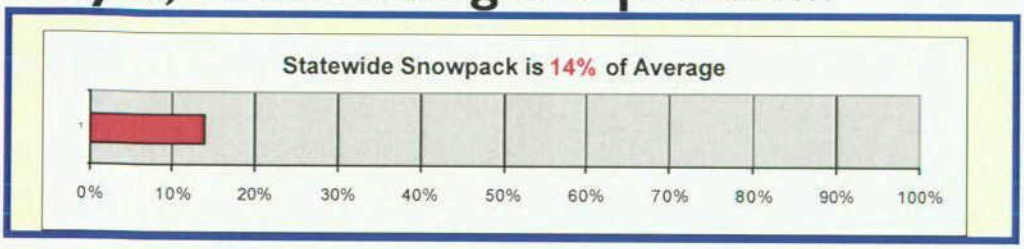
Colorado Drought Watch

May 8, 2002 Drought Updates...

Issue 3, Vol. 1



Governor Declares Drought Emergency

On April 22, 2002 Governor Bill Owens sent a letter to U.S. Department of Agriculture Secretary Ann Veneman requesting an emergency drought disaster designation for the entire State of Colorado. In the letter, Governor Owens recognized the effect of the current drought on Colorado's ranching and farming communities. Under disaster status, low-interest federal loans should be made available to impacted ranchers and farmers. The Governor also issued an executive order to make funds available for wildfire suppression activities.

State Drought Plan Activated

On April 22, 2002, Governor Owens sent a letter to the Water Availability Task Force requesting that the Colorado Drought Mitigation and Response Plan be activated. This is the first time in that the "Drought Plan" has been fully activated. Once activated, the Plan requires several Impact Task Forces to form and assess any perceived drought impact on various sectors of Colorado's environment and economy. The Governor requested that the Impact Task Force groups meet and report back to him by May 1, 2002. For a copy of the Task Force recommendations go to: www.colorado.gov

Wildfire

Colorado is in the fourth year of below normal precipitation creating extremely dangerous wildfire conditions. To date, there have been four hundred and twenty-four fires in Colorado burning more than fifteen thousand acres.

Drought/Wildfire Legislation

In response to drought task force recommendations, Governor Owens is pushing legislation to increase penalties for anyone who sets wildfires during times of drought emergencies. HB 02-1470 is being sponsored by Representative Gregg Rippy of Glenwood Springs, and Senator Jack Taylor of Steamboat Springs. For a copy of HB 02-1470 go to: www.leg.state.co.us

For updates on Fires and Drought go to: www.colorado.gov

Bill Owens
Governor

Greg E. Walcher
Executive Director

Rod Kuharich
CWCB Director

www.cwcb.state.co.us

Drought Facts:

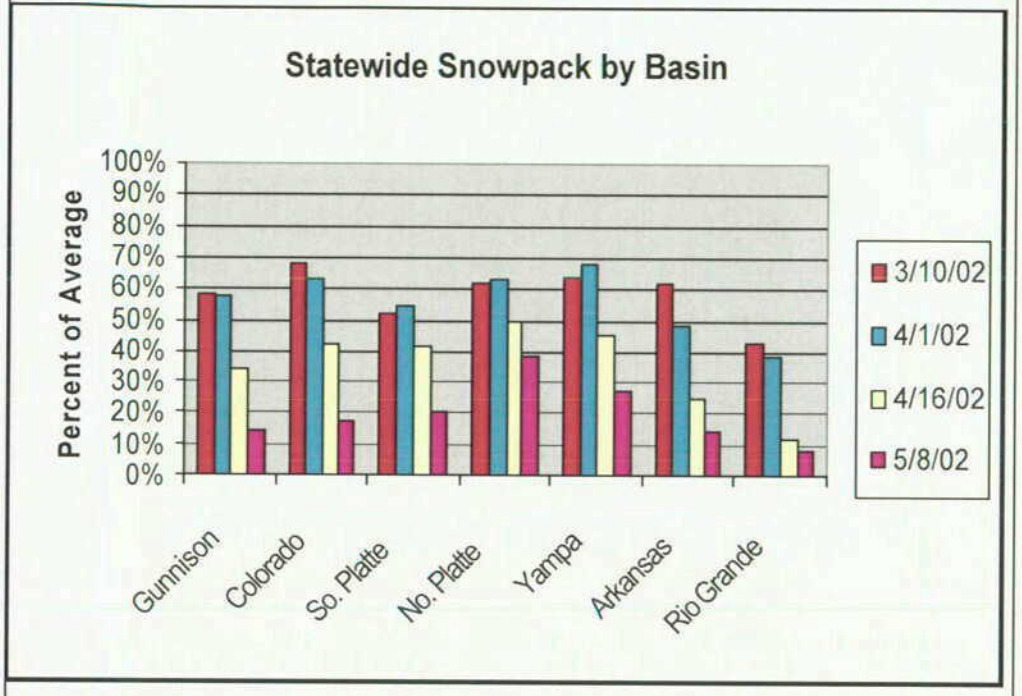
- **Drought occurs when the demand for water exceeds the available supply of water, and it is typically associated with a deficiency of precipitation**
- **This is the fourth straight winter of below normal water conditions.**
- **Drought can occur locally, statewide, or regionally.**
- **After prolonged periods of drought, soil moisture levels may be slow to return to normal, even if precipitation levels increase.**

