

NRCS – Snow Survey & Water Supply Forecasting

Water Availability Task Force Meeting January 23rd , 2013

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

“New” 30 Year Normals

- Use base period 1981 - 2010
- Are still a work in progress in Colorado
 - All unconditional (>20 years) are complete
 - Sites with <5 years will not have normals computed
- All PREC, SWE, & Streamflow products have been updated
 - PREC uses Average
 - SWE uses Median
 - Streamflow uses Average (with some exceptions)
- End of December Reservoir products still use 1971 – 2000 Averages.

Use caution when comparing percentage data from year to year

Station Id	Station Name	Snow Water Equivalent (in)	Normal Snow Water Equivalent (1981-2010) (in)	Snow Water Equivalent % of Normal (1981-2010)	Normal Snow Water Equivalent (1971-2000) (in)	Snow Water Equivalent % of Normal (1971-2000)
485	FREMONT PASS	5.2	8.6	60%	9.5	55%
551	JOE WRIGHT	5.9	12.1	49%	12.5	47%
713	RED MOUNTAIN PASS	7.4	12.4	60%	13.1	56%
825	TOWER	13.7	24.6	56%	27	51%
842	VAIL MOUNTAIN	4.8	10	48%	12.2	39%
874	WOLF CREEK SUMMIT	10.5	19.4	54%	18.1	58%

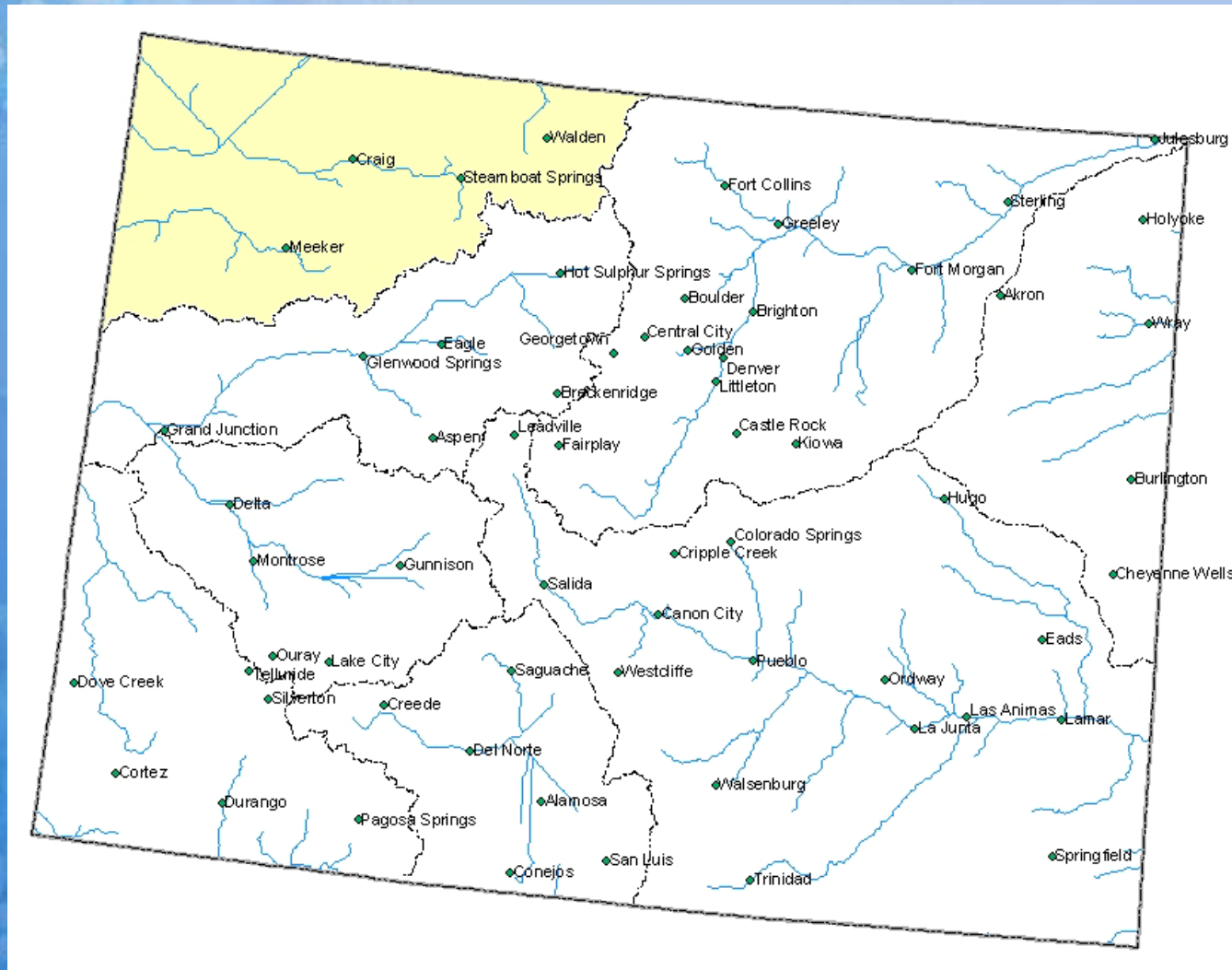
For more information:

http://www.wcc.nrcs.usda.gov/normals/30year_normals_data.htm

And on why the change to median:

http://www.wcc.nrcs.usda.gov/normals/median_average.htm

Yampa, White & North Platte River Basins Summary



Yampa, White and North Platte River Basins Snowpack Map



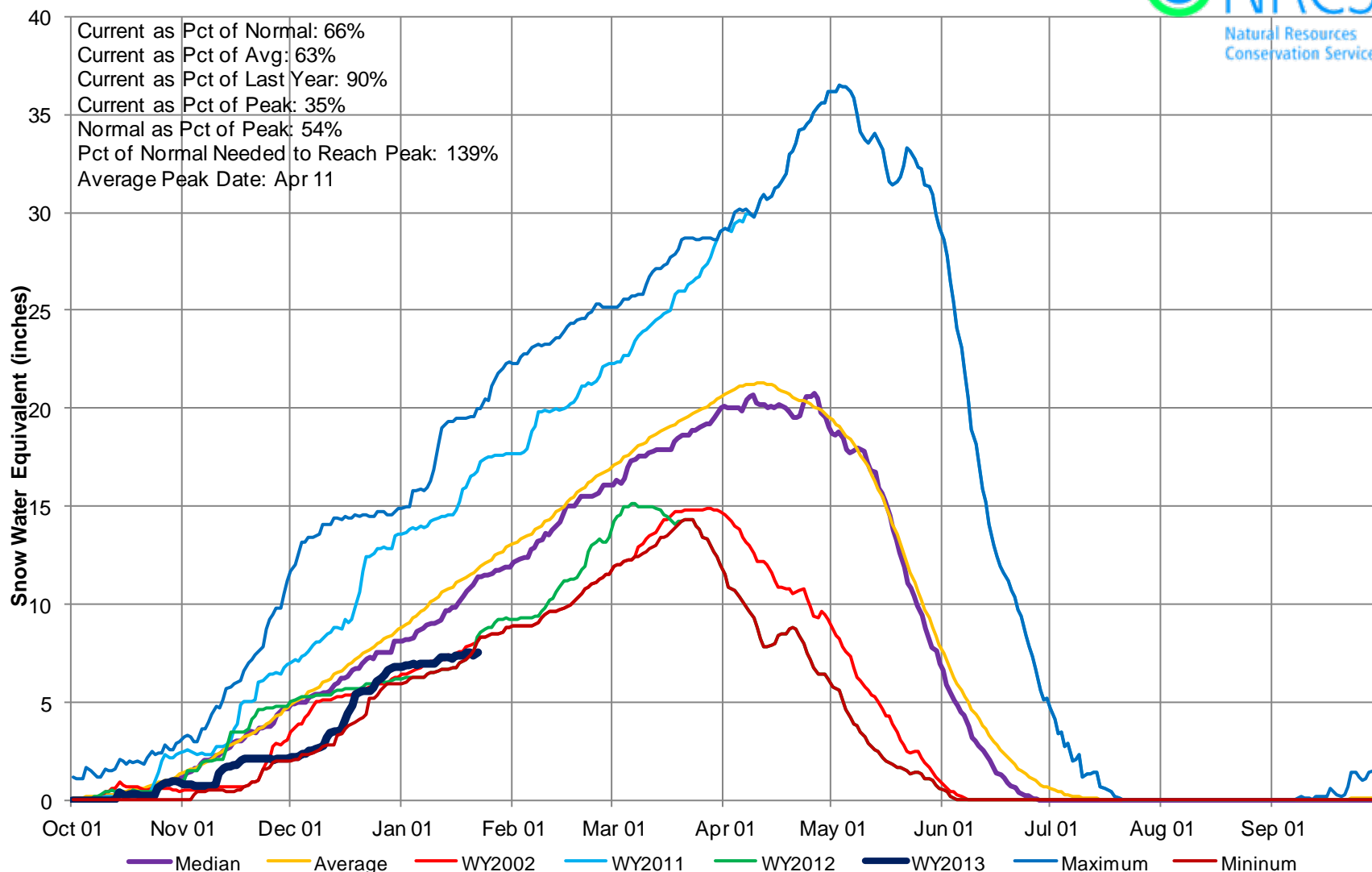
*Provisional Data
Subject to Revision*



Current as of January 1, 2013

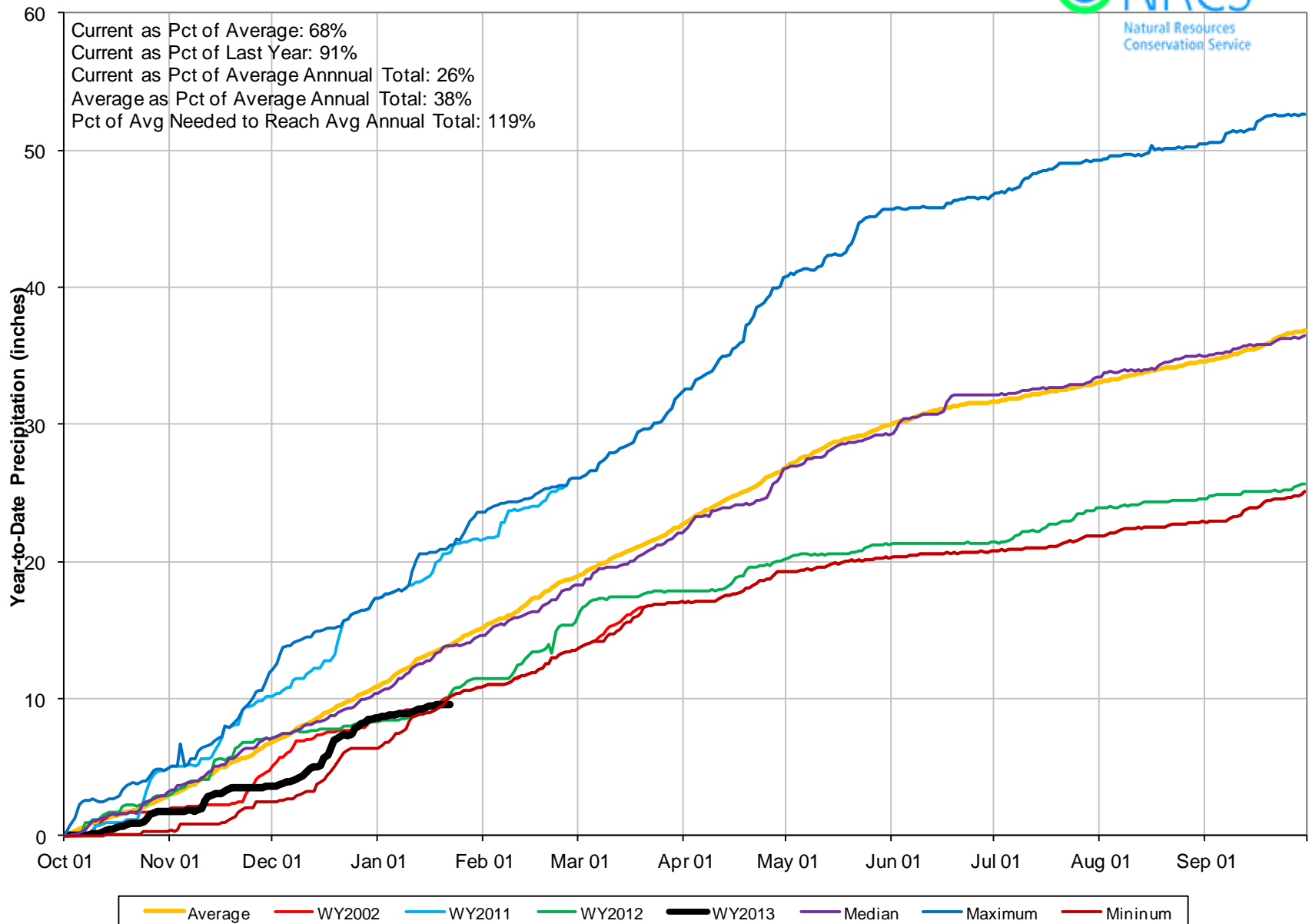
Yampa, White and North Platte River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



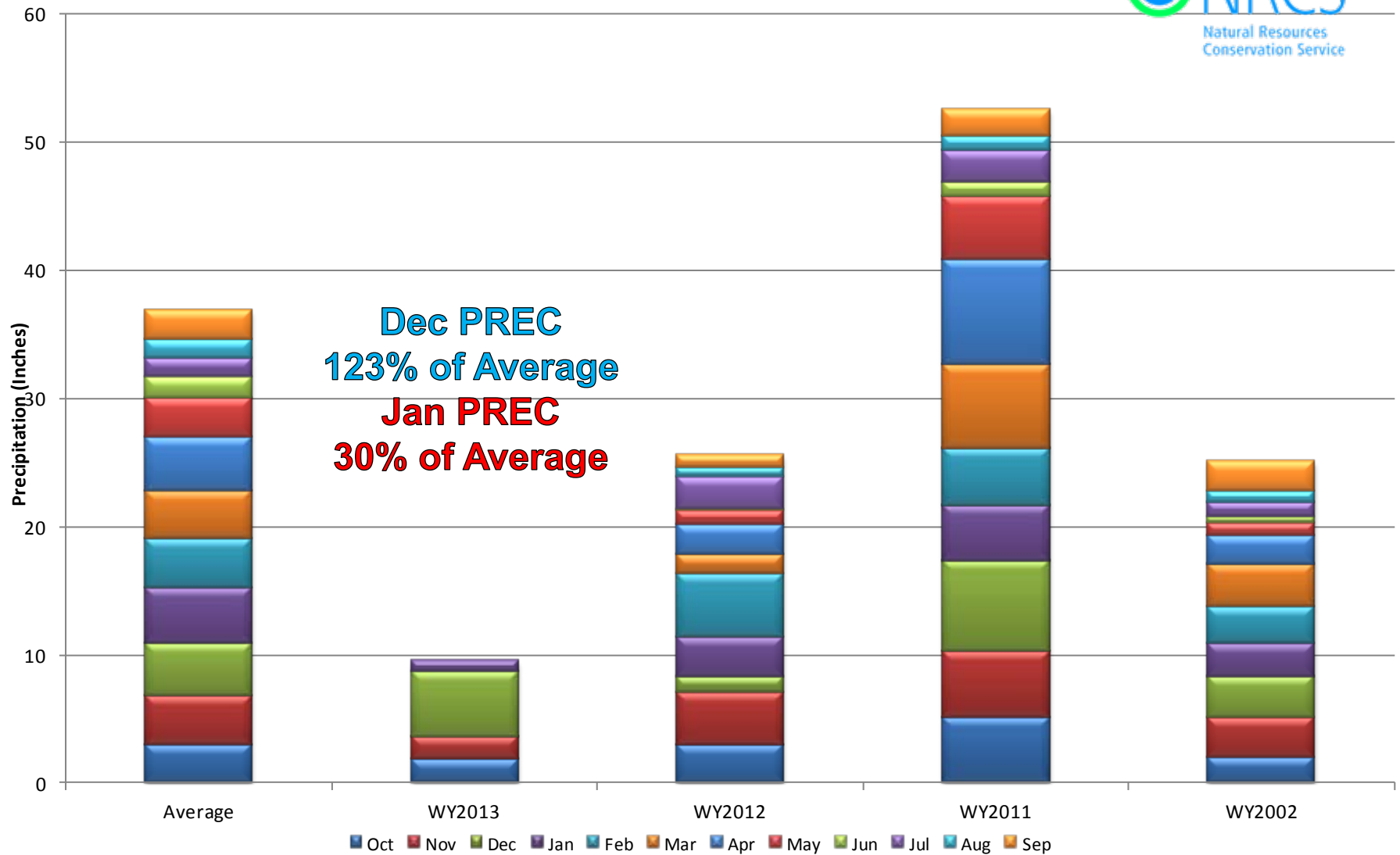
Yampa and White River Basins High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



Yampa and White River Basins High/Low Monthly Precipitation Summary

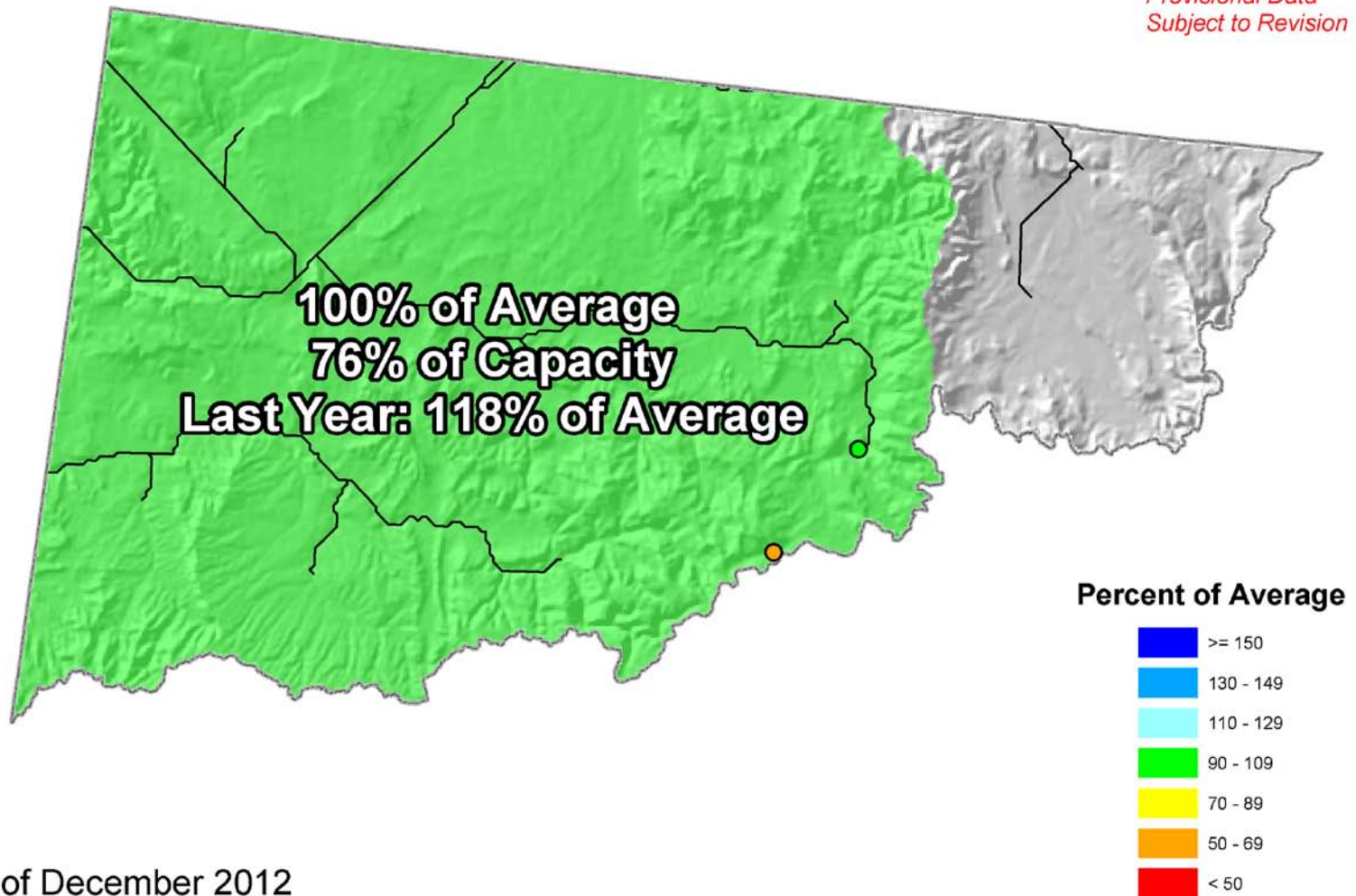
Based on Provisional SNOTEL data as of Jan 22, 2013



