

Drought Update

Colorado Climate Center

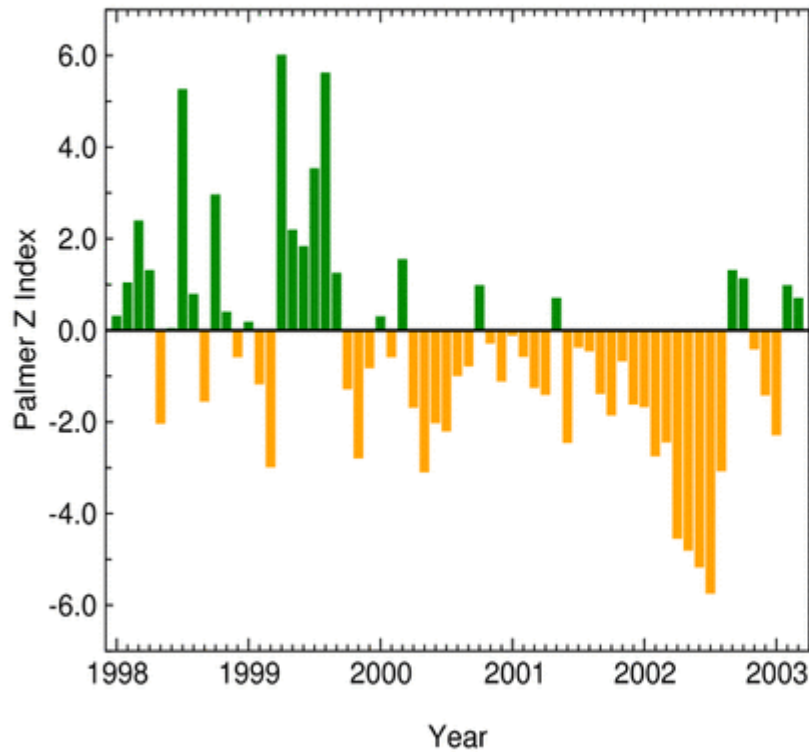
Roger Pielke, Sr., Director

Prepared by Tara Green and Odie Bliss

<http://climate.atmos.colostate.edu>



Colorado Statewide Z Index* January 1998 - March 2003