Colorado Drought Watch

May 8, 2002

Snowpack Levels 14% of Average

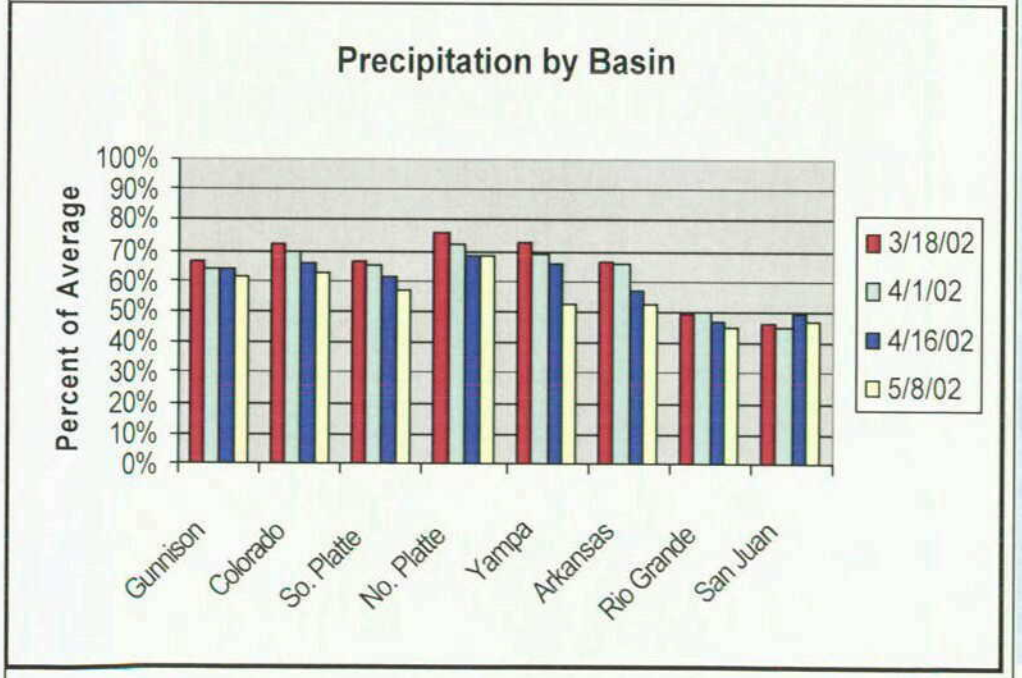
As of May 8, 2002



Snowpack

- Snowfall across Colorado was below average during February, March, and April.
- This marks the fifth consecutive month with below normal snowfall and it has resulted in a continued decrease in the state's snowpack, as a percent of average.
- The state's snowpack typically reaches its maximum level around April 1 of each year.

Precipitation as of May 8, 2002



Precipitation:

- The liquid equivalent (inches) of rainfall, snow, sleet, or hail, collected by precipitation storage gauges.
- Manually measured precipitation gauges are usually used and are measured near the end of the month to determine an approximate monthly precipitation total.

