

NRCS – Snow Survey & Water Supply Forecasting

Mike Gillespie

Joint Water Availability Task Force and
Colorado Flood Task Force Meeting
March 25, 2010

<ftp://ftp-fc.sc.egov.usda.gov/CO/Snow/misc/NRCSgillespie100325.ppt>

The 2010 Water Year

October – Cold statewide with slightly above normal mountain precipitation. Good start to the winter snowpack.

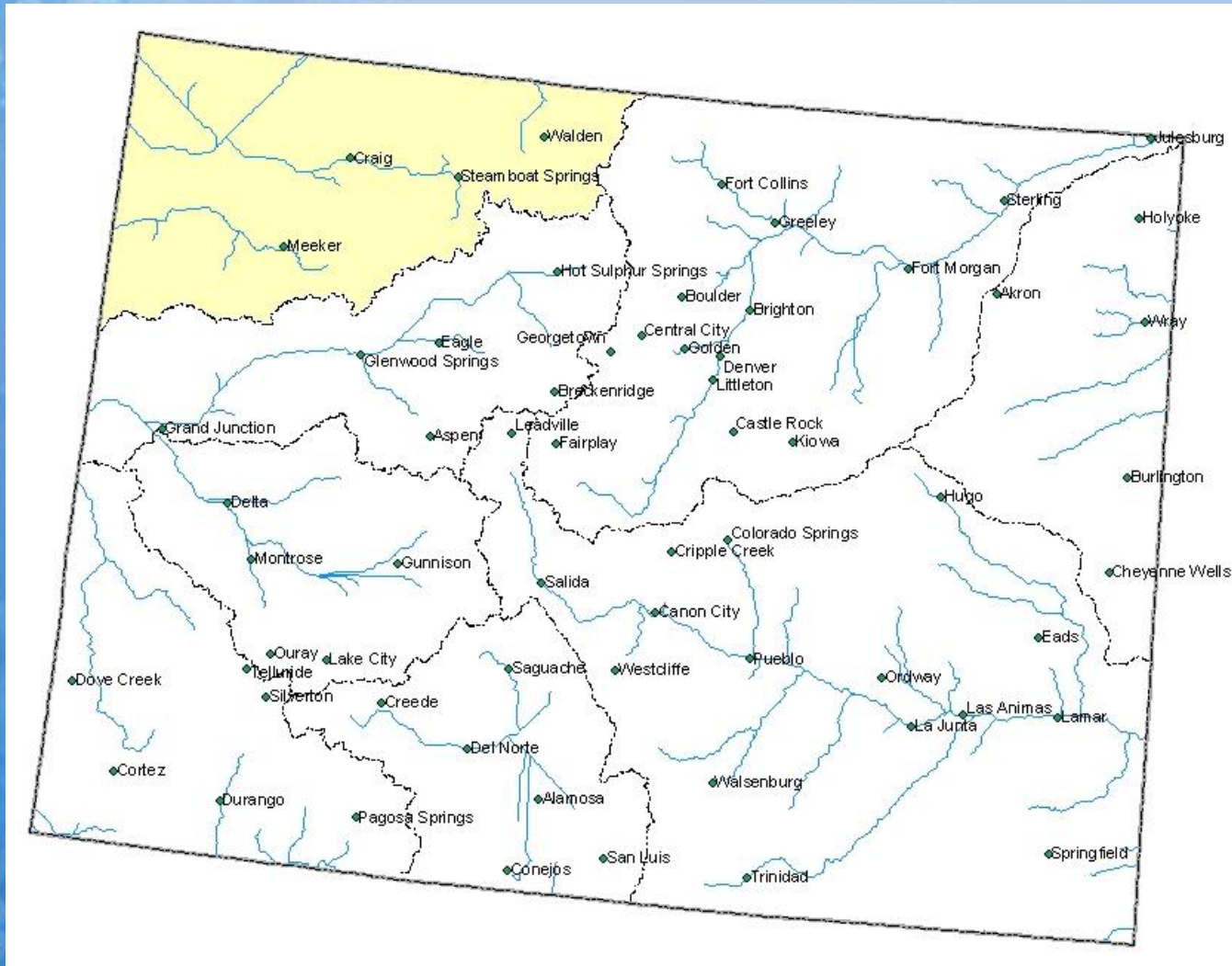
November – Warm and dry conditions statewide. Mountain snowpack put on hold.

December – Cold again with improved snowfall especially across southern basins.

January – Warm and dry with a comeback during the last 10 days

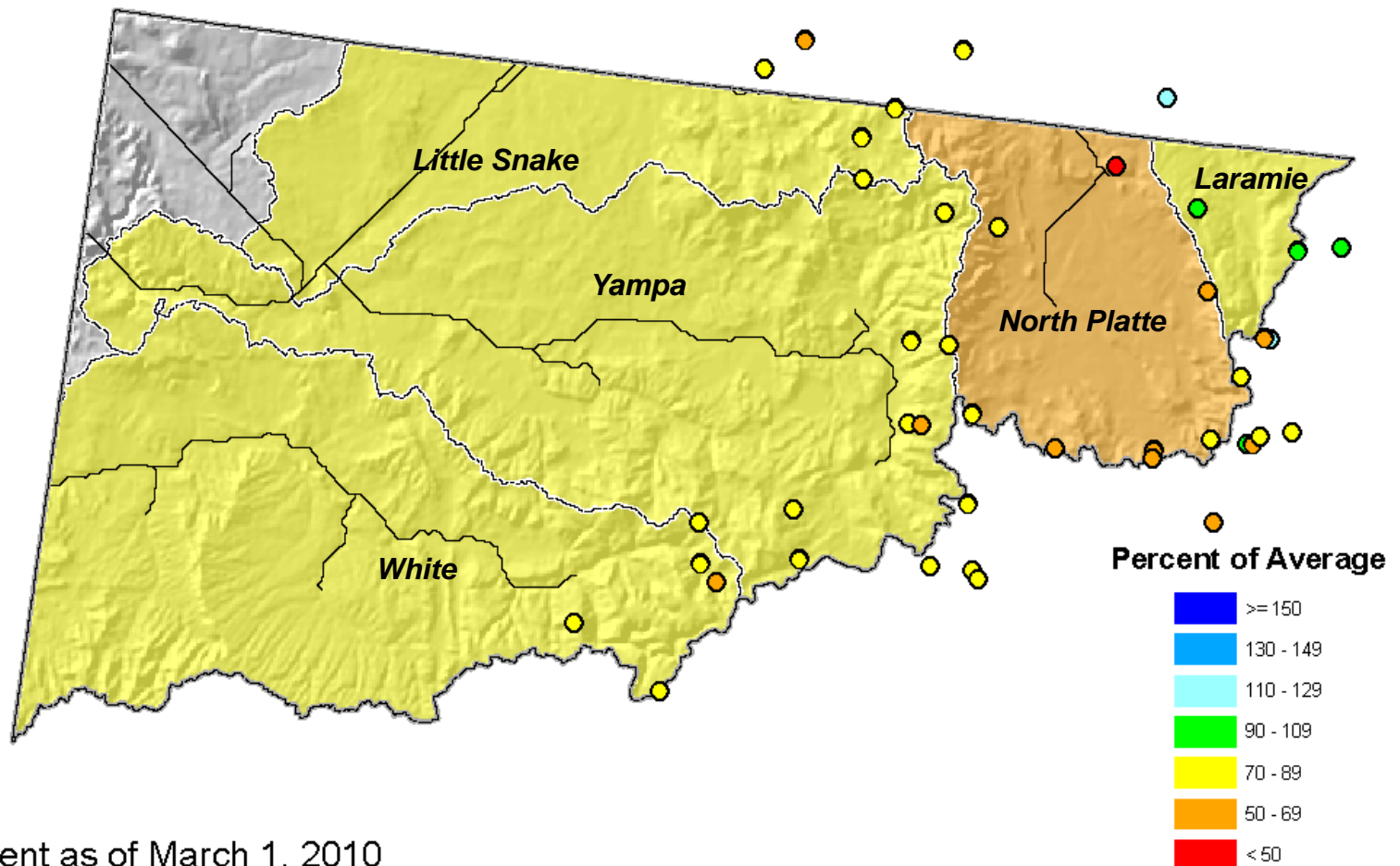
February and March – El Nino pattern continues...

Yampa, White & North Platte River Basins Summary



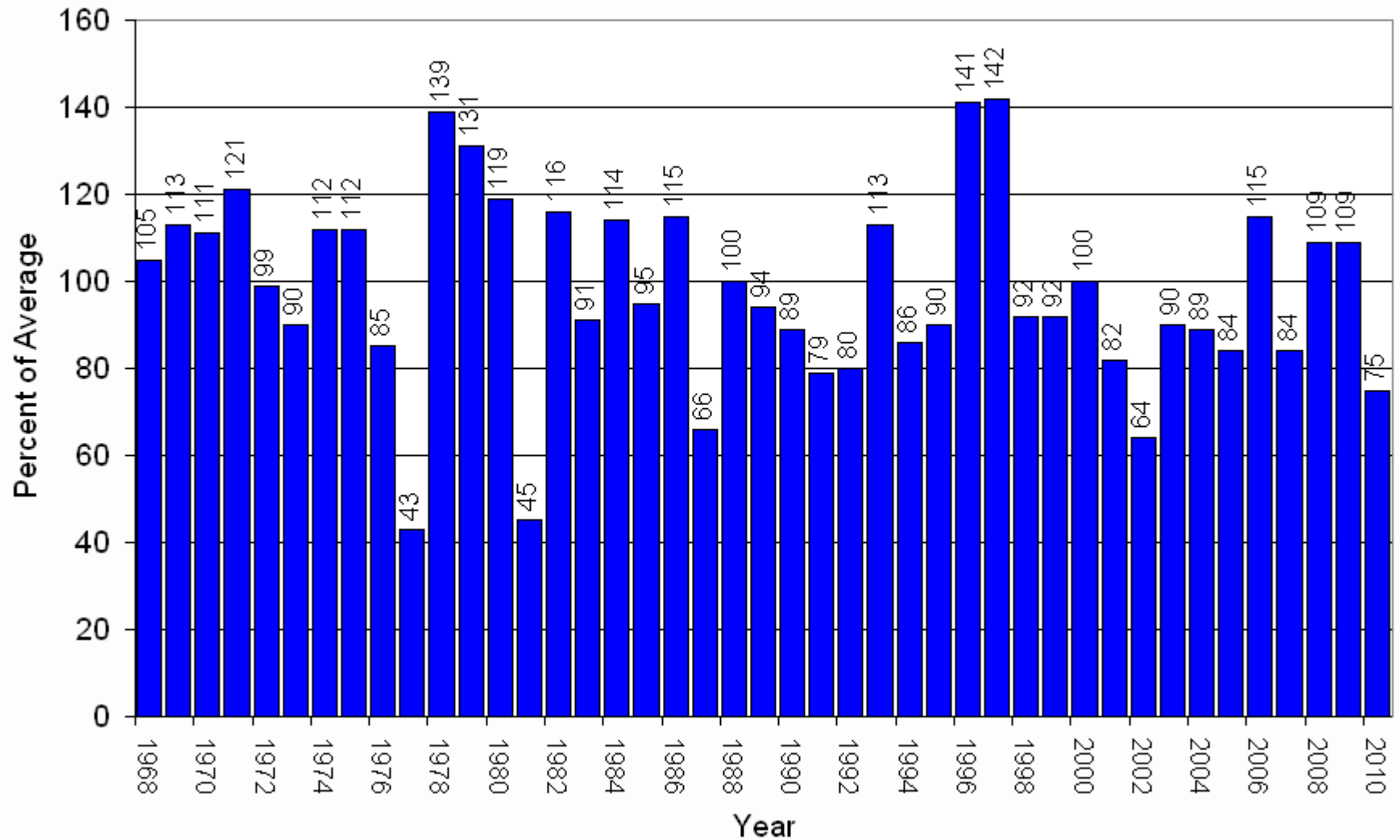
Yampa, White and North Platte River Basins Snowpack Map

*Provisional Data
Subject to Revision*



Current as of March 1, 2010

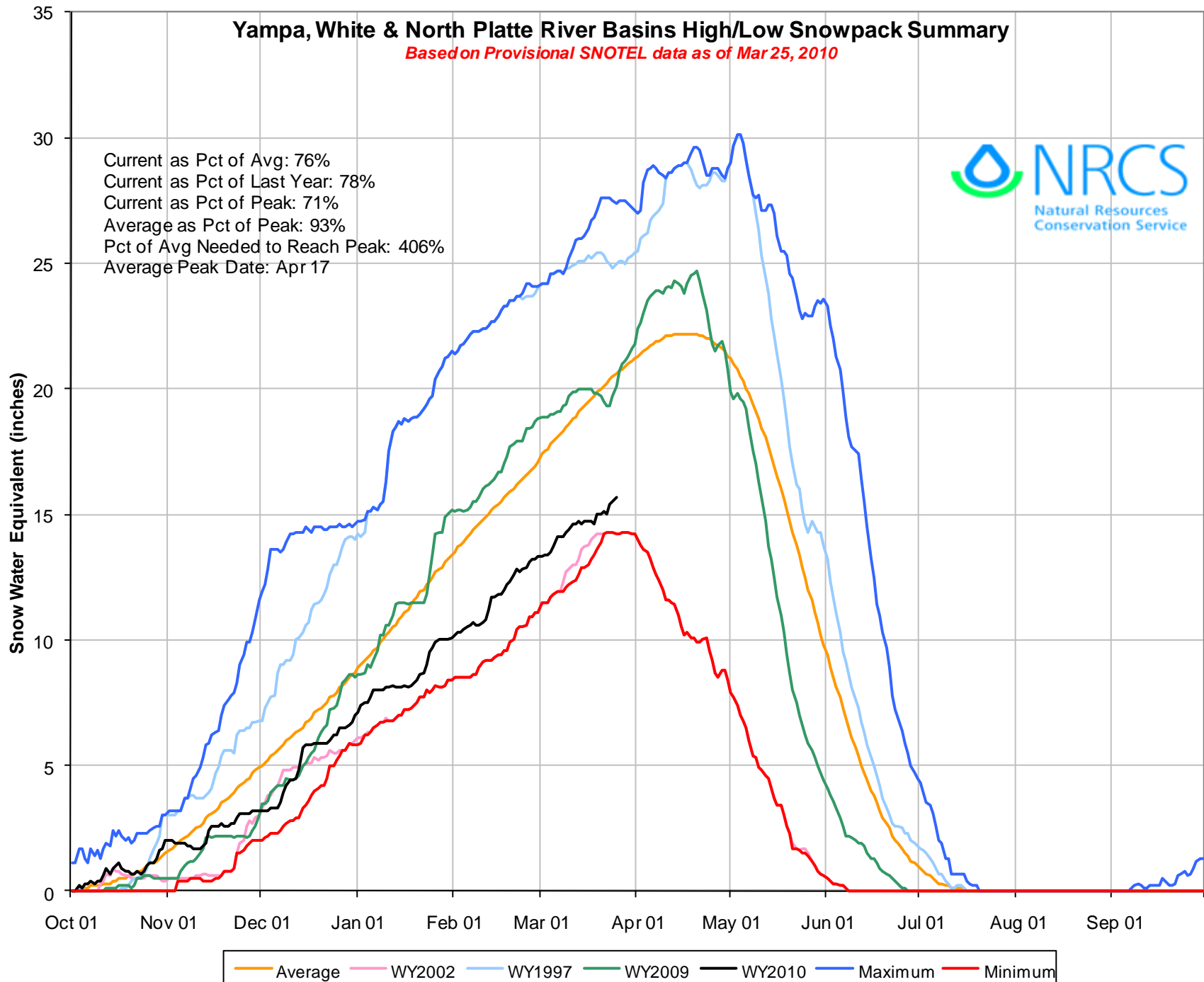
March 1 Total Yampa & White River Basins Snowpack



Based on Provisional SNOTEL data as of Mar 25, 2010

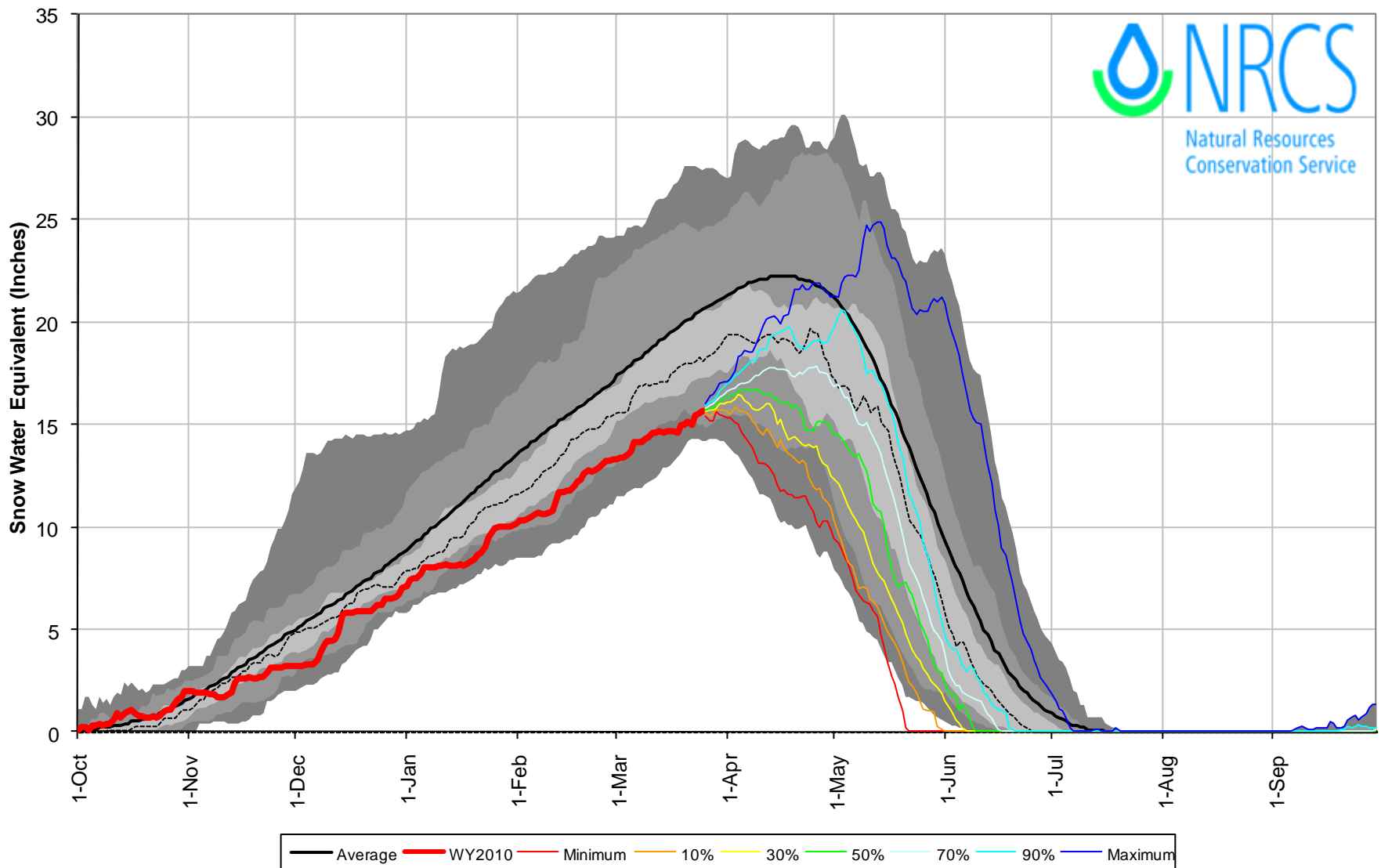


NRCS
Natural Resources
Conservation Service



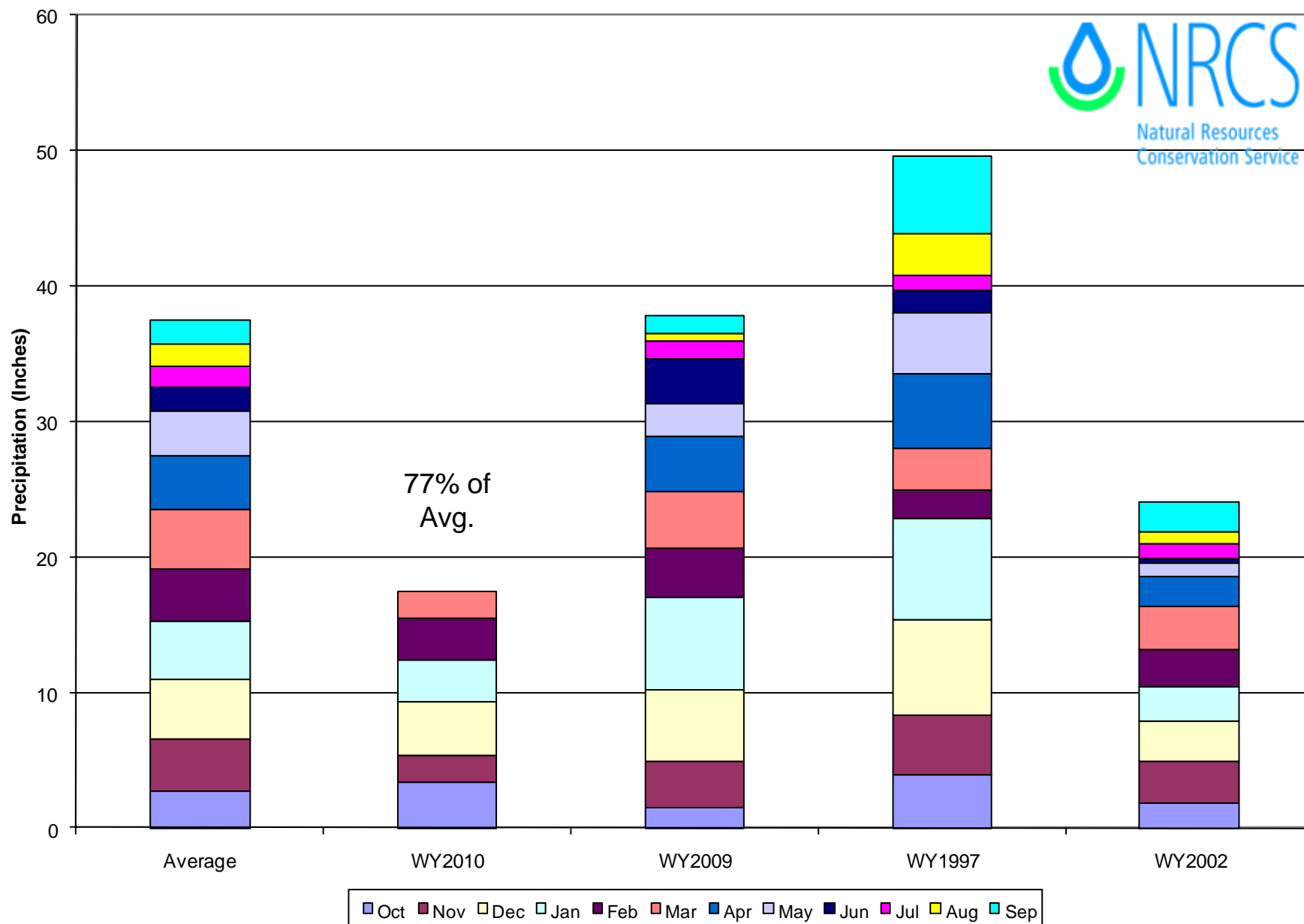
Yampa, White & North Platte River Basins with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 25, 2010



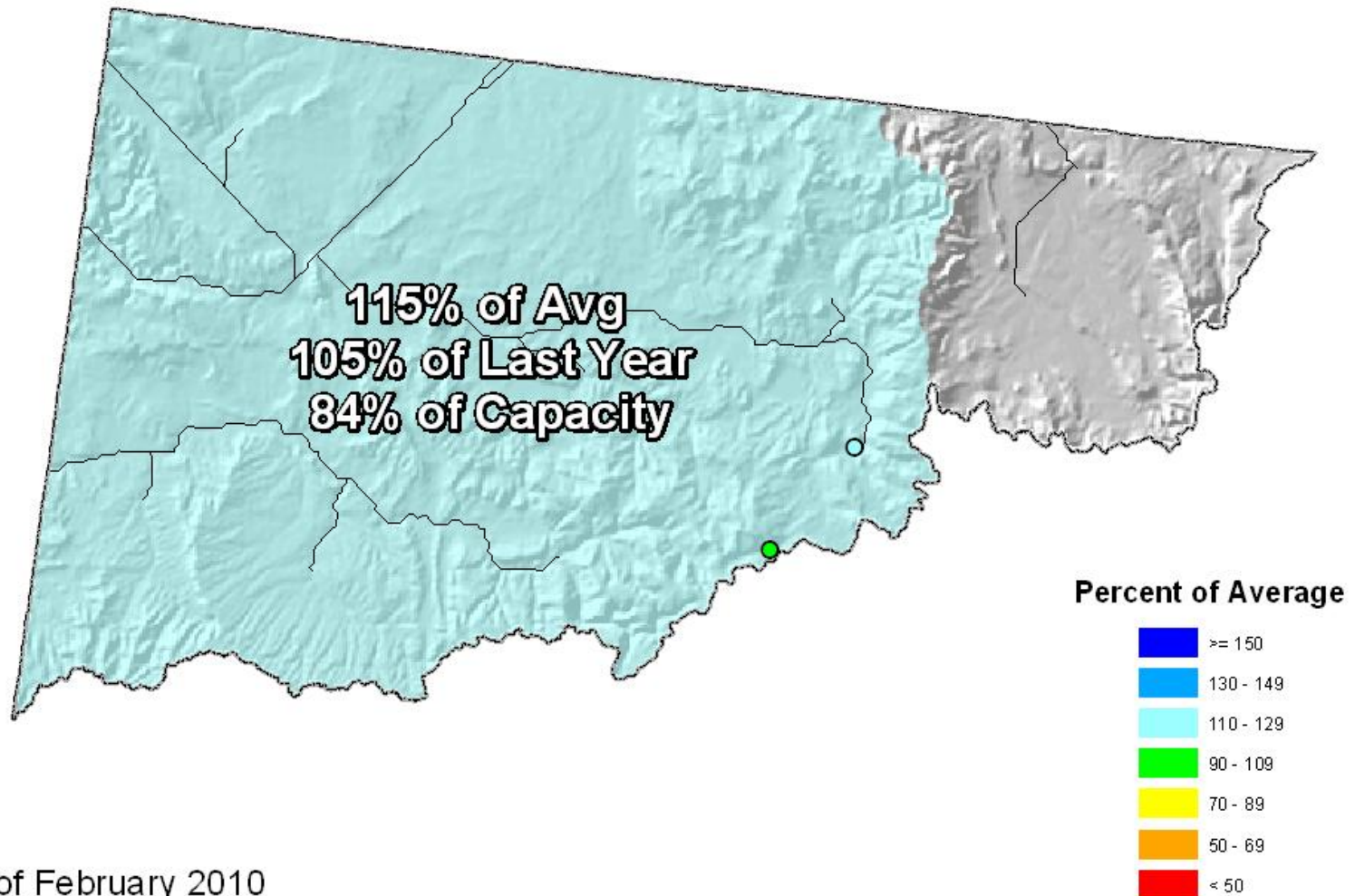
Yampa and White River Basins High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 25, 2010



Yampa & White River Basins Reservoir Storage Map

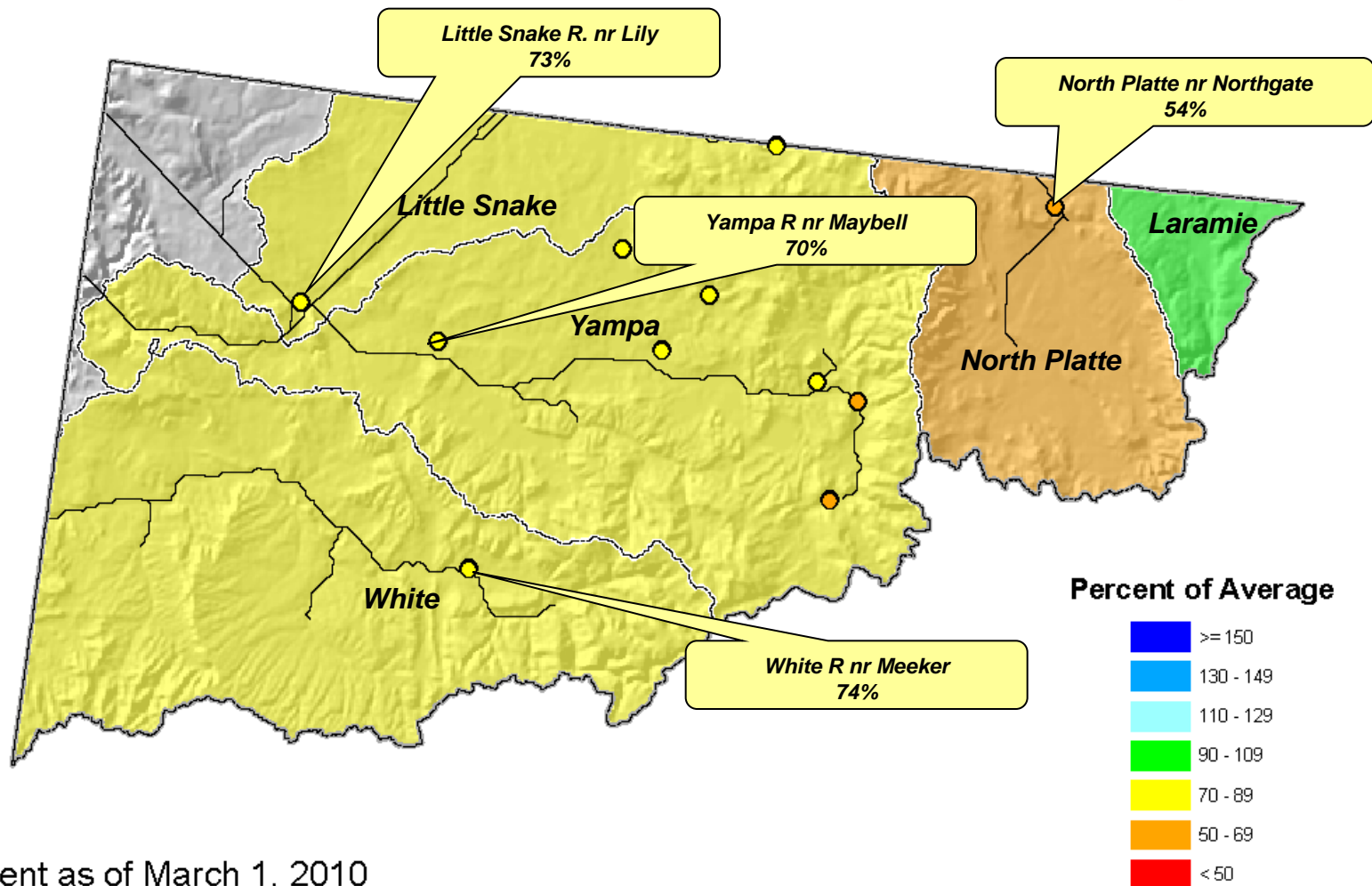
*Provisional Data
Subject to Revision*



End of February 2010

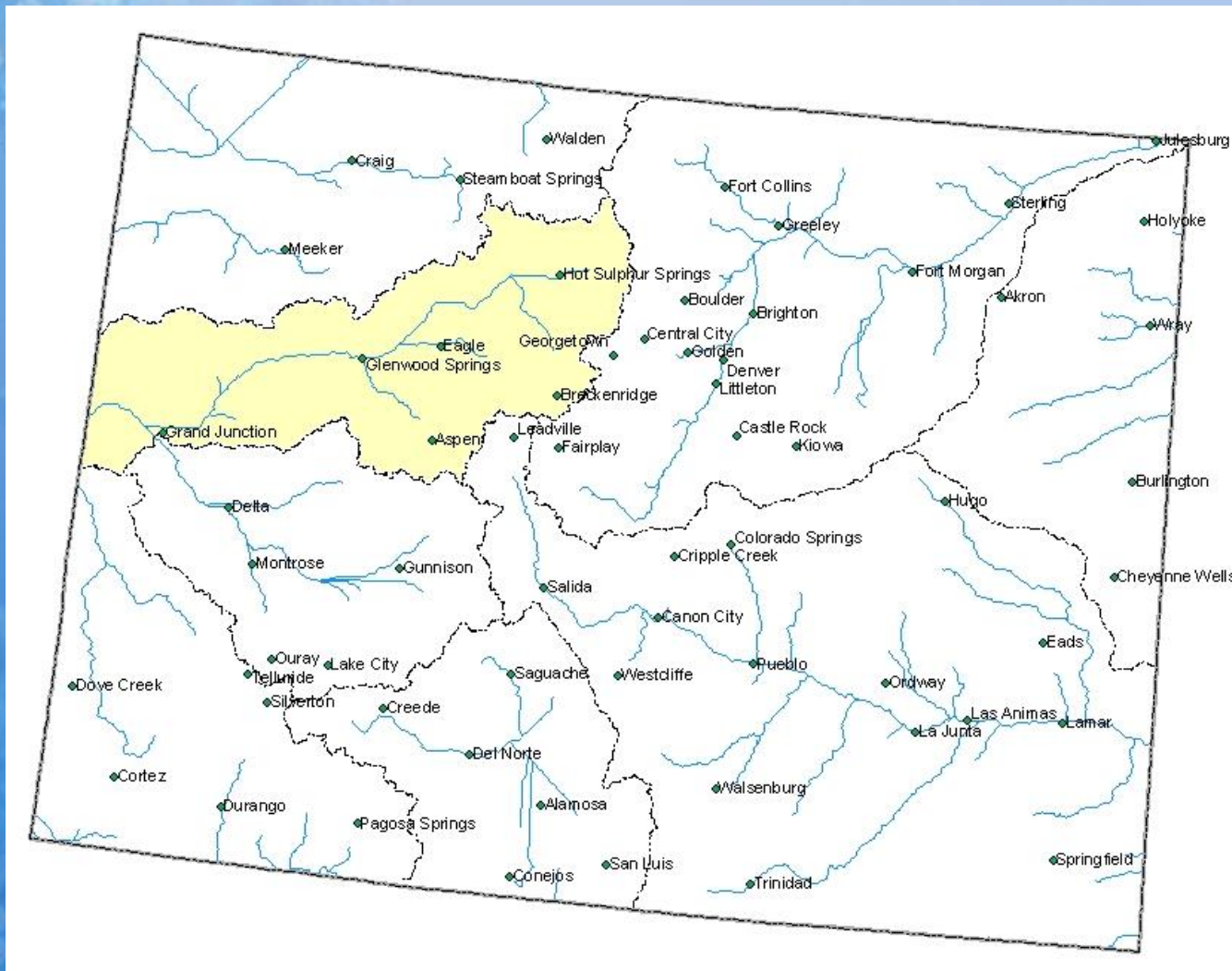
Yampa, White and North Platte River Basins Streamflow Map

