

NRCS – Snow Survey & Water Supply Forecasting

Water Availability Task Force Meeting November 21st, 2013

Mage Hultstrand

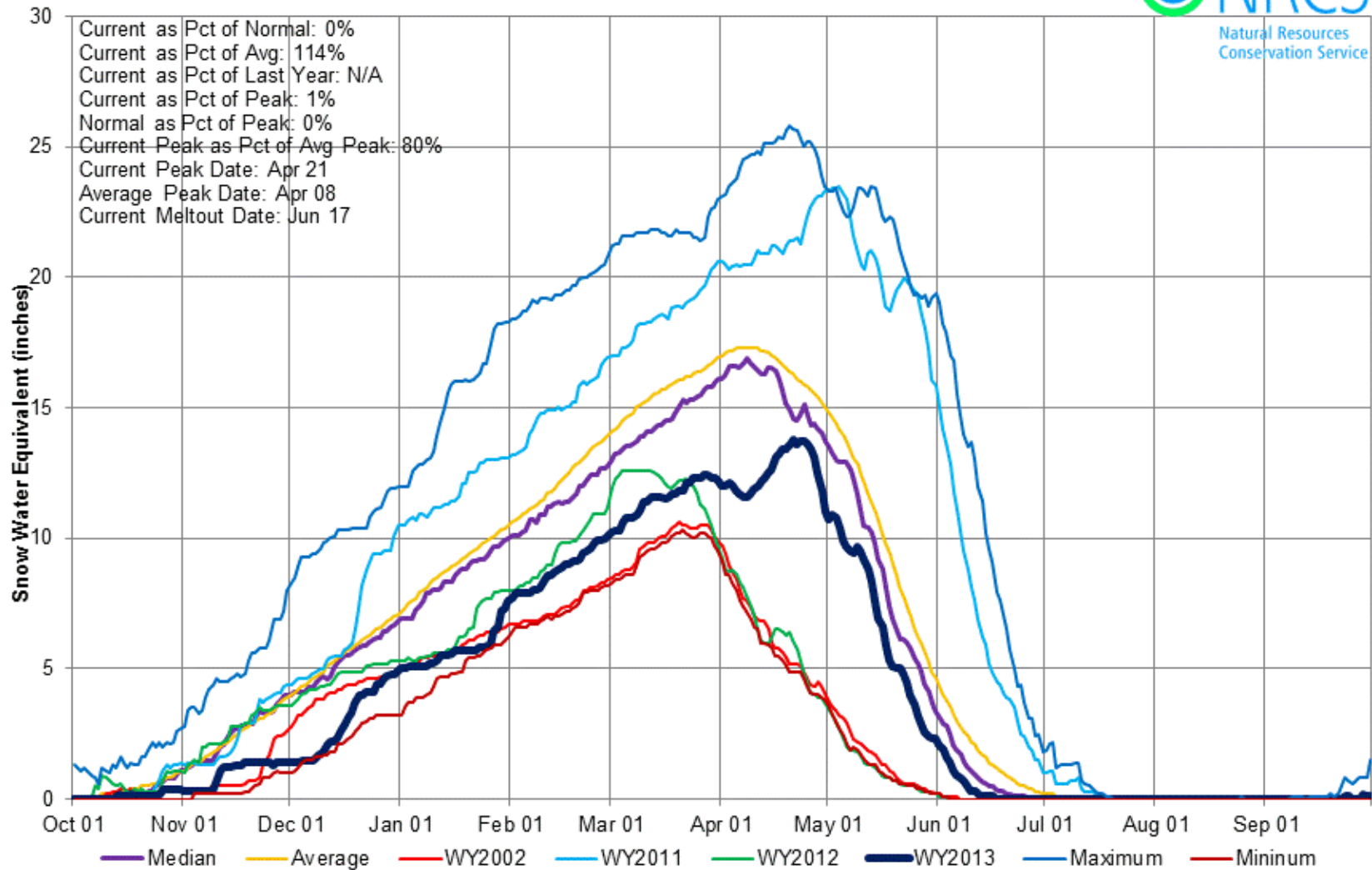
Assistant Snow Survey Supervisor

720-544-2855

mage.hultstrand@co.usda.gov

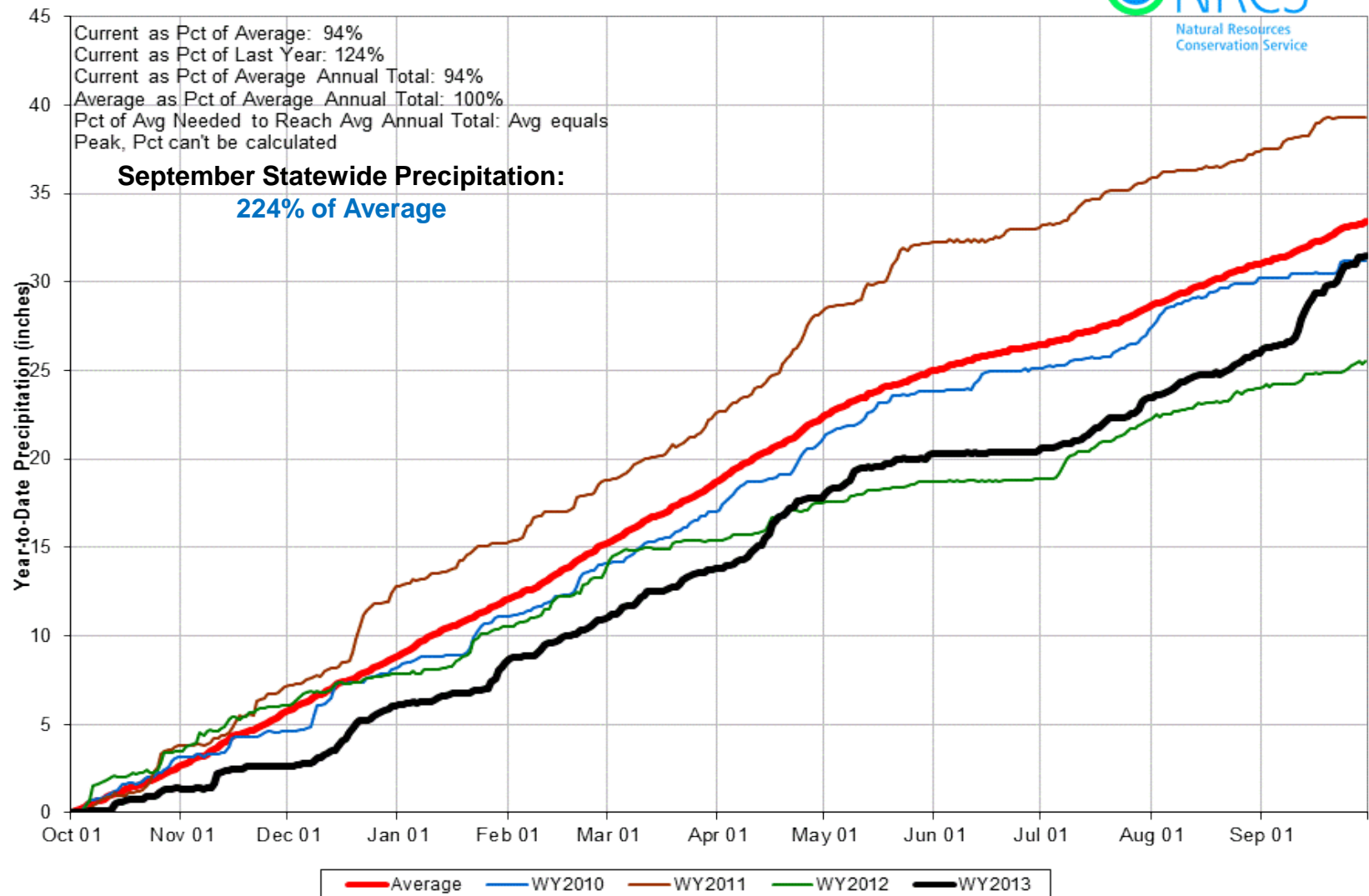
<http://www.co.nrcs.usda.gov/snow/>

Based on Provisional SNOTEL data as of Sep 30, 2013

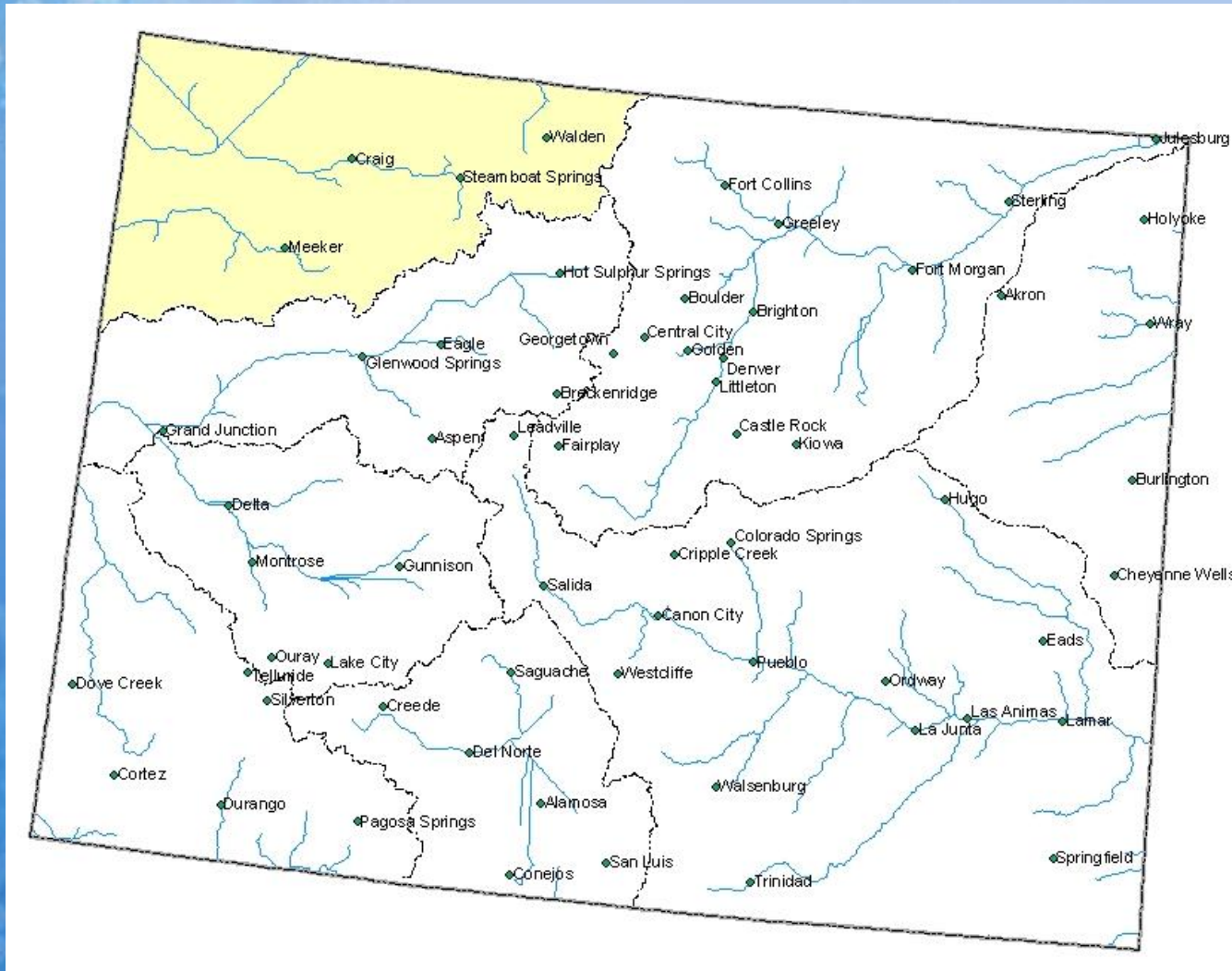


Colorado Statewide Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Sep 30, 2013

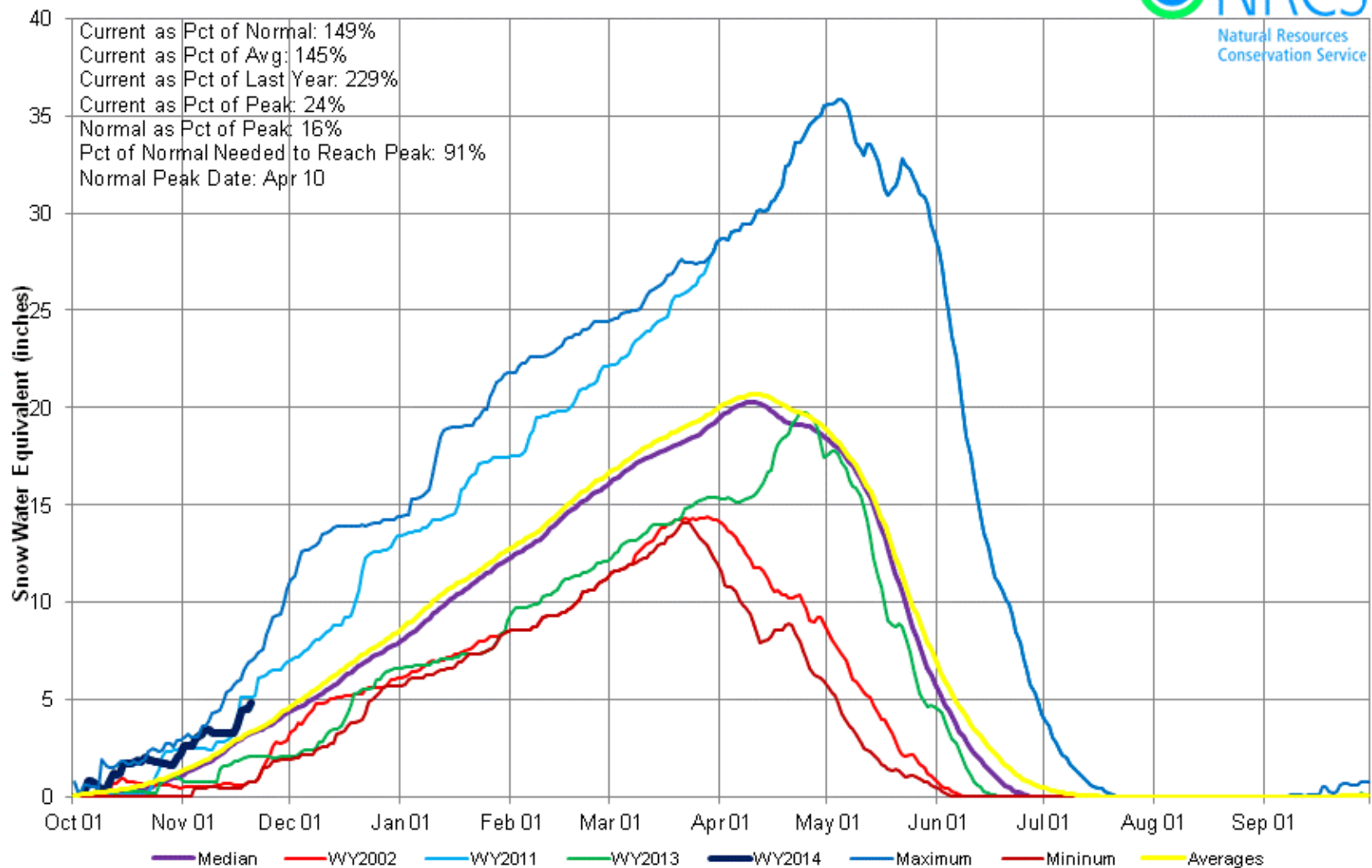


Yampa, White & North Platte River Basins Summary

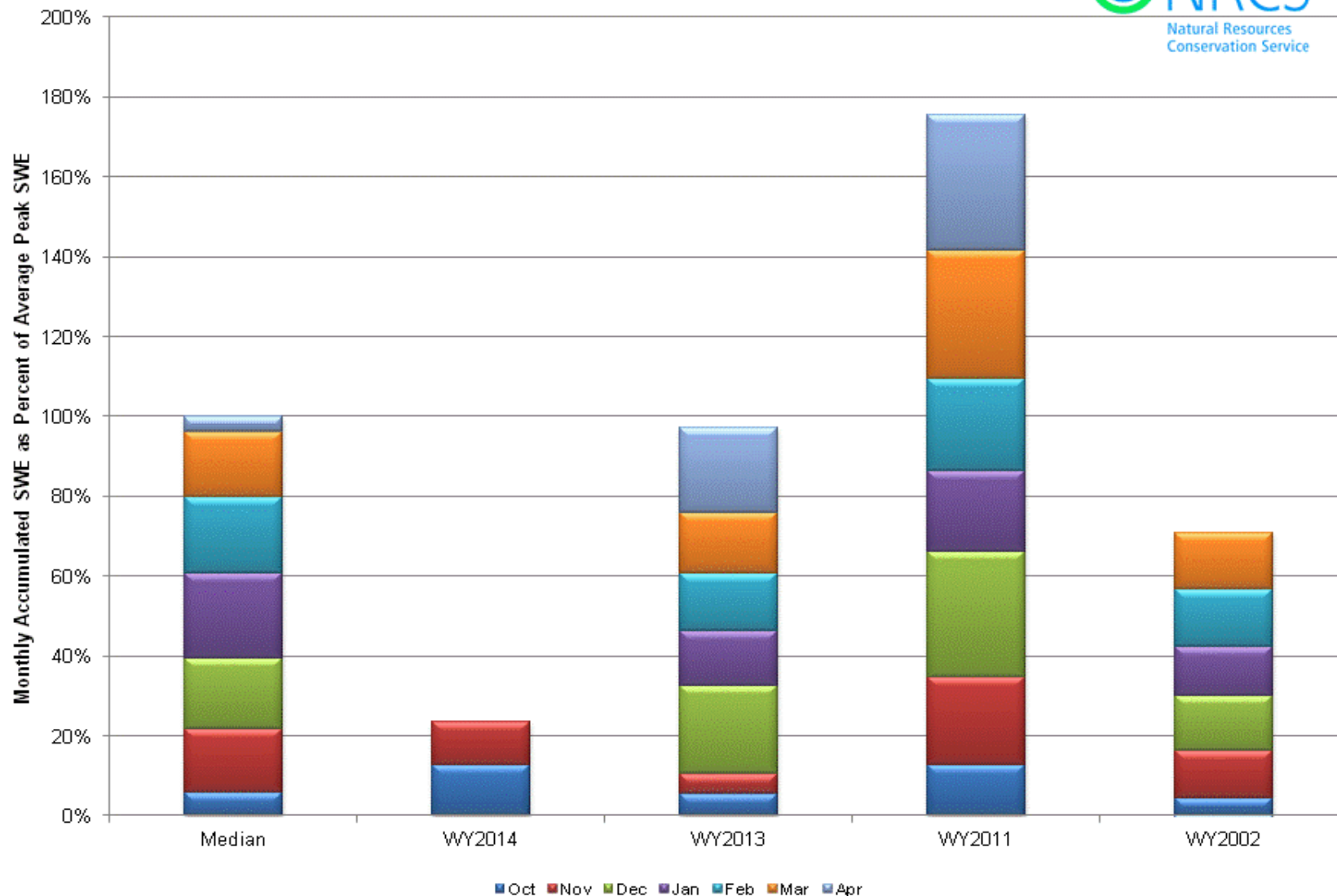


Yampa, White & North Platte River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013

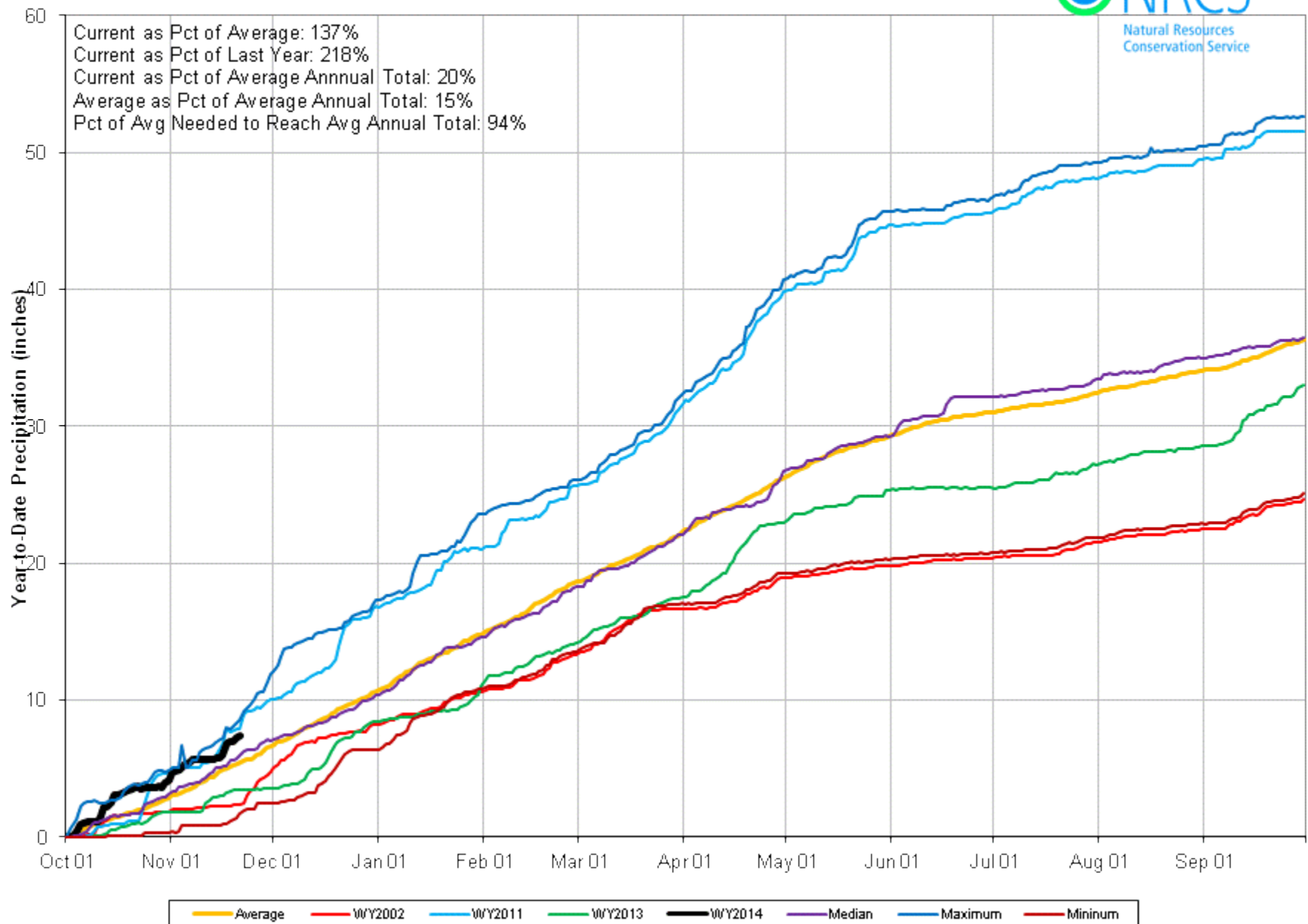


Yampa, White & North Platte River Basins
High/Low Monthly Snowpack Summary
Based on Provisional SNOTEL data as of Nov 20, 2013



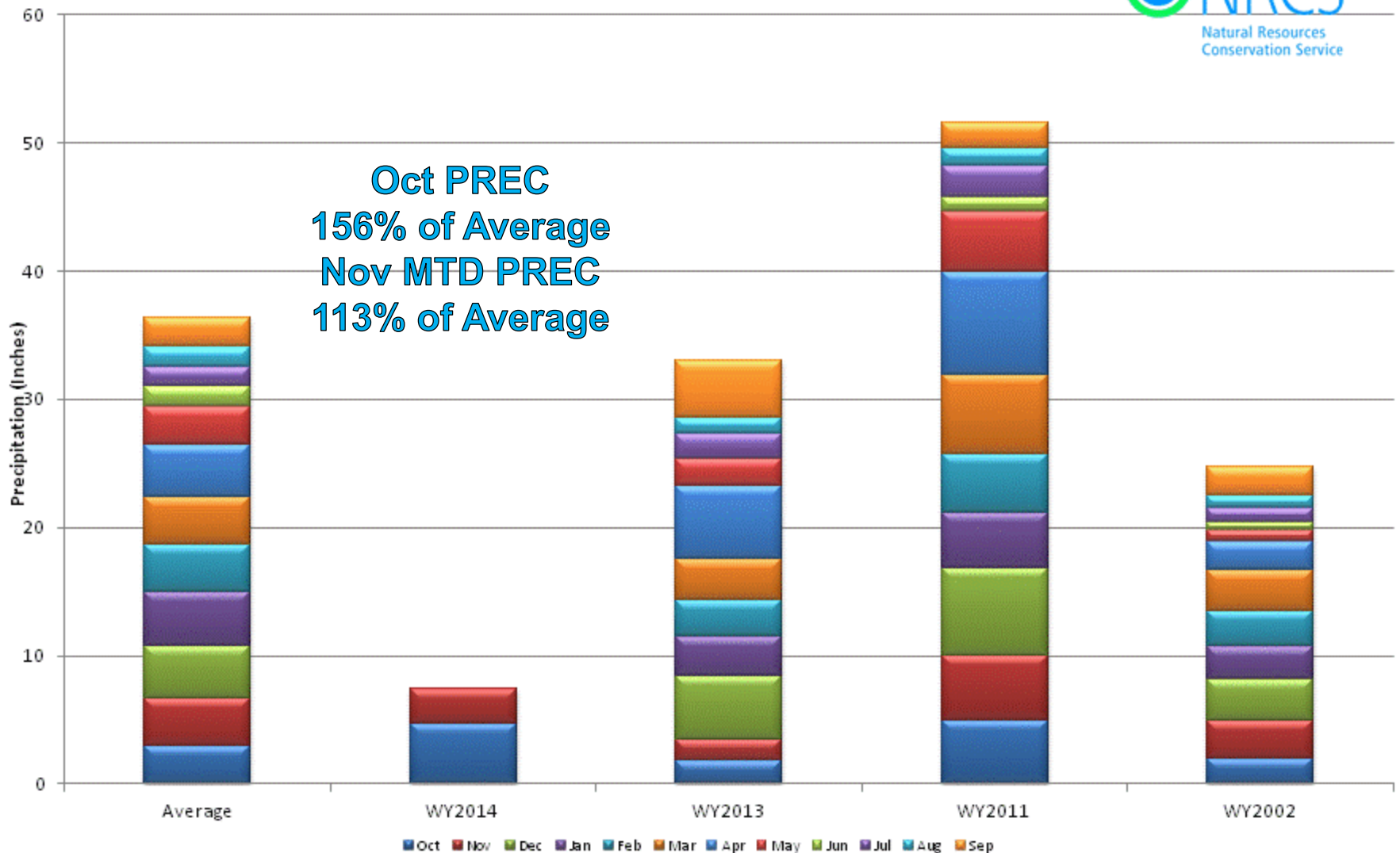
Yampa and White River Basins High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013



