
COLORADO

WATER SUPPLY CONDITIONS UPDATE

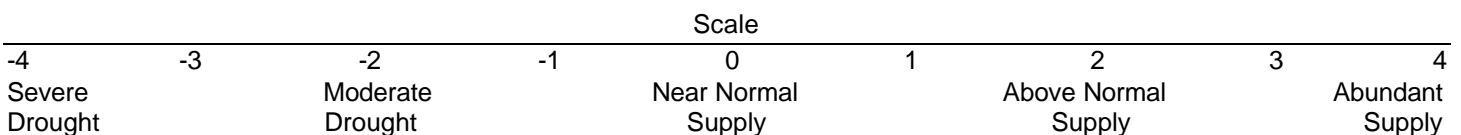
FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
 ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203
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October 2000

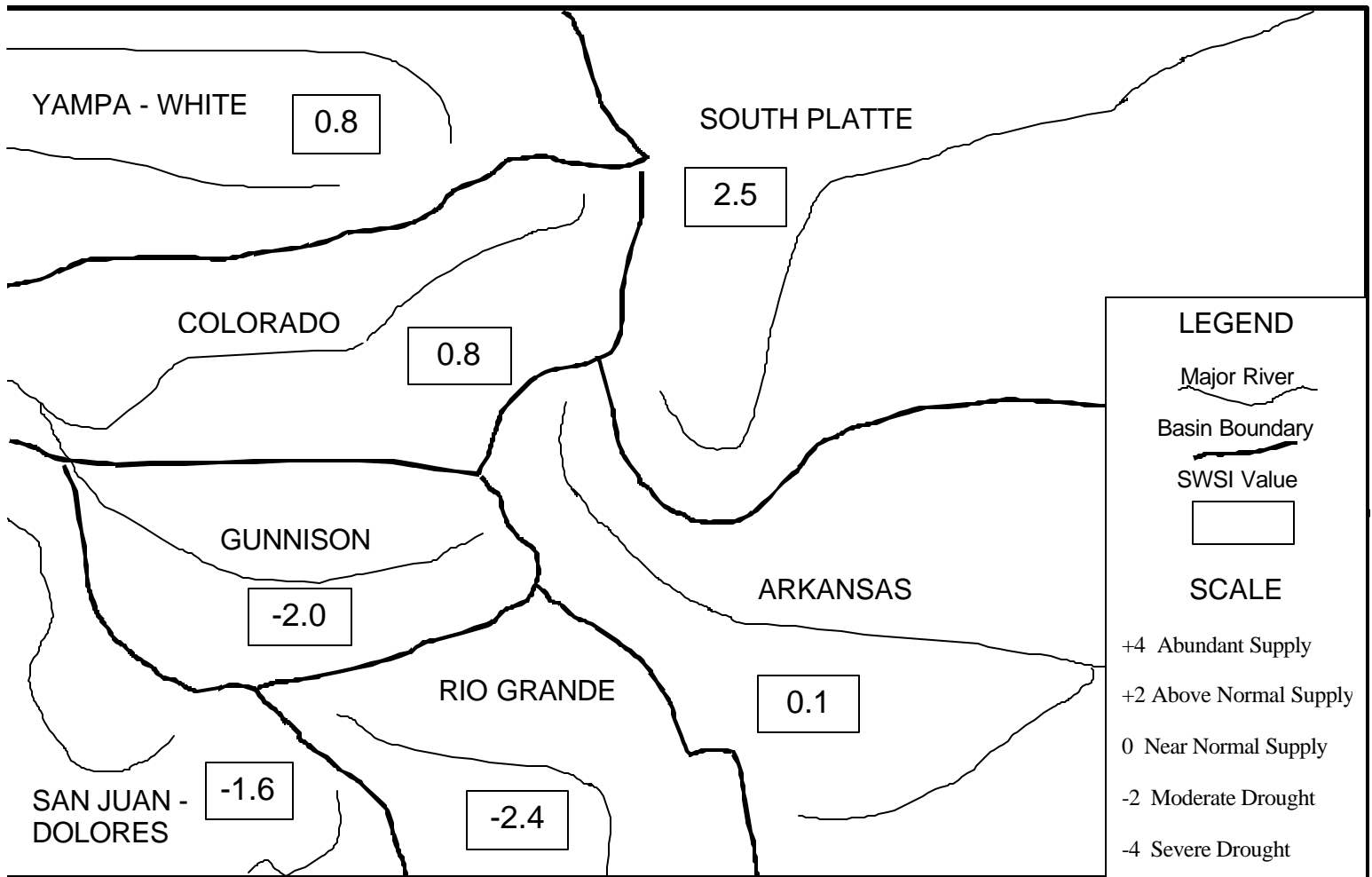
Precipitation has increased stream flows, and SWSI values, to near normal in both the Colorado and Yampa/White river basins. Some stream flows are returning to normal in the Gunnison Basin, as well. However, the rest of the state, particularly the Rio Grande and San Juan/Dolores basins, continues to suffer from very low stream flows. The SWSI values in the South Platte and Arkansas river basins continue to be supported by their reservoir storage in spite of low stream flows in those basins. With reservoir storage below normal in most of the state, both users and administrators are hoping for a significant snow year to refill reservoirs and restore stream flows during the 2001 snowmelt.