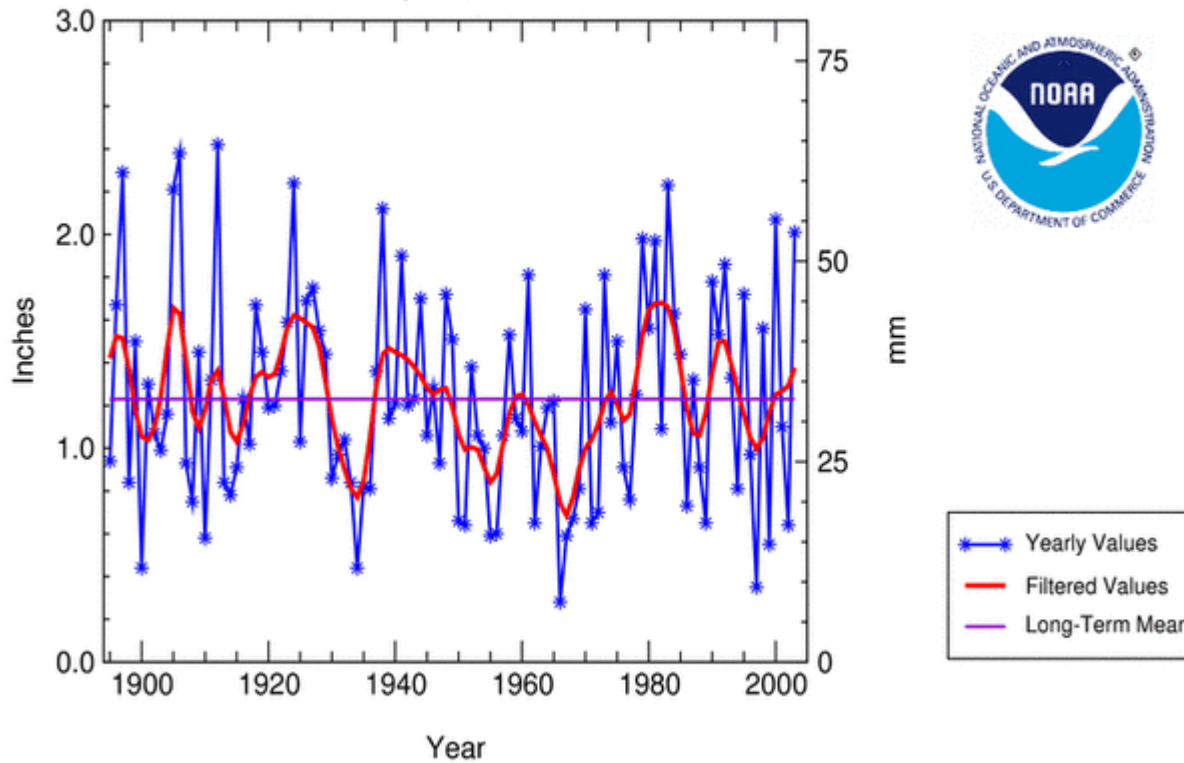


*Palmer Z Index
Short-Term Drought



National Climatic Data Center / NESDIS / NOAA

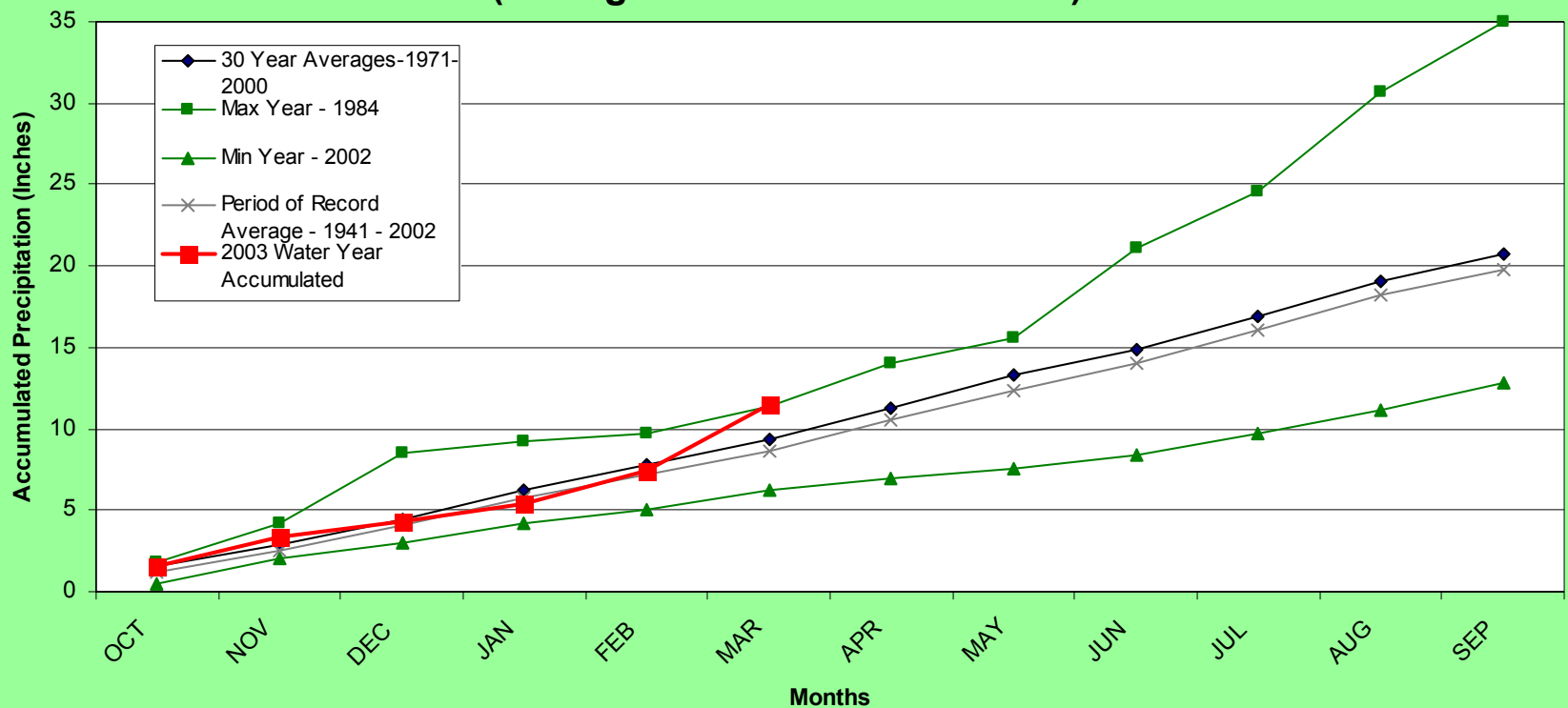
Colorado Statewide Precipitation March, 1895 - 2003



