
COLORADO

WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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January 2004

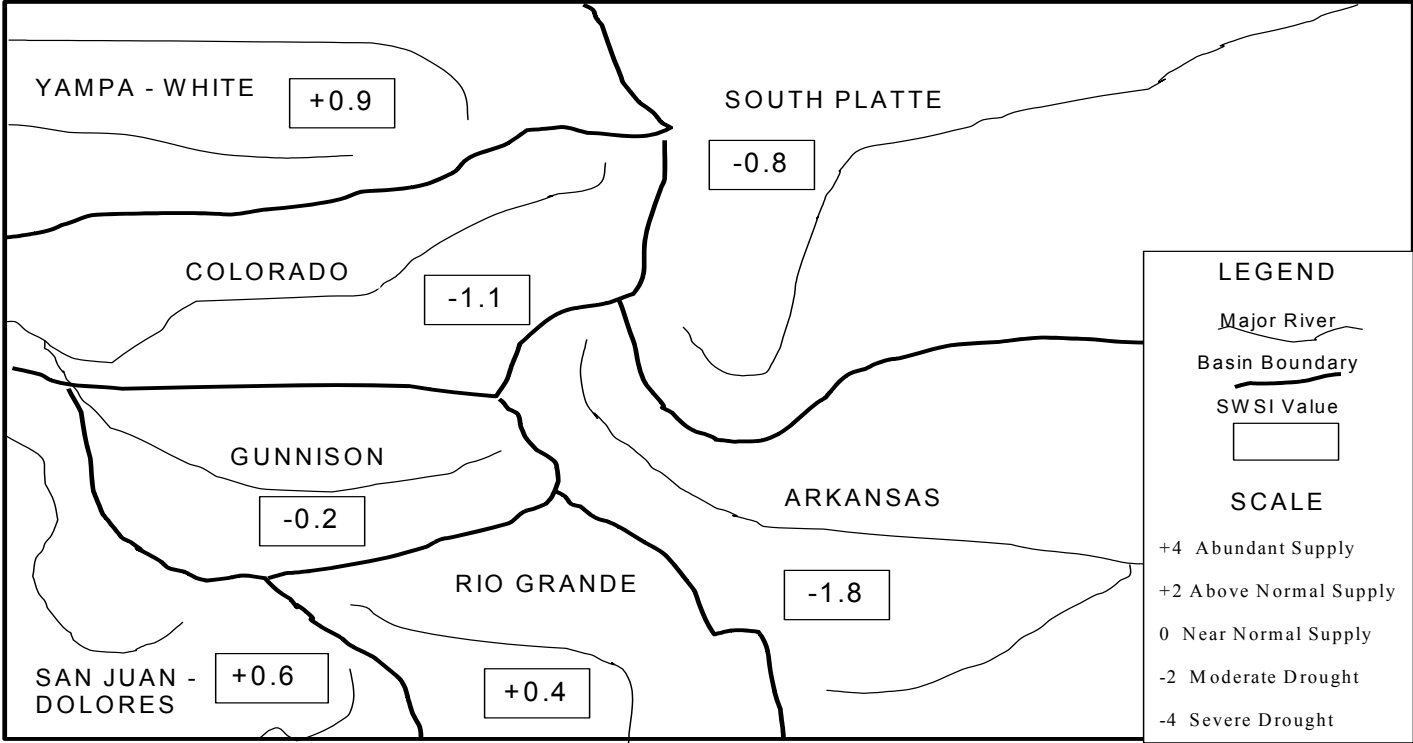
There are no extreme SWSI values at this time, reflecting a snowpack that is near normal. Statewide the snowpack averaged 95% of normal on January 1, with variations reflected by the Gunnison basin averaging 105% of normal and the South Platte basin averaging 67% of normal. Both stream flow and reservoir storage are below normal throughout the state, which is a cumulative result of several years of dry conditions. Cumulative storage for all reservoirs graphed in this report is 76% of normal, which is an improvement on the 58% of normal value stored last year at this time. Above normal winter snowpack and/or spring and summer rain will be required to boost stream flows and replenish surface and ground water storage to more normal levels.

The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on snowpack, reservoir storage, and precipitation for the winter period (November through April). During the winter period, snowpack is the primary component in all basins except the South Platte basin where reservoir storage is given the most weight. The following SWSI values were computed for each of the seven major basins for January 1, 2004, and reflect the conditions during the month of December.

