NRCS – Snow Survey & Water Supply Forecasting

Mike Gillespie

Colorado Flood Task Force Meeting March 12, 2009

The 2009 Water Year

October – Near average precipitation during the first half of the month, followed by dry conditions during the second half. Below average snowpack accumulations during the month.

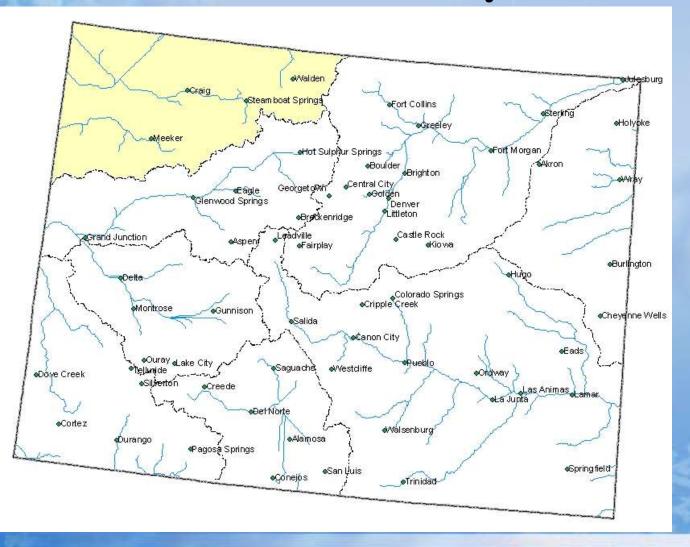
November – Below average precipitation statewide. Minimal gains in mountain snowpack.

December – Heavy snow storms in the southern mountains. Nearly a repeat of last year!!

January – A good start to the month, followed by a "January Thaw". Sizable snowpack increases at month's end.

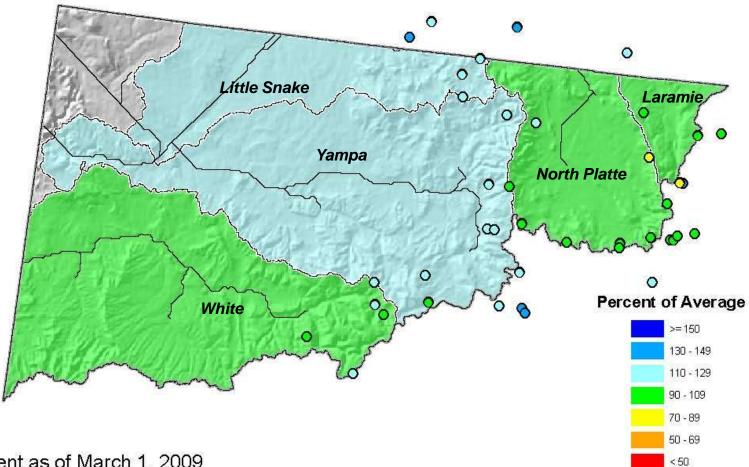
February – Holding our own (just barely)!

Yampa, White & North Platte River Basins Summary



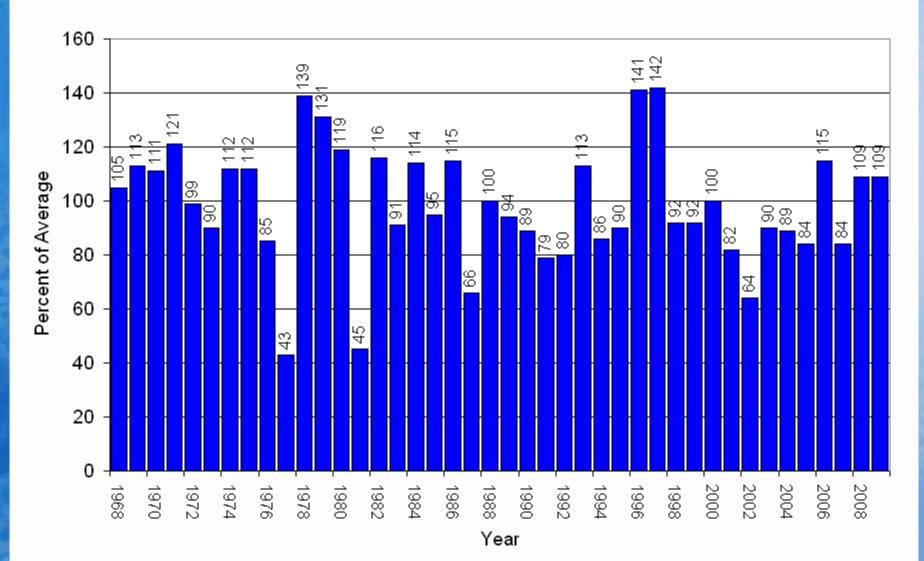
Yampa, White and North Platte River Basins Snowpack Map

Provisional Data Subject to Revision

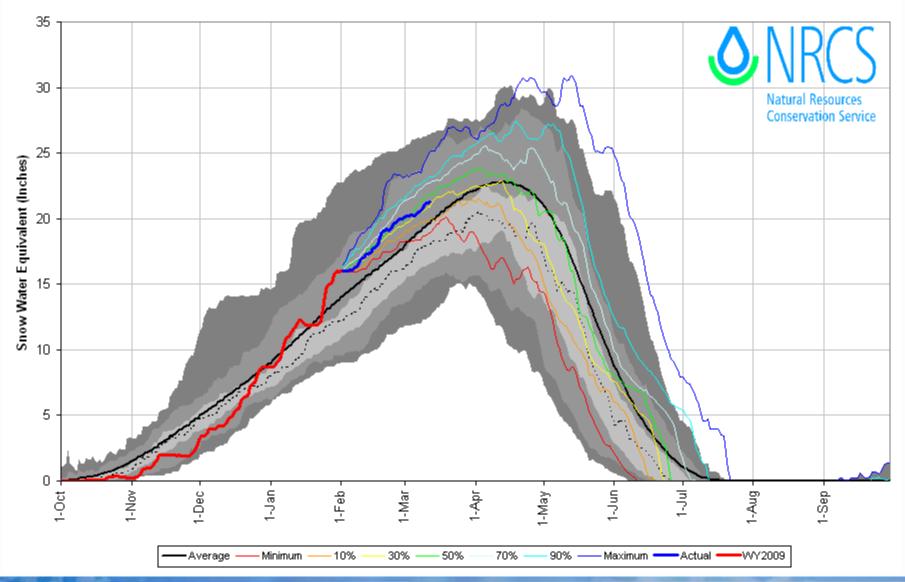


Current as of March 1, 2009





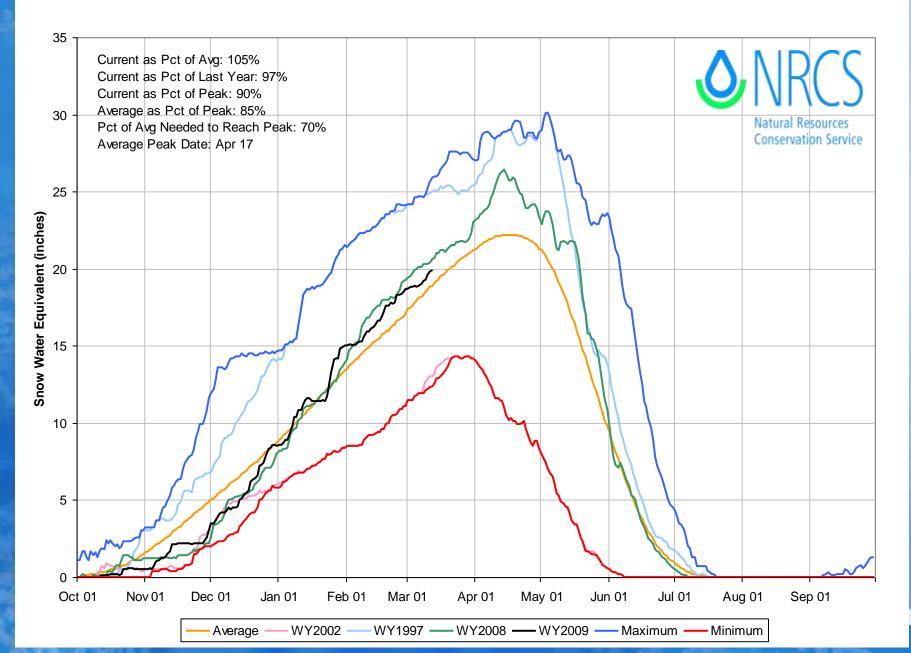
Yampa and White River Basins with Non-Exceedence Projections



35 30 Natural Resources **Conservation Service** 25 Snow Water Equivalent (Inches) 20 15 10 5 0 1-Jun 1-Jan 1-Sep 1-Oct 1-Dec 1-Feb 1-Mar 1-Apr 1-Jul 1-Aug 1-Nov 1-May - Average WY2009 - Minimum 10% 30% 50% 70% 90% - Maximum

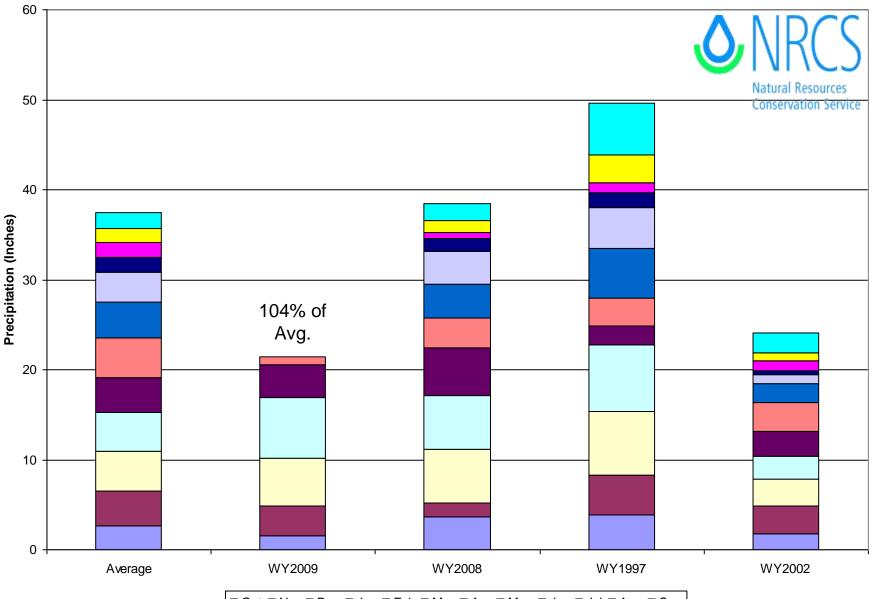
Yampa and White River Basins with Non-Exceedence Projections Based on Provisional SNOTEL Data as of Mar 12, 2009

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



Yampa and White River Basins High/Low Monthly Precipitation Summary

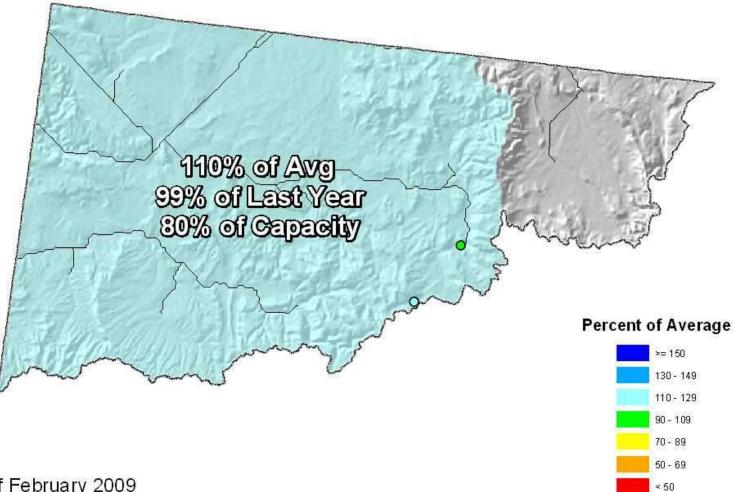
Based on Provisional SNOTEL data as of Mar 12, 2009



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

Yampa & White River Basins Reservoir Storage Map

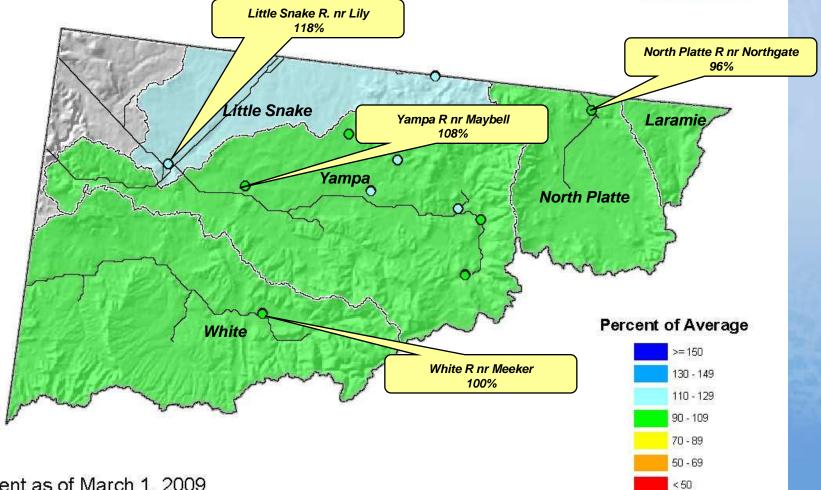
Provisional Data Subject to Revision



End of February 2009

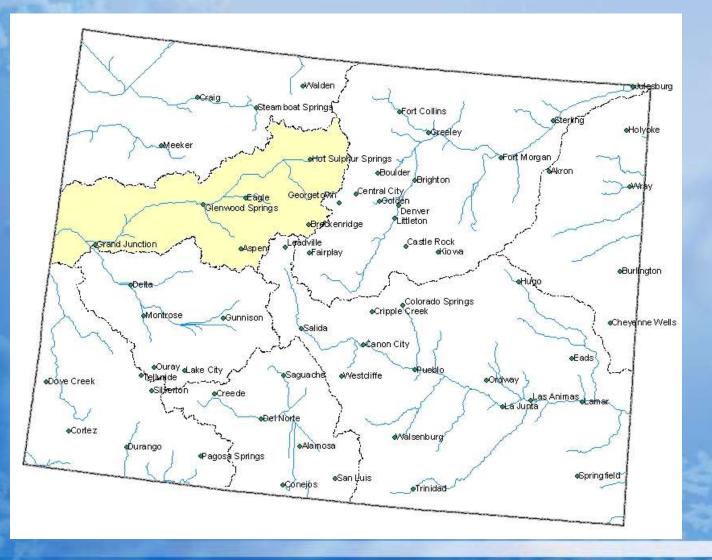
Yampa, White and North Platte River Basins Streamflow Map