Yampa and White River Basins High/Low Monthly Precipitation Summary

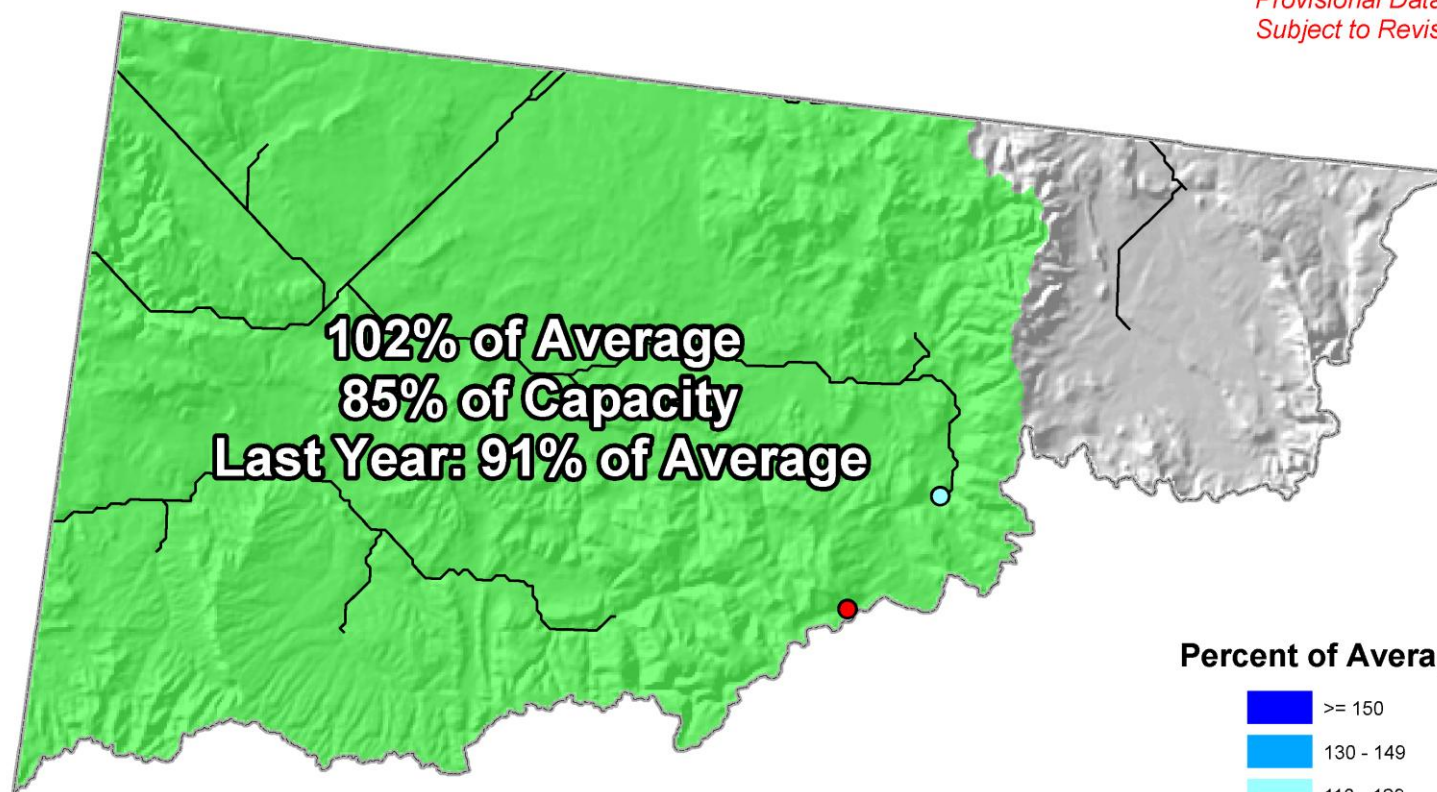
Based on Provisional SNOTEL data as of Nov 21, 2013



Yampa & White River Basins Reservoir Storage Map



*Provisional Data
Subject to Revision*

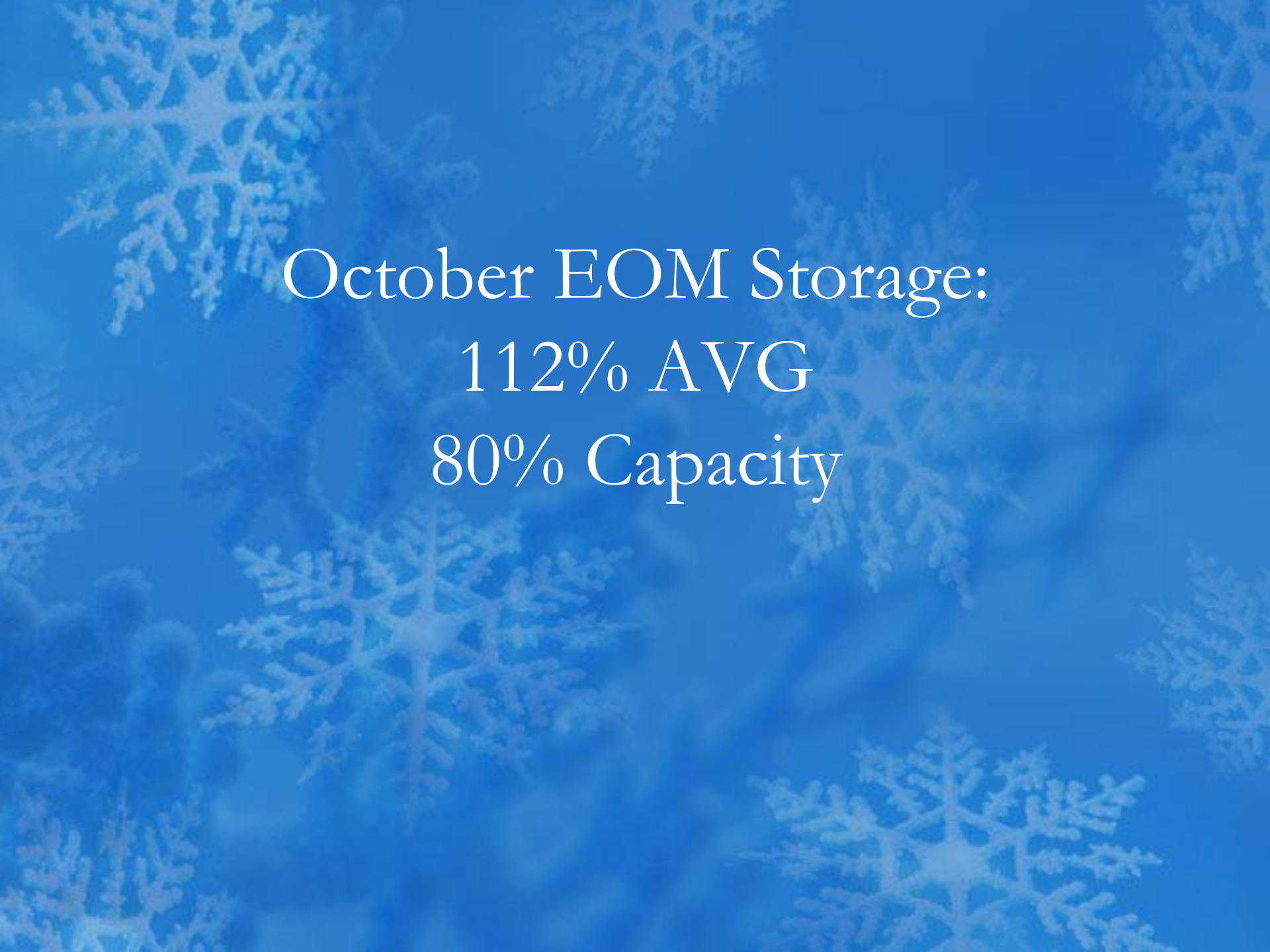


**102% of Average
85% of Capacity
Last Year: 91% of Average**

Percent of Average

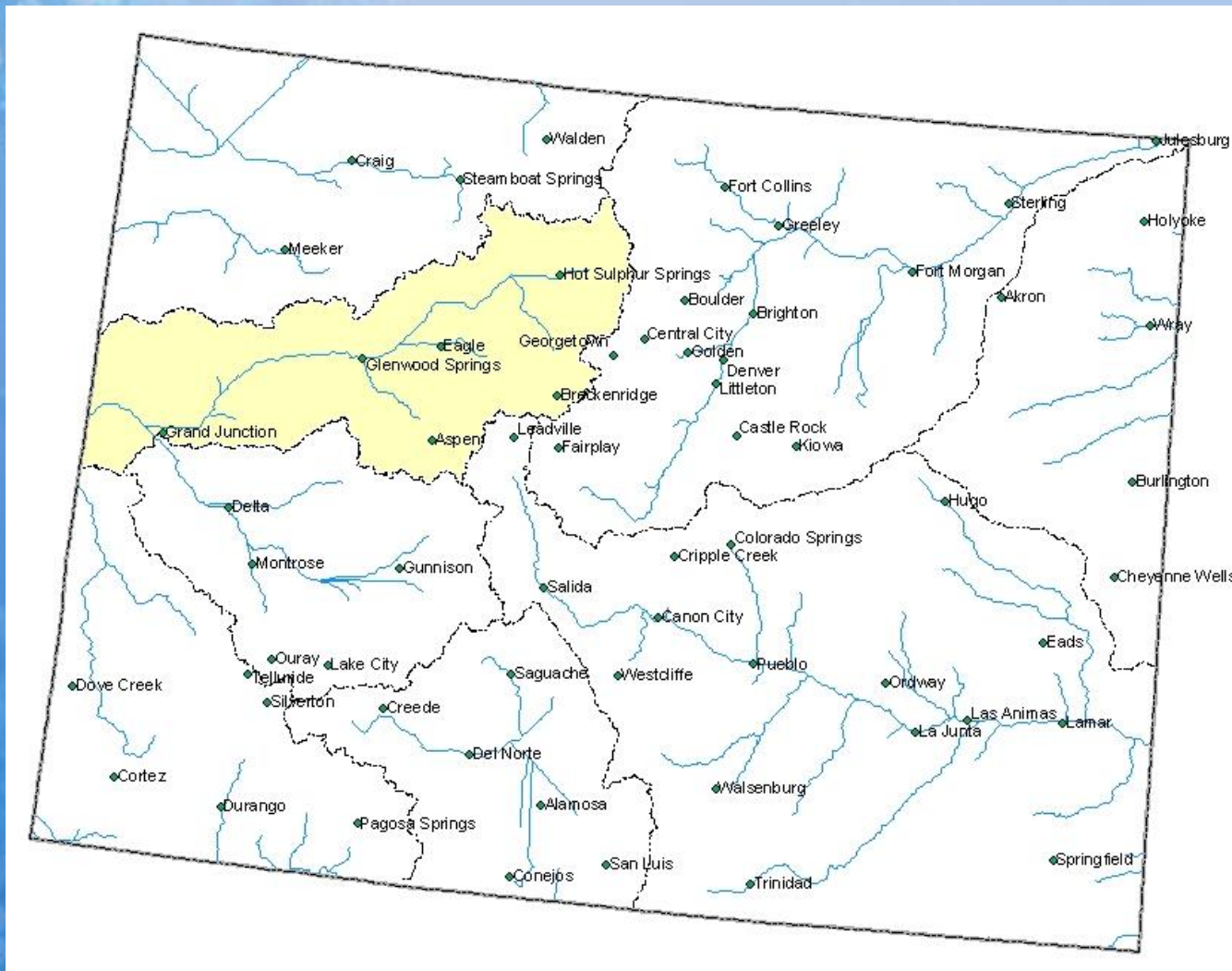


End of September 2013



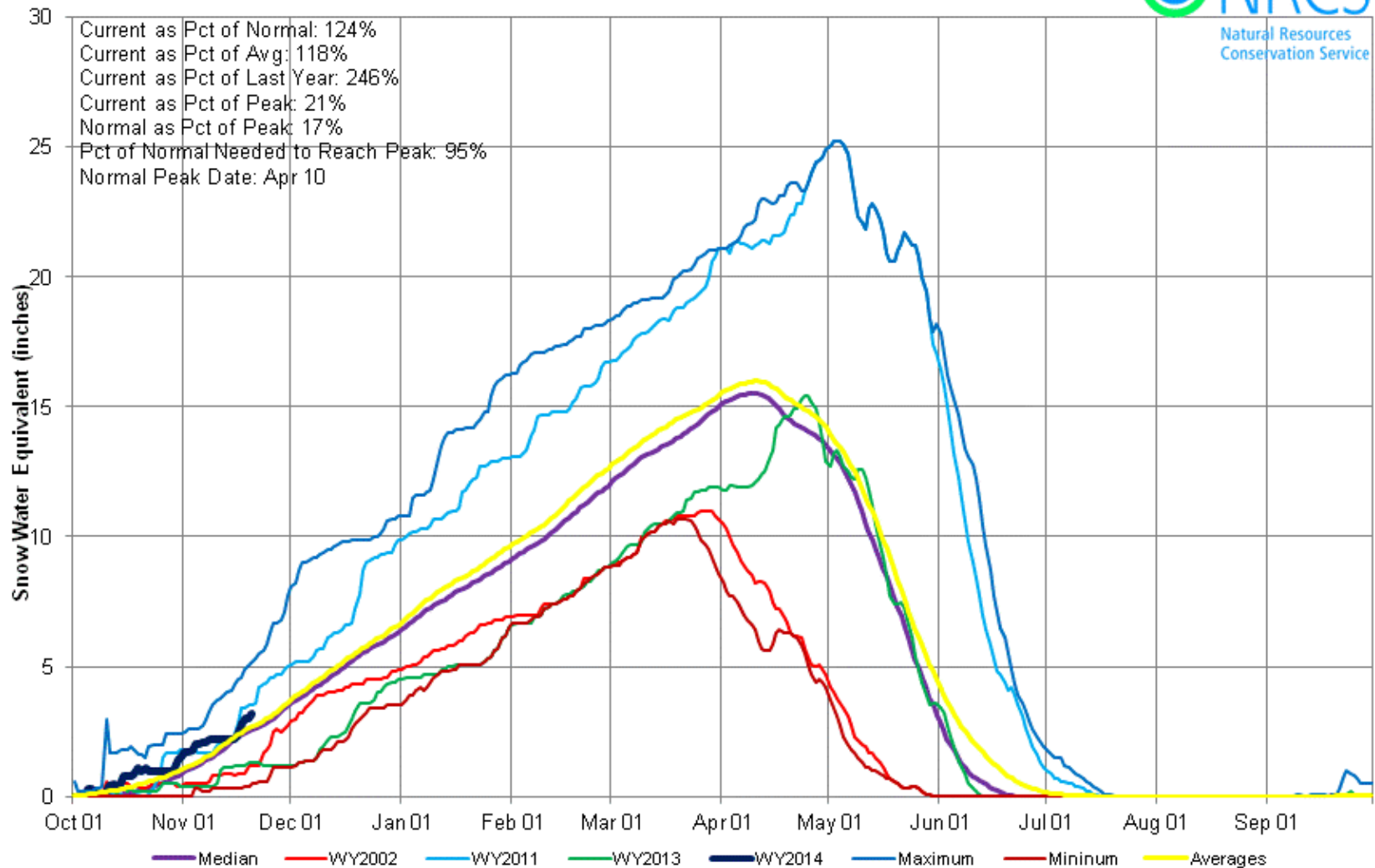
October EOM Storage:
112% *AVG*
80% Capacity

Colorado River Basin Summary



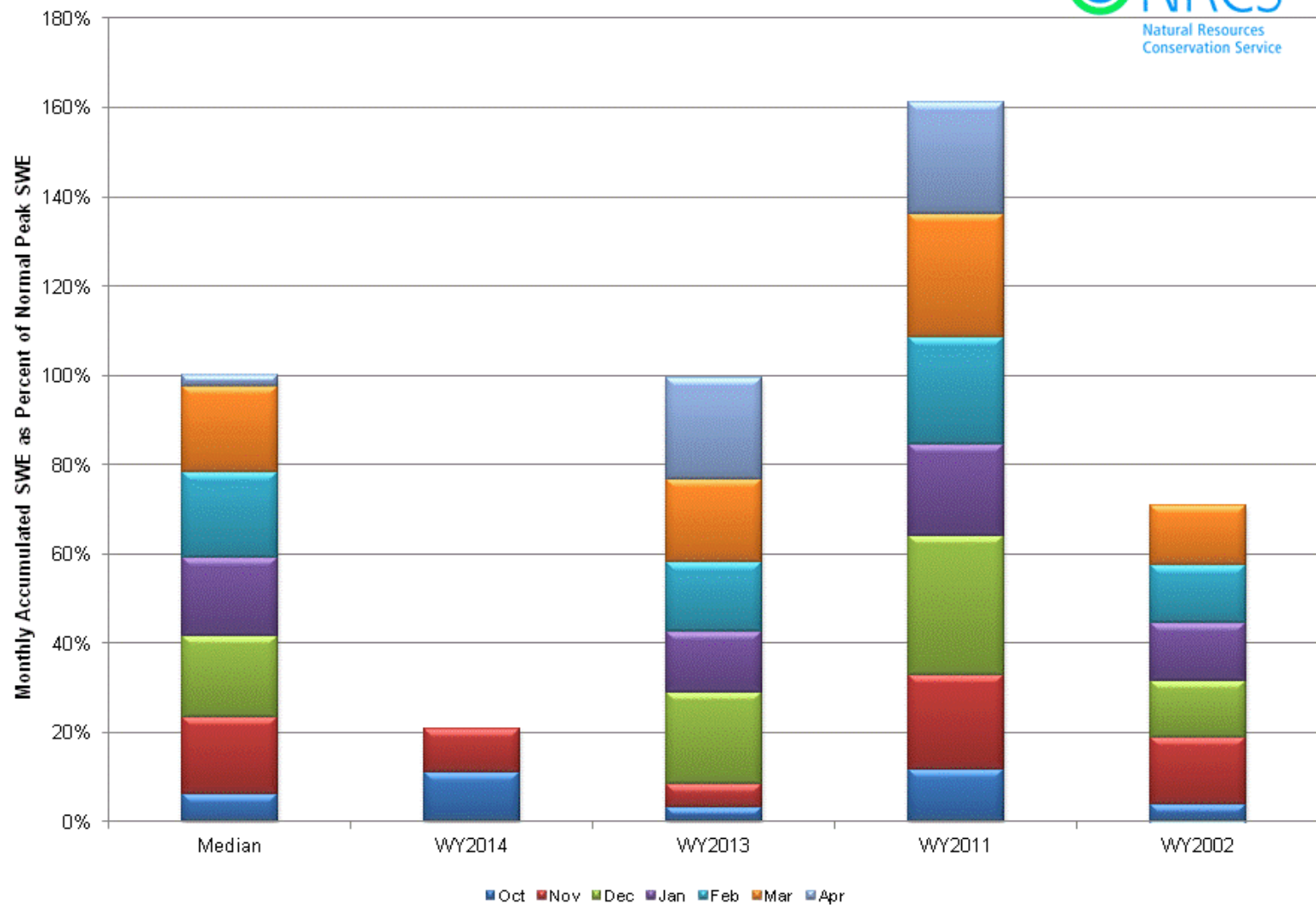
Upper Colorado River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



Upper Colorado River Basin High/Low Monthly Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013

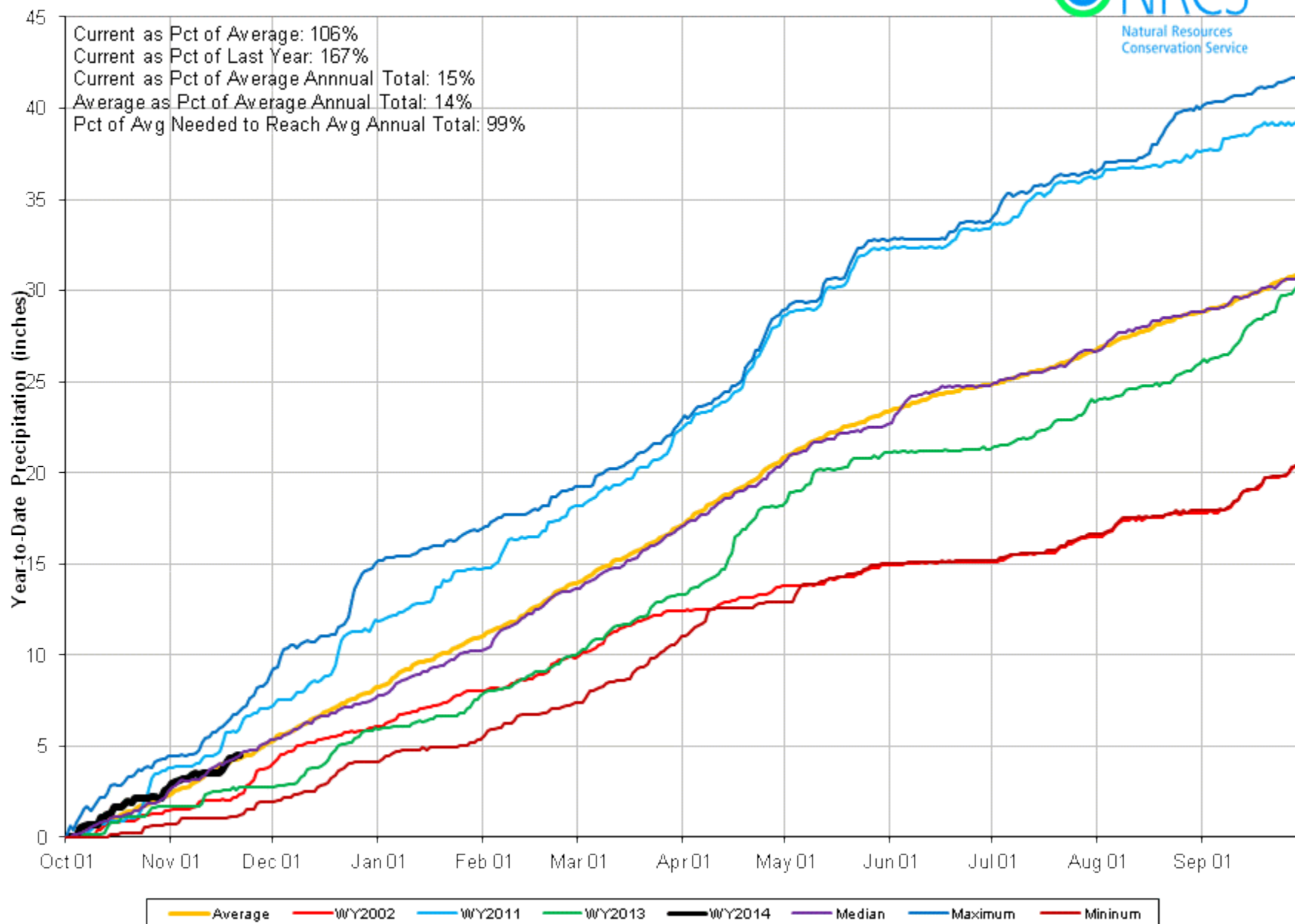


Upper Colorado River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013

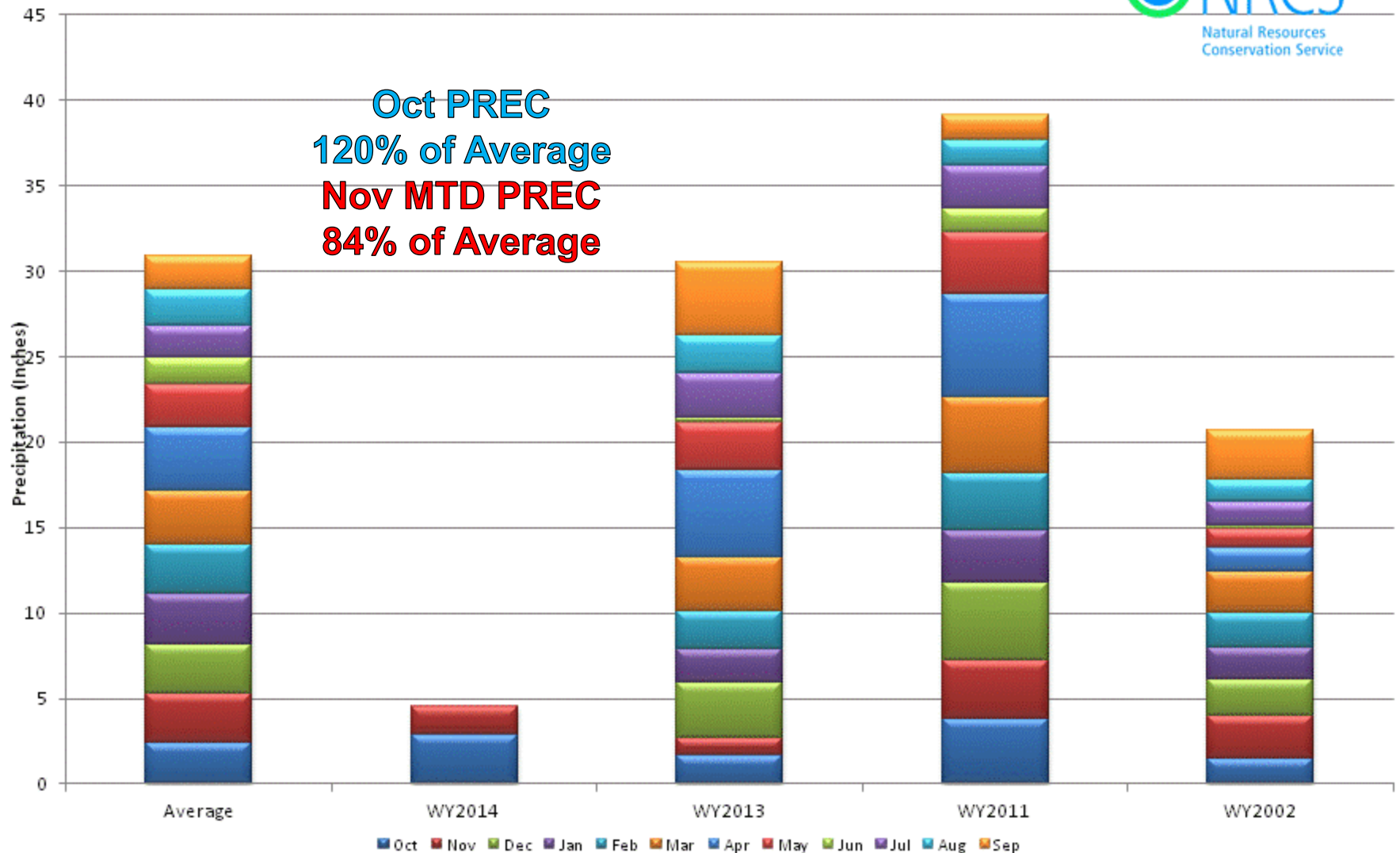


Natural Resources
Conservation Service



Upper Colorado River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013



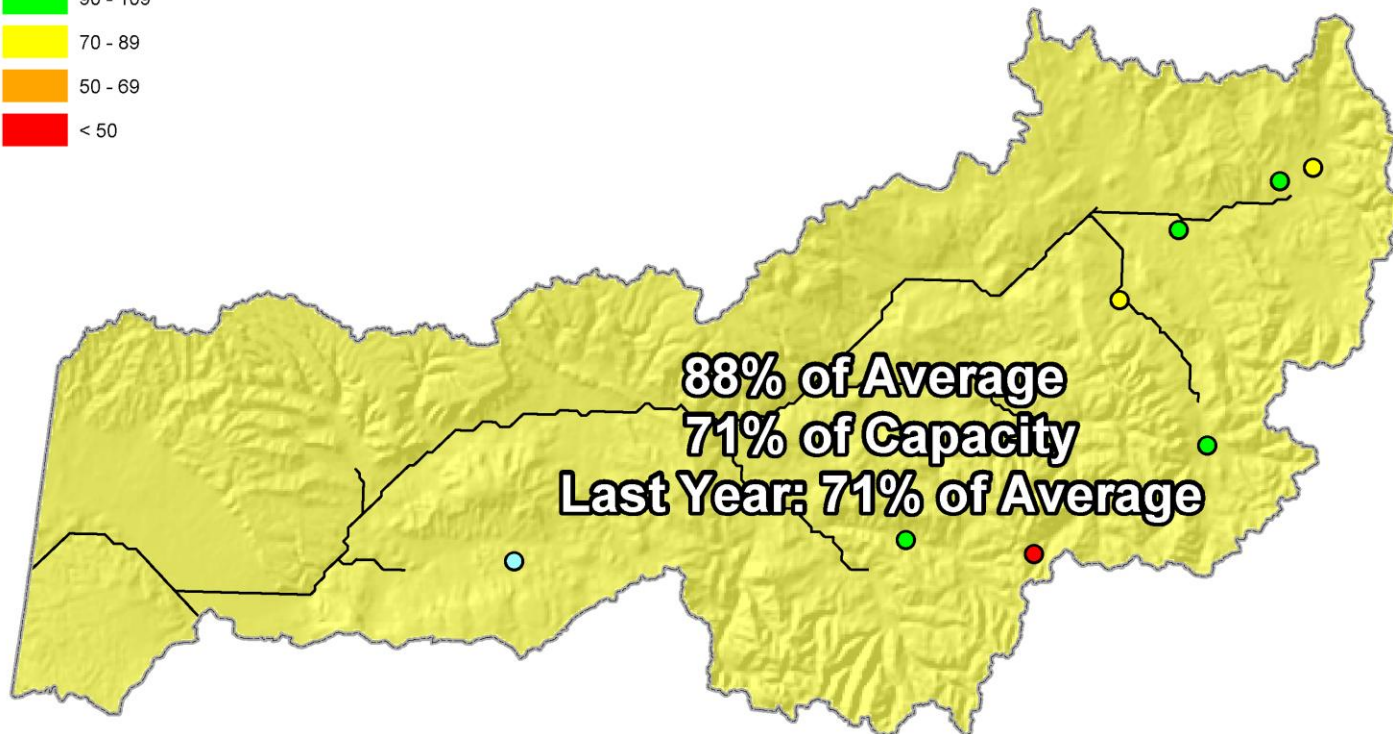
Colorado River Basin Reservoir Storage Map