<u>Basin</u>	<u>January 1, 2004 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	-0.8	+1.4	+1.9
Arkansas	-1.8	+0.2	-1.1
Rio Grande	+0.4	-0.4	+1.2
Gunnison	-0.2	+1.0	-0.2
Colorado	-1.1	0.0	-1.0
Yampa/White	+0.9	-1.6	+1.7
San Juan/Dolores	+0.6	+0.1	+1.3

Scale									
-4	-3	-2	-1	0	1	2	3	4	
Severe Drought		Moderate Drought		Near Normal Supply		Above Normal Supply		Abundant Supply	

SURFACE WATER SUPPLY INDEX FOR COLORADO



JANUARY 1, 2004

Basinwide Conditions Assessment

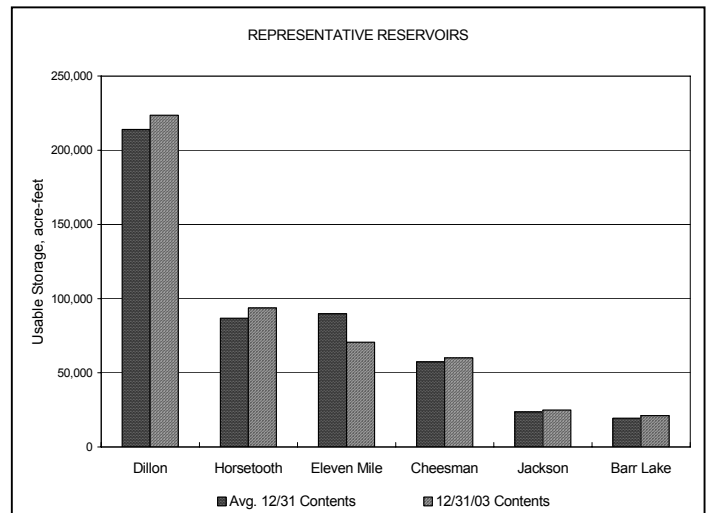
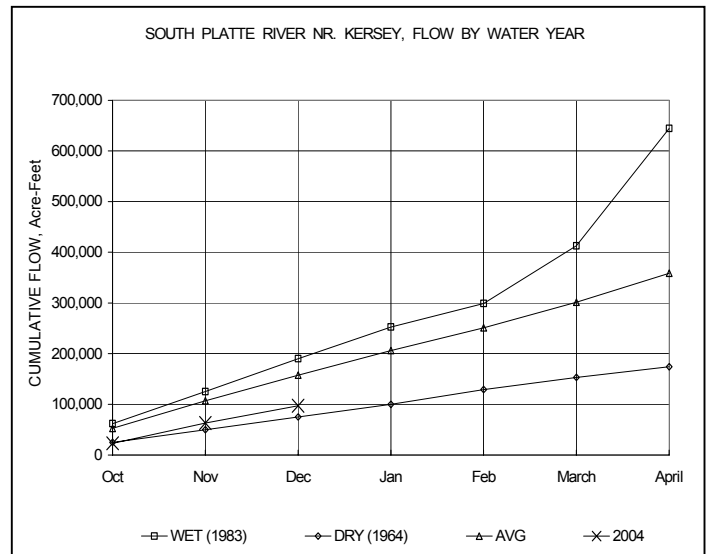
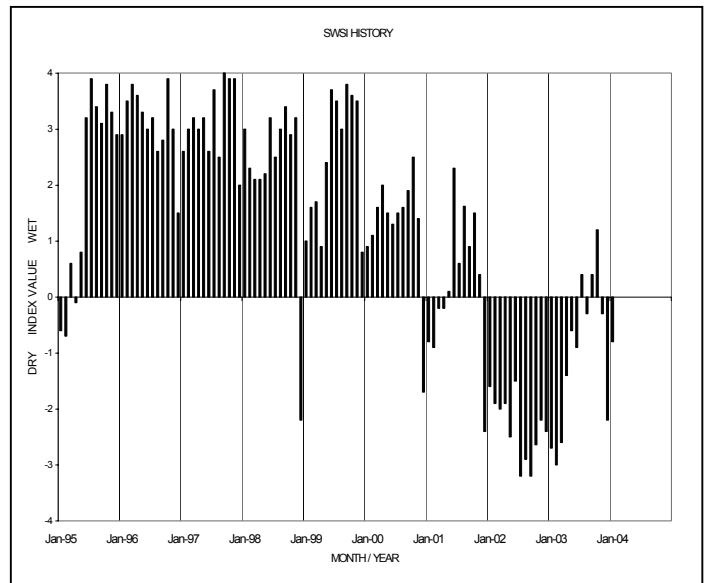
The SWSI value of -0.8 indicates that for December the basin water supplies were slightly below normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 101% of normal as of the end of December. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 43% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 65% of capacity. The Natural Resources Conservation Service reports that January 1 snowpack is 67% of normal. Flow at the gaging station South Platte River near Kersey was 557 cfs, as compared to the long-term average of 856 cfs. Flow at the Colorado/Nebraska state line averaged 419 cfs.

Reservoir storage continued in December for reservoirs along both the mainstem and tributaries. Calls for storage continued through out the basin except below the Prewitt inlet. Julesburg Reservoir did reach its winter fill level. Calls for storage also existed on tributaries in December, the normal situation for this time of year.

While storage conditions along the Platte are significantly better than last year, they remain below average for much of the basin, especially along the South Platte downstream of Denver. In order to completely fill these reservoirs, it will be important that we have at least near average runoff conditions this spring.

Outlook

Conditions were warm in December and there continue to be no restrictions on storage due to weather conditions. Likewise, early snowpack continues below average in the South Platte basin. However, it is still very early in the year and thus present conditions are not a good indicator of conditions through the winter period.



Basinwide Conditions Assessment

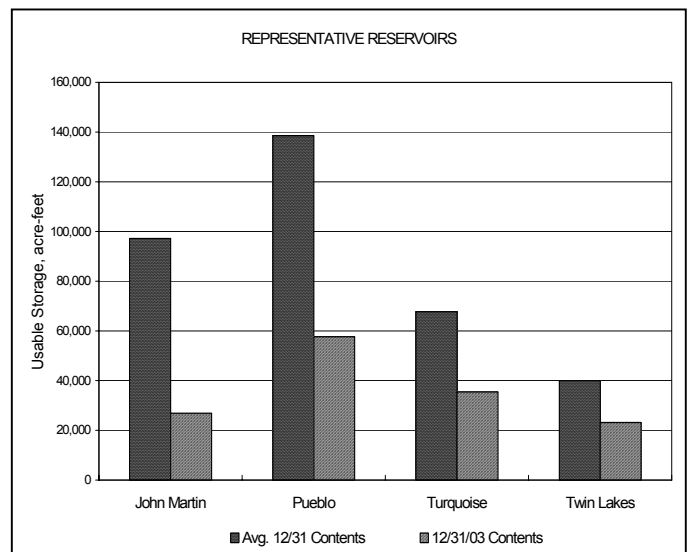
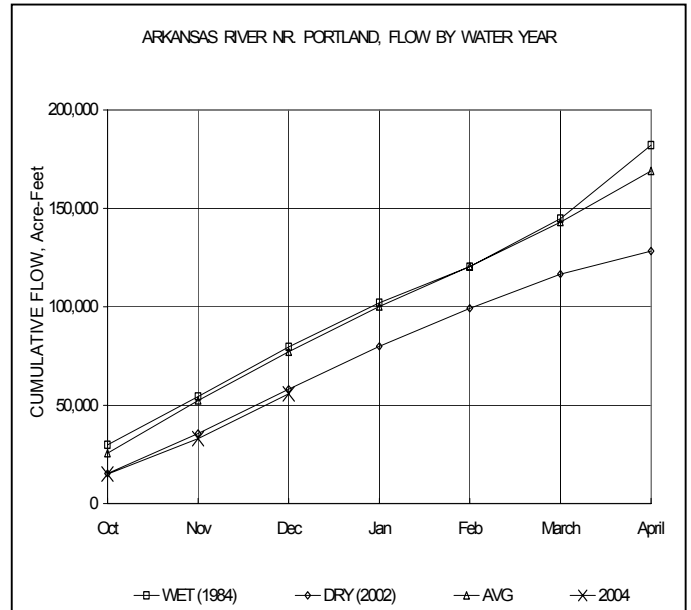
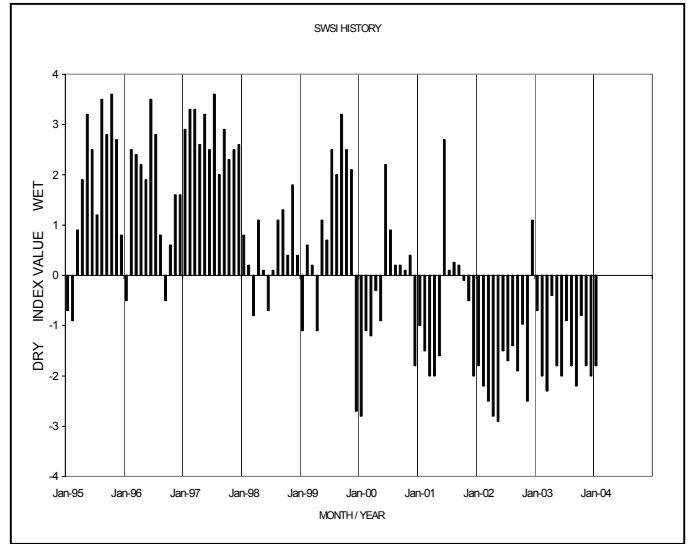
The SWSI value of -1.8 indicates that for December the basin water supplies were below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 69% of normal. Flow at the gaging station Arkansas River near Portland was 370 cfs, as compared to the long-term average of 402 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 42% of normal as of the end of December.

Administrative/Management Concerns

The Pueblo Winter Water system grand total was 32,640 acre-feet at the end of December, which represents a small improvement from last year's storage at this time of 27,671 acre-feet. The previous five year average for this period is 62,888 acre-feet.

Conservation storage in John Martin Reservoir is lagging behind recent year's deliveries. Storage since November 1st has been 2,314 acre-feet while storage a year ago for the same time period was 3,378 acre-feet. Inflow contributions from the Purgatoire River have been almost nonexistent.

Implementation of several plans related to proposed Aurora operations in the basin and review of several large and complex water court cases will involve considerable staff time in early 2004.



Basinwide Conditions Assessment

The SWSI value of 0.4 indicates that for December the basin water supplies were near normal, which is more optimistic than administrators believe are warranted. The Natural Resources Conservation Service reports that January 1 snowpack is 85% of normal. Flow at the gaging station Rio Grande near Del Norte averaged 147 cfs (71% of normal) and the Conejos River near Mogote had a mean flow of 39 cfs (75% of normal) during December. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 48% of normal as of the end of December.

Conditions were warmer and drier than normal in the San Luis Valley during December, but the higher elevations in the San Juan Mountains received a generous snowfall the first weekend of January.

A look back at the 2003 calendar year shows that, in general, stream flow totals in the upper Rio Grande Basin were only 40% to 60% of average. Streamflow through the Rio Grande near Del Norte gaging station during 2003 was only 49% of normal, the sixth worst year on record. The significance of this is amplified because it followed the 2002 annual runoff that was the lowest in recorded history, dating back to 1890. The low runoff created a huge demand on groundwater reserves. Thus, there was no recovery of the groundwater aquifers that many farmers and ranchers depend on in the San Luis Valley. In fact, aquifer storage dramatically decreased for the second straight year.

Alamosa's total precipitation of 6.5 inches during 2003 was below the annual average of 7.5 inches. The average temperature of 43.6 degrees was the highest it's been in over 20 years.

Outlook

Stream flow in the basin should be below average for the next three months.

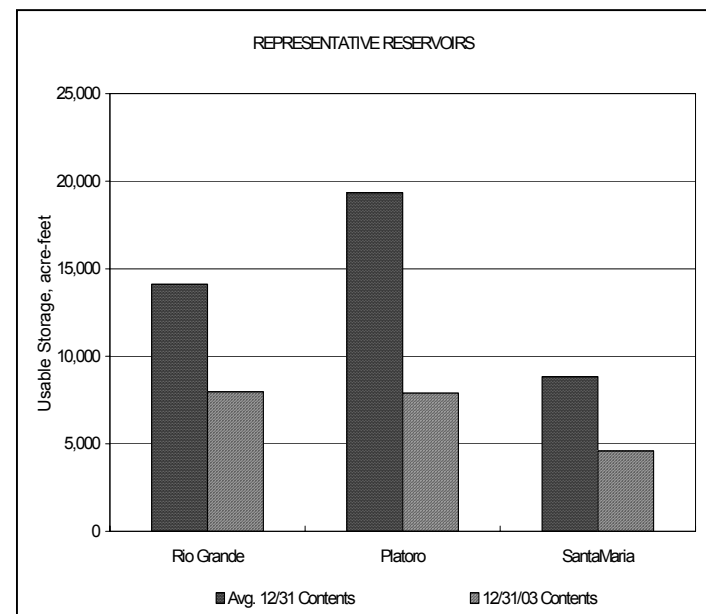
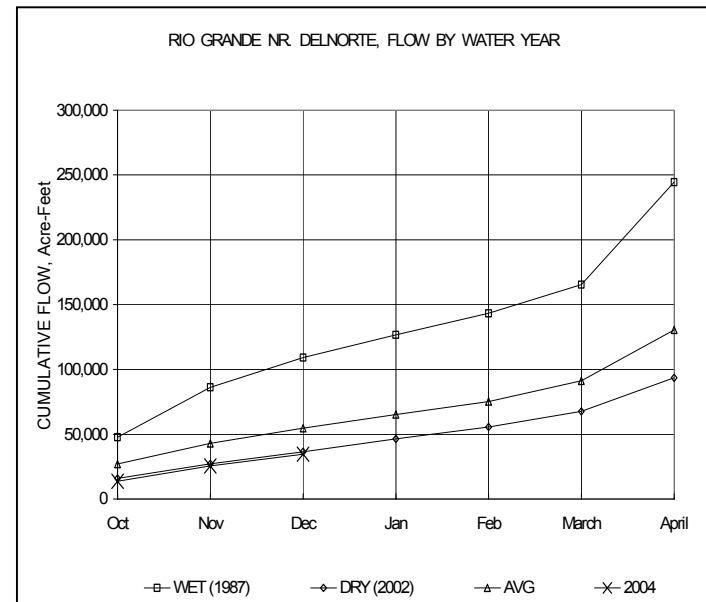
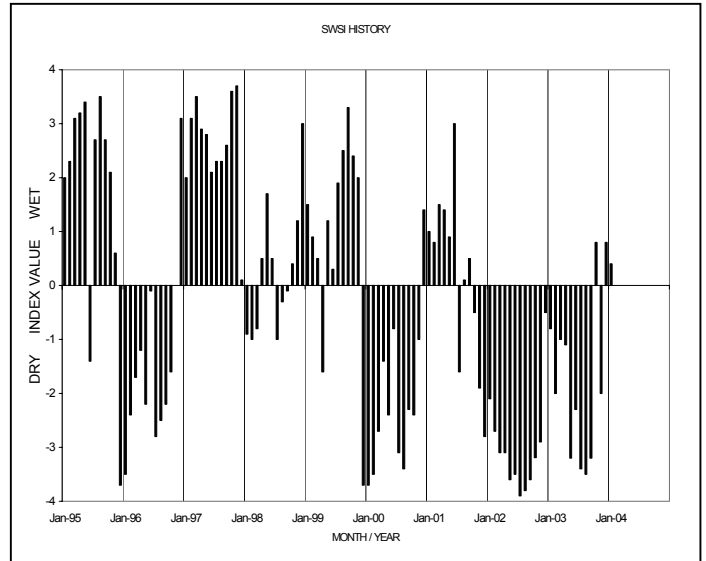
Administrative/Management Concerns

Pursuant to the articles of the Rio Grande Compact, Colorado had a minimal delivery requirement (about 115,000 acre-feet) to New Mexico and Texas in 2003 because of the drought. Colorado used a combination of delivery credit carried over from 2002 and streamflow past the stateline to meet the obligation. Colorado should begin 2004 with a modest delivery credit of about 5000 acre-feet.

Closed Basin Project delivery to the Rio Grande totaled about 13,400 acre-feet. All Project canal deliveries met water quality standards.

Public Use Impacts

The current snowpack is very promising in the San Juan Mountains. However, in the Sangre de Cristo range snowpack is only poor to fair.



Basinwide Conditions Assessment

The SWSI value of -0.2 indicates that for December the basin water supplies were near normal. The Natural Resources Conservation Service reports that January 1 snowpack is 105% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 54 cfs, as compared to the long-term average of 53 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 103% of normal as of the end of December.

The month of December has been much better for snowfall in the Gunnison Basin. In the first week of January a major storm dumped a lot of moisture, causing the basin wide average snow pack to increase from 106 % to 124 % of normal. The cold weather in December has kept stream flows at low levels.

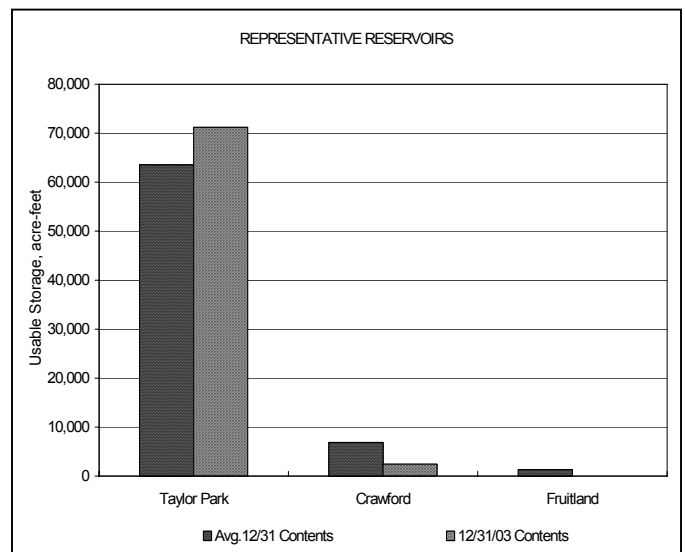
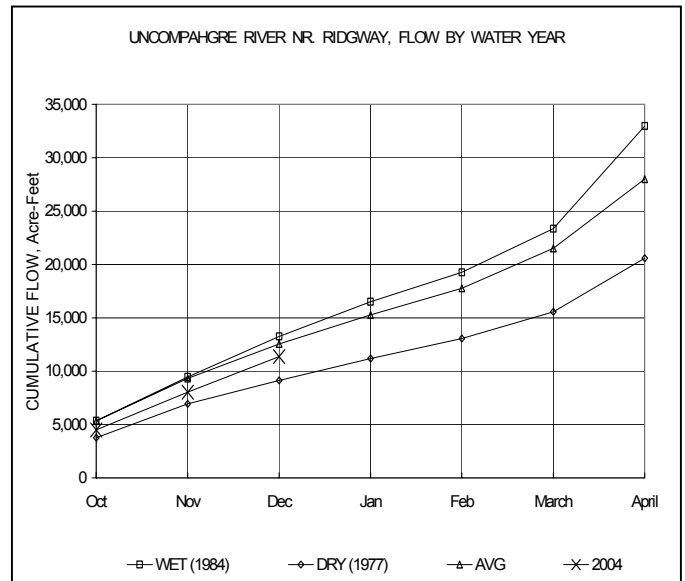
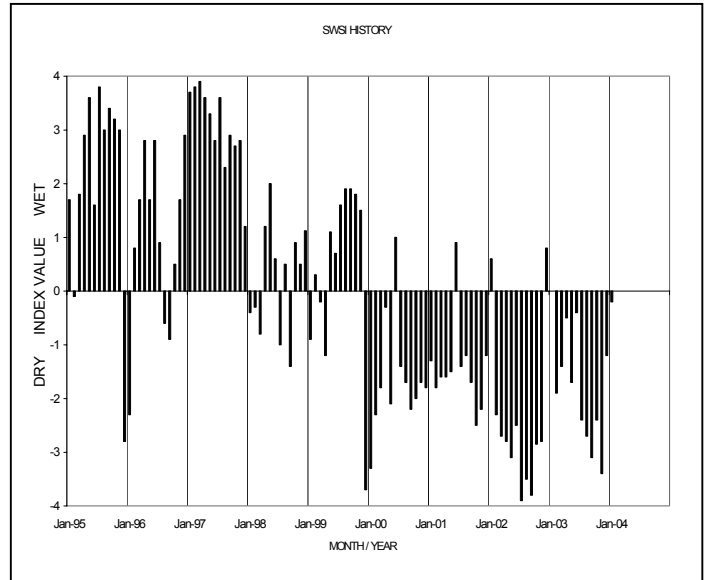
Administrative/Management Concerns

The major administrative concern at this time is a possible call at Redlands Canal. This Canal is located on the Gunnison River just above the city of Grand Junction and the confluence with the Colorado River. A call from the Redlands Canal affects the entire Gunnison River Basin. Some of the major water users in the basin and the Colorado River Water Conservation District have purchased a contract with the Canal to lower their calling amount from 750 cfs to 650 cfs for the winter season. However, it appears like the flows could fall below 650 cfs. In fact, during cold periods in December when the river was freezing and water was going into ice, the flow dropped below 650 cfs for just a few days.

At this time, the diversion structure at the Redlands Canal hasn't been sealed properly to divert all of the available water. Consequently, a call will not be honored until that happens. Canal employees are planning to seal the diversion structure in January if the weather warms up and the ice is gone. Since the flows usually steadily decrease during the winter, it is anticipated that there is a high potential for a call yet this winter season.

Public Use Impacts

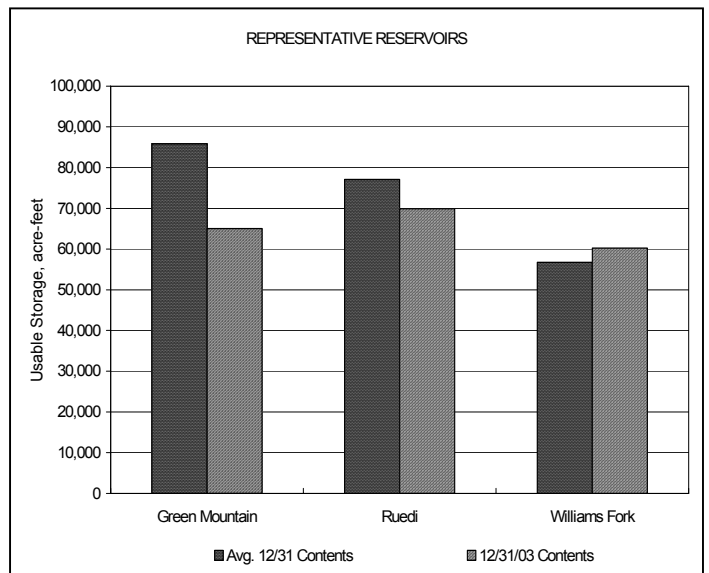
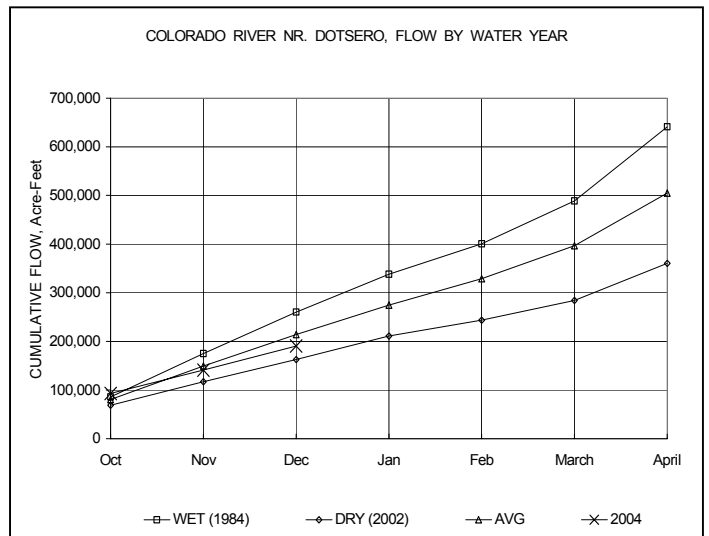
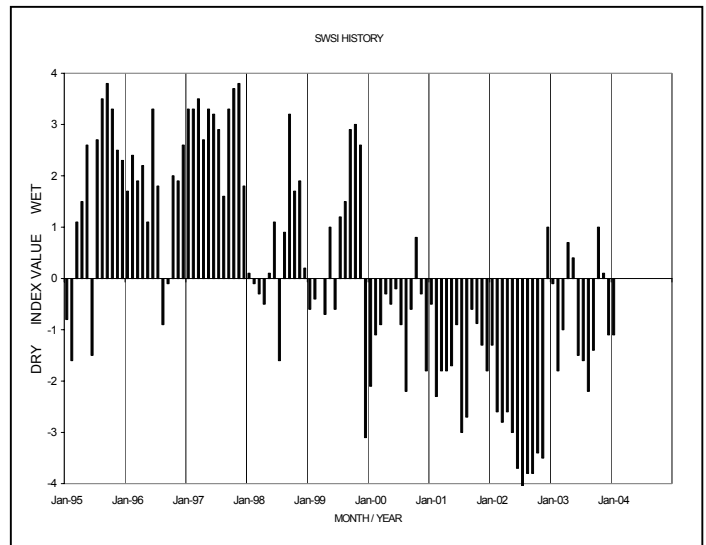
Everyone is encouraged by the increase in snowpack percentages, although it is doing nothing for low flows at this time. The increased snow is also a boon to the recreation industry, and reduces the need to make snow at the ski areas.



Basinwide Conditions Assessment

The SWSI value of -1.1 indicates that for December the basin water supplies were slightly below normal. The Natural Resources Conservation Service reports that January 1 snowpack is 91% of normal. Flow at the gaging station Colorado River near Dotsero was 805 cfs, as compared to the long-term average of 1,068 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 89% of normal as of the end of December.

Colorado River basin snowpack in early January of 2004 approaches historic average snowpack but there are variations throughout the basin. Summit and Grand Counties are about 10% below average while Grand Mesa is well above average.



Basinwide Conditions Assessment

The SWSI value of 0.9 indicates that for December the basin water supplies were near normal. The Natural Resources Conservation Service reports that January 1 snowpack is 108% of normal. Flow at the gaging station Yampa River at Steamboat was 97 cfs, as compared to the long-term average of 106 cfs.

December saw ample snowfall in the northwest corner of the state. While precipitation for the entire basin was only about 80% of average for the month, the water year total is at 100%. On December 31st, the snowpack for the North Platte drainage was 98% of average, for the Yampa River drainage it was 110% of average, and for the White River basin 109%. The snowpack for the Little Snake River drainage was even higher at 124% of average.

Outlook

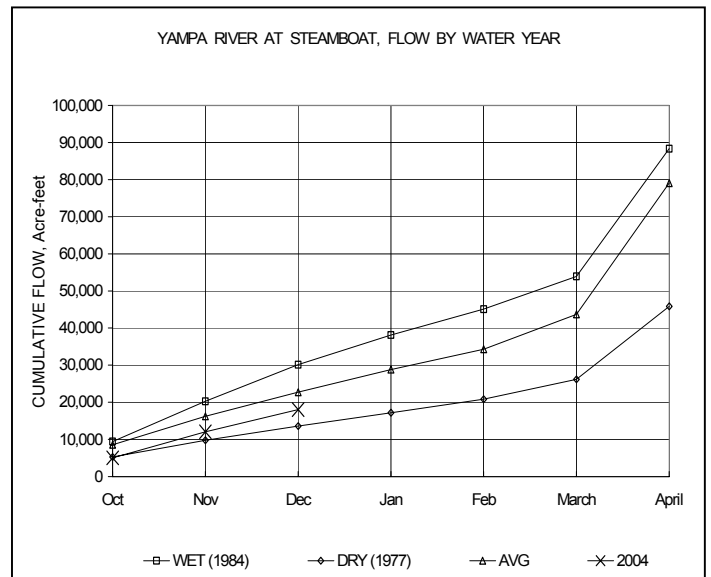
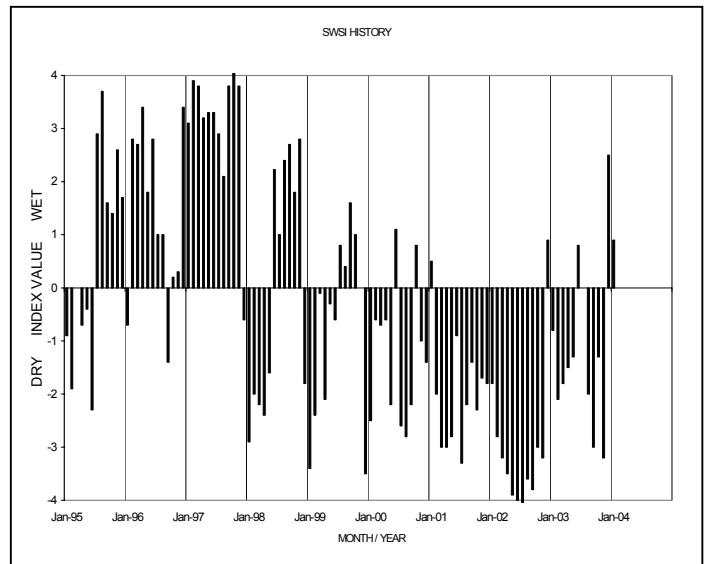
The January 1st runoff forecast prepared by the Natural Resources Conservation Service is predicting near-normal spring runoff for much of the drainage. Although early in the winter, the percent of average runoff under the most probable forecast is 91% for the North Platte River, 91% for the Yampa River near Maybell, and 86% for the White River near Meeker. These forecasts are updated on a monthly basis from January through June and can change dramatically with changes in precipitation patterns.

Administrative/Management Concerns

None at this time.

Public Use Impacts

Ample snowpack is available for outdoor winter recreation.



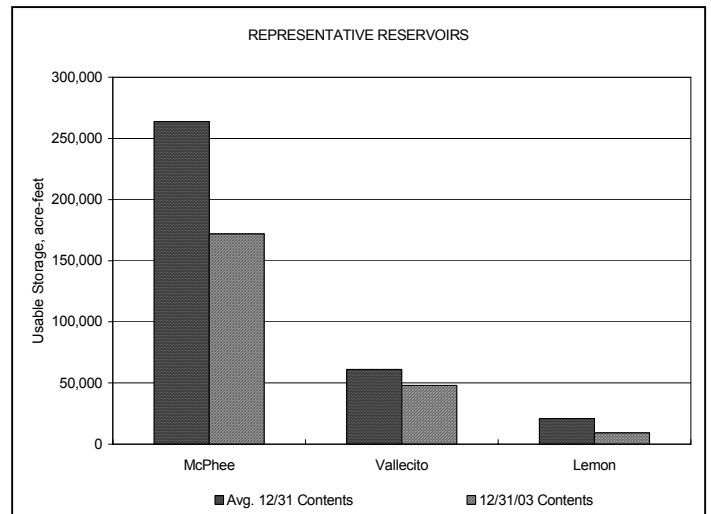
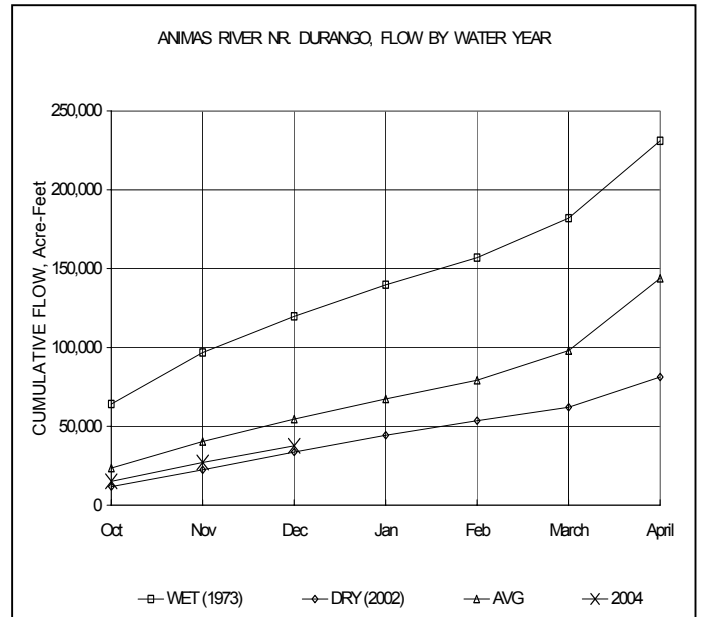
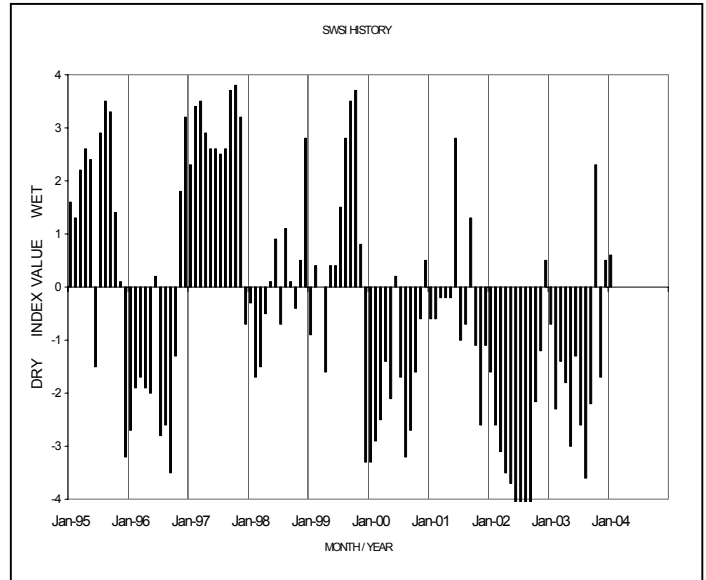
Basinwide Conditions Assessment

The SWSI value of 0.6 indicates that for December the basin water supplies were near normal. The Natural Resources Conservation Service reports that January 1 snowpack is 99% of normal. Flow at the gaging station Animas River near Durango was 171 cfs, as compared to the long-term average of 231 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 66% of normal as of the end of December.

The surface water supply situation did not change appreciably during the month of December compared to previous months. Precipitation events were focused on several small streams. Little snow accumulated in Durango until after Christmas. A major storm early in January changed the outlook considerably. The best snow accumulation was in the eastern San Juan Mountains where the Upper San Juan course showed 150% of normal.

Stream flows remained at lower than average base flows, with the Animas River at Durango at less than 80% of normal.

Reservoirs showed little change. Most were well below average but contained significant carryover quantities into the New Year.



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