

Colorado Basin Outlook Report February 1, 2001



Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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COLORADO

WATER SUPPLY OUTLOOK REPORT

FEBRUARY 1, 2001

Summary

January's dry weather brought significant decreases to Colorado's snowpack percentages. The February 1 surveys indicate decreased percentages in all basins except the Rio Grande. With only 40% of the winter snowpack accumulation season remaining, the February and March snowfall will be critical for the 2001-growing season. Dry conditions during 2000 have reduced reservoir storage to generally average, to below average, volumes across the state. As expected from the below average snowpack readings, runoff forecasts are generally below average across central and northern basins, and improve to near average across the southern basins.

Snowpack

Mountain snowfall was generally below average across most of the state during January. This resulted in significant decreases in the percent of average snowpack in most of the state's major river basins. The North and South Platte, Yampa and White, and the Arkansas basins all reported basinwide decreases of 15% to 20% from the January 1 snow surveys. Only slight decreases were seen in the Gunnison and the combined San Juan, Animas, Dolores, and San Miguel basins. Meanwhile, the only basin to increase was the Rio Grande, which improved by 10% from January 1. In contrast to last year, the state's highest snowpack percentages occur in the Rio Grande, and San Juan, Animas, Dolores, and San Miguel basins, at 91% of average. Percentages tend to decrease toward the northern basins, and currently the South Platte is reporting the state's lowest snowpack percentage, at only 65% of average. The February 1 surveys indicate the statewide snowpack is now 81% of average, down from the 91% of average on January 1. Although this year's snowpack may seem rather dismal, it remains better than that of last year. The statewide snowpack is currently 122% of last year's February 1 snowpack. The most striking difference this year is across southwestern Colorado. The current snowpack in the Rio Grande and San Juan, Animas, Dolores, and San Miguel basins is two to three times that of last year at this time. As expected, this year's snowpack across northern Colorado remains significantly below last year's.

Precipitation

Precipitation at high elevation SNOTEL sites was below average across most of the state during January. Only southwestern Colorado received average to above average precipitation for the month. The lowest precipitation totals were measured in the South Platte Basin, at only 29% of average, followed by the Yampa and White basins at 40% of average. For the water year, which began on October 1, totals are below average in all basins except the San Juan, Animas, Dolores, and San Miguel, which is reporting 105% of average. As expected, the South Platte Basin has produced the lowest water year percentage, at only 68% of average. Statewide, precipitation was only 61% of average during January. This has now resulted in a decrease of water year precipitation to 82% of average.

Reservoir Storage

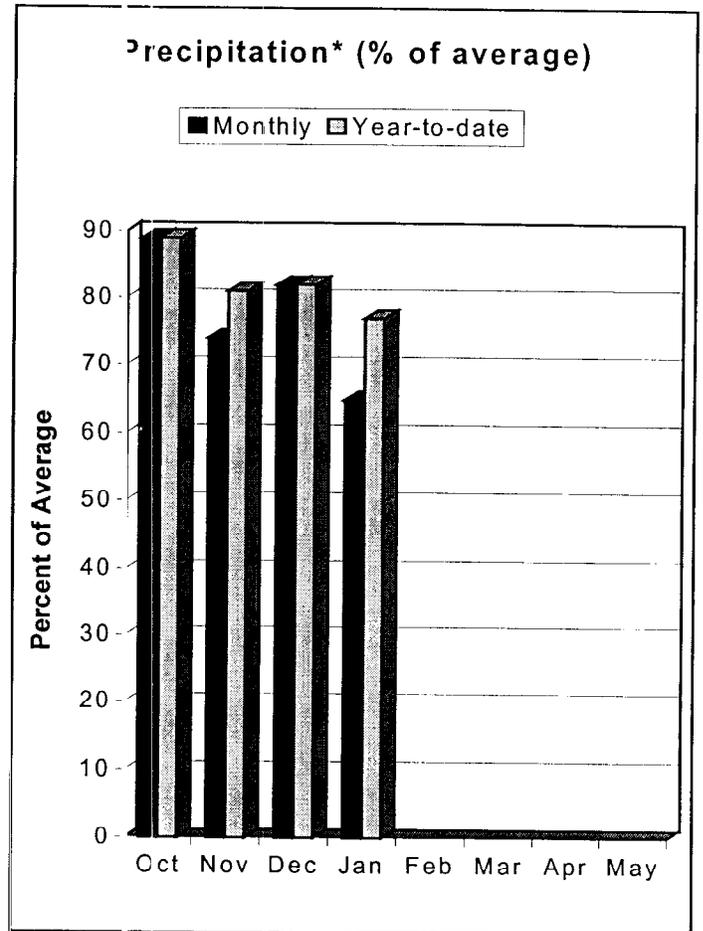
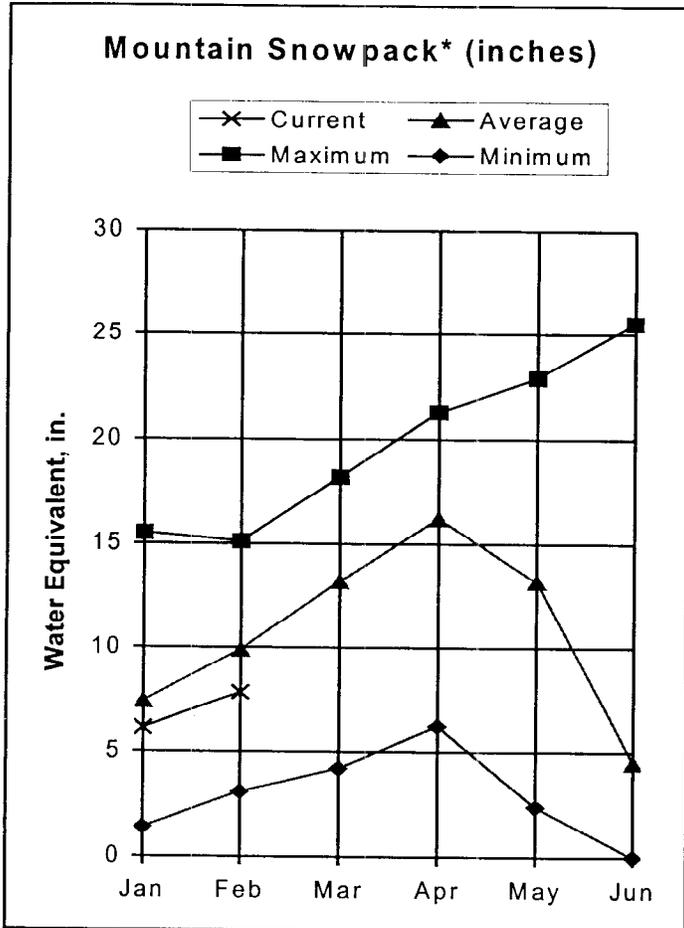
Reservoir storage across Colorado remains near average, with the current statewide storage totals at 105% of average. January brought slight improvements to storage volumes in the Gunnison and Colorado basins, in comparison to the average. The Arkansas Basin continues to lead the state and remains above 150% of average storage volumes. Only the South Platte, at 89% of average, and the San Juan, Animas, Dolores, and San Miguel basins, at only 76% of average, are reporting below normal volumes. While the state's reservoirs remain generally near average, storage volumes are well below those of last year. Statewide, the current storage is only 75% of last year's, and all basins are reporting less in storage than last year. The current reservoir situation is somewhat unusual. This is the lowest statewide reservoir storage since the early 1990's.

Streamflow

Runoff forecasts for 2001 range from much below average in numerous smaller watersheds across central and northern Colorado, to above average in a few small watersheds across southern Colorado. Generally, forecasted streamflow volumes across most of the central and northern basins are below average, improving to near average across most of the larger basins of southern Colorado. The dry conditions during January produced the greatest decreases in forecasted runoff in the Yampa, White, and North Platte basins, where the near average forecasts on January 1 have now decreased to 75% to 85% of average. Similar decreases in forecasts occur in the headwaters of the Arkansas Basin. Forecasts in a few basins across southern Colorado improved slightly from last month's forecasts. Most of these basins benefited from a late-January storm, which produced several feet of beneficial snowfall.

GUNNISON RIVER BASIN

as of February 1, 2001



*Based on selected stations

Snowfall amounts were low during January in the Gunnison Basin, and as a result the snowpack percent of average has declined since last month. The February 1 snowpack measurements indicate that there is only 78% of average snow accumulation, which is 5% of average less than last month. The Surface Creek Watershed holds the lowest snowpack percent of average with only 61%, while the Uncompahgre Watershed has the highest at 87%. There is 28% more snow accumulation now than last year at this same time. High elevation precipitation was a dismal 65% of average during January, and the water year total is now only 77% of average. The combined storage for 8 major reservoirs in the basin is about 8% above average for this time of year. There is 11% less storage than last year on February 1. The streamflow forecasts are extremely variable depending on precipitation and snowpack conditions. The highest forecast is on Cochatopa Creek below Rock Creek, which is 112% of average. The lowest forecast is on Surface Creek near Cedaredge, which is only 58% of average.