Percent of Average



*Provisional Data
Subject to Revision*



End of September 2013

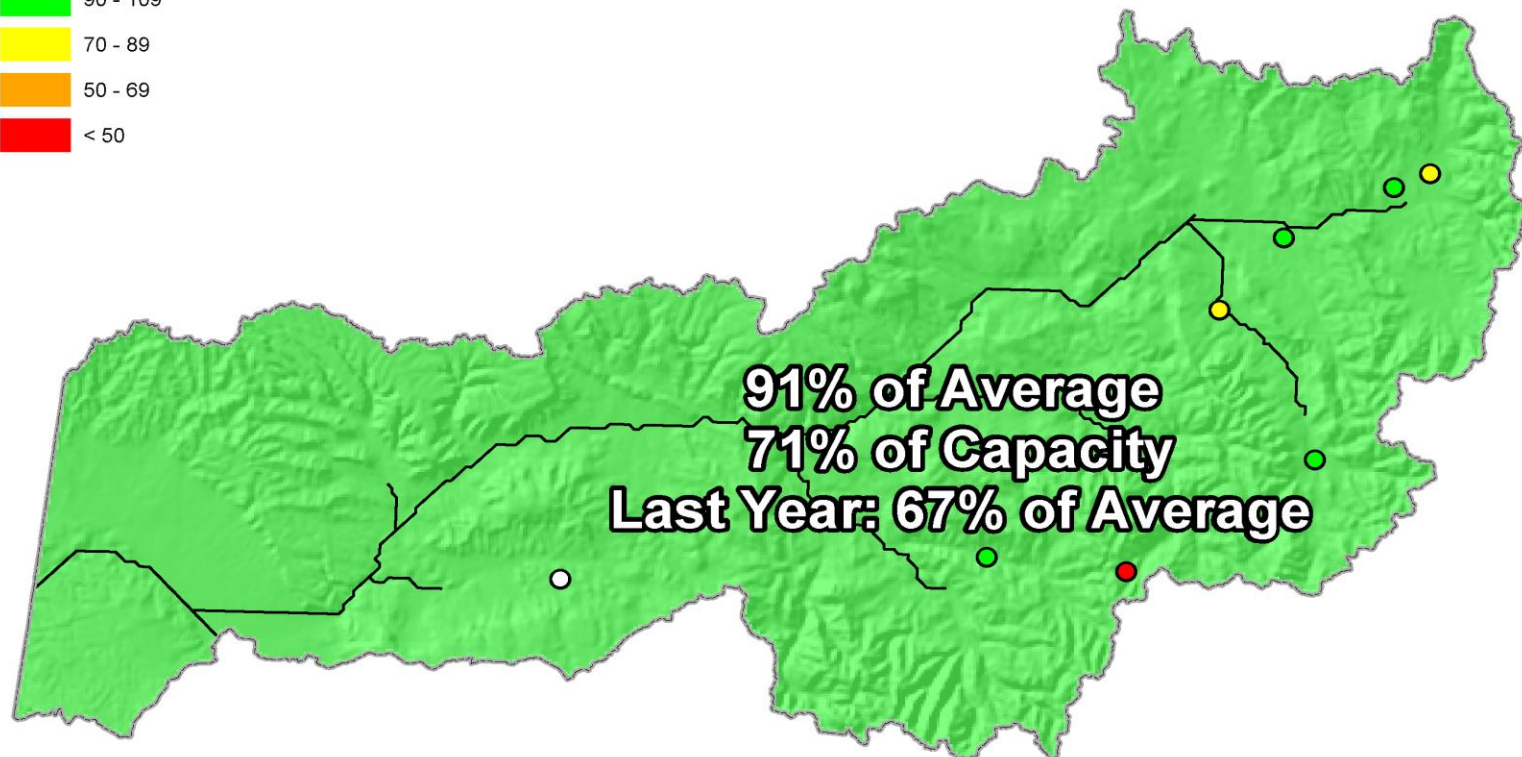
Colorado River Basin Reservoir Storage Map



Percent of Average

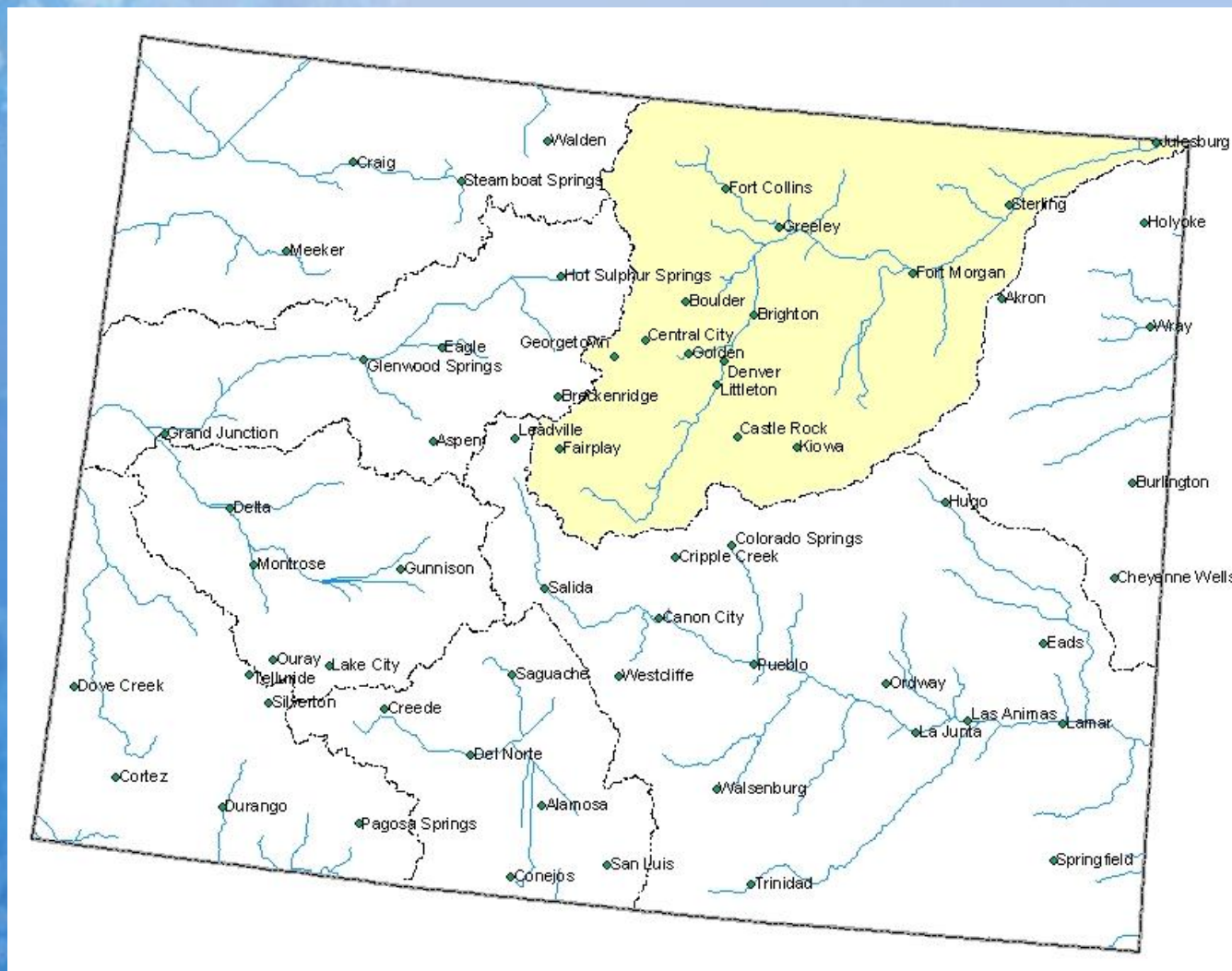


*Provisional Data
Subject to Revision*



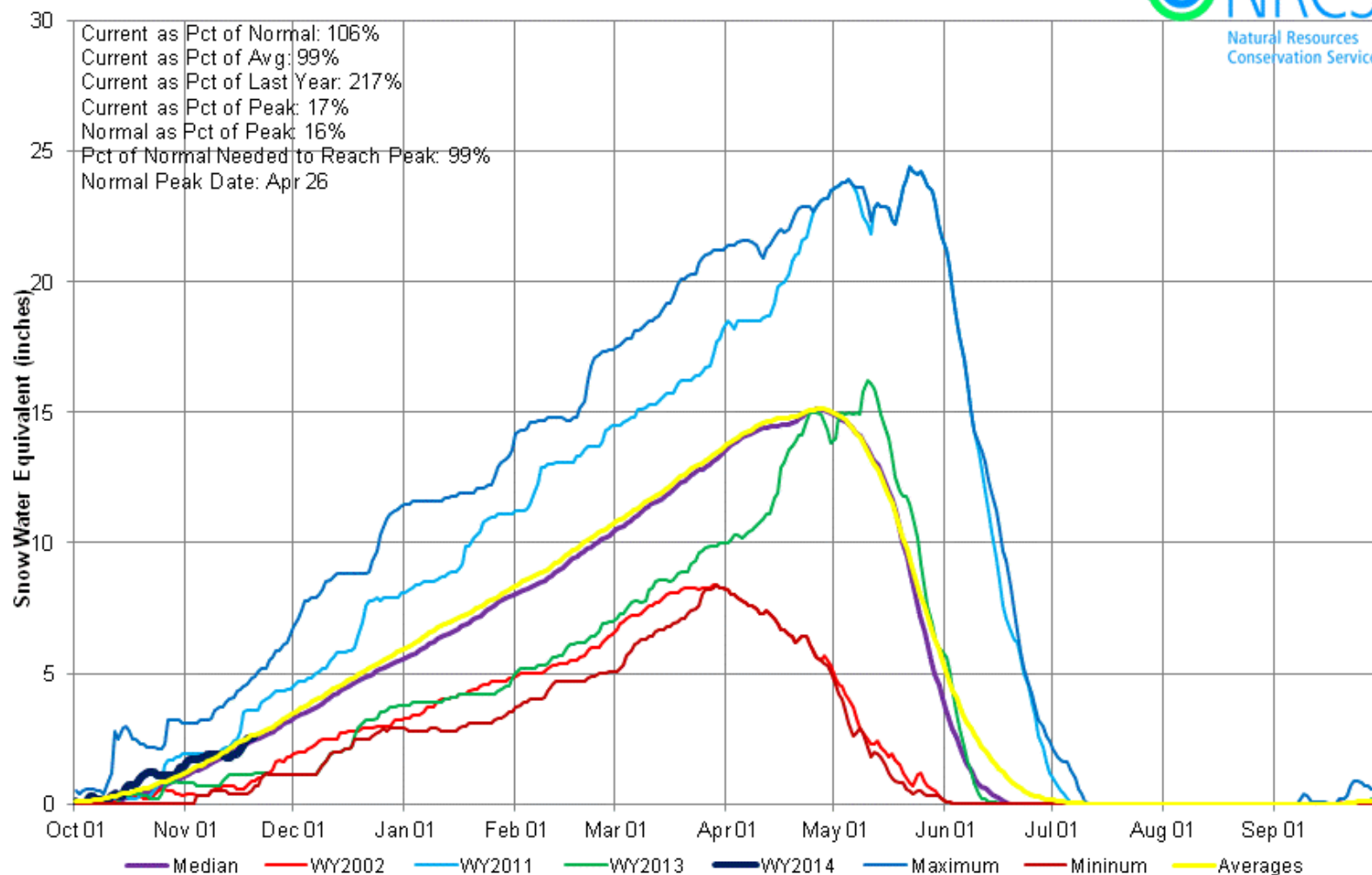
End of October 2013

South Platte River Basin Summary



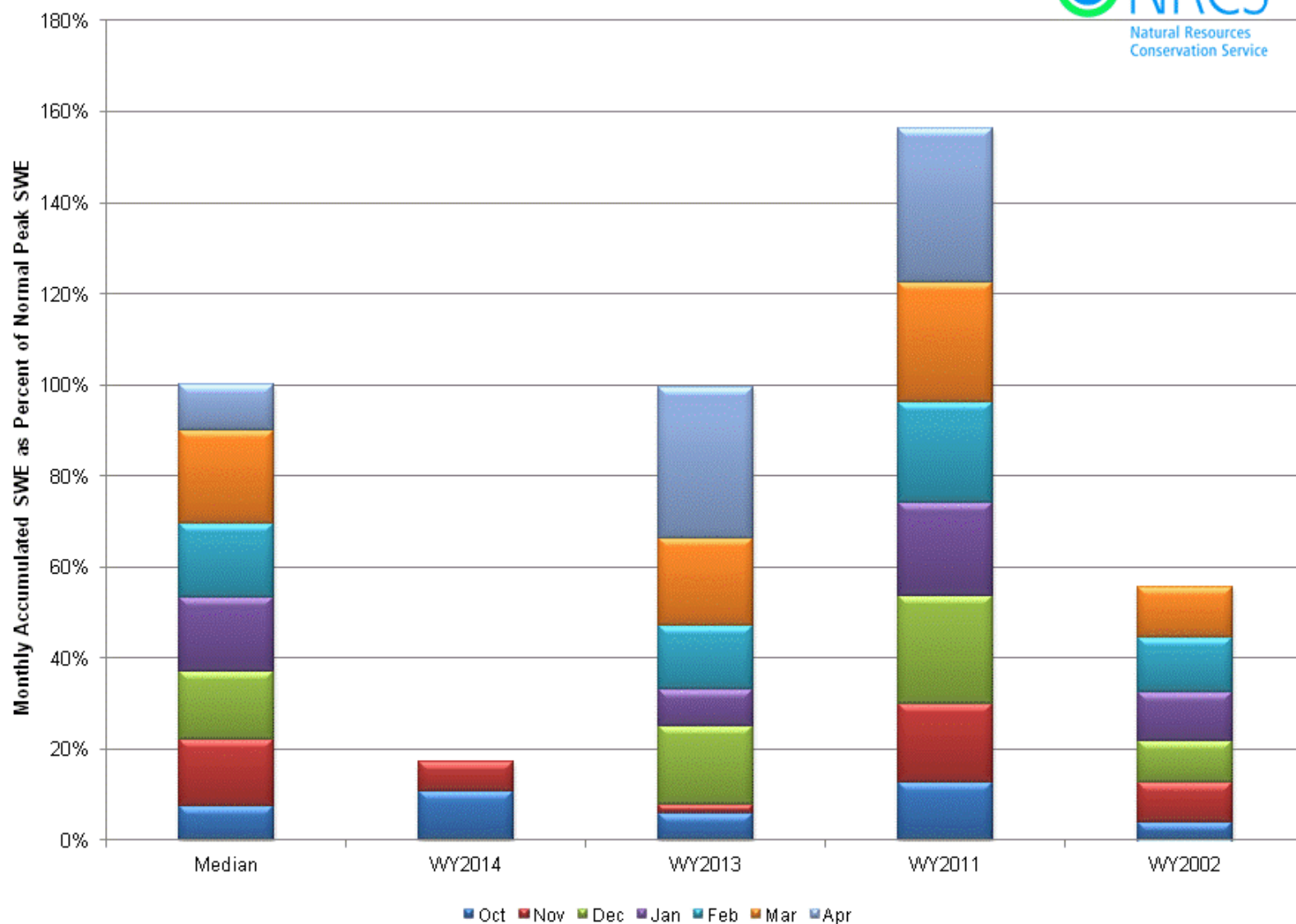
South Platte River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



South Platte River Basin High/Low Monthly Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013

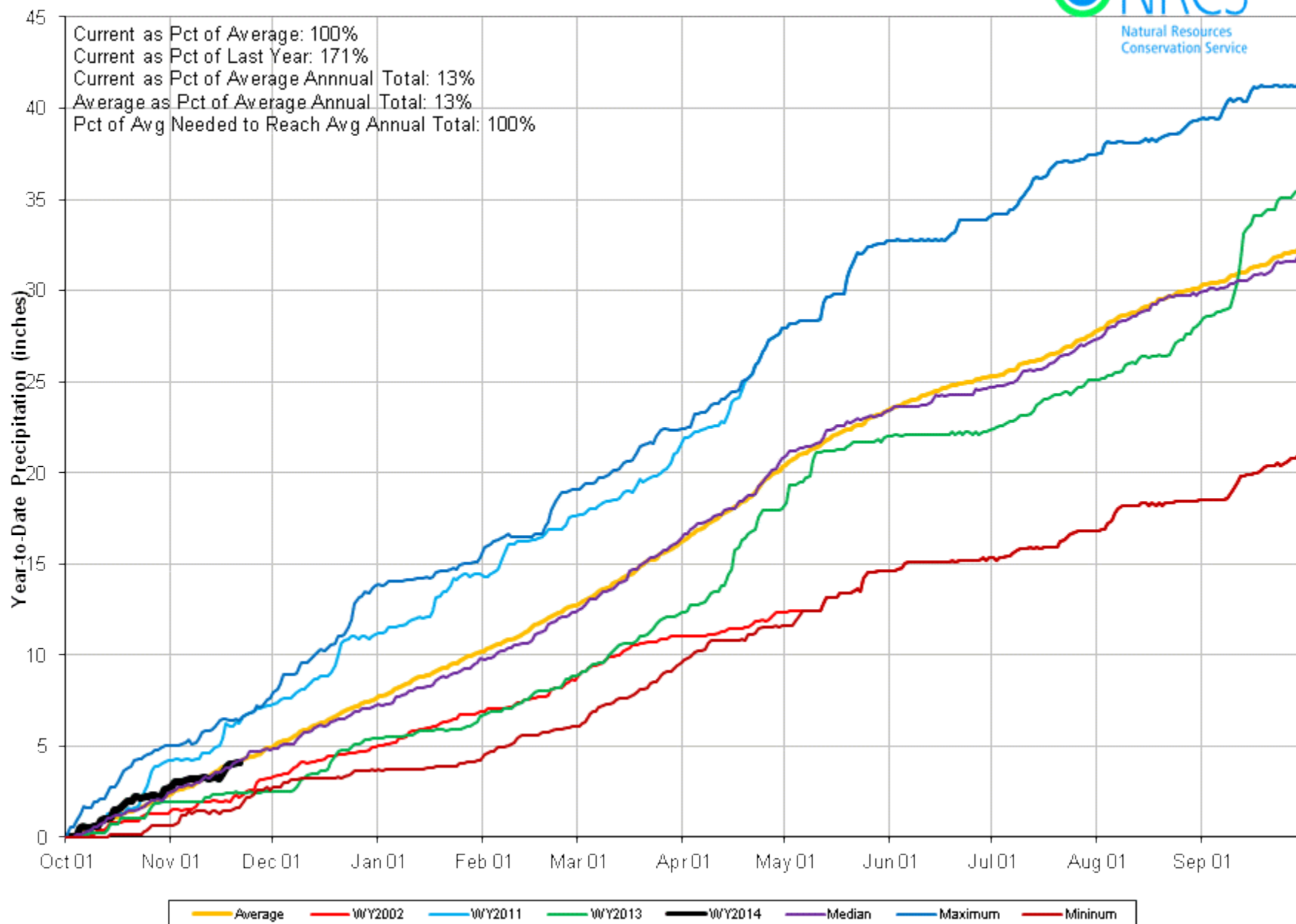


South Platte River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013

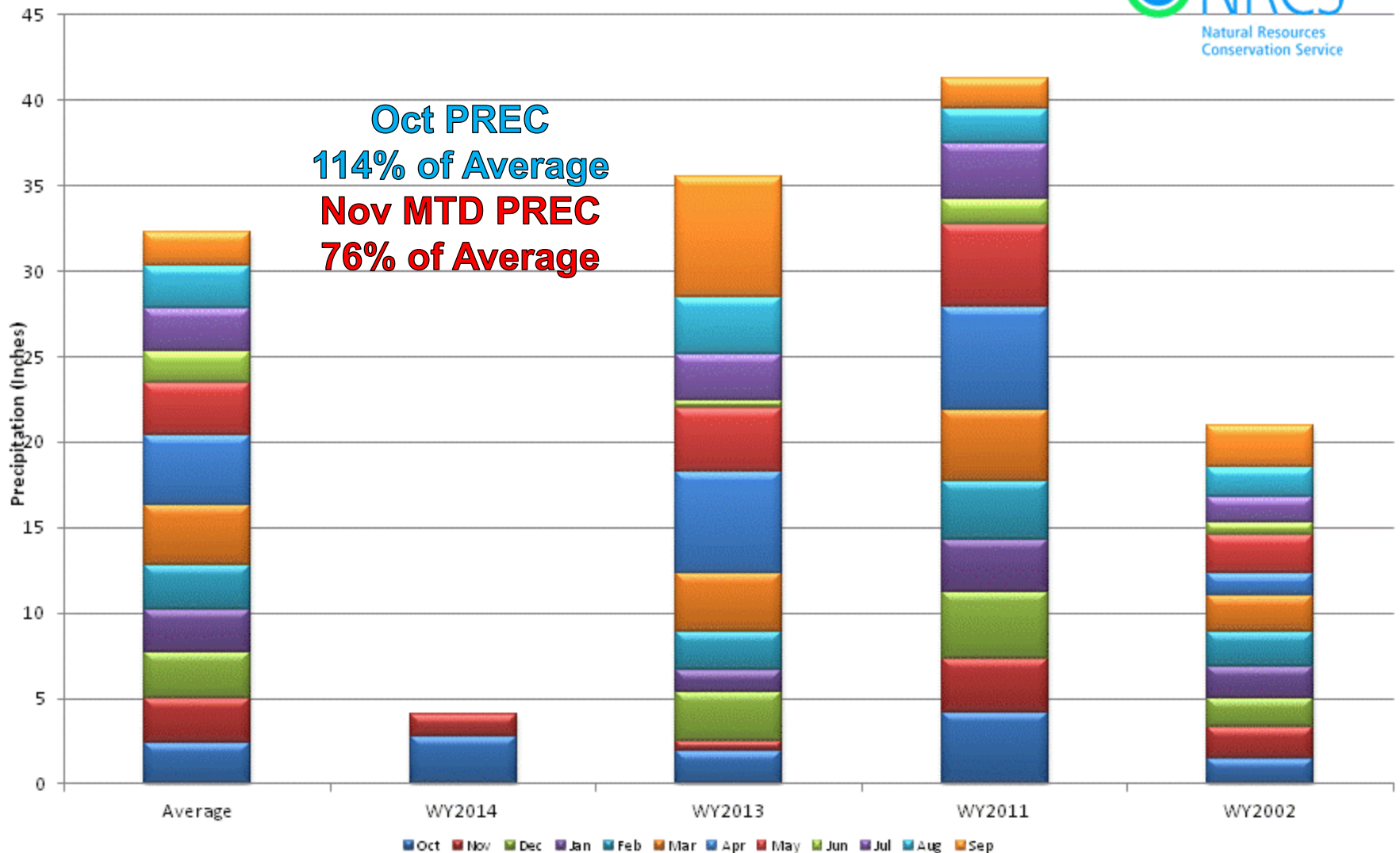


Natural Resources
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South Platte River Basin High/Low Monthly Precipitation Summary

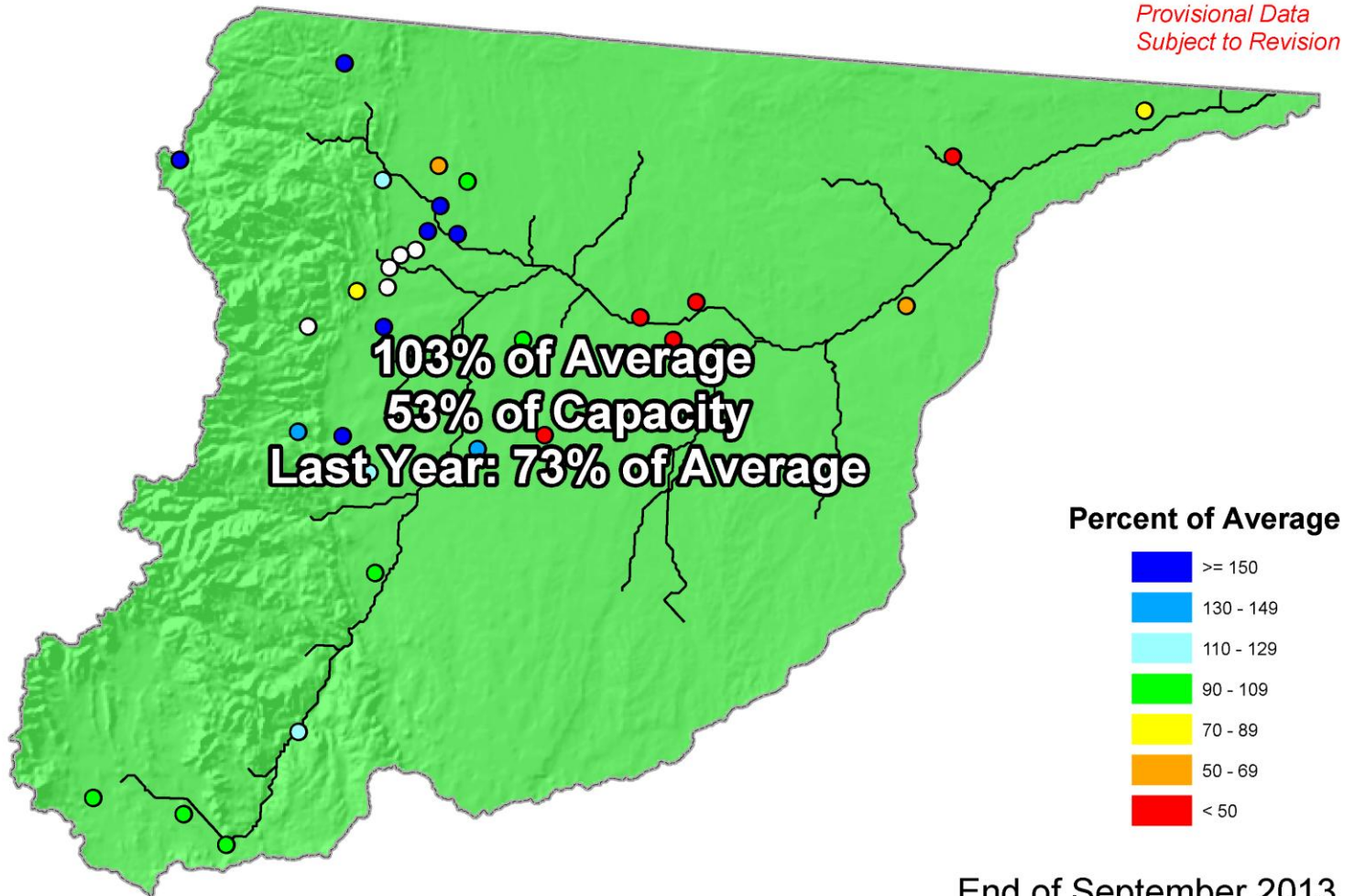
Based on Provisional SNOTEL data as of Nov 21, 2013