Yampa & White River Basins Reservoir Storage Map

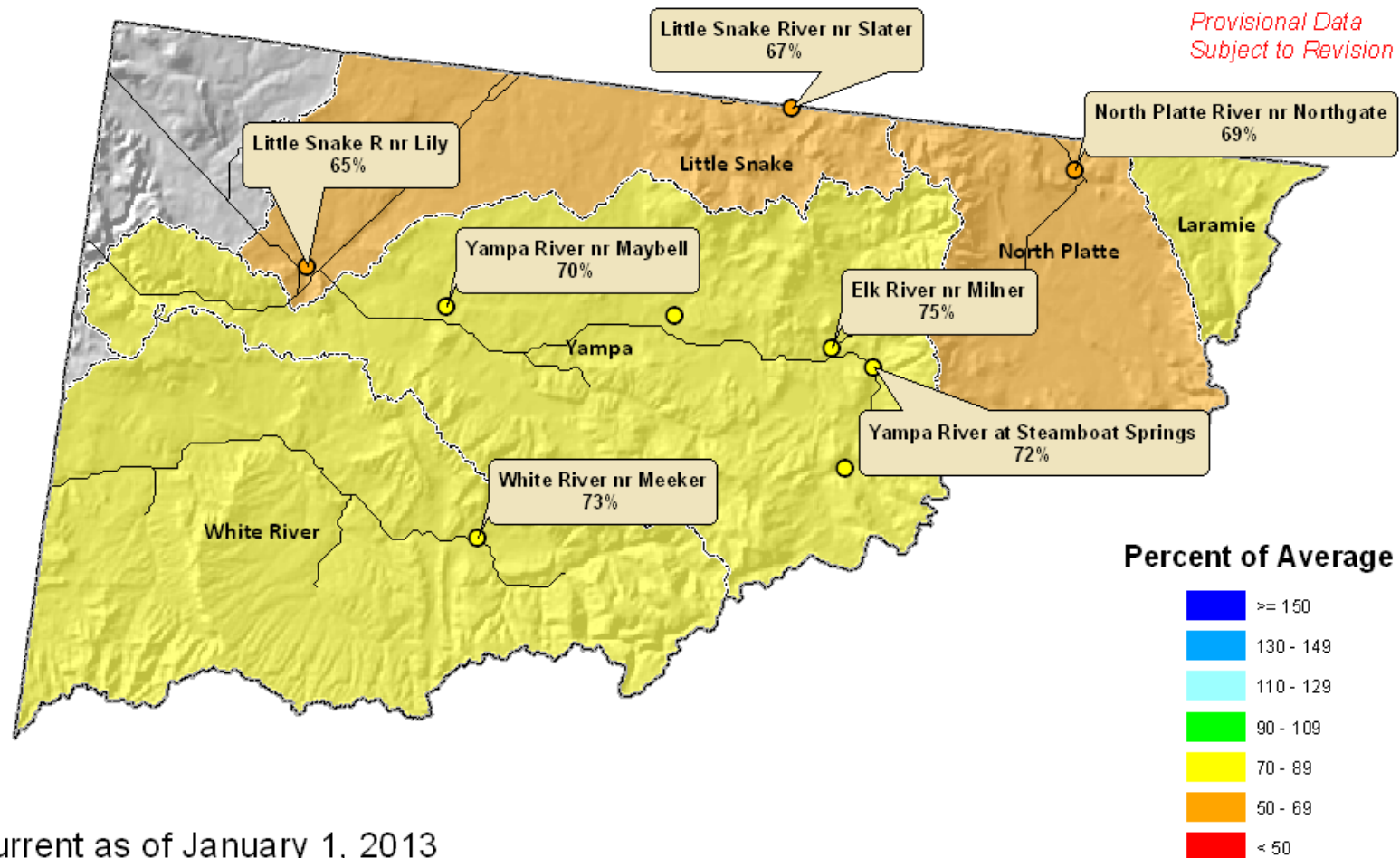


*Provisional Data
Subject to Revision*

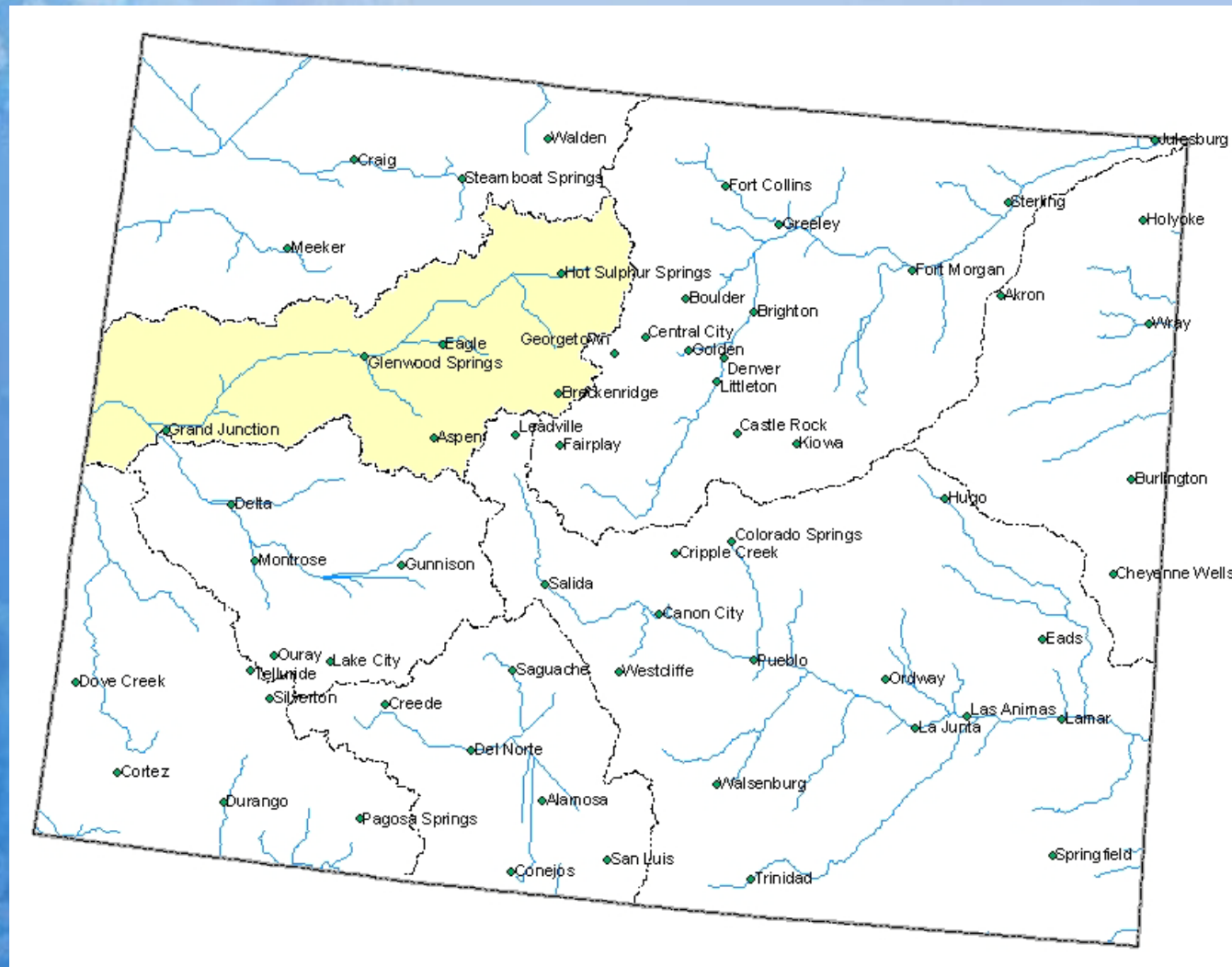


End of December 2012

Yampa, White and North Platte River Basins Streamflow Map



Colorado River Basin Summary



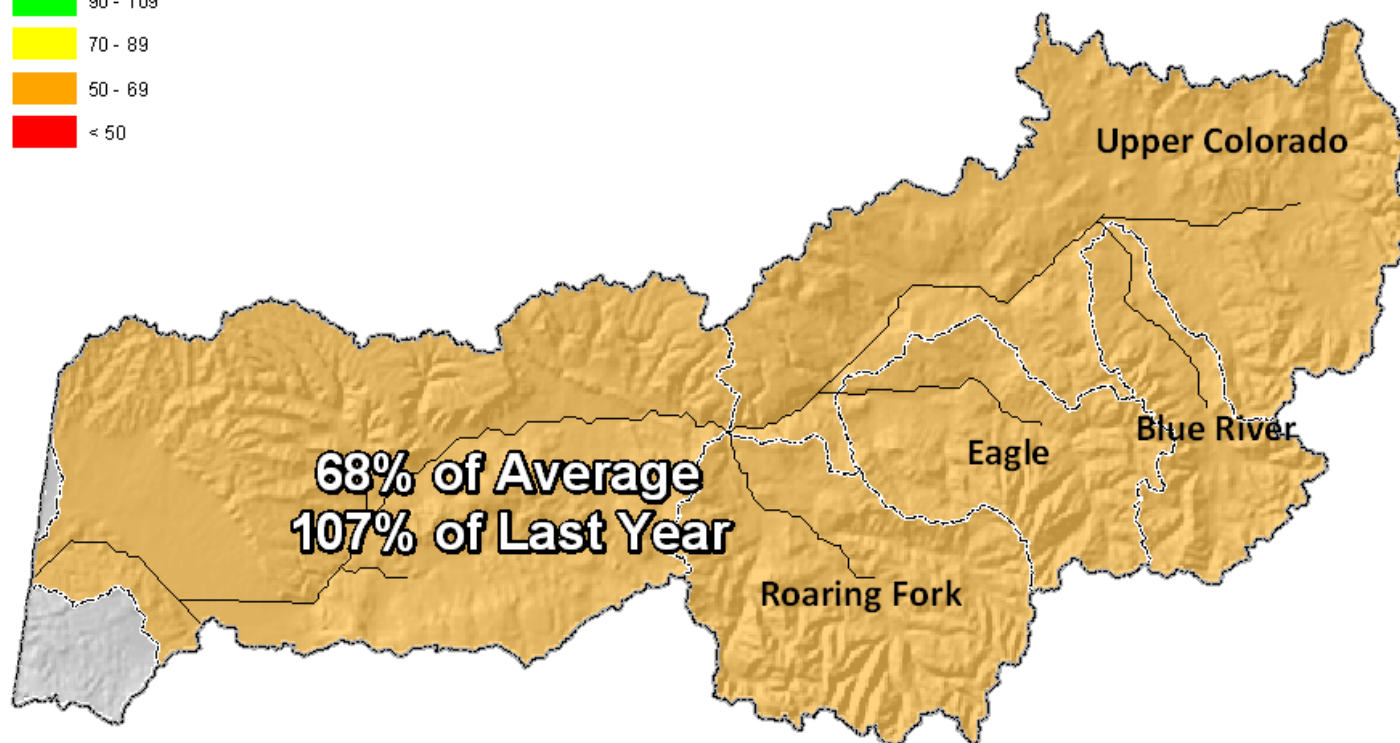
Colorado River Basin Snowpack Map



Percent of Average



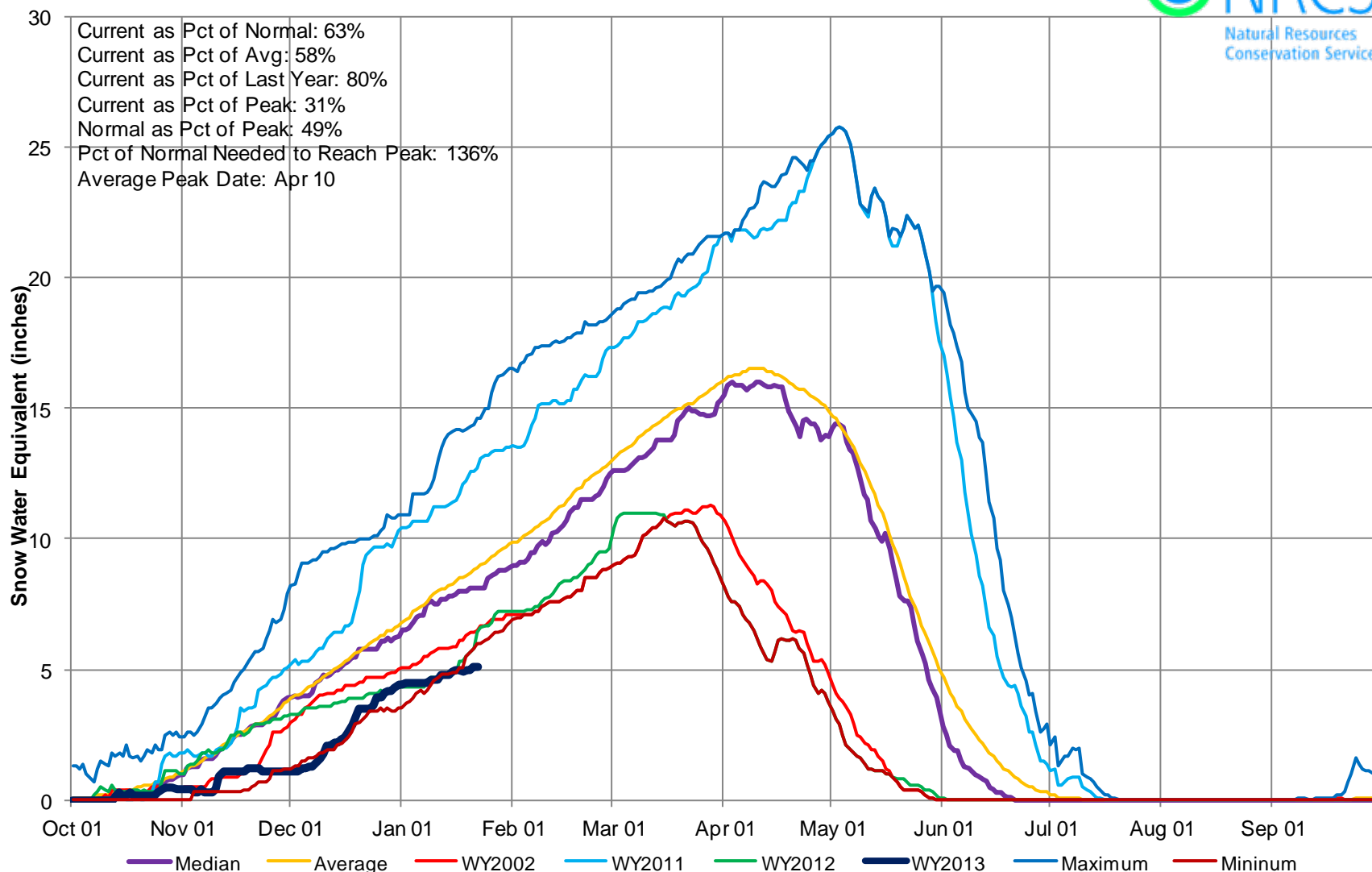
*Provisional Data
Subject to Revision*



Current as of January 1, 2013

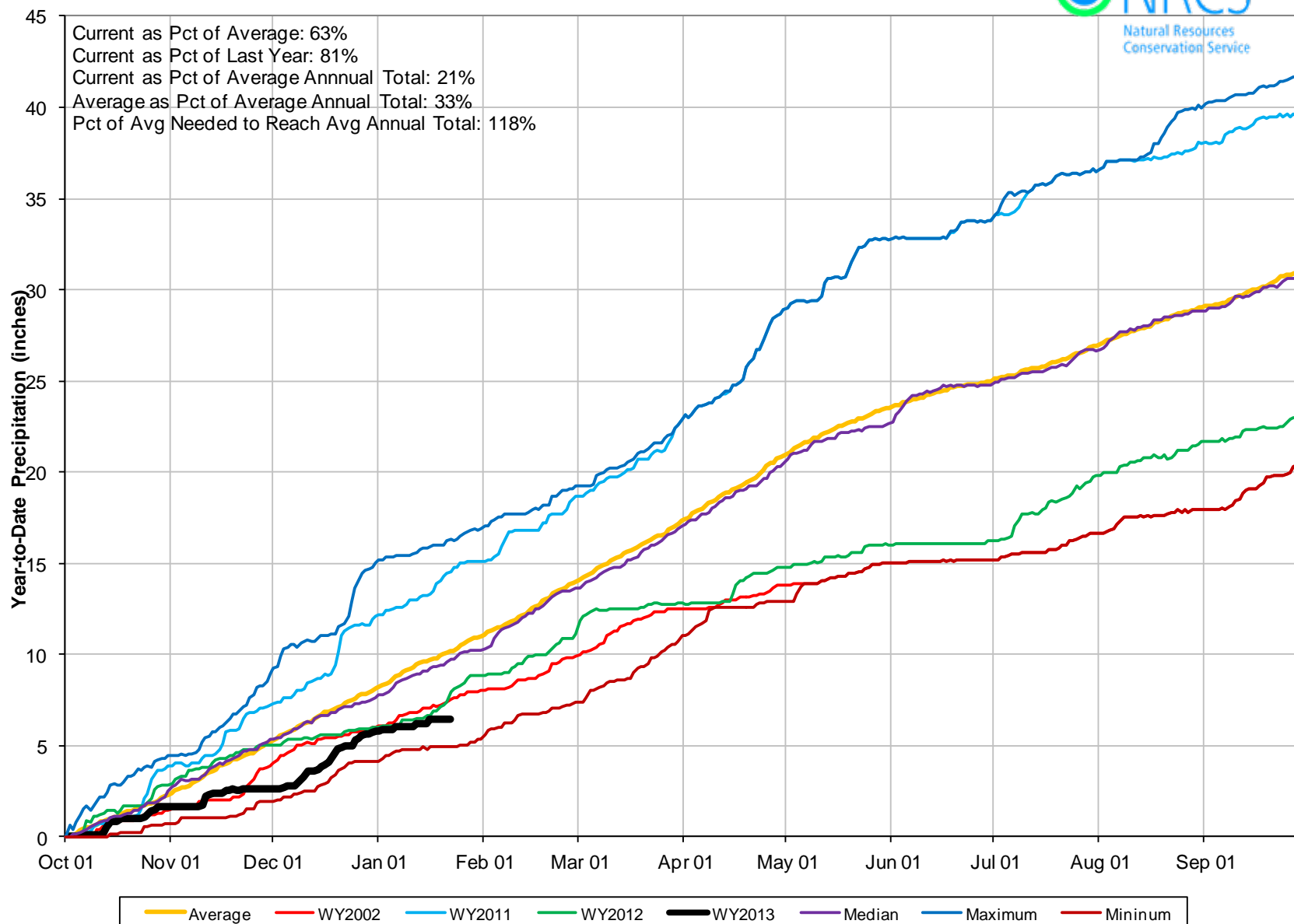
Upper Colorado River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



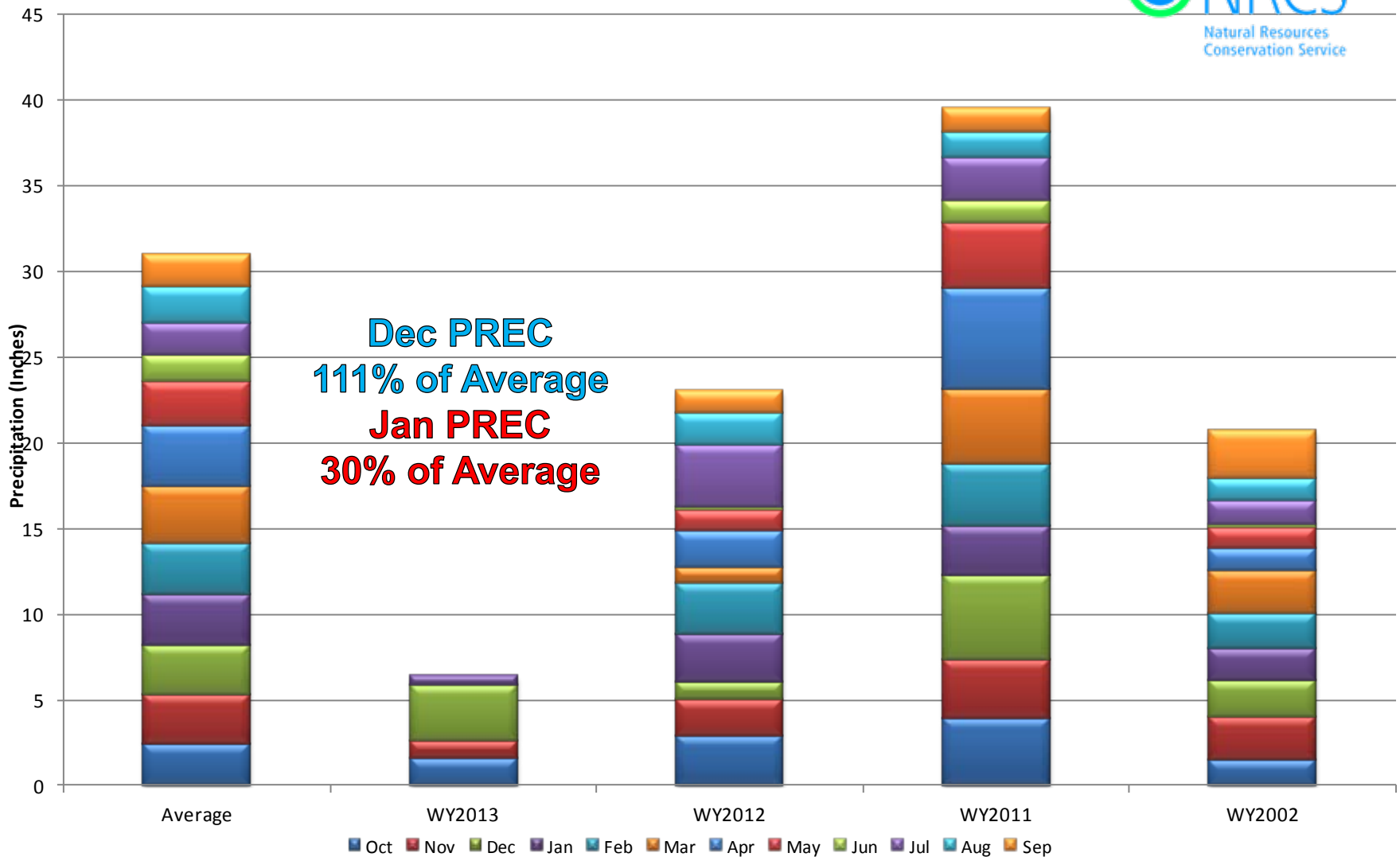
Upper Colorado River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



Upper Colorado River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



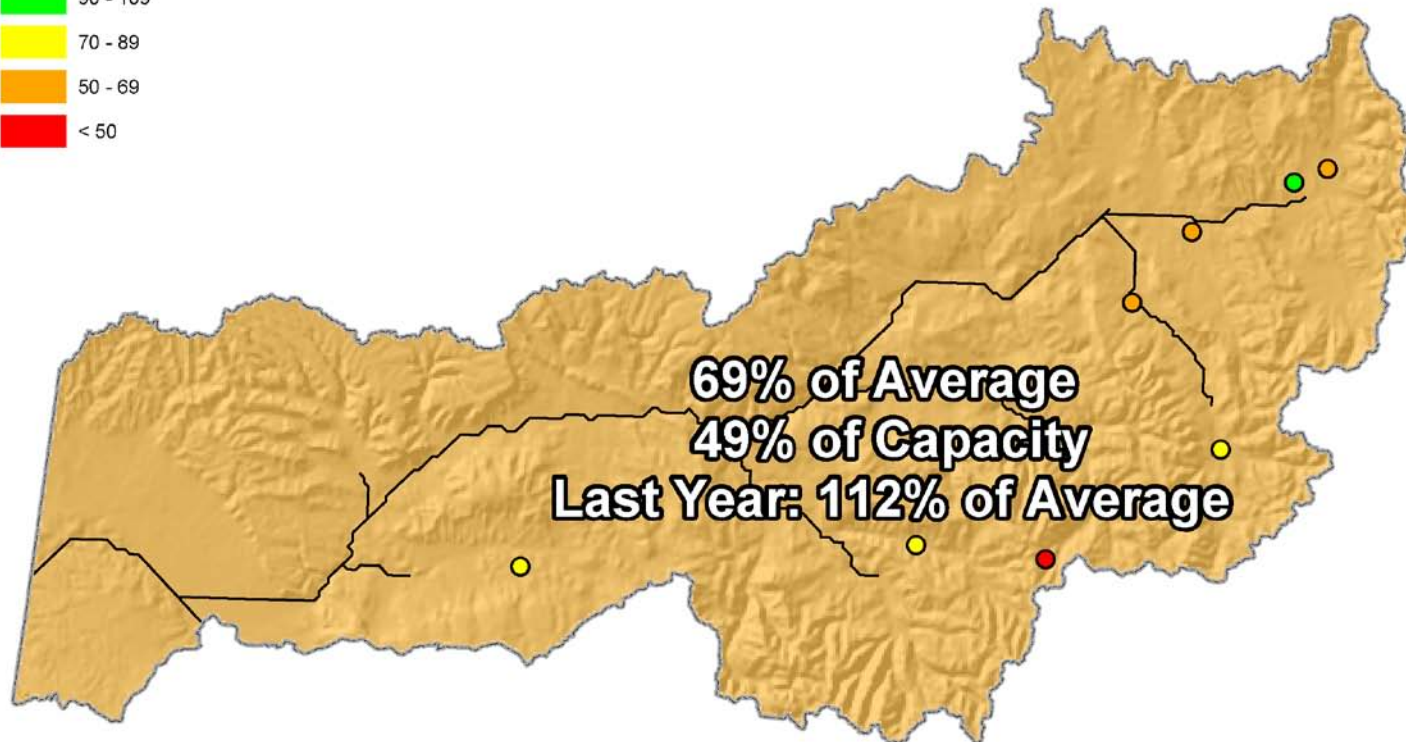
Colorado River Basin Reservoir Storage Map



Percent of Average

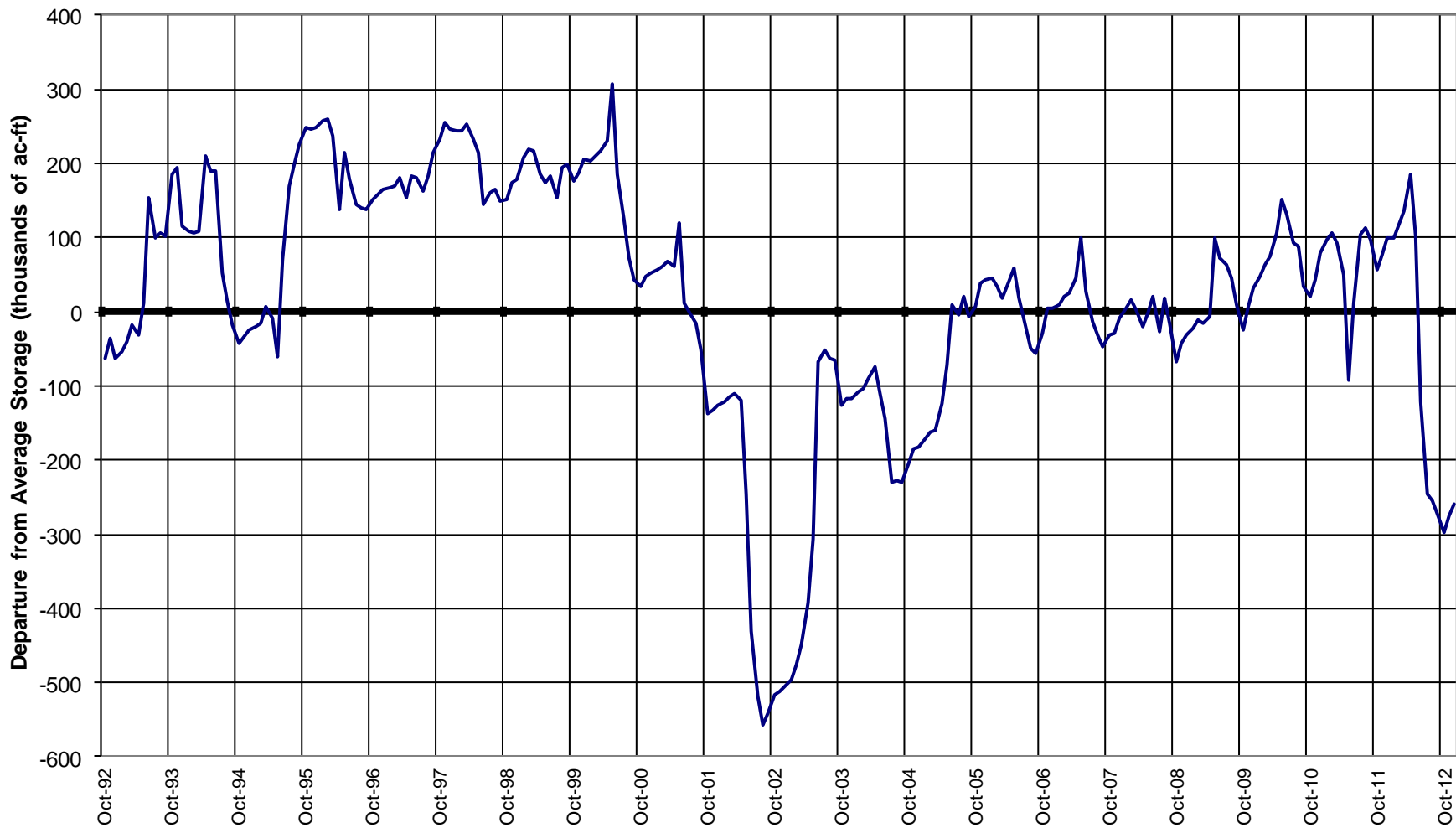


*Provisional Data
Subject to Revision*



End of December 2012

COLORADO RIVER BASIN
Reservoir Storage
Departure from Average

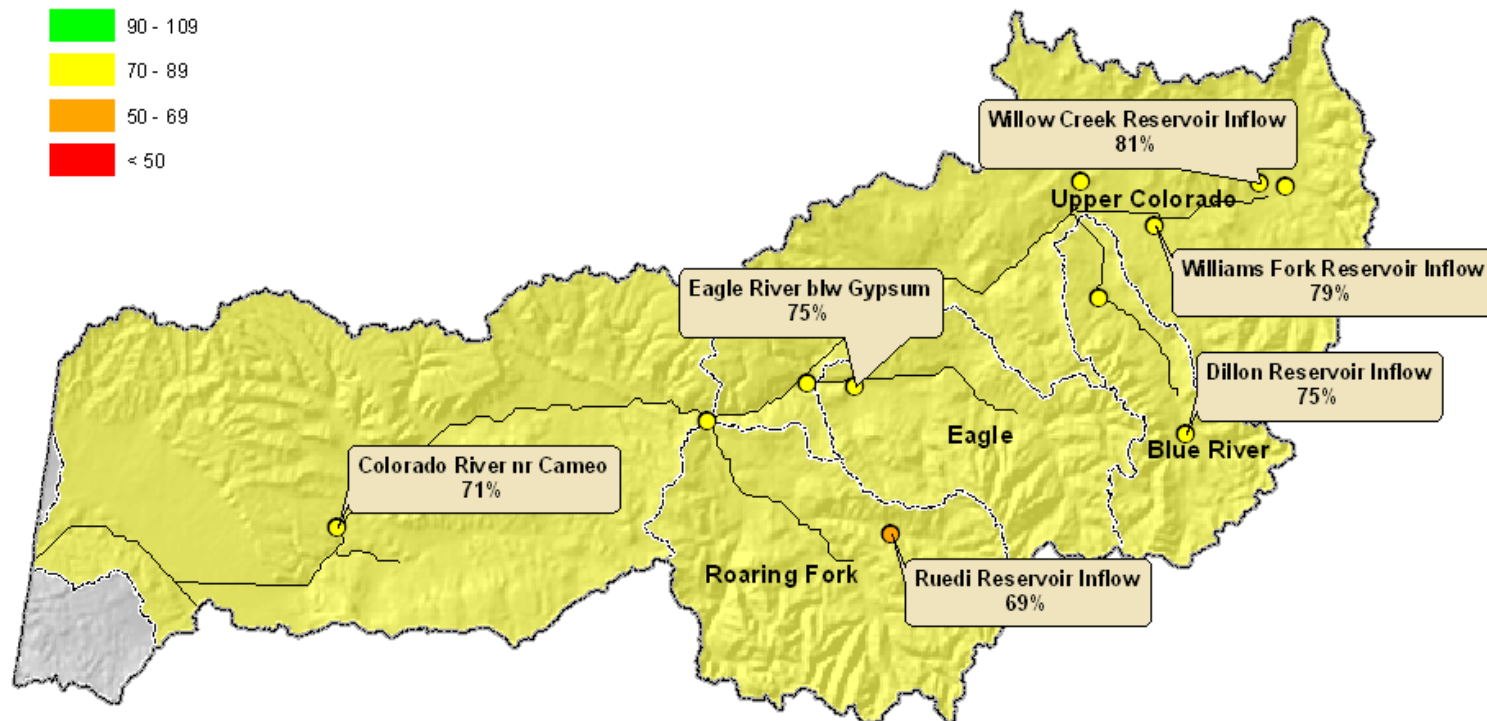


Colorado River Basin Streamflow Forecast Map



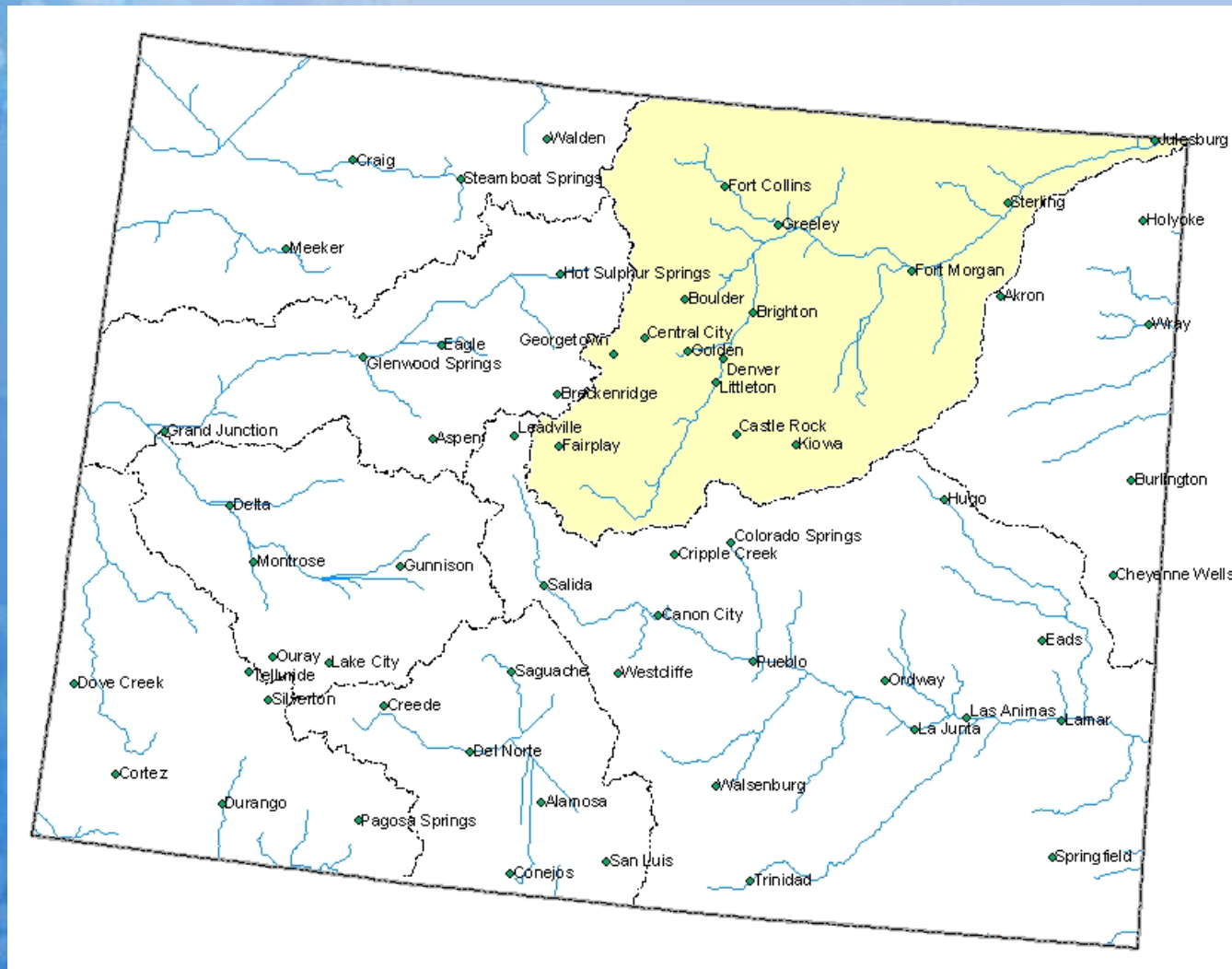
*Provisional Data
Subject to Revision*

Percent of Average



Current as of January 1, YYYY

South Platte River Basin Summary

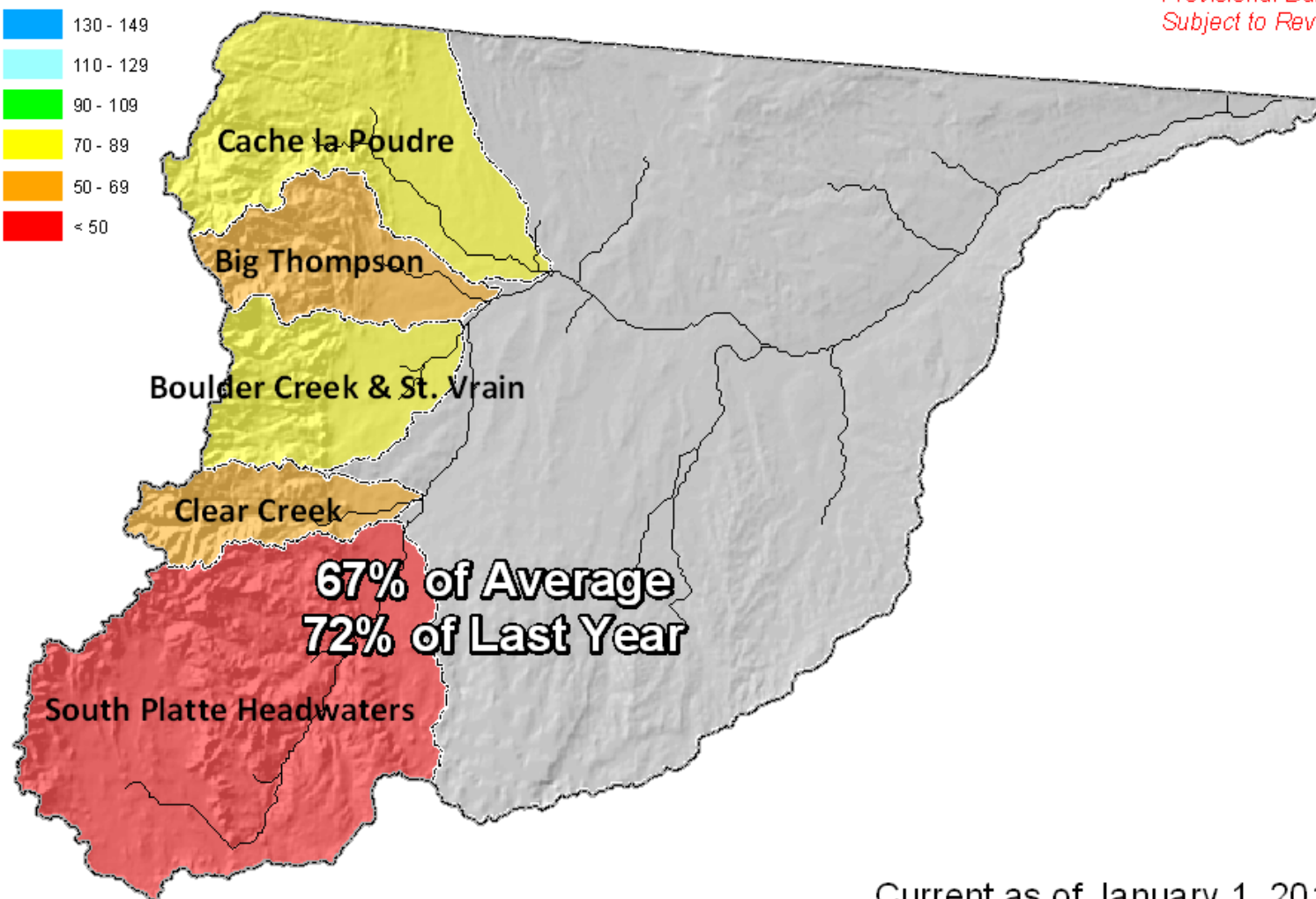
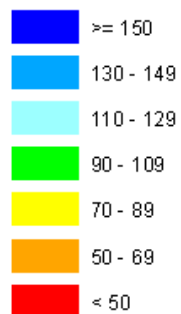