National Climatic Data Center / NESDIS / NOAA

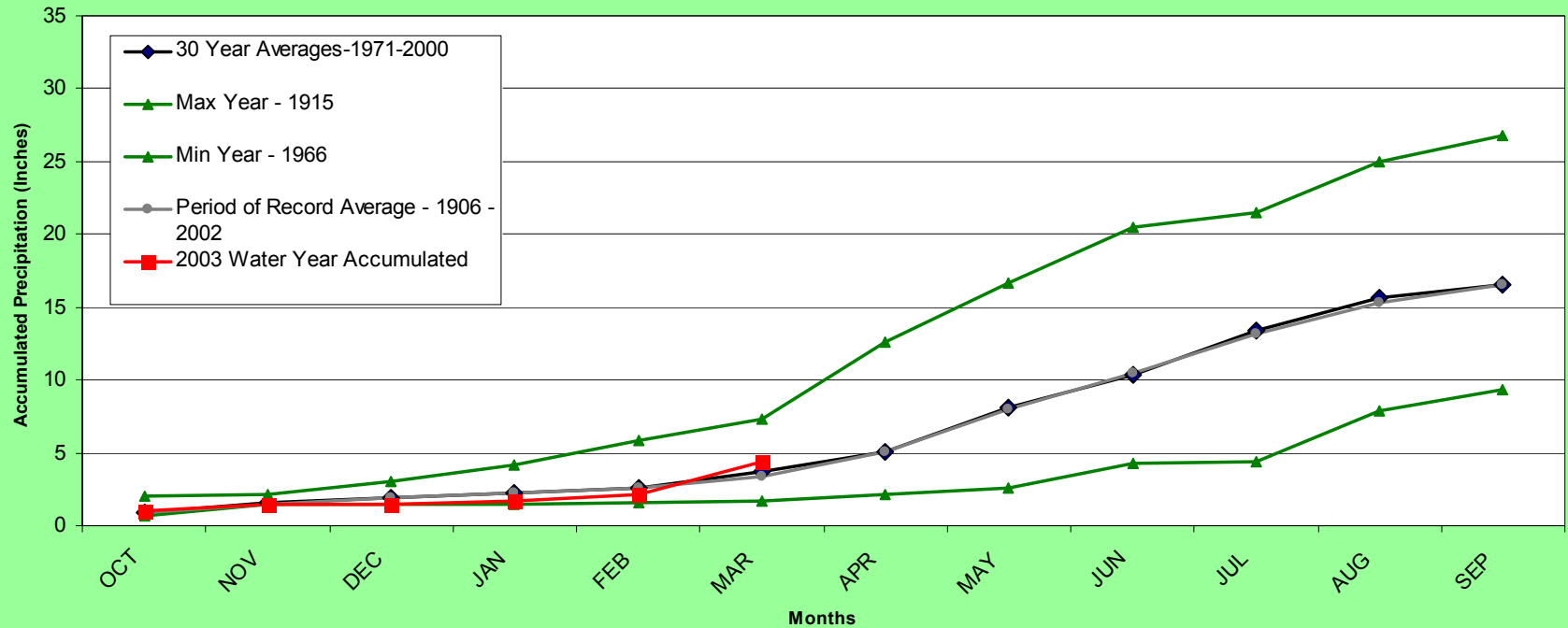
Division 1

**Grandlake 1 NW
2003 Water Year
(through October '02-March '03)**



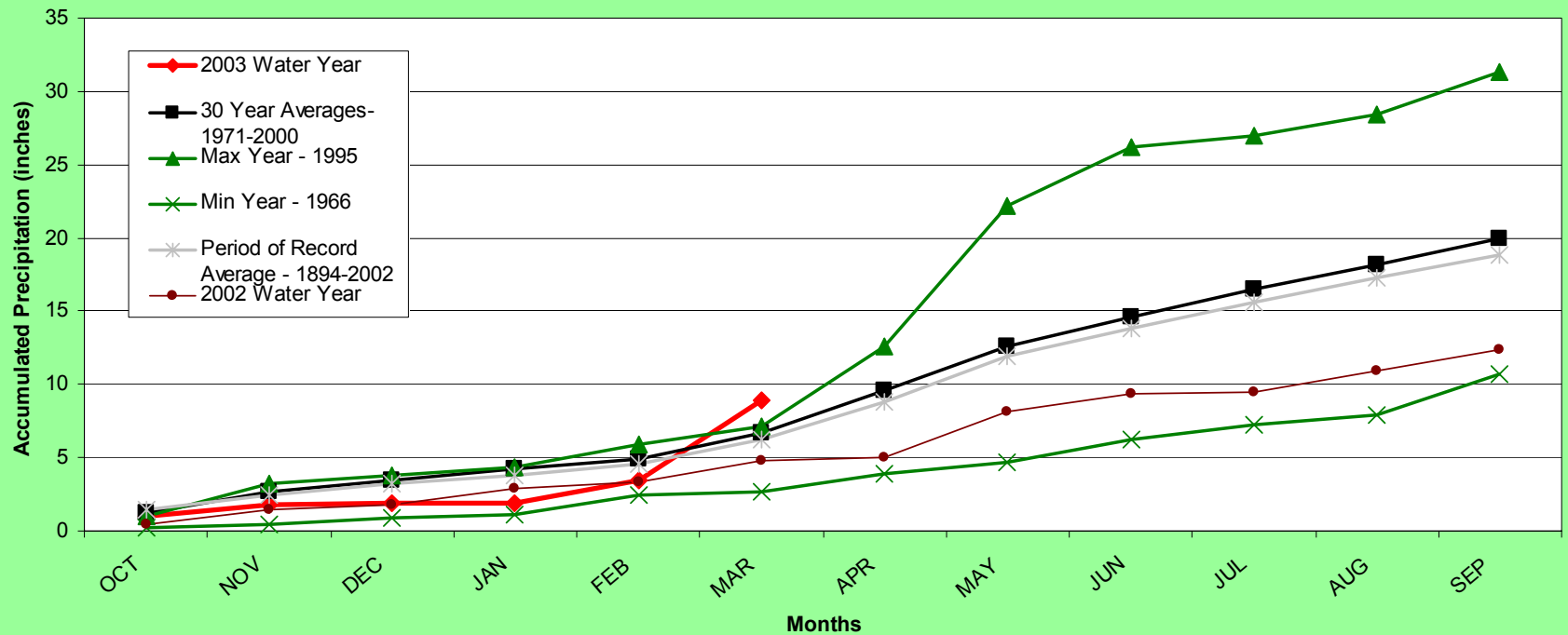
Division 7

Akron 4E
2003 Water Year
(through October '02-March'03)