*Provisional Data
Subject to Revision*



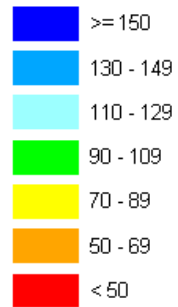
Current as of March 1, 2010

Colorado River Basin Summary

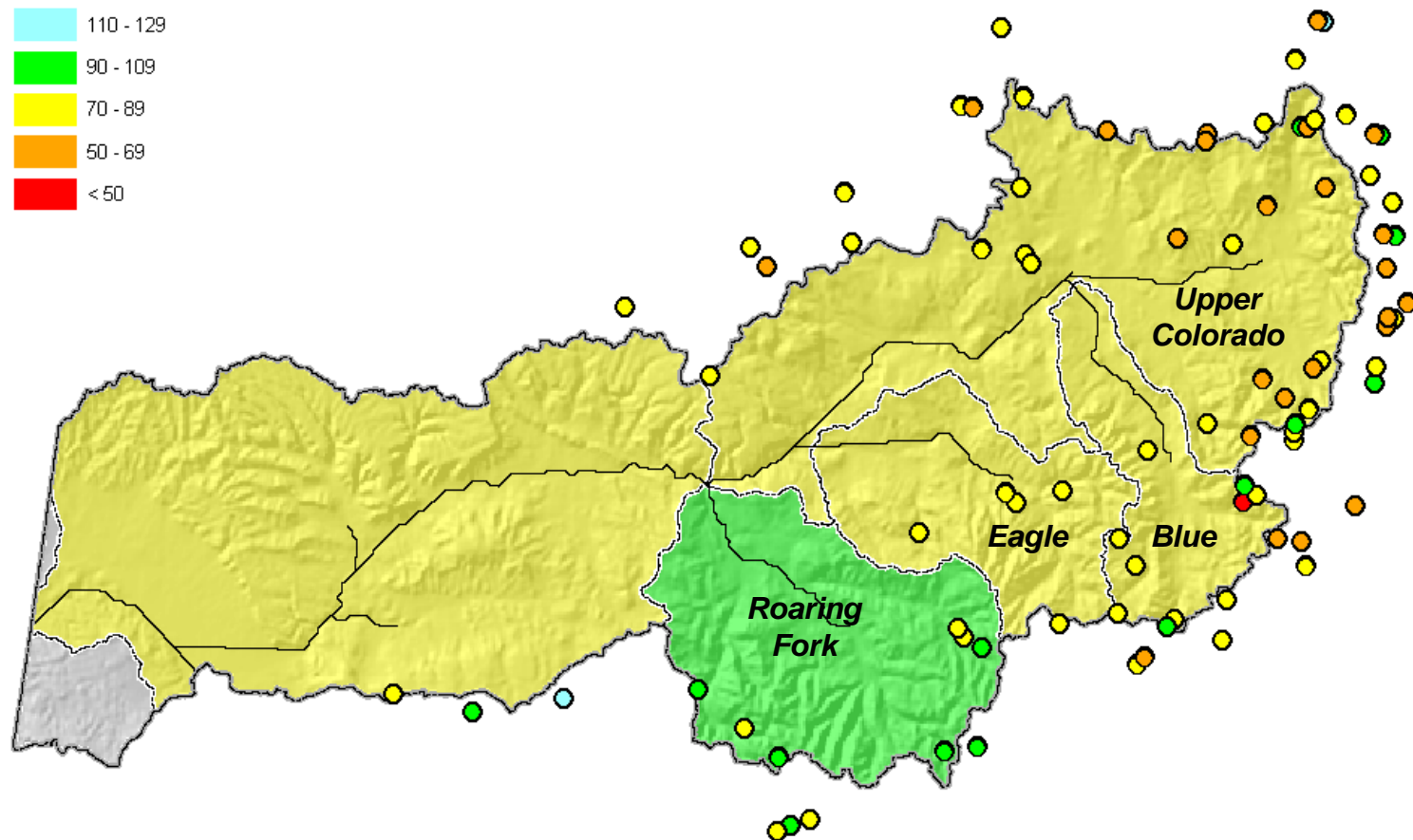


Colorado River Basin Snowpack Map

Percent of Average

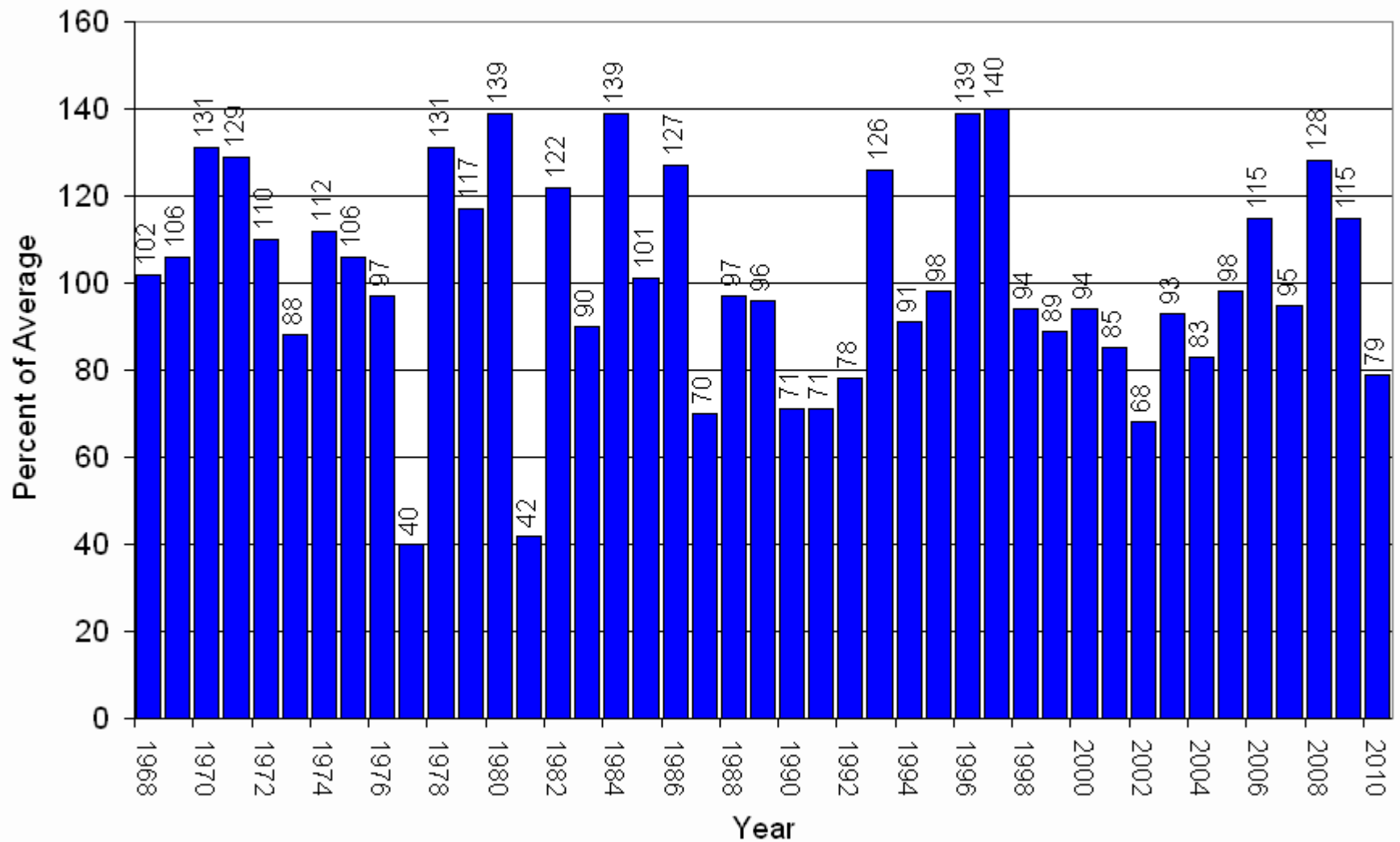


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

March 1 Total Colorado River Basin Snowpack

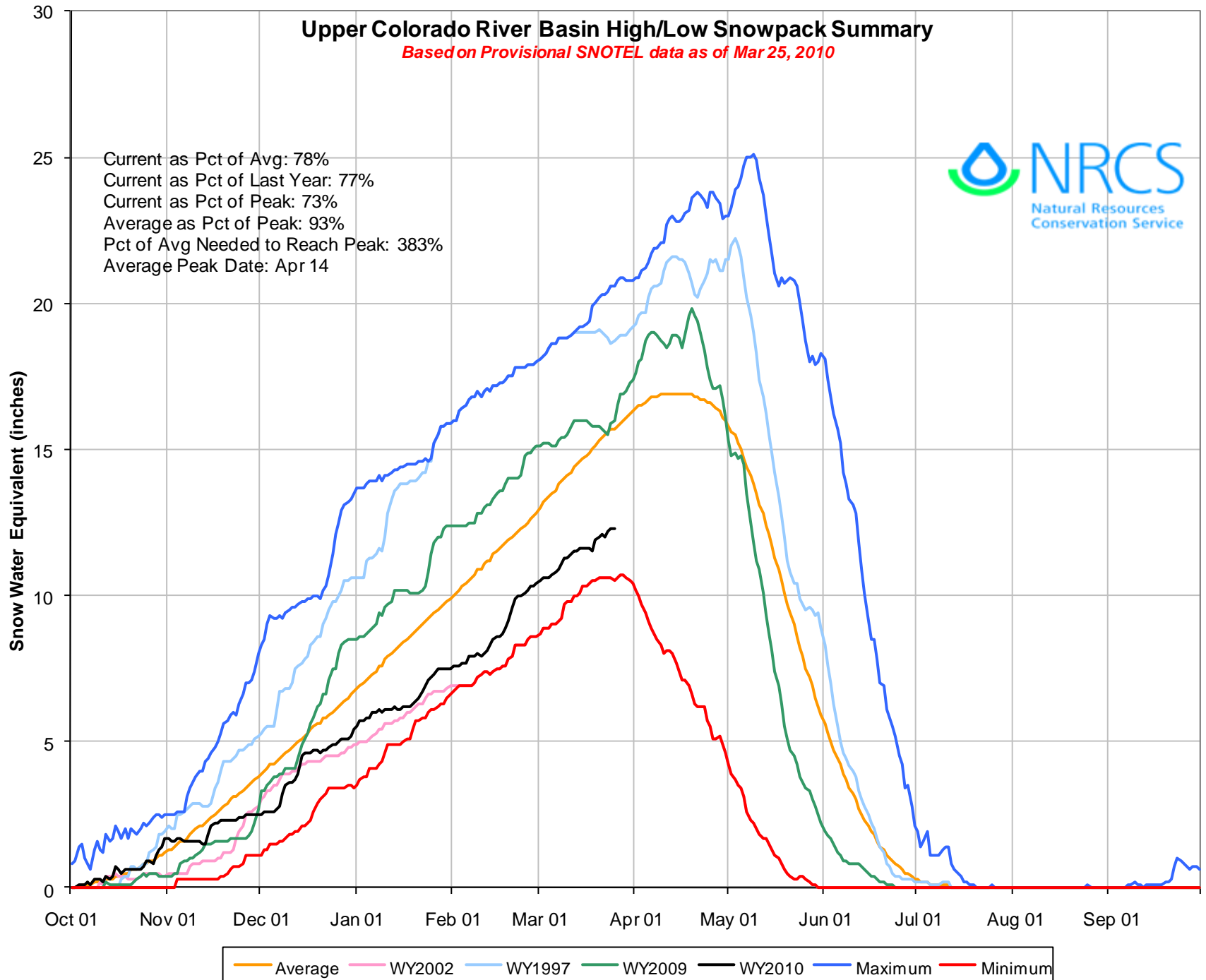


Upper Colorado River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

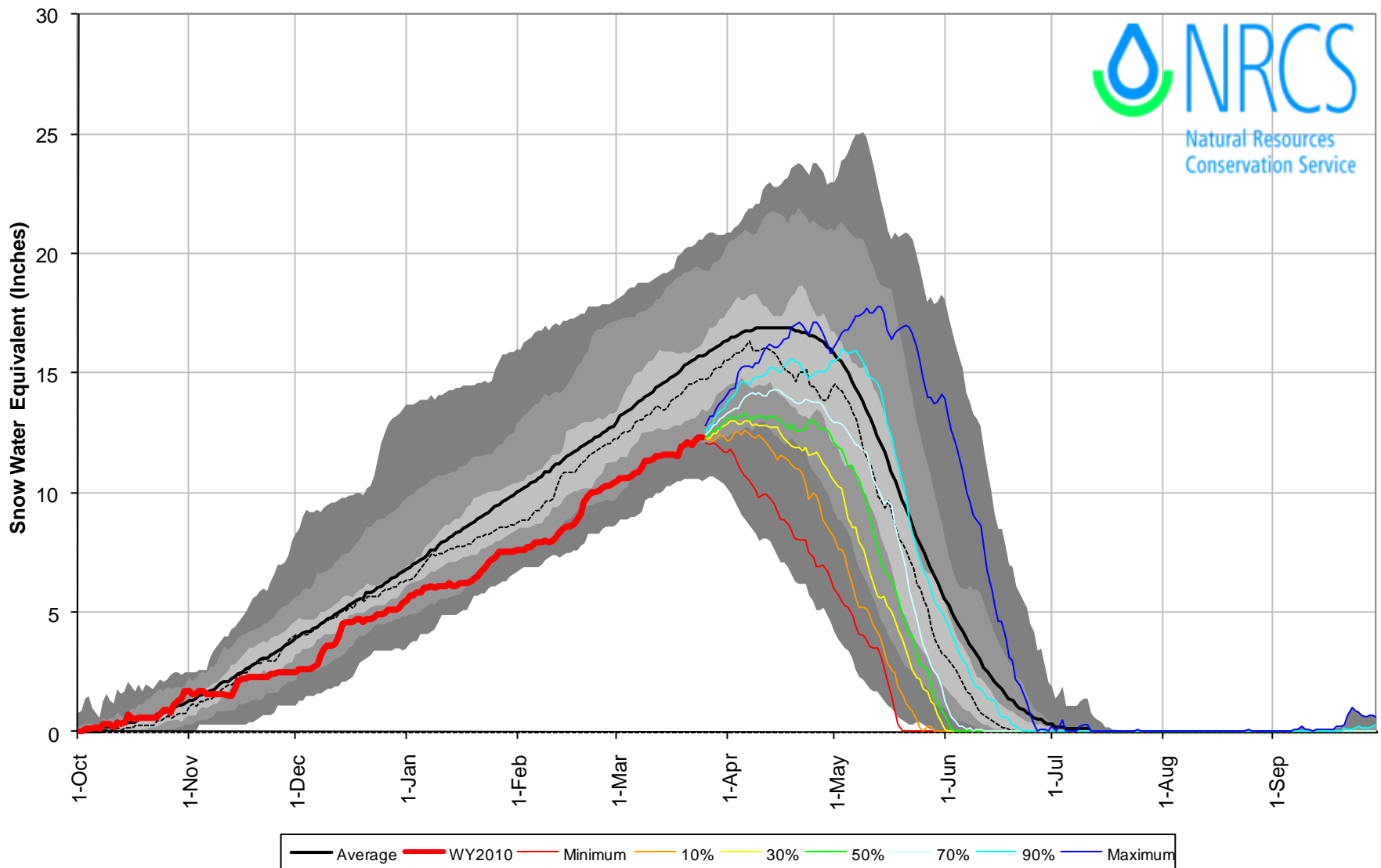


Current as Pct of Avg: 78%
Current as Pct of Last Year: 77%
Current as Pct of Peak: 73%
Average as Pct of Peak: 93%
Pct of Avg Needed to Reach Peak: 383%
Average Peak Date: Apr 14



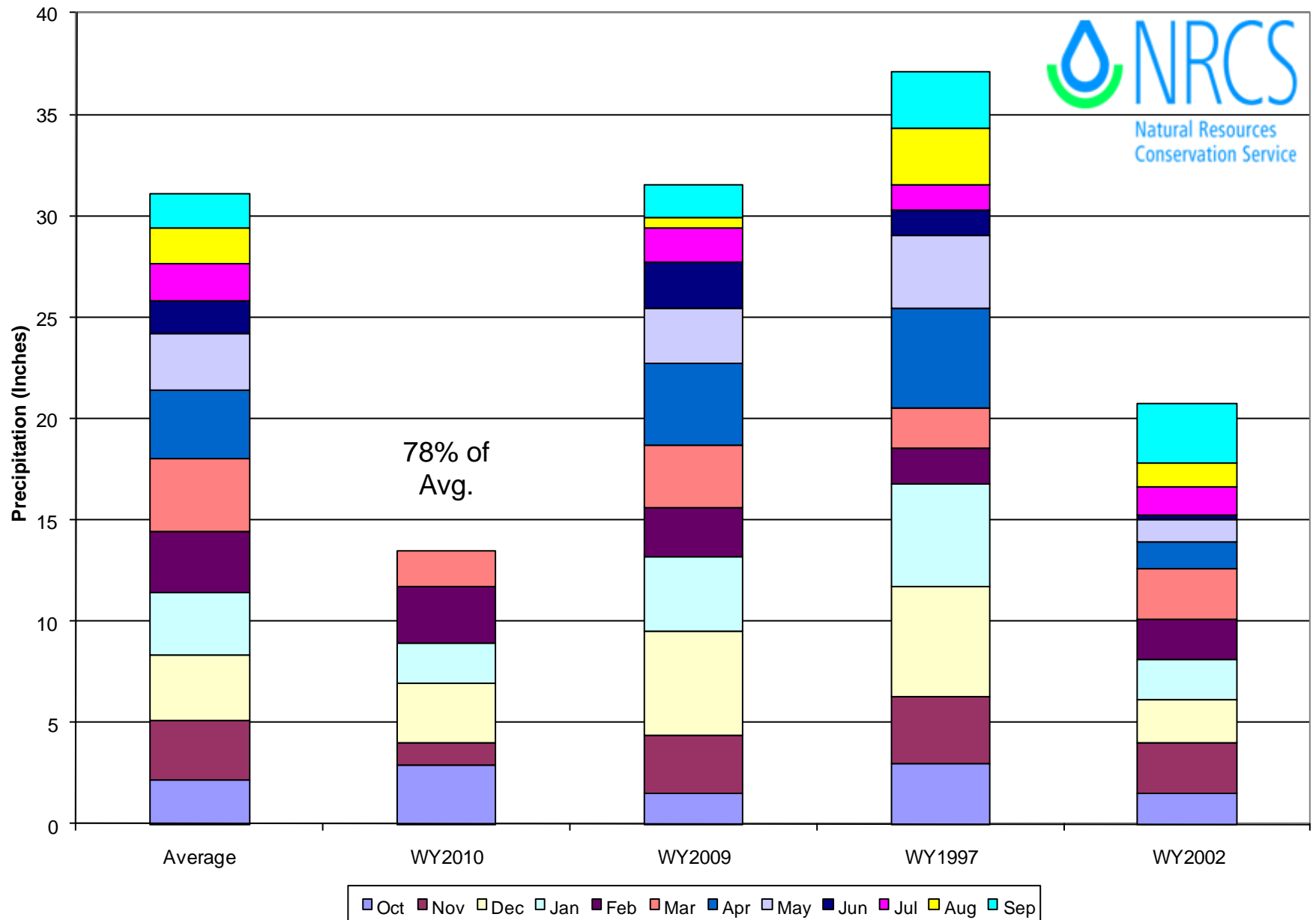
Colorado River Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 25, 2010



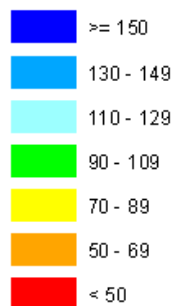
Upper Colorado River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