South Platte River Basin Snowpack Map



*Provisional Data
Subject to Revision*

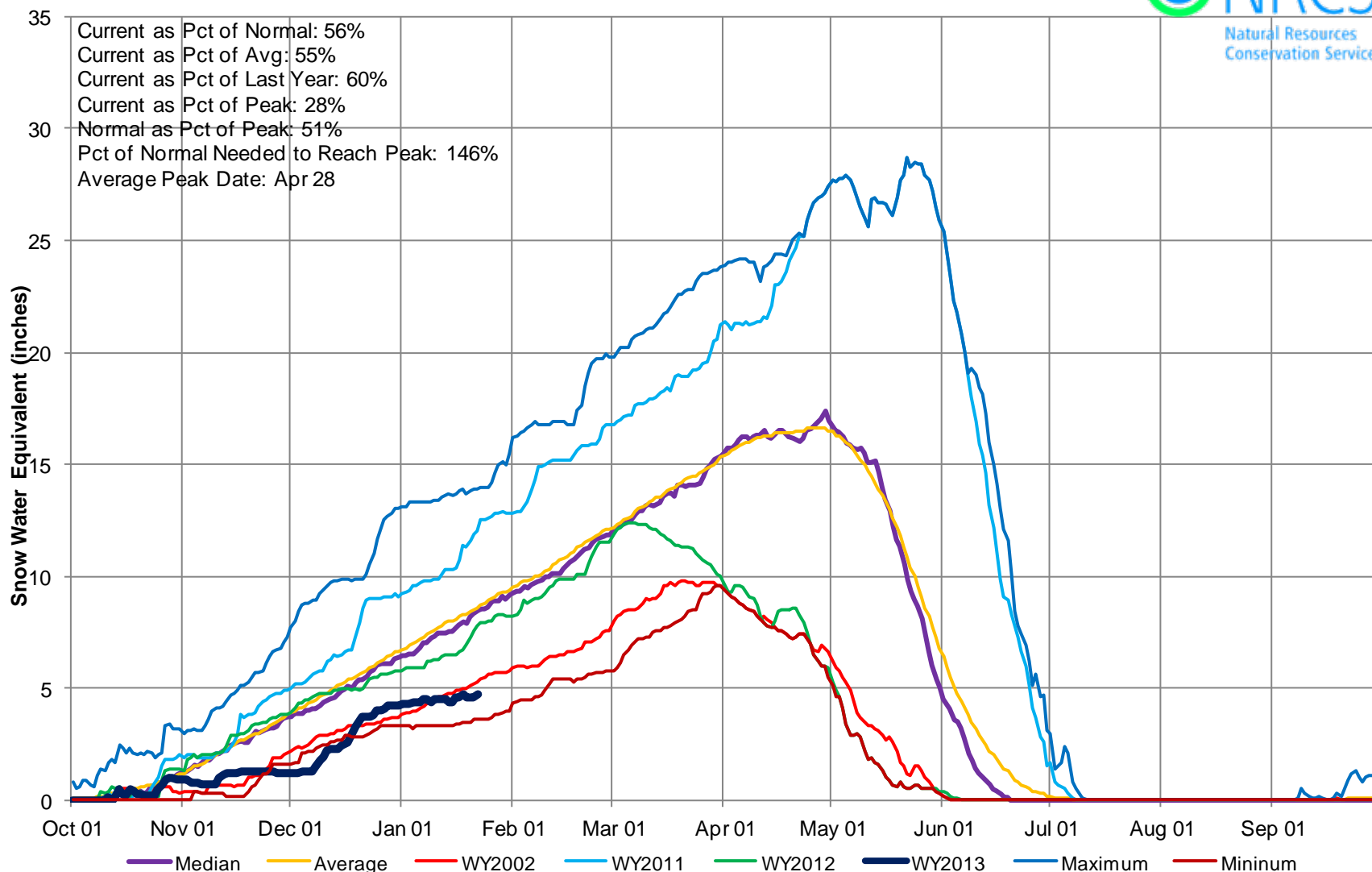
Percent of Average



Current as of January 1, 2013

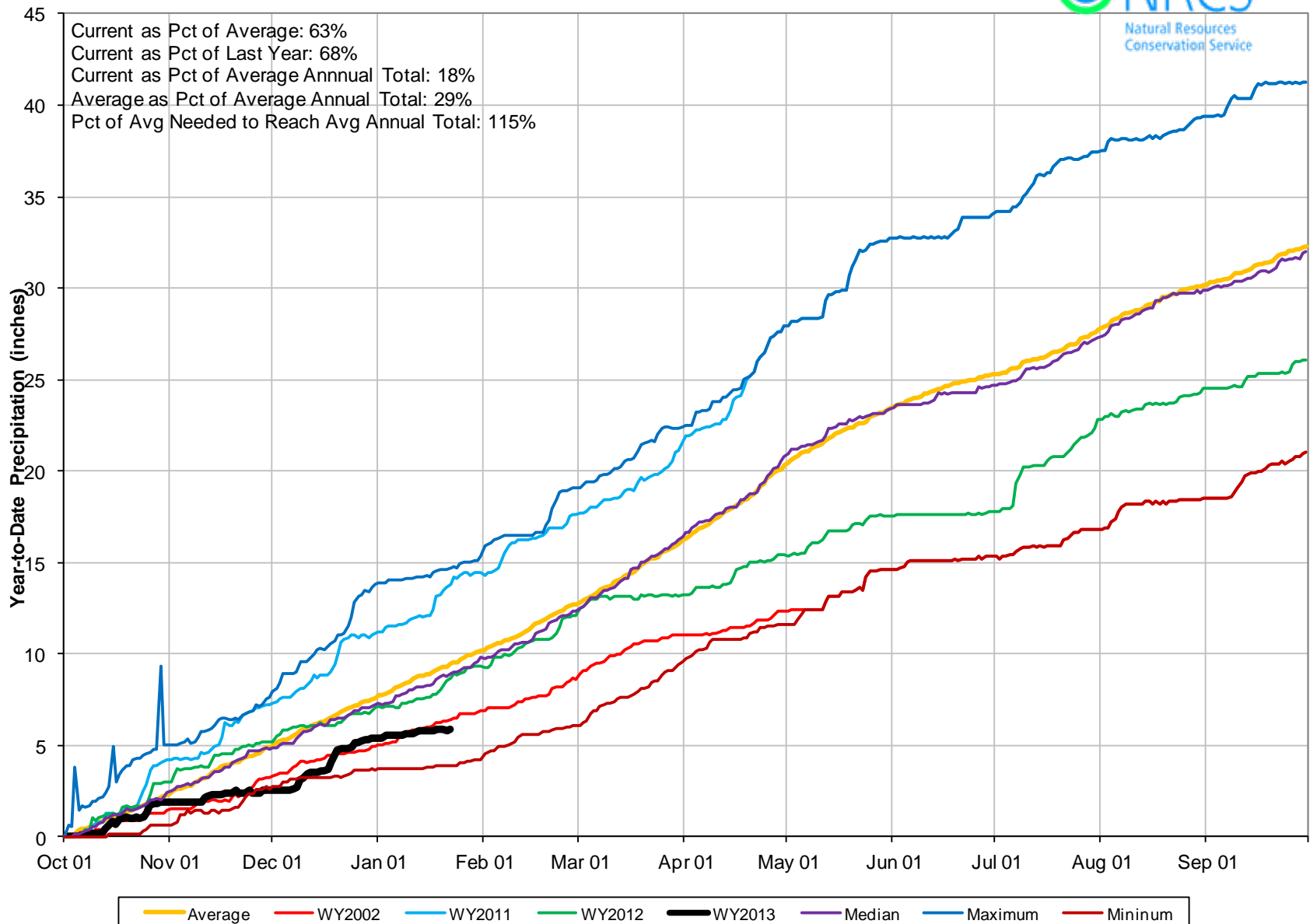
South Platte River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



South Platte River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



Based on Provisional SNOTEL data as of Jan 22, 2013

Dec PREC
115% of Average

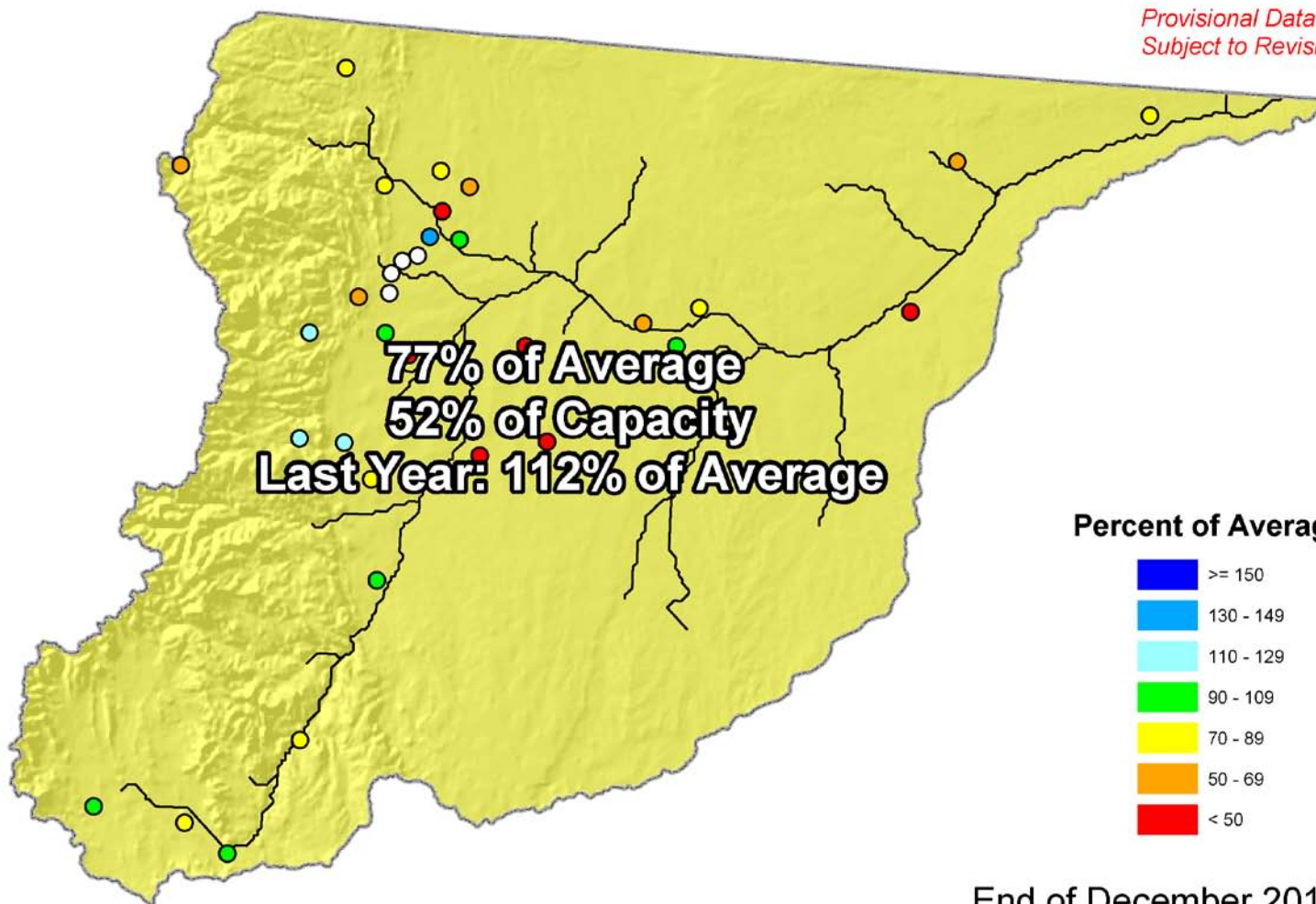
Jan PREC
29% of Average

Month	Average	WY2013	WY2012	WY2011	WY2002
Oct	2.5	2.0	3.0	4.0	1.5
Nov	2.5	0.5	2.0	3.0	2.0
Dec	2.5	3.0	2.0	4.0	1.5
Jan	2.5	0.5	2.0	3.0	2.0
Feb	2.5	0.0	3.0	4.0	2.0
Mar	3.5	0.0	0.5	4.0	2.0
Apr	4.0	0.0	2.0	6.0	2.0
May	3.0	0.0	2.0	3.0	2.0
Jun	2.5	3.0	1.0	4.0	1.5
Jul	2.5	0.5	2.0	3.0	2.0
Aug	2.5	0.0	2.0	3.0	2.0
Sep	2.0	0.0	1.5	2.0	2.0
Total	32.5	6.0	26.0	41.5	21.0