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 stream flow, reservoir storage, and precipitation for the summer period (May through October). During the summer period, stream flow 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 October 1, 2000, and reflect the conditions during the month of September.

| <u>Basin</u> | <u>October 1, 2000 SWSI Value</u> | <u>Change From Previous Month</u> | <u>Change From Previous Year</u> |
|------------------|---------------------------------------|---------------------------------------|--------------------------------------|
| South Platte | 2.5 | +0.6 | -1.1 |
| Arkansas | 0.1 | -0.1 | -2.4 |
| Rio Grande | -2.4 | -0.1 | -4.8 |
| Gunnison | -2.0 | +0.3 | -3.8 |
| Colorado | 0.8 | +1.4 | -2.2 |
| Yampa/White | 0.8 | +3.0 | -0.2 |
| San Juan/Dolores | -1.6 | +1.1 | -5.3 |



SURFACE WATER SUPPLY INDEX FOR COLORADO



OCTOBER 1, 2000

Basinwide Conditions Assessment

While the SWSI value of 2.5 indicates that for September the basin water supplies were above normal, the actual conditions are considered to be below normal. The SWSI value may be inaccurately boosted by municipal reservoirs' feed from the west slope, and calls for water down stream of the Kersey gage causing water to flow past the gage that would otherwise be diverted above the gage. The Kersey gage comprises the stream flow component of the SWSI for the South Platte basin.

Reservoir storage, the major component in this basin in computing the SWSI value, was 90% of normal as of the end of September. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 17% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 83% of capacity. Flow at the gaging station South Platte River at Kersey was 566 cfs, as compared to the long-term average of 831 cfs. Flow at the Colorado/Nebraska state line averaged 74 cfs.

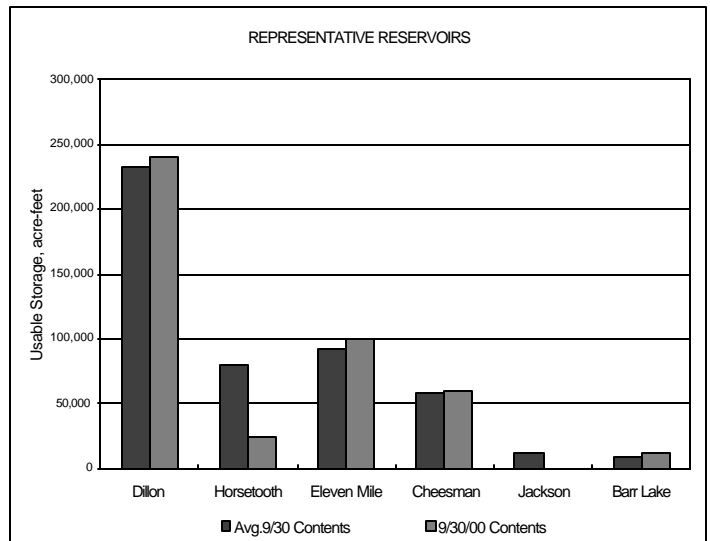
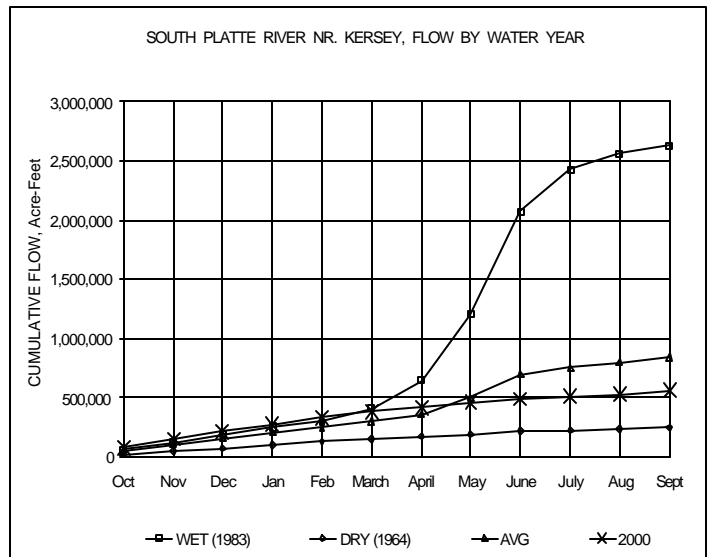
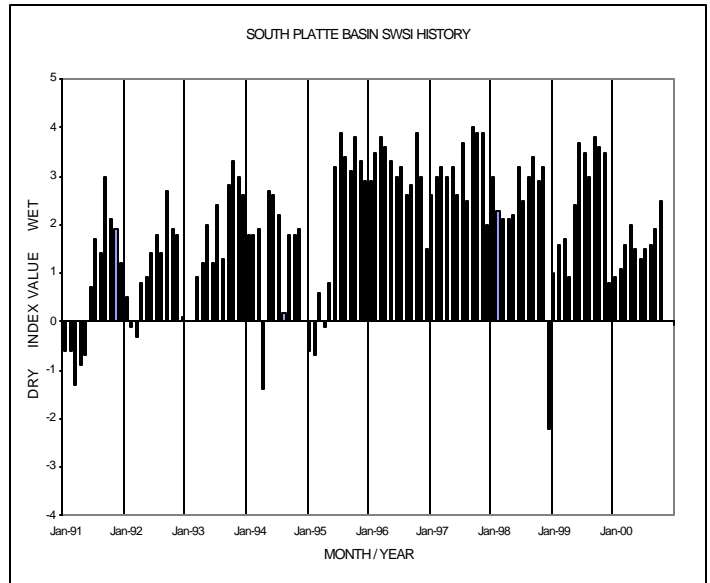
Outlook