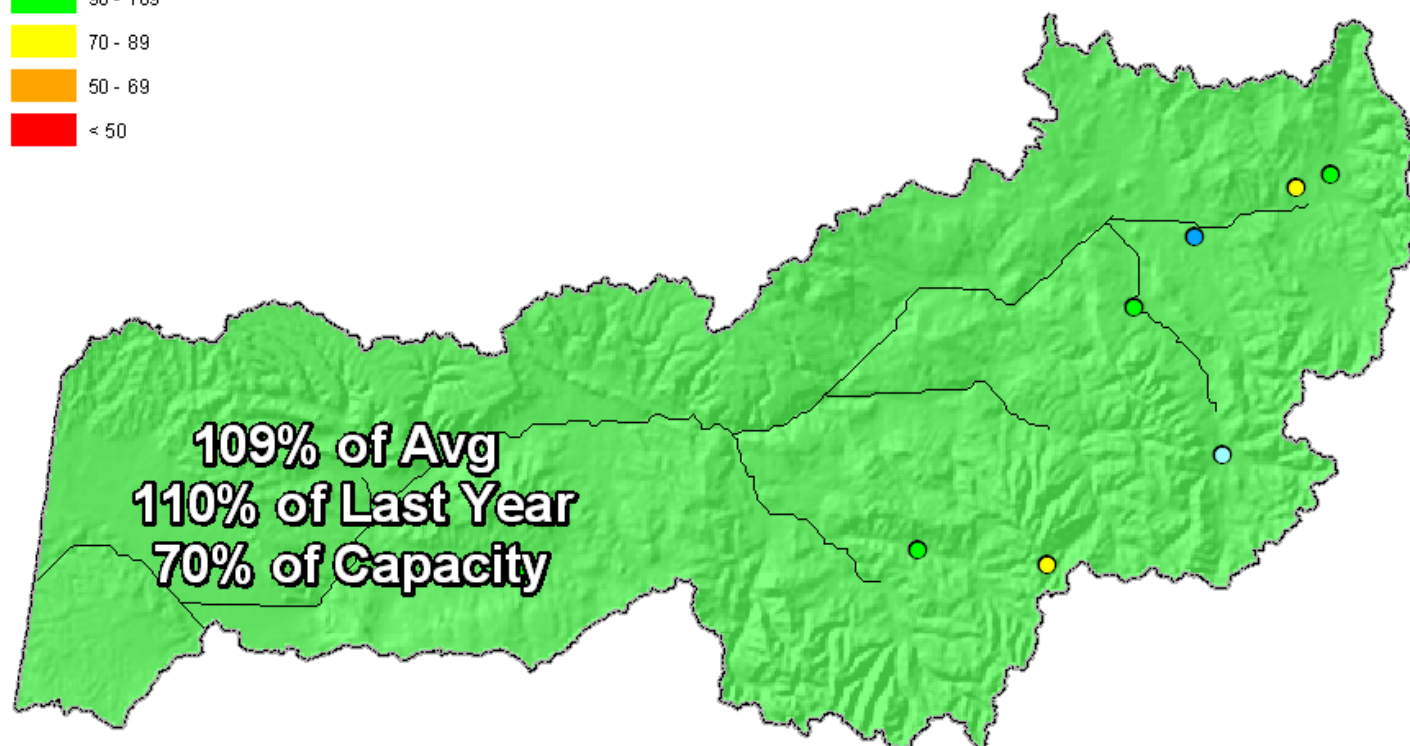


Colorado River Basin Reservoir Storage Map

Percent of Average

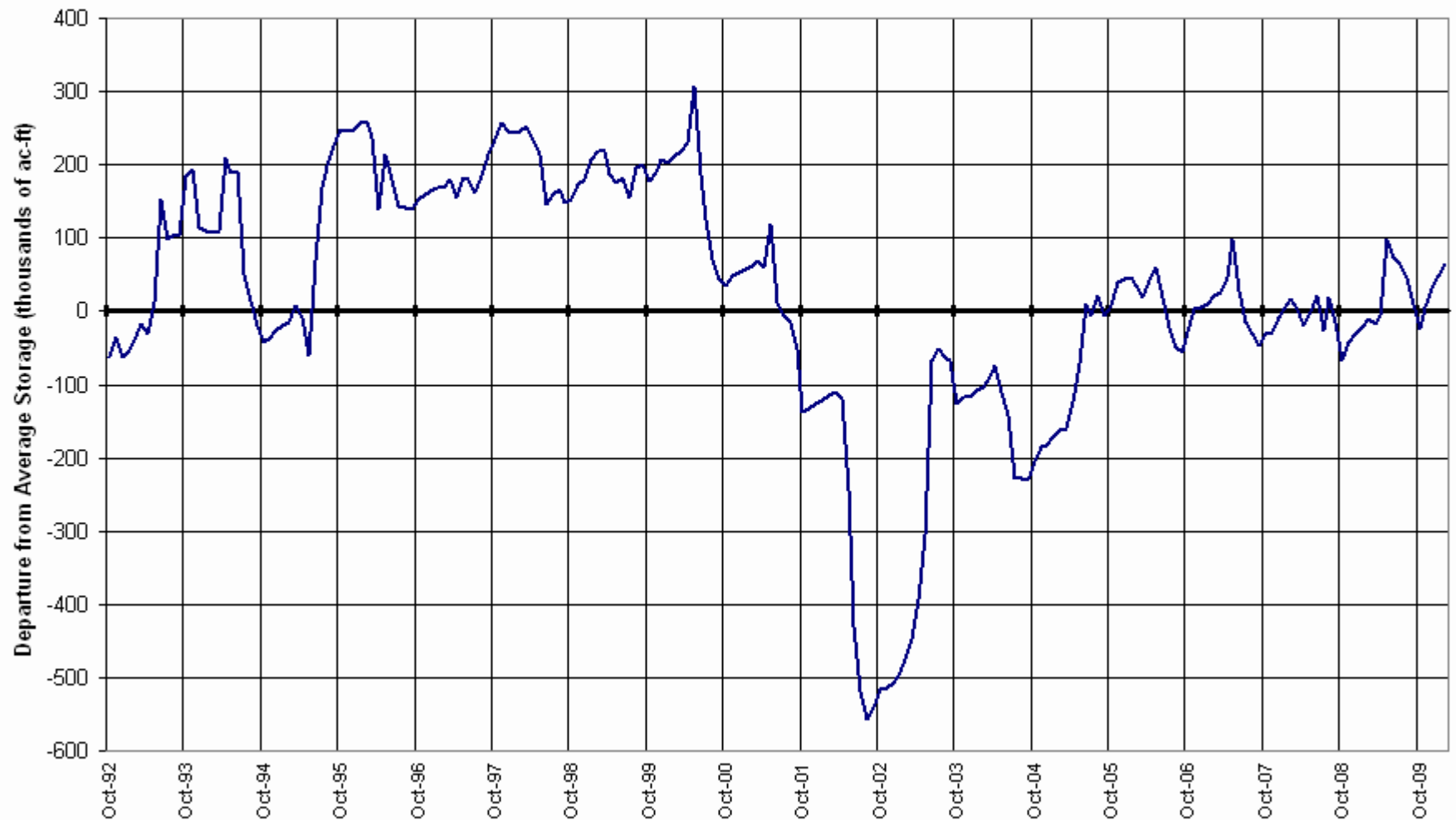


*Provisional Data
Subject to Revision*



End of February 2010

COLORADO RIVER BASIN
Reservoir Storage
Departure from Average

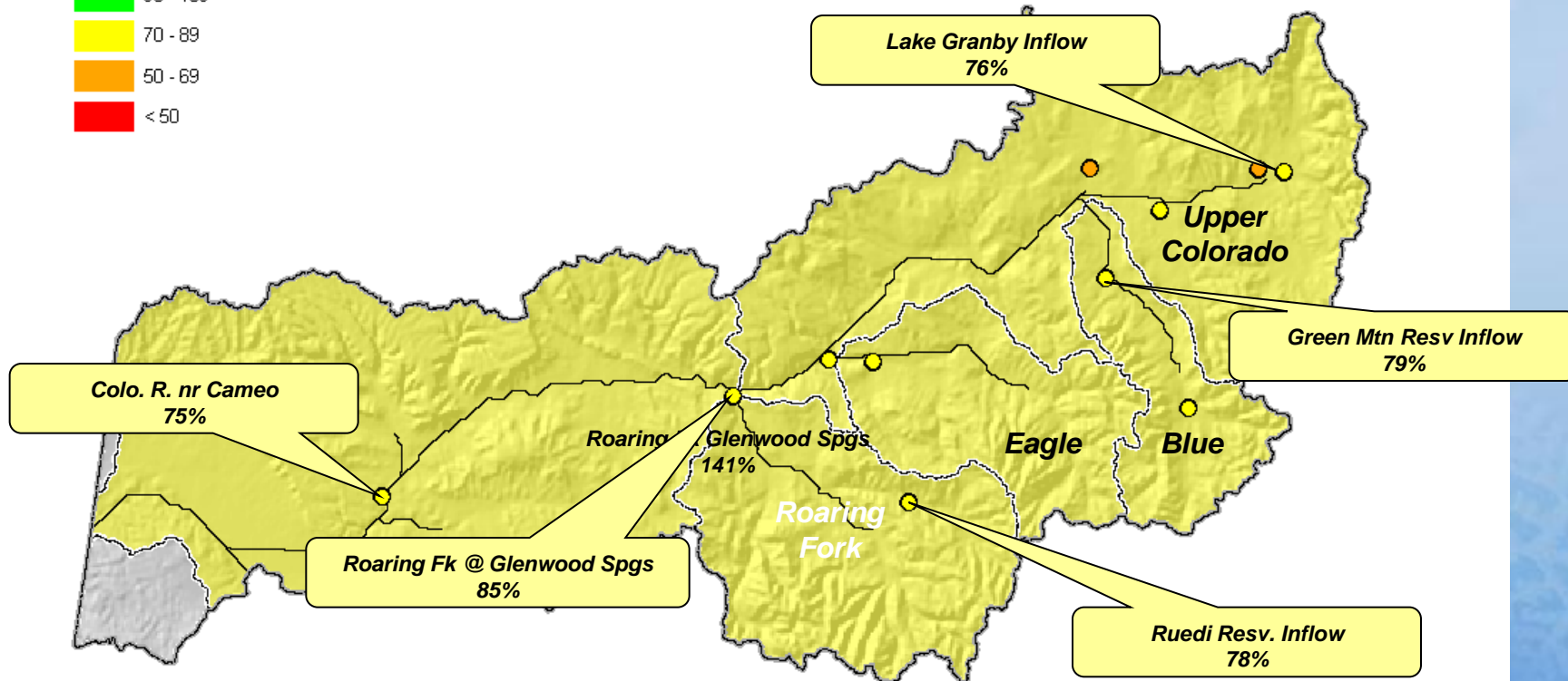


Colorado River Basin Streamflow Forecast Map

Percent of Average

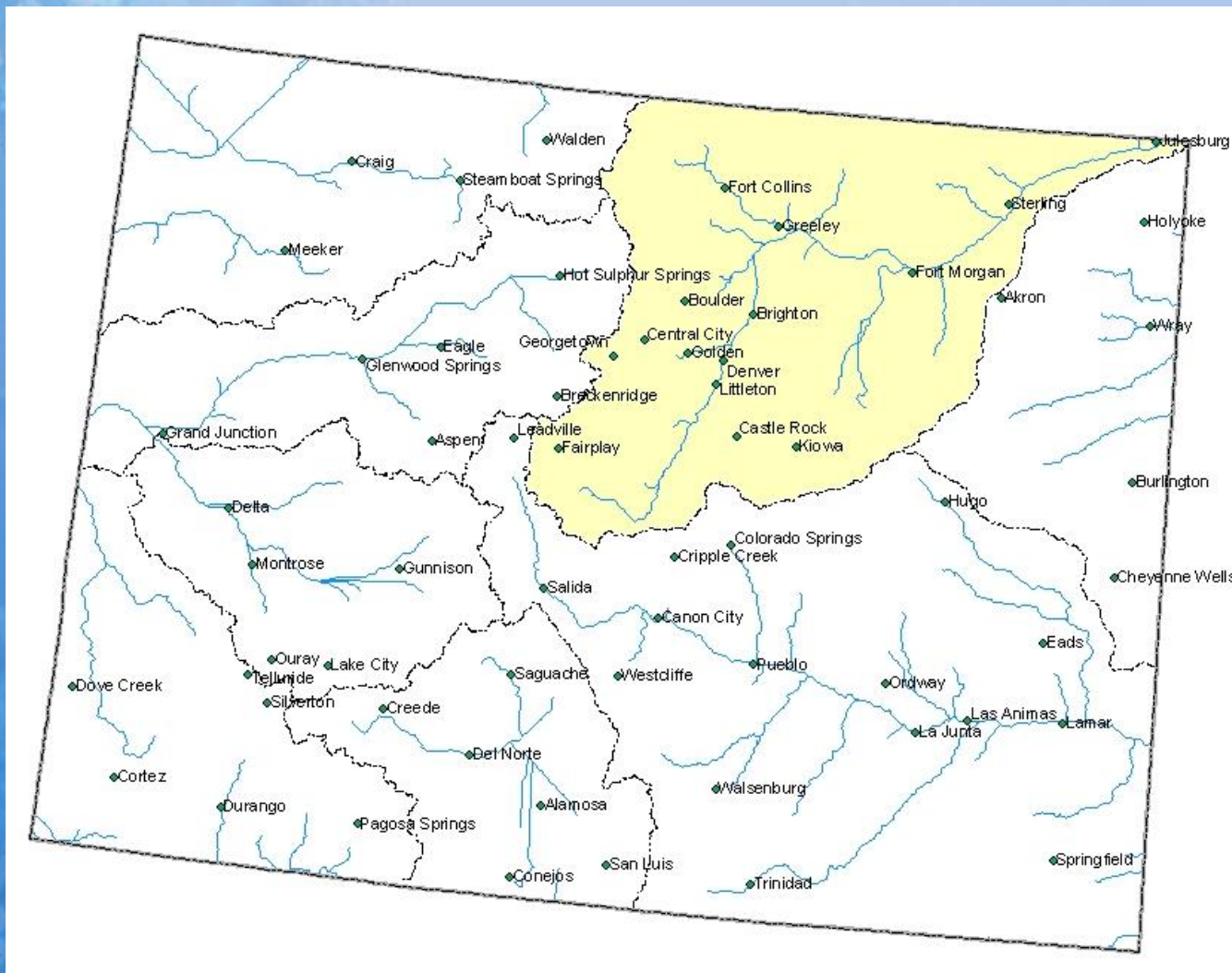


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

South Platte River Basin Summary

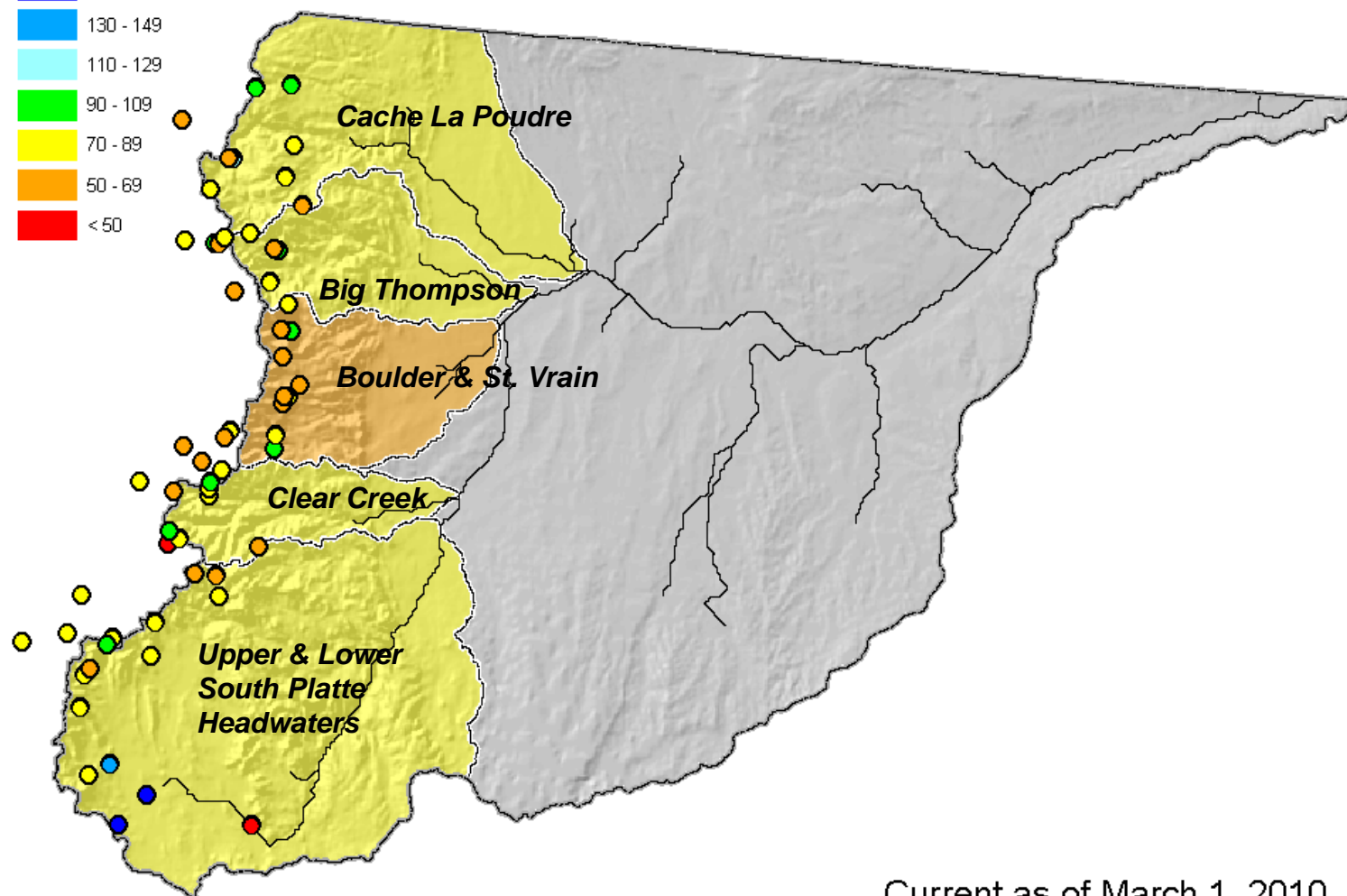


South Platte River Basin Snowpack Map

Percent of Average

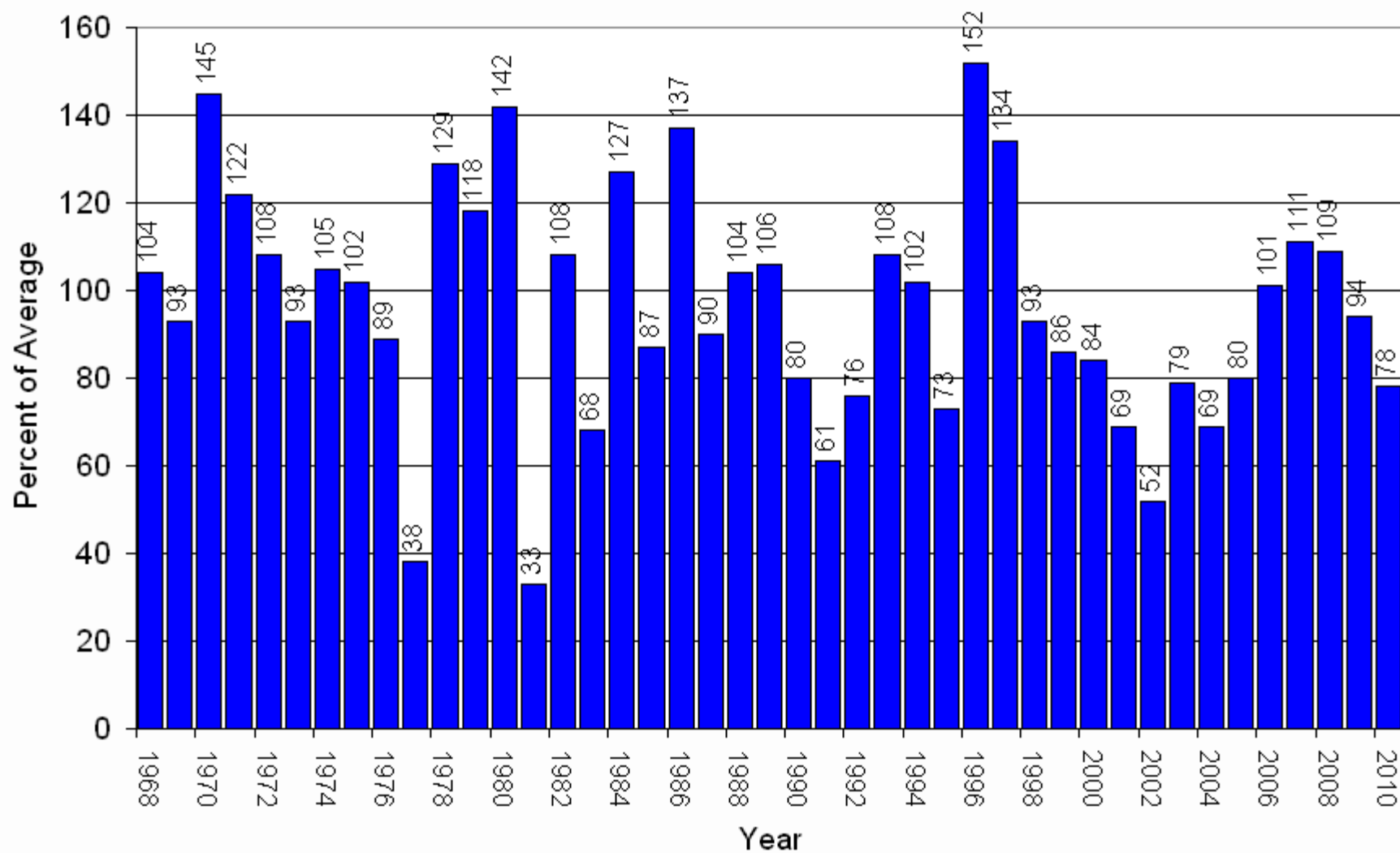


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

March 1 Total South Platte River Basin Snowpack

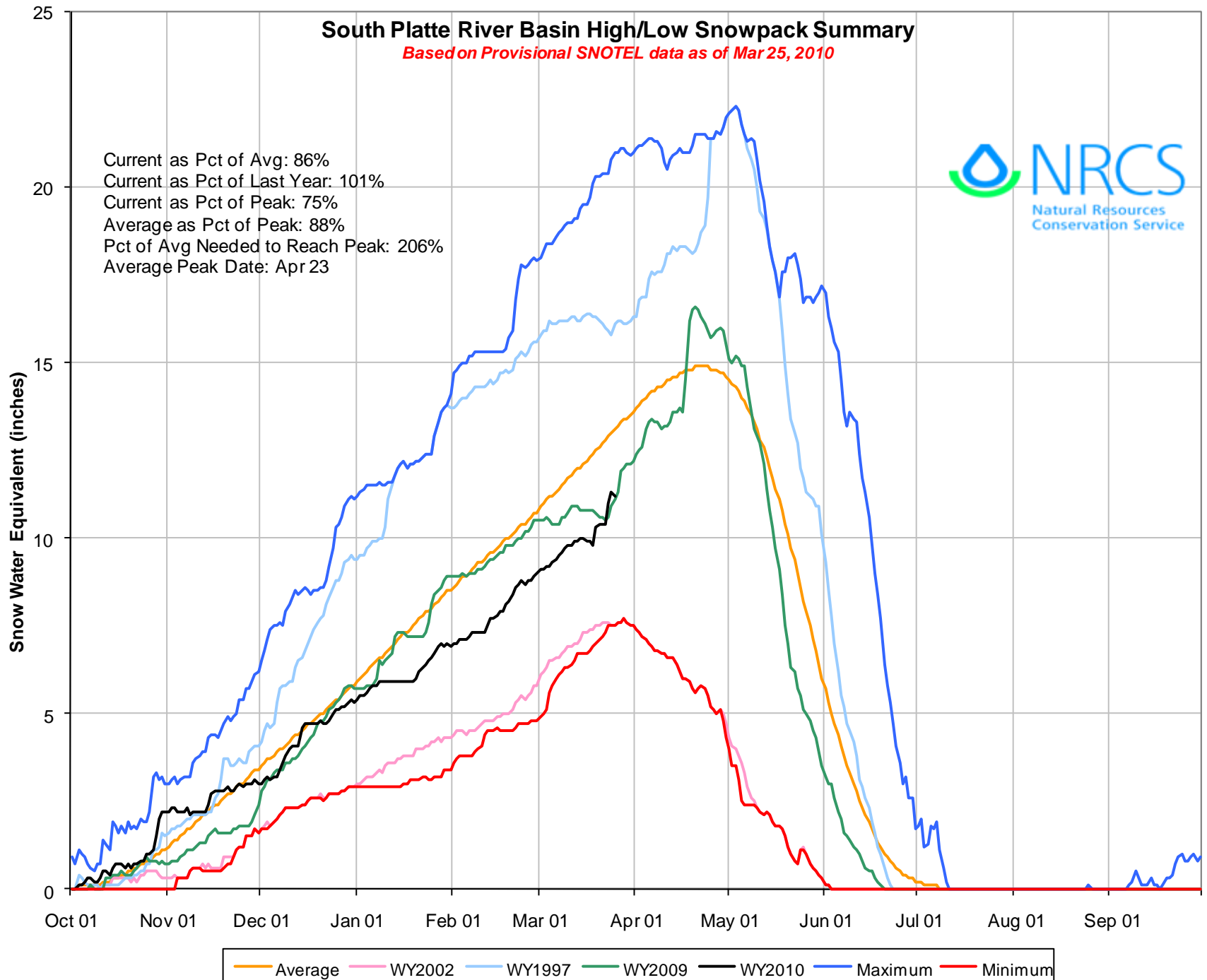


South Platte River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

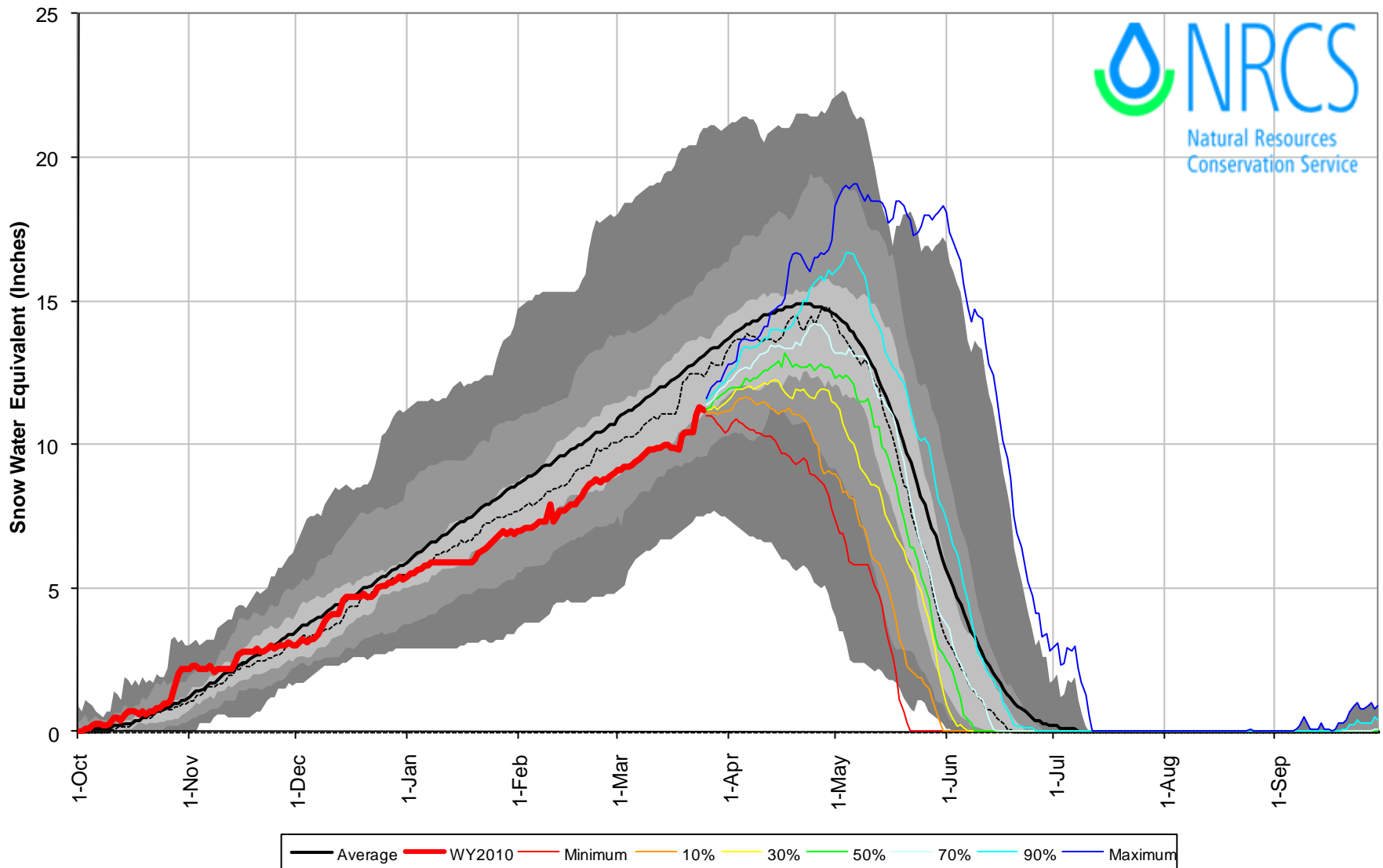


Current as Pct of Avg: 86%
Current as Pct of Last Year: 101%
Current as Pct of Peak: 75%
Average as Pct of Peak: 88%
Pct of Avg Needed to Reach Peak: 206%
Average Peak Date: Apr 23



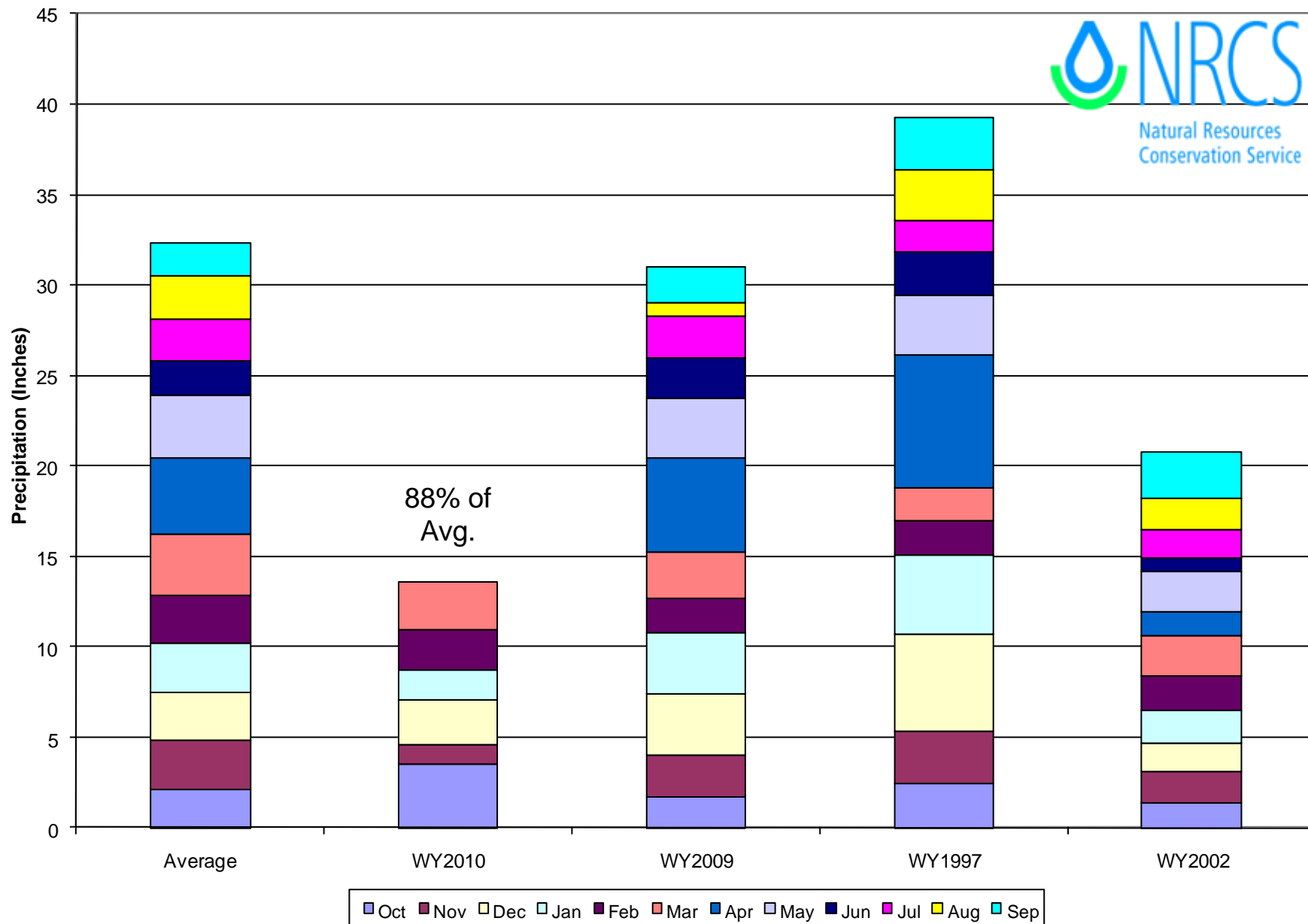
South Platte River Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 25, 2010