Provisional Data Subject to Revision

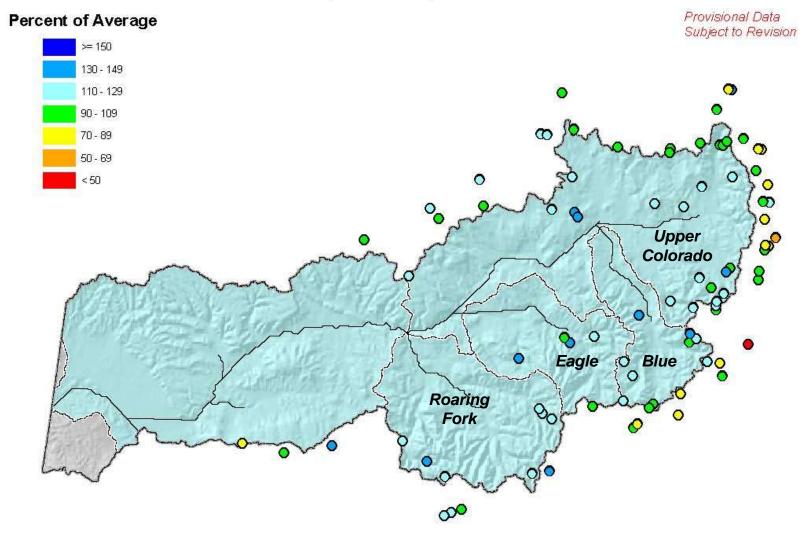


Current as of March 1, 2009

Colorado River Basin Summary

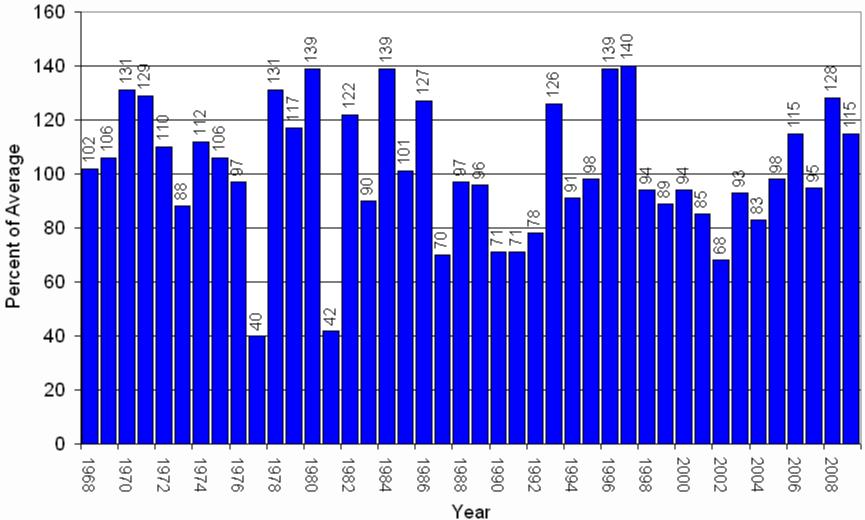


Colorado River Basin Snowpack Map

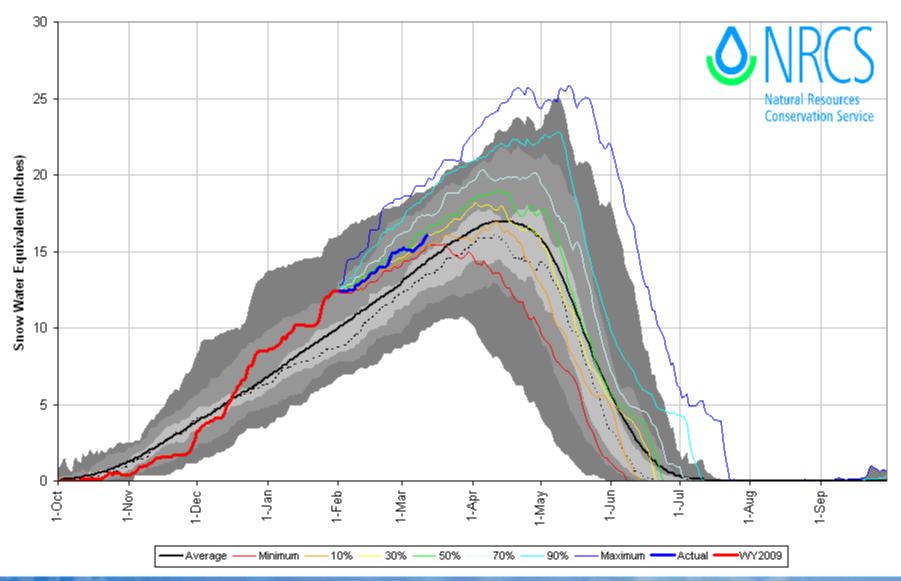


Current as of March 1, 2009

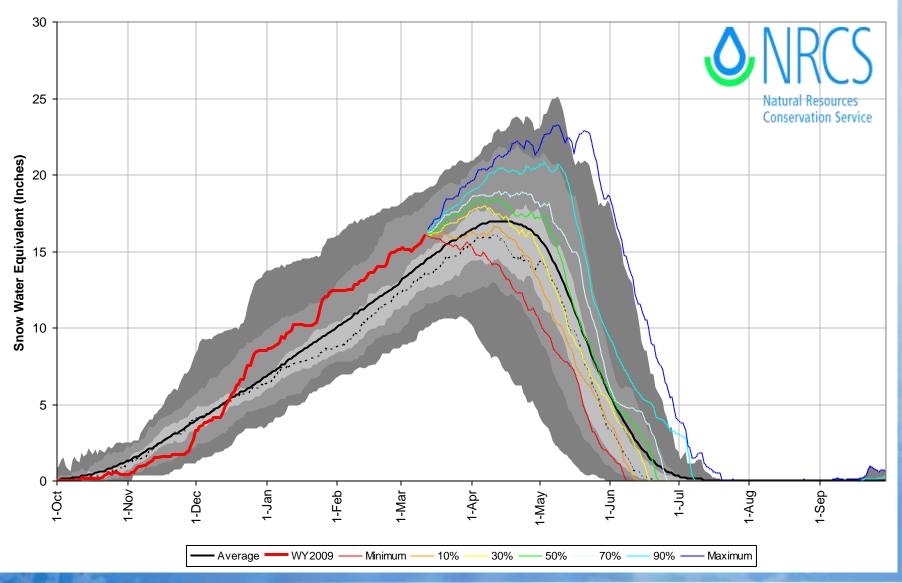
March 1 Total Colorado River Basin Snowpack



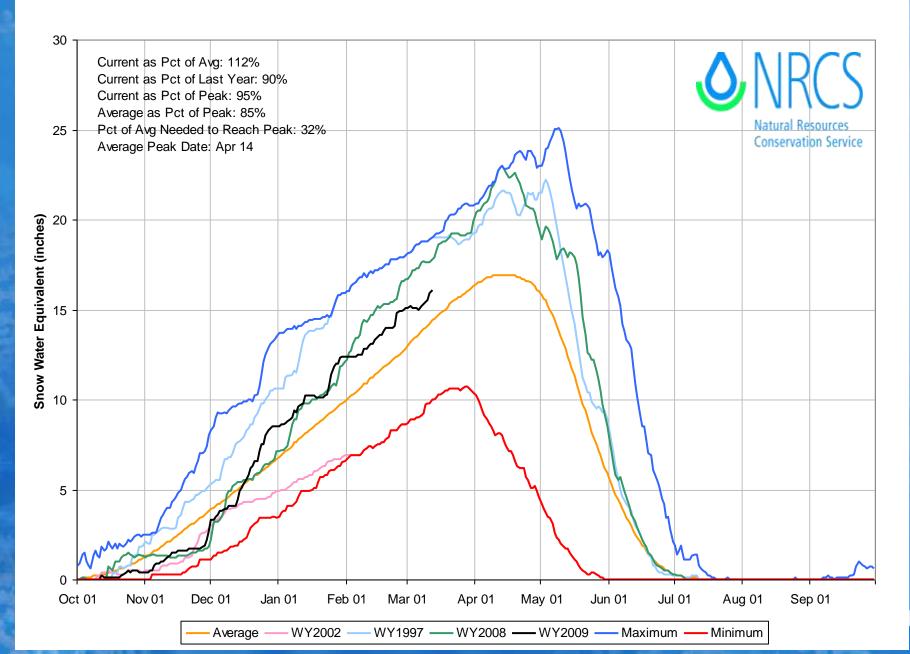
Colorado River Basin with Non-Exceedence Projections



Colorado River Basin with Non-Exceedence Projections

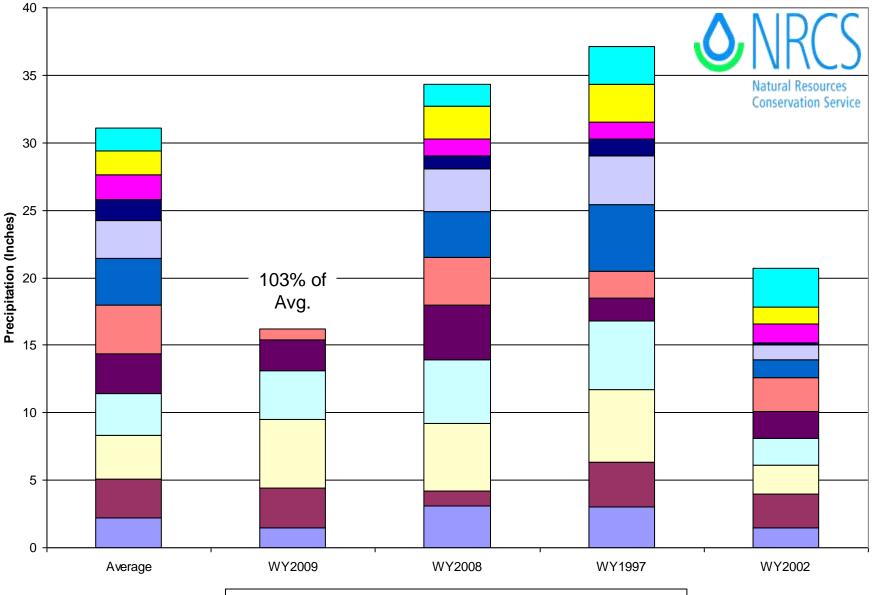


Upper Colorado River Basin High/Low Snowpack Summary



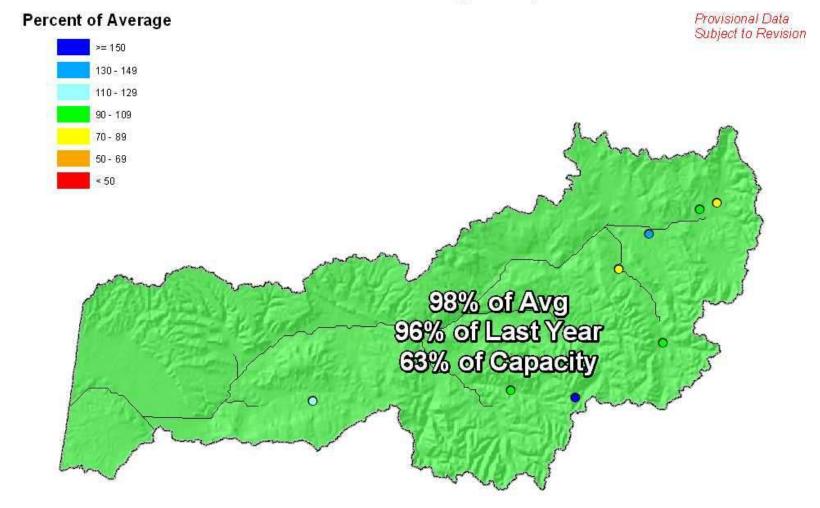
Upper Colorado River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 12, 2009



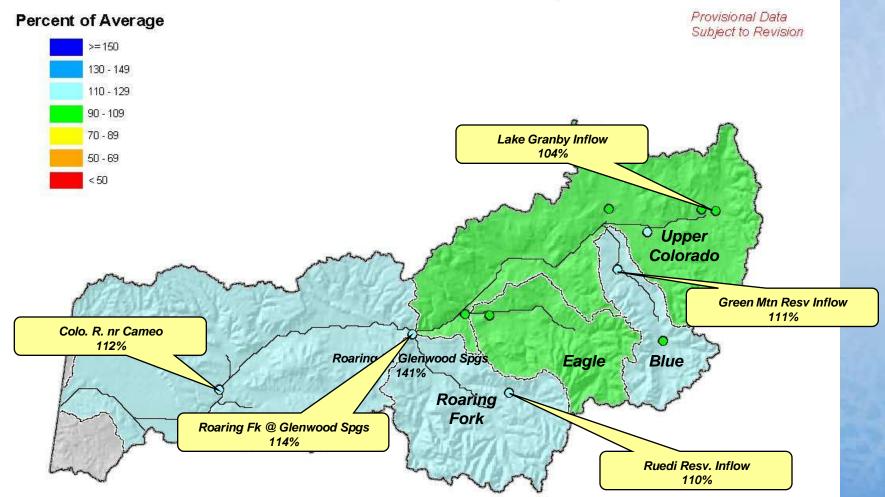
□ Oct ■ Nov □ Dec □ Jan ■ Feb □ Mar ■ Apr □ May ■ Jun □ Jul □ Aug □ Sep