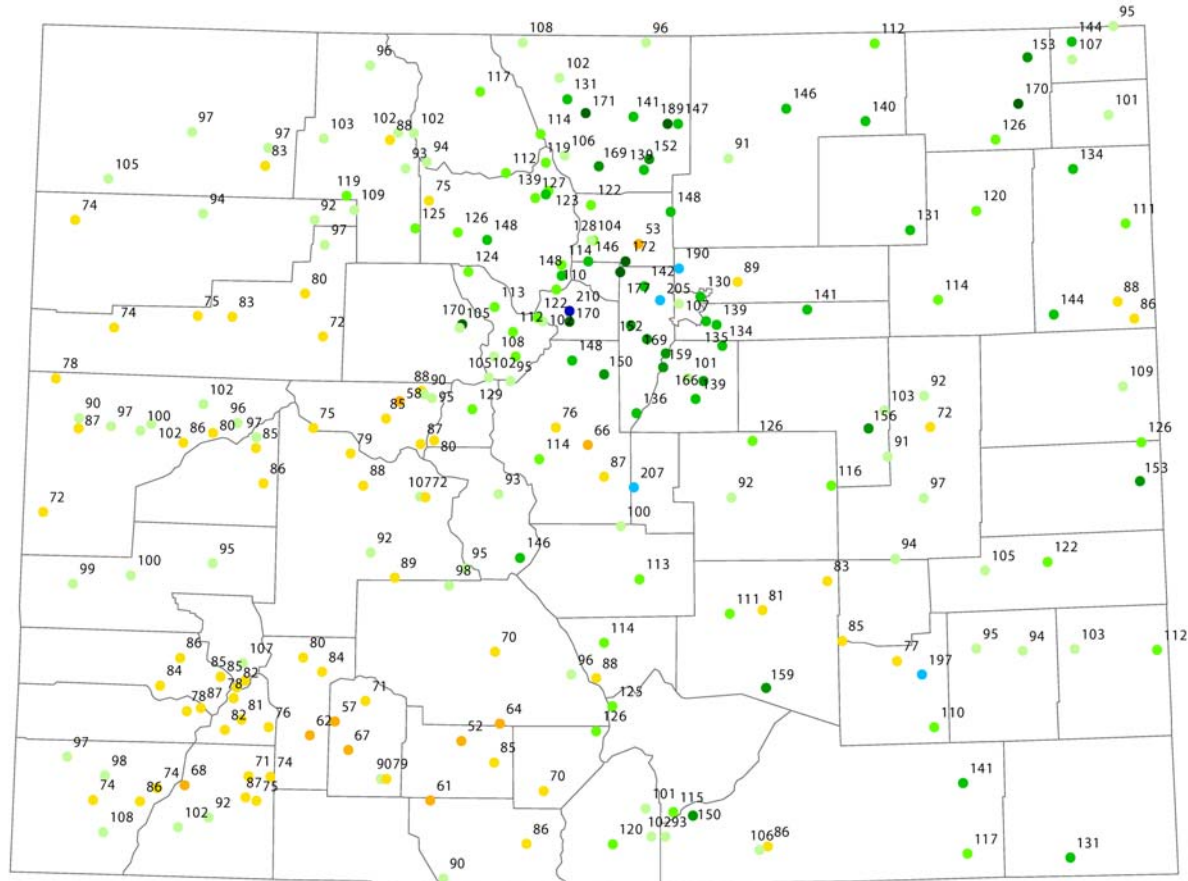
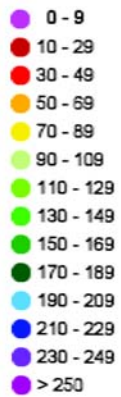
Division 8

Boulder
2003 Water Year
(through October '02-March '03)



COLORADO

Precipitation
(percent)