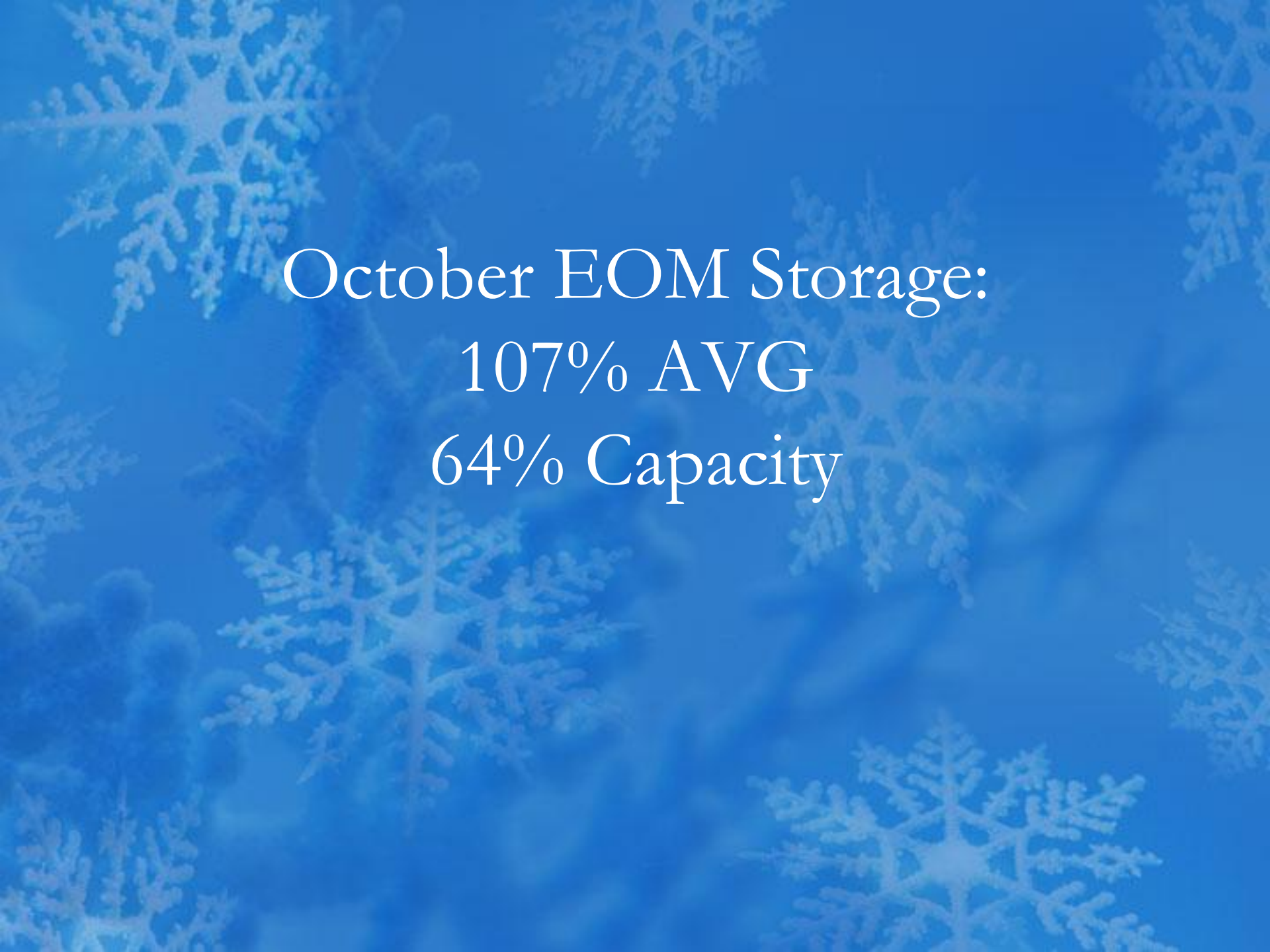
South Platte River Basin Reservoir Storage Map



*Provisional Data
Subject to Revision*

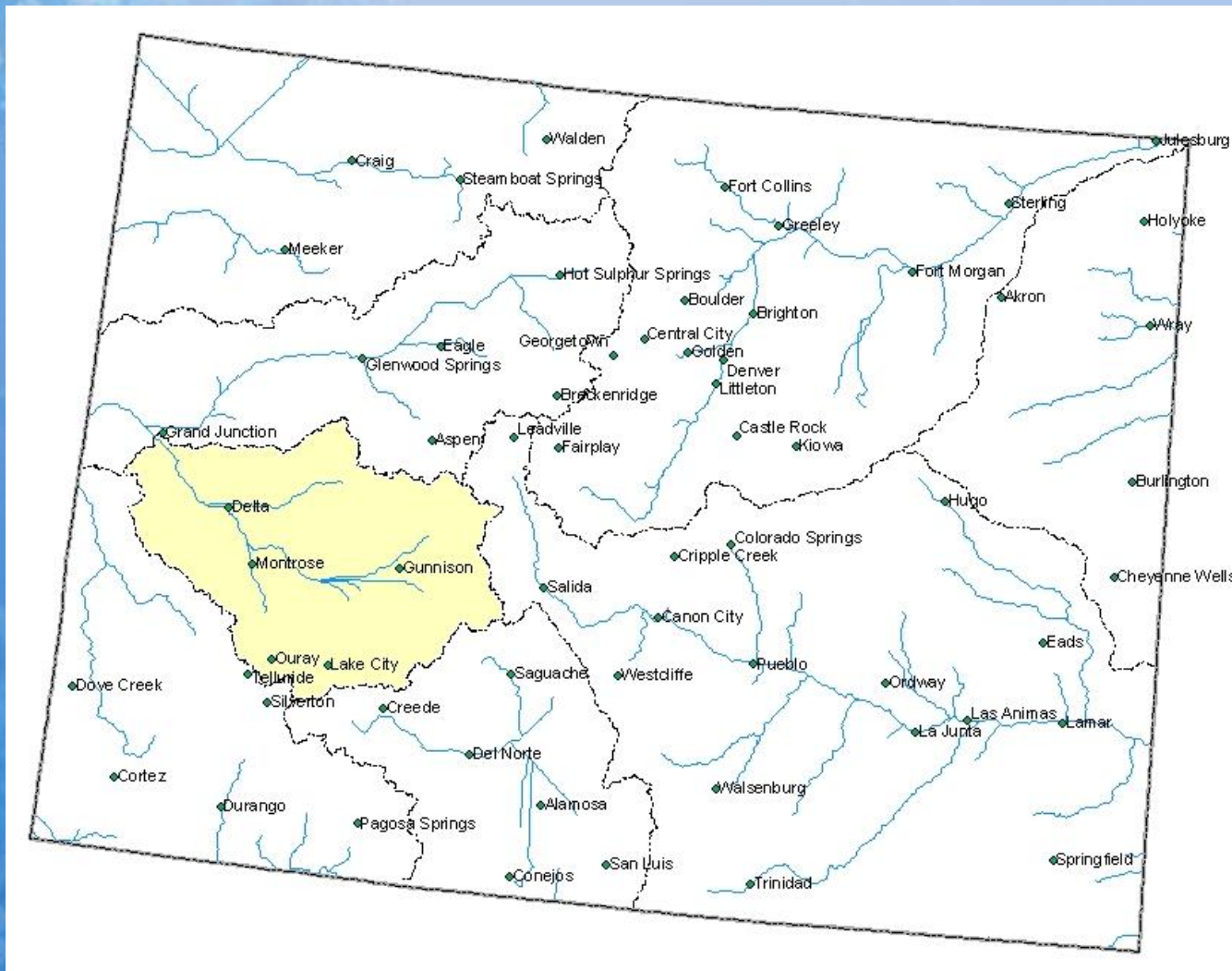


End of September 2013



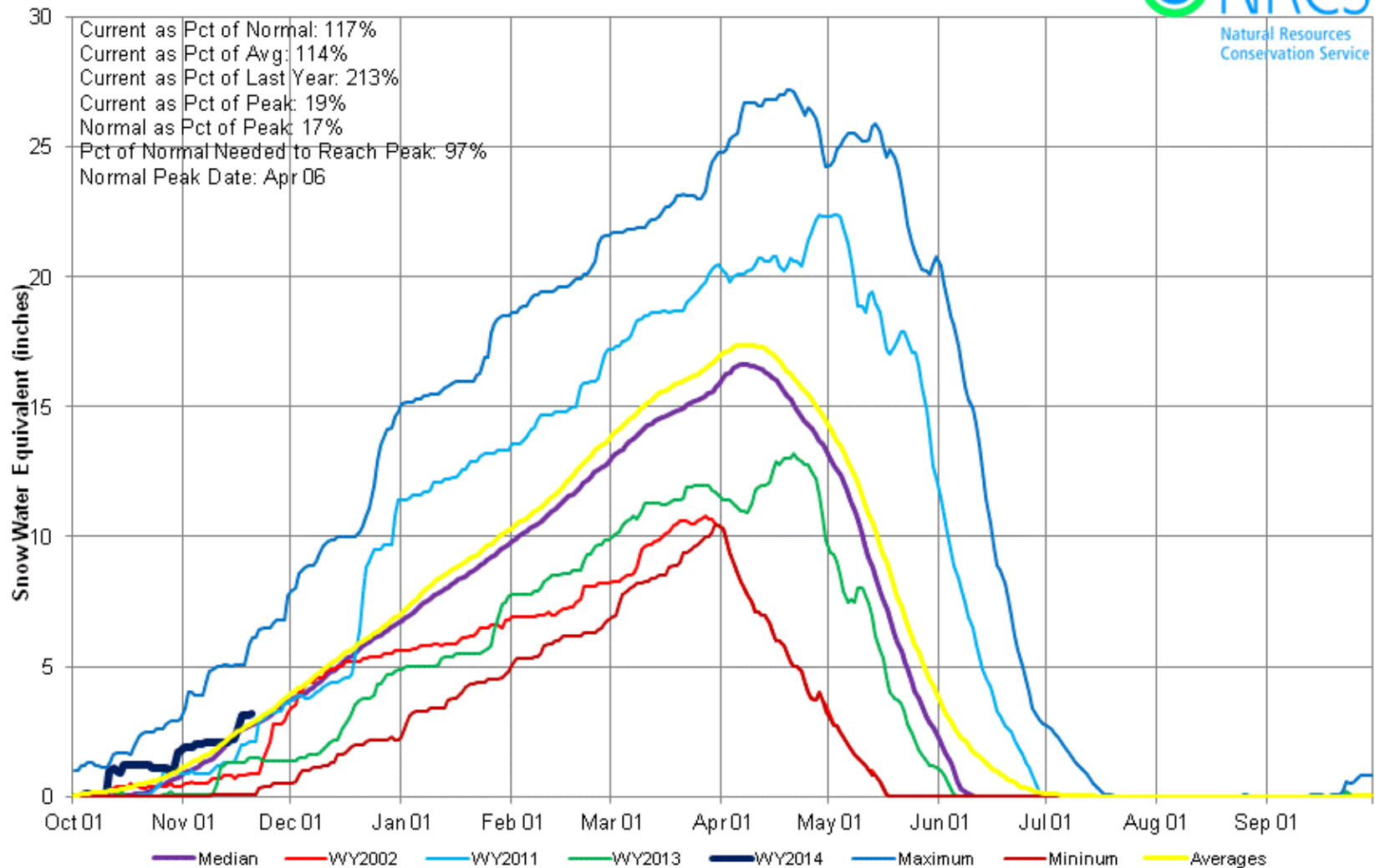
October EOM Storage:
107% *AVG*
64% Capacity

Gunnison River Basin Summary



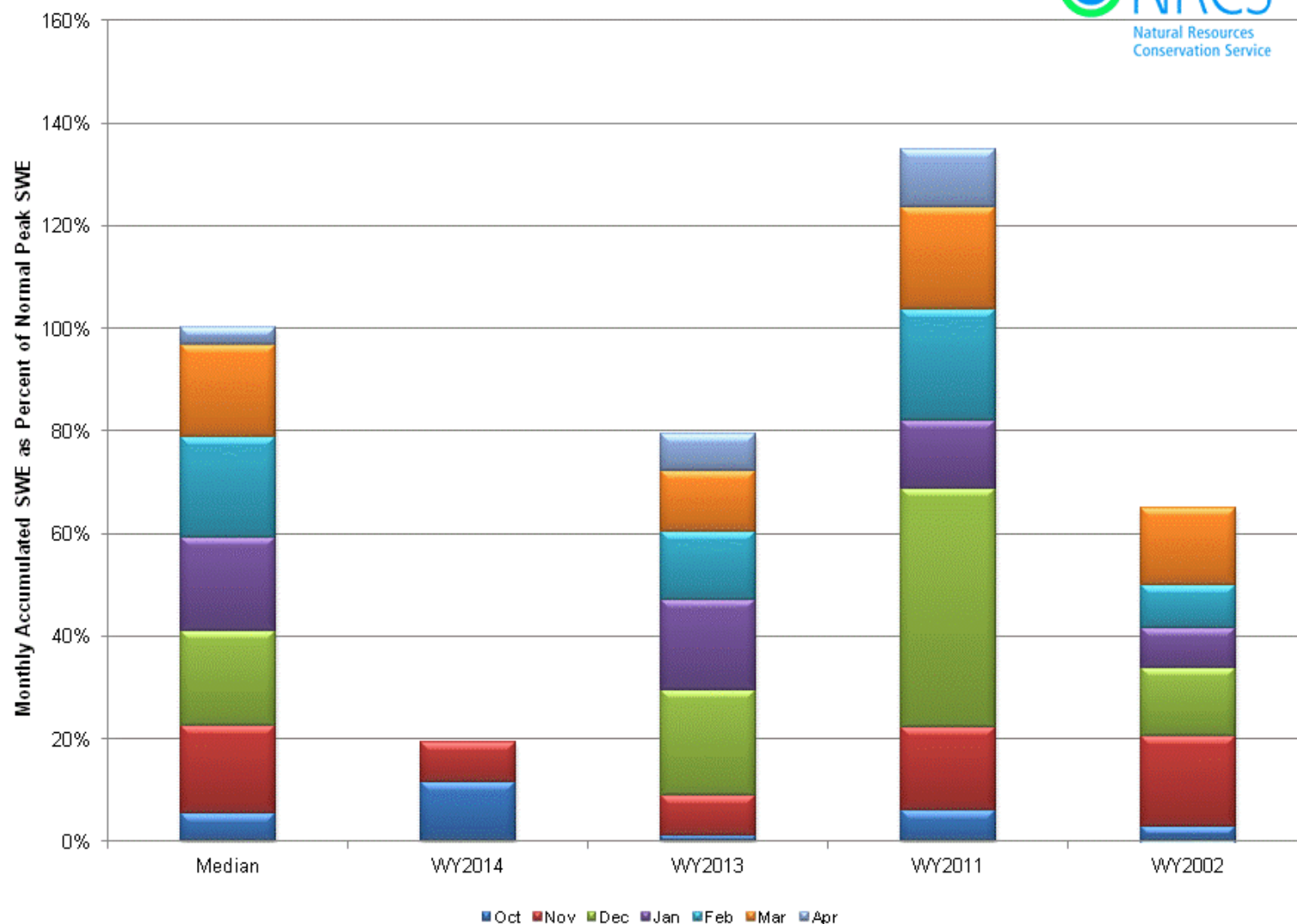
Gunnison River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



Gunnison River Basin High/Low Monthly Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013

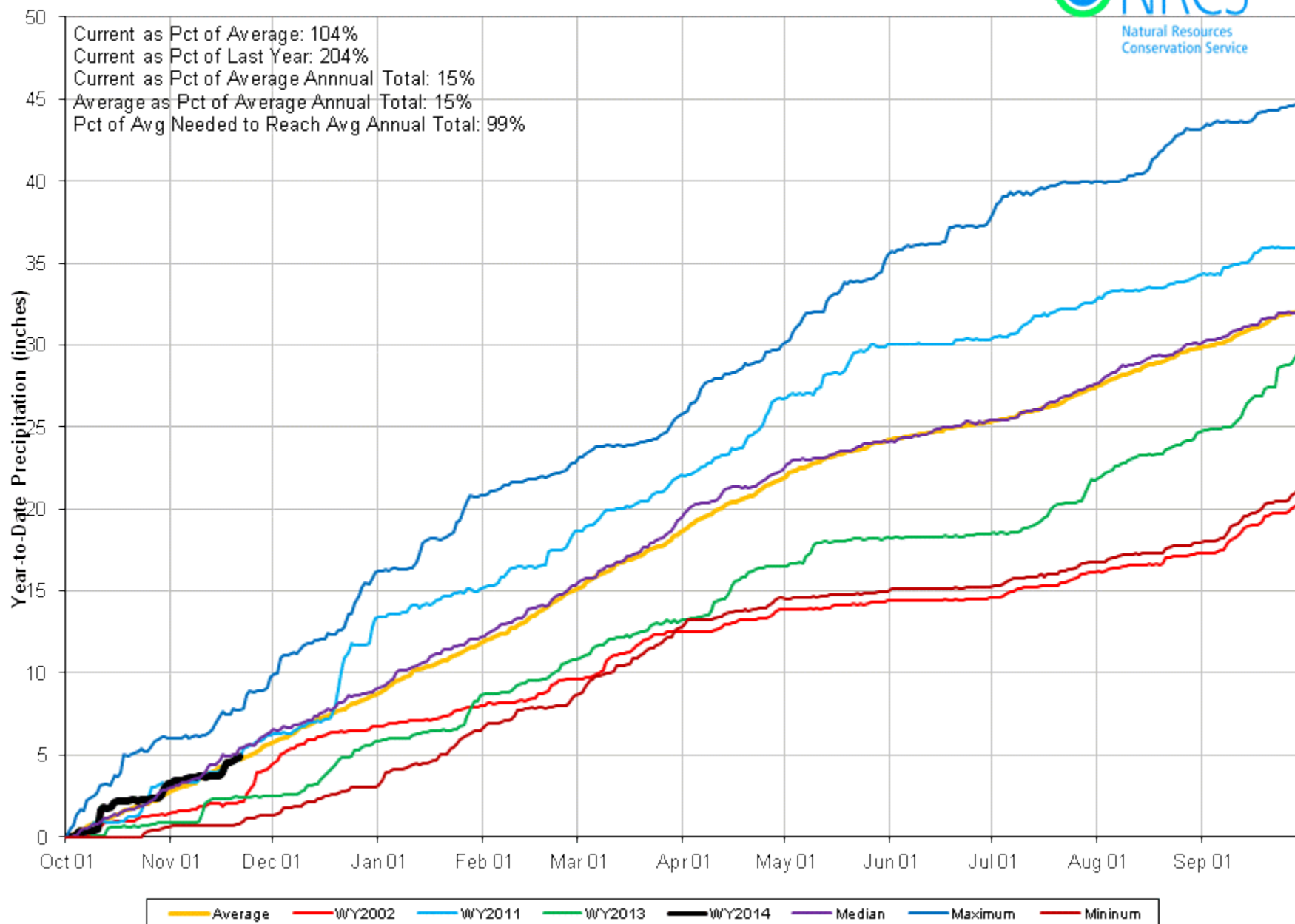


Gunnison River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013

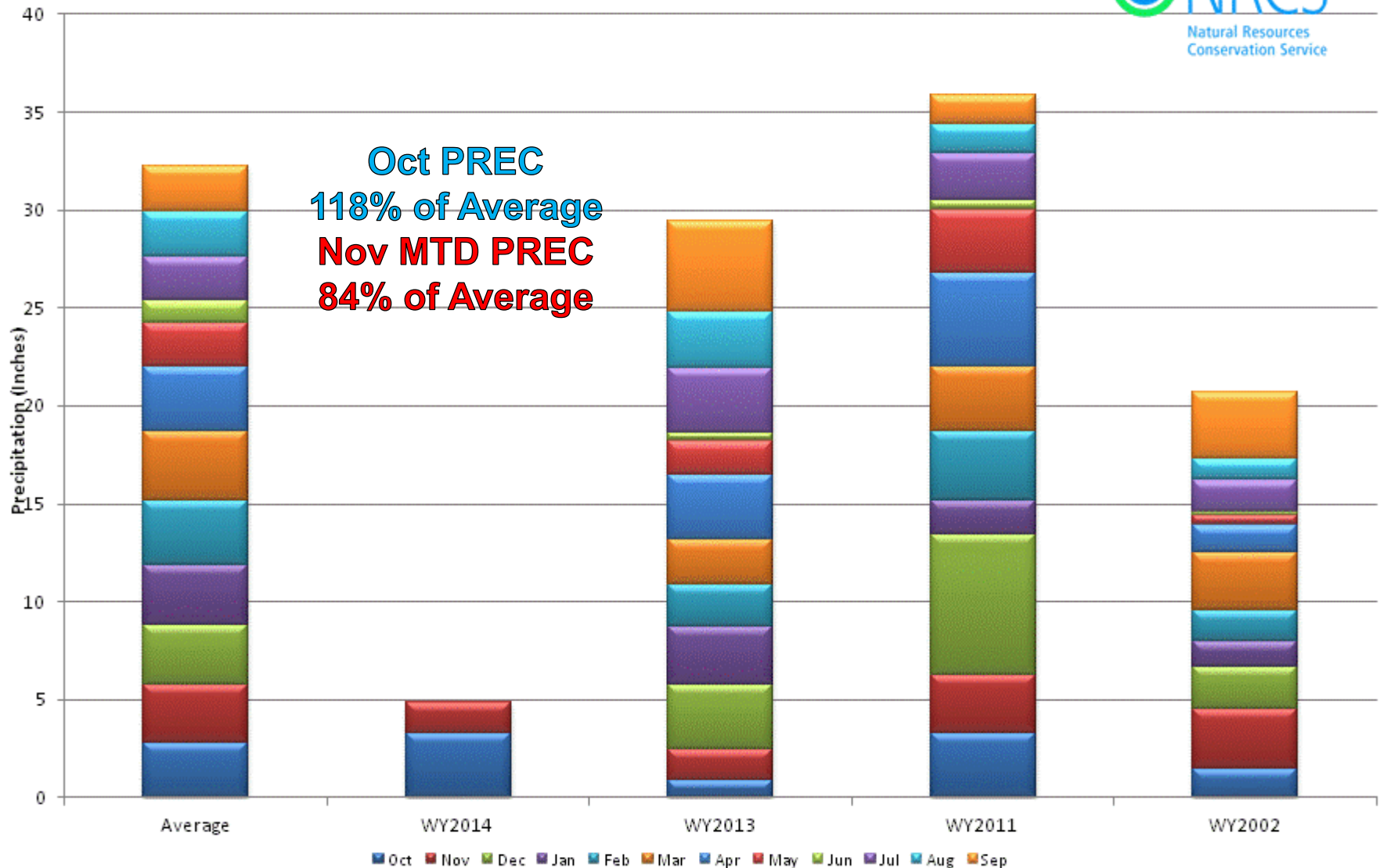


Natural Resources
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Gunnison River Basin High/Low Monthly Precipitation Summary

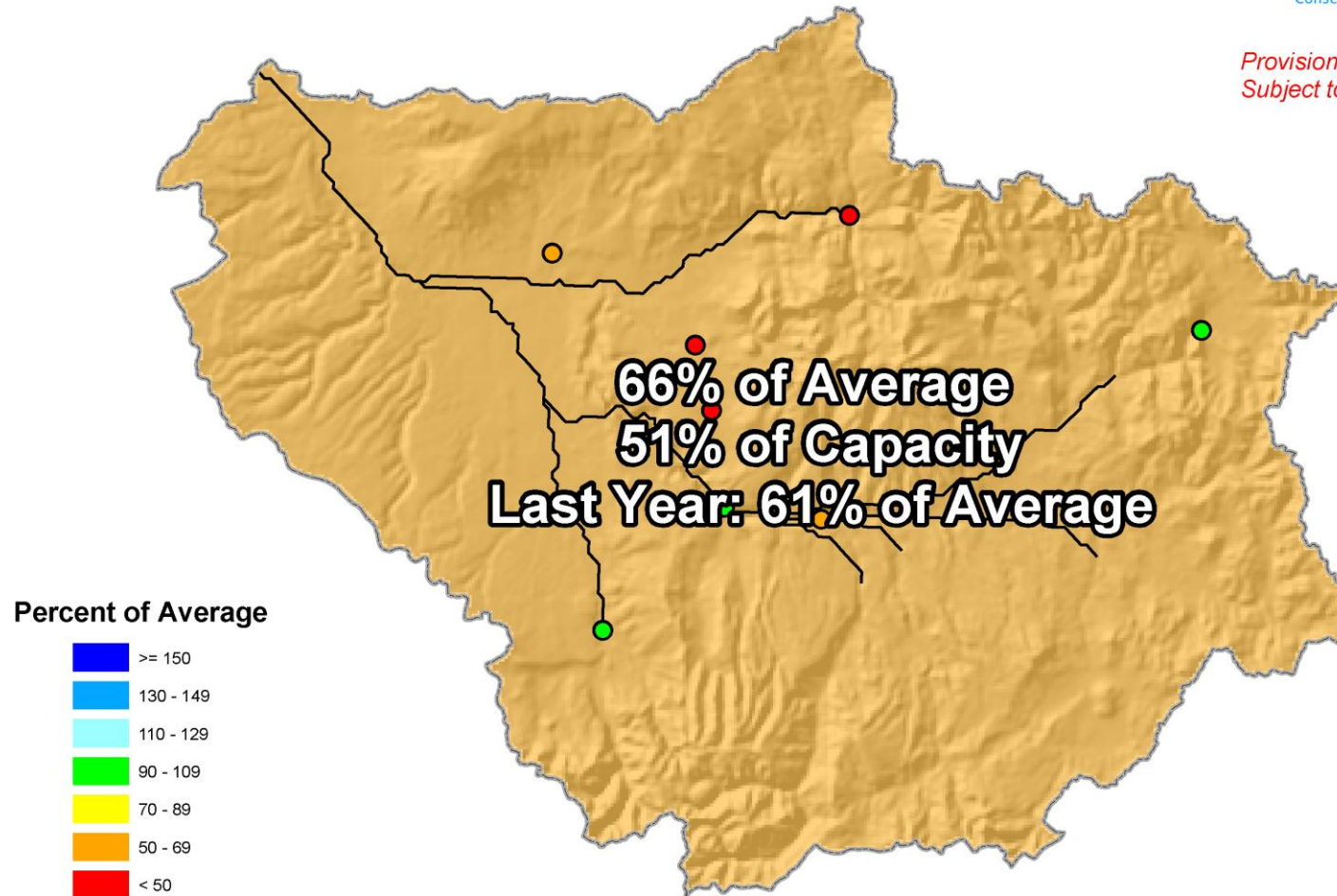
Based on Provisional SNOTEL data as of Nov 21, 2013