GUNNISON RIVER BASIN
Streamflow Forecasts - February 1, 2001

| Forecast Point | Forecast Period | Future Conditions | | | | | | 30-Yr Avg. (1000AF) |
|----------------------------------|-----------------|-----------------------|-----------------|---|-----|-----------------|-----------------|------------------------|
| | | <<----- Drier ----->> | | ----->> | | ----->> | | |
| | | 90% (1000AF) | 70% (1000AF) | Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.) | | 30% (1000AF) | 10% (1000AF) | |
| aylor River blw Taylor Park Resv | APR-JUL | 41 | 57 | 69 | 70 | 86 | 110 | 99 |
| ate River nr Crested Butte | APR-JUL | 51 | 61 | 68 | 88 | 76 | 87 | 77 |
| .st River at Almont | APR-JUL | 75 | 111 | 135 | 74 | 159 | 195 | 183 |
| unnison River nr Gunnison | APR-JUL | 129 | 207 | 260 | 69 | 313 | 391 | 375 |
| michi Creek at Sargents | APR-JUL | 11.7 | 18.1 | 25 | 81 | 32 | 42 | 31 |
| chetopa Creek blw Rock Creek | APR-JUL | 9.4 | 15.0 | 18.8 | 112 | 23 | 28 | 16.8 |
| michi Creek at Gunnison | APR-JUL | 21 | 39 | 55 | 71 | 74 | 106 | 77 |
| ke Fork at Gateview | APR-JUL | 70 | 103 | 125 | 102 | 147 | 180 | 123 |
| ue Mesa Reservoir Inflow | APR-JUL | 249 | 428 | 550 | 79 | 672 | 851 | 699 |
| onia Reservoir Inflow | MAR-JUN | 23 | 47 | 68 | 67 | 93 | 137 | 101 |
| | APR-JUL | 18.0 | 44 | 68 | 65 | 98 | 151 | 104 |
| F. Gunnison River nr Somerset | APR-JUL | 104 | 152 | 190 | 66 | 232 | 301 | 288 |
| rface Creek nr Cedaredge | APR-JUL | 6.4 | 8.2 | 9.8 | 61 | 11.7 | 15.1 | 16.0 |
| dgway Reservoir Inflow | APR-JUL | 63 | 78 | 90 | 92 | 104 | 129 | 98 |
| compahgre River at Colona | APR-JUL | 74 | 97 | 115 | 91 | 134 | 165 | 126 |
| unnison River nr Grand Junction | APR-JUL | 391 | 754 | 1000 | 69 | 1246 | 1609 | 1448 |

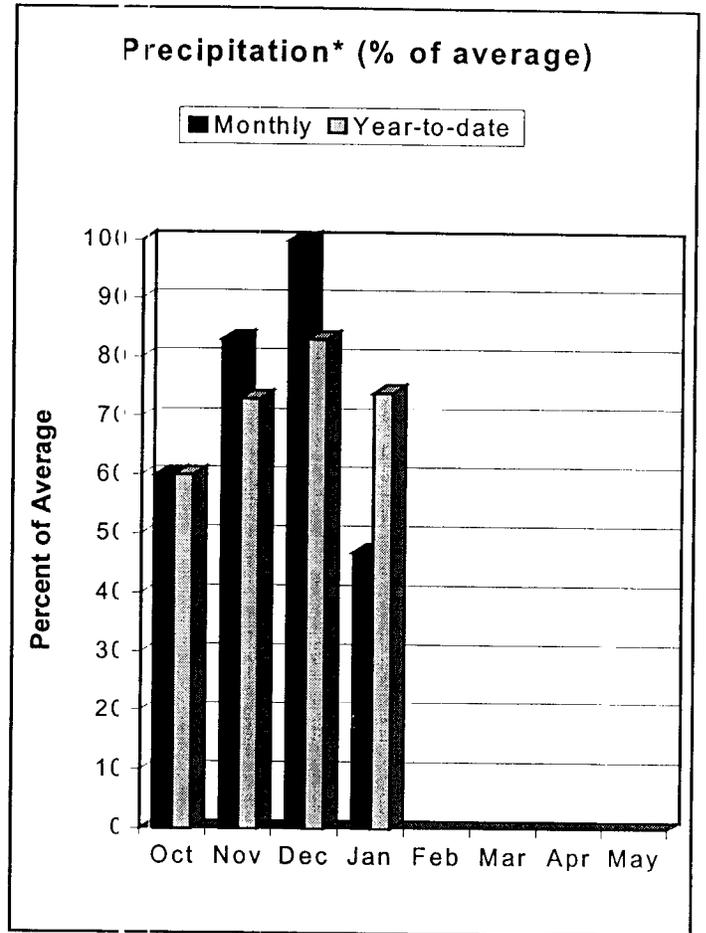
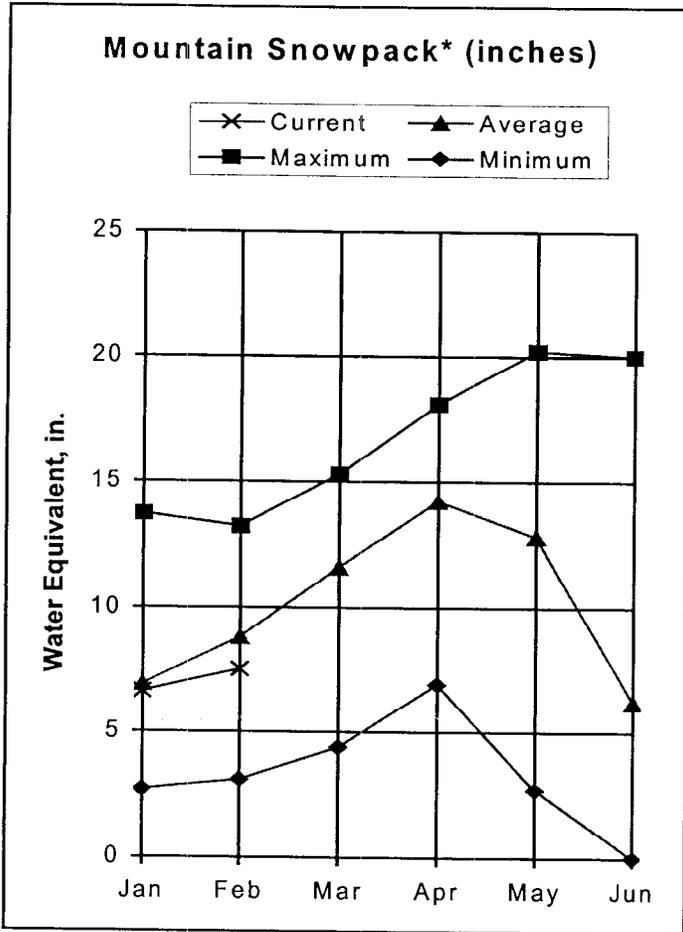
| GUNNISON RIVER BASIN Reservoir Storage (1000 AF) - End of January | | | | | GUNNISON RIVER BASIN Watershed Snowpack Analysis - February 1, 2001 | | | |
|--|-----------------|------------------------|-----------|-------|--|----------------------|-------------------|---------|
| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| JE MESA | 830.0 | 493.8 | 569.8 | 429.8 | UPPER (GUNNISON BASIN | 9 | 127 | 72 |
| AWFORD | 14.3 | 3.9 | 6.4 | 8.1 | SURFACI CREEK BASIN | 1 | 111 | 60 |
| JITGROWERS | 4.3 | 2.1 | 2.8 | 3.2 | UNCOMP/HGRE BASIN | 2 | 110 | 90 |
| JITLAND | 9.2 | 0.0 | 0.5 | 2.2 | TOTAL (GUNNISON RIVER BASI | 11 | 124 | 75 |
| RROW POINT | 121.0 | 107.1 | 112.4 | 106.7 | | | | |
| ONIA | 18.0 | 3.1 | 5.9 | 4.1 | | | | |
| OGWAY | 83.2 | 71.5 | 68.7 | 68.7 | | | | |
| LOR PARK | 106.0 | 63.3 | 74.3 | 64.0 | | | | |

90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

average is computed for the 1961-1990 base period.

- The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- The value is natural volume - actual volume may be affected by upstream water management.

UPPER COLORADO RIVER BASIN as of February 1, 2001



*Based on selected stations

Snowfall in the higher elevations of the Colorado Basin was extremely low during January, and as a result the snowpack accumulation has declined from 95% of average on January 1, to only 82% of average on February 1. The snowpack percentages are highly variable throughout the basin ranging from only 61% of average in the Plateau Creek Watershed, to as high as 100% of average in the Williams Fork and Willow Creek watersheds. Precipitation in the higher elevations of the basin was only 47% of average during the month of January, and the water year total is only 74% of average on February 1, which is nearly the same as last year on the same date. The combined storage from 8 major reservoirs in the basin is about 8% above average on February 1, but this is only 84% of the storage amount last year at this time. Due to the lack of snowpack accumulation and precipitation during January, all of the streamflow forecasts are now below average. Forecasts range from 94 % of average at the Inflow to Lake Granby, to only 79% of average at the Inflow to Ruedi Reservoir.