Irrigation users began to curtail their use in the month of September as crops began reaching maturity. Minor precipitation at the end of August and the beginning of September reduced irrigation demand. Except for some minor irrigation, especially for hay, irrigation was generally finished by the end of the month.

As irrigation demand subsided, calls and diversions downstream of Denver occurred primarily to begin refilling several empty or near empty irrigation reservoirs. During most summers, diversions during the end of September and beginning of October would be for recharge. This year, because of the very dry conditions and low reservoir storage levels, users are foregoing recharge in order to exercise their refill rights in an attempt to improve next year's supply. This potentially could cause shortages in recharge water next year.

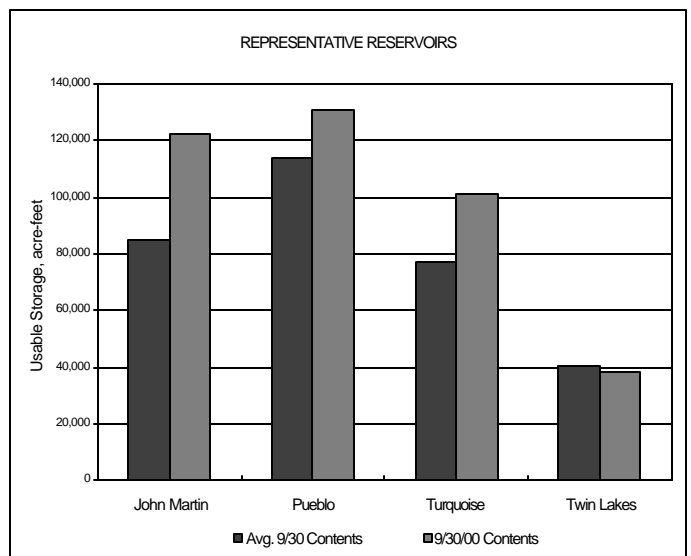
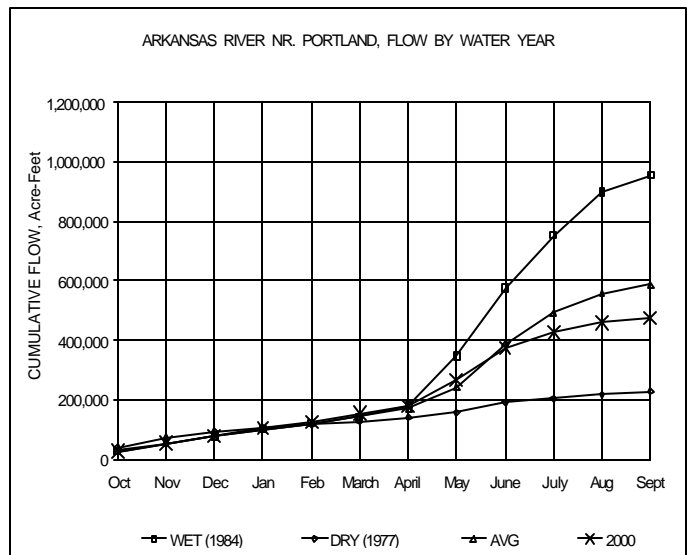
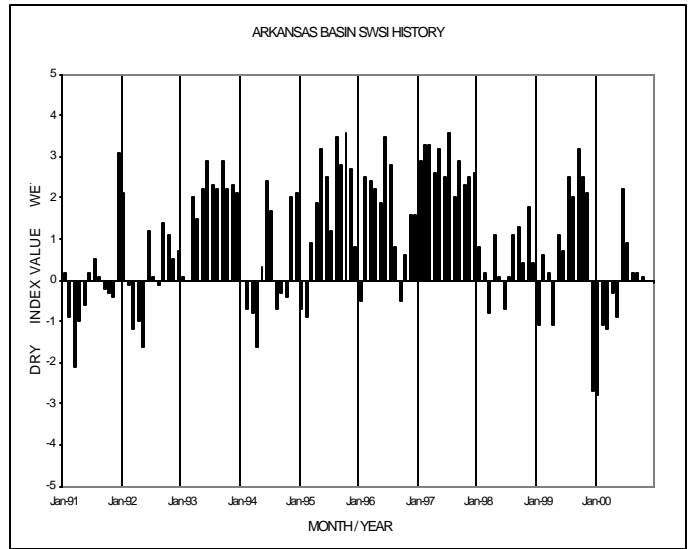
Public Use Impacts

While production is expected to be average or better this year due to the availability of storage and wells, low crop prices continue to be a significant concern for farmers.