Gunnison River Basin Reservoir Storage Map



*Provisional Data
Subject to Revision*

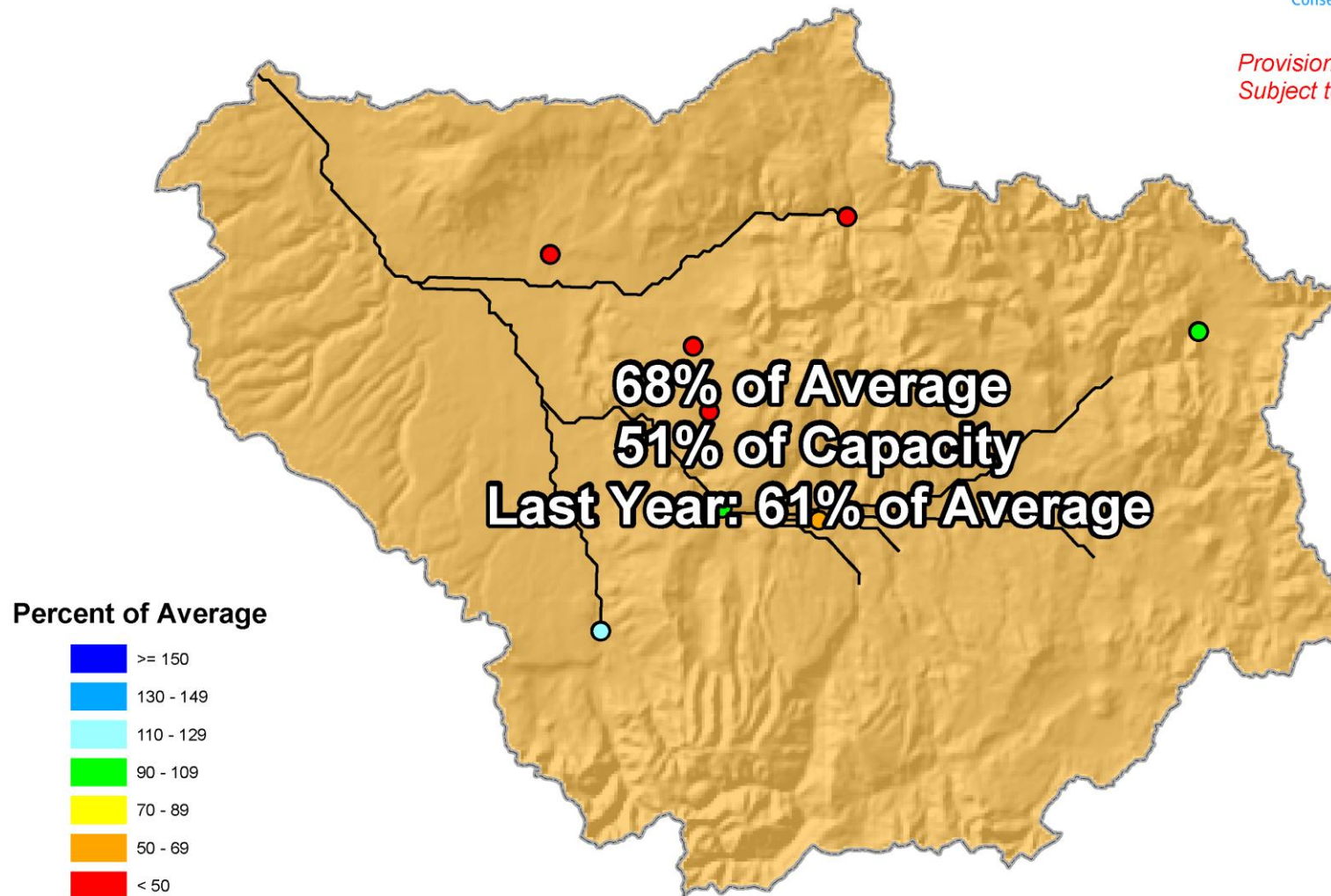


End of September 2013

Gunnison River Basin Reservoir Storage Map

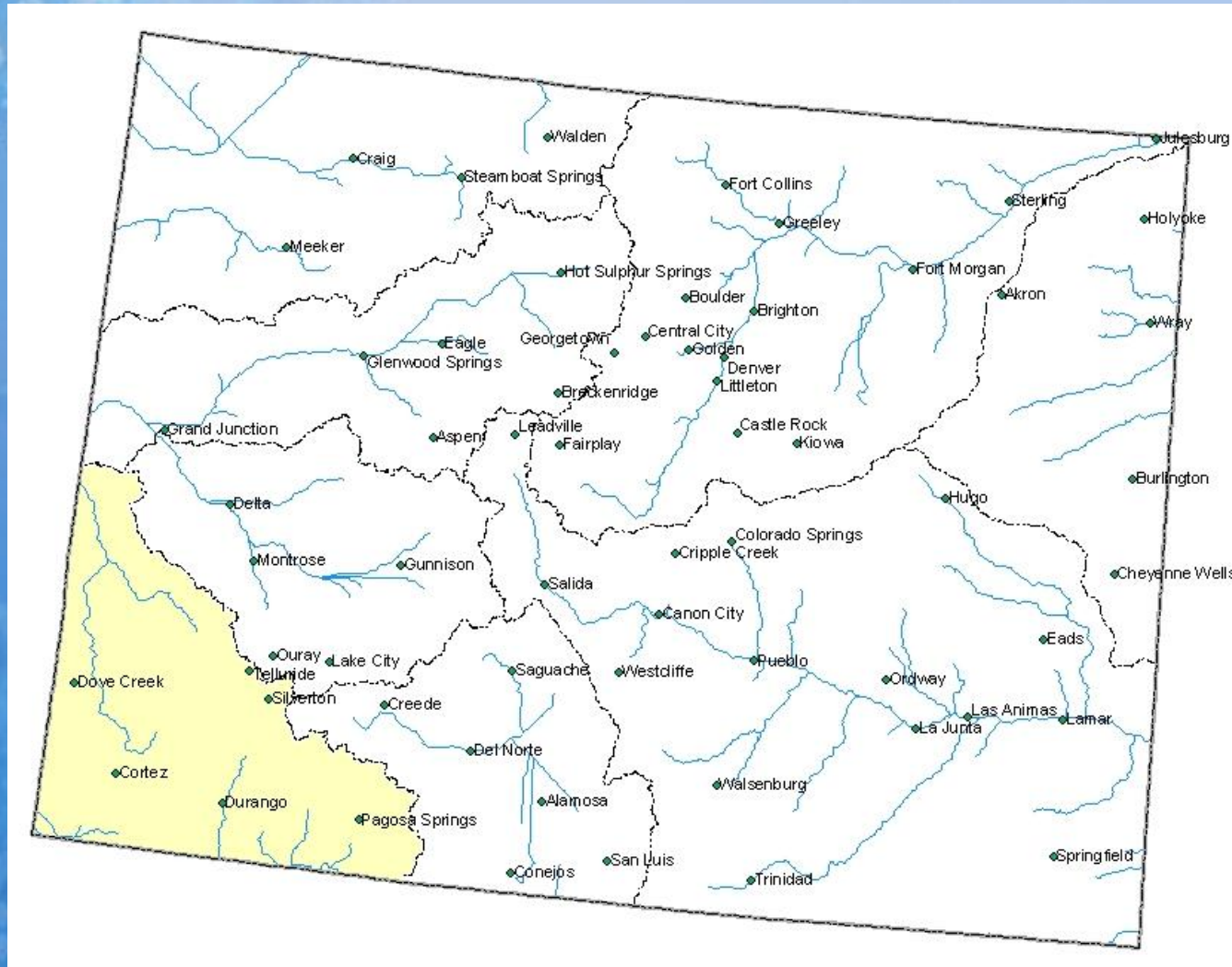


*Provisional Data
Subject to Revision*



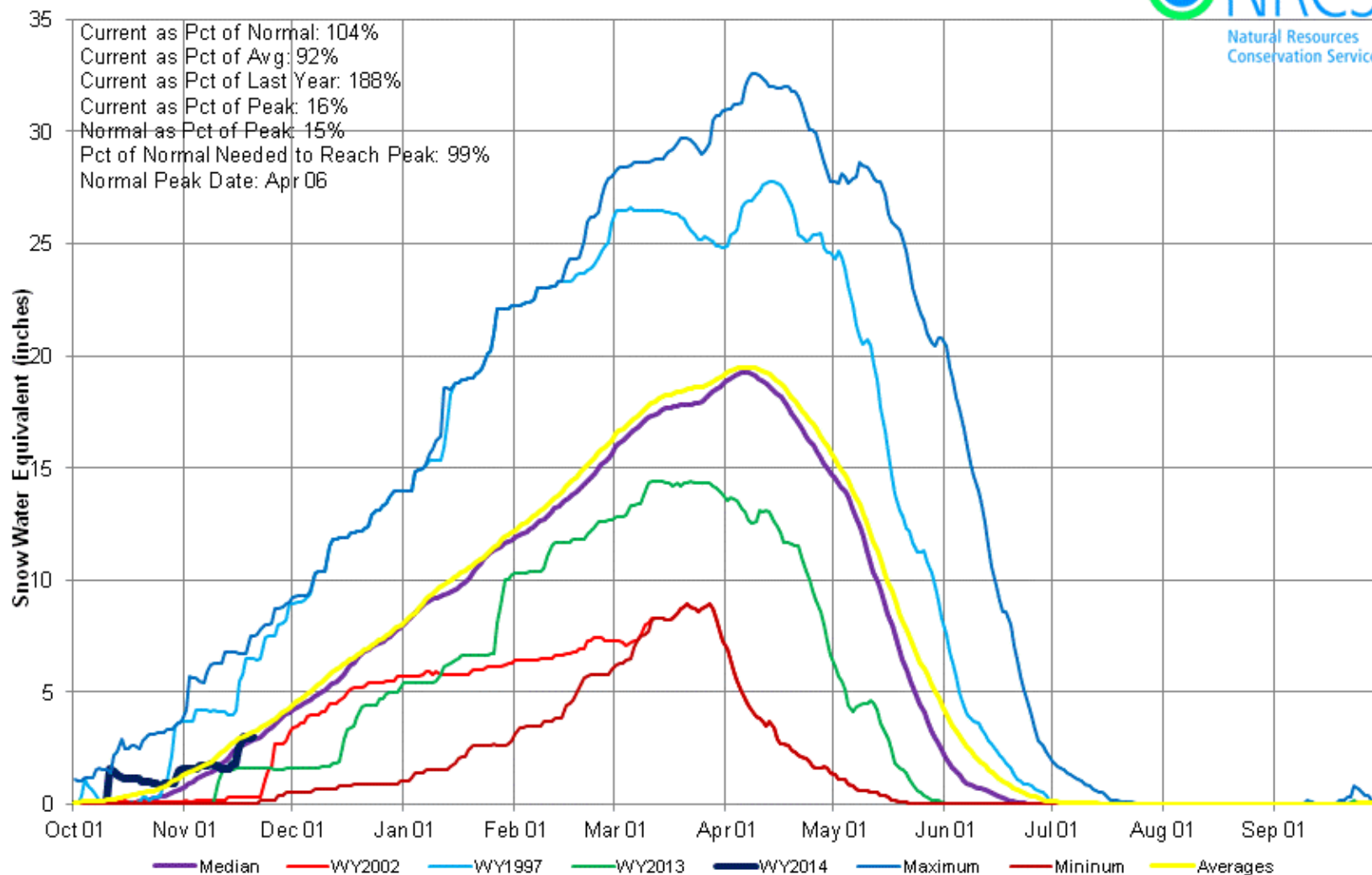
End of October 2013

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

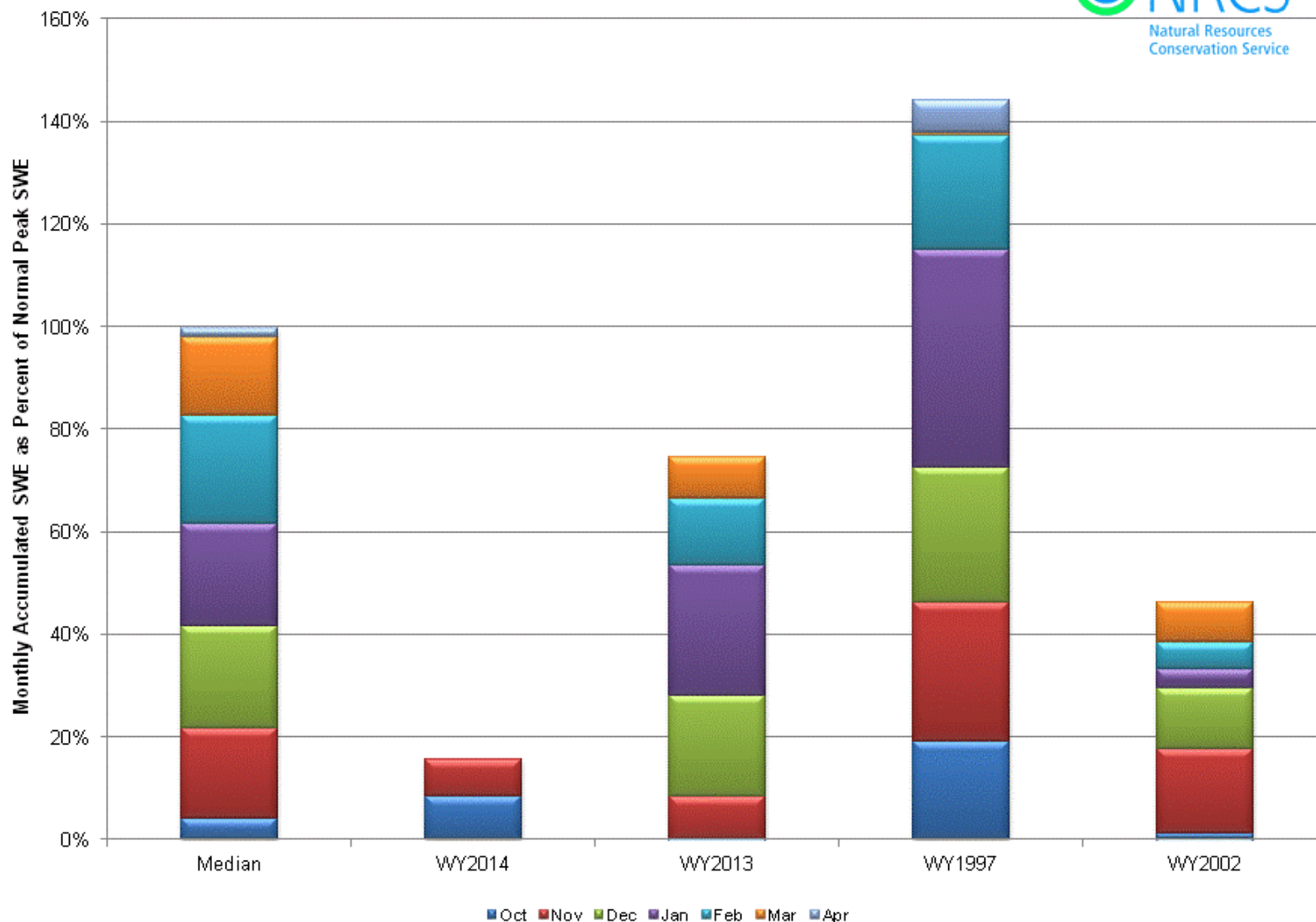


San Miguel, Dolores, Animas & San Juan River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



San Miguel, Dolores, Animas & San Juan River Basins
High/Low Monthly Snowpack Summary
Based on Provisional SNOTEL data as of Nov 20, 2013

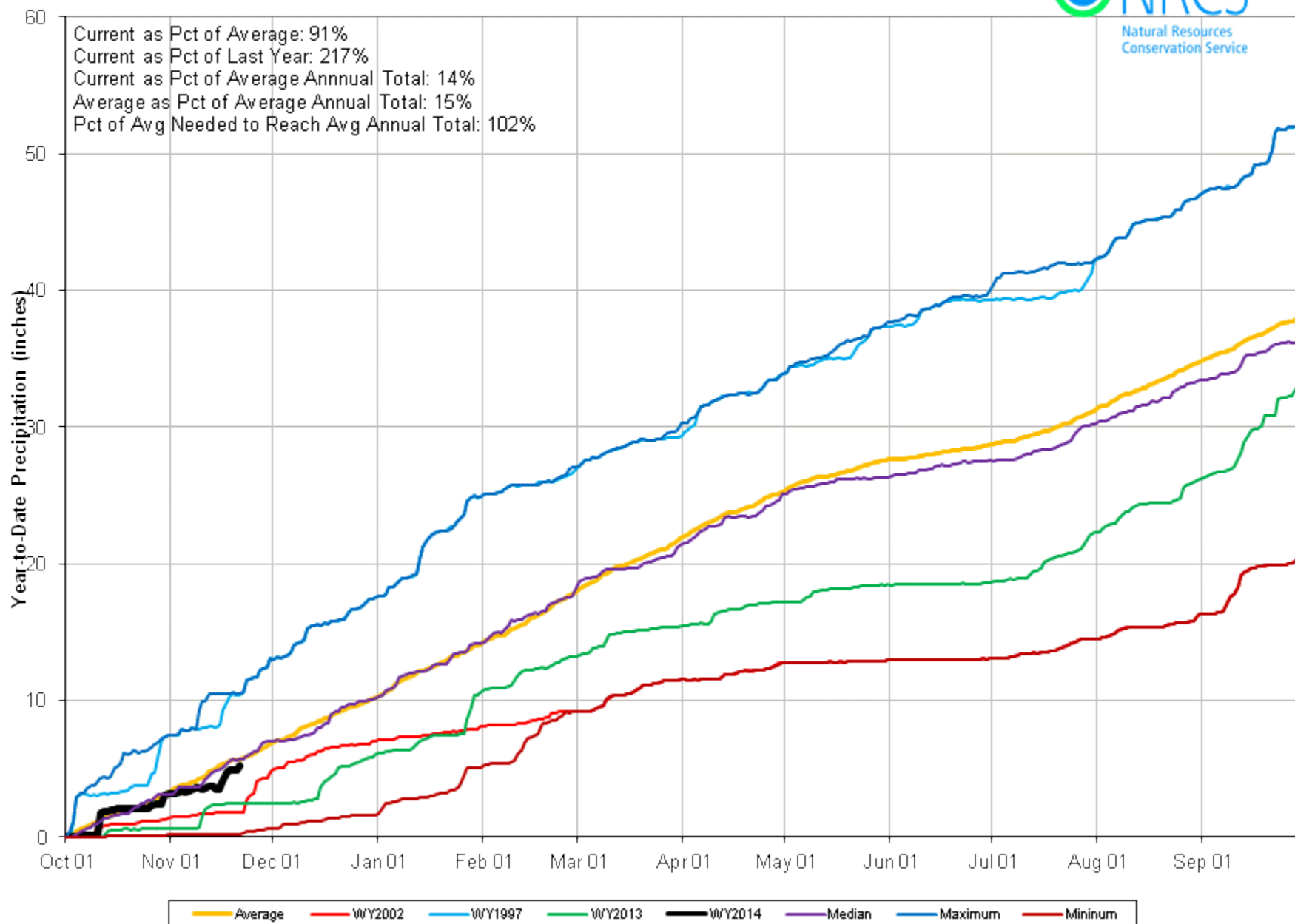


San Miguel, Dolores, Animas & San Juan River Basins High/Low Year-to-Date Precipitation Summary

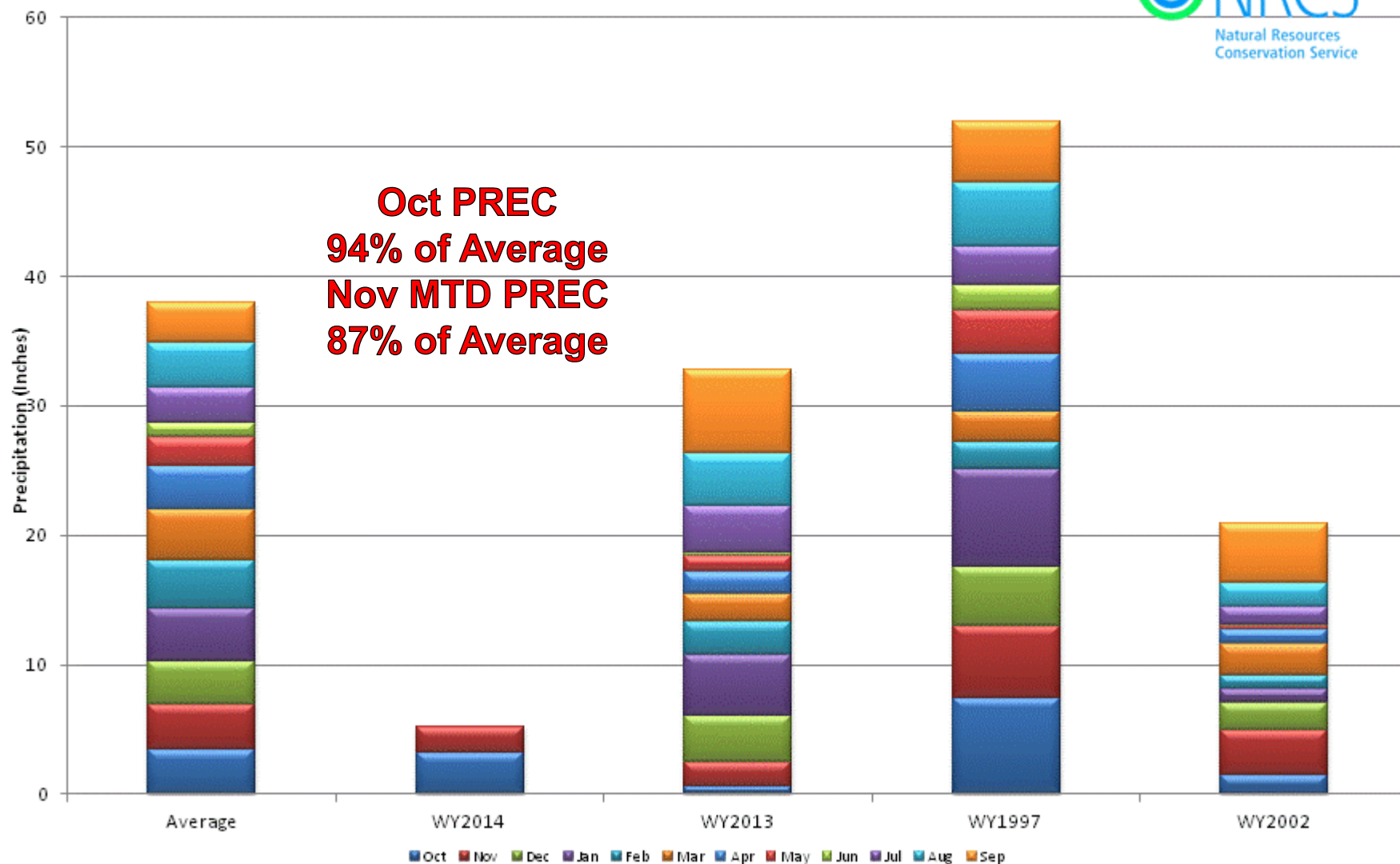
Based on Provisional SNOTEL data as of Nov 21, 2013



Natural Resources
Conservation Service



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*

62% of Average
33% of Capacity
Last Year: 66% of Average

End of September 2013

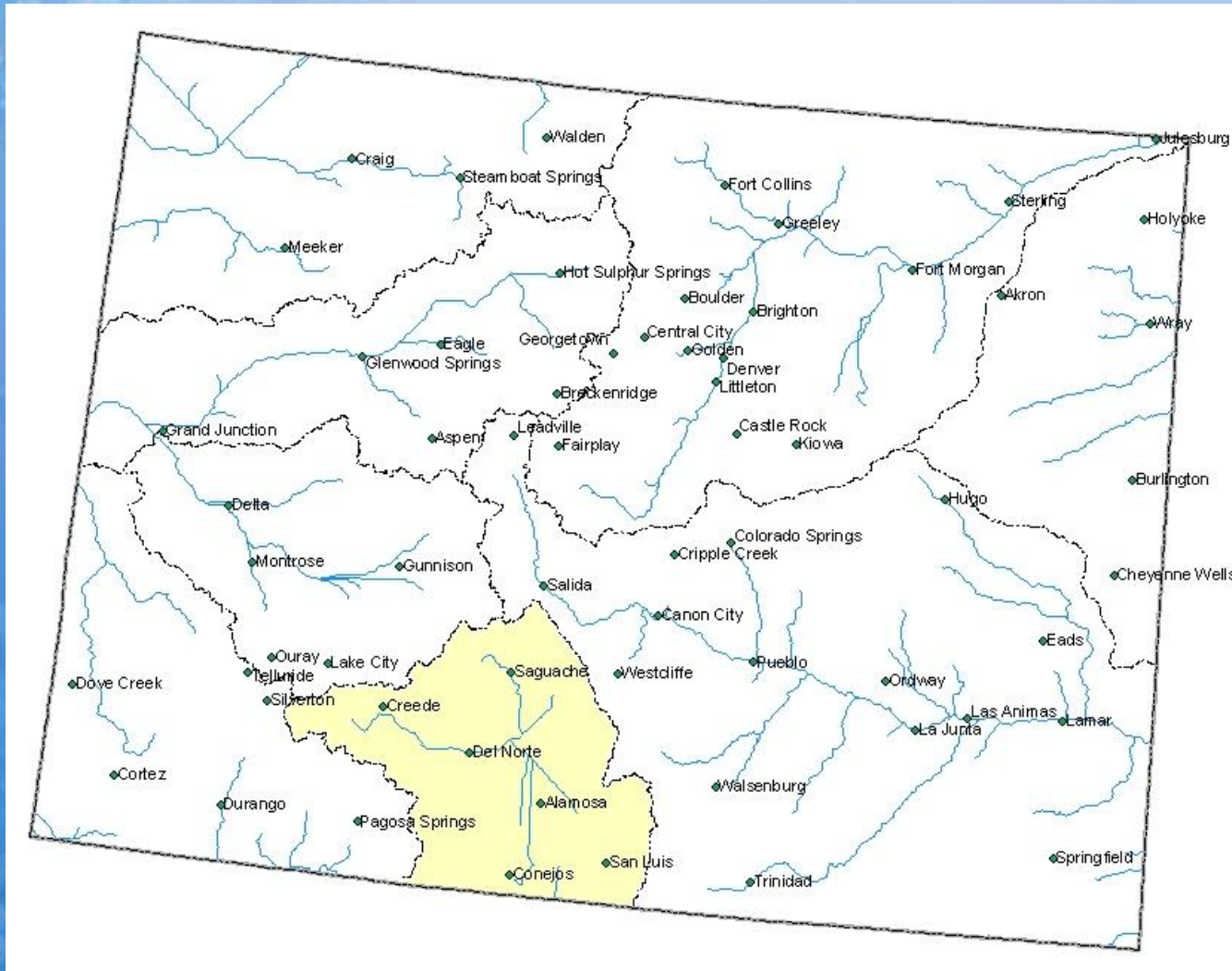


October EOM Storage:

67% *AVG*

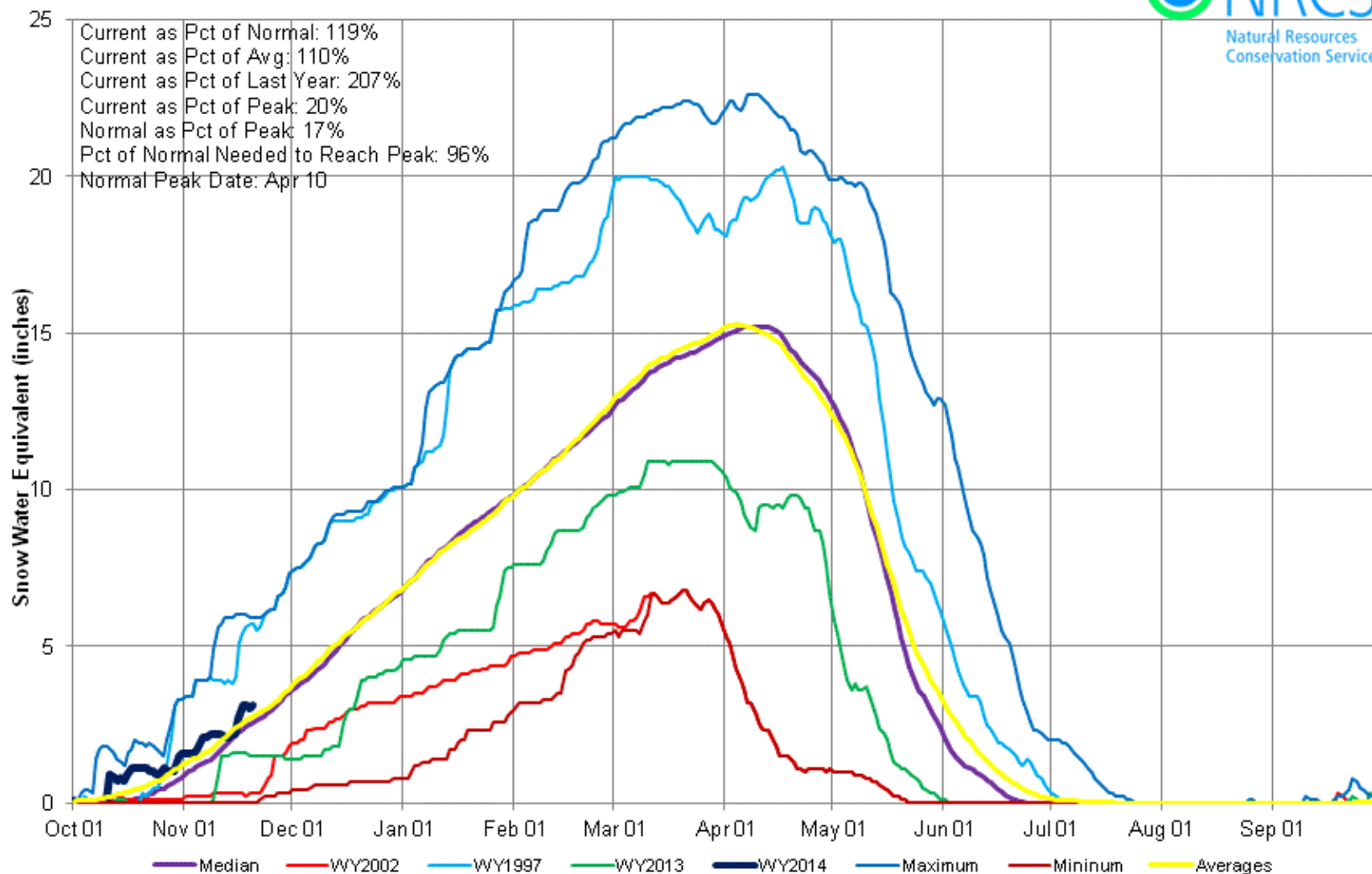
45% Capacity

Upper Rio Grande Basin Summary



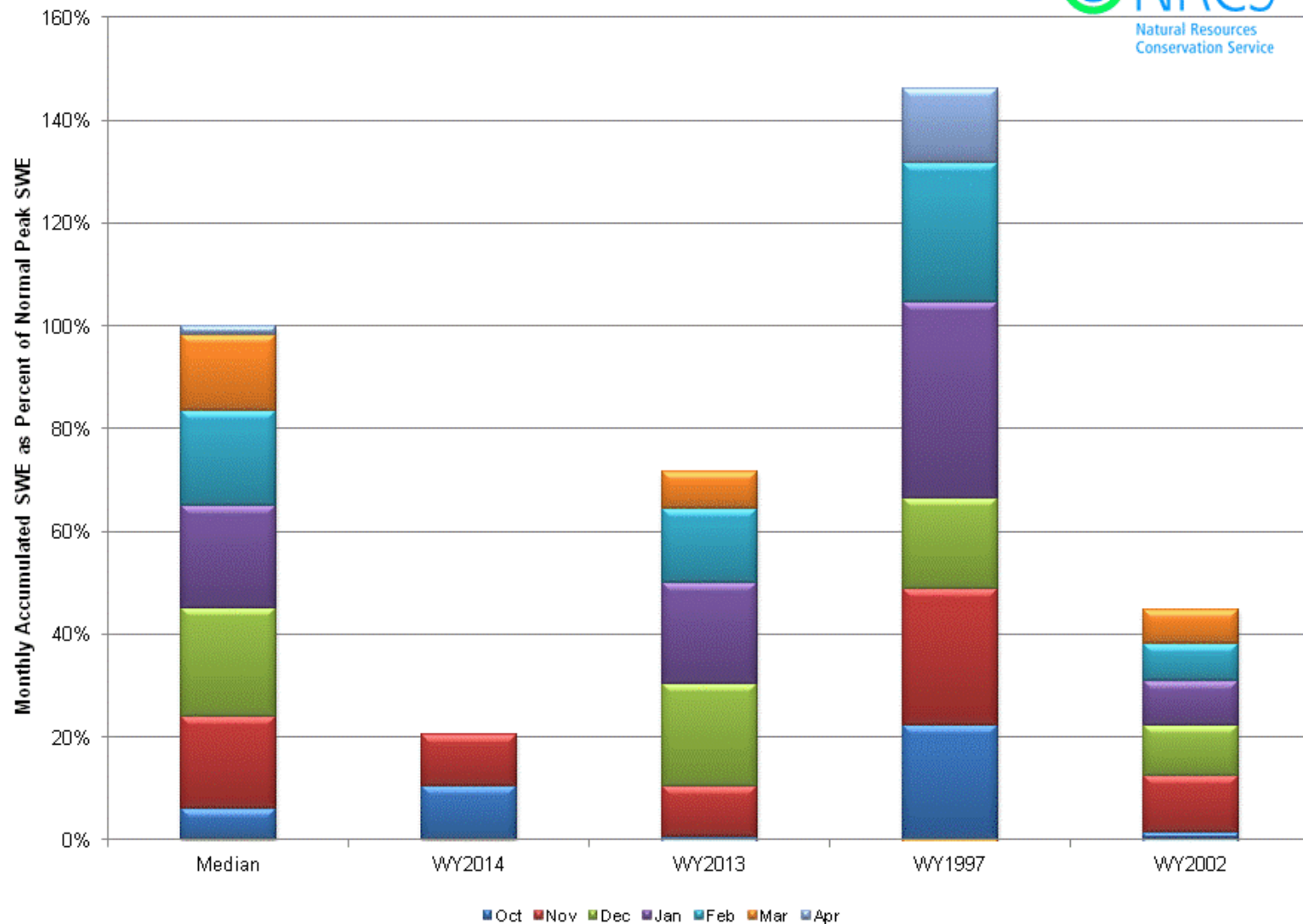
Upper Rio Grande River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