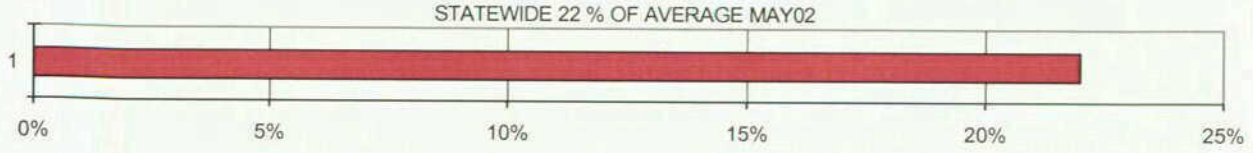
Colorado Drought Watch

May 8, 2002

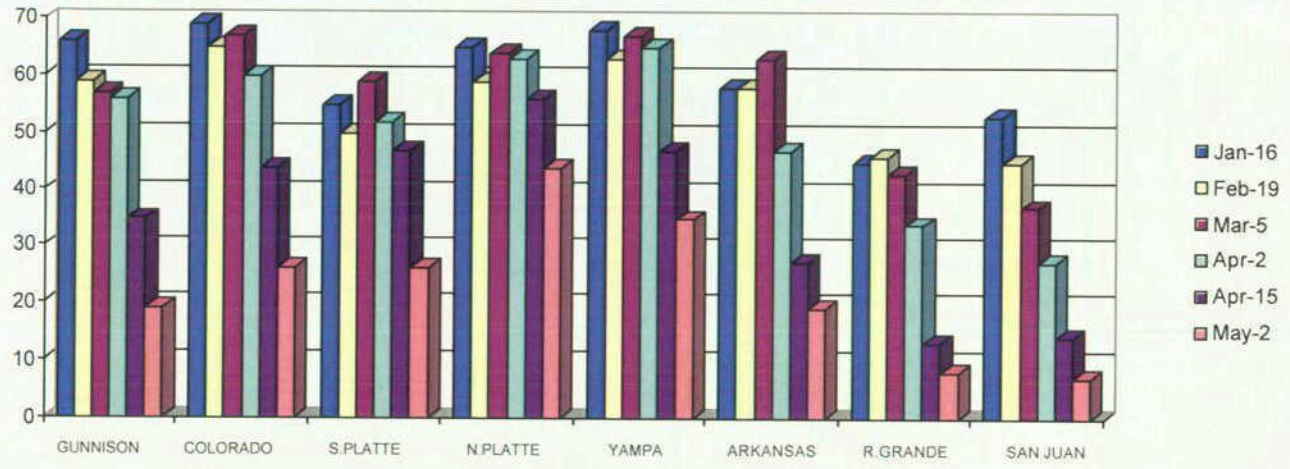
Snow Water Equivalent

As of April 2, 2002

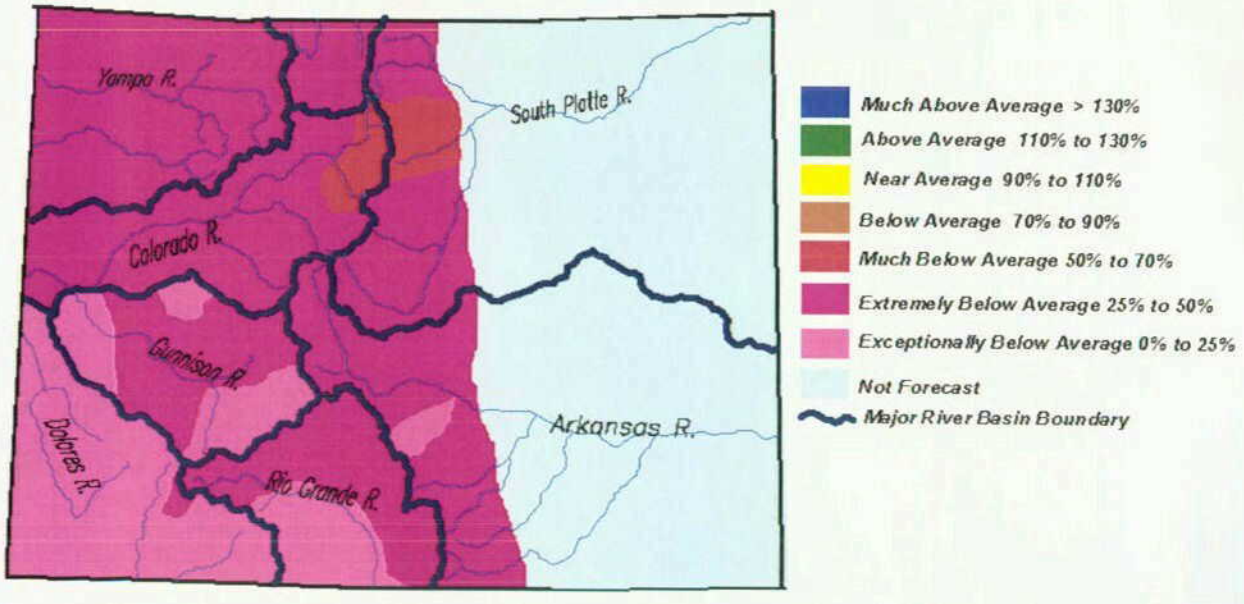
Snow Water Equivalent = The depth of water in the snowpack, if the snowpack were melted, expressed in inches.