Basinwide Conditions Assessment

The SWSI value of 0.1 indicates that for September the basin water supplies were near normal. Flow at the gaging station Arkansas River near Portland was 257 cfs, as compared to the long-term average of 481 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 124% of normal as of the end of September.



Basinwide Conditions Assessment

The SWSI value of -2.4 indicates that for September the basin water supplies were below normal. Conditions may be drier than this number indicates. Flow at the gaging station Rio Grande near Del Norte averaged 249 cfs (49% of normal and only 17% of the amount in 1999). The Conejos River near Mogote had a mean flow of 64 cfs (50% of normal and 28% of last year). Generally, stream flow in the Upper Rio Grande basin was below normal levels during September and just a small fraction of the high stream flow experienced last year.

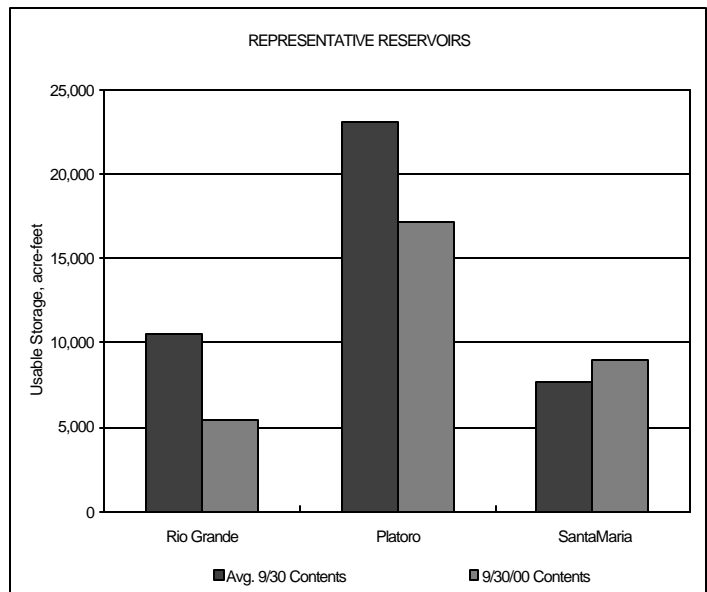
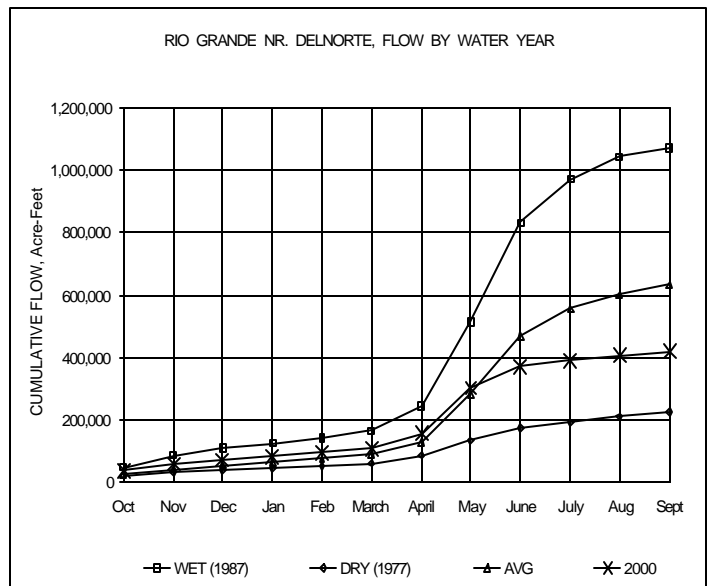
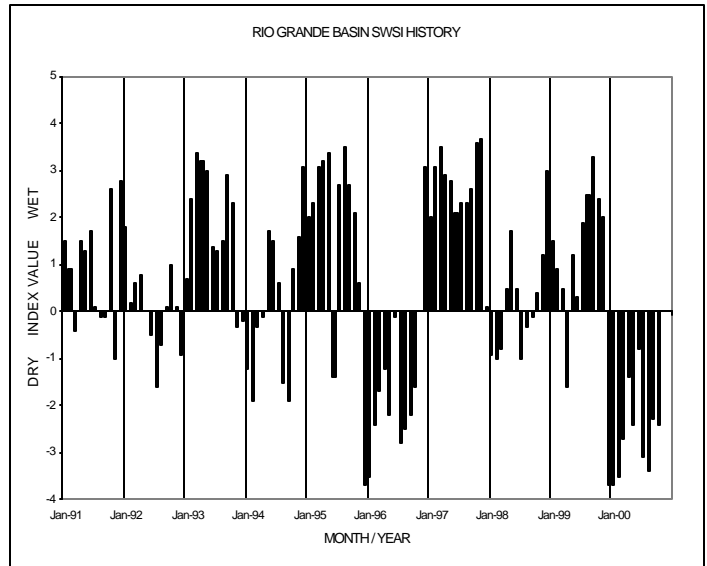
Precipitation in the basin has been below normal all summer and September was no exception as the valley floor received only one-fourth the average amount for the month. It was the driest September in over a decade. The high country did receive a dusting of snow on the 23rd. The average monthly temperature in Alamosa was 1.7 degrees above normal.