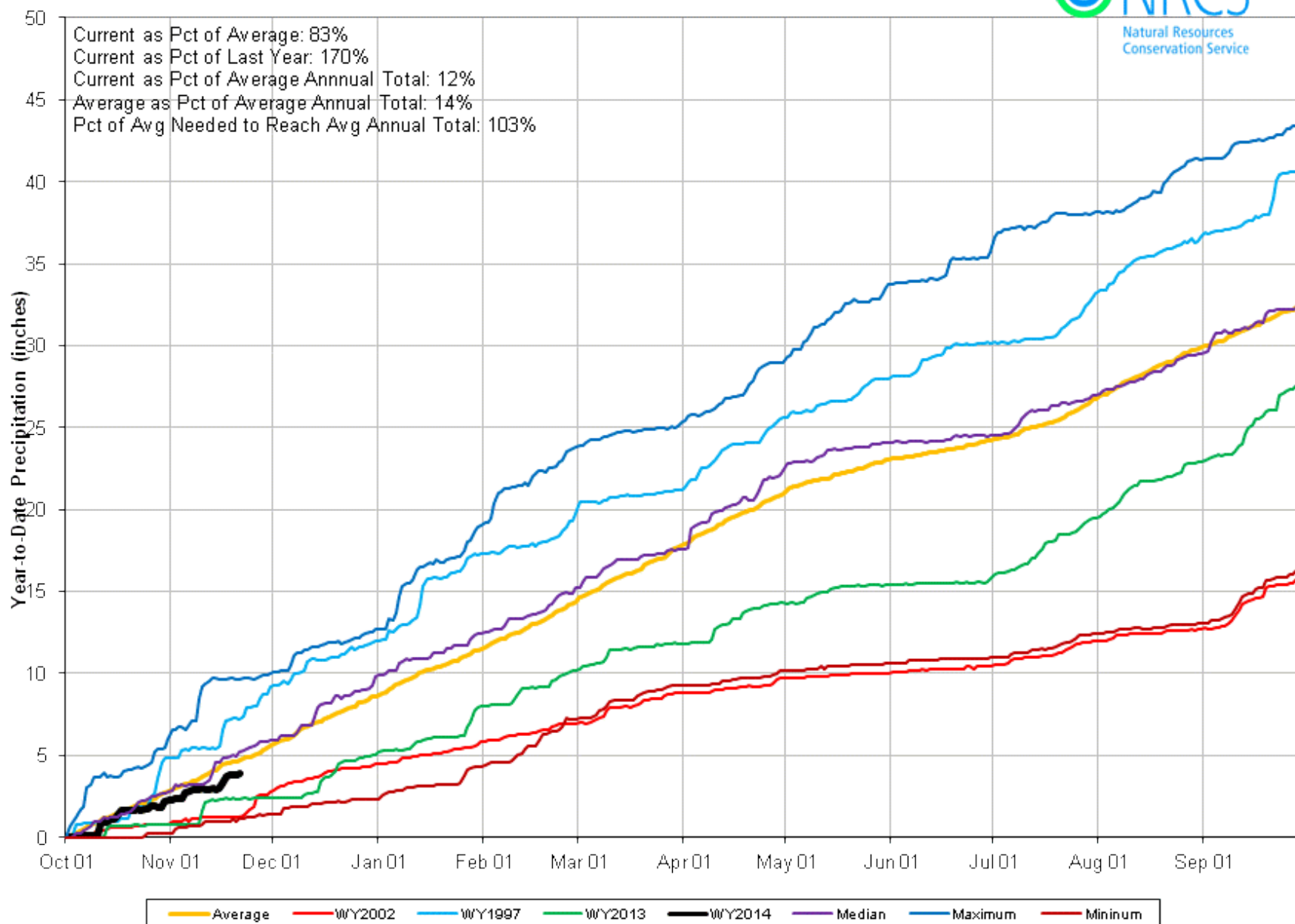
Upper Rio Grande River Basin High/Low Monthly Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



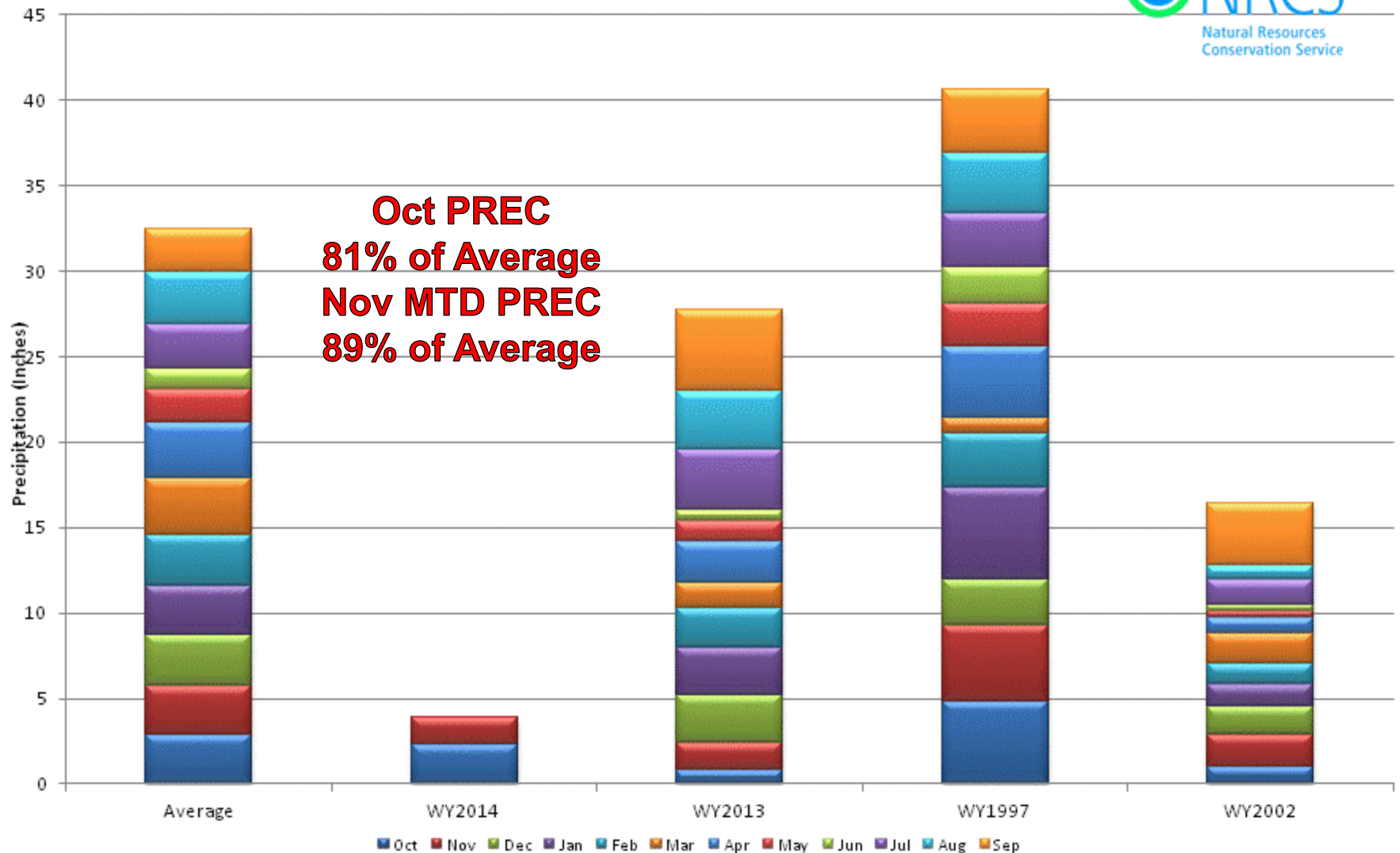
Upper Rio Grande Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013



Upper Rio Grande Basin High/Low Monthly Precipitation Summary

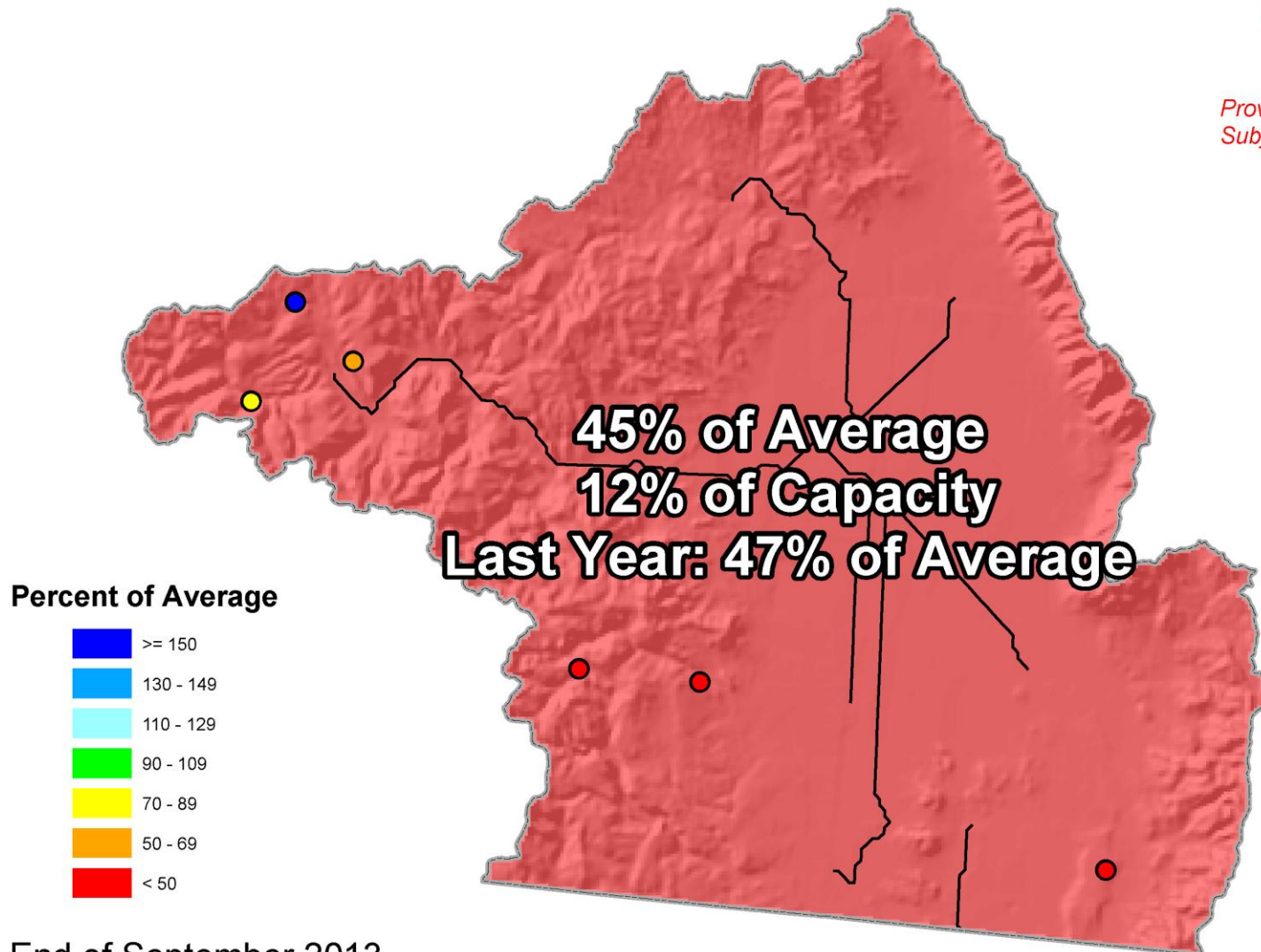
Based on Provisional SNOTEL data as of Nov 21, 2013



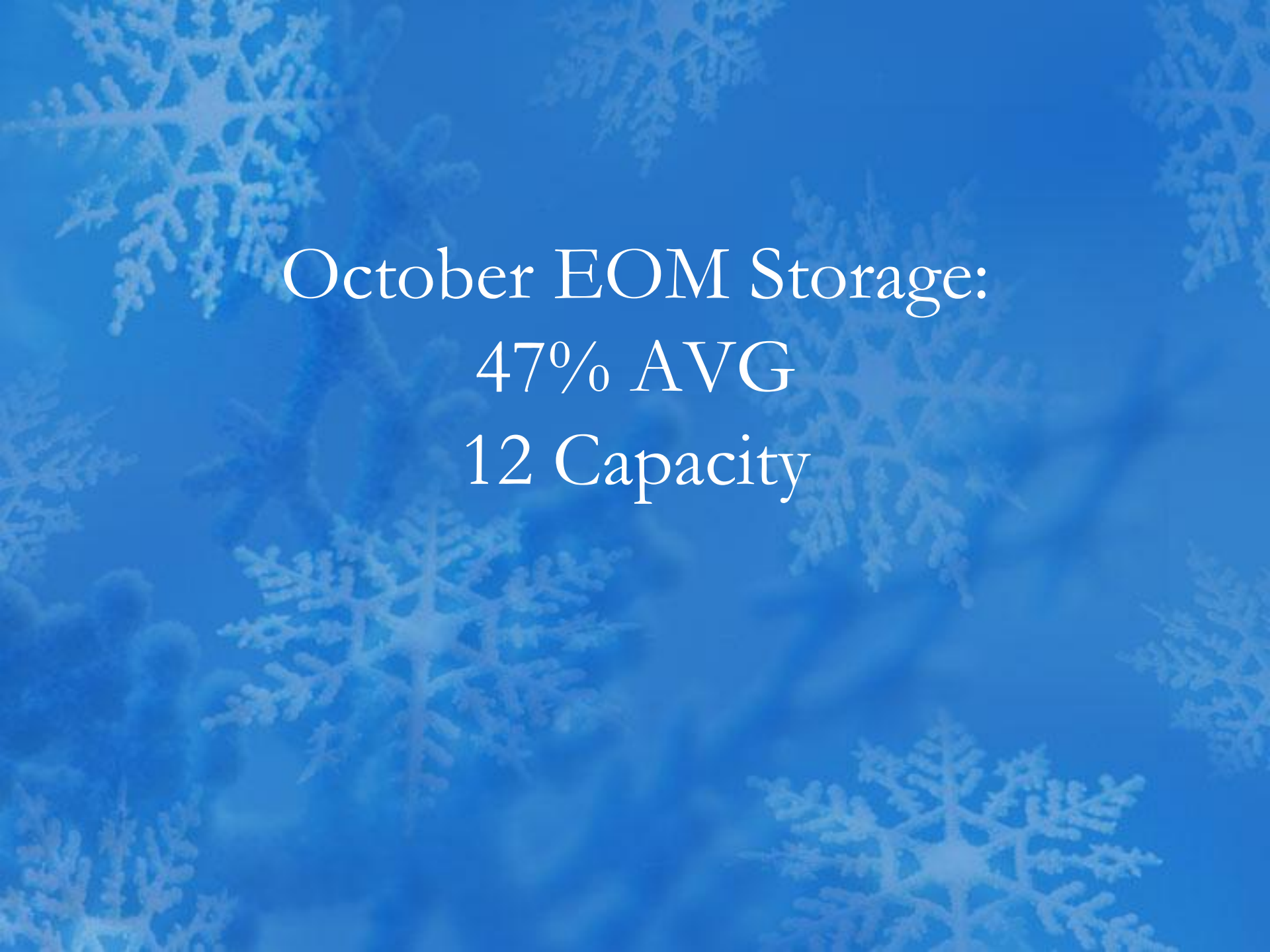
Upper Rio Grande Basin Reservoir Storage Map



*Provisional Data
Subject to Revision*

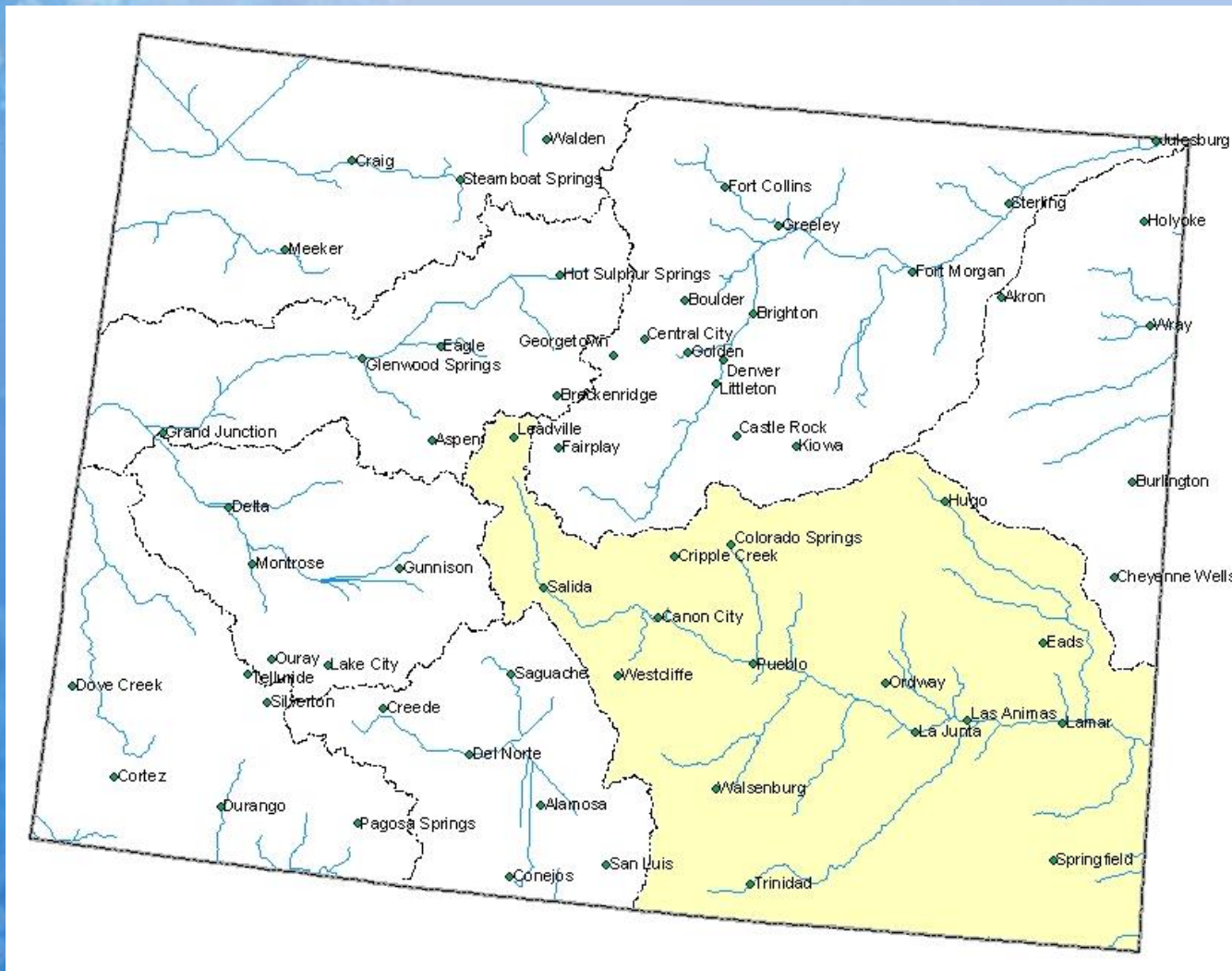


End of September 2013



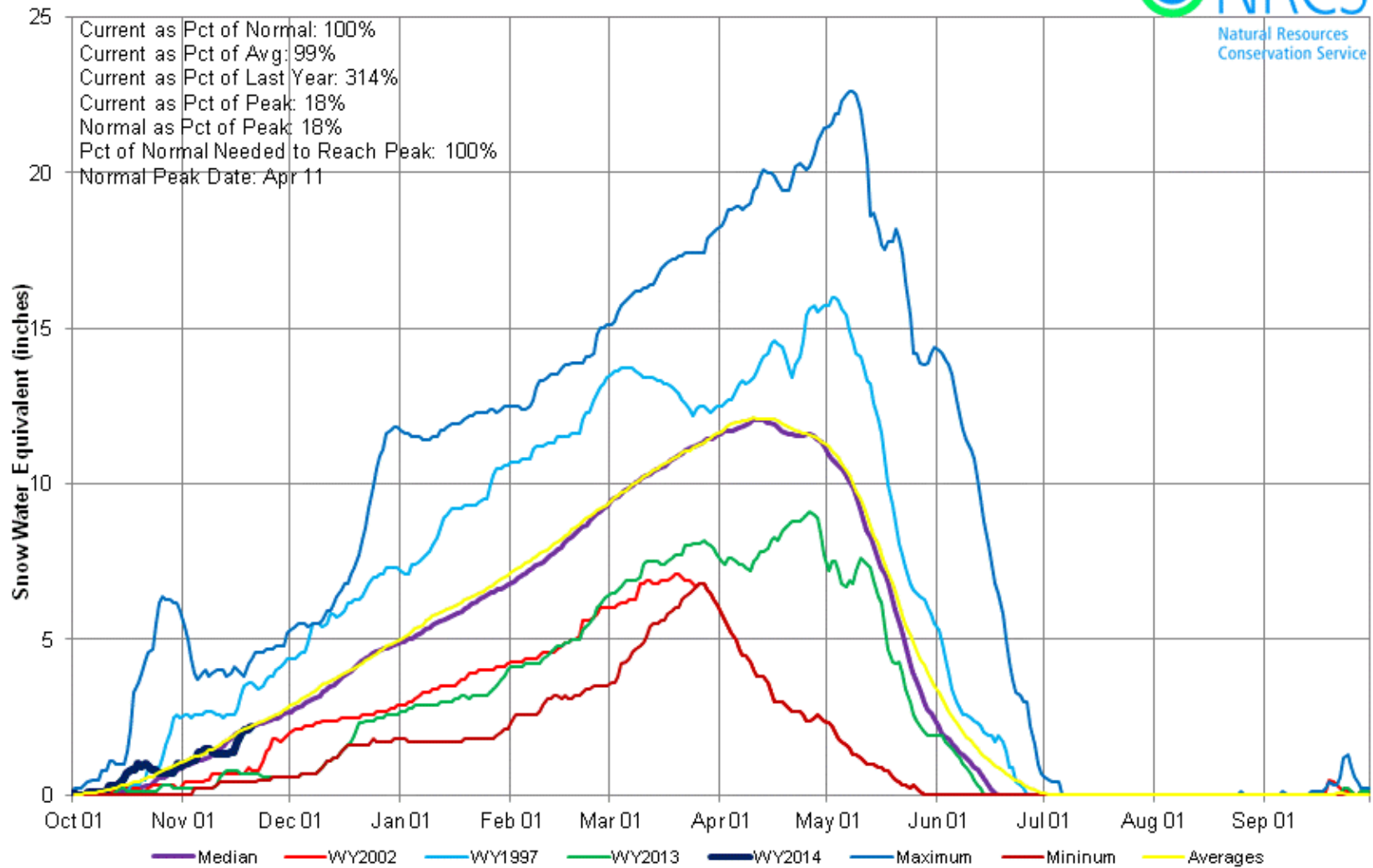
October EOM Storage:
47% *AVG*
12 Capacity

Arkansas River Basin Summary



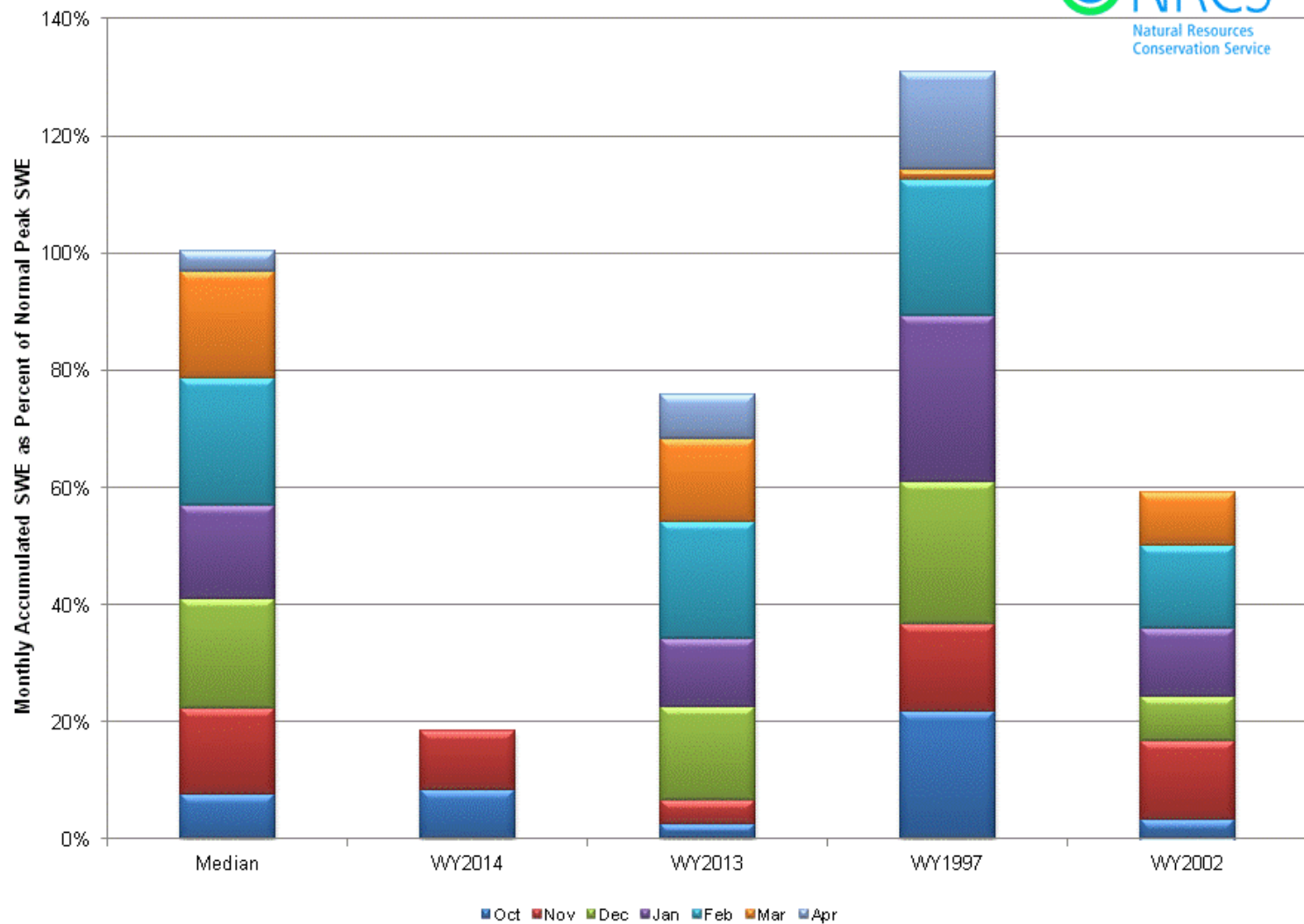
Arkansas River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