South Platte River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

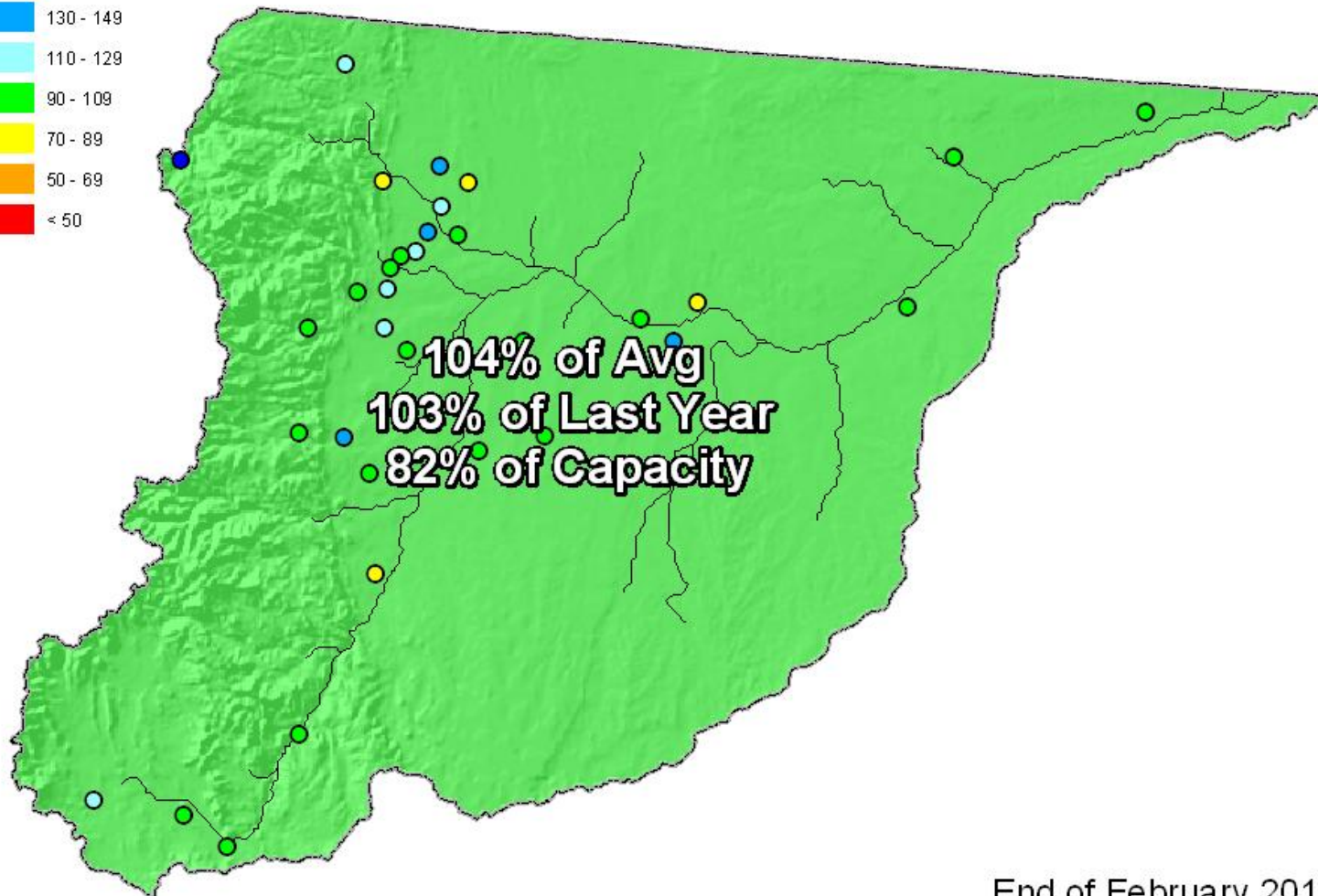


South Platte River Basin Reservoir Storage Map

Percent of Average



*Provisional Data
Subject to Revision*

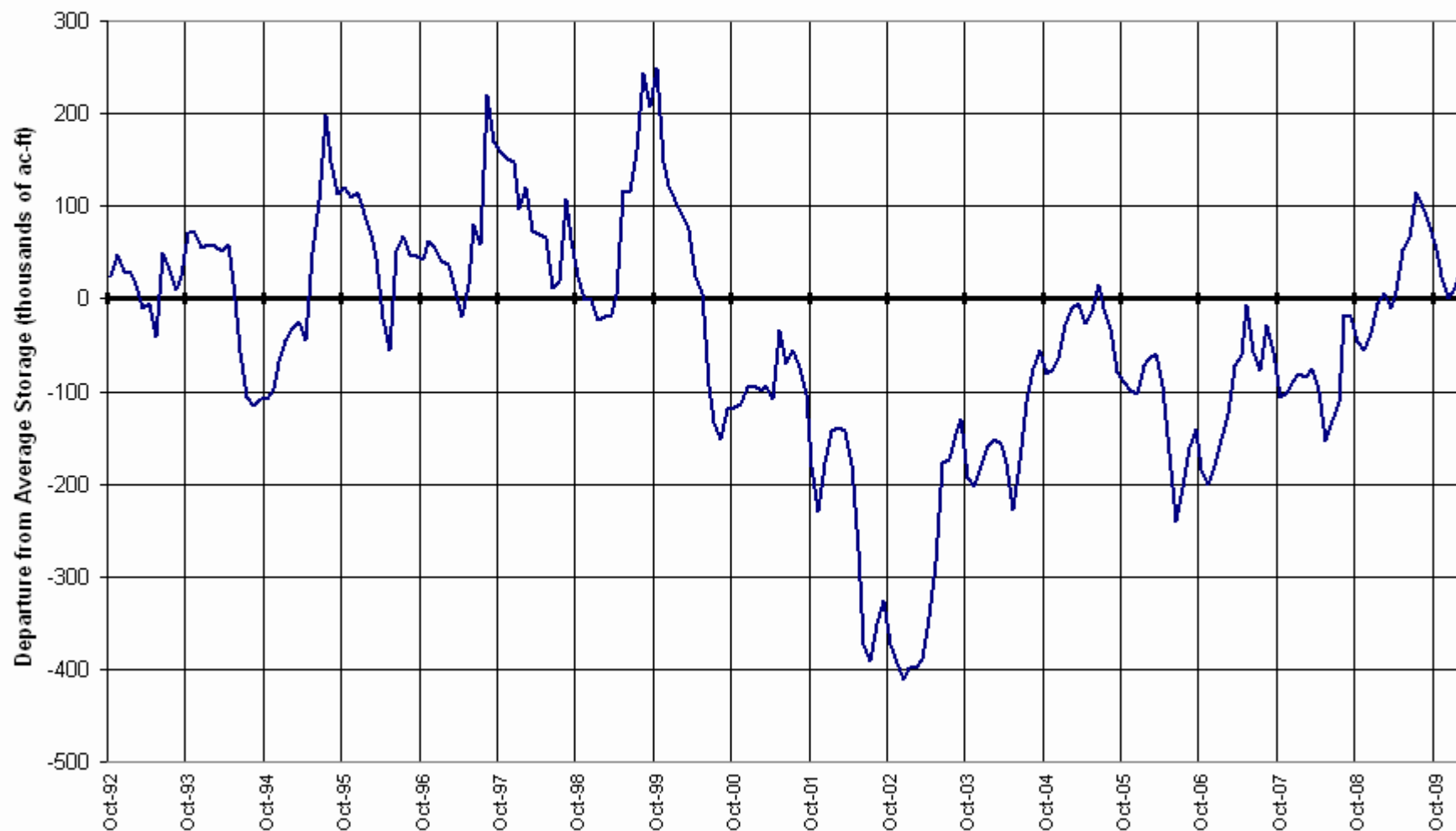


End of February 2010

SOUTH PLATTE RIVER BASIN

Reservoir Storage

Departure from Average

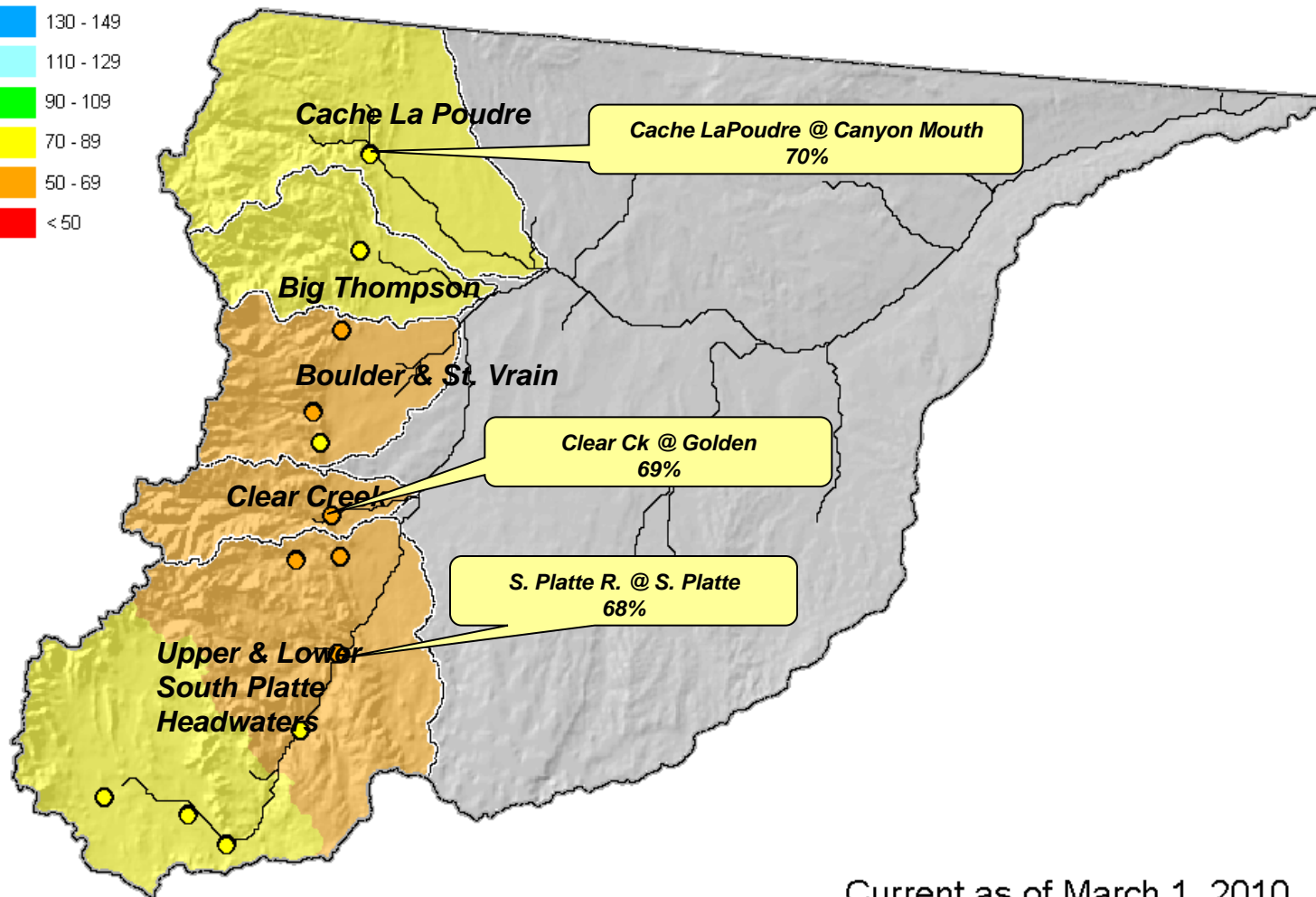


South Platte River Basin Streamflow Forecast Map

Percent of Average

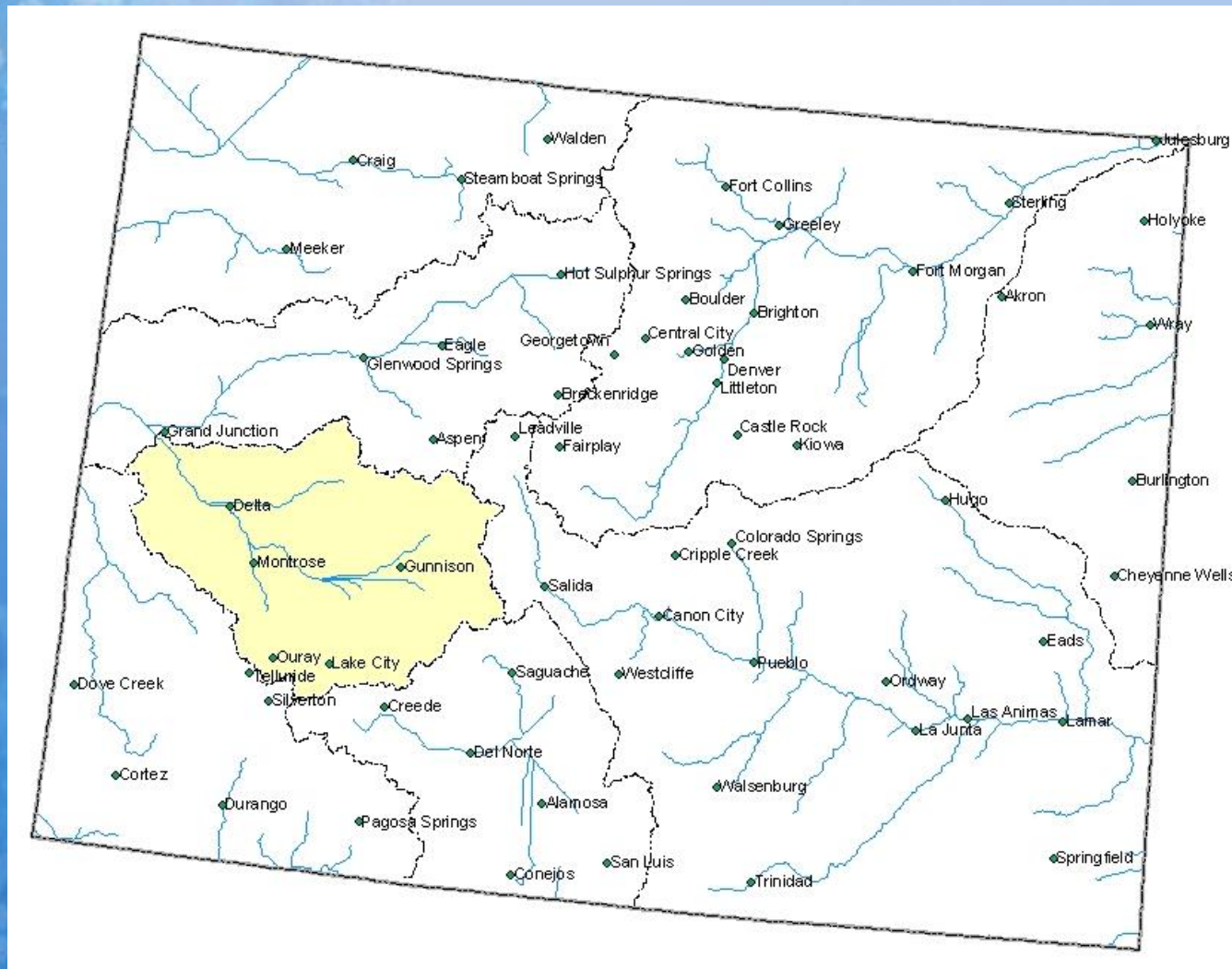


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

Gunnison River Basin Summary

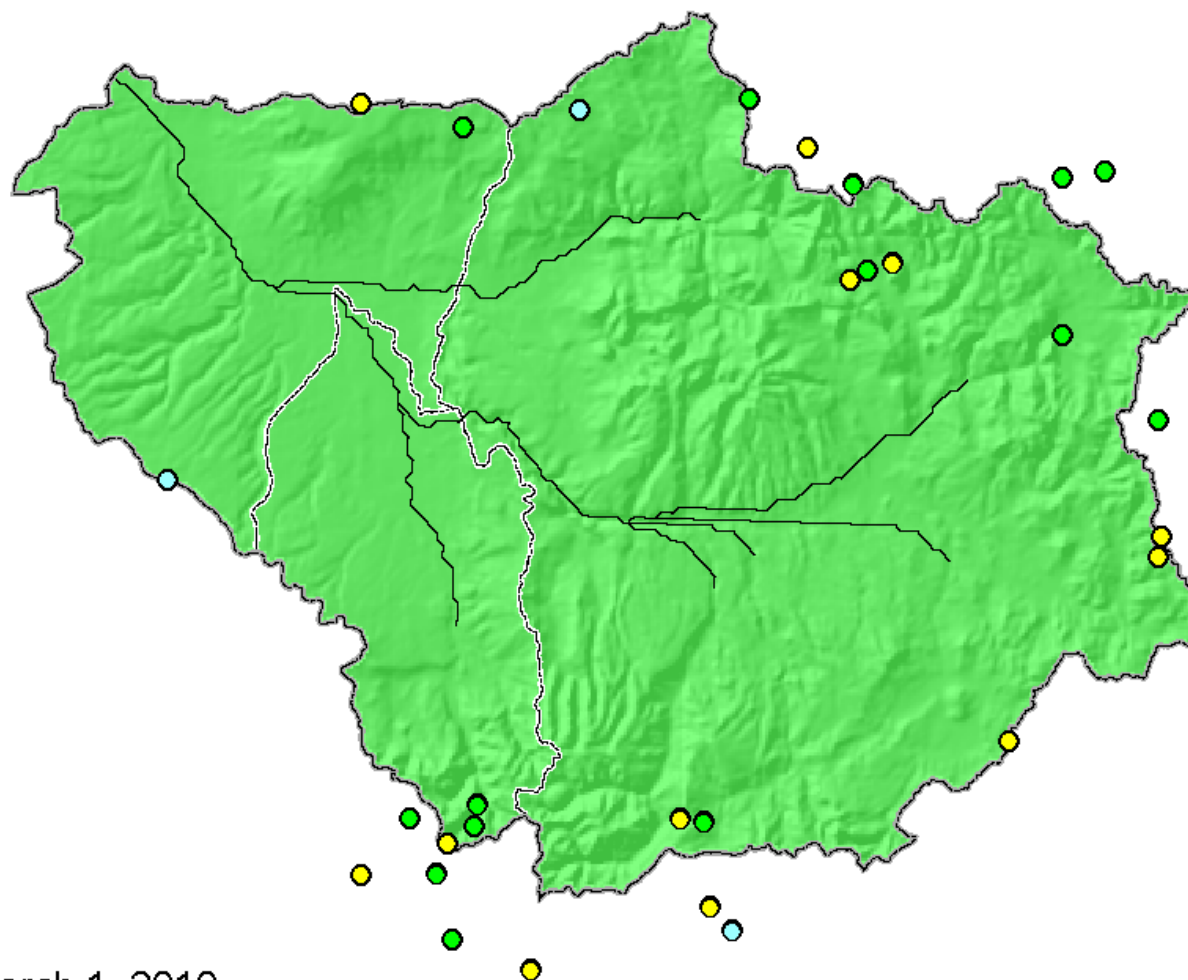


Gunnison River Basin Snowpack Map

Percent of Average

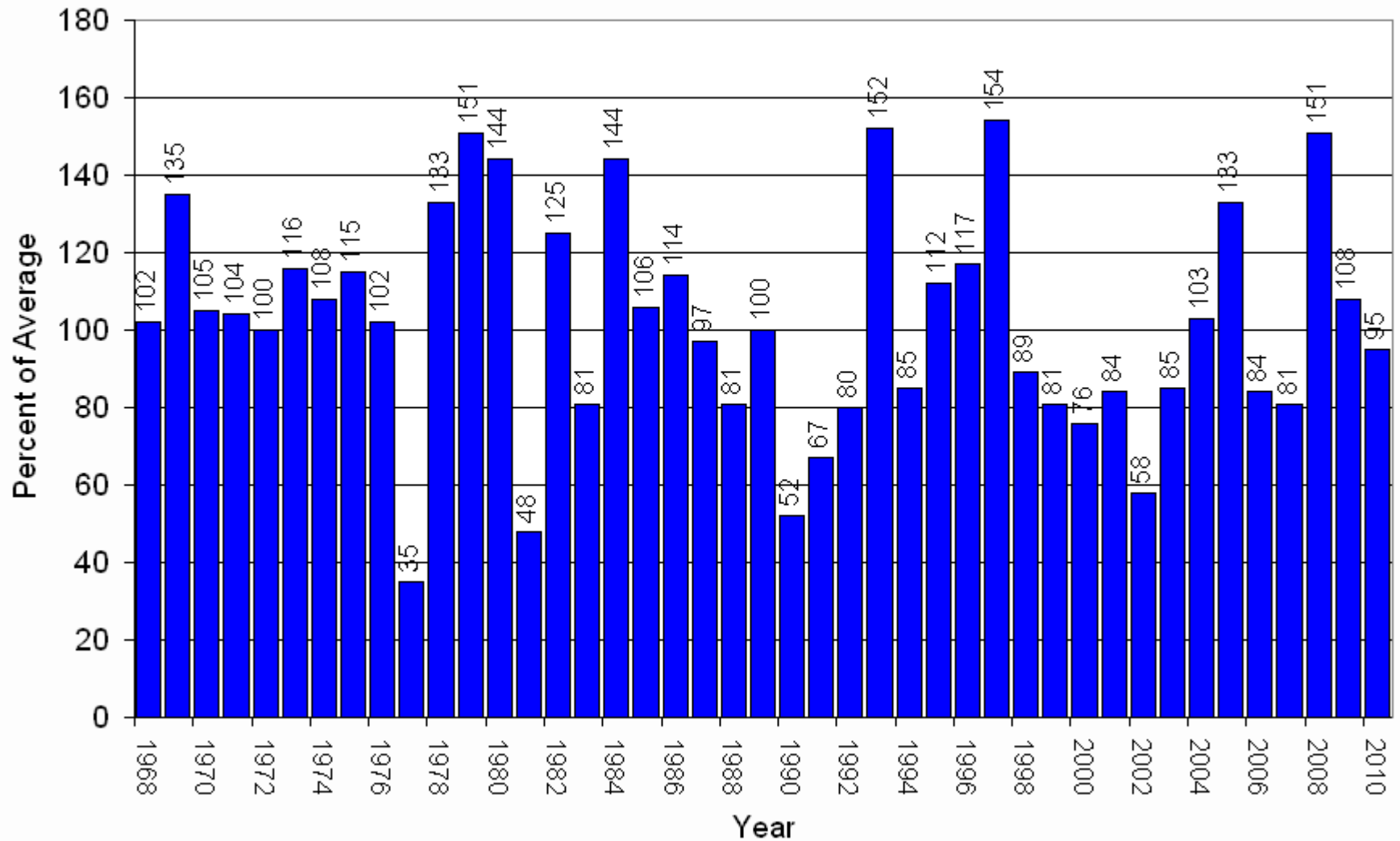


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

March 1 Total Gunnison River Basin Snowpack

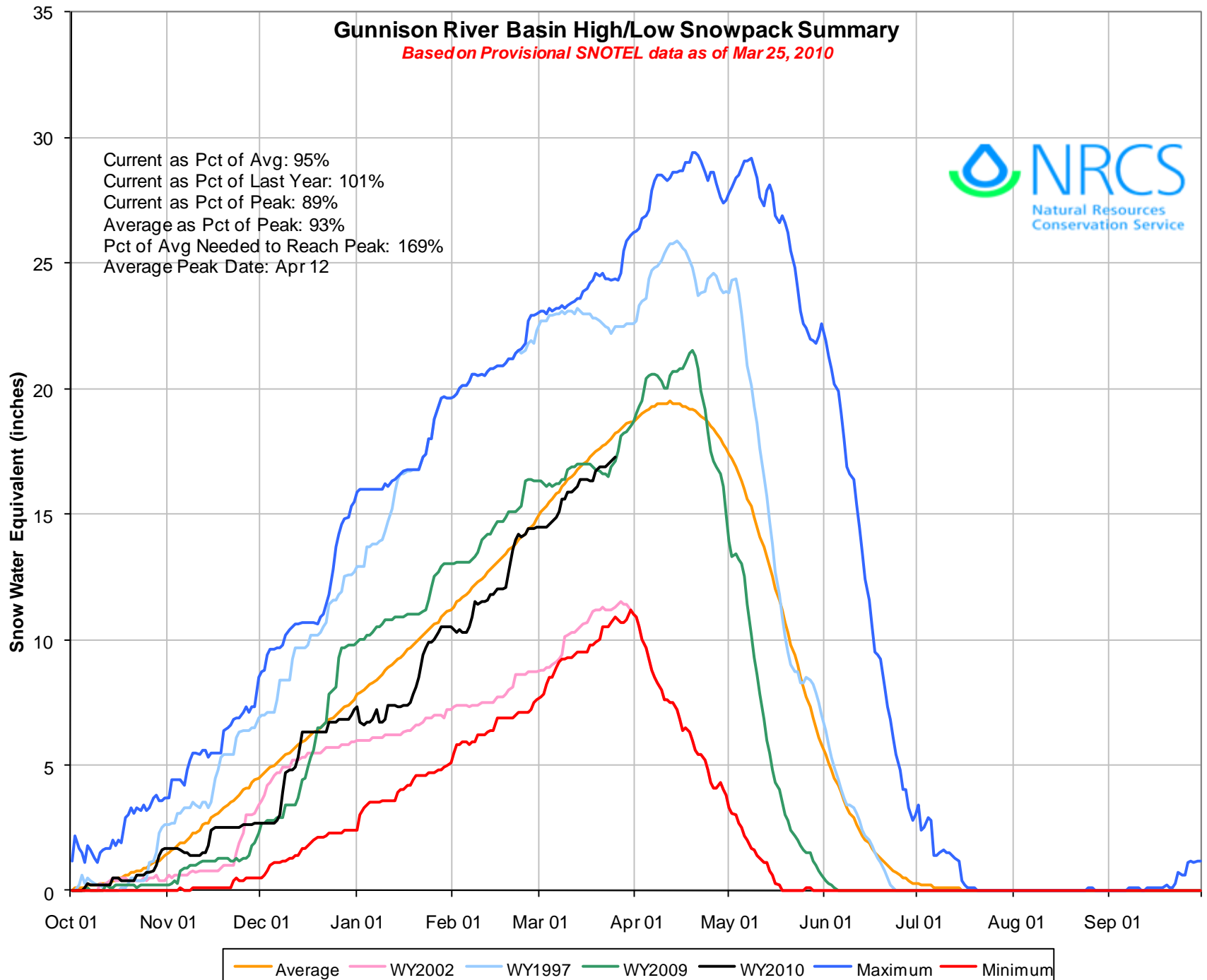


Gunnison River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

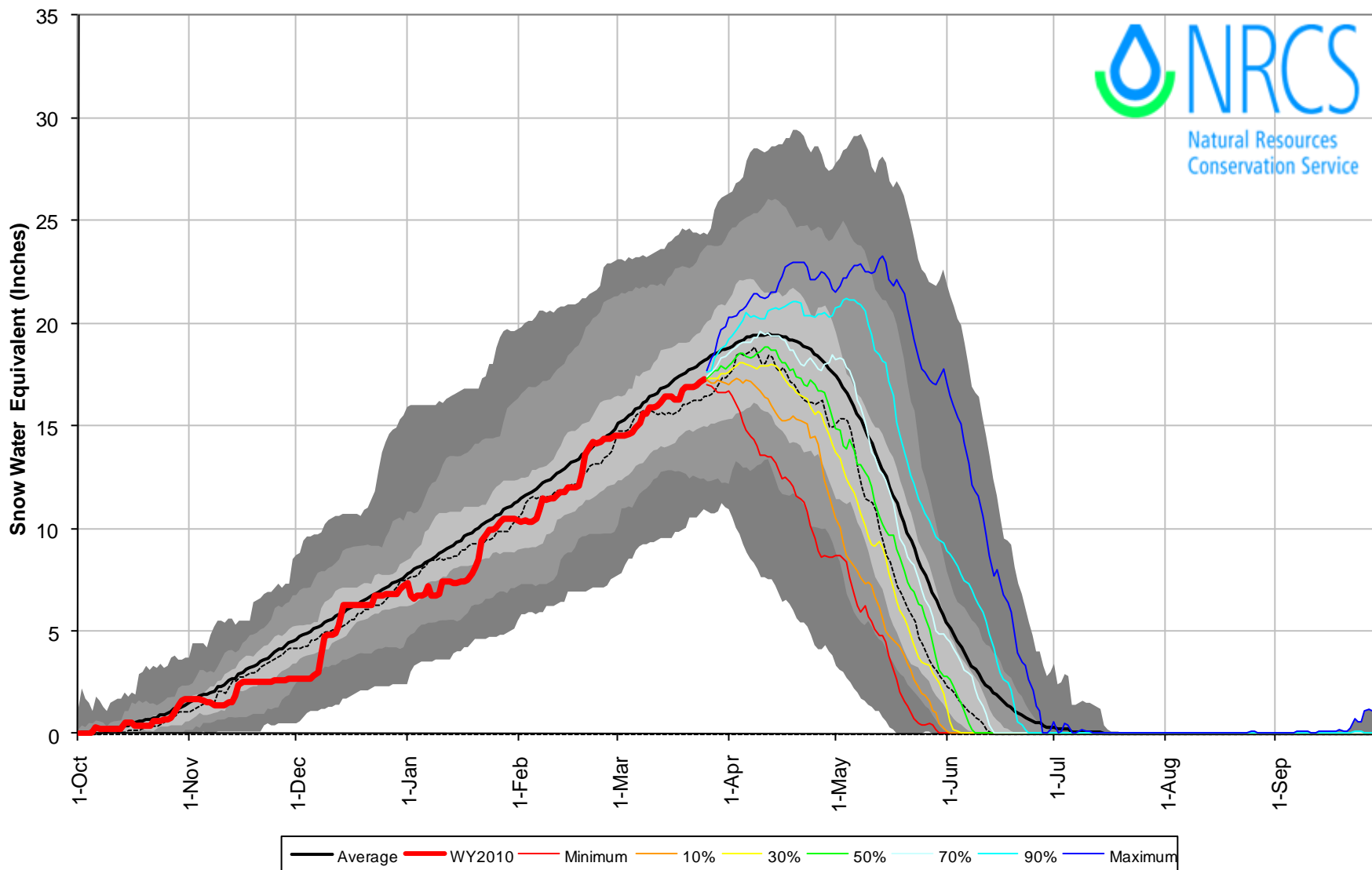


Current as Pct of Avg: 95%
Current as Pct of Last Year: 101%
Current as Pct of Peak: 89%
Average as Pct of Peak: 93%
Pct of Avg Needed to Reach Peak: 169%
Average Peak Date: Apr 12



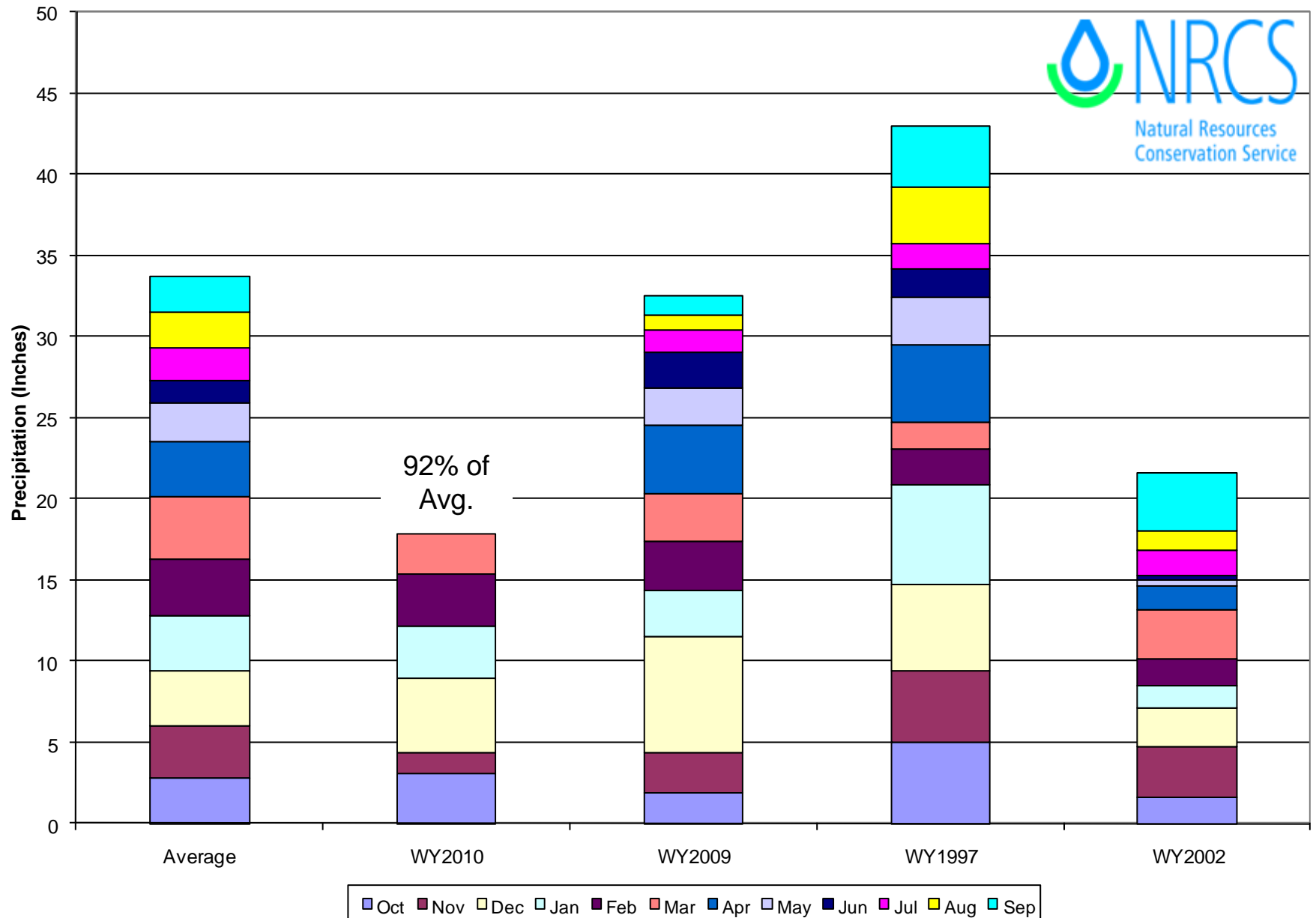
Gunnison River Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 25, 2010