Outlook

Streams in the upper Rio Grande basin will experience below normal flows this fall. The hydrographs for area streams are closely following those of the 1996 season, the last harsh drought year. The majority of the snowmelt occurred by mid to late June this year. Since then, only small rain peak events have occurred. The call remains very senior on all creeks and rivers in the Division.

Administrative/Management Concerns

Colorado will meet its delivery obligation to New Mexico and Texas under the Rio Grande Compact. Administrators are hoping that a mild fall will allow water diversions to continue for irrigation and recharge purposes.



Basinwide Conditions Assessment

The SWSI value of -2.0 indicates that for September the basin water supplies were below normal. Flow at the gaging station Uncompahgre River near Ridgway was 95.7 cfs, as compared to the long-term average of 106 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 82% of normal as of the end of September.

Outlook

Per the Uncompahgre Valley Water Users Association the precipitation was up 0.50 inch this September from September of 1999. River flows came up to normal in some areas for this time of year. The Division has not heard any predictions of how much precipitation is expected this winter. A good snowfall could enable refilling the reservoirs that were drawn down because of the dry conditions the latter part of the summer.

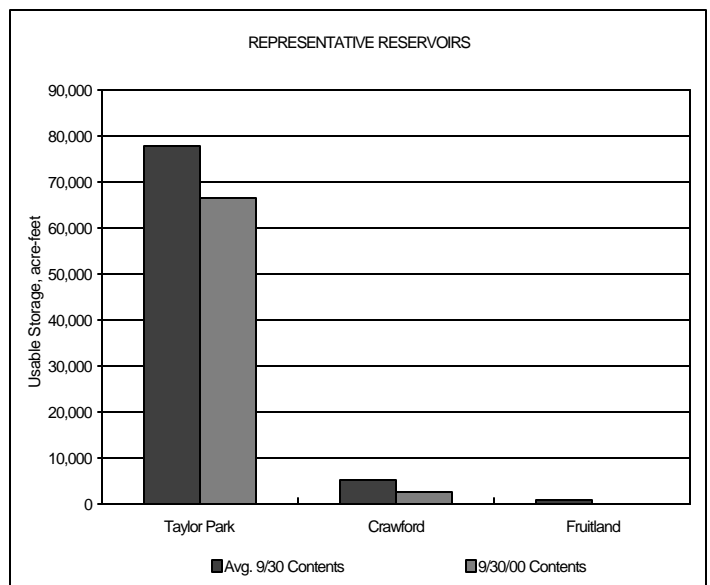
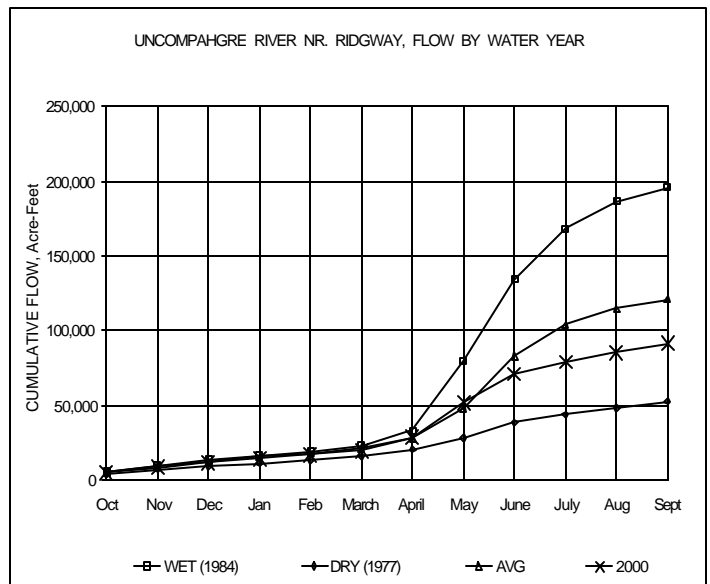
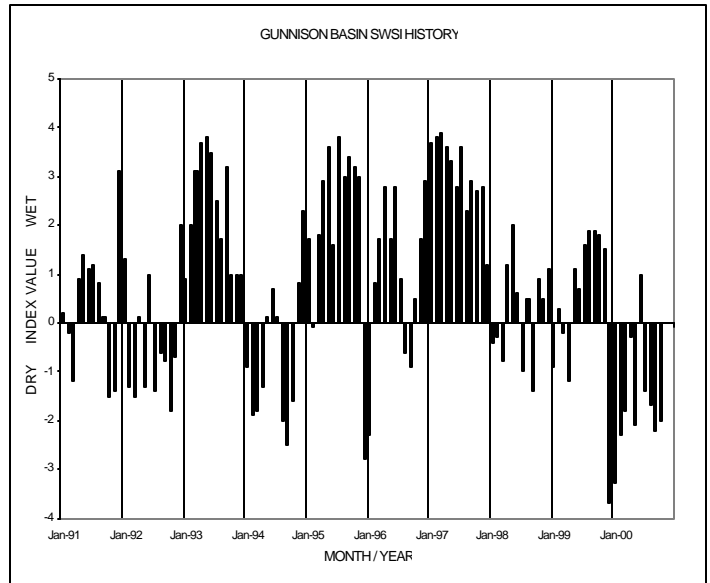
Administrative/Management Concerns