Colorado River Basin Reservoir Storage Map



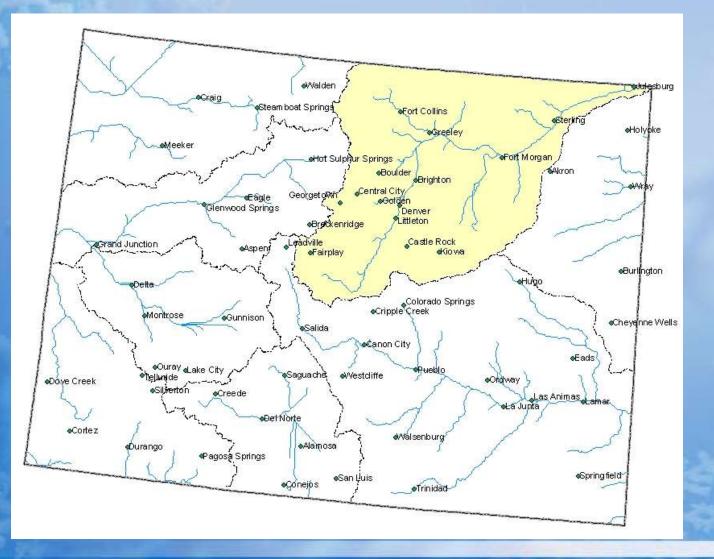
End of February 2009

Colorado River Basin Streamflow Forecast Map



Current as of March 1, 2009

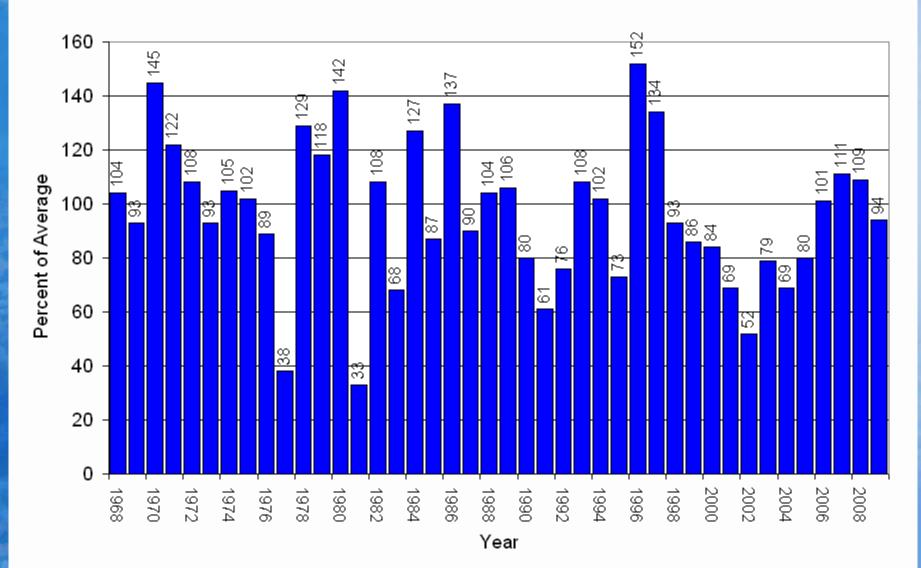
South Platte River Basin Summary



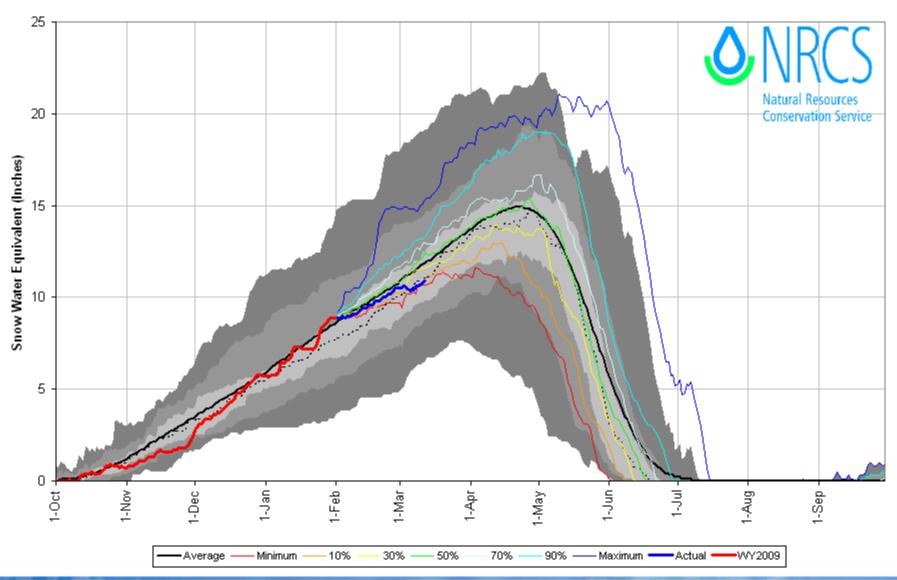
South Platte River Basin Snowpack Map

Provisional Data Percent of Average Subject to Revision >= 150 130 - 149 110 - 129 90 - 109 Cache La Poudre 0 70 - 89 50 - 69 < 50 **Big Thompson** O Boulder & St. Vrain 0 Clear Creek 0 0 0 **Upper & Lower** South Platte Headwaters Current as of March 1, 2009

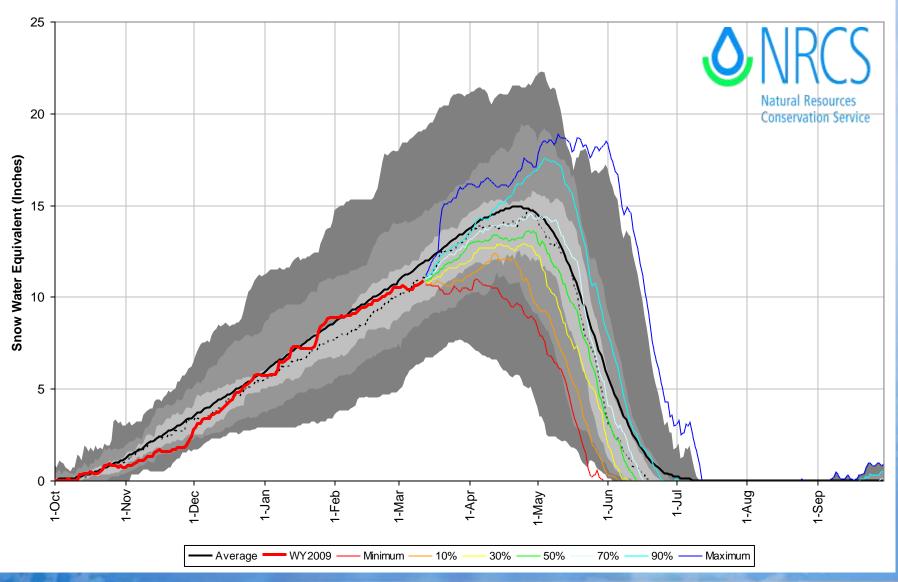
March 1 Total South Platte River Basin Snowpack



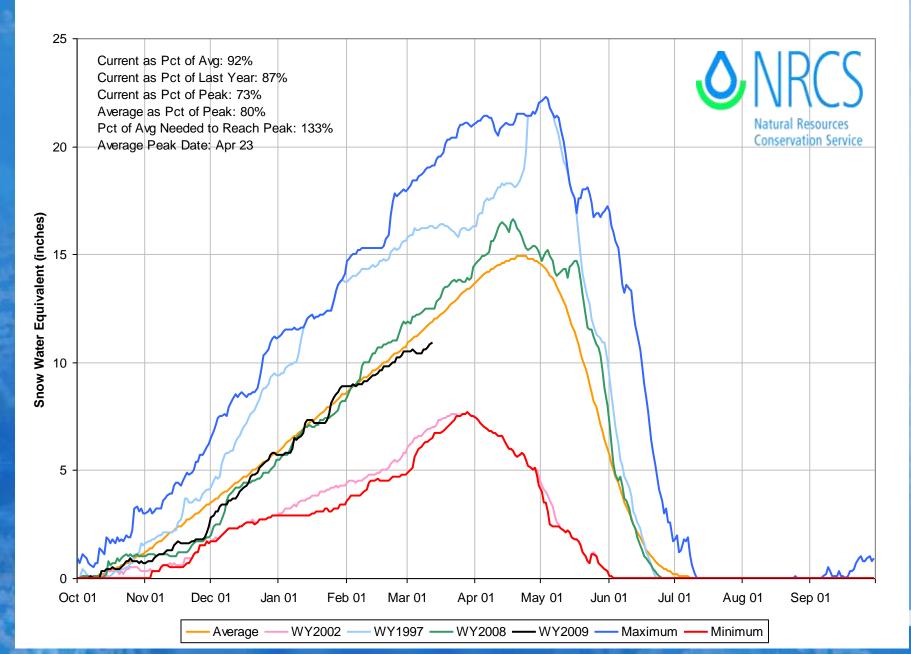
South Platte River Basin with Non-Exceedence Projections



South Platte River Basin with Non-Exceedence Projections

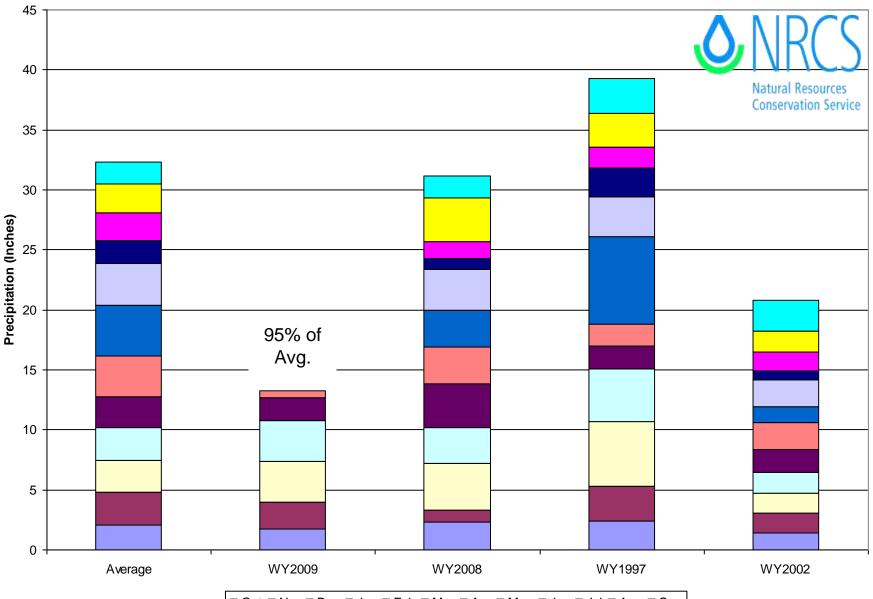


South Platte River Basin High/Low Snowpack Summary



South Platte River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 12, 2009

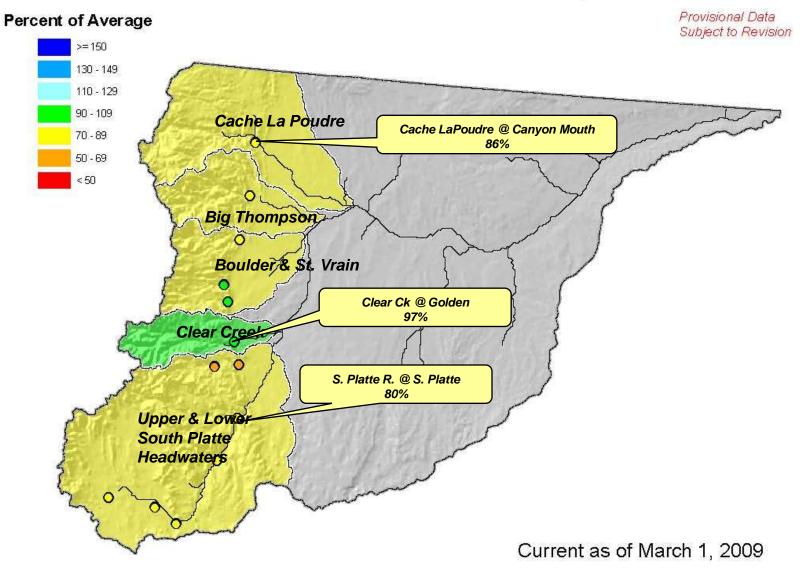


□ Oct ■ Nov □ Dec □ Jan ■ Feb □ Mar ■ Apr □ May ■ Jun □ Jul □ Aug □ Sep

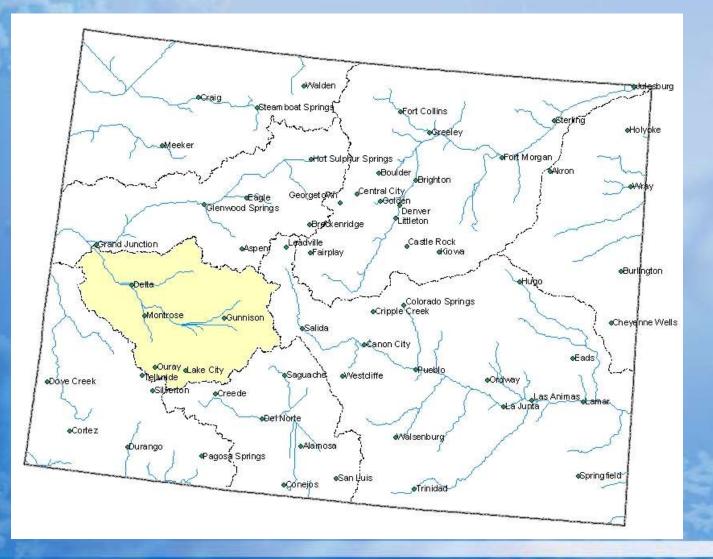
South Platte River Basin Reservoir Storage Map