South Platte River Basin Reservoir Storage Map



*Provisional Data
Subject to Revision*

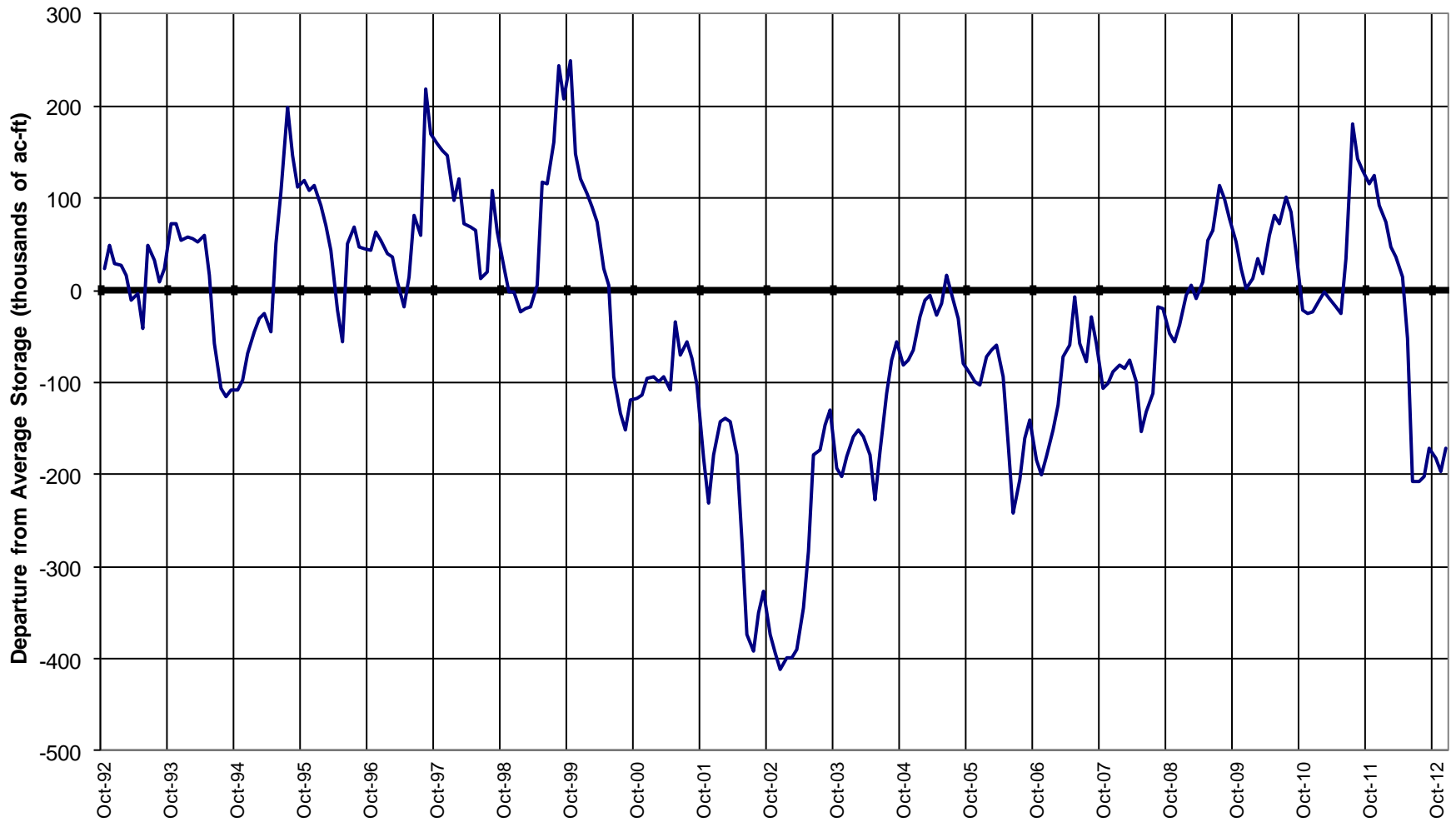


End of December 2012

SOUTH PLATTE RIVER BASIN

Reservoir Storage

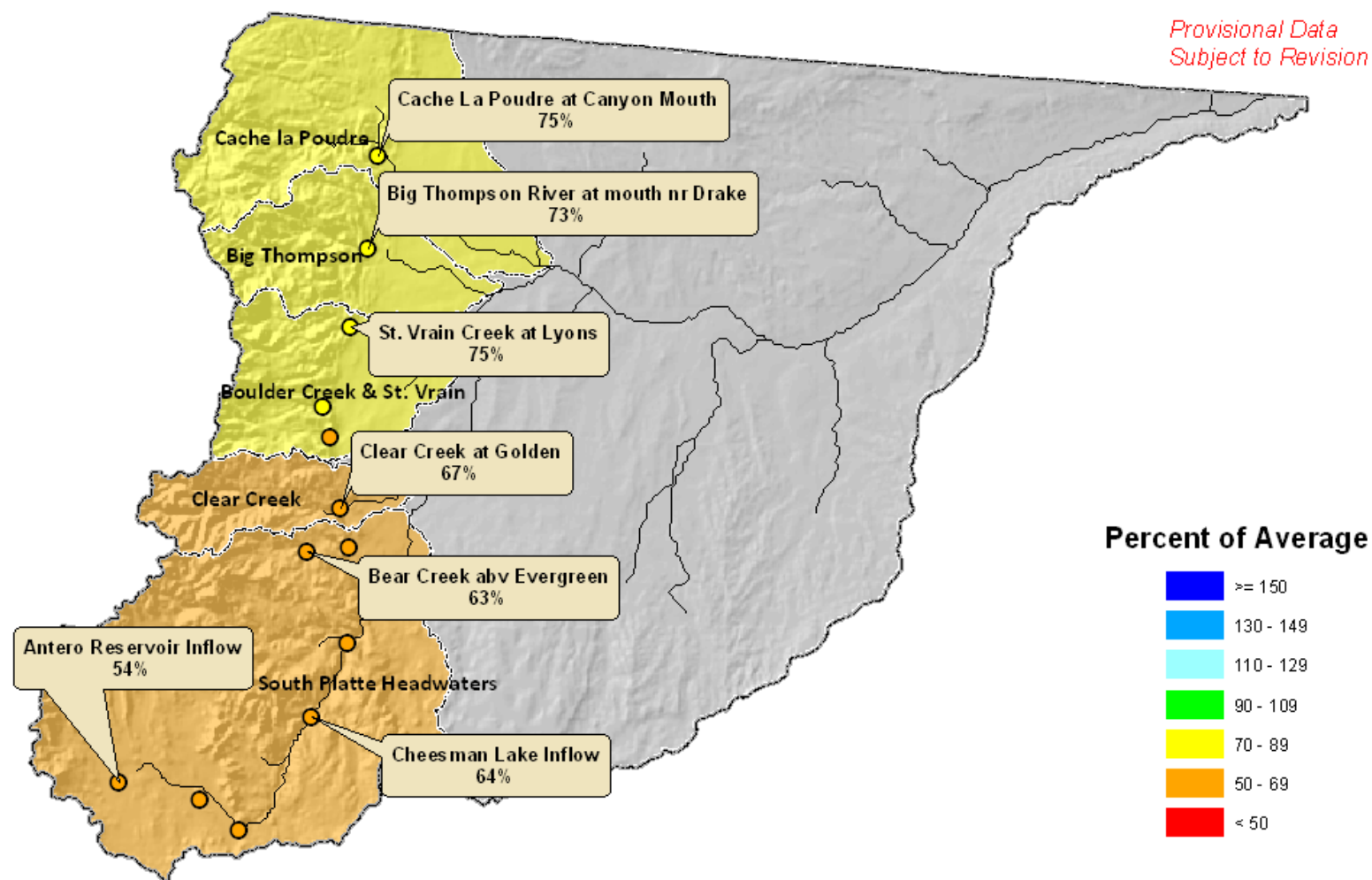
Departure from Average



South Platte River Basin Streamflow Forecast Map

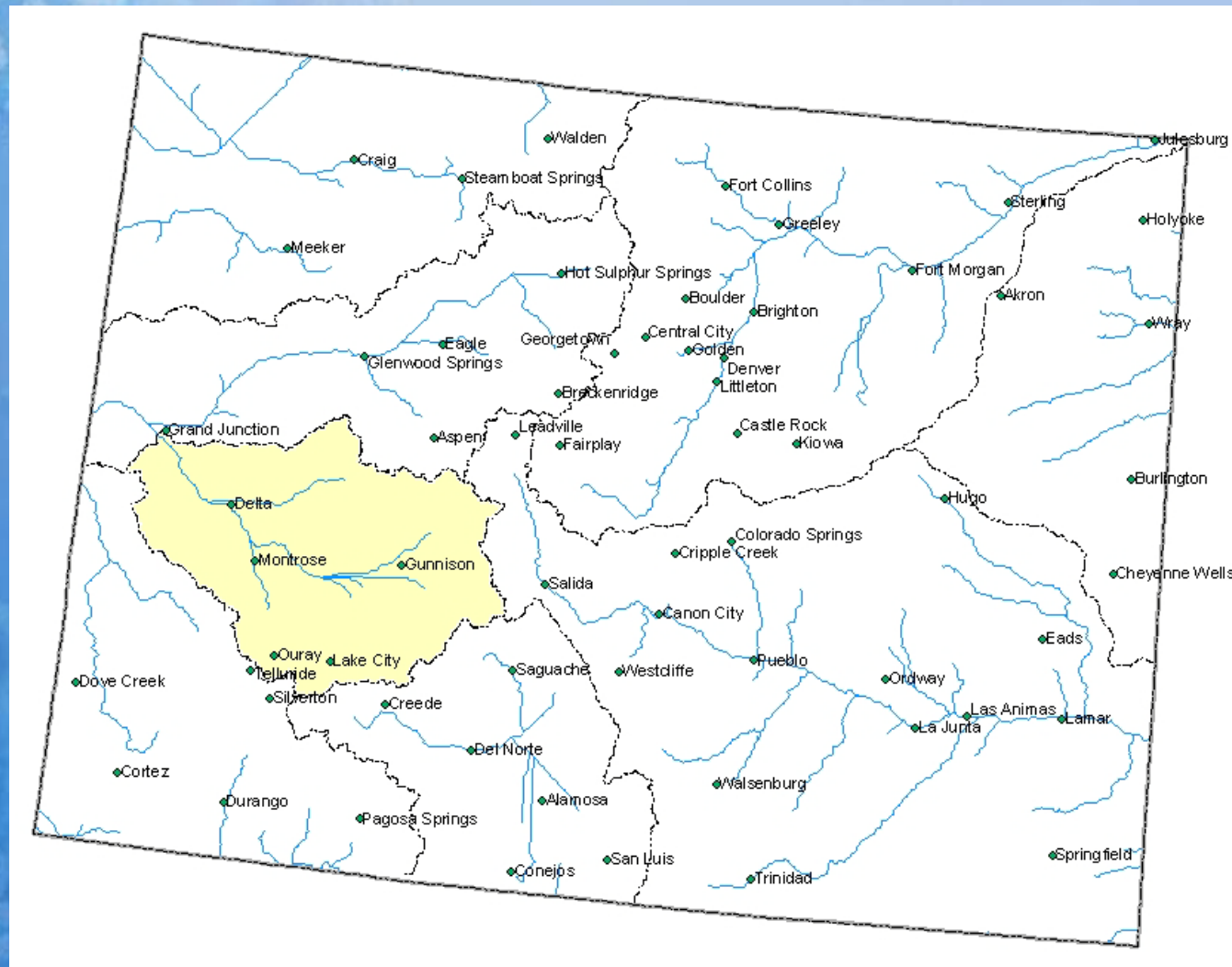


*Provisional Data
Subject to Revision*



Current as of January 1, 2013

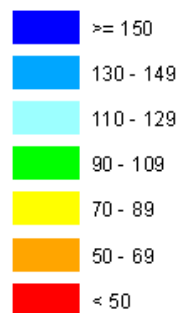
Gunnison River Basin Summary



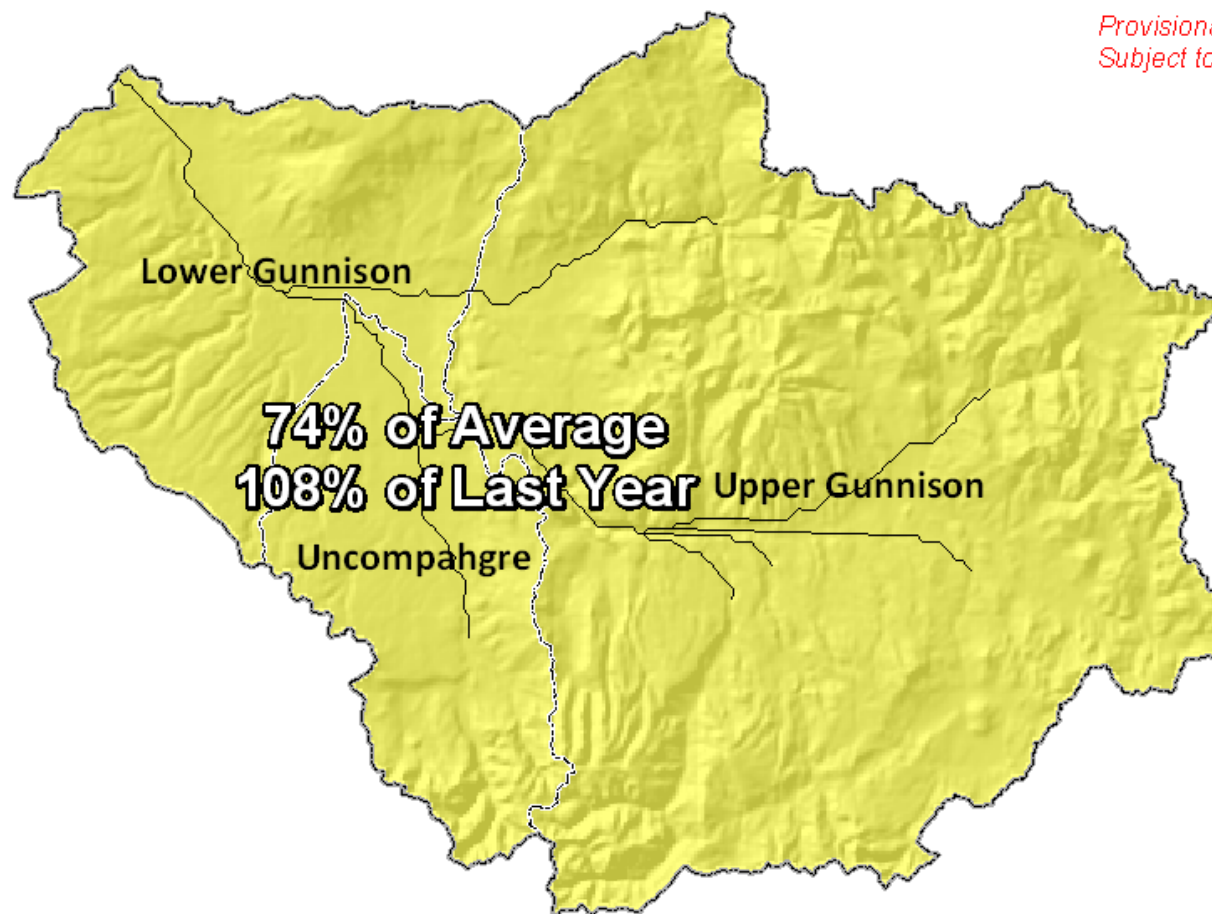
Gunnison River Basin Snowpack Map



Percent of Average



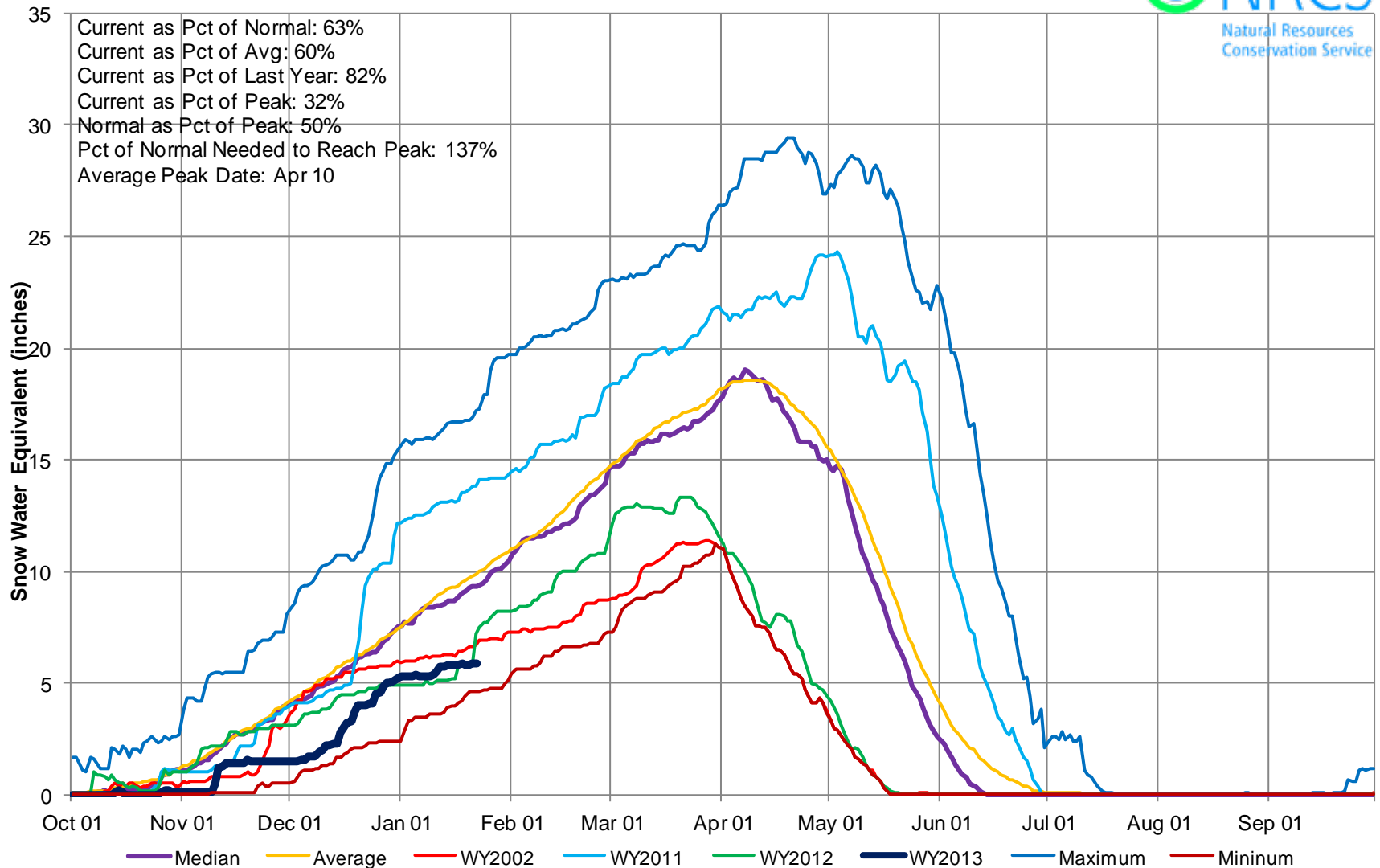
*Provisional Data
Subject to Revision*



Current as of January 1, 2013

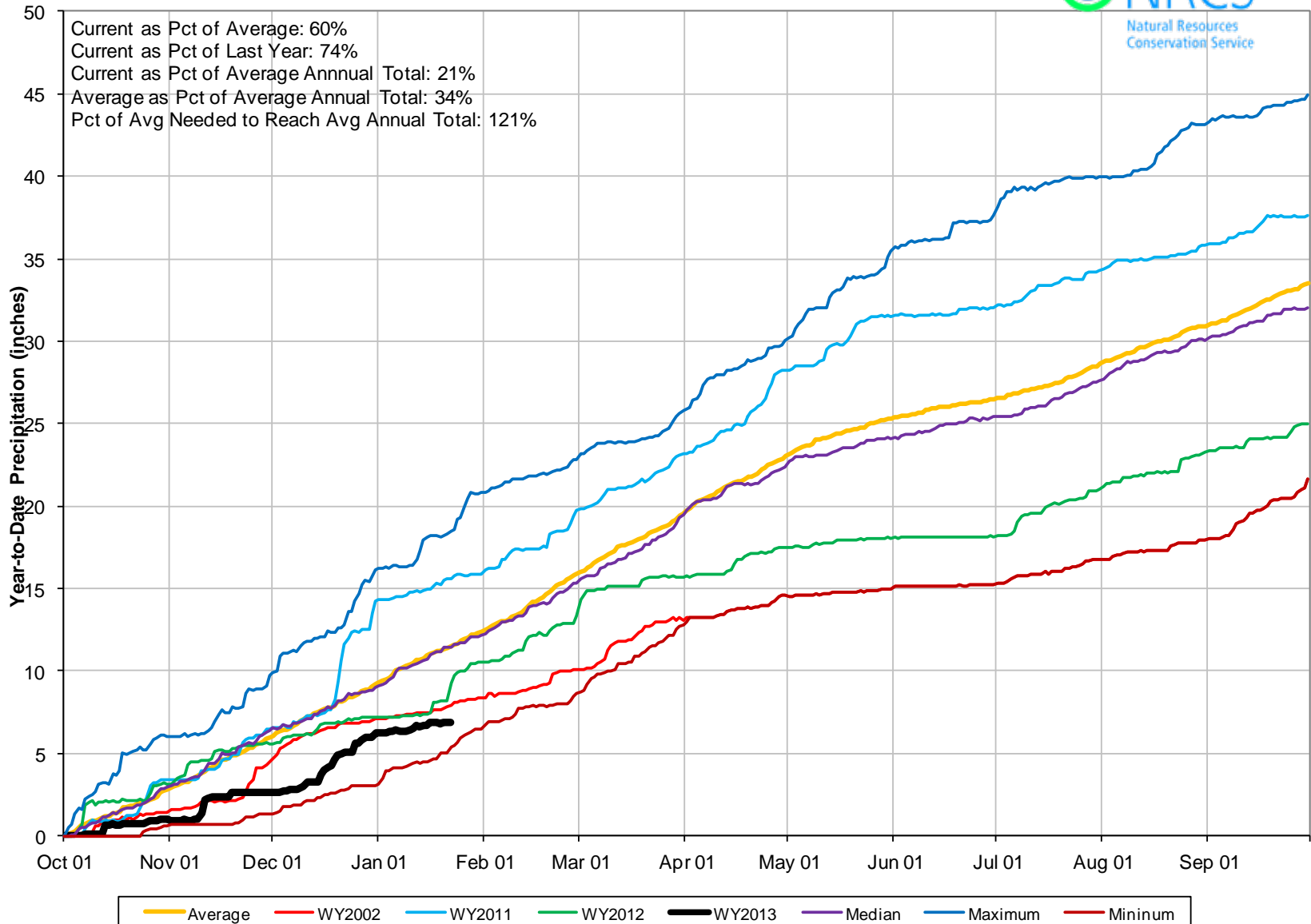
Gunnison River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



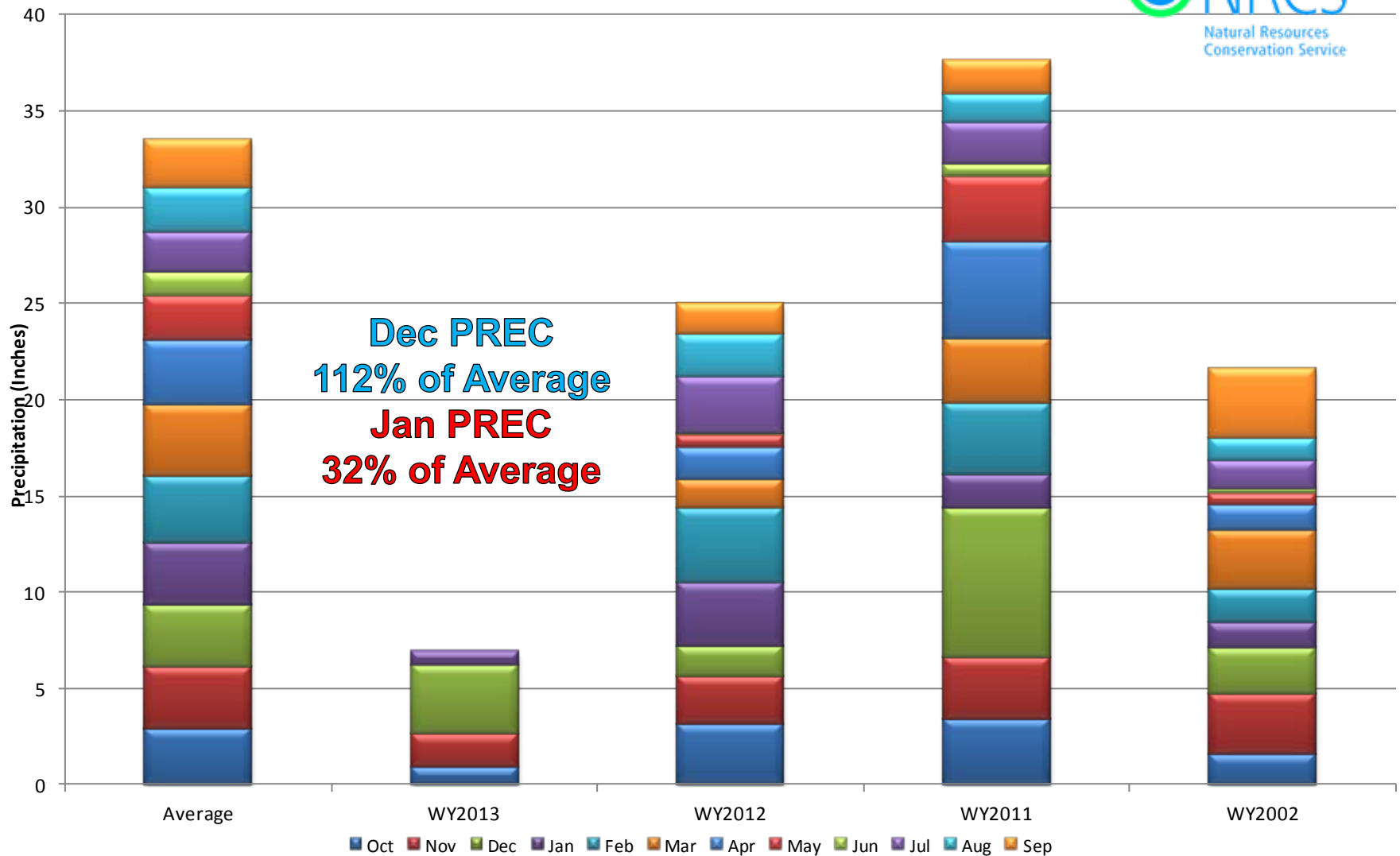
Gunnison River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



Gunnison River Basin High/Low Monthly Precipitation Summary

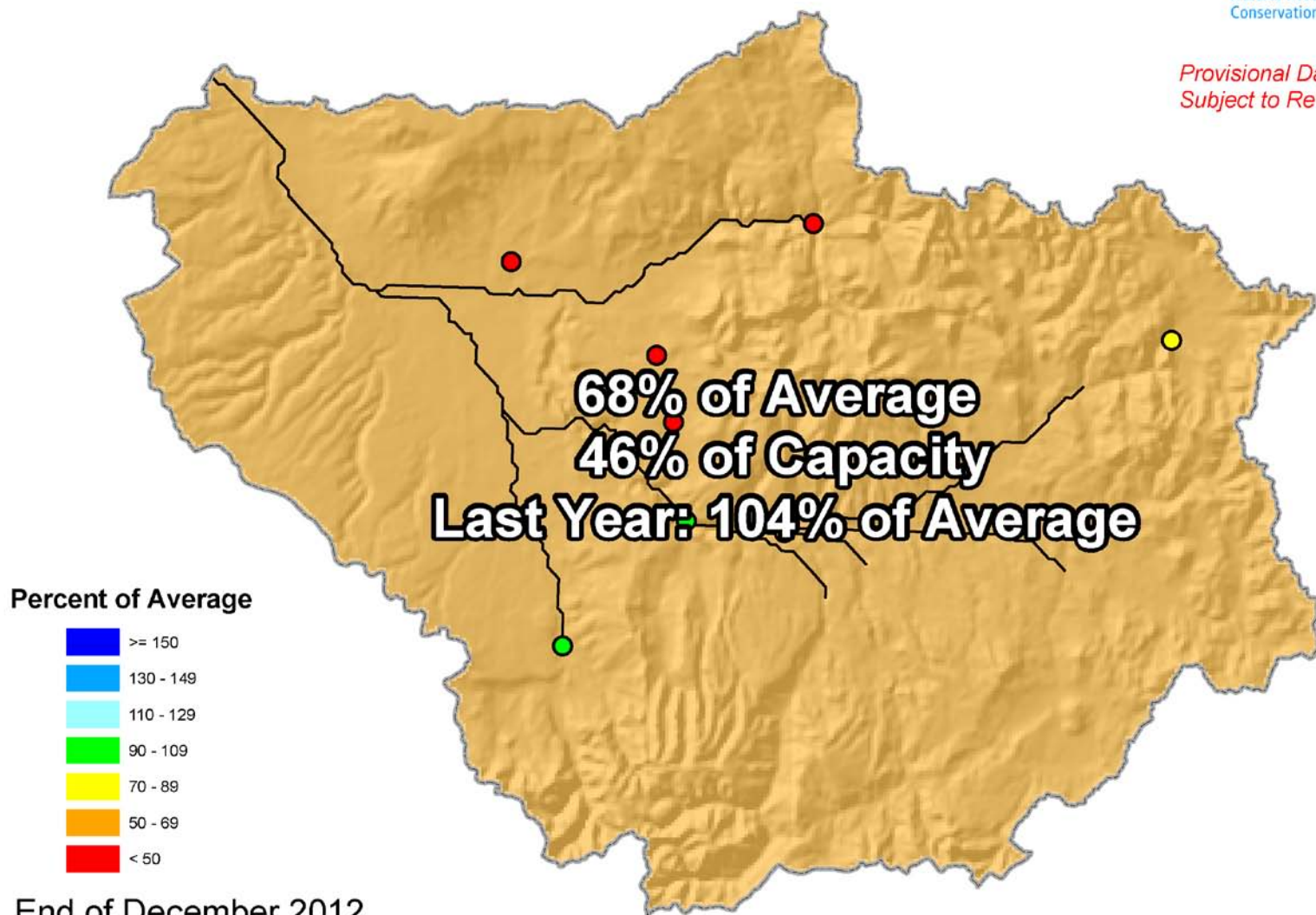
Based on Provisional SNOTEL data as of Jan 22, 2013



Gunnison River Basin Reservoir Storage Map



*Provisional Data
Subject to Revision*

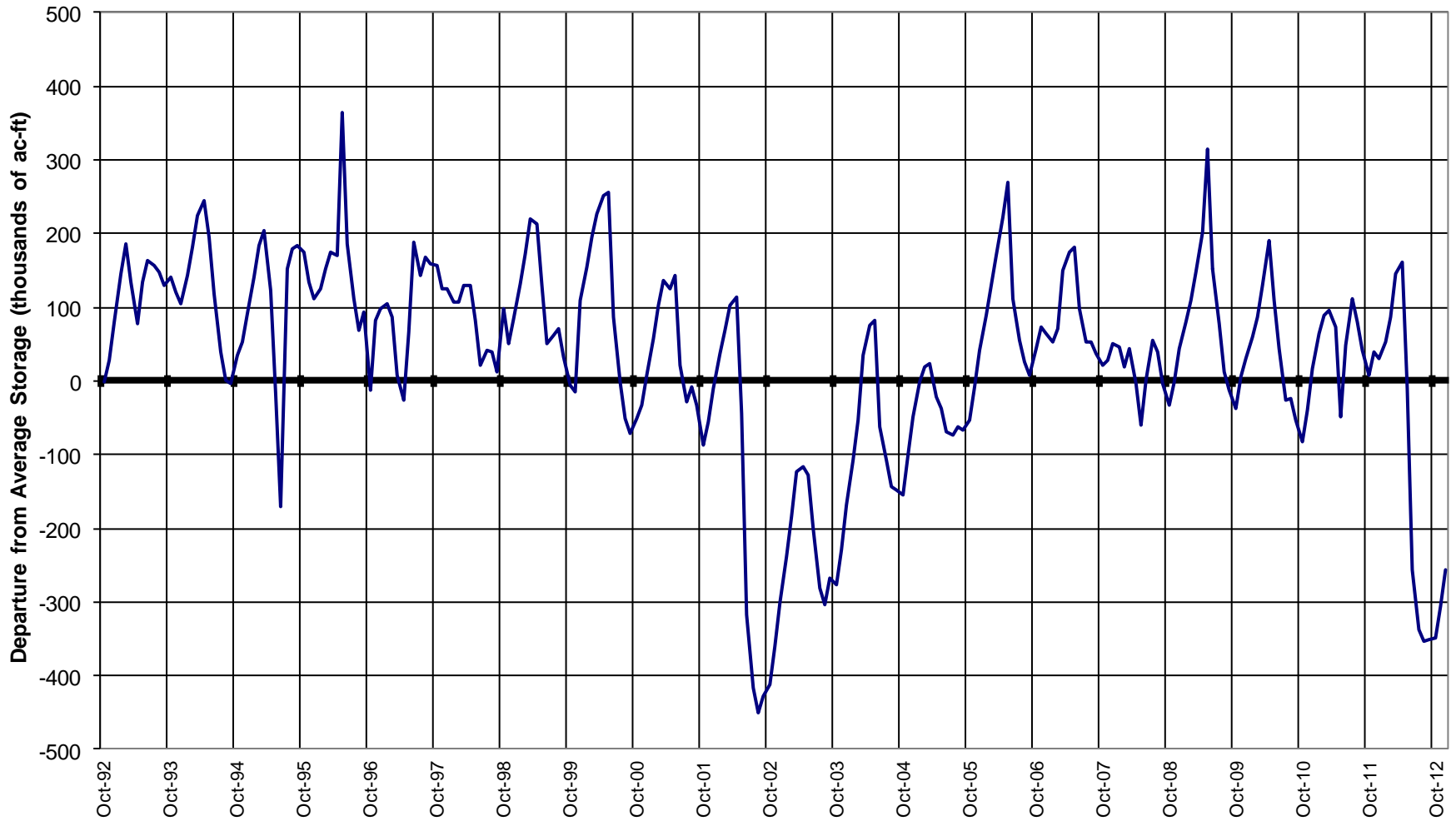


Percent of Average



End of December 2012

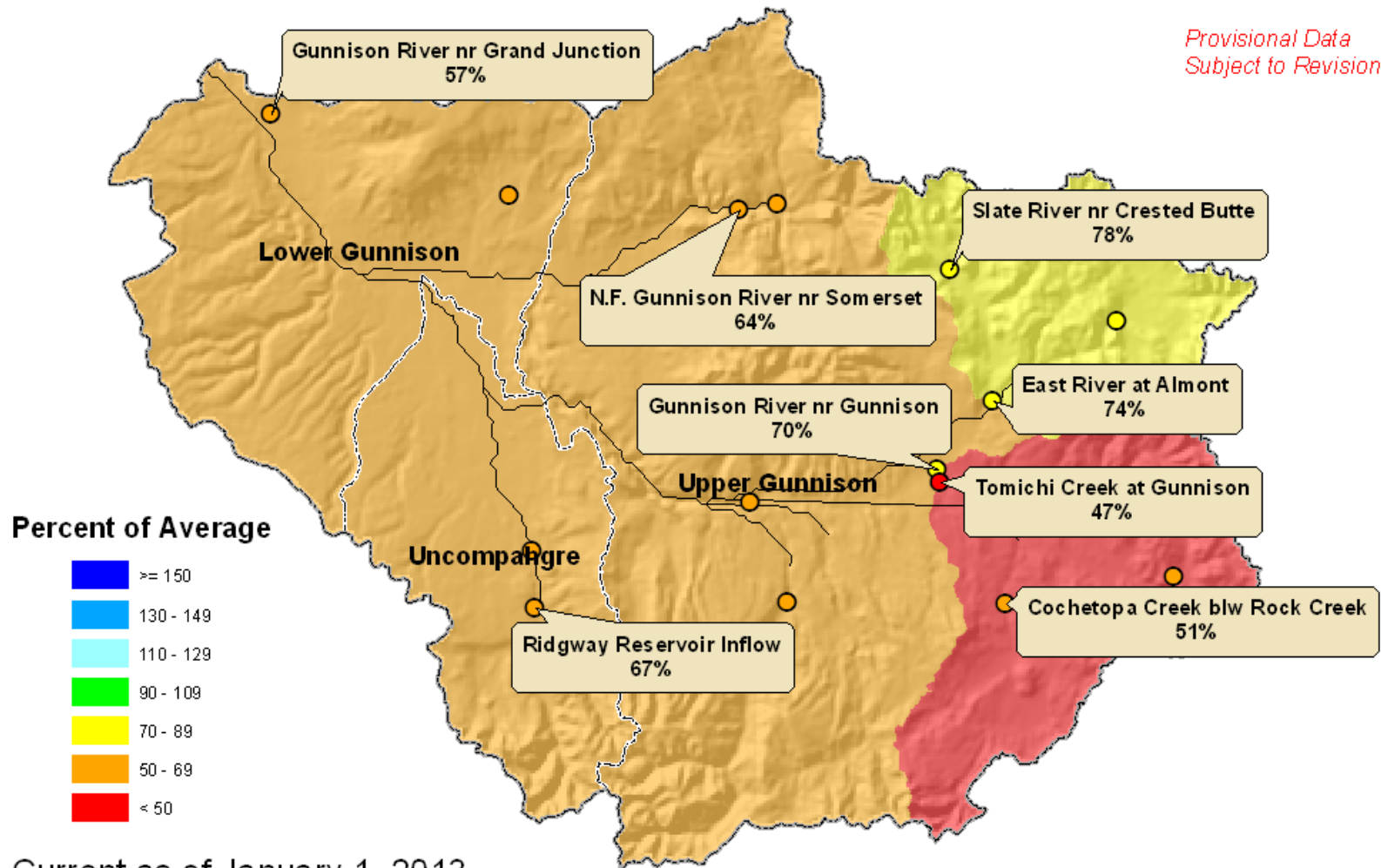
GUNNISON RIVER BASIN
Reservoir Storage
Departure from Average



Gunnison River Basin Streamflow Forecast Map

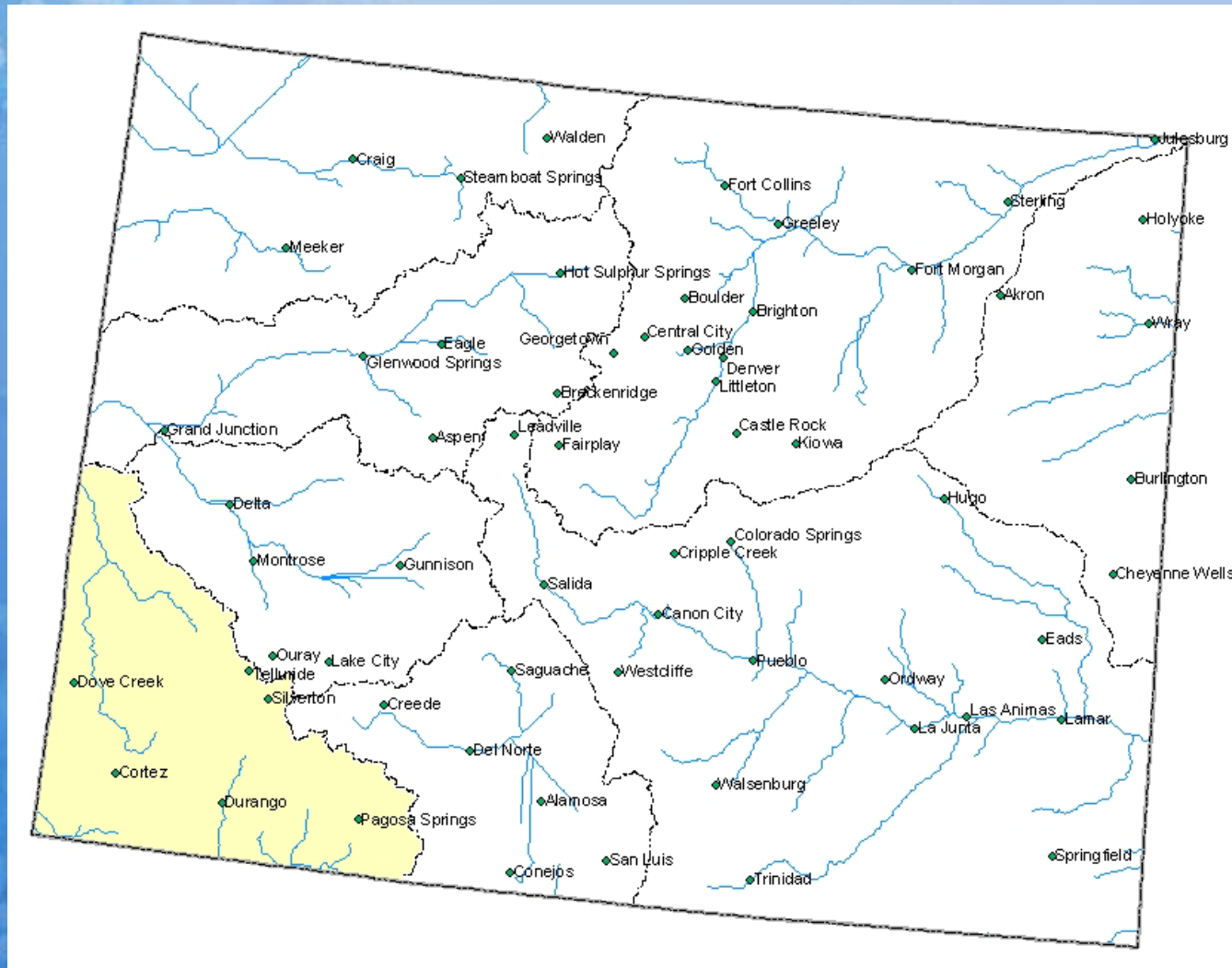


*Provisional Data
Subject to Revision*



Current as of January 1, 2013

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

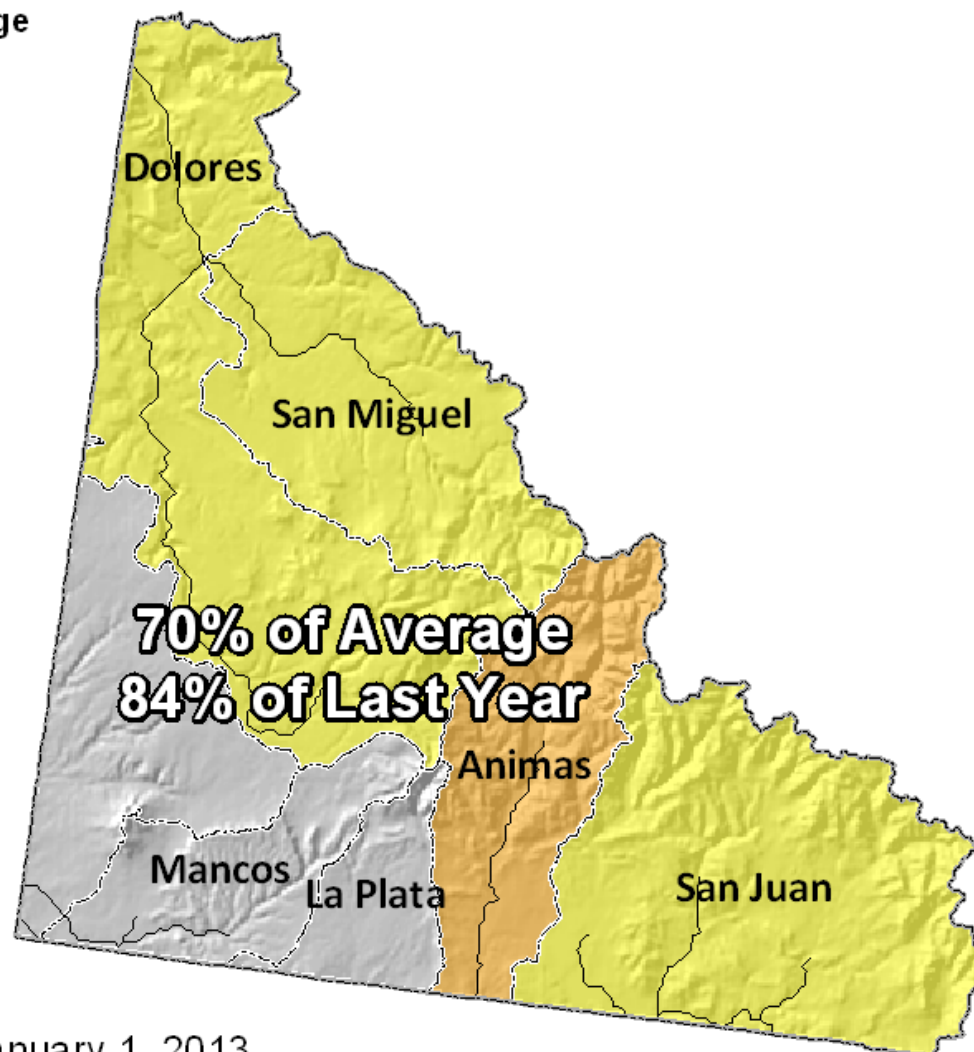
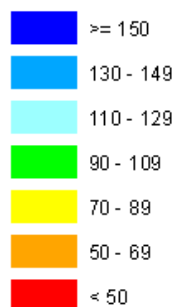