Telluride continues to be an area of growth under much scrutiny. An environmental group has expressed an interest in exempt well permits that have been issued. The organization may choose to contest the exempt permits. This would be a first in this division. Controversy and opposition are constants in the Telluride area.

There was at least one augmentation plan where the source of water for augmentation purposes was unavailable due to the dry summer conditions.

Public Use Impacts

Being an election year, there have been many phone calls to the Division in reference to new proposals on the ballot. The one that seems to be concerning many people is the proposed Amendment 24 to the state constitution. There has been a rush to obtain well permits, straighten out water rights, etc. Numerous people are worried that they will not be able to develop or drill wells should this amendment pass.



Basinwide Conditions Assessment

The SWSI value of 0.8 indicates that for September the basin water supplies were near normal. Flow at the gaging station Colorado River near Dotsero was 1,530 cfs, as compared to the long-term average of 1,414 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 83% of normal as of the end of September.

Outlook

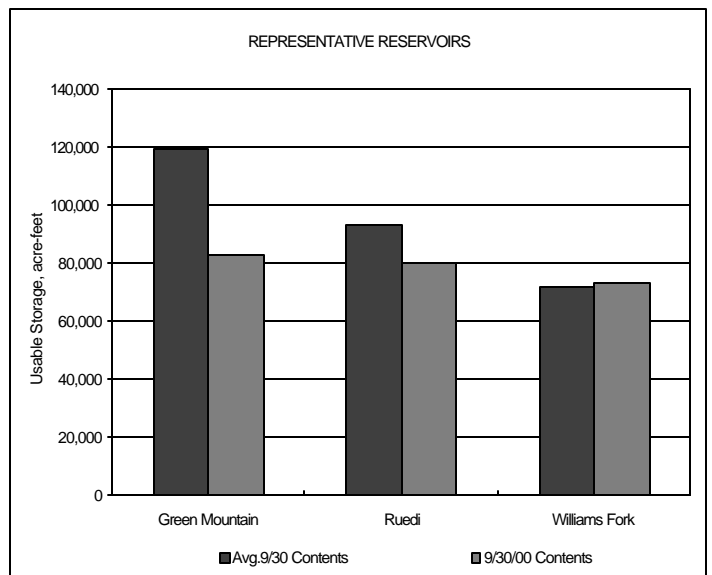
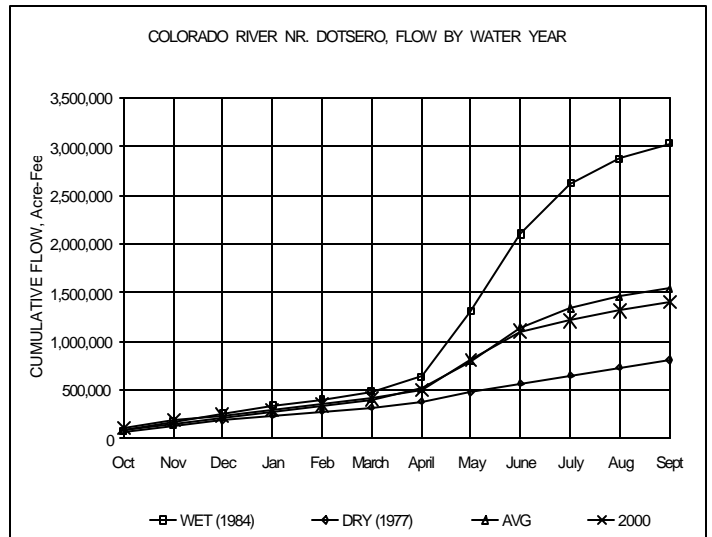
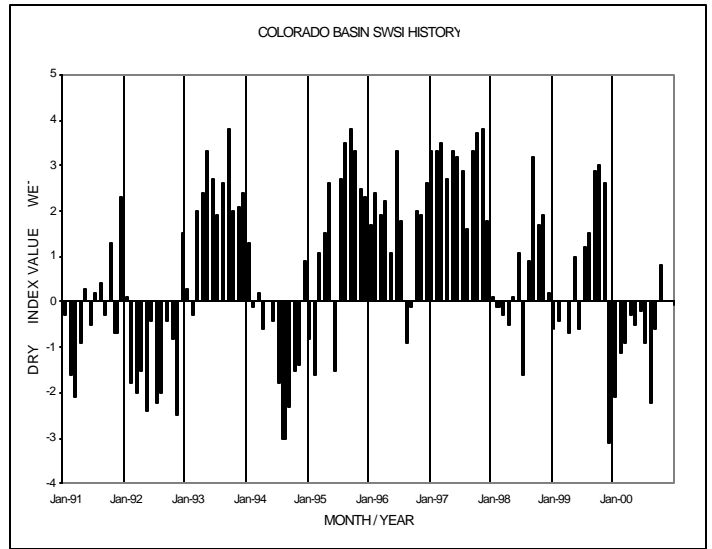
Irrigation diversions are winding down throughout the division and many diversions are now for stock and domestic uses. The large Grand Valley irrigation canals should be shutting off by early November but the Shoshone power call is expected to continue throughout October.

