
COLORADO

WATER SUPPLY CONDITIONS UPDATE

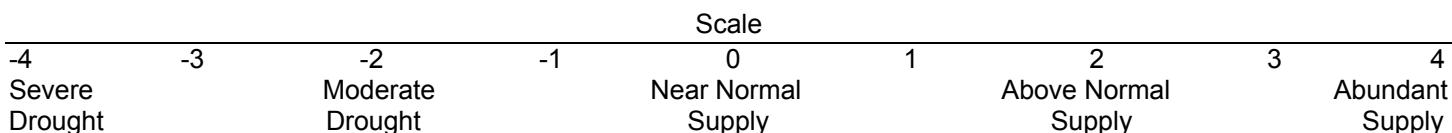
FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
 ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203
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December 2004

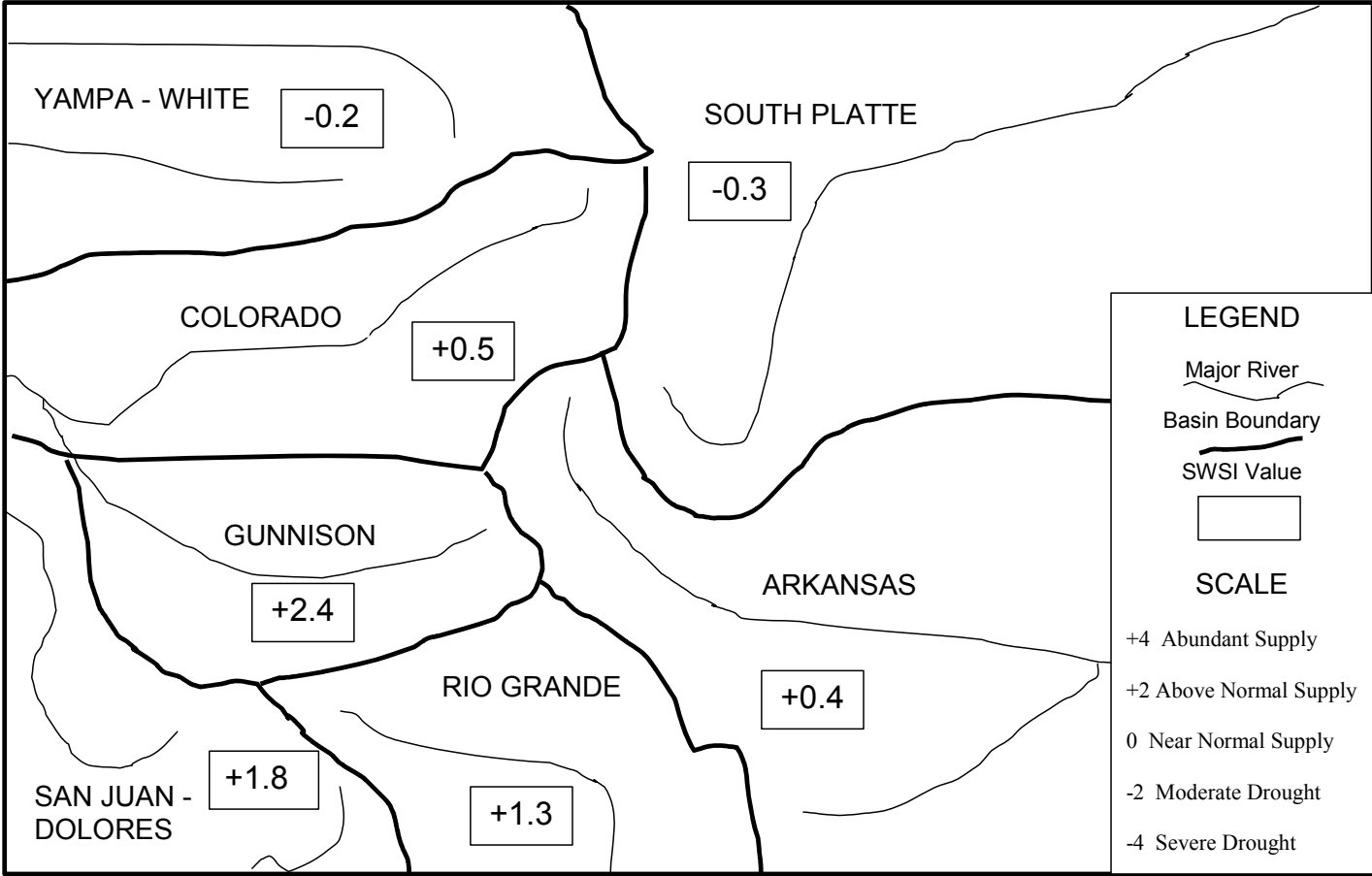
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on snowpack, reservoir storage, and precipitation for the winter 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 December 1, 2004, and reflect the conditions during the month of November.

The SWSI values this month range from a high of +2.4 in the Gunnison Basin to a low of -0.3 in the South Platte Basin. Since the snowpack averages are used to calculate the SWSI values beginning in November and are a highly weighted factor, the early winter season SWSI values can vary substantially from those calculated later in the winter and spring. Across the state, the early snowpack is quite good. The lowest snowpack value is 99% of normal as recorded in the Yampa/White Basin. The highest snowpack averages are in the three southwest basins, with the Gunnison Basin having the highest average at 133% of normal.