San Miguel, Dolores, Animas and San Juan River Basins Snowpack Map



*Provisional Data
Subject to Revision*

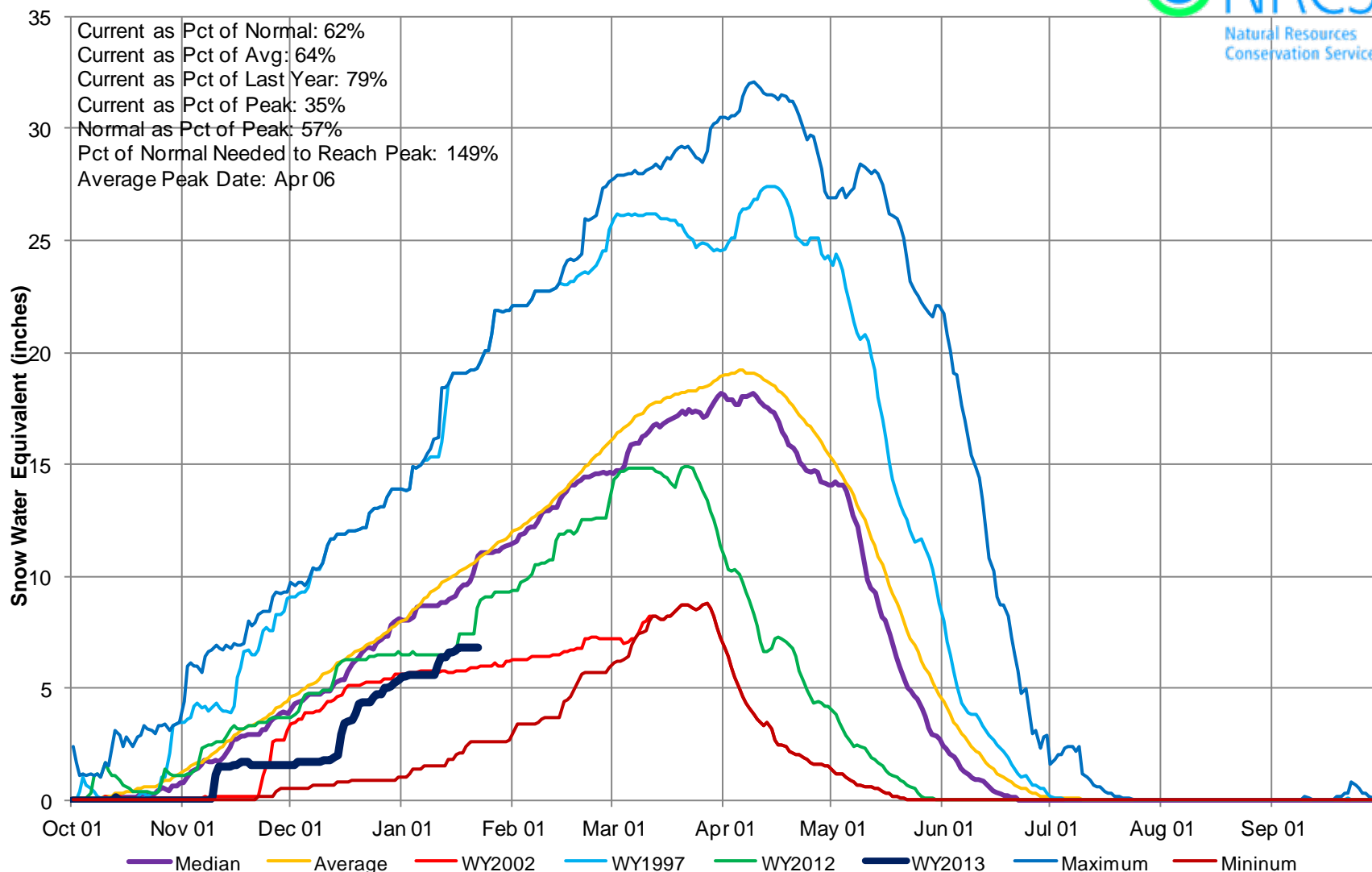
Percent of Average



Current as of January 1, 2013

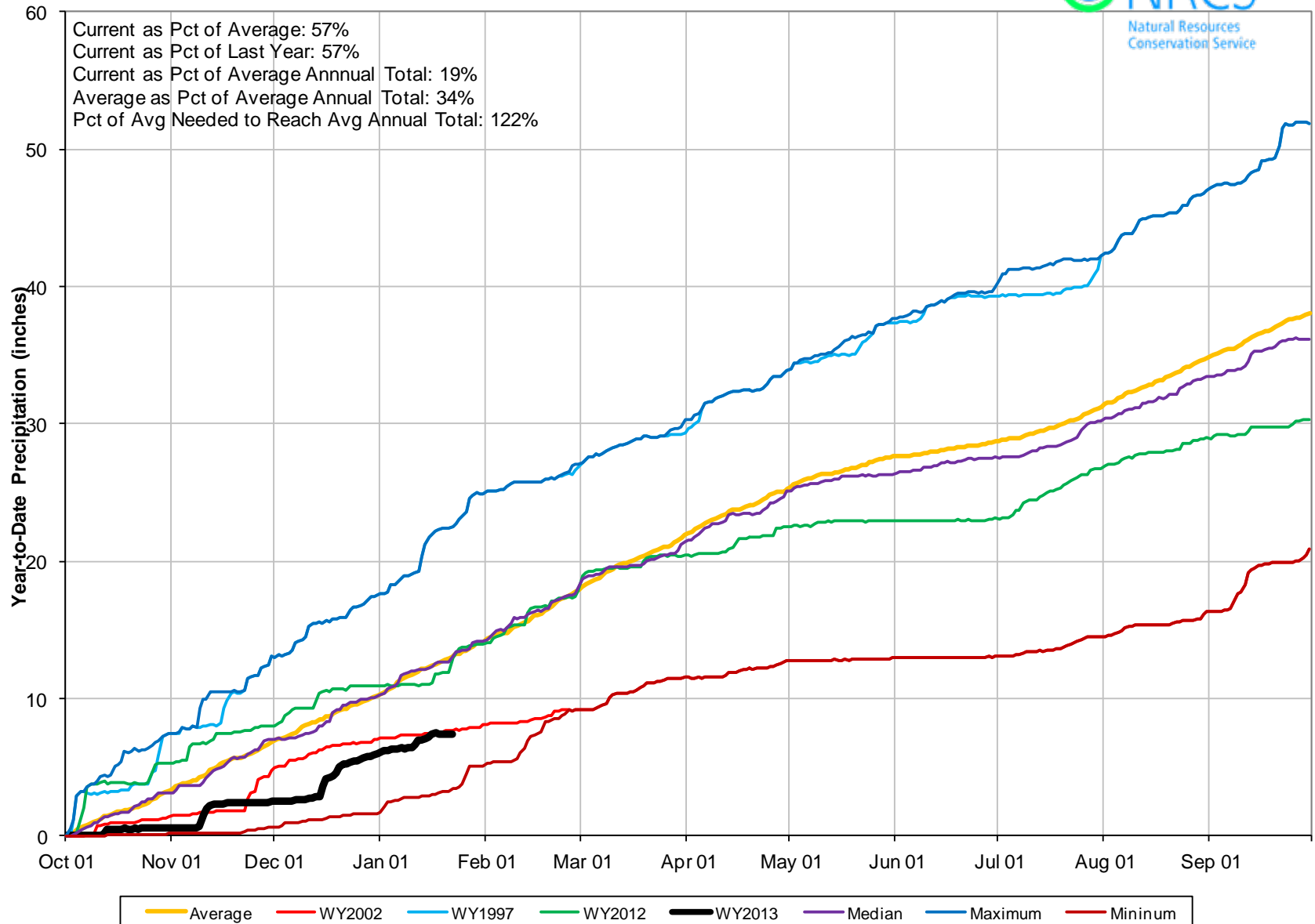
San Miguel, Dolores, Animas & San Juan River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 22, 2013

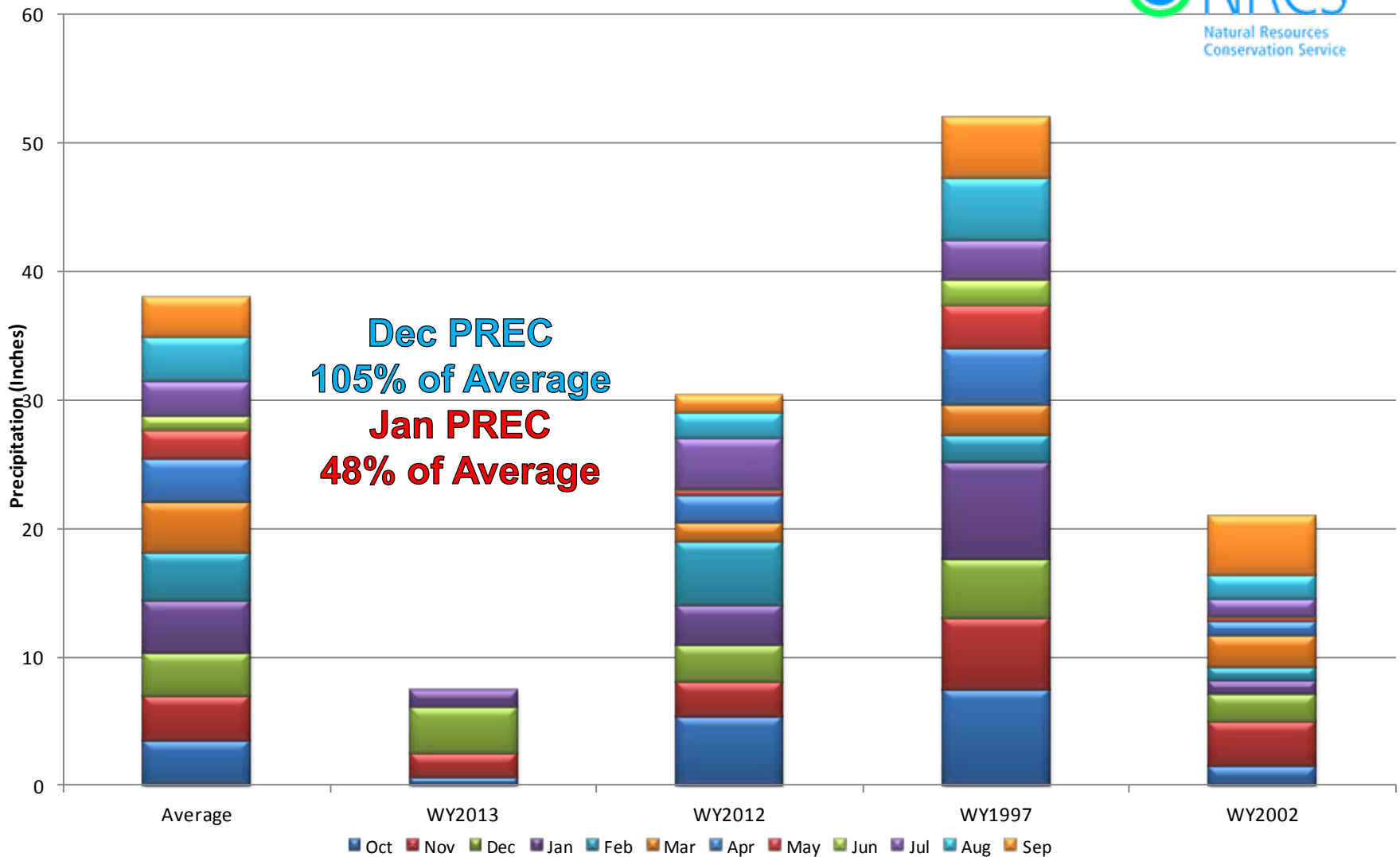


San Miguel, Dolores, Animas & San Juan River Basins High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



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



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



Percent of Average

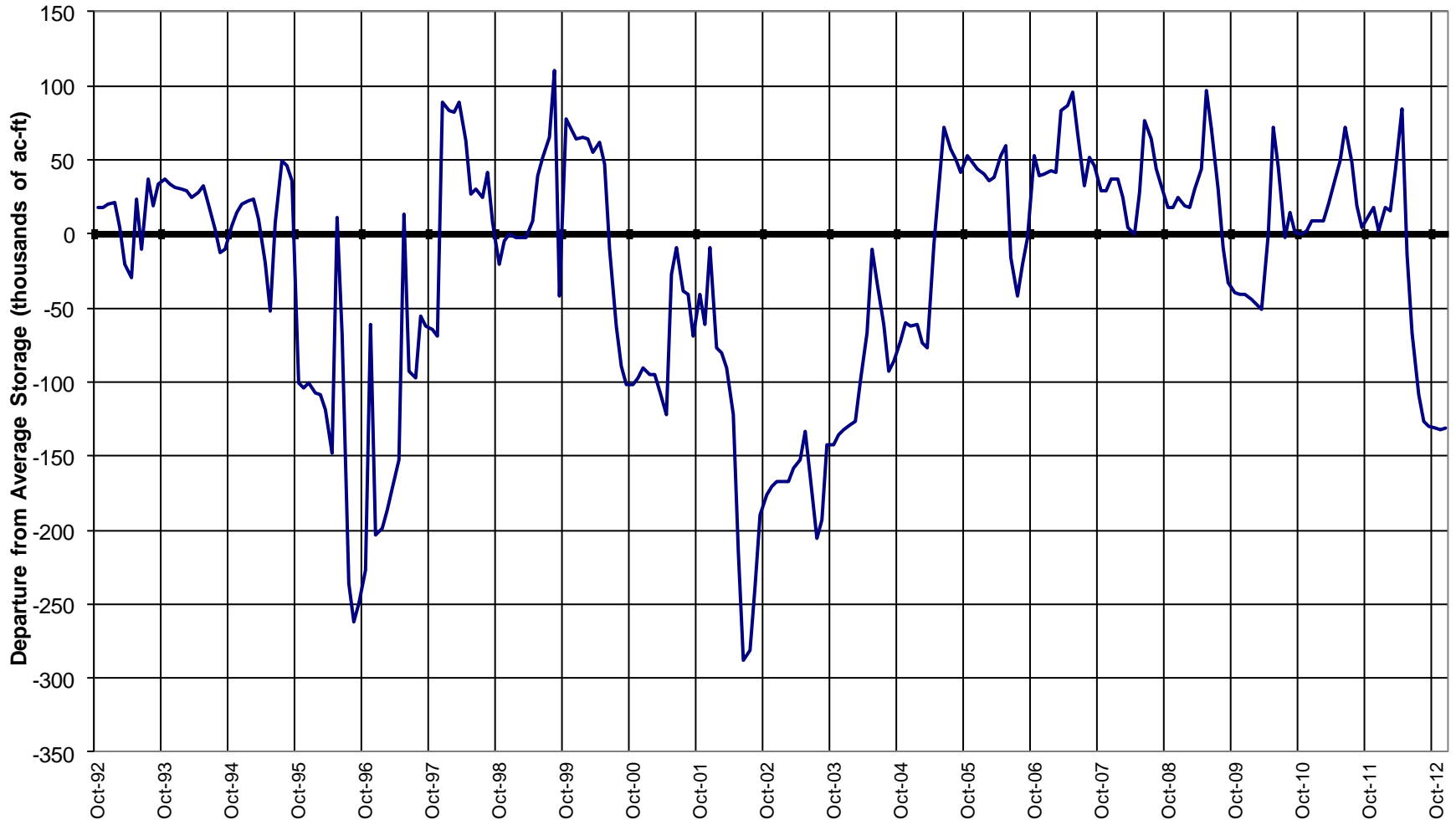


*Provisional Data
Subject to Revision*

**66% of Average
42% of Capacity
Last Year: 105% of Average**

End of December 2012

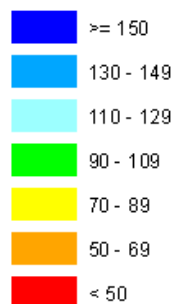
SAN MIGUEL, DOLORES, ANIMAS AND SAN JUAN RIVER BASINS
Reservoir Storage
Departure from Average



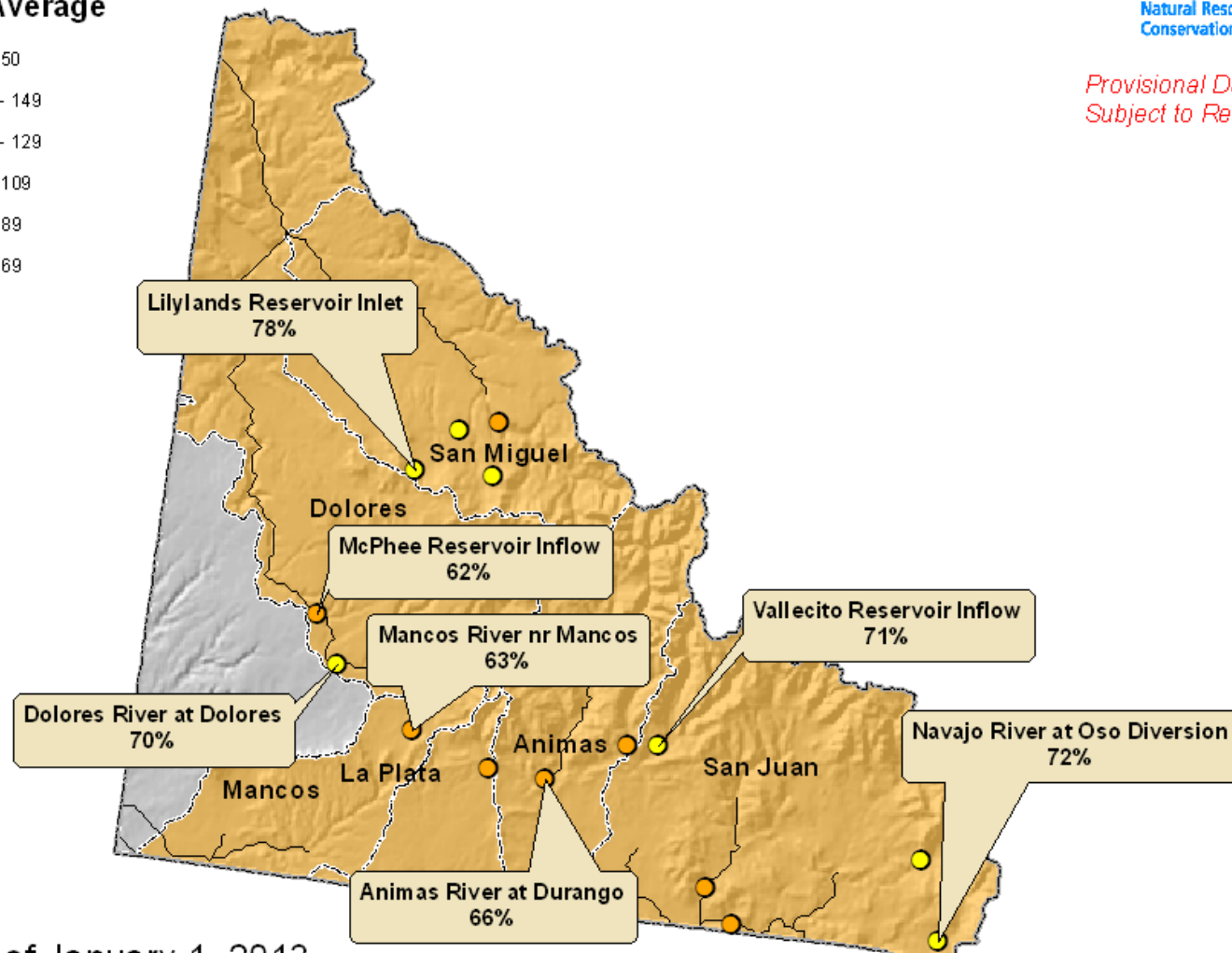
San Miguel, Dolores, Animas and San Juan River Basins Streamflow Forecast Map



Percent of Average



*Provisional Data
Subject to Revision*



Current as of January 1, 2013

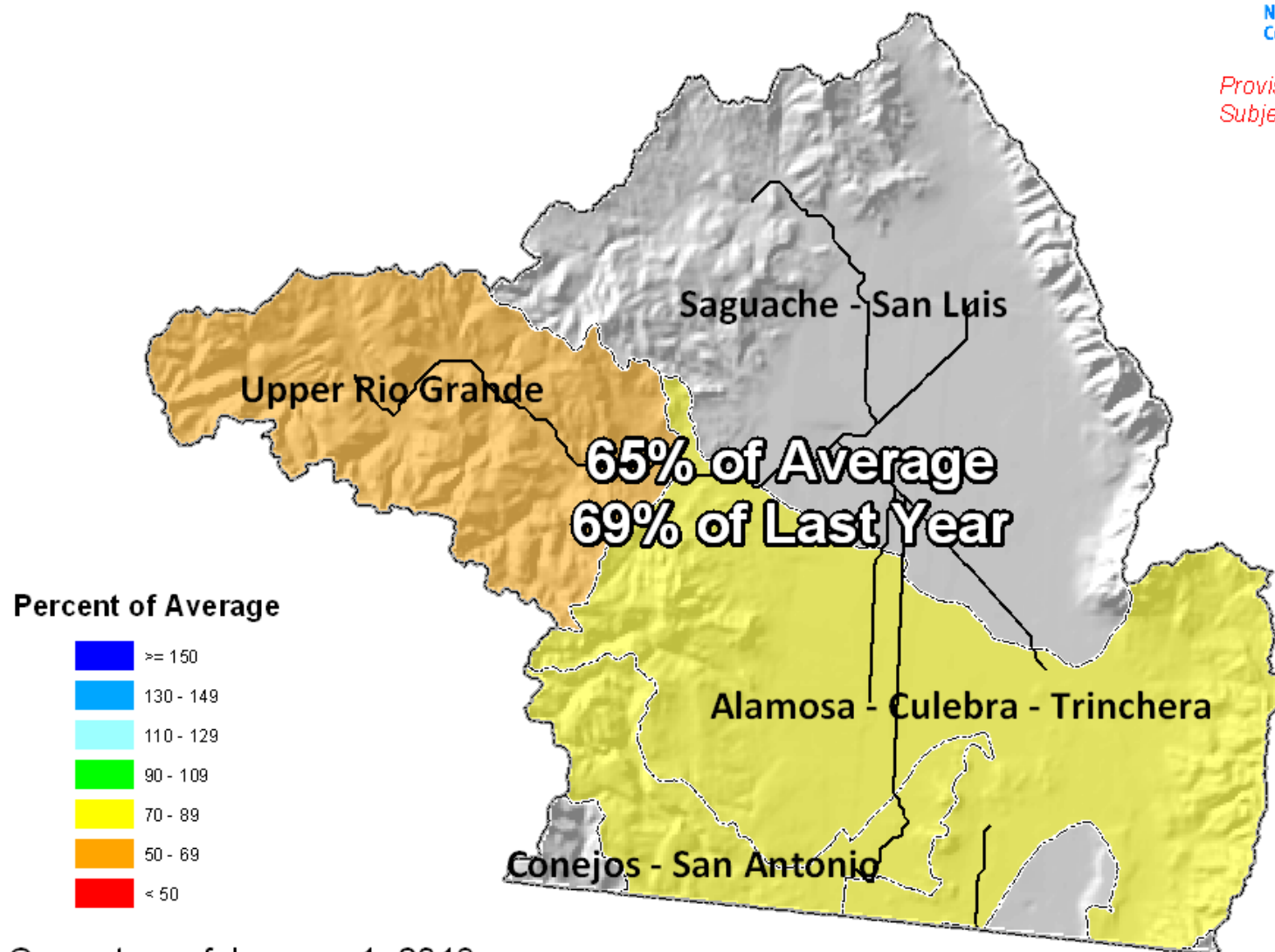
Upper Rio Grande Basin Summary



Upper Rio Grande Basin Snowpack Map



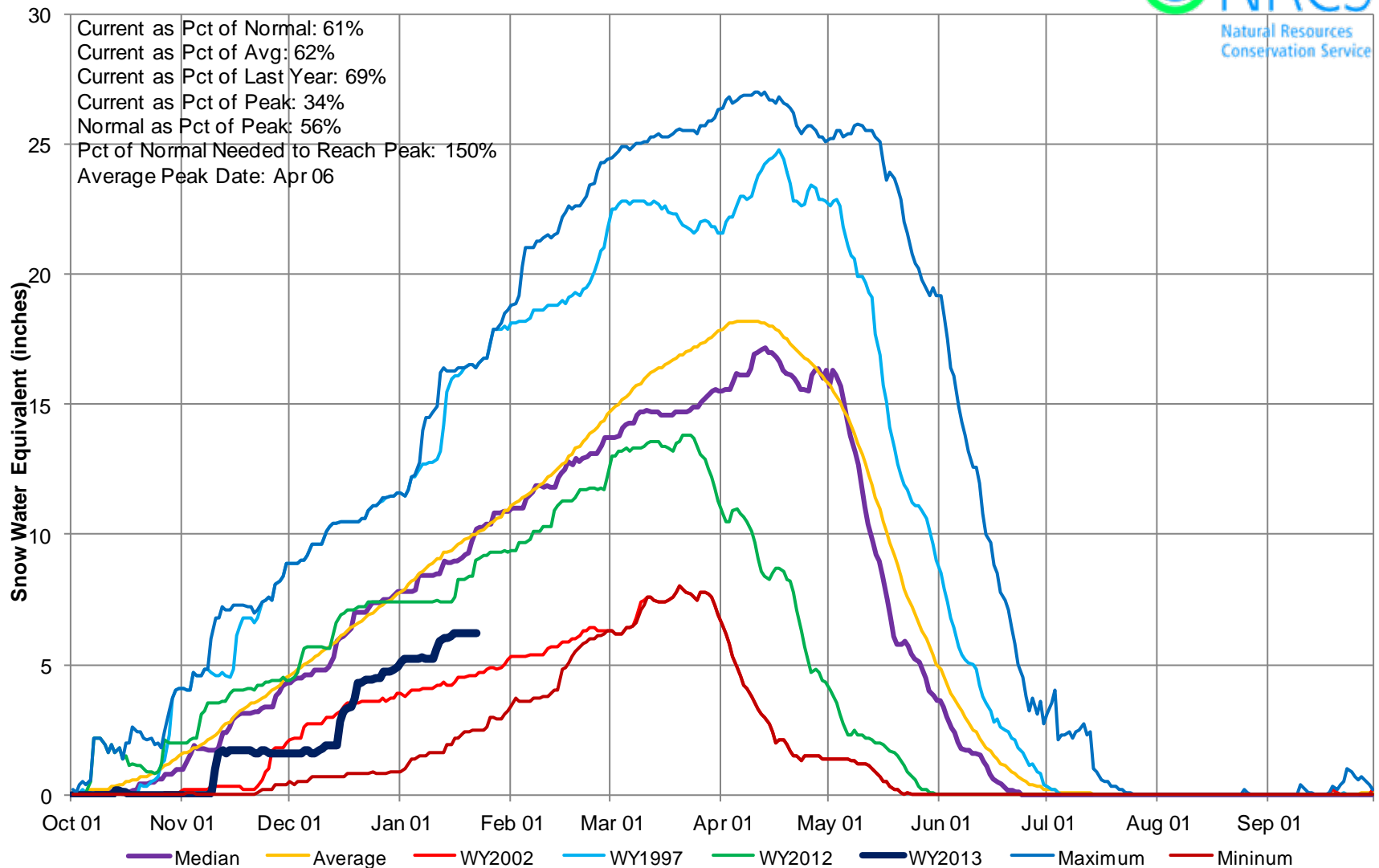
*Provisional Data
Subject to Revision*



Current as of January 1, 2013

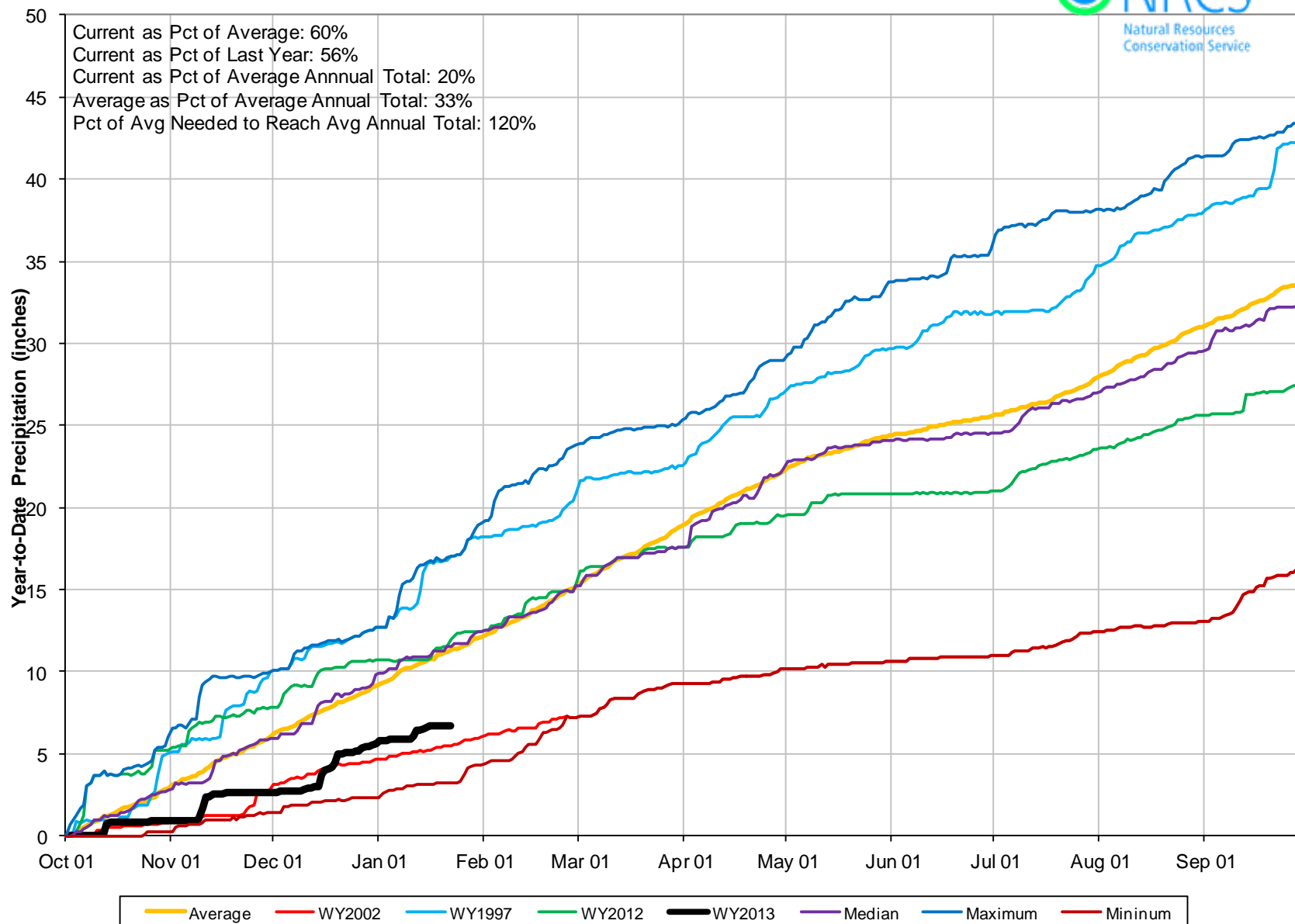
Upper Rio Grande Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