Gunnison River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

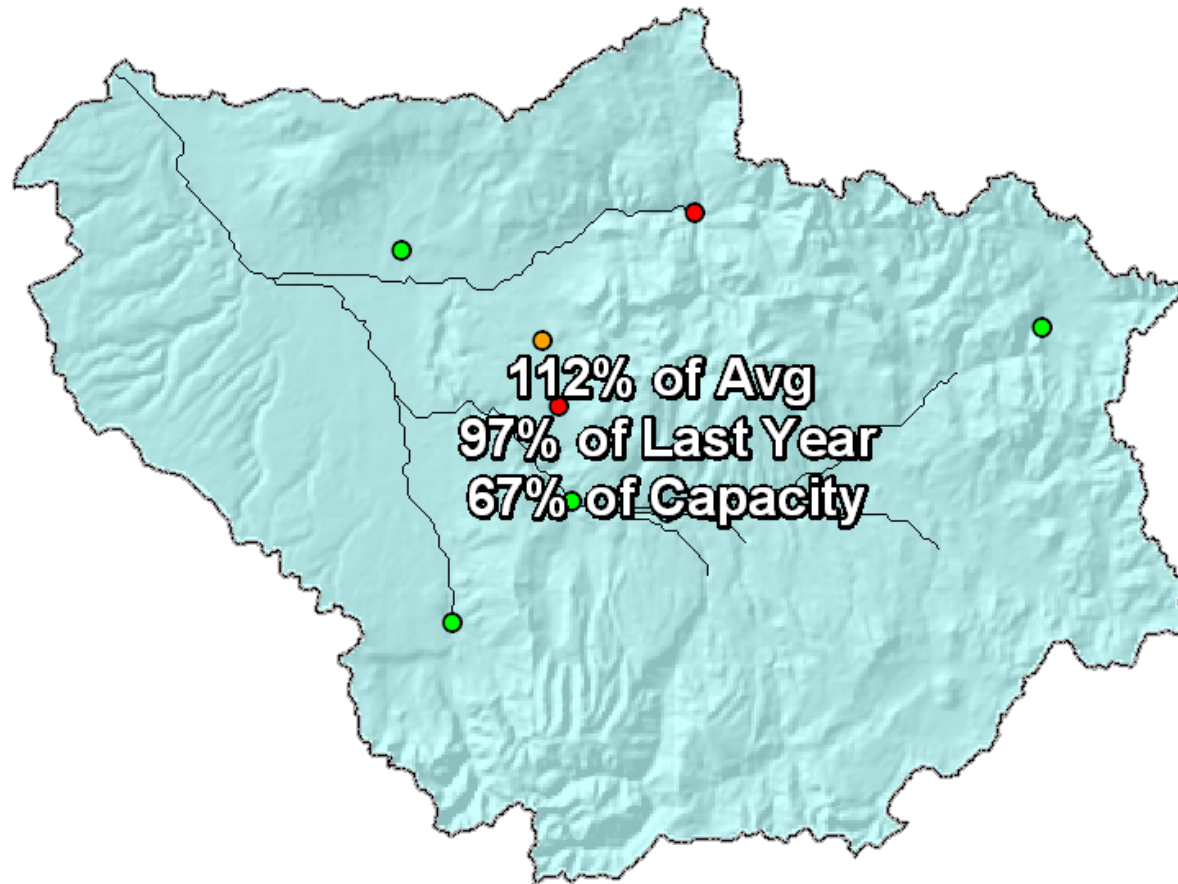


Gunnison River Basin Reservoir Storage Map

Percent of Average



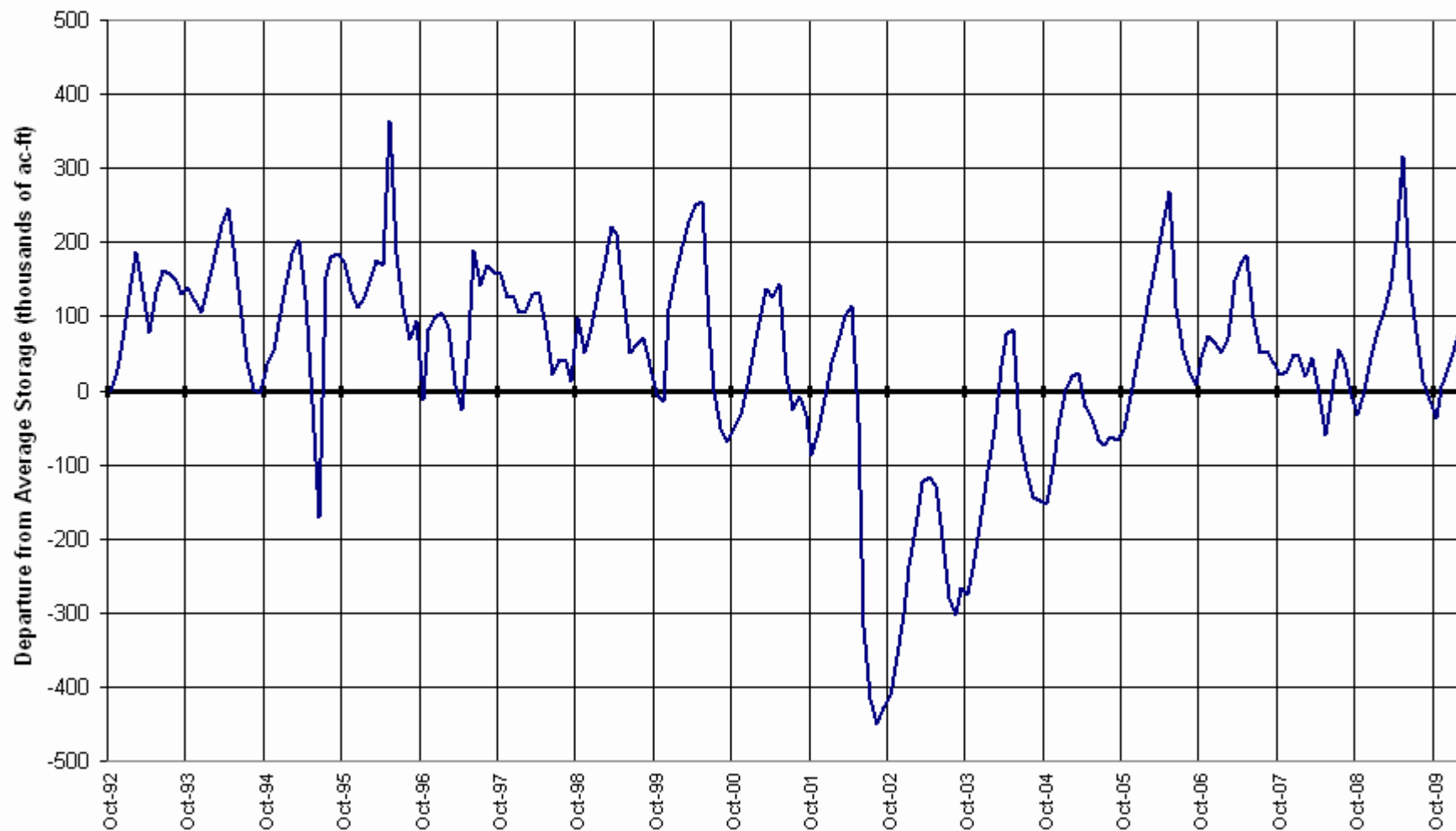
*Provisional Data
Subject to Revision*



End of February 2010

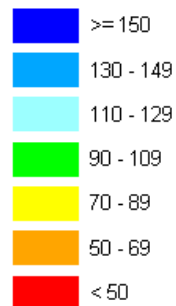
GUNNISON RIVER BASIN

Reservoir Storage Departure from Average

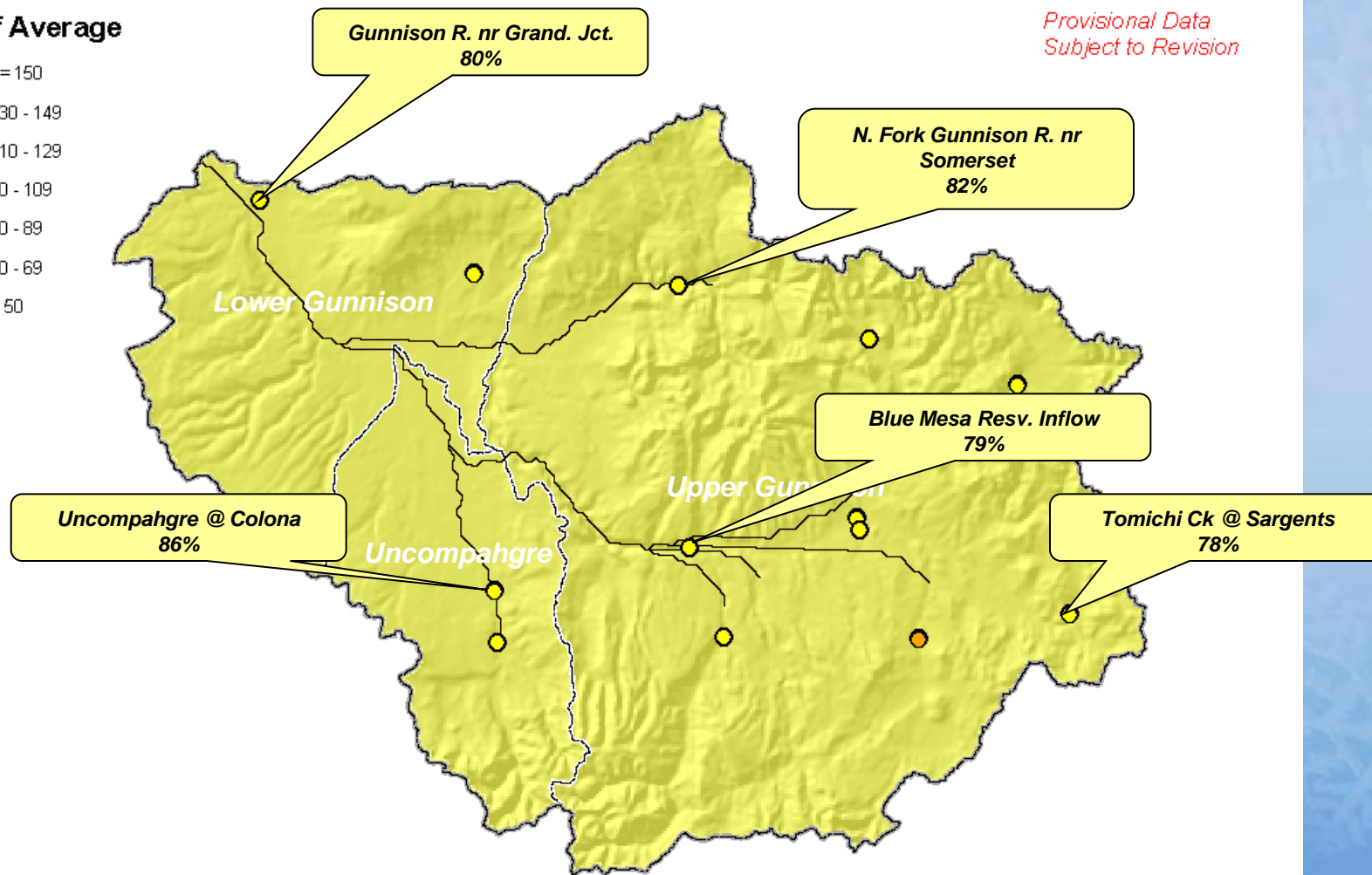


Gunnison River Basin Streamflow Forecast Map

Percent of Average

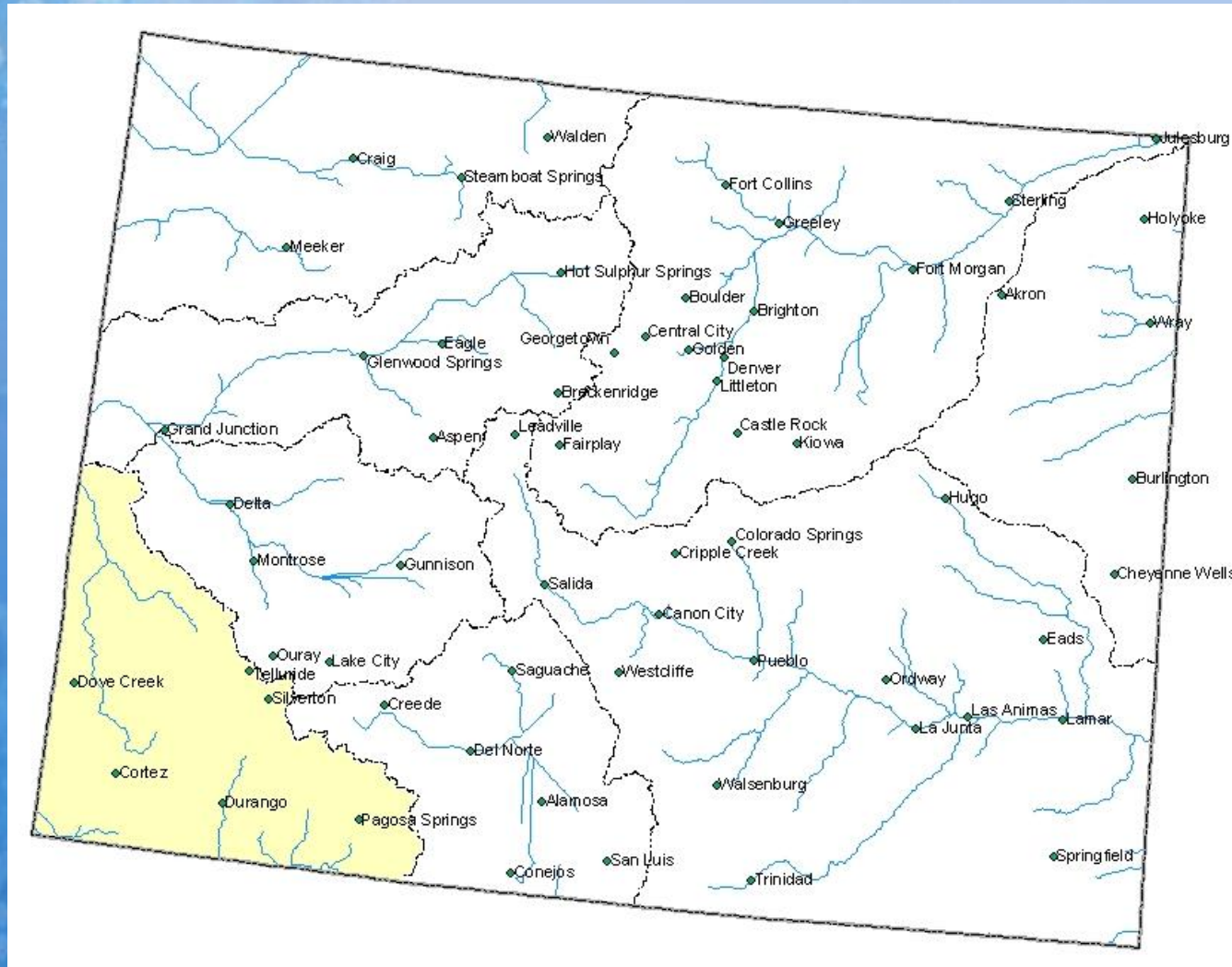


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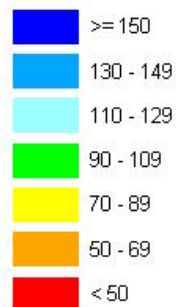
Current as of March 1, 2010

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

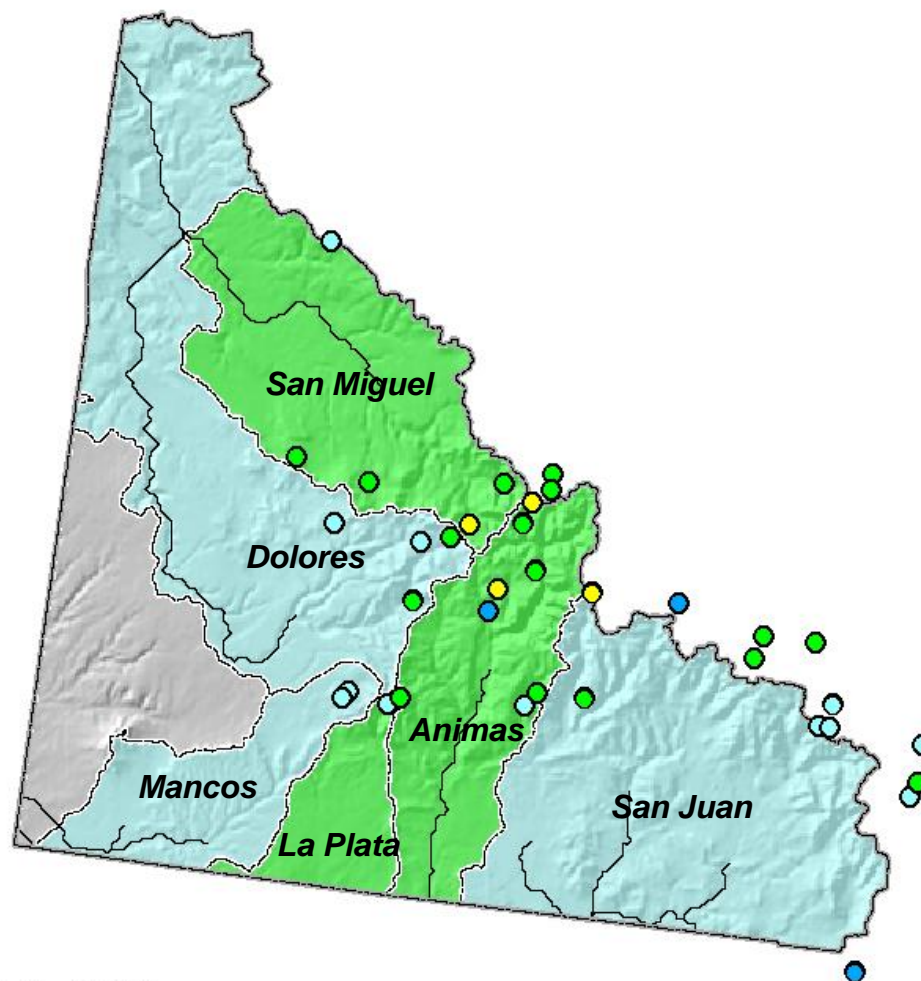


San Miguel, Dolores, Animas and San Juan River Basins Snowpack Map

Percent of Average

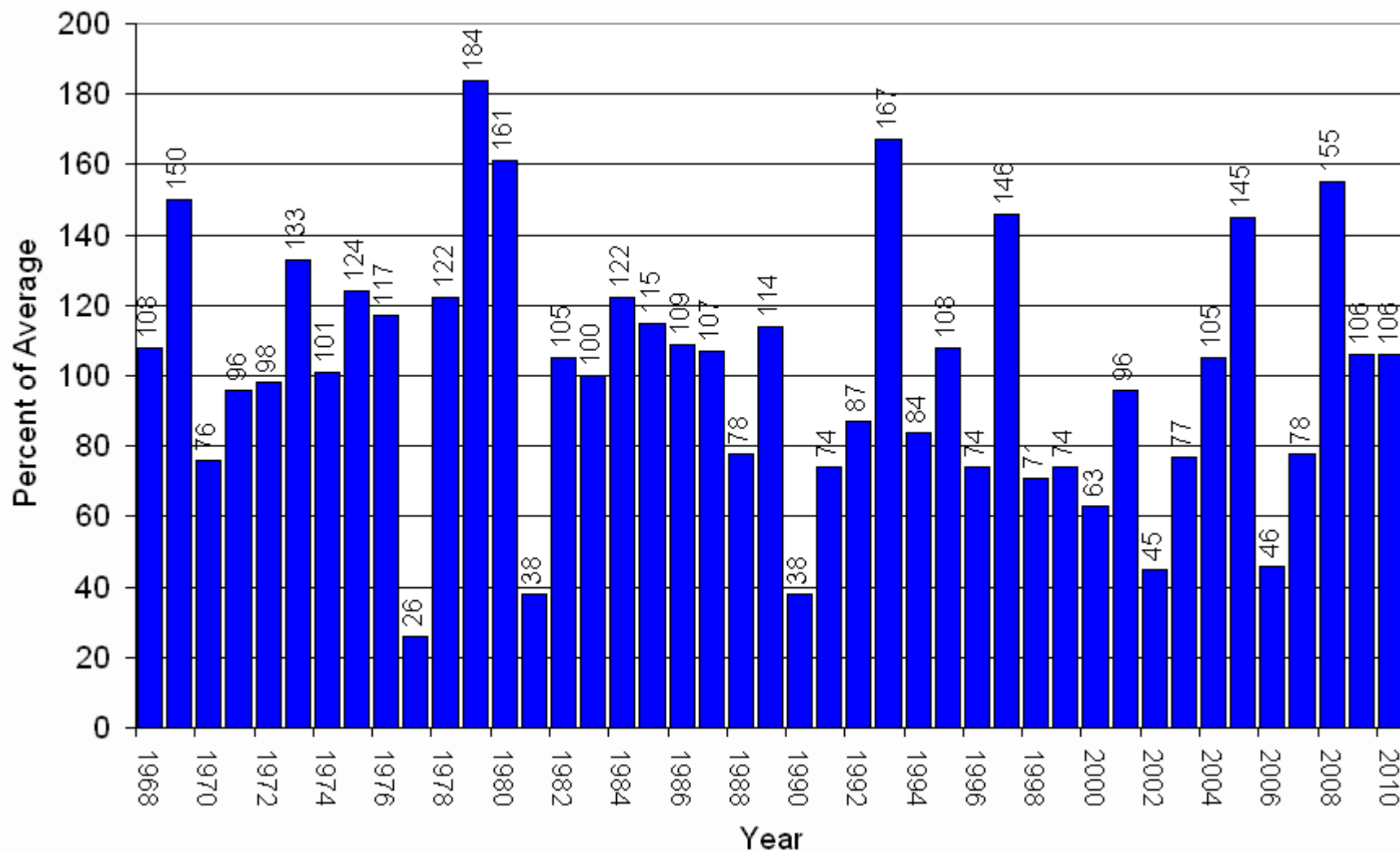


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

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

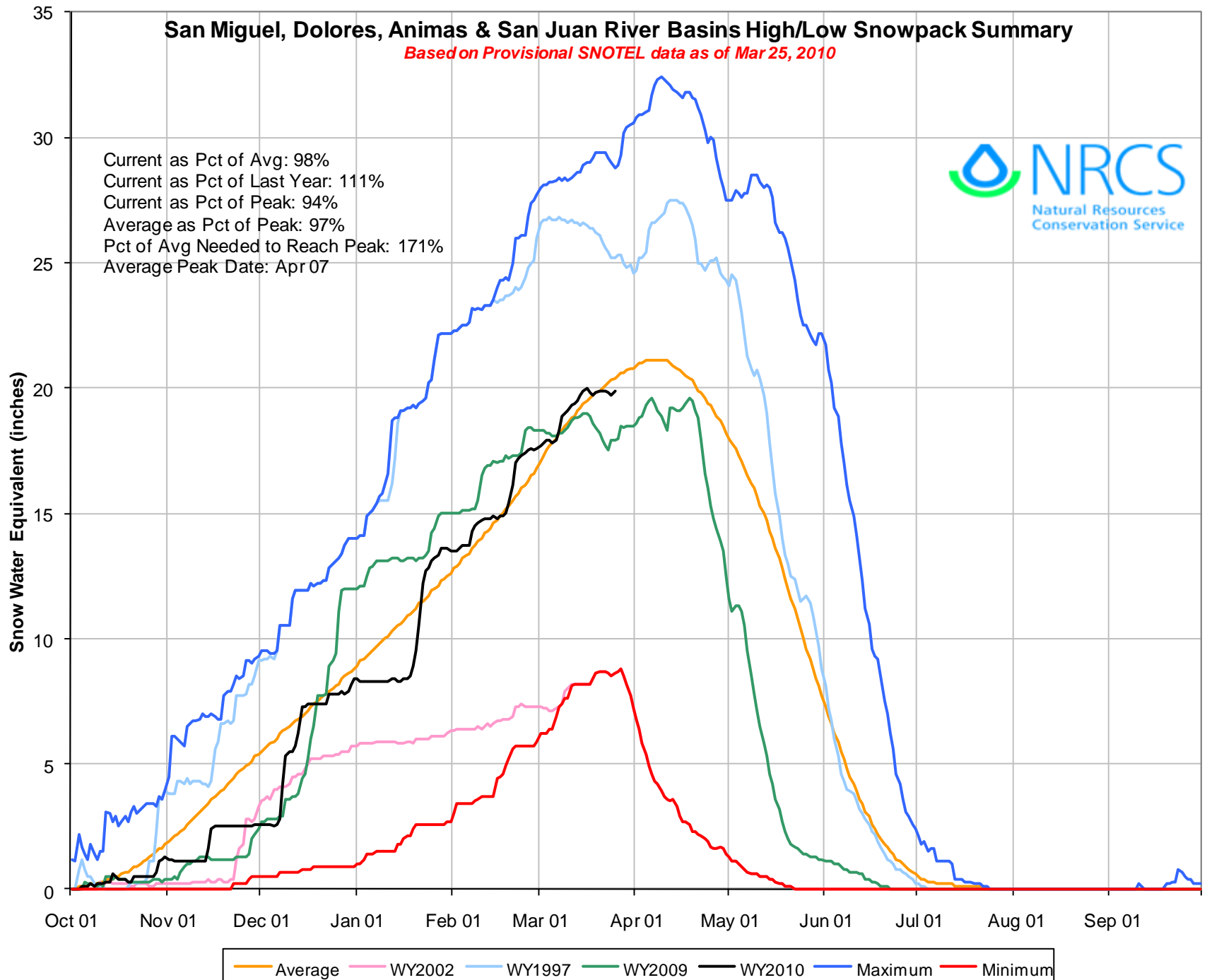


San Miguel, Dolores, Animas & San Juan River Basins High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

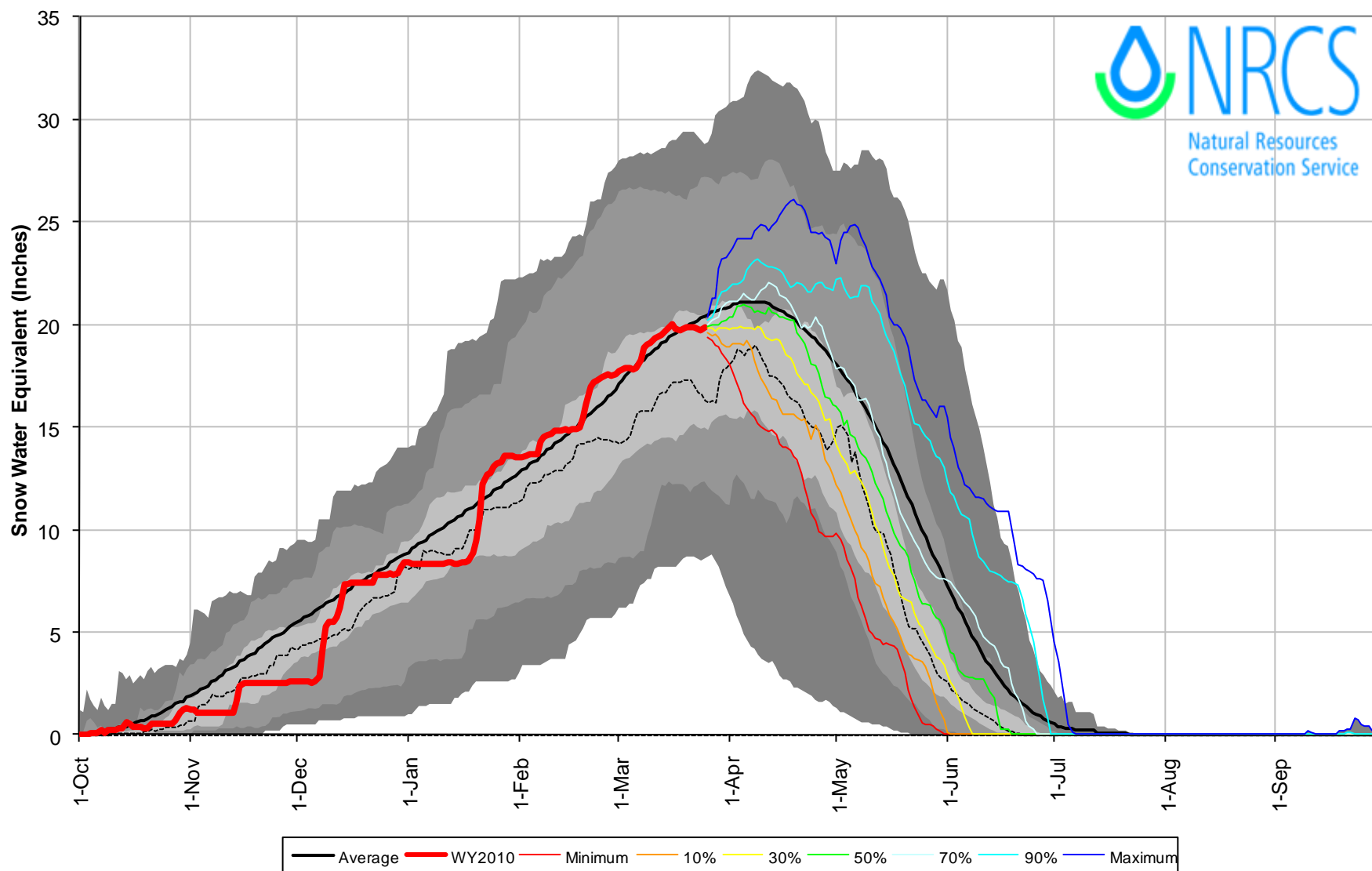


Current as Pct of Avg: 98%
Current as Pct of Last Year: 111%
Current as Pct of Peak: 94%
Average as Pct of Peak: 97%
Pct of Avg Needed to Reach Peak: 171%
Average Peak Date: Apr 07



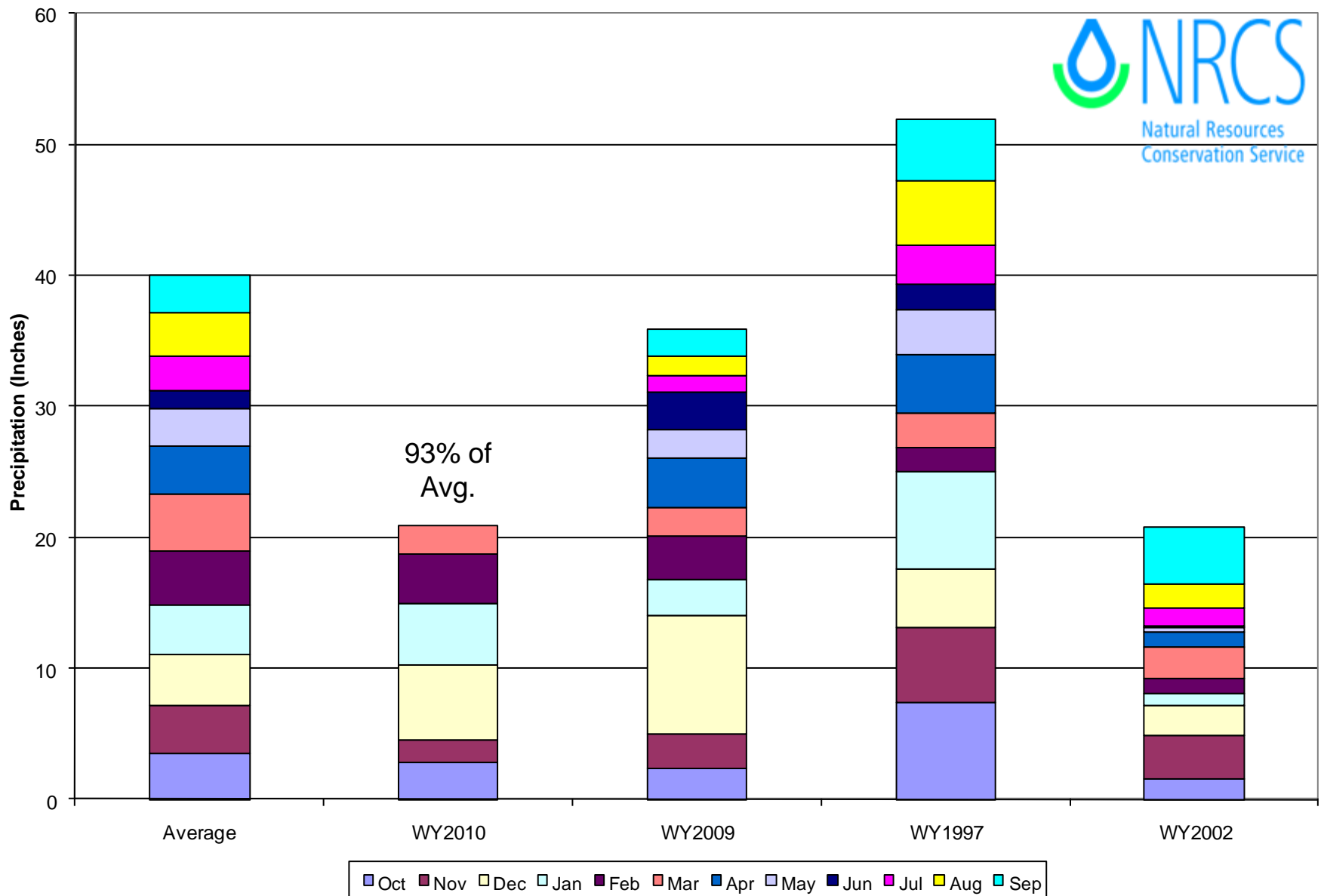
San Miguel, Dolores, Animas & San Juan River Basins with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 25, 2010



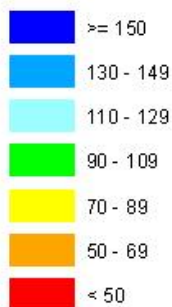
San Miguel, Dolores, Animas and San Juan River Basins High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

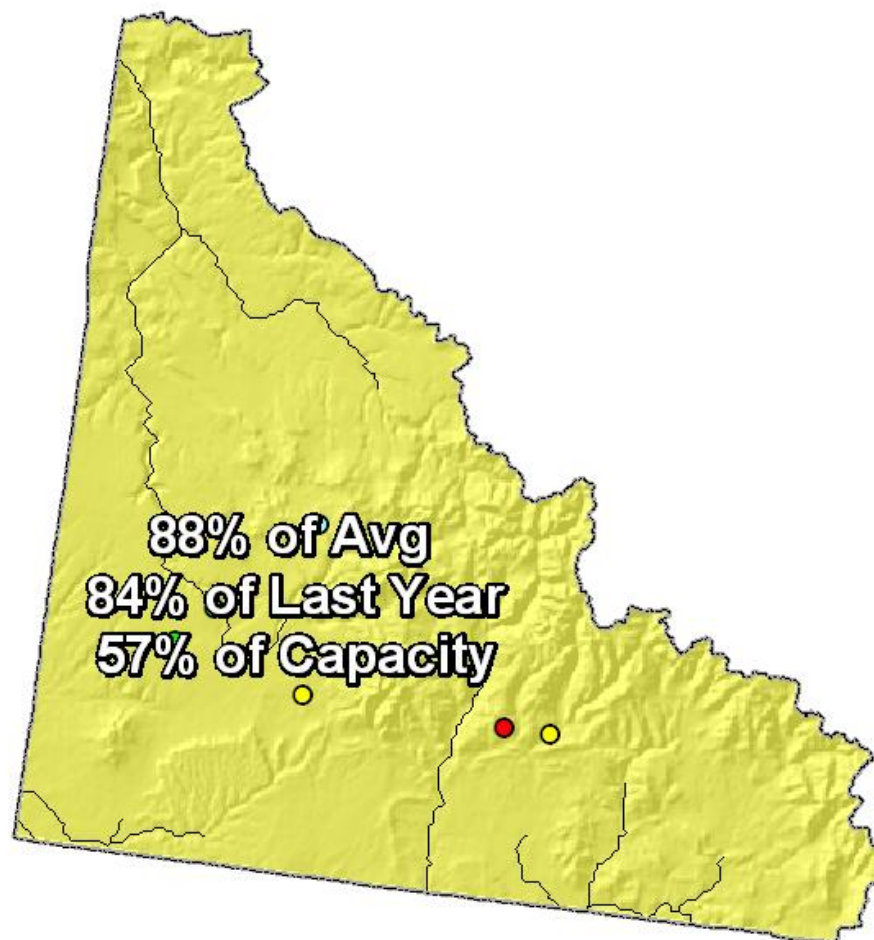


San Miguel, Dolores, Animas and San Juan River Basins Reservoir Storage Map

Percent of Average



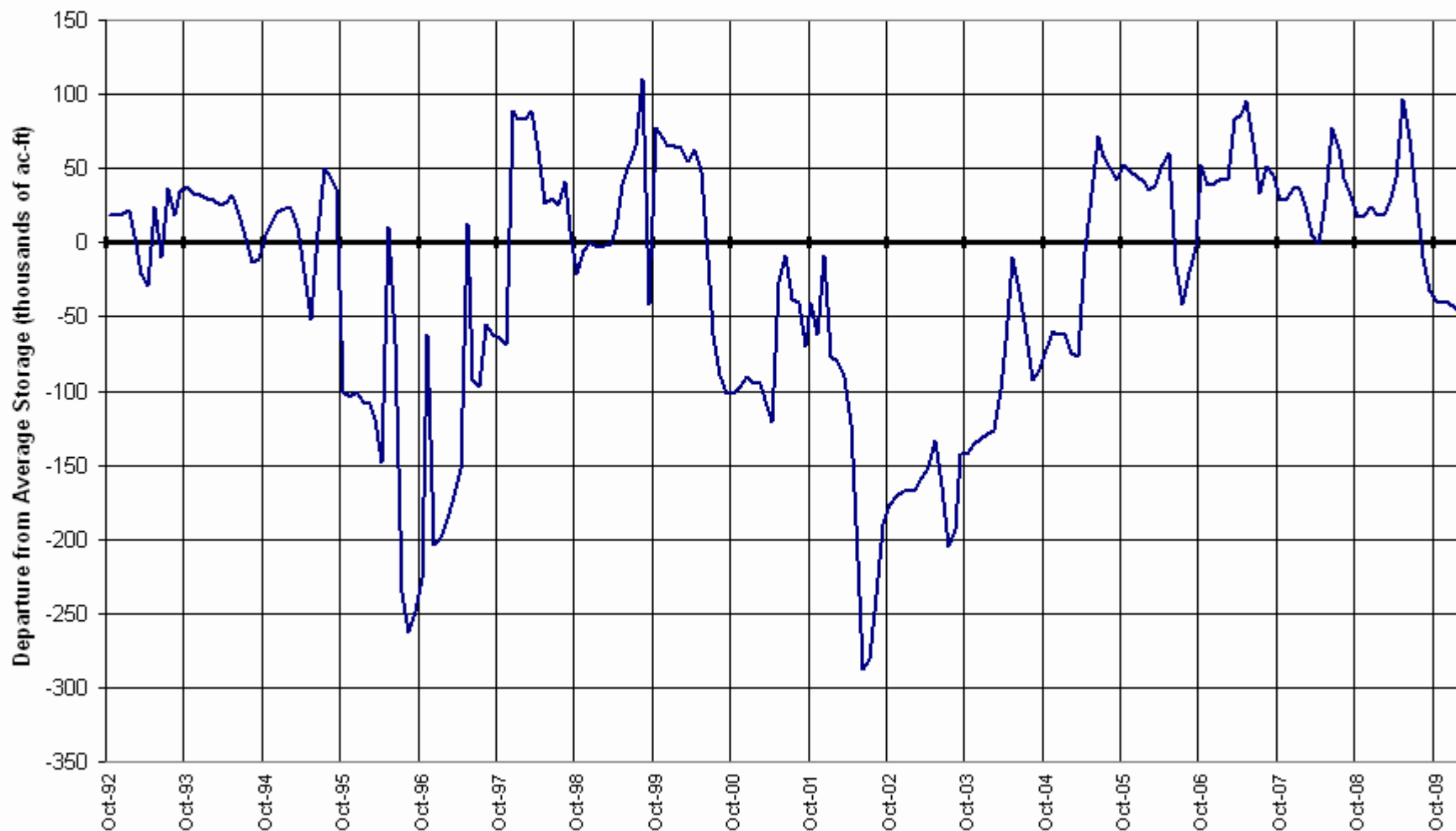
*Provisional Data
Subject to Revision*



End of February 2010

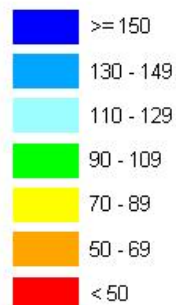
SAN MIGUEL, DOLORES, ANIMAS AND SAN JUAN RIVER BASINS

