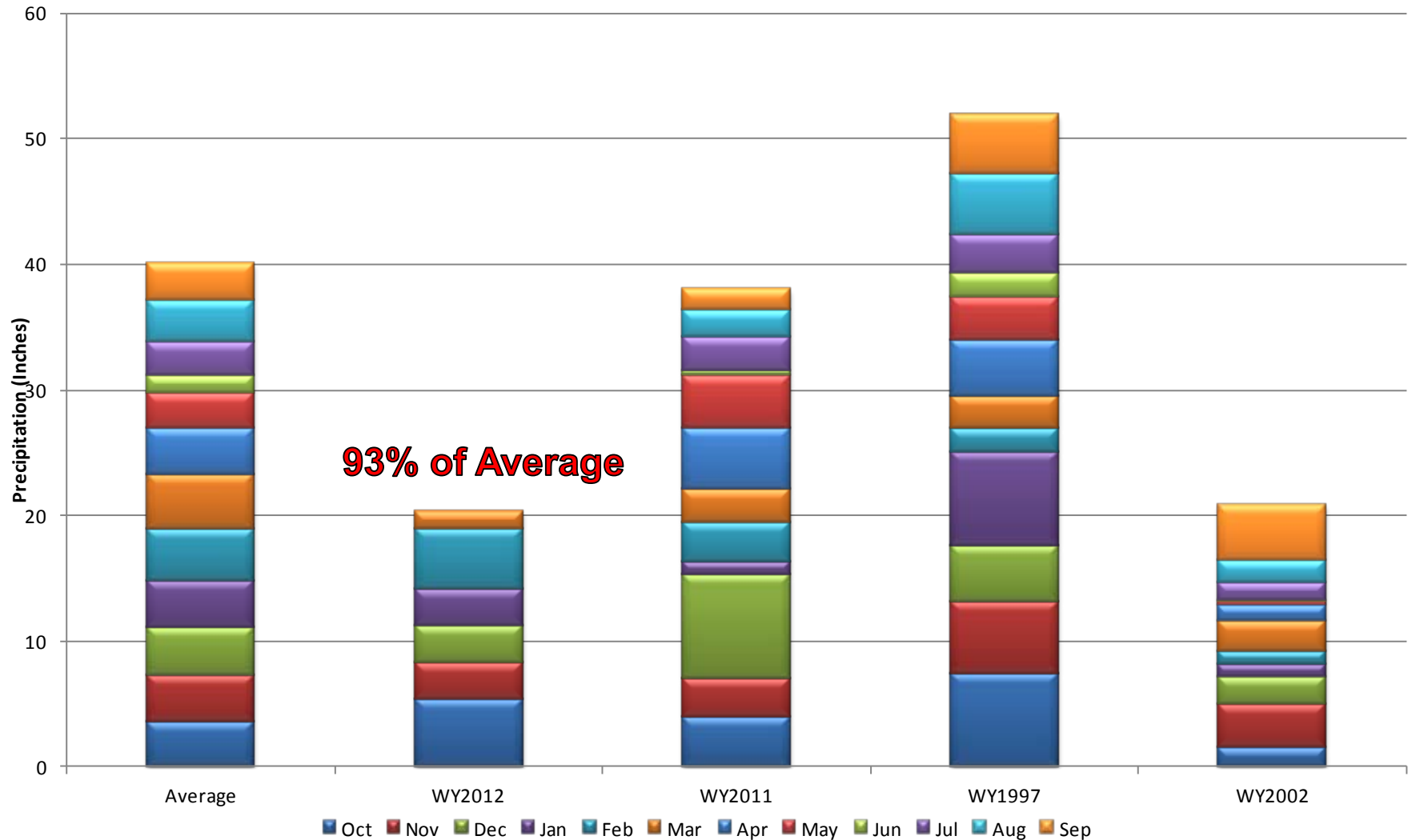
San Miguel, Dolores, Animas & San Juan River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



San Miguel, Dolores, Animas & San Juan River Basins High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 21, 2012

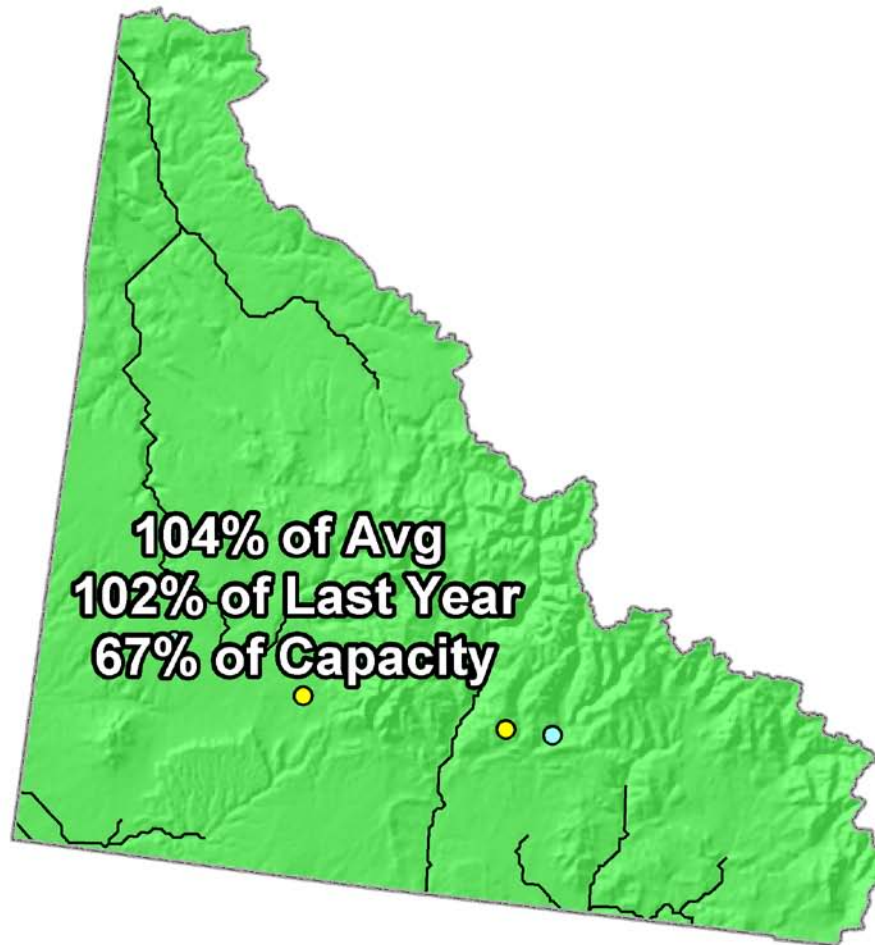


San Miguel, Dolores, Animas and San Juan River Basins Reservoir Storage Map

Percent of Average



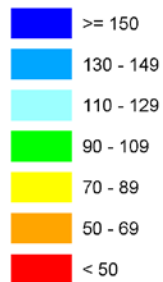
*Provisional Data
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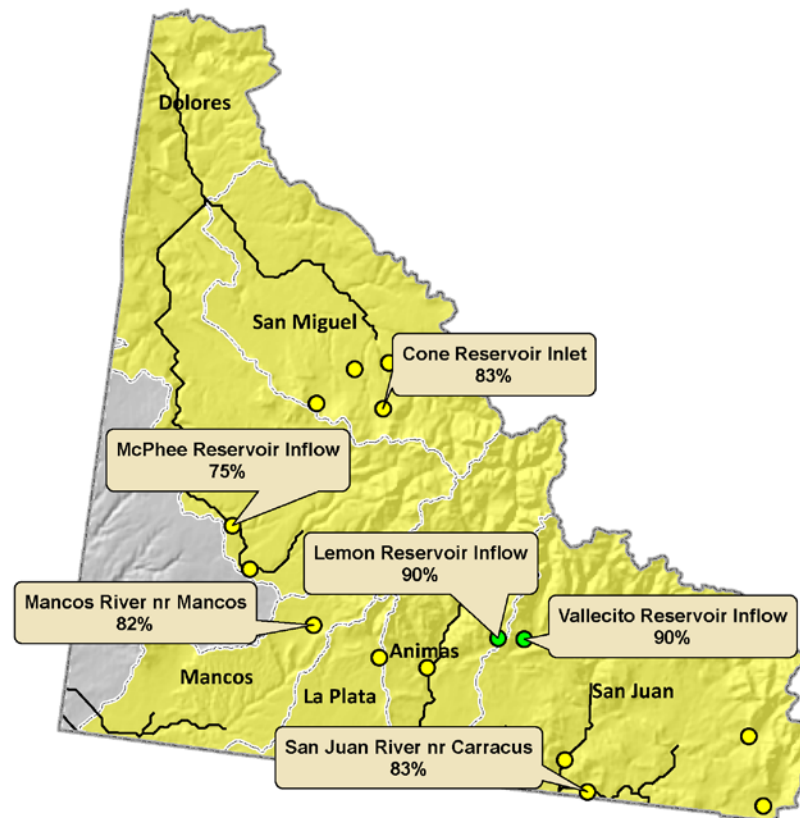
End of February 2012

San Miguel, Dolores, Animas and San Juan River Basins Streamflow Forecast Map

Percent of Average



*Provisional Data
Subject to Revision*



Current as of March 1, 2012

Forecasts Updated March 19, 2012

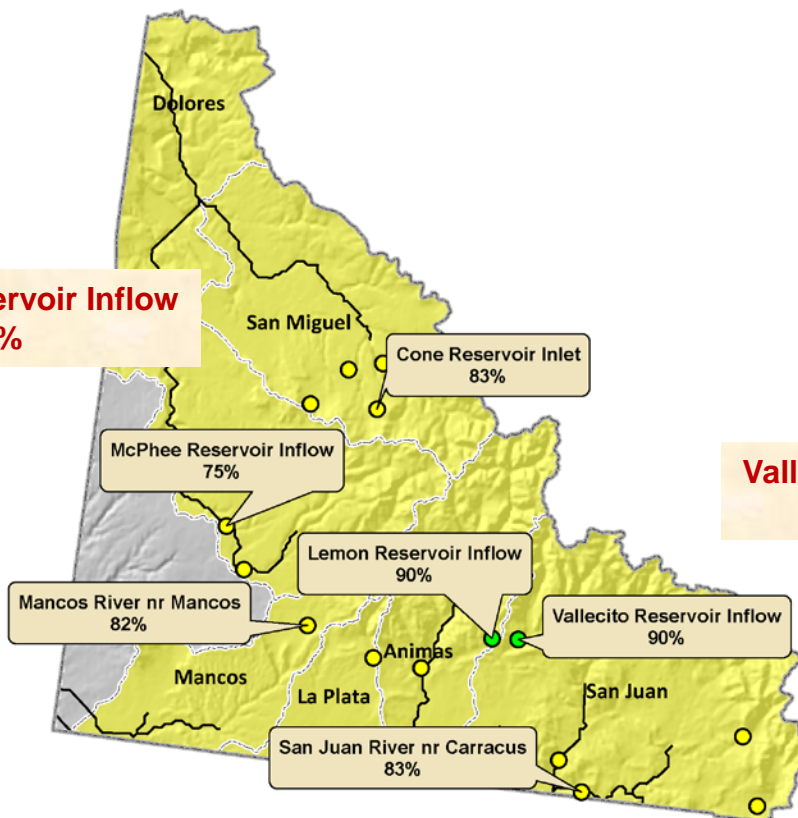
San Miguel, Dolores, Animas and San Juan River Basins Streamflow Forecast Map