UPPER COLORADO RIVER BASIN
Streamflow Forecasts - February 1, 2001

| Forecast Point | Forecast Period | Future Conditions | | | | | | 30-Yr Avg. (1000AF) |
|------------------------------------|-----------------|-----------------------|-----------------|--|----|------------------------|-----------------|------------------------|
| | | <<===== Drier =====>> | | ===== | | >>===== Wetter =====>> | | |
| | | 90% (1000AF) | 70% (1000AF) | Chance Of Exceeding * 50% (Most Probable) (1000AF) % AVG.) | | 30% (1000AF) | 10% (1000AF) | |
| Ke Granby Inflow | APR-JUL | 148 | 175 | 200 | 94 | 229 | 250 | 214 |
| Willow Creek Reservoir Inflow | APR-JUL | 29 | 39 | 45 | 90 | 52 | 61 | 50 |
| Williams Fork Reservoir inflow | APR-JUL | 64 | 73 | 82 | 93 | 92 | 100 | 88 |
| F. Troublesome Creek nr Troublesom | APR-JUL | 6.8 | 13.4 | 16.5 | 89 | 19.6 | 26 | 18.5 |
| Ellon Reservoir Inflow | APR-JUL | 97 | 116 | 130 | 86 | 143 | 163 | 151 |
| Green Mountain Reservoir inflow | APR-JUL | 165 | 208 | 230 | 88 | 254 | 296 | 262 |
| Muddy Creek blw Wolford Mtn. Resv. | APR-JUL | 29 | 41 | 51 | 80 | 64 | 89 | 64 |
| Plateau River blw Gypsum | APR-JUL | 167 | 213 | 255 | 82 | 305 | 344 | 310 |
| Colorado River nr Dotsero | APR-JUL | 858 | 977 | 1210 | 89 | 1443 | 1566 | 1362 |
| Redi Reservoir Inflow | APR-JUL | 58 | 91 | 105 | 77 | 121 | 151 | 136 |
| Roaring Fork at Glenwood Springs | APR-JUL | 336 | 456 | 525 | 78 | 598 | 715 | 671 |
| Colorado River nr Cameo | APR-JUL | 1212 | 1582 | 1940 | 85 | 2298 | 2653 | 2287 |

UPPER COLORADO RIVER BASIN
Reservoir Storage (1000 AF) - End of January

UPPER COLORADO RIVER BASIN
Watershed Snowpack Analysis - February 1, 2001

| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
|----------------|-----------------|------------------------|-----------|-------|----------------------------|----------------------|-------------------|---------|
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| ELLEN | 250.8 | 227.3 | 229.8 | 207.0 | BLUE RIVER BASIN | 8 | 94 | 85 |
| KE GRANBY | 465.6 | 310.7 | 394.0 | 268.2 | UPPER COLORADO RIVER BASIN | 29 | 106 | 88 |
| GREEN MOUNTAIN | 139.0 | 47.2 | 80.4 | 77.8 | MUDDY CREEK BASIN | 3 | 82 | 85 |
| NESTAKE | 43.0 | 42.1 | 42.2 | 23.8 | PLATEAU CREEK BASIN | 1 | 111 | 60 |
| REDI | 102.0 | 71.7 | 72.8 | 73.4 | ROARING FORK BASIN | 7 | 102 | 70 |
| WILLIAMS FORK | 32.0 | 8.9 | 16.3 | 11.0 | WILLIAMS FORK BASIN | 4 | 134 | 100 |
| WILLIAMS FORK | 96.8 | 58.1 | 78.0 | 47.7 | WILLOW CREEK BASIN | 2 | 96 | 100 |
| WILLOW CREEK | 9.0 | 6.9 | 5.5 | 6.3 | TOTAL COLORADO RIVER BASIN | 37 | 106 | 82 |

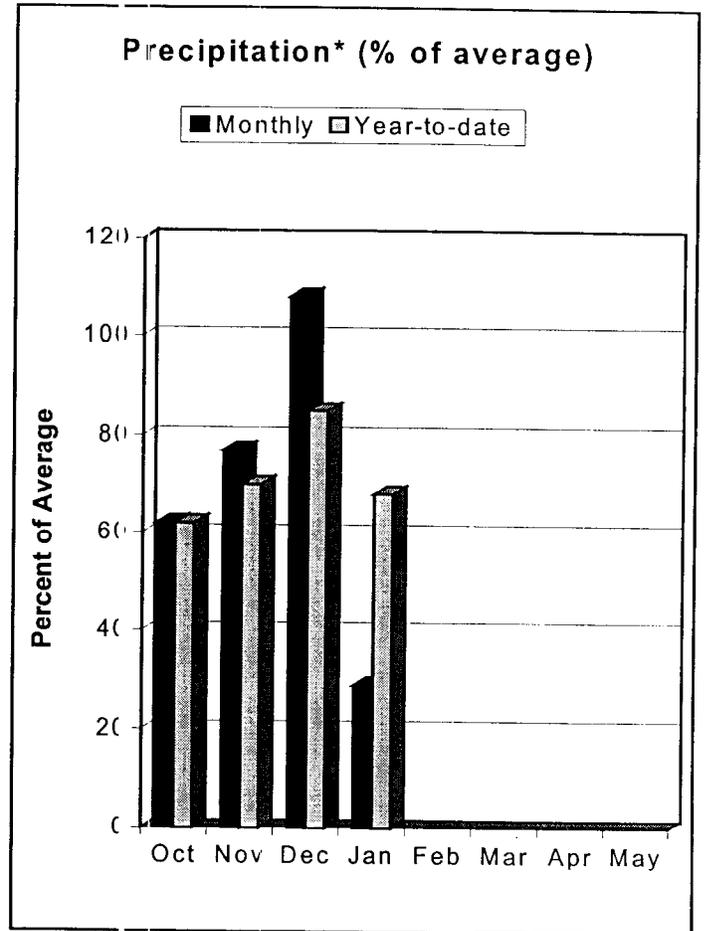
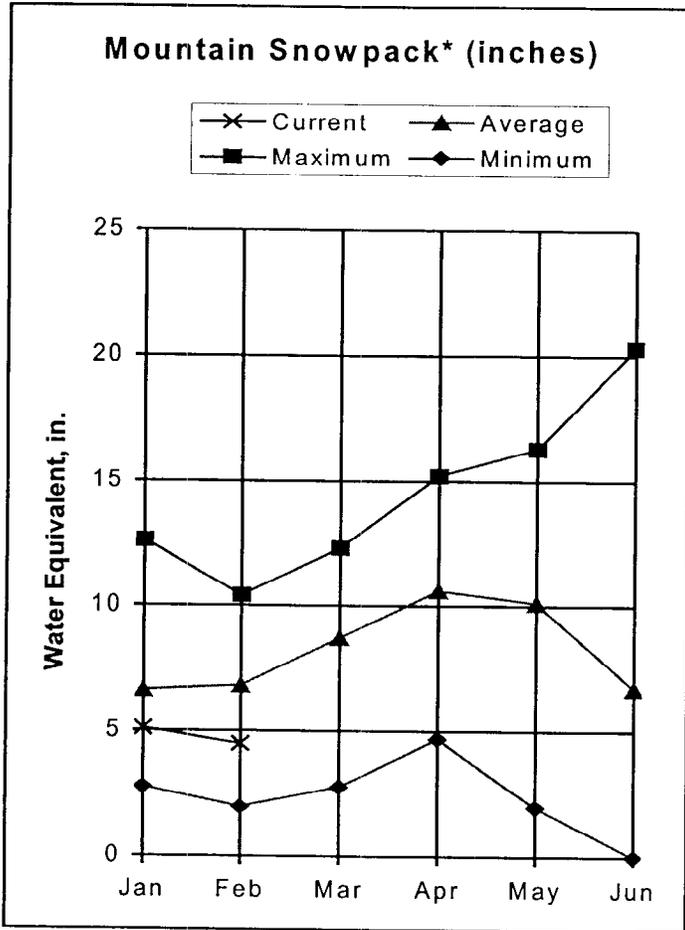
90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

average is computed for the 1961-1990 base period.

- The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- The value is natural volume - actual volume may be affected by upstream water management.

SOUTH PLATTE RIVER BASIN

as of February 1, 2001



*Based on selected stations

Lack of additional snow accumulation during January in the South Platte Basin has been so drastic that the inclusion of the February 1 manually measured snow course data; along with the automated SNOTEL data has caused the basin's February 1 SWE to be less than last month's SWE which was strictly SNOTEL data. The snowpack accumulation is now only 65% of average, which is nearly 20% of average less than the January 1 accumulation. There is only 77% of the amount of snow in the basin there was last year at the same time. The basin's mountain precipitation during January was a dismal 29% of average, and the water year total is only 68% of average. The combined reservoir storage for 32 major reservoirs in the basin is slightly better than last month, but is only 89% of average, which is only 78% of the storage last year at this time. All of the streamflow forecasts are below average at this time, but they are highly variable ranging from only 56% of average at the Inflow to Antero Reservoir, to 86% of average on Clear Creek at Golden.