Administrative/Management Concerns

Snowmaking diversions began in early October for several ski areas in Division 5. Numerous hydrographic measurements will be made this month to insure maintenance of minimum stream flows below these snowmaking diversion points.

Public Use Impacts

None.



Basinwide Conditions Assessment

The SWSI value of 0.8 indicates that for September the basin water supplies were near normal. Flow at the gaging station Yampa River at Steamboat was 117 cfs, as compared to the long-term average of 112 cfs.

Conditions in September returned to a more normal pattern. Temperatures fell and more moisture was seen throughout the basin. Unfortunately, the moisture came in two or three rainfall events. Soil moisture conditions are still very dry, but fire restrictions were lifted at the end of the month. Stream flows have risen as a result of the precipitation and are near normal levels for this time of year. The first measurable snowfall occurred in the Division on the weekend of September 23rd.

Outlook

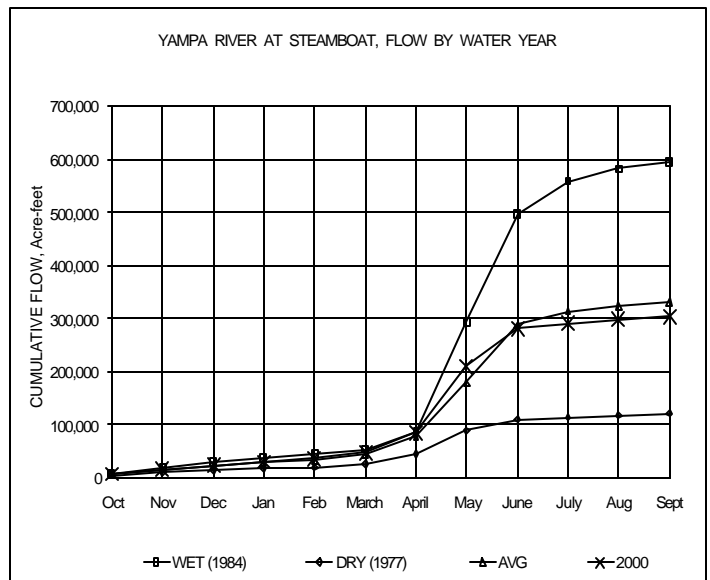
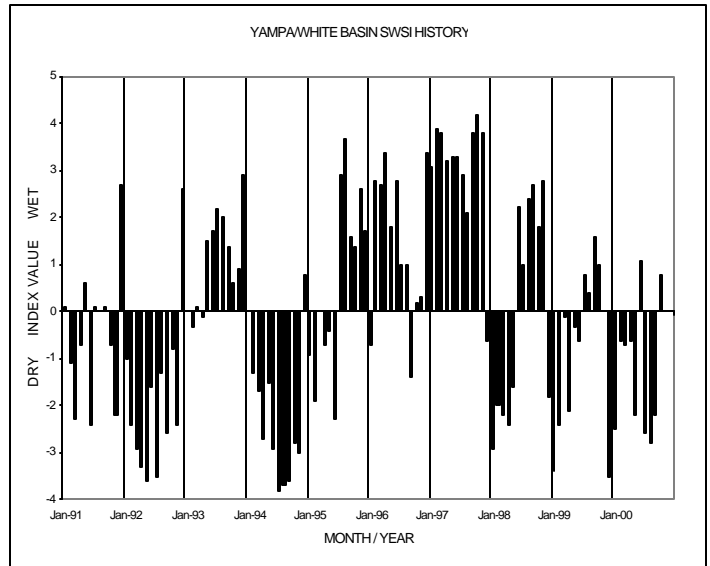
As nighttime temperatures have dipped below freezing, irrigation use has started to subside. Vegetation along the rivers and streams is becoming dormant and base flows are expected to rise.

Administrative/Management Concerns

Administration continues on many of the tributaries of the main rivers. With lower stream flows and reservoir contents we may be forced to restrict stock water diversions in order to satisfy calls from senior storage rights.

Public Use Impacts

None.



Basinwide Conditions Assessment

The SWSI value of -1.6 indicates that for September the basin water supplies were below normal. Flow at the gaging station Animas River near Durango was 318 cfs, as compared to the long-term average of 461 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 73% of normal as of the end of September.

By October 1, 2000, storage supplies in reservoirs located in Division 7 were severely depleted, worse than average. Lemon Reservoir was at 7,724 acre feet of 40,000 AF, and Vallecito Reservoir was under 30,000 acre feet - 53% of average. McPhee Reservoir was also below average storage for this stage of the season. Red Mesa Ward Reservoir was dry and Jackson Gulch was reduced to less than 30% of total capacity.