Percent of Average Provisional Data Subject to Revision >= 150 130 - 149 110 - 129 90 - 109 70 - 89 0 50 - 69 < 50 101% of Avg 111% of Last Year 80% of Capacity End of February 2009

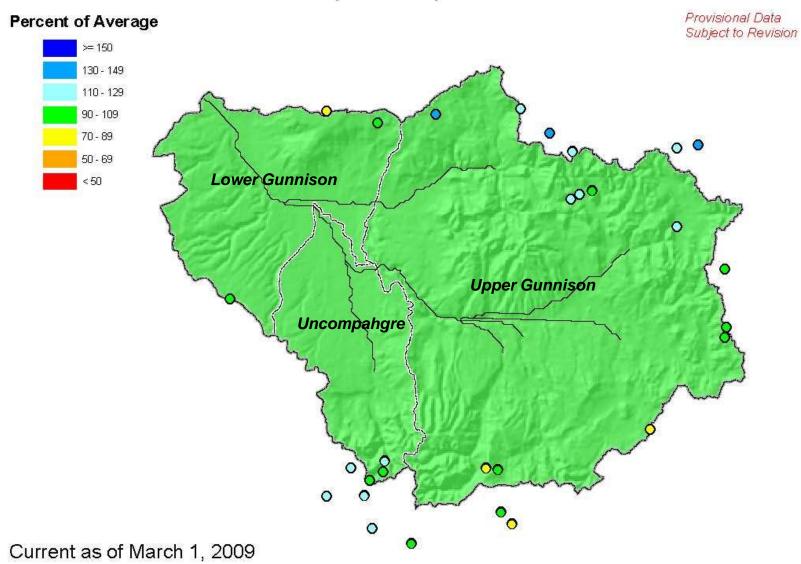
South Platte River Basin Streamflow Forecast Map



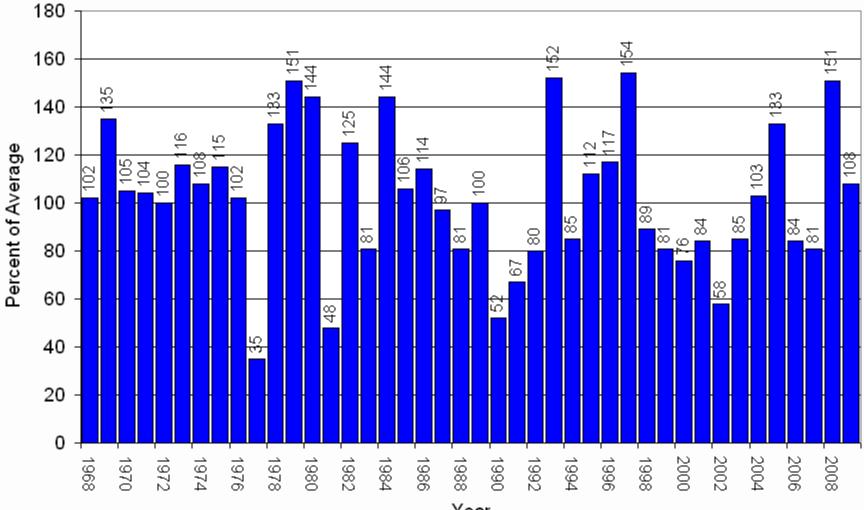
Gunnison River Basin Summary



Gunnison River Basin Snowpack Map

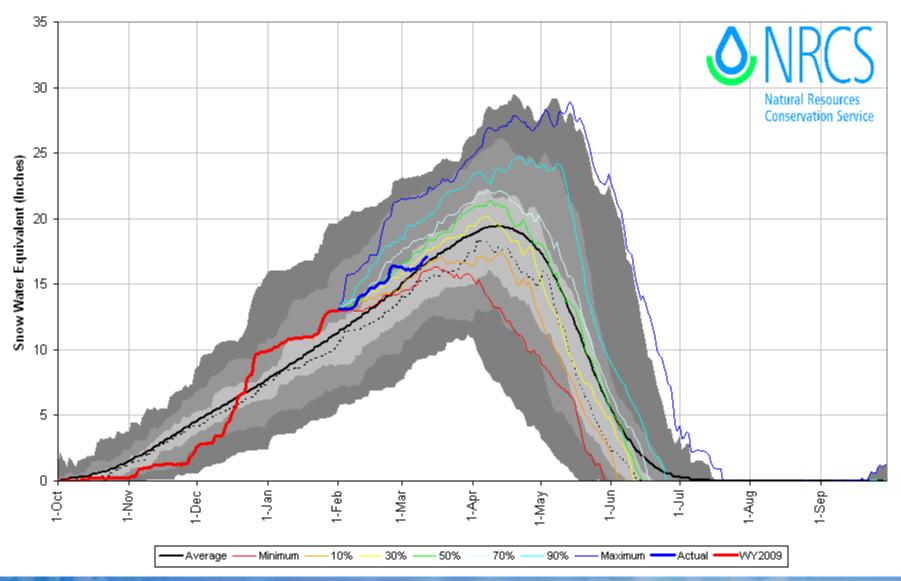


March 1 Total Gunnison River Basin Snowpack

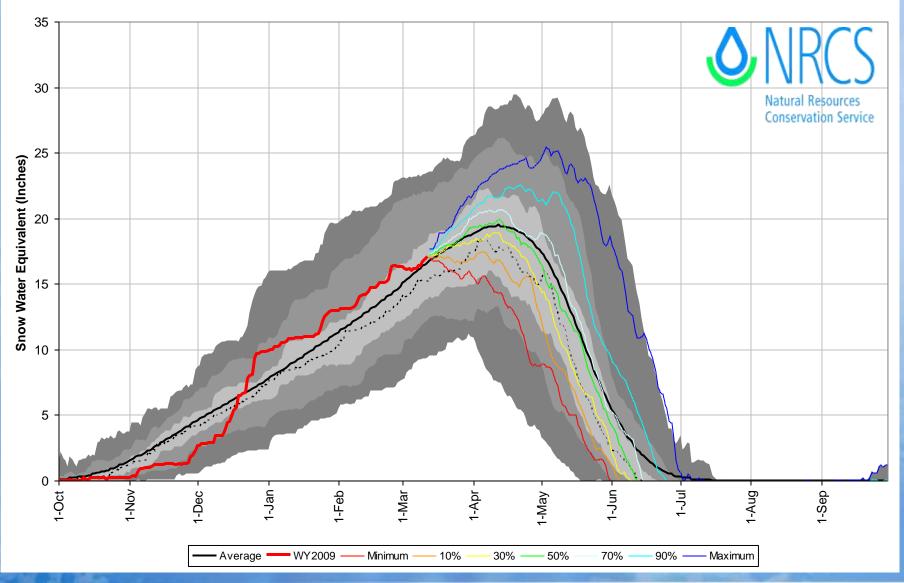


Year

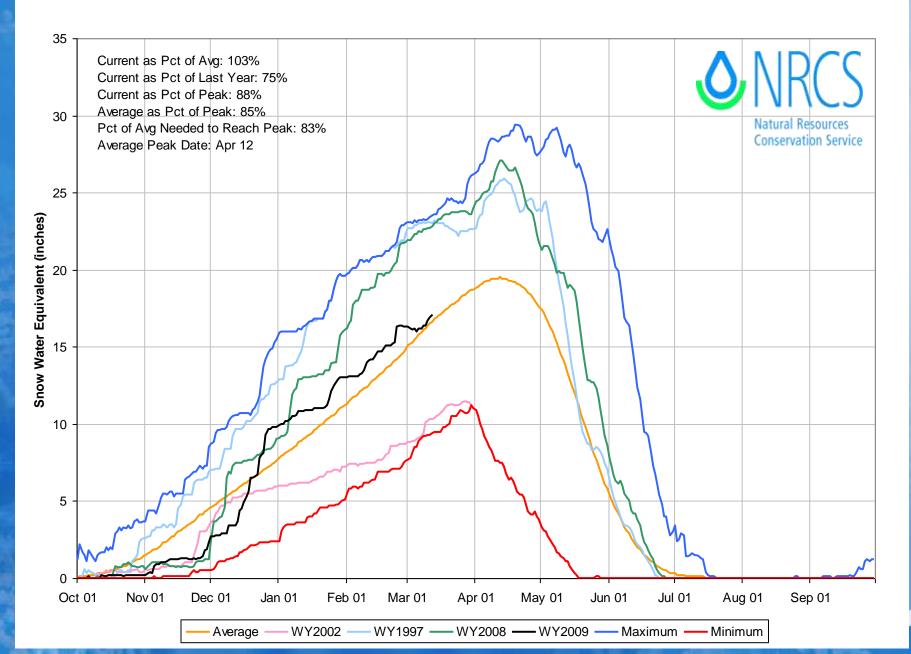
Gunnison River Basin with Non-Exceedence Projections



Gunnison River Basin with Non-Exceedence Projections

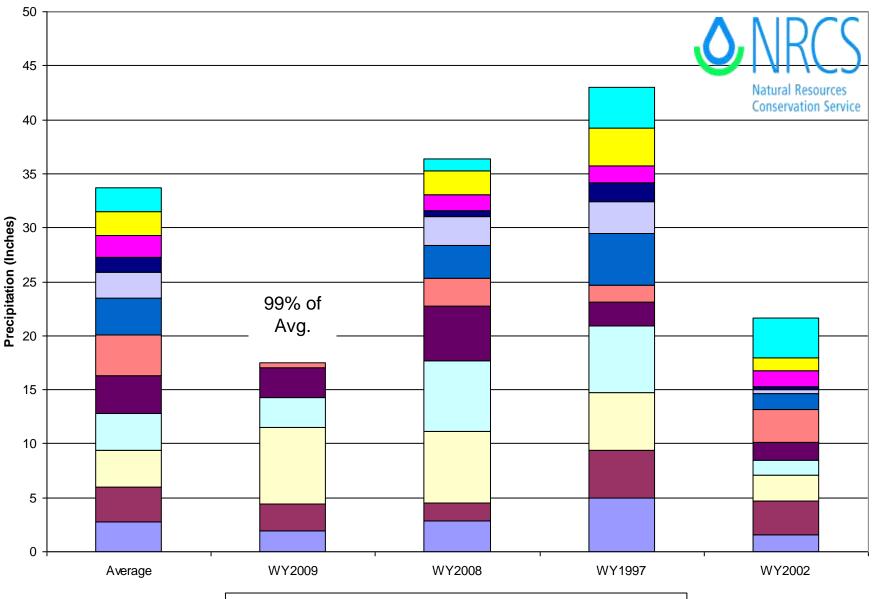


Gunnison River Basin High/Low Snowpack Summary



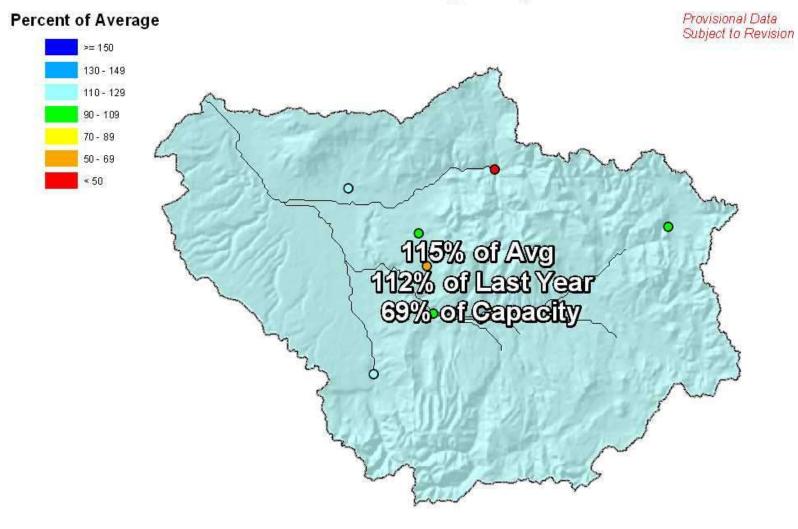
Gunnison River Basin High/Low Monthly Precipitation Summary