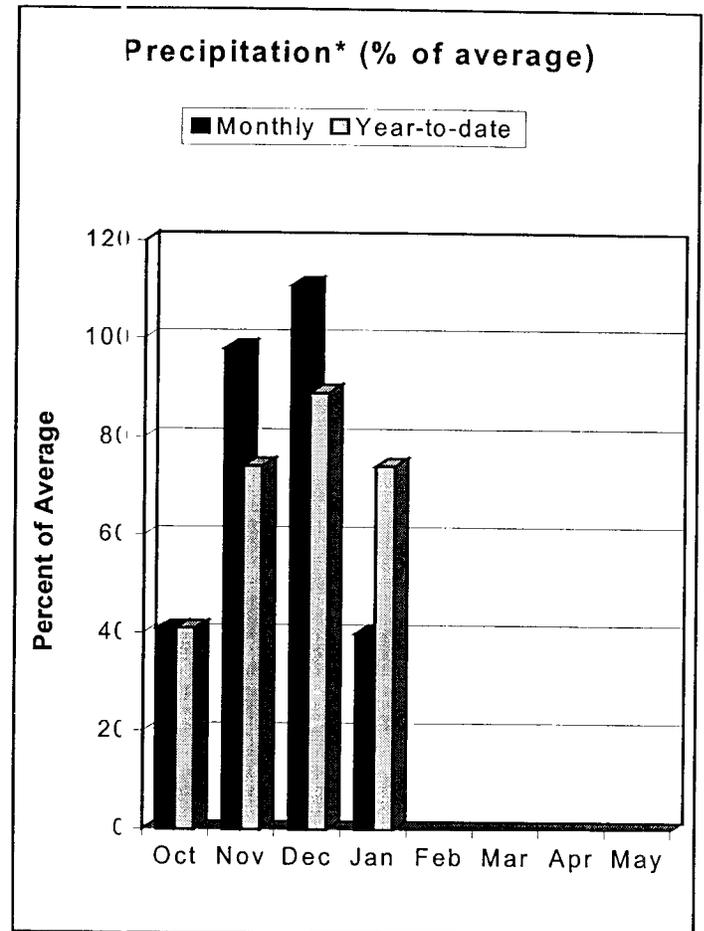
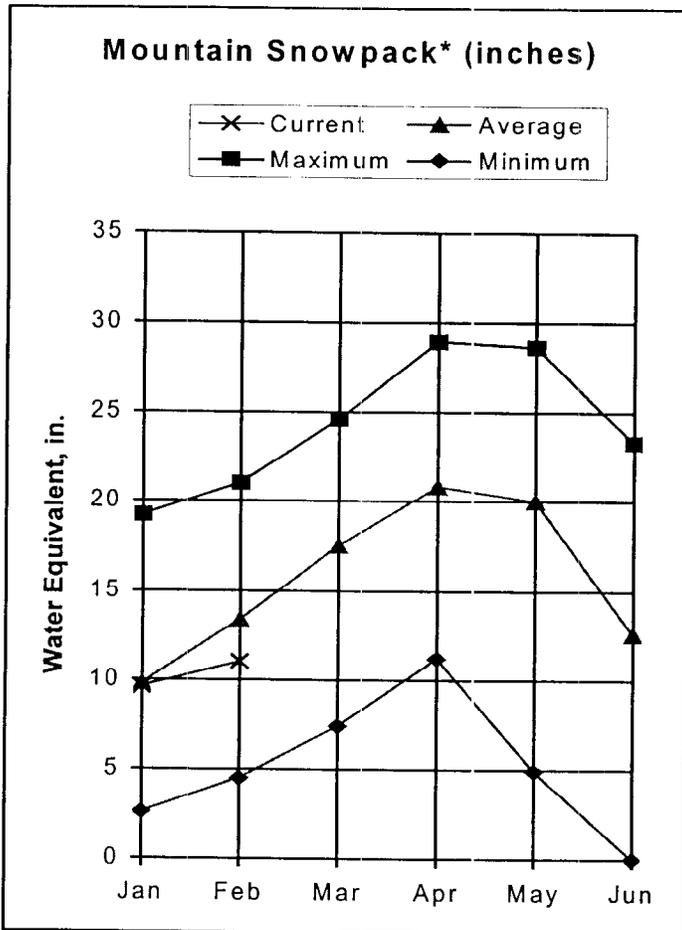
SOUTH PLATTE RIVER BASIN
Streamflow Forecasts - February 1, 2001

| Forecast Point | Forecast Period | <<==== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | 30-Yr Avg. (1000AF) | | | | |
|------------------------------------|-----------------|---|----------|----------|----------|---------------------|----------|------------------------|----------|----------|----------|--|
| | | 90% | | 70% | | 50% (Most Probable) | | | 30% | | 10% | |
| | | (1000AF) | (1000AF) | (1000AF) | (1000AF) | % AVG.) | (1000AF) | | (1000AF) | (1000AF) | (1000AF) | |
| tero Reservoir inflow | APR-JUL | 2.9 | 4.7 | 6.5 | 56 | 9.0 | 14.5 | 11.7 | | | | |
| inney Mountain Reservoir inflow | APR-JUL | 15.7 | 22 | 28 | 74 | 35 | 50 | 38 | | | | |
| evenmile Canyon Reservoir inflow | APR-JUL | 9.3 | 19.9 | 27 | 71 | 34 | 45 | 38 | | | | |
| eesman Lake inflow | APR-JUL | 38 | 50 | 60 | 71 | 72 | 95 | 84 | | | | |
| uth Platte River at South Platte | APR-SEP | 70 | 130 | 170 | 80 | 210 | 270 | 213 | | | | |
| ar Creek at Morrison | APR-SEP | 8.1 | 15.0 | 20 | 67 | 25 | 32 | 30 | | | | |
| ear Creek at Golden | APR-SEP | 74 | 95 | 110 | 86 | 125 | 146 | 128 | | | | |
| . Vrain Creek at Lyons | APR-SEP | 36 | 50 | 60 | 77 | 70 | 85 | 78 | | | | |
| ulder Creek nr Orodell | APR-SEP | 28 | 36 | 42 | 81 | 48 | 56 | 52 | | | | |
| uth Boulder Creek nr Eldorado Spri | APR-SEP | 14.9 | 28 | 36 | 80 | 45 | 57 | 45 | | | | |
| g Thompson River at mouth nr Drake | APR-SEP | 64 | 82 | 94 | 83 | 106 | 124 | 114 | | | | |
| che La Poudre at Canyon Mouth | APR-SEP | 122 | 182 | 244 | 86 | 295 | 369 | 284 | | | | |

| SOUTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of January | | | | | SOUTH PLATTE RIVER BASIN Watershed Snowpack Analysis - February 1, 2001 | | | |
|--|-----------------|------------------------|-----------|------|--|----------------------|-------------------|---------|
| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| PERO | 20.0 | 20.0 | 20.0 | 15.0 | BIG THOMPSON BASIN | 6 | 83 | 67 |
| RR LAKE | 32.0 | 26.6 | 23.8 | 22.6 | BOULDER CREEK BASIN | 5 | 62 | 55 |
| ACK HOLLOW | 8.0 | 2.6 | 3.5 | 4.0 | CACHE LA POUDDRE BASIN | 8 | 90 | 72 |
| LD LAKE | 49.0 | 22.3 | 43.0 | 33.7 | CLEAR CREEK BASIN | 4 | 96 | 79 |
| CHE LA POUDDRE | 10.0 | 4.9 | 7.0 | 7.2 | SAINT VRAIN BASIN | 3 | 48 | 44 |
| RTER | 108.9 | 87.3 | 85.0 | 81.6 | UPPER SOUTH PLATTE BASIN | 16 | 76 | 63 |
| AMBERS LAKE | 9.0 | 2.9 | 5.5 | 3.0 | TOTAL SOUTH PLATTE BASIN | 40 | 77 | 65 |
| ESMAN | 79.0 | 46.6 | 60.5 | 56.0 | | | | |
| 3B LAKE | 34.0 | 8.9 | 17.5 | 13.9 | | | | |
| EVEN MILE | 97.8 | 98.6 | 99.9 | 91.0 | | | | |
| PIRE | 38.0 | 25.0 | 24.5 | 22.8 | | | | |
| SSIL CREEK | 12.0 | 8.4 | 6.0 | 6.5 | | | | |
| SS | 41.8 | 20.5 | 36.5 | 26.4 | | | | |
| LIGAN | 6.4 | 6.0 | 6.4 | 3.8 | | | | |
| RSECREEK | 16.0 | 13.0 | 12.5 | 12.1 | | | | |
| RSETOOTH | 149.7 | 16.6 | 108.1 | 89.0 | | | | |
| RKSON | 35.0 | 20.9 | 19.4 | 28.8 | | | | |
| ESBURG | 28.0 | 14.6 | 15.0 | 19.9 | | | | |
| CE LOVELAND | 14.0 | 9.2 | 10.8 | 8.8 | | | | |
| JE TREE | 9.0 | 7.7 | 7.8 | 6.0 | | | | |
| LIANO | 6.0 | 3.7 | 4.6 | 4.5 | | | | |
| RSHALL | 10.0 | 5.9 | 7.6 | 4.1 | | | | |
| RSTON | 13.0 | 9.6 | 8.3 | 7.0 | | | | |
| .TON | 24.0 | 17.7 | 18.7 | 13.8 | | | | |
| INT OF ROCKS | 70.0 | 44.4 | 66.3 | 55.0 | | | | |
| WITT | 33.0 | 22.3 | 14.4 | 17.4 | | | | |
| VERSIDE | 63.1 | 51.7 | 45.0 | 40.1 | | | | |
| NNNEY MOUNTAIN | 48.7 | 18.2 | 38.0 | 34.6 | | | | |
| NDLEY | 42.0 | 32.6 | 40.0 | 25.4 | | | | |
| RY LAKE | 8.0 | 5.3 | 5.5 | 5.1 | | | | |
| ON | 13.0 | 9.6 | 11.9 | 10.5 | | | | |
| DSOR | 19.0 | 9.5 | 12.0 | 10.3 | | | | |

90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.
 average is computed for the 1961-1990 base period.
) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 - The value is natural volume - actual volume may be affected by upstream water management.