Reservoir Storage Departure from Average

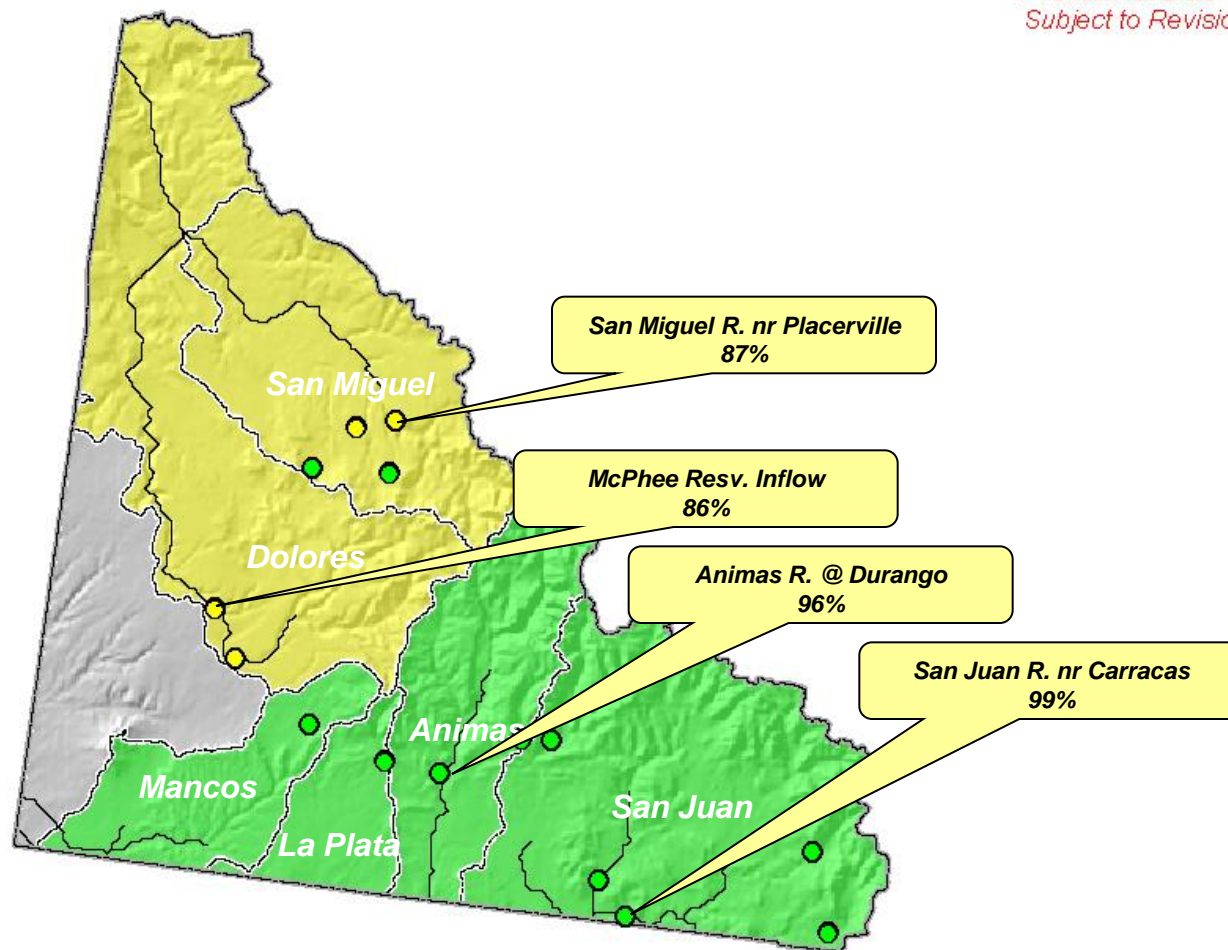


San Miguel, Dolores, Animas and San Juan River Basins Streamflow Forecast Map

Percent of Average

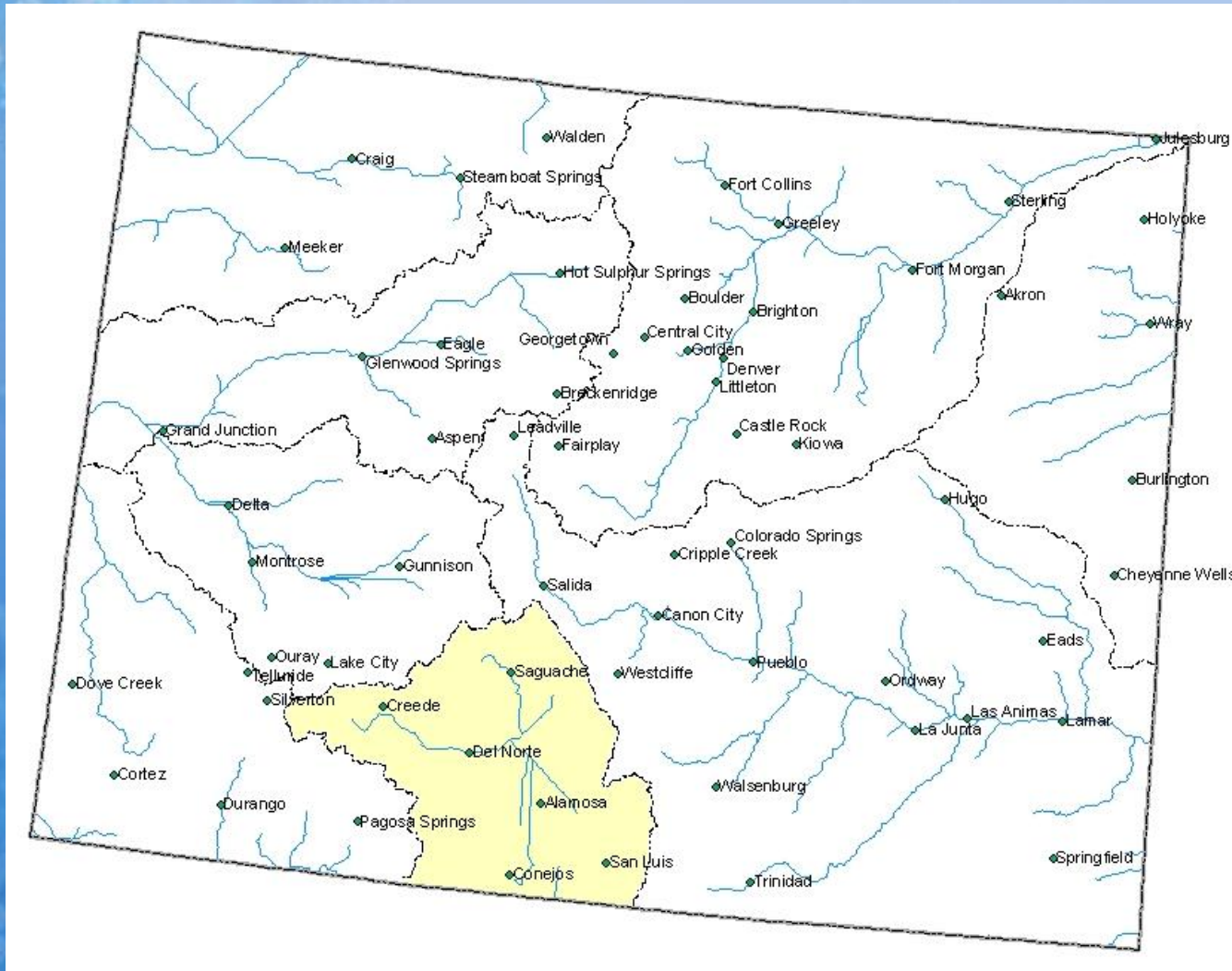


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

Upper Rio Grande Basin Summary

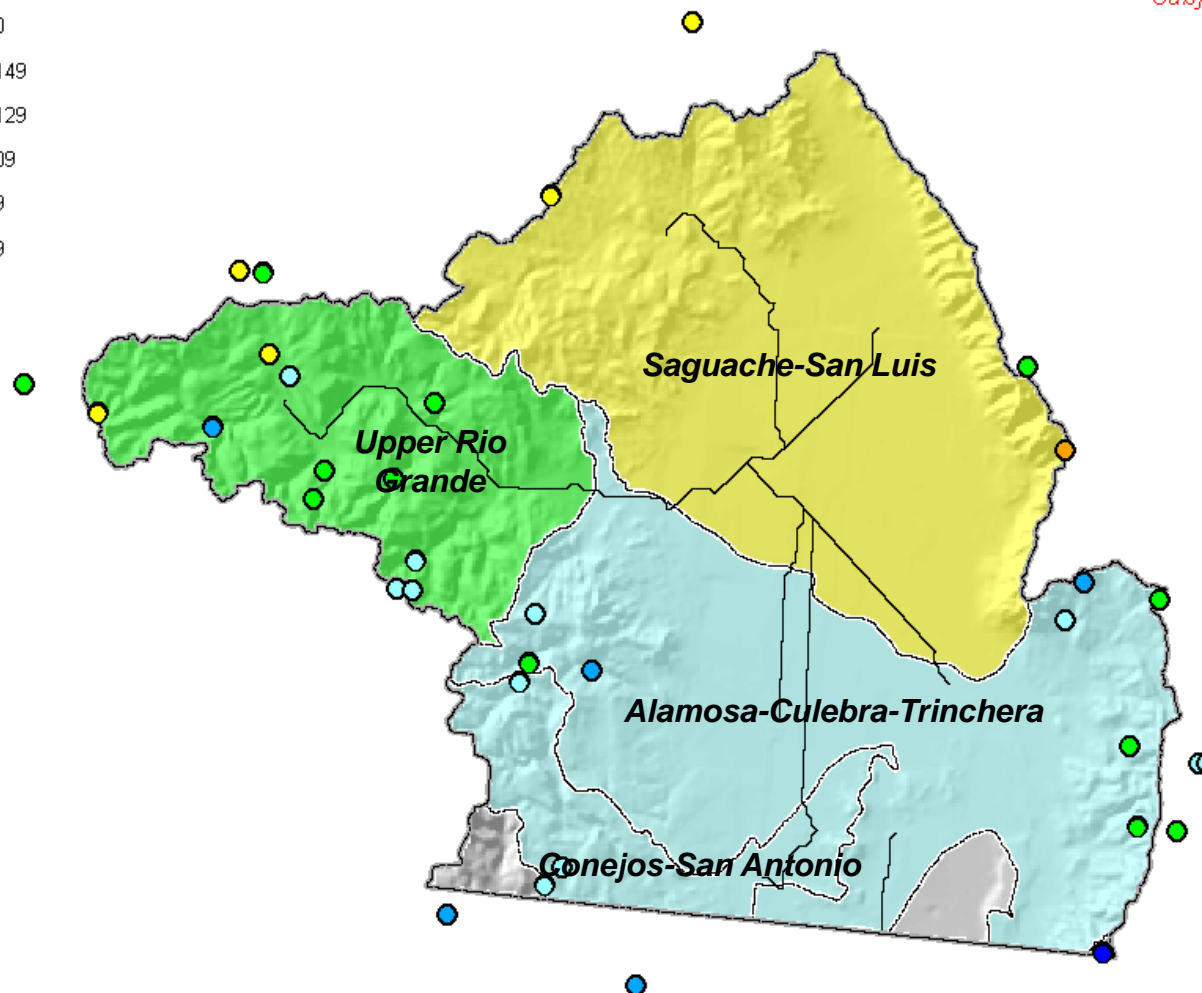


Upper Rio Grande Basin Snowpack Map

Percent of Average

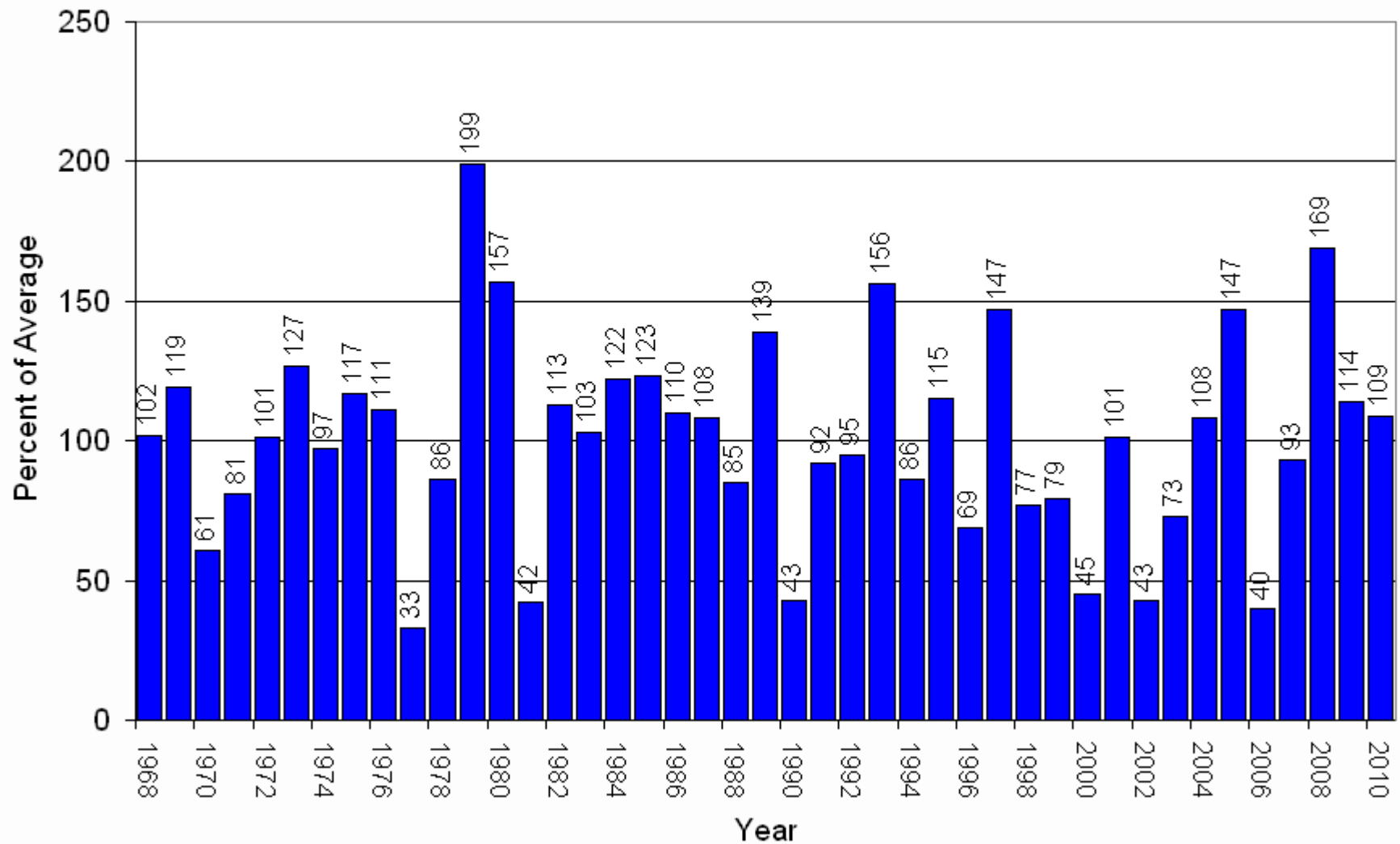


*Provisional Data
Subject to Revision*



Current as of March 1, 2010

March 1 Total Upper Rio Grande Basin Snowpack



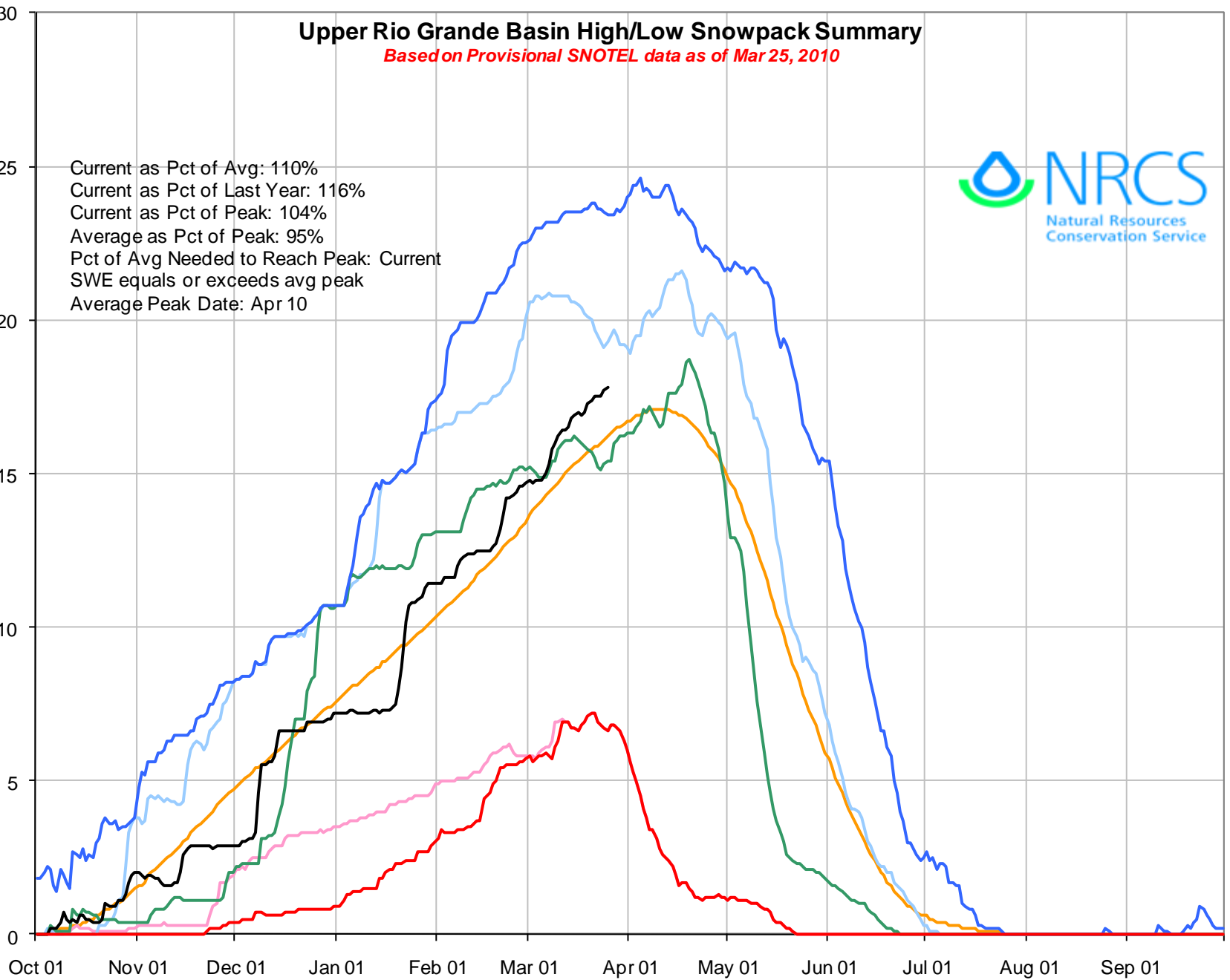
Upper Rio Grande Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 25, 2010



Current as Pct of Avg: 110%
Current as Pct of Last Year: 116%
Current as Pct of Peak: 104%
Average as Pct of Peak: 95%
Pct of Avg Needed to Reach Peak: Current
SWE equals or exceeds avg peak
Average Peak Date: Apr 10

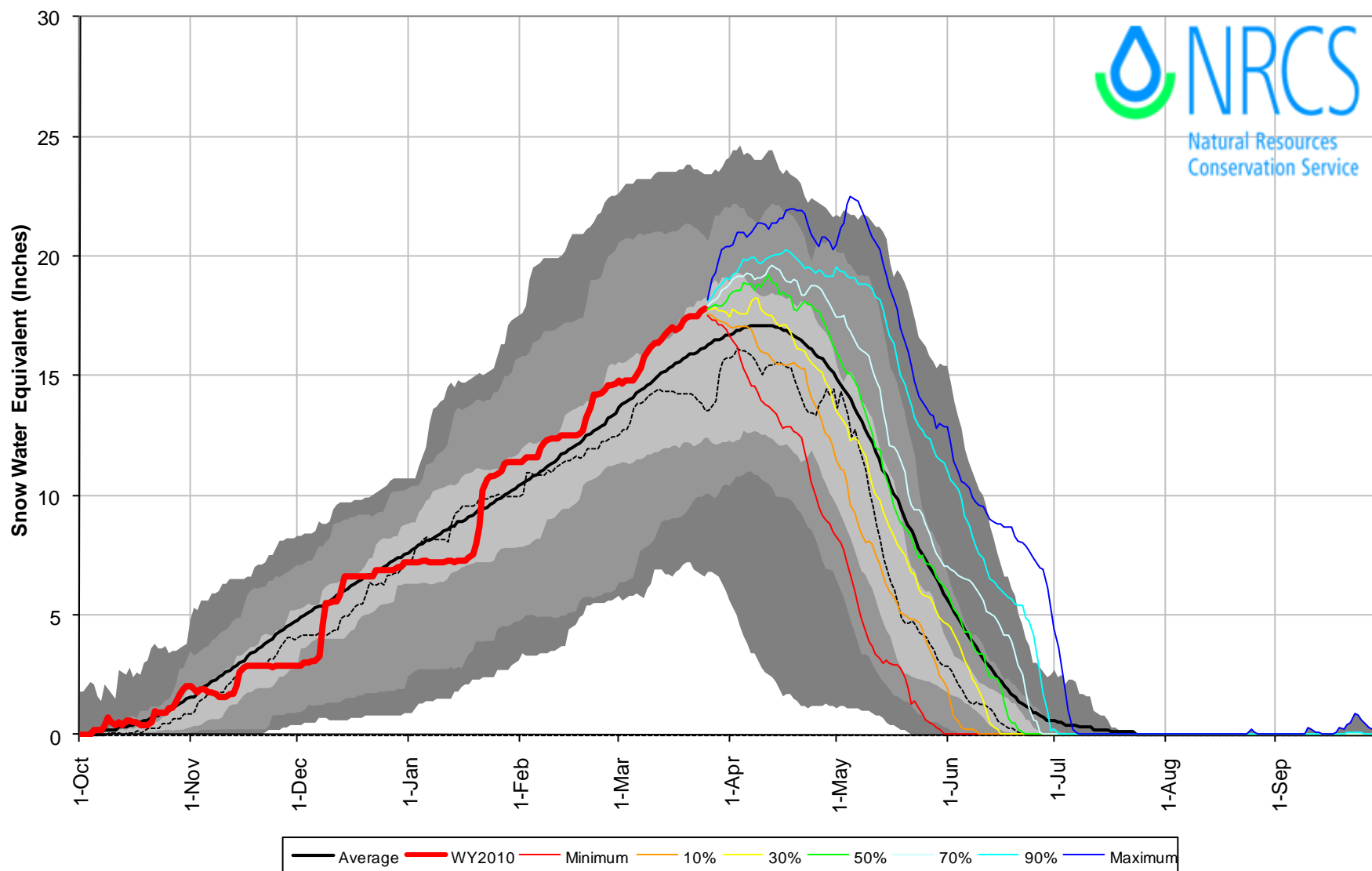
Snow Water Equivalent (inches)



— Average — WY2002 — WY1997 — WY2009 — WY2010 — Maximum — Minimum

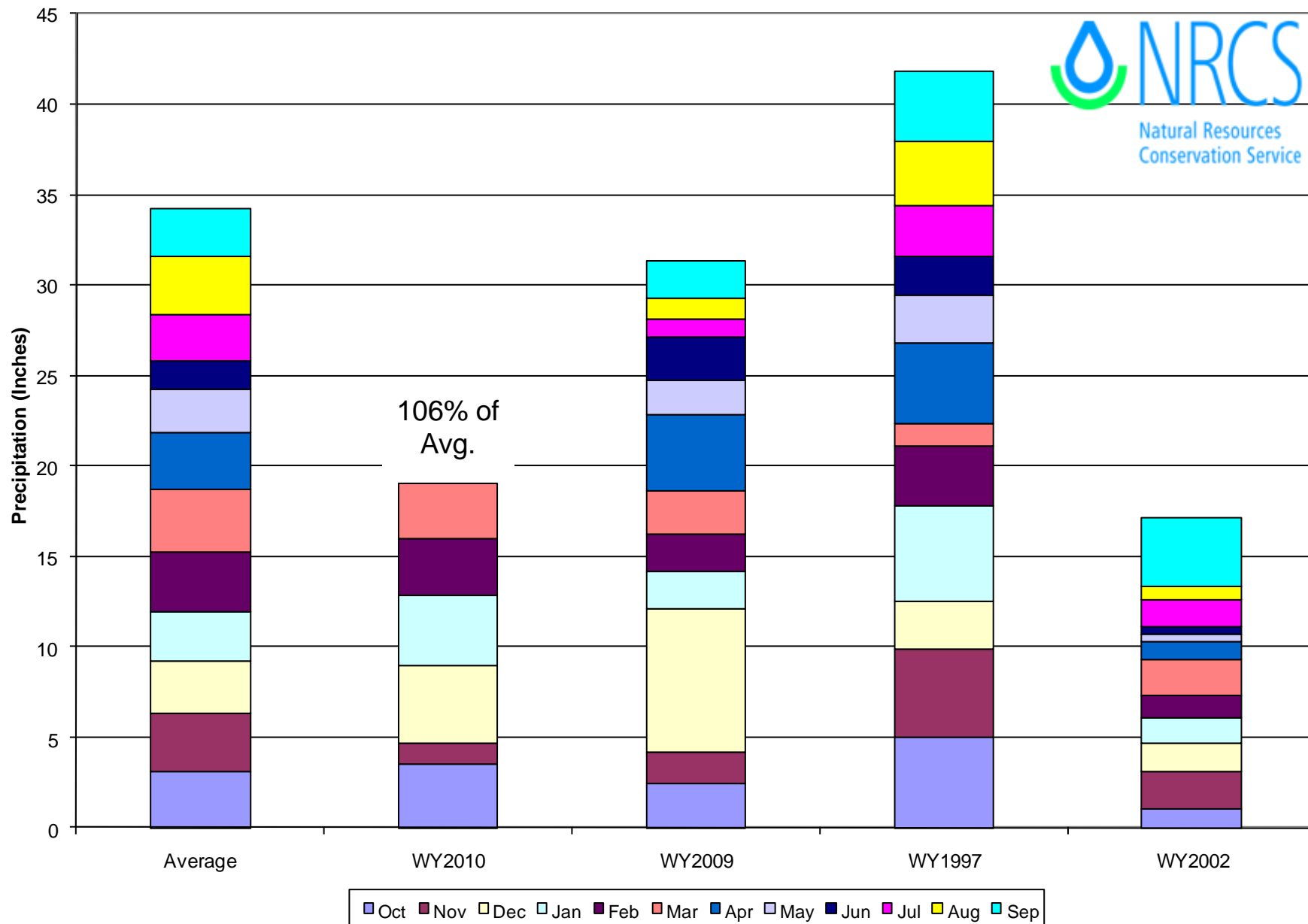
Upper Rio Grande Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 25, 2010



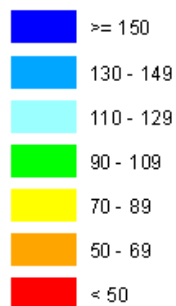
Upper Rio Grande Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