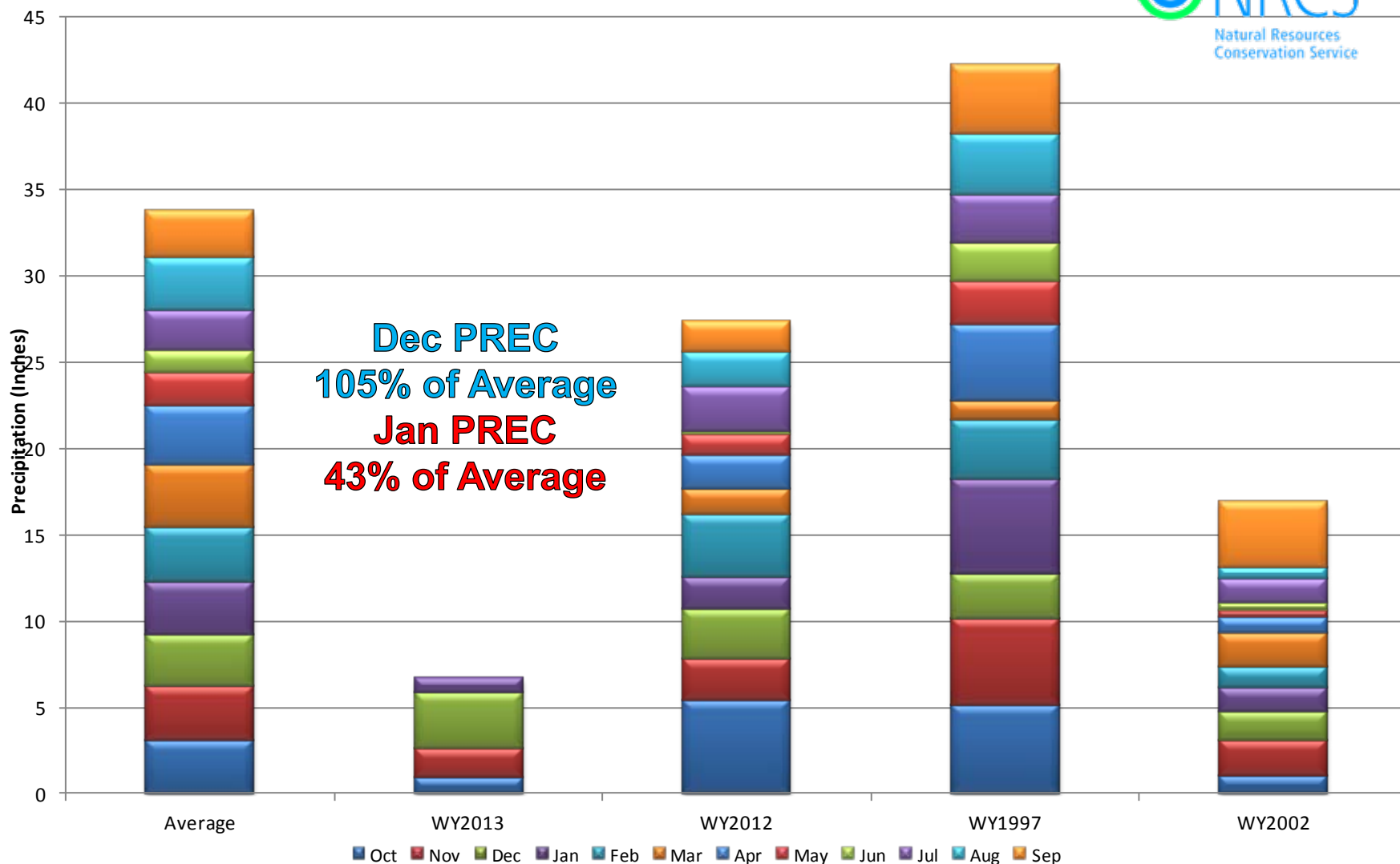
Upper Rio Grande Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



Upper Rio Grande Basin High/Low Monthly Precipitation Summary

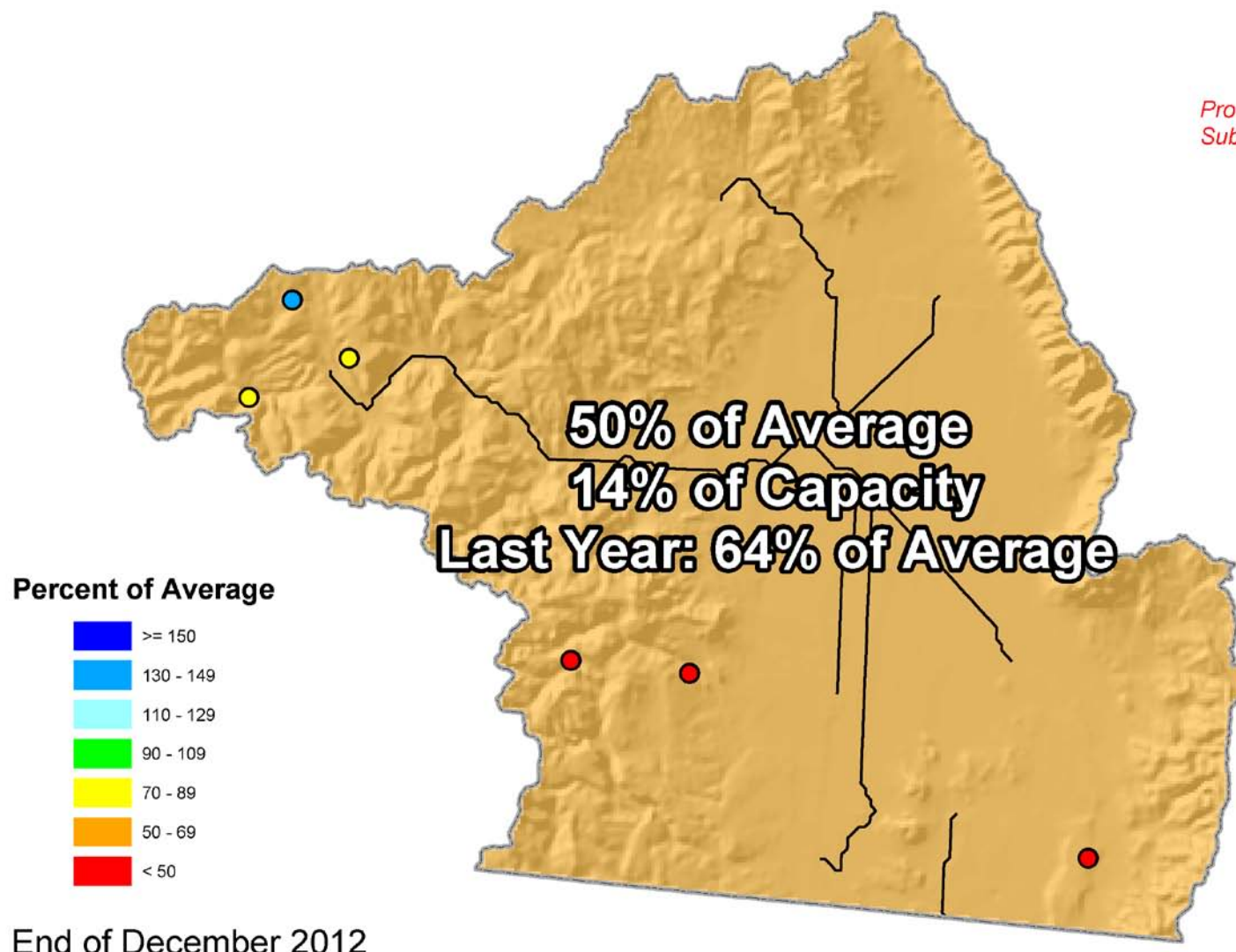
Based on Provisional SNOTEL data as of Jan 22, 2013



Upper Rio Grande Basin Reservoir Storage Map

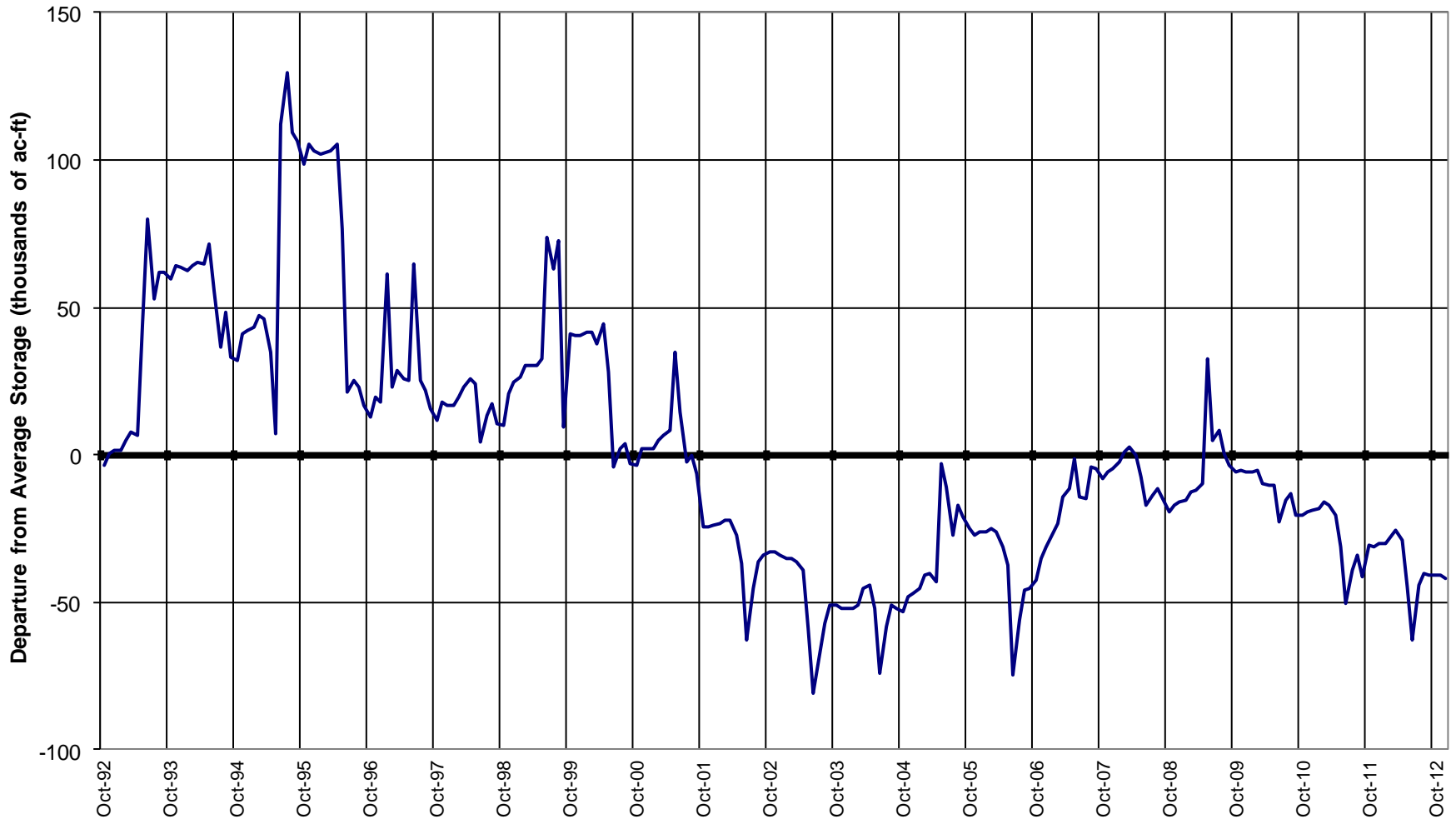


*Provisional Data
Subject to Revision*



End of December 2012

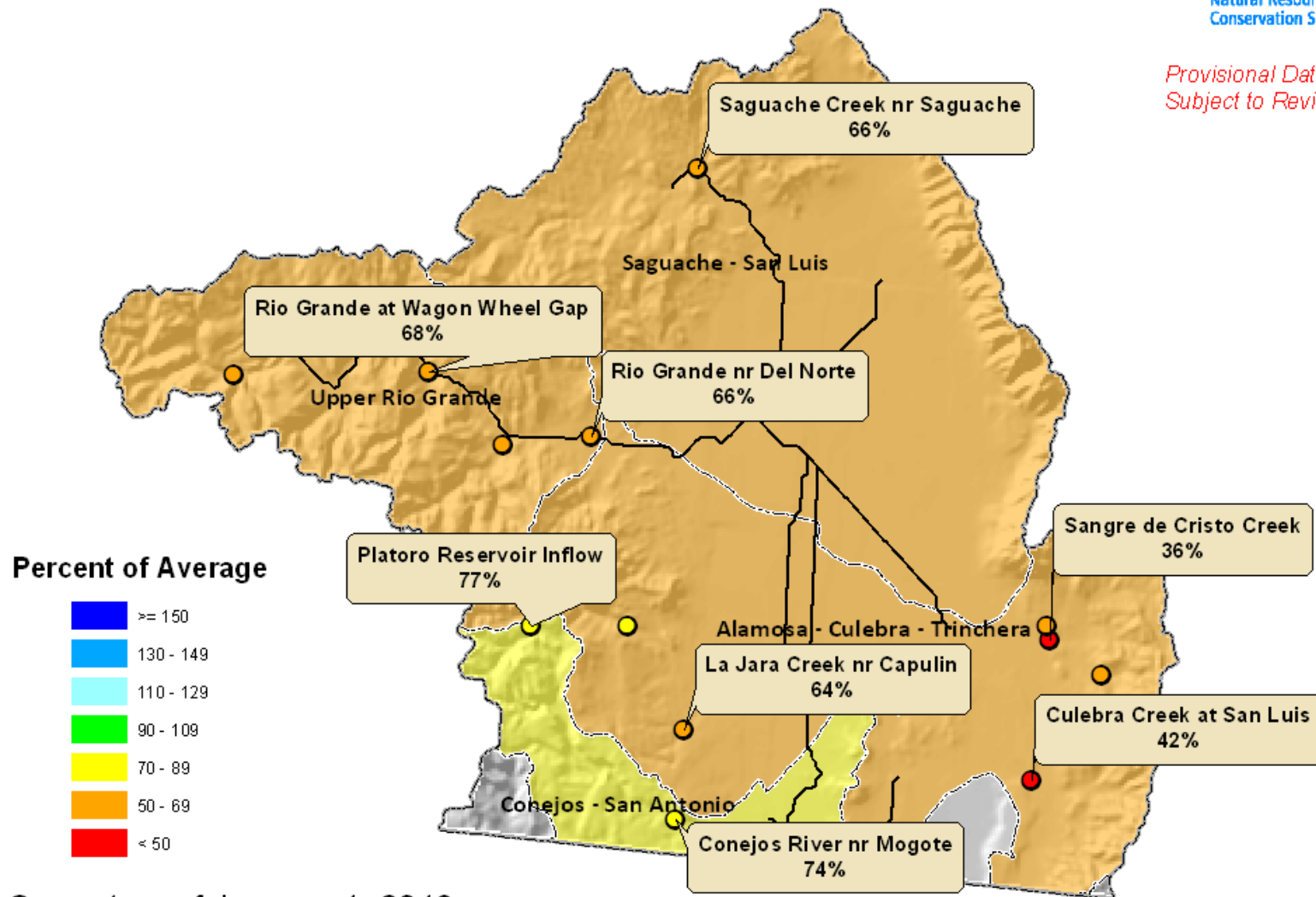
UPPER RIO GRANDE BASIN
Reservoir Storage
Departure from Average