YAMPA, WHITE, NORTH PLATTE AND LARAMIE RIVER BASINS as of February 1, 2001



*Based on selected stations

Snow accumulation was extremely low during January in these basins, and the resulting February 1 snowpack accumulation percent of average is much below that of last month's. The snowpack in the North Platte and Laramie basins is down from 90% of average on January 1, to only 75% of average, and the Yampa and White basins are down from 100% of average last month, to only 81% of average. There is about 10% less snow accumulation in these basins this year than there was last year at this time. There was only 40% of average precipitation in the higher elevations of these basins during January, and the water year total is now only 74% of average. The combined reservoir storage in these basins is at 112% of average, which is about 3% less than last year at this time. Most of the streamflow forecasts are between 70% and 80% of average, but they are highly variable depending on snowpack and precipitation conditions. Forecasts range from only 67% of average on Fortification Creek near Fortification, to 82% of average on the Yampa River at Steamboat Springs.

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS
Streamflow Forecasts - February 1, 2001

| Forecast Point | Forecast Period | <----- Drier ----- Future Conditions ----- Wetter -----> | | | | | | 30-Yr Avg. (1000AF) | | |
|-----------------------------------|-----------------|--|----------|----------|----------|---------------------|----------|------------------------|-----|-----|
| | | 90% | | 70% | | 50% (Most Probable) | | | 30% | 10% |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | | | |
| North Platte River nr Northgate | APR-SEP | 78 | 145 | 190 | 70 | 235 | 302 | 271 | | |
| Laramie River nr Woods | APR-SEP | 36 | 75 | 102 | 76 | 129 | 168 | 135 | | |
| Yampa R abv Stagecoach Res | APR-JUL | 15.6 | 23 | 28 | 82 | 33 | 40 | 34 | | |
| Yampa River at Steamboat Springs | APR-JUL | 144 | 192 | 225 | 82 | 258 | 306 | 273 | | |
| Elk River nr Milner | APR-JUL | 142 | 192 | 230 | 77 | 272 | 339 | 300 | | |
| Khead Creek nr Elkhead | APR-JUL | 14.8 | 21 | 27 | 69 | 35 | 49 | 39 | | |
| KHEAD CREEK blw Maynard Gulch | APR-JUL | 23 | 36 | 45 | 76 | 57 | 74 | 59 | | |
| Fortification Ck nr Fortification | MAR-JUN | 2.29 | 4.02 | 5.70 | 67 | 7.38 | 9.84 | 8.50 | | |
| Yampa River nr Maybell | APR-JUL | 412 | 607 | 740 | 78 | 873 | 1068 | 947 | | |
| Little Snake River nr Slater | APR-JUL | 74 | 95 | 112 | 72 | 130 | 159 | 155 | | |
| LITTLE SNAKE R nr Dixon | APR-JUL | 119 | 191 | 240 | 73 | 289 | 361 | 329 | | |
| LITTLE SNAKE R nr Lily | APR-JUL | 130 | 204 | 255 | 71 | 306 | 380 | 358 | | |
| Little River nr Meeker | APR-JUL | 151 | 189 | 220 | 79 | 256 | 320 | 279 | | |

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2001

| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
|------------|-----------------|------------------------|-----------|------|---------------------------|----------------------|-------------------|---------|
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| STAGECOACH | 33.3 | 29.6 | 28.9 | 26.7 | LARAMIE RIVER BASIN | 3 | 83 | 62 |
| WYO | 9.1 | 6.5 | 8.2 | 5.6 | NORTH PLATTE RIVER BASIN | 5 | 89 | 80 |
| | | | | | TOTAL NORTH PLATTE BASIN | 7 | 88 | 75 |
| | | | | | ELK RIVER BASIN | 2 | 95 | 75 |
| | | | | | YAMPA RIVER BASIN | 11 | 90 | 82 |
| | | | | | WHITE RIVER BASIN | 4 | 102 | 80 |
| | | | | | TOTAL YAMPA AND WHITE RIV | 14 | 93 | 81 |
| | | | | | LITTLE SNAKE RIVER BASIN | 8 | 95 | 76 |

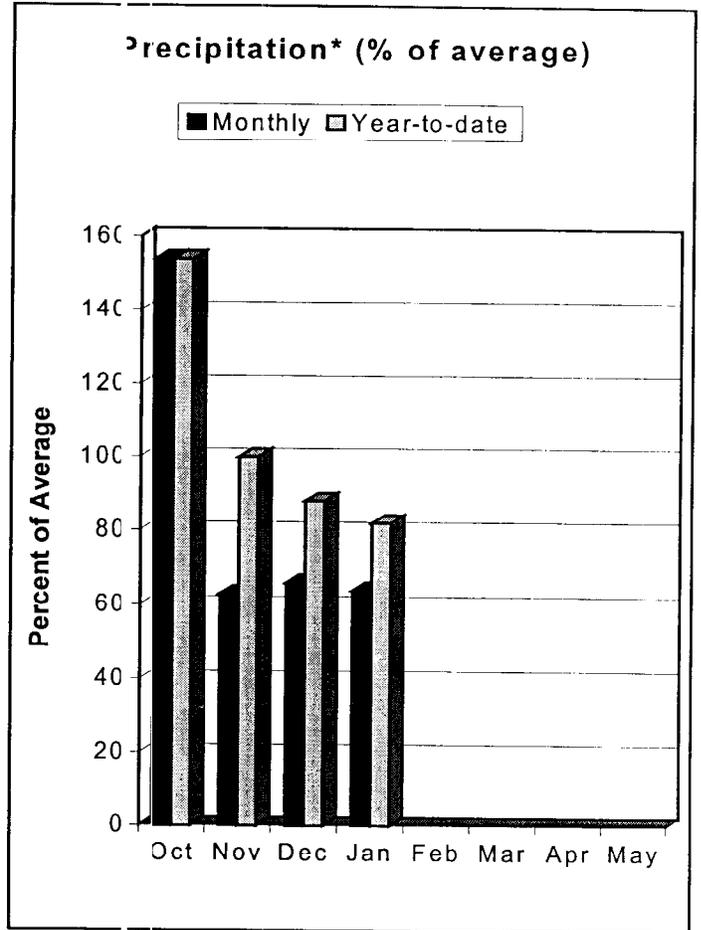
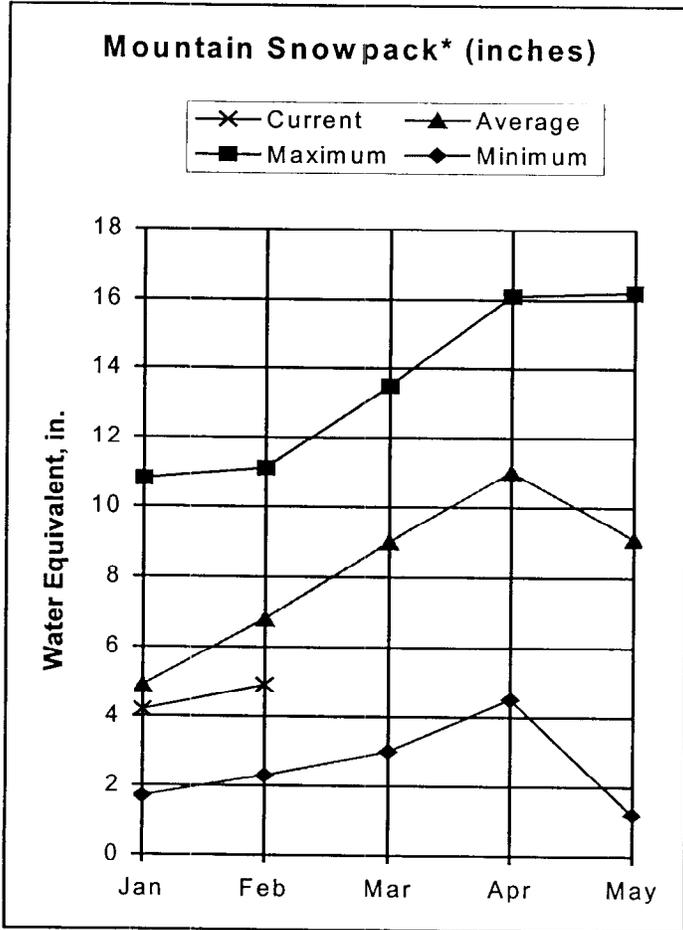
90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

average is computed for the 1961-1990 base period.