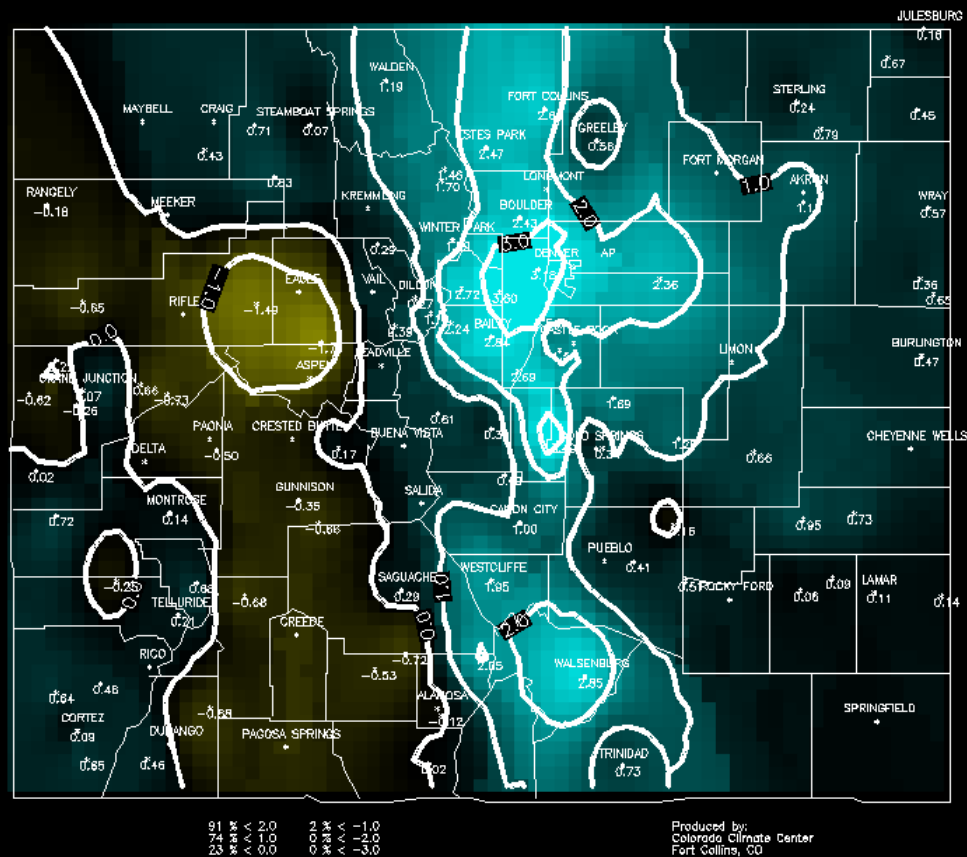


Water Year 2003 (October 2002 through March 2003) precipitation as a percent of the 1971-2000 average.

3 Month SPI

Colorado

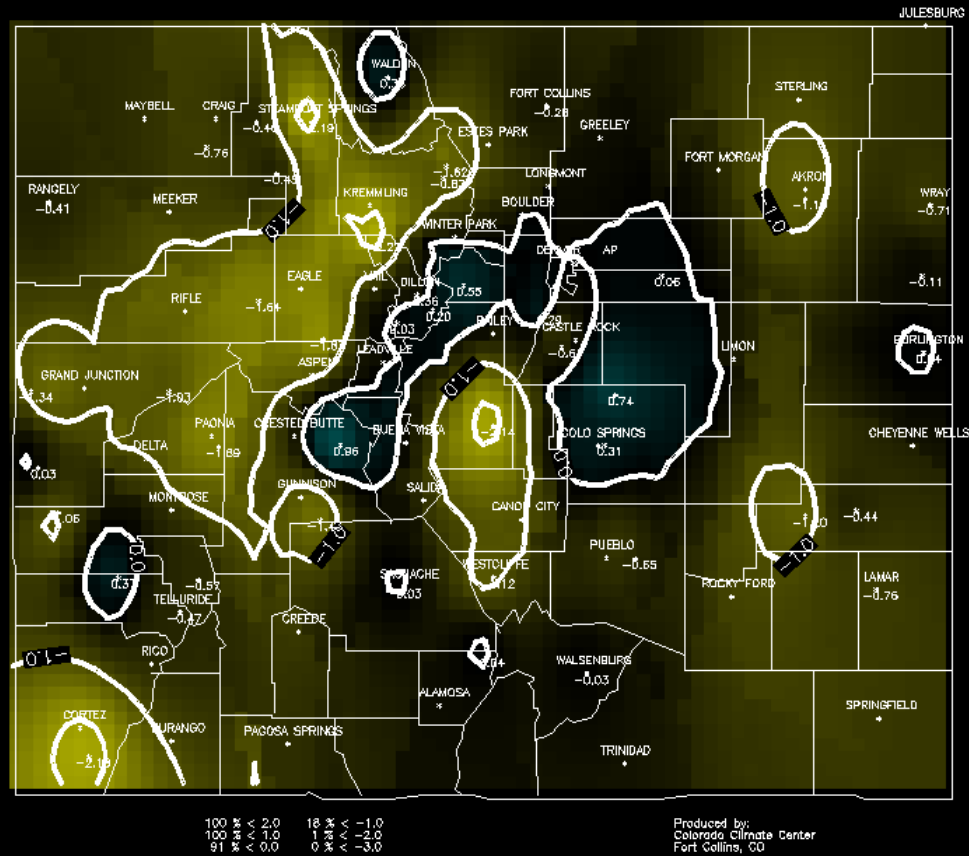
3/2003 3 mon. SPI



48 Month SPI

Colorado

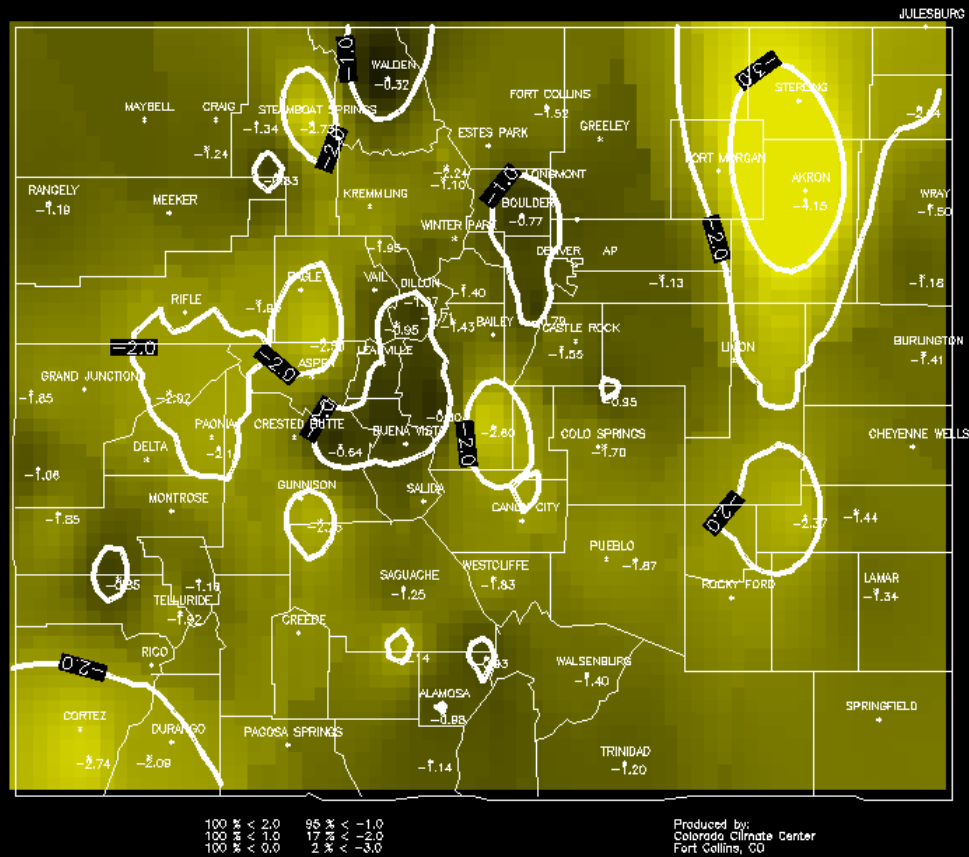
3/2003 48 mon. SPI



Projected Conditions at 0.2 Probability Level 48 Month SPI at 12 months

Colorado

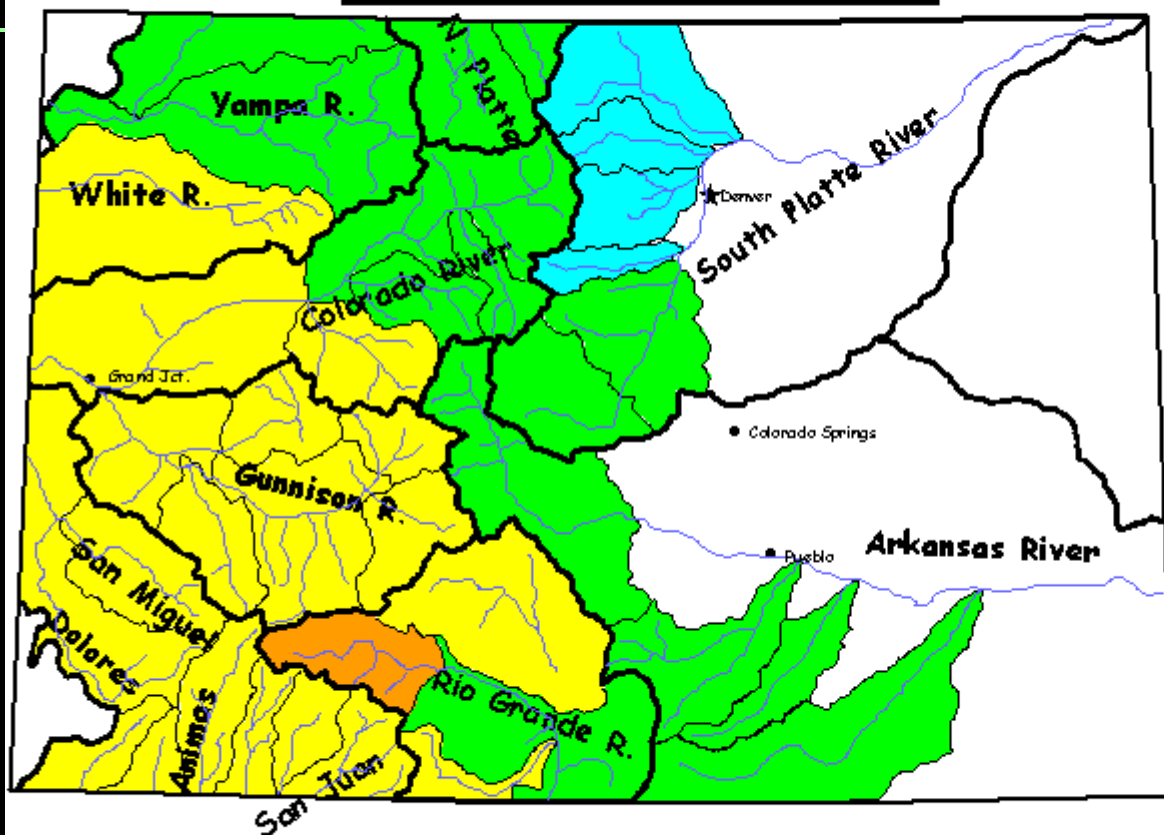
3/2003 48 mon. SPI – Projected 12 mon. at P=0.20



Snowpack April 1, 2003



Natural Resources
Conservation Service



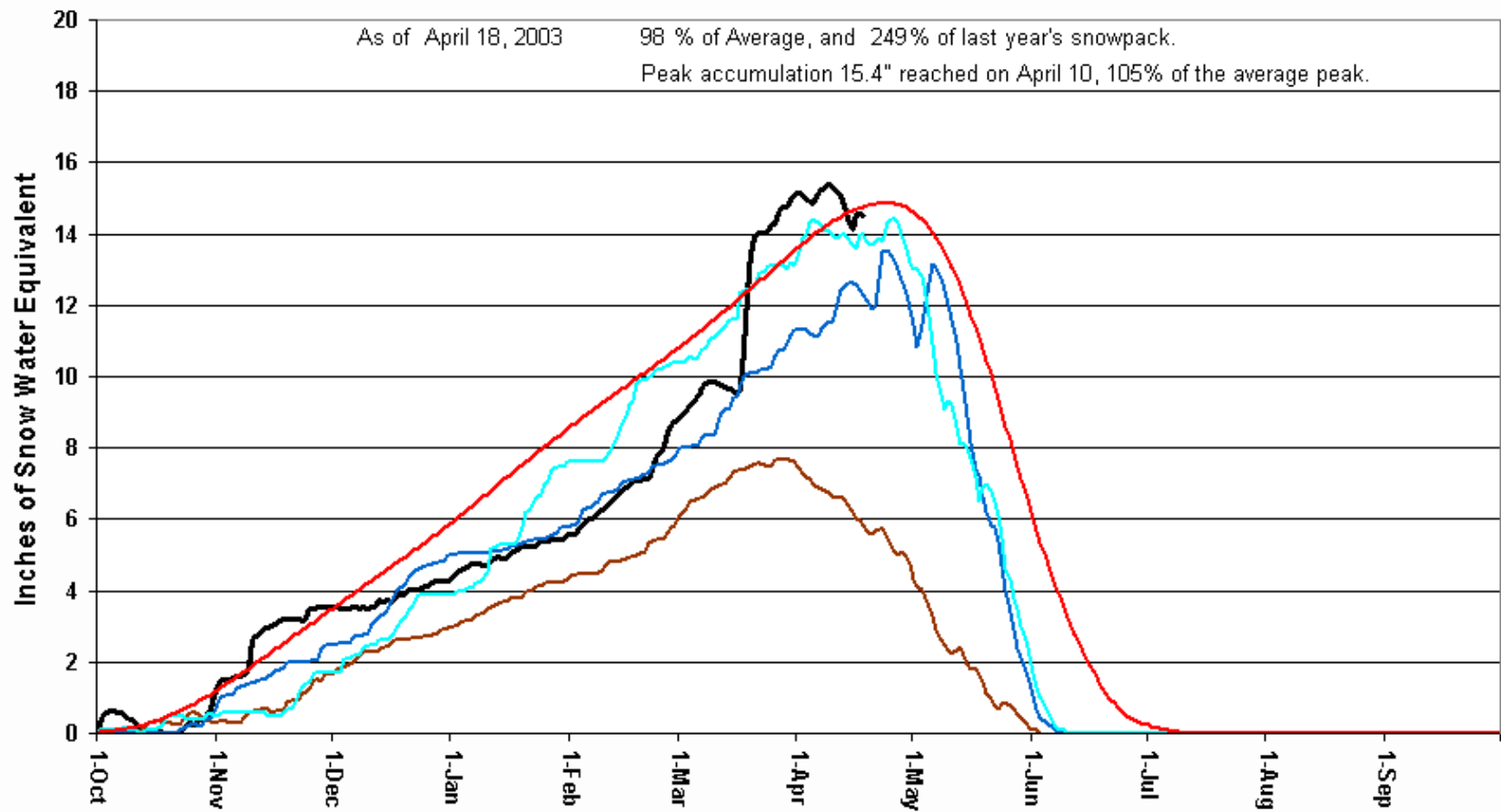
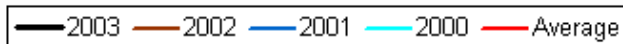
Legend

- > 150% of Average
- 130 - 150% of Average
- 110 - 129% of Average
- 90 - 109% of Average
- 70 - 89% of Average
- 50 - 69% of Average
- < 50% of Average
- Not Surveyed
- Major Basin Boundary
- Watershed Boundary