Percent of Average



*Provisional Data
Subject to Revision*

McPhee Reservoir Inflow
70%



Vallecito Reservoir Inflow
85%

Current as of March 1, 2012

Upper Rio Grande Basin Summary

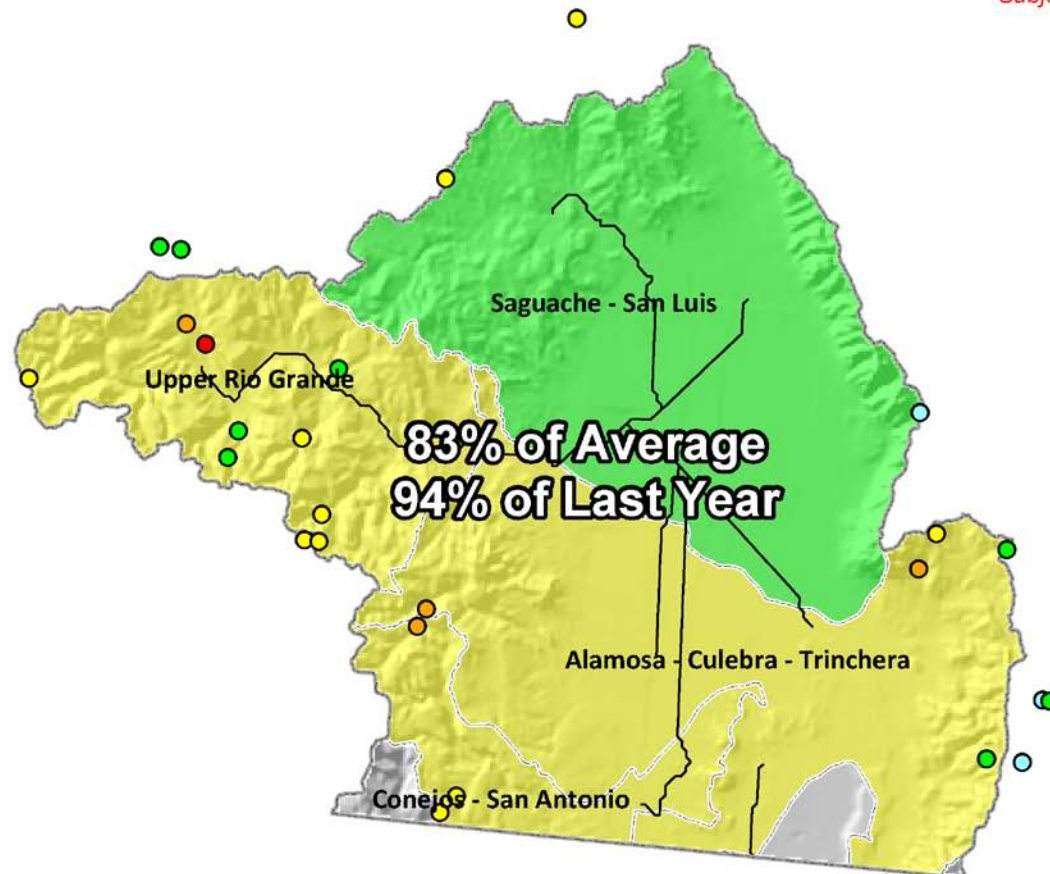


Upper Rio Grande Basin Snowpack Map

Percent of Average

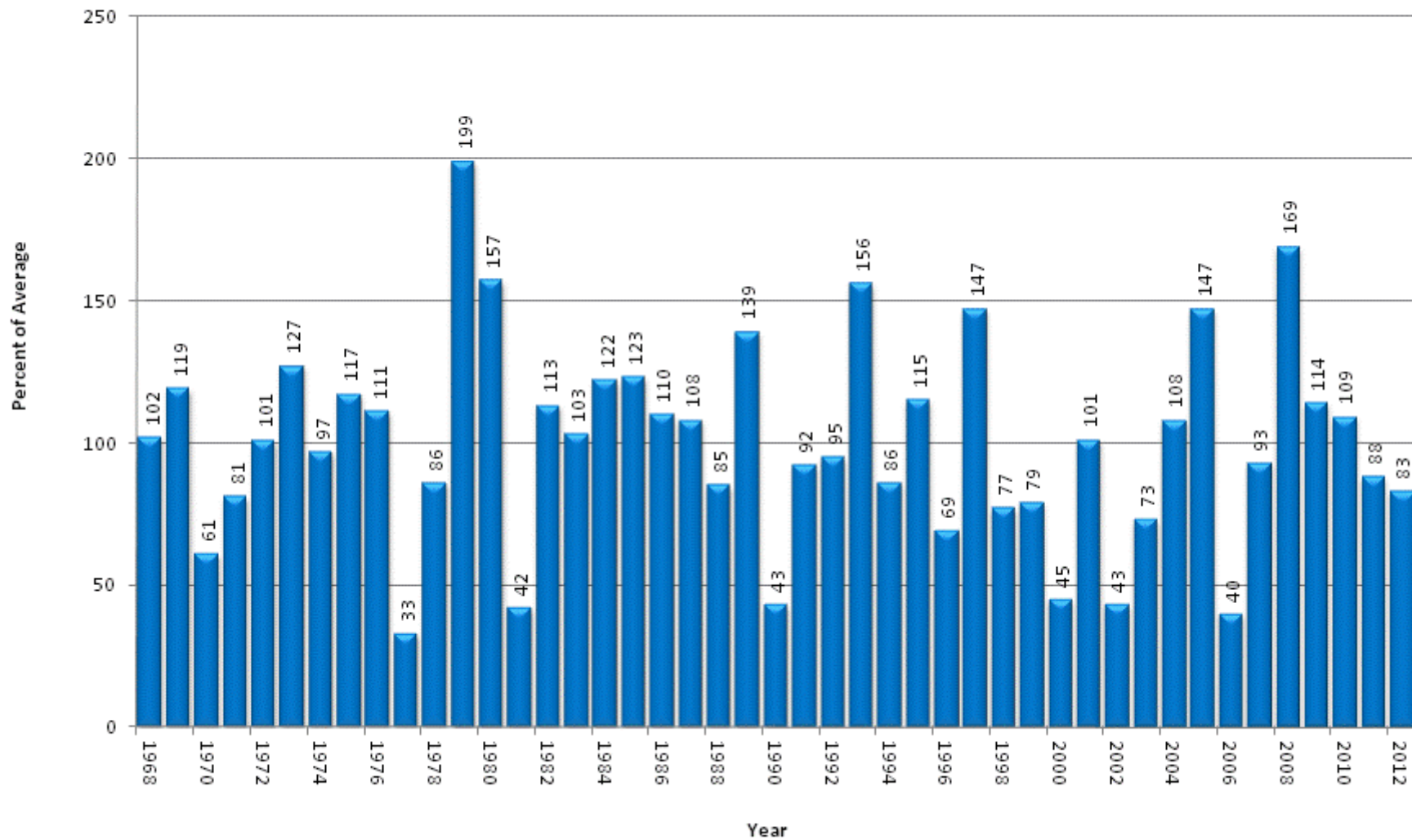


*Provisional Data
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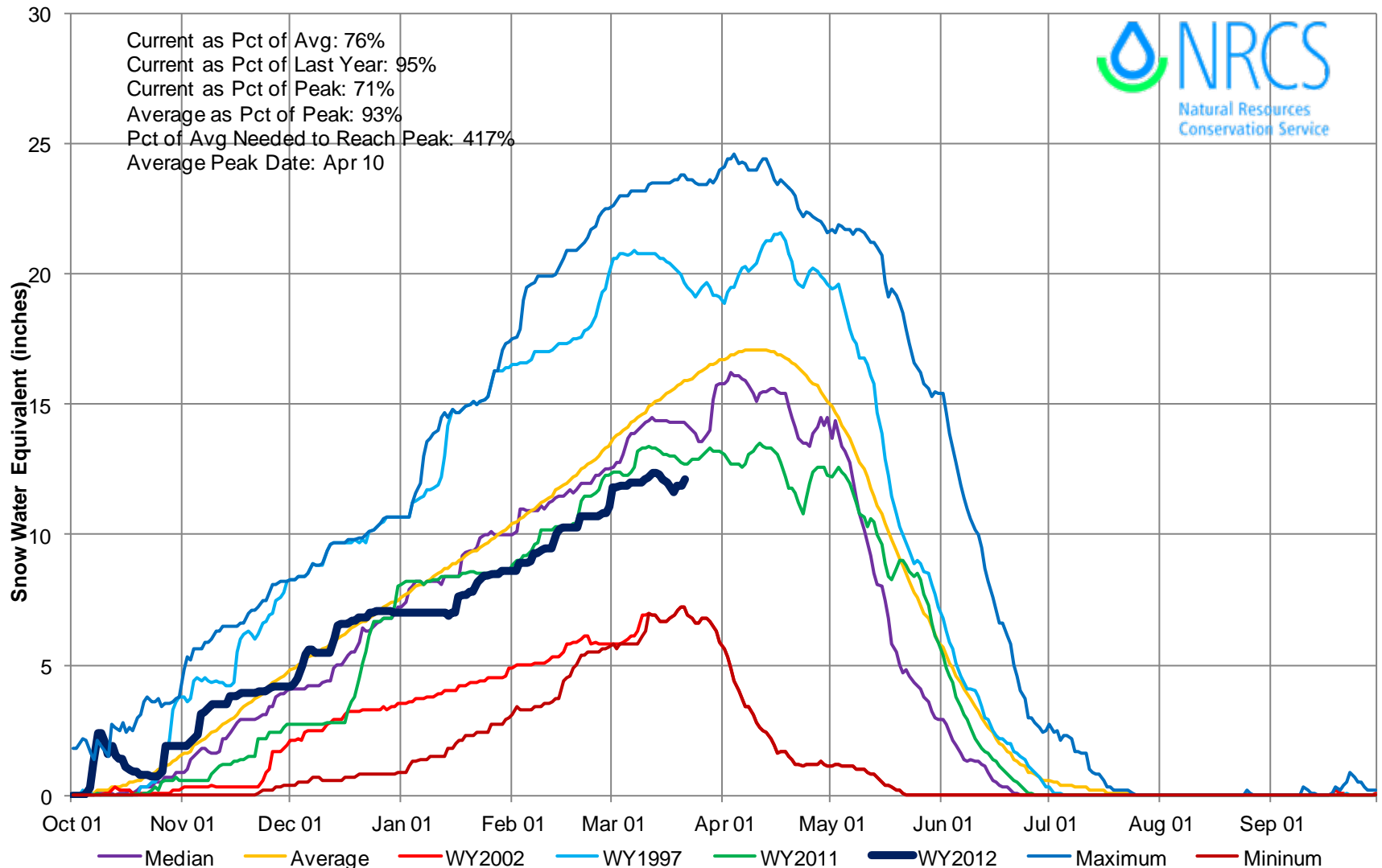
Current as of March 1, 2012

March 1 Total Upper Rio Grande Basin Snowpack



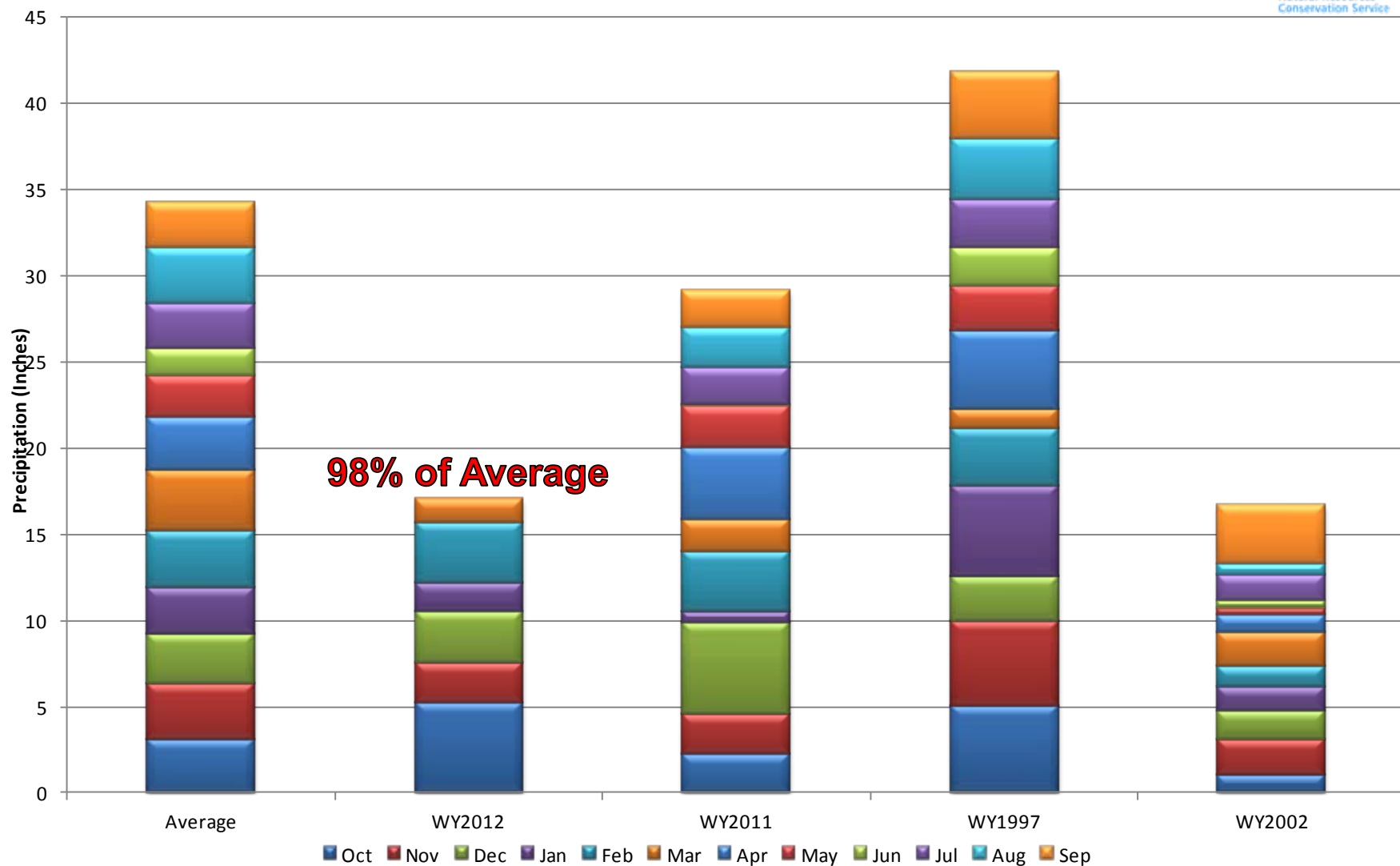
Upper Rio Grande Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