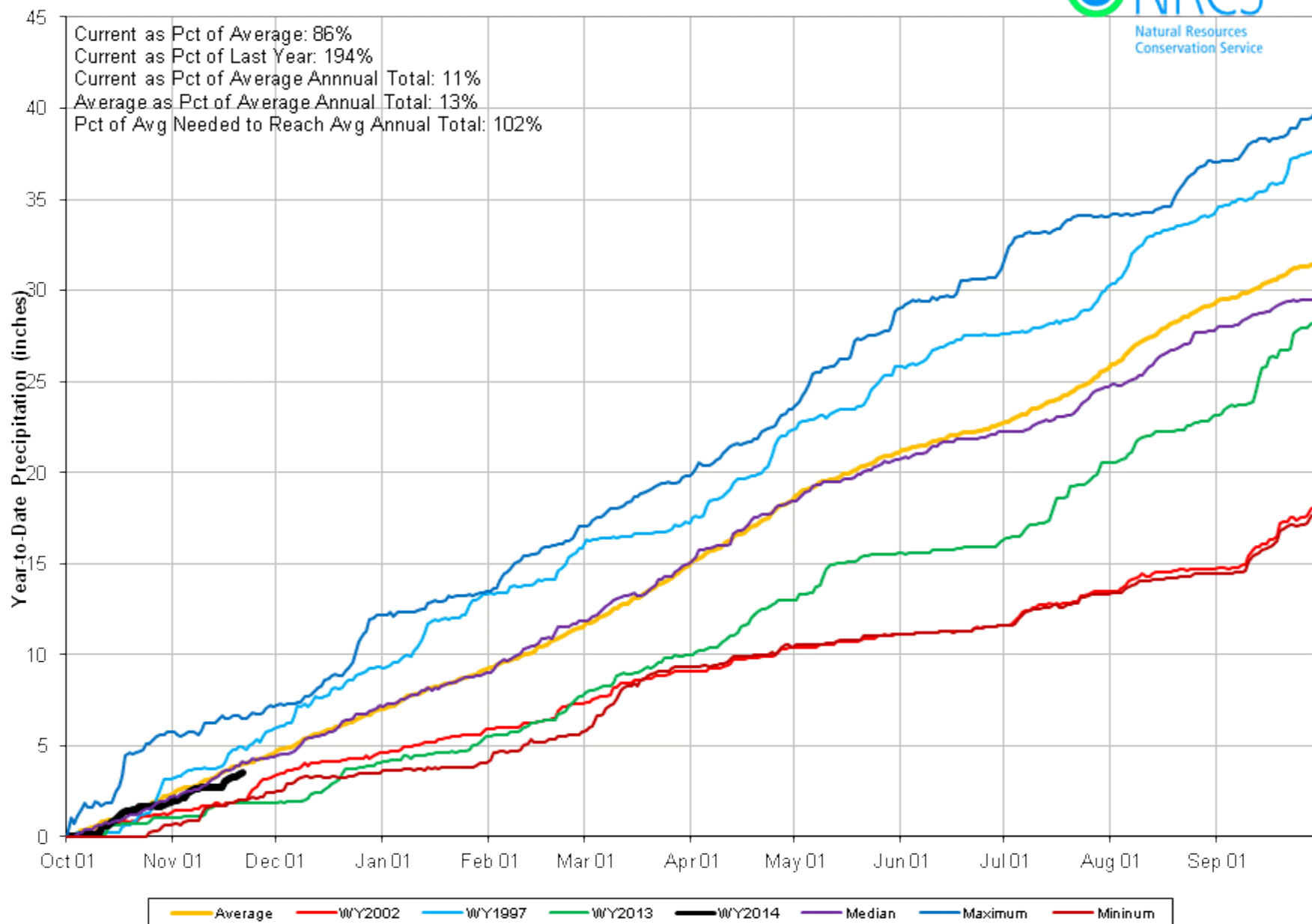
Arkansas River Basin High/Low Monthly Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



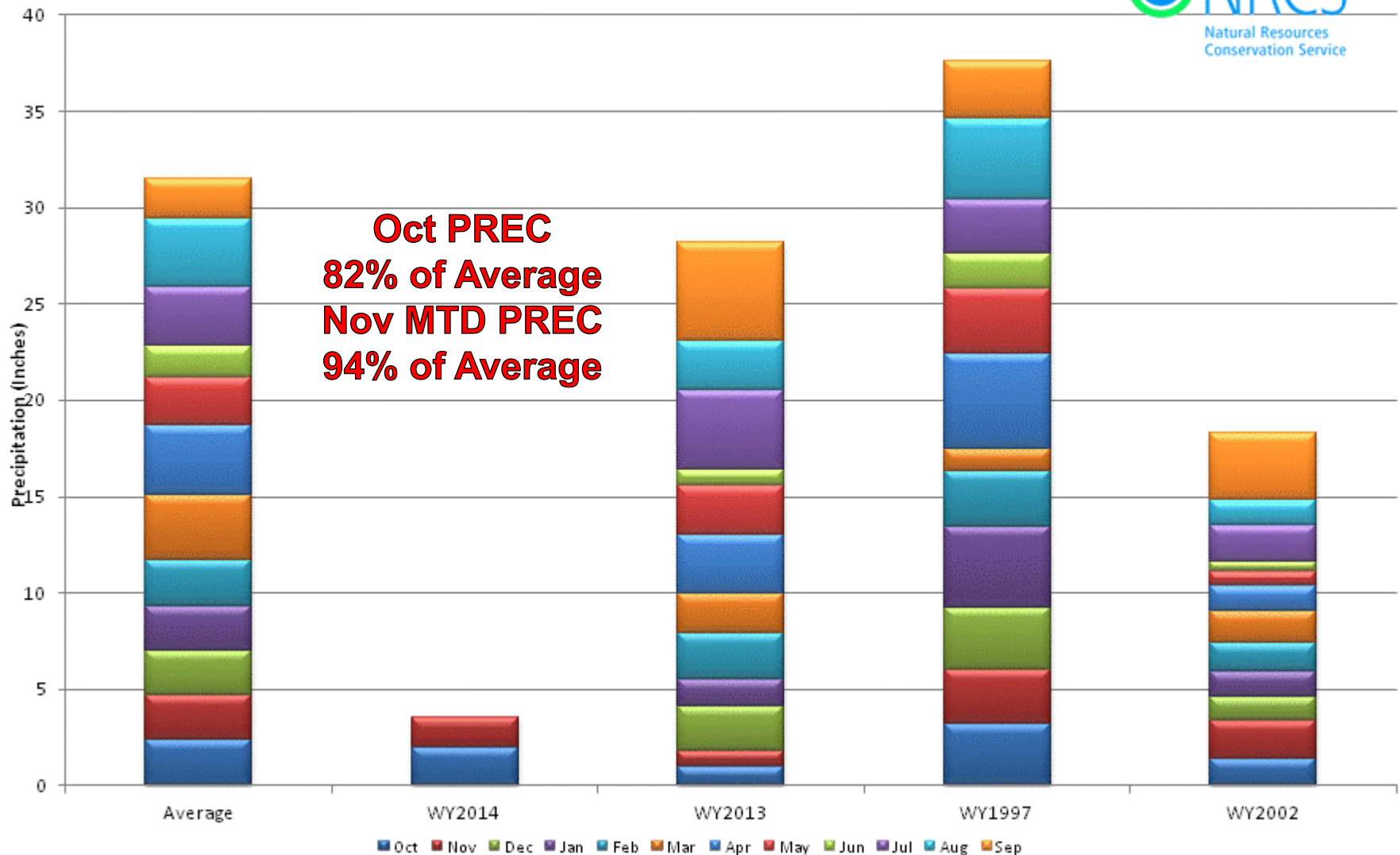
Arkansas River Basin High/Low Year-to-Date Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013



Arkansas River Basin High/Low Monthly Precipitation Summary

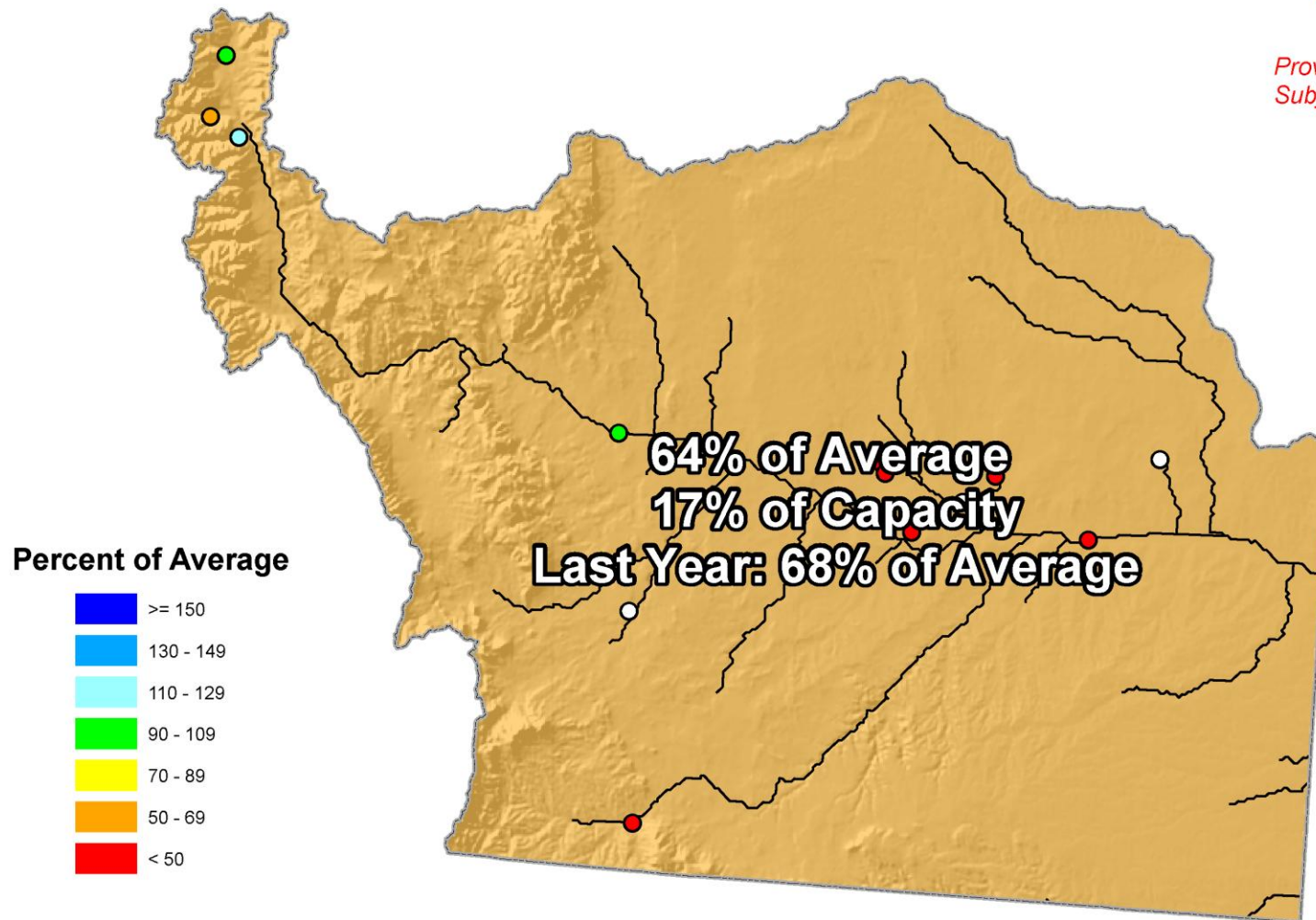
Based on Provisional SNOTEL data as of Nov 21, 2013



Arkansas River Basin Reservoir Storage Map



*Provisional Data
Subject to Revision*

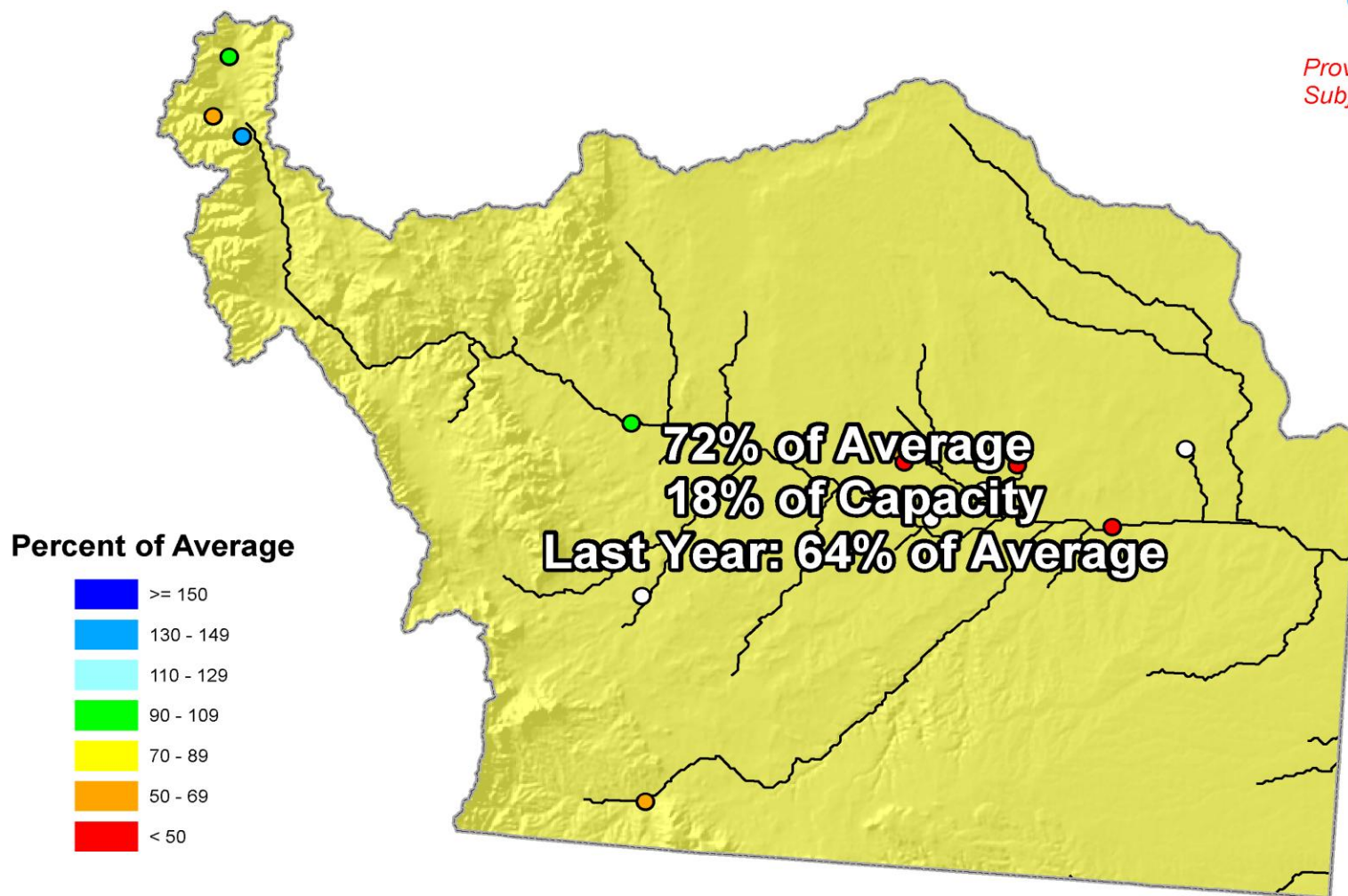


End of September 2013

Arkansas River Basin Reservoir Storage Map

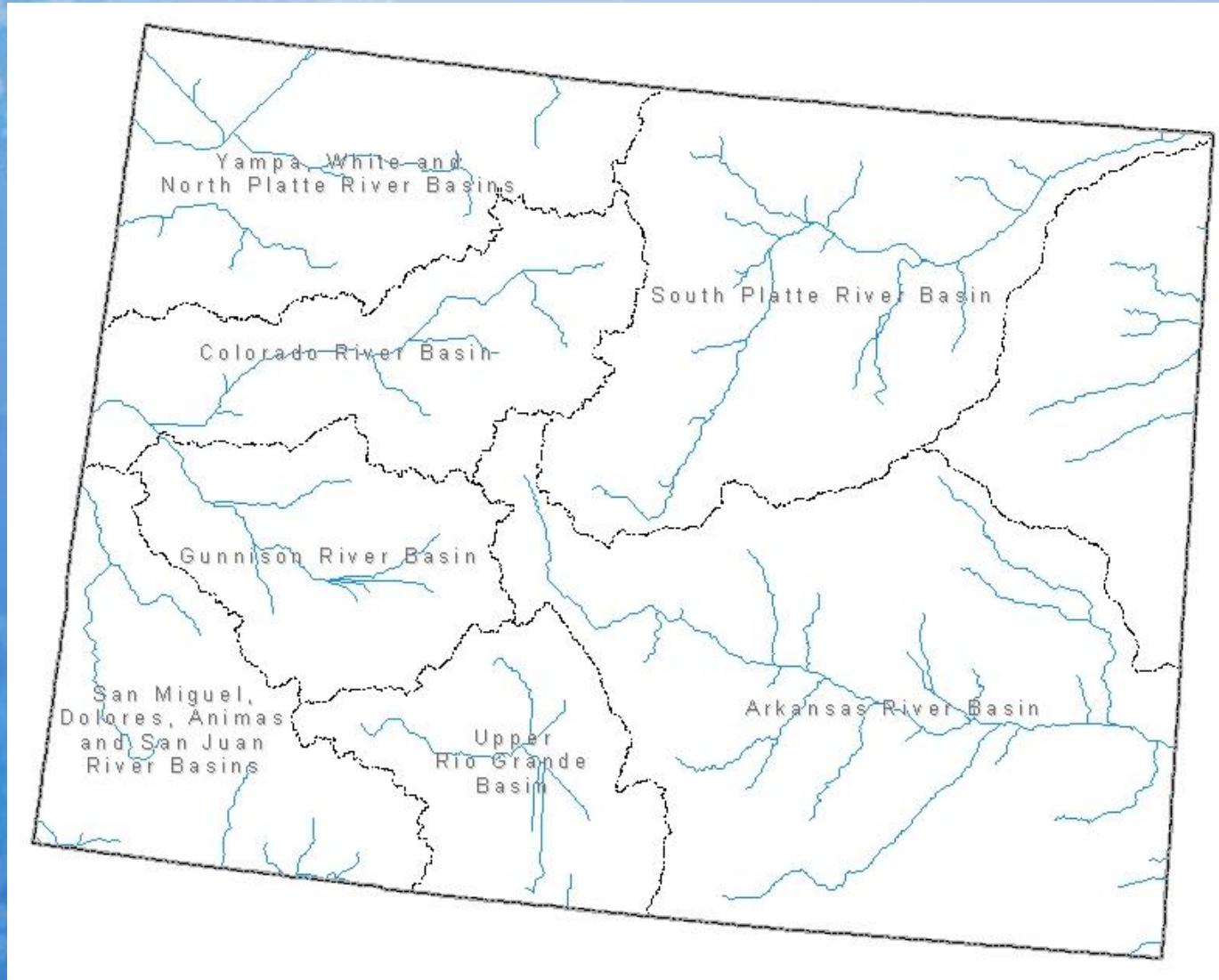


*Provisional Data
Subject to Revision*



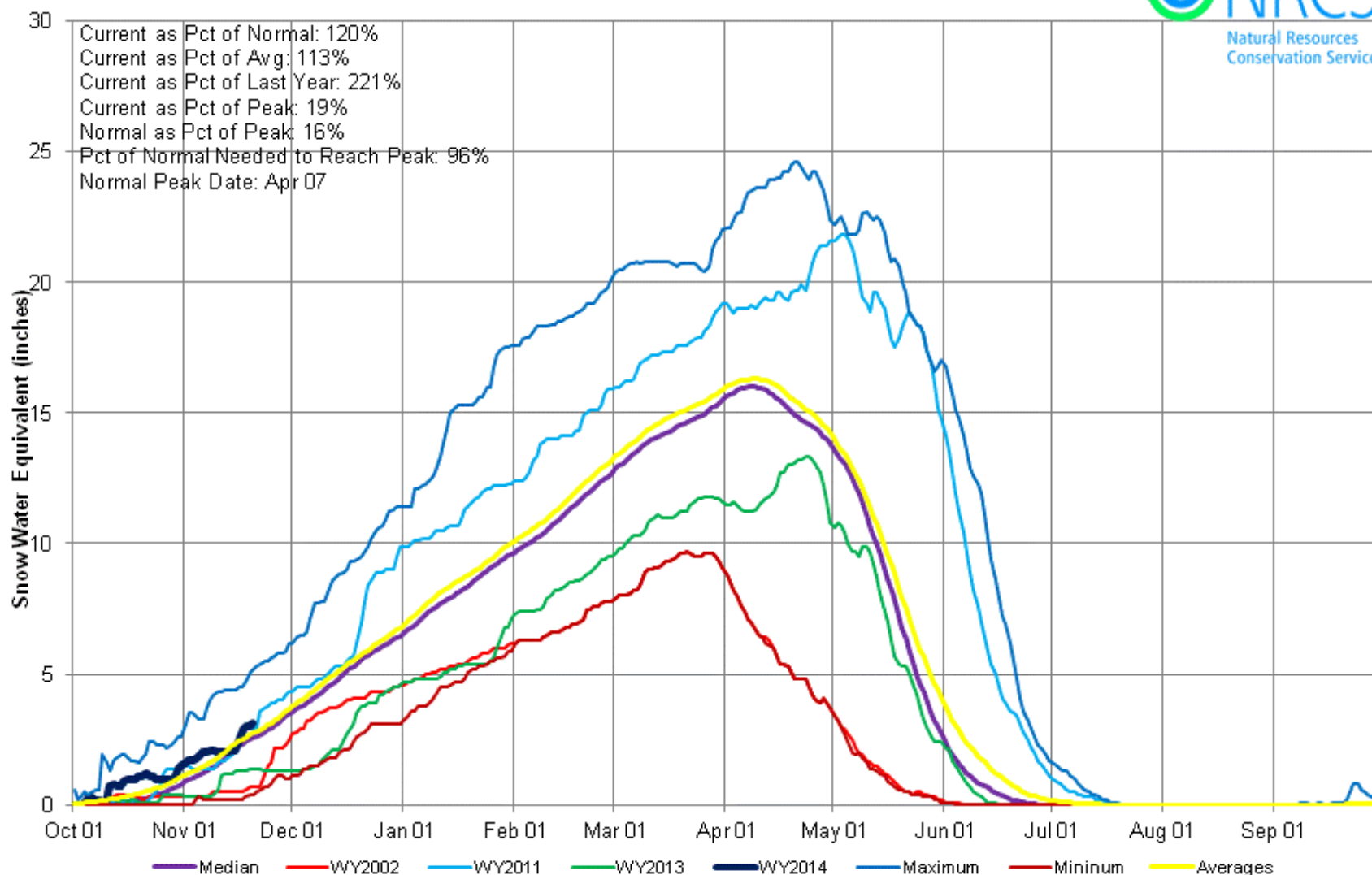
End of October 2013

Colorado Statewide Summary



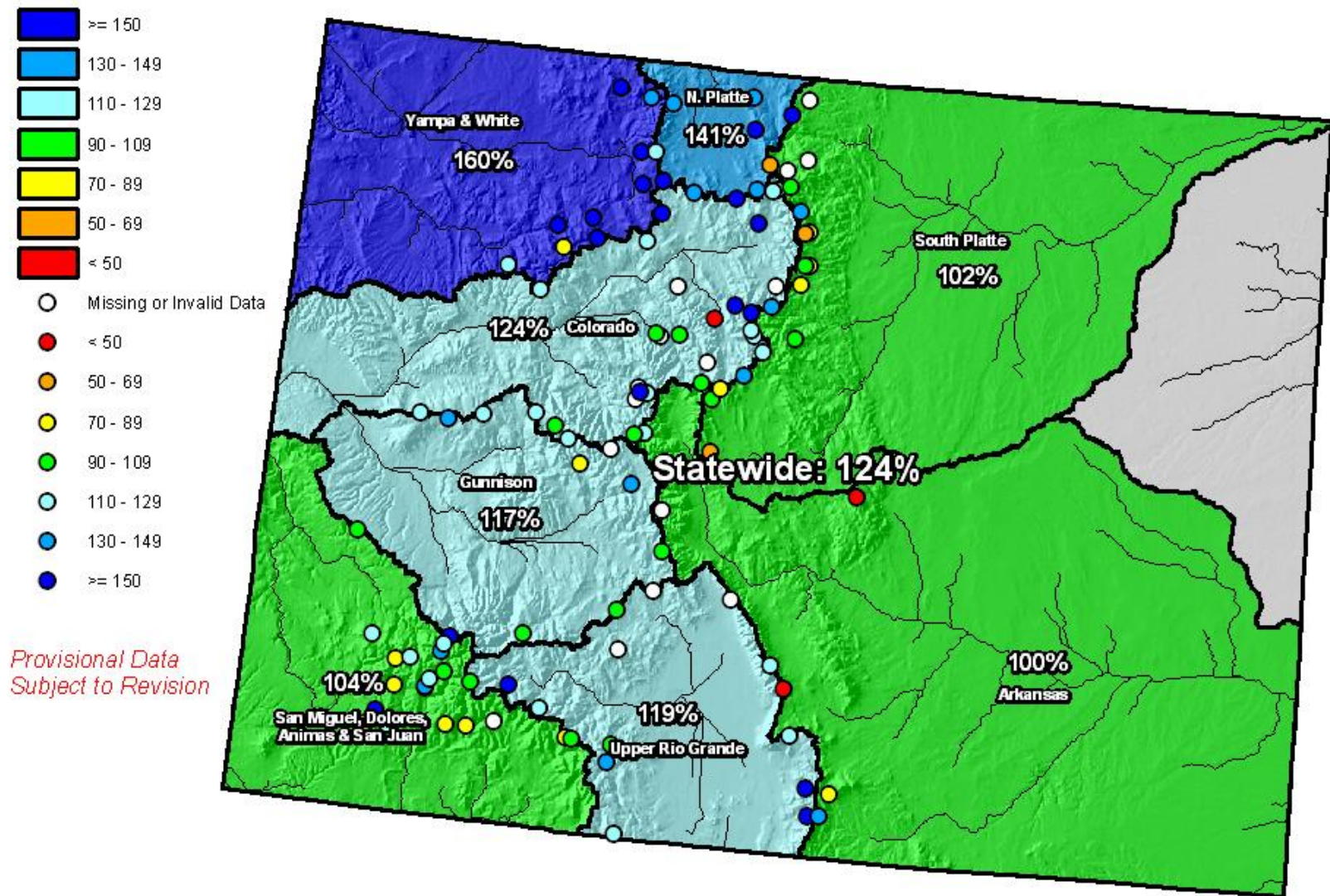
Colorado Statewide High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Nov 20, 2013