<u>Basin</u>	<u>NOV 04 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	- 0.3	- 1.8	+1.9
Arkansas	+0.4	+1.2	+2.4
Rio Grande	+1.3	+1.2	+0.5
Gunnison	+2.4	+3.4	+3.6
Colorado	+0.5	- 0.2	+1.6
Yampa/White	- 0.2	- 0.9	- 2.7
San Juan/Dolores	+1.8	+0.3	+1.3



SURFACE WATER SUPPLY INDEX FOR COLORADO



December 1, 2004

Basinwide Conditions Assessment

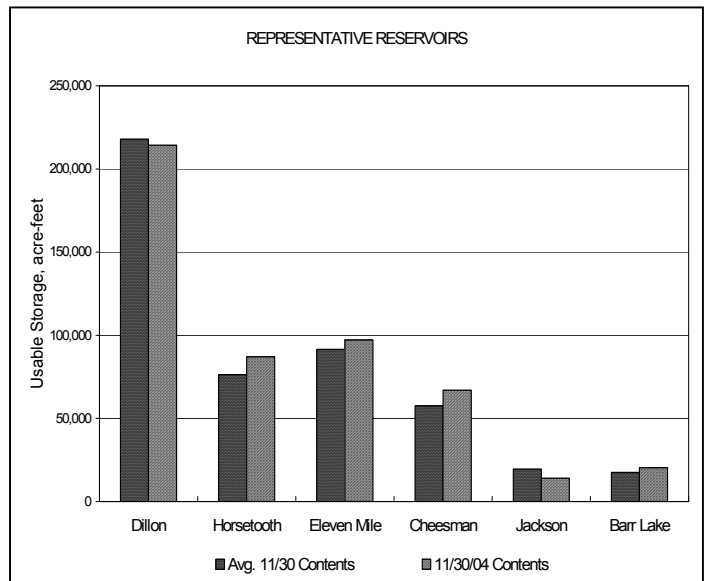
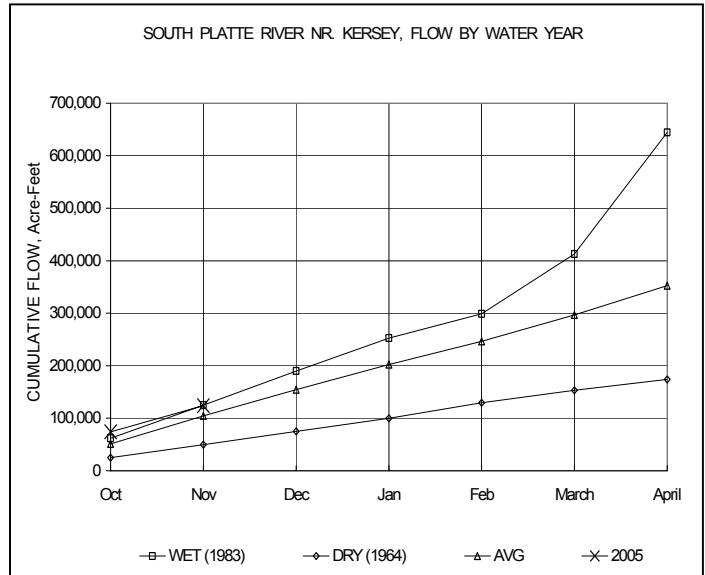
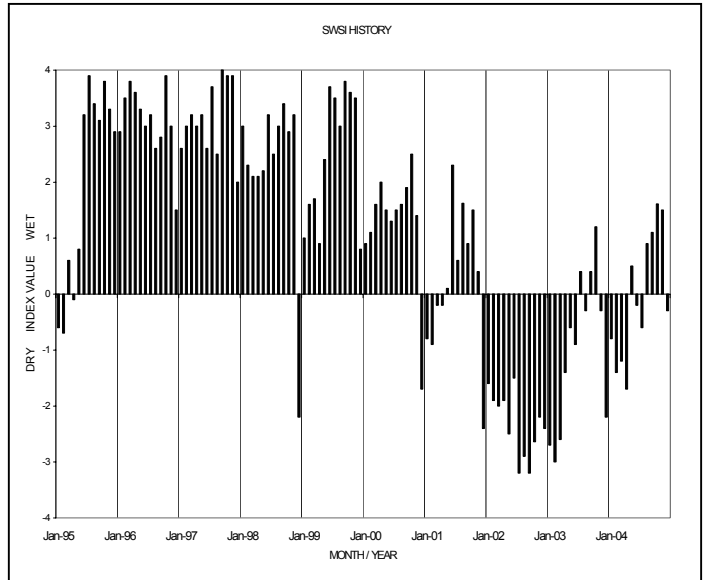
The SWSI value of -0.3 indicates that for November the basin water supplies were about normal. Cumulative storage for the six reservoirs graphed on this page was 104% of normal as of the end of November. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 48% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 75% of capacity. The Natural Resources Conservation Service reports that December 1 snowpack is 107% of normal (based upon selected SNOWTEL sites). Flow at the gaging station South Platte River near Kersey was 839 cfs, as compared to the long-term average of 648 cfs. Flow at the Colorado/Nebraska state line averaged 28 cfs.

Outlook

With the start of the new water year and end of the irrigation season, water not needed for domestic purposes was stored during November. While storage conditions are significantly better than last year, there was still a call for storage water during the month throughout the basin except near Nebraska. By the end of the month, storage in key irrigation reservoirs below Kersey was 30,000 acre-feet higher than at the end of the month the previous year. This bodes well for the potential to fill the reservoirs this year, even without a very wet spring. In the previous two years, filling had been particularly dependent on a wet spring.

In general, the overall municipal storage supply is better than last year at this time. Significant municipal reservoirs including Dillon, Spinney, Cheesman, and Standley are nearly full. This is also an encouraging sign for next season. In the northern part of the basin, the Colorado Big Thompson system storage stands slightly below last year at this time and below the historical average.

Early snowpack was slightly above average in the South Platte basin at the end of the month. However, it is very early in the year and present conditions are not a good indicator of conditions through the winter period. Like always, we are extremely dependent on the late winter and early spring snow and rain to assure an adequate supply throughout the basin for next summer.



Basinwide Conditions Assessment

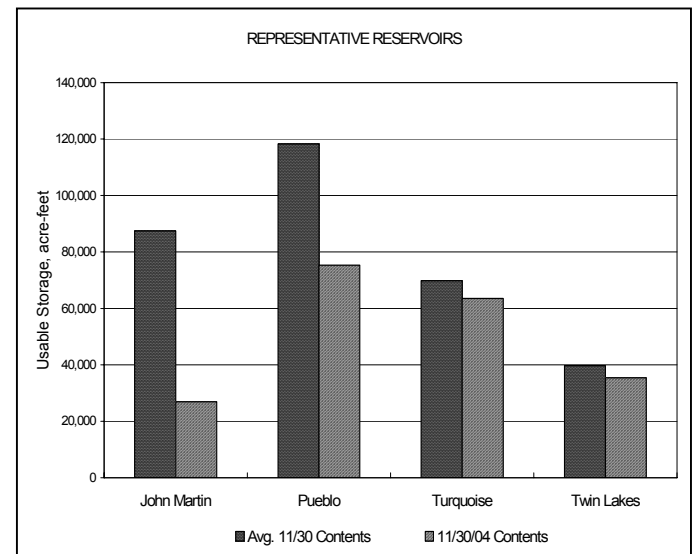
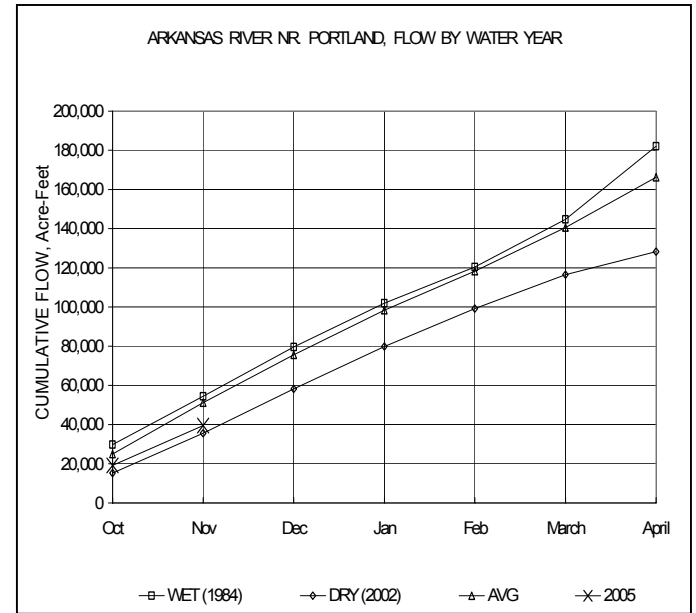
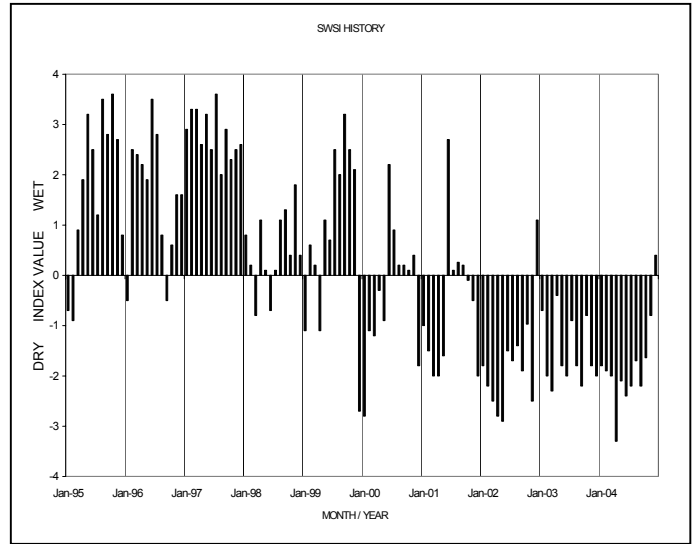
The SWSI value of +0.4 indicates that for November the basin water supplies were about normal. The Natural Resources Conservation Service reports that December 1 snowpack is 107% of normal (based upon selected SNOWTEL sites). Flow at the gaging station Arkansas River near Portland was 342 cfs, as compared to the long-term average of 441 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 64% of normal as of the end of November.

Outlook

Winter Compact storage began in John Martin Reservoir on November 1, 2004. The Pueblo Winter Water Program began operation on November 15, 2004 with storage taking place in Pueblo and John Martin Reservoirs and under the Colorado Canal system in Lake Meredith and Lake Henry. Both storage programs appear to be starting out substantially better than in recent years. Inflows to Conservation Storage in John Martin Reservoir for November were 10,660 acre-feet as opposed to November of 2003 when inflows were only 3,159 acre-feet. For the first two weeks of the Pueblo Winter Water Program the total storage was 18,221 acre-feet as compared to 11,864 acre-feet for the same period last year.

Administrative/Management Concerns

The U.S. Army Corps of Engineers is completing channel work under the Legacy Project through the reach of the Arkansas River from Pueblo Reservoir through Pueblo. This project will extend through most of the Winter Water Storage Period and coordination on significant changes in release amounts from Pueblo Reservoir are being coordinated between Division 2 and the Corps of Engineers to attempt to accommodate the construction without effecting the Winter Water Storage operations. The Legacy Project is designed to enhance the channel for City of Pueblo's proposed recreational in stream flow right for rafting.



Basinwide Conditions Assessment

The SWSI value of +1.3 indicates that for November the basin water supplies were slightly above normal. The Natural Resources Conservation Service reports that December 1 snowpack is 117% of normal (based upon selected SNOWTEL sites). Flow at the gaging station Rio Grande near Del Norte averaged 286 cfs (100% of normal). The Conejos River near Mogote had a mean flow of 75 cfs (77% of normal). In general, stream flow in the basin during the late fall has been near average, a great improvement above the previous three years. Precipitation in Alamosa was only 0.28 inch for the whole month, 0.20 inch below normal. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 60% of normal as of the end of November.

Outlook

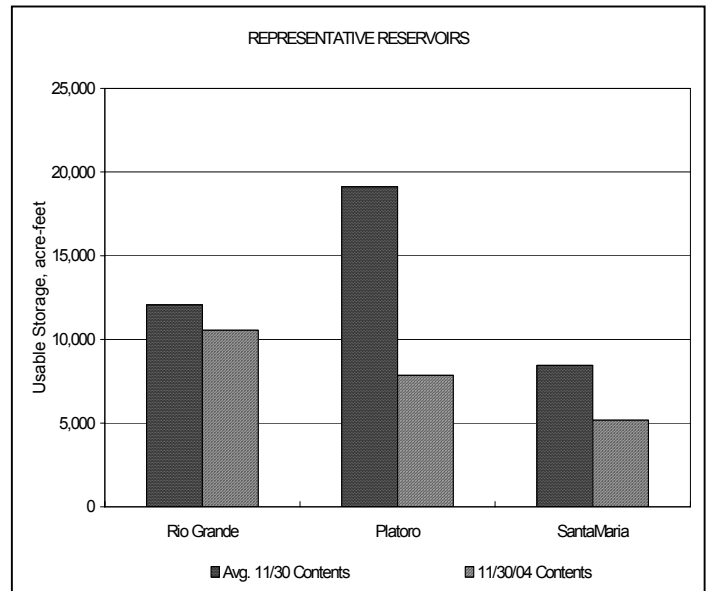
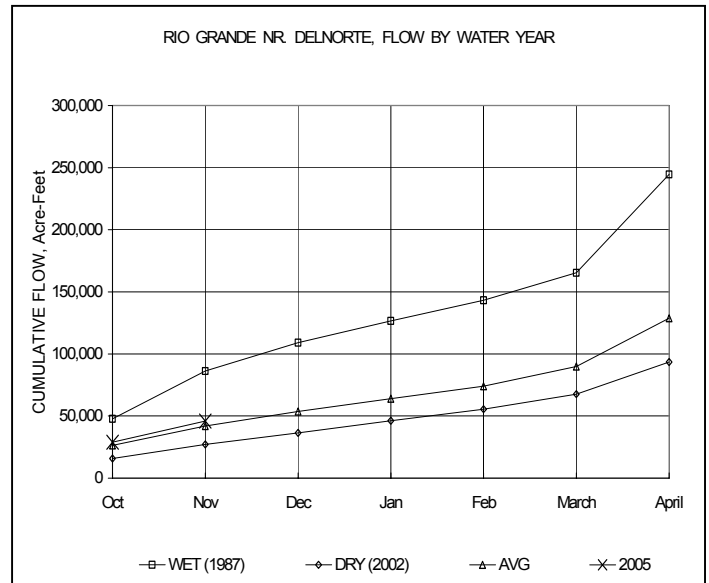
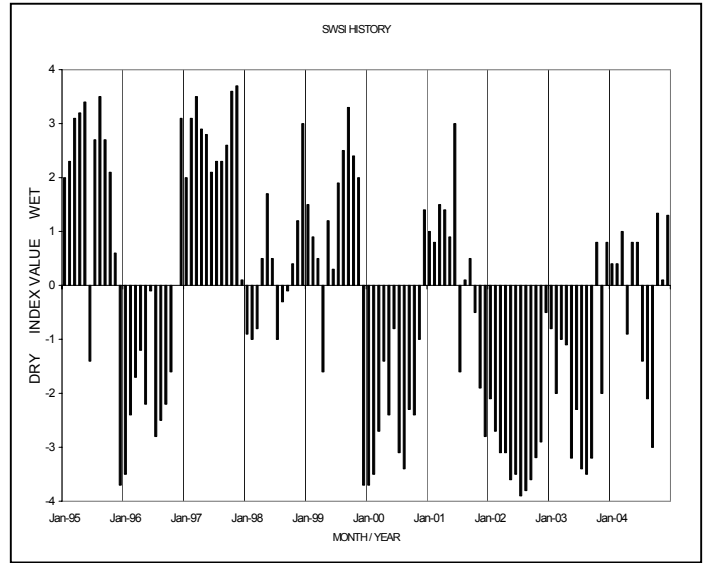
Significant rainfall in the high elevations during September and October and the early season snowfall should keep stream flow levels near average this winter.

Administrative/Management Concerns

The current snowpack levels in the upper Rio Grande Basin create some optimism for next year's irrigation water supply. Snow pack accumulation from mid-October to the beginning of December far exceeds the same period for the last three years. The San Juan mountains are in great shape so far with a range of 94 to 142 percent of normal. On the eastern side, the Sangre de Cristo mountains are not quite as blessed, but the numbers are better than the last three years. It is still too early to be overly optimistic, but a good start never hurts.

Public Use Impacts

Wintertime activities got off to a fast start after the early jump in the snowpack and the cold temperatures during November.



Basinwide Conditions Assessment

The SWSI value of +2.4 indicates that for November the basin water supplies were above normal. The Natural Resources Conservation Service reports that December 1 snowpack is 133% of normal (based upon selected SNOWTEL sites). Flow at the gaging station Uncompahgre River near Ridgway was 100 cfs, as compared to the long-term average of 61.2 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 94% of normal as of the end of November.

Outlook

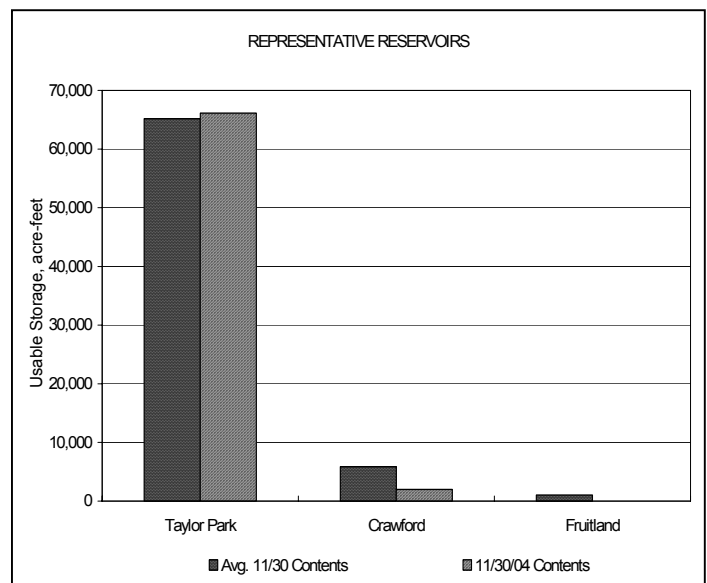
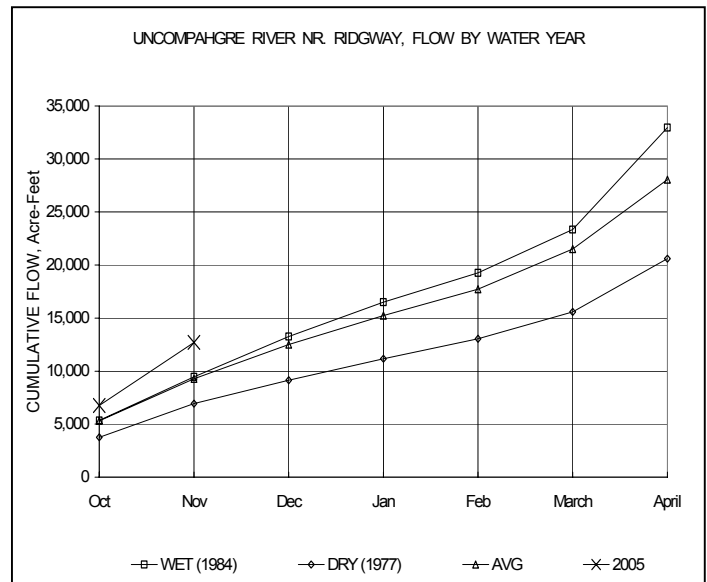
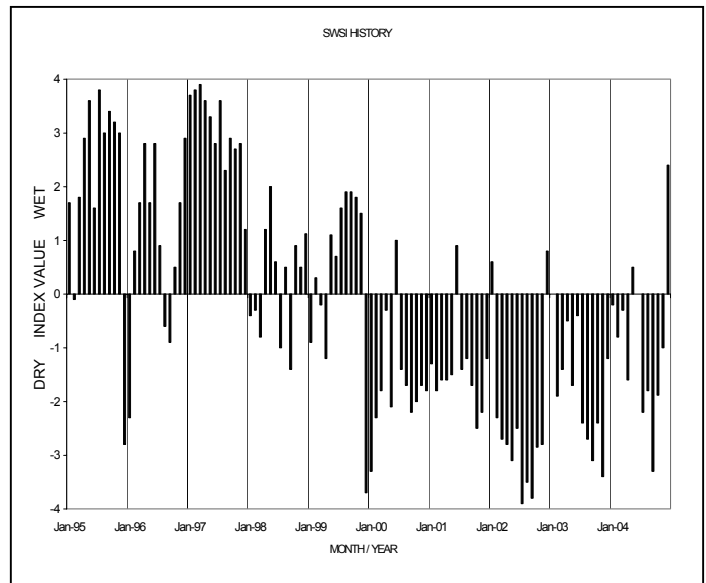
The Grand Junction Weather Service reports 2004 as a "year of extremes". After a record dry June through August, the months of September and November have been months of near record precipitation and snowfall. The SNOWTEL sites on the Grand Mesa are recording an average of 167% of normal. The November storms have helped the entire Gunnison basin, and the snowpack is above normal in most areas.

Administrative/Management Concerns

The cold weather in November has decreased the flows in most streams. There haven't been any icing problems yet, but some are expected if the temperatures remain well below zero. Blue Mesa Reservoir usually draws the reservoir down to the 7490 feet level by January 1 to prevent icing problems on the Gunnison River between the town of Gunnison and the entrance to the reservoir. They are currently 13 feet below that level. The winter releases for the Gunnison River through the Black Canyon have been set at 350 cfs and will remain there until April.

Public Use Impacts

The ski areas are sure happy to see the early snow, as it reduces the amount they have to produce to keep the runs open. The cross-country skiers and snowmobilers are equally enthused and are already enjoying the abundant snow.



Basinwide Conditions Assessment

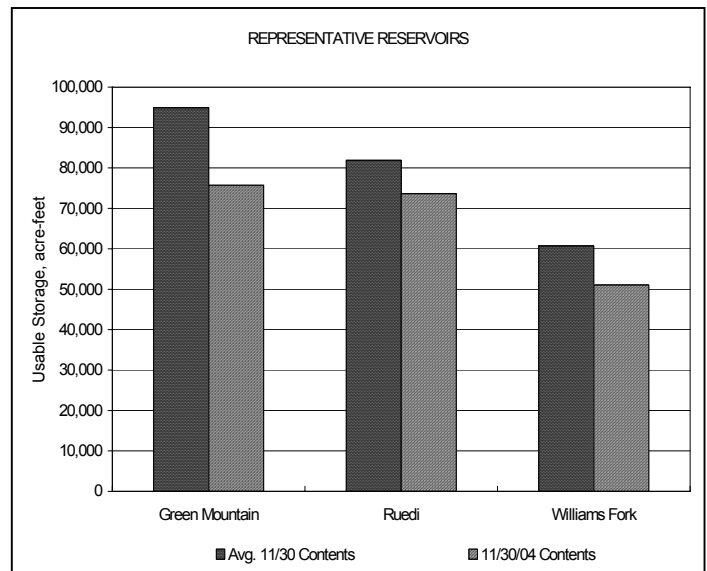
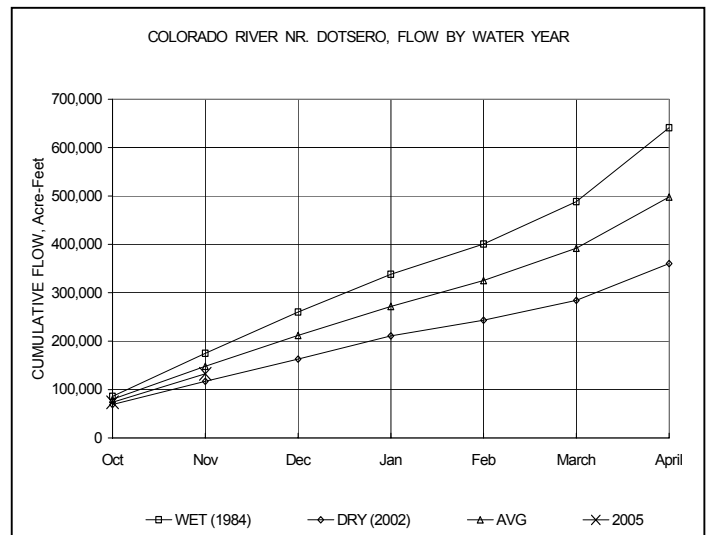
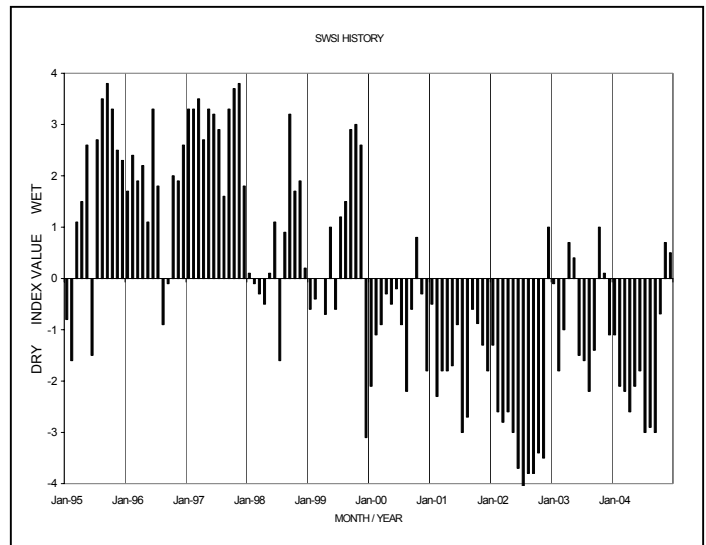
The SWSI value of +0.5 indicates that for November the basin water supplies were near normal. The Natural Resources Conservation Service reports that December 1 snowpack is 105% of normal (based upon selected SNOWTEL sites). Flow at the gaging station Colorado River near Dotsero was 990 cfs, as compared to the long-term average of 1,138 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 84% of normal as of the end of November.

Outlook

Early season snowpack for the entire Colorado River Basin is near historic average with some tributaries in better shape than others. The Grand Mesa area has started out this winter with excellent snowpack.

Public Use Impacts

Most ski areas in the basin have been making snow since October in preparation for holiday skiing crowds. Natural snowfall has been adequate enough so that most ski areas have opened up at least limited terrain by early December.



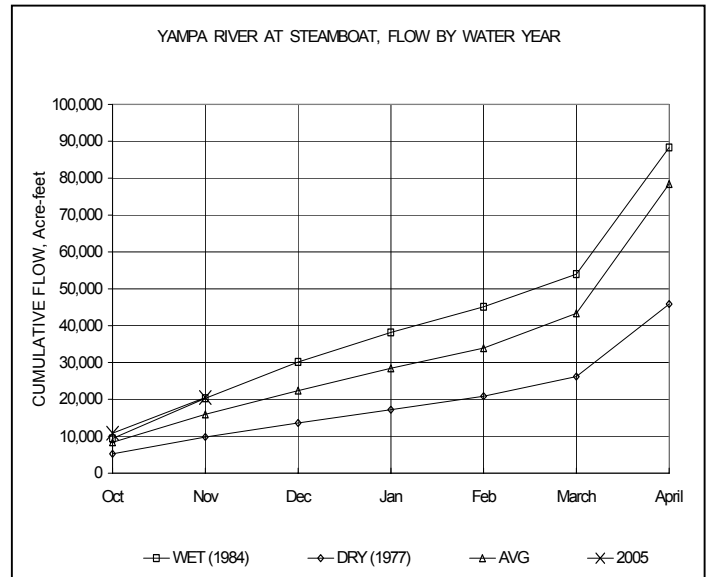
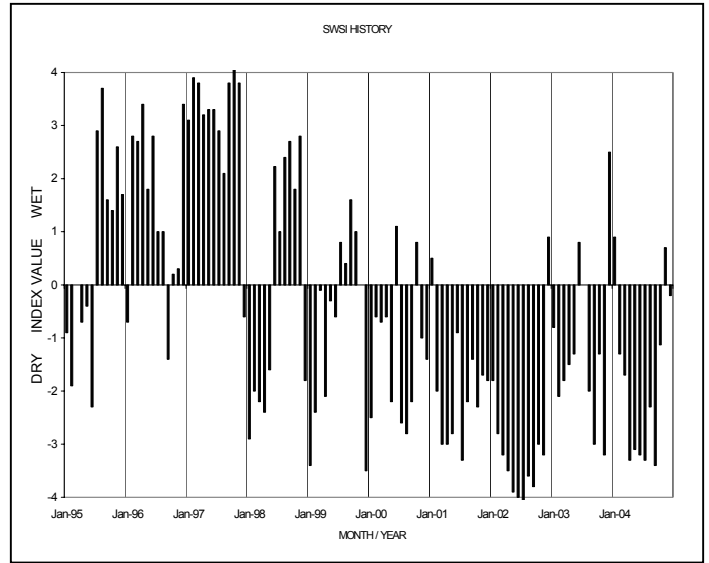
Basinwide Conditions Assessment

The SWSI value of -0.2 indicates that for November the basin water supplies were about normal. Flow at the gaging station Yampa River at Steamboat was 163 cfs, as compared to the long-term average of 128 cfs.

After two months of above average precipitation, November proved to be a relatively dry month. At the beginning of November, the snowpack for the Laramie/North Platte Basin and the Yampa/White River Basin were at 153% and 146%, respectively. By November 24th, these numbers had dropped to 80% and 65%, for the respective basins. Over Thanksgiving weekend, a major storm moved across Colorado that provided significant snows to the mountains. In Steamboat Springs, the ski resorts reports over four feet of new accumulation at the summit of the mountain. By the end of the month the snow pack was reported at 100% for the Laramie/North Platte Basin, and 99% for the Yampa/White River Basin.

Outlook

River flows remained above normal levels in the Yampa River drainage throughout the month. In the White River Basin flows were slightly below normal. Many of the river gages are now ice-affected. Accurate flow readings will not be available until spring.



Basinwide Conditions Assessment

The SWSI value of +1.8 indicates that for November the basin water supplies were above normal. The Natural Resources Conservation Service reports that December 1 snowpack is 125% of normal (based upon selected SNOWTEL sites). Flow at the gaging station Animas River near Durango was 439 cfs, as compared to the long-term average of 281 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 90% of normal as of the end of November.

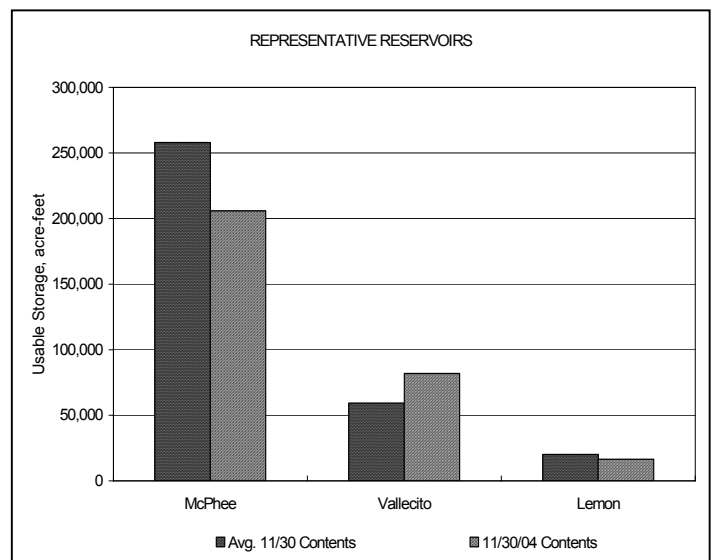
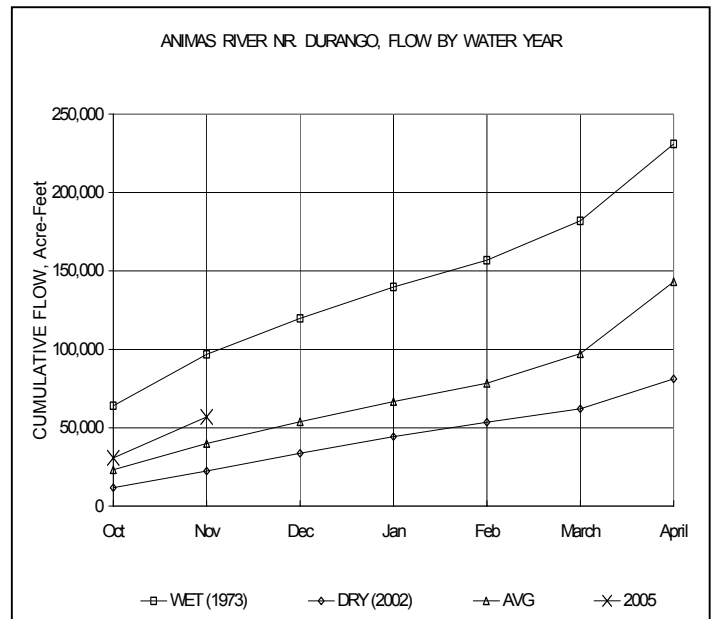
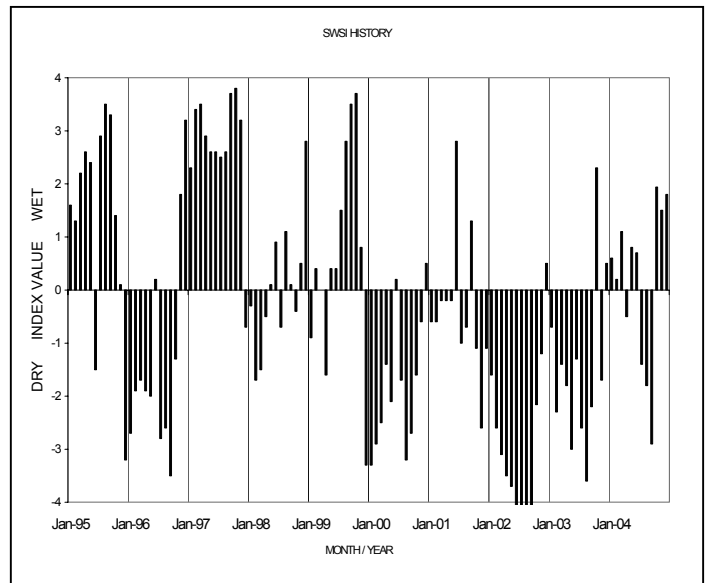
The fall water supply conditions were encouraging for residents of SW Colorado. November precipitation in the area amounted to about average in Durango (108%) with excellent accumulations of snow in the mountains, especially in comparison to recent years. With 7.5 inches of snow water, about 1/3 of the accumulation needed for a normal year was present in the mountains.

Reservoirs are holding about 80% of average storage for this time of the year. Vallecito is at maximum storage for the winter, however, and appears to be likely to fill early next year. McPhee Reservoir contains 205,000 acre feet out of 258,000 normally stored at this time of year. Groundhog Reservoir still had no water in storage.

Rivers were running very well for the time of year. The Animas and La Plata Rivers were 150% of normal, and the Dolores River was running about 35 cfs.

Outlook

Winter recreation remained steady and soil moisture conditions were high. Prospects are favorable to achieve at least an average snow accumulation and reasonable runoff next spring.



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