Upper Rio Grande Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 21, 2012

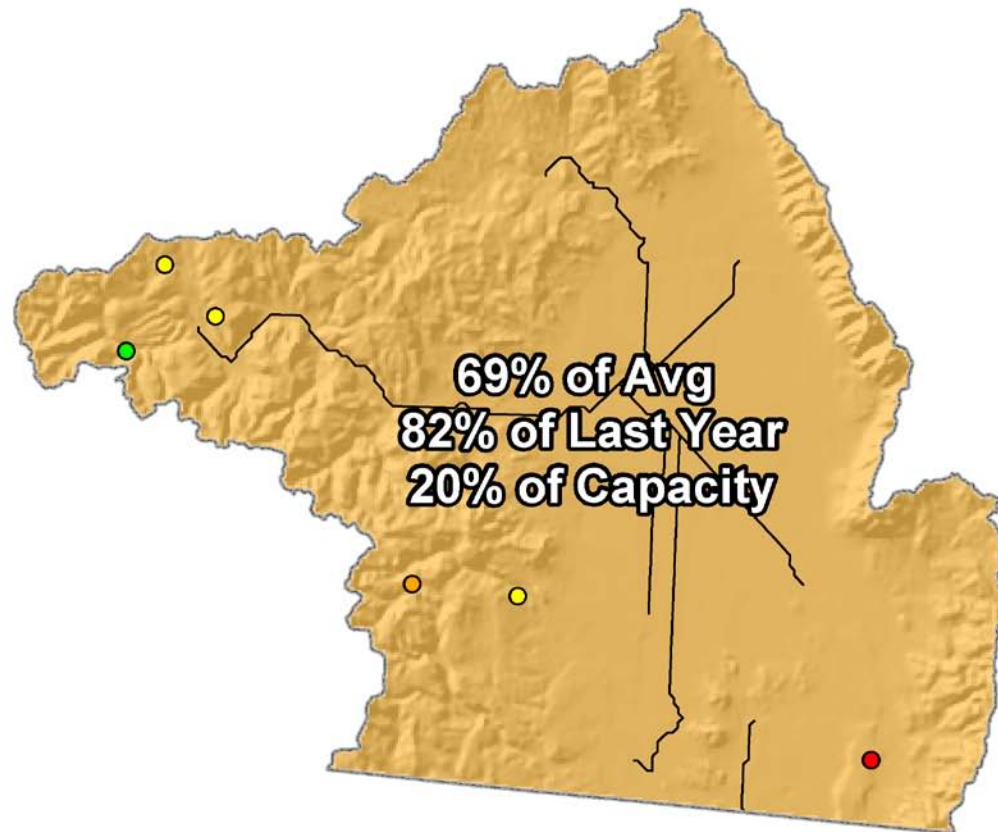


Upper Rio Grande Basin Reservoir Storage Map

Percent of Average



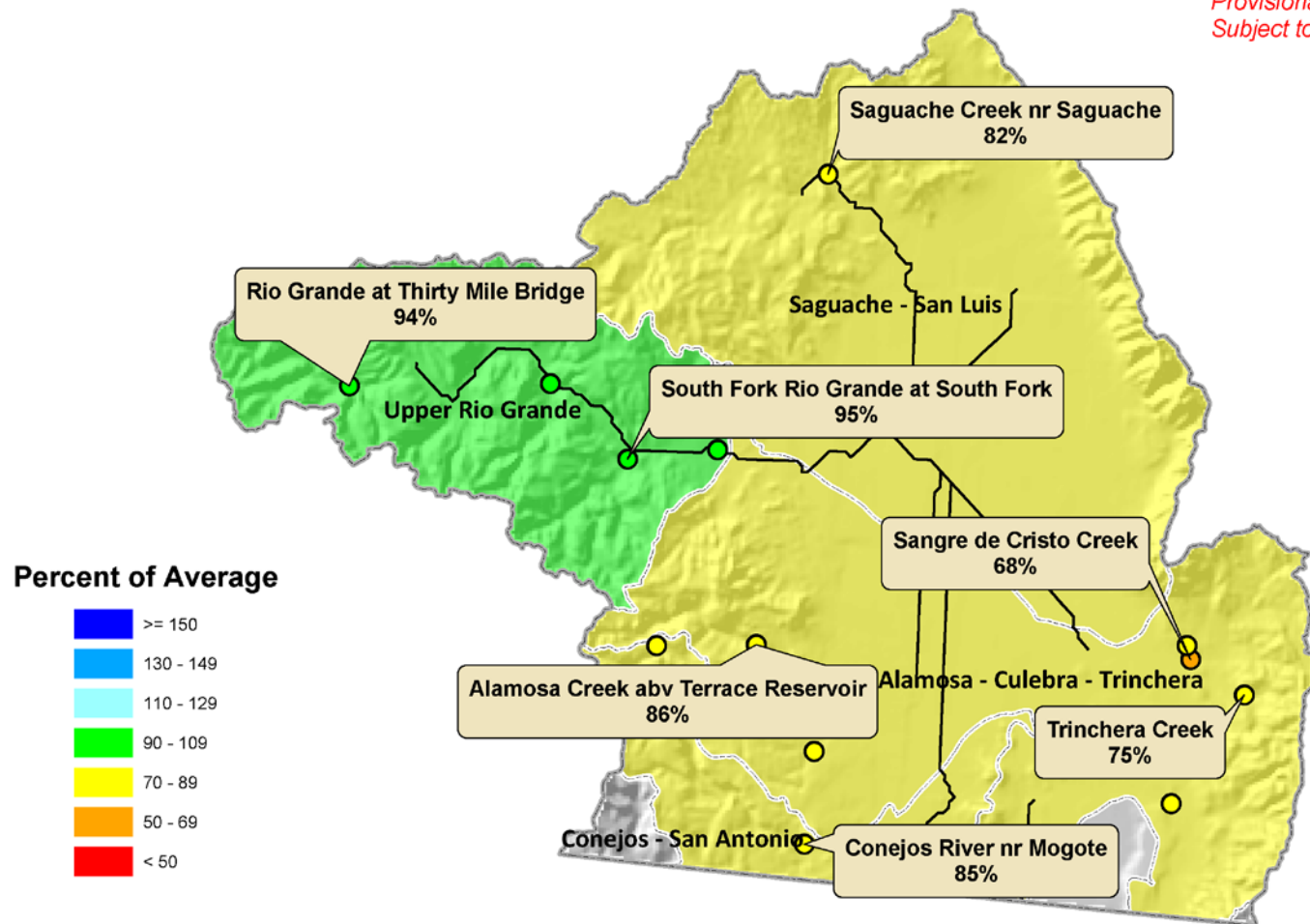
*Provisional Data
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End of February 2012

Upper Rio Grande Basin Streamflow Forecast Map

*Provisional Data
Subject to Revision*



Current as of March 1, 2012

Created 6:54 Mar 21 2012

Rio Grande near Del Norte (co): Apr-Sep Volume

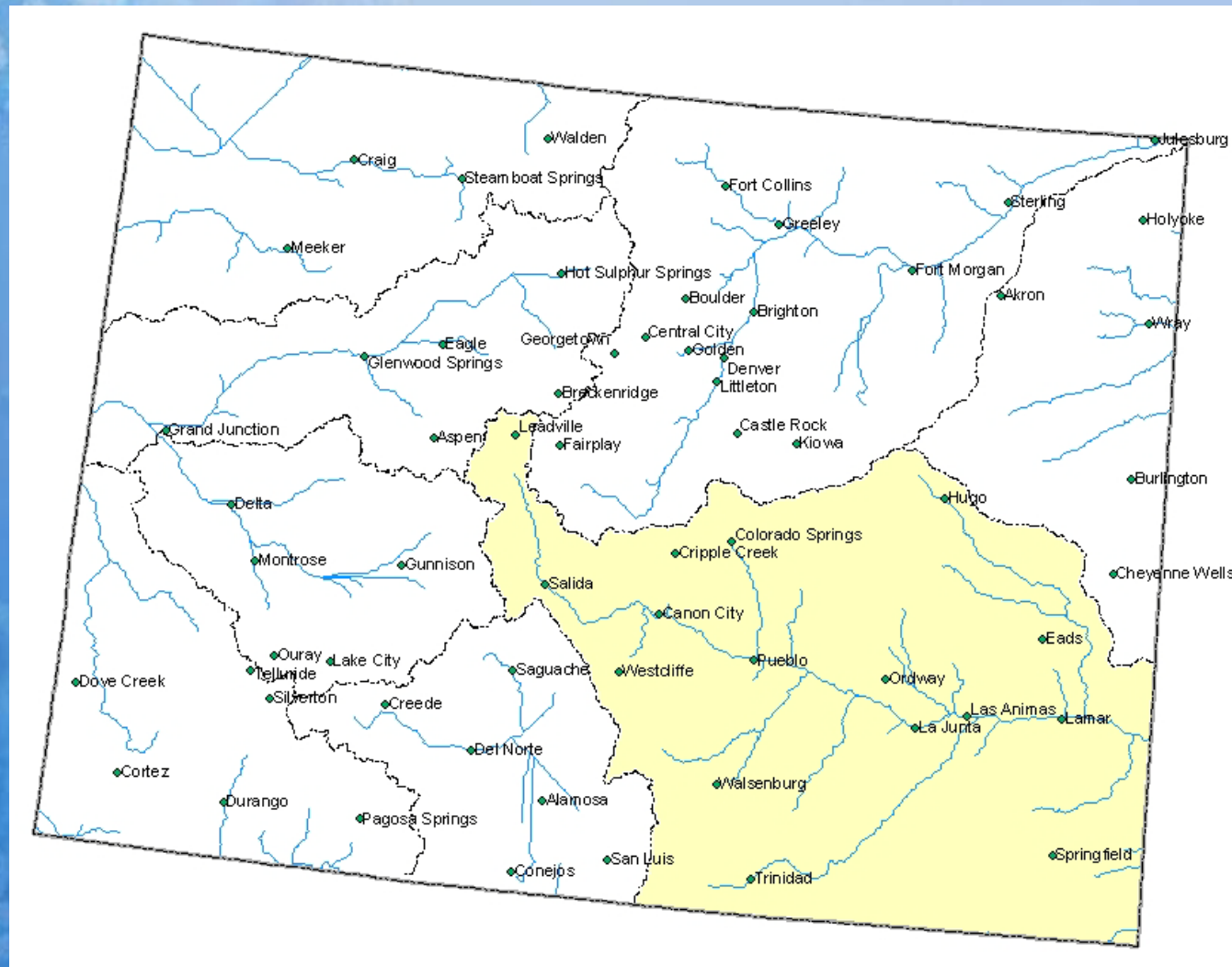


- Guidance fcst % norm
- Official fcst % norm
- Guidance Skill (r^2)

