1989 SNOWMELT FLOOD WATCH

Prepared for the

Division of Disaster Emergency Services
Department of Public Safety

By the

Flood Control and Floodplain Management Section
Colorado Water Conservation Board
Department of Natural Resources

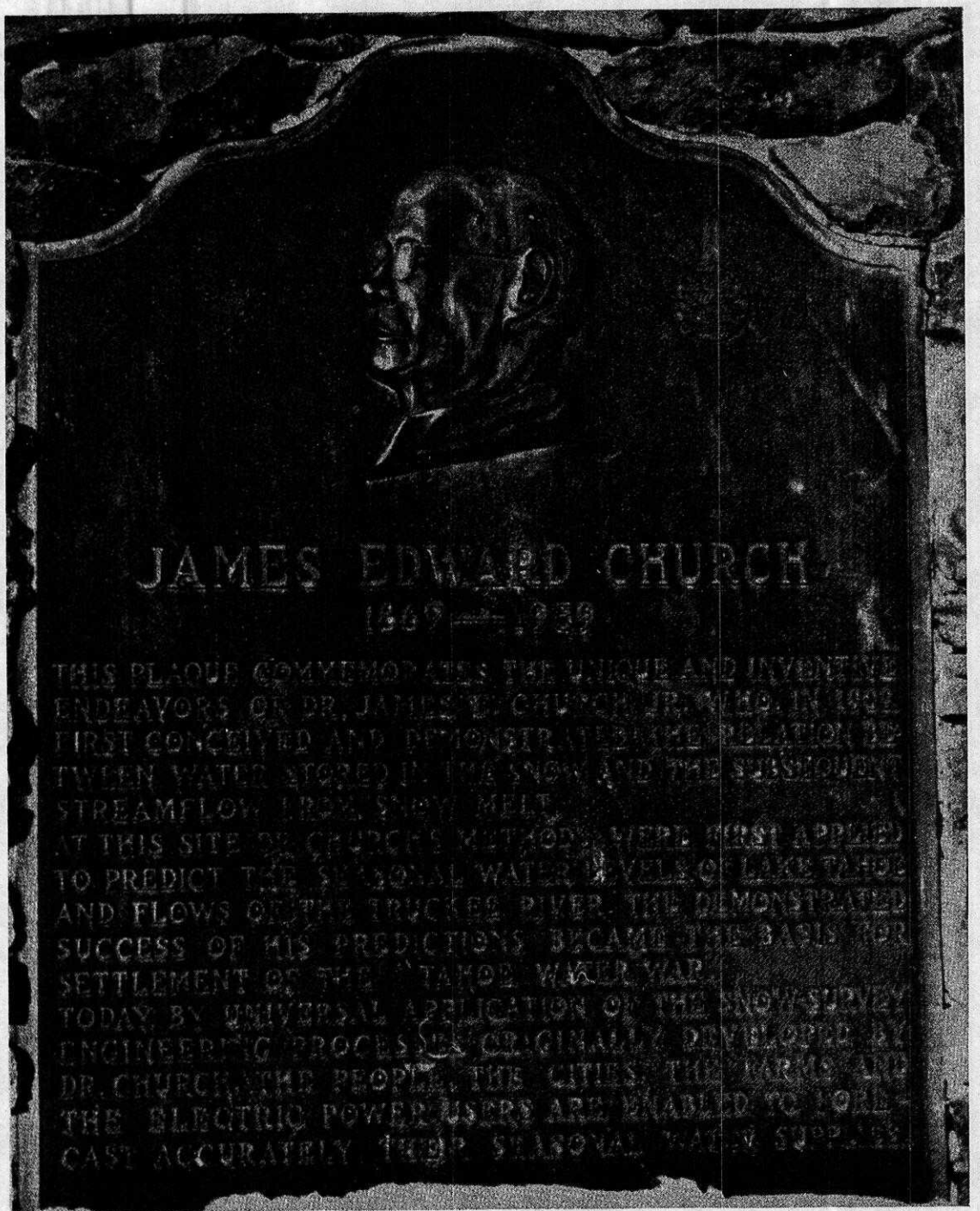
Spring 1989

United States
Department of
Agriculture

**Soil
Conservation
Service**

Colorado
Water Supply Outlook

June 1, 1989



Foreword

How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

An error is associated with each forecast, and this error decreases as the season progresses and more data becomes available. To express the range of error that can be expected, "most probable" forecasts are issued along with a range representing a "reasonable minimum" and a "reasonable maximum". Actual streamflow can be expected to fall within this range in eight out of ten years. Additionally two specific scenarios are provided based on the assumption that subsequent precipitation will be "wet", above average, or "dry", below average.

For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola Ave., Suite 200, Phoenix, AZ 85012
Colorado	2490 West 26th Ave., Building A, 3rd floor, Denver, CO 80211
Idaho	3244 Elder Street, Room 124, Boise, ID 83705
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Room 219, Reno, NV 89502
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157
Oregon	1220 Southwest 3rd Ave., Room 1640, Portland, OR 97204
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	W. 920 Riverside, Room 360, Spokane, WA 99201-1080
Wyoming	Federal Building, 100 "B" Street, Room 3124, Casper, WY 82601

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

Water supply reports published by other agencies:

California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento, CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A3V1; Alberta, Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.

Colorado
Water Supply Outlook

and

Federal-State-Private
Cooperative Snow Surveys

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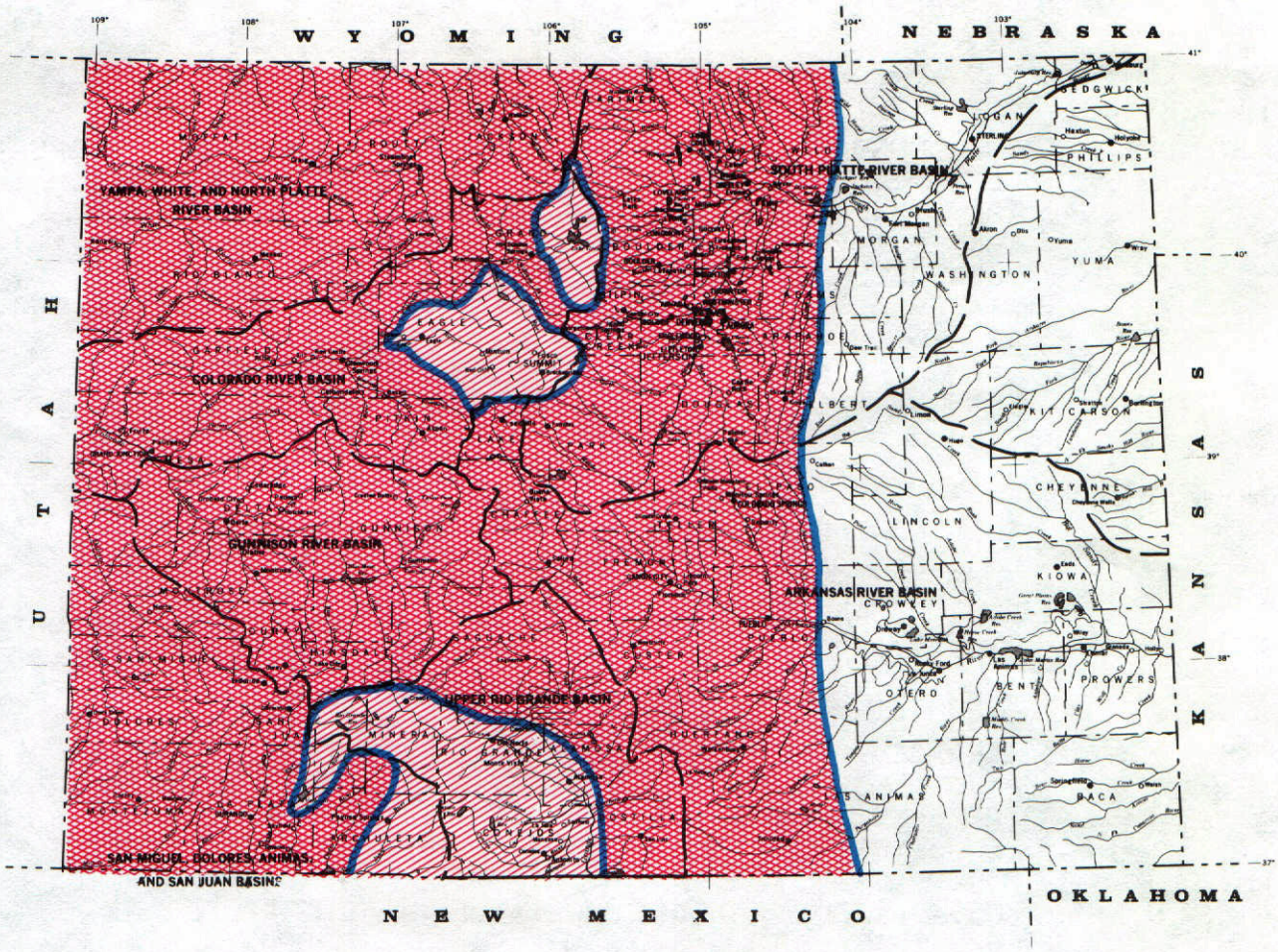


LEGEND

SPRING AND SUMMER PERIOD

- MUCH ABOVE AVERAGE
- ABOVE AVERAGE
- NEAR AVERAGE
- BELOW AVERAGE
- MUCH BELOW AVERAGE
- NOT FORECAST
- BASIN BOUNDARY

STREAMFLOW PROSPECTS
COLORADO

N

0 25 50 75 100 MI

0 50 100 150 KM

1

SOURCE: Data compiled by SCS Field Personnel.

REVISED JANUARY 1987 4-R-39356

GENERAL OUTLOOK

SUMMARY

THE UNUSUAL WARM AND DRY WEATHER CONDITIONS AT HIGHER ELEVATIONS CONTINUED THROUGH MAY ACROSS THE STATE. THE STATE'S SNOWPACK HAS DECLINED FOR THE THIRD CONSECUTIVE MONTH. STREAMFLOW FORECASTS HAVE DECREASED TO MUCH BELOW NORMAL VOLUMES NEARLY STATEWIDE. THIS HAS INCREASED THE RELIANCE UPON WATER STORED IN THE STATE'S RESERVOIRS, AND SPRING AND SUMMER RAINFALL TO ASSURE NORMAL CROP PRODUCTION THIS SEASON.

SNOWPACK

THE SNOWPACK STATISTICS IN COLORADO CONTINUED TO DECLINE DURING MAY. THE CURRENT READINGS ARE ONLY 32% OF AVERAGE, STATEWIDE. THIS YEAR'S JUNE SNOWPACK IS ONLY 51% OF LAST YEAR. WELL BELOW NORMAL READINGS WERE TAKEN ACROSS THE STATE. THE LOWEST MEASUREMENTS WERE IN THE YAMPA, WHITE, NORTH AND SOUTH PLATTE RIVER BASINS, WHERE THE SNOWPACK WAS LESS THAN 25% OF AVERAGE. THE RIO GRANDE AND COLORADO RIVER BASINS HAVE THE HIGHEST READINGS AT ONLY 39% OF AVERAGE. THESE LOW SNOWPACK FIGURES CAN BE ATTRIBUTED TO THE BELOW NORMAL PRECIPITATION AMOUNTS RECEIVED SINCE MARCH ACROSS THE STATE. THESE CONDITIONS HAVE BEEN ACCOMPANIED BY WARM TEMPERATURES. THE RESULT HAS BEEN THE LOSS OF THE LOW ELEVATION SNOWPACK SINCE APRIL, AND ADVANCED MELTING OF THE HIGHER ELEVATION SNOWPACK SINCE EARLY MAY. THE SNOWLINE ELEVATION IS NEAR 11,000 FEET AS OF JUNE 1.

PRECIPITATION

PRECIPITATION AMOUNTS RECEIVED AT LOWER ELEVATIONS WAS BELOW NORMAL THROUGHOUT MOST OF THE STATE. THE ONLY BASIN REPORTING NEAR NORMAL RAINFALL FOR THE MONTH WAS THE SOUTH PLATTE BASIN. SEVERAL ISOLOATED LOCATIONS EAST OF THE CONTINENTAL DIVIDE, RECEIVED PRECIPITATION AMOUNTS GREATER THAN 150% OF AVERAGE FOR MAY. THE LOWEST PRECIPITATION AMOUNTS WERE IN THE RIO GRANDE, SAN JUAN, DOLORES, ANIMAS, AND SAN MIGUEL BASINS. MOST STATIONS IN THESE AREAS RECEIVED LESS THAN 25% OF THE AVERAGE FOR THE MONTH. OTHER DRY LOCATIONS INCLUDE THE YAMPA, WHITE, COLORADO, AND GUNNISON BASINS, WHERE PRECIPITATION TOTALS WERE LESS THAN 75% OF AVERAGE FOR THE MONTH. TOTALS FOR THE WATER YEAR ARE SLIGHTLY BELOW NORMAL ACROSS THE STATE, WITH THE LOWEST ACCUMULATIONS IN THE RIO GRANDE, GUNNISON AND SOUTHWESTERN BASINS.

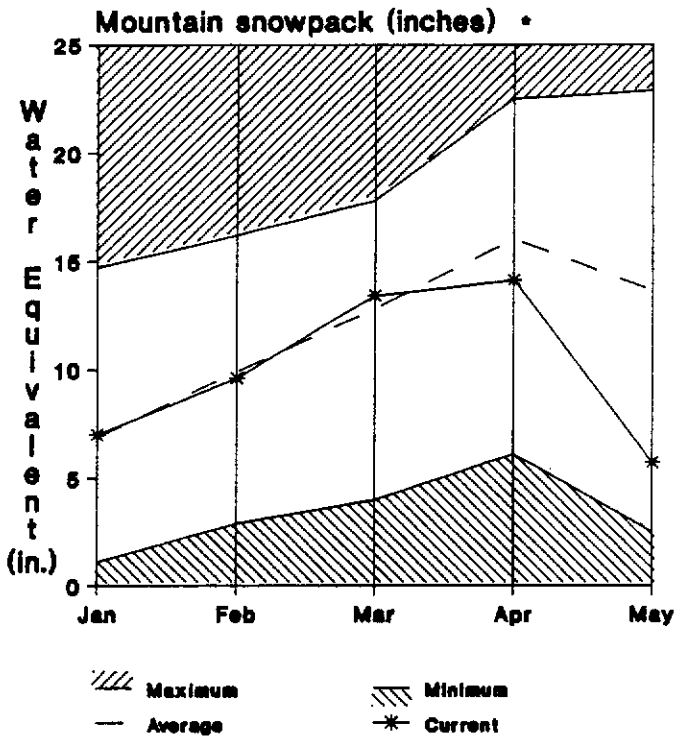
RESERVOIR

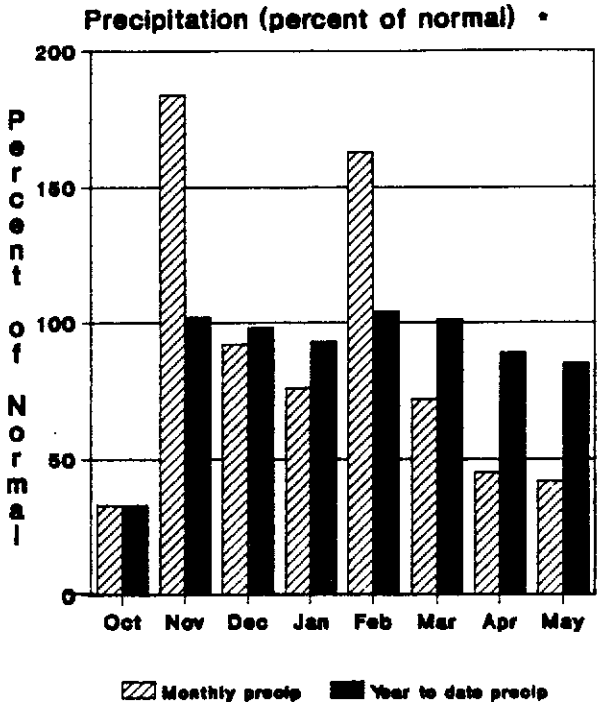
COLORADO'S RESERVOIRS CONTINUE TO STORE ABOVE NORMAL AMOUNTS. AS OF JUNE 1, THE MAJOR RESERVOIRS CONTAINED 120% OF THE LONG-TERM AVERAGE. WITH THE EXCEPTION OF THE SOUTH PLATTE BASIN, WHICH IS STORING 93% OF AVERAGE AMOUNTS, ALL OF THE BASINS IN COLORADO ARE STORING ABOVE NORMAL VOLUMES. THE HIGHEST STORAGE LEVELS ARE IN THE RIO GRANDE BASIN AT 147% OF AVERAGE. ALTHOUGH THESE VOLUMES ARE ABOVE THE LONG-TERM AVERAGE, MANY RESERVOIRS ARE STORING LESS THAN THE VOLUMES IN JUNE OF 1988. THE 12 RESERVOIRS IN THE ARKANSAS BASIN ARE ONLY STORING 54% OF LAST YEAR'S VOLUMES, WHILE THE STORAGE IN THE RIO GRANDE BASIN IS ONLY 84% OF LAST YEAR.

STREAMFLOW

PROJECTED STREAMFLOW VOLUMES FOR THIS SPRING AND SUMMER HAVE DECREASED AGAIN DURING MAY. BELOW NORMAL PRECIPITATION AND WARM TEMPERATURES IN MAY HAVE HELPED TO DECREASE THE POTENTIAL VOLUMES AT NEARLY ALL FORECAST POINTS IN COLORADO. FORECASTS OF LESS THAN 65% OF NORMAL VOLUMES ARE PROJECTED FOR THE GUNNISON, YAMPA, WHITE, ARKANSAS AND NORTH AND SOUTH PLATTE RIVER BASINS. THE REMAINING BASINS CAN EXPECT VOLUMES OF 65% TO 75% OF NORMAL, WITH THE HIGHEST FORECASTS IN THE HEADWATERS OF THE RIO GRANDE BASIN AT NEARLY 80% OF AVERAGE FLOWS. FORECASTS OF ONLY 50% OF NORMAL ARE PROJECTED FOR THE MAIN STEM OF THE GUNNISON AND ARKANSAS RIVERS.

Gunnison River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE GUNNISON BASIN HAS DECREASED FROM 46% OF AVERAGE ON MAY 1 TO 26% OF AVERAGE ON JUNE 1. THIS IS 38% OF LAST YEAR'S JUNE 1 READING. PRECIPITATION AT THE LOWER ELEVATIONS DURING MAY HAS BEEN LOW AS WELL, BETWEEN 35% AND 45% OF AVERAGE. FOR THE WATER YEAR IT IS BETWEEN 80% AND 90% OF AVERAGE. RESERVOIR STORAGE FOR THIS TIME OF YEAR IS 123% OF AVERAGE, SLIGHLTY LOWER THAN LAST YEAR'S 134%. STREAMFLOWS ARE FORECAST TO BE BETWEEN 40% TO 60% OF AVERAGE DURING THE REMAINDER OF THE FORECAST PERIOD.

For more information contact your local Soil Conservation Service office.

GUNNISON RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
TAYLOR RIVER blw Taylor Park Res 2	APR-SEP	75	64			90	66	118
EAST RIVER at Almont	APR-SEP	130	62			155	109	210
GUNNISON R INFLOW to Blue Mesa Res 2	APR-SEP	500	61			640	395	821
MUDDY CREEK inf to Paonia Res	APR-JUL	62	58			76	49	107
N.F. GUNNISON RIVER nr Somerset 2	APR-SEP	190	61			250	130	314
SURFACE CREEK at Cedaredge	APR-SEP	13.0	67			18.0	8.0	19.3
UNCOMPAHGRE RIVER inf to Ridgway Res	APR-JUL	43	44			54	32	98
UNCOMPAHGRE RIVER at Colona 2	APR-SEP	60	39			85	35	155
GUNNISON RIVER nr Grand Junction 2	APR-SEP	700	50			980	460	1405

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.
BLUE MESA	830.0	525.0	404.0	448.1
CRAWFORD	14.3	13.7	14.1	12.4
FRUITGROWERS	4.3	3.0	3.8	3.9
FRUITLAND	9.2	1.6	3.4	6.0
MORROW POINT	121.0	117.0	114.0	109.6
TAYLOR PARK	106.0	73.3	81.6	90.7

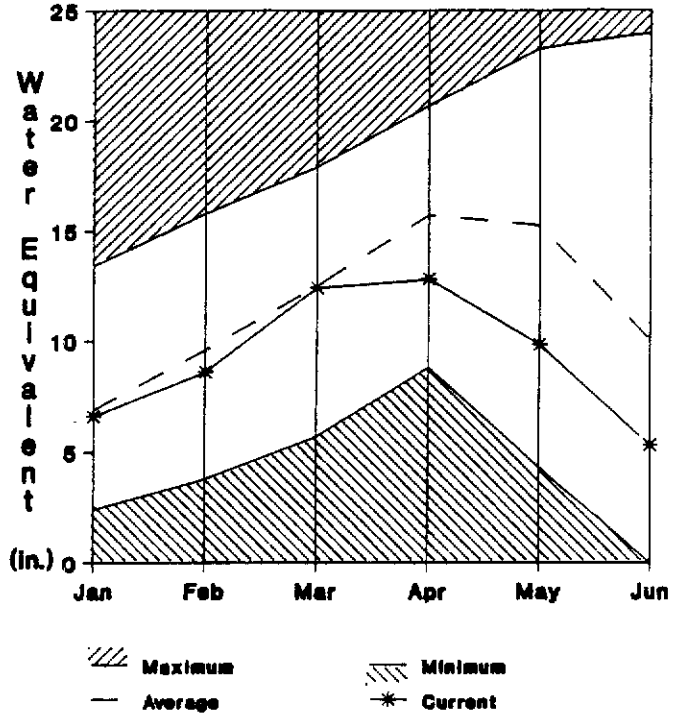
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER GUNNISON BASIN	4	33	19
SURFACE CREEK BASIN	2	6	2
UNCOMPAHGRE BASIN	1	30	27

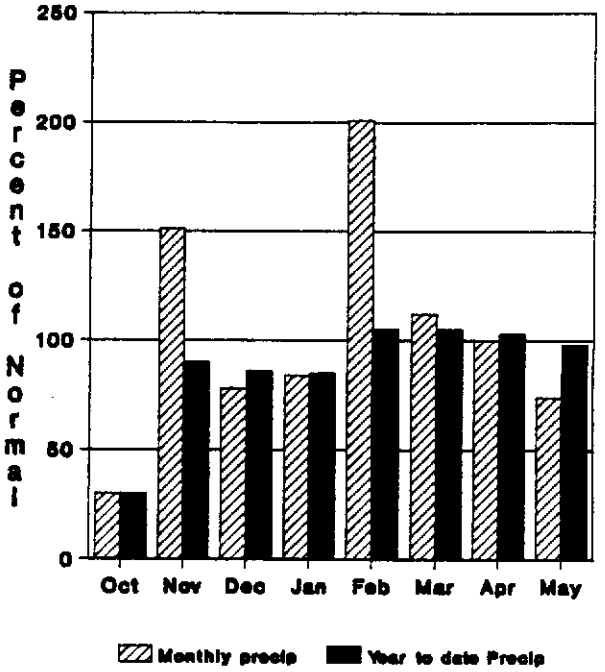
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Colorado River Basin in Colorado

Mountain snowpack (inches) •



Precipitation (percent of normal) •



• Based on selected stations

WATER SUPPLY OUTLOOK

MEASUREMENTS TAKEN IN THE COLORADO BASIN NEAR THE END OF MAY SHOW THE SNOWPACK TO BE 39% OF AVERAGE. THIS IS A SIGNIFICANT DECREASE FROM LAST MONTH'S READING OF 59% OF AVERAGE AND IS ONLY 55% OF LAST YEAR. PRECIPITATION DURING MAY WAS 74% OF AVERAGE AND IS 98% OF AVERAGE FOR THE WATER YEAR. RESERVOIR STORAGE IN THE COLORADO BASIN IS THE SECOND LOWEST IN THE STATE AT 112% OF AVERAGE. STREAMFLOWS ARE FORECAST TO BE WELL BELOW AVERAGE IN THIS WATERSHED, RANGING FROM 65% TO 75% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

UPPER COLORADO RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
COLORADO RIVER nr Granby 2	APR-JUL	160	74			197	123	216
WILLOW CK INF to Willow Creek Res	APR-JUL	35	70			57	13.5	50
WILLIAMS FORK near Parshall	APR-SEP	45	63			64	26	71
E. F. TROUBLESOME CR nr Troublesome	APR-SEP	12.0	62			18.0	6.0	19.4
BLUE RIVER blw Dillon 2	APR-SEP	135	75			160	110	180
BLUE RIVER blw Green Mountain Res 2	APR-JUL	195	74			225	163	264
EAGLE RIVER blw Gypsum 2	APR-SEP	245	72			270	220	341
COLORADO RIVER nr Dotsero 2	APR-SEP	1090	69			1340	835	1592
FRYINGPAN RIVER inf to Ruedi Res	APR-JUL	61	63			82	40	97
ROARING FORK at Glenwood Springs 2	APR-SEP	500	63			545	455	789
COLORADO RIVER nr Cameo 2	APR-SEP	1670	63			2020	1380	2661

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
DILLON	250.7	247.0	246.0	210.0
LAKE GRANBY	465.6	259.1	309.1	250.0
GREEN MOUNTAIN	139.0	84.6	70.0	63.9
HOMESTAKE	43.0	17.0	18.0	14.0
RUEDI	102.0	76.2	64.9	74.4
VEGA	32.0	25.0	24.5	25.0
WILLIAMS FORK	97.0	67.0	63.0	48.3
WILLOW CREEK	9.0	8.7	7.9	7.5

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BLUE RIVER BASIN	4	73	39
UPPER COLORADO RIVER BASI	11	52	34
PLATEAU CREEK BASIN	2	6	2
ROARING FORK BASIN	1	52	88
WILLIAMS FORK BASIN	0	0	0
WILLOW CREEK BASIN	2	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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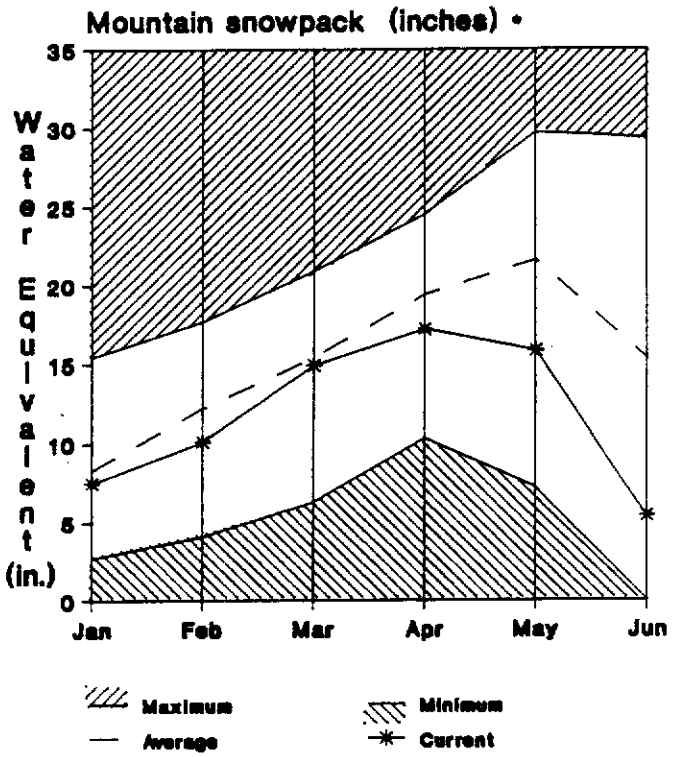
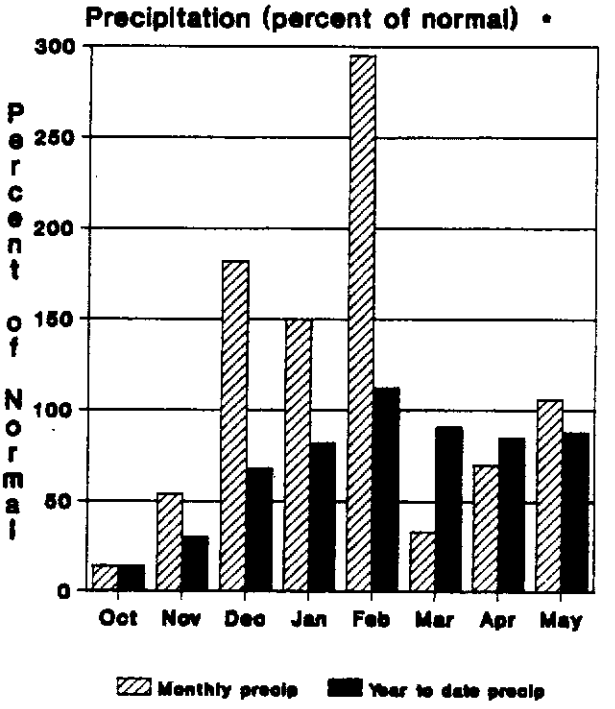
(2) - Corrected for upstream diversions or changes in reservoir storage.

South Platte River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE SOUTH PLATTE RIVER BASIN IS 24% OF AVERAGE, ACCORDING TO MEASUREMENTS TAKEN NEAR THE END OF MAY. THIS COMPARES TO 36% OF LAST YEAR, AND REPRESENTS A SIGNIFICANT DECREASE FROM LAST MONTH'S 57% OF AVERAGE READINGS. PRECIPITATION WAS 6% ABOVE AVERAGE FOR MAY, BUT IS ONLY 88% OF AVERAGE FOR THE WATER YEAR. RESERVOIR STORAGE IN THE SOUTH PLATTE BASIN IS THE LOWEST IN THE STATE AT 93% OF AVERAGE. STREAMFLOWS ARE FORECAST TO BE FROM 50% TO 60% OF AVERAGE DURING THE REMAINDER OF THE FORECAST PERIOD.

For more information contact your local Soil Conservation Service office.

SOUTH PLATTE RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
SOUTH PLATTE RIVER at South Platte	APR-SEP	135	63			210	94	214
BEAR CREEK at Morrison	APR-SEP	13.8	46			27	9.9	30
CLEAR CREEK at Golden 2	APR-SEP	80	61					131
ST. VRAIN CREEK at Lyons	APR-SEP	46	60					80
SOUTH BOULDER CR nr Eldorado Springs	APR-SEP	25	60			38	21	42
BOULDER CREEK at Orodell	APR-SEP	30	63					48
BIG THOMPSON RIVER at Drake 2	APR-SEP	67	58					116
CACHE LA POUDRE R at Canyon Mouth 2	APR-SEP	150	52					288

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
ANTERO	16.0	20.0	20.0	14.7
BARR LAKE	32.0	25.0	30.0	25.0
BLACK HOLLOW	8.0	4.0	5.0	4.4
BOYD LAKE	49.0	25.0	25.7	40.7
CACHE LA POUDRE	10.0	10.0	9.0	9.6
CARTER	113.5	84.0	88.2	101.4
CHAMBERS LAKE	9.0	3.0	4.0	5.5
CHEESMAN	79.0	60.0	60.0	58.6
COBB LAKE	34.0	11.0	13.0	14.2
ELEVEN MILE	97.8	95.0	96.0	90.3
EMPIRE	38.0	27.1	34.0	30.3
FOSSIL CREEK	12.0	9.0	9.0	7.3
GROSS	43.0	16.0	16.0	27.7
HALLIGAN	6.4	9.3	8.0	6.1
HORSECREEK	16.0	13.5	14.0	13.9
HORSETOOTH	143.5	111.5	127.2	123.0
JACKSON	35.0	36.7	34.9	32.4
JULESBURG	28.0	20.4	21.7	23.2
LAKE LOVELAND	14.0	10.5	11.3	10.6
LONE TREE	9.0	7.7	6.9	8.1
MARIANO	6.0	5.4	5.7	5.3
MARSHALL	10.0	7.0	9.4	8.7
MARSTON	18.0	13.0	8.0	16.3
MILTON	24.0	18.0	21.0	15.0
POINT OF ROCKS	70.0	64.0	71.7	65.3
PREWITT	33.0	20.0	29.6	24.0
RIVERSIDE	63.1	53.9	60.7	53.6
SPINNEY MOUNTAIN	48.0	38.5	35.0	---
STANDLEY	42.0	31.4	34.9	28.5
TERRY LAKE	8.0	7.3	6.0	6.4
UNION	13.0	7.4	11.3	11.4
WINDSOR	19.0	12.2	13.0	12.9

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BIG THOMPSON BASIN	2	53	21
BOULDER CREEK BASIN	3	0	0
CACHE LA POUDRE BASIN	3	23	25
CLEAR CREEK BASIN	1	53	53
SAINT VRAIN BASIN	1	0	0
UPPER SOUTH PLATTE BASIN	0	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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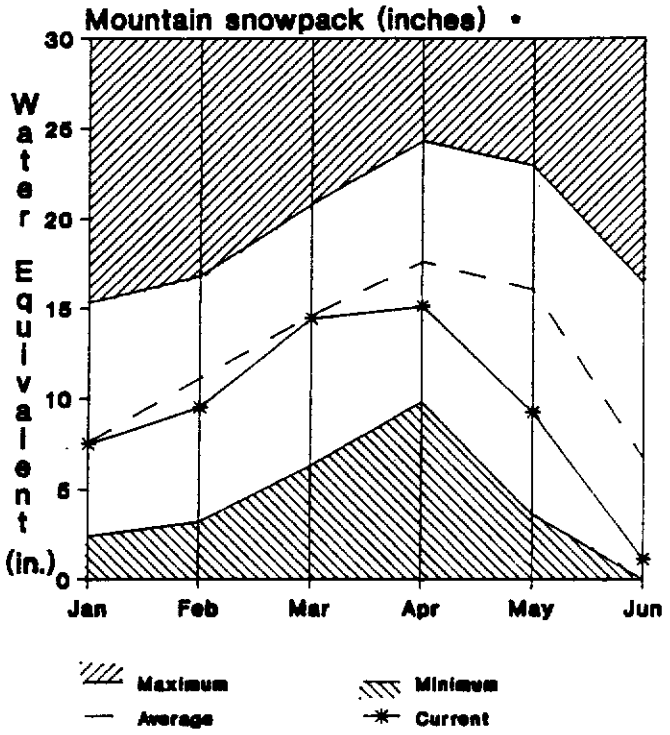
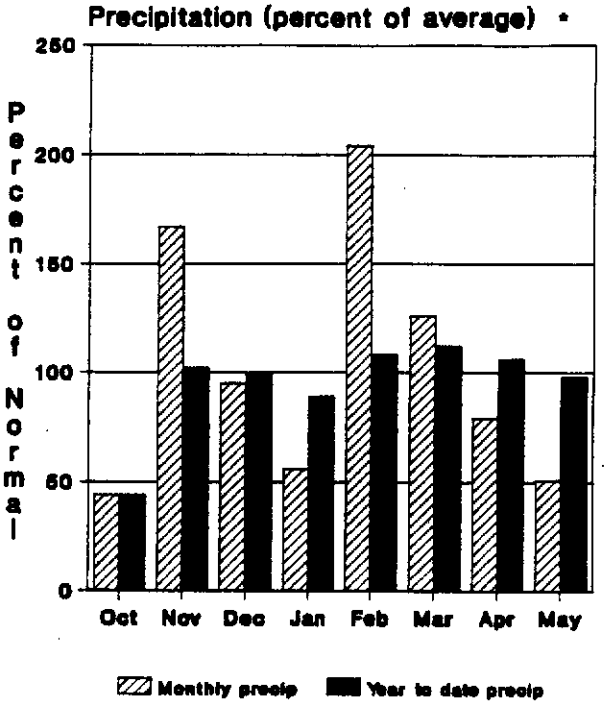
Yampa, White and North Platte River Basins in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

SNOWPACKS IN THE YAMPA, WHITE AND NORTH PLATTE RIVER BASINS DECREASED DRAMATICALLY DURING MAY. THE YAMPA AND WHITE BASINS ARE 11% OF AVERAGE THIS MONTH ACCORDING TO THE MEASUREMENTS TAKEN NEAR THE END OF MAY. THIS COMPARES TO 16% OF LAST YEAR'S READINGS. THE NORTH PLATTE'S SNOWPACK IS SLIGHTLY HIGHER AT 20% OF AVERAGE, WHICH IS 25% OF LAST YEAR. PRECIPITATION DURING MAY FOR THESE BASINS WAS ONLY 51% OF AVERAGE, AND FOR THE WATER YEAR IS 98% OF AVERAGE. STREAMFLOWS IN THESE BASINS ARE FORECAST TO BE BETWEEN 50% TO 65% OF AVERAGE FOR THE REMAINDER OF THE IRRIGATION SEASON.

For more information contact your local Soil Conservation Service office.

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
LARAMIE RIVER near Woods 2	APR-SEP	75	54	82	68	106	44	139
NORTH PLATTE RIVER near Northgate	APR-SEP	155	55	186	121	210	99	280
YAMPA RIVER at Steamboat Springs	APR-SEP	190	63			225	157	302
ELK RIVER at Clark	APR-SEP	140	65			162	119	215
YAMPA RIVER nr Maybell	APR-SEP	580	57			705	455	1026
LITTLE SNAKE nr Slater, CO	APR-SEP	90	53			132	48	169
LITTLE SNAKE RIVER nr Dixon	APR-SEP	170	49			255	83	349
LITTLE SNAKE RIVER at Lily	APR-SEP	200	51			280	122	390
WHITE RIVER near Meeker	APR-SEP	215	65			260	172	329

RESERVOIR STORAGE (1000AF)

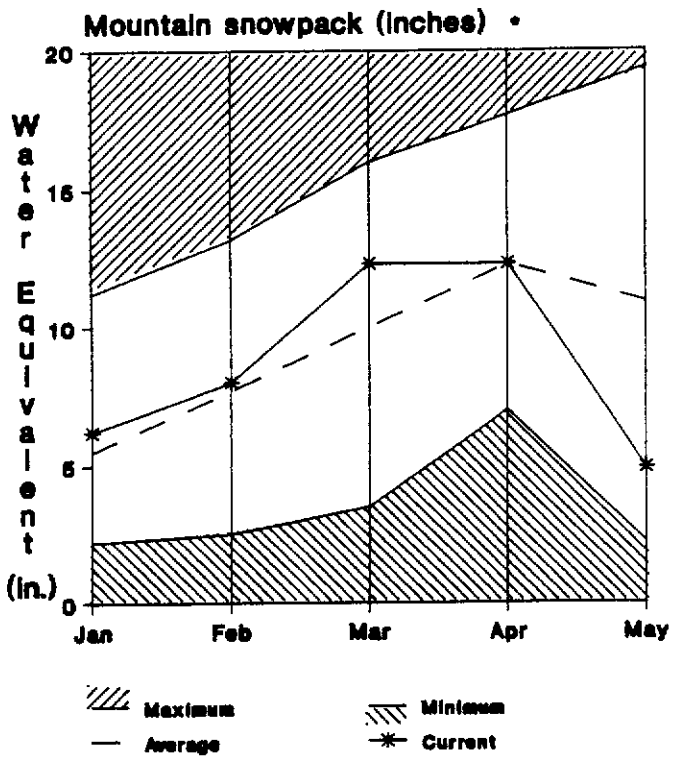
RESERVOIR	USEABLE CAPACITY:	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.

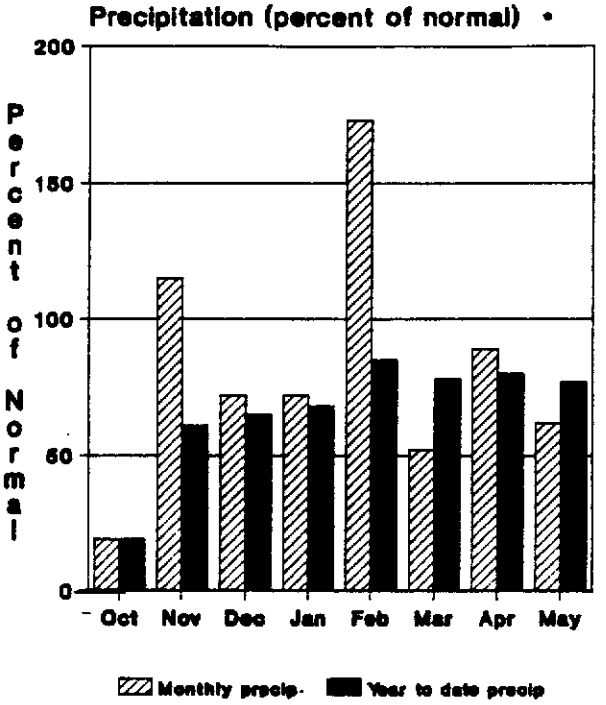
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
LARAMIE RIVER BASIN	1	5	6
NORTH PLATTE RIVER BASIN	3	39	26
ELK RIVER BASIN	0	0	0
YAMPA RIVER BASIN	3	19	15
WHITE RIVER BASIN	2	6	5
LITTLE SNAKE RIVER BASIN	1	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Arkansas River Basin in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE ARKANSAS BASIN IS WELL BELOW AVERAGE FOR JUNE 1 AT 25% OF AVERAGE. THIS IS 48% OF LAST YEAR'S JUNE 1 READINGS. PRECIPITATION DURING MAY WAS THE SECOND HIGHEST IN THE STATE, BUT WAS STILL BELOW THE LONG-TERM AVERAGE. WATER YEAR PRECIPITATION IS BELOW NORMAL AS WELL. RESERVOIR STORAGE IN THE BASIN'S MAJOR RESERVOIRS IS THE SECOND HIGHEST IN THE STATE AT 144% OF AVERAGE. HOWEVER, THIS IS ONLY 54% OF LAST YEAR'S STORAGE. GREAT PLAINS RESERVOIR IS ONLY 6% OF LAST YEAR AND JOHN MARTIN RESERVOIR AND TRINIDAD LAKE ARE 33% OF LAST YEAR. STREAMFLOW FORECASTS FOR THE REMAINDER OF THE FORECAST PERIOD REMAIN THE SAME AS LAST MONTH'S FORECASTS.

For more information contact your local Soil Conservation Service office.

ARKANSAS RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
CHALK CREEK nr Nathrop	APR-SEP	13.5	61			23	4.5	22
ARKANSAS RIVER at Salida 2	APR-SEP	195	63			305	87	310
GRAPE CREEK nr Westcliffe	APR-SEP	11.0	61			26	4.3	18.0
ARKANSAS RIVER abv Pueblo 2	APR-SEP	185	59			315	65	312
HUERFANO RIVER nr Redwing	APR-SEP	10.0	63			13.0	7.0	16.0
CUCHARAS RIVER nr La Veta	APR-SEP	8.0	62			14.0	3.3	13.0
PURGATOIRE RIVER blw Trinidad Lake 2	APR-SEP	28	68			43	12.8	41

RESERVOIR STORAGE (1000AF)

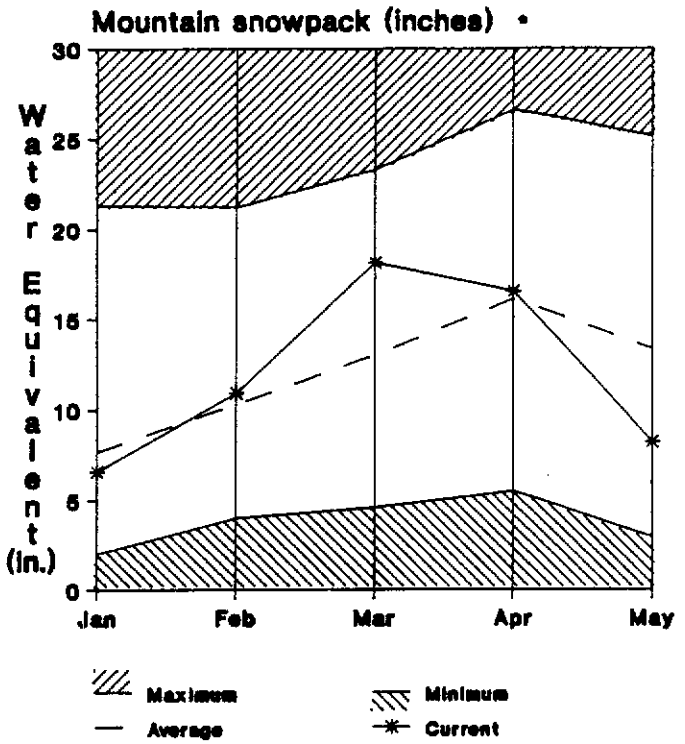
RESERVOIR	USEABLE CAPACITY:	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
ADOBE	70.0	19.9	41.8	13.2
CLEAR CREEK	11.0	4.8	6.2	5.4
GREAT PLAINS	150.0	3.2	59.7	32.9
HOLBROOK	7.0	2.8	4.7	3.2
HORSE CREEK	28.0	3.7	9.8	5.2
JOHN MARTIN	616.0	94.1	258.8	38.4
LAKE HENRY	8.0	4.3	4.4	4.8
MEREDITH	42.0	5.7	32.6	9.3
PUEBLO	354.0	188.1	243.1	99.3
TRINIDAD	167.0	15.3	46.5	33.9
TURQUOISE	126.6	85.0	116.3	43.1
TWIN LAKES	86.0	55.1	50.0	38.7

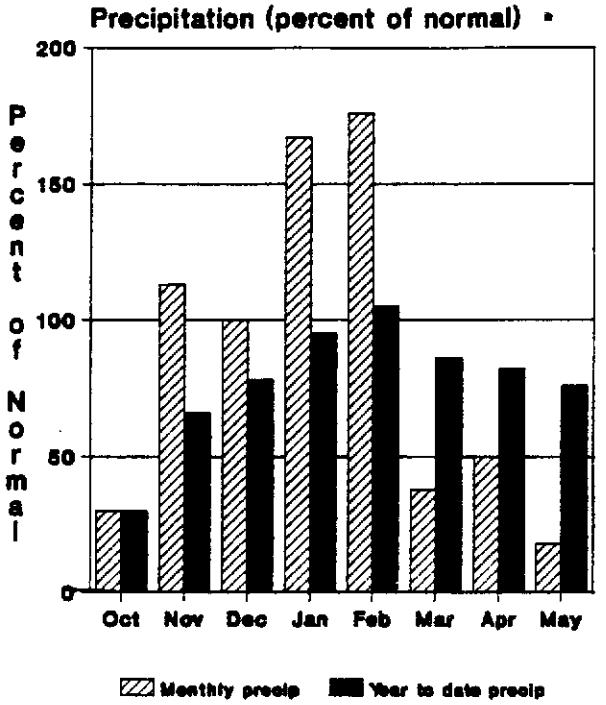
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER ARKANSAS BASIN	4	48	25
CUCHARAS & HUERFANO RIVER	0	0	0
PURGATOIRE RIVER BASIN	0	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Rio Grande Basin in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

LATE MAY SNOWPACK MEASUREMENTS IN THE RIO GRANDE BASIN SHOW A VERY SIGNIFICANT DROP FROM MEASUREMENTS TAKEN AT THE END OF APRIL. JUNE 1 READINGS ARE 39% OF AVERAGE COMPARED TO MAY 1 READINGS OF 62% OF AVERAGE. PRECIPITATION DURING MAY AT THE LOWER ELEVATIONS HAS BEEN BELOW NORMAL AS WELL, RANGING FROM 10% TO 15% OF AVERAGE FOR THE BASIN. WATER YEAR PRECIPITATION IS BELOW NORMAL ALSO, AVERAGING BETWEEN 70% AND 80% OF AVERAGE. RESERVOIR STORAGE IN THE RIO GRANDE BASIN IS THE HIGHEST IN THE STATE AT 147% OF AVERAGE. THIS COMPARES TO 84% OF AVERAGE LAST YEAR ON JUNE 1. STREAMFLOWS ARE FORECAST TO BE BELOW AVERAGE DURING THE REMAINDER OF THE FORECAST PERIOD, RANGING FROM 61% TO 81% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

UPPER RIO GRANDE BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
RIO GRANDE at Thirty Mile Bridge 2	APR-SEP	106	81			131	85	133
RIO GRANDE at Wagon Wheel Gap 2	APR-SEP	260	81			340	180	322
SOUTH FORK RIO GRANDE at South Fork	APR-SEP	102	77			130	74	132
RIO GRANDE nr Del Norte 2	APR-SEP	400	79			500	300	510
SAGUACHE CREEK nr Saguache	APR-SEP	20	61			39	8.1	33
ALAMOSA CREEK abv Terrace Res	APR-SEP	55	78			74	36	70
LA JARA CREEK nr Capulin	MAR-JUL	7.5	82			10.5	4.5	9.2
TRINCHERA WATER SUPPLY 2	APR-JUL	18.0	62			27	9.0	29
CONEJOS RIVER blw Platoro Res 2	APR-SEP	52	79			63	41	66
CONEJOS RIVER nr Mogote 2	APR-SEP	160	78			205	115	204
SAN ANTONIO RIVER at Ortiz	APR-SEP	13.8	85			16.7	10.9	16.3
LOS PINOS nr Ortiz	APR-SEP	62	84			72	52	74
CULEBRA CREEK at San Luis 2	APR-SEP	13.6	65			25	5.6	21

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
CONTINENTAL	27.0	7.1	13.2	7.3
PLATORO	60.0	38.5	45.8	13.2
RIO GRANDE	51.0	26.4	14.7	23.7
SANCHEZ	103.0	29.7	39.2	15.1
SANTA MARIA	45.0	10.2	15.4	9.9
TERRACE	18.0	8.6	8.0	7.8

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
ALAMOSA CREEK BASIN	1	0	0
CONEJOS & RIO SAN ANTONIO	0	0	0
CULEBRA & TRINCHERA CREEK	0	0	0
UPPER RIO GRANDE BASIN	2	89	59

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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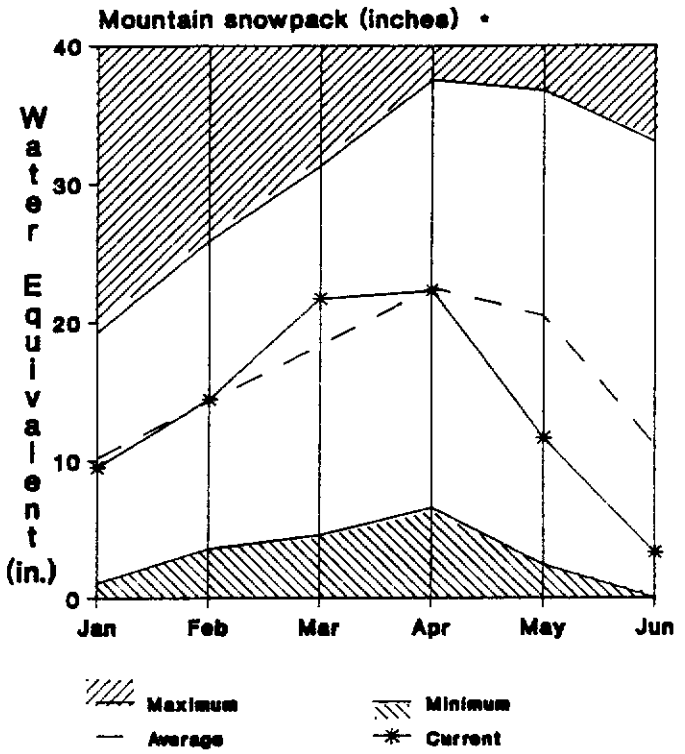
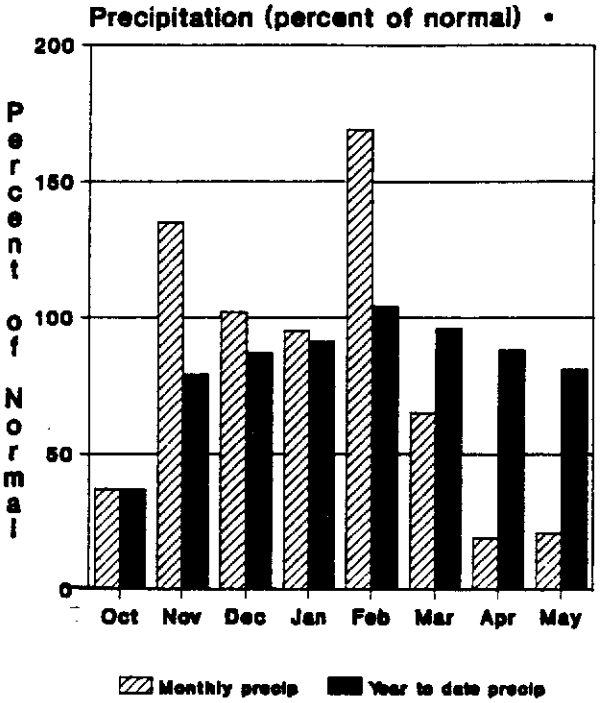
(2) - Corrected for upstream diversions or changes in reservoir storage.