- The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- The value is natural volume - actual volume may be affected by upstream water management.

ARKANSAS RIVER BASIN

as of February 1, 2001



*Based on selected stations

Snow accumulation was very low during January in the Arkansas Basin. As a result, the snowpack percent of average has decreased from 86% of average last month, to only 72% of average on February 1. There is about the same amount of snow in the mountains that there was last year at the same time. Snowpack percentages are highly variable throughout the basin, ranging from only 60% of average in the Cucharas and Huerfano watersheds, to 80% of average in the Upper Arkansas above Salida. Precipitation in the high country was only 64% of average during January, and the water year total is now only 82% of average. Fortunately, reservoirs remain in good shape with combined storage among 12 major reservoirs at 151% of average for this time of year, but this is only 58% of last year's storage level. All of the streamflow forecasts are below average at this time, ranging from only 66% of average on Grape Creek near Westcliffe, to 86% of average on the Arkansas River at Salida.

=====

ARKANSAS RIVER BASIN
Streamflow Forecasts - February 1, 2001

=====

| Forecast Point | Forecast Period | Future Conditions | | | | | | 30-Yr Avg. (1000AF) |
|----------------------------|-----------------|-----------------------|--------------|--|----|--------------|--------------|---------------------|
| | | <<----- Drier ----->> | | ----->> | | ----->> | | |
| | | 90% (1000AF) | 70% (1000AF) | Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.) | | 30% (1000AF) | 10% (1000AF) | |
| Walk Creek nr Nathrop | APR-SEP | 8.1 | 13.2 | 20 | 69 | 27 | 37 | 29 |
| Arkansas River at Salida | APR-SEP | 114 | 191 | 254 | 86 | 317 | 409 | 297 |
| Cape Creek nr Westcliffe | APR-SEP | 4.9 | 7.7 | 13.1 | 66 | 21 | 34 | 20 |
| Weblo Reservoir Inflow | APR-SEP | 110 | 191 | 280 | 71 | 369 | 500 | 394 |
| Huerfano River nr Redwing | APR-SEP | 5.5 | 9.9 | 14.0 | 93 | 18.1 | 24 | 15.0 |
| Chucharas River nr La Veta | APR-SEP | 4.3 | 7.3 | 12.0 | 92 | 16.7 | 24 | 13.0 |
| Trinidad Lake Inflow | APR-SEP | 16.5 | 25 | 40 | 93 | 55 | 78 | 43 |

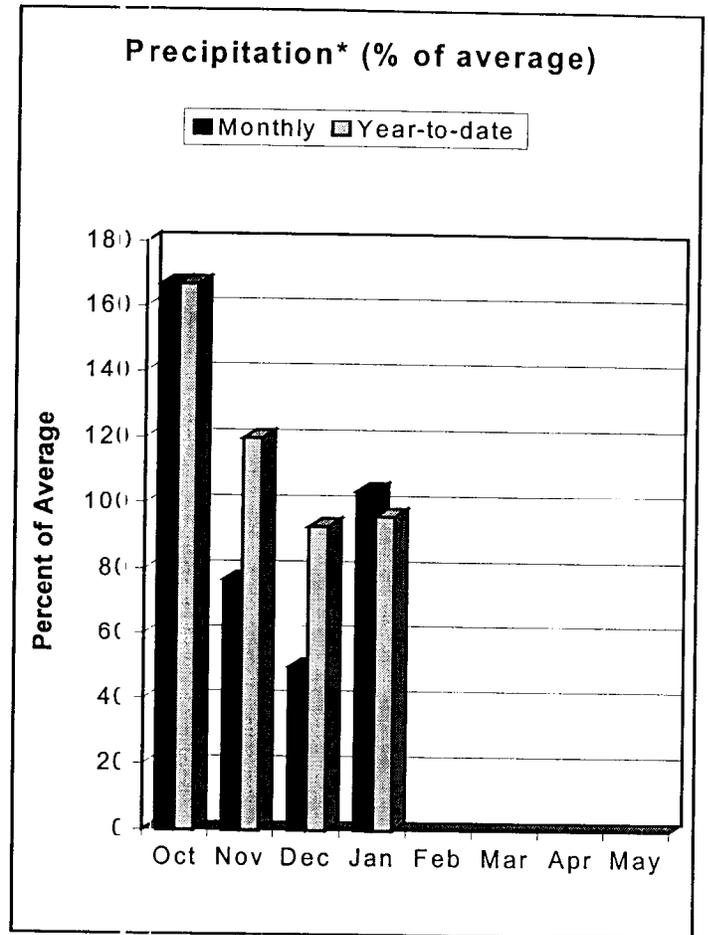
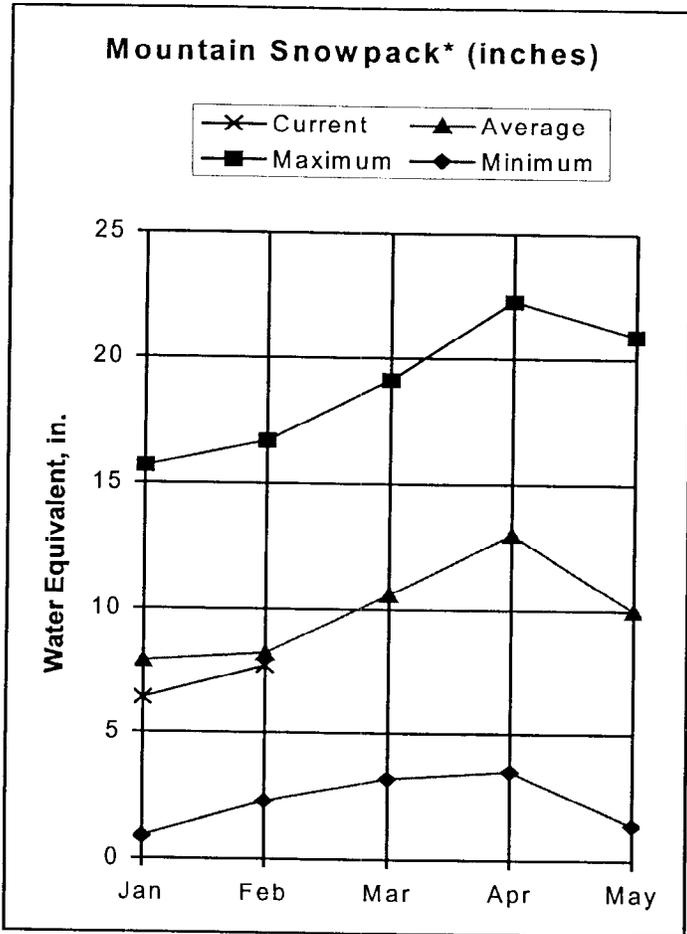
| ARKANSAS RIVER BASIN Reservoir Storage (1000 AF) - End of January | | | | | ARKANSAS RIVER BASIN Watershed Snowpack Analysis - February 1, 2001 | | | |
|--|-----------------|------------------------|-----------|-------|--|----------------------|-------------------|---------|
| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| MOBE | 70.0 | 47.5 | 70.0 | 16.8 | UPPER ARKANSAS BASIN | 3 | 105 | 80 |
| PEAR CREEK | 11.0 | 5.2 | 5.3 | 6.8 | CUCHARAS & HUERFANO RIVER | 4 | 86 | 60 |
| EAT PLAINS | 150.0 | 66.8 | 129.8 | 33.6 | PURGATIFIE RIVER BASIN | 2 | 88 | 75 |
| ELBROOK | 7.0 | 5.6 | 5.2 | 3.7 | TOTAL ARKANSAS RIVER BASIN | 8 | 101 | 72 |
| RSE CREEK | 28.0 | 0.0 | 25.5 | 9.6 | | | | |
| HN MARTIN | 335.7 | 150.0 | 340.4 | 82.5 | | | | |
| KE HENRY | 8.0 | 2.8 | 3.1 | 3.9 | | | | |
| REDITH | 42.0 | 14.6 | 39.5 | 11.2 | | | | |
| EBLO | 236.7 | 203.6 | 254.8 | 136.4 | | | | |
| INIDAD | 72.3 | 31.4 | 67.2 | 27.4 | | | | |
| RQUOISE | 126.6 | 68.3 | 113.5 | 54.4 | | | | |
| IN LAKES | 86.0 | 42.7 | 49.4 | 36.1 | | | | |

90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

-) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
-) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER RIO GRANDE RIVER BASIN as of February 1, 2001



*Based on selected stations

Up until the last week in January the Rio Grande Basin's snowpack percentage had been rapidly decreasing since November. Finally, a storm late in January brought enough snow to increase the snowpack percentage about 20% in only a few days. The February 1 measurements are 92% of average, which is the highest percentage in the state. There is over three times the amount of snow there was last year at this time. Snowpack percentages range from only 71% of average in the Alamosa Creek Watershed, to 100% of average in the Upper Rio Grande Watershed. The late January storm helped boost the monthly precipitation from well below average to 4% above average, and the water year total is now 96% of average. Reservoir storage remains about average for this time of year, but is only 64% of the storage amount last year at this time. Most of the streamflow forecasts are slightly higher now than last month's forecasts, but remain near average with the exception of Costilla Creek and Culebra Creek which are forecasted 20% to 30% above average flow.