Statewide: 94% of Average
179% of Last Year

South Platte Basin Snowpack

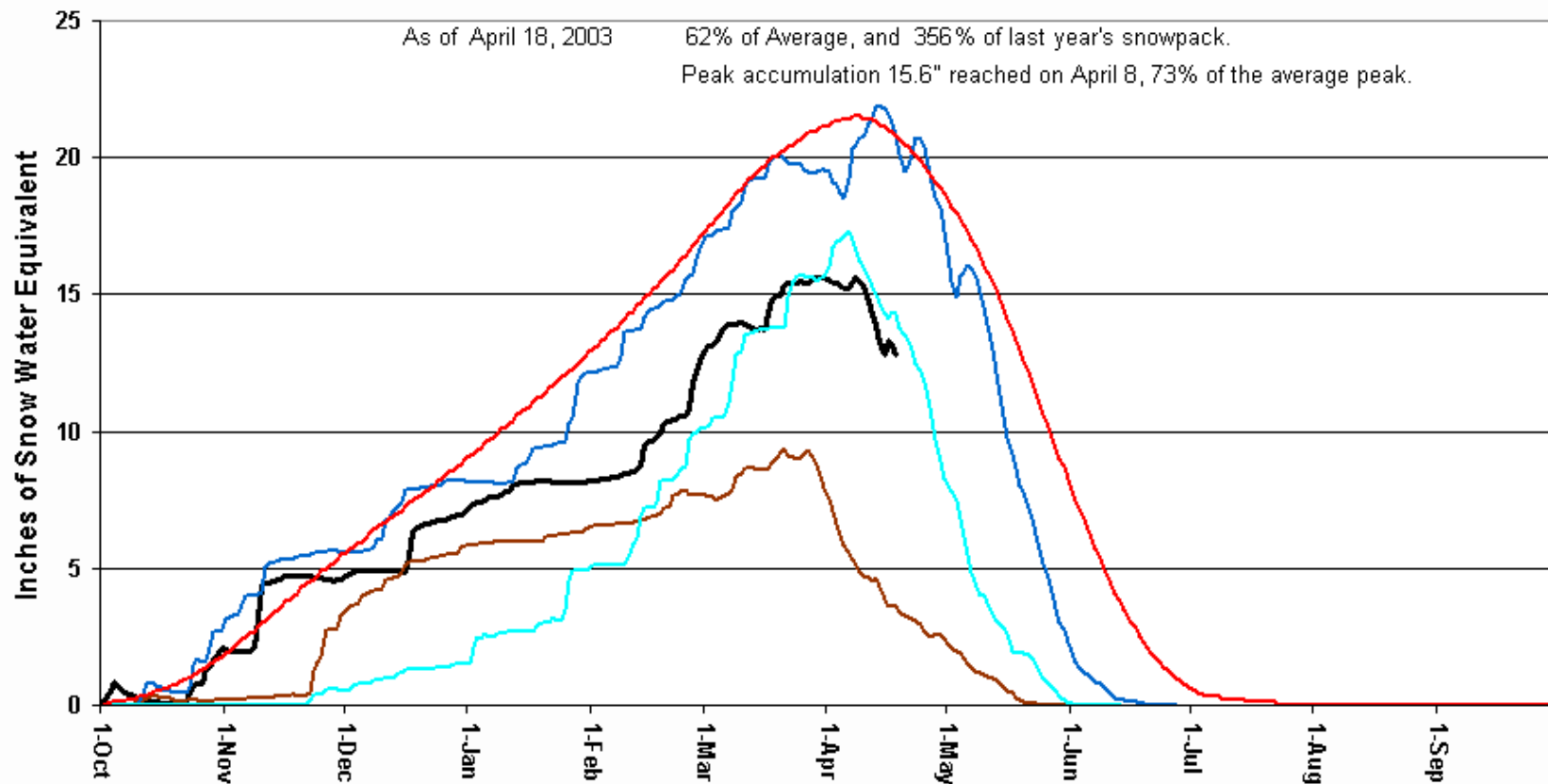
Based on provisional SNOTEL data.



San Juan, Animas, Dolores, & San Miguel Basin Snowpack

Based on provisional SNOTEL data.

— 2003 — 2002 — 2001 — 2000 — Average



Summary of Drought Status

Meteorological perspective

- ❑ Some of areas of the State have received beneficial rain and snow
- ❑ However all areas of the State are still suffering from low reservoir storage, depleted aquifers, and deep soil moisture
- ❑ Large areas of the State are still suffering from shallow soil moisture deficits, below average forecast stream flows and heightened fire danger
- ❑ The current drought has alerted us to amplified impacts from droughts that we should expect in Colorado as part of our climate system

In Conclusion

- Sept 1, 2001 to August 30, 2002 was the driest for that period at most climate observing sites in Colorado.
- Over a several year time period, however, the current drought is a garden variety drought. It is not exceptional.
- Weather modification will not break a drought. At best, it slightly increases snowpack.
- The current drought is not a consequence of a warmer atmosphere. In fact, the Earth's atmosphere is no warmer today than it was in 1979.
- Models which have been used to predict climate a year or more in the future have demonstrated no skill in forecast ability.
- We should adopt vulnerability assessments as the preferred paradigm, rather than primarily focusing financial resources on prediction.

Colorado Climate Center

Colorado State University

- ❑ Data and Power Point Presentations available for downloading

- ❑ <http://climate.atmos.colostate.edu>
 - click on "Drought"
 - then click on "Presentations"