Upper Rio Grande Basin Streamflow Forecast Map



*Provisional Data
Subject to Revision*



Current as of January 1, 2013

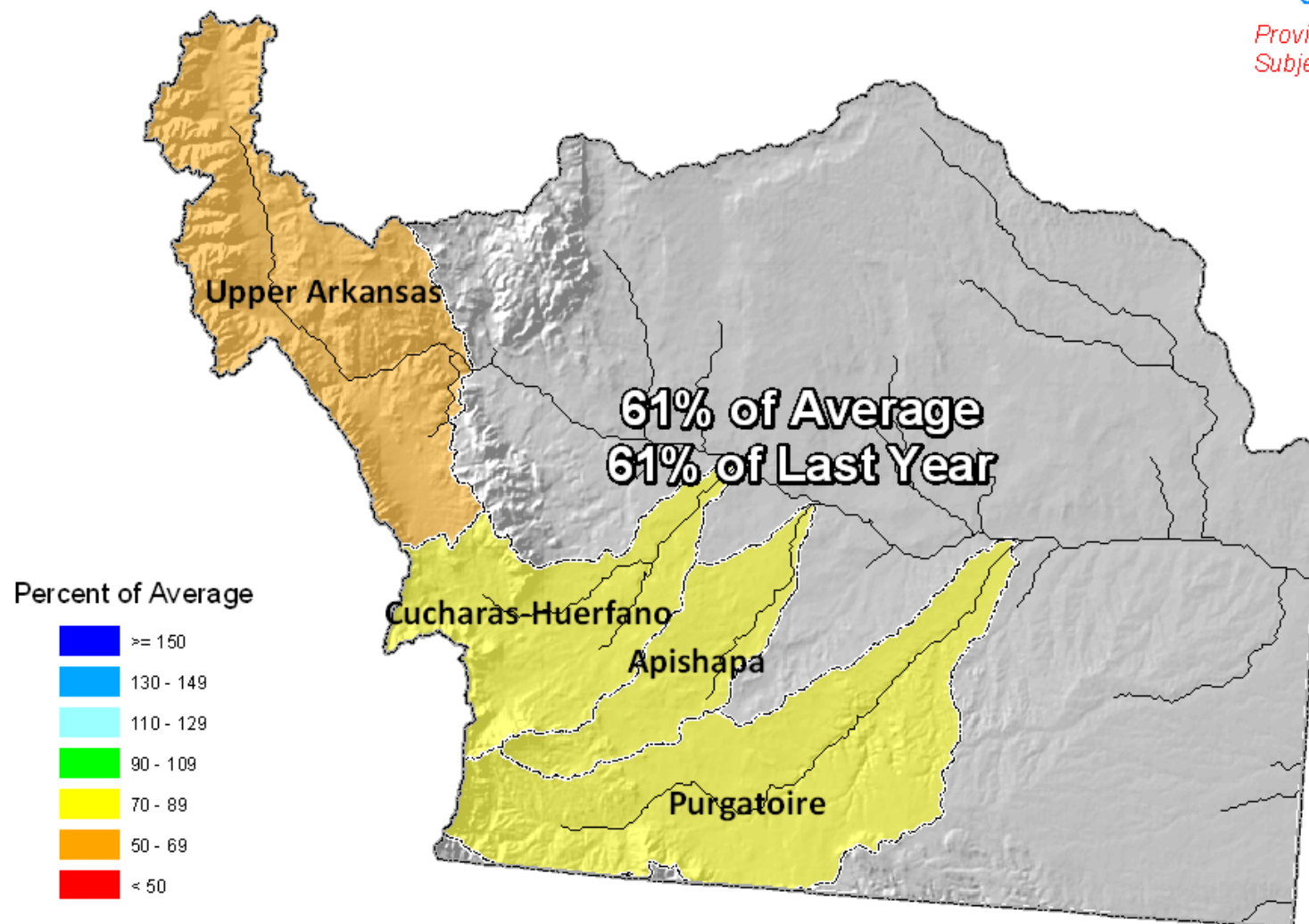
Arkansas River Basin Summary



Arkansas River Basin Snowpack Map



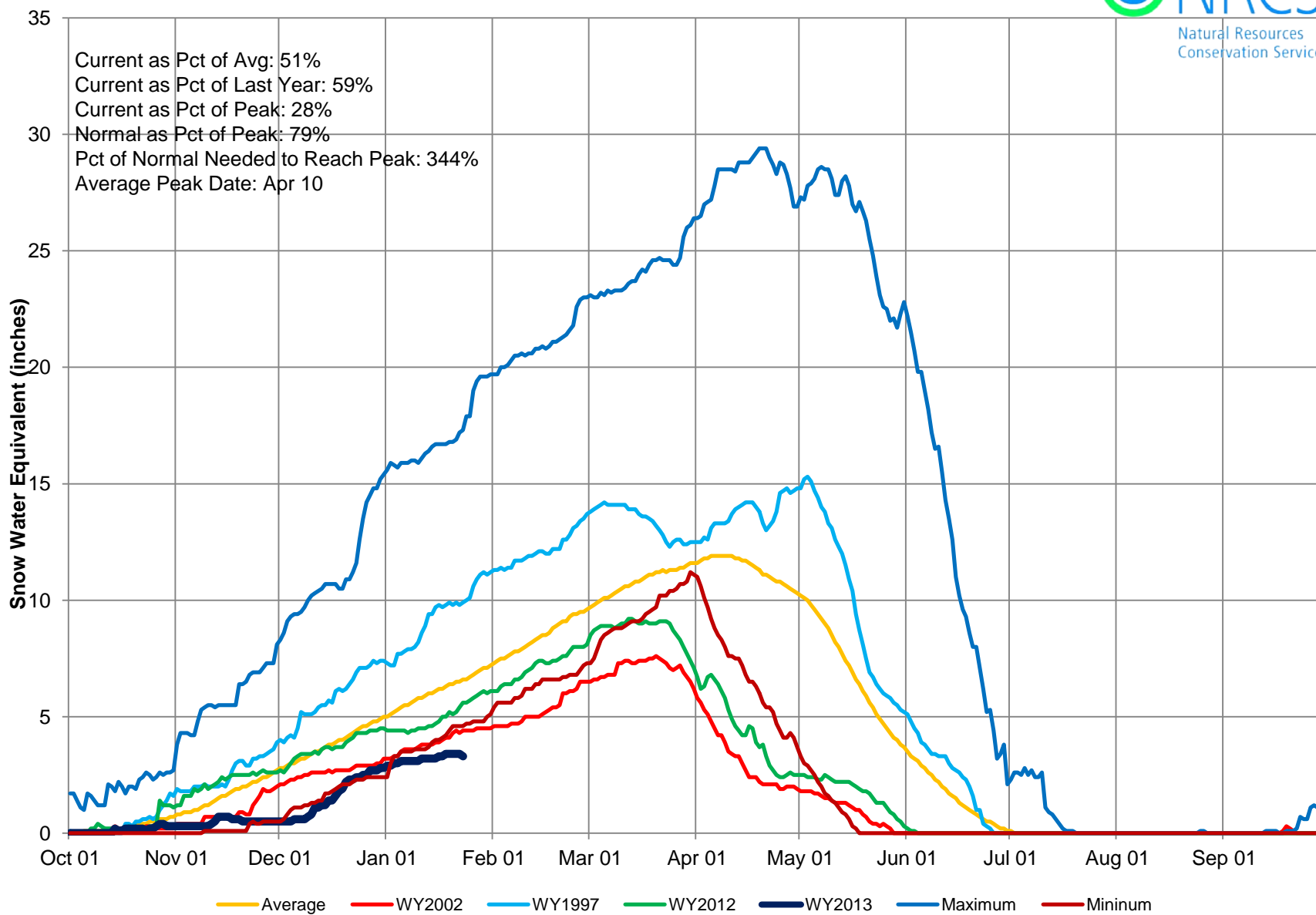
*Provisional Data
Subject to Revision*



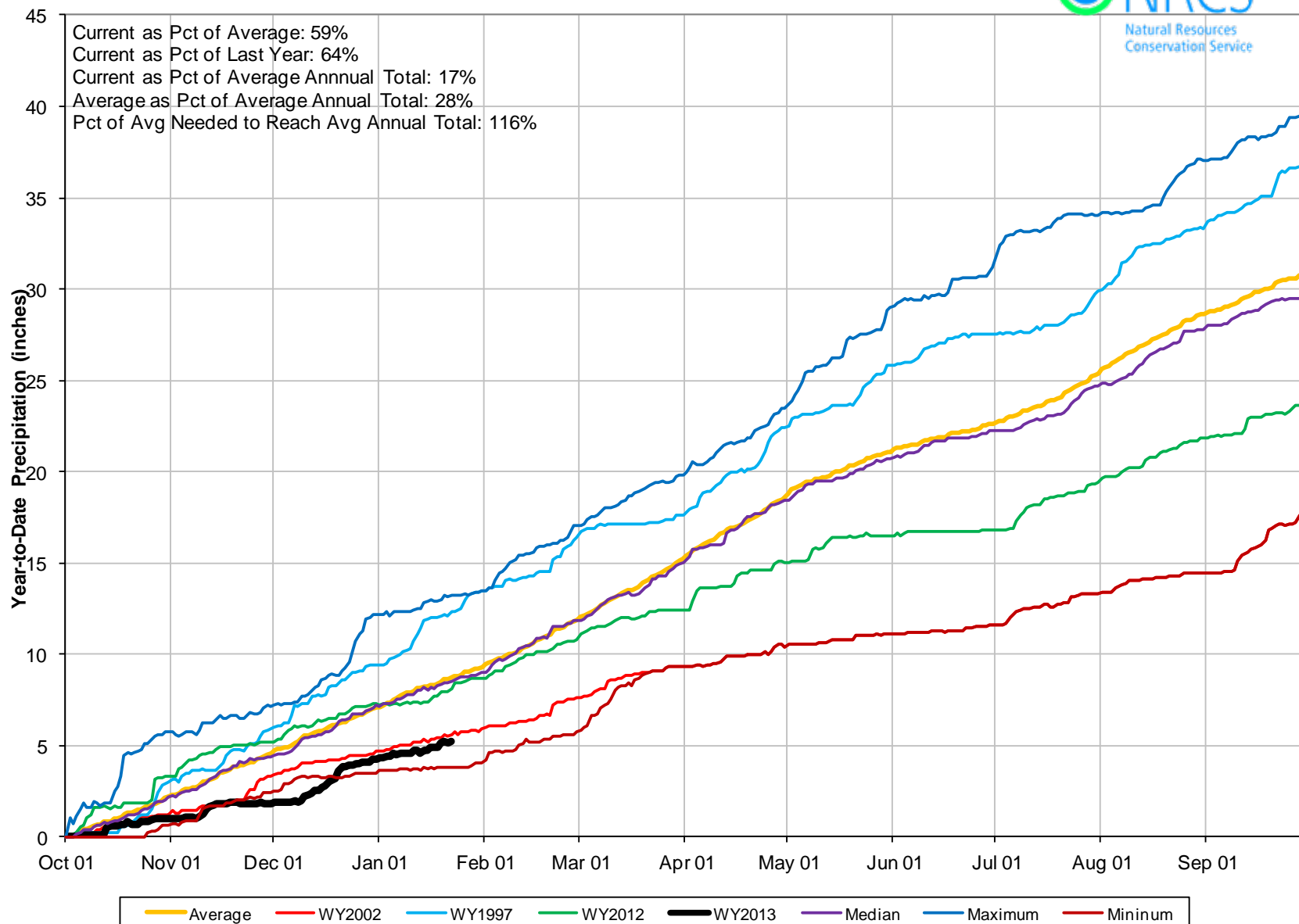
Current as of January 1, 2013

Arkansas River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 23, 2013

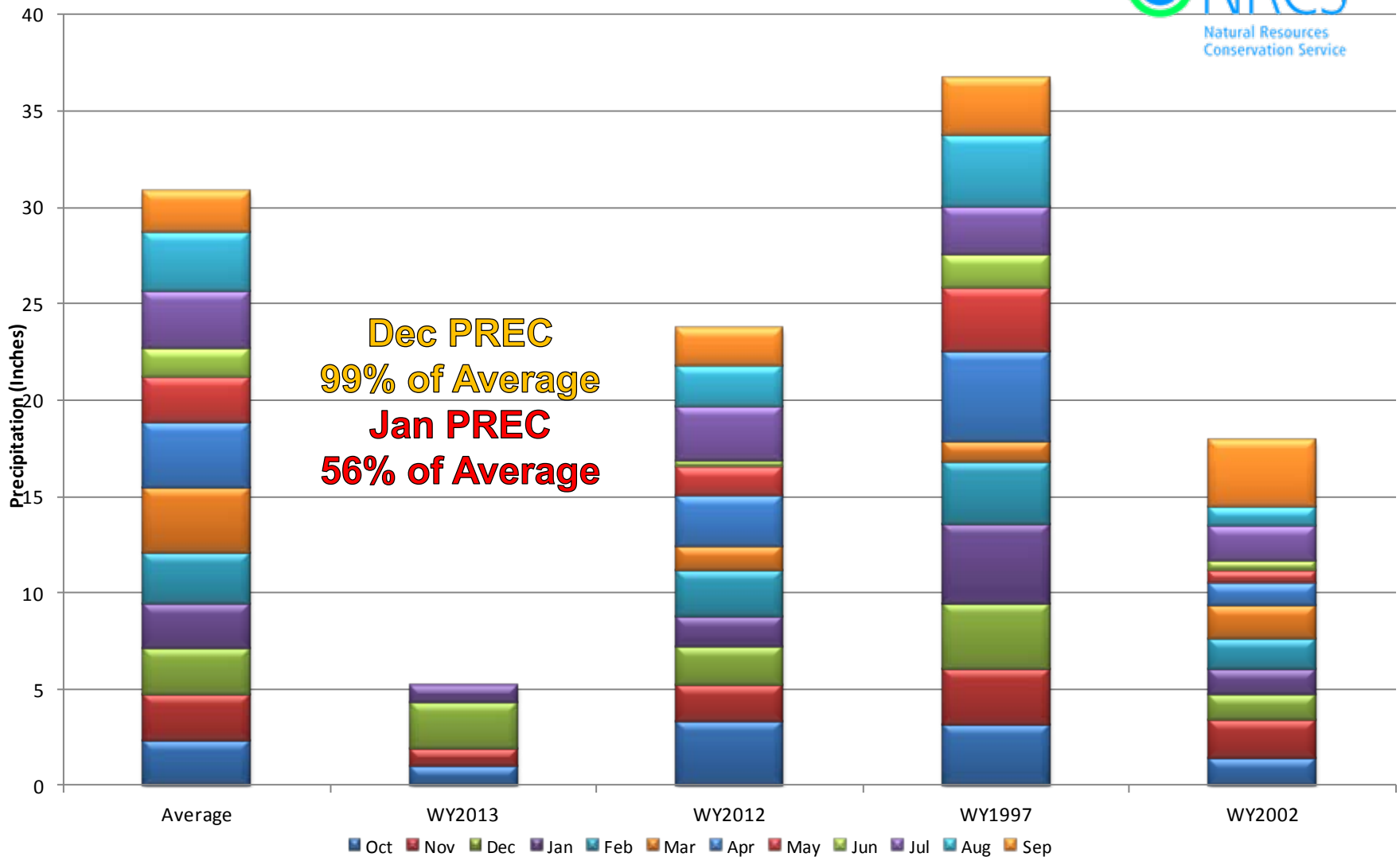


Based on Provisional SNOTEL data as of Jan 22, 2013



Arkansas River Basin High/Low Monthly Precipitation Summary

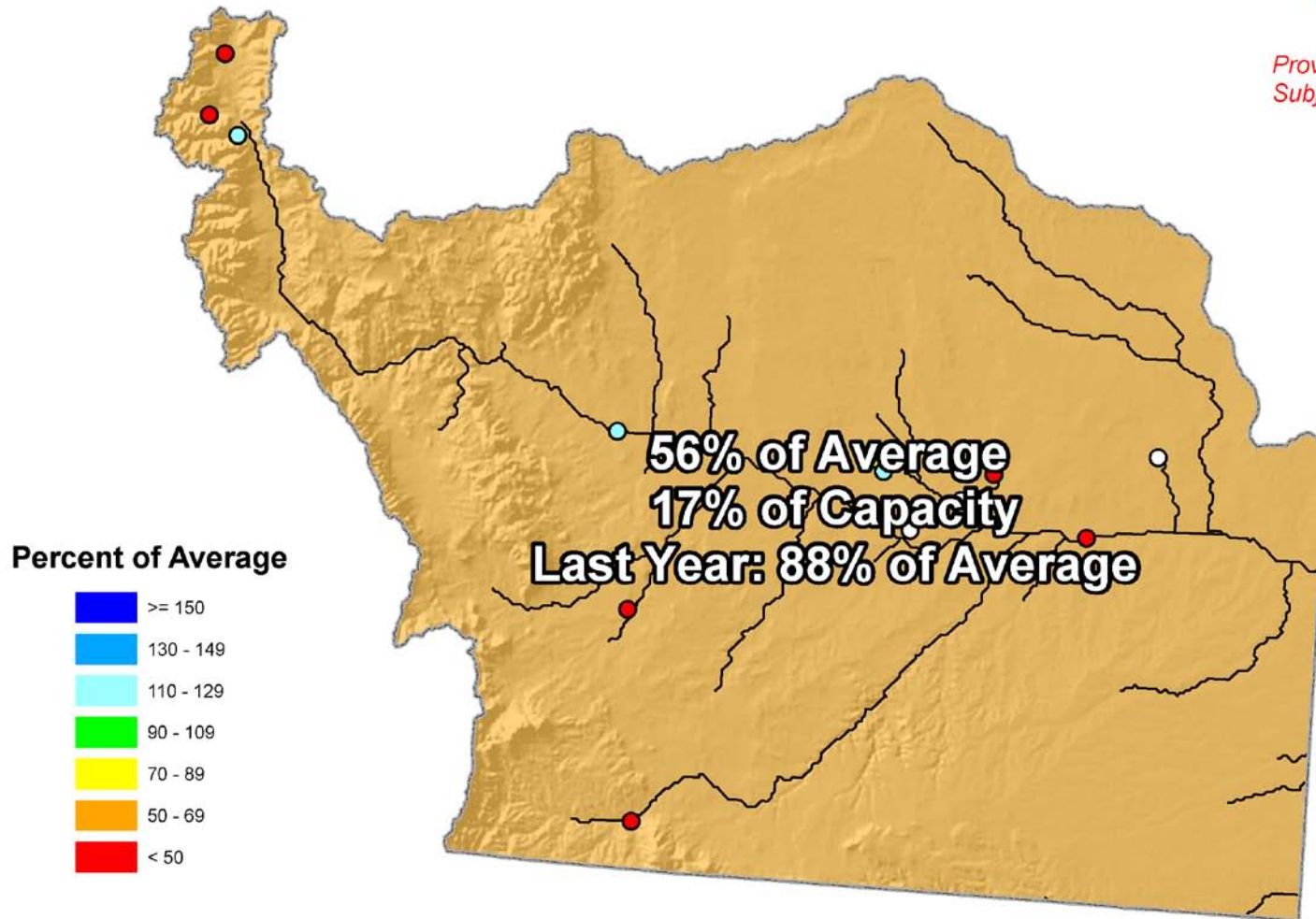
Based on Provisional SNOTEL data as of Jan 22, 2013