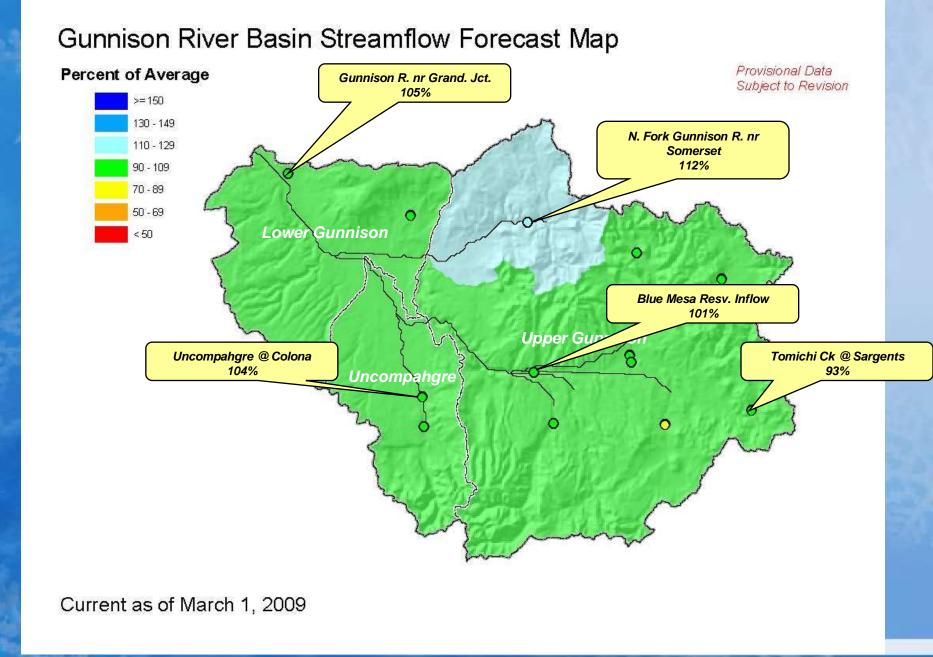
Based on Provisional SNOTEL data as of Mar 12, 2009



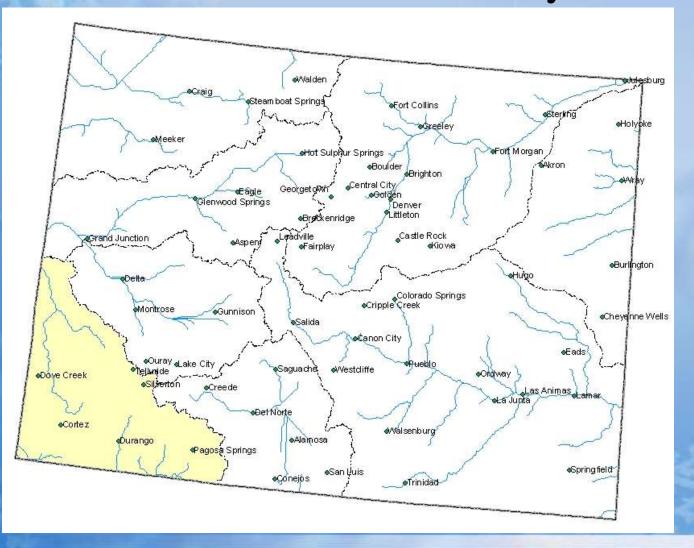
□ Oct ■ Nov □ Dec □ Jan ■ Feb □ Mar ■ Apr □ May ■ Jun □ Jul □ Aug □ Sep

Gunnison River Basin Reservoir Storage Map

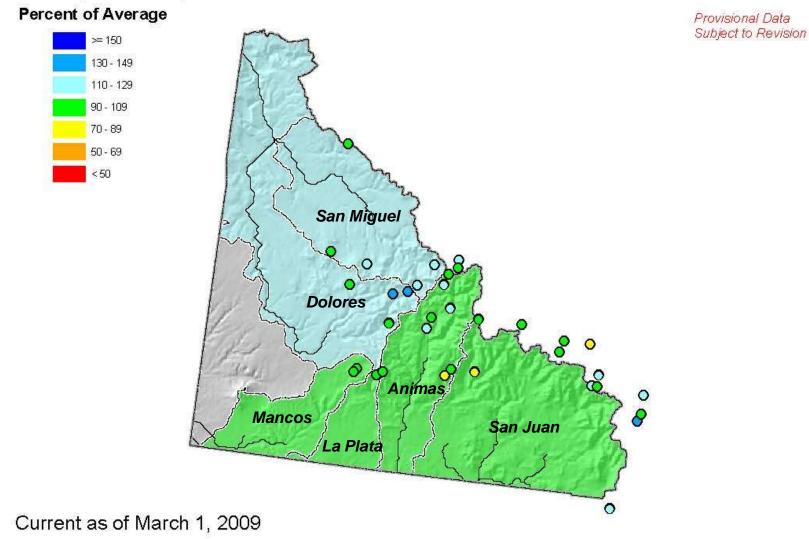


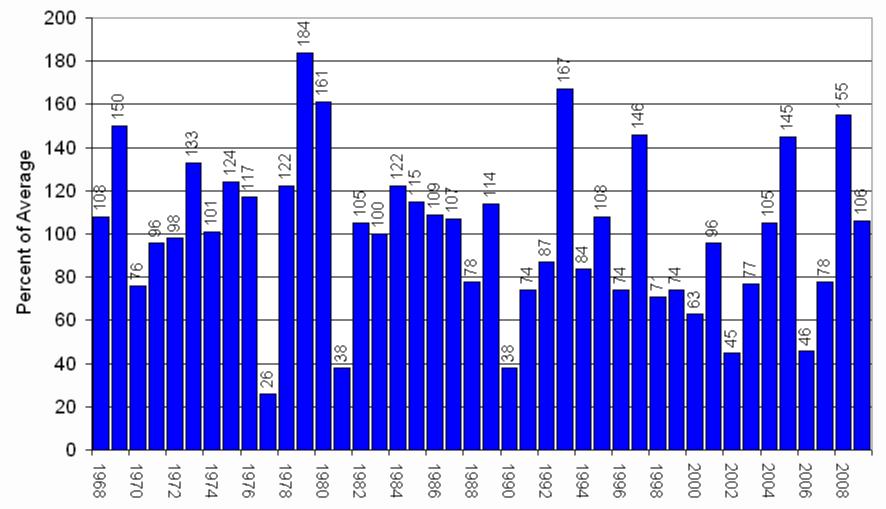


San Miguel, Dolores, Animas & San Juan River Basins Summary



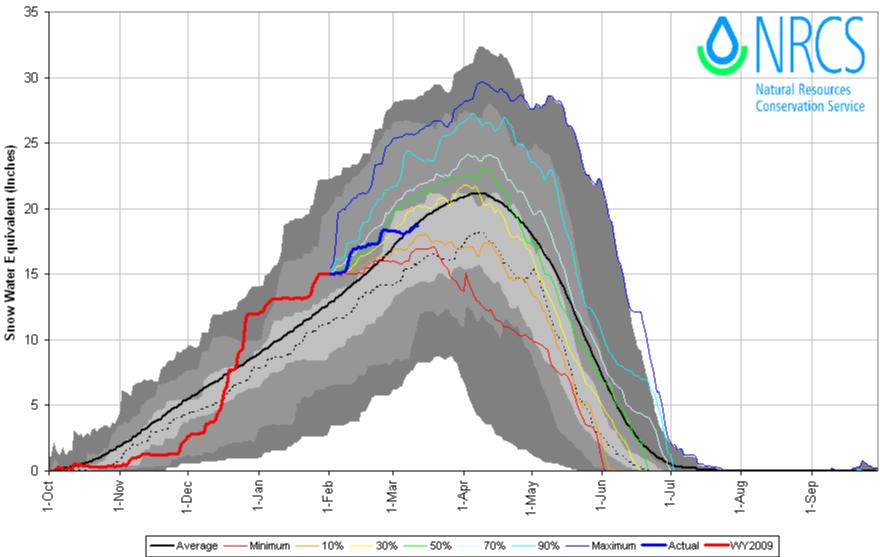
San Miguel, Dolores, Animas and San Juan River Basins Snowpack Map



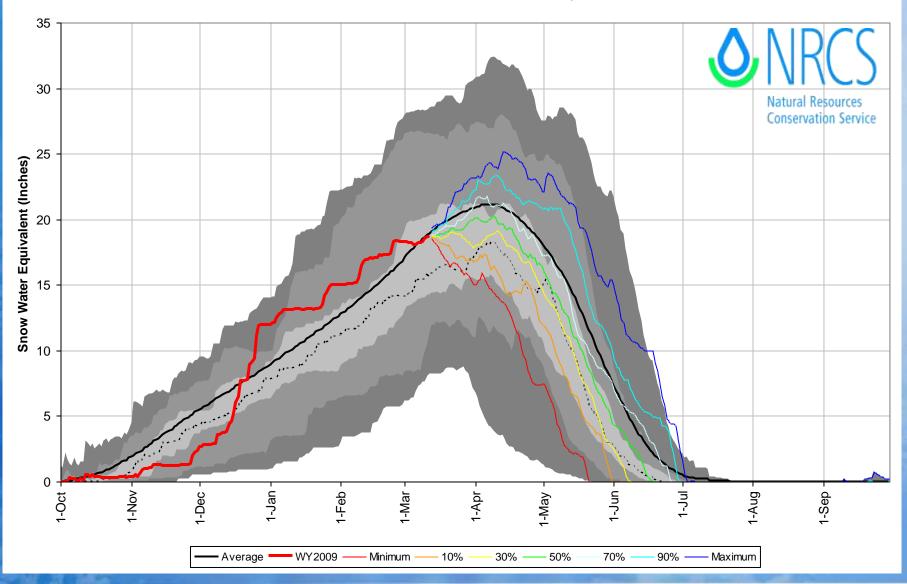


March 1 Total San Miguel, Dolores, Animas & San Juan River Basins Snowpack

Year

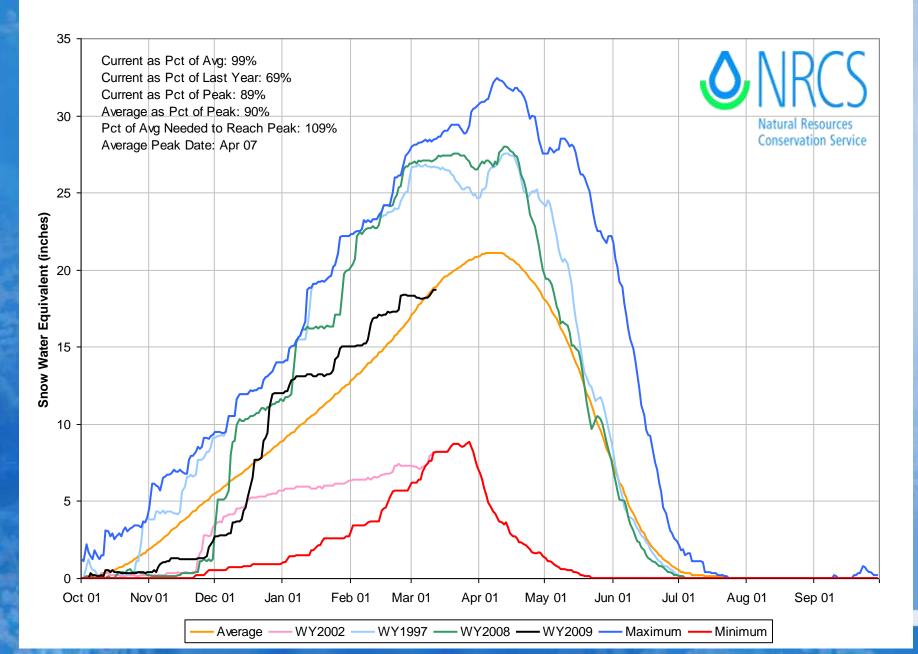


San Miguel, Dolores, Animas & San Juan River Basins with Non-Exceedence Projections Based on Provisional SNOTEL Data as of Mar 12, 2009

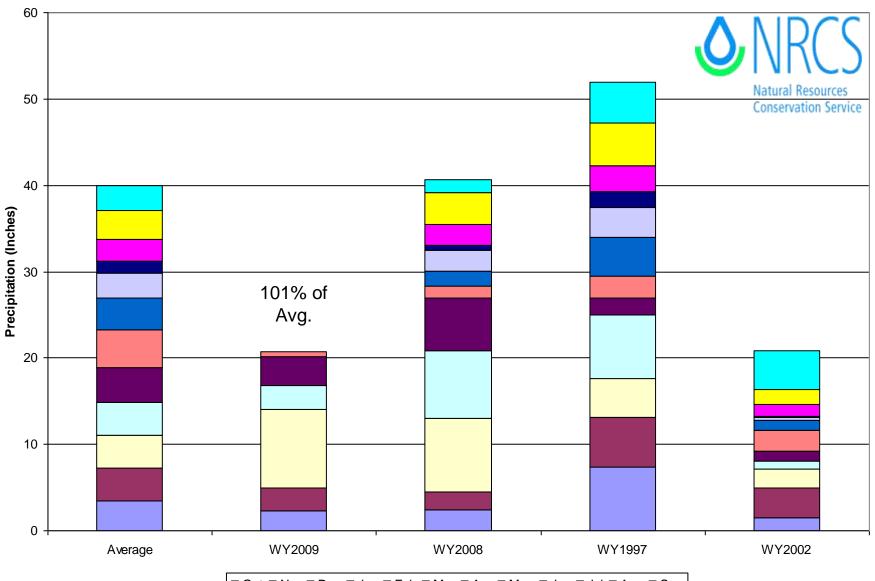


San Miguel, Dolores, Animas & San Juan River Basins with Non-Exceedence Projections Based on Provisional SNOTEL Data as of Mar 12, 2009

San Miguel, Dolores, Animas & San Juan River Basins High/Low Snowpack Summary Based on Provisional SNOTEL data as of Mar 12, 2009

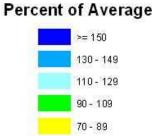


San Miguel, Dolores, Animas and San Juan River Basins High/Low Monthly Precipitation Summary Based on Provisional SNOTEL data as of Mar 12, 2009