UPPER RIO GRANDE BASIN
Streamflow Forecasts - February 1, 2001

| Forecast Point | Forecast Period | Future Conditions | | | | | | 30-Yr Avg. (1000AF) |
|-----------------------------------|-----------------|----------------------|-----------------|---|-----|-----------------------|-----------------|------------------------|
| | | <<==== Drier =====>> | | Future Conditions | | ====>> Wetter =====>> | | |
| | | 90% (1000AF) | 70% (1000AF) | Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.) | | 30% (1000AF) | 10% (1000AF) | |
| o Grande at Thirty Mile Bridge | APR-SEP | 97 | 120 | 140 | 105 | 163 | 203 | 133 |
| o Grande Reservoir Inflow | APR-JUL | 86 | 108 | 125 | 106 | 145 | 181 | 118 |
| o Grande at Wagon Wheel Gap | APR-SEP | 220 | 298 | 350 | 106 | 402 | 480 | 330 |
| uth Fork Rio Grande at South Fork | APR-SEP | 77 | 106 | 125 | 95 | 144 | 173 | 132 |
| o Grande nr Del Norte | APR-SEP | 329 | 461 | 550 | 106 | 639 | 771 | 520 |
| guache Creek nr Saguache | APR-SEP | 17.2 | 28 | 35 | 103 | 42 | 53 | 34 |
| amosa Creek abv Terrace Reservoir | APR-SEP | 37 | 54 | 65 | 94 | 76 | 93 | 69 |
| Jara Creek nr Capulin | MAR-JUL | 2.82 | 6.02 | 8.20 | 95 | 10.38 | 13.58 | 8.60 |
| inchera Water Supply | APR-SEP | 12.0 | 18.5 | 30 | 100 | 42 | 58 | 30 |
| atoro Reservoir Inflow | APR-JUL | 36 | 47 | 55 | 93 | 63 | 74 | 59 |
| | APR-SEP | 39 | 52 | 60 | 92 | 68 | 81 | 65 |
| nejos River nr Mogote | APR-SEP | 113 | 159 | 190 | 95 | 221 | 267 | 201 |
| n Antonio River at Ortiz | APR-SEP | 5.5 | 11.0 | 15.7 | 98 | 21 | 31 | 16.0 |
| s Pinos River nr Ortiz | APR-SEP | 30 | 52 | 67 | 93 | 82 | 104 | 72 |
| lebra Creek at San Luis | APR-SEP | 9.3 | 19.3 | 26 | 130 | 33 | 43 | 20 |
| stilla Reservoir inflow | MAR-JUL | 6.32 | 9.11 | 11.00 | 121 | 12.89 | 15.68 | 9.10 |
| stilla Creek nr Costilla | MAR-JUL | 15.7 | 22 | 27 | 123 | 32 | 38 | 22 |

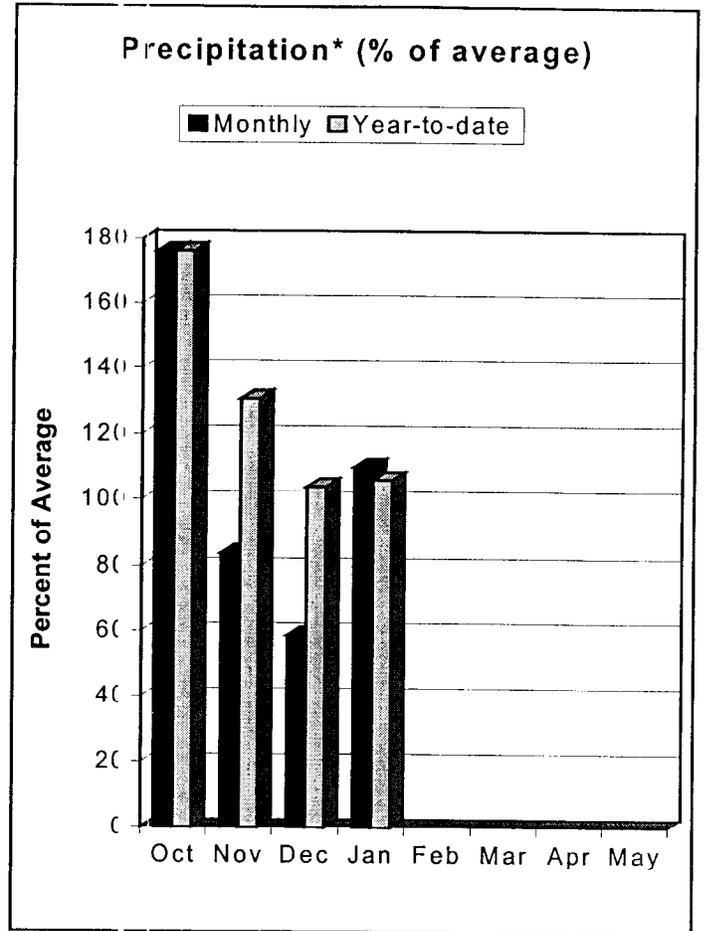
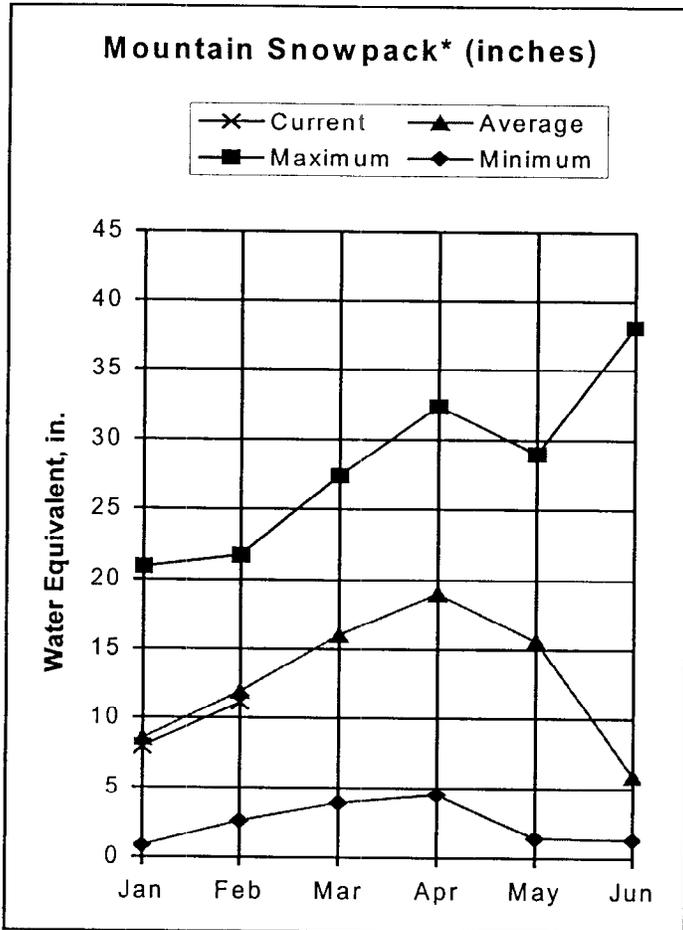
| UPPER RIO GRANDE BASIN Reservoir Storage (1000 AF) - End of January | | | | | UPPER RIO GRANDE BASIN Watershed Snowpack Analysis - February 1, 2001 | | | |
|--|-----------------|------------------------|-----------|------|--|----------------------|-------------------|---------|
| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| CONTINENTAL | 15.0 | 4.7 | 3.7 | 5.8 | ALAMOSA CREEK BASIN | 2 | 572 | 71 |
| ATORO | 53.7 | 13.9 | 29.2 | 16.8 | CONEJOS & RIO SAN ANTONIO | 5 | 343 | 86 |
| RIO GRANDE | 51.0 | 12.1 | 2.7 | 15.4 | CULEBRA & TRINCHERA CREEK | 5 | 112 | 91 |
| RICHEZ | 103.0 | 25.9 | 45.6 | 16.9 | UPPER RIO GRANDE BASIN | 10 | 553 | 99 |
| ATA MARIA | 45.0 | 9.7 | 21.0 | 8.7 | TOTAL UPPER RIO GRANDE BA | 23 | 329 | 92 |
| TRANCE | 13.1 | 4.8 | 8.5 | 5.6 | | | | |

90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

average is computed for the 1961-1990 base period.