Snow Water Equivalent by Basin

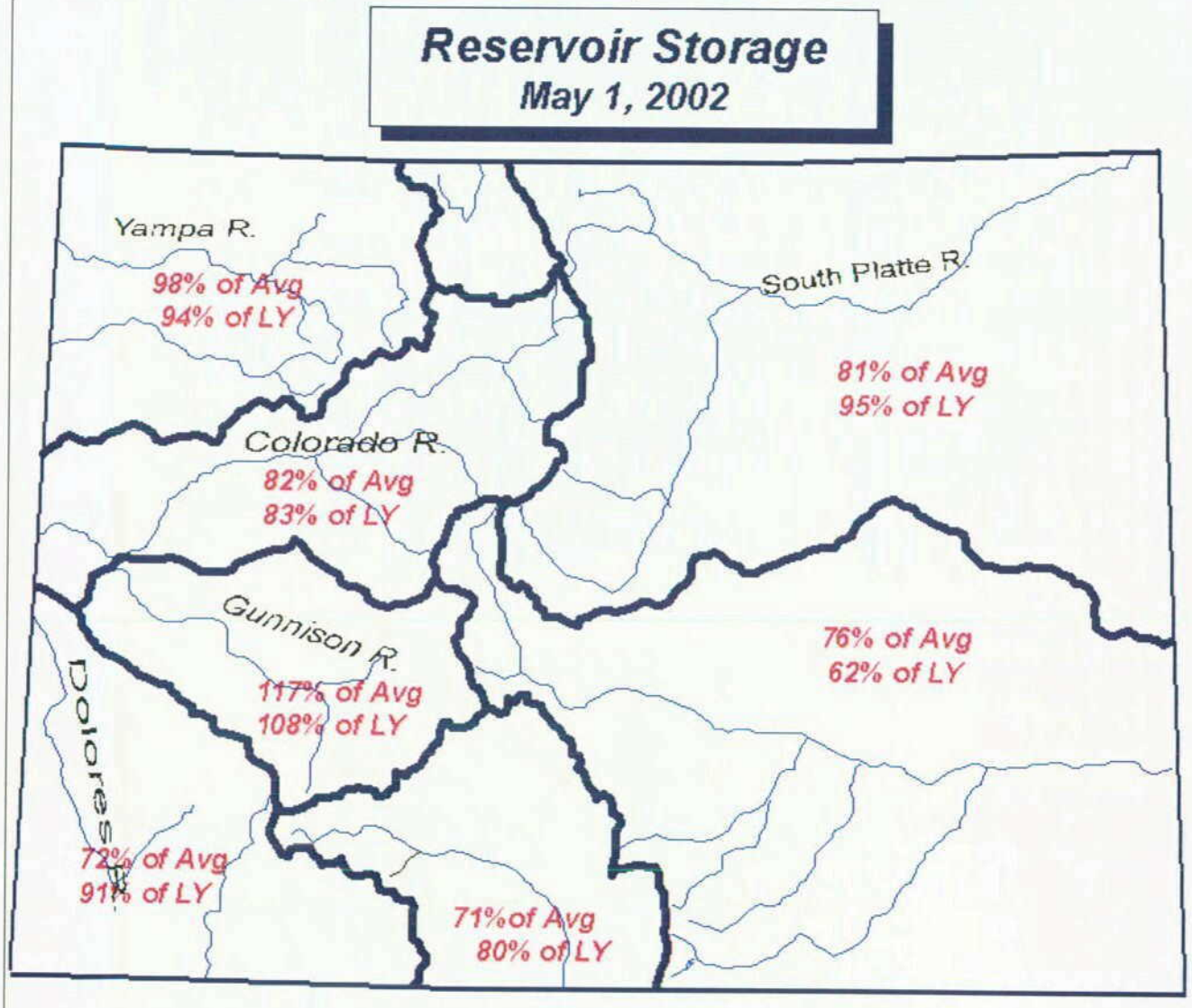


Streamflow Forecasts May 1, 2002



www. co.nrcs.usda.gov

Reservoir Storage by Basin (NRCS) www.co.nrcs.usda.gov/



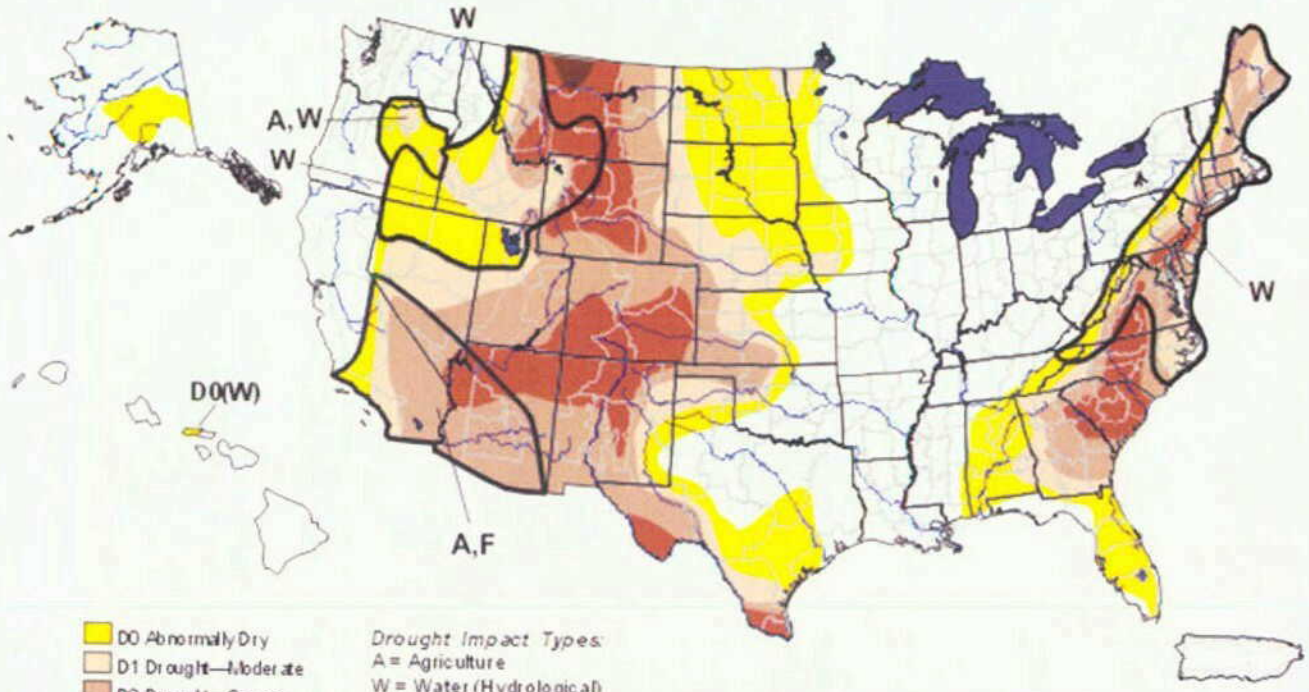
Statewide: 86% of Average
88% of Last Year

Reservoir Storage:

All major western-state storage reservoirs are below their seasonal averages.

U.S. Drought Monitor

April 30, 2002
Valid 8 a.m. EDT



U.S. Drought Monitor

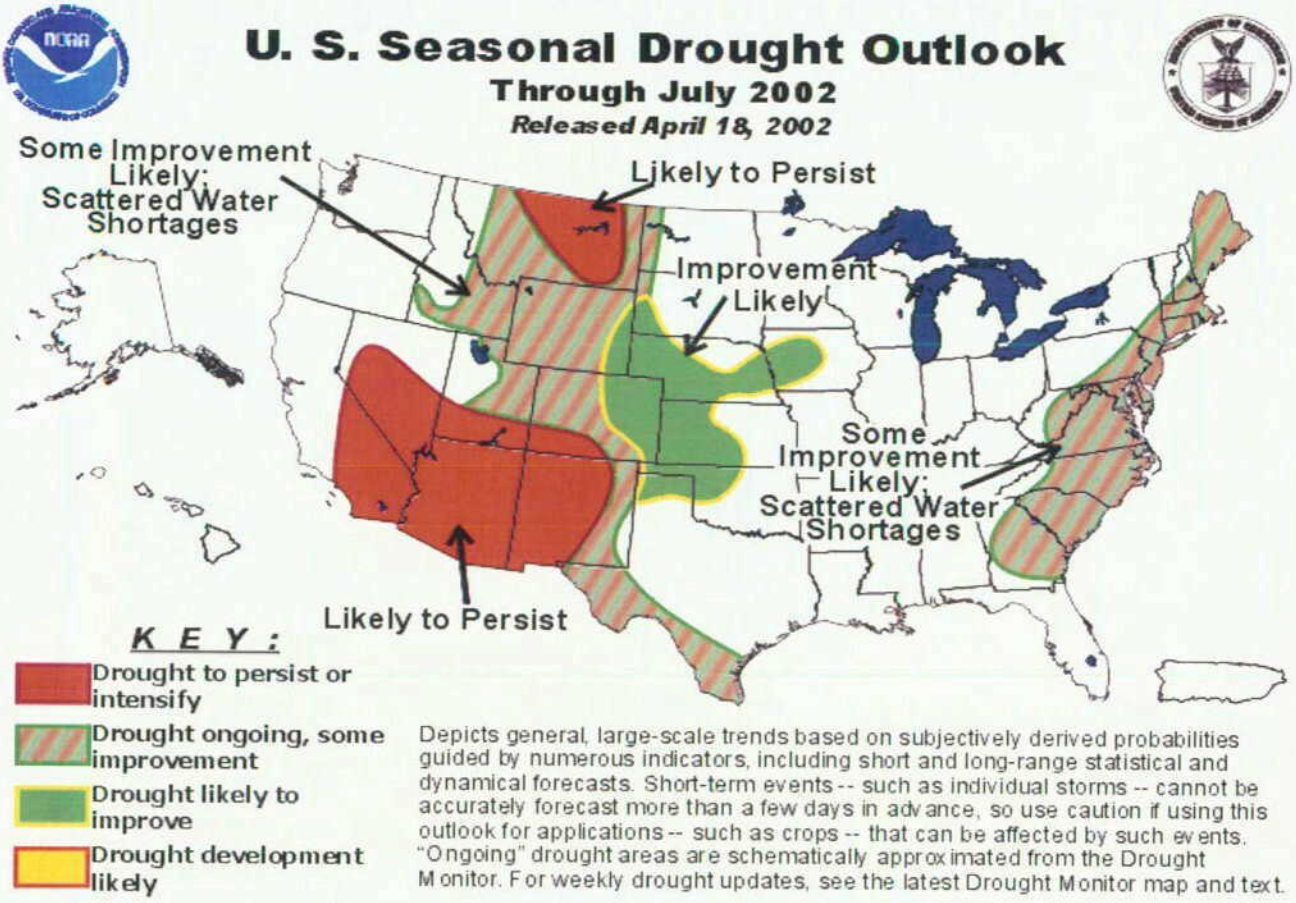
http://drought.unl.edu/dm

The Drought Monitor is intended to provide a general and up-to-date summary of current drought conditions across the 50 states. It is designed to provide the "big picture" so the general public, media, government officials, and others can see what is happening around the country.

Drought intensity categories are based on six key indicators and numerous supplementary indicators.

The final drought category tends to be based on what the majority of the indicators show.