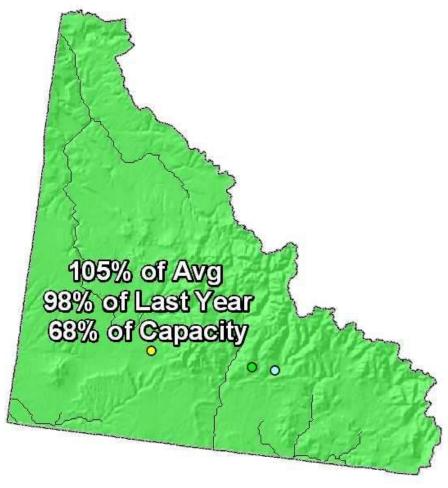


□ Oct □ Nov □ Dec □ Jan ■ Feb □ Mar ■ Apr □ May ■ Jun □ Jul □ Aug □ Sep

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

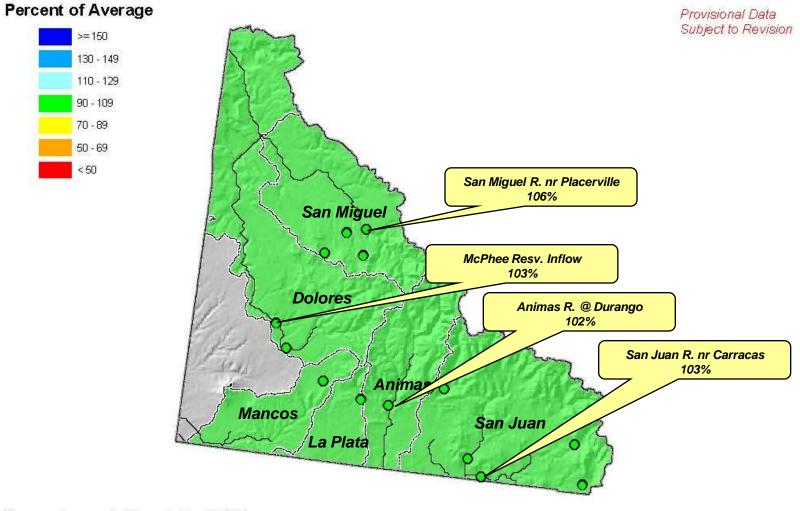


50 - 69 < 50 Provisional Data Subject to Revision

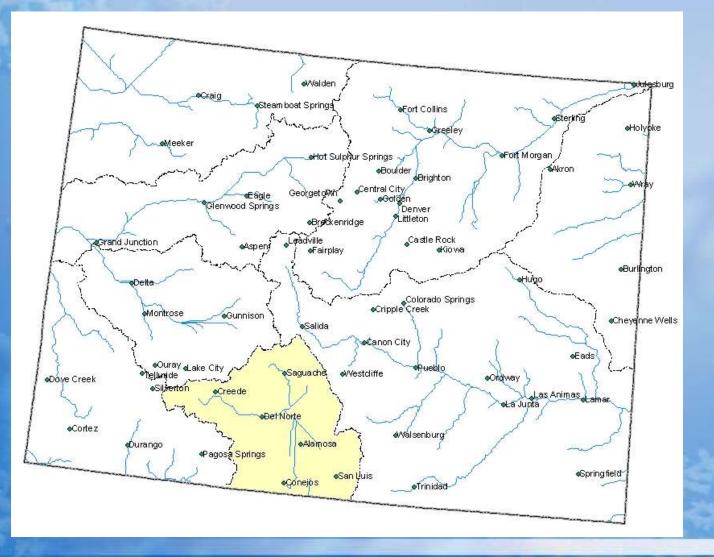


End of February 2009

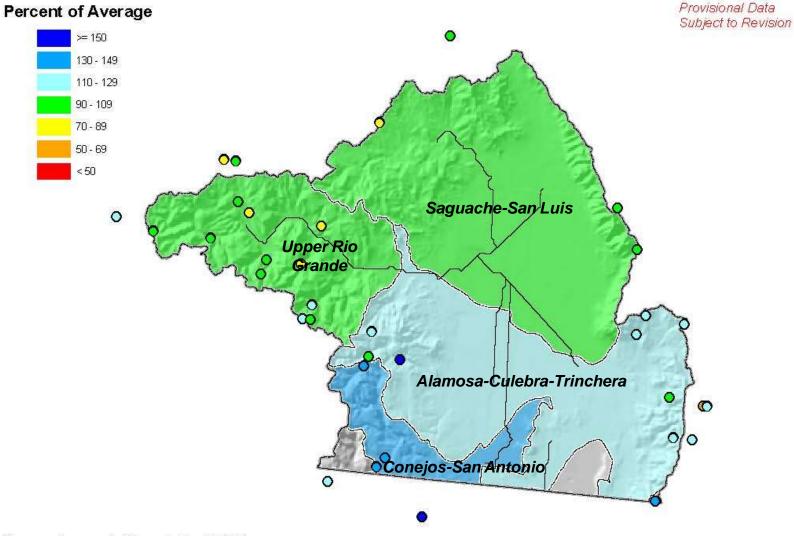
San Miguel, Dolores, Animas and San Juan River Basins Streamflow Forecast Map

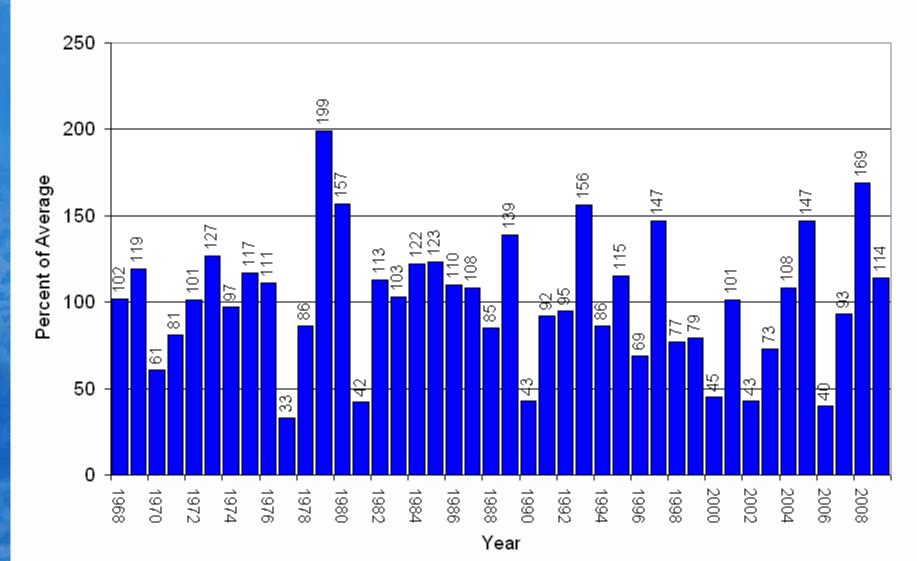


Upper Rio Grande Basin Summary



Upper Rio Grande Basin Snowpack Map

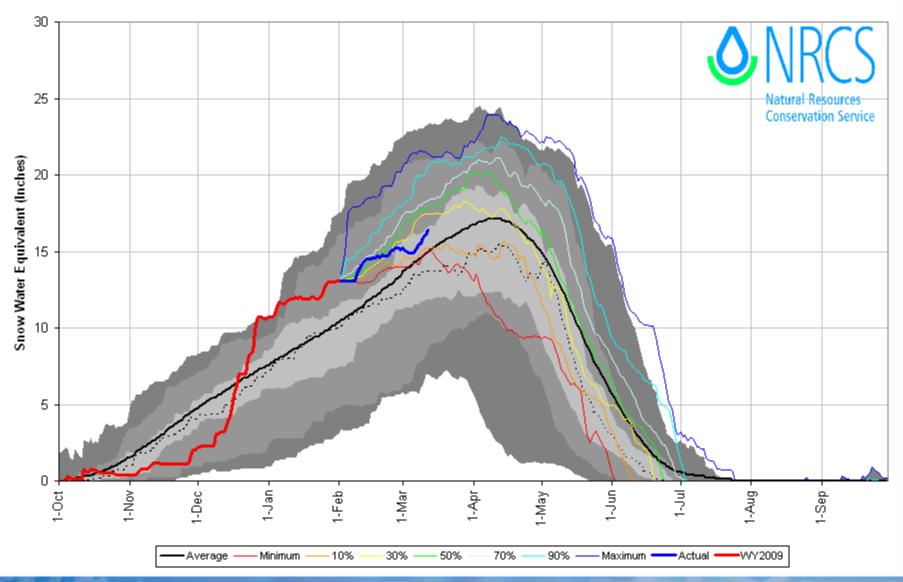




March 1 Total Upper Rio Grande Basin Snowpack

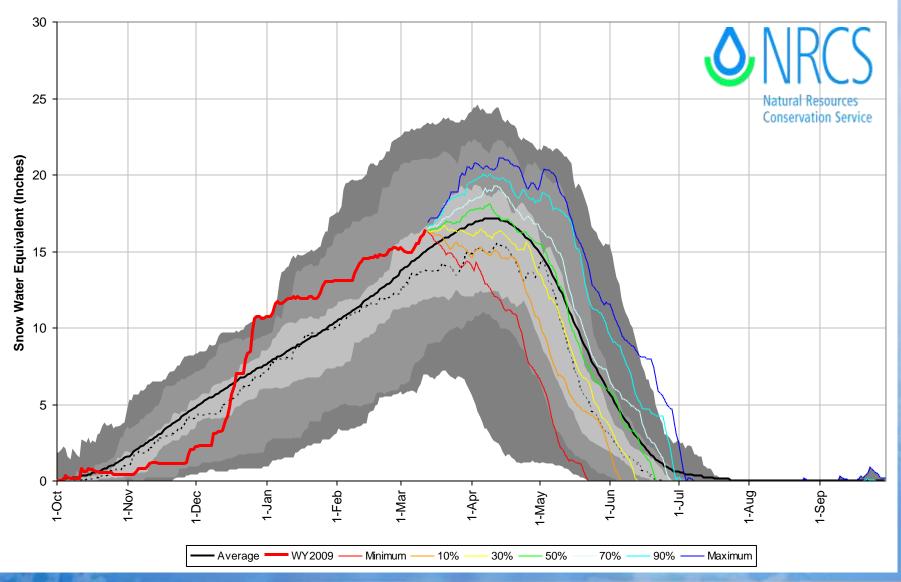
Upper Rio Grande Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 12, 2009



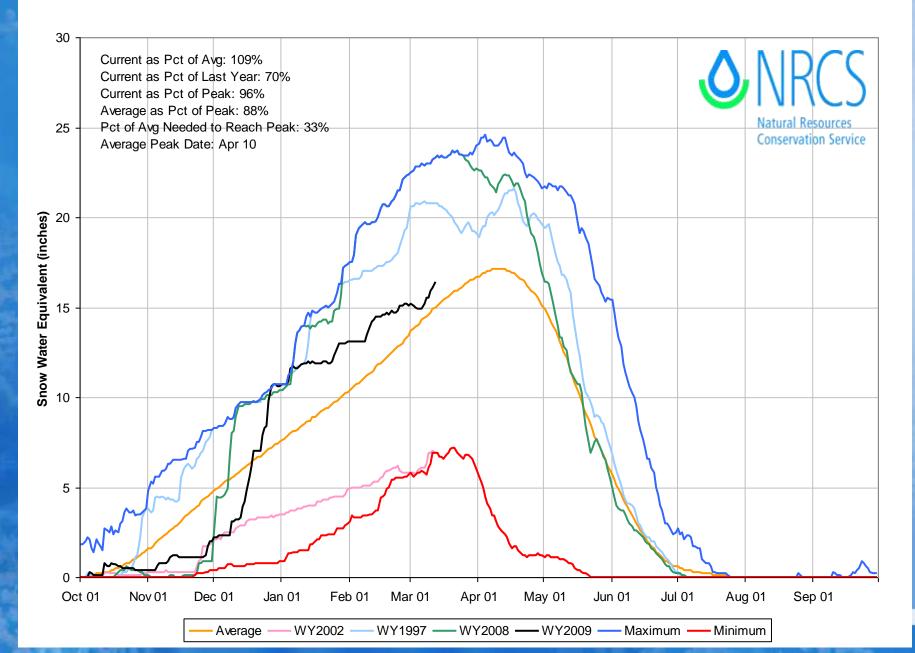
Upper Rio Grande Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 12, 2009



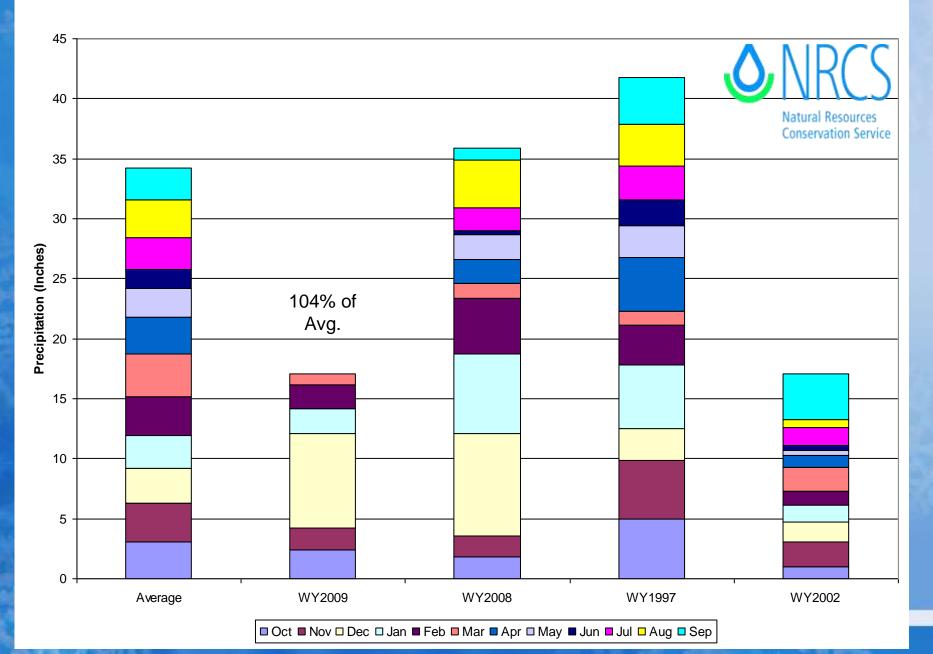
Upper Rio Grande Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 12, 2009