- The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- The value is natural volume - actual volume may be affected by upstream water management.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS as of February 1, 2001



*Based on selected stations

Snowpack percentages have been rapidly declining in all of these basins since November, but a large storm during the last week of January has boosted the percentage about 20% in only a few days, and the February 1 snowpack is now 91% of average, which is only 2% of average less than last month. Snowpack percentages range from only 77% of average in the San Miguel Watershed, to 97% of average in the San Juan Watershed. There is over twice the amount of snow in the basin that there was last year at this time. Precipitation during January was a much needed 10% above average, and the water year total is 6% above average on February 1. The combined reservoir storage level for 6 major reservoirs in these basins is only 76% of average for this time of year, which is only 66% of the storage last year at this time. Streamflow forecasts for this runoff season are highly variable depending on snowpack and precipitation conditions. They range from only 84% of average flow at the Inlet to Lilylands Reservoir, to 113% of average flow on the Mancos River near Mancos.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS
Streamflow Forecasts - February 1, 2001

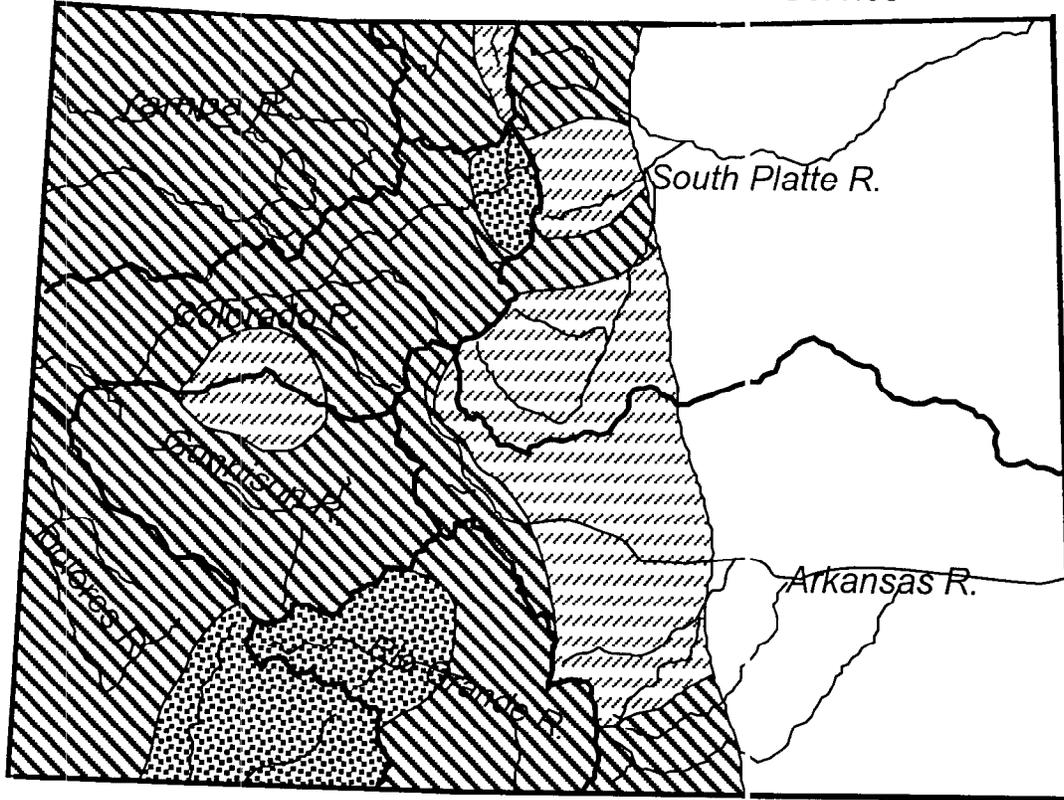
| Forecast Point | Forecast Period | Future Conditions | | | | | | 30-Yr Avg. (1000AF) |
|------------------------------------|-----------------|-----------------------|-----------------|---|-----|-----------------|-----------------|------------------------|
| | | <<----- Drier ----->> | | ----->> | | ----->> | | |
| | | 90% (1000AF) | 70% (1000AF) | Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.) | | 30% (1000AF) | 10% (1000AF) | |
| Dolores River at Dolores | APR-JUL | 150 | 204 | 240 | 98 | 276 | 330 | 246 |
| Phee Reservoir Inflow | APR-JUL | 162 | 229 | 275 | 97 | 321 | 388 | 283 |
| San Miguel River nr Placerville | APR-JUL | 75 | 102 | 120 | 98 | 138 | 165 | 122 |
| Traylor Reservoir Inlet | APR-JUL | 7.6 | 12.1 | 15.2 | 92 | 18.3 | 23 | 16.5 |
| | APRIL | | | 1.40 | 84 | | | 1.66 |
| | MAY | | | 8.50 | 96 | | | 8.83 |
| | JUNE | | | 4.50 | 96 | | | 4.67 |
| | JULY | | | 0.80 | 61 | | | 1.32 |
| Traylor Reservoir Inlet | APR-JUL | 1.49 | 2.18 | 3.00 | 85 | 3.82 | 5.03 | 3.53 |
| | APRIL | | | 0.30 | 65 | | | 0.46 |
| | MAY | | | 1.60 | 98 | | | 1.64 |
| | JUNE | | | 0.80 | 77 | | | 1.04 |
| | JULY | | | 0.30 | 79 | | | 0.38 |
| Traylor Reservoir Inlet | APR-JUL | 1.12 | 1.88 | 2.40 | 84 | 2.92 | 3.68 | 2.86 |
| | APRIL | | | 0.20 | 50 | | | 0.40 |
| | MAY | | | 1.40 | 106 | | | 1.32 |
| | JUNE | | | 0.60 | 69 | | | 0.87 |
| | JULY | | | 0.20 | 74 | | | 0.27 |
| San Juan River at Blanco Diversion | APR-JUL | 29 | 44 | 54 | 100 | 64 | 79 | 54 |
| San Juan River at Oso Diversion | APR-JUL | 34 | 52 | 65 | 100 | 78 | 96 | 65 |
| San Juan River nr Carracus | APR-JUL | 222 | 314 | 385 | 101 | 464 | 592 | 382 |
| San Juan River nr Arboles | APR-JUL | 134 | 185 | 220 | 101 | 255 | 306 | 219 |
| San Juan Reservoir Inflow | APR-JUL | 149 | 188 | 215 | 110 | 242 | 281 | 196 |
| San Juan Reservoir Inflow | APR-JUL | 441 | 640 | 775 | 100 | 910 | 1109 | 772 |
| Animas River at Durango | APR-JUL | 272 | 366 | 430 | 103 | 494 | 588 | 418 |
| San Juan Reservoir Inflow | APR-JUL | 36 | 50 | 60 | 105 | 70 | 84 | 57 |
| Plata River at Hesperus | APR-JUL | 16.2 | 23 | 27 | 113 | 31 | 38 | 24 |
| Mancos River nr Mancos | APR-JUL | 24 | 37 | 45 | 113 | 53 | 66 | 40 |
| | APRIL | | | 8.50 | 147 | | | 5.80 |
| | MAY | | | 19.0 | 120 | | | 15.9 |
| | JUNE | | | 14.0 | 102 | | | 13.7 |
| | JULY | | | 3.50 | 76 | | | 4.60 |

| SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS Reservoir Storage (1000 AF) - End of January | | | | | SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS Watershed Snowpack Analysis - February 1, 2001 | | | |
|--|-----------------|------------------------|-----------|-------|--|----------------------|-------------------|---------|
| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| MUNDHOG | 21.7 | 11.3 | 16.3 | 10.4 | ANIMAS RIVER BASIN | 7 | 277 | 95 |
| MCKSON GULCH | 10.0 | 2.7 | 7.0 | 4.5 | DOLORES RIVER BASIN | 3 | 143 | 80 |
| TRAYLOR | 40.0 | 10.0 | 30.2 | 19.5 | SAN MIGUEL RIVER BASIN | 4 | 123 | 76 |
| PHEE | 381.2 | 219.2 | 322.2 | 301.0 | SAN JUAN RIVER BASIN | 2 | 425 | 92 |
| LAGUINNEP | 19.0 | 17.2 | 18.6 | 11.4 | TOTAL SAN MIGUEL, DOLORES | 15 | 221 | 89 |
| LECITO | 126.0 | 45.6 | 71.2 | 53.6 | SAN JUAN RIVER BASINS | | | |

90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table. Average is computed for the 1961-1990 base period.
 *) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 - The value is natural volume - actual volume may be affected by upstream water management.



Natural Resources Conservation Service



Snowpack

February 1, 2001

Statewide: 81% of Average
122% of Last Year

-  **Much Above Average > 130%**
-  **Above Average 110% to 130%**
-  **Near Average 90% to 110%**
-  **Below Average 70% to 90%**
-  **Much Below Average < 70%**
-  **Not Measured**



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In addition to the basin outlook reports, water supply forecast information for the Western United States is available from the Natural Resources Conservation Service and the National Weather Service monthly, January through May. The information may be obtained from the National Resources Conservation Service web page at <http://www.wcc.nrcs.usda.gov/water/quantity/westwide.html>.

Issued by

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Colorado
Basin Outlook Report
Natural Resources Conservation Service
Lakewood, CO