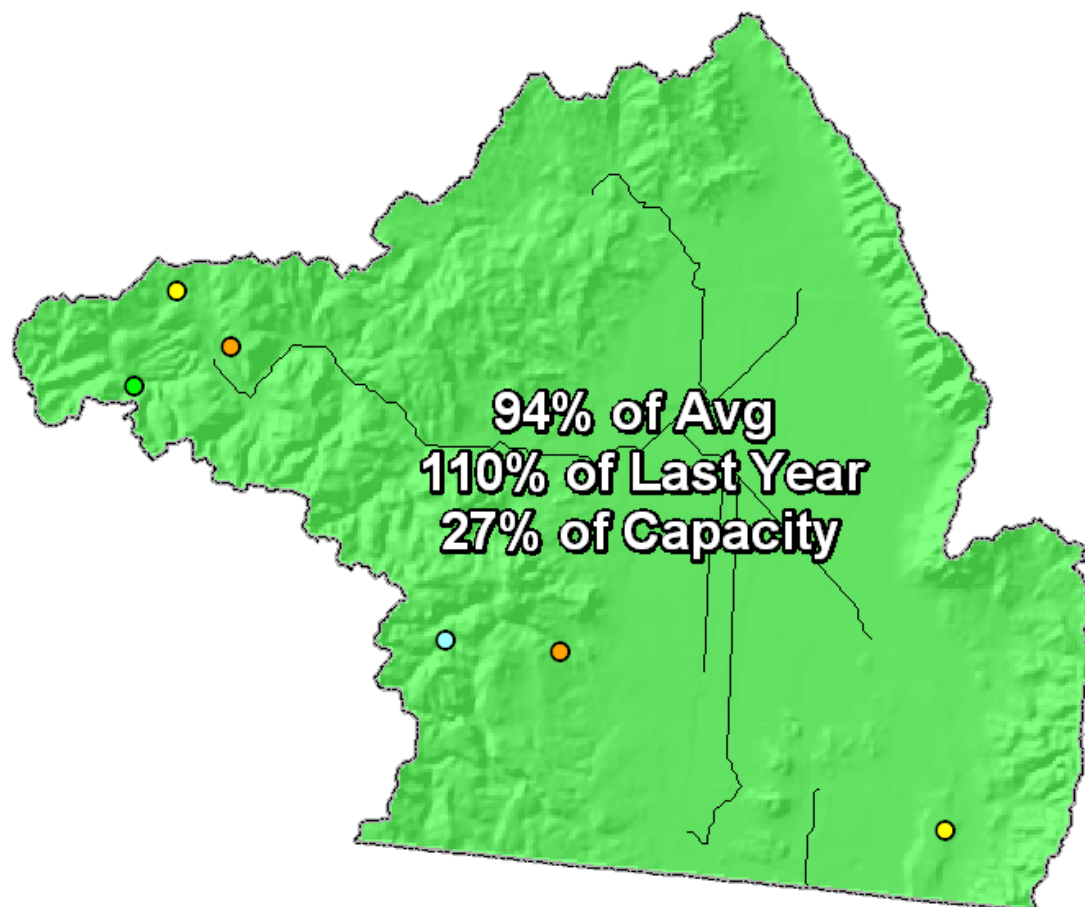


Upper Rio Grande Basin Reservoir Storage Map

Percent of Average

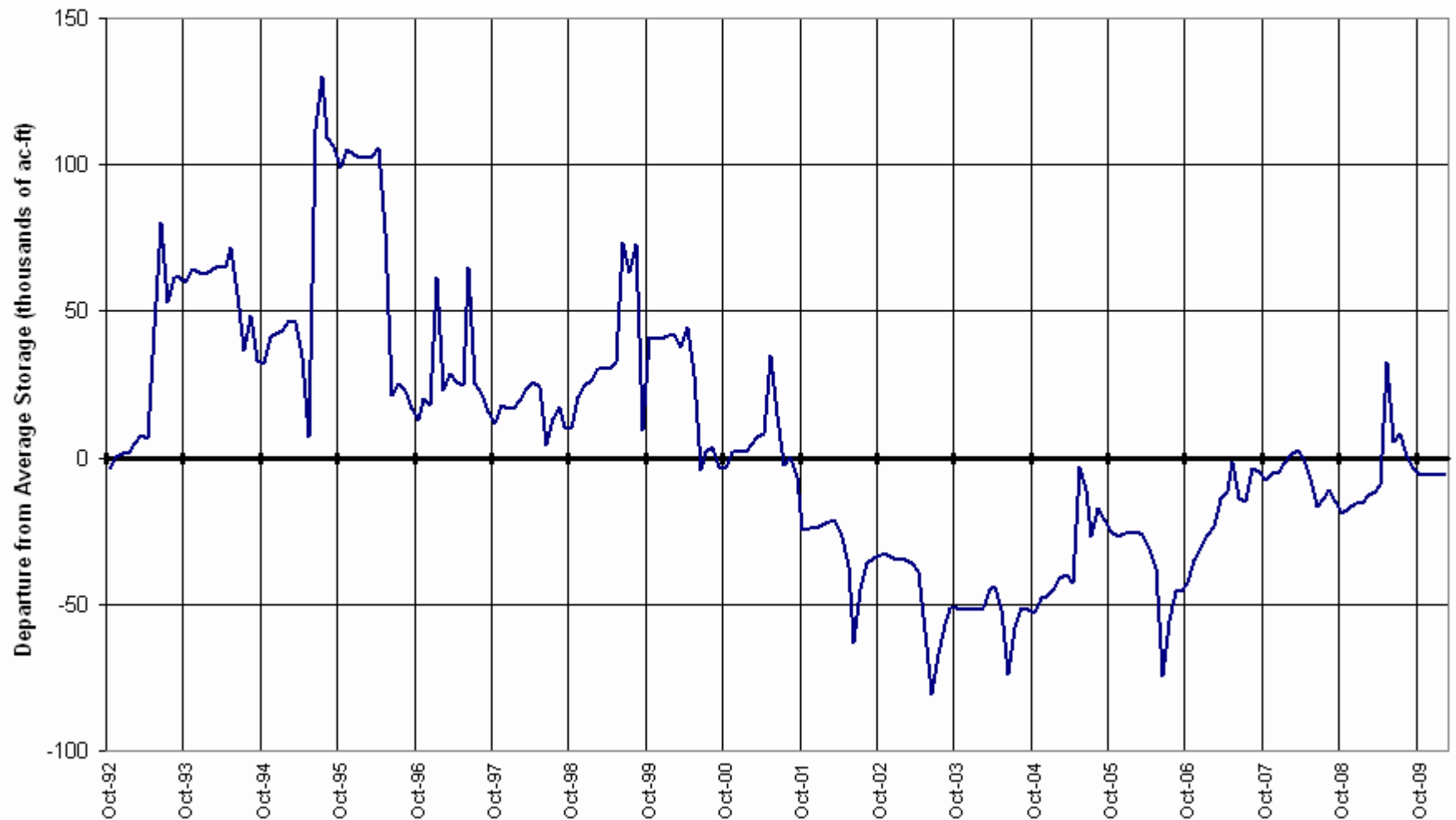


*Provisional Data
Subject to Revision*



End of February 2010

UPPER RIO GRANDE BASIN
Reservoir Storage
Departure from Average

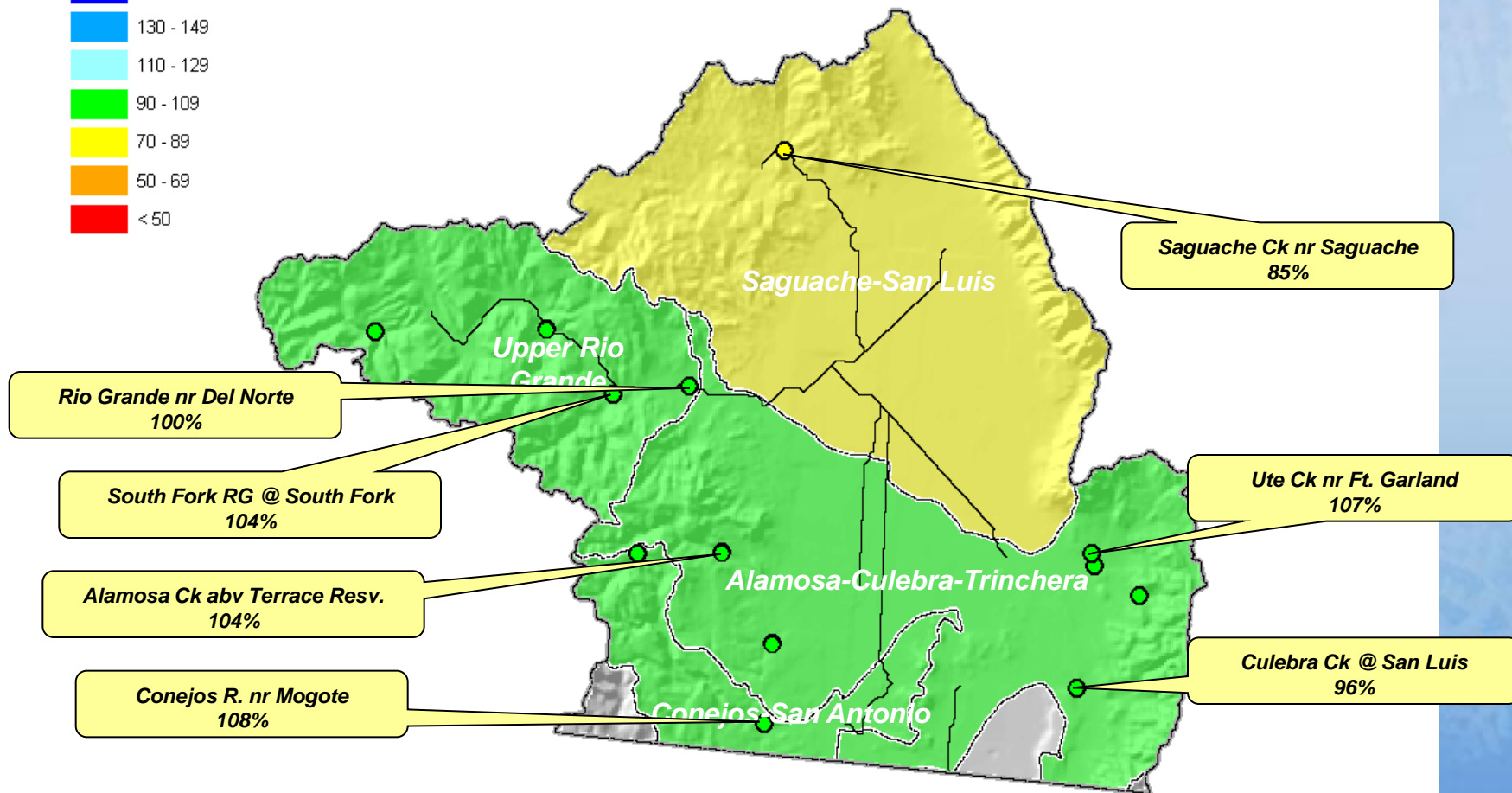


Upper Rio Grande Basin Streamflow Forecast Map

Percent of Average

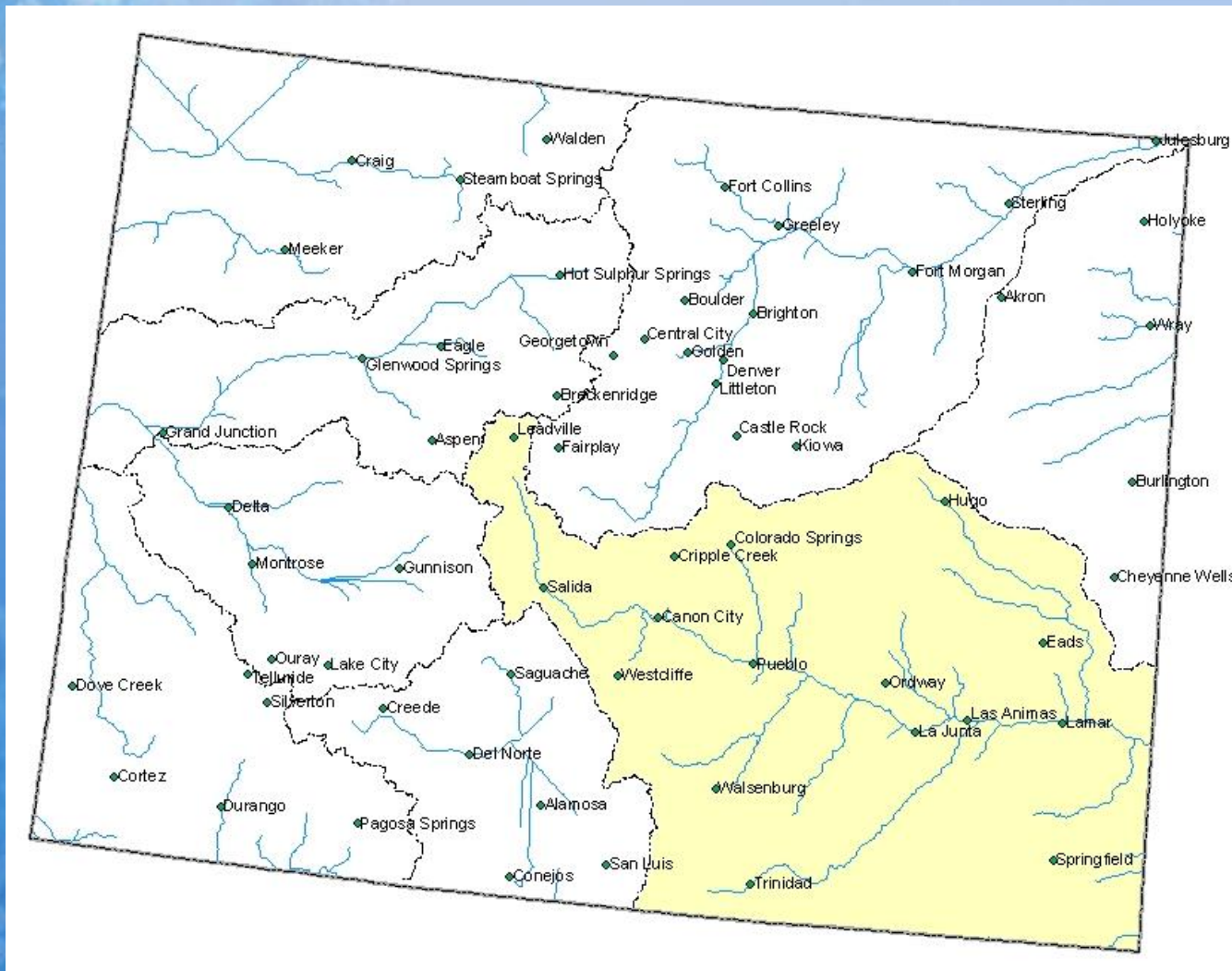


*Provisional Data
Subject to Revision*



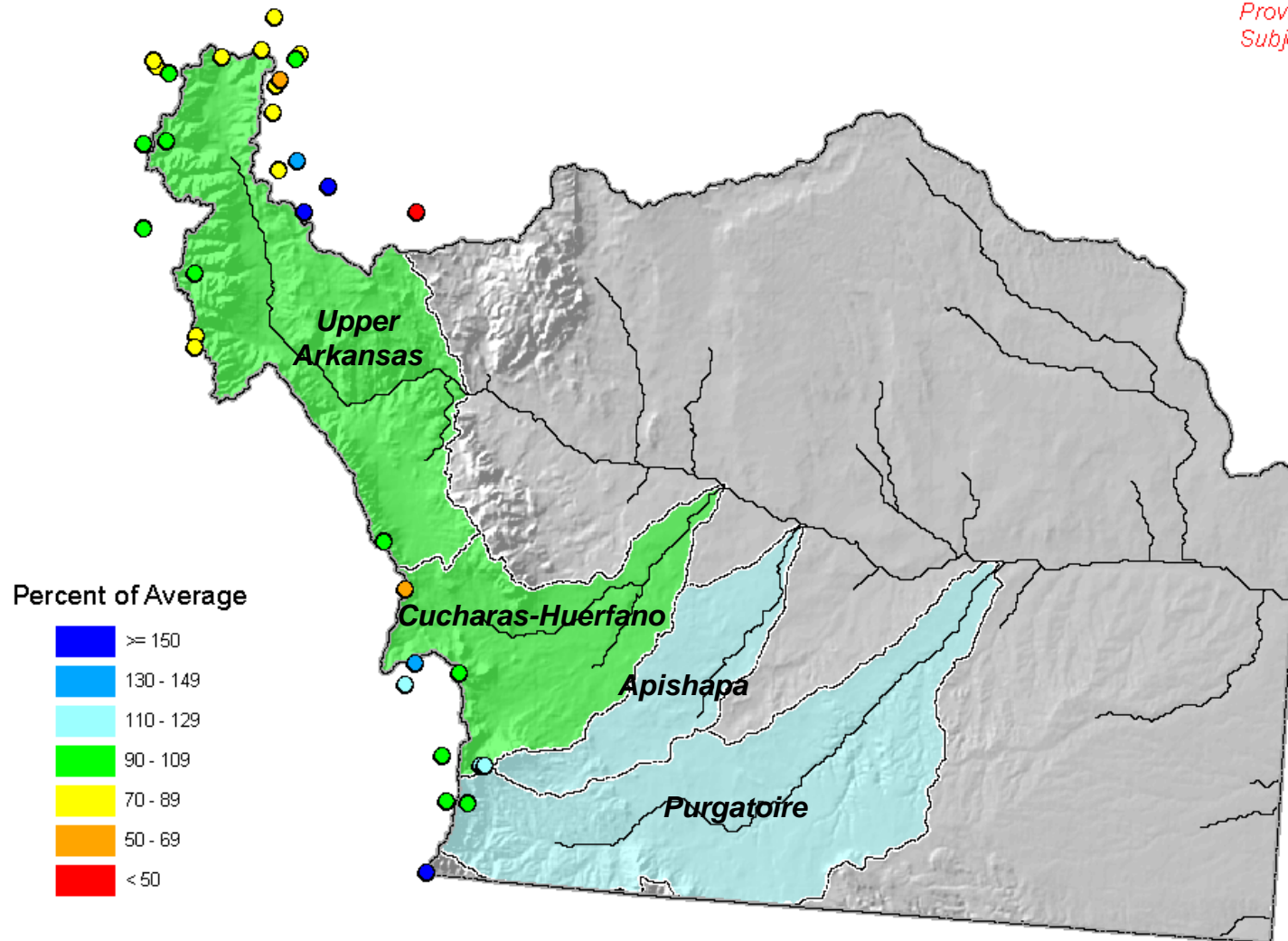
Current as of March 1, 2010

Arkansas River Basin Summary



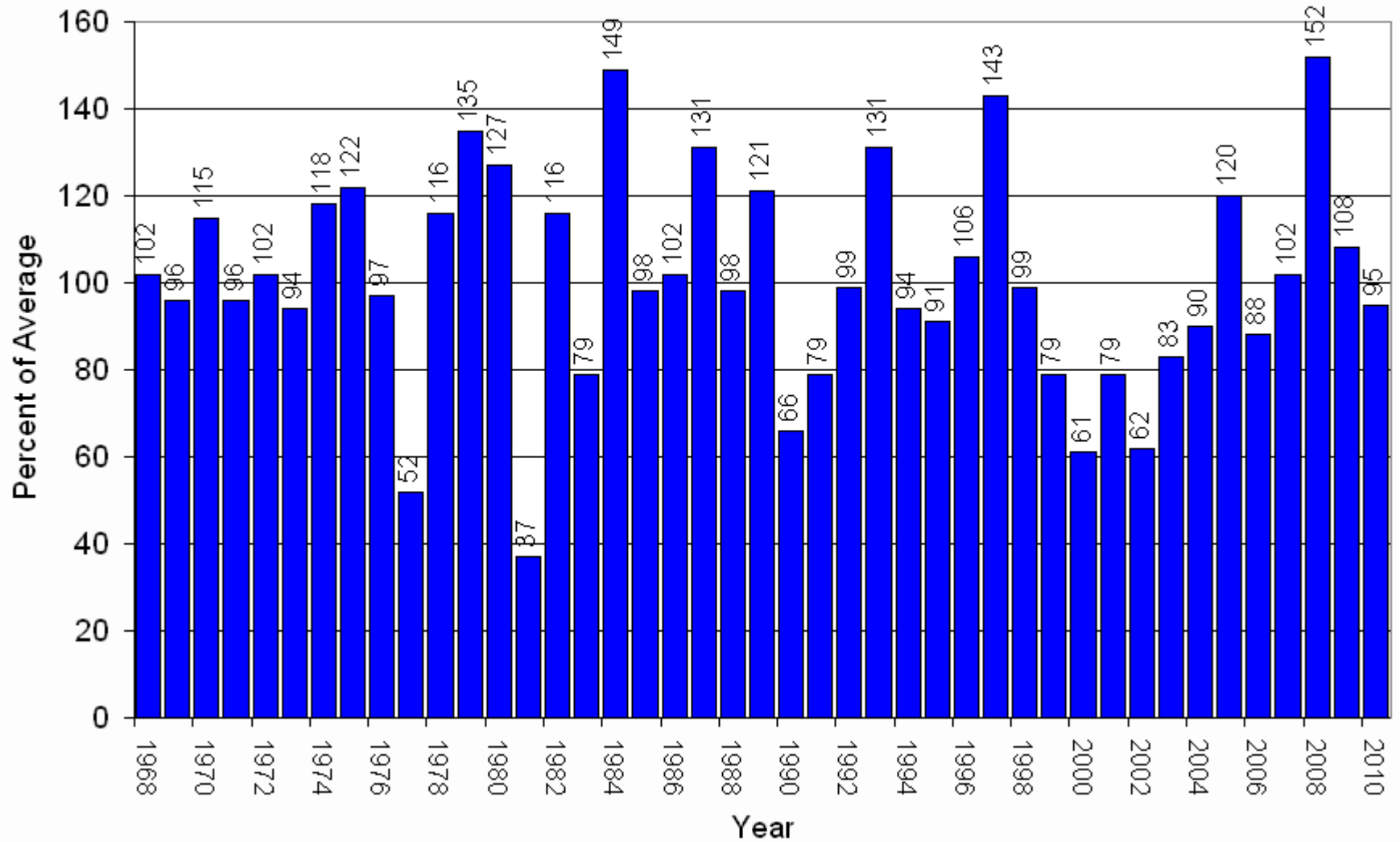
Arkansas River Basin Snowpack Map

*Provisional Data
Subject to Revision*



Current as of March 1, 2010

March 1 Total Arkansas River Basin Snowpack

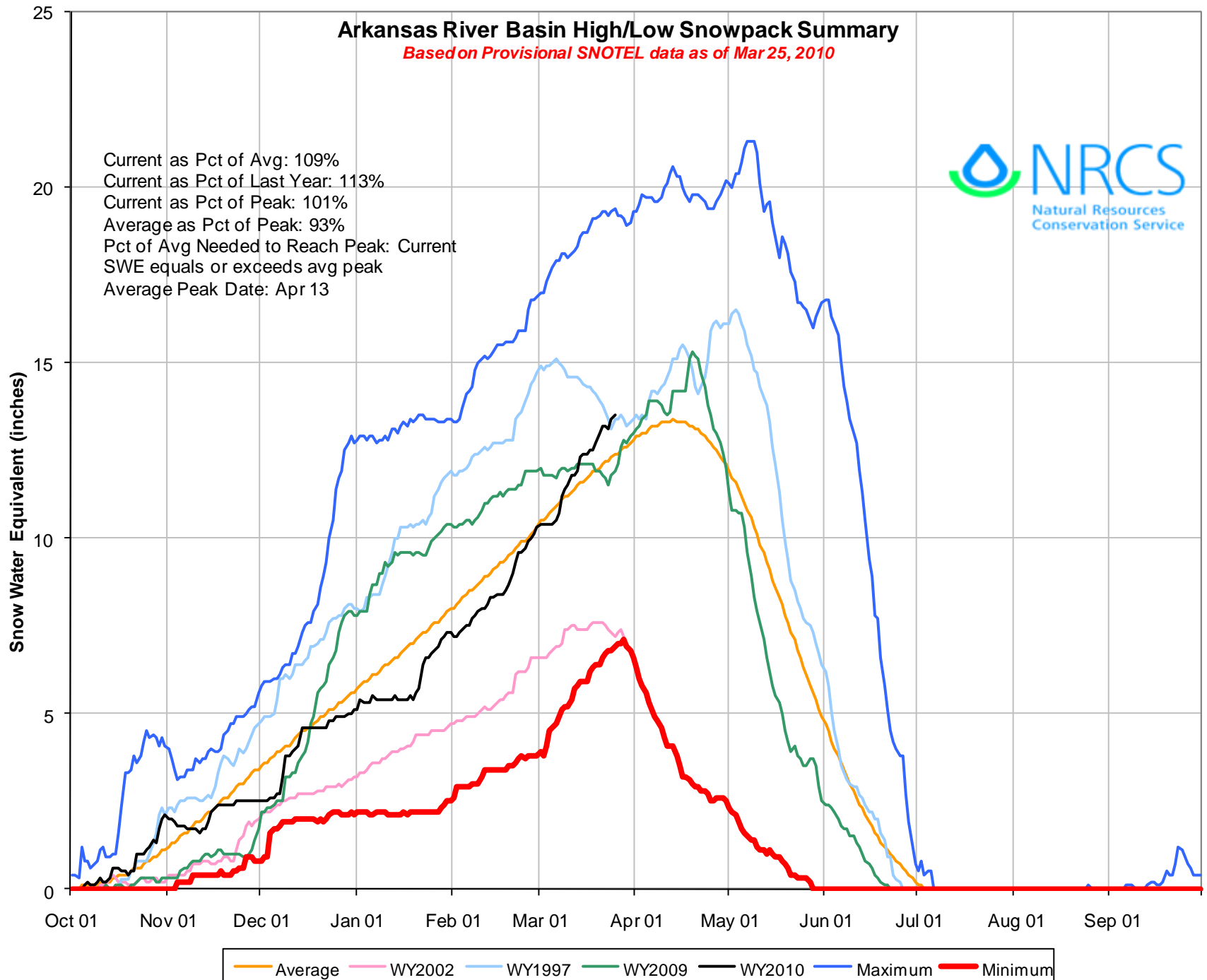


Arkansas River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 25, 2010

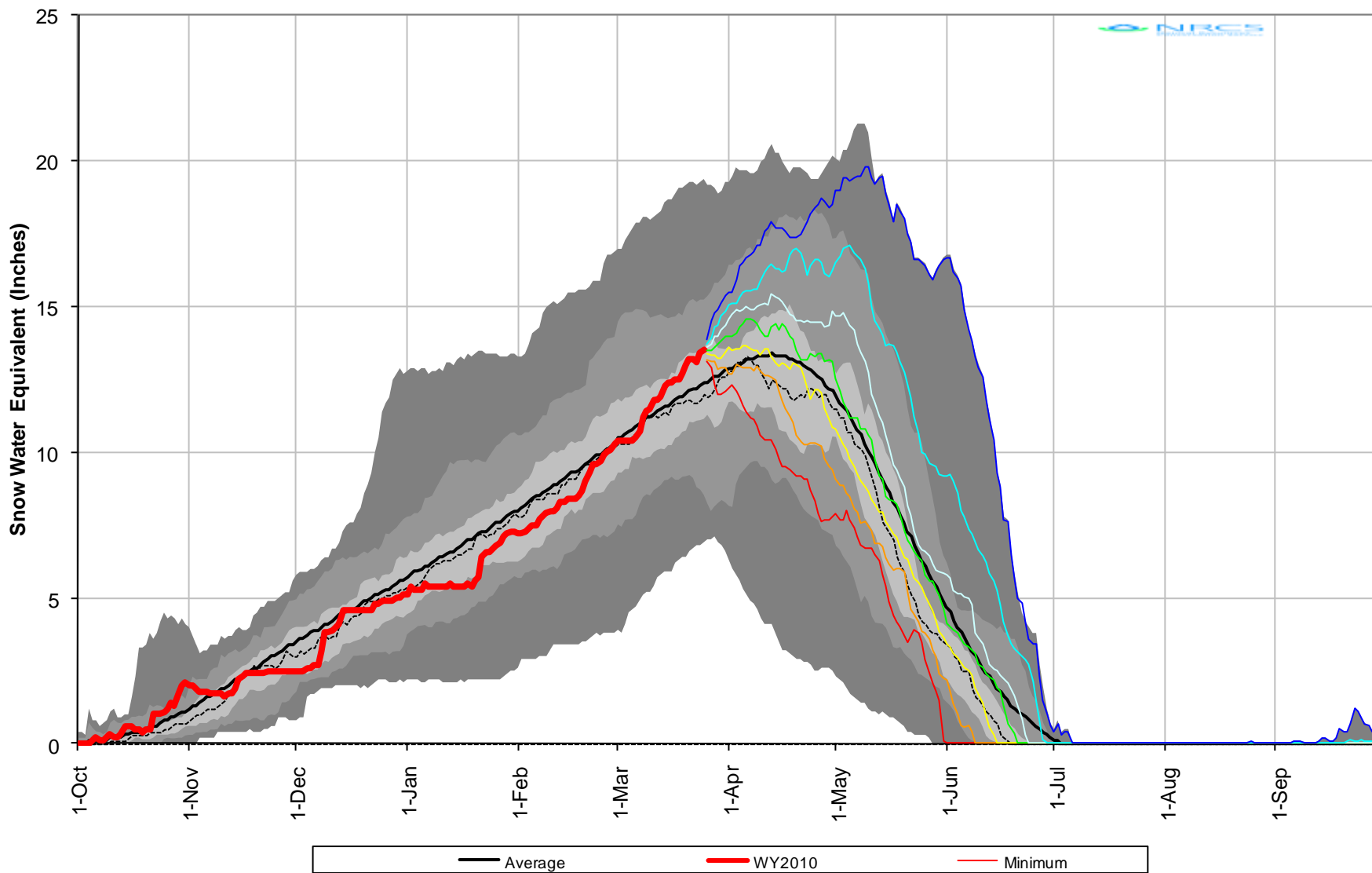


Current as Pct of Avg: 109%
Current as Pct of Last Year: 113%
Current as Pct of Peak: 101%
Average as Pct of Peak: 93%
Pct of Avg Needed to Reach Peak: Current
SWE equals or exceeds avg peak
Average Peak Date: Apr 13



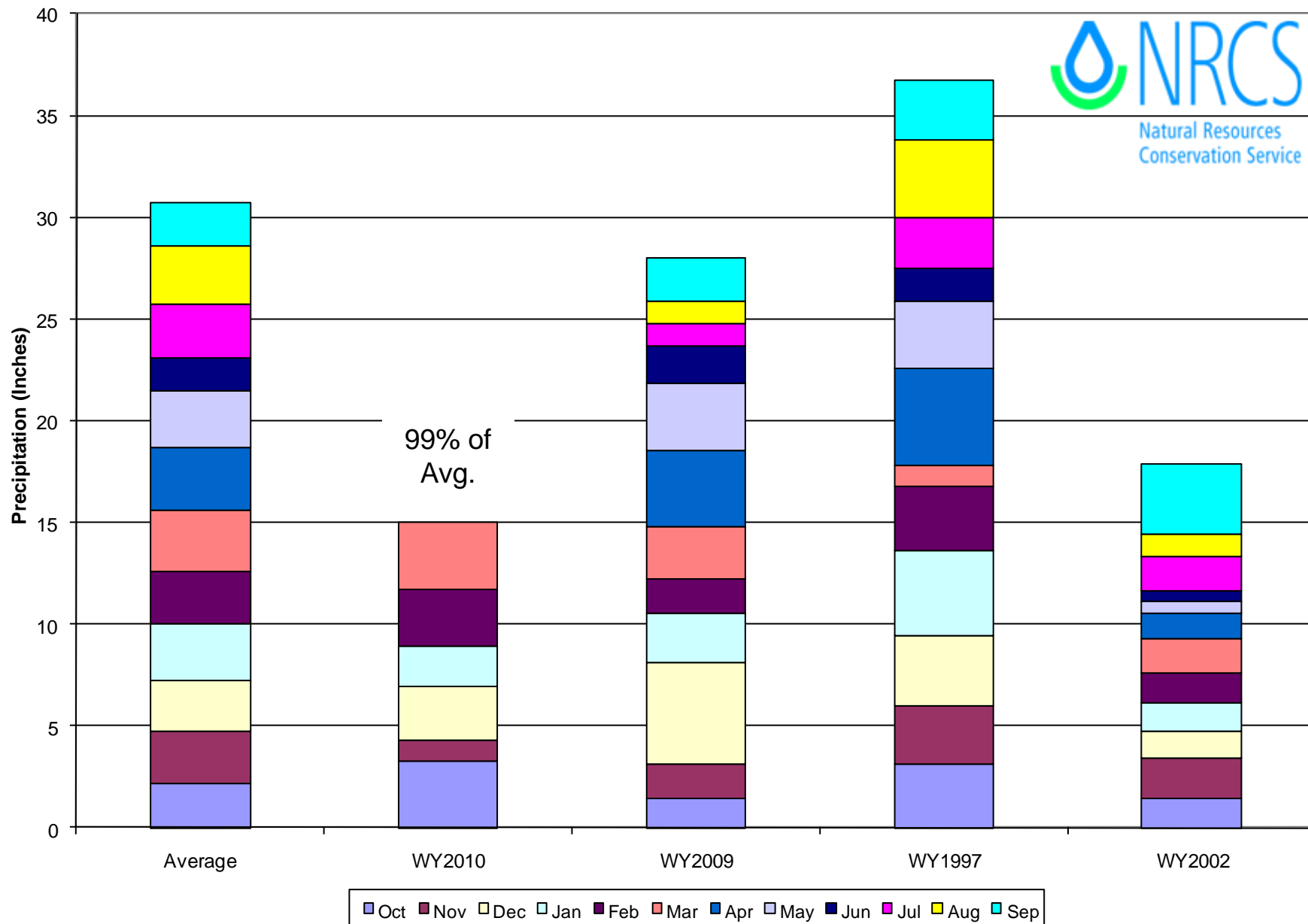
Arkansas River Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 25, 2010



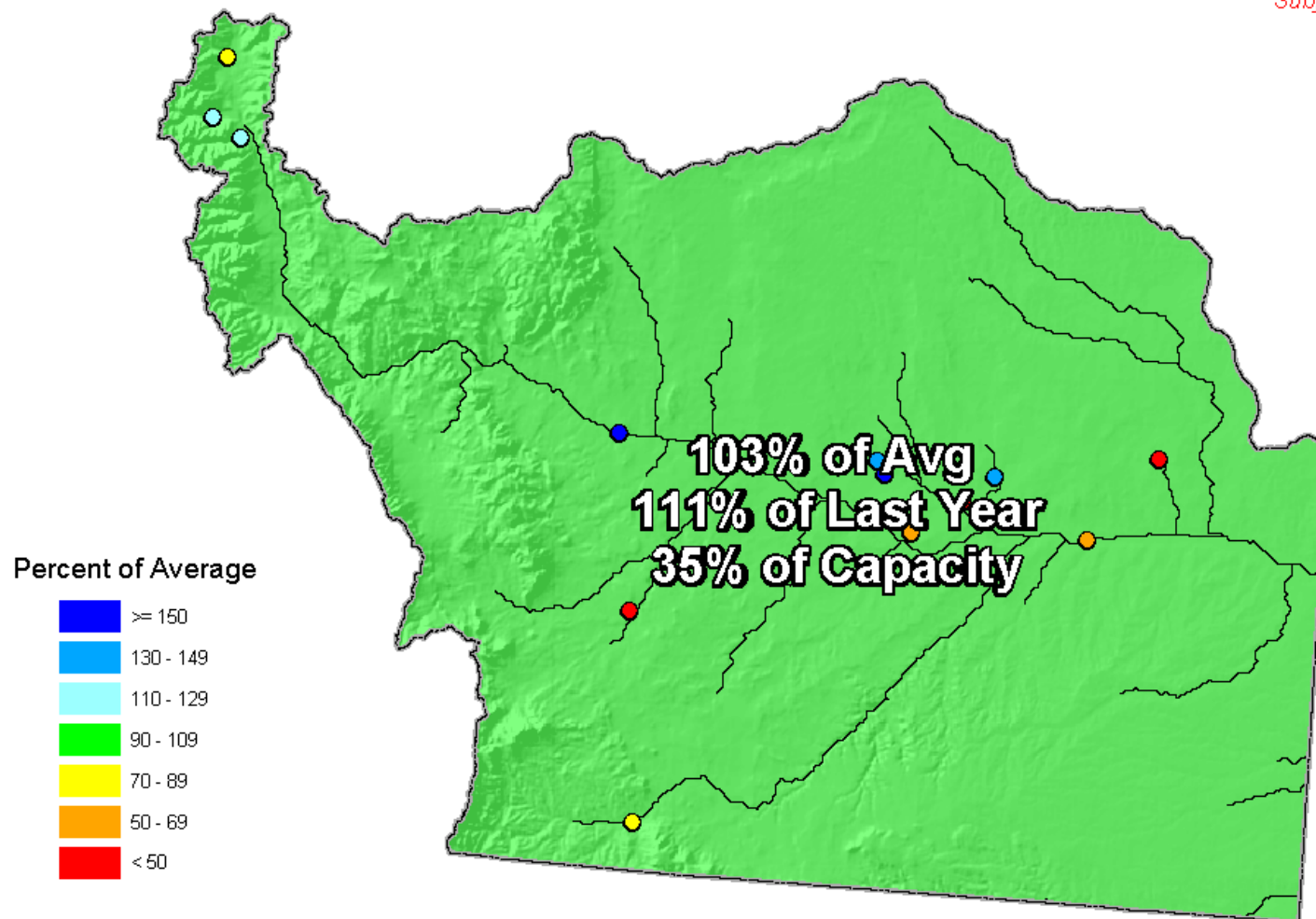
Arkansas River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 25, 2010