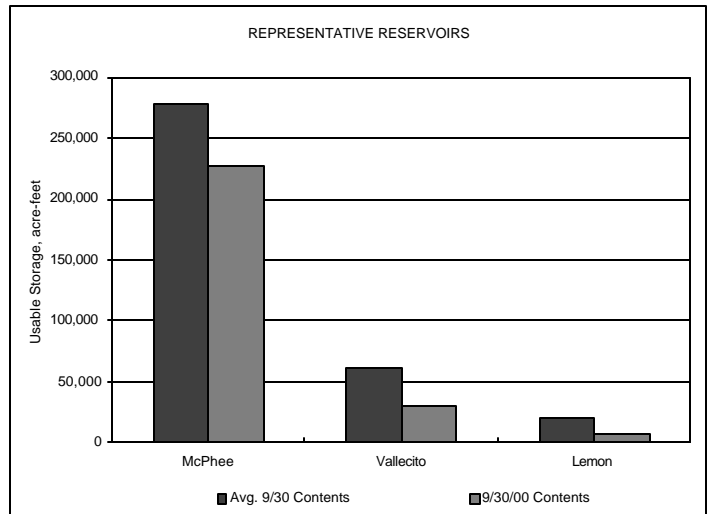
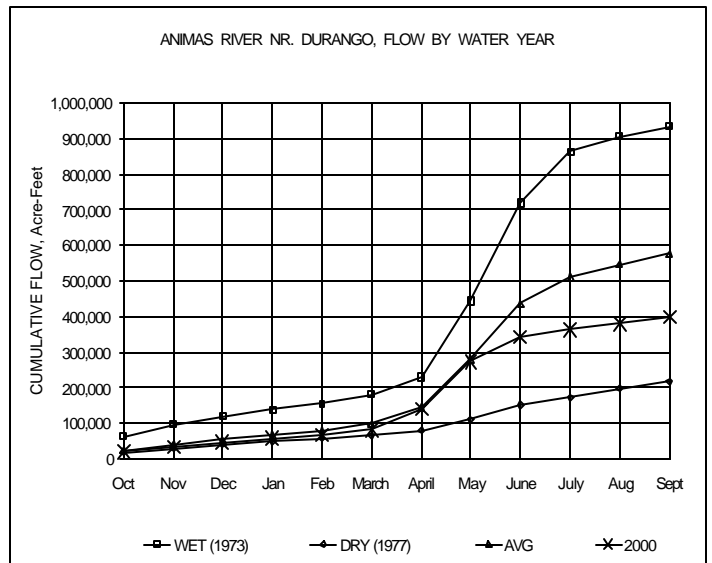
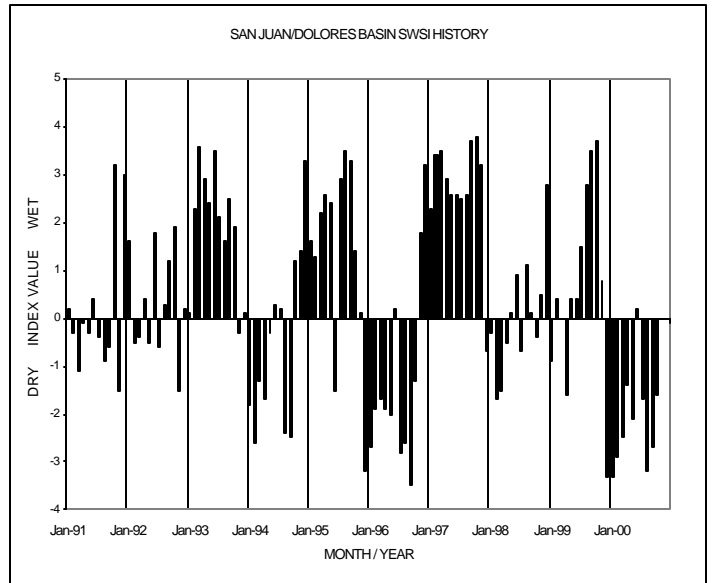
River flows continued to drop off from the August rainstorms and total flows were under 70% of normal. The La Plata River flowed at only 44% of normal, running 6.8 cfs at the end of the month.

Durango experienced only 0.75 inches of precipitation during the normally wet (2.21 inches) September month. This left the water year total precipitation at 15.48 inches, which was 79% of normal. Temperatures were again well above normal, with the daily lows at 5°F above the short-term and long-term averages. A low of 28°F froze most garden crops on the 23rd and 24th of September.

The Aspen colors and fall foliage changed earlier and more intensely than usual this year, perhaps due to the low soil moisture. However, in many areas, grass cover in the higher altitudes was observed to be good and thick. Low soil moisture and dry vegetation was the rule in the lower areas.

Outlook

The outlook is not promising because of the moisture deficit and the low carryover in the reservoirs. However much atmospheric moisture was coming through the area due to high pressure and a slight change in weather pattern could result in a significant improvement over a short time.



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