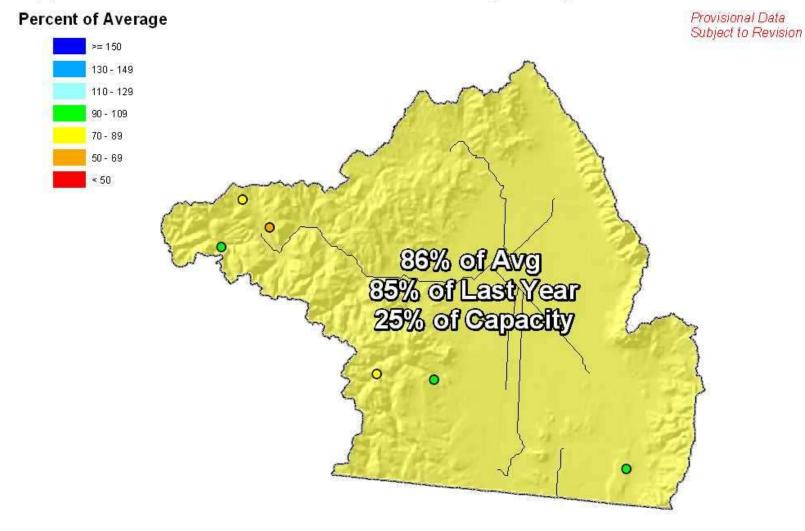


Upper Rio Grande Basin High/Low Monthly Precipitation Summary

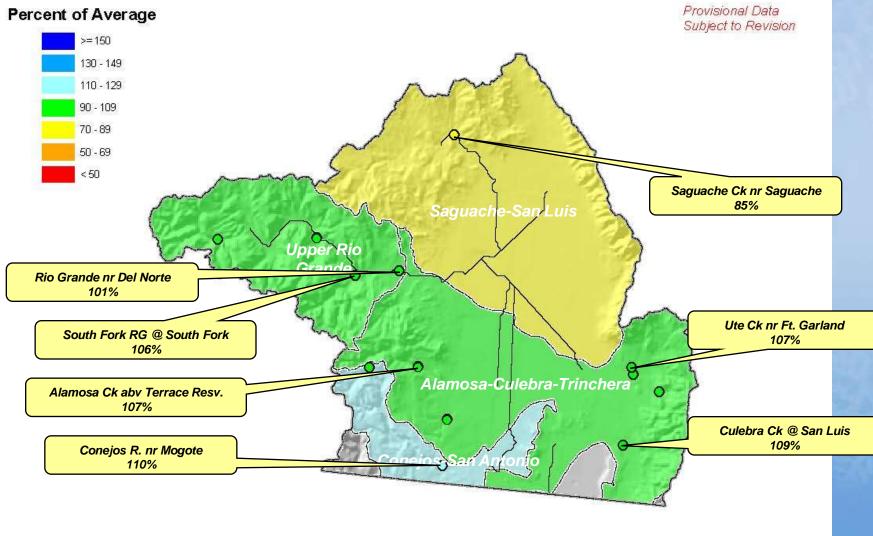
Based on Provisional SNOTEL data as of Mar 12, 2009



Upper Rio Grande Basin Reservoir Storage Map



Upper Rio Grande Basin Streamflow Forecast Map

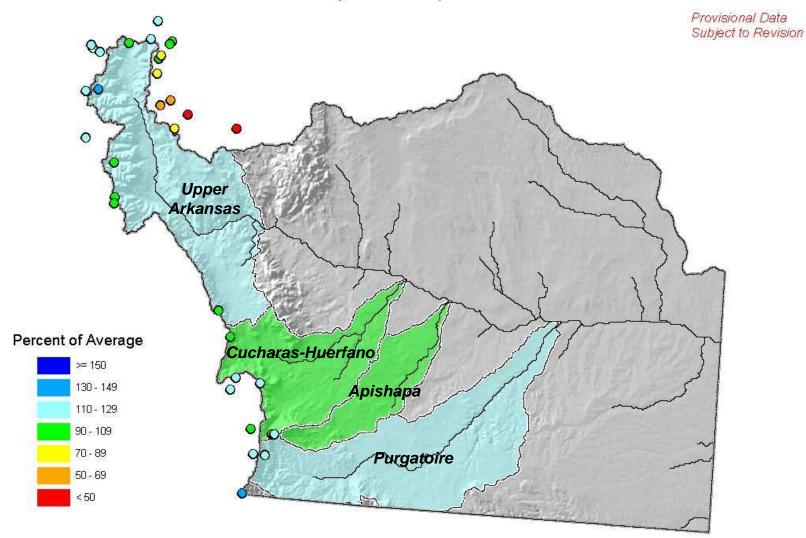


Current as of March 1, 2009

Arkansas River Basin Summary

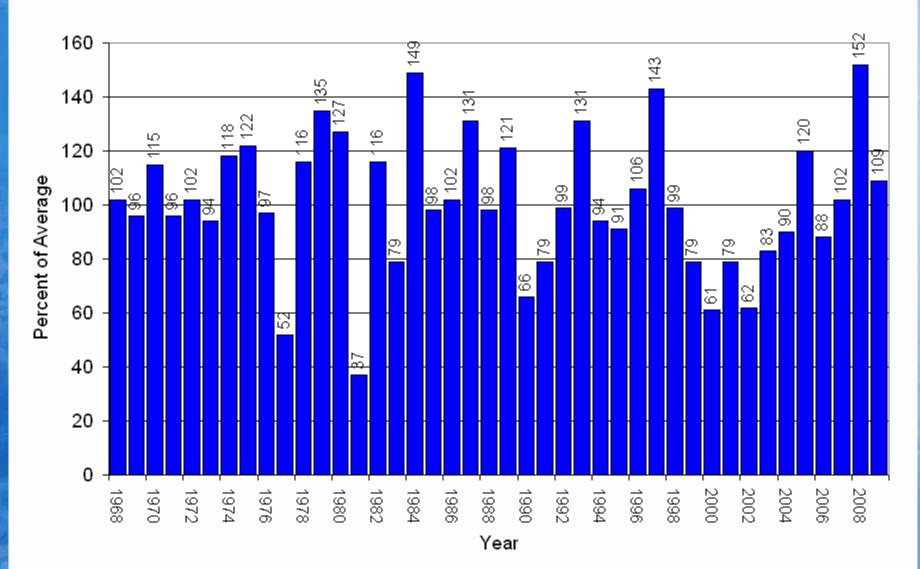


Arkansas River Basin Snowpack Map



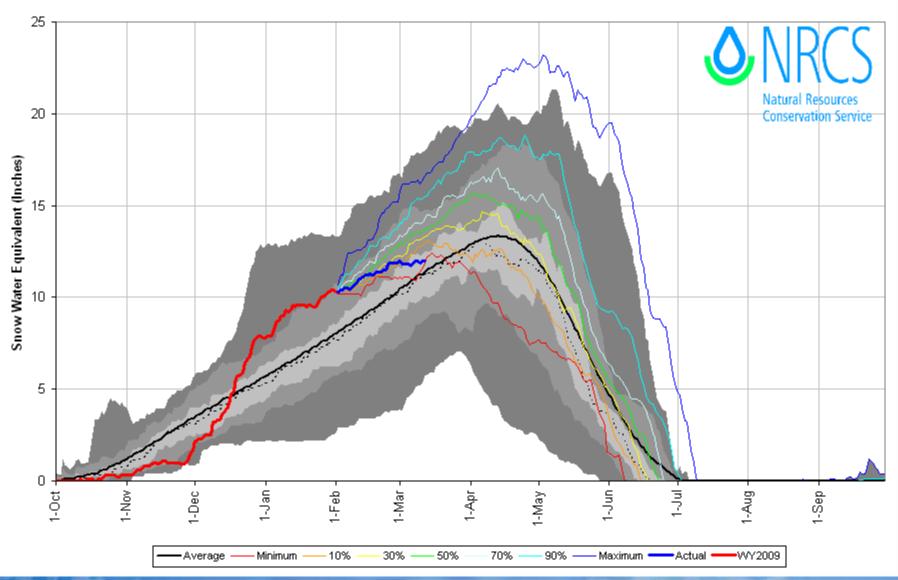
Current as of March 1, 2009

March 1 Total Arkansas River Basin Snowpack



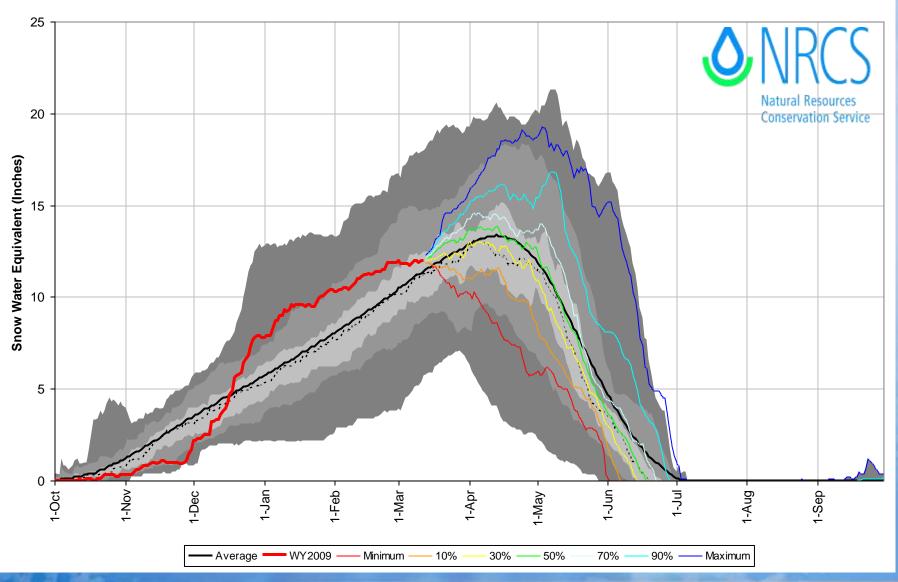
Arkansas River Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 12, 2009



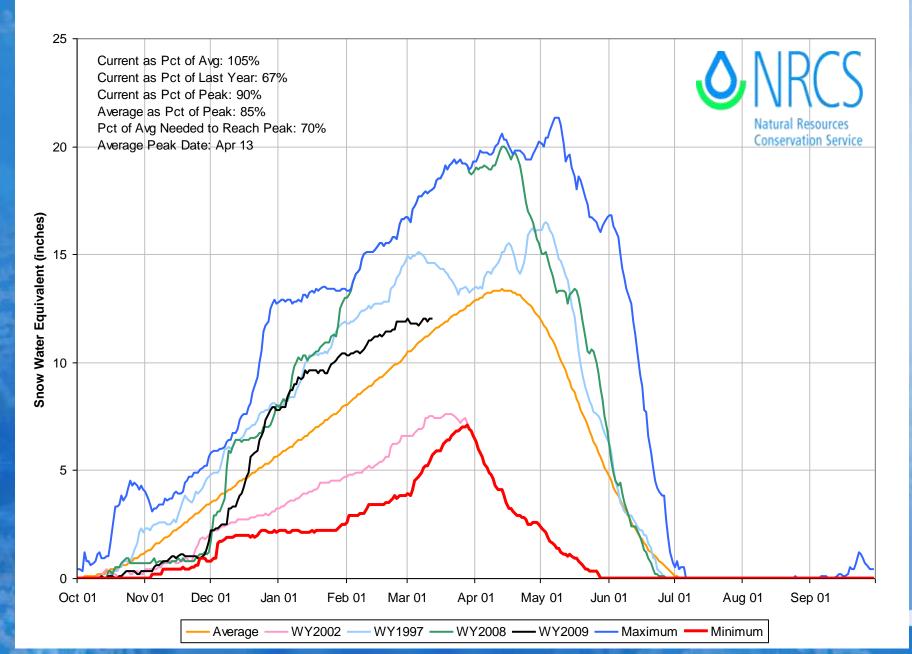
Arkansas River Basin with Non-Exceedence Projections

Based on Provisional SNOTEL Data as of Mar 12, 2009



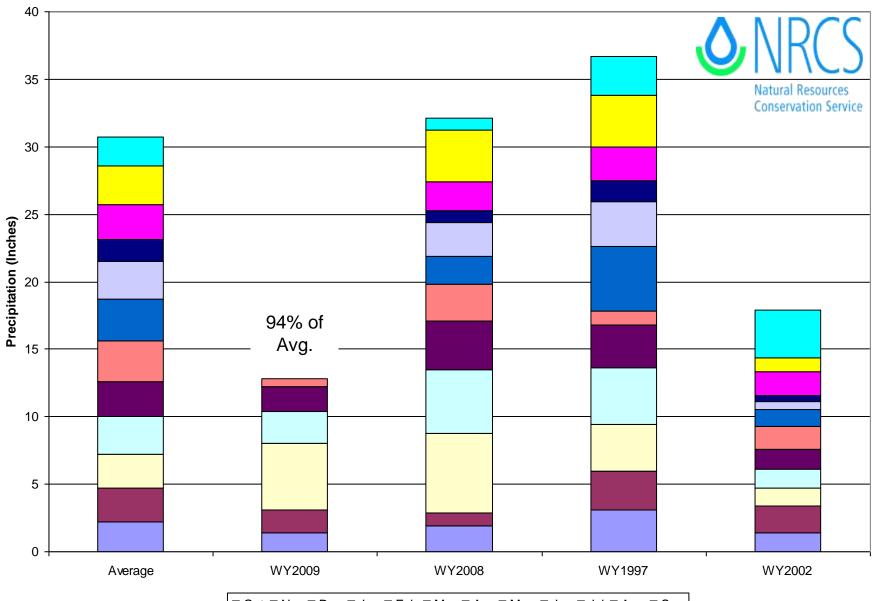
Arkansas River Basin High/Low Snowpack Summary