Arkansas River Basin Reservoir Storage Map

*Provisional Data
Subject to Revision*



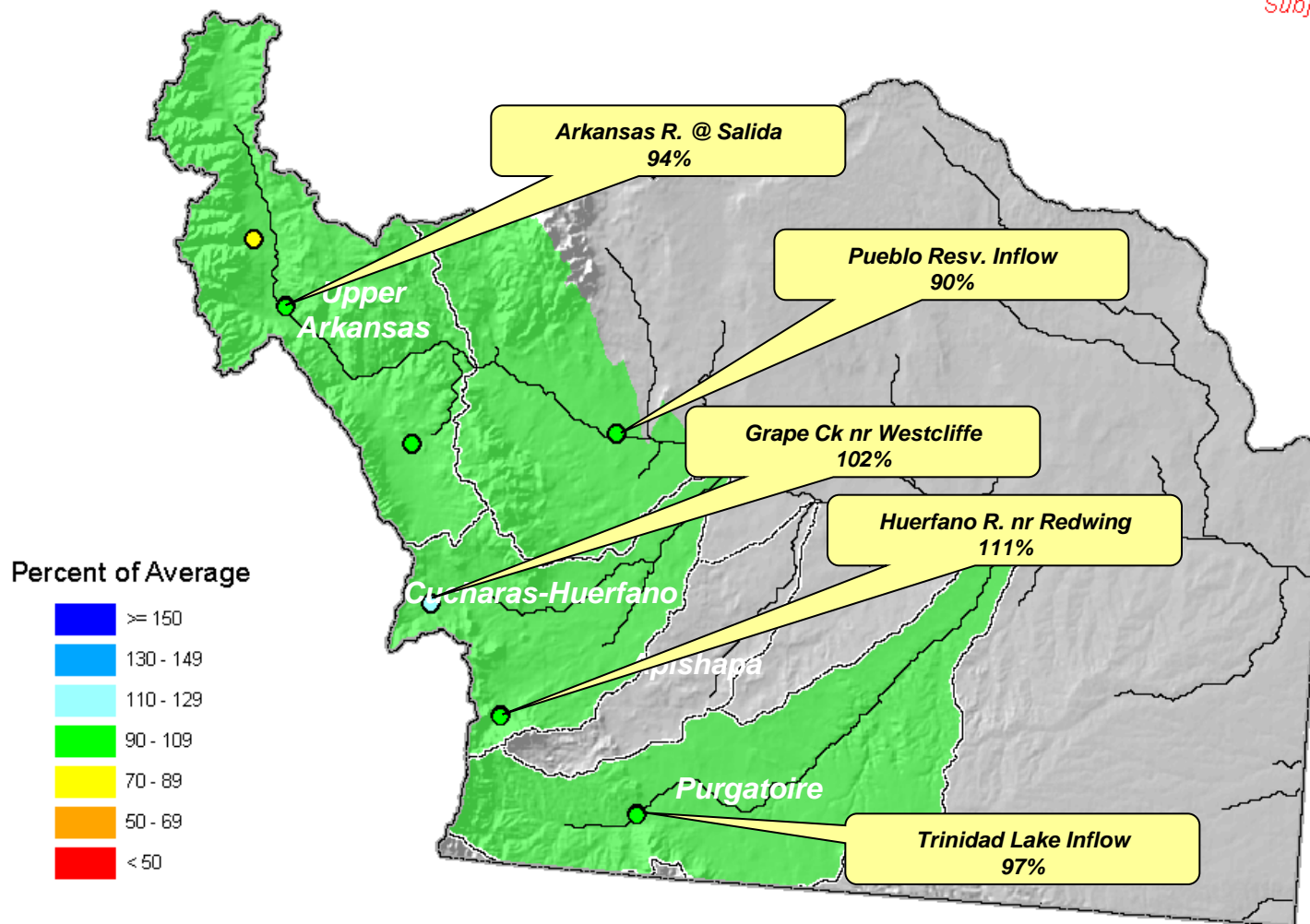
End of February 2010

ARKANSAS RIVER BASIN
Reservoir Storage
Departure from Average



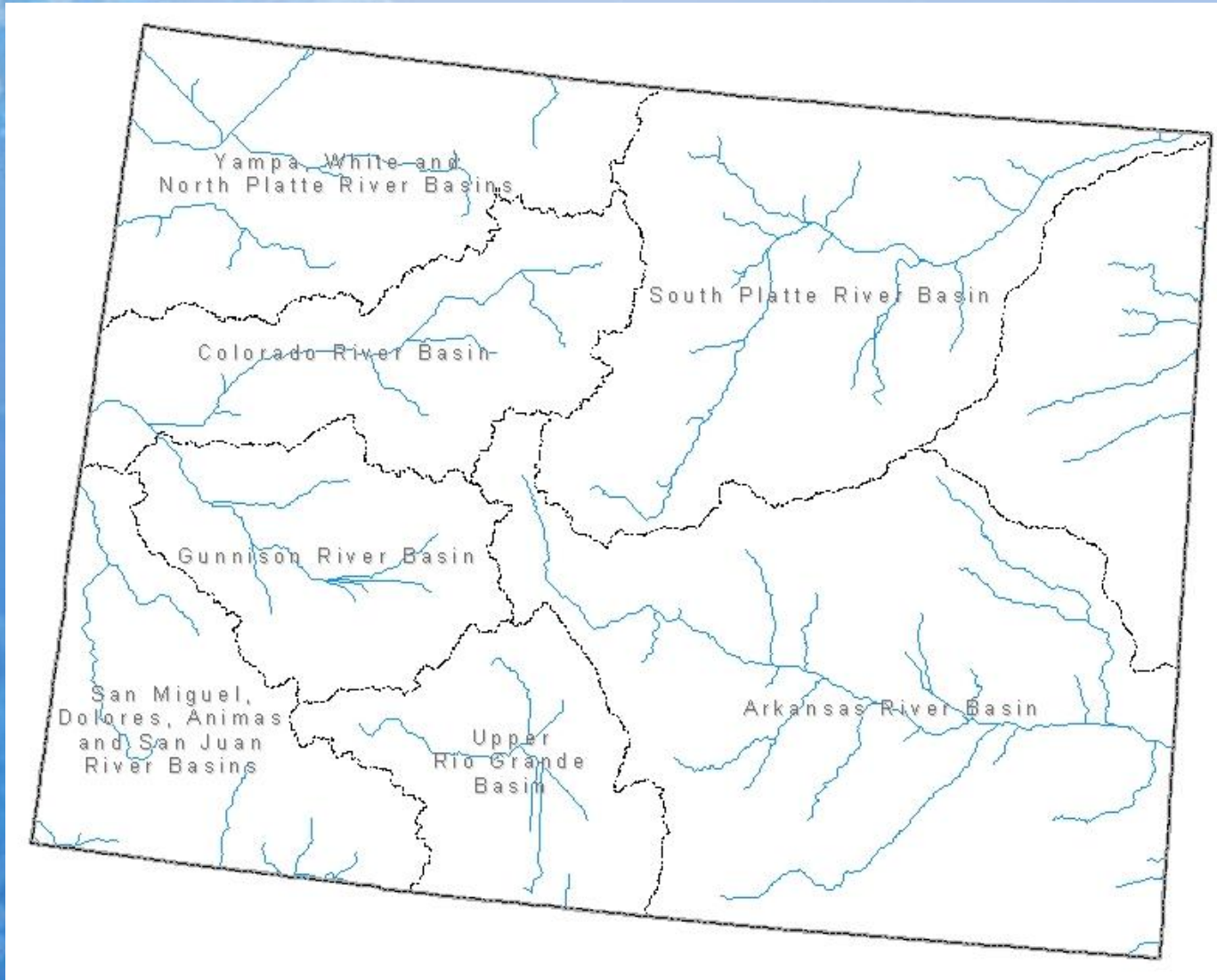
Arkansas River Basin Streamflow Forecast Map

*Provisional Data
Subject to Revision*



Current as of March 1, 2010

Colorado Statewide Summary

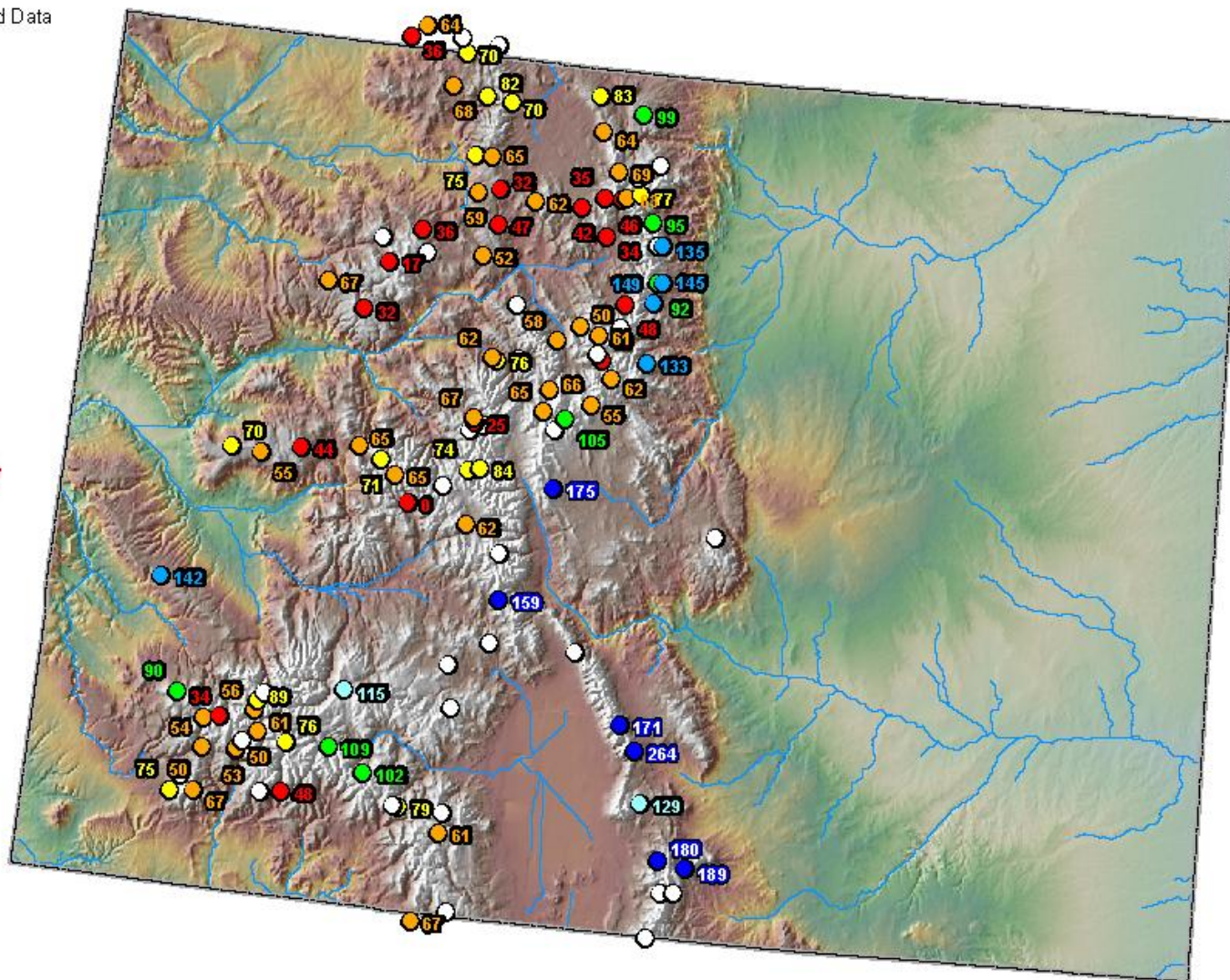


Colorado SNOTEL Month-to-Date Precipitation

Percent of Average

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

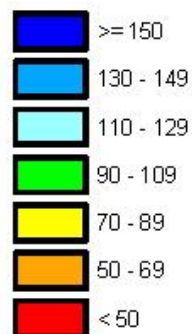
*Provisional Data
Subject to Revision*



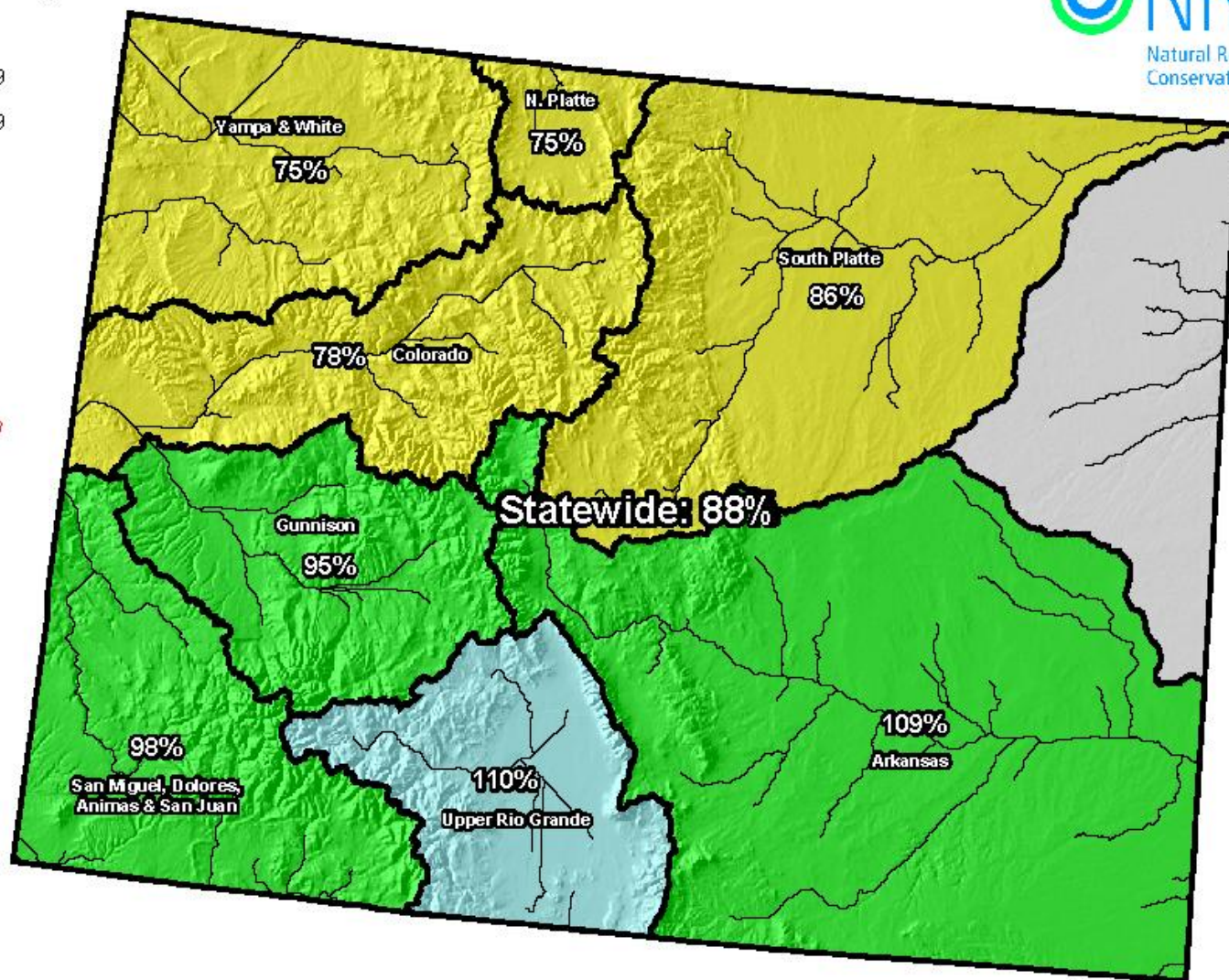
Current as of Mar 25, 2010

Colorado SNOTEL Snowpack Update Map

Percent of Average



*Provisional Data
Subject to Revision*

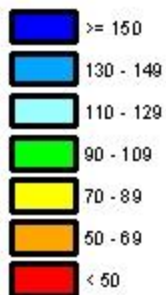


Current as of Mar 25, 2010

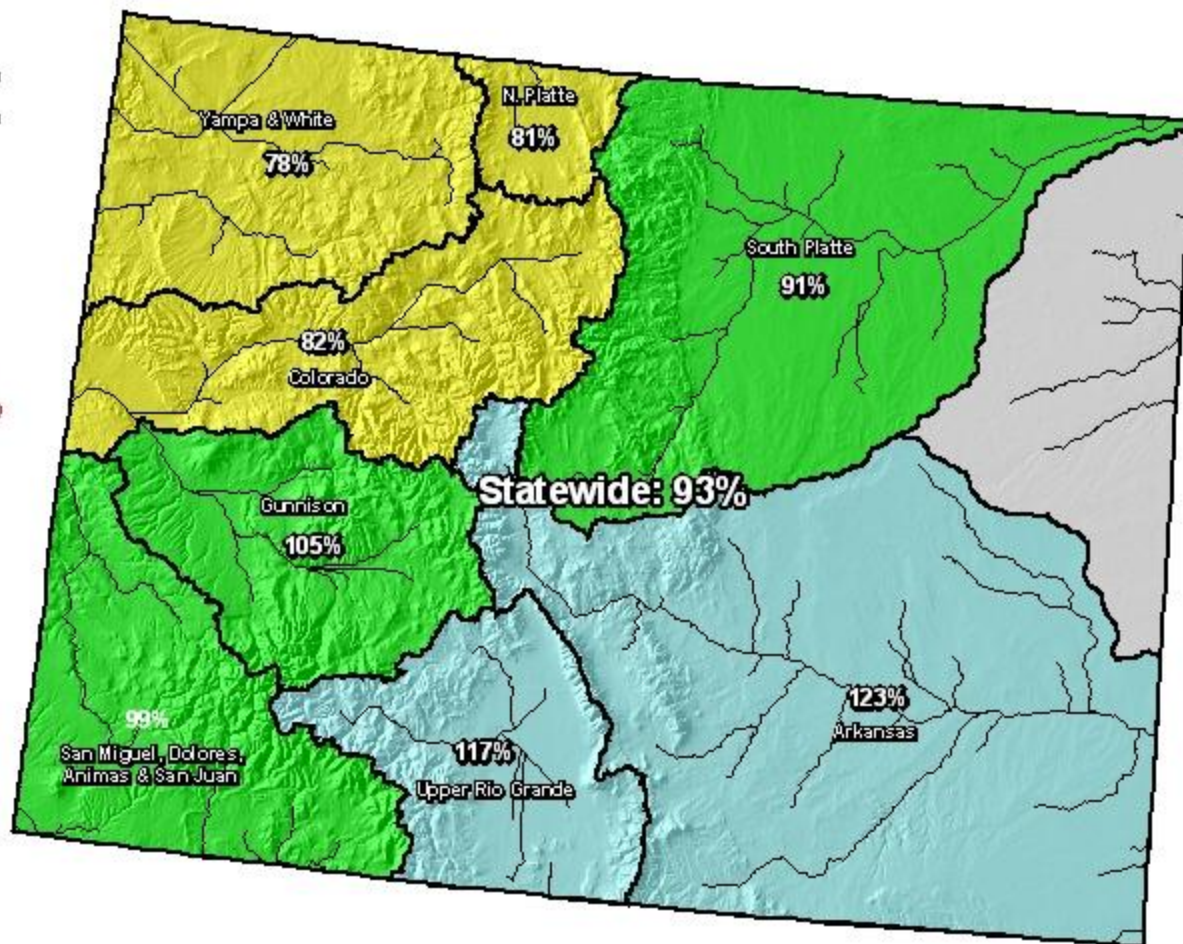
*Data may not provide a valid measure of conditions

Colorado SNOTEL May 1 Snowpack Projection Map*

Percent of Average



*Provisional Data
Subject to Revision*

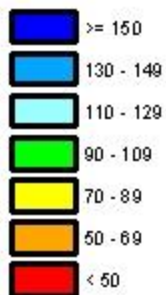


Current as of Mar 25, 2010

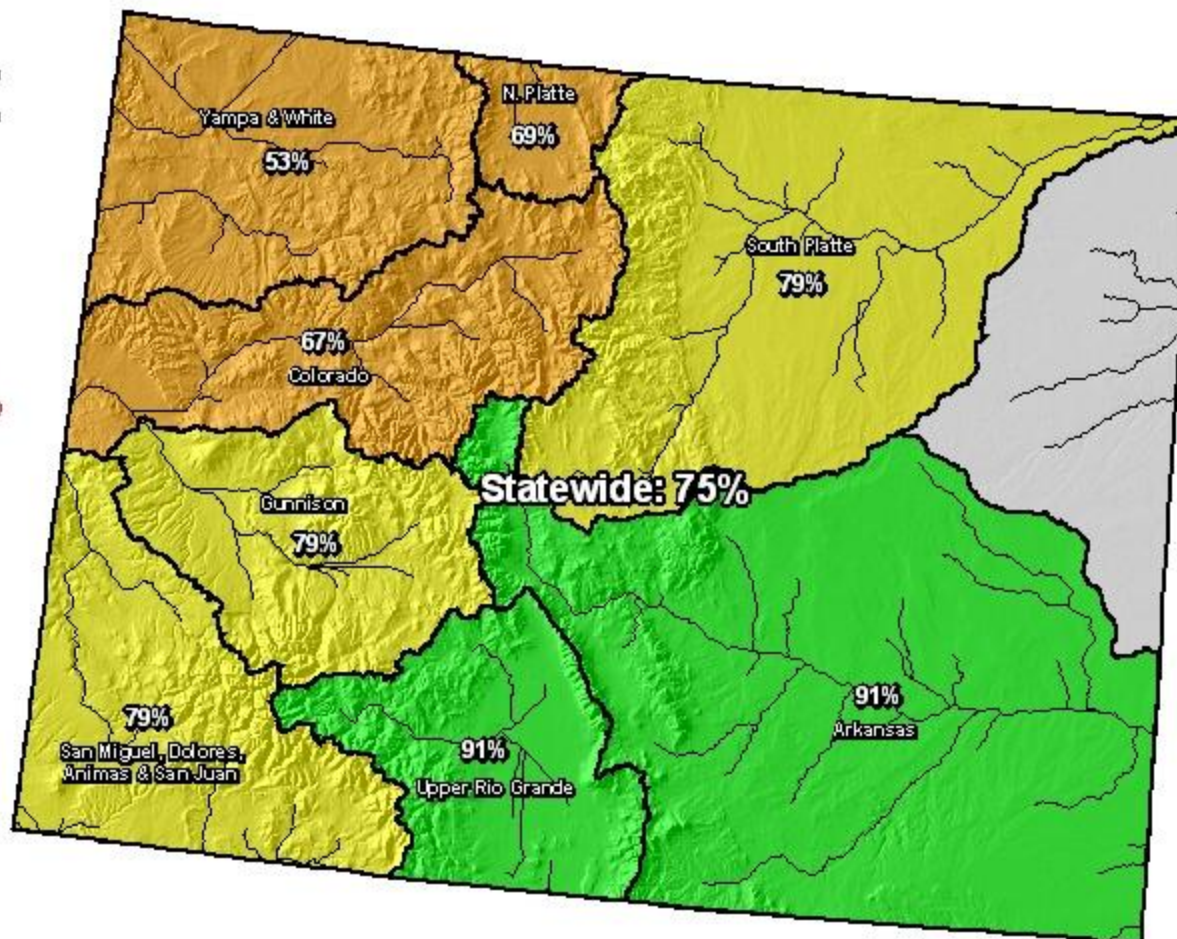
*Based on 70% Non-Exceedence Projections

Colorado SNOTEL May 1 Snowpack Projection Map*

Percent of Average



*Provisional Data
Subject to Revision*

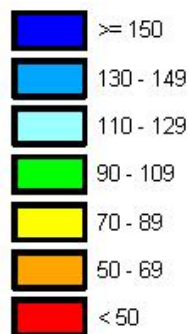


Current as of Mar 25, 2010

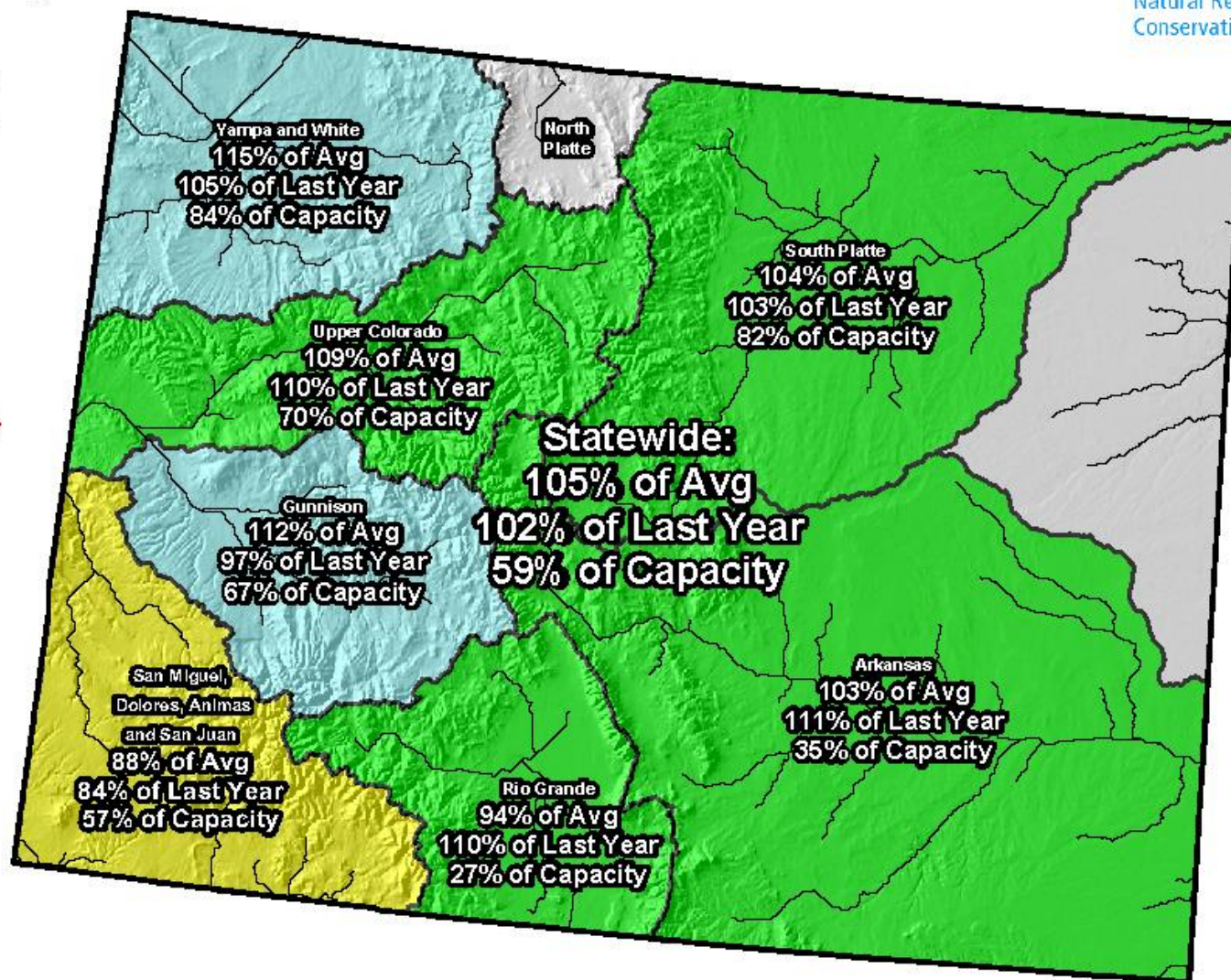
*Based on 30% Non-Exceedence Projections

Colorado Reservoir Storage Map

Percent of Average



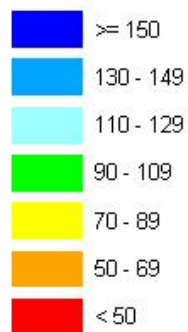
*Provisional Data
Subject to Revision*



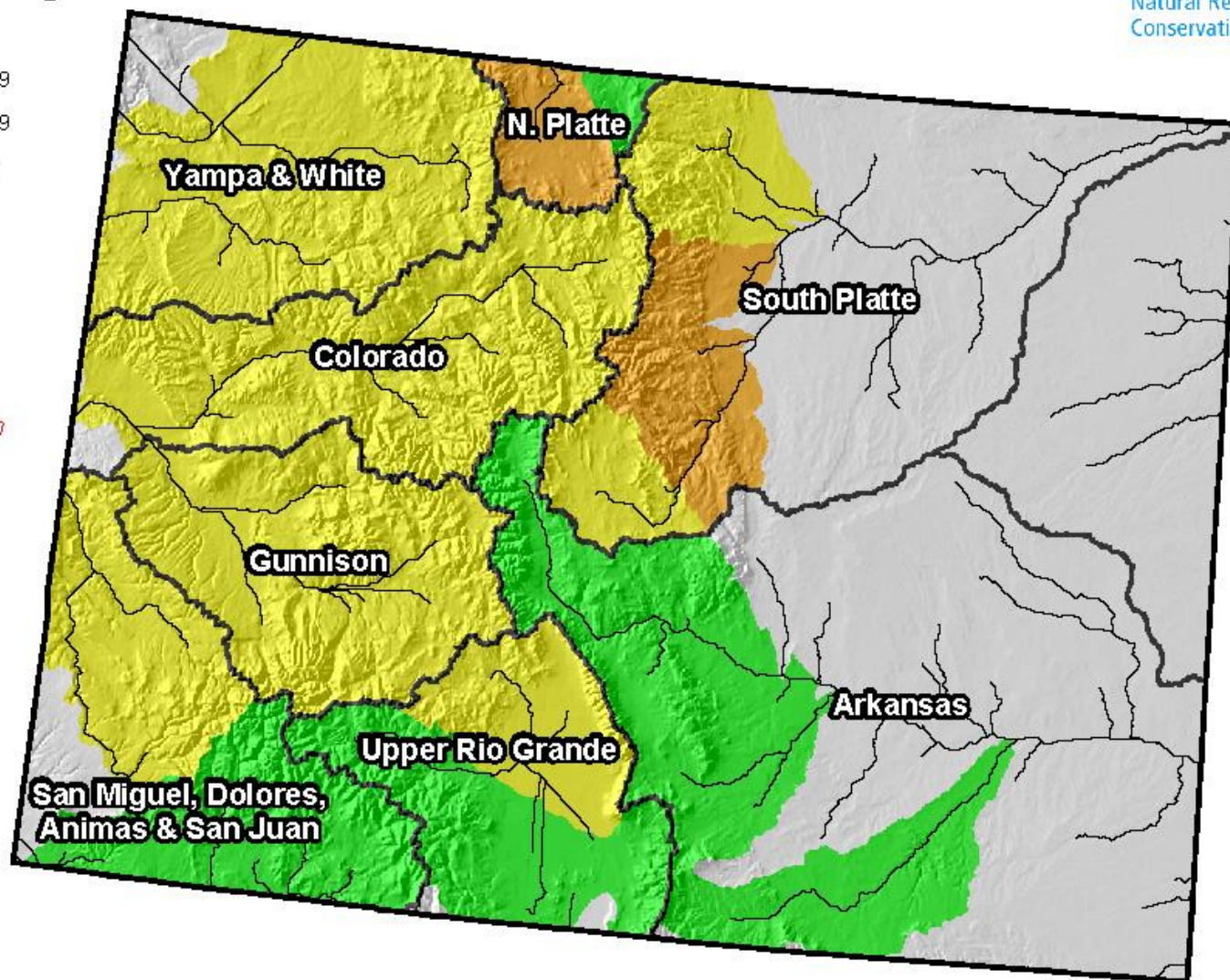
End of February 2010

Colorado Streamflow Forecast Map

Percent of Average



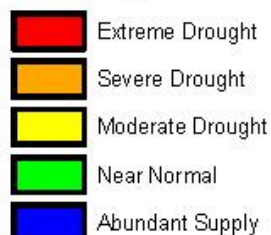
*Provisional Data
Subject to Revision*



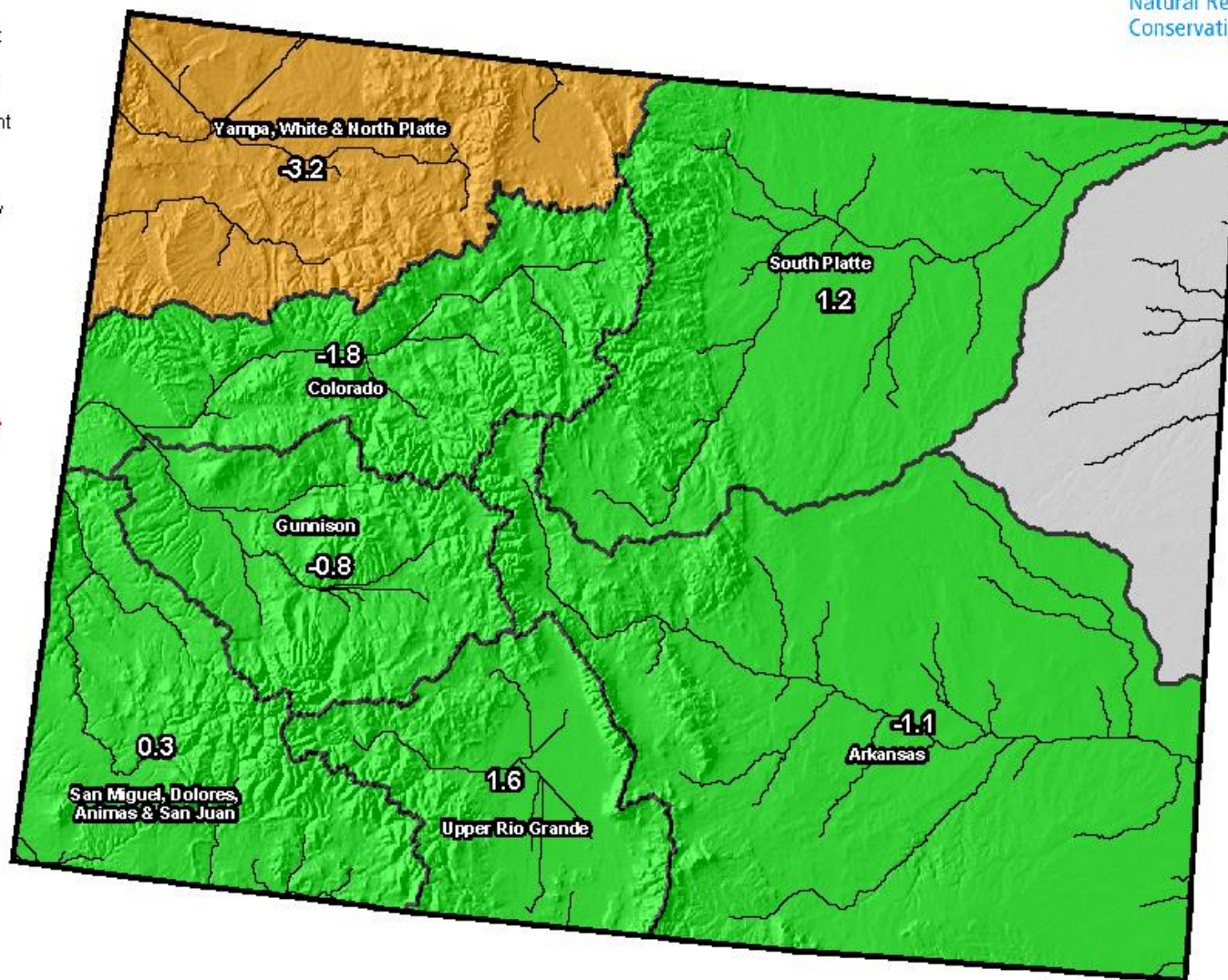
Current as of March 1, 2010

Colorado Surface Water Supply Index (SWSI) Map

Legend



*Provisional Data
Subject to Revision*



Current as of March 1, 2010



Presentation available for download at:

<ftp://ftp-fc.sc.egov.usda.gov/CO/Snow/misc/NRCSgillespie100325.ppt>