Arkansas River Basin Reservoir Storage Map



*Provisional Data
Subject to Revision*

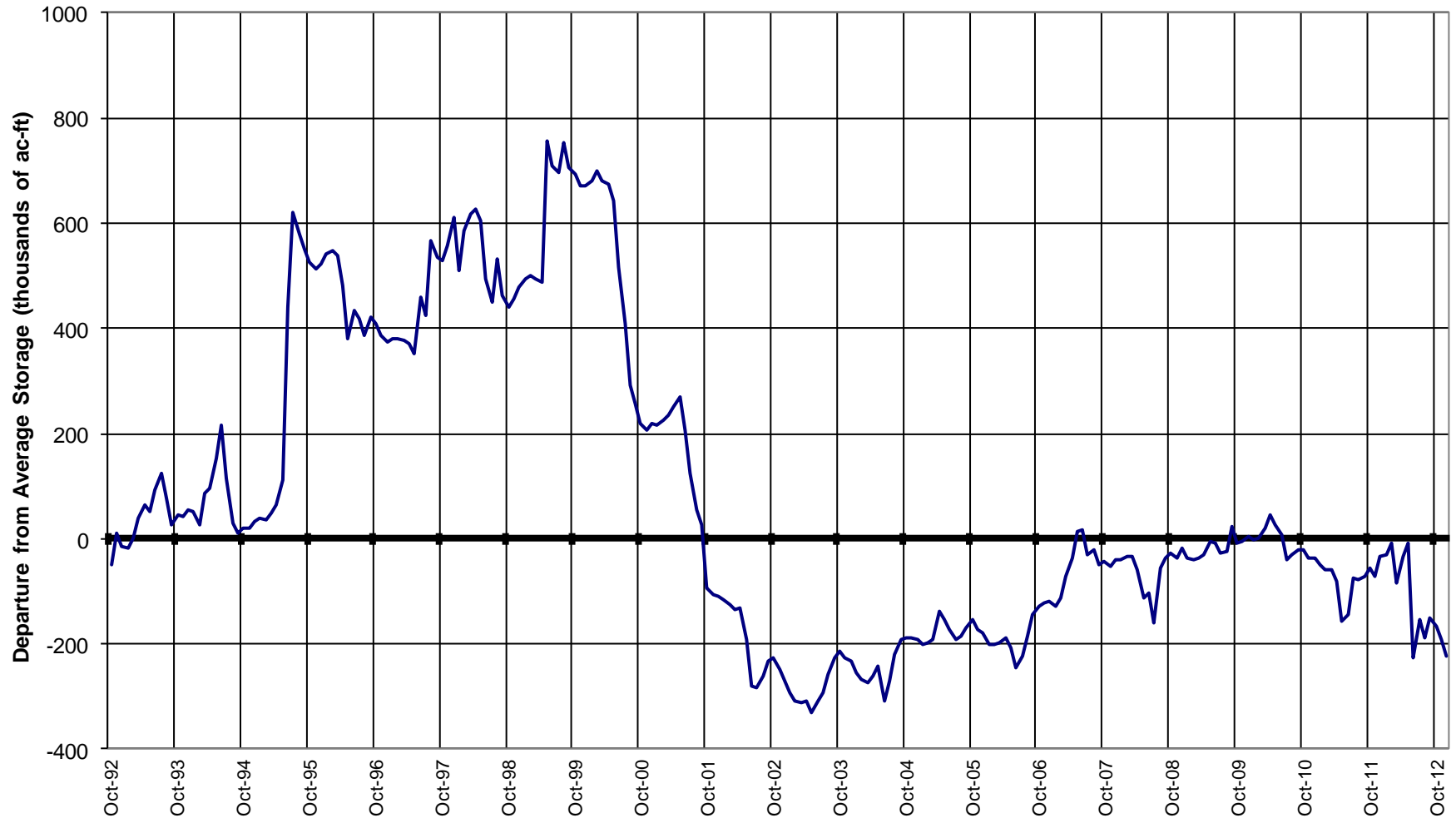


End of December 2012

ARKANSAS RIVER BASIN

Reservoir Storage

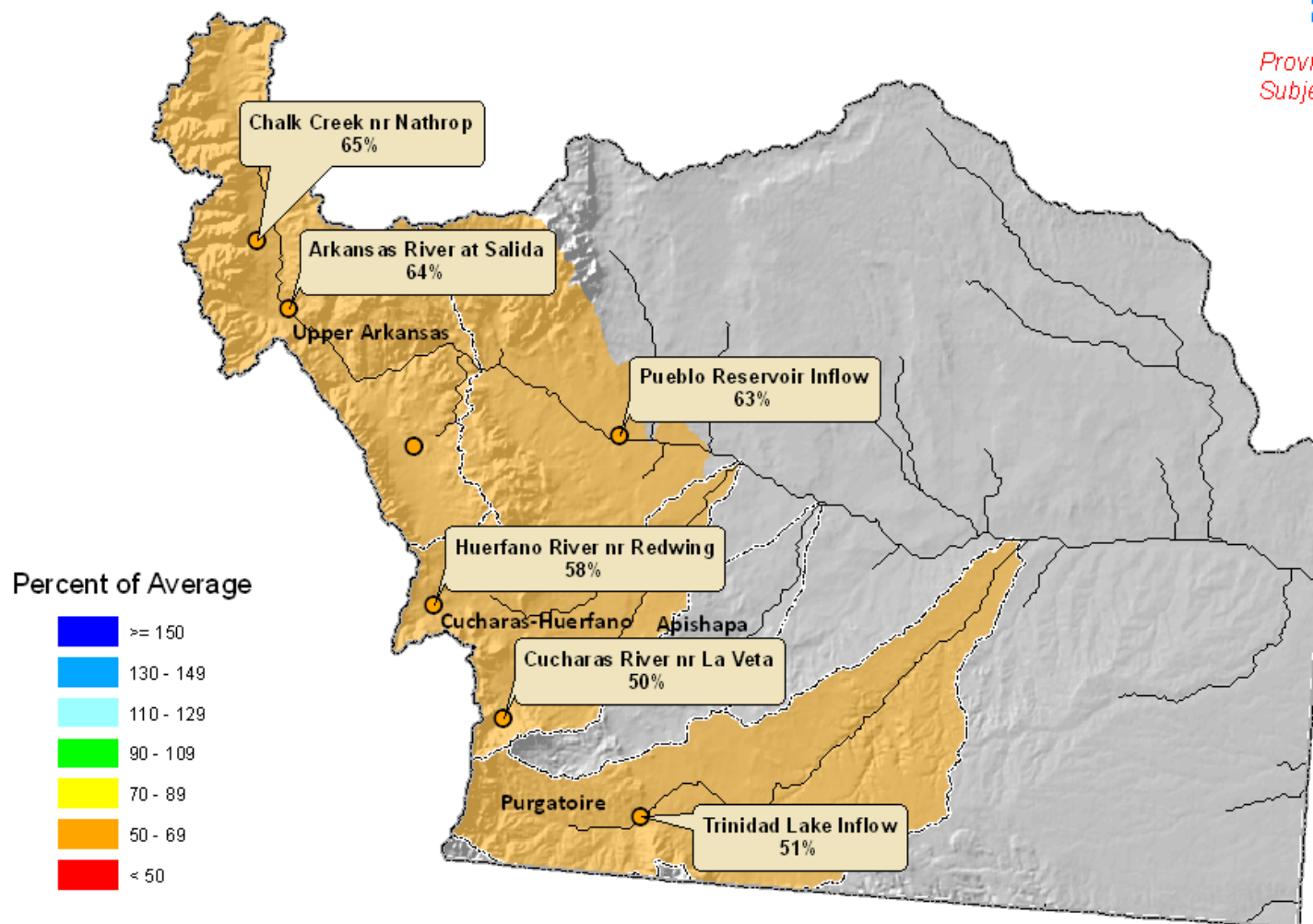
Departure from Average



Arkansas River Basin Streamflow Forecast Map

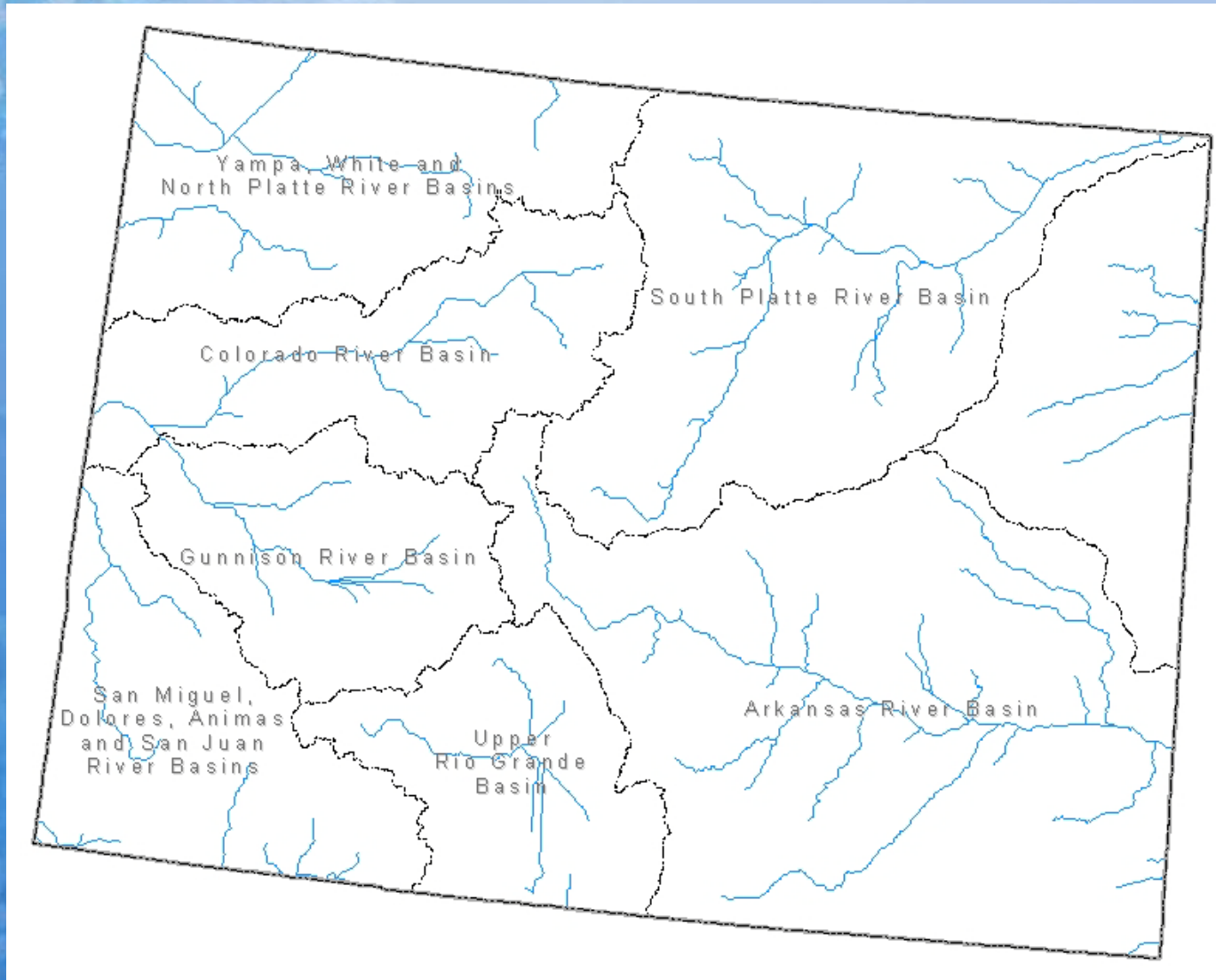


*Provisional Data
Subject to Revision*



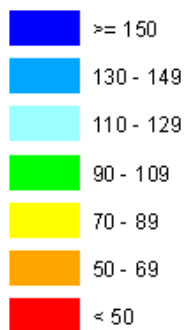
Current as of January 1, 2013

Colorado Statewide Summary

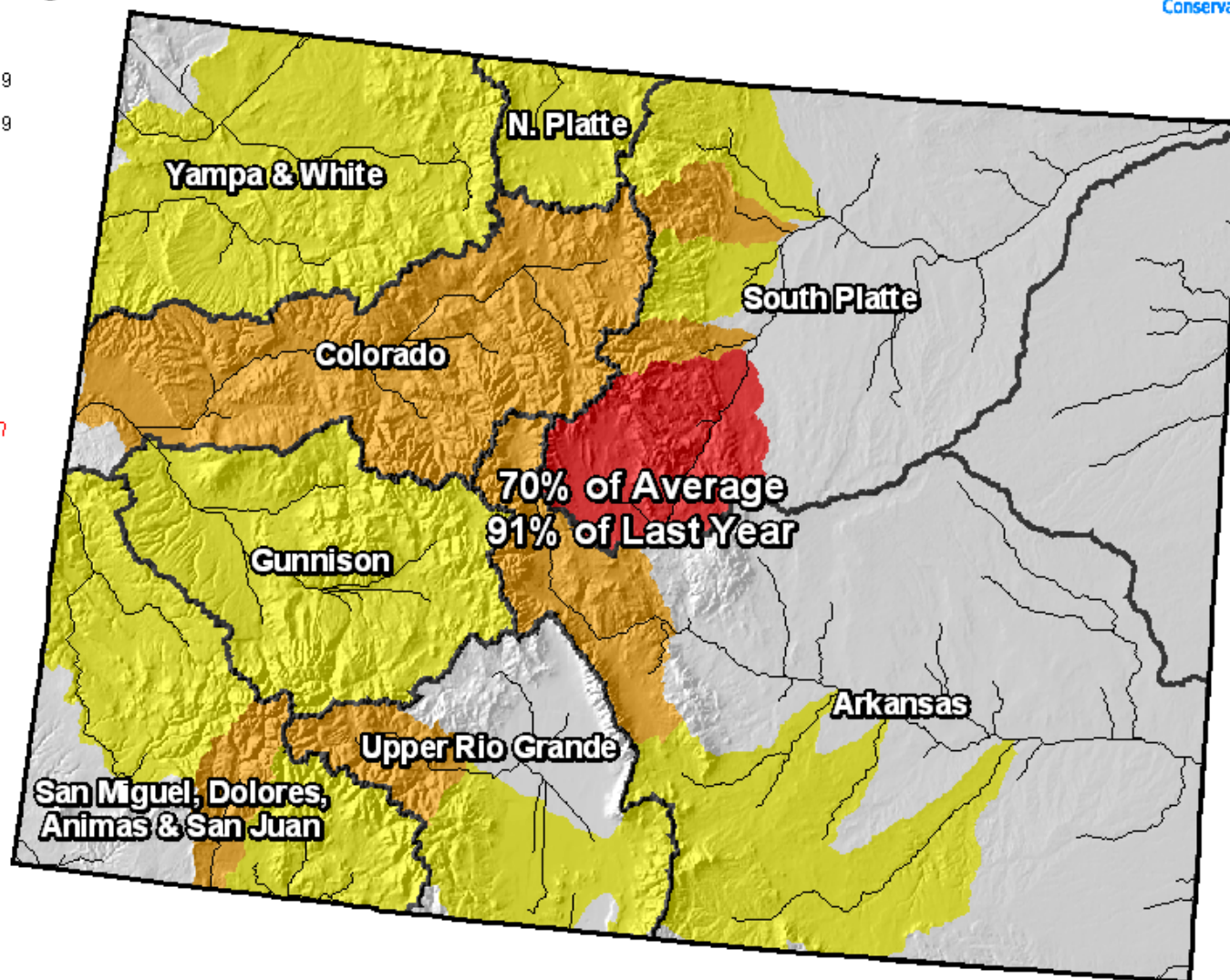


Colorado Snowpack Map

Percent of Average



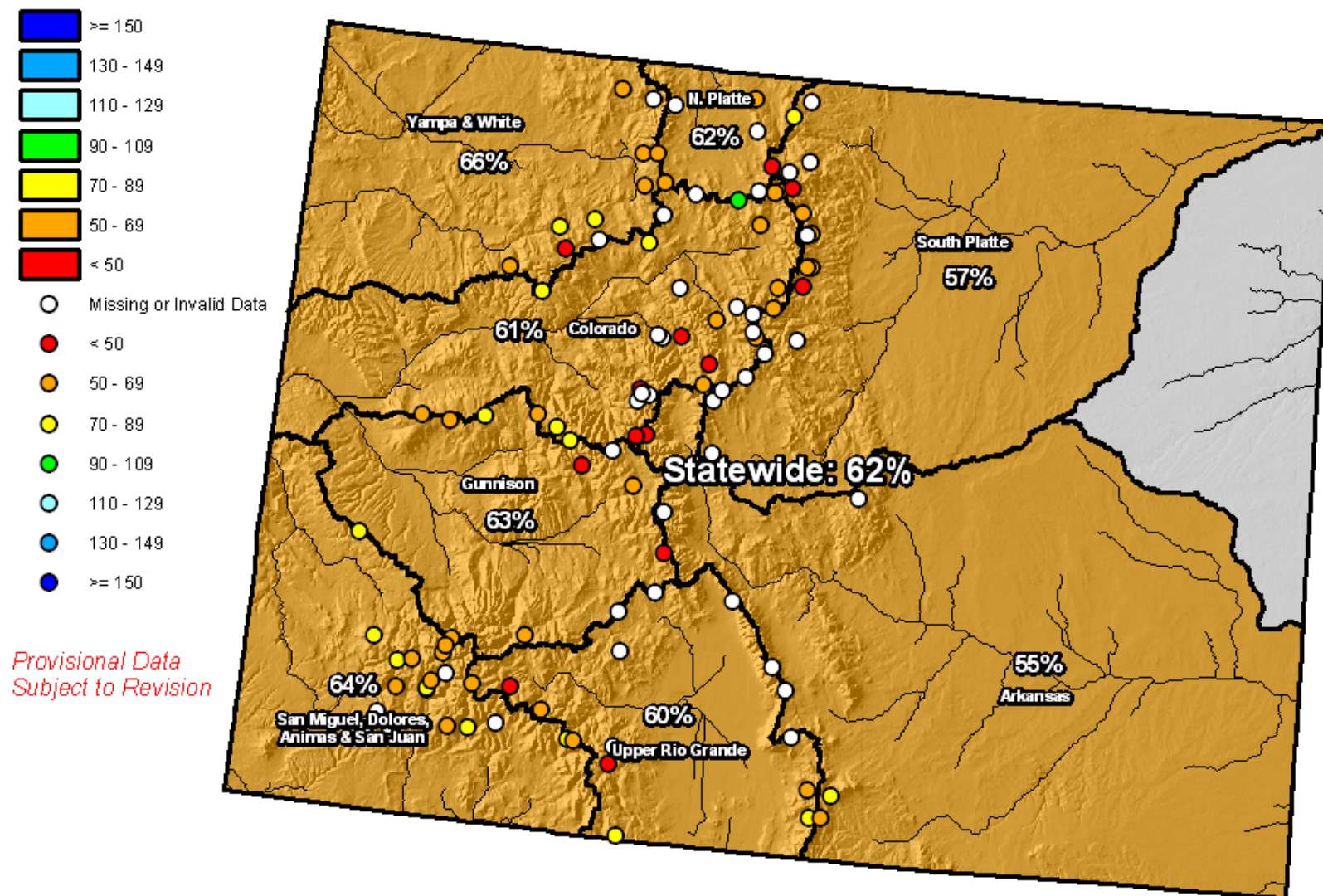
*Provisional Data
Subject to Revision*



Current as of January 1, 2013

Colorado SNOTEL Snowpack Update Map with Site Data

Percent of Average

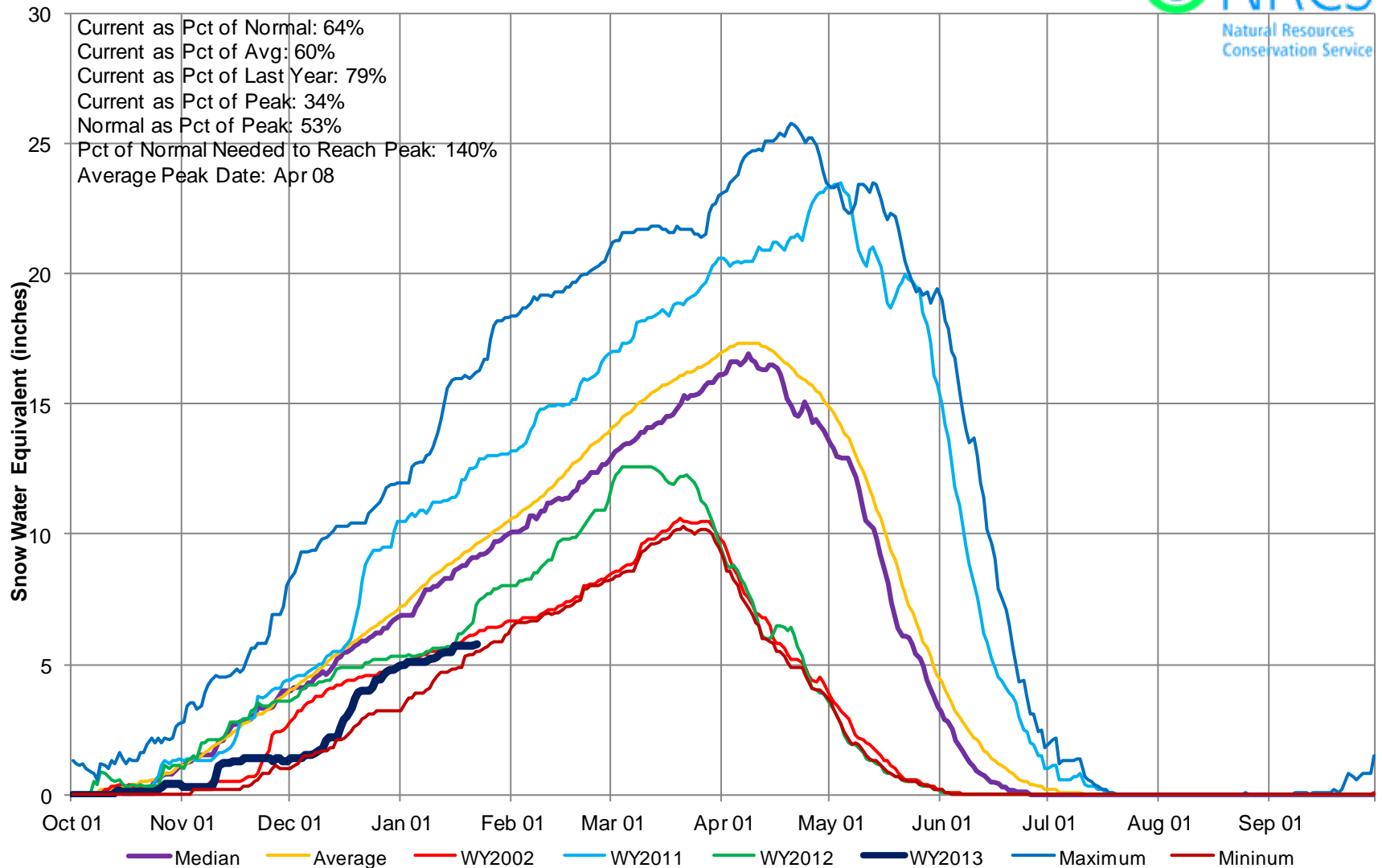


Current as of Jan 22, 2013

*Data may not provide a valid measure of conditions

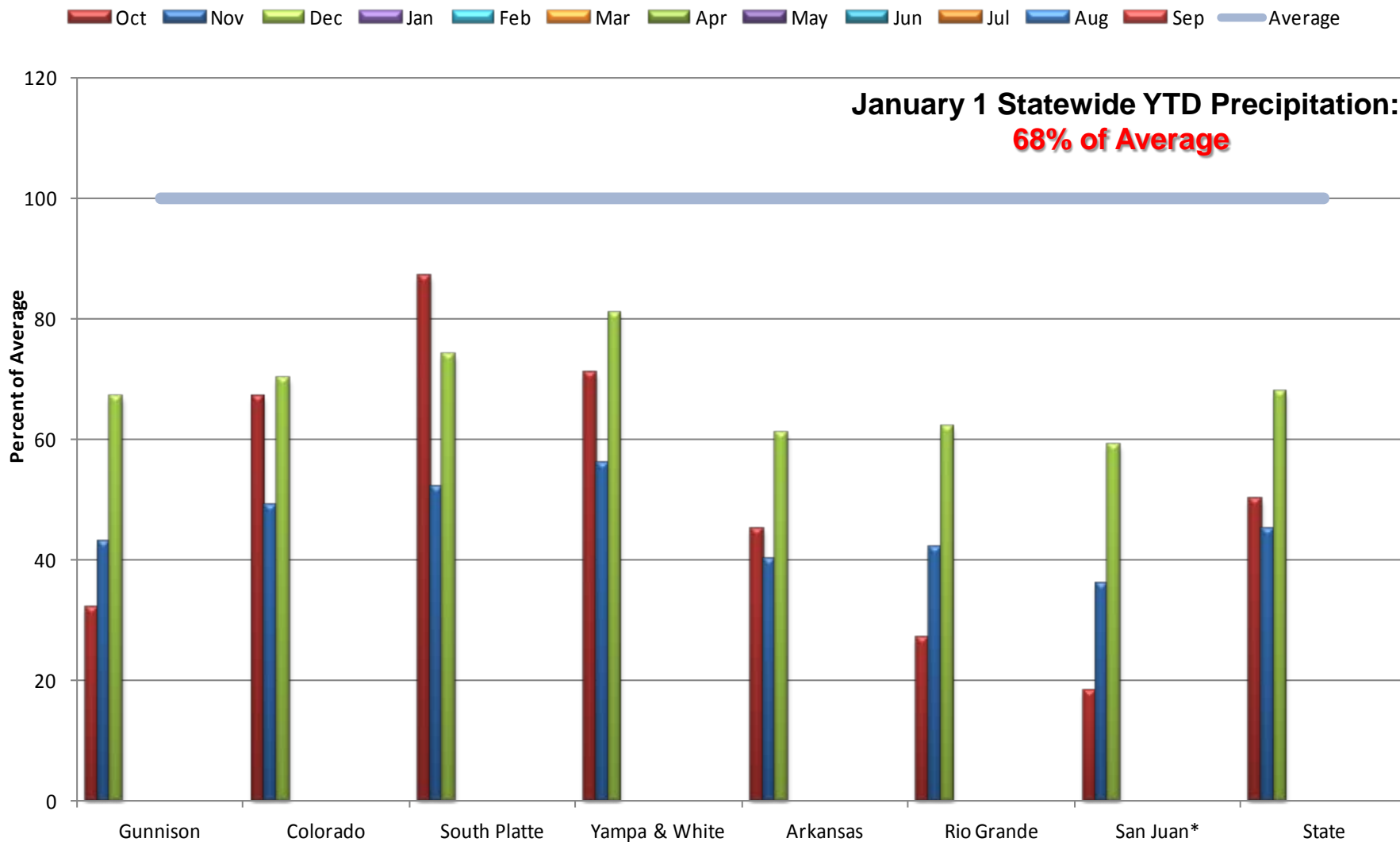
Colorado State-Wide High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Jan 22, 2013



Colorado Year-to-Date Precipitation Summary for WY2013

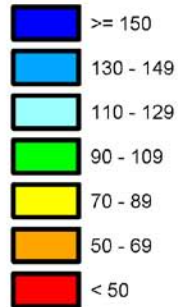
USDA Natural Resources Conservation Service



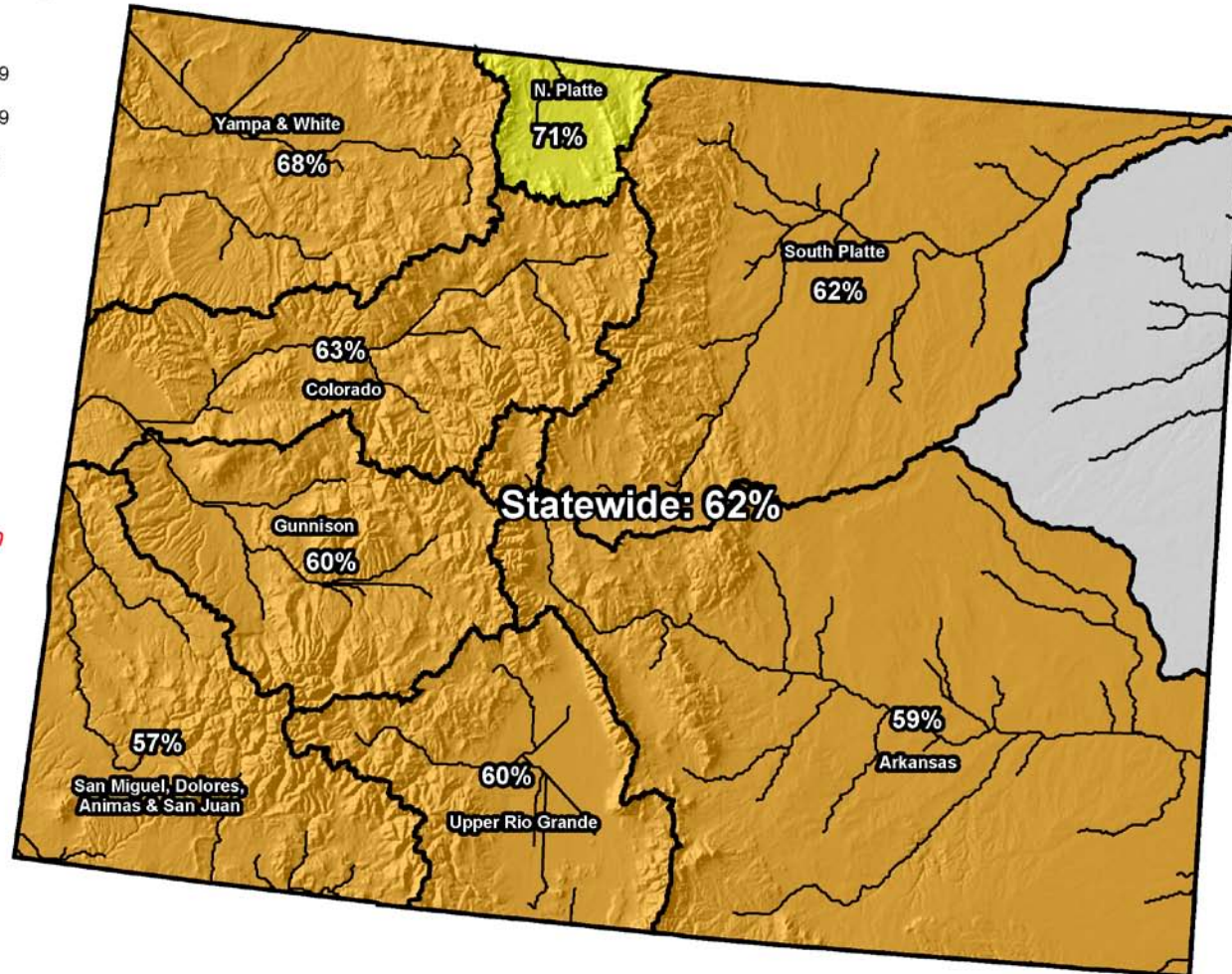
*Includes Animas, Dolores, San Miguel Basins

Colorado SNOTEL Water Year-to-Date Precipitation Update Map

Percent of Average



*Provisional Data
Subject to Revision*



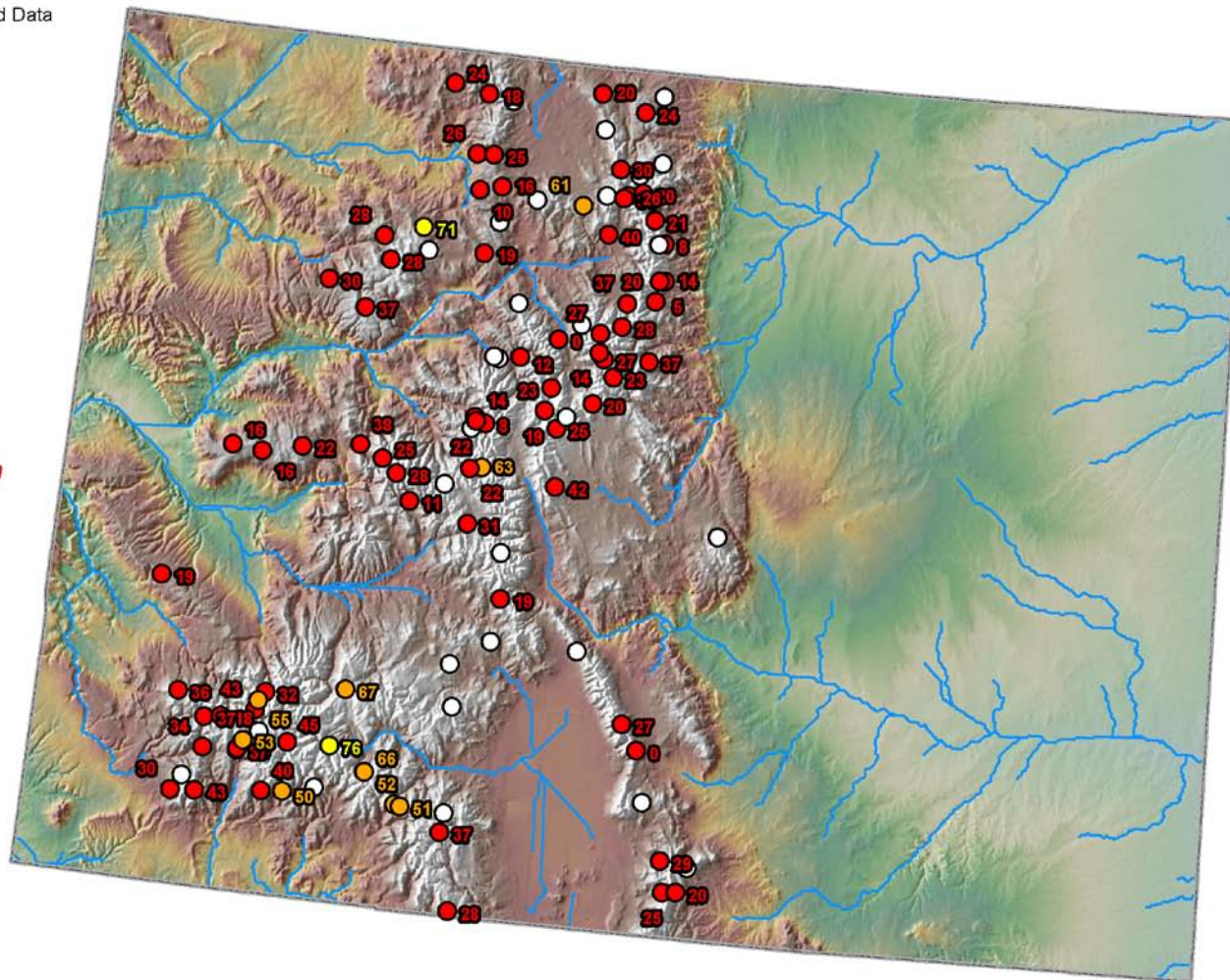
Current as of Jan 22, 2013

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*



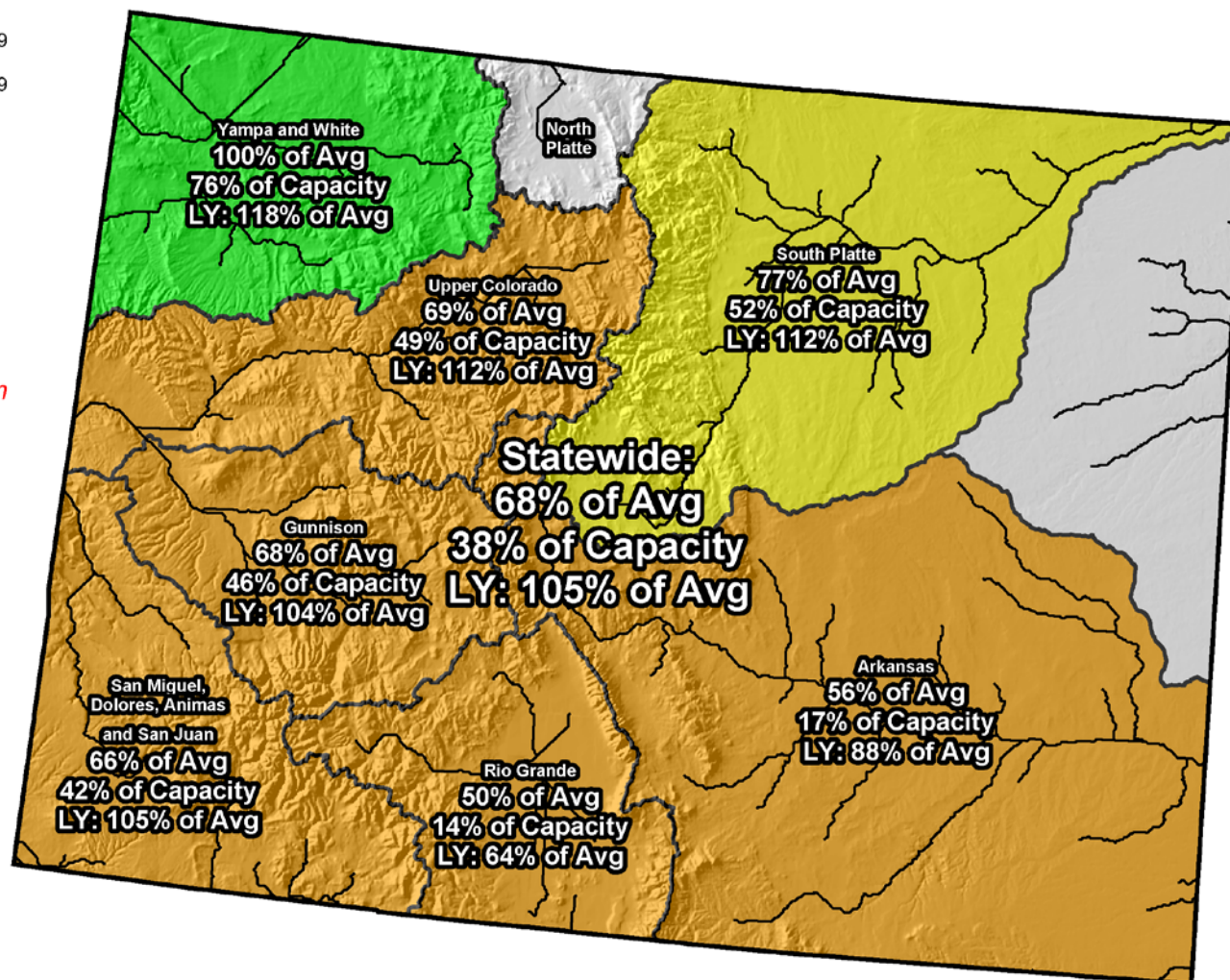
Current as of Jan 22, 2013

Colorado Reservoir Storage Map

Percent of Average



*Provisional Data
Subject to Revision*



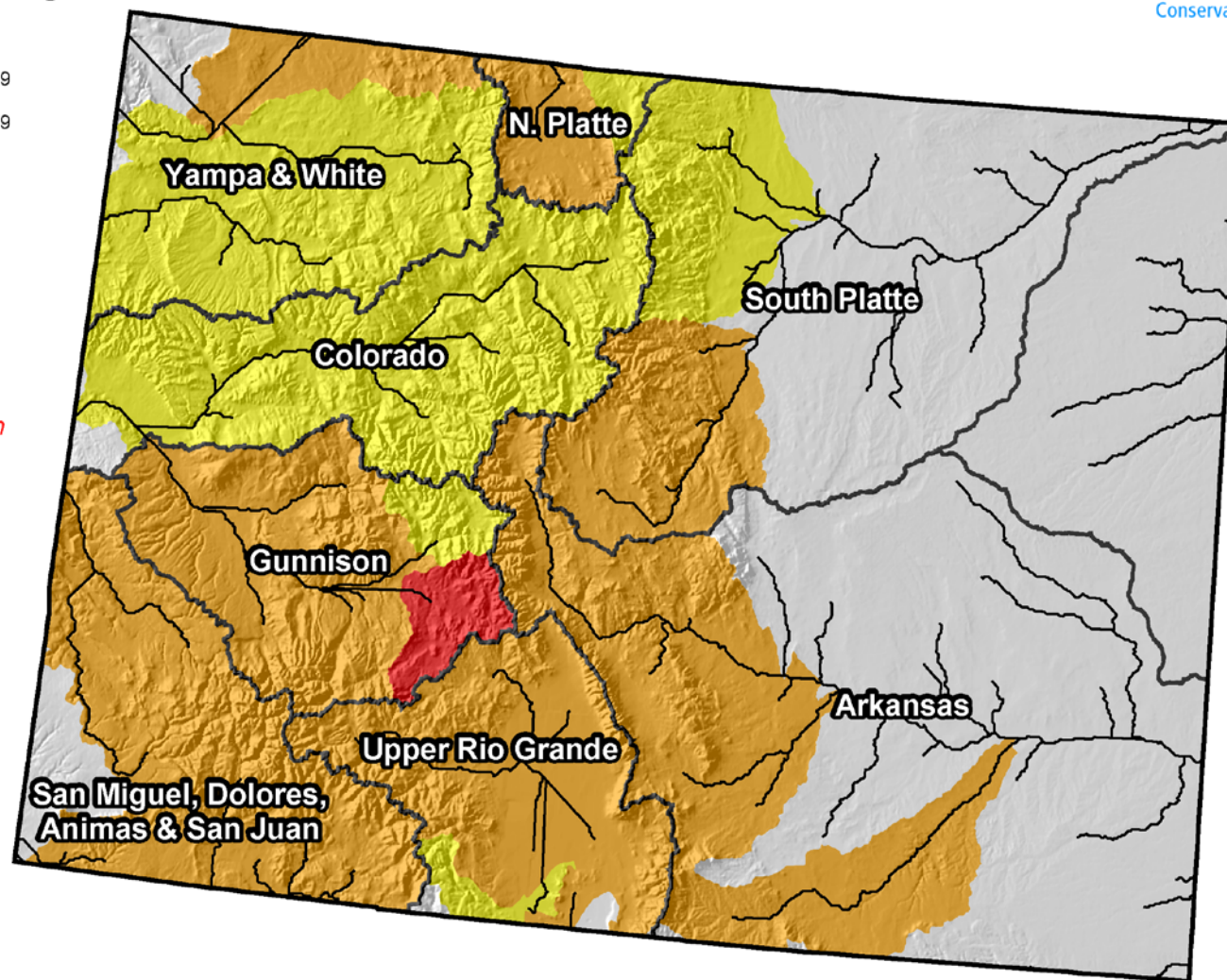
End of December 2012

Colorado Streamflow Forecast Map

Percent of Average

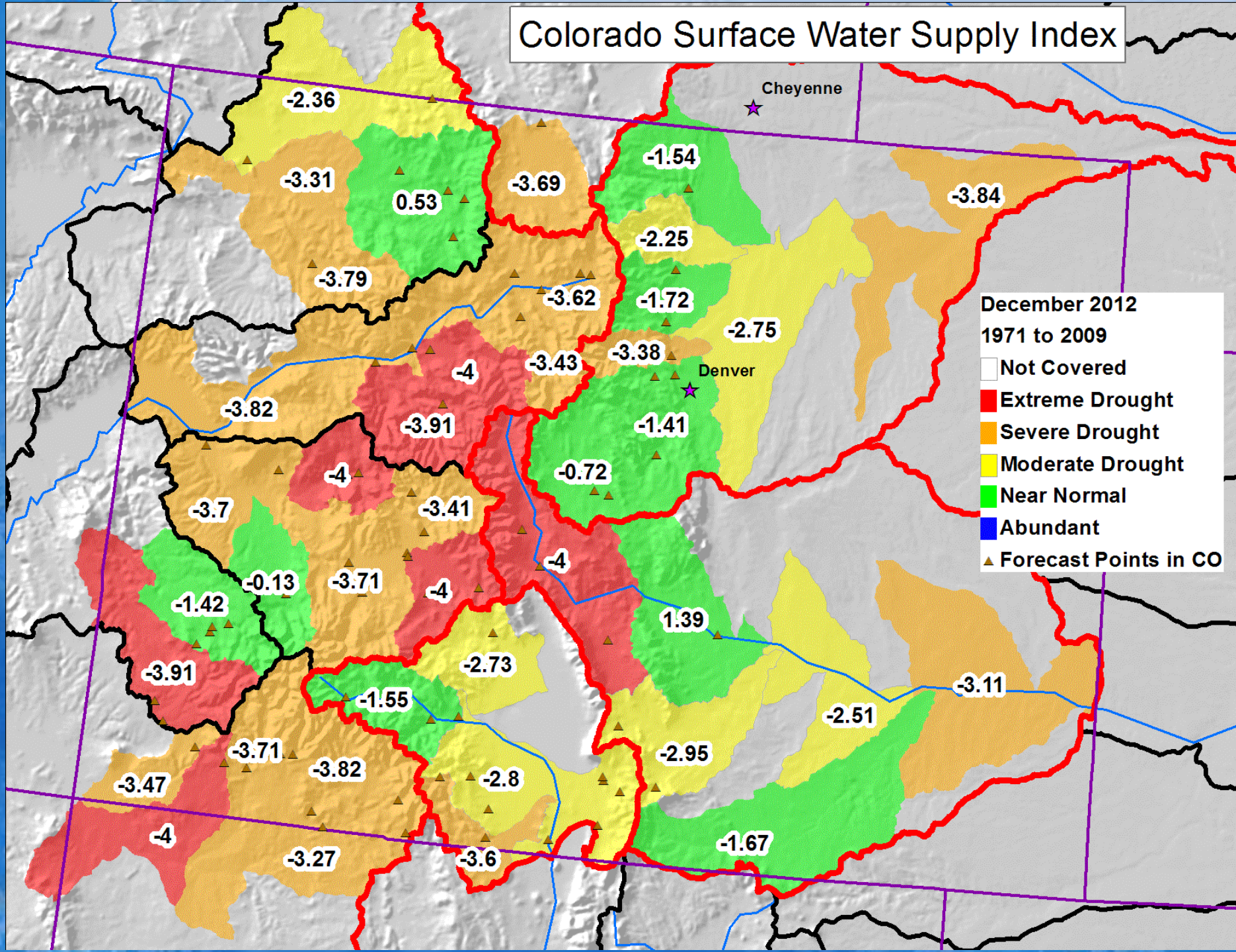


*Provisional Data
Subject to Revision*

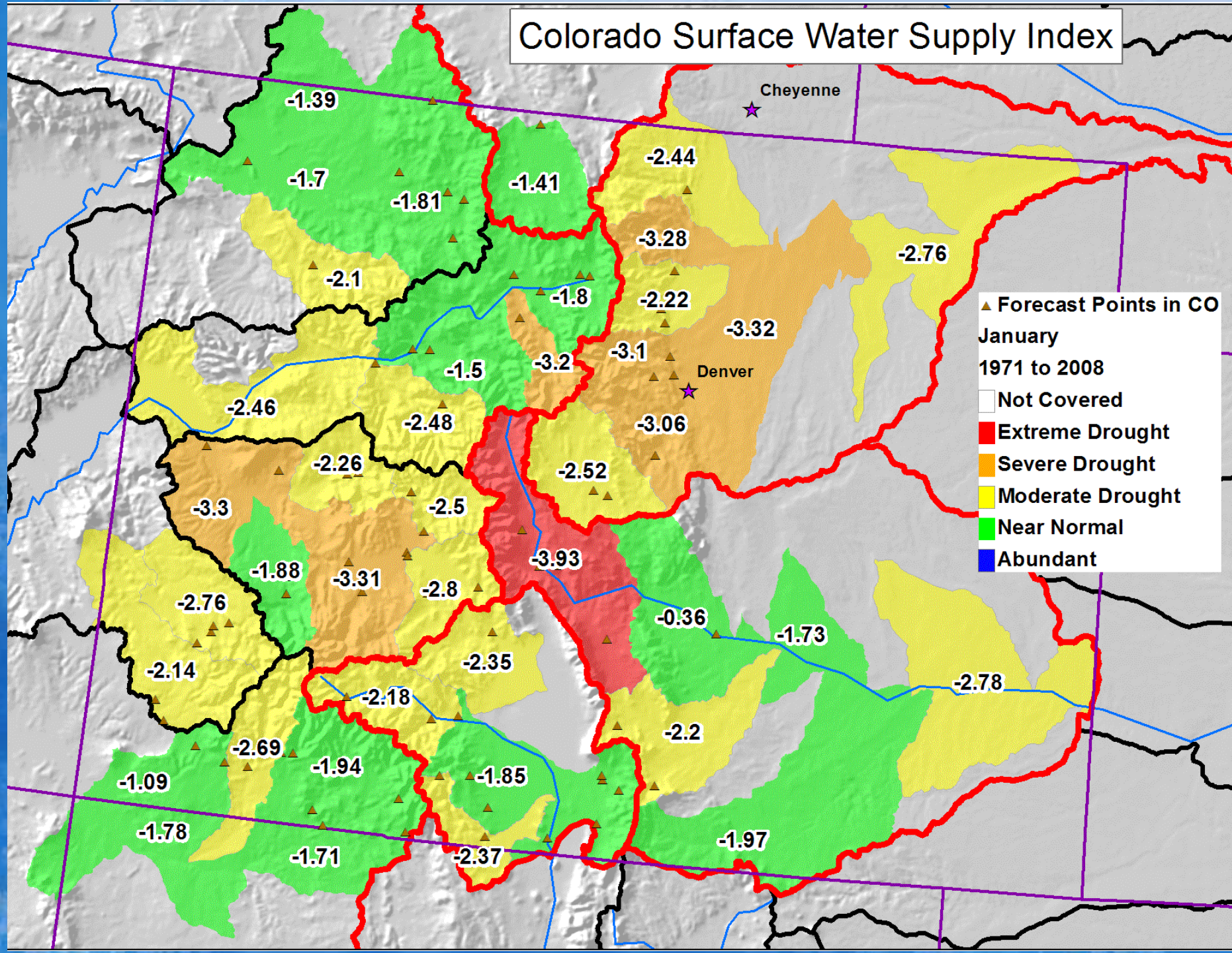


Current as of January 1, 2013

Colorado Surface Water Supply Index



Colorado Surface Water Supply Index



Notes on the January SWSI

- SWSI inputs switch in January from reservoir storage and observed streamflow to reservoir storage and streamflow forecasts.
- Most of the HUC's in the Near Normal category are negative and on the boundary of the next lower classification.
- The Arkansas Headwaters HUC that is nearly negative 4 is reporting reservoir storage at the lowest end of the historical probability distribution (it includes Homestake).
- All HUC's will most likely become more negative in the Feb 1 SWSI as forecasts will reflect dry conditions in January.

WY2013 Summary

- OCT: Began WY with below normal mountain precipitation and SWE. Statewide SWE was only 28% of normal on November 1.
- NOV: Overall Nov ended up being drier, compared to normal, than Oct. Going into Dec all basins had VERY low snowpack's. Statewide SWE on Dec 1 was just 34% of normal!
- DEC: SNOW! Finally. Storms in mid to late Dec boosted snowpack but it was not enough to reach normal conditions. By January 1 snowpack was 70% of normal.
- JAN: Very little snow or prec. Southern basins have the highest PREC percentages so far. All basins snowpack's percentages have dropped since Jan 1.