Colorado SNOTEL Snowpack Update Map with Site Data

Percent of Average



Current as of Nov 20, 2013

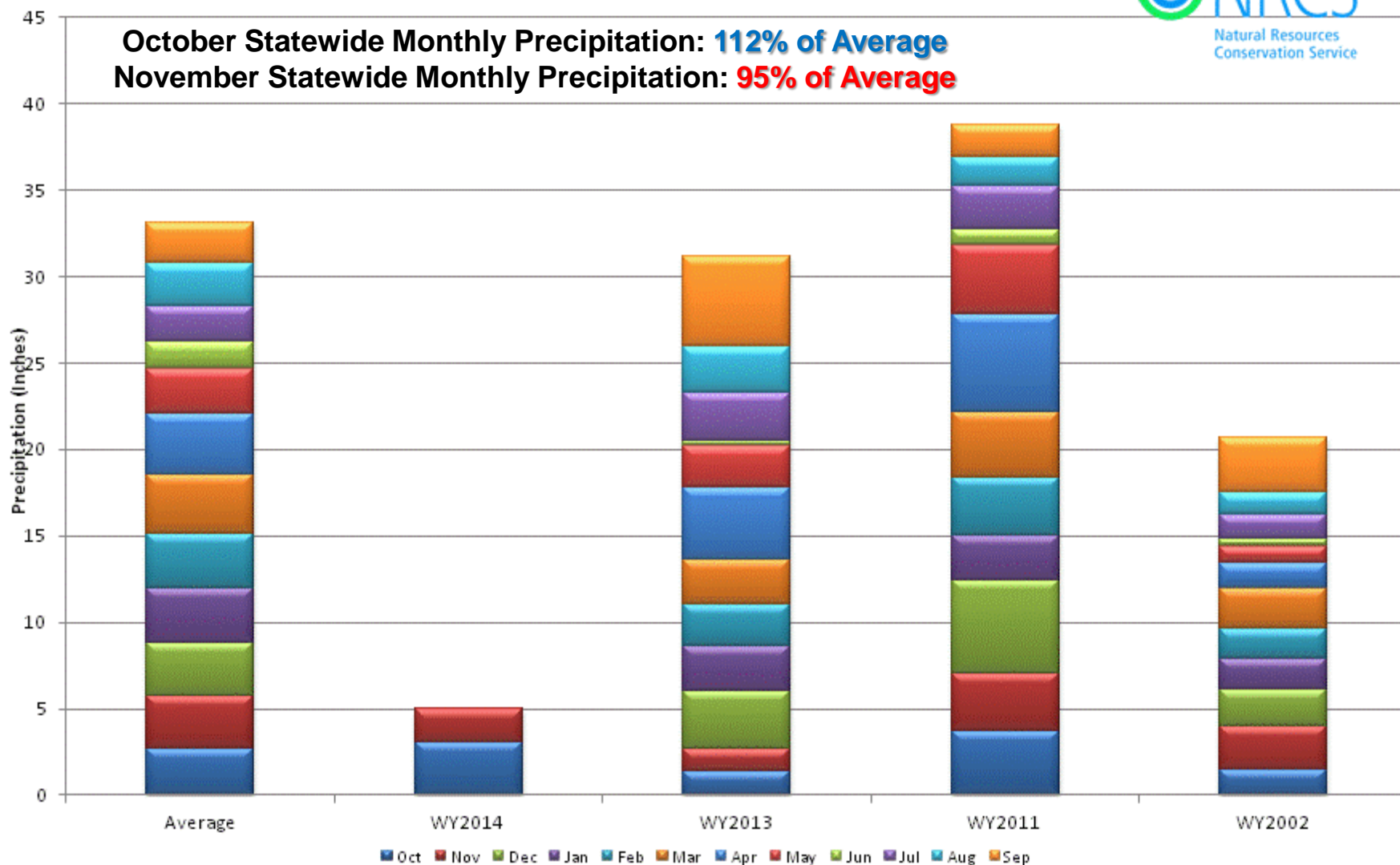
*Data may not provide a valid measure of conditions

Colorado Statewide High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Nov 21, 2013

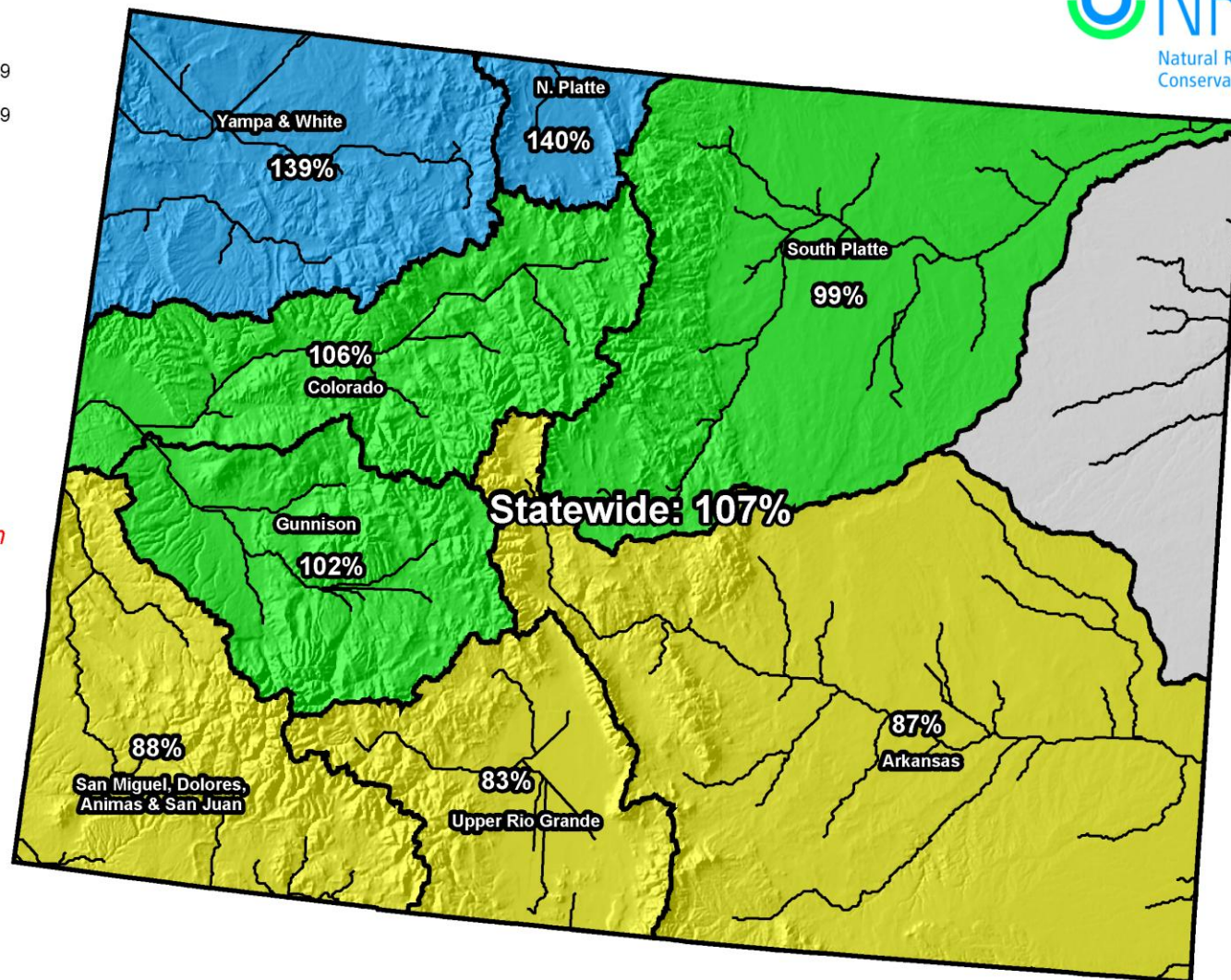
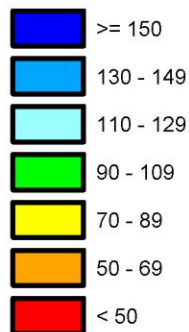


October Statewide Monthly Precipitation: 112% of Average
November Statewide Monthly Precipitation: 95% of Average



Colorado SNOTEL Water Year-to-Date Precipitation Update Map

Percent of Average



*Provisional Data
Subject to Revision*

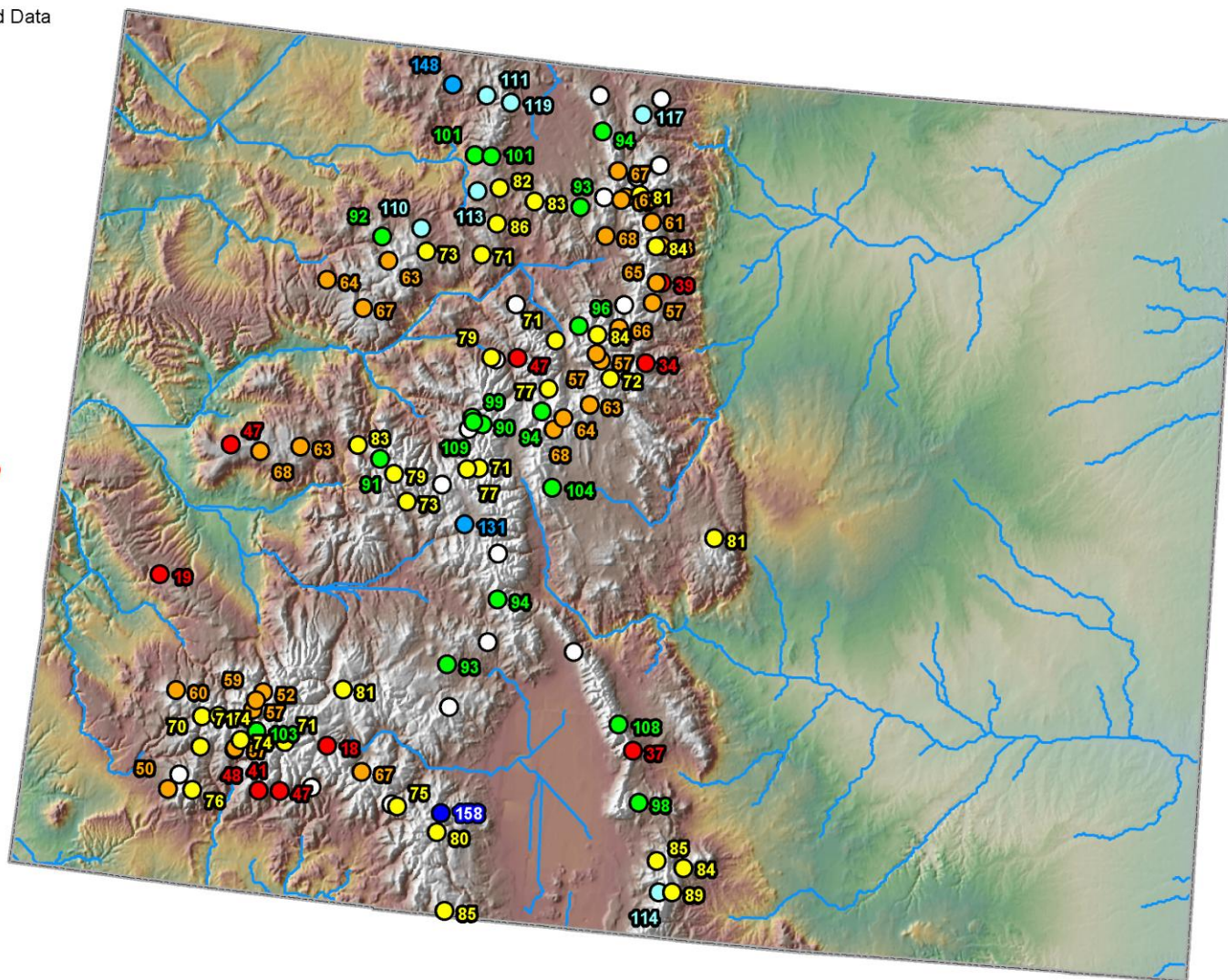
Current as of Nov 20, 2013

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

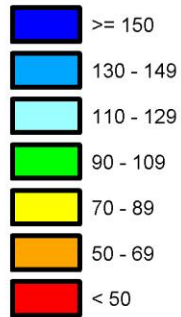
*Provisional Data
Subject to Revision*



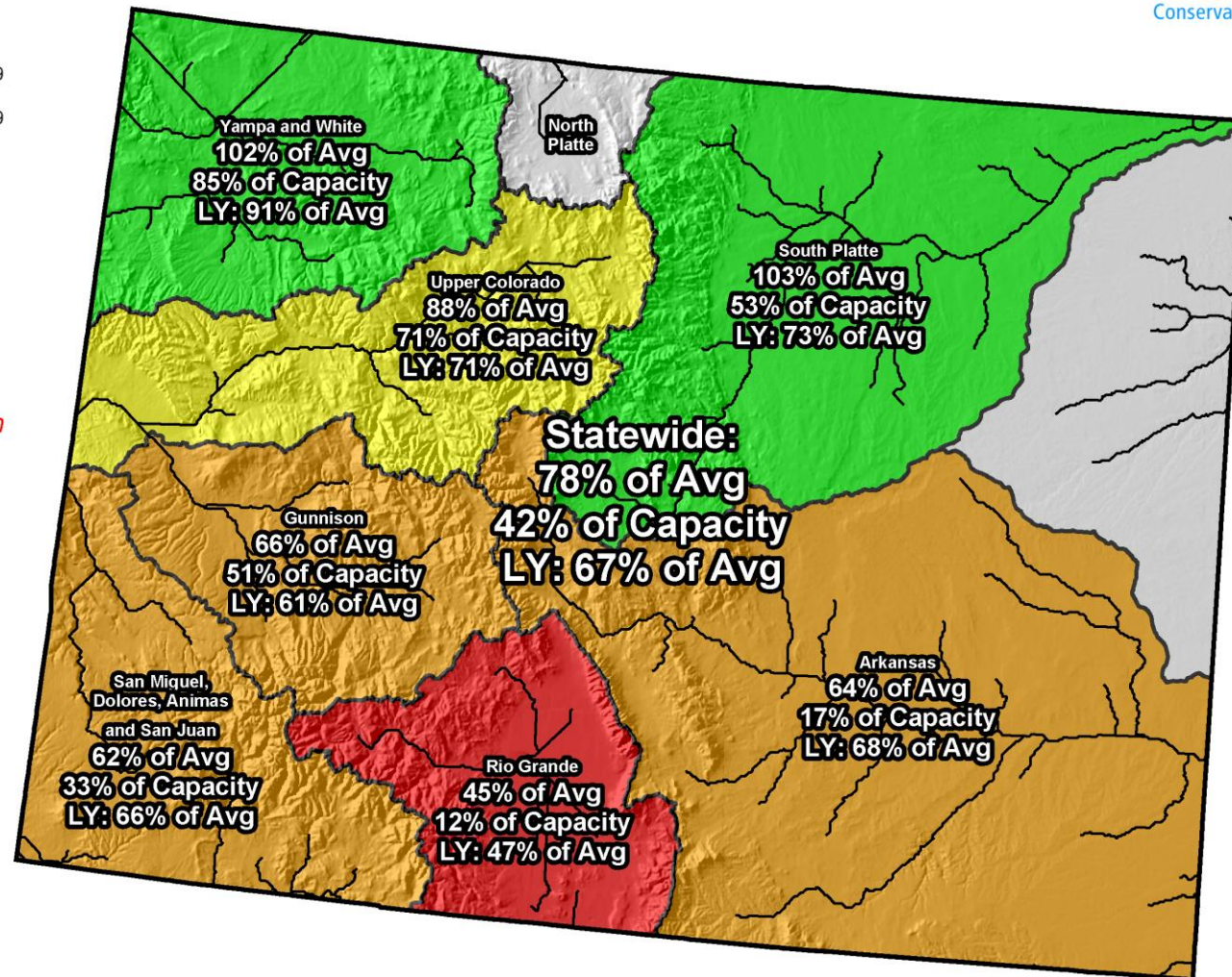
Current as of Nov 20, 2013

Colorado Reservoir Storage Map

Percent of Average



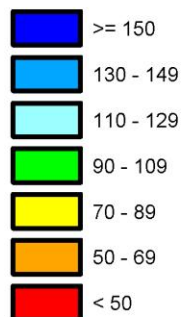
*Provisional Data
Subject to Revision*



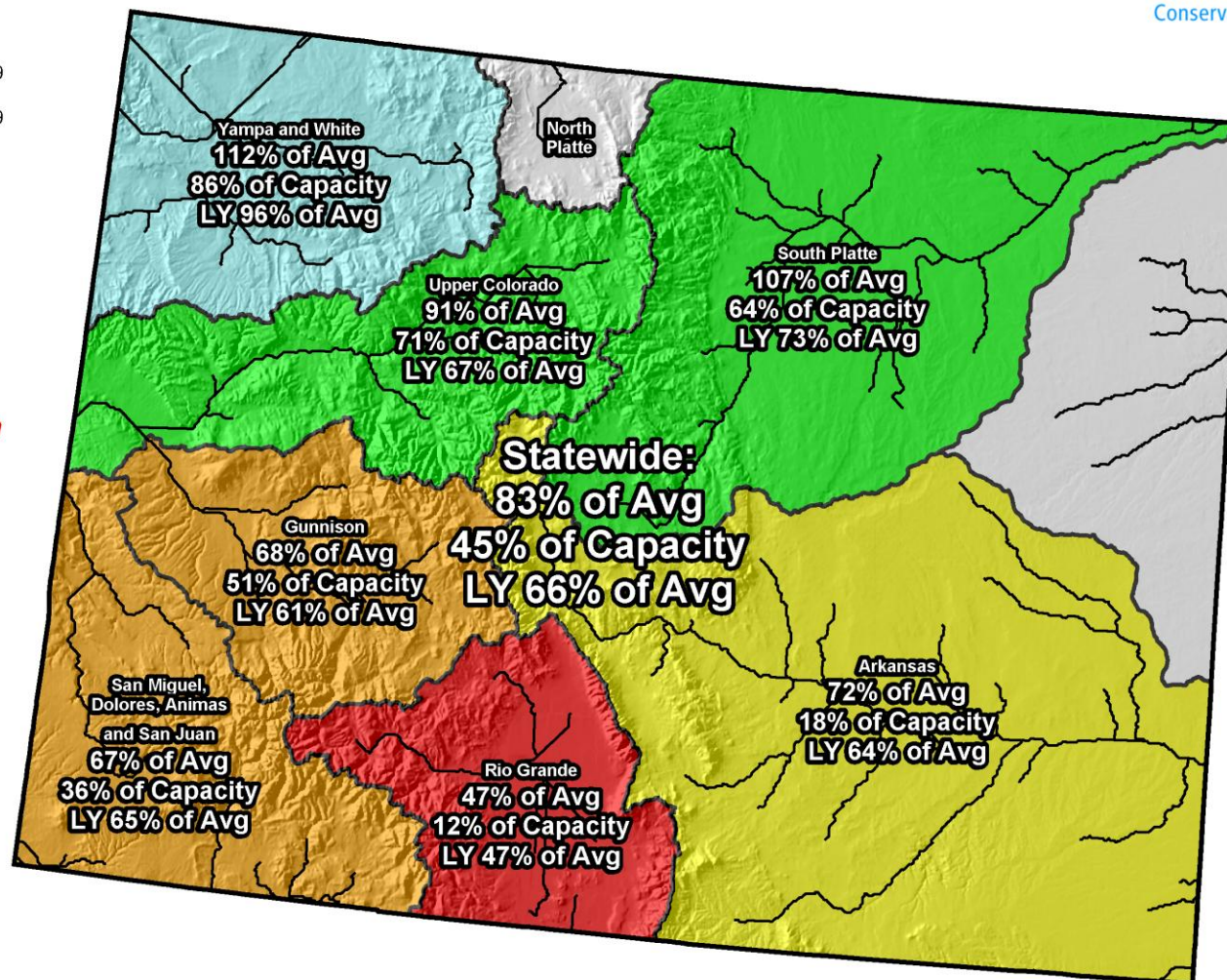
End of September 2013

Colorado Reservoir Storage Map

Percent of Average

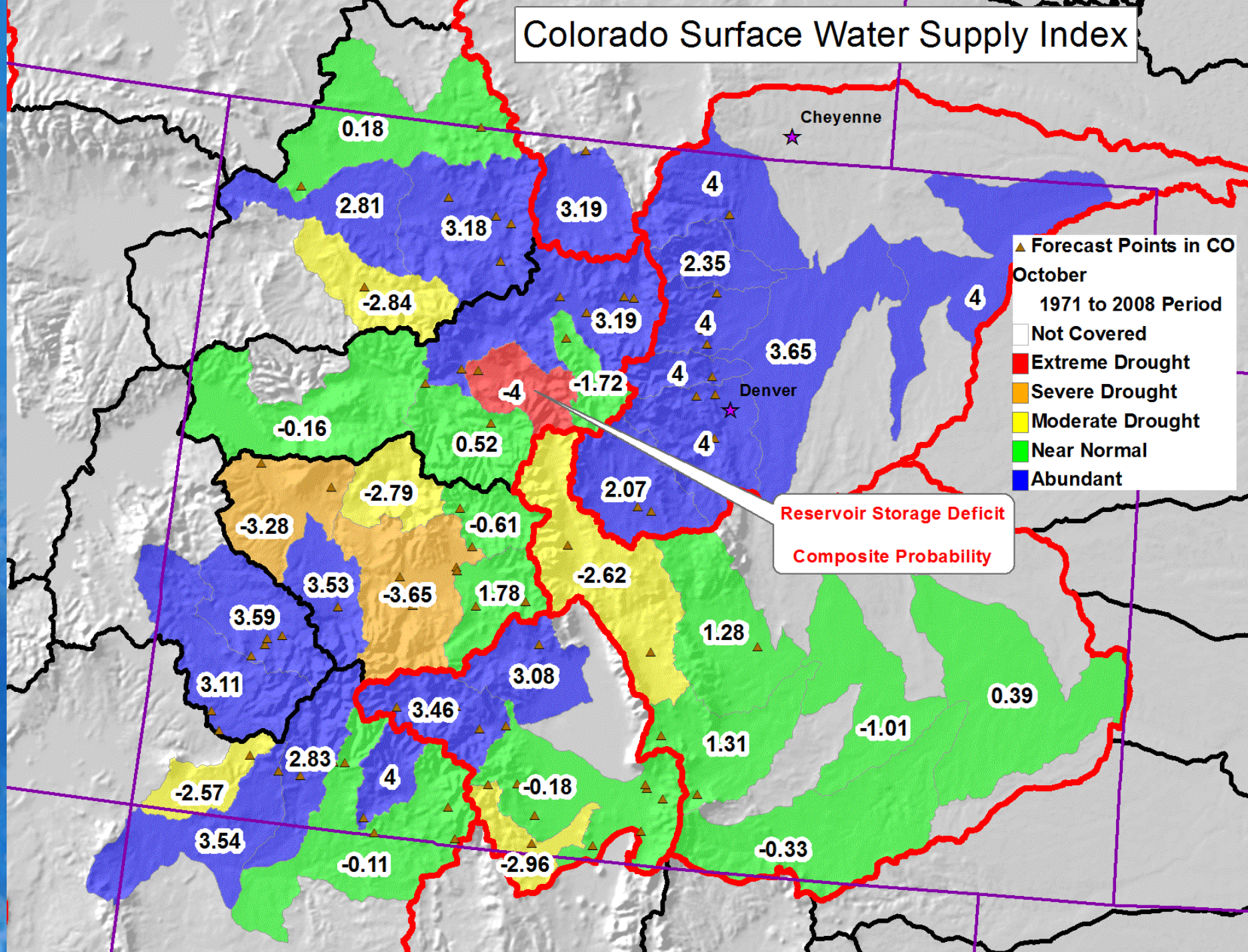


*Provisional Data
Subject to Revision*

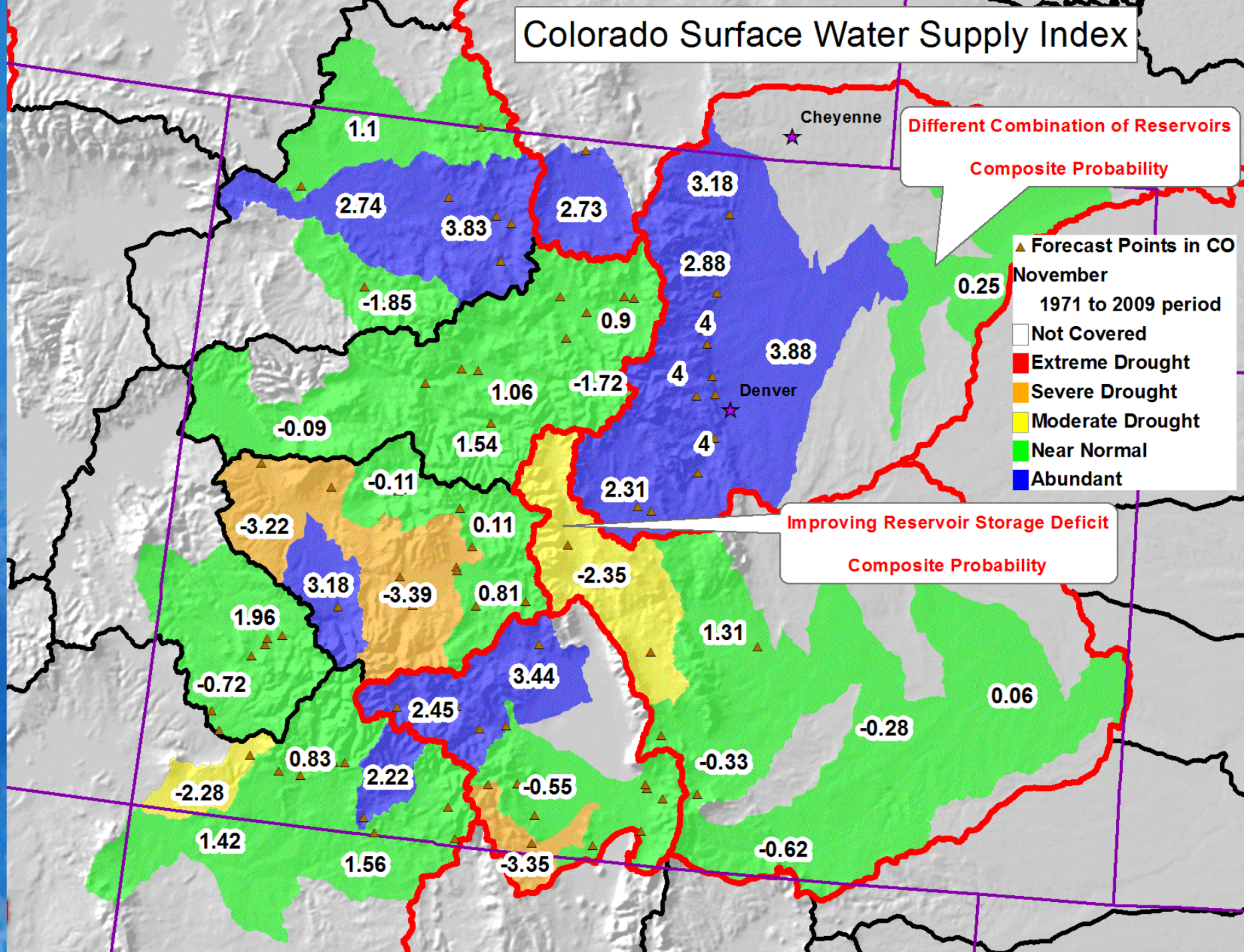


End of October 2013

Colorado Surface Water Supply Index



Colorado Surface Water Supply Index



WY2013 Summary

- DEC: SNOW! Finally. Storms in mid to late Dec boosted snowpack but it was not enough to reach normal conditions.
- JAN: End of month storm increased the snowpack in Southwest basins.
- FEB: Prec below average. The Snow we did receive was just enough to keep the snowpack from further declining.
- MAR: Storms helped maintained snowpack but no boost.
- APR: Multiple storm systems brought the snowpack up substantially and in some cases to near normal peaks. Really improved the northern basins but did not help the southern basins.
- MAY: Above normal prec recorded for the South Platte, Upper Colorado and Arkansas basins. In the South Platte additional snow accumulation caused the basin to reach a second higher peak SWE in early March.
- JUNE: Little to no precipitation received in the mountains during the month. Reservoir storage improved in some areas but did not recover to normal.
- JULY: Well above average mountain precipitation across the state. Reservoir storage continues to drop especially in the southern part of the state.
- AUG: Another month of above average precipitation across most of the state. The Yampa and Arkansas basins are the two exceptions. Not much change in storage.
- SEP: PRECIP was way above average for the month across the state. Reservoir storage improved in some basins, South Platte, Yampa/White.

WY2014 Summary

- OCT: The northern basin had above average precipitation for the 2nd consecutive month. The southern basins were in the 80 -90% range. All basins received some good early season snow accumulation.
- NOV: So far statewide precip is near average. The Yampa/White is the only basin with above average precipitation so far this month. Across the state snow accumulation is above normal, but it's still early. End of October reservoir storage is well above last year at this time.