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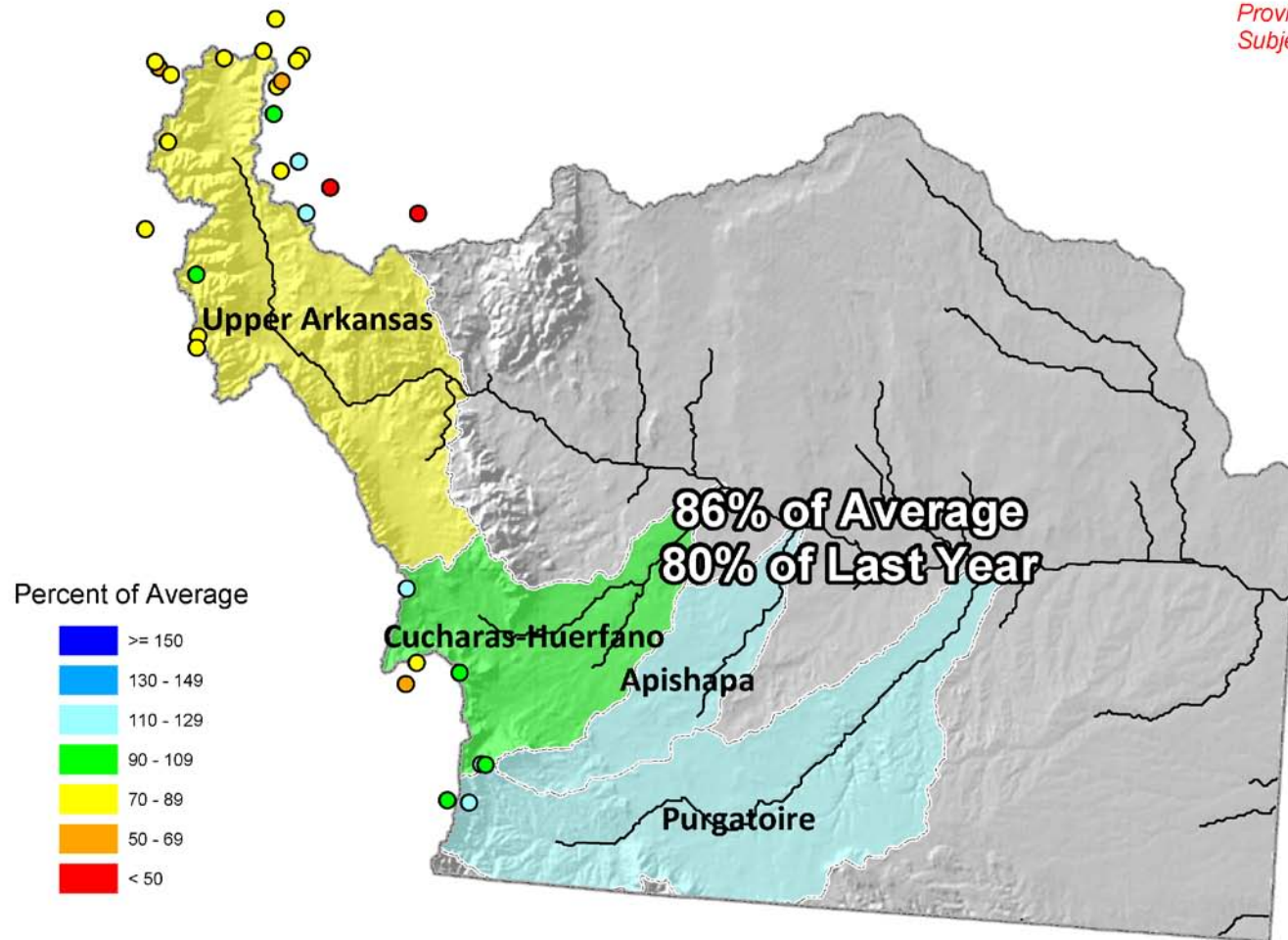


Arkansas River Basin Summary



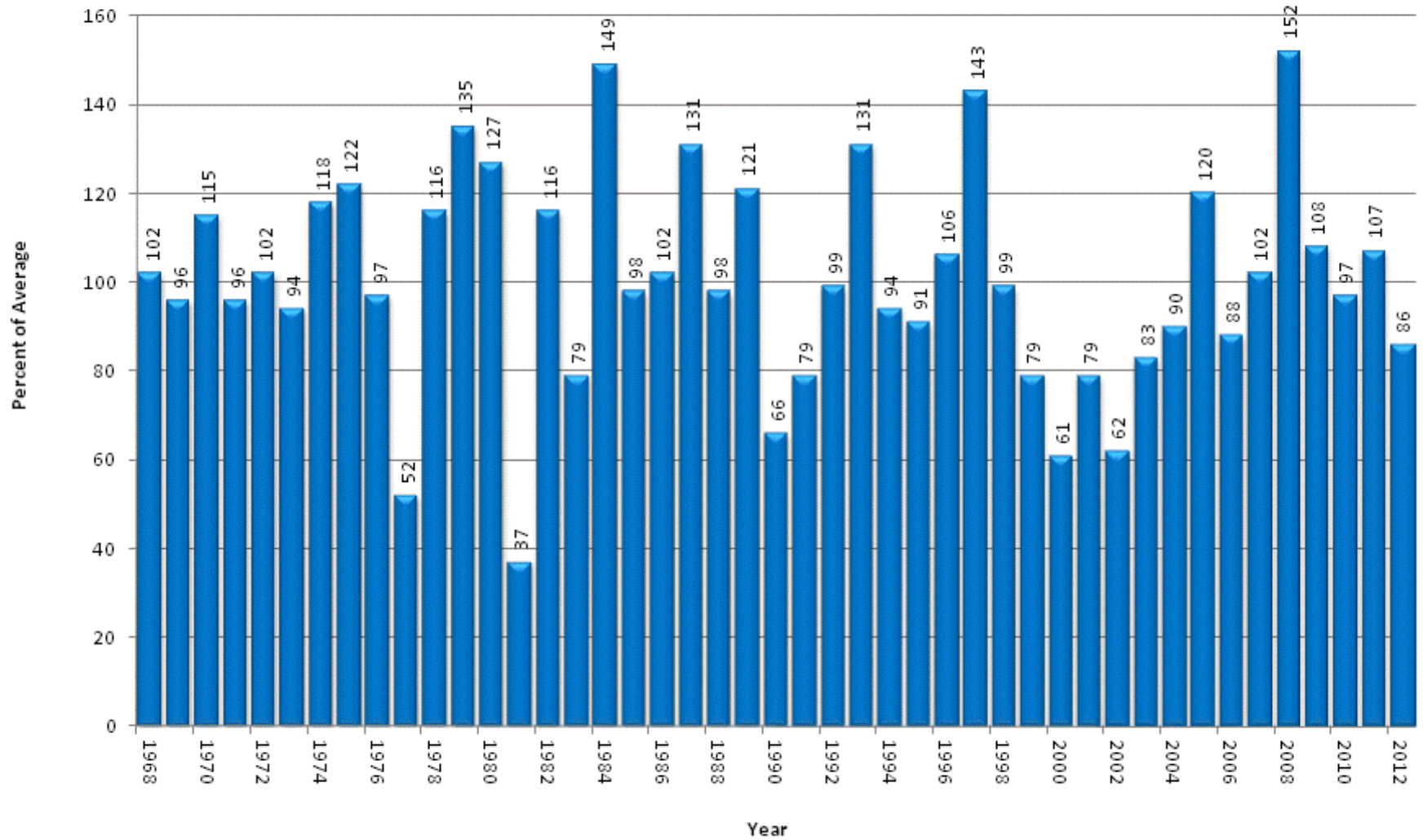
Arkansas River Basin Snowpack Map

*Provisional Data
Subject to Revision*



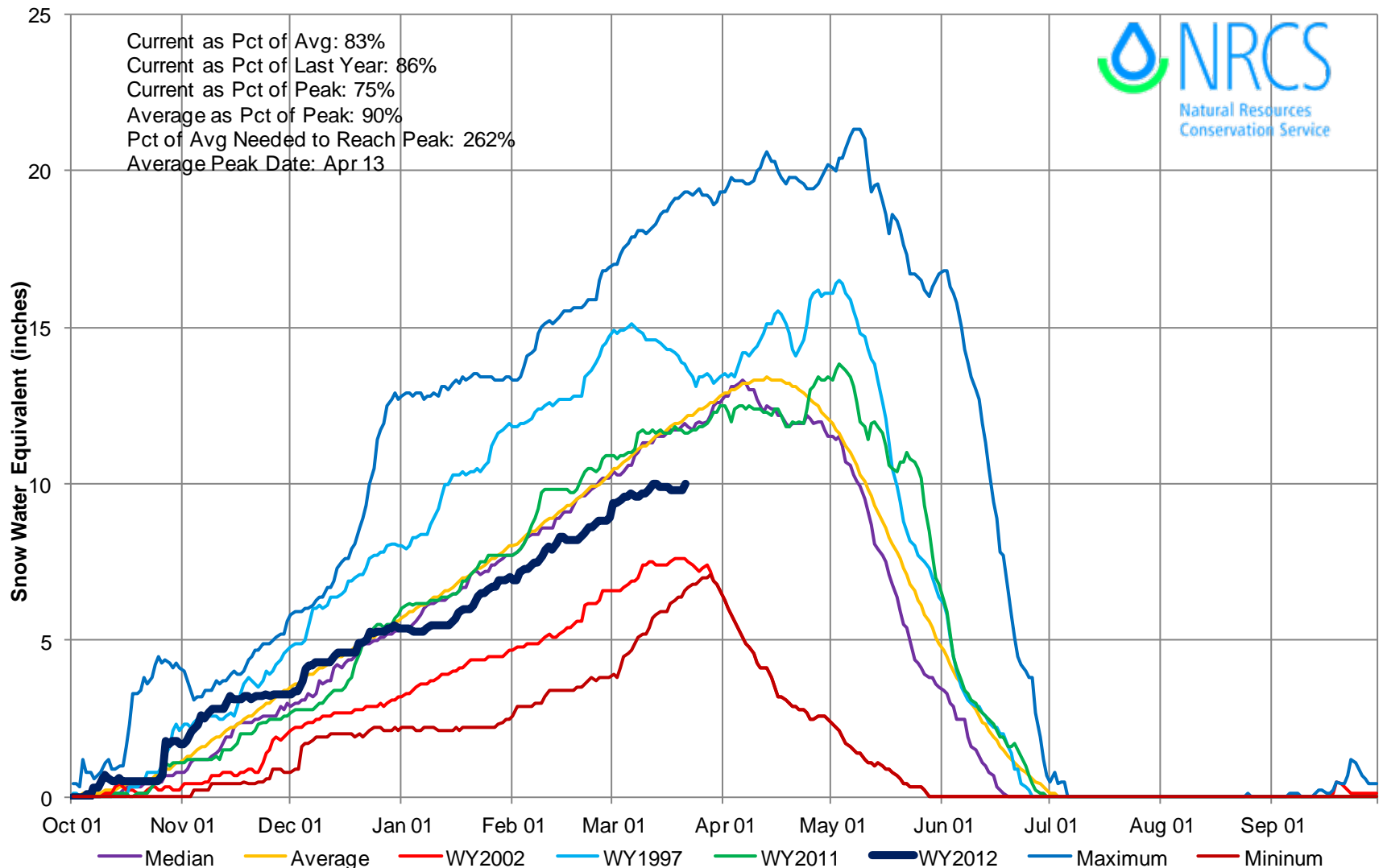
Current as of March 1, 2012

March 1 Total Arkansas River Basin Snowpack



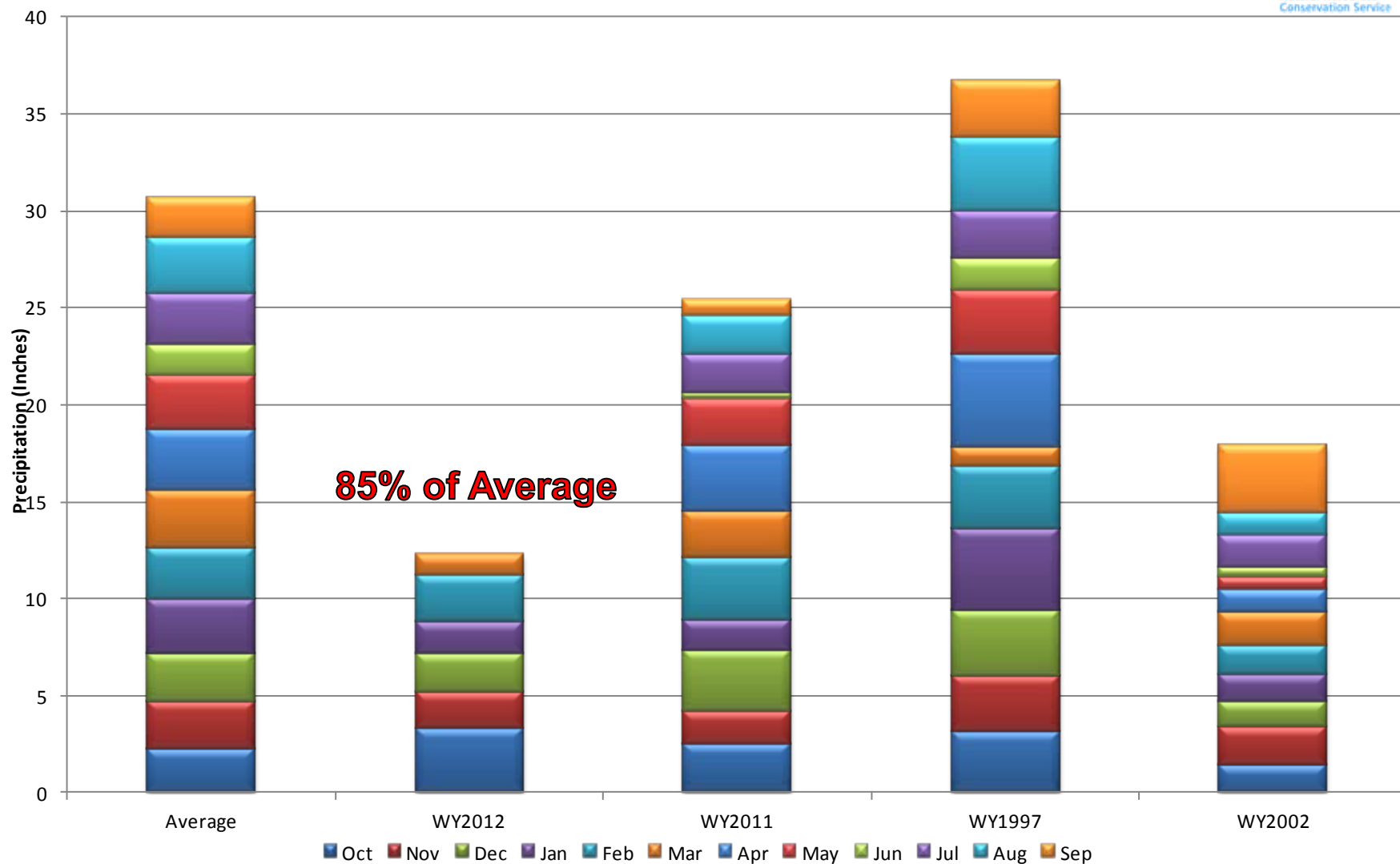
Arkansas River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



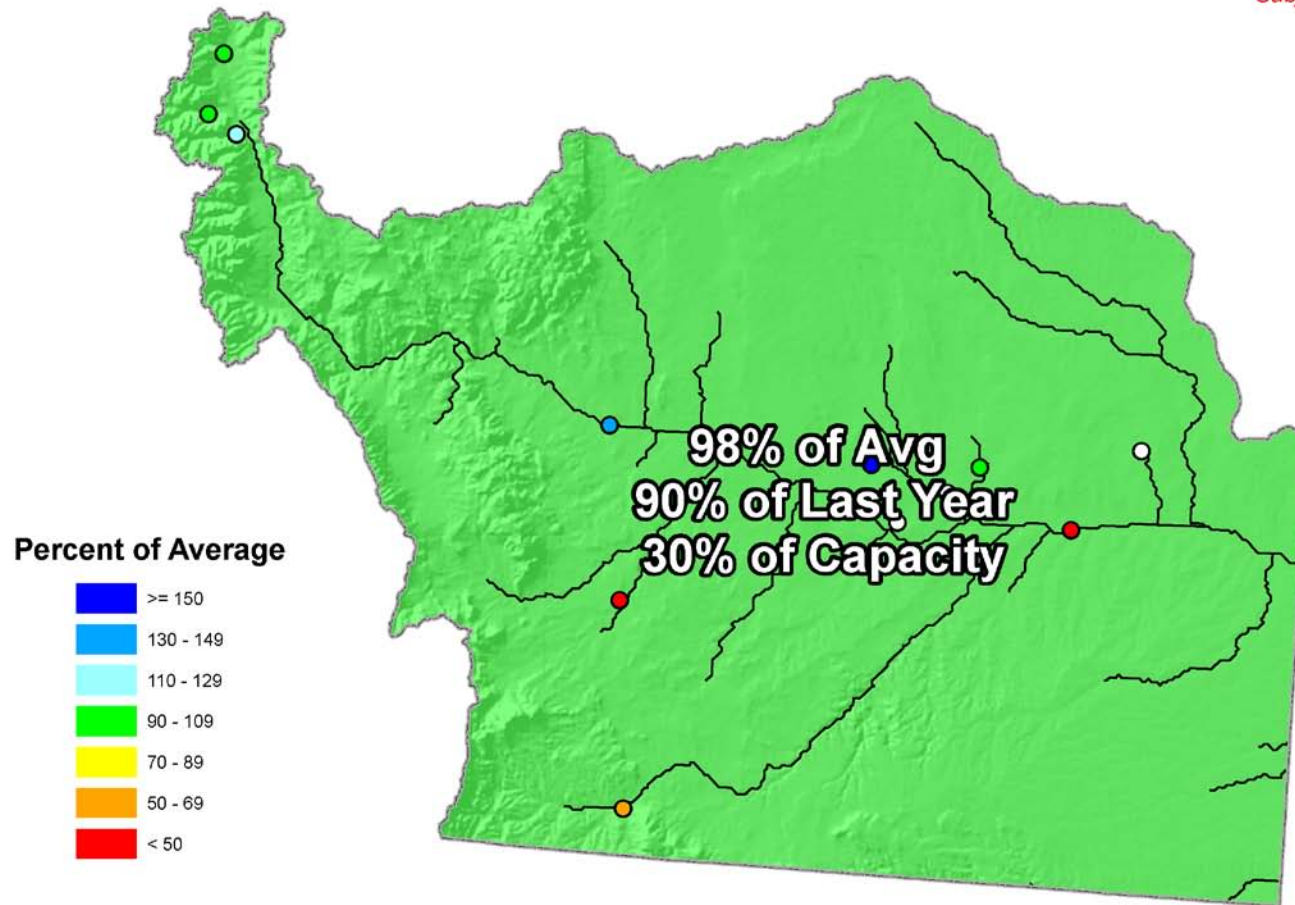
Arkansas River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 21, 2012



Arkansas River Basin Reservoir Storage Map

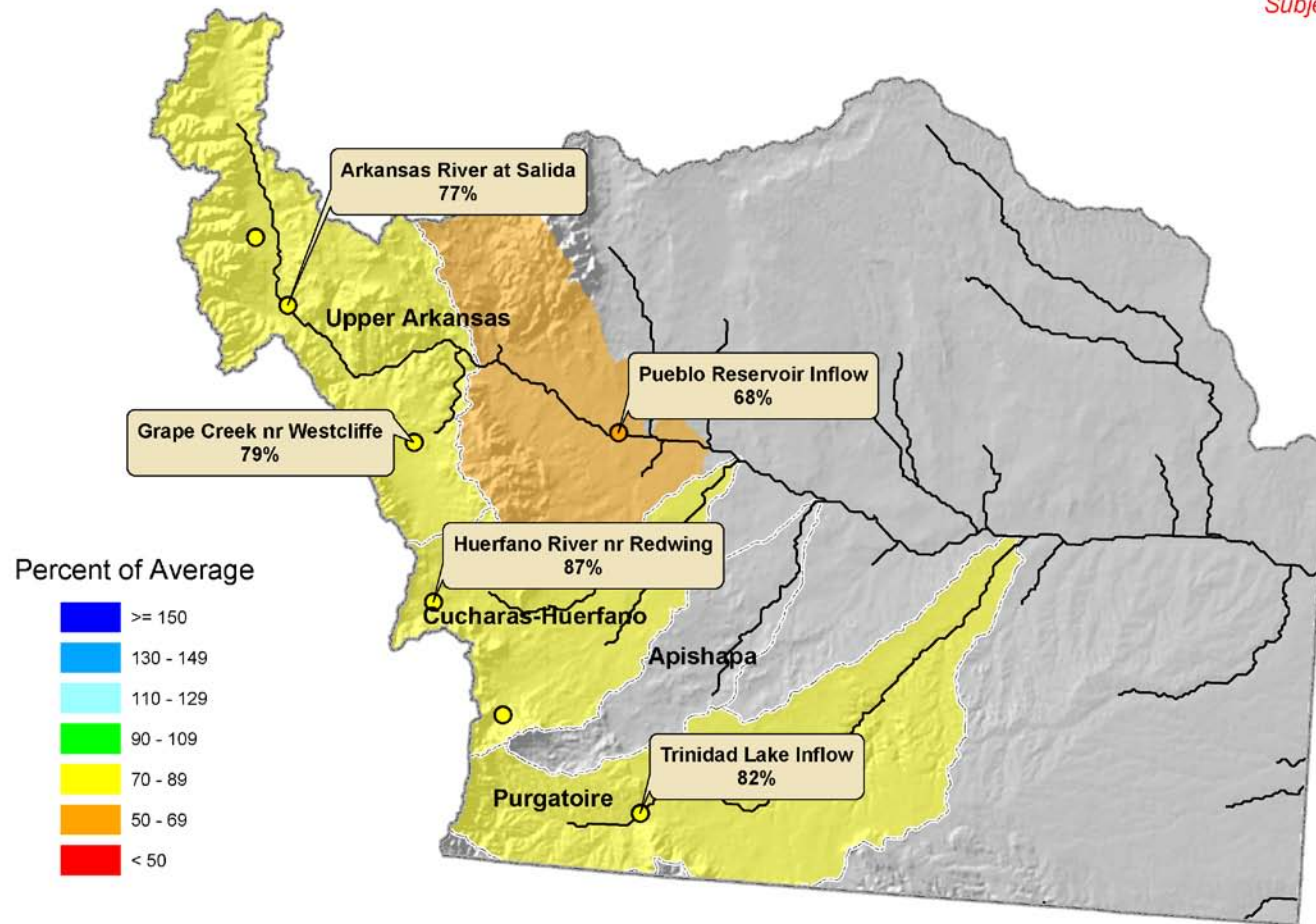
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End of February 2012

Arkansas River Basin Streamflow Forecast Map

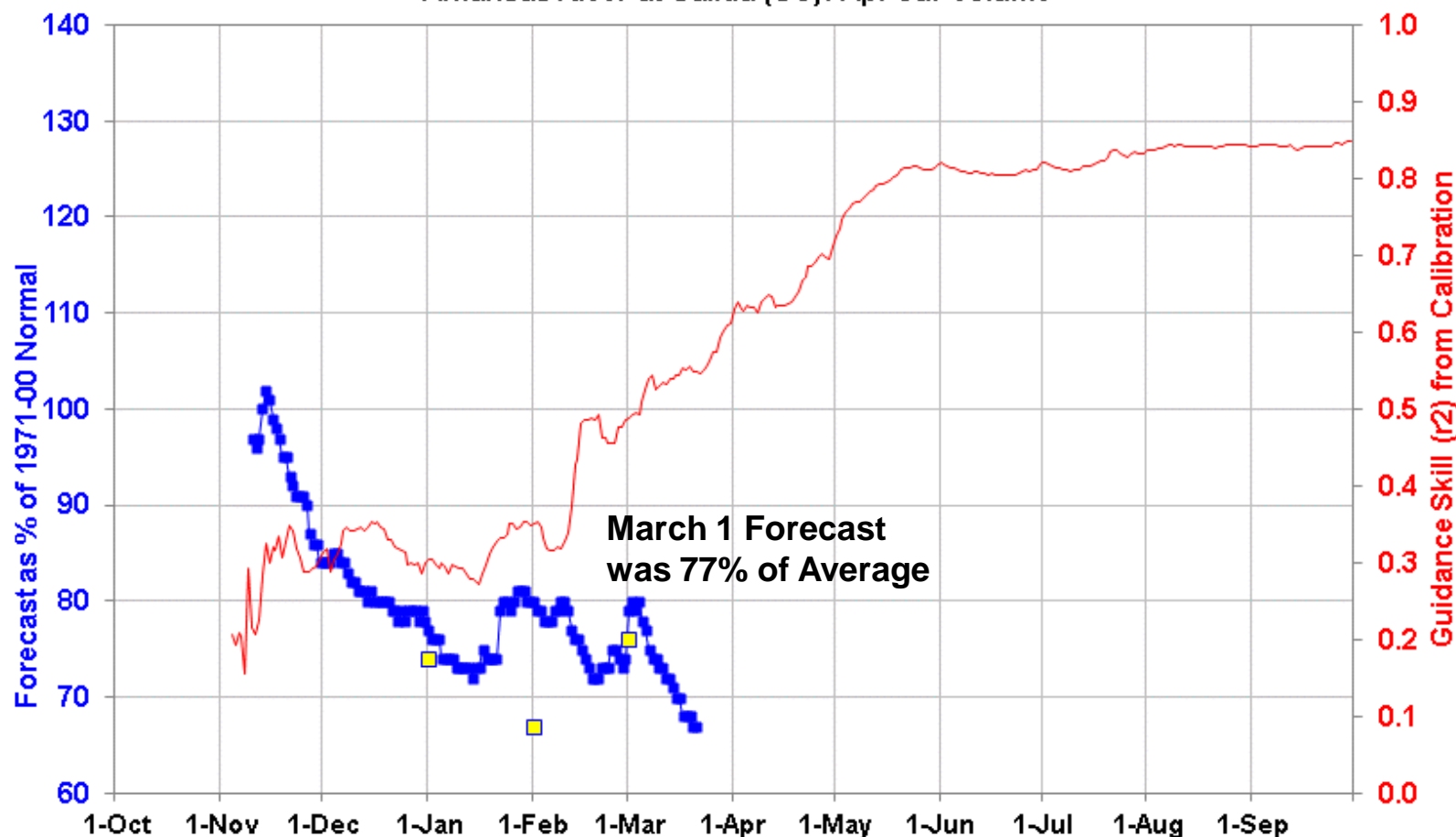
*Provisional Data
Subject to Revision*



Current as of March 1, 2012

Created 6:52 Mar 21 2012

Arkansas River at Salida (CO): Apr-Jul Volume

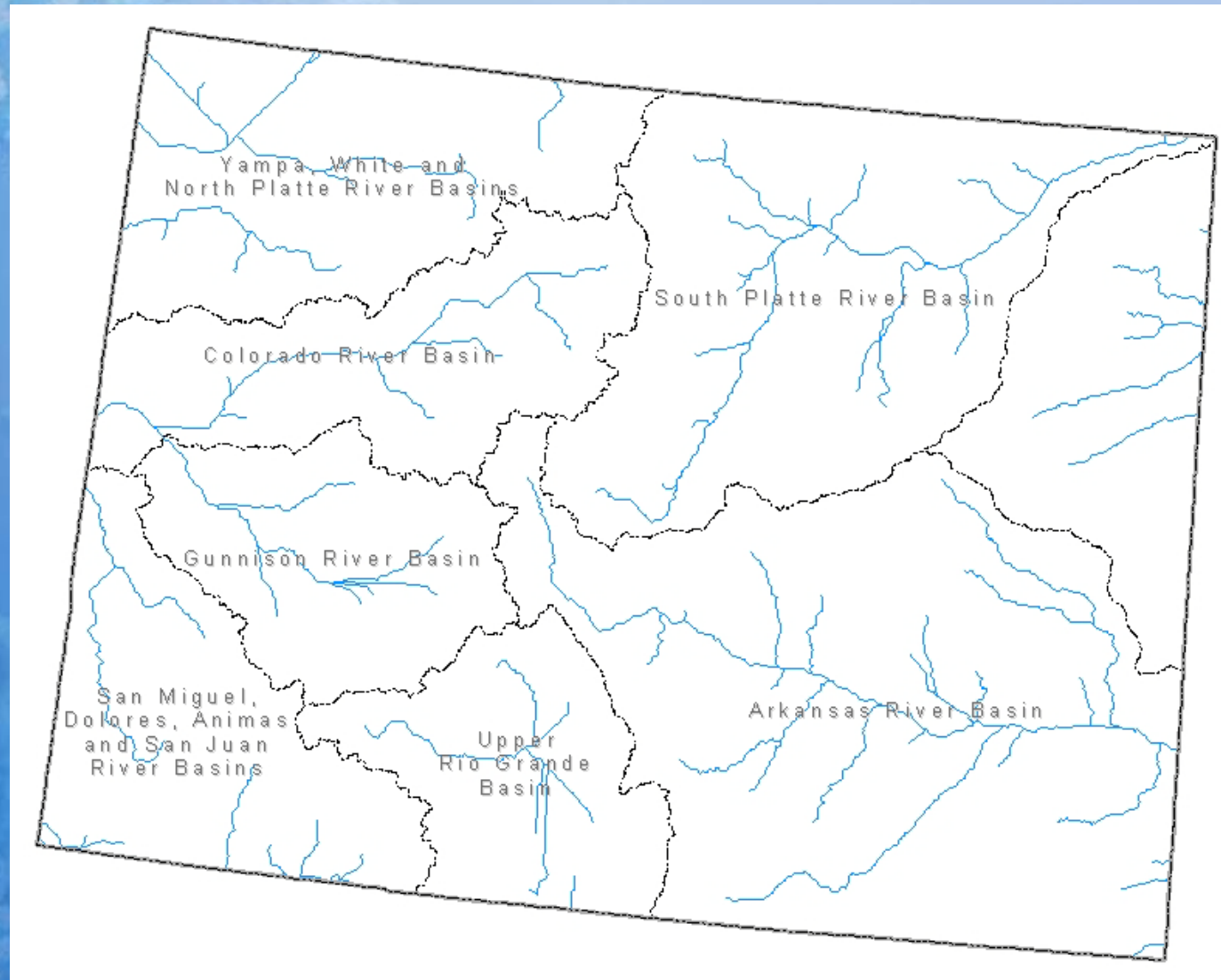


- Guidance fcst % norm
- Official fcst % norm
- Guidance Skill (r2)

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Colorado Statewide Summary



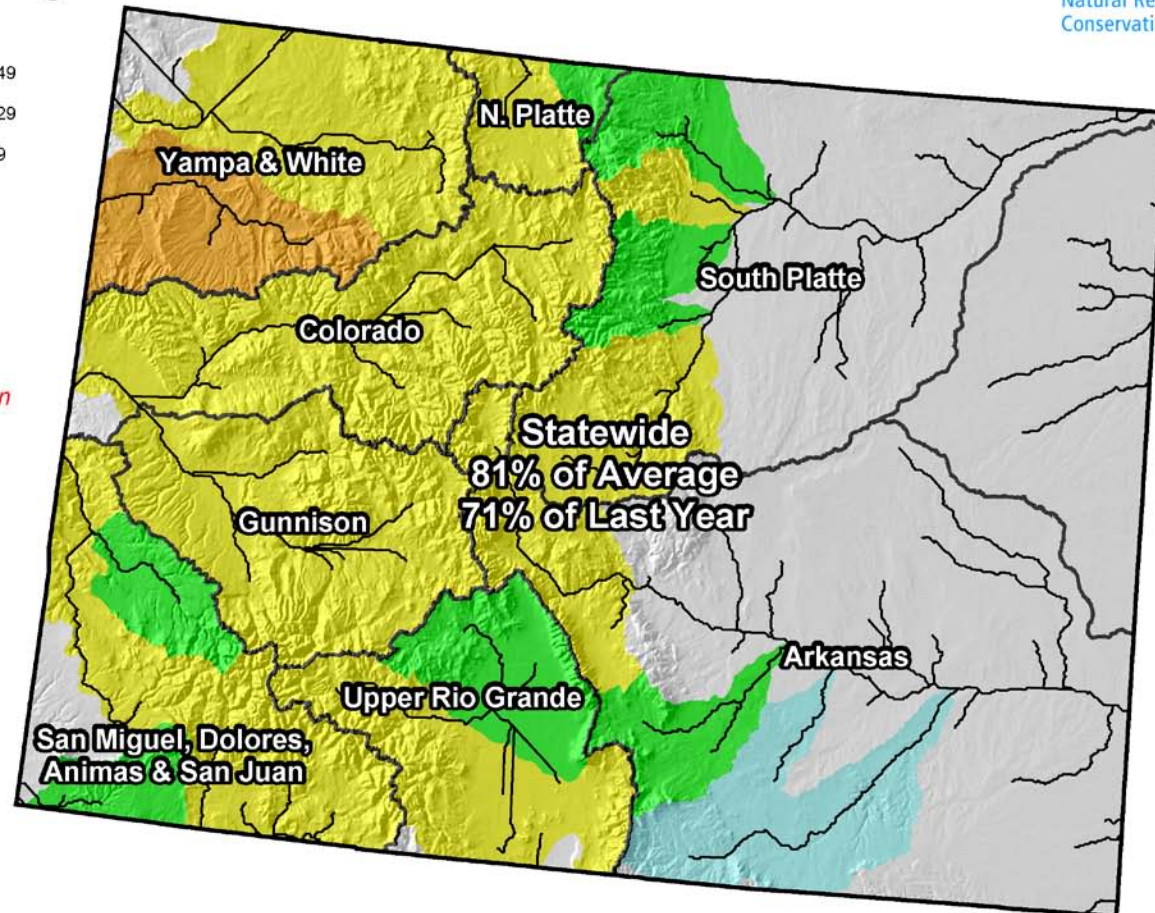
Colorado Snowpack Map



Percent of Average



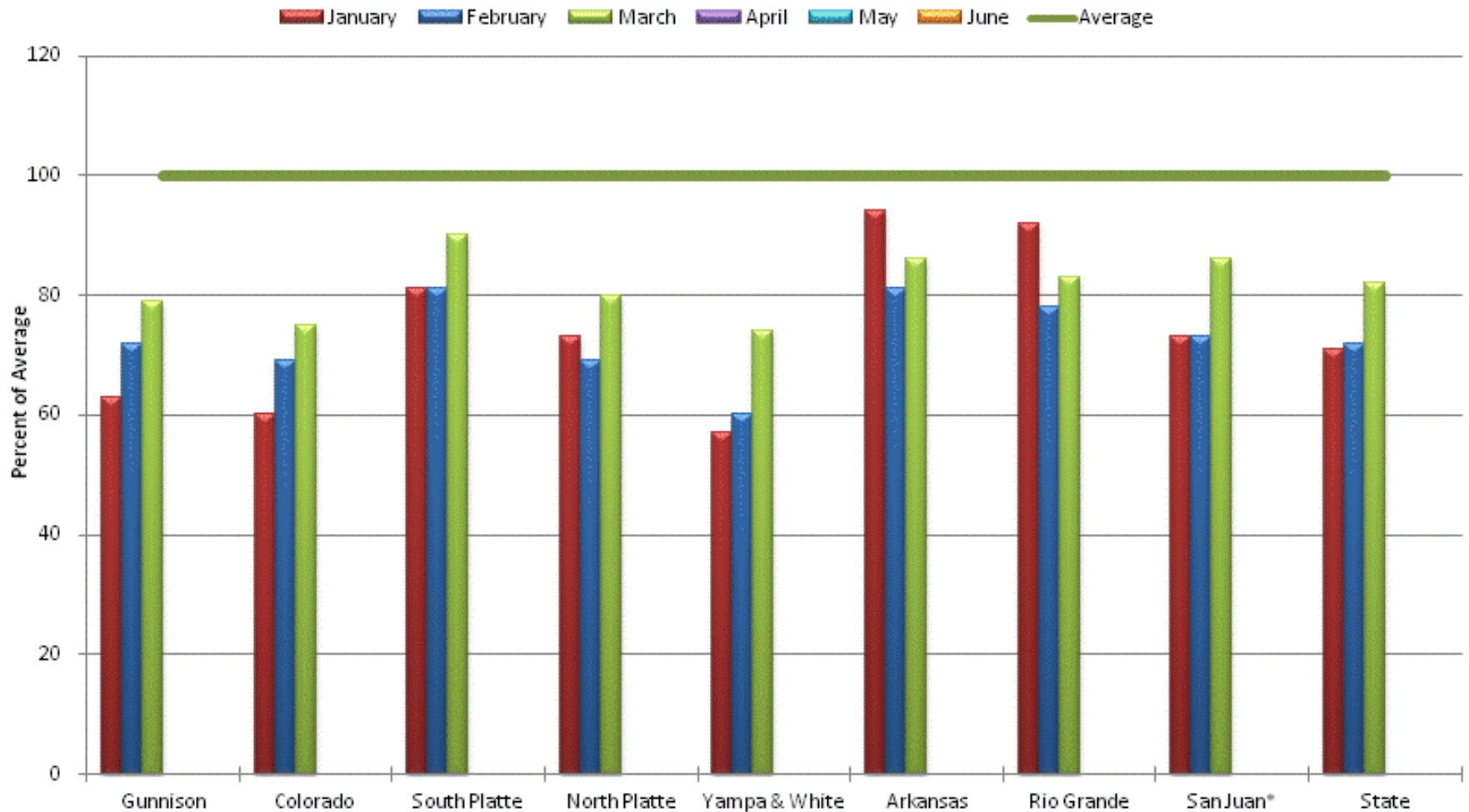
*Provisional Data
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Current as of March 1, 2012

Colorado Snowpack Summary for 2012

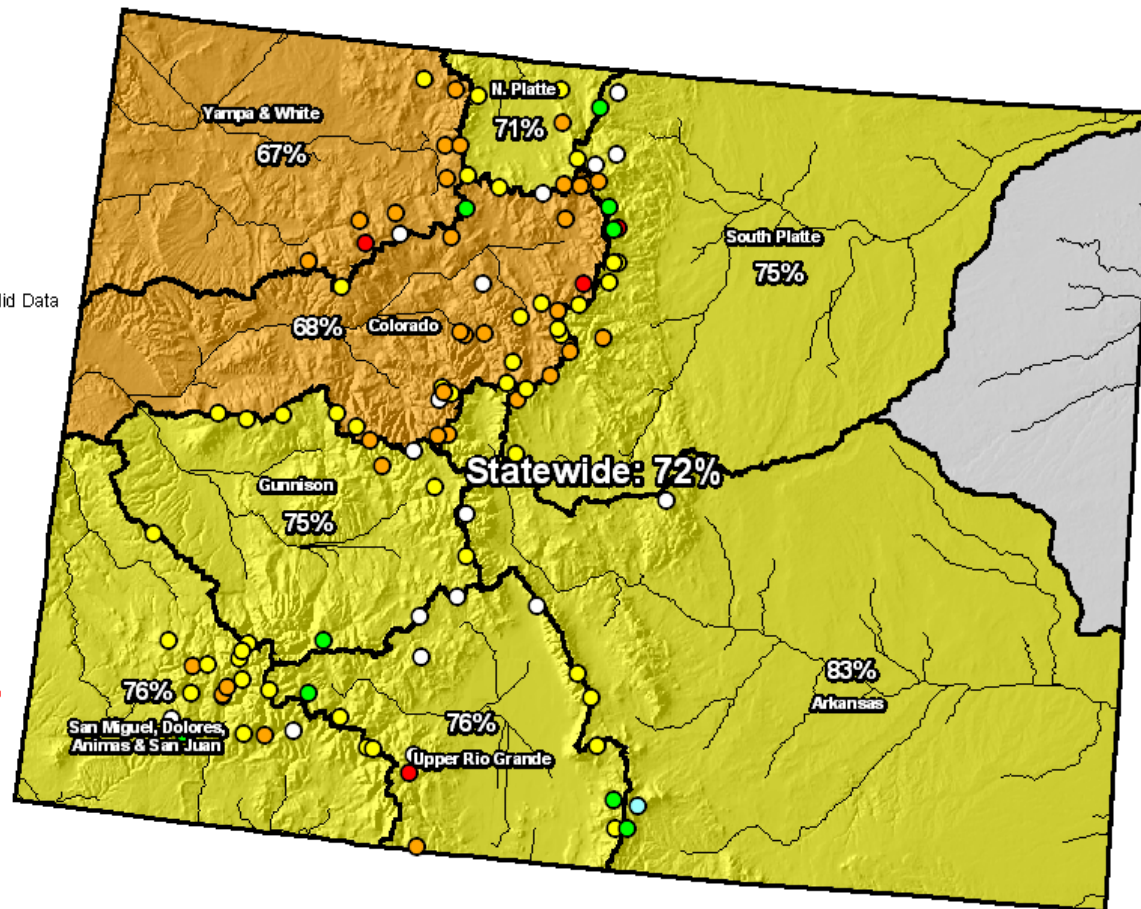
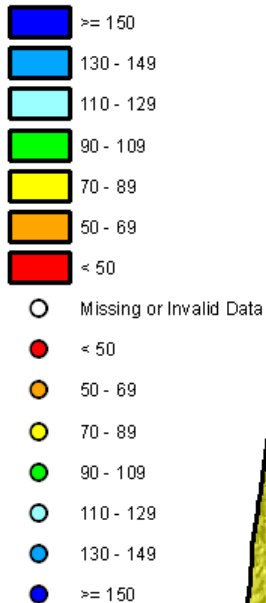
USDA Natural Resources Conservation Service



*Includes Animas, Dolores, San Miguel Basins

Colorado SNOTEL Snowpack Update Map with Site Data

Percent of Average



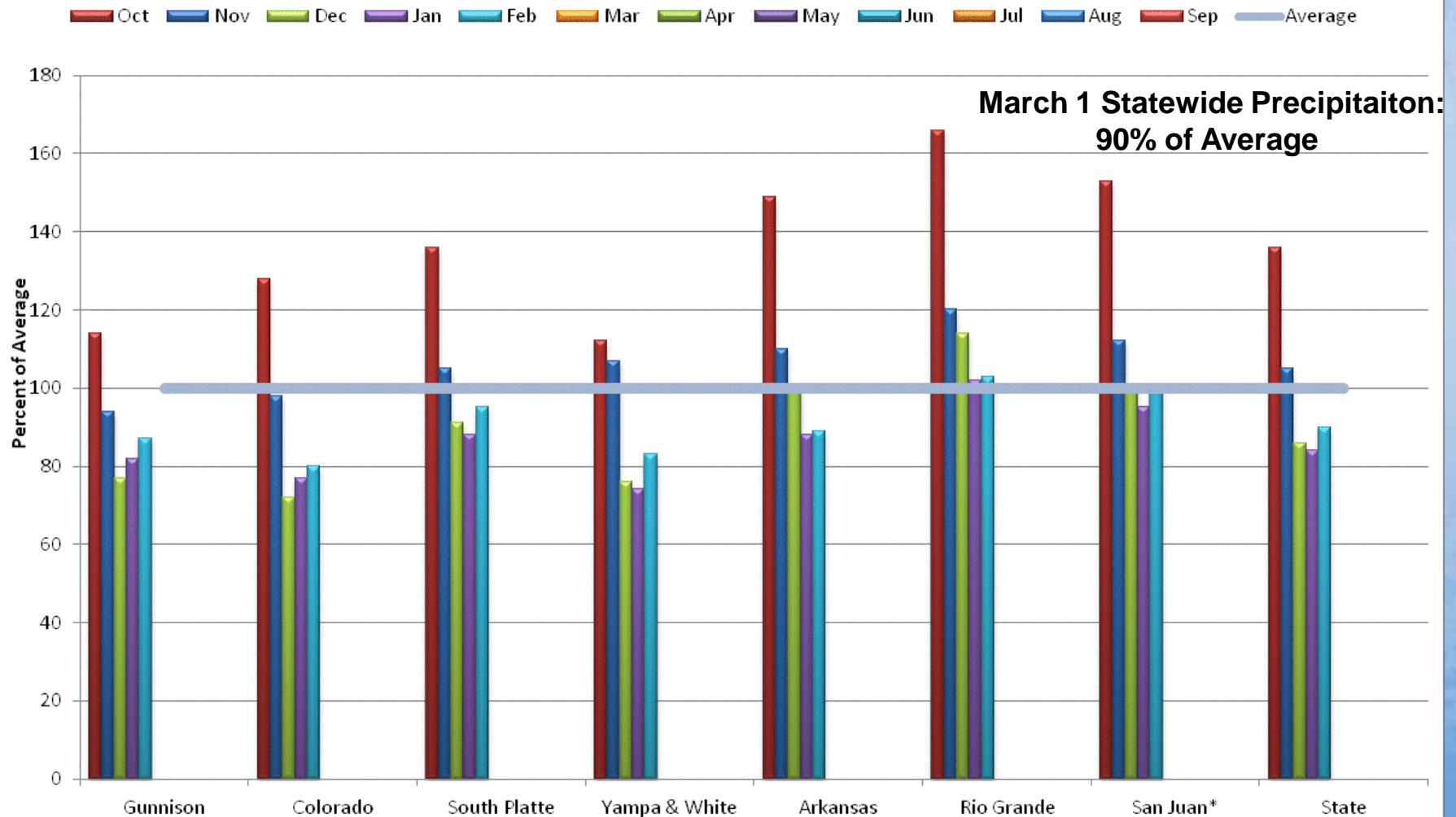
*Provisional Data
Subject to Revision*

Current as of Mar 21, 2012

*Data may not provide a valid measure of conditions

Colorado Year-to-Date Precipitation Summary for WY2012

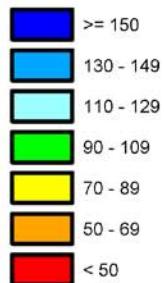
USDA Natural Resources Conservation Service



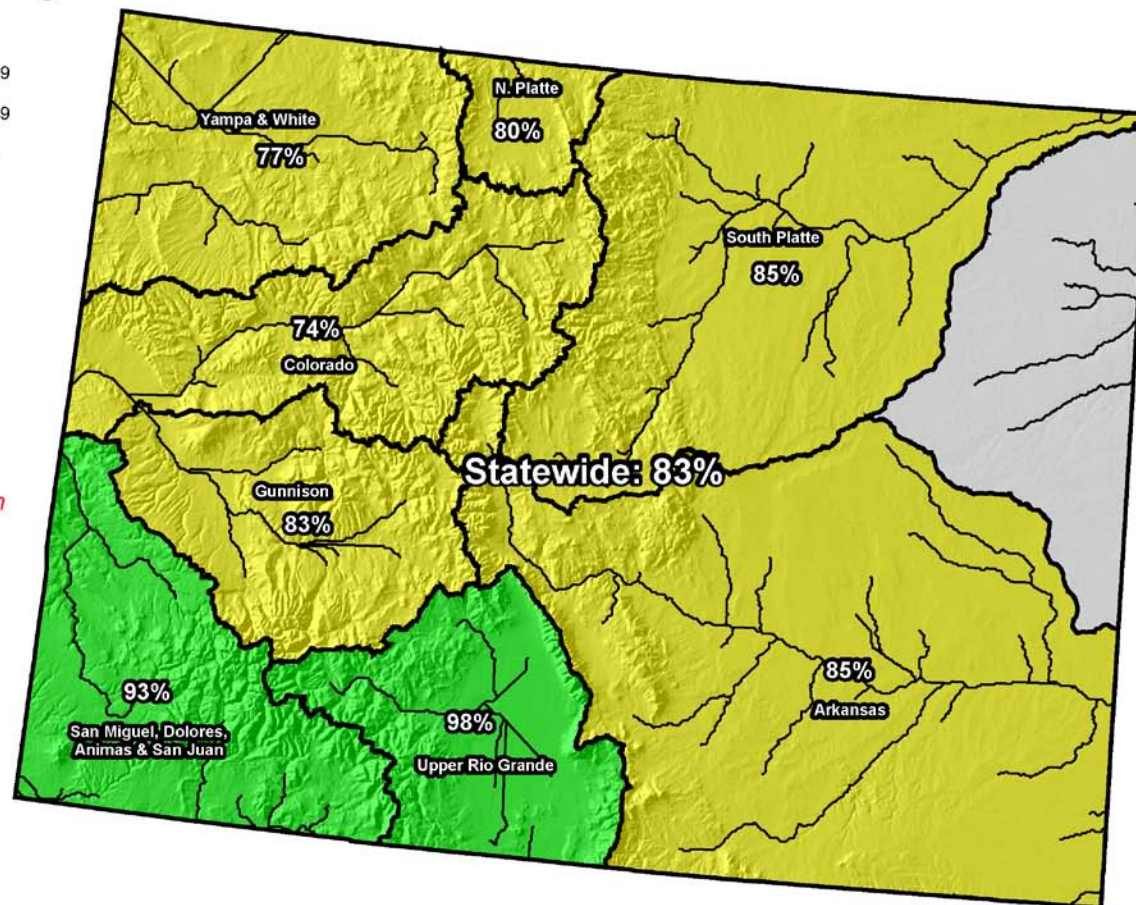
*Includes Animas, Dolores, San Miguel Basins

Colorado SNOTEL Water Year-to-Date Precipitation Update Map

Percent of Average



*Provisional Data
Subject to Revision*



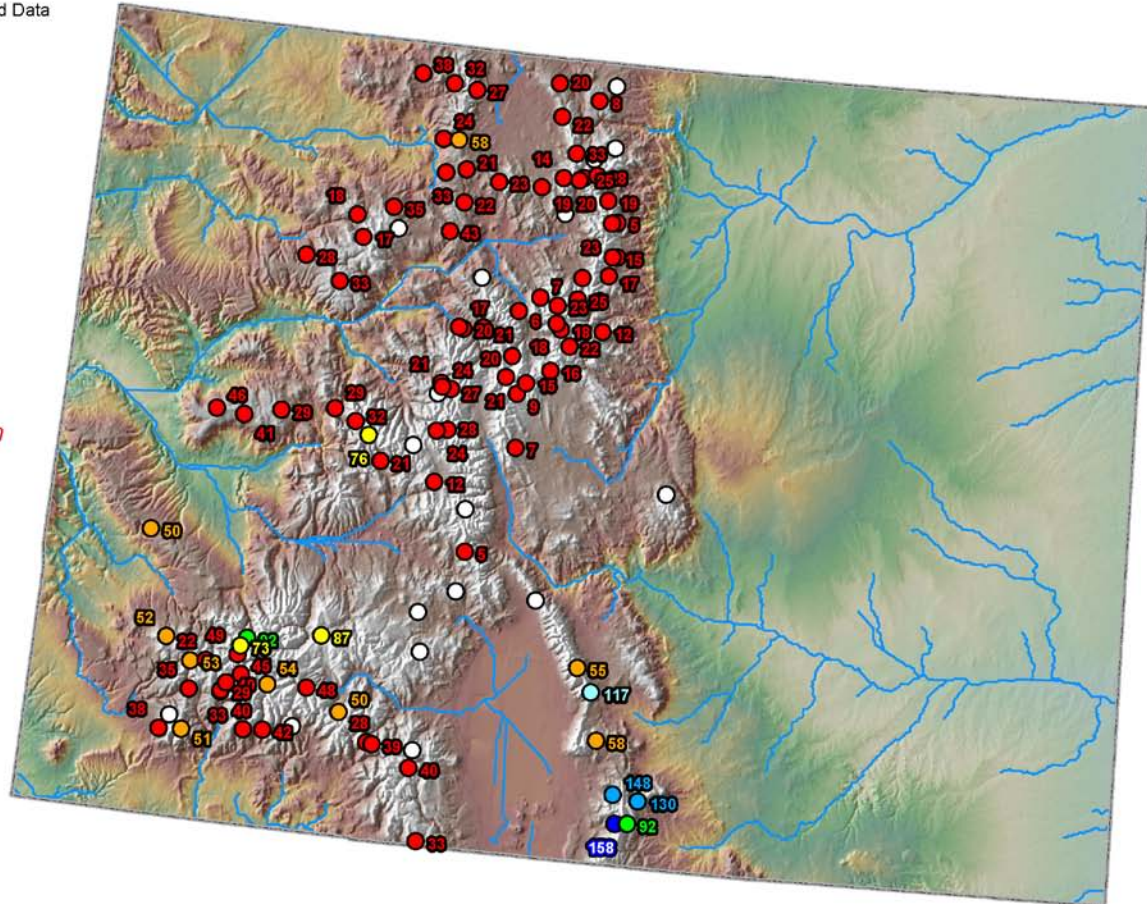
Current as of Mar 21, 2012

Colorado SNOTEL Month-to-Date Precipitation

Percent of Average

- Missing or Invalid Data
- < 50
- 50 - 69
- 70 - 89
- 90 - 109
- 110 - 129
- 130 - 149
- ≥ 150

*Provisional Data
Subject to Revision*



Current as of Mar 21, 2012

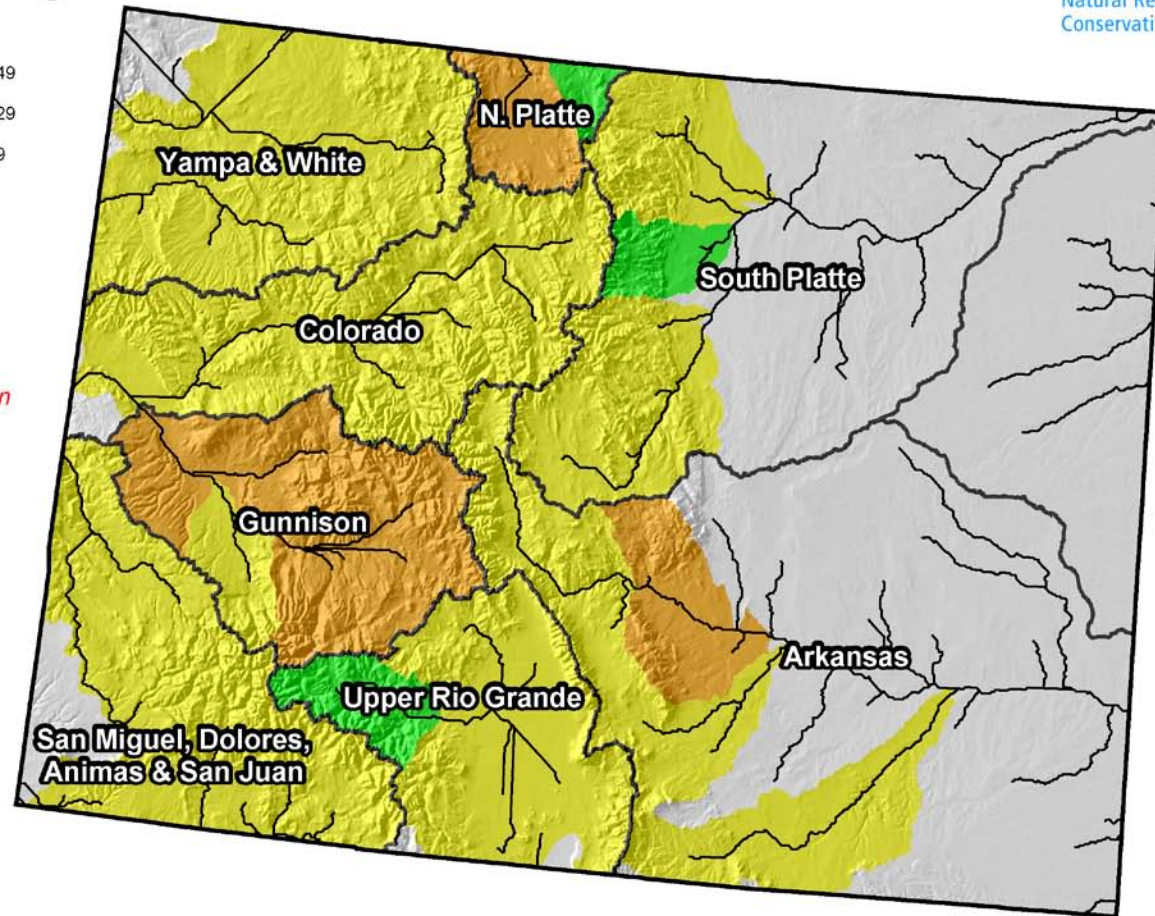
Colorado Streamflow Forecast Map



Percent of Average



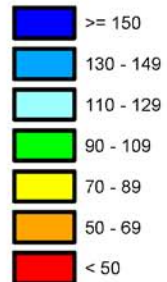
*Provisional Data
Subject to Revision*



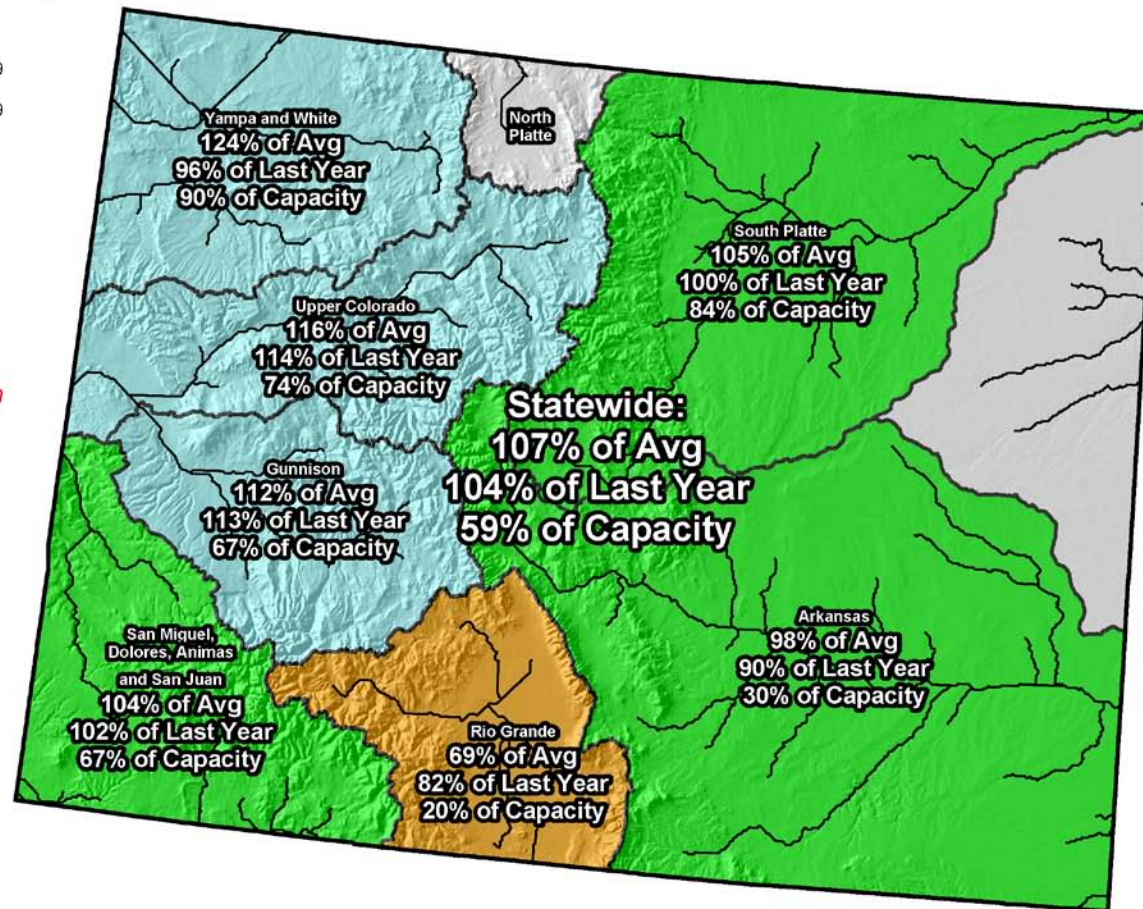
Current as of March 1, 2012

Colorado Reservoir Storage Map

Percent of Average

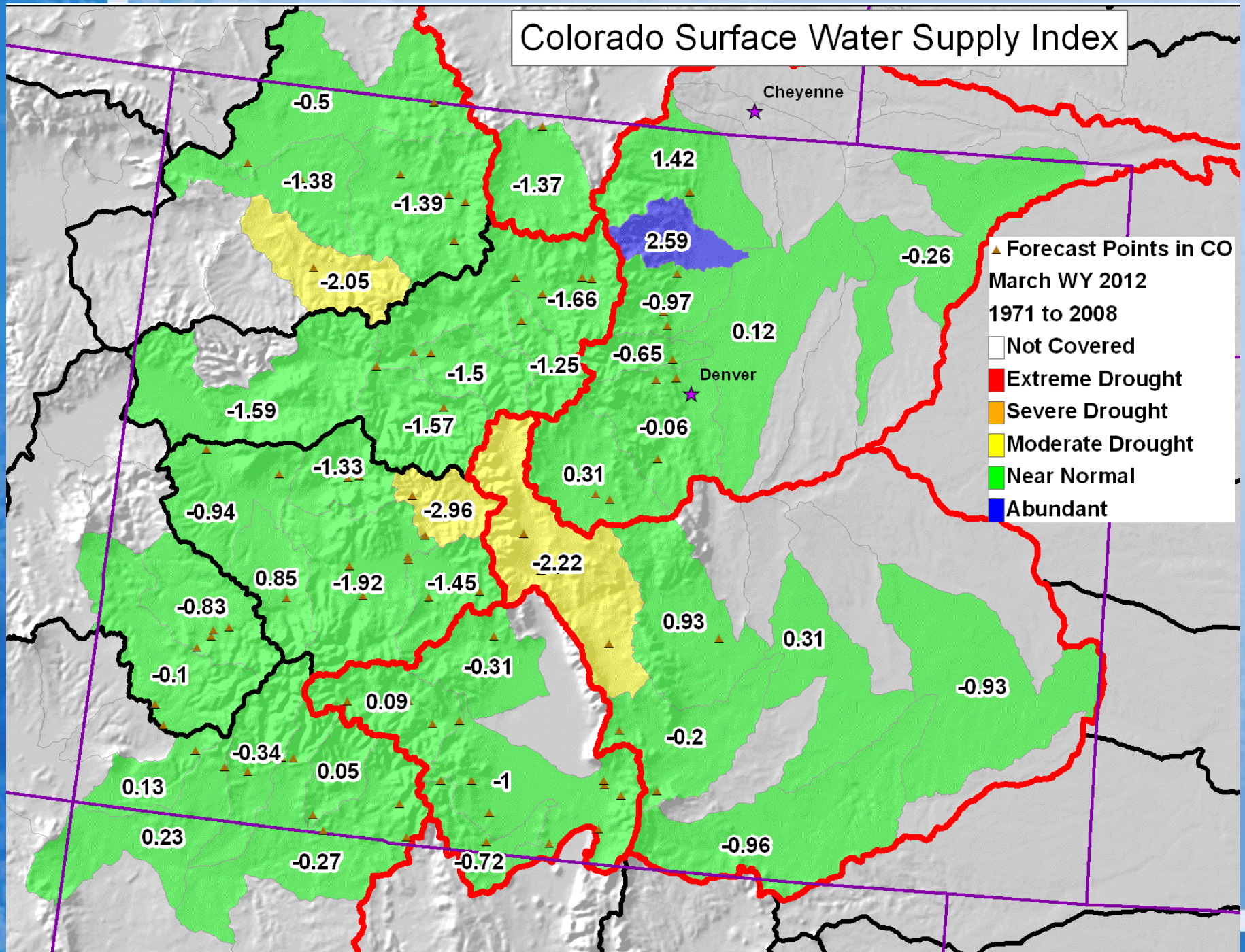


*Provisional Data
Subject to Revision*



End of February 2012

Colorado Surface Water Supply Index



The 2012 Water Year

- **October** - Well above average precipitation in all basins. Upper Rio Grande, Arkansas and South Platte basins had above average SWE also. All other basins had below average SWE.
- **November** - Cumulative precipitation was near or above average in all basins. November was drier than average across the state, except for in the Yampa/White. Statewide, SWE was tracking along at average until the last week in Nov when things dried up and ended Nov below average.
- **December** - DRY across the state. The only basin to see average precip during Dec was Upper Rio Grande. The Yampa/White recorded just 29% of average precip. SWE as of Jan 1 was below average in all basins. The Arkansas & Upper Rio basins were near average (~90%). Yampa/White was at just 57%.
- **January** - Dry until ~16th across the state. The Gunnison and Colorado basins saw well above average snowfall the last half of Jan. All other basins returned to typical accumulation. Feb 1 measured SWE was still below average in all basins. Southern basins had dropped 13 -15 percentage point since Jan 1. Precip in Gunnison and Colorado basins was near average in Jan all other basins were below average.
- **February** - Had near or above average snowfall and precipitation across the state. The Colorado and Upper Rio Grande basins reported snowfall totals at 97% of average. Boosted snowpack totals in all basins, greatest increases in the Yampa and San Juan basins. Statewide the snowpack increased by 9 percentage points.
- **March** - DRY so far this month! Well below average snowfall totals statewide, most basins snowpack percentages dropped to near or below their February first numbers. The South Platte fared the worse, dropping 14 percentage points, a result of warm temperatures melting much of the snow in the basin.