Based on Provisional SNOTEL data as of Mar 12, 2009



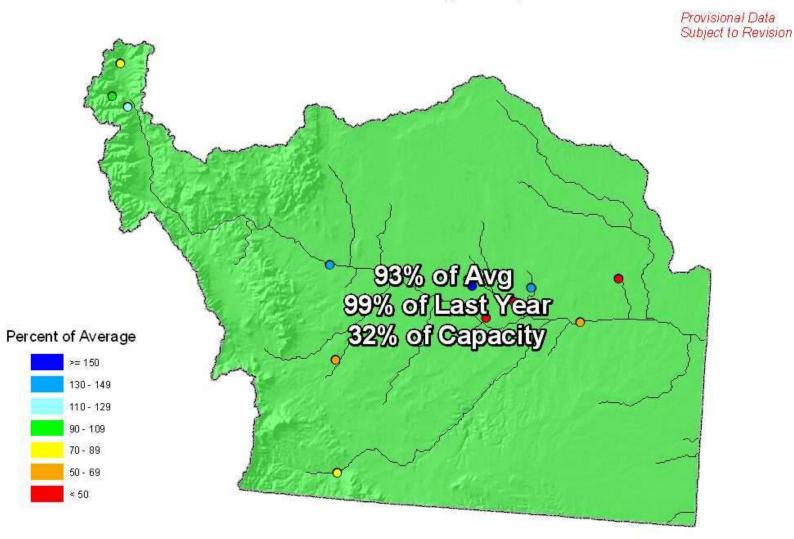
Arkansas River Basin High/Low Monthly Precipitation Summary

Based on Provisional SNOTEL data as of Mar 12, 2009



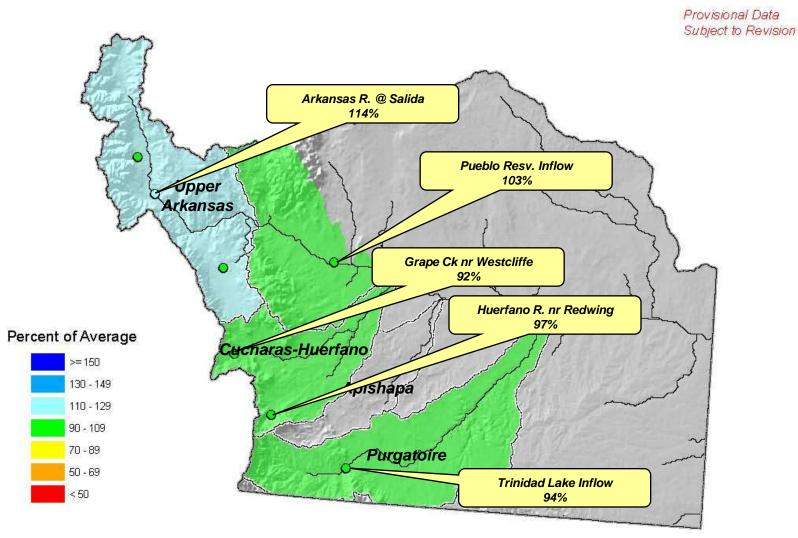
□ Oct ■ Nov □ Dec □ Jan ■ Feb □ Mar ■ Apr □ May ■ Jun ■ Jul □ Aug □ Sep

Arkansas River Basin Reservoir Storage Map



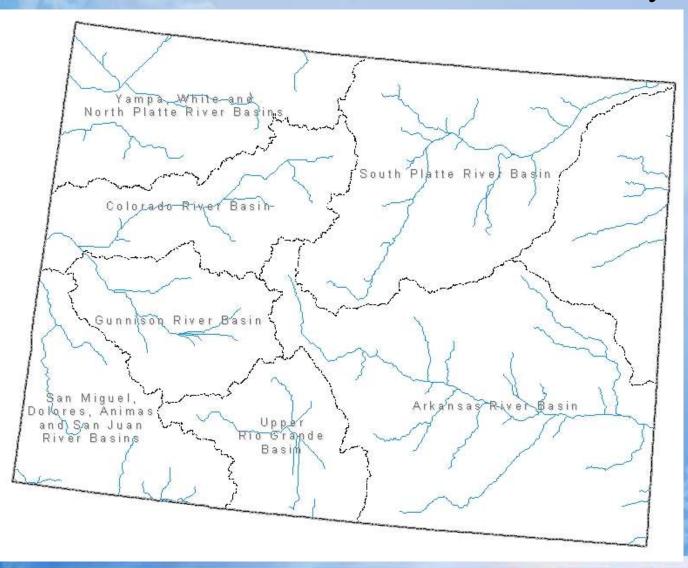
End of February 2009

Arkansas River Basin Streamflow Forecast Map



Current as of March 1, 2009

Colorado Statewide Summary



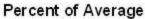


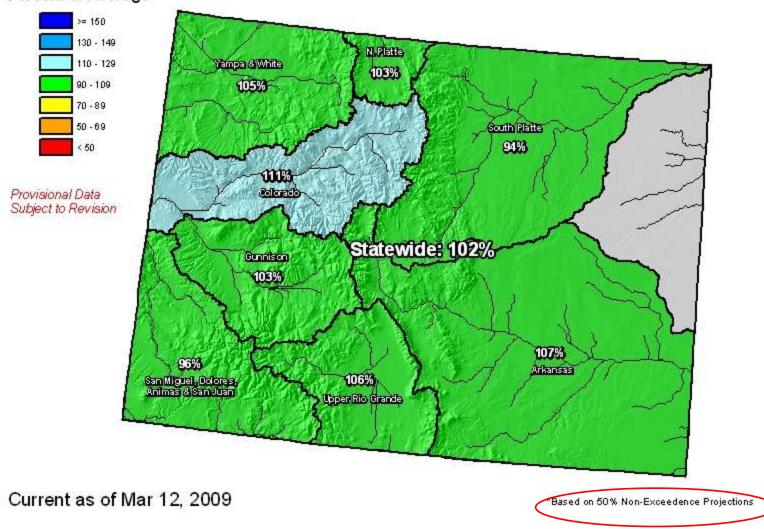
Percent of Average >= 150 Vatural Resources 130 - 149 **Conservation Service** N. Platte 110 - 129 Yampa & White 102% 90 - 109 108% 70 - 89 50 - 69 outh Platte 92% < 50 111% Colorado Provisional Data Subject to Revision Statewide: 105% Gunnison 102% 105% 100% Arkansas San Miguel, Dolores, Animas & San Juan 110 Upper Rio Grande

Current as of Mar 12, 2009

*Data may not provide a valid measure of conditions

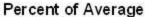
Colorado SNOTEL April 1 Snowpack Projection Map*

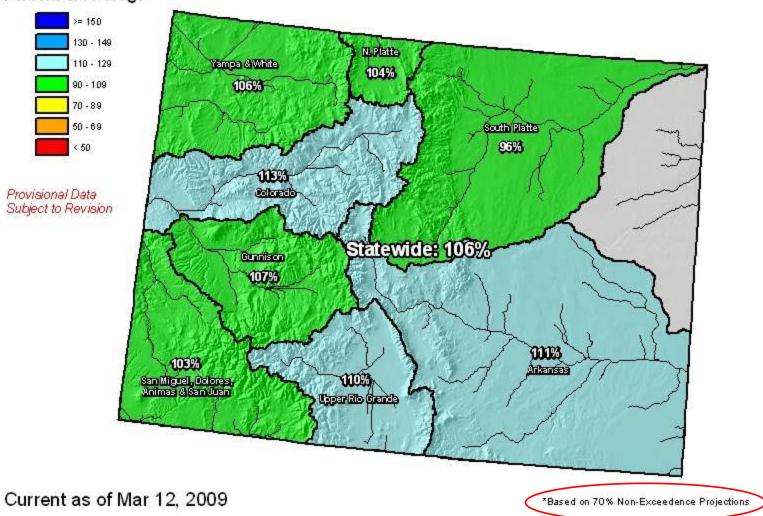




Future precipitation = Median

Colorado SNOTEL April 1 Snowpack Projection Map*

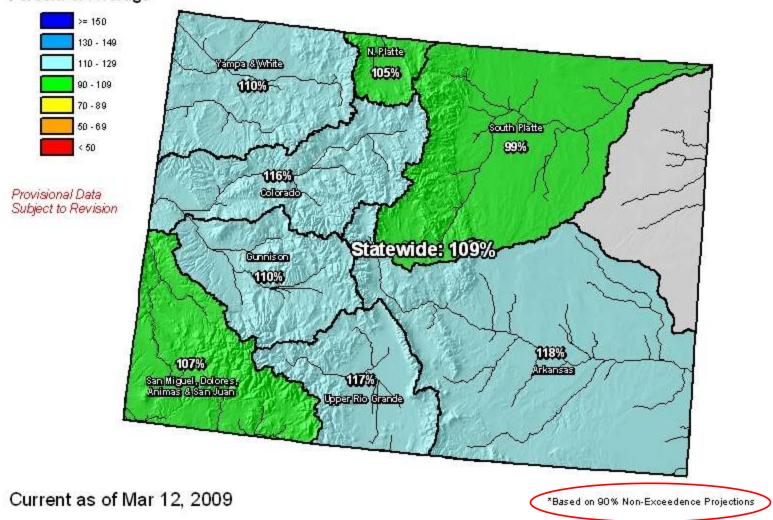




Future precipitation = Wetter 30% of the time

Colorado SNOTEL April 1 Snowpack Projection Map*

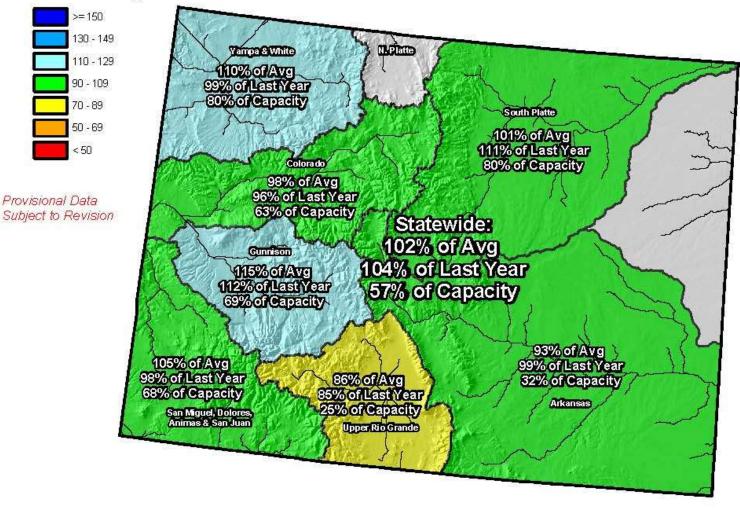
Percent of Average



Future precipitation = Wetter 10% of the time

Colorado Reservoir Storage Map

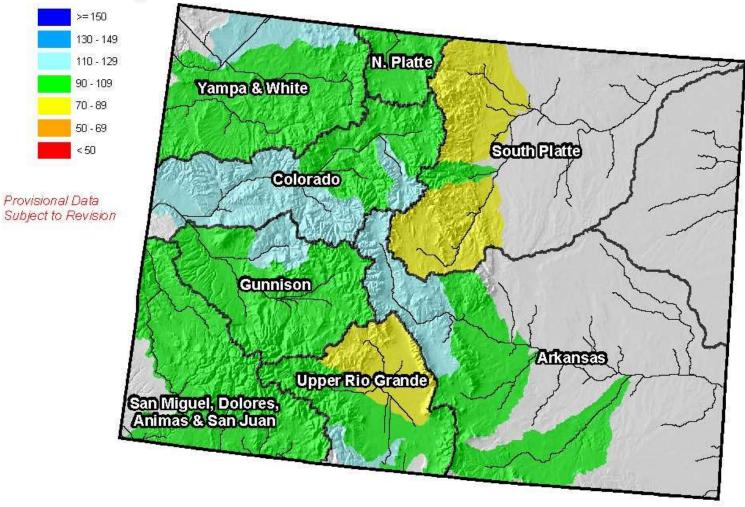
Percent of Average



End of February 2009

Colorado Streamflow Forecast Map

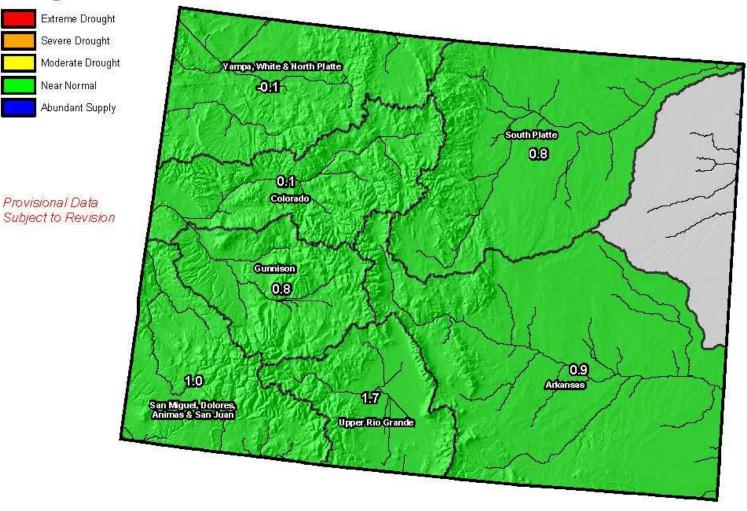
Percent of Average



Current as of March 1, 2009

Colorado Surface Water Supply Index (SWSI) Map

Legend



Current as of March 1, 2009