NOAA Drought Outlook



Depicts general, large-scale trends based on subjectively derived probabilities guided by numerous indicators, including short and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance, so use caution if using this outlook for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are schematically approximated from the Drought Monitor. For weekly drought updates, see the latest Drought Monitor map and text.

NOAA Seasonal Assessment:

Cumulative precipitation since October has been less than one-half of normal across this region. Significant improvement is not likely before August, so the drought is forecast to persist. The fire danger in the Southwest is expected to be much above normal due to the low amounts of winter snowpack and precipitation, and the expected warm and dry conditions continuing into early summer. A poor winter snowfall season has also caused drought to persist or intensify from central Colorado northward to Montana. Streamflows for spring and summer are forecast to be only 50 to 70% of normal over large parts of Montana, Wyoming, Utah, and Colorado, with flows under 50% of normal in portions of Wyoming, Colorado, and Utah. Low flows are also forecast for parts of southern and eastern Idaho. The result is possible summer water supply shortages. Although the hydrological drought is not likely to end before next winter, near or above-normal rainfall this spring may boost soil moisture and benefit crops and livestock.

"Significant improvement is not likely before August, so the drought is forecast to persist"

About SNOTEL

The Natural Resources Conservation Service (NRCS) installs, operates, and maintains an extensive, automated system to collect snowpack and related climatic data in the Western United States called, SNOwpack TELemetry (SNOTEL). The system evolved from NRCS's congressional mandate in the mid-1930's "to measure snowpack in the mountains of the West and forecast the water supply." The programs began with manual measurements of snow courses; since 1980, SNOTEL has reliably and efficiently collected the data needed to produce water supply forecasts and to support the resource management activities of NRCS and others.

The sites are generally located in remote high-mountain watersheds where access is often difficult or restricted. Access for maintenance by NRCS includes various modes from hiking and skiing to helicopters.

Sites are designed to operate unattended and without maintenance for a year. They are battery powered with solar cell recharge. The condition of each site is monitored daily when it reports on 8 operational functions. Serious problems or deteriorating performance trigger a response from the NRCS electronic technicians located in six data collection offices.

Common Drought and Moisture Indexes

- **Surface Water Supply Index** (SWSI) is a weighted index of snow pack, stream flow, precipitation and reservoir storage.
- **Standardized Precipitation Index** (SPI) is considered to be the simplest and most robust index for describing drought patterns. It is based on current and historical precipitation data for a particular location.
- **Palmer Drought Index** is a complex soil moisture calculation used by federal agricultural agencies in determining drought assistance to local farmers and ranchers.
- **Crop Moisture Index**, developed from the Palmer Drought Index, evaluates short-term moisture conditions across major crop producing regions of the U.S.
- **Reservoir levels** indicates the amount of water in storage at various water supply reservoirs.

About the U.S. Drought Monitor

The Drought Monitor map identifies general drought areas, labeling droughts by intensity, with D1 being the least intense and D4 being the most intense. D0 drought watch areas, are either drying out and possibly heading for drought, or are recovering from drought but not yet back to normal, and are suffering long-term impacts such as low reservoir levels.

Drought intensity categories are based on six key indicators and numerous supplementary indicators. Because the ranges of the various indicators often don't coincide, the final drought category tends to be based on what the majority of the indicators show. The analysts producing the map also weigh the indices according to how well they perform in various parts of the country and at different times of the year. Also, additional indicators are often needed in the West, where winter snowfall has a strong bearing on water supplies.

A partnership consisting of the U.S. Department of Agriculture, the National Weather Service's Climate Prediction Center, and the National Drought Mitigation Center at the University of Nebraska Lincoln produces the Drought Monitor. However, advice from many other sources is incorporated in the product, including virtually every government agency dealing with drought.

Colorado Drought Watch

The Colorado Water Conservation Board would like to thank the following entities for their cooperation with Colorado Drought Watch:

United States Department of Agriculture
NRCS Natural Resources Conservation Service
National Water & Climate Center

http://www.nrcs.usda.gov/

http://www.noaa.gov/

Colorado Division of Water Resources

http://water.state.co.us/

Colorado Climate Center

Colorado State University
Knowledge to Go Places

http://ccc.atmos.colostate.edu/

Bureau of Reclamation

http://www.usbr.gov/main/

Colorado Department of Local Affairs

http://www.dola.state.co.us/

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