San Miguel, Dolores, Animas and San Juan Basins in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

SNOWPACK MEASUREMENTS IN THE DOLORES, SAN JUAN, SAN MIGUEL AND ANIMAS BASINS SHOW A DECREASE SINCE LAST MONTH TO 33% OF AVERAGE. THIS IS 62% OF LAST YEAR'S JUNE 1 MEASUREMENT. PRECIPITATION DURING MAY WAS WELL BELOW AVERAGE OVER THE AREA AND IS BELOW AVERAGE FOR THE WATER YEAR AS WELL. RESERVOIR STORAGE IN THESE BASINS IS 34% ABOVE THE LONG-TERM AVERAGE AND IS THE THIRD HIGHEST IN THE STATE. STREAMFLOWS ARE FORECAST TO BE WELL BELOW AVERAGE FOR THE REST OF THE FORECAST PERIOD, RANGING FROM 65% TO 70% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
DOLORES RIVER at Dolores 2	APR-SEP	190	69			225	154	277
DOLORES RIVER inf to McPhee Res 2	APR-JUL	196	67			265	129	293
SAN MIGUEL RIVER nr Placerville	APR-SEP	100	68			128	72	146
BEAVER CREEK nr Norwood	MAY-JUL	13.0	43					29
WEST NATURITA CREEK at Upper Station	MAY-JUL	4.5	45					9.5
SAN JUAN RIVER nr Carracus	APR-SEP	300	70			395	205	430
PIEDRA RIVER nr Arboles	APR-SEP	155	66			186	127	236
LOS PINOS RIVER inf to Vallecito Res	APR-SEP	160	71			189	137	226
SAN JUAN RIVER nr Archuleta 2	APR-JUL	500	65			705	330	764
ANIMAS RIVER at Durango	APR-SEP	325	67			375	275	486
FLORIDA RIVER inf to Lemon Res	APR-JUL	46	81			56	36	57
FLORIDA RIVER at Bondad 2	APR-SEP	20	53			26	14.7	38
LA PLATA RIVER at Hesperus	APR-SEP	18.0	67			23	12.9	27
MANCOS RIVER nr Towaoc 2	MAR-JUL	14.0	50			17.6	10.4	28

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
GROUNDHOG	21.7	16.3	17.1	15.2
JACKSON GULCH	10.0	10.0	10.0	5.0
LEMON	40.0	34.0	34.0	28.4
NARRAGUINNEP	19.0	19.0	19.0	16.4
NAVAJO	1696.0	1440.0	—	1051.0
VALLECITO	126.0	101.2	100.0	87.8

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
ANIMAS RIVER BASIN	4	25	17
DOLORES RIVER BASIN	2	0	0
SAN MIGUEL RIVER BASIN	0	0	0
SAN JUAN RIVER BASIN	2	101	47

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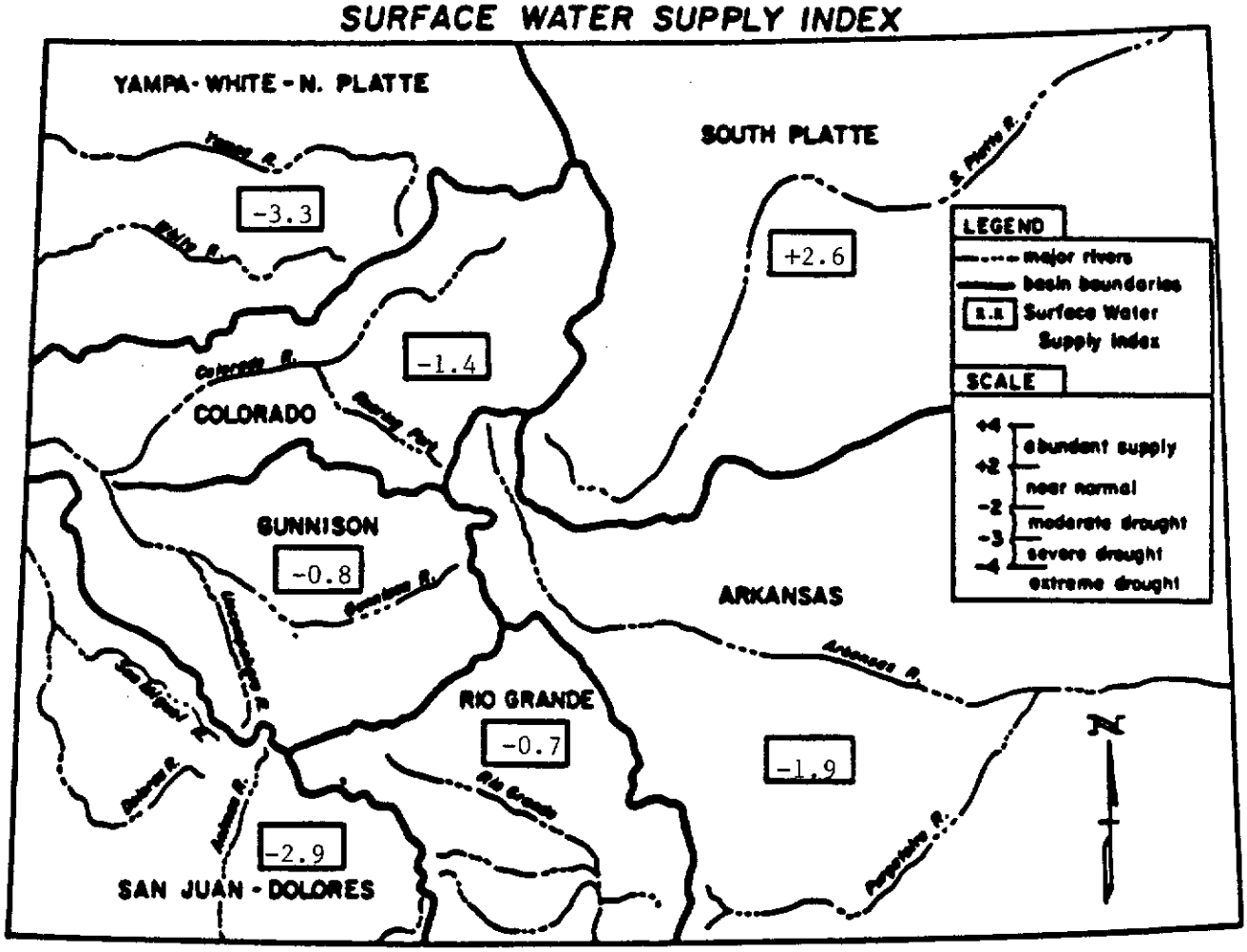
Date: JUNE 1, 1989

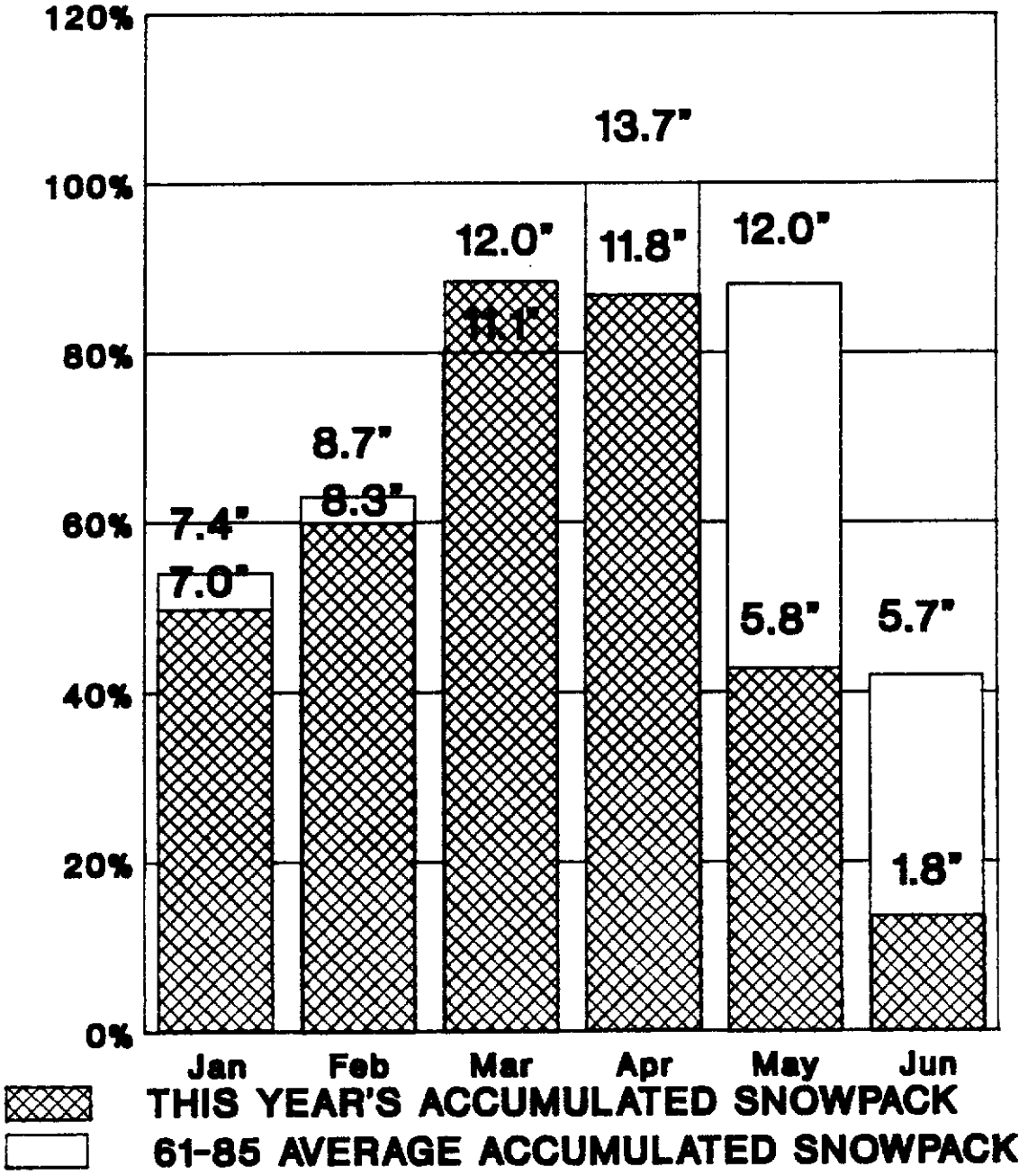
SURFACE WATER SUPPLY INDEX



COLORADO

The Surface Water Supply Index (SWSI) is a weighted value derived for each major basin which generally expresses the potential availability of the forthcoming season's water supply. The components used in computing the index are reservoir storage, snowpack water equivalent, and precipitation. The SWSI number for each basin ranges from a -4.00 (prospective water supplies extremely poor) to a +4.00 (prospective water supplies plentiful). The SWSI number is only a general indicator of surface water supply conditions. Further data analyses may be required in specific situations to more fully understand the impacts of abnormally dry or wet conditions suggested by the SWSI. Development of the SWSI has been a cooperative effort between the Colorado State Engineers' Office and the Soil Conservation Service.

Colorado Snowpack Progress
1989



Each month's statewide snow water equivalent as compared to the 1961-1985 average, and the percent of maximum seasonal accumulation.

S N O W C O U R S E D A T A

JUNE 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLORADO						
APISHAPA SNOTEL	10000	6/01/89	---	.0	.0	.0
ARROW SNOTEL	9900	6/01/89	---	.0	2.1	3.9
BEAR LAKE SNOTEL	9500	6/01/89	---	.0	1.1	12.5
BEARTOWN SNOTEL	11600	6/01/89	---	.0	2.1	3.9
BERTHOUD SUM SNOTEL	11300	6/01/89	---	2.0	15.1	12.5
BERTHOUD SUMMIT	11300	5/30/89	21	7.9	15.0	15.0
BISON LAKE SNOTEL	10880	6/01/89	---	17.0	21.6	24.0
BOULDER FALLS	10000	6/01/89	0	.0	.0	--
BRUMLEY SNOTEL	10600	6/01/89	---	.0	.5	5.4
BURRO MTN SNOTEL	9000	6/01/89	---	.0	.0	3.0
BUTTE SNOTEL	10000	6/01/89	---	.0	.0	6.1
CAMERON PASS	10300	5/30/89	15	7.0	17.4	24.0
CASCADE SNOTEL	8850	6/01/89	---	.0	.0	.0
CASCADE	8850	5/30/89	0	.0	.0	--
CATHEDRAL BLF SNOTEL	8500	6/01/89	---	.2	.0	2.4
COLUMBINE SNOTEL	9300	6/01/89	---	.0	.0	2.6
COLUMBINE LODGE	9300	5/31/89	0	.0	.0	2.0
COLUMBINE PS SNOTEL	9400	6/01/89	---	.0	.0	.0
COPELAND LAKE SNOTEL	8600	6/01/89	---	.0	.0	.0
COPPER MTN SNOTEL	10450	6/01/89	---	.0	.0	4.3
CROSHO SNOTEL	9500	6/01/89	---	.0	.0	.0
CULEBRA #2 SNOTEL	10000	6/01/89	---	.0	.0	.0
CUMBRES TRESTLE SNTL	10000	6/01/89	---	.0	.0	3.6
DEADMAN HILL SNOTEL	10200	6/01/89	---	.7	13.2	11.3
DRY LAKE SNOTEL	8200	6/01/89	---	.0	.0	9.4
EL DIENTE PK SNOTEL	10000	6/01/89	---	.0	1.4	10.1
ELK RIVER SNOTEL	8600	6/01/89	---	.0	.0	7.6
FREMONT PASS SNOTEL	11400	6/01/89	---	17.7	17.1	16.9
FREMONT PASS	11400	5/31/89	11	4.3	8.4	11.0
GRIZZLY PEAK SNOTEL	11100	6/01/89	---	.0	1.8	10.1
GRIZZLY PEAK	11100	5/31/89	19	7.9	8.4	12.5
HAGERMAN TNL SNOTEL	11150	6/01/89	---	14.1	20.7	25.3
HOOSIER PASS SNOTEL	11400	6/01/89	---	.0	.2	10.2
IDARADO SNOTEL	9800	6/01/89	---	.0	.0	6.3
INDEPENDENCE PS SNTL	10600	6/01/89	---	.0	.0	5.6
JOE WRIGHT SNOTEL	10000	6/01/89	---	1.7	17.2	13.6
JOE WRIGHT	10000	5/30/89	14	6.8	19.8	22.7
KILN SNOTEL	9600	6/01/89	---	.0	.0	4.2
LAKE ELDORA SNOTEL	10500	6/01/89	---	.0	.0	.0
LAKE IRENE SNOTEL	10600	6/01/89	---	.0	13.0	13.9
LILY POND SNOTEL	10650	6/01/89	---	.0	.0	9.8
LIZARD HD PS SNOTEL	10300	6/01/89	---	.0	.9	9.0
LONE CONE SNOTEL	9950	6/01/89	---	.0	.0	.0
LYNX PASS SNOTEL	8900	6/01/89	---	.0	.0	.0
MC CLURE PASS SNOTEL	9500	6/01/89	---	.0	.0	6.3
MESA LAKES SNOTEL	10000	6/01/89	---	.0	.0	12.0
MESA LAKES	10000	5/26/89	0	.0	.6	4.0
MIDDLE CREEK SNOTEL	11250	6/01/89	---	.0	.0	10.8

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1981-85
MILNER PASS	10100	5/29/89	0	.0	3.3	4.0
MINERAL CREEK SNOTEL	10300	6/01/89	---	.0	.1	1.2
MINERAL CREEK	10300	5/30/89	0	.0	.0	[illegible]
MOLAS LAKE SNOTEL	10500	6/01/89	---	.0	.0	3.4
NAST LAKE SNOTEL	8700	6/01/89	---	.0	.0	.0
NAVAL OILSHALE SNOTL	8800	6/01/89	---	.0	.0	.0
NIWOT SNOTEL	9910	6/01/89	---	.0	.0	9.0
NORTH LOST TR SNOTEL	9200	6/01/89	---	.0	.0	.0
PARK CONE SNOTEL	9600	6/01/89	---	.0	.0	3.4
PARK RESERV SNOTEL	9900	6/01/89	---	.9	11.0	16.9
PARK RESERVOIR	9900	5/26/89	1	.4	5.9	15.8
PARK VIEW	9200	5/30/89	0	.0	.0	--
PHANTOM VALLY SNOTEL	9050	6/01/89	---	.0	.0	1.0
PORPHYRY CK SNOTEL	10700	5/31/89	0	.0	.0	3.2
RABBIT EARS SNOTEL	9550	6/01/89	---	.0	8.4	24.0
RABBIT EARS	9550	5/31/89	7	3.4	11.1	17.0
RED MTN PASS SNOTEL	11200	6/01/89	---	.0	5.6	10.5
RED MOUNTAIN PASS	11100	5/30/89	13	5.7	18.7	20.9
RIPPLE CK PS SNOTEL	10340	6/01/89	---	1.0	12.4	11.1
ROACH SNOTEL	9400	6/01/89	---	.0	4.3	7.4
SCHOFIELD PS SNOTEL	10700	6/01/89	---	5.9	11.3	8.7
SCOTCH CREEK SNOTEL	9100	6/01/89	---	.0	.0	.0
SLUMGULLION SNOTEL	11550	6/01/89	---	.0	.0	5.1
SPUD MOUNTAIN SNOTEL	10700	6/01/89	---	.0	.4	12.7
SPUD MOUNTAIN	10700	5/30/89	3	1.7	4.3	13.0
STILLWATER CK SNOTEL	8720	6/01/89	---	.0	.0	.0
STUMP LAKES SNOTEL	11200	6/01/89	---	.0	6.7	8.5
SUMMIT RANCH SNOTEL	10000	6/01/89	---	.0	.0	3.3
TENNESSEE PASS	10200	5/31/89	0	.0	.0	[illegible]
TENNESSEE PASS #2	10260	5/31/89	0	.0	.0	.5
TOWER SNOTEL	10000	6/01/89	---	26.2	43.5	61.5
TRAPPER LAKE SNOTEL	9700	6/01/89	---	.0	3.2	9.4
TWO MILE	10500	5/30/89	15	5.4	9.0	13.0
UNIVERSITY CAMP SNTL	10300	6/01/89	---	3.4	7.2	8.0
UNIVERSITY CAMP	10300	6/01/89	0	.0	2.5	3.0
UPPR RIO GRND SNOTEL	9350	6/01/89	---	.0	.0	--
UPPER SAN JUAN SNTL	10200	6/01/89	---	.0	1.0	7.6
UPPER SAN JUAN	10200	5/31/89	0	.0	.0	3.0
VAIL MOUNTAIN SNOTEL	10200	6/01/89	---	.0	9.3	7.8
VALLECITO SNOTEL	10800	6/01/89	---	.0	.2	3.7
W FK PARACHUTE SNTL	7800	6/01/89	---	.0	.0	--
WHISKEY CREEK SNOTEL	10200	6/01/89	---	.0	.0	--
WILLOW CK PS SNOTEL	9500	6/01/89	---	.0	1.2	1.6
WILLOW CREEK PASS	9500	5/30/89	0	.0	.5	1.0
WILLOW PARK SNOTEL	10700	6/01/89	---	.0	5.2	13.7
WOLF CK SUMMIT SNTL	11000	6/01/89	---	18.2	15.8	23.0
WOLF CREEK SUMMIT	11000	5/31/89	35	16.4	16.8	26.0

The Following Organizations Cooperate With The Soil Conservation Service in Snow Survey Work:

State	Colorado State Engineer
	Colorado State Soil Conservation Board
	University of Colorado, INSTARR
	Colorado State University Experiment Station
	Rocky Mountain Forest and Range Experiment Station
Federal	U.S. Department of Agriculture
	Forest Service
	Soil Conservation Service
	U.S. Department of the Interior
	Bureau of Reclamation
	Geologic Survey
	National Park Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	NOAA, National Environmental Satellite Service
	U.S. Department of Defense
	Army Engineer Corps
	National Aeronautics and Space Administration
	Goddard Space Flight Center
Local	Colorado Public Service Company
	Idarado Mining Corporation
	City of Denver
	City of Boulder
	City of Greeley
	City of Fort Collins
	Vail Associates, Inc.
	Arkansas Valley Ditch Association
	Colorado River Water Conservation District
	Farmers Reservoir and Irrigation Company
	San Luis Irrigation District
	Santa Maria Reservoir Company
	Taylor Lumber and Land Company
	Montezuma Irrigation Company
	Uncompahgre Valley Water Users Association
	Twin Lakes Reservoir and Canal Company
	Trinchera Irrigation Company
	Aspen Skiing Corporation
	Colorado Fuel and Iron Corporation
	Climax Molybednum Corporation
	Copper Mountain Ski Area
	Lake Eldora Corporation
Private	Otto Goemmer, Colorado

Other organizations and individuals furnish information for the snow survey reports. Their cooperation is gratefully acknowledged.

U.S. DEPT. OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIAMOND HILL, BLDG. A, 3RD FLOOR
2490 WEST 26TH AVENUE
DENVER, COLORADO 80211

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

THIRD CLASS BULK RATE
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USDA - SCS
DENVER, COLORADO
PERMIT NO. G-267

LARRY F. LANG
COLO WTR CONS BOARD
1313 SHERMAN STREET
ROOM 721
DENVER, CO 80203

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Colorado
Water Supply Outlook

and

Federal-State-Private
Cooperative Snow Surveys

SOIL CONSERVATION SERVICE

DODES NEW RELEASE 13 April 1989

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Those rated medium were:
Animas River, South Fork of Rio Grande, Rio Grande at Del Norte, Alamosa River, Conejos River, Huerfano River, Cucharas River and Purgatoire River.

It is anticipated that the peak runoff will occur either during the month of May or June depending on the individual basin. In some basins the peak runoff is anticipated to be a week to ten days earlier than normal due to the anticipated above normal temperatures forecasted by the National Weather Service. These basins are indicated by a late May/June critical month for the peak runoff period. In comparison to last year the flood threat from a state wide perspective is slightly higher than it was last year at approximately the same time.

NOTE: A medium threat rating indicates slight to moderate out of bank conditions - with low potential for flood damage. Flood severity is influenced by a number of variable conditions including temperatures, precipitation and level of emergency preparedness.

Even though the front range river basins were rated as a low, it was noted that the April to June time frame is the rainy season along the front range in Colorado, and that heavy precipitation can and does occur in these months. Because of this special note should be taken by front range communities. Intense precipitation events during the runoff period can cause localized flooding on any of the rivers and streams reviewed. Land slides and/or mud flows are not anticipated to be a major problem this year although some isolated incidents may occur.

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Copies of the detail threat assessment for all major rivers/creeks are available from the Division of Disaster Emergency Services. Call 273-1622.

o05news.xxf

1989

Spring Flood Threat Assessment

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   A. % of average basin snow pack figures are as of 1 April (25 Year Average 1961-1985).

   B. Critical Month for peak runoff is either May or June.

   C. The flood threat high, medium and low is based on river/stream conditions and potential property damage.

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   C. Flooding can occur on any of the individual rivers/streams evaluated, if intense precipitation should occur in the drainage area of that river/stream during the run off period. This is especially true for front range drainages since April-June is the rainy season in this area.

D. Snow pack run off alone does not normally produce significant flood events.

E. What actually will occur during the run off period is dependent on a number of variables i.e., precipitation, temperatures, levels of preparedness, reservoir storage levels, etc.

o05seta.lhf

COLORADO ESTIMATED SPRING FLOOD THREAT DATE 11 April 1989

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Elk Creek		2	75	77			x	June	Routt
White River		4	76	81			x	June	Rio Blanco
Colorado River	Upper Region	7	84	88			x	June	Grand - Eagle - Garfield
	Middle Region	33	83	85			x	June	Garfield - Mesa
	Lower Region	46	83	83			x	June	Mesa
Williams Fork		4	78	80			x	June	Grand
Blue River	Upper Region	7	84	92			x	June	Summit
	Lower Region	9	86	91			x	June	Summit
Eagle River		7	84	82			x	June	Eagle
Roaring Fork River		9	80	82			x	June	Eagle-Pitkin-Garfield
Crystal River		3	84	-			x	June	Pitkin - Gunnison
Plateau Creek		3	91	-			x	June	Mesa
Gunnison River	Upper Region	13	85	88			x	June	Gunnison - Mesa
	Lower Region	17	84	91			x	June	Delta
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North Fork Gunnison River		3	89	80			x	June	Delta
East River near Almont		4	85	81			x	June	Gunnison
Uncompahgre River info to Ridgeway Res.		3	82	102			x	June	Ouray

				H	M	L		
Uncompahgre River	4	81	103			x	June	Montrose - Delta
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San Miquel River	6	86	96			x	June	San Miquel - Ouray - Montrose
Dolores River	6	72	97			x	May	Dolores - Montezuma
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La Plata River	1	63	93			x	June	La Plata
Animas River	8	92	98		x		June	La Plata
Los Pinos River	1	124	97			x	June	La Plata
Piedra River	3	113	95			x	June	Archuleta
San Juan River	3	112	95			x	June	Archuleta
South Fork Rio Grande	4	116	110		x		x June	Rio Grande
Rio Grande at Del Norte	13	114	114		x		x June	Rio Grande - Alamosa
Alamosa River	2	110	107		x		x June	Conejos
San Luis Creek & Tributaries	3	85	-			x	x June	Saguache
Conejos River	4	98	106		x		x June	Conejos
Culebra Creek	1	88	105			x	x June	Costilla
Trinchera Creek	1	82	93			x	x June	Costilla
Saguache Creek	1	89	94			x	May	Saguache
						x		
Arkansas River	15	90	87			x	May	Chaffee - Pueblo - Fremont - Otero - Bent
Cotton Wood Creek		-	-			x	May	Chaffee
Chalk Creek	1	128	89			x	May	Chaffee
Fountain Creek		-	-			x	May	El Paso - Pueblo

x = Late May/June

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				H	M	L		
St. Charles River	1	114	-			x	May	Pueblo
Arkansas River at Pueblo	21	91	83			x	May	Pueblo
Huerfano River	2	93	106		x		June	Pueblo
Cucharas River	3	76	109		x		May	Huerfano
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Upper South Platte River	11	85	75			x	May	Park - Jefferson - Douglas
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Bear Creek	3	92	70			x	June	Jefferson
Clear Creek	3	82	76			x	June	Jefferson - Clear Creek
Boulder Creek	5	80	73			x	June	Boulder
St. Vrain Creek	2	65	69			x	June	Boulder
Big Thompson River	7	80	72			x	June	Larimer
Cache La Poudre River	8	90	71			x	June	Larimer - Weld
North Platte River	6	90	77			x	June	Jackson
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Laramie River (near Woods)	3	79	73			x	June	Larimer
South Boulder near Eldorado Springs	3	78	67			x	June	Boulder
								DATA provided by: U.S. Soil Conservation Service
								National Weather Service
								Office of the State Climatologist
								Colorado Water Conservation Board
								State Division of Water Resouces
								Division of Disaster Emergency Services

MAY

United States Department of Agriculture
Soil Conservation Service

Colorado Water Supply Outlook

May 15, 1989

RELEASED BY
Sheldon G. Boone
State Conservationist
Soil Conservation Service
2490 W. 26th Avenue, Bldg. A, 3rd Floor
Denver, Colorado 80211

Water supply conditions across Colorado have not changed significantly since May 1. The state's snowpack remains well below normal at the majority of snow courses measured on May 15. Cooler temperatures have reduced snowmelt rates to less than one inch of water equivalent per day at most SNOTEL sites. The cooler temperatures have been accompanied by localized heavy precipitation at some higher elevation locations. SNOTEL sites located along the Continental Divide between Fremont Pass and Cameron Pass have received the majority of the recent precipitation. Most of these sites have received precipitation amounts of 30%-40% above normal for the first half of May, and several of these sites have increased slightly in snow water equivalent since May 1.

SNOTEL sites across the remainder of the state show a continuation of the below normal precipitation trends. Sites in southern and southwestern Colorado have received less than half of normal precipitation during the first half of May. Snowmelt in this portion of the state is well underway, with most sites melting 1-1.5 inches of snow water equivalent per day. Most sites below 10,500 feet in elevation have melted out.

Streamflow volumes have risen as a result of the melting snowpack, however, flows have been below average across the state. With the earlier than normal melting of the snowpack, peak flows are expected to be 3-4 weeks earlier than normal this year. At some locations peak volumes may have already occurred. Forecasted volumes for the April through September period remain below normal statewide. The lowest expected volumes are in the Arkansas, South Platte, Yampa, Gunnison and Dolores River Basins, where forecasts call for less than 70% of average flows. The highest forecasts are in the Rio Grande basin, with volumes of 90% of normal in the headwaters of the basin. Streamflows across the remainder of the state are in the 70%-85% of normal range for the forecast period.

COLORADO

WATER SUPPLY OUTLOOK

May 15, 1989

SNOW COURSE DATA

MAY 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLORADO						
ARROW	9900	5/15/89	5	1.5	7.1	13.0
BERTHOUD SUMMIT	11300	5/11/89	49	19.4	22.7	21.1
CAMERON PASS	10300	5/11/89	43	20.2	29.2	29.6
CASCADE	8850	5/12/89	0	.0	.0	4.7
COLUMBINE LODGE	9300	5/16/89	0	.0	7.9	13.4
FREMONT PASS	11400	5/12/89	40	14.6	16.3	17.0
GRIZZLY PEAK	11100	5/12/89	43	17.7	17.7	19.2
IDARADO	9800	5/15/89	0	.0	.0	15.2
JOE WRIGHT	10000	5/11/89	47	20.9	27.7	27.3
MC CLURE PASS	9500	5/15/89	0	.0	.0	7.0
MESA LAKES	10000	5/12/89	2	.8	9.6	12.9
MILNER PASS	10100	5/14/89	10	4.2	11.6	10.4
MINERAL CREEK	10300	5/12/89	0	.0	.8	11.9
MOLAS LAKE	10500	5/12/89	0	.0	--	--
PARK RESERVOIR	9900	5/12/89	24	9.6	17.3	24.5
PARK VIEW	9200	5/11/89	1	.3	4.1	3.5
PORPHYRY CREEK	10700	5/15/89	13	4.4	7.0	14.7
RABBIT EARS	9550	5/16/89	38	16.9	20.9	26.7
RED MOUNTAIN PASS	11100	5/12/89	41	18.0	25.2	31.4
SPUD MOUNTAIN	10700	5/12/89	23	10.7	12.6	20.7
TENNESSEE PASS	10200	5/12/89	0	.0	.0	4.7
TENNESSEE PASS #2	10280	5/12/89	11	4.3	2.7	7.0
TWO MILE	10500	5/15/89	34	9.7	13.3	16.5
UNIVERSITY CAMP	10300	5/15/89	28	10.1	16.6	16.5
UPPER SAN JUAN	10200	5/11/89	16	7.9	6.2	21.3
WILLOW CREEK PASS	9500	5/11/89	6	2.6	10.5	7.6
WOLF CREEK SUMMIT	11000	5/11/89	59	28.4	21.9	32.4

U.S. DEPARTMENT OF AGRICULTURE
SNOW SURVEY UNIT
USDA, SOIL CONSERVATION SERVICE
DIAMOND HILL, BLDG. A, 3RD FLOOR
2490 WEST 26TH AVENUE
DENVER, CO 80211

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

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USDA - SCS
DENVER, COLORADO
PERMIT NO. G - 267

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MAY 18 '89
COLORADO WATER
CONSERVATION
BOARD

LARRY F. LANG
COLO WTR CONS BOARD
1313 SHERMAN STREET
ROOM 721
DENVER, CO 80203

APRIL

DODES NEW RELEASE 13 April 1989

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1989

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o05seta.lhf

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x = Late May/June

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								State Division of Water Resouces
								Division of Disaster Emergency Services

Dave
1) Your on at 3:20 - 3:40
2) What words of wisdom you want to express
3) Comments

MEMORANDUM

RECEIVED

MAR 16 '89

COLORADO WATER CONSERVATION BOARD

DIVISION OF DISASTER EMERGENCY SERVICES
Camp George West
Golden, Colorado 80401
(303) 273-1624

John P. Byrne
DIRECTOR

DATE: 7 March 1989

TO: Selected State Departmental Disaster Response Coordinators, Key Local, State, Federal and Private Relief Agency Personnel

FROM: John P. Byrne, Director, DODES

SUBJECT: Potential Spring Flood Threat Assessment Review

The annual DODES Spring Flood Threat Review is scheduled for the afternoon (1:00 - 4:15) of Tuesday, 11 April 1989 at the Holiday Inn near Camp George West, Golden, Colorado. The primary purpose of the meeting is to present the potential spring flood threat as seen by technical agencies as well as solicit input on this evaluation. The results of this review will be used as the basis for flood preparedness and public awareness activities. This activity is only one of many scheduled for the week which will be designated as Emergency Preparedness Awareness Week by the Governor.

I hope that you or a representative of your agency will be able to attend the flood review. Again the pertinent details of this review are:

DATE: Tuesday 11 April 1989.

TIME: 1:00 - 4:15 p.m.

LOCATION: Holiday Inn West (Holidome)
14707 West Highway 40 (see attachment A)

AGENDA: See attachment B

Note: 1. Specific agencies who have been designated to make short presentations are indicated on the agenda.

2. Agencies that have flood preparedness related written materials they wish to distribute are asked to bring at least 100 of said materials.

If there should be questions concerning this meeting, please refer them to Len Boulas of my staff at Tel #273-1825.

Enclosures: attachment A - Sketch Map
attachment B - Agenda

dps
COLORADO DEPARTMENT OF PUBLIC SAFETY

Spring Flood Threat Assessment Review
Agenda
11 April 1989
Golden Colorado

1:00	-	Welcome/Introductions	-	Director DODES
1:15 - 1:35	-	Snow Pack, Reservoir Storage Levels, Stream Flow Forecasts	-	Soil Conservation Serv./Div of Water Resources.
1:35 - 1:55	-	Forecasted Weather	-	National Weather Service
1:55 - 2:15	-	Climatological Perspective	-	State Climatologist
2:15 - 2:30	-	Break		
2:30 - 3:20	-	Potential Spring Runoff Flood Threat Review Evaluation by Technical Agencies of potential spring flood threat	-	DODES with participation by ALL
3:20 - 3:40	-	Colorado Flood Perspective	-	Colorado Water Conservation Bd.
3:40 - 4:00	-	U.S. Army Corps of Engineers Program Changes	-	TBA
4:00 - 4:15		Wrap Up - Adjournment	-	DODES

o05sftr.hqf

Tuesday - 1600 PM DOPES
Meeting

1) You know Snow Survey results

2) CWCB 3:20 - 3:40 presentation
Talk items:

- First Flood of 1884 - Ice Jam Flood at Logan County d/s of Sterling, Colo, on 1-10-84.
- Need better coordination of Federal - State Agencies on Flood Events
- What do we expect from a
  - Flash Flood Event - May - Sept
  - General Floods Event (Denver Area South Platte Basin, Arkansas River ——
  - Snowmelt Flood Event, May - June heavy Streambank Erosion.
- NFIP is doing a good job on undeveloped land of controlling flood damages. However on developed areas it fosters economic hardships because Regulations - Insurance - Suspension!

STATE OF COLORADO

COLORADO WATER CONSERVATION BOARD
Department of Natural Resources
721 State Centennial Building
1313 Sherman Street
Denver, Colorado 80203
Phone: (303) 866-3441

M E M O R A N D U M

TO: Len Boulas, DODES

FROM: Larry Lang, CWCB

DATE: April 5, 1989

SUBJECT: Annual Spring Runoff Potential Flood Threat Review

From our review and analysis of the April 1, 1989 snow survey data and the impact of the March 30-April 3, 1989 storm, I can conclude that my June vacation plans should not be altered due to potential snowmelt flooding conditions.

We observed that the higher snow pack percentages are at the 10,000 MSL Level; therefore, I would predict that the runoff will probably be a little higher than the snow percentages indicate.

We have rated the Rio Grande Basin streams and the Upper Purgatorie River Basin streams at a medium-minus flood threat. The remainder of the stream basin are a low flood threat.

Should the State experience more of the March 30-April 3, storms, these ratings will increase.

LFL/bj

9787E

MEMORANDUM

DIVISION OF DISASTER
EMERGENCY SERVICES
Camp George West
Golden, Colorado 80401
(303) 273-1624

John P. Byrne
DIRECTOR

DATE: 16 February 1989

TO: Larry Lang, Colorado Water Conservation Board
Bob Hamburg, Division of water Resources
Larry Tunnell, National Weather Service
Nolan Doeskin, State Climatologist
Mike Gillespie, Soil Conservation Service

FROM: Len Boulas, DODES

SUBJECT: Annual Spring RunOff Potential Flood Threat Review

This is an initial notice that this year's annual Spring Run Off Potential Flood Threat Review is scheduled to be conducted on Tuesday, 11 April 1989 - time, location and agenda to be announced. It is requested you set this date aside for participation in this review. Additionally, it is requested you complete the attached evaluation sheet from your agency's perspective and return same to me no later than 6 April 1989, so that I might integrate these evaluations into a composite evaluation for discussion at the review session. I realize this year's review is being scheduled a bit earlier than normal, but this has been done to coordinate this review with several other activities that will be ongoing during the week which has been designated as Emergency Preparedness Week. If you have any questions concerning this review or the evaluation, please let me know.

o05flood.uzzf

COLORADO ESTIMATED SPRING FLOOD THREAT DATE

RIVER BASIN		% of Average Basin Snow Pack	% of Average Stream Flow	Flood Threat 1=High 2=Medium 3=Low			Critical Month	POTENTIALLY THREATENED COUNTIES
				1	2	3		
Yampa River							June	Routt - Moffat
Dry Creek							June	Routt
Elk Creek							June	Routt
White River							June	Rio Blanco
Colorado River	Upper Region						June	Grand - Eagle - Garfield
	Middle Region						June	Garfield - Mesa
	Lower Region						June	Mesa
Williams Fork							June	Grand
Blue River	Upper Region						June	Summit
	Lower Region						June	Summit
Eagle River							June	Eagle
Roaring Fork River							June	Eagle-Pitkin-Garfield
Crystal River							June	Pitkin - Gunnison
Plateau Creek							June	Mesa
Gunnison River	Upper Region						June	Gunnison - Mesa
	Lower Region						June	Delta
Surface Creek							June	Delta
North Fork Gunnison River							June	Delta
East River near Almont							June	Gunnison
Uncompahgre River info to Ridgeway Res.							June	Ouray

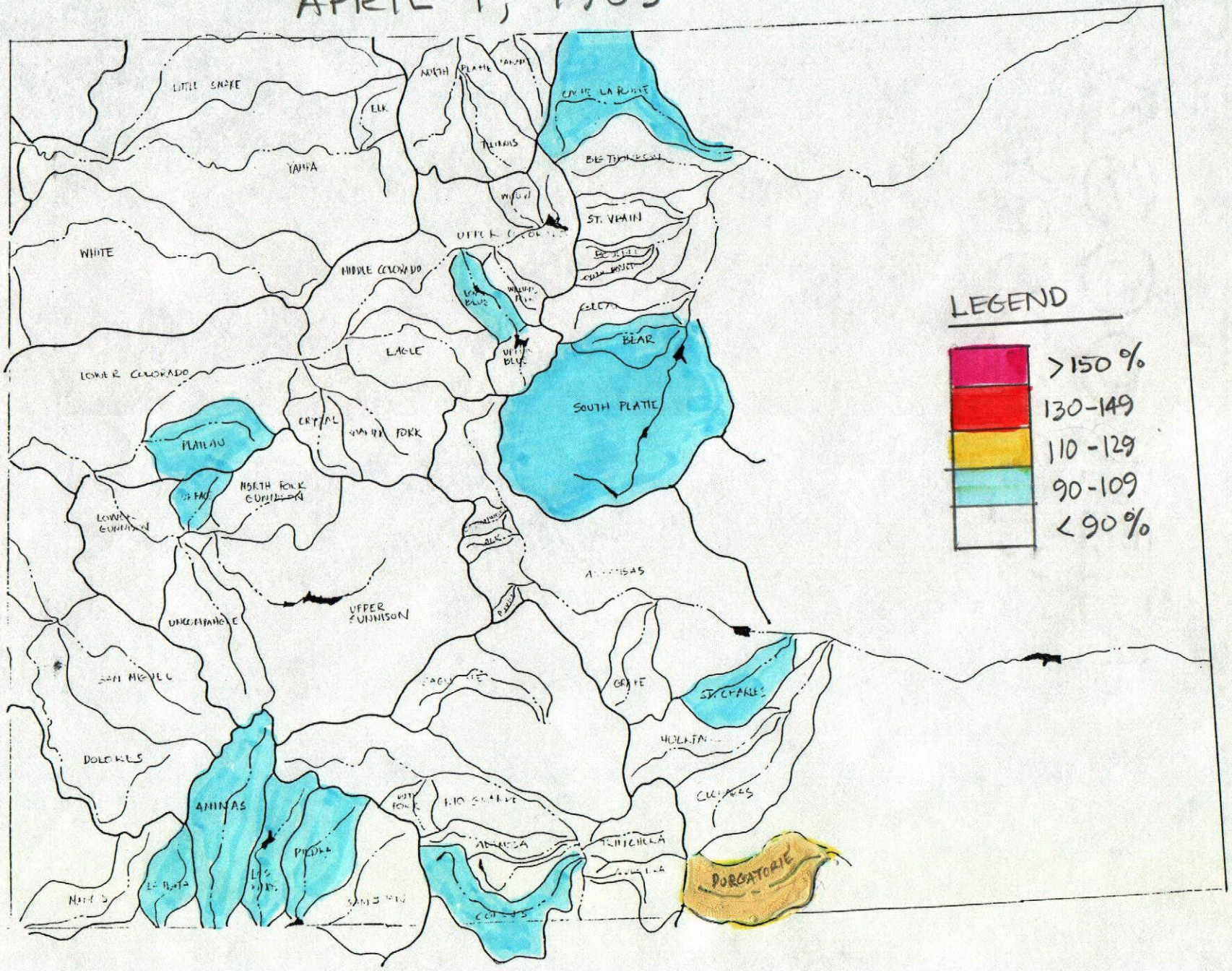
Most will occur during last week in May 1989

			H	M	L		
Uncompahgre River					✓	June	Montrose - Delta
Taylor River inf. to Taylor Park Res.					✓	June	Gunnison
San Miguel River					✓	June	San Miguel - Ouray - Montrose
Dolores River					✓	May	Dolores - Montezuma
Mancos River					✓	June	Montezuma
La Plata River					✓	June	La Plata
Animas River					✓	June	La Plata
Los Pinos River					✓	June	La Plata
Piedra River					✓	June	Archuleta
San Juan River					✓	June	Archuleta
					✓		
South Fork Rio Grande River				✓		June	Rio Grande
Rio Grande River at Del Norte				✓		June	Rio Grande - Alamosa
Alamosa River				✓		June	Conejos
San Luis Creek & Tributaries				✓		June	Saguache
Conejos River				✓		June	Conejos
Culebra Creek					✓	June	Costilla
Trinchera Creek					✓	June	Costilla
Saguache Creek				✓		May	Saguache
Arkansas River					✓	May	Chaffee - Pueblo - Fremont - Otero - Bent
Cotton Wood Creek					✓	May	Chaffee
Chalk Creek					✓	May	Chaffee
Fountain Creek					✓	May	El Paso - Pueblo

			H	M	L		
St. Charles River					✓	May	Pueblo
Arkansas River at Pueblo					✓	May	Pueblo
Huerfano River					✓	June	Pueblo
Cucharas River					✓	May	Huerfano
Purgatoire River				✓		June	Las Animas
Poncha Creek					✓	May	Chaffee
Grape Creek					✓	May	Custer
Upper South Platte River					✓	May	Park - Jefferson - Douglas
Lower South Platte River					✓	May	Denver - Morgan - Weld - Logan - Adams - Arapahoe
Bear Creek					✓	June	Jefferson
Clear Creek					✓	June	Jefferson - Clear Creek
Boulder Creek					✓	June	Boulder
St. Vrain Creek					✓	June	Boulder
Big Thompson River					✓	June	Larimer
Cache La Poudre River					✓	June	Larimer - Weld
North Platte River					✓	June	Jackson
Illinois River					✓	June	Jackson
Laramie River (near Woods)					✓	June	Larimer
South Boulder near Eldorado Springs					✓	June	Boulder
							DATA provided by: U.S. Soil Conservation Service
							National Weather Service
							Office of the State Climatologist
							Colorado Water Conservation Board
							State Division of Water Resouces
							Division of Disaster Emergency Services

SNOW WATER CONTENT

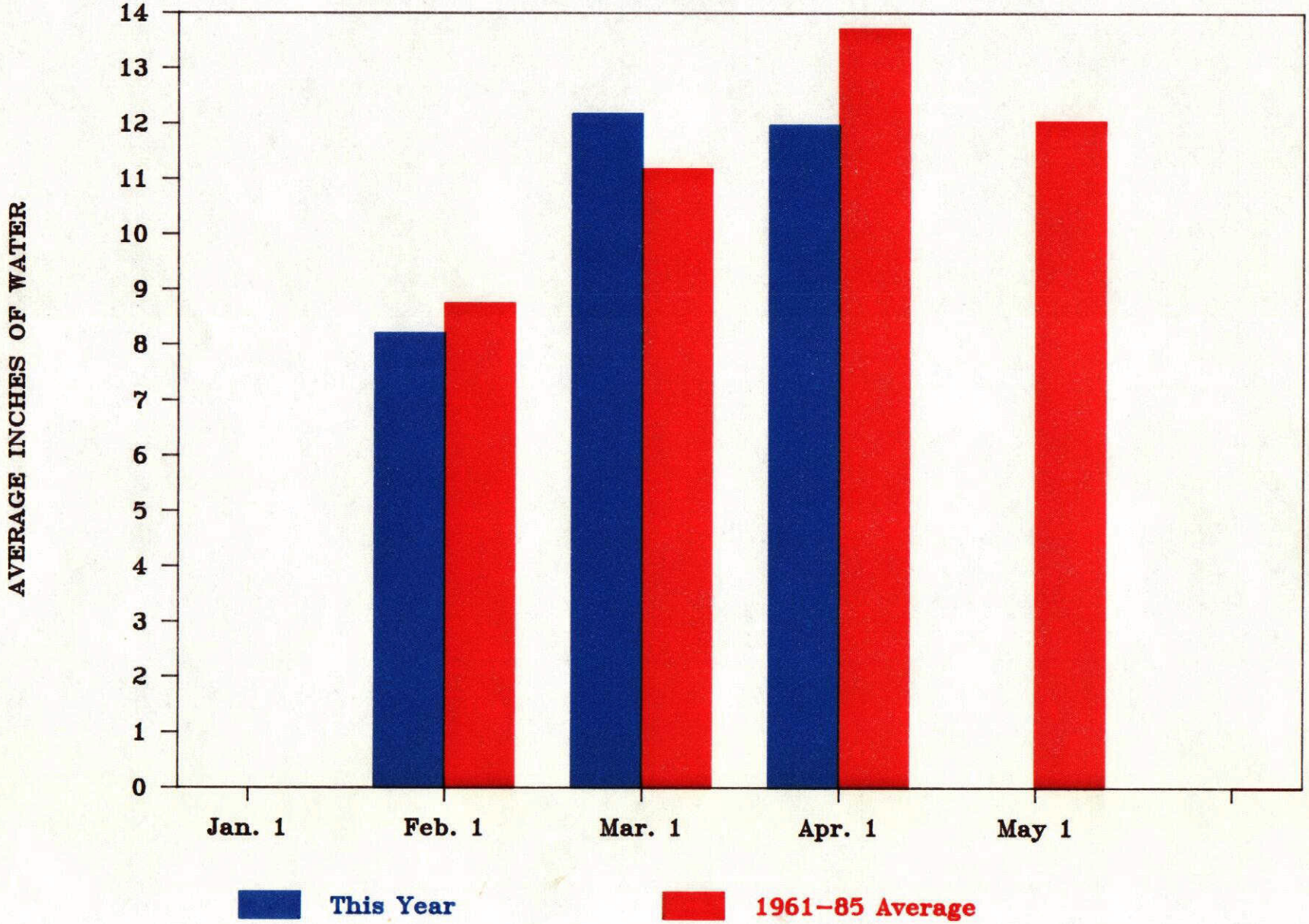
APRIL 1, 1989



CWCB/WPS

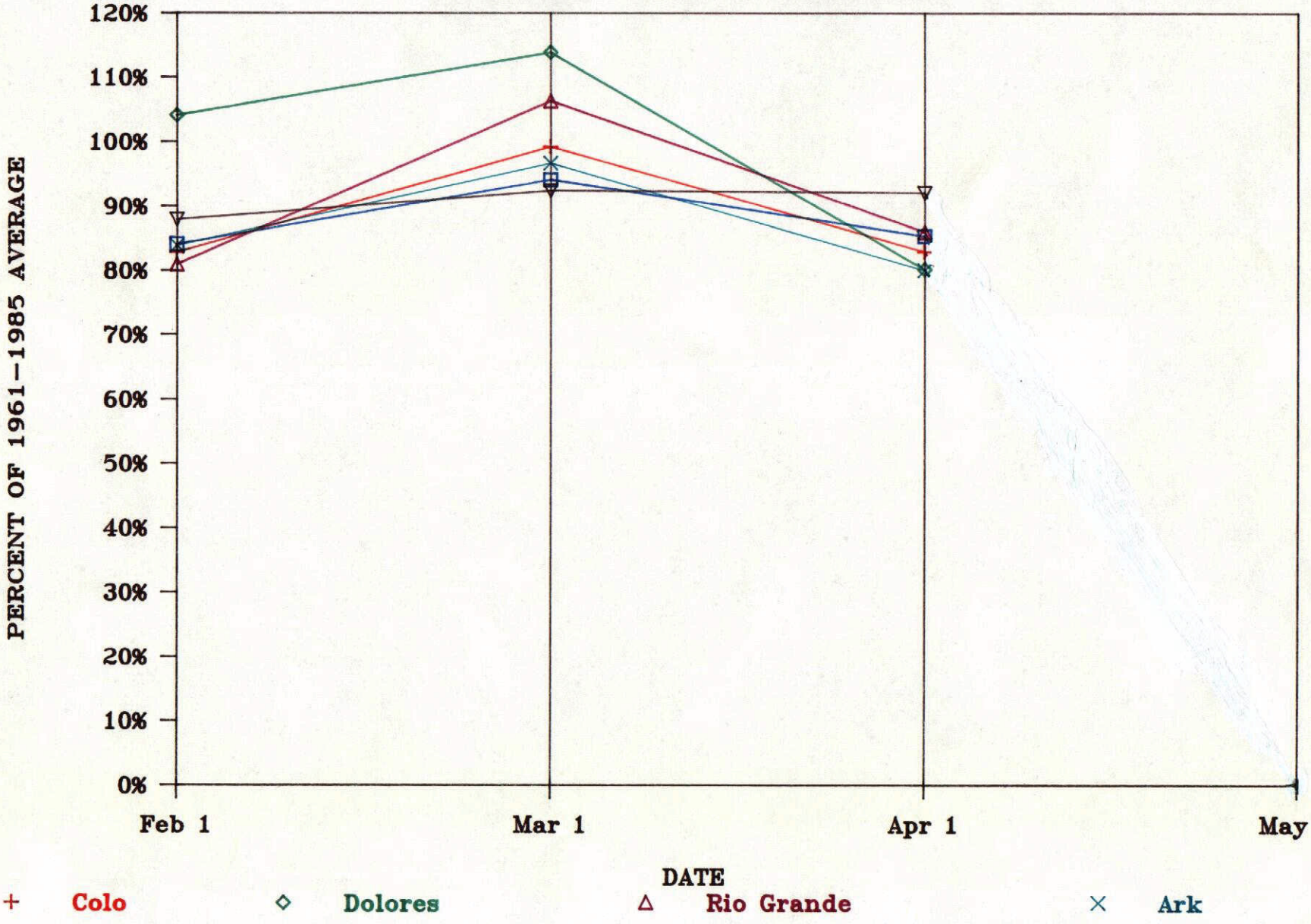
COLORADO SNOWPACK PROGRESS

1989

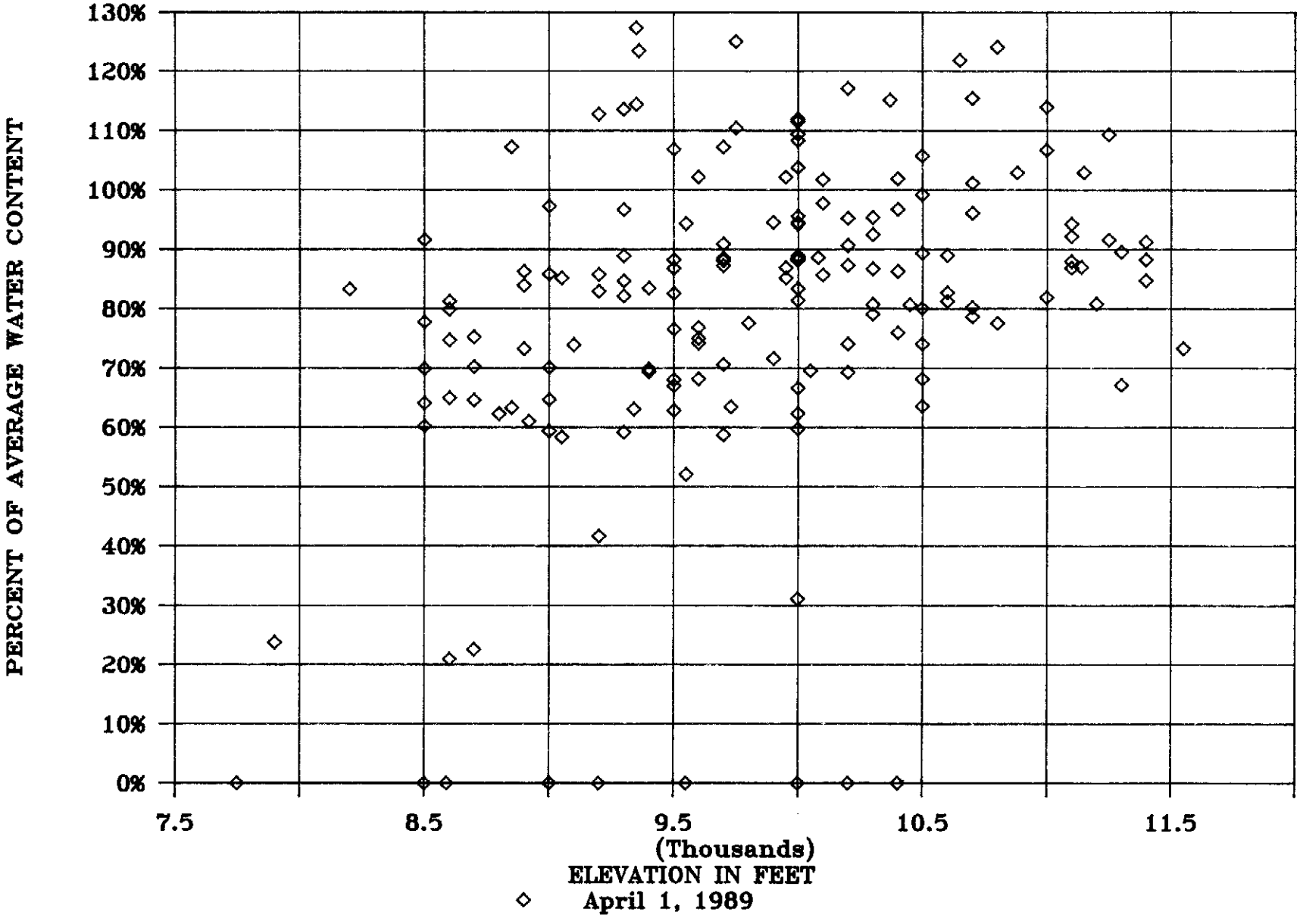


BASIN SNOWPACK 1989

COLORADO WATER CONSERVATION BOARD



COLORADO SNOW WATER CONTENT



Arkansas	11	84%	97%	88%	Salida, Canon City, Pueblo & Fremont County
Cottonwood Creek	2	81%	92%	78%	Buena Vista & Chaffee County
Chalk Creek	2	81%	92%	78%	Nathrop & Chaffee County
Poncha Creek	1	64%	82%	64%	Poncha Springs
Grape Creek	1	64%	82%	64%	Westcliffe & Custer County
Fountain Creek	0				
St. Charles	2	142%	169%	106%	Pueblo
Huerfano	3	115%	151%	76%	Pueblo County
Cucharas	3	115%	151%	76%	Walsenburg & Huerfano County
Purgatorie	1	156%	157%	111%	Trinidad & Las Animas County
S. Platte	7	88%	92%	92%	Denver, Ft. Morgan, Sterling, Julesburg, Adams, Weld & Logan Counties
Bear Creek	2	60%	74%	93%	Evergreen, Littridge, Morrison & Jefferson County
Clear Creek	5	91%	99%	83%	Georgetown, Idaho Springs, Golden & Clear Creek County
South Boulder Ck.	2	123%	138%	88%	Eldorado Springs, Marshall & Boulder County
Boulder Creek	5	119%	116%	80%	Ward, Boulder & Boulder County
St. Vrain Creek	3	51%	91%	56%	Lyons, Longmont & Boulder County
Big Thompson	6	54%	93%	82%	Estes Park, Loveland & Larimer County
Cache la Poudre	8	77%	106%	90%	Fort Collins & Greeley
North Platte	4	76%	90%	85%	Jackson County
Illinois	3	79%	100%	88%	Walden
Laramie	2	65%	75%	82%	Woods Landing & Larimer County
Minimum		0%	0%	0%	
Maximum		176%	169%	111%	
Average		90%	106%	82%	
Standard Deviation		26%	28%	16%	
Variance		7%	8%	3%	

Colorado Water Conservation Board
Flood Control & Floodplain Management Section

1989 SNOWMELT FLOOD THREAT

Apr-89

River Basin	Number of Stations Averaged	Basin Snowpack as a Percent of 1961-1985 Average						Potentially Threatened Communities (Circle as Necessary)
		Feb 1	Mar 1	Apr 1	May 1	May 15	Jun 1	
Yampa	7	84%	94%	85%				Steamboat Springs, Craig & Hayden
Little Snake	1	77%	95%	80%				Slater
Elk	2	76%	92%	75%				Clark & Routt County
White	2	100%	103%	74%				Meeker & Rangley
Upper Colorado	20	80%	98%	81%				Granby & Kremmling
Middle Colorado	7	88%	102%	86%				Glenwood Springs, New Castle, Silt, Rifle, DeBeque & Grand Junction
Lower Colorado	27	83%	99%	83%				Palisade, Grand Junction, Fruita & Mesa County
Willow Creek	2	81%	99%	74%				Grand County
Williams Fork	4	89%	73%	57%				Parshall & Grand County
Upper Blue	2	96%	96%	78%				Breckenridge & Summit County
Lower Blue	1	74%	77%	108%				Silverthorne
Eagle	4	75%	94%	78%				Vail, Eagle, Gypsum, & Eagle County
Roaring Fork	7	83%	96%	82%				Aspen, Basalt, Eagle, Glenwood Springs, Eagle and Pitkin Counties
Crystal	2	89%	98%	84%				Marble, Redstone, Carbondale, & Pitkin County
Plateau Creek	2	89%	107%	92%				Collbran
Upper Gunnison	12	92%	103%	84%				Gunnison
Lower Gunnison	21	94%	104%	85%				Delta & Grand Junction
Surface Creek	3	88%	107%	91%				Orchard City
N. Fk. Gunnison	5	91%	106%	88%				Paonia & Hotchkiss
Uncompahgre	4	103%	106%	79%				Ouray, Ridgeway, Montrose, Olathe, Delta, Montrose & Delta Counties
Dolores	5	104%	114%	80%				Rico, Dolores & Montezuma Counties
San Miguel	3	105%	115%	88%				Telluride, Placerville, Sawpit, Naturita & Uravan
Mancos	0							Mancos
LaPlata	2	101%	122%	93%				Hesperus
Animas	6	92%	113%	94%				Silverton, Durango & La Plata County
Los Pinos	2	110%	126%	99%				Bayfield & Ignacio
Piedra	2	110%	126%	99%				Chimney Rock
San Juan	7	83%	85%	67%				Pagosa Springs
Rio Grande	13	81%	106%	86% —?				Del Norte, Monte Vista & Alamosa
S. Fk. Rio Grande	4	61%	75%	59%				South Fork
Alamosa	1	176%	165%	74% —?				Capulin & Conejos County
San Luis Cr. & Tri	1	0%	0%	0%				Saguache & Center
Conejos	6	93%	145%	99%				Platoro & Antonito
Culebra Creek	4	100%	150%	84%				San Luis
Trinchera Creek	2	99%	164%	83%				Costilla County
Saguache Creek	1	105%	120%	89%				Saguache County

NOT FOR RELEASE TO PRESS--SUBJECT TO CORRECTION

ADVANCE SNOW SURVEY INFORMATION

APRIL 1, 1989

REPORT RELEASED BY

Sheldon G. Boone
State Conservationist
Soil Conservation Service
2490 W. 26th Avenue
Denver, Colorado 80211

S N O W C O U R S E D A T A

APRIL 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLORADO						
ALEXANDER LAKE	10000	3/29/89	63	22.2	19.7	25.1
ANTERO	9200	3/28/89	4	1.0	.1	2.4
ANTERO RESERVOIR	9000	3/28/89	0	.0	.0	1.1
APISHAPA SNOTEL	10000	4/01/89	---	2.1	1.6	7.3
APISHAPA	10000	3/30/89	14	4.9	7.7	8.2
ARROW SNOTEL	9900	4/01/89	---	14.4	20.5	12.7
ARROW	9900	3/29/89	38	10.1	18.3	14.1
BALTIMORE	8800	3/30/89	19	4.3	7.5	6.9
BEAR LAKE SNOTEL	9500	4/01/89	---	15.2	16.9	17.5
BEARTOWN SNOTEL	11600	4/01/89	---	26.7	18.3	21.0
BENNETT CREEK	9300	3/30/89	24	6.1	9.9	7.2
BERTHOUD FALLS	10500	3/30/89	42	11.8	12.3	13.2
BERTHOUD PASS	9700	3/30/89	57	14.7	19.5	16.6
BERTHOUD SUM SNOTEL	11300	4/01/89	---	18.7	20.1	17.4
BERTHOUD SUMMIT	11300	3/30/89	65	17.2	20.3	19.2
BIG MEADOWS	9360	3/29/89	45	18.4	8.2	14.9
BIG SOUTH	8600	3/31/89	7	1.3	6.2	2.0
BIGELOW DIVIDE	9350	3/27/89	27	8.7	8.4	7.6
BISON LAKE SNOTEL	10880	4/01/89	---	28.2	22.1	29.4
BISON RESERVOIR	10000	3/28/89	5	1.4	4.6	3.5
BLUE RIVER	10500	3/29/89	24	5.8	8.3	8.5
BOULDER FALLS	10000	3/27/89	29	10.1	11.4	12.4
BOURBON	9750	3/29/89	23	8.4	6.1	7.6
BROWN CABIN	9730	3/27/89	14	4.0	5.3	6.3
BRUMLEY SNOTEL	10600	4/01/89	---	8.7	9.2	10.7
BURRO MTN SNOTEL	9000	4/01/89	---	16.9	20.1	20.1
BURRO MOUNTAIN	9000	3/29/89	39	15.2	17.9	17.7
BUTTE SNOTEL	10000	4/01/89	---	13.1	11.1	16.6
BUTTE	10000	3/28/89	39	13.6	10.9	16.3
BUTTER HILL	7880	3/30/89	45	12.9	15.3	14.8
CAMERON PASS	10300	3/31/89	73	26.9	29.5	28.2
CASCADE SNOTEL	8850	4/01/89	---	8.0	4.5	10.5
CASCADE	8850	3/27/89	33	13.2	7.3	12.3
CATHEDRAL BLF SNOTEL	8500	4/01/89	---	14.6	14.8	22.3
CHAMBERS LAKE	9000	3/31/89	15	5.4	11.6	9.1
COCHETOPA PASS	10000	3/27/89	20	5.4	5.3	6.1
COLUMBINE SNOTEL	9300	4/01/89	---	22.1	28.6	23.8
COLUMBINE LODGE	9300	3/30/89	55	21.0	23.1	23.6
COLUMBINE PS SNOTEL	9400	4/01/89	---	12.3	11.5	17.1
COLUMBINE PASS	9400	3/27/89	38	15.8	12.3	20.0
COMO	10370	3/30/89	28	7.6	6.0	9.6
COPELAND LAKE SNOTEL	8600	4/01/89	---	.9	---	2.6
COPELAND LAKE	8600	3/29/89	6	1.5	5.5	4.2
COPPER MTN SNOTEL	10450	4/01/89	---	11.3	13.3	14.0
CRESTED BUTTE	8900	3/28/89	35	12.6	12.2	14.4
CROSHO SNOTEL	9500	4/01/89	---	9.8	15.5	14.4
CROSHO	9500	3/28/89	34	10.7	16.0	14.4
CUCHARAS CREEK	9700	3/30/89	19	7.2	8.0	10.1
CULEBRA #2 SNOTEL	10000	4/01/89	---	13.0	9.3	11.6
CULEBRA	10000	3/28/89	30	9.0	7.3	10.1

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
CUMBRES PASS	10000	3/29/89	47	20.6	18.1	21.8
CUMBRES TRESTLE SNTL	10000	4/01/89	---	25.2	21.8	23.4
CUMBRES TRESTLE	10000	3/29/89	67	25.7	20.0	28.9
DEADMAN HILL SNOTEL	10200	4/01/89	---	16.1	18.3	16.9
DEADMAN HILL	10200	3/23/89	44	13.8	--	16.2
DEER RIDGE	9050	3/30/89	9	2.8	5.6	4.8
DRY LAKE SNOTEL	8200	4/01/89	---	20.6	27.8	23.4
DRY LAKE	8200	3/29/89	48	17.0	21.4	20.4
EL DIENTE PK SNOTEL	10000	4/01/89	---	13.9	8.4	22.1
ELEVEN MILE	8590	3/28/89	0	.0	.0	1.0
ELK RIVER SNOTEL	8600	4/01/89	---	18.8	20.6	18.9
ELK RIVER #2	8600	3/27/89	39	14.3	17.9	17.9
ELKHORN	8480	3/30/89	79	24.6	26.2	24.7
EMPIRE	9700	3/30/89	26	7.0	6.9	7.7
FOUR MILE PARK	9700	3/30/89	19	4.8	3.5	5.5
FREMONT PASS SNOTEL	11400	4/01/89	---	14.3	16.6	16.8
FREMONT PASS	11400	3/31/89	55	14.3	17.0	16.2
GENEVA PARK	9750	3/27/89	14	4.0	2.9	3.8
GLEN MAR RANCH	8850	3/28/89	18	5.7	9.3	9.0
GORE PASS	8900	3/29/89	29	8.9	9.6	10.6
GRANBY	8700	3/30/89	21	5.2	7.0	7.4
GRAND LAKE	8600	3/27/89	27	7.4	8.7	9.1
GRAYBACK	11000	3/27/89	48	17.9	9.0	15.7
GRIZZLY PEAK SNOTEL	11100	4/01/89	---	12.4	16.6	17.9
GRIZZLY PEAK	11100	3/27/89	49	16.1	14.7	18.3
GROUNDHOG	8920	4/01/89	22	9.4	7.7	15.4
HAGERMAN TNL SNOTEL	11150	4/01/89	---	27.5	28.0	26.9
HAGERMAN TUNNEL	11150	3/28/89	50	16.0	19.4	25.4
HAHN'S PEAK	8500	3/27/89	30	10.0	14.5	14.3
HIDDEN VALLEY	8480	3/29/89	22	5.1	8.9	9.8
HIWAY	10700	3/29/89	82	30.6	16.8	26.5
HOOSIER PASS SNOTEL	11400	4/01/89	---	13.2	14.9	14.5
HOOSIER PASS	11400	3/29/89	39	10.6	11.7	12.5
HORSESHOE MOUNTAIN	11400	3/29/89	33	9.4	9.5	10.3
HOURGLASS LAKE	9500	3/30/89	26	7.7	11.6	7.2
HUERFANO	10080	3/22/89	26	8.6	8.3	7.5
IDARADO SNOTEL	9800	4/01/89	---	12.5	8.2	17.1
IDARADO	9800	3/30/89	40	13.5	10.2	15.6
INDEPENDENCE PS SNTL	10600	4/01/89	---	14.5	13.8	18.1
INDEPENDENCE PASS	10600	3/27/89	44	13.9	10.7	16.8
IRONTON PARK	9600	3/30/89	29	10.1	10.1	14.8
IVANHOE	10400	3/29/89	50	14.2	16.5	18.7
JEFFERSON CREEK	10100	3/30/89	32	9.0	8.7	9.2
JOE WRIGHT SNOTEL	10000	4/01/89	---	18.6	24.5	21.3
JOE WRIGHT	10000	3/31/89	72	23.8	30.3	24.9
JONES PASS	10400	3/30/89	54	14.5	17.4	16.2
KEYSTONE	9950	3/28/89	47	18.5	15.8	21.7
KILN SNOTEL	9600	4/01/89	---	10.5	10.0	12.8
KILN	9600	3/29/89	36	9.6	11.3	12.8
LA MANGA	10120	3/29/89	62	23.1	14.7	21.1
LA PLATA	9340	3/30/89	31	14.2	12.2	22.5
LA VETA PASS	9300	3/30/89	23	8.8	10.2	9.1
LAKE CITY	10200	3/29/89	20	5.2	5.9	7.5
LAKE ELDORA SNOTEL	10500	4/01/89	---	10.9	12.2	10.3
LAKE HUMPHREY	9200	3/26/89	26	7.9	3.6	7.0
LAKE IRENE SNOTEL	10600	4/01/89	---	24.6	29.5	24.6
LAKE IRENE	10600	3/29/89	54	18.6	25.2	20.9
LAPLAND	9300	3/30/89	35	8.3	10.3	10.1
LEMON RESERVOIR #1	8700	3/28/89	20	7.6	5.7	10.1
LEMON RESERVOIR #2	9500	3/28/89	27	10.6	7.1	11.9
LIFT	11250	3/28/89	51	17.6	17.0	19.2
LILY POND SNOTEL	10650	4/01/89	---	21.7	12.5	17.8
LIZARD HEAD	10300	3/30/89	50	15.7	10.2	18.1
LIZARD HD PS SNOTEL	10300	4/01/89	---	14.1	8.8	19.9
LIZARD HEAD PASS	10300	3/30/89	46	14.7	9.1	16.3
LONE CONE SNOTEL	9950	4/01/89	---	17.7	11.3	15.5
LONE CONE	9950	3/28/89	42	15.4	10.7	17.7
LONGS PEAK	10500	3/28/89	28	8.0	11.9	10.8
LOVE LAKE	10000	3/29/89	32	10.7	5.4	10.3
LOVELAND PASS	10800	3/27/89	39	12.1	15.9	15.6
LYNX PASS SNOTEL	8900	4/01/89	---	11.3	14.4	13.4
LYNX PASS	8900	3/29/89	35	9.3	12.3	[illegible]
MANCOS T-DOWN	10000	3/30/89	34	14.1	11.4	[illegible]
MC CLURE PASS SNOTEL	9500	4/01/89	---	17.8	14.3	[illegible]
MC CLURE PASS	9500	3/30/89	35	12.8	12.5	[illegible]

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
MCINTYRE	9100	4/02/89	31	7.8	12.5	10.8
MCKENZIE GULCH	8500	3/28/89	15	5.5	6.3	6.0
MESA LAKES SNOTEL	10000	4/01/89	---	18.3	14.3	13.4
MESA LAKES	10000	3/29/89	50	16.6	15.2	16.7
MIDDLE CREEK SNOTEL	11250	4/01/89	---	18.1	12.8	21.1
MIDDLE CREEK	11250	3/29/89	67	25.6	15.3	21.3
MIDDLE FORK CAMPGRD	9000	3/28/89	22	6.6	11.4	10.2
MILNER PASS	10100	3/29/89	35	11.4	15.4	13.3
MINERAL CREEK SNOTEL	10300	4/01/89	---	16.0	10.2	14.7
MINERAL CREEK	10300	3/27/89	42	14.8	10.6	16.0
MOLAS LAKE SNOTEL	10500	4/01/89	---	25.5	17.0	13.0
MOLAS LAKE	10500	3/27/89	37	13.3	7.3	13.4
MONARCH OFFSHOOT	10500	3/29/89	33	10.8	13.0	13.8
MONARCH PASS	10500	3/29/89	35	11.0	11.7	17.3
MOSQUITO CREEK	11200	3/30/89	28	7.6	8.4	9.4
NAST LAKE SNOTEL	8700	4/01/89	---	6.9	7.1	6.5
NAST	8700	3/29/89	17	4.2	6.6	6.5
NAVAL OILSHALE SNOTL	8800	4/01/89	---	21.7	18.2	30.2
NIWOT SNOTEL	9910	4/01/89	---	8.6	14.0	12.8
NORTH INLET GRAND LK	9000	3/28/89	20	6.1	8.1	8.7
NORTH LOST TR SNOTEL	9200	4/01/89	---	18.5	15.1	16.3
NORTH LOST TRAIL	9200	3/30/89	41	13.3	12.4	15.5
NORTHGATE	8500	3/27/89	18	4.9	7.2	6.3
OPHIR LOOP	11100	3/30/89	50	16.4	11.8	17.4
PANDO	9500	3/28/89	19	6.5	9.2	9.7
PARK CONE SNOTEL	9600	4/01/89	---	9.7	6.3	9.1
PARK CONE	9600	3/27/89	28	8.3	5.9	10.8
PARK RESERV SNOTEL	9900	4/01/89	---	29.3	24.6	26.3
PARK RESERVOIR	9900	3/30/89	72	24.5	20.7	25.9
PARK VIEW	9200	3/27/89	26	7.8	10.6	9.4
PHANTOM VALLY SNOTEL	9050	4/01/89	---	7.5	12.1	8.8
PHANTOM VALLEY	9050	3/27/89	28	9.7	14.3	11.1
PINE CREEK	7900	3/31/89	1	.5	5.0	2.1
PINOS MILL	10000	3/27/89	72	28.9	19.7	25.9
PLATORO	9950	3/27/89	50	18.1	8.5	17.7
POOL TABLE MOUNTAIN	10000	3/28/89	24	6.5	3.8	5.8
PORCUPINE	10400	3/28/89	35	10.3	5.5	10.1
PORPHYRY CK SNOTEL	10700	4/01/89	---	11.8	14.9	15.2
PORPHYRY CREEK	10700	3/29/89	42	14.0	14.0	17.8
RABBIT EARS SNOTEL	9550	4/01/89	---	24.6	25.3	26.8
RABBIT EARS	9550	3/30/89	71	25.1	24.0	26.6
RANCH CREEK	9400	3/29/89	31	8.6	14.0	10.3
RED MTN PASS SNOTEL	11200	4/01/89	---	24.2	21.3	26.0
RED MOUNTAIN PASS	11100	3/27/89	78	27.3	25.9	31.7
RICO	8700	3/30/89	5	1.7	.0	7.5
RIO BLANCO	8500	3/29/89	32	9.1	15.8	15.1
RIPPLE CK PS SNOTEL	10340	4/01/89	---	21.7	27.3	27.4
RIVER SPRINGS	9300	3/29/89	8	2.9	3.3	4.9
ROACH SNOTEL	9400	4/01/89	---	14.0	18.2	18.5
ROACH	9400	3/26/89	44	12.9	19.8	18.6
SAINT ELMO	10400	3/30/89	41	12.0	9.3	11.9
SANTA MARIA	9700	3/27/89	15	4.4	1.4	4.1
SCHOFIELD PS SNOTEL	10700	4/01/89	---	36.1	29.7	42.5
SCOTCH CREEK SNOTEL	9100	4/01/89	---	7.9	5.7	8.7
SHRINE PASS	10700	3/28/89	52	17.3	20.3	18.0
SILVER LAKES	9600	3/30/89	12	4.6	2.9	6.2
SLUMGULLION SNOTEL	11550	4/01/89	---	11.0	12.0	13.9
SNAKE RIVER	9700	3/27/89	15	4.7	6.5	8.0
SOUTH COLONY	11140	3/28/89	56	22.2	15.8	19.9
SPRUCE CREEK	10880	3/27/89	34	10.5	6.9	8.9
SPUD MOUNTAIN SNOTEL	10700	4/01/89	---	29.8	18.7	25.0
SPUD MOUNTAIN	10700	3/27/89	66	24.7	14.9	24.4
STILLWATER CK SNOTEL	8720	4/01/89	---	5.4	7.4	8.5
STUMP LAKES SNOTEL	11200	4/01/89	---	17.3	13.7	20.1
SUMMIT RANCH SNOTEL	10000	4/01/89	---	11.6	11.7	10.7
SUNDANCE	11100	3/27/89	34	8.3	10.0	9.1
TELLURIDE	8600	3/30/89	18	6.2	4.3	8.3
TENNESSEE PASS	10200	3/31/89	35	9.0	9.0	10.3
TENNESSEE PASS #2	10280	3/31/89	45	10.9	10.1	13.0
TOWER SNOTEL	10000	4/01/89	---	46.5	47.7	52.6
TOWER	10000	3/29/89	114	47.7	48.4	50.0
TRAPPER LAKE SNOTEL	9700	4/01/89	---	17.4	22.7	23.0
TRINCHERA	11000	3/27/89	28	7.7	7.3	9.4
TROUT CREEK PASS	10050	3/29/89	13	3.2	2.9	4.5

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
TROUT LAKE #2	9700	3/30/89	41	13.4	9.8	[illegible]
TWIN LAKES TUNNEL	10100	3/27/89	35	11.1	9.3	[illegible]
TWO MILE	10500	3/29/89	38	11.3	12.7	[illegible]
UNIVERSITY CAMP SNTL	10300	4/01/89	---	14.0	17.4	[illegible]
UNIVERSITY CAMP	10300	3/27/89	37	13.6	16.4	[illegible]
UPPR RIO GRND SNOTEL	9350	4/01/89	---	8.2	3.2	[illegible]
UPPER RIO GRANDE	9350	3/24/89	29	10.7	5.2	[illegible]
UPPER SAN JUAN SNTL	10200	4/01/89	---	37.4	21.9	[illegible]
UPPER SAN JUAN	10200	3/29/89	89	38.2	18.9	[illegible]
VAIL MOUNTAIN SNOTEL	10200	4/01/89	---	17.4	20.6	[illegible]
VALLECITO SNOTEL	10800	4/01/89	---	22.4	14.9	[illegible]
VALLECITO	10800	3/29/89	56	23.7	12.6	[illegible]
VASQUEZ	9600	3/31/89	50	13.7	16.2	[illegible]
WARD	9500	3/28/89	14	3.9	6.6	[illegible]
W FK PARACHUTE SNTL	7800	4/01/89	---	.6	2.1	[illegible]
WESTCLIFFE	9000	3/28/89	18	7.2	5.7	[illegible]
WESTON	9300	3/28/89	7	2.5	1.3	[illegible]
WHISKEY CREEK SNOTEL	10200	4/01/89	---	9.8	6.8	[illegible]
WILD BASIN	10000	3/29/89	26	7.2	11.6	[illegible]
WILLOW CK PS SNOTEL	9500	4/01/89	---	13.1	12.7	[illegible]
WILLOW CREEK PASS	9500	3/27/89	33	9.8	14.2	[illegible]
WILLOW PARK SNOTEL	[illegible]700	4/01/89	---	16.3	23.8	[illegible]
WILLOW PARK	[illegible]700	3/31/89	47	15.1	18.0	[illegible]
WOLF CK SUMMIT SNTL	11000	4/01/89	---	37.9	23.6	[illegible]
WOLF CREEK SUMMIT	11000	3/29/89	92	33.2	21.9	[illegible]
YAMPA VIEW	8200	3/30/89	31	10.2	16.2	[illegible]

U.S. DEPARTMENT OF AGRICULTURE
SNOW SURVEY UNIT
USDA, SOIL CONSERVATION SERVICE
DIAMOND HILL, BLDG. A, 3RD FLOOR
2490 WEST 26TH AVENUE
DENVER, CO 80211

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BASINS COVERED BY THE SCS

STATEWIDE SNOWPACK 86% AVG 101% LY

BASIN AND WATERSHED SNOWPACK

APRIL 1, 1989

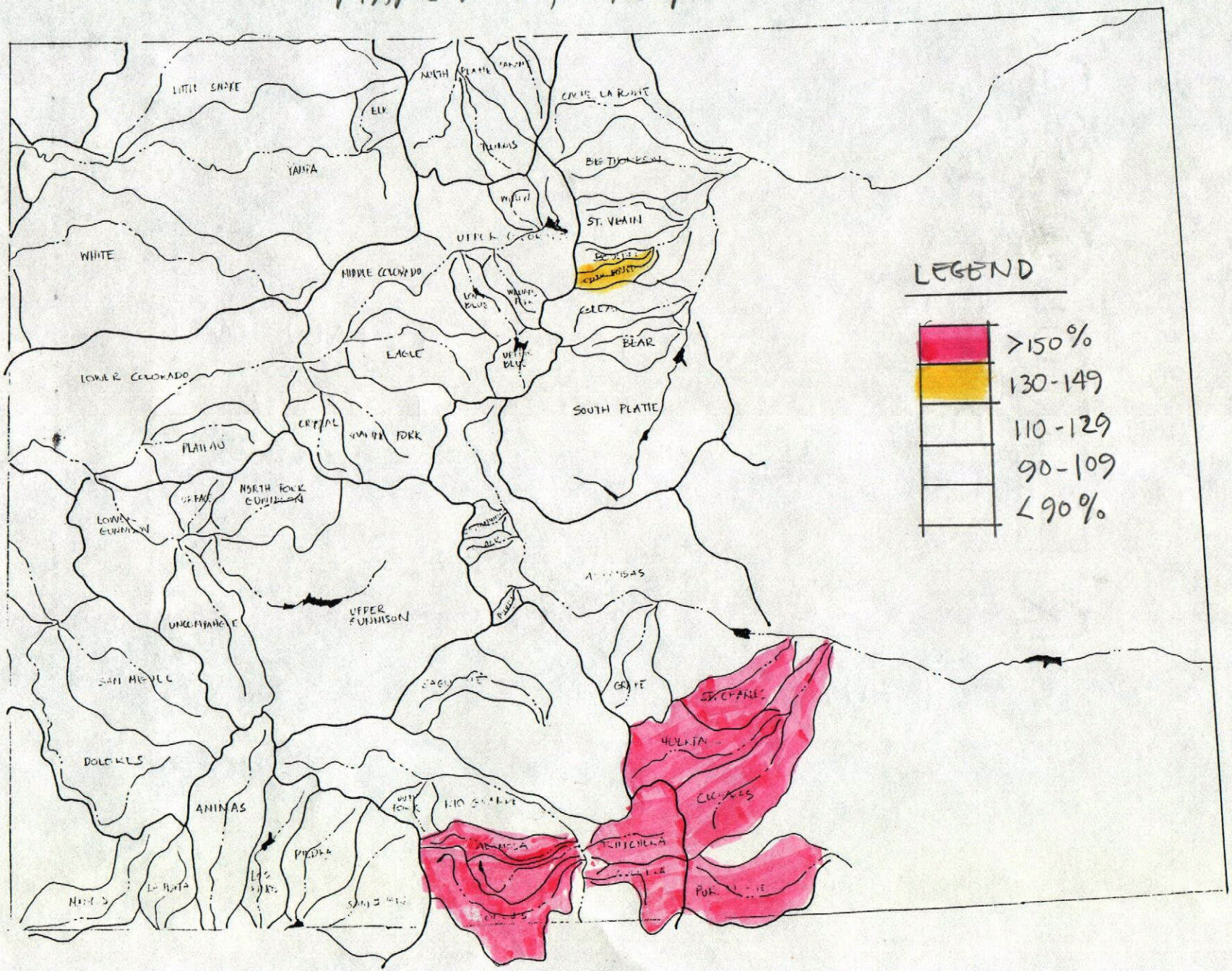
RESV

	% of Last Yr	% of Average	# of S.C.	~~Total~~ Current	Total Last Yr	Total Average
LAST MTH 123/100						
GUNNISON BASIN	112	83		142/123		
99 Gunnison Ws	112	85				
107 Surface Cr	114	91	✓			
100 Uncompaghre	114	77				
100/96 COLORADO BASON	89	83		124/116		
93 Blue River	87	85				
96 Colorado WS	80	82				
107 Plateau Cr	114	91	✓			
90 Roaring Fork	101	79				
98 Williams Fk	72	76				
94 Willow Creek	71	71				
102/106 SOUTH PLATTE BASIN	80	83		102/103		
96 Big Tompson	77	77				
116 Boulder Creek	77	80				
106 Cache La Poudre	72	90	✓			
93 Clear Creek	87	86				
95 St. Vrain	61	65				
119 South Platte WS	101	87				
93/90 NORTH PLATTE BASIN	84	87				
75 Laramie	73	79				
94 North Platte WS	89	90	✓			
YAMPA & WHITE BASINS	83	82				
92 Elk River	75	75				
93 Yampa River WS	85	84				
94 White River WS	76	76				
94 Little Snake	95	87				
124/121 ARKANSAS BASIN	105	86		166/163		
113 Arkansas WS	107	86				
151 Conejos & Huerfano	86	79				
147 Purgatoire	141	105	✓			
163/139 RIO GRANDE BASIN, CO	154	105	—	160/163		
153 Alamosa	171	110	—	← 71		
136 Conejos & Rio San Antonio	144	99	✓			
150 Culebra & Trinchera	96	84				
138 Rio Grande WS	174	113	—	← 86		
146/114 SAN JUAN, DOLORES, ANIMAS	147	87		139/132		
111 Animas WS	139	92	✓			
112 Dolores WS	154	70				
148 San Miguel WS	144	82				
136 San Juan WS	178	115	✓			

STATEWIDE 131% AVG

MARCH

SNOW PACK
MARCH 1, 1989



CWCB/WPS

Colorado Water Conservation Board
Flood Control & Floodplain Management Section

RIVER BASINS WITH SNOWPACK OVER 150%

Mar-89

River Basin	Number of Stations Averaged	Basin Snowpack as a Percent of 1961-1985 Average						Potentially Threatened Communities (Circle as Necessary)
		Feb 1	Mar 1	Apr 1	May 1	May 15	Jun 1	
Alamosa	1	176%	165%					Capulin & Conejos County
Culebra Creek	4	100%	150%					San Luis
Trinchera Creek	2	99%	164%					Costilla County
St. Charles	2	142%	169%					Pueblo
Huerfano	3	115%	151%					Pueblo County
Cucharas	3	115%	151%					Walsenburg & Huerfano County
Purgatorie	1	156%	157%					Trinidad & Las Animas County
Conejos	6	93%	145%					Platoro + Antonito

Colorado Water Conservation Board
Flood Control & Floodplain Management Section

1989 SNOWMELT FLOOD THREAT

Mar-89

River Basin	Number of Stations Averaged	Basin Snowpack as a Percent of 1961-1985 Average						Potentially Threatened Communities (Circle as Necessary)
		Feb 1	Mar 1	Apr 1	May 1	May 15	Jun 1	
Yampa	7	84%	94%	0%	0%			Steamboat Springs, Craig & Hayden
Little Snake	1	77%	95%	0%	0%			Slater
Elk	2	76%	92%	0%	0%			Clark & Routt County
White	2	100%	103%	0%	0%			Meeker & Rangley
Upper Colorado	20	80%	98%	0%	0%			Granby & Kremmling
Middle Colorado	7	88%	102%	0%	0%			Glenwood Springs, New Castle, Silt, Rifle, DeBeque & Grand Junction
Lower Colorado	27	83%	99%	0%	0%			Palisade, Grand Junction, Fruita & Mesa County
Willow Creek	2	81%	99%	0%	0%			Grand County
Williams Fork	4	89%	73%	0%	0%			Parshall & Grand County
Upper Blue	2	96%	96%	0%	0%			Breckenridge & Summit County
Lower Blue	1	74%	77%	0%	0%			Silverthorne
Eagle	4	75%	94%	0%	0%			Vail, Eagle, Gypsum, & Eagle County
Roaring Fork	7	83%	96%	0%	0%			Aspen, Basalt, Eagle, Glenwood Springs, Eagle and Pitkin Counties
Crystal	2	89%	98%	0%	0%			Marble, Redstone, Carbondale, & Pitkin County
Plateau Creek	2	89%	107%	0%	0%			Collbran
Upper Gunnison	12	92%	103%	0%	0%			Gunnison
Lower Gunnison	21	94%	104%	0%	0%			Delta & Grand Junction
Surface Creek	3	88%	107%	0%	0%			Orchard City
N. Fk. Gunnison	5	91%	106%	0%	0%			Paonia & Hotchkiss
Uncompahgre	4	103%	106%	0%	0%			Ouray, Ridgeway, Montrose, Olathe, Delta, Montrose & Delta Counties
Dolores	5	104%	114%	0%	0%			Rico, Dolores & Montezuma Counties
San Miguel	3	105%	115%	0%	0%			Telluride, Placerville, Sawpit, Naturita & Uravan
Mancos	0							Mancos
LaPlata	2	101%	122%	0%	0%			Hesperus
Animas	6	92%	113%	0%	0%			Silverton, Durango & La Plata County
Los Pinos	2	110%	126%	0%	0%			Bayfield & Ignacio
Piedra	2	110%	126%	0%	0%			Chimney Rock
San Juan	7	83%	85%	0%	0%			Pagosa Springs
Rio Grande	13	81%	106%	0%	0%			Del Norte, Monte Vista & Alamosa
S. Fk. Rio Grande	4	61%	75%	0%	0%			South Fork
Alamosa	1	176%	165%	0%	0%			Capulin & Conejos County
San Luis Cr. & Tri	1	0%	0%	0%	0%			Saguache & Center
Conejos	6	93%	145%	0%	0%			Platoro & Antonito
Culebra Creek	4	100%	150%	0%	0%			San Luis
Trinchera Creek	2	99%	164%	0%	0%			Costilla County
Saguache Creek	1	105%	120%	0%	0%			Saguache County

Arkansas	11	84%	97%	0%	0%	Salida, Canon City, Pueblo & Fremont County
Cottonwood Creek	2	81%	92%	0%	0%	Buena Vista & Chaffee County
Chalk Creek	2	81%	92%	0%	0%	Nathrop & Chaffee County
Poncha Creek	1	64%	82%	0%	0%	Poncha Springs
Grape Creek	1	64%	82%	0%	0%	Westcliffe & Custer County
Fountain Creek	0					
St. Charles	2	142%	169%	0%	0%	Pueblo County
Huerfano	3	115%	151%	0%	0%	Pueblo County
Cucharas	3	115%	151%	0%	0%	Walsenburg & Huerfano County
Purgatorie	1	156%	157%	0%	0%	Trinidad & Las Animas County
S. Platte	7	88%	92%	0%	0%	Denver, Ft. Morgan, Sterling, Julesburg, Adams, Weld & Logan Counties
Bear Creek	2	60%	74%	0%	0%	Evergreen, Kittridge, Morrison & Jefferson County
Clear Creek	5	91%	99%	0%	0%	Georgetown, Idaho Springs, Golden & Clear Creek County
South Boulder Ck.	2	123%	138%	0%	0%	Eldorado Springs, Marshall & Boulder County
Boulder Creek	5	119%	116%	0%	0%	Ward, Boulder & Boulder County
St. Vrain Creek	3	51%	91%	0%	0%	Lyons, Longmont & Boulder County
Big Thompson	6	54%	93%	0%	0%	Estes Park, Loveland & Larimer County
Cache la Poudre	8	77%	106%	0%	0%	Fort Collins & Greeley
North Platte	4	76%	90%	0%	0%	Jackson County
Illinois	3	79%	100%	0%	0%	Walden
Laramie	2	65%	75%	0%	0%	Woods Landing & Larimer County

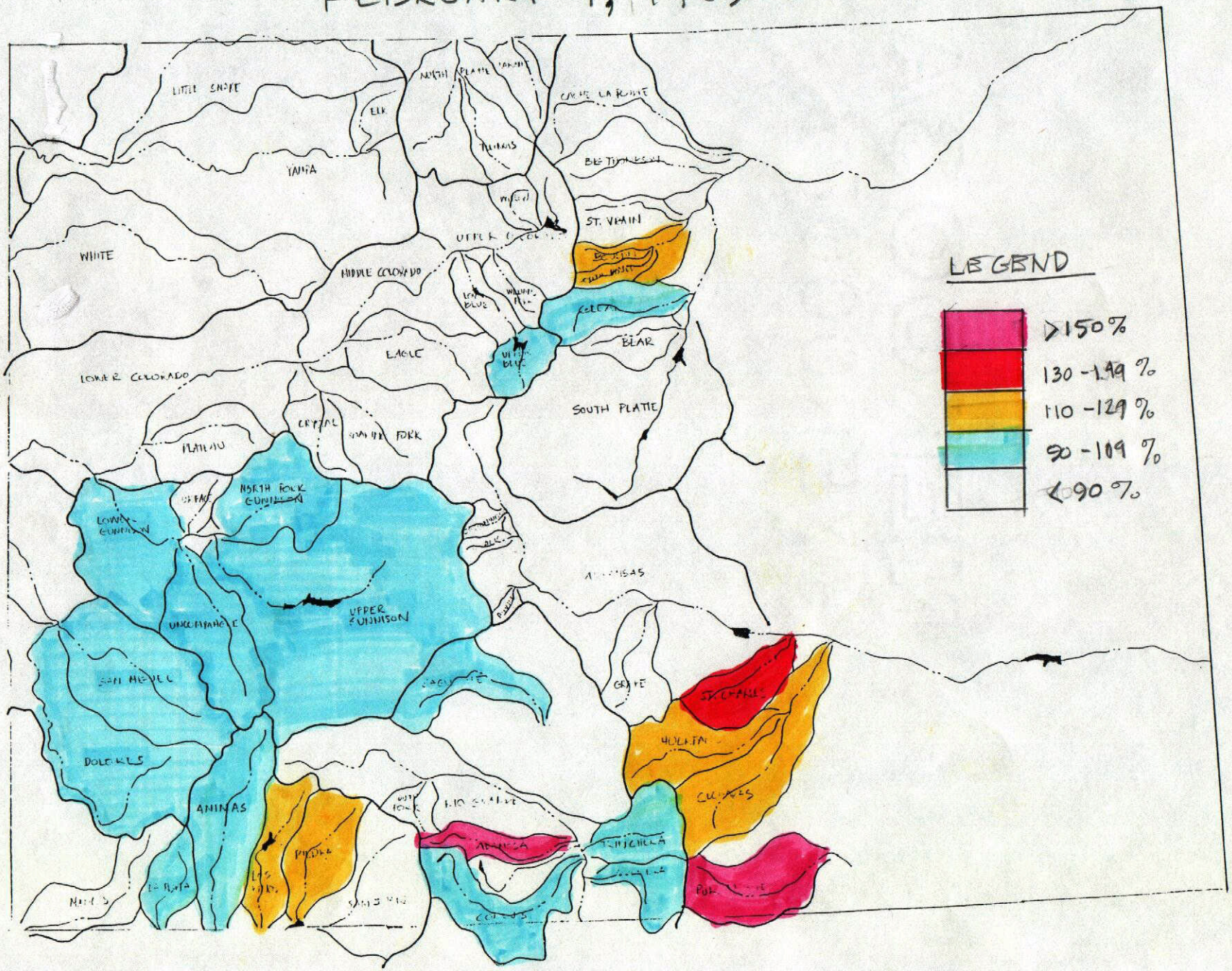
Minimum	0%	0%	0%	0%
Maximum	176%	169%	0%	0%
Average	90%	106%	0%	0%
Standard Deviation	26%	28%	0%	0%
Variance	7%	8%	0%	0%

FEBUARY

SNOWMELT FLOOD THREAT

FEBRUARY 1, 1989

Snow water content as a percent of av



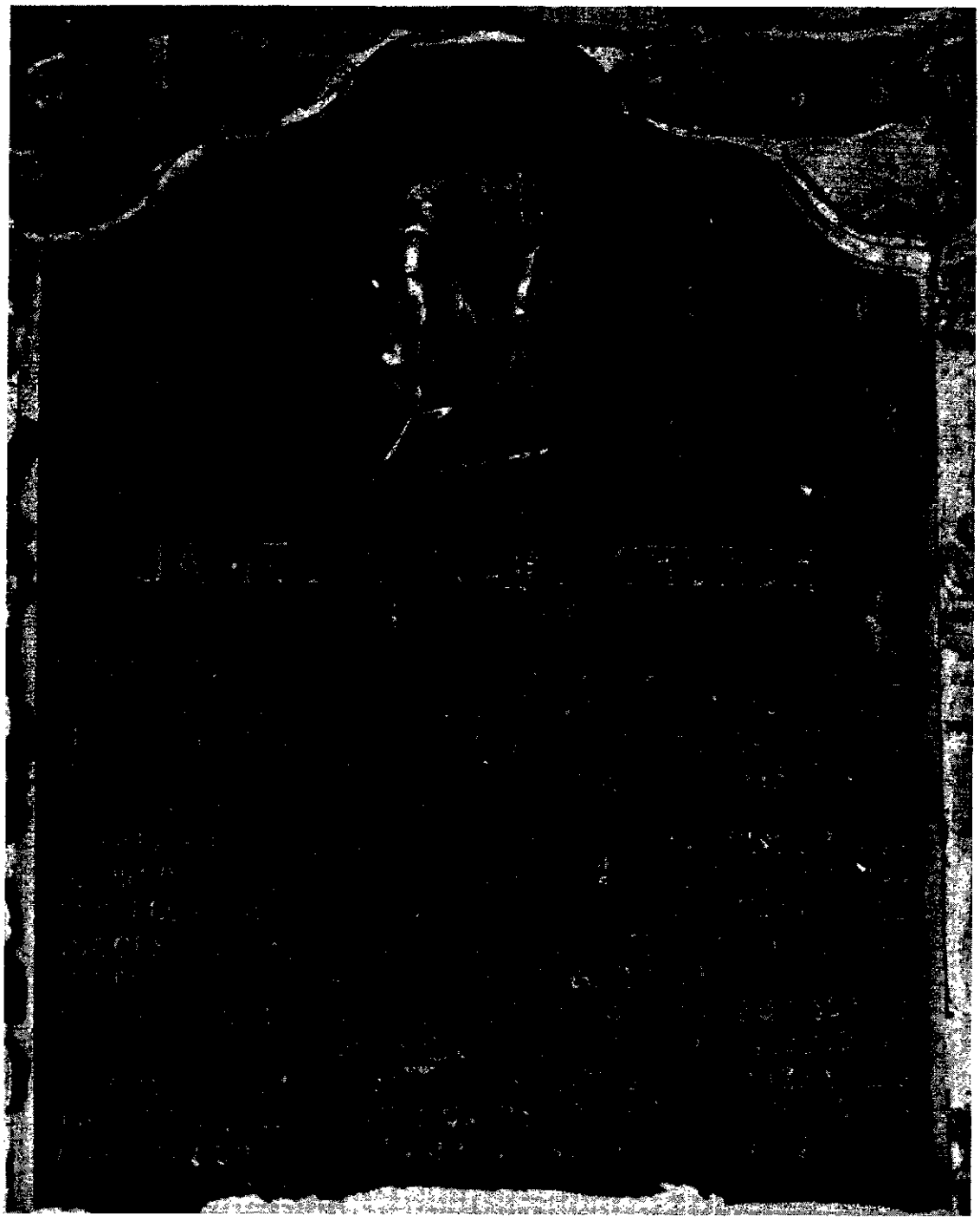
CWCB / WPS

United States
Department of
Agriculture

Soil
Conservation
Service

Colorado
Water Supply Outlook

February 1, 1989



Foreword

How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

An error is associated with each forecast, and this error decreases as the season progresses and more data becomes available. To express the range of error that can be expected, "most probable" forecasts are issued along with a range representing a "reasonable minimum" and a "reasonable maximum". Actual streamflow can be expected to fall within this range in eight out of ten years. Additionally two specific scenarios are provided based on the assumption that subsequent precipitation will be "wet", above average, or "dry", below average.

For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola Ave., Suite 200, Phoenix, AZ 85012
Colorado	2490 West 26th Ave., Building A, 3rd floor, Denver, CO 80211
Idaho	3244 Elder Street, Room 124, Boise, ID 83705
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Room 219, Reno, NV 89502
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157
Oregon	1220 Southwest 3rd Ave., Room 1640, Portland, OR 97204
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	W. 920 Riverside, Room 360, Spokane, WA 99201-1080
Wyoming	Federal Building, 100 "B" Street, Room 3124, Casper, WY 82601

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

Water supply reports published by other agencies:

California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliamen Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northe Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A3V1; Alber Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.

Colorado
Water Supply Outlook

and

Federal-State-Private
Cooperative Snow Surveys

Issued by

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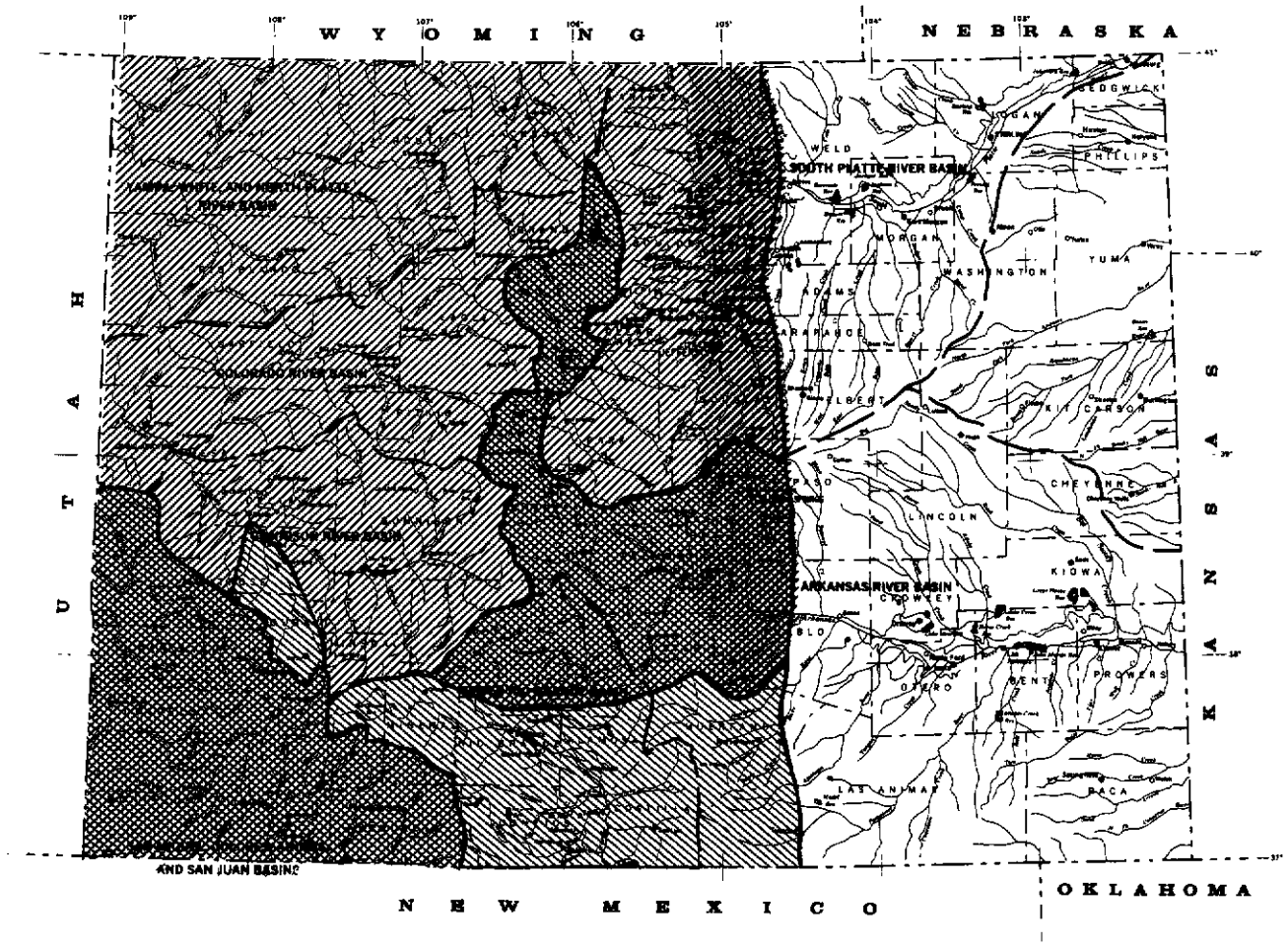


LEGEND

SPRING AND SUMMER PERIOD

- MUCH ABOVE AVERAGE
- ABOVE AVERAGE
- NEAR AVERAGE
- BELOW AVERAGE
- MUCH BELOW AVERAGE
- NOT FORECAST
- BASIN BOUNDARY

STREAMFLOW PROSPECTS
COLORADO

0 25 50 75 100 MI

0 50 100 150 KM

1

RCE: Data compiled by SCS Field Personnel.

REVISED JANUARY 1987 4-R-39356

GENERAL OUTLOOK

SUMMARY

JANUARY WAS GENERALLY A DRY MONTH ACROSS COLORADO. SNOWPACK FIGURES DECREASED AND SUBNORMAL PRECIPITATION WAS OBSERVED THROUGHOUT THE CENTRAL AND NORTHERN BASINS. THE ONLY AREAS OF IMPROVEMENT SEEN DURING JANUARY WERE IN THE RIO GRANDE BASIN, AND THE COMBINED BASINS OF SOUTHWESTERN COLORADO. GENERAL WATER SUPPLY CONDITIONS ARE BETTER IN THE SOUTHERN PORTION OF THE STATE WHERE SNOWPACK, PRECIPITATION, AND RESERVOIR STORAGE ARE THE HIGHEST. WATER SUPPLY PROSPECTS DETERIORATE IN THE CENTRAL AND NORTHERN BASINS, WHERE BELOW NORMAL RUNOFF CONDITIONS ARE EXPECTED THIS SUMMER.

SNOWPACK

SNOWFALL DURING JANUARY WAS BELOW NORMAL THROUGHOUT MOST OF COLORADO. SNOW SURVEY STATISTICS DECREASED FROM JANUARY FIRST MEASUREMENTS IN ALL BASINS EXCEPT THE RIO GRANDE AND THE COMBINED BASINS OF THE SOUTHWEST. THE MOST NOTABLE DECREASE IN SNOWPACK WAS SEEN IN THE NORTH PLATTE AND YAMPA BASINS. SNOWPACK IN THESE BASINS RANGE FROM A LOW OF ONLY 65% OF AVERAGE IN THE LARAMIE DRAINAGE, TO 83% OF AVERAGE IN THE UPPER YAMPA DRAINAGE. THE LARGEST INCREASE IN SNOWPACK OCCURRED IN THE RIO GRANDE BASIN, WHICH IS CURRENTLY 107% OF AVERAGE. SNOWPACK IN THE SOUTHERN PORTION OF THE STATE IS CONSISTENTLY ABOVE NORMAL, WHILE THE CENTRAL AND NORTHERN BASINS ARE BELOW NORMAL FOR FEBRUARY FIRST. THE ONLY BASINS WITH ABOVE AVERAGE SNOWPACK READINGS ON FEBRUARY FIRST, ARE THE ARKANSAS AND RIO GRANDE BASINS.

PRECIPITATION

PRECIPITATION MEASUREMENTS AT LOWER ELEVATION STATIONS IN COLORADO VERIFY THE DRYNESS DURING JANUARY. SEVERAL LOCATIONS IN THE YAMPA, WHITE, AND NORTH PLATTE BASINS ONLY RECEIVED HALF OF THEIR AVERAGE FOR THE MONTH. PRECIPITATION OBSERVED IN THE COLORADO, GUNNISON, AND ARKANSAS BASINS WAS ALSO BELOW NORMAL FOR THE MONTH. THESE BASINS WERE CONTRASTED BY THE SOUTH PLATTE AND RIO GRANDE BASINS, WHERE WELL ABOVE NORMAL PRECIPITATION WAS RECEIVED IN JANUARY. SEASONAL TOTALS FOR THE WATER YEAR ARE BELOW NORMAL THROUGHOUT THE STATE, AND RANGE FROM A LOW OF ONLY 68% OF AVERAGE IN THE ARKANSAS BASIN TO HIGH OF 93% IN THE GUNNISON BASIN.

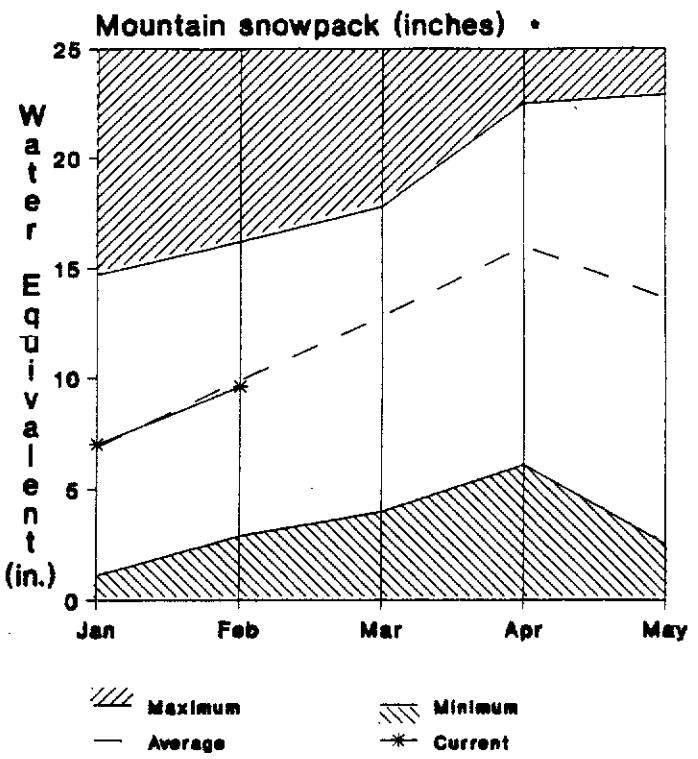
RESERVOIR

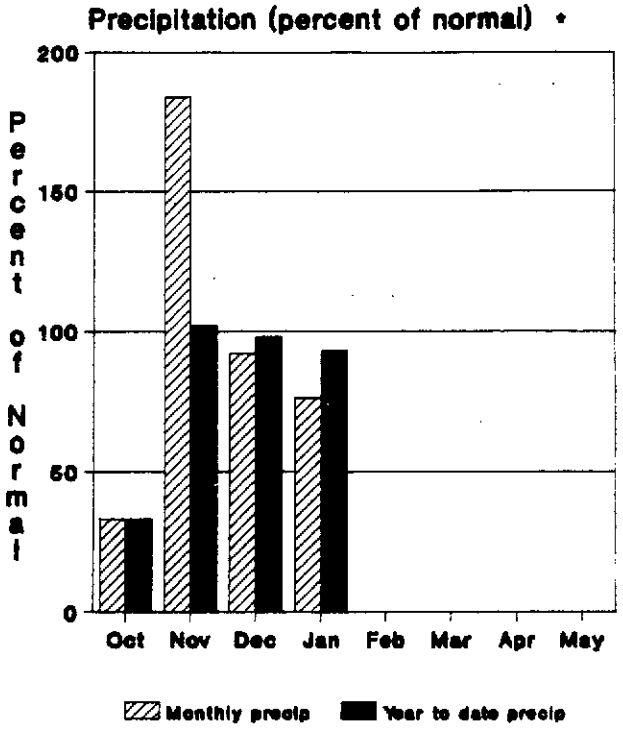
RESERVOIR STORAGE IS ABOVE NORMAL IN ALL BASINS OF COLORADO. THE HIGHEST STORAGE LEVELS ARE IN THE ARKANSAS AND RIO GRANDE BASINS AT MORE THAN 150% OF AVERAGE. STORAGE AMOUNTS IN THE GUNNISON, COLORADO, AND SOUTH PLATTE BASINS ARE ONLY SLIGHTLY ABOVE AVERAGE. STATEWIDE STATISTICS INDICATE THAT CURRENT STORAGE IS 18% ABOVE AVERAGE. THESE LEVELS ARE ONLY 89% OF LAST YEAR'S VOLUMES, INDICATING THE DRYER THAN NORMAL CONDITIONS OF THE PREVIOUS WATER YEAR.

STREAMFLOW

BELOW NORMAL PRECIPITATION AND SNOWFALL DURING JANUARY HAS DECREASED THE EXPECTED STREAMFLOW VOLUMES FROM LAST MONTH THROUGHOUT MOST OF THE STATE. STREAMFLOW VOLUMES OF LESS THAN 80% ON SOME STREAMS ARE FORECAST IN THE YAMPA, SOUTH PLATTE, AND GUNNISON BASINS. THIS MONTH'S FORECASTS IN THE RIO GRANDE BASIN HAVE CONSISTENTLY INCREASED TO ABOVE THE LONG-TERM AVERAGE. THESE FORECASTS ARE CURRENTLY THE HIGHEST IN THE STATE. ABOVE NORMAL VOLUMES ARE ALSO FORECAST ON THE UNCOMPAHGRE, CUCHARAS, AND PURGATOIRE RIVERS IN SOUTHERN COLORADO.

Gunnison River Basin in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

MEASUREMENTS IN THE GUNNISON BASIN SHOW THE SNOWPACK TO BE 88% OF AVERAGE THIS MONTH. THIS COMPARES TO 95% OF AVERAGE LAST MONTH, BUT 101% OF LAST YEAR. PRECIPITATION FOR JANUARY WAS 76% OF AVERAGE AND FOR THE WATER YEAR (OCT-JAN) IS 93% OF AVERAGE, ACCORDING TO NATIONAL WEATHER SERVICE FIGURES. RESERVOIR STORAGE IS 111% OF AVERAGE FOR FEBRUARY. STREAMFLOWS ARE FORECAST TO BE BELOW AVERAGE ON THE MAIN STEM AND ABOVE AVERAGE ON THE UNCOMPAHGRE.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
TAYLOR RIVER blw Taylor Park Res 2	APR-SEP	100	92			141	87	118
EAST RIVER at Almont	APR-SEP	175	83			240	129	210
GUNNISON R INFLOW to Blue Mesa Res 2	APR-SEP	745	91	850	645	1010	540	821
MUDDY CREEK inf to Paonia Res	APR-JUL	75	62	104	85	111	48	121
N.F. GUNNISON RIVER nr Somerset 2	APR-SEP	245	78	275	225	350	141	314
SURFACE CREEK at Cedaredge	APR-SEP	15.5	80	17.2	13.8	22	8.6	19.3
UNCOMPAHGRE RIVER inf to Ridgway Res	APR-JUL	100	110	126	90	131	85	98
UNCOMPAHGRE RIVER at Colona 2	APR-SEP	180	116	215	141	225	137	155
GUNNISON RIVER nr Grand Junction 2	APR-SEP	1350	96	1660	1040	1950	900	1405

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.
BLUE MESA	830.0	467.0	509.0	412.8
CRAWFORD	14.3	7.0	10.4	6.8
FRUITGROWERS	4.3	2.1	3.0	3.2
FRUITLAND	9.2	0.2	0.1	2.5
MORROW POINT	121.0	113.0	113.0	104.0
TAYLOR PARK	106.0	88.5	75.0	62.5

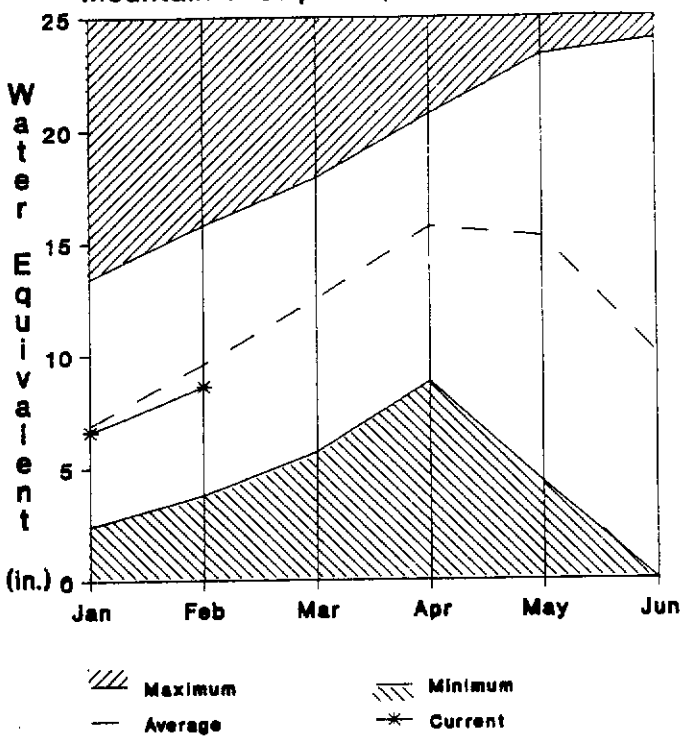
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER GUNNISON BASIN	13	97	87
SURFACE CREEK BASIN	3	90	68
UNCOMPAHGRE BASIN	4	114	84

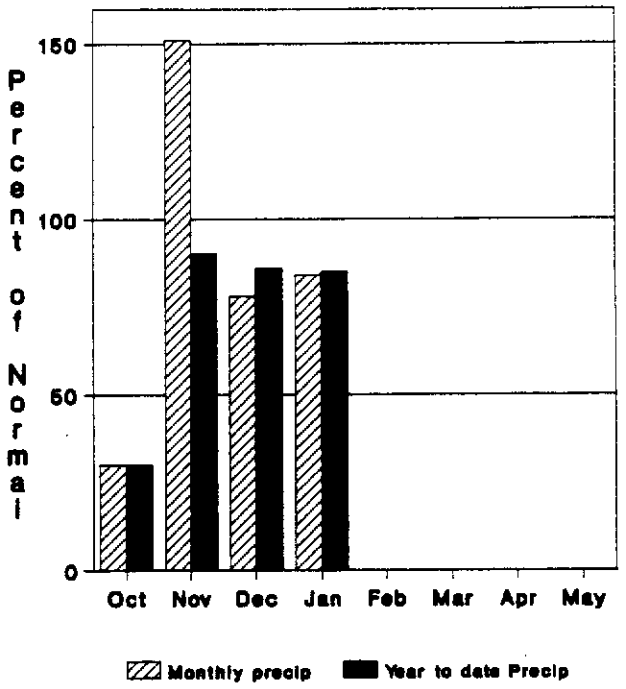
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Colorado River Basin in Colorado

Mountain snowpack (inches) •



Precipitation (percent of normal) •



• Based on selected stations

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE UPPER COLORADO RIVER BASIN IS 85% OF AVERAGE THIS MONTH, AND IS 89% OF FEBRUARY LAST YEAR. NATIONAL WEATHER SERVICE FIGURES SHOW PRECIPITATION IN JANUARY WAS 84% OF AVERAGE. PRECIPITATION FOR THE WATER YEAR (OCT-JAN) IS 85% OF AVERAGE. STREAMFLOWS IN THE BASIN ARE FORECAST TO BE BELOW AVERAGE. RESERVOIR STORAGE IN THIS BASIN IS 103% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
COLORADO RIVER nr Granby 2	APR-JUL	206	93	220	185	250	148	216
WILLOW CK INF to Willow Creek Res	APR-JUL	41	82	44	38	68	14.0	50
WILLIAMS FORK near Parshall	APR-SEP	85	92	81	49	94	36	71
E. F. TROUBLESOME CR nr Troublesome	APR-SEP	18.5	85	19.4	13.6	24	8.5	19.4
BLUE RIVER blw Dillon 2	APR-SEP	165	92	199	131	205	124	180
BLUE RIVER blw Green Mountain Res 2	APR-JUL	240	91	290	190	300	179	264
EAGLE RIVER blw Gypsum 2	APR-SEP	290	85			370	220	341
COLORADO RIVER nr Dotsero 2	APR-SEP	1400	88	1560	1240	1800	1000	1592
FRYINGPAN RIVER inf to Ruedi Res	APR-JUL	85	88	114	56	118	52	97
ROARING FORK at Glenwood Springs 2	APR-SEP	655	83	775	520	815	495	789
COLORADO RIVER nr Cameo 2	APR-SEP	2200	83	2570	1830	2840	1640	2661

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.
DILLON	250.7	234.0	239.0	201.1
LAKE GRANBY	465.6	268.0	377.7	298.9
GREEN MOUNTAIN	139.0	63.6	81.0	78.0
HOMESTAKE	43.0	17.9	32.5	22.6
RUEDI	102.0	72.1	75.9	73.2
VEGA	32.0	7.1	9.9	11.0
WILLIAMS FORK	97.0	58.0	66.0	44.5
WILLOW CREEK	9.0	7.8	8.1	6.5

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BLUE RIVER BASIN	9	86	86
UPPER COLORADO RIVER BASI	31	86	87
PLATEAU CREEK BASIN	3	90	86
ROARING FORK BASIN	8	93	79
WILLIAMS FORK BASIN	4	84	89
WILLOW CREEK BASIN	3	85	77

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
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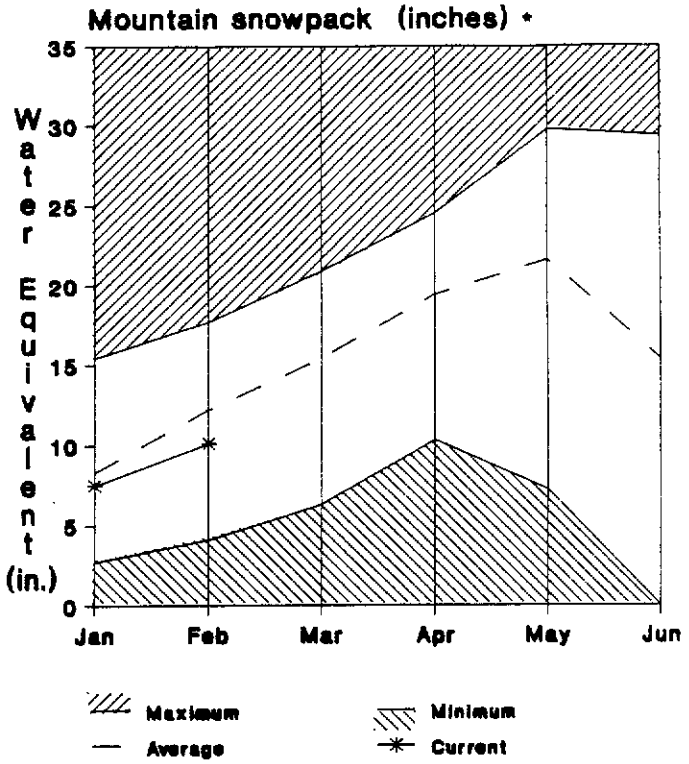
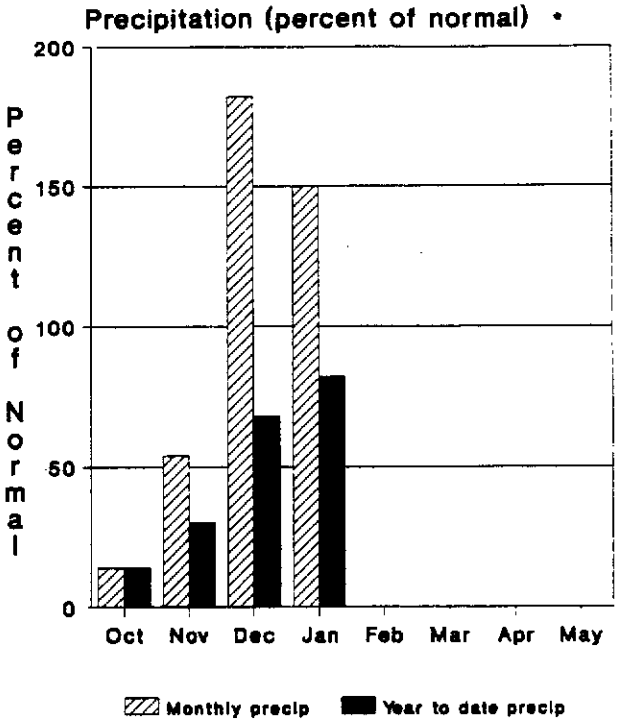
South Platte River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE SOUTH PLATTE BASIN IS 90% OF AVERAGE. LAST MONTH IT WAS 98% OF AVERAGE. IT IS 92% OF FEBRUARY OF LAST YEAR. RESERVOIR STORAGE IN THIS BASIN IS 102% OF AVERAGE. PRECIPITATION FOR JANUARY, ACCORDING TO NATIONAL WEATHER SERVICE RECORDS, WAS 150% OF AVERAGE. PRECIPITATION FOR THE WATER YEAR (OCT-JAN) IS 62% OF NORMAL. STREAMFLOWS IN THIS BASIN ARE FORECAST TO BE BELOW AVERAGE THIS IRRIGATION SEASON.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
SOUTH PLATTE RIVER at South Platte	APR-SEP	135	86			280	99	214
BEAR CREEK at Morrison	APR-SEP	25	83			56	9.7	30
CLEAR CREEK at Golden 2	APR-SEP	108	82	141	79	142	74	131
ST. VRAIN CREEK at Lyons	APR-SEP	66	83	81	49	89	41	80
SOUTH BOULDER CR nr Eldorado Springs	APR-SEP	34	81			59	18.9	42
BOULDER CREEK at Orodell	APR-SEP	40	63	50	30	63	28	48
BIG THOMPSON RIVER at Drake 2	APR-SEP	91	78	114	68	140	42	116
CACHE LA POUDRE R at Canyon Mouth 2	APR-SEP	226	78	275	162	300	139	288

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
ANTERO	16.0	20.0	20.0	14.5
BARR LAKE	32.0	24.0	27.0	22.0
BLACK HOLLOW	8.0	6.0	5.0	6.0
BOYD LAKE	49.0	28.0	22.0	25.0
CACHE LA POUDRE	10.0	6.0	6.0	7.1
CARTER	113.5	100.0	87.7	86.2
CHAMBERS LAKE	9.0	1.0	2.0	3.2
CHEESMAN	79.0	64.0	64.0	54.7
COBB LAKE	34.0	11.0	13.0	14.0
ELEVEN MILE	97.8	90.0	90.0	90.3
EMPIRE	38.0	28.0	30.2	22.4
FOSSIL CREEK	12.0	9.0	8.0	6.1
GROSS	43.0	22.0	17.0	27.4
HALLIGAN	6.4	2.0	2.0	3.0
HORSECREEK	16.0	12.0	12.5	11.0
HORSETOOTH	143.5	90.0	113.5	66.1
JACKSON	35.0	28.7	29.0	23.0
JULESBURG	28.0	20.0	20.0	15.0
LAKE LOVELAND	14.0	8.0	7.7	9.2
LONE TREE	9.0	4.2	4.5	6.0
MARIANO	6.0	1.2	1.2	4.7
MARSHALL	10.0	5.3	5.4	4.1
MARSTON	18.0	7.0	5.0	14.0
MILTON	24.0	18.0	16.0	19.3
POINT OF ROCKS	70.0	43.0	67.3	36.8
PREWITT	33.0	18.4	29.4	17.2
RIVERSIDE	63.1	35.0	35.2	40.0
SPINNEY MOUNTAIN	48.0	27.0	36.3	—
STANDLEY	42.0	29.0	32.0	25.0
TERRY LAKE	8.0	5.0	5.0	5.0
UNION	13.0	9.0	9.2	10.0
WINDSOR	19.0	9.0	5.0	10.2

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BIG THOMPSON BASIN	5	72	72
BOULDER CREEK BASIN	5	115	113
CACHE LA POUDRE BASIN	8	73	77
CLEAR CREEK BASIN	4	107	93
SAINT VRAIN BASIN	2	69	87
UPPER SOUTH PLATTE BASIN	10	111	105

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
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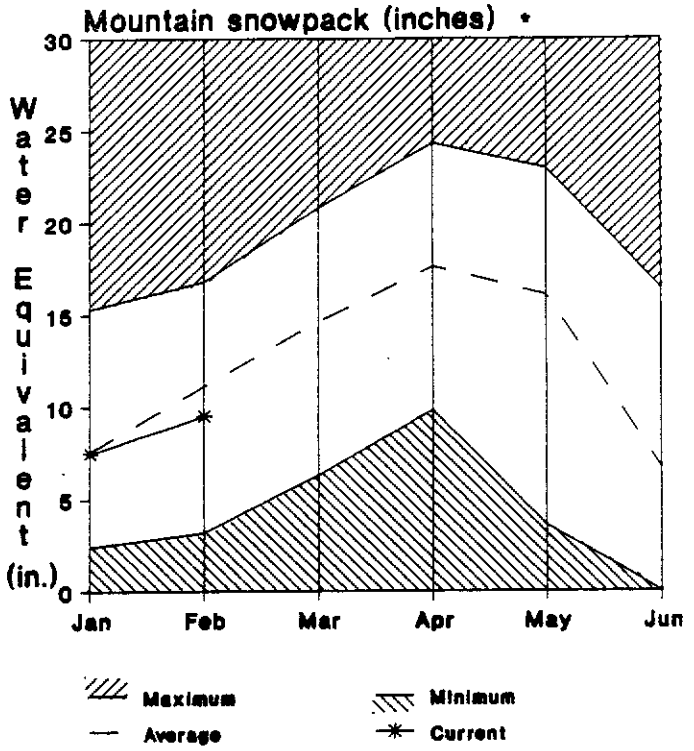
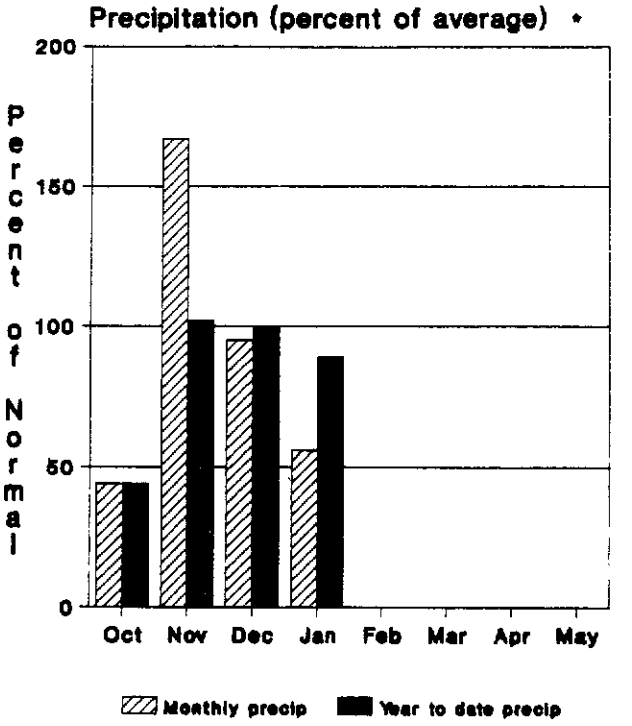
(2) - Corrected for upstream diversions or changes in reservoir storage.

Yampa, White and North Platte River Basins in Colorado





* Based on selected stations

WATER SUPPLY OUTLOOK

SNOW SURVEYS IN THE YAMPA AND WHITE RIVER BASINS INDICATE THE SNOWPACK IS AT 85% OF AVERAGE. THE NORTH PLATTE BASIN IS AT 79% OF AVERAGE. LAST MONTH THE NORTH PLATTE BASIN WAS 100% OF AVERAGE, WHILE THE YAMPA AND WHITE WERE 96% OF AVERAGE. ALL THREE BASINS ARE BELOW LAST FEBRUARY'S READINGS. NATIONAL WEATHER SERVICE FIGURES SHOW THAT PRECIPITATION IN THESE BASINS WAS 56% OF AVERAGE FOR JANUARY AND 89% OF AVERAGE FOR THE WATER YEAR (OCT-JAN). STREAMFLOWS ARE FORECAST TO BE BELOW AVERAGE IN THESE BASINS.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
LARAMIE RIVER near Woods 2	APR-SEP	110	79	159	64	152	68	139
NORTH PLATTE RIVER near Northgate	APR-SEP	235	84	355	112	310	162	280
YAMPA RIVER at Steamboat Springs	APR-SEP	250	84	305	205	320	189	302
ELK RIVER at Clark	APR-SEP	175	81	199	151	220	128	215
YAMPA RIVER nr Maybell	APR-SEP	800	78	955	645	1120	480	1026
LITTLE SNAKE nr Slater, CO	APR-SEP	135	80	165	105	189	81	169
LITTLE SNAKE RIVER nr Dixon	APR-SEP	280	80	330	230	390	168	349
LITTLE SNAKE RIVER at Lily	APR-SEP	315	81	355	275	430	200	390
WHITE RIVER near Meeker	APR-SEP	280	87	335	240	365	205	329

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY:	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
LARAMIE RIVER BASIN	2	71	85
NORTH PLATTE RIVER BASIN	6	99	83
ELK RIVER BASIN	2	77	76
YAMPA RIVER BASIN	9	87	83
WHITE RIVER BASIN	4	87	90
LITTLE SNAKE RIVER BASIN	10	92	91

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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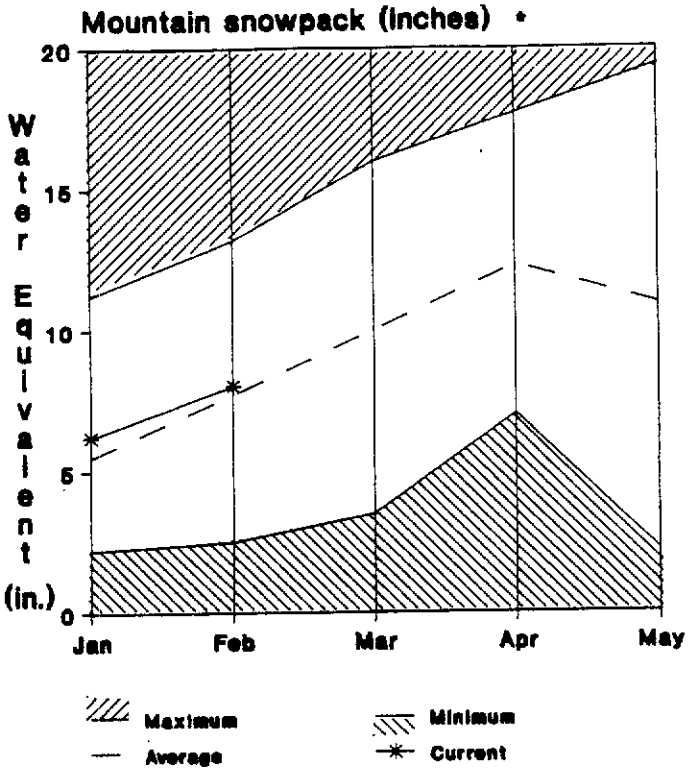
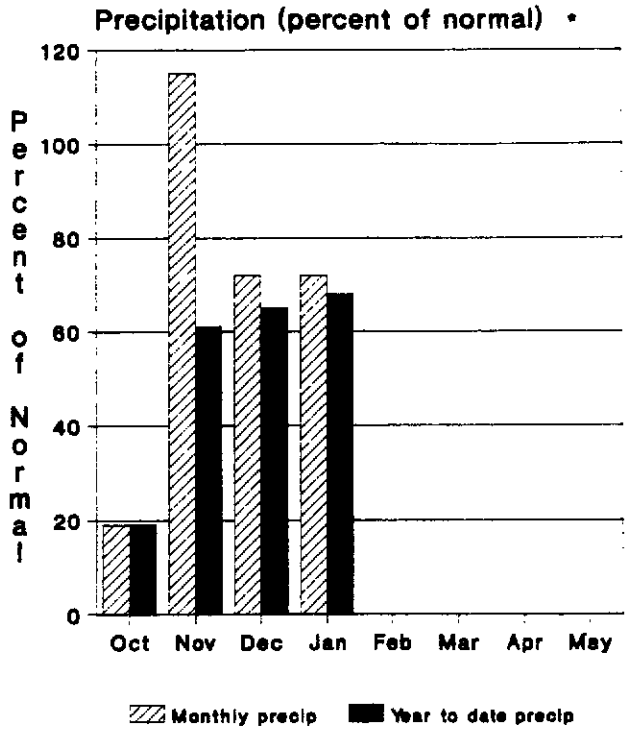
Arkansas River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

THE ARKANSAS BASIN SNOWPACK IS THE SECOND HIGHEST IN THE STATE AT 103% OF AVERAGE. LAST MONTH IT WAS 107% OF AVERAGE. IT IS ONLY SLIGHTLY HIGHER THAN IT WAS LAST YEAR AT THIS TIME. THE HIGHEST SNOWPACK IN THE STATE IS IN THE PURGATOIRE SUBBASIN OF THE ARKANSAS RIVER WATERSHED AT 134% OF AVERAGE AND 182% OF LAST YEAR. PRECIPITATION IN THE ARKANSAS BASIN WAS 72% OF AVERAGE FOR JANUARY, AND 68% OF AVERAGE FOR THE WATER YEAR (OCT-JAN), ACCORDING TO THE NATIONAL WEATHER SERVICE. RESERVOIR STORAGE IN THE BASIN IS AT 161% OF AVERAGE, MAKING IT THE HIGHEST IN THE STATE. STREAMFLOWS ARE FORECAST TO BE NEAR NORMAL ON THE MAIN STEM, AND ABOVE NORMAL ON THE SOUTHERN TRIBUTARIES.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
CHALK CREEK nr Nathrop	APR-SEP	20	91	23	16.5	35	5.0	22
ARKANSAS RIVER at Salida 2	APR-SEP	310	100	335	285	435	186	310
GRAPE CREEK nr Westcliffe	APR-SEP	16.0	100			37	7.2	18.0
ARKANSAS RIVER abv Pueblo 2	APR-SEP	290	95	305	285	510	80	312
HUERFANO RIVER nr Redwing	APR-SEP	18.0	113	19.0	17.0	24	11.8	16.0
CUCHARAS RIVER nr La Veta	APR-SEP	15.0	115	15.9	14.1	27	3.0	13.0
PURGATOIRE RIVER blw Trinidad Lake 2	APR-SEP	48	117	61	34	83	22	41

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.
ADOBE	70.0	21.0	23.2	15.4
CLEAR CREEK	11.0	2.5	7.8	6.6
GREAT PLAINS	150.0	3.7	70.4	30.5
HOLBROOK	7.0	3.6	2.9	3.9
HORSE CREEK		NO REPORT		
JOHN MARTIN	616.0	198.2	282.0	46.3
LAKE HENRY	8.0	0.8	1.7	4.5
MEREDITH	42.0	4.4	21.1	8.2
PUEBLO	354.0	170.8	252.5	98.7
TRINIDAD	167.0	32.3	90.3	25.1
TURQUOISE	126.6	116.5	116.0	43.2
TWIN LAKES	86.0	28.1	55.0	41.3

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER ARKANSAS BASIN	15	98	97
CUCHARAS & HUERFANO RIVER	4	99	115
PURGATOIRE RIVER BASIN	2	182	134

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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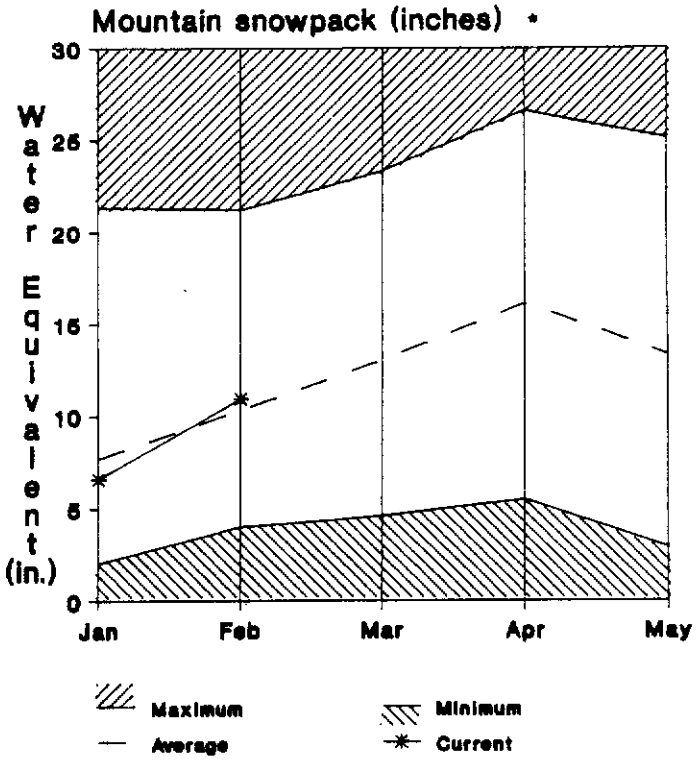
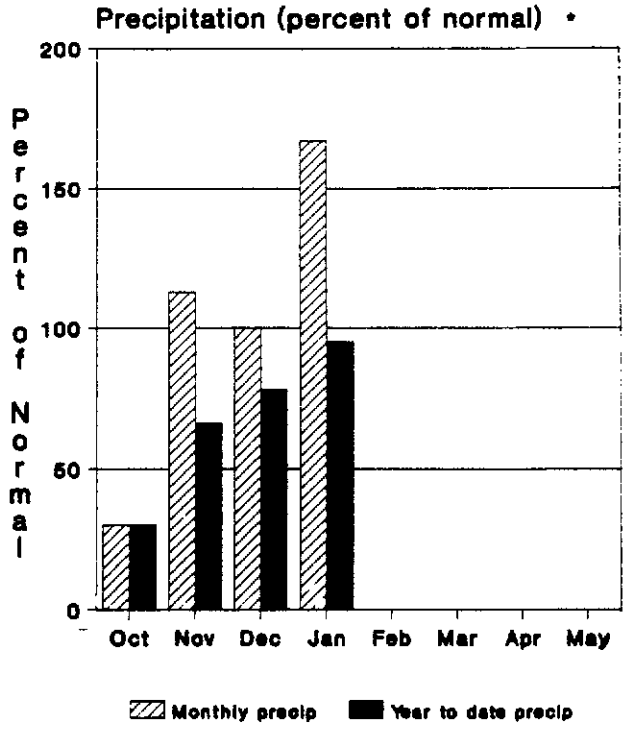
(2) - Corrected for upstream diversions or changes in reservoir storage.

Rio Grande Basin in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

MEASUREMENTS OF THE SNOW WATER EQUIVALENT IN THE RIO GRANDE BASIN SHOW THE OVERALL SNOWPACK TO BE 107% OF AVERAGE, MAKING IT THE HIGHEST IN THE STATE. THIS BASIN HAD THE GREATEST INCREASE IN SNOW ACCUMULATION FOR JANUARY. IT IS SOMEWHAT VARIABLE ACROSS THE WATERSHED AGAIN THIS MONTH, RANGING FROM 94% ON THE CONEJOS AND SAN ANTONIO WATERSHEDS, TO 133% OF AVERAGE IN THE ALAMOSA BASIN. OVERALL, THE BASIN IS 124% OF LAST YEAR IN FEBRUARY. PRECIPITATION DURING JANUARY WAS MUCH ABOVE AVERAGE, ACCORDING TO THE NATIONAL WEATHER SERVICE. IT REMAINS BELOW AVERAGE FOR THE WATER YEAR (OCT-JAN). RESERVOIR STORAGE IS 153% OF AVERAGE. STREAMFLOWS ARE FORECAST TO BE ABOVE AVERAGE THIS IRRIGATION SEASON.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
RIO GRANDE at Thirty Mile Bridge 2	APR-SEP	145	109	157	132	200	90	133
RIO GRANDE at Wagon Wheel Gap 2	APR-SEP	350	109	390	310	500	199	322
SOUTH FORK RIO GRANDE at South Fork	APR-SEP	145	110	160	129	210	80	132
RIO GRANDE nr Del Norte 2	APR-SEP	565	111	625	505	795	335	510
SAGUACHE CREEK nr Saguache	APR-SEP	33	100	39	27	58	13.2	33
ALAMOSA CREEK abv Terrace Res	APR-SEP	80	114	95	66	115	45	70
LA JARA CREEK nr Capulin	MAR-JUL	10.5	114	11.1	9.9	17.5	3.5	9.2
TRINCHERA WATER SUPPLY 2	APR-JUL	34	117	37	31	54	14.0	29
CONEJOS RIVER blw Platoro Res 2	APR-SEP	75	114	81	68	100	50	66
CONEJOS RIVER nr Mogote 2	APR-SEP	230	113	250	210	330	130	204
SAN ANTONIO RIVER at Ortiz	APR-SEP	18.0	110	19.8	16.2	31	7.2	16.3
LOS PINOS nr Ortiz	APR-SEP	82	111	89	75	117	47	74
CULEBRA CREEK at San Luis 2	APR-SEP	25	119	28	21	43	10.1	21

RESERVOIR STORAGE (1000AF)

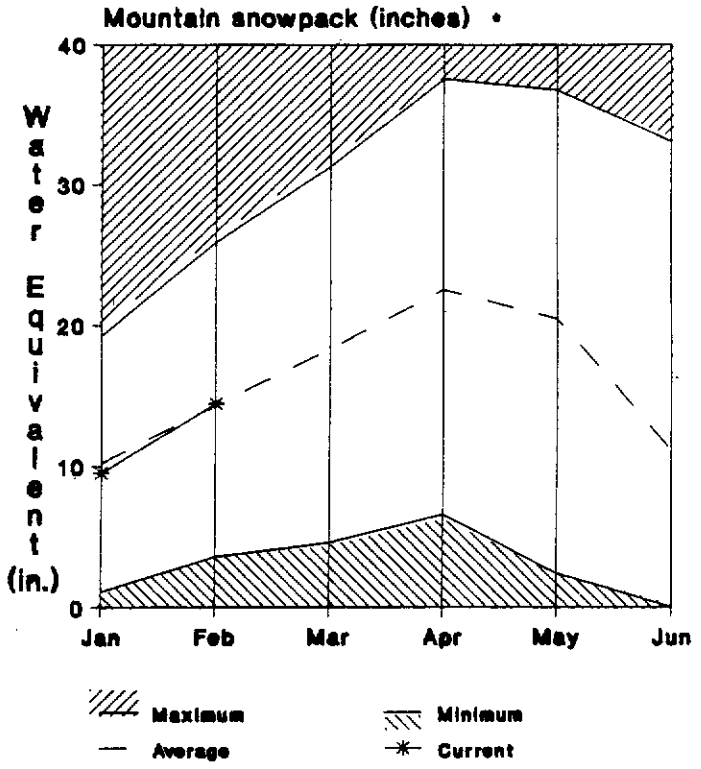
RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG'D
CONTINENTAL	27.0	3.8	11.5	5.4
PLATORO	60.0	23.5	43.0	11.7
RIO GRANDE	51.0	13.4	7.4	16.4
SANCHEZ	103.0	32.2	45.4	19.2
SANTA MARIA	45.0	8.8	13.5	7.1
TERRACE	18.0	1.6	5.2	5.8

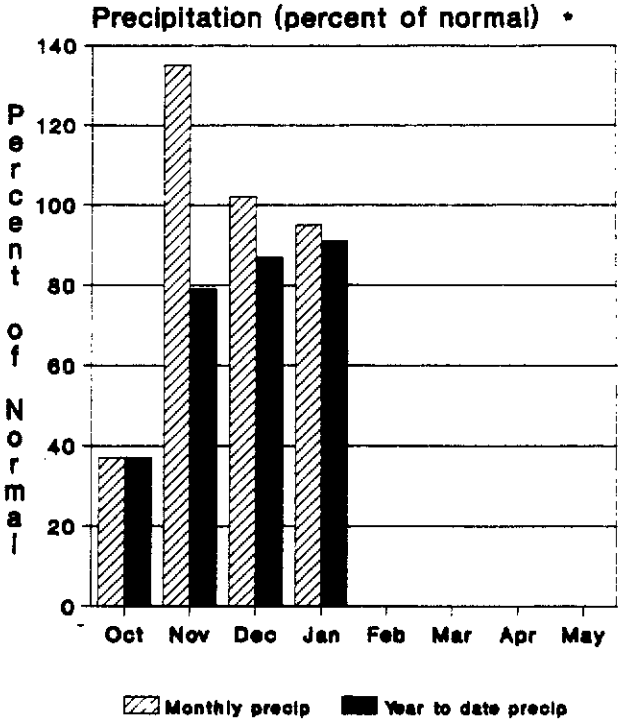
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES	THIS YEAR AS % OF LAST YR.	AVERAGE
ALAMOSA CREEK BASIN	2	108	128
CONEJOS & RIO SAN ANTONIO	7	111	94
CULEBRA & TRINCHERA CREEK	4	81	100
UPPER RIO GRANDE BASIN	13	137	114

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

San Miguel, Dolores, Animas and San Juan Basins in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

THE SAN MIGUEL, DOLORES, ANIMAS AND SAN JUAN BASINS' SNOWPACKS RANGE FROM 91% TO 115% OF AVERAGE, ACCORDING TO SNOW SURVEY MEASUREMENTS TAKEN THIS MONTH. OVERALL, THE SNOWPACK IN THESE WATERSHEDS IS 99% OF AVERAGE. ACCORDING TO NATIONAL WEATHER SERVICE FIGURES, PRECIPITATION FOR JANUARY WAS 95% OF AVERAGE AND FOR THE WATER YEAR (OCT-JAN) IS 91% OF AVERAGE. RESERVOIR STORAGE IN THESE WATERSHEDS IS 126% OF AVERAGE. OVERALL, STREAMFLOWS ARE FORECAST TO BE SLIGHTLY BELOW AVERAGE TO NEAR AVERAGE DURING THE IRRIGATION SEASON.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
DOLORES RIVER at Dolores 2	APR-SEP	290	105	355	235	375	205	277
DOLORES RIVER inf to McPhee Res 2	APR-JUL	315	105	395	240	405	225	300
SAN MIGUEL RIVER nr Placerville	APR-SEP	136	103	166	132	220	81	146
SAN JUAN RIVER nr Carracus	APR-SEP	415	97	430	400	635	196	430
PIEDRA RIVER nr Arboles	APR-SEP	220	98	235	210	340	100	236
LOS PINOS RIVER inf to Vallecito Res	APR-SEP	225	100	245	205	300	175	226
SAN JUAN RIVER nr Archuleta 2	APR-JUL	720	96	775	690	1100	440	764
ANIMAS RIVER at Durango	APR-SEP	500	103	525	475	695	305	486
FLORIDA RIVER inf to Lemon Res	APR-JUL	54	95	60	49	73	41	57
FLORIDA RIVER at Bondad 2	APR-SEP	35	92			50	22	38
LA PLATA RIVER at Hesperus	APR-SEP	28	107	31	28	43	15.0	27
MANCOS RIVER nr Towaoc 2	MAR-JUL	30	107	33	28	45	15.4	28

RESERVOIR STORAGE (1000AF)

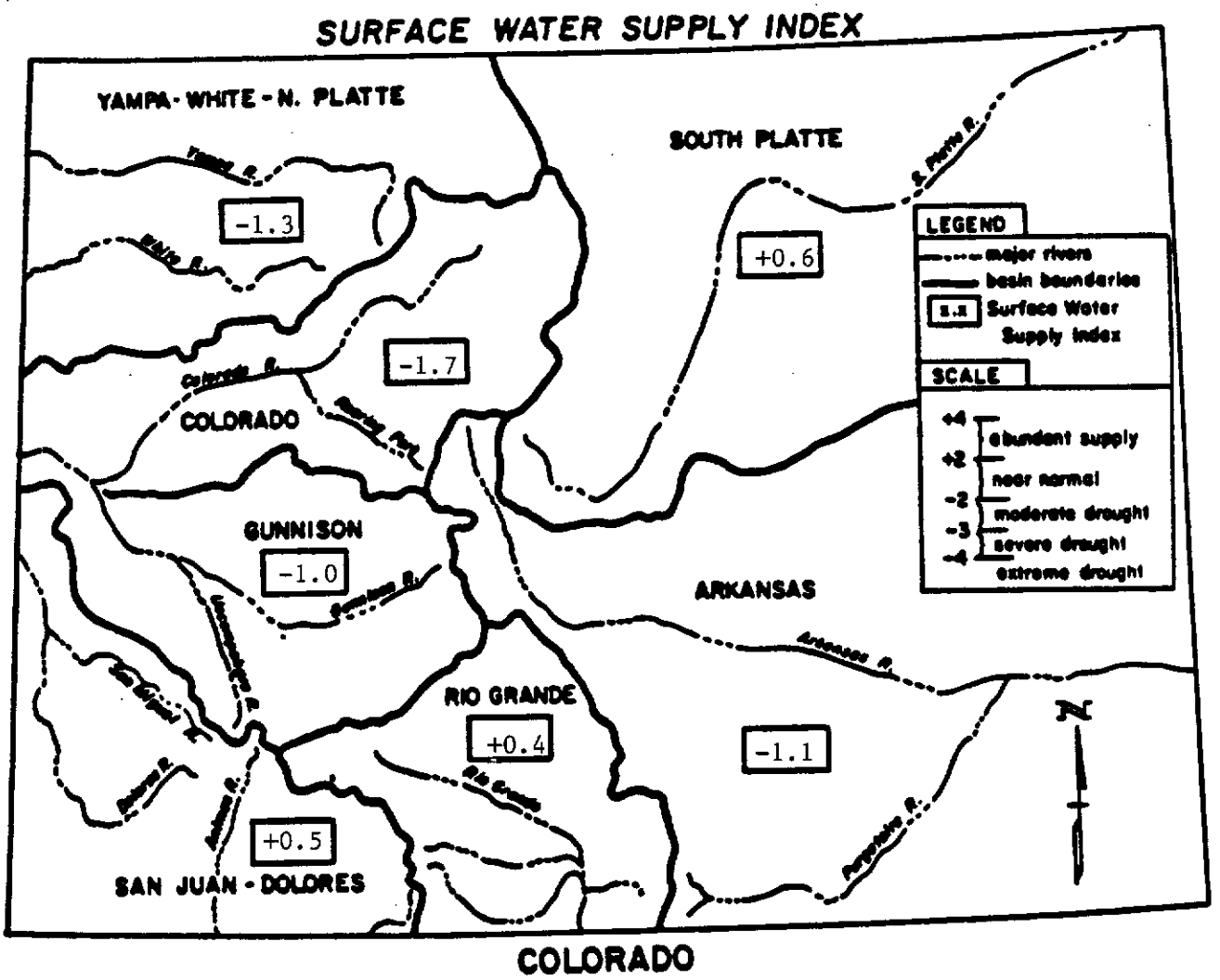
RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.
GROUNDHOG	21.7	14.3	10.5	10.2
JACKSON GULCH	10.0	3.0	5.3	4.5
LEMON	40.0	30.0	22.9	18.7
NARRAGUINNEP	19.0	15.0	14.2	8.4
NAVAJO	1696.0	1130.0	1089.0	916.0
VALLECITO	126.0	76.0	54.0	52.9

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	THIS YEAR AS % OF AVERAGE
ANIMAS RIVER BASIN	8	100	91
DOLORES RIVER BASIN	6	102	100
SAN MIGUEL RIVER BASIN	6	116	96
SAN JUAN RIVER BASIN	3	105	115

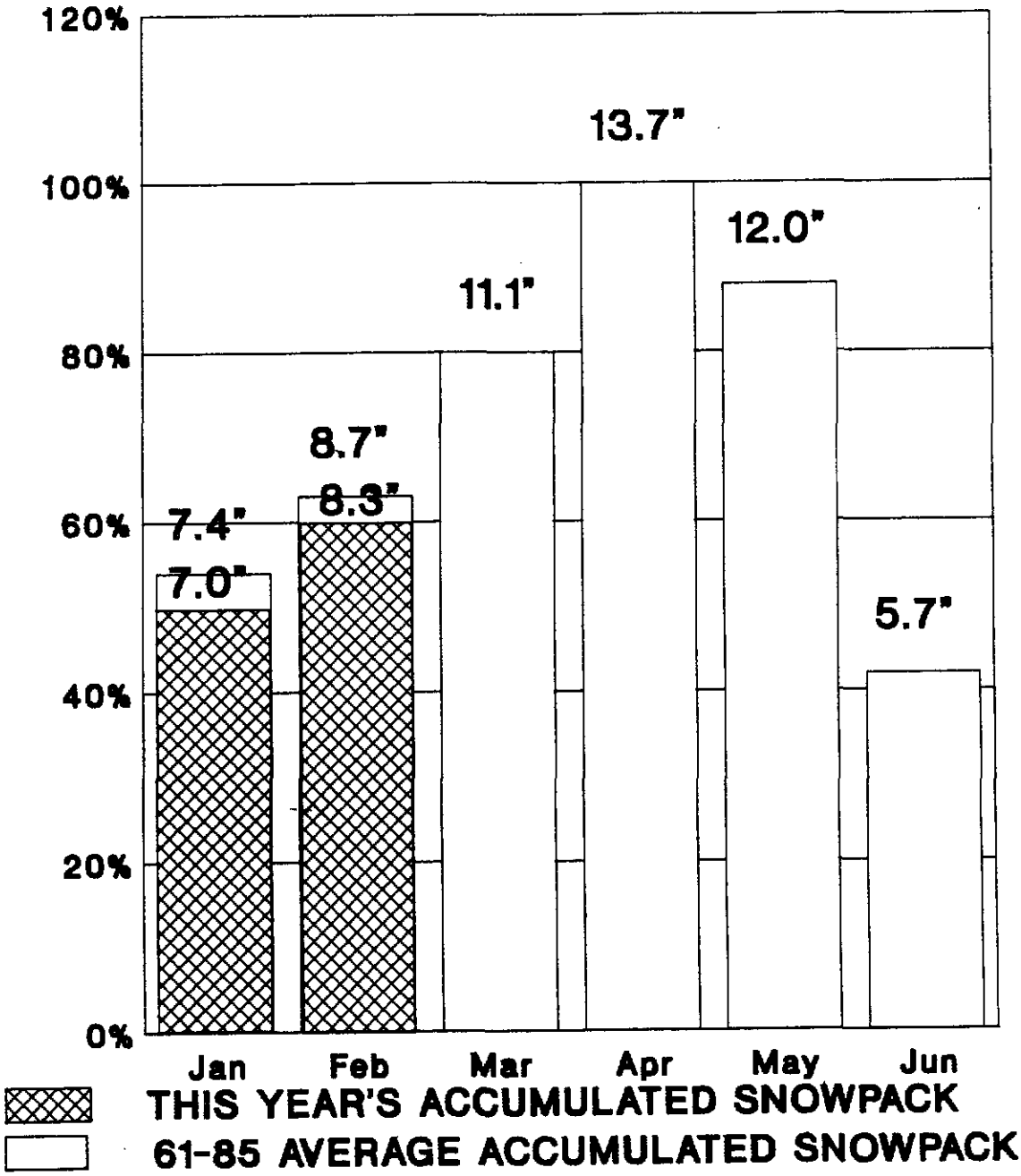
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Date: FEBRUARY 1, 1989



The Surface Water Supply Index (SWSI) is a weighted value derived for each major basin which generally expresses the potential availability of the forthcoming season's water supply. The components used in computing the index are reservoir storage, snowpack water equivalent, and precipitation. The SWSI number for each basin ranges from a -4.00 (prospective water supplies extremely poor) to a +4.00 (prospective water supplies plentiful). The SWSI number is only a general indicator of surface water supply conditions. Further data analyses may be required in specific situations to more fully understand the impacts of abnormally dry or wet conditions suggested by the SWSI. Development of the SWSI has been a cooperative effort between the Colorado State Engineers' Office and the Soil Conservation Service.

Colorado Snowpack Progress
1989



Each month's statewide snow water equivalent as compared to the 1961-1985 average, and the percent of maximum seasonal accumulation.

SNOW COURSE DATA

FEBRUARY 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLORADO						
ALEXANDER LAKE	10000	1/26/89	51	12.1	14.3	14.0
ANTERO	9200	1/27/89	17	2.3	1.7	2.0
ANTERO RESERVOIR	9000	1/27/89	12	1.4	.8	--
APISHAPA SNOTEL	10000	2/01/89	---	6.2	4.5	5.1
APISHAPA	10000	1/25/89	22	4.7	5.4	4.9
ARROW SNOTEL	9900	2/01/89	---	8.0	11.4	8.3
ARROW	9900	1/27/89	34	8.8	10.8	8.5
BALTIMORE	8800	1/30/89	24	4.4	4.4	4.7
BEAR LAKE SNOTEL	9500	2/01/89	---	7.6	9.1	10.3
BEARTOWN SNOTEL	11600	2/01/89	---	16.7	15.6	13.2
BENNETT CREEK	9300	1/30/89	25	5.4	7.2	4.9
BERTHOUD FALLS	10500	1/30/89	36	8.8	7.2	8.8
BERTHOUD PASS	9700	1/30/89	41	9.8	14.1	10.2
BERTHOUD SUM SNOTEL	11300	2/01/89	---	11.4	13.3	--
BERTHOUD SUMMIT	11300	1/30/89	44	11.0	12.7	12.0
BIG MEADOWS	9360	1/30/89	53	13.0	6.8	10.3
BIG SOUTH	8600	1/25/89	9	1.7	3.9	1.6
BIGELOW DIVIDE	9350	1/31/89	34	7.2	5.7	4.5
BISON LAKE SNOTEL	10880	2/01/89	---	15.9	14.1	18.7
BISON RESERVOIR	10000	1/30/89	16	3.4	3.9	2.5
BLUE RIVER	10500	1/26/89	24	5.5	5.5	5.5
BOULDER FALLS	10000	1/31/89	30	10.2	5.3	7.4
BOURBON	9750	2/01/89	26	7.0	4.4	4.5
BROWN CABIN	9730	1/26/89	25	3.9	5.9	4.9
BRUMLEY SNOTEL	10600	2/01/89	---	5.1	5.6	6.0
BURRO MTN SNOTEL	9000	2/01/89	---	9.9	9.4	11.7
BURRO MOUNTAIN	9000	1/30/89	40	11.9	11.1	11.2
BUTTE SNOTEL	10000	2/01/89	---	7.2	8.0	10.1
BUTTE	10000	1/31/89	30	8.5	7.9	10.5
BUTTER HILL	7880	1/30/89	32	8.5	8.7	9.4
CAMERON PASS	10300	1/25/89	46	12.7	14.4	17.6
CASCADE SNOTEL	8850	2/01/89	---	13.5	5.7	7.1
CASCADE	8850	1/26/89	42	9.2	7.2	9.0
CATHEDRAL BLF SNOTEL	8500	2/01/89	---	9.6	11.2	10.8
CHAMBERS LAKE	9000	1/25/89	12	2.6	6.6	6.0
COCHETOPA PASS	10000	1/30/89	20	4.0	4.0	3.8
COLUMBINE SNOTEL	9300	2/01/89	---	15.2	16.0	12.5
COLUMBINE LODGE	9300	1/24/89	49	13.3	15.0	15.1
COLUMBINE PS SNOTEL	9400	2/01/89	---	10.7	11.6	9.2
COLUMBINE PASS	9400	1/30/89	42	12.1	11.9	15.5
COMO	10370	1/25/89	26	5.7	4.0	4.5
COPELAND LAKE	8600	1/27/89	9	1.1	--	3.1
COPPER MTN SNOTEL	10450	2/01/89	---	6.8	7.8	8.3
CRESTED BUTTE	8900	1/31/89	35	8.8	8.3	9.0
CROSHO SNOTEL	9500	2/01/89	---	6.8	7.6	8.4
CUCHARAS CREEK	9700	1/25/89	25	5.6	5.4	5.4
CULEBRA #2 SNOTEL	10000	2/01/89	---	8.9	8.0	6.8
CULEBRA	10000	1/30/89	34	6.8	6.7	6.0
CUMBRES PASS	10000	1/25/89	51	13.5	13.8	14.5
CUMBRES TRESTLE SNTL	10000	2/01/89	---	17.6	15.4	16.8
CUMBRES TRESTLE	10000	1/25/89	61	14.8	15.8	17.5
DEADMAN HILL SNOTEL	10200	2/01/89	---	8.6	10.3	12.1
DEER RIDGE	9050	1/26/89	7	1.3	4.8	3.2
DRY LAKE SNOTEL	8200	2/01/89	---	13.1	17.1	14.6
DRY LAKE	8200	1/23/89	36	10.3	11.2	12.7
EL DIENTE PK SNOTEL	10000	2/01/89	---	10.4	8.5	12.3
ELEVEN MILE	8590	1/27/89	7	.9	.9	.6
ELK RIVER SNOTEL	8600	2/01/89	---	9.2	14.3	12.5
ELK RIVER #2	8600	1/24/89	34	8.9	11.3	11.5
ELKHORN	8480	1/30/89	46	14.1	14.7	15.2
EMPIRE	9700	1/30/89	22	4.3	4.1	4.5
FOUR MILE PARK	9700	1/30/89	27	5.2	3.7	4.1
FREMONT PASS SNOTEL	11400	2/01/89	---	8.9	11.2	10.3
FREMONT PASS	11400	1/31/89	35	8.3	10.1	10.2
GENEVA PARK	9750	1/31/89	15	2.3	2.0	2.7
GLEN MAR RANCH	8850	1/26/89	24	4.5	6.1	5.7
GORE PASS	8900	1/25/89	32	6.9	5.6	6.8
GRANBY	8700	1/30/89	21	3.7	4.0	4.9
GRAND LAKE	8600	1/28/89	28	6.1	5.5	5.6
GRAYBACK	11000	1/26/89	40	11.5	6.9	10.1

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
GRIZZLY PEAK SNOTEL	11100	2/01/89	---	7.9	11.5	10.4
GRIZZLY PEAK	11100	1/31/89	36	9.7	9.9	11.1
GROUNDHOG	8920	1/29/89	34	8.9	7.4	8.8
HAGERMAN TNL SNOTEL	11150	2/01/89	---	17.3	14.3	13.8
HAHN'S PEAK	8500	1/24/89	31	7.4	9.9	10.0
HIDDEN VALLEY	8480	1/26/89	23	4.4	6.5	6.3
HIWAY	10700	1/31/89	70	20.1	13.8	16.9
HOOSIER PASS SNOTEL	11400	2/01/89	---	8.1	9.7	8.8
HOOSIER PASS	11400	1/26/89	28	7.7	9.2	8.2
HORSESHOE MOUNTAIN	11400	1/27/89	29	6.4	5.9	6.9
HOURGLASS LAKE	9500	1/30/89	23	4.8	7.6	4.6
HUERFANO	10080	1/25/89	25	6.4	6.0	4.3
IDARADO SNOTEL	9800	2/01/89	---	9.8	5.0	8.9
IDARADO	9800	1/30/89	42	11.1	8.2	10.4
INDEPENDENCE PS SNTL	10600	2/01/89	---	8.9	8.7	9.7
INDEPENDENCE PASS	10600	1/27/89	35	7.7	8.3	10.1
IRONTON PARK	9600	1/30/89	40	11.1	7.8	9.3
IVANHOE	10400	1/30/89	36	8.2	10.2	11.1
JEFFERSON CREEK	10100	1/25/89	30	6.6	5.5	6.2
JOE WRIGHT SNOTEL	10000	2/01/89	---	10.7	13.4	13.7
JOE WRIGHT	10000	1/25/89	48	12.8	14.6	16.1
JONES PASS	10400	1/30/89	41	10.7	10.5	9.6
KEYSTONE	9950	1/31/89	40	13.3	11.3	13.8
KILN SNOTEL	9600	2/01/89	---	5.6	6.5	8.2
KILN	9600	1/30/89	26	5.5	6.8	7.8
LA MANGA	10120	1/25/89	52	11.1	9.9	13.1
LA PLATA	9340	1/25/89	50	12.1	12.8	12.6
LA VETA PASS	9300	1/25/89	30	6.9	7.0	6.0
LAKE CITY	10200	1/26/89	27	5.1	4.5	5.1
LAKE ELDORA SNOTEL	10500	2/01/89	---	8.4	10.6	5.7
LAKE HUMPHREY	9200	1/28/89	40	6.0	2.9	5.0
LAKE IRENE SNOTEL	10600	2/01/89	---	13.8	17.0	15.3
LAPLAND	9300	1/31/89	26	6.1	8.2	6.7
LEMON RESERVOIR #1	8700	1/30/89	33	7.6	6.5	7.7
LEMON RESERVOIR #2	9500	1/30/89	40	9.1	7.4	9.4
LIFT	11250	1/27/89	38	10.8	10.8	11.3
LILY POND SNOTEL	10650	2/01/89	---	12.6	7.8	10.8
LIZARD HEAD	10300	1/26/89	49	11.4	9.0	10.9
LIZARD HD PS SNOTEL	10300	2/01/89	---	7.6	8.9	11.0
LIZARD HEAD PASS	10300	1/26/89	44	9.6	7.9	11.3
LONE CONE SNOTEL	9950	2/01/89	---	13.0	9.9	12.1
LONE CONE	9950	1/27/89	46	12.8	9.6	11.8
LONGS PEAK	10500	1/26/89	26	6.0	6.6	6.6
LOVELAND PASS	10800	1/31/89	34	8.3	7.7	9.7
LYNX PASS SNOTEL	8900	2/01/89	---	7.2	7.9	6.9
LYNX PASS	8900	1/25/89	36	7.4	6.9	7.8
MANCOS T-DOWN	10000	1/31/89	47	13.2	11.5	11.6
MC CLURE PASS SNOTEL	9500	2/01/89	---	11.2	9.9	12.2
MC CLURE PASS	9500	1/31/89	37	9.8	9.3	10.3
MCKENZIE GULCH	8500	1/30/89	23	4.6	4.0	4.2
MESA LAKES SNOTEL	10000	2/01/89	---	9.4	10.1	11.3
MESA LAKES	10000	1/26/89	43	10.8	11.4	11.1
MIDDLE CREEK SNOTEL	11250	2/01/89	---	12.2	10.2	12.6
MIDDLE CREEK	11250	1/30/89	59	15.5	12.9	16.1
MIDDLE FORK CAMPGRD	9000	1/26/89	24	4.7	7.0	6.4
MILNER PASS	10100	1/25/89	28	6.8	9.5	9.2
MINERAL CREEK SNOTEL	10300	2/01/89	---	9.6	8.7	8.7
MINERAL CREEK	10300	1/26/89	44	10.2	7.8	10.1
MOLAS LAKE SNOTEL	10500	2/01/89	---	11.5	12.0	8.9
MOLAS LAKE	10500	1/26/89	36	7.7	7.1	9.3
MONARCH OFFSHOOT	10500	1/27/89	28	5.9	9.1	6.8
MONARCH PASS	10500	1/27/89	34	7.1	10.5	11.1
MOSQUITO CREEK	11200	1/26/89	28	6.9	6.3	6.7
NAST LAKE SNOTEL	8700	2/01/89	---	3.9	4.5	3.9
NAST	8700	1/30/89	20	4.1	3.6	4.7
NAVAL OILSHALE SNOTL	8800	2/01/89	---	14.6	9.8	17.5
NIWOT SNOTEL	9910	2/01/89	---	7.1	8.1	5.8
NORTH INLET GRAND LK	9000	1/25/89	22	4.1	6.0	5.6
NORTH LOST TR SNOTEL	9200	2/01/89	---	10.5	9.8	9.8
NORTH LOST TRAIL	9200	1/31/89	35	8.7	8.4	10.4
NORTHGATE	8500	1/30/89	18	3.4	2.7	3.9
OPHIR LOOP	11100	1/25/89	41	9.6	9.7	10.5
PANDO	9500	1/30/89	19	3.4	4.4	5.9
PARK CONE SNOTEL	9600	2/01/89	---	6.5	4.8	6.5
PARK CONE	9600	1/30/89	29	6.7	4.9	6.6

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
PARK RESERV SNOTEL	9900	2/01/89	---	13.3	17.7	16.2
PARK RESERVOIR	9900	1/27/89	54	13.2	14.5	15.8
PARK VIEW	9200	1/30/89	25	5.5	5.8	5.9
PHANTOM VALLY SNOTEL	9050	2/01/89	---	5.4	7.4	5.9
PINE CREEK	7900	1/25/89	6	.7	3.3	1.5
PINOS MILL	10000	1/26/89	60	15.3	12.5	15.3
PLATORO	9950	1/25/89	47	11.7	8.0	11.3
POOL TABLE MOUNTAIN	10000	1/27/89	22	3.7	3.0	4.2
PORCUPINE	10400	1/27/89	35	7.0	4.2	7.2
PORPHYRY CK SNOTEL	10700	2/01/89	---	8.5	11.9	9.0
PORPHYRY CREEK	10700	1/27/89	37	8.0	10.9	11.1
RABBIT EARS SNOTEL	9550	2/01/89	---	13.7	13.8	16.9
RABBIT EARS	9550	1/24/89	51	13.6	15.0	16.6
RANCH CREEK	9400	1/27/89	28	6.0	8.9	6.2
RED MTN PASS SNOTEL	11200	2/01/89	---	13.9	13.4	13.0
RED MOUNTAIN PASS	11100	1/26/89	63	17.0	17.2	19.6
RICO	8700	1/26/89	30	5.9	4.5	6.0
RIO BLANCO	8500	1/31/89	34	8.8	9.8	9.5
RIPPLE CK PS SNOTEL	10340	2/01/89	---	12.9	17.1	15.9
RIVER SPRINGS	9300	1/31/89	25	4.5	4.4	4.6
ROACH SNOTEL	9400	2/01/89	---	8.0	11.4	11.4
ROACH	9400	1/29/89	34	6.8	11.3	11.6
SAINT ELMO	10400	1/30/89	33	6.1	5.6	6.8
SANTA MARIA	9700	1/27/89	25	4.3	2.8	3.5
SCHOFIELD PASS SNOTEL	10700	2/01/89	---	17.5	20.8	25.5
SCOTCH CREEK SNOTEL	9100	2/01/89	---	8.2	7.3	4.8
SHRINE PASS	10700	1/30/89	38	10.0	10.7	10.6
SILVER LAKES	9600	1/31/89	30	7.2	4.0	4.1
SLUMGULLION SNOTEL	11550	2/01/89	---	8.1	8.2	8.9
SNAKE RIVER	9700	1/31/89	21	4.3	5.2	5.5
SOUTH COLONY	11140	1/27/89	57	13.1	13.4	13.2
SPRUCE CREEK	10880	1/30/89	37	6.9	5.2	5.2
SPUD MOUNTAIN SNOTEL	10700	2/01/89	---	18.8	18.8	16.1
SPUD MOUNTAIN	10700	1/26/89	58	14.2	13.1	15.6
STILLWATER CK SNOTEL	8720	2/01/89	---	3.9	4.4	5.7
STUMP LAKES SNOTEL	11200	2/01/89	---	10.0	11.9	12.2
SUMMIT RANCH SNOTEL	10000	2/01/89	---	5.5	6.8	7.4
SUNDANCE	11100	1/31/89	31	7.0	6.1	6.8
TELLURIDE	8600	1/25/89	34	7.0	4.7	5.6
TENNESSEE PASS	10200	1/31/89	25	5.2	5.2	6.4
TENNESSEE PASS #2	10280	1/31/89	30	6.2	6.4	8.8
TOWER SNOTEL	10000	2/01/89	---	28.2	29.3	29.3
TOWER	10000	1/23/89	79	28.0	28.4	33.3
TRAPPER LAKE SNOTEL	9700	2/01/89	---	11.5	14.1	13.7
TRINCHERA	11000	1/26/89	28	5.1	5.3	5.9
TROUT CREEK PASS	10050	1/27/89	19	3.7	3.3	3.4
TROUT LAKE #2	9700	1/25/89	39	8.4	7.5	9.3
TWIN LAKES TUNNEL	10100	1/27/89	28	7.4	6.6	6.7
TWO MILE	10500	1/26/89	26	6.1	6.1	8.7
UNIVERSITY CAMP SNTL	10300	2/01/89	---	9.4	9.8	8.9
UNIVERSITY CAMP	10300	1/31/89	35	10.1	6.7	10.3
UPPR RIO GRND SNOTEL	9350	2/01/89	---	3.6	2.4	--
UPPER RIO GRANDE	9350	1/25/89	30	5.1	4.4	5.8
UPPER SAN JUAN SNTL	10200	2/01/89	---	23.7	16.4	17.7
UPPER SAN JUAN	10200	1/31/89	84	24.3	19.1	20.8
UTE PASS	9550	1/31/89	29	6.4	7.8	7.7
VAIL MOUNTAIN SNOTEL	10200	2/01/89	---	9.9	12.4	14.2
VALLECITO SNOTEL	10800	2/01/89	---	12.0	8.2	12.4
VALLECITO	10800	1/30/89	51	13.5	11.3	12.3
VASQUEZ	9600	1/31/89	34	8.6	9.0	8.1
WARD	9500	1/26/89	14	2.4	3.9	3.7
W FK PARACHUTE SNTL	7800	2/01/89	---	2.2	2.4	--
WESTCLIFFE	9000	1/31/89	31	6.9	5.8	5.4
WESTON	9300	1/27/89	17	2.3	1.5	1.6
WHISKEY CREEK SNOTEL	10200	2/01/89	---	7.9	3.8	6.6
WILD BASIN	10000	1/27/89	22	5.0	5.0	7.4
WILLOW CK PS SNOTEL	9500	2/01/89	---	7.5	7.7	5.8
WILLOW CREEK PASS	9500	1/30/89	30	6.9	8.6	8.2
WILLOW PARK SNOTEL	10700	2/01/89	---	7.9	14.2	10.9
WOLF CK SUMMIT SNTL	11000	2/01/89	---	22.6	19.4	19.2
WOLF CREEK SUMMIT	11000	1/31/89	78	22.1	17.7	19.2
YAMPA VIEW	8200	1/24/89	34	8.4	11.2	10.5

The Following Organizations Cooperate With The Soil Conservation Service in Snow Survey Work:

State	Colorado State Engineer Colorado State Soil Conservation Board University of Colorado, INSTARR Colorado State University Experiment Station Rocky Mountain Forest and Range Experiment Station
Federal	U.S. Department of Agriculture Forest Service Soil Conservation Service U.S. Department of the Interior Bureau of Reclamation Geologic Survey National Park Service U.S. Department of Commerce NOAA, National Weather Service NOAA, National Environmental Satellite Service U.S. Department of Defense Army Engineer Corps National Aeronautics and Space Administration Goddard Space Flight Center
Local	Colorado Public Service Company Idarado Mining Corporation City of Denver City of Boulder City of Greeley City of Fort Collins Vail Associates, Inc. Arkansas Valley Ditch Association Colorado River Water Conservation District Farmers Reservoir and Irrigation Company San Luis Irrigation District Santa Maria Reservoir Company Taylor Lumber and Land Company Montezuma Irrigation Company Uncompahgre Valley Water Users Association Twin Lakes Reservoir and Canal Company Trinchera Irrigation Company Aspen Skiing Corporation Colorado Fuel and Iron Corporation Climax Molybednum Corporation Copper Mountain Ski Area Lake Eldora Corporation
Private	Otto Goemmer, Colorado

Other organizations and individuals furnish information for the snow survey reports. Their cooperation is gratefully acknowledged.

U.S. DEPT. OF AGRICULTURE
SOIL CONSERVATION SERVICE
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2490 WEST 26TH AVENUE
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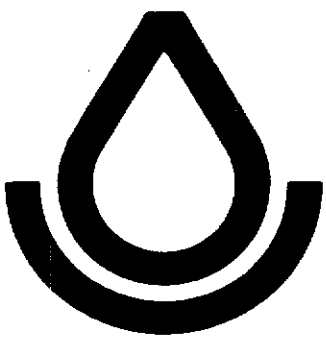
Colorado
Water Supply Outlook

and

Federal - State - Private
Cooperative Snow Surveys



SOIL CONSERVATION SERVICE

Colorado Water Conservation Board
Flood Control & Floodplain Management Section

RIVER BASINS WITH SNOWPACK OVER 150%

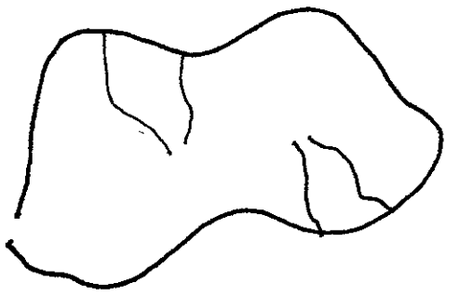
Feb-89

River Basin	Number of Stations Averaged	Basin Snowpack as a Percent of 1961-1985 Average						Potentially Threatened Communities (Circle as Necessary)
		Feb 1	Mar 1	Apr 1	May 1	May 15	Jun 1	
Alamosa	1	176%	0%	0%	0%			Capulin & Conejos County
Purgatorie	1	156%	0%	0%	0%			Trinidad & Las Animas County

~~Fountain Creek~~	0					
St. Charles	2	142%	0%	0%	0%	Pueblo
Huerfano	3	115%	0%	0%	0%	Pueblo County
Cucharas	3	115%	0%	0%	0%	Walsenburg & Huerfano County
Purgatorie	1	156%	0%	0%	0%	Trinidad & Las Animas County
S. Platte	10	88%	0%	0%	0%	Denver, Ft. Morgan, Sterling, Julesburg, Adams, Weld & Logan Counties
Bear Creek	2	60%	0%	0%	0%	Evergreen, Kittridge, Morrison & Jefferson County
Clear Creek	5	91%	0%	0%	0%	Georgetown, Idaho Springs, Golden & Clear Creek County
South Boulder Ck.	2	123%	0%	0%	0%	Eldorado Springs, Marshall & Boulder County
Boulder Creek	5	119%	0%	0%	0%	Ward, Boulder & Boulder County
St. Vrain Creek	3	51%	0%	0%	0%	Lyons, Longmont & Boulder County
Big Thompson	6	54%	0%	0%	0%	Estes Park, Loveland & Larimer County
Cache la Poudre	8	77%	0%	0%	0%	Fort Collins & Greeley
North Platte	16	76%	0%	0%	0%	Jackson County
Illinois	3	79%	0%	0%	0%	Walden
Laramie	2	65%	0%	0%	0%	Woods Landing & Larimer County

Minimun	0%	0%	0%	0%
Maximum	176%	0%	0%	0%
Average	90%	0%	0%	0%
Standard Deviation	26%	0%	0%	0%
Variance	7%	0%	0%	0%

Colorado Water Conservation Board
Flood Control & Floodplain Management Section



1989 SNOWMELT FLOOD THREAT

Feb-89

River Basin	Number of Stations Averaged	Basin Snowpack as a Percent of 1961-1985 Average					Potentially Threatened Communities (Circle as Necessary)
		Feb 1	Mar 1	Apr 1	May 1	May 15	Jun 1	
Yampa	7 9	84% 68	0%	0%	0%		Steamboat Springs, Craig & Hayden
Little Snake	1 10	77% 81	0%	0%	0%		Slater
Elk	2	76% 76	0%	0%	0%		Clark & Routt County
White	2 4	100% 90	0%	0%	0%		Meeker & Rangley
Upper Colorado	20 31	80% 67	0%	0%	0%		Granby & Kremmling
Middle Colorado	7	88%	0%	0%	0%		Glenwood Springs, New Castle, Silt, Rifle, DeBeque & Grand Junction
Lower Colorado	27	83%	0%	0%	0%		Palisade, Grand Junction, Fruita & Mesa County
Willow Creek	2 3	81% 77	0%	0%	0%		Grand County
Williams Fork	4	89% 89	0%	0%	0%		Parshall & Grand County
Upper Blue	2 9	96% 86	0%	0%	0%		Breckenridge & Summit County
Lower Blue	1	74%	0%	0%	0%		Silverthorne
Eagle	4	75%	0%	0%	0%		Vail, Eagle, Gypsum, & Eagle County
Roaring Fork	7 8	83% 79	0%	0%	0%		Aspen, Basalt, Eagle, Glenwood Springs, Eagle and Pitkin Counties
Crystal	2	89%	0%	0%	0%		Marble, Redstone, Carbondale, & Pitkin County
Plateau Creek	2 3	89% 88	0%	0%	0%		Collbran
Upper Gunnison	12 13	92% 87	0%	0%	0%		Gunnison
Lower Gunnison	21	94%	0%	0%	0%		Delta & Grand Junction
Surface Creek	3	88% 88	0%	0%	0%		Orchard City
N. Fk. Gunnison	5	91%	0%	0%	0%		Paonia & Hotchkiss
Uncompahgre	4	103% 94	0%	0%	0%		Ouray, Ridgeway, Montrose, Olathe, Delta, Montrose & Delta Counties
Dolores	5 6	104% 101	0%	0%	0%		Rico, Dolores & Montezuma Counties
San Miguel	3 6	105% 95	0%	0%	0%		Telluride, Placerville, Sawpit, Naturita & Uravan
Mancos	0						Mancos
LaPlata	2	101%	0%	0%	0%		Hesperus
Animas	6 8	92% 91	0%	0%	0%		Silverton, Durango & La Plata County
Los Pinos	2	110%	0%	0%	0%		Bayfield & Ignacio
Piedra	2	110%	0%	0%	0%		Chimney Rock
San Juan	7 3	83% 115	0%	0%	0%		Pagosa Springs
Rio Grande	13	81% 84	0%	0%	0%		Del Norte, Monte Vista & Alamosa
S. Fk. Rio Grande	4	61%	0%	0%	0%		South Fork
Alamosa Creek	1 2	176% 133	0%	0%	0%		Capulin & Conejos County
San Luis Cr. & Tri	1	0%	0%	0%	0%		Saguache & Center
Conejos	6 7	93% 94	0%	0%	0%		Platoro & Antonito
Culebra Creek	4	100% 100	0%	0%	0%		San Luis
Trinchera Creek	2	99% 100	0%	0%	0%		Costilla County
Saguache Creek	1	105%	0%	0%	0%		Saguache County

Arkansas	11 15	84% 97	0%	0%	0%	Salida, Canon City, Pueblo & Fremont County
Cottonwood Creek	2	81%	0%	0%	0%	Buena Vista & Chaffee County
Chalk Creek	2	81%	0%	0%	0%	Nathrop & Chaffee County
Poncha Creek	1	64%	0%	0%	0%	Poncha Springs
Grape Creek	1	64%	0%	0%	0%	Westcliffe & Custer County
~~Fountain Creek~~	0					
St. Charles	2	142%	0%	0%	0%	Pueblo
Huerfano	3 14	115% 115	0%	0%	0%	Pueblo County
Cucharas	3	115%	0%	0%	0%	Walsenburg & Huerfano County
Purgatorie	1 2	156% 134	0%	0%	0%	Trinidad & Las Animas County
S. Platte	7 10	88% 130	0%	0%	0%	Denver, Ft. Morgan, Sterling, Julesburg, Adams, Weld & Logan Counties
Bear Creek	2	60%	0%	0%	0%	Evergreen, Kittridge, Morrison & Jefferson County
Clear Creek	5 4	91% 93	0%	0%	0%	Georgetown, Idaho Springs, Golden & Clear Creek County
South Boulder Ck.	2	123%	0%	0%	0%	Eldorado Springs, Marshall & Boulder County
Boulder Creek	5 5	119% ✓	0%	0%	0%	Ward, Boulder & Boulder County
St. Vrain Creek	3 2	51% 67	0%	0%	0%	Lyons, Longmont & Boulder County
Big Thompson	6 5	54% 72	0%	0%	0%	Estes Park, Loveland & Larimer County
Cache la Poudre	8 ✓	77% ✓	0%	0%	0%	Fort Collins & Greeley
North Platte	4 6	76% 93	0%	0%	0%	Jackson County
Illinois	3	79%	0%	0%	0%	Walden
Laramie	2 2	65% ✓	0%	0%	0%	Woods Landing & Larimer County

Minimun	0%	0%	0%	0%
Maximum	176%	0%	0%	0%
Average	90%	0%	0%	0%
Standard Deviation	26%	0%	0%	0%
Variance	7%	0%	0%	0%

WATER SUPPLY OUTLOOK FOR COLORADO

as of February 1, 1989

COLORADO RIVER above CISCO, UTAH: The water supply outlook for the Upper Colorado basin is for slightly below to near average runoff during the spring snowmelt. Most streams are forecast to yield between 80 and 95 percent of the 1961-1985 average, a decline of 2 to 8 percent from forecasts issued last month.

January precipitation was near average over the Upper Colorado mainstem (94%), slightly above average over the Gunnison drainage (112%), and above average over the Dolores watershed (118%).

Seasonal precipitation for October through January has been near to slightly below average. Some basin averages include the Colorado mainstem at 84 percent of average, the Gunnison at 90 percent, and the Dolores at 99 percent.

Mountain snowpack as of February 1st was near to slightly below average, ranging from 79 percent over the Roaring Fork drainage to 100 percent over the Dolores/ San Miguel watershed. Snowfall occurring during the first few days of February may have increased the percentages significantly in the southern portions of the basin.

January runoff was mostly below average in the Upper Colorado Basin. In particular, January runoff was 77 percent of average on the Colorado River at Dotsero, Colorado, 93 percent on the Roaring Fork at Glenwood Springs, and 82 percent on the Colorado River near Cisco, Utah. Inflow to Lake Powell in January was 297 thousand acre-feet or 83 percent of the 1961-85 average; the seasonal accumulation into Lake Powell now stands at 1.2 million acre-feet or 70 percent of average.

Reservoir storage on January 31st in the four major reservoirs above Cisco, Utah (Lake Granby, Green Mountain, Dillon, and Blue Mesa) was 1.11 million acre-feet, which is 65 percent of capacity, 113 percent of average, and 80 thousand acre-feet less than last year at this time. Storage in Lake Powell is 21.4 million acre-feet, representing 86 percent of capacity and approximately 950 thousand acre-feet less than last year at this time.

The forecast for April-July inflow to Lake Powell is 6.4 million acre-feet, 79 percent of the 1961-1985 average. The 1988 observed April-July inflow to Lake Powell was approximately 4.8 million acre-feet (60 percent of average).

GREEN RIVER BASIN: There is no improvement in the water supply outlook for Green River basin. Forecasts in the upper portion of the basin, above Flaming Gorge, remain 80 to 90 percent of average. Below Flaming Gorge, forecasts dropped an average 5 percent, ranging 80 to 90 percent.

NOAA, NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center, Salt Lake City, Utah
Gerald Williams, Hydrologist-in-Charge

January precipitation provided no relief to extreme drought conditions in southwest Wyoming and near drought conditions of eastern Utah. Many locations in southwest Wyoming recorded zero precipitation during January. Over the basin, precipitation amounts where 60 to 70 percent of normal. Basin averages for January are: Green above Flaming Gorge, 60 percent of average; Green below Flaming Gorge, 71 percent; White, 70 percent; Yampa, 68 percent; northeastern Utah, 67 percent and southeastern Utah, 85 percent.

Seasonal precipitation, October through January, averaged 70 to 75 percent over the entire basin.

Snowpack at the end of January, as measured by the Soil Conservation Service, showed very little change in percent of normal at snow courses above Flaming Gorge. There was a 10 percent drop in snowpack on the White and Yampa drainages and a 15 percent drop in the Duchesne basin. Snowpack basin averages at the end of January: Green above Flaming Gorge, 87 percent; Yampa and White, 85 percent; Strawberry, 78 percent; Duchesne, 77 percent; Price, 85 percent; San Rafael, 86 percent and Muddy, 94 percent.

January streamflow was below average. The flow on the Green River at Green River, Utah was 90,400 acre-feet, 77 percent of average. Inflow to Flaming Gorge was 22,200 acre-feet, 55 percent. October through January runoff on the Green River at Green River, Utah was 299,300 acre-feet, 55 percent and inflow to Flaming Gorge was 75,500 acre-feet, 38 percent.

Reservoir storage at the end of January in Flaming Gorge Reservoir was 2.92 million acre-feet, 77 percent of capacity, 118 percent of average and 180,000 acre-feet less than last year at this time.

SAN JUAN RIVER BASIN: The water supply outlook for the San Juan basin is for near average runoff. Most streamflow forecasts range from 90 to 110 percent of the 1961-1985 average, an increase of 5 to 10 percent in most headwater areas for those issued last month.

January precipitation over the basin ranged from above to much above average, with a basin average of 135 percent. The seasonal precipitation for October through January has been slightly below average with a basin average of 88 percent.

Mountain snowpack as of February 1st in the San Juan basin was near to slightly above average, with the mainstem headwaters averaging 115 percent and the Animas watershed averaging 91 percent. Data from the SNOTEL network indicates that storms occurring during the first few days of February may have increased these seasonal percentages by as much as 10 to 20 percent.

January runoff varied from above average in the headwaters to below average in the lower reaches. January inflow was 17,200 acre-feet or 96 percent of average into Navajo Reservoir and 5,200 acre-feet or 111 percent of average into Vallecito Reservoir. Adjusted January runoff on the San Juan River near Bluff, Utah was 79 percent and on the Animas River at Durango, Colorado 110 percent.

Seasonal runoff for October-January was 64,800 acre-feet or 62 percent of average into Navajo Reservoir and 28,800 acre-feet or 98 percent into Vallecito Reservoir. Adjusted seasonal runoff on the San Juan River at Bluff, Utah was 75 percent and on the Animas River at Durango, Colorado 116 percent.

Storage in Navajo Reservoir on January 31st was 1.13 million acre-feet, which is 119 percent of the 1961-1985 average, 67 percent of capacity, and approximately 72 thousand acre-feet more than last year at this time.

The forecast for April-July inflow to Navajo Reservoir is 730 thousand acre-feet or 95 percent of average. Last year's observed April-July inflow to Navajo was approximately 382 thousand acre-feet or only 50 percent of average.

COLORADO BASIN

as of February 1, 1989

STREAM AND STATION	APR-JUL STREAMFLOW Forecast acre-feet	APR-JUL STREAMFLOW % 25-yr average	APR-SEP STREAMFLOW Forecast acre-feet	APR-SEP STREAMFLOW % 25-yr average
COLORADO RIVER				
Lake Granby Inflow, CO	200,000	93	220,000	92
Hot Sulphur Springs, CO			400,000	93
Dotsero nr, CO			1,400,000	89
Glenwood Springs blo, CO			2,100,000	87
Cameo nr, CO			2,200,000	83
Cameo nr, CO (Unadjusted)			1,700,000	80
Cisco nr, UT	2,900,000	84	3,350,000	86
Lake Powell Inflow	6,400,000	79	7,340,000	80
FRASER RIVER				
Winter Park, CO			20,000	96
WILLIAMS FORK RIVER				
Parshall nr, CO			65,000	92
BLUE RIVER				
Dillon Reservoir Inflow	140,000	92	165,000	92
Green Mountain Reservoir Inflow	240,000	91	295,000	93
EAGLE RIVER				
Gypsum blo, CO			290,000	85
ROARING FORK RIVER				
Glenwood Springs, CO			655,000	83
PLATEAU CREEK				
Cameo nr, CO			80,000	82
TAYLOR RIVER				
Taylor Park Reservoir Inflow			108,000	91
Almont, CO			175,000	92
GUNNISON RIVER				
Blue Mesa Inflow	625,000	90	745,000	91
Grand Junction nr, CO			1,350,000	96
EAST RIVER				
Almont, CO			175,000	83
UNCOMPAHGRE RIVER				
Colona, CO			180,000	116
Delta, CO			170,000	112
DOLORES RIVER				
Dolores, CO			290,000	104
SAN MIGUEL RIVER				
Naturita, CO			195,000	104

COLORADO BASIN

as of February 1, 1989

STREAM AND STATION	APR-JUL STREAMFLOW Forecast acre feet	APR-JUL STREAMFLOW % 25-yr. average	APR-SEP STREAMFLOW Forecast acre-feet	APR-SEP STREAMFLOW % 25-yr average
GREEN RIVER				
Warren Bridge, WY			293,000	90
Fontenelle Reservoir Inflow	710,000	81	840,000	82
Flaming Gorge Reservoir Inflow	980,000	77	1,100,000	76
Green River, UT	2,400,000	76	2,700,000	77
NEW FORK RIVER				
Big Piney, WY			356,000	79
PINE CREEK				
Fremont Lake abv. WY			109,000	90
HENRY'S FORK RIVER				
Manila, UT			42,000	83
YAMPA RIVER				
Steamboat Springs, CO			255,000	84
Hayden nr, CO			580,000	78
Maybell nr. CO			800,000	78
ELK RIVER				
Clark, CO			175,000	81
LITTLE SNAKE RIVER				
Lily nr, CO			315,000	81
ASHLEY CREEK				
Vernal nr, UT	46,000	88		
ROCK CREEK				
Mountain Home nr. UT	80,000	84		
WEST FORK DUCHESNE RIVER				
Hanna, UT	25,000	89		
DUCHESNE RIVER				
Tabiona nr, UT	88,000	81		
Duchesne abv Knights Div., UT	155,000	80		
Myton, UT	175,000	78		
STRAWBERRY RIVER				
Strawberry Reservoir Inflow	52,000	87		
Starvation Reservoir Inflow	55,000	82		
LAKE FORK				
Moon Lake Reservoir Inflow	59,000	84		
WHITE RIVER				
Meeker nr, CO			285,000	87
Watson nr, CO			280,000	81

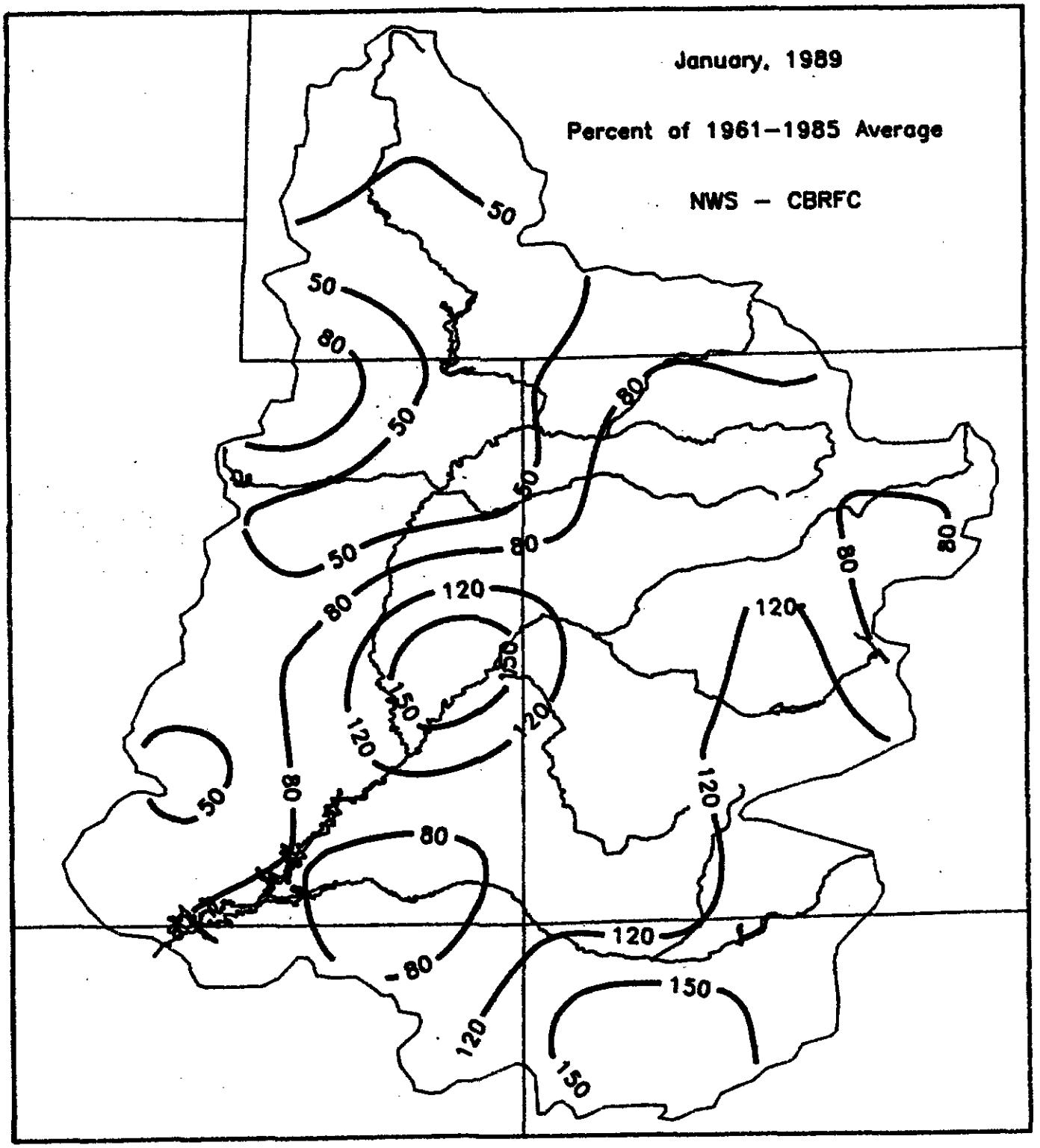
COLORADO BASIN

as of February 1, 1989

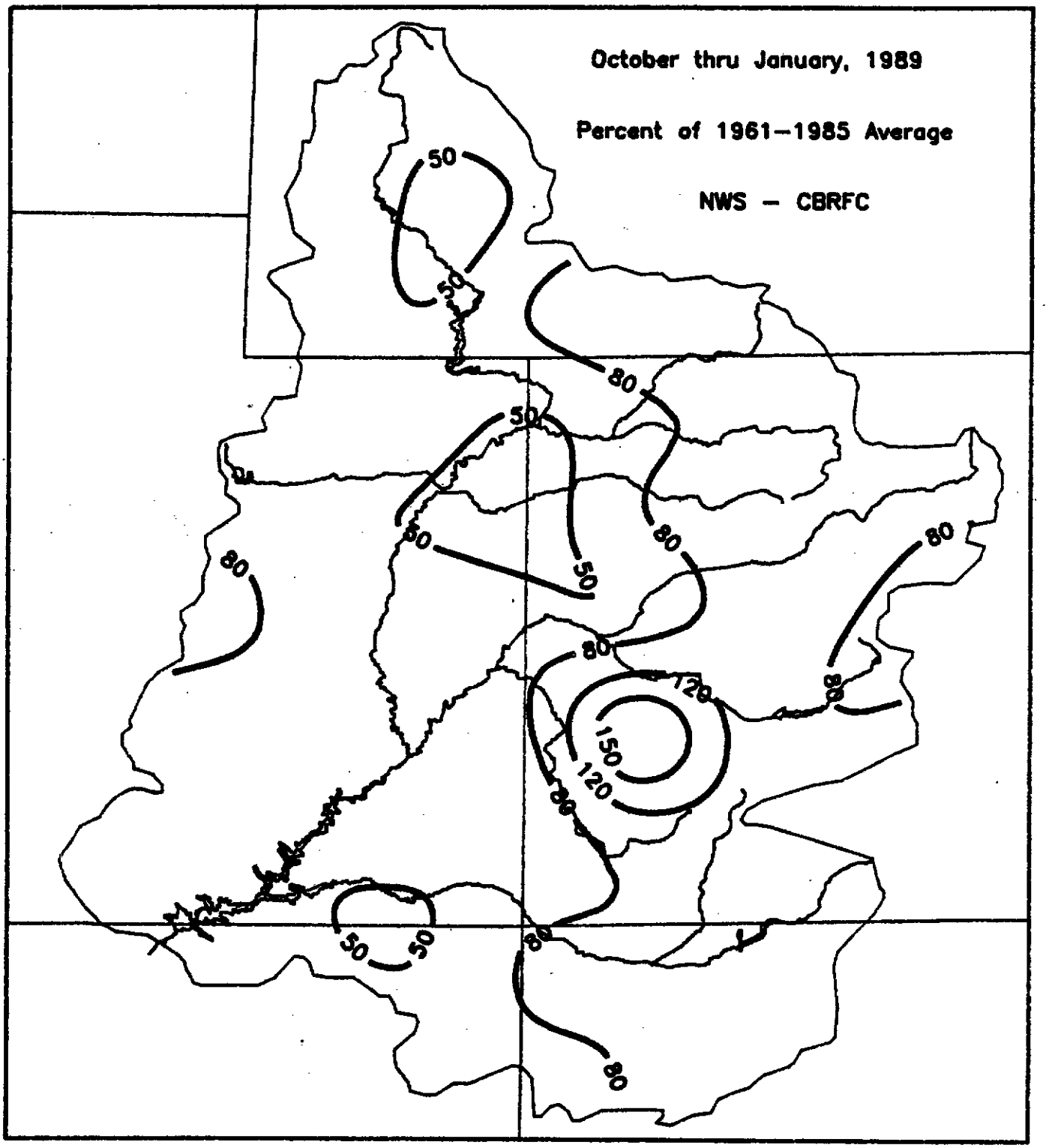
STREAM AND STATION	APR-JUL STREAMFLOW Forecast acre-feet	APR-JUL STREAMFLOW % 25-yr average	APR-SEP STREAMFLOW Forecast acre-feet	APR-SEP STREAMFLOW % 25-yr average
PRICE RIVER				
Scofield Reservoir Inflow	36,000	77		
HUNTINGTON CREEK				
Huntington nr, UT	42,000	77		
SAN JUAN RIVER				
Pagosa Springs, CO			230,000	99
Navajo Reservoir Inflow	730,000	95	800,000	95
Farmington, NM			1,200,000	105
Bluff nr, UT	1,090,000	100	1,260,000	100
PIEDRA RIVER				
Arboles nr, CO			220,000	93
NAVAJO RIVER				
Edith, CO			65,000	122
LOS PINOS RIVER				
Vallecito Reservoir Inflow			225,000	100
ANIMAS RIVER				
Durango, CO			500,000	104
FLORIDA RIVER				
Bondad nr, CO			35,000	93
LA PLATA RIVER				
Hesperus, CO			29,000	107

All forecasts are based on the assumption that weather conditions the remainder of the season will be near normal. Precipitation normals and streamflow averages are based on the new 25-year period 1961-1985. Forecasts prepared with the cooperation of the SCS technical center in Portland, Oregon.

UPPER COLORADO BASIN PRECIPITATION



UPPER COLORADO BASIN PRECIPITATION



MONTHLY STREAMFLOW AT INDEX STATIONS IN THE COLORADO BASIN

JANUARY 31, 1989

STATION	CURRENT DATA (Provisional)				Median for 30-Year Period(1951-1980)[a]		Previous Year	
	Current Month		Cumulative (since Oct. 1)				JAN 1988	
	Mean discharge (cfs)	% of 30-yr median	Runoff ac.-ft.	% of 30-Yr median	Monthly median (cfs)	Cumulative since Oct 1 (acre-feet)	Mean (cfs)	% of 30-Yr mean
Whiterocks River nr Whiterocks, Utah	28	100	6,980	73	27.9	9,614	27	97
Green River nr Green River, Utah[b]	1470	79	299,300	61	1862	488,100	2041	110
Yampa River at Steamboat Sprgs, CO	62	68	20,920	86	90.9	24,260	76	84
Colorado River at Dotsero, Colorado	718	77	207,890	78	932	265,570	773	77
Roaring Fork at Glenwood Sprgs, CO	359	93	101,400	84	388	120,200	392	101
Gunnison River at Grand Junction, CO[c]	1094	104	259,000	94	1047	275,600	959	92
Animas River at Durango, Colorado	207	110	58,300	116	188	50,440	223	119
San Juan River nr Bluff, Utah[d]	747	79	190,390	75	944	253,100	890	94
Colorado River nr Cisco, Utah[e]	2501	82	683,900	81	3059	840,300	2545	83

a Median of mean discharges for 30-year period 1951-1980.

b Adjusted for change in storage in Flaming Gorge Reservoir; storage began Nov. 1, 1962.

c Adjusted for change in Blue Mesa Reservoir; storage began Oct. 27, 1965.

d Adjusted for change in storage in Navajo Reservoir; storage began June 28, 1962.

e Estimated.

Some data provided by USGS.

STATUS OF RESERVOIR STORAGE IN COLORADO

JANUARY 31, 1989

RESERVOIR		USABLE CAPACITY	EOM USABLE CONTENTS	AVG. USABLE CONTENTS 1961 - 1985	% OF AVERAGE
BLUE MESA	a	829,500	470,300	434,900	108
FLAMING GORGE		3,749,000	2,922,400	2,165,000	135
FONTENELLE	a	344,800	50,200	227,500	22
LAKE POWELL	a	25,002,000	21,416,000	---	--
NAVAJO		1,696,000	1,129,800	950,400	119
LAKE GRANBY		465,600	334,000	265,900	126
DILLON [b]	a	254,000	233,300	201,100	116
GREEN MOUNTAIN		146,900	70,515	78,000	90
TAYLOR PARK		106,200	67,500	60,400	112
STRAWBERRY	a	1,106,000	554,400	---	--
STARVATION		152,310	151,100	129,000	117
MOON LAKE		35,760	7,940	16,700	48
SCOFIELD		65,780	30,020	34,300	88
VALLECITO		126,300	76,484	52,800	145

(Figures in acre-feet unless otherwise specified.)

a Constructed after 1961.

b Data provided by Denver Water Board.

Snow 89. wk 1

NOT FOR RELEASE TO PRESS--SUBJECT TO CORRECTION

ADVANCE SNOW SURVEY INFORMATION

FEBRUARY 1, 1989

REPORT RELEASED BY

Sheldon G. Boone
State Conservationist
Soil Conservation Service
2490 W. 26th Avenue
Denver, Colorado 80211

S N O W C O U R S E D A T A

FEBRUARY 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
ALEXANDER LAKE	10000	1/26/89	51	12.1	14.3	14.0
ANTERO	9200	1/27/89	17	2.3	1.7	2.0
ANTERO RESERVOIR	9000	1/27/89	12	1.4	.8	--
APISHAPA SNOTEL	10000	2/01/89	---	6.2	4.5	5.1
APISHAPA	10000	1/25/89	22	4.7	5.4	4.9
ARROW SNOTEL	9900	2/01/89	---	8.0	11.4	8.3
ARROW	9900	1/27/89	34	8.8	10.8	8.5
BALTIMORE	8800	1/30/89	24	4.4	4.4	4.7
BEAR LAKE SNOTEL	9500	2/01/89	---	7.6	9.1	10.3
BEARTOWN SNOTEL	11600	2/01/89	---	16.7	15.6	13.2
BENNETT CREEK	9300	1/30/89	25	5.4	7.2	4.9
BERTHOUD FALLS	10500	1/30/89	36	8.8	7.2	8.8
BERTHOUD PASS	9700	1/30/89	41	9.8	14.1	10.2
BERTHOUD SUM SNOTEL	11300	2/01/89	---	11.4	13.3	--
BERTHOUD SUMMIT	11300	1/30/89	44	11.0	12.7	12.0
BIG MEADOWS	9360	1/30/89	53	13.0	6.8	10.3
BIG SOUTH	8600	1/25/89	9	1.7	3.9	1.6
BIGELOW DIVIDE	9350	1/31/89	34	7.2	5.7	4.5
BISON LAKE SNOTEL	10880	2/01/89	---	15.9	14.1	18.7
BISON RESERVOIR	10000	1/30/89	16	3.4	3.9	2.5
BLUE RIVER	10500	1/26/89	24	5.5	5.5	5.5
BOULDER FALLS	10000	1/31/89	30	10.2	5.3	7.4
BOURBON	9750	2/01/89	26	7.0	4.4	4.5
BROWN CABIN	9730	1/26/89	25	3.9	5.9	4.9
BRUMLEY SNOTEL	10600	2/01/89	---	5.1	5.6	6.0
BURRO MTN SNOTEL	9000	2/01/89	---	9.9	9.4	11.7
BURRO MOUNTAIN	9000	1/30/89	40	11.9	11.1	11.2
BUTTE SNOTEL	10000	2/01/89	---	7.2	8.0	10.1
BUTTE	10000	1/31/89	30	8.5	7.9	10.5
CAMERON PASS	10300	1/25/89	46	12.7	14.4	17.6
CASCADE SNOTEL	8850	2/01/89	---	13.5	5.7	7.1
CASCADE	8850	1/26/89	42	9.2	7.2	9.0
CATHEDRAL BLF SNOTEL	8500	2/01/89	---	9.6	11.2	10.8
CHAMBERS LAKE	9000	1/25/89	12	2.6	6.6	6.0
COCHETOPA PASS	10000	1/30/89	20	4.0	4.0	3.8
COLUMBINE SNOTEL	9300	2/01/89	---	15.2	16.0	12.5
COLUMBINE LODGE	9300	1/24/89	49	13.3	15.0	15.1
COLUMBINE PS SNOTEL	9400	2/01/89	---	10.7	11.6	9.2
COLUMBINE PASS	9400	1/30/89	42	12.1	11.9	15.5
COMO	10370	1/25/89	26	5.7	4.0	4.5

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COPPER MTN SNOTEL	10450	2/01/89	---	6.8	7.8	8.3
CRESTED BUTTE	8900	1/31/89	35	8.8	8.3	
CROSHO SNOTEL	9500	2/01/89	---	6.8	7.6	8.4
CUCHARAS CREEK	9700	1/25/89	25	5.6	5.4	5.4
CULEBRA #2 SNOTEL	10000	2/01/89	---	8.9	8.0	6.8
CULEBRA	10000	1/30/89	34	6.8	6.7	6.0
CUMBRES PASS	10000	1/25/89	51	13.5	13.8	14.5
CUMBRES TRESTLE SNTL	10000	2/01/89	---	17.6	15.4	16.8
CUMBRES TRESTLE	10000	1/25/89	61	14.8	15.8	17.5
DEADMAN HILL SNOTEL	10200	2/01/89	---	8.6	10.3	12.1
DEER RIDGE	9050	1/26/89	7	1.3	4.8	3.2
DRY LAKE SNOTEL	8200	2/01/89	---	13.1	17.1	14.6
DRY LAKE	8200	1/23/89	36	10.3	11.2	12.7
EL DIENTE PK SNOTEL	10000	2/01/89	---	10.4	8.5	12.3
ELEVEN MILE	8590	1/27/89	7	.9	.9	.6
ELK RIVER SNOTEL	8600	2/01/89	---	9.2	14.3	12.5
ELK RIVER #2	8600	1/24/89	34	8.9	11.3	11.5
EMPIRE	9700	1/30/89	22	4.3	4.1	4.5
FOUR MILE PARK	9700	1/30/89	27	5.2	3.7	4.1
FREMONT PASS SNOTEL	11400	2/01/89	---	8.9	11.2	10.3
FREMONT PASS	11400	1/31/89	35	8.3	10.1	10.2
GENEVA PARK	9750	1/31/89	15	2.3	2.0	2.7
GLEN MAR RANCH	8850	1/26/89	24	4.5	6.1	5.7
GORE PASS	8900	1/25/89	32	6.9	5.6	6.8
GRANBY	8700	1/30/89	21	3.7	4.0	4.9
GRAND LAKE	8600	1/28/89	28	6.1	5.5	5.6
GRAYBACK	11000	1/26/89	40	11.5	6.9	10.1
GRIZZLY PEAK SNOTEL	11100	2/01/89	---	7.9	11.5	10
GRIZZLY PEAK	11100	1/31/89	36	9.7	9.9	11.
GROUNDHOG	8920	1/29/89	34	8.9	7.4	8.8
HAGERMAN TNL SNOTEL	11150	2/01/89	---	17.3	14.3	13.8
HAHN'S PEAK	8500	1/24/89	31	7.4	9.9	10.0
HIDDEN VALLEY	8480	1/26/89	23	4.4	6.5	6.3
HIWAY	10700	1/31/89	70	20.1	13.8	16.9
HOOSIER PASS SNOTEL	11400	2/01/89	---	8.1	9.7	8.8
HOOSIER PASS	11400	1/26/89	28	7.7	9.2	8.2
HORSESHOE MOUNTAIN	11400	1/27/89	29	6.4	5.9	6.9
HOURGLASS LAKE	9500	1/30/89	23	4.8	7.6	4.6
HUERFANO	10080	1/25/89	25	6.4	6.0	4.3
IDARADO SNOTEL	9800	2/01/89	---	9.8	5.0	8.9
IDARADO	9800	1/30/89	42	11.1	8.2	10.4
INDEPENDENCE PS SNTL	10600	2/01/89	---	8.9	8.7	9.7
INDEPENDENCE PASS	10600	1/27/89	35	7.7	8.3	10.1
IRONTON PARK	9600	1/30/89	40	11.1	7.8	9.3
IVANHOE	10400	1/30/89	36	6.2	10.2	11.1
JEFFERSON CREEK	10100	1/25/89	30	6.6	5.5	6.2
JOE WRIGHT SNOTEL	10000	2/01/89	---	10.7	13.4	13.7
JOE WRIGHT	10000	1/25/89	48	12.8	14.6	16.1
JONES PASS	10400	1/30/89	41	10.7	10.5	9.6
KEYSTONE	9950	1/31/89	40	13.3	11.3	13.8
LA MANGA	10120	1/25/89	52	11.1	9.9	13.1
KILN SNOTEL	9600	2/01/89	---	5.6	6.5	8.2
KILN	9600	1/30/89	26	5.5	6.8	7.8
LA PLATA	9340	1/25/89	50	12.1	12.8	12.
LA VETA PASS	9300	1/25/89	30	6.9	7.0	6.0
LAKE CITY	10200	1/26/89	27	5.1	4.5	5.1
LAKE ELDORA SNOTEL	10500	2/01/89	---	8.4	10.6	5.7
LAKE HUMPHREY	9200	1/28/89	40	6.0	2.9	5.0

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-8
LAKE IRENE SNOTEL	10600	2/01/89	---	13.8	17.0	15.3
LAPLAND	9300	1/31/89	26	6.1	8.2	6.7
LEMON RESERVOIR #1	8700	1/30/89	33	7.6	6.5	7.7
LEMON RESERVOIR #2	9500	1/30/89	40	9.1	7.4	9.4
LIFT	11250	1/27/89	38	10.8	10.8	11.3
LILY POND SNOTEL	10650	2/01/89	---	12.6	7.8	10.8
LIZARD HEAD	10300	1/26/89	49	11.4	9.0	10.9
LIZARD HD PS SNOTEL	10300	2/01/89	---	7.6	8.9	11.0
LIZARD HEAD PASS	10300	1/26/89	44	9.6	7.9	11.3
LONE CONE SNOTEL	9950	2/01/89	---	13.0	9.9	12.1
LONE CONE	9950	1/27/89	46	12.8	9.6	11.8
LONGS PEAK	10500	1/26/89	26	6.0	6.6	6.6
LOVELAND PASS	10800	1/31/89	34	8.3	7.7	9.7
LYNX PASS SNOTEL	8900	2/01/89	---	7.2	7.9	6.9
LYNX PASS	8900	1/25/89	36	7.4	6.9	7.8
MANCOS T-DOWN	10000	1/31/89	47	13.2	11.5	11.6
MC CLURE PASS SNOTEL	9500	2/01/89	---	11.2	9.9	12.2
MC CLURE PASS	9500	1/31/89	37	9.8	9.3	10.3
MCKENZIE GULCH	8500	1/30/89	23	4.6	4.0	4.2
MESA LAKES SNOTEL	10000	2/01/89	---	9.4	10.1	11.3
MESA LAKES	10000	1/26/89	43	10.8	11.4	11.1
MIDDLE CREEK SNOTEL	11250	2/01/89	---	12.2	10.2	12.6
MIDDLE CREEK	11250	1/30/89	59	15.5	12.9	16.1
MIDDLE FORK CAMPGRD	9000	1/26/89	24	4.7	7.0	6.4
MILNER PASS	10100	1/25/89	28	6.8	9.5	9.2
MINERAL CREEK SNOTEL	10300	2/01/89	---	9.6	8.7	8.7
MINERAL CREEK	10300	1/26/89	44	10.2	7.8	10.1
MOLAS LAKE SNOTEL	10500	2/01/89	---	11.5	12.0	8.9
MOLAS LAKE	10500	1/26/89	36	7.7	7.1	9.3
MONARCH OFFSHOOT	10500	1/27/89	28	5.9	9.1	6.8
MONARCH PASS	10500	1/27/89	34	7.1	10.5	11.1
MOSQUITO CREEK	11200	1/26/89	28	6.9	6.3	6.7
NAST LAKE SNOTEL	8700	2/01/89	---	3.9	4.5	3.9
NAST	8700	1/30/89	20	4.1	3.6	4.7
NAVAL OILSHALE SNOTL	8800	2/01/89	---	14.6	9.8	17.5
NIWOT SNOTEL	9910	2/01/89	---	7.1	8.1	5.6
NORTH INLET GRAND LK	9000	1/25/89	22	4.1	6.0	5.6
NORTH LOST TR SNOTEL	9200	2/01/89	---	10.5	9.8	9.8
NORTH LOST TRAIL	9200	1/31/89	35	8.7	8.4	10.4
NORTHGATE	8500	1/30/89	18	3.4	2.7	3.9
OPHIR LOOP	11100	1/25/89	41	9.6	9.7	10.5
PANDO	9500	1/30/89	19	3.4	4.4	5.9
PARK CONE SNOTEL	9600	2/01/89	---	6.5	4.8	6.5
PARK CONE	9600	1/30/89	29	6.7	4.9	6.6
PARK RESERV SNOTEL	9900	2/01/89	---	13.3	17.7	16.2
PARK RESERVOIR	9900	1/27/89	54	13.2	14.5	15.8
PARK VIEW	9200	1/30/89	25	5.5	5.8	5.9
PHANTOM VALLY SNOTEL	9050	2/01/89	---	5.4	7.4	5.9
PINE CREEK	7900	1/25/89	6	.7	3.3	1.5
PINOS MILL	10000	1/26/89	60	15.3	12.5	15.3
PLATORO	9950	1/25/89	47	11.7	8.0	11.3
POOL TABLE MOUNTAIN	10000	1/27/89	22	3.7	3.0	4.2
PORCUPINE	10400	1/27/89	35	7.0	4.2	7.2
PORPHYRY CK SNOTEL	10700	2/01/89	---	8.5	11.9	9.0
PORPHYRY CREEK	10700	1/27/89	37	8.0	10.9	11.1
RABBIT EARS SNOTEL	9550	2/01/89	---	13.7	13.8	16.9
RABBIT EARS	9550	1/24/89	51	13.6	15.0	16.6
RANCH CREEK	9400	1/27/89	28	6.0	8.9	6.2

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
RED MTN PASS SNOTEL	11200	2/01/89	---	13.9	13.4	13.0
RED MOUNTAIN PASS	11100	1/26/89	63	17.0	17.2	19.1
RICO	8700	1/26/89	30	5.9	4.5	6.0
RIO BLANCO	8500	1/31/89	34	8.8	9.8	9.5
RIPPLE CK PS SNOTEL	10340	2/01/89	---	12.9	17.1	15.9
RIVER SPRINGS	9300	1/31/89	25	4.5	4.4	4.6
ROACH SNOTEL	9400	2/01/89	---	8.0	11.4	11.4
ROACH	9400	1/29/89	34	6.8	11.3	11.6
SAINT ELMO	10400	1/30/89	33	6.1	5.6	6.8
SANTA MARIA	9700	1/27/89	25	4.3	2.8	3.5
SPUD MOUNTAIN SNOTEL	10700	2/01/89	---	18.8	16.8	16.1
SCOTCH CREEK SNOTEL	9100	2/01/89	---	8.2	7.3	4.8
SHRINE PASS	10700	1/30/89	38	10.0	10.7	10.6
SILVER LAKES	9600	1/31/89	30	7.2	4.0	4.1
SLUMGULLION SNOTEL	11550	2/01/89	---	8.1	8.2	8.9
SNAKE RIVER	9700	1/31/89	21	4.3	5.2	5.5
SOUTH COLONY	11140	1/27/89	57	13.1	13.4	13.2
SPRUCE CREEK	10880	1/30/89	37	6.9	5.2	5.2
SPUD MOUNTAIN SNOTEL	10700	2/01/89	---	18.8	18.8	16.1
SPUD MOUNTAIN	10700	1/26/89	58	14.2	13.1	15.6
STILLWATER CK SNOTEL	8720	2/01/89	---	3.9	4.4	5.7
STUMP LAKES SNOTEL	11200	2/01/89	---	10.0	11.9	12.2
SUMMIT RANCH SNOTEL	10000	2/01/89	---	5.5	6.8	7.4
SUNDANCE	11100	1/31/89	31	7.0	6.1	6.8
TELLURIDE	8600	1/25/89	34	7.0	4.7	5.6
TENNESSEE PASS	10200	1/31/89	25	5.2	5.2	6.4
TENNESSEE PASS #2	10280	1/31/89	30	6.2	6.4	8.8
TOWER SNOTEL	10000	2/01/89	---	28.2	29.3	29.3
TOWER	10000	1/23/89	79	28.0	28.4	33.3
TRAPPER LAKE SNOTEL	9700	2/01/89	---	11.5	14.1	13.7
TRINCHERA	11000	1/26/89	28	5.1	5.3	5.9
TROUT CREEK PASS	10050	1/27/89	19	3.7	3.3	3.4
TROUT LAKE #2	9700	1/25/89	39	8.4	7.5	9.3
TWIN LAKES TUNNEL	10100	1/27/89	28	7.4	6.6	6.7
TWO MILE	10500	1/26/89	26	6.1	8.1	8.7
UNIVERSITY CAMP SNTL	10300	2/01/89	---	9.4	9.8	8.9
UNIVERSITY CAMP	10300	1/31/89	35	10.1	6.7	10.3
UPPR RIO GRND SNOTEL	9350	2/01/89	---	3.6	2.4	--
UPPER RIO GRANDE	9350	1/25/89	30	5.1	4.4	5.8
UPPER SAN JUAN SNTL	10200	2/01/89	---	23.7	16.4	17.7
UPPER SAN JUAN	10200	1/31/89	84	24.3	19.1	20.8
UTE PASS	9550	1/31/89	29	6.4	7.8	7.7
VAIL MOUNTAIN SNOTEL	10200	2/01/89	---	9.9	12.4	14.2
VALLECITO SNOTEL	10800	2/01/89	---	12.0	8.2	12.4
VALLECITO	10800	1/30/89	51	13.5	11.3	12.3
VASQUEZ	9600	1/31/89	34	8.6	9.0	8.1
WARD	9500	1/26/89	14	2.4	3.9	3.7
W FK PARACHUTE SNTL	7800	2/01/89	---	2.2	2.4	--
WESTCLIFFE	9000	1/31/89	31	6.9	5.8	5.4
WESTON	9300	1/27/89	17	2.3	1.5	1.6
WHISKEY CREEK SNOTEL	10200	2/01/89	---	7.9	3.8	6.6
WILD BASIN	10000	1/27/89	22	5.0	5.0	7.4
WILLOW CK PS SNOTEL	9500	2/01/89	---	7.5	7.7	5.8
WILLOW CREEK PASS	9500	1/30/89	30	6.9	8.6	8.2
WILLOW PARK SNOTEL	10700	2/01/89	---	7.9	14.2	10.9
WOLF CK SUMMIT SNTL	11000	2/01/89	---	22.6	19.4	19.2
WOLF CREEK SUMMIT	11000	1/31/89	78	22.1	17.7	19.2
YAMPA VIEW	8200	1/24/89	34	8.4	11.2	10.5

U.S. DEPARTMENT OF AGRICULTURE
SNOW SURVEY UNIT
USDA, SOIL CONSERVATION SERVICE
DIAMOND HILL, BLDG. A, 3RD FLOOR
2490 WEST 26TH AVENUE
DENVER, CO 80211

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1313 SHERMAN STREET
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DENVER, CO 80203

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COLORADO WATER CONSERVATION BOARD

ADVANCE SNOW SURVEY INFORMATION

MARCH 1, 1989

REPORT RELEASED BY

Sheldon G. Boone
State Conservationist
Soil Conservation Service
2490 W. 26th Avenue
Denver, Colorado 80211

S N O W C O U R S E D A T A

MARCH 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
ALEXANDER LAKE	10000	2/23/89	68	19.7	18.3	18.5
ANTERO	9200	2/27/89	15	3.3	1.6	2.3
ANTERO RESERVOIR	9000	2/27/89	10	2.1	.0	--
APISHAPA SNOTEL	10000	3/01/89	---	14.5	7.8	6.0
APISHAPA	10000	2/28/89	30	8.9	6.5	6.5
ARROW SNOTEL	9900	3/01/89	---	11.0	15.5	10.1
ARROW	9900	2/24/89	44	11.1	15.6	11.1
BALTIMORE	8800	2/27/89	30	6.2	6.8	5.6
BEAR LAKE SNOTEL	9500	3/01/89	---	12.1	11.7	13.5
BEARTOWN SNOTEL	11600	3/01/89	---	23.7	18.9	15.8
BENNETT CREEK	9300	2/27/89	28	8.0	10.1	6.2
BERTHOUD FALLS	10500	2/27/89	48	10.2	10.2	11.3
BERTHOUD PASS	9700	2/27/89	60	13.7	16.4	13.3
BERTHOUD SUM SNOTEL	11300	3/01/89	---	15.4	16.2	13.1
BERTHOUD SUMMIT	11300	2/27/89	61	14.2	15.3	15.3
BIG MEADOWS	9360	2/24/89	64	21.2	8.6	12.6
BIG SOUTH	8600	2/24/89	15	3.4	4.8	1.9
BIGELOW DIVIDE	9350	2/27/89	35	9.1	7.8	5.5
BISON LAKE SNOTEL	10880	3/01/89	---	23.3	17.5	22.0
BISON RESERVOIR	10000	2/22/89	24	4.4	4.4	3.1
BLUE RIVER	10500	2/27/89	29	7.0	7.5	7.2
BOULDER FALLS	10000	2/27/89	36	10.4	9.3	9.6
BOURBON	9750	2/27/89	34	9.4	6.0	6.0
BROWN CABIN	9730	3/01/89	29	8.3	7.3	5.6
BRUMLEY SNOTEL	1060	3/01/89	---	8.0	7.0	7.5
BURRO MTN SNOTEL	9000	3/01/89	---	15.7	14.1	14.8
BURRO MOUNTAIN	9000	2/27/89	52	16.1	15.1	14.5
BUTTE SNOTEL	10000	3/01/89	---	11.4	9.5	12.9
BUTTE	10000	2/28/89	42	12.5	9.0	13.2
BUTTER HILL	7880	2/24/89	50	12.8	12.7	12.2
CAMERON PASS	10300	2/24/89	67	22.0	20.6	22.5
CASCADE SNOTEL	8850	3/01/89	---	17.5	7.1	9.0
CASCADE	8850	2/27/89	43	15.0	8.6	11.2
CATHEDRAL BLF SNOTEL	8500	3/01/89	---	22.2	14.5	16.2
CHAMBERS LAKE	9000	2/24/89	20	4.9	8.4	7.6
COCHETOPA PASS	10000	2/27/89	27	5.9	5.1	4.9

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLUMBINE SNOTEL	9300	3/01/89	---	21.4	21.8	19.1
COLUMBINE LODGE	9300	2/24/89	66	19.1	20.1	20.0
COLUMBINE PS SNOTEL	9400	3/01/89	---	15.9	12.5	13.1
COLUMBINE PASS	9400	2/27/89	49	15.8	12.9	17.1
COMO	10370	2/27/89	29	7.5	4.7	5.5
COPELAND LAKE SNOTEL	8600	3/01/89	---	4.1	4.8	3.3
COPELAND LAKE	8600	2/25/89	17	4.2	4.3	3.9
COPPER MTN SNOTEL	10450	3/01/89	---	9.1	10.2	10.7
CRESTED BUTTE	8900	2/28/89	45	12.6	10.6	11.8
CROSHO SNOTEL	9500	3/01/89	---	10.1	10.5	11.3
CUCHARAS CREEK	9700	2/28/89	34	9.9	7.0	7.3
CULEBRA #2 SNOTEL	10000	3/01/89	---	14.4	9.5	8.7
CULEBRA	10000	3/01/89	41	10.5	8.4	7.8
CUMBRES PASS	10000	2/22/89	75	24.5	17.0	17.9
CUMBRES TRESTLE SNTL	10000	3/01/89	---	20.4	21.6	22.3
CUMBRES TRESTLE	10000	2/22/89	87	27.0	21.8	22.7
DEADMAN HILL SNOTEL	10200	3/01/89	---	12.2	12.5	14.1
DEADMAN HILL	10200	2/27/89	46	11.3	11.8	13.0
DEER RIDGE	9050	3/01/89	17	5.8	5.9	4.2
DRY LAKE SNOTEL	8200	3/01/89	---	19.0	22.9	19.8
DRY LAKE	8200	2/23/89	62	17.0	16.2	17.5
EL DIENTE PK SNOTEL	10000	3/01/89	---	15.5	9.5	17.1
ELEVEN MILE	8590	2/27/89	6	1.5	.8	1.2
ELK RIVER SNOTEL	8600	3/01/89	---	14.9	19.0	14.7
ELK RIVER #2	8600	2/28/89	49	14.6	15.0	15.3
ELKHORN	8480	2/24/89	73	20.3	21.6	20.5
EMPIRE	9700	2/27/89	30	5.7	6.0	5.9
FOUR MILE PARK	9700	2/27/89	31	7.0	4.6	5.1
FREMONT PASS SNOTEL	11400	3/01/89	---	10.9	13.7	13.4
FREMONT PASS	11400	2/28/89	43	10.7	13.1	12.6
GENEVA PARK	9750	2/28/89	19	3.9	2.3	3.2
GLEN MAR RANCH	8850	2/27/89	35	7.2	7.7	7.4
GORE PASS	8900	2/24/89	38	10.1	9.4	8.8
GRANBY	8700	2/23/89	28	6.4	6.0	6.5
GRAND LAKE	8600	2/25/89	30	8.3	7.6	7.6
GRAYBACK	11000	2/23/89	54	17.2	8.6	12.9
GRIZZLY PEAK SNOTEL	11100	3/01/89	---	9.4	13.7	13.6
GRIZZLY PEAK	11100	3/01/89	53	15.0	13.9	14.3
GROUNDHOG	8920	2/26/89	40	12.9	11.9	12.1
HAGERMAN TNL SNOTEL	11150	3/01/89	---	23.7	18.0	19.3
HAGERMAN TUNNEL	11150	3/01/89	52	15.2E	16.6	19.0
HAHN'S PEAK	8500	2/28/89	40	11.1	13.2	12.5
HIDDEN VALLEY	8480	3/01/89	31	7.8	8.1	7.8
HIWAY	10700	2/23/89	92	29.3	15.8	20.8
HOOSIER PASS SNOTEL	11400	3/01/89	---	10.4	11.6	11.1
HOOSIER PASS	11400	2/27/89	36	9.8	10.5	10.3
HORSESHOE MOUNTAIN	11400	2/22/89	34	8.0	7.6	8.6
HOURGLASS LAKE	9500	2/27/89	32	9.8	10.5	5.8
HUERFANO	10080	2/23/89	32	9.2	7.7	6.1
IDARADO SNOTEL	9800	3/01/89	---	14.2	6.1	12.7
IDARADO	9800	2/27/89	49	13.6	8.4	13.0
INDEPENDENCE PS SNTL	10600	3/01/89	---	12.9	10.6	13.5
INDEPENDENCE PASS	10600	2/23/89	53	12.8	11.0	13.3
IRONTON PARK	9600	2/27/89	41	12.3	8.2	12.4
IVANHOE	10400	2/27/89	50	12.4	13.0	14.6
JEFFERSON CREEK	10100	2/28/89	36	9.3	5.8	7.6

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
JOE WRIGHT SNOTEL	10000	3/01/89	---	15.0	17.7	16.7
JOE WRIGHT	10000	2/24/89	66	20.4	20.5	19.9
JONES PASS	10400	2/27/89	50	12.8	15.2	12.6
KEYSTONE	9950	2/28/89	55	19.0	15.5	17.7
KILN SNOTEL	9600	3/01/89	---	8.8	8.1	10.2
KILN	9600	2/27/89	38	8.7	8.9	10.3
LA MANGA	10120	2/22/89	75	23.4	12.5	16.7
LA PLATA	9340	2/28/89	46	16.4	13.0	17.2
LA VETA PASS	9300	2/28/89	45	13.9	10.2	7.9
LAKE CITY	10200	2/24/89	29	7.5	5.2	6.3
LAKE ELDORA SNOTEL	10500	3/01/89	---	11.9	8.9	7.5
LAKE HUMPHREY	9200	2/22/89	38	9.2	4.0	6.0
LAKE IRENE SNOTEL	10600	3/01/89	---	27.0	23.3	18.6
LAKE IRENE	10600	3/01/89	62	16.8E	18.7	17.7
LAPLAND	9300	2/28/89	40	9.1	8.7	8.6
LEMON RESERVOIR #1	8700	2/28/89	34	10.3	7.0	9.5
LEMON RESERVOIR #2	9500	2/28/89	40	12.8	8.0	12.6
LIFT	11250	2/25/89	53	15.2	13.2	14.1
LILY POND SNOTEL	10650	3/01/89	---	21.3	10.1	14.4
LIZARD HEAD	10300	2/23/89	57	15.8	10.3	14.4
LIZARD HD PS SNOTEL	10300	3/01/89	---	12.1	6.1	15.4
LIZARD HEAD PASS	10300	2/23/89	50	13.1	9.2	--
LONE CONE SNOTEL	9950	3/01/89	---	18.7	10.8	14.6
LONE CONE	9950	2/28/89	54	17.0	10.9	14.8
LONGS PEAK	10500	2/21/89	35	8.7	7.0	8.3
LOVE LAKE	10000	2/24/89	43	12.6	6.8	7.6
LOVELAND PASS	10800	3/01/89	47	12.0	13.4	12.7
LYNX PASS SNOTEL	8900	3/01/89	---	12.1	10.8	9.4
LYNX PASS	8900	2/24/89	44	11.0	10.3	10.3
MANCOS T-DOWN	10000	2/27/89	48	16.9	12.9	17.1
MC CLURE PASS SNOTEL	9500	3/01/89	---	13.0	11.6	16.8
MC CLURE PASS	9500	2/28/89	46	13.3	11.9	13.3
MCKENZIE GULCH	8500	2/24/89	29	7.8	5.2	5.4
MESA LAKES SNOTEL	10000	3/01/89	---	14.1	11.4	13.6
MESA LAKES	10000	2/23/89	60	15.1	13.0	14.3
MIDDLE CREEK SNOTEL	11250	3/01/89	---	16.9	11.4	15.6
MIDDLE CREEK	11250	2/24/89	69	23.7	14.8	19.0
MIDDLE FORK CAMPGRD	9000	2/27/89	36	7.8	8.7	8.4
MILNER PASS	10100	2/25/89	38	10.4	12.7	11.7
MINERAL CREEK SNOTEL	10300	3/01/89	---	15.3	10.0	10.4
MINERAL CREEK	10300	2/27/89	48	14.9	9.2	13.1
MOLAS LAKE SNOTEL	10500	3/01/89	---	21.8	14.1	11.1
MOLAS LAKE	10500	2/27/89	43	12.9	8.5	11.5
MONARCH OFFSHOOT	10500	2/24/89	39	9.4	11.1	9.2
MONARCH PASS	10500	2/24/89	46	11.6	12.7	14.2
MOSQUITO CREEK	11200	2/27/89	32	7.4	7.7	8.3
NAST LAKE SNOTEL	8700	3/01/89	---	6.6	5.7	5.4
NAST	8700	2/27/89	27	6.4	5.3	6.0
NAVAL OILSHALE SNOTL	8800	3/01/89	---	23.7	13.7	20.9
NIWOT SNOTEL	9910	3/01/89	---	9.3	9.9	8.4
NORTH INLET GRAND LK	9000	2/25/89	27	7.2	7.2	7.6
NORTH LOST TR SNOTEL	9200	3/01/89	---	16.8	12.6	13.5
NORTH LOST TRAIL	9200	2/28/89	46	12.7	10.9	13.3
NORTHGATE	8500	2/28/89	24	5.5	5.1	5.2
OPHIR LOOP	11100	2/22/89	62	14.1	11.1	13.0
PANDO	9500	2/24/89	26	5.8	6.5	7.8

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
PARK CONE SNOTEL	9600	3/01/89	---	9.6	5.8	9.8
PARK CONE	9600	2/27/89	36	9.3	6.2	8.7
PARK RESERV SNOTEL	9900	3/01/89	---	22.2	19.7	19.4
PARK RESERVOIR	9900	2/24/89	77	22.3	17.2	20.6
PARK VIEW	9200	2/27/89	30	8.0	7.0	7.6
PHANTOM VALLY SNOTEL	9050	3/01/89	---	7.9	10.0	8.3
PINE CREEK	7900	2/24/89	16	3.6	3.9	1.7
PINOS MILL	10000	2/28/89	84	28.1	18.6	20.3
PLATORO	9950	2/28/89	57	18.5	8.0	14.2
POOL TABLE MOUNTAIN	10000	2/22/89	27	5.8	3.1	5.0
PORCUPINE	10400	2/26/89	39	9.3	5.1	8.3
PORPHYRY CK SNOTEL	10700	3/01/89	---	11.8	13.7	11.7
PORPHYRY CREEK	10700	2/24/89	50	12.4	12.9	14.1
RABBIT EARS SNOTEL	9550	3/01/89	---	19.1	18.8	22.1
RABBIT EARS	9550	2/24/89	78	21.2	20.5	21.9
RANCH CREEK	9400	2/24/89	37	8.7	12.3	8.4
RED MTN PASS SNOTEL	11200	3/01/89	---	21.9	16.2	16.9
RED MOUNTAIN PASS	11100	2/27/89	78	25.3	20.7	24.5
RICO	8700	2/23/89	32	8.9	4.2	7.5
RIO BLANCO	8500	2/27/89	42	11.6	13.6	12.5
RIPPLE CK PS SNOTEL	10340	3/01/89	---	17.4	23.6	20.2
RIVER SPRINGS	9300	2/28/89	32	9.6	5.3	5.6
ROACH SNOTEL	9400	3/01/89	---	10.9	14.0	14.2
ROACH	9400	2/25/89	41	9.5	15.9	14.7
SAINT ELMO	10400	2/27/89	41	9.8	7.4	9.4
SANTA MARIA	9700	2/25/89	27	5.5	3.5	4.3
SCHOFIELD PS SNOTEL	10700	3/01/89	---	28.8	23.5	35.2
SCOTCH CREEK SNOTEL	9100	3/01/89	---	11.8	7.7	6.7
SHRINE PASS	10700	2/24/89	53	15.1	14.7	14.1
SILVER LAKES	9600	2/28/89	32	9.1	5.1	5.5
SLUMGULLION SNOTEL	11550	3/01/89	---	9.8	9.4	10.7
SNAKE RIVER	9700	3/01/89	26	5.5	7.2	6.9
SOUTH COLONY	11140	2/27/89	65	22.6	15.2	18.3
SPRUCE CREEK	10880	2/28/89	41	10.5	5.8	6.3
SPUD MOUNTAIN SNOTEL	10700	3/01/89	---	29.4	21.7	20.9
SPUD MOUNTAIN	10700	2/27/89	66	23.1	15.6	20.0
STILLWATER CK SNOTEL	8720	3/01/89	---	6.7	6.2	8.0
STUMP LAKES SNOTEL	11200	3/01/89	---	14.8	12.9	14.9
SUMMIT RANCH SNOTEL	10000	3/01/89	---	6.9	8.4	9.0
SUNDANCE	11100	2/28/89	41	10.9	8.2	6.7
TELLURIDE	8600	2/22/89	41	9.4	5.7	7.5
TENNESSEE PASS	10200	2/28/89	32	7.9	7.4	8.2
TENNESSEE PASS #2	10280	2/28/89	38	8.5	8.8	10.7
TOWER SNOTEL	10000	3/01/89	---	35.9	38.7	34.6
TOWER	10000	2/23/89	114	35.8	39.2	41.7
TRAPPER LAKE SNOTEL	9700	3/01/89	---	15.5	17.5	17.4
TRINCHERA	11000	3/01/89	34	9.7	6.9	7.0
TROUT CREEK PASS	10050	2/22/89	24	5.5	3.9	4.0
TROUT LAKE #2	9700	2/22/89	52	12.2	9.0	12.5
TWIN LAKES TUNNEL	10100	2/23/89	39	9.6	8.3	8.9
TWO MILE	10500	3/01/89	37	9.0	11.2	11.0
UNIVERSITY CAMP SNTL	10300	3/01/89	---	12.6	12.8	11.6
UNIVERSITY CAMP	10300	2/27/89	44	13.9	12.5	13.6
UPPR RIO GRND SNOTEL	9350	3/01/89	---	8.3	2.7	--
UPPER RIO GRANDE	9350	2/25/89	36	9.5	5.6	7.4
UPPER SAN JUAN SNTL	10200	3/01/89	---	37.1	20.7	21.6
UPPER SAN JUAN	10200	2/23/89	114	36.3	22.5	26.4

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
VAIL MOUNTAIN SNOTEL	10200	3/01/89	---	14.0	15.2	16.4
VALLECITO SNOTEL	10800	3/01/89	---	21.0	9.8	15.2
VALLECITO	10800	2/28/89	59	21.1	13.5	15.3
VASQUEZ	9600	2/28/89	49	11.0	12.5	10.5
WARD	9500	2/21/89	25	5.0	5.9	4.6
W FK PARACHUTE SNTL	7800	3/01/89	---	4.4	3.2	--
WESTCLIFFE	9000	2/27/89	34	11.0	6.8	6.4
WESTON	9300	2/27/89	20	3.9	3.3	1.7
WHISKEY CREEK SNOTEL	10200	3/01/89	---	1.1	5.5	8.1
WILD BASIN	10000	2/25/89	28	7.0	6.5	9.1
WILLOW CK PS SNOTEL	9500	3/01/89	---	10.6	9.5	7.2
WILLOW CREEK PASS	9500	2/27/89	38	10.3	10.8	10.4
WILLOW PARK SNOTEL	10700	3/01/89	---	12.7	18.0	13.5
WOLF CK SUMMIT SNTL	11000	3/01/89	---	34.1	22.3	24.2
WOLF CREEK SUMMIT	11000	2/23/89	101	32.2	19.5	24.2
YAMPA VIEW	8200	2/24/89	44	13.1	13.4	13.4

U.S. DEPARTMENT OF AGRICULTURE
SNOW SURVEY UNIT
USDA, SOIL CONSERVATION SERVICE
DIAMOND HILL BLDG. A, 3RD FLOOR
3480 WEST 35TH AVENUE
DENVER, CO 80211

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DIRECTOR
COLO WTR CONS BOARD
712 STATE CENTENNIAL BUILDING

DENVER, CO 80203

JANUARY

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Sheldon G. Boone
State Conservationist
Soil Conservation Service
2490 W. 26th Avenue
Denver, Colorado 80211

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLORADO						
APISHAPA SNOTEL	10000	1/01/89	---	6.8	2.5	3.0
APISHAPA	10000	12/29/88	19	3.8	4.2	3.8
ARROW SNOTEL	9900	1/01/89	---	5.8	7.4	6.5
ARROW	9900	12/30/88	28	5.9	6.5	5.7
BEAR LAKE SNOTEL	9500	1/01/89	---	5.6	6.1	5.9
BEARTOWN SNOTEL	11600	1/01/89	---	10.8	11.6	12.0
BERTHOUD SUM SNOTEL	11300	1/01/89	---	8.9	8.5	7.8
BERTHOUD SUMMIT	11300	12/30/88	36	9.0	8.6	8.0
BISON LAKE SNOTEL	10880	1/01/89	---	12.2	6.8	14.6
BOULDER FALLS	10000	12/28/88	23	5.3	4.3	5.1
BRUMLEY SNOTEL	10600	1/01/89	---	4.0	3.2	3.9
BURRO MTN SNOTEL	9000	1/01/89	---	8.3	4.9	7.8
BUTTE SNOTEL	10000	1/01/89	---	5.6	3.2	6.6
BUTTE	10000	12/29/88	29	6.2	3.5	7.6
CAMERON PASS	10300	12/29/88	35	9.0	8.6	11.2
CASCADE SNOTEL	8850	1/01/89	---	7.6	1.9	5.2
CASCADE	8850	1/03/89	28	6.5	3.1	6.6
CATHEDRAL BLF SNOTEL	8500	1/01/89	---	4.0	4.4	8.9
COLUMBINE SNOTEL	9300	1/01/89	---	11.5	8.5	9.4
COLUMBINE LODGE	9300	12/28/88	47	11.6	6.2	9.3
COLUMBINE PS SNOTEL	9400	1/01/89	---	7.6	6.8	6.7
COPELAND LAKE SNOTEL	8600	1/01/89	---	2.0	3.0	1.1
COPPER MTN SNOTEL	10450	1/01/89	---	5.3	4.5	5.9
CROSHO SNOTEL	9500	1/01/89	---	5.7	3.2	5.8
CULEBRA #2 SNOTEL	10000	1/01/89	---	6.9	6.2	4.9
CUMBRES PASS	10000	12/28/88	43	9.0	6.4	12.4
CUMBRES TRESTLE SNTL	10000	1/01/89	---	11.5	7.6	10.7
CUMBRES TRESTLE	10000	12/28/88	51	10.4	8.4	15.6
DEADMAN HILL SNOTEL	10200	1/01/89	---	6.2	7.1	6.1
DRY LAKE SNOTEL	8200	1/01/89	---	9.7	9.5	8.9
DRY LAKE	8200	12/27/88	39	8.7	7.6	9.4
EL DIENTE PK SNOTEL	10000	1/01/89	---	7.5	3.2	8.3
ELK RIVER SNOTEL	8600	1/01/89	---	7.7	7.2	7.4
FREMONT PASS SNOTEL	11400	1/01/89	---	7.3	7.2	7.1
FREMONT PASS	11400	12/29/88	30	6.1	6.9	6.4
GRIZZLY PEAK	11100	12/29/88	31	7.0	6.9	8.3
HAGERMAN TNL SNOTEL	11150	1/01/89	---	12.0	5.9	9.4
HOOSIER PASS SNOTEL	11400	1/01/89	---	6.6	6.2	6.8
HOOSIER PASS	11400	12/29/88	22	6.0	5.9	6.9
IDARADO SNOTEL	9800	1/01/89	---	8.1	2.8	5.3

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-[illegible]
IDARADO	9800	1/03/89	37	8.5	4.0	7.8
INDEPENDENCE PS SNTL	10600	1/01/89	---	7.2	5.5	6.6
INDEPENDENCE PASS	10600	12/30/88	33	7.6	5.0	8.1
JOE WRIGHT SNOTEL	10000	1/01/89	---	7.8	9.1	10.7
JOE WRIGHT	10000	12/29/88	38	9.3	10.0	10.7
KILN SNOTEL	9600	1/01/89	---	4.2	3.3	4.9
LA VETA PASS	9300	12/29/88	23	5.2	6.2	4.4
LAKE ELDORA SNOTEL	10500	1/01/89	---	6.5	5.9	4.7
LAKE IRENE SNOTEL	10600	1/01/89	---	10.6	10.6	10.6
LAPLAND	9300	12/28/88	26	5.6	3.8	4.2
LILY POND SNOTEL	10650	1/01/89	---	8.7	6.1	7.7
LIZARD HEAD	10300	12/29/88	42	8.2	5.3	8.3
LIZARD HD PS SNOTEL	10300	1/01/89	---	5.2	5.3	7.4
LIZARD HEAD PASS	10300	12/29/88	39	7.1	4.6	9.9
LONE CONE SNOTEL	9950	1/01/89	---	9.8	4.2	6.7
LYNX PASS SNOTEL	8900	1/01/89	---	5.9	3.7	5.5
LYNX PASS	8900	12/28/88	31	5.4	2.6	5.9
MC CLURE PASS SNOTEL	9500	1/01/89	---	7.5	4.8	6.7
MC CLURE PASS	9500	12/29/88	34	6.2	4.5	6.3
MESA LAKES SNOTEL	10000	1/01/89	---	7.1	6.5	7.9
MESA LAKES	10000	12/29/88	34	7.7	6.8	7.6
MIDDLE CREEK SNOTEL	11250	1/01/89	---	8.3	7.6	11.2
MINERAL CREEK SNOTEL	10300	1/01/89	---	7.1	5.8	7.1
MINERAL CREEK	10300	1/03/89	35	8.5	3.7	7.4
MOLAS LAKE SNOTEL	10500	1/01/89	---	8.0	6.9	7.[illegible]
NAST LAKE SNOTEL	8700	1/01/89	---	2.7	1.7	2.
NAVAL OILSHALE SNOTL	8800	1/01/89	---	8.7	2.9	14.7
NIWOT SNOTEL	9910	1/01/89	---	5.1	5.8	4.1
NORTH LOST TR SNOTEL	9200	1/01/89	---	7.3	4.1	5.4
PARK CONE SNOTEL	9600	1/01/89	---	4.7	1.5	3.5
PARK CONE	9600	12/29/88	26	4.4	2.0	5.0
PARK RESERV SNOTEL	9900	1/01/89	---	9.8	10.4	11.3
PARK RESERVOIR	9900	12/29/88	46	10.3	9.1	11.0
PARK VIEW	9200	12/29/88	20	3.5	4.0	3.5
PHANTOM VALLY SNOTEL	9050	1/01/89	---	4.5	4.4	4.2
PORPHYRY CK SNOTEL	10700	1/01/89	---	6.1	7.4	6.9
PORPHYRY CREEK	10700	1/03/89	30	6.5	5.4	7.3
RABBIT EARS SNOTEL	9550	1/01/89	---	10.2	7.1	10.6
RABBIT EARS	9550	12/28/88	44	11.1	10.0	12.1
RED MTN PASS SNOTEL	11200	1/01/89	---	10.3	8.0	8.8
RED MOUNTAIN PASS	11100	1/03/89	49	12.7	11.7	13.9
RIPPLE CK PS SNOTEL	10340	1/01/89	---	9.5	7.6	10.6
ROACH SNOTEL	9400	1/01/89	---	5.5	7.2	7.2
SPUD MOUNTAIN SNOTEL	10700	1/01/89	---	12.7	10.7	11.5
SCOTCH CREEK SNOTEL	9100	1/01/89	---	5.3	3.5	3.2
SLUMGULLION SNOTEL	11550	1/01/89	---	6.0	6.1	5.9
SPUD MOUNTAIN SNOTEL	10700	1/01/89	---	12.7	10.7	11.5
SPUD MOUNTAIN	10700	1/03/89	40	10.3	8.1	11.1
STILLWATER CK SNOTEL	8720	1/01/89	---	2.7	2.1	4.0
STUMP LAKES SNOTEL	11200	1/01/89	---	6.9	8.5	10.9
SUMMIT RANCH SNOTEL	10000	1/01/89	---	4.6	4.4	6.[illegible]
TENNESSEE PASS	10200	12/29/88	24	4.2	3.1	4.
TENNESSEE PASS #2	10280	12/29/88	28	5.1	3.9	6.3
TOWER SNOTEL	10000	1/01/89	---	22.6	17.0	16.7

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
TOWER	10000	12/27/88	82	21.4	--	19.4
TRAPPER LAKE SNOTEL	9700	1/01/89	---	8.1	8.1	9.2
TWIN LAKES TUNNEL	10100	12/30/88	27	6.6	4.2	5.8
TWO MILE	10500	1/04/89	22	4.9	6.0	6.3
UNIVERSITY CAMP SNTL	10300	1/01/89	---	7.2	6.5	7.0
UNIVERSITY CAMP	10300	12/28/88	25	6.8	6.0	6.9
UPPR RIO GRND SNOTEL	9350	1/01/89	---	1.5	2.8	--
UPPER SAN JUAN SNTL	10200	1/01/89	---	16.4	9.8	15.9
UPPER SAN JUAN	10200	12/23/88	52	10.5	10.2	13.7
UTE PASS	9550	1/03/89	22	4.0	3.6	5.4
VAIL MOUNTAIN SNOTEL	10200	1/01/89	---	7.2	7.5	10.2
VALLECITO SNOTEL	10800	1/01/89	---	7.4	5.1	11.2
W FK PARACHUTE SNTL	7800	1/01/89	---	1.7	2.3	4.1
WHISKEY CREEK SNOTEL	10200	1/01/89	---	5.9	2.1	3.7
WILLOW CK PS SNOTEL	9500	1/01/89	---	5.4	5.2	4.3
WILLOW CREEK PASS	9500	12/29/88	24	4.8	4.3	5.1
WILLOW PARK SNOTEL	10700	1/01/89	---	6.3	11.6	7.2
WILLOW PARK	10700	12/24/88	28	5.6	--	9.7
WOLF CK SUMMIT SNTL	11000	1/01/89	---	15.9	13.4	13.6
WOLF CREEK SUMMIT	11000	12/23/88	48	10.0	12.3	13.6

U.S. DEPARTMENT OF AGRICULTURE
SNOW SURVEY UNIT
USDA, SOIL CONSERVATION SERVICE
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United States
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Soil
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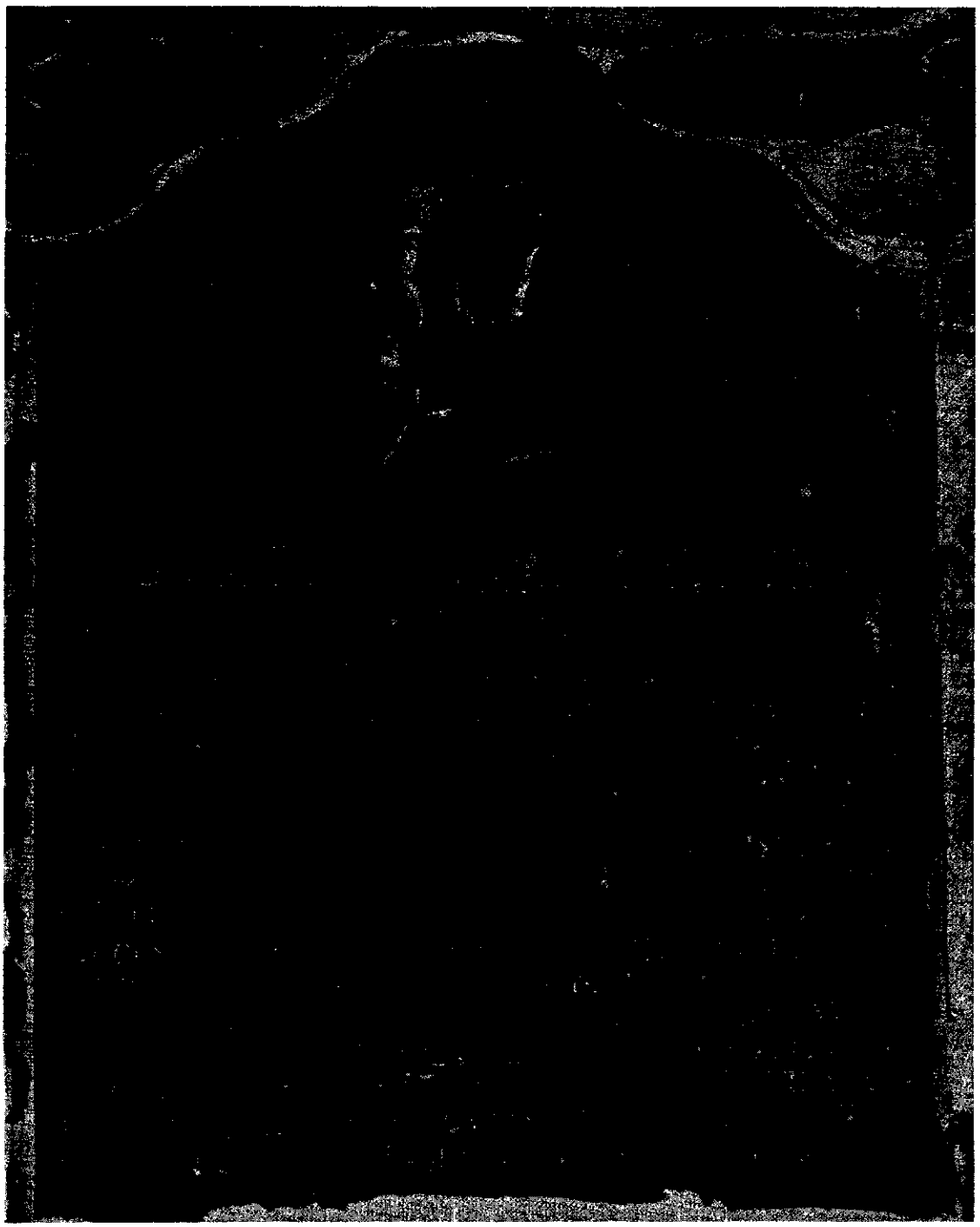
Service

Colorado Water Supply Outlook

January 1, 1989



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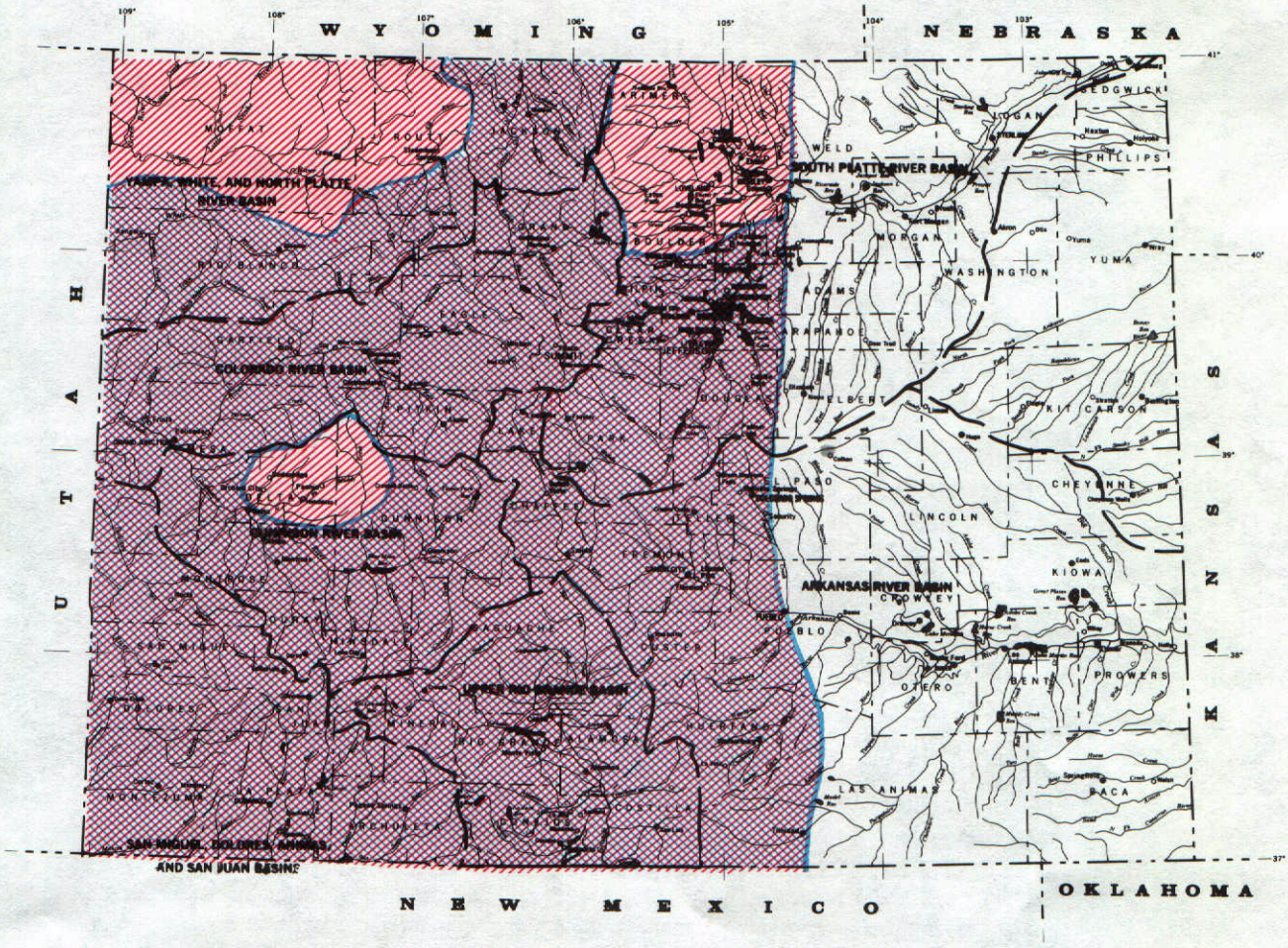
U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE



LEGEND

SPRING AND SUMMER PERIOD

- MUCH ABOVE AVERAGE
- ABOVE AVERAGE
- NEAR AVERAGE
- BELOW AVERAGE
- MUCH BELOW AVERAGE
- NOT FORECAST
- BASIN BOUNDARY

STREAMFLOW PROSPECTS
COLORADO

N

0 25 50 75 100 MI

0 50 100 150 KM

1

SOURCE: Data compiled by SCS Field Personnel.

REVISED JANUARY 1987 4-R-39356

GENERAL OUTLOOK

SUMMARY

AFTER A DRY SUMMER AND FALL, WITH ABOVE NORMAL TEMPERATURES, WATER SUPPLY CONDITIONS HAVE FAIRED WELL. SEVERAL MAJOR WINTER STORMS HAVE BROUGHT ENOUGH MOISTURE TO THE STATE TO BRING SNOWPACK AND PRECIPITATION LEVELS TO THE SLIGHTLY BELOW NORMAL MARK. WATER STORED IN THE STATE'S MAJOR RESERVOIRS CONTINUES TO BE ABOVE AVERAGE, EVEN AFTER A FAIRLY DRY WATER YEAR IN 1988. ASSUMING THAT NEAR NORMAL WEATHER CONDITIONS PREVAIL DURING THE REMAINDER OF THE WINTER SEASON, WATER SUPPLIES SHOULD BE ADEQUATE FOR MOST LOCATIONS IN THE STATE.

SNOWPACK

COLORADO'S FIRST SNOW SURVEYS OF 1989 INDICATE THAT THE SNOWPACK IS 94% OF AVERAGE. ALTHOUGH SLIGHTLY BELOW THE LONG-TERM AVERAGE, THE CURRENT READINGS ARE 21% ABOVE LAST YEAR'S READINGS ON JANUARY 1. WITH WARM AND DRY FALL WEATHER CONDITIONS, SNOW ACCUMULATIONS AT HIGHER ELEVATIONS DID NOT OCCUR UNTIL MID-NOVEMBER. SINCE THAT TIME, SNOWFALL HAS BEEN ABOVE NORMAL THROUGHOUT MOST OF THE STATE. THE HIGHEST SNOWPACK READINGS IN COLORADO WERE TAKEN IN THE SOUTHERN TRIBUTARIES OF THE ARKANSAS BASIN AND FRONT RANGE TRIBUTARIES OF THE SOUTH PLATTE RIVER. ALL OF THESE AREAS HAVE ABOVE AVERAGE SNOWPACK FIGURES. THE LOWEST SNOWPACK MEASUREMENTS WERE TAKEN IN PORTIONS OF THE RIO GRANDE AND SAN JUAN BASINS OF SOUTHERN COLORADO. THESE LOCATIONS HAVE READINGS IN THE 70-85% OF AVERAGE RANGE. THE REMAINDER OF THE STATE'S SNOWPACK READINGS SHOW NEAR AVERAGE ACCUMULATIONS AT THIS TIME OF YEAR.

PRECIPITATION

PRECIPITATION RECEIVED AT LOWER ELEVATIONS HAS BEEN VARIABLE DURING THE OCTOBER THROUGH DECEMBER PERIOD IN COLORADO. CURRENTLY, THE ONLY BASIN REPORTING ABOVE NORMAL AMOUNTS IS THE RIO GRANDE BASIN. THE LOWEST SEASONAL ACCUMULATIONS HAVE BEEN RECEIVED IN THE ARKANSAS AND SOUTH PLATTE BASINS, WITH MOST STATIONS REPORTING LESS THAN 70% OF THE SEASONAL AVERAGE. PRECIPITATION DURING THE MONTH OF DECEMBER WAS AVERAGE TO ABOVE AVERAGE FOR ALL BASINS EXCEPT THE COLORADO AND ARKANSAS BASINS.

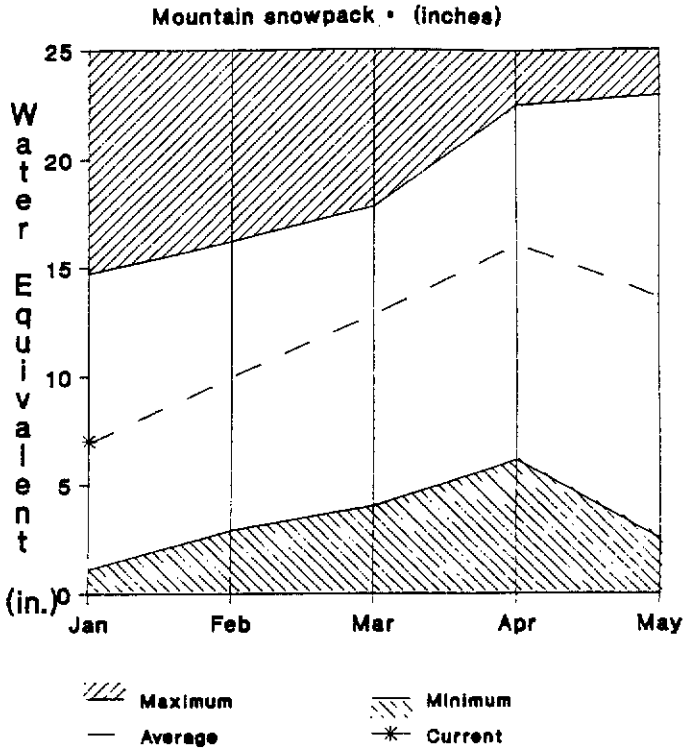
RESERVOIR

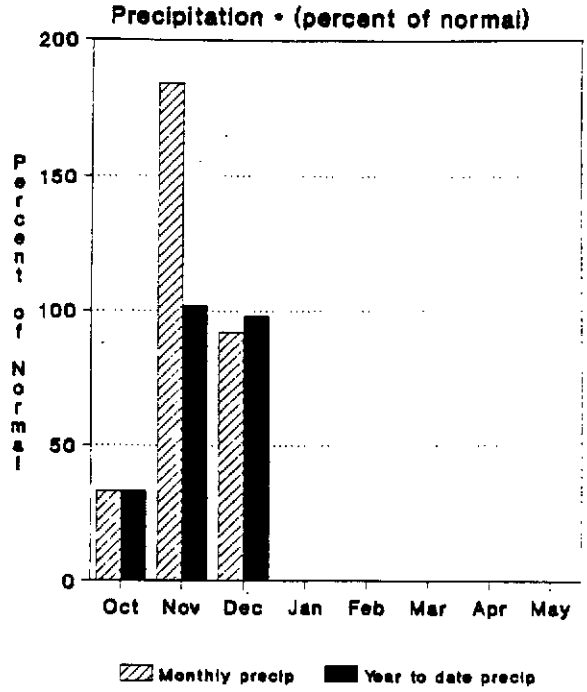
WATER STORAGE IN THE STATE'S MAJOR RESERVOIRS IS REPORTED TO BE 114% OF AVERAGE. THESE AMOUNTS ARE 89% OF THE STORAGE LEVELS OF LAST YEAR. ALL OF THE STATE'S MAJOR DRAINAGE BASINS ARE REPORTING ABOVE NORMAL STORAGE LEVELS, WITH THE EXCEPTION OF THE GUNNISON BASIN WHICH IS 99% OF AVERAGE. THE HIGHEST AMOUNTS, AS A PERCENT OF NORMAL, ARE IN THE ARKANSAS AND RIO GRANDE BASINS WHICH ARE MORE THAN 150% OF THE 25 YEAR AVERAGE.

STREAMFLOW

FORECASTED STREAMFLOW VOLUMES IN COLORADO ARE GENERALLY NEAR AVERAGE THROUGHOUT THE STATE. THE HIGHEST FORECASTED FLOWS ARE IN THE SOUTHERN MOUNTAINS. TRIBUTARIES TO THE ARKANSAS AND RIO GRANDE RIVERS IN THE SOUTHERN SANGRE DE CRISTO MOUNTAINS HAVE THE HIGHEST EXPECTED VOLUMES AT 100-110% OF AVERAGE. THE REMAINDER OF THE STATE IS EXPECTED TO HAVE SLIGHTLY BELOW NORMAL VOLUMES WHICH RANGE FROM 85-100% OF AVERAGE. ALL FORECASTS ASSUME THAT AVERAGE WEATHER CONDITIONS WILL PREVAIL THROUGHOUT THE REMAINING WINTER MONTHS.

Gunnison River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

SNOWPACK IN THE GUNNISON BASIN IS ONLY SLIGHTLY BELOW NORMAL FOR JANUARY 1. THE BASINWIDE STATISTICS SHOW THE SNOWPACK AT 95% OF AVERAGE, AND 126% OF LAST YEAR'S READINGS. FALL PRECIPITATION HAS RANGED FROM VERY DRY IN OCTOBER, TO ABOVE AVERAGE IN NOVEMBER, BRINGING SEASONAL TOTALS TO NEAR AVERAGE. STREAMFLOW FORECASTS ARE SLIGHTLY BELOW AVERAGE ON THE MAIN STEM AND NEAR AVERAGE ON THE UNCOMPAHGRE. THE LOWEST VOLUMES, AS A PERCENT OF NORMAL, SHOULD BE ON THE NORTH FORK OF THE GUNNISON, AND IN THE SURFACE CREEK DRAINAGE.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
TAYLOR RIVER blw Taylor Park Res 2	APR-SEP	115	97			155	90	118
EAST RIVER at Almont	APR-SEP	200	95			275	145	210
GUNNISON R INFLOW to Blue Mesa Res 2	APR-SEP	800	97	950	650	1110	560	821
MUDDY CREEK inf to Paonia Res	APR-JUL	78	64	94	74	122	47	121
N.F. GUNNISON RIVER nr Somerset 2	APR-SEP	285	84	310	220	380	152	314
SURFACE CREEK at Cedaredge	APR-SEP	16.3	84	18.4	14.0	24	8.4	19.3
UNCOMPAHGRE RIVER inf to Ridgway Res	APR-JUL	100	102	113	83	124	76	98
UNCOMPAHGRE RIVER at Colona 2	APR-SEP	160	103	185	127	205	117	155
GUNNISON RIVER nr Grand Junction 2	APR-SEP	1350	96	1760	955	2070	830	1405

RESERVOIR STORAGE (1000AF)

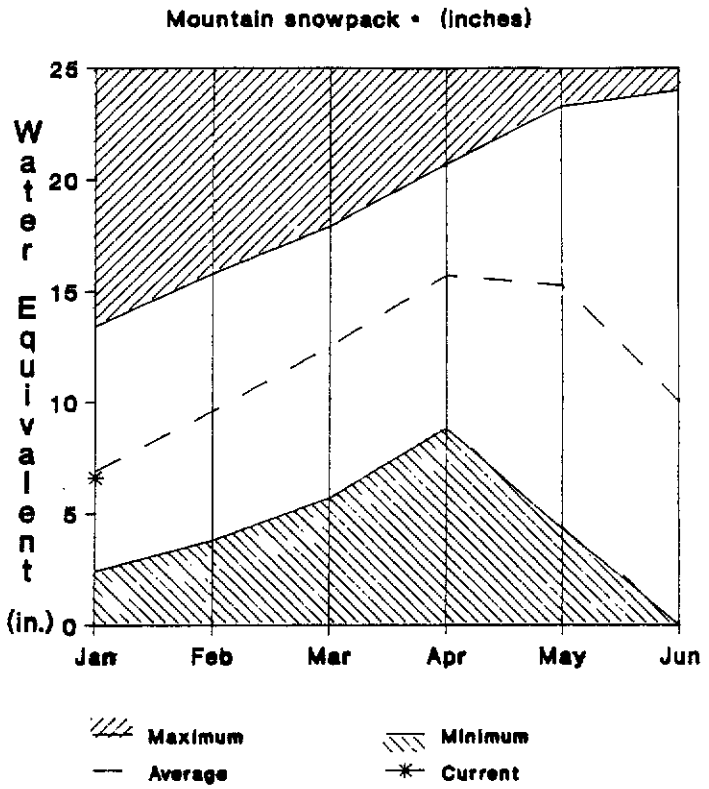
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
BLUE MESA	830.0	452.0	548.0	474.5
CRAWFORD	14.3	7.0	6.3	5.9
FRUITGROWERS	4.3	1.5	2.2	2.8
FRUITLAND	9.2	0.2	0.1	1.8
MORROW POINT	121.0	117.0	115.0	109.7
TAYLOR PARK	106.0	71.5	75.0	62.4

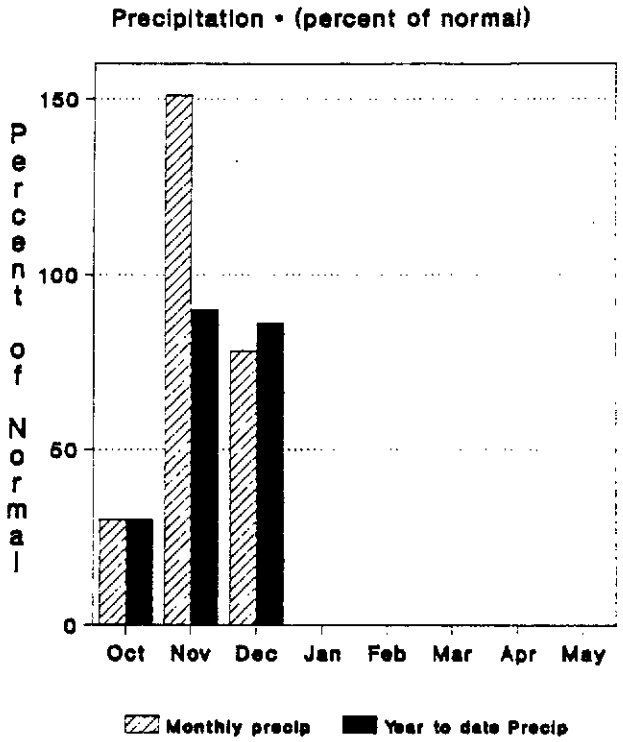
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER GUNNISON BASIN	8	123	94
SURFACE CREEK BASIN	2	113	97
UNCOMPAHGRE BASIN	2	135	98

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Colorado River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

THE EARLY SEASON SNOWPACK IN THE UPPER COLORADO RIVER BASIN IS AT 91% OF AVERAGE FOR THIS TIME OF YEAR. IT IS 118% OF LAST YEAR AT THIS TIME. ACCORDING TO NATIONAL WEATHER SERVICE RECORDS, THE PRECIPITATION FROM OCTOBER THROUGH DECEMBER IS ONLY 86% OF THE LONG-TERM AVERAGE. DECEMBER WAS SOMEWHAT DRY AT 78% OF AVERAGE. MAJOR RESERVOIRS IN THE BASIN ARE AT 101% OF AVERAGE FOR THIS TIME OF YEAR. THE STREAMFLOW FORECASTS FOR THE BASIN RANGE FROM 85% TO 95% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
COLORADO RIVER nr Granby 2	APR-JUL	205	95	245	168	260	151	216
WILLOW CK INF to Willow Creek Res	APR-JUL	43	86	52	33	71	15.0	50
WILLIAMS FORK near Parshall	APR-SEP	67	94	88	47	99	35	71
E. F. TROUBLESOME CR nr Troublesome	APR-SEP	19.1	98	24	14.1	27	11.1	19.4
BLUE RIVER blw Dillon 2	APR-SEP	170	94	210	130	215	123	180
BLUE RIVER blw Green Mountain Res 2	APR-JUL	250	95	310	197	320	179	264
EAGLE RIVER blw Gypsum 2	APR-SEP	315	92			415	230	341
COLORADO RIVER nr Dotsero 2	APR-SEP	1500	94	1820	1180	1930	1070	1592
FRYINGPAN RIVER inf to Ruedi Res	APR-JUL	91	94	124	58	129	53	97
ROARING FORK at Glenwood Springs 2	APR-SEP	720	91	840	585	895	545	789
COLORADO RIVER nr Cameo 2	APR-SEP	2400	90	3040	1970	3170	1760	2661

RESERVOIR STORAGE (1000AF)

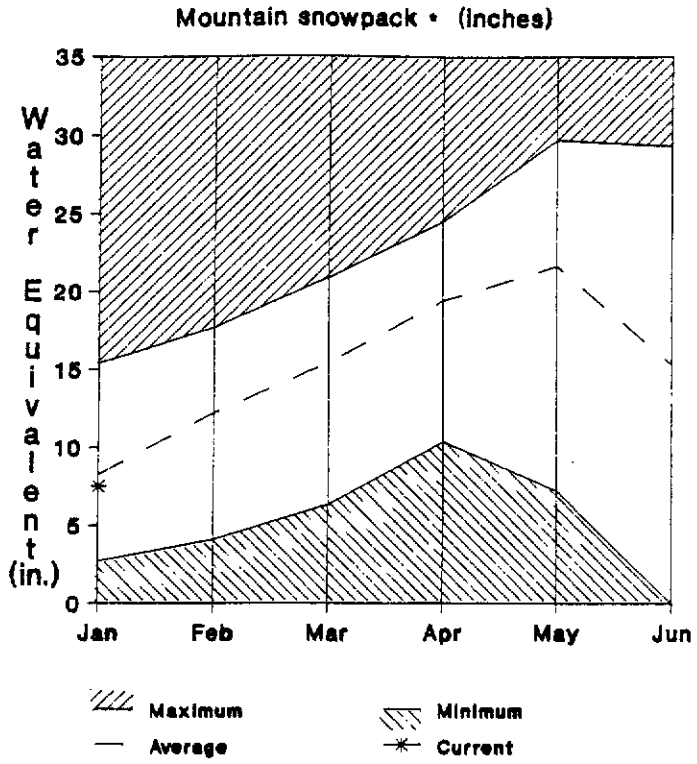
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
DILLON	250.7	240.0	239.0	208.7
LAKE GRANBY	465.6	282.8	398.9	290.5
GREEN MOUNTAIN	139.0	66.3	89.8	69.4
HOMESTAKE	43.0	19.0	38.0	23.5
RUEDI	102.0	76.9	82.8	79.1
VEGA	32.0	6.6	9.2	10.5
WILLIAMS FORK	97.0	63.0	69.0	49.4
WILLOW CREEK	9.0	6.2	7.9	6.2

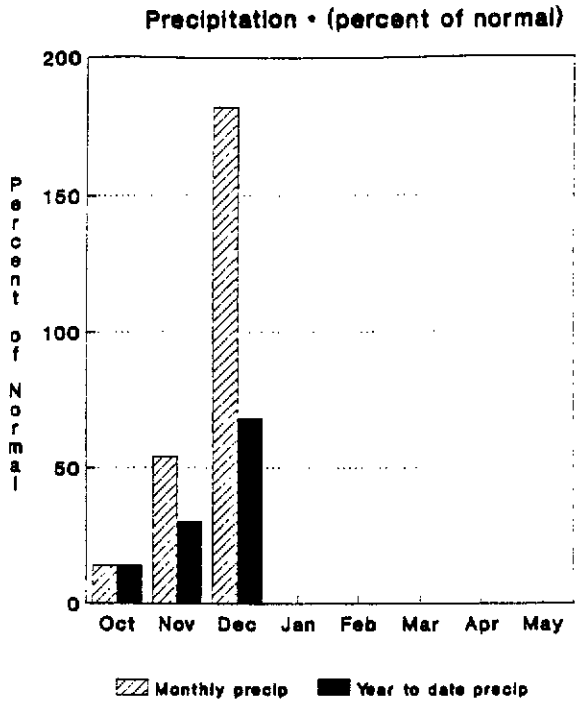
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BLUE RIVER BASIN	6	102	84
UPPER COLORADO RIVER BASI	16	110	89
PLATEAU CREEK BASIN	2	113	97
ROARING FORK BASIN	3	127	95
WILLIAMS FORK BASIN	1	111	74
WILLOW CREEK BASIN	2	117	82

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

South Platte River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

SNOW SURVEYS IN THE SOUTH PLATTE BASIN INDICATE THE BASINWIDE SNOWPACK IS 98% OF AVERAGE. THE HIGHEST READINGS WERE IN THE CLEAR CREEK, BOULDER, AND ST. VRAIN WATERSHEDS. PRECIPITATION AT LOWER ELEVATIONS HAS BEEN WELL BELOW NORMAL DURING THE FALL MONTHS, WITH MOST OF THE SEASONAL ACCUMULATION OCCURRING DURING DECEMBER. WATER STORED IN THE MAJOR RESERVOIRS IS 5% ABOVE AVERAGE FOR JANUARY 1. STREAMFLOW PROSPECTS ARE SLIGHTLY BELOW NORMAL FOR THIS IRRIGATION SEASON.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
SOUTH PLATTE RIVER at South Platte	APR-SEP	209	93			310	106	214
BEAR CREEK at Morrison	APR-SEP	28	93			57	9.4	30
CLEAR CREEK at Golden 2	APR-SEP	120	92	166	74	159	81	131
ST. VRAIN CREEK at Lyons	APR-SEP	70	88	80	57	96	44	80
SOUTH BOULDER CR nr Eldorado Springs	APR-SEP	36	90			61	17.4	42
BOULDER CREEK at Orodell	APR-SEP	43	90	58	28	68	28	48
BIG THOMPSON RIVER at Drake 2	APR-SEP	102	88	131	73	153	51	116
CACHE LA POUDRE R at Canyon Mouth 2	APR-SEP	240	83	300	185	340	139	288

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
ANTERO	16.0	20.0	20.0	14.4
BARR LAKE	32.0	24.0	27.0	18.3
BLACK HOLLOW	8.0	3.0	5.0	3.9
BOYD LAKE	49.0	19.6	22.7	35.4
CACHE LA POUDRE	10.0	4.0	5.0	5.6
CARTER	113.5	108.4	75.0	69.8
CHAMBERS LAKE	9.0	1.0	1.0	3.0
CHEESMAN	79.0	63.0	52.0	55.7
COBB LAKE	34.0	11.0	13.0	13.9
ELEVEN MILE	7.8	99.0	100.0	89.3
EMPIRE	38.0	27.9	36.2	19.8
FOSSIL CREEK	12.0	7.0	4.0	5.9
GROSS	43.0	22.0	18.0	27.3
HALLIGAN	6.4	1.0	2.0	3.3
HORSECREEK	16.0	12.0	12.0	10.5
HORSETOOTH	143.5	78.6	104.8	74.2
JACKSON	35.0	26.0	29.0	25.8
JULESBURG	28.0	20.0	29.7	19.6
LAKE LOVELAND	14.0	7.8	7.4	9.6
LONE TREE	9.0	3.8	3.2	6.0
MARIANO	6.0	1.2	3.3	4.5
MARSHALL	10.0	5.0	5.1	4.0
MARSTON	18.0	7.8	5.0	14.8
MILTON	24.0	16.0	16.0	12.8
POINT OF ROCKS	70.0	34.0	65.0	49.4
PREWITT	33.0	19.7	23.0	15.3
RIVERSIDE	63.1	37.4	36.2	36.3
SPINNEY MOUNTAIN	48.0	29.0	29.0	---
STANDLEY	42.0	29.3	32.5	22.2
TERRY LAKE	8.0	5.0	5.0	4.9
UNION	13.0	8.4	9.1	10.4
WINDSOR	19.0	7.0	5.0	9.2

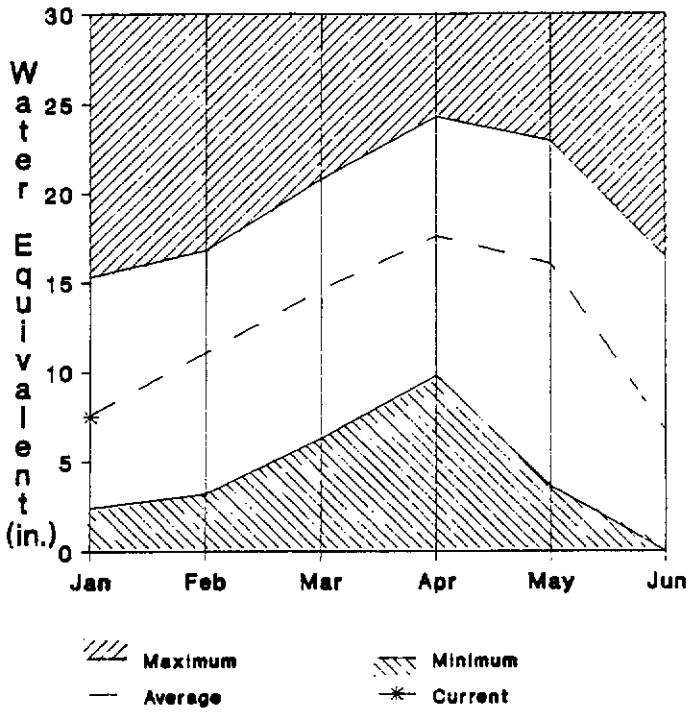
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BIG THOMPSON BASIN	3	94	89
BOULDER CREEK BASIN	4	108	114
CACHE LA POUDRE BASIN	3	95	88
CLEAR CREEK BASIN	1	105	113
SAINT VRAIN BASIN	1	97	102
UPPER SOUTH PLATTE BASIN	1	102	97

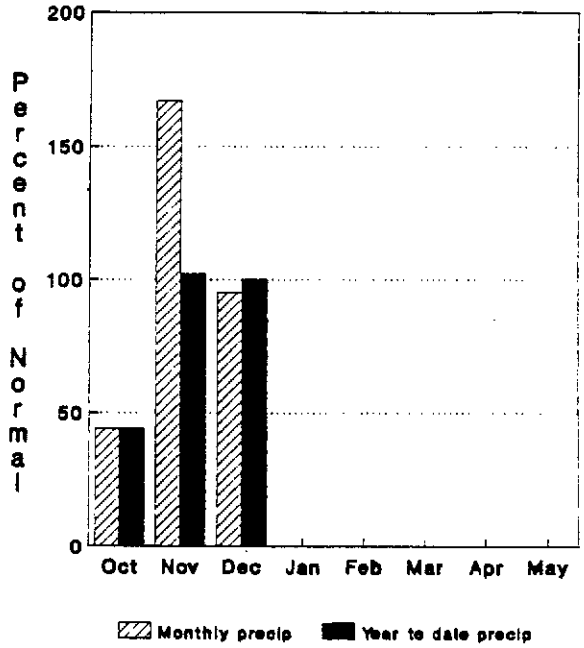
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MTN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MTN. forecasts are for 5% and 95% exceedance levels.

Yampa, White and North Platte River Basins in Colorado

Mountain snowpack (inches) •



Precipitation • (percent of normal)



• Based on selected stations

WATER SUPPLY OUTLOOK

SNOWPACK IN THESE BASINS IS CURRENTLY NEAR NORMAL. THE LOWEST READINGS WERE TAKEN IN THE ELK RIVER BASIN AT ONLY 86% OF AVERAGE. PRECIPITATION RECEIVED AT LOWER ELEVATIONS HAS BEEN QUITE VARIABLE DURING THE FALL MONTHS, WITH SEASONAL TOTALS BEING NEAR NORMAL. FORECASTS FOR SNOWMELT RUNOFF ARE BELOW AVERAGE IN ALL OF THESE BASINS. THE LOWEST FORECASTS ARE ON THE YAMPA RIVER, WITH CONTRIBUTIONS FROM THE ELK RIVER AT ONLY 86% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
LARAMIE RIVER near Woods 2	APR-SEP	139	96	179	84	177	89	139
YAMPA RIVER at Steamboat Springs	APR-SEP	275	91	330	210	345	205	302
ELK RIVER at Clark	APR-SEP	185	86	220	157	240	129	215
YAMPA RIVER nr Maybell	APR-SEP	870	85	1080	675	1230	510	1026
LITTLE SNAKE nr Slater, CO	APR-SEP	140	88	194	102	205	91	169
LITTLE SNAKE RIVER nr Dixon	APR-SEP	310	89	385	225	430	191	349
LITTLE SNAKE RIVER at Lily	APR-SEP	350	90	405	290	475	225	390
WHITE RIVER near Meeker	APR-SEP	305	93	370	245	395	215	329

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

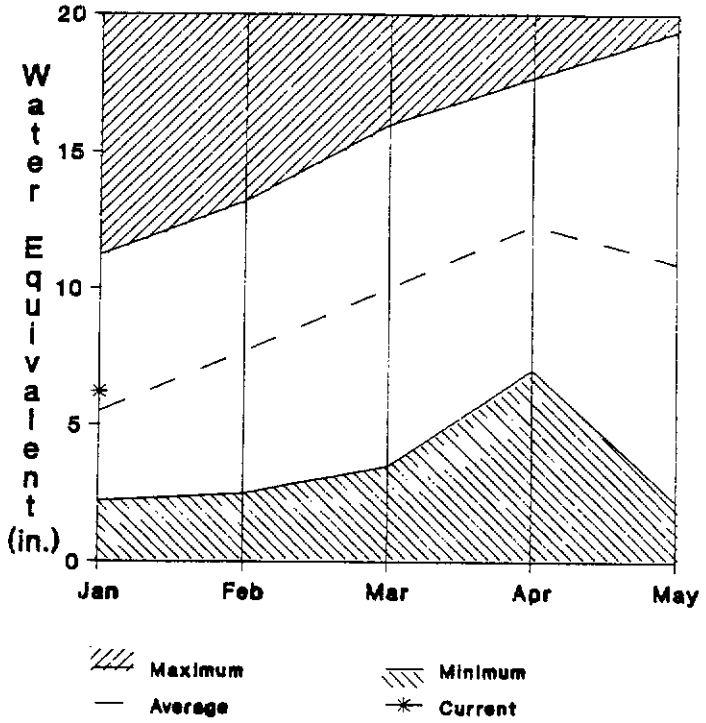
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
LARAMIE RIVER BASIN	2	79	89
NORTH PLATTE RIVER BASIN	4	125	99
ELK RIVER BASIN	1	75	66
YAMPA RIVER BASIN	6	122	96
WHITE RIVER BASIN	2	112	88
LITTLE SNAKE RIVER BASIN	2	97	87

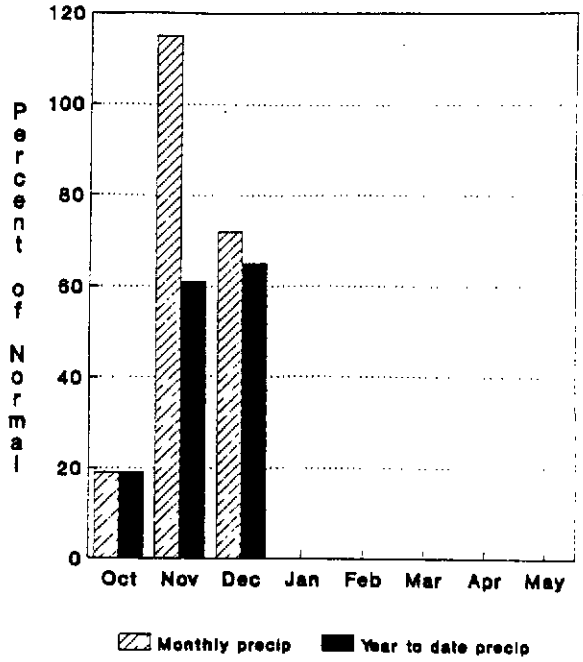
WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Arkansas River Basin in Colorado

Mountain snowpack (inches) •



Precipitation • (percent of normal)



• **Based on selected stations**

WATER SUPPLY OUTLOOK

WITH NEAR AVERAGE AMOUNTS OF SNOWPACK IN THE UPPER PART OF THE BASIN, AND ABOVE AVERAGE AMOUNTS IN THE LOWER TRIBUTARIES, THE ARKANSAS BASIN IS CURRENTLY REPORTING THE HIGHEST SNOWPACK IN COLORADO AT 107% OF AVERAGE. LOWER ELEVATION PRECIPITATION IS WELL BELOW NORMAL FOR THE SEASON. STREAMFLOW FORECASTS ARE BELOW NORMAL IN THE UPPER BASIN AND NEAR NORMAL IN THE SOUTHERN TRIBUTARIES.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
CHALK CREEK nr Nathrop	APR-SEP	21	95	25	17.5	38	8.5	22
ARKANSAS RIVER at Salida 2	APR-SEP	296	95	330	260	425	165	310
GRAPE CREEK nr Westcliffe	APR-SEP	16.0	89			38	6.6	18.0
ARKANSAS RIVER abv Pueblo 2	APR-SEP	275	88	310	245	505	110	312
HUERFANO RIVER nr Redwing	APR-SEP	16.0	100			23	9.3	16.0
CUCHARAS RIVER nr La Veta	APR-SEP	13.0	100			27	5.2	13.0
PURGATOIRE RIVER blw Trinidad Lake 2	APR-SEP	43	105	56	29	78	17.6	41

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.
ADOBE	70.0	9.3	19.3	13.2
CLEAR CREEK	11.0	1.7	6.2	6.2
GREAT PLAINS	150.0	4.1	---	27.0
HOLBROOK	7.0	0.0	2.9	3.0
HORSE CREEK	28.0	0.0	14.2	4.6
JOHN MARTIN	616.0	98.1	270.1	99.0
LAKE HENRY	8.0	1.1	1.7	3.7
MEREDITH	42.0	5.0	18.6	7.9
PUEBLO	354.0	163.3	249.3	87.3
TRINIDAD	167.0	21.2	49.4	28.4
TURQUOISE	126.6	117.8	115.6	45.1
TWIN LAKES	86.0	70.4	57.6	41.0

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER ARKANSAS BASIN	5	122	98
CUCHARAS & HUERFANO RIVER	2	89	113
PURGATOIRE RIVER BASIN	1	261	159

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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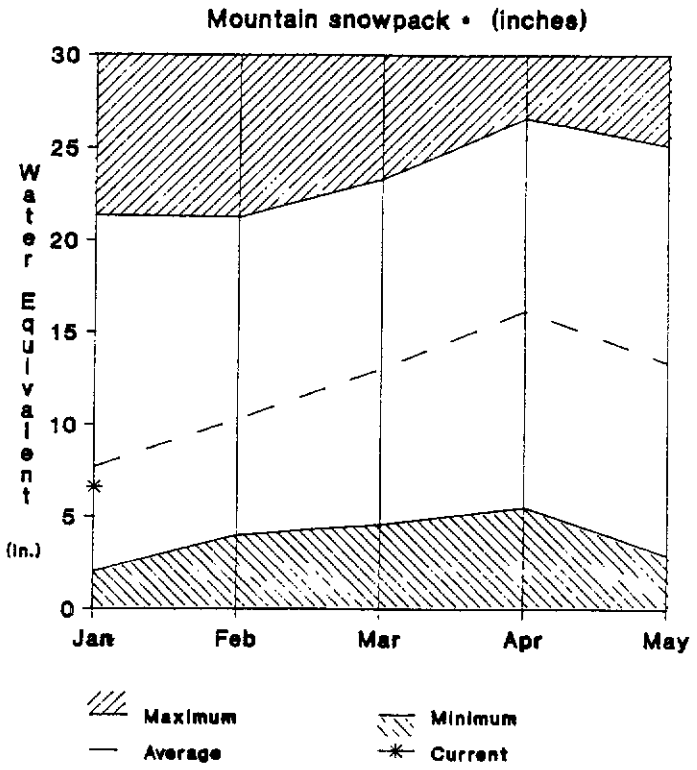
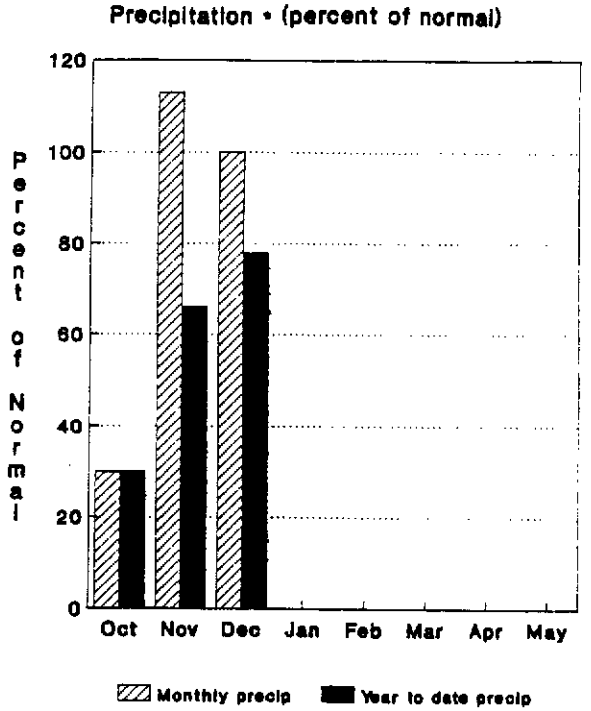
(2) - Corrected for upstream diversions or changes in reservoir storage.

Rio Grande Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

EARLY SEASON SNOWPACK IN THE RIO GRANDE BASIN IS QUITE VARIABLE. ABOVE NORMAL AMOUNTS WERE MEASURED IN THE CULEBRA AND TRINCHERA CREEK DRAINAGES, WHILE OTHER PORTIONS OF THE BASIN ARE REPORTING BELOW NORMAL AMOUNTS. ALTHOUGH AVERAGE PRECIPITATION WAS RECEIVED AT LOWER ELEVATIONS DURING DECEMBER, THE SEASONAL TOTALS REMAIN BELOW NORMAL. STREAMFLOW FORECASTS ON THE MAIN STEM OF THE RIO GRANDE ARE FOR NEAR AVERAGE VOLUMES THIS IRRIGATION SEASON.

For more information contact your local Soil Conservation Service office.

UPPER RIO GRANDE BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
RIO GRANDE at Thirty Mile Bridge 2	APR-SEP	125	94	144	109	188	62	133
RIO GRANDE at Wagon Wheel Gap 2	APR-SEP	310	96	370	255	480	139	322
SOUTH FORK RIO GRANDE at South Fork	APR-SEP	125	95	145	105	200	50	132
RIO GRANDE nr Del Norte 2	APR-SEP	490	96	570	415	755	225	510
SAGUACHE CREEK nr Saguache	APR-SEP	30	91	38	22	57	12.2	33
ALAMOSA CREEK abv Terrace Res	APR-SEP	67	96	86	50	107	27	70
LA JARA CREEK nr Capulin	MAR-JUL	8.5	92	9.4	7.6	16.5	3.4	9.2
TRINCHERA WATER SUPPLY 2	APR-JUL	31	107	38	24	52	12.7	29
CONEJOS RIVER blw Platoro Res 2	APR-SEP	61	92	72	51	89	33	66
CONEJOS RIVER nr Mogote 2	APR-SEP	180	82	220	153	300	74	204
SAN ANTONIO RIVER at Ortiz	APR-SEP	14.0	86	16.1	11.9	29	5.7	16.3
LOS PINOS nr Ortiz	APR-SEP	64	86	73	55	103	25	74
CULEBRA CREEK at San Luis 2	APR-SEP	22	105	29	15.1	42	9.0	21

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
CONTINENTAL	27.0	2.9	10.5	4.6
PLATORO	60.0	29.3	43.6	12.2
RIO GRANDE	51.0	11.9	9.2	14.9
SANCHEZ	103.0	32.5	44.5	12.9
SANTA MARIA	45.0	8.8	13.4	6.5
TERRACE	18.0	2.9	4.0	5.6

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
ALAMOSA CREEK BASIN	2	102	51
CONEJOS & RIO SAN ANTONIO	2	131	69
CULEBRA & TRINCHERA CREEK	2	98	182
UPPER RIO GRANDE BASIN	7	116	98

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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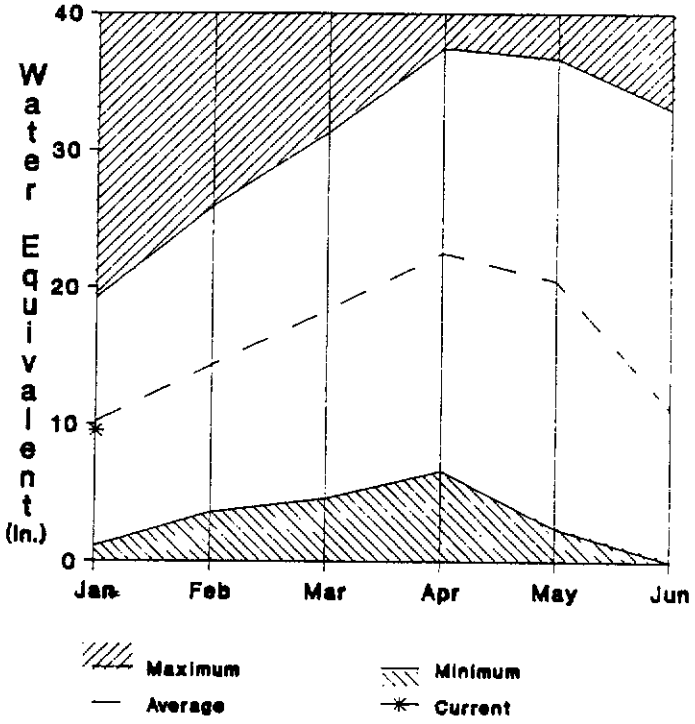
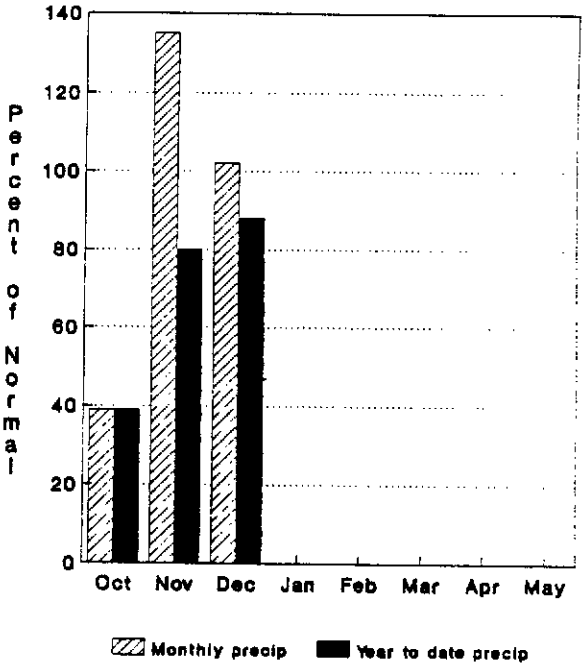
(2) - Corrected for upstream diversions or changes in reservoir storage.

San Miguel, Dolores, Animas and San Juan Basins in Colorado

Mountain snowpack (inches) •



Precipitation • (percent of normal)



• Based on selected stations

WATER SUPPLY OUTLOOK

SNOWPACK READINGS IN THESE BASINS ARE CONSISTENTLY BELOW NORMAL. THE LOWEST OF THESE IS THE SAN JUAN BASIN WHICH AVERAGES ONLY 75% OF NORMAL. ALTHOUGH PRECIPITATION RECEIVED AT LOWER ELEVATIONS WAS ABOVE NORMAL IN NOVEMBER AND DECEMBER, THE ACCUMULATIONS FOR THE WATER YEAR REAMIN SLIGHTLY BELOW AVERAGE. FORECASTS FOR THIS YEAR'S WATER SUPPLIES ARE FOR SLIGHTLY BELOW AVERAGE STREAMFLOWS, WITH THE EXCEPTION OF THE LA PLATA, MANCOS, AND ANIMAS DRAINAGES, WHICH ARE EXPECTED TO HAVE ABOVE NORMAL FLOWS.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
DOLORES RIVER at Dolores 2	APR-SEP	280	101	350	210	405	153	277
DOLORES RIVER inf to McPhee Res 2	APR-JUL	300	100	385	205	440	162	300
SAN MIGUEL RIVER nr Placerville	APR-SEP	145	99	167	123	225	65	146
SAN JUAN RIVER nr Carracus	APR-SEP	390	91	435	345	620	162	430
PIEDRA RIVER nr Arboles	APR-SEP	210	89	240	184	335	83	236
LOS PINOS RIVER inf to Vallecito Res	APR-SEP	210	93	245	185	305	149	226
SAN JUAN RIVER nr Archuleta 2	APR-JUL	690	90	805	590	1120	345	764
ANIMAS RIVER at Durango	APR-SEP	500	103	540	460	715	285	486
FLORIDA RIVER inf to Lemon Res	APR-JUL	54	95	62	47	77	39	57
FLORIDA RIVER at Bondad 2	APR-SEP	32	84			50	16.8	38
LA PLATA RIVER at Hesperus	APR-SEP	28	104	30	26	43	12.9	27
MANCOS RIVER nr Towaoc 2	MAR-JUL	29	104	34	24	45	13.3	28

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
GROUNDHOG	21.7	14.4	10.5	10.2
JACKSON GULCH	10.0	7.3	5.9	4.5
LEMON	40.0	30.2	21.7	18.8
NARRAGUINNEP	19.0	13.1	14.2	8.4
NAVAJO	1696.0	1153.0	1075.0	967.0
VALLECITO	126.0	75.8	53.6	51.9

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
ANIMAS RIVER BASIN	6	129	92
DOLORES RIVER BASIN	4	169	96
SAN MIGUEL RIVER BASIN	2	155	84
SAN JUAN RIVER BASIN	2	91	75

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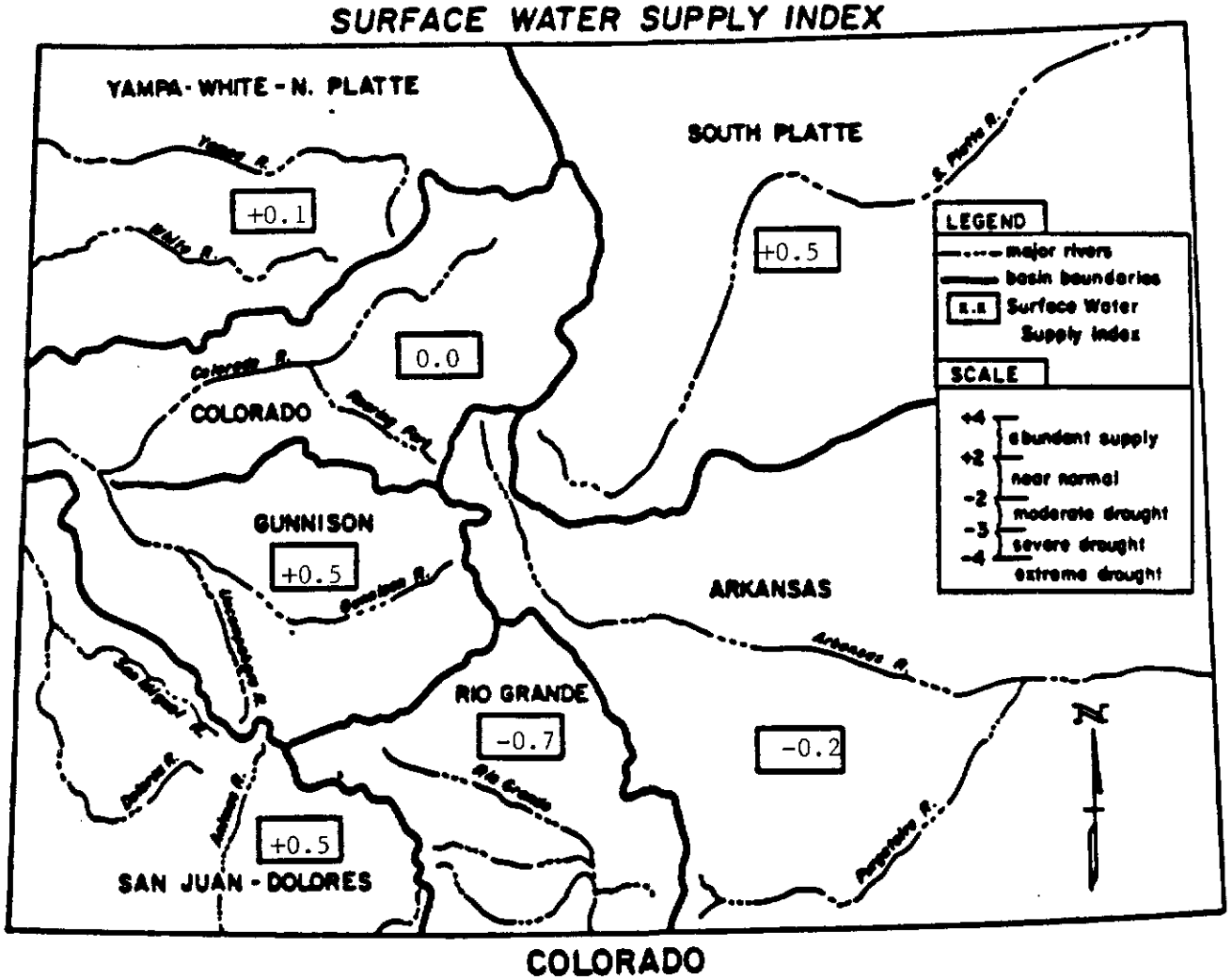
(2) - Corrected for upstream diversions or changes in reservoir storage.

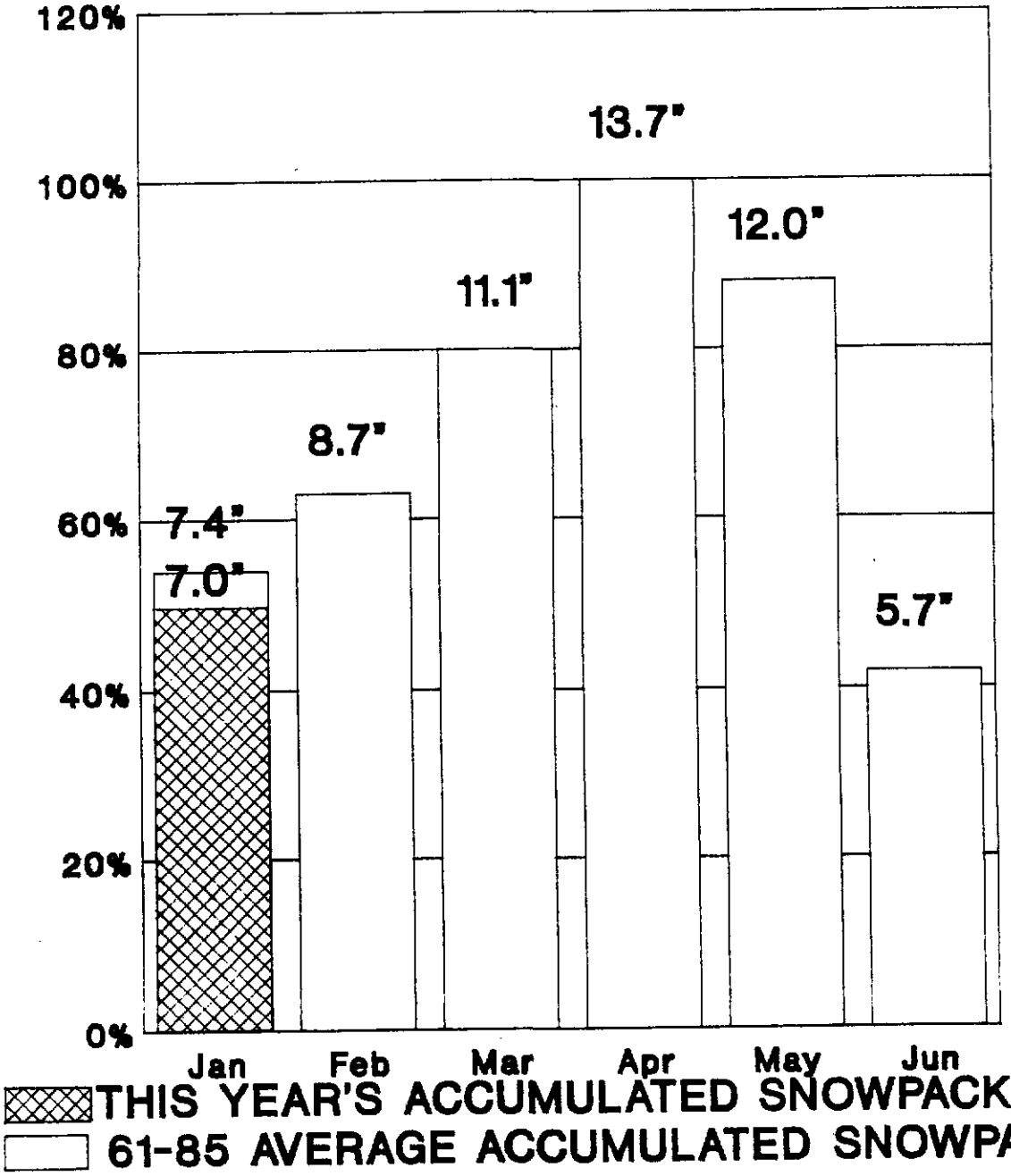
Date: JANUARY 1, 1989

SURFACE WATER SUPPLY INDEX



The Surface Water Supply Index (SWSI) is a weighted value derived for each major basin which generally expresses the potential availability of the forthcoming season's water supply. The components used in computing the index are reservoir storage, snowpack water equivalent, and precipitation. The SWSI number for each basin ranges from a -4.00 (prospective water supplies extremely poor) to a +4.00 (prospective water supplies plentiful). The SWSI number is only a general indicator of surface water supply conditions. Further data analyses may be required in specific situations to more fully understand the impacts of abnormally dry or wet conditions suggested by the SWSI. Development of the SWSI has been a cooperative effort between the Colorado State Engineers' Office and the Soil Conservation Service.

Colorado Snowpack Progress
1989



Each month's statewide snow water equivalent as compared to the 1961-1985 average, and the percent of maximum seasonal accumulation.

S N O W C O U R S E D A T A

JANUARY 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLORADO						
APISHAPA SNOTEL	10000	1/01/89	---	6.8	2.5	3.0
APISHAPA	10000	12/29/88	19	3.8	4.2	3.8
ARROW SNOTEL	9900	1/01/89	---	5.8	7.4	6.5
ARROW	9900	12/30/88	28	5.9	6.5	5.7
BEAR LAKE SNOTEL	9500	1/01/89	---	5.6	6.1	5.9
BEARTOWN SNOTEL	11600	1/01/89	---	10.8	11.6	12.0
BERTHOUD SUM SNOTEL	11300	1/01/89	---	8.9	8.5	7.8
BERTHOUD SUMMIT	11300	12/30/88	36	9.0	8.6	8.0
BISON LAKE SNOTEL	10880	1/01/89	---	12.2	6.8	14.6
BOULDER FALLS	10000	12/28/88	23	5.3	4.3	5.1
BRUMLEY SNOTEL	10600	1/01/89	---	4.0	3.2	3.9
BURRO MTN SNOTEL	9000	1/01/89	---	8.3	4.9	7.8
BUTTE SNOTEL	10000	1/01/89	---	5.6	3.2	6.6
BUTTE	10000	12/29/88	29	6.2	3.5	7.6
CAMERON PASS	10300	12/29/88	35	9.0	8.6	11.2
CASCADE SNOTEL	8850	1/01/89	---	7.6	1.9	5.2
CASCADE	8850	1/03/89	28	6.5	3.1	6.6
CATHEDRAL BLF SNOTEL	8500	1/01/89	---	4.0	4.4	8.9
COLUMBINE SNOTEL	9300	1/01/89	---	11.5	8.5	9.4
COLUMBINE LODGE	9300	12/28/88	47	11.6	6.2	9.3
COLUMBINE PS SNOTEL	9400	1/01/89	---	7.6	6.8	6.7
COPELAND LAKE SNOTEL	8600	1/01/89	---	2.0	3.0	1.1
COPPER MTN SNOTEL	10450	1/01/89	---	5.3	4.5	5.9
CROSHO SNOTEL	9500	1/01/89	---	5.7	3.2	5.8
CULEBRA #2 SNOTEL	10000	1/01/89	---	6.9	6.2	4.9
CUMBRES PASS	10000	12/28/88	43	9.0	6.4	12.4
CUMBRES TRESTLE SNTL	10000	1/01/89	---	11.5	7.6	10.7
CUMBRES TRESTLE	10000	12/28/88	51	10.4	8.4	15.6
DEADMAN HILL SNOTEL	10200	1/01/89	---	6.2	7.1	6.1
DRY LAKE SNOTEL	8200	1/01/89	---	9.7	9.5	8.9
DRY LAKE	8200	12/27/88	39	8.7	7.6	9.4
EL DIENTE PK SNOTEL	10000	1/01/89	---	7.5	3.2	8.3
ELK RIVER SNOTEL	8600	1/01/89	---	7.7	7.2	7.4
FREMONT PASS SNOTEL	11400	1/01/89	---	7.3	7.2	7.1
FREMONT PASS	11400	12/29/88	30	6.1	6.9	6.4
GRIZZLY PEAK SNOTEL	11100	1/01/89	36	6.4	7.5	6.6
GRIZZLY PEAK	11100	12/29/88	31	7.0	6.9	8.3
HAGERMAN TNL SNOTEL	11150	1/01/89	---	12.0	5.9	9.4
HOOSIER PASS SNOTEL	11400	1/01/89	---	6.6	6.2	6.8
HOOSIER PASS	11400	12/29/88	22	6.0	5.9	6.9
IDARADO SNOTEL	9800	1/01/89	---	8.1	2.8	5.3
IDARADO	9800	1/03/89	37	8.5	4.0	7.8
INDEPENDENCE PS SNTL	10600	1/01/89	---	7.2	5.5	6.6
INDEPENDENCE PASS	10600	12/30/88	33	7.6	5.0	8.1
JOE WRIGHT SNOTEL	10000	1/01/89	---	7.8	9.1	10.7
JOE WRIGHT	10000	12/29/88	38	9.3	10.0	10.7
KILN SNOTEL	9600	1/01/89	---	4.2	3.3	4.9
LA VETA PASS	9300	12/29/88	23	5.2	6.2	4.4
LAKE ELDORA SNOTEL	10500	1/01/89	---	6.5	5.9	4.7
LAKE IRENE SNOTEL	10600	1/01/89	---	10.6	10.6	10.6
LAPLAND	9300	12/28/88	26	5.6	3.8	4.2
LILY POND SNOTEL	10650	1/01/89	---	8.7	6.1	7.7
LIZARD HEAD	10300	12/29/88	42	8.2	5.3	8.3
LIZARD HD PS SNOTEL	10300	1/01/89	---	5.2	5.3	7.4
LIZARD HEAD PASS	10300	12/29/88	39	7.1	4.6	9.9
LONE CONE SNOTEL	9950	1/01/89	---	9.8	4.2	6.7
LYNX PASS SNOTEL	8900	1/01/89	---	5.9	3.7	5.5
LYNX PASS	8900	12/28/88	31	5.4	2.6	5.9
MC CLURE PASS SNOTEL	9500	1/01/89	---	7.5	4.8	6.7
MC CLURE PASS	9500	12/29/88	34	6.2	4.5	6.3
MESA LAKES SNOTEL	10000	1/01/89	---	7.1	6.5	7.9
MESA LAKES	10000	12/29/88	34	7.7	6.8	7.6

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
MIDDLE CREEK SNOTEL	11250	1/01/89	---	8.3	7.6	11.2
MINERAL CREEK SNOTEL	10300	1/01/89	---	7.1	5.8	7.1
MINERAL CREEK	10300	1/03/89	35	8.5	3.7	7.4
MOLAS LAKE SNOTEL	10500	1/01/89	---	8.0	6.9	7.0
NAST LAKE SNOTEL	8700	1/01/89	---	2.7	1.7	2.1
NAVAL OILSHALE SNOTL	8800	1/01/89	---	8.7	2.9	14.7
NIWOT SNOTEL	9910	1/01/89	---	5.1	5.8	4.1
NORTH LOST TR SNOTEL	9200	1/01/89	---	7.3	4.1	5.4
PARK CONE SNOTEL	9600	1/01/89	---	4.7	1.5	3.5
PARK CONE	9600	12/29/88	26	4.4	2.0	5.0
PARK RESERV SNOTEL	9900	1/01/89	---	9.8	10.4	11.3
PARK RESERVOIR	9900	12/29/88	46	10.3	9.1	11.0
PARK VIEW	9200	12/29/88	20	3.5	4.0	3.5
PHANTOM VALLY SNOTEL	9050	1/01/89	---	4.5	4.4	4.2
PORPHYRY CK SNOTEL	10700	1/01/89	---	6.1	7.4	6.9
PORPHYRY CREEK	10700	1/03/89	30	6.5	5.4	7.3
RABBIT EARS SNOTEL	9550	1/01/89	---	10.2	7.1	10.6
RABBIT EARS	9550	12/28/88	44	11.1	10.0	12.1
RED MTN PASS SNOTEL	11200	1/01/89	---	10.3	8.0	8.8
RED MOUNTAIN PASS	11100	1/03/89	49	12.7	11.7	13.9
RIPPLE CK PS SNOTEL	10340	1/01/89	---	9.5	7.6	10.6
ROACH SNOTEL	9400	1/01/89	---	5.5	7.2	7.2
SPUD MOUNTAIN SNOTEL	10700	1/01/89	---	12.7	10.7	11.5
SCOTCH CREEK SNOTEL	9100	1/01/89	---	5.3	3.5	3.2
SLUMGULLION SNOTEL	11550	1/01/89	---	6.0	6.1	5.9
SPUD MOUNTAIN SNOTEL	10700	1/01/89	---	12.7	10.7	11.5
SPUD MOUNTAIN	10700	1/03/89	40	10.3	8.1	11.1
STILLWATER CK SNOTEL	8720	1/01/89	---	2.7	2.1	4.0
STUMP LAKES SNOTEL	11200	1/01/89	---	6.9	8.5	10.9
SUMMIT RANCH SNOTEL	10000	1/01/89	---	4.6	4.4	6.5
TENNESSEE PASS	10200	12/29/88	24	4.2	3.1	4.1
TENNESSEE PASS #2	10280	12/29/88	28	5.1	3.9	6.3
TOWER SNOTEL	10000	1/01/89	---	22.6	17.0	16.7
TOWER	10000	12/27/88	82	21.4	--	19.4
TRAPPER LAKE SNOTEL	9700	1/01/89	---	8.1	8.1	9.2
TWIN LAKES TUNNEL	10100	12/30/88	27	6.6	4.2	5.8
TWO MILE	10500	1/04/89	22	4.9	6.0	6.3
UNIVERSITY CAMP SNTL	10300	1/01/89	---	7.2	6.5	7.0
UNIVERSITY CAMP	10300	12/28/88	25	6.8	6.0	6.9
UPPR RIO GRND SNOTEL	9350	1/01/89	---	1.5	2.8	--
UPPER SAN JUAN SNTL	10200	1/01/89	---	16.4	9.8	15.9
UPPER SAN JUAN	10200	12/23/88	52	10.5	10.2	13.7
UTE PASS	9550	1/03/89	22	4.0	3.6	5.4
VAIL MOUNTAIN SNOTEL	10200	1/01/89	---	7.2	7.5	10.2
VALLECITO SNOTEL	10800	1/01/89	---	7.4	5.1	11.2
W FK PARACHUTE SNTL	7800	1/01/89	---	1.7	2.3	4.1
WHISKEY CREEK SNOTEL	10200	1/01/89	---	5.9	2.1	3.7
WILLOW CK PS SNOTEL	9500	1/01/89	---	5.4	5.2	4.3
WILLOW CREEK PASS	9500	12/29/88	24	4.8	4.3	5.1
WILLOW PARK SNOTEL	10700	1/01/89	---	6.3	11.6	7.2
WILLOW PARK	10700	12/24/88	28	5.6	--	9.7
WOLF CK SUMMIT SNTL	11000	1/01/89	---	15.9	13.4	13.6
WOLF CREEK SUMMIT	11000	12/23/88	48	10.0	12.3	13.6

The Following Organizations Cooperate With The Soil Conservation Service in Snow Survey Work.

State	Colorado State Engineer Colorado State Soil Conservation Board University of Colorado, INSTARR Colorado State University Experiment Station Rocky Mountain Forest and Range Experiment Station
Federal	U.S. Department of Agriculture Forest Service Soil Conservation Service U.S. Department of the Interior Bureau of Reclamation Geologic Survey National Park Service U.S. Department of Commerce NOAA, National Weather Service NOAA, National Environmental Satellite Service U.S. Department of Defense Army Engineer Corps National Aeronautics and Space Administration Goddard Space Flight Center
Local	Colorado Public Service Company Idarado Mining Corporation City of Denver City of Boulder City of Greeley City of Fort Collins Vail Associates, Inc. Arkansas Valley Ditch Association Colorado River Water Conservation District Farmers Reservoir and Irrigation Company San Luis Irrigation District Santa Maria Reservoir Company Taylor Lumber and Land Company Montezuma Irrigation Company Uncompahgre Valley Water Users Association Twin Lakes Reservoir and Canal Company Trinchera Irrigation Company Aspen Skiing Corporation Colorado Fuel and Iron Corporation Climax Molybednum Corporation Copper Mountain Ski Area Lake Eldora Corporation
Private	Otto Goemmer, Colorado

Other organizations and individuals furnish information for the snow survey reports. Their cooperation is gratefully acknowledged.

U.S. DEPT. OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIAMOND HILL, BLDG. A, 3RD FLOOR
2490 WEST 26TH AVENUE
DENVER, COLORADO 80211

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DENVER, CO 80203

1

Colorado
Water Supply Outlook

and

Federal-State-Private
Cooperative Snow Surveys

SOIL CONSERVATION SERVICE

OCT/NOV/DEC

United States Department of Agriculture

Soil Conservation Service

late in 1988 runoff

Colorado Water Supply Outlook

October 1,1988

RELEASED BY
Sheldon G. Boone
State Conservationist
Soil Conservation Service
2490 W. 26th Avenue, Bldg A, 3rd Floor
Denver, Colorado 80211

Below normal summer precipitation, and generally below normal snowpack accumulation during the winter of 1988, has resulted in below normal streamflow volumes throughout much of the state. This year's spring and summer runoff volumes were the lowest in the Rio Grande, Arkansas, and Gunnison basins, where flows of only 67-73 percent of average were observed. The highest streamflow volumes occurred in the upper tributaries of the Colorado River where flows ranged from 100-108 percent of normal. Runoff throughout the northwestern and southwestern basins and the Arkansas basin was consistently below average this summer.

Summer precipitation in Colorado has been quite variable from month to month. June's precipitation was above normal statewide, with the exception of the extreme northwestern corner of the state, which was below normal. Rainfall in July was well below normal nearly statewide. Amounts recorded in the Colorado, Gunnison, and South Platte basins were only slightly more than half of the monthly average. Dry conditions persisted during August in northwestern Colorado along with the eastern plains, while the southern mountains received normal to above normal amounts of precipitation. Total accumulations for the water year ranged from a high of 109 percent of average in the southwestern basins of the state, to a low of 88 percent in the Rio Grande basin.

Although the streamflow volumes were below normal this summer, most of the reservoirs in the state have maintained adequate storage amounts. The volume of water stored in Colorado's major irrigation reservoirs is currently 109 percent of average. This shows a decrease from last year's October 1 levels of 131 percent of average. The highest storage amounts remain in the Arkansas basin where storage averages 179 percent of normal in the 12 major reservoirs. The only basin in the state reporting below normal amounts of storage, is in the Gunnison basin with only 83 percent of the long-term average for October 1.

This summer's crop production was near average throughout most of Colorado. Precipitation received during spring and early summer, along with the above normal storage of reservoir water, helped to assure good crop production.

while the midwest was in a "drought"!

October 1, 1988

Basin/Caging Point	Apr-Sept 1988 Obs. Flow (10000's A.F.)	Average (61-85) Flow	Obs. Flow % Average	April 1 FCST % Average	May 1 FCST % Average	Oct-Sept PCP % Average	Oct 1 Resv. Storage % Average
Gunnison						97	83
Gunnison INF, Blue Mesa	452.0	821.0	55	82	73		
Taylor River INF. Taylor Reservoir	78.0	118.0	66	76	68		
Colorado						91	103
Blue River INF. Dillon	150.7	180.0	84	106	100		
Blue River INF. Gr. Mountain	248.0	317.0	78	107	103		
Colorado River INF. Granby	211.4	240.0	88	104	108		
Roaring FK. Glnwd. Spgs.	452.1	789.0	57	82	79		
Williams FK. NR. Parshall	73.4	71.0	103	113	106		
Willow Creek INF.	46.0	54.0	85	102	93		
South Platte						105	107
Cache La Poudre at Canyon Mouth	289.2	288.0	100	109	104		
South Platte at South Platte	207.3	214.0	97	86	85		
Yampa-White-No. Platte						104	
Yampa River at Steamboat Springs	123.4	302.0	41	91	88		
Arkansas River						90	179
Arkansas River	184.9	312.0	59	74	67		
Purgatory at Trinidad(Inf.)	22.7	41.0	55	78	71		
Rio Grande (Colo)						88	149
Conejos NR. Mogote	126.1	204.0	62	76	71		
Rio Grande NR. Del Norte	326.4	510.0	64	70	69		
San Miguel, Dolores, Animas, San Juan						109	149
Animas at Durango	366.4	486.0	75	78	75		
La Plata at Hesperus	20.7	27.0	77	78	74		
Los Pinos at Bayfield	196.8	226.0	87	80	71		
INF. Navajo Reservoir (Apr-Jul)	382.9	764.0	50	79	70		

U.S. DEPARTMENT OF AGRICULTURE
SNOW SURVEY UNIT
USDA, SOIL CONSERVATION SERVICE
DIAMOND HILL, BLDG. A, 3RD FLOOR
2490 WEST 26TH AVENUE
DENVER, CO 80211

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ROOM 721
DENVER, CO 80203

1998 FLOODS

"Colorado Flood Perspective"

BILLS / LM

1. about a dozen — 1988 Flood Events

→ 20 to 30 hydrologic events

DATE	COMMUNITY
Spring (?)	Commerce City
June 25	Pierce
June 28	Gunnison County
⇒ June	Williamsburg, Rockvale, Fremont County
June - July	Bent, Washington, Morgan Counties
Aug 4	Woodland Park
Aug 4	Fort Collins
Aug 9	Colorado Springs, El Paso County
Aug 10	Jefferson County
Aug 17	Greenwood Village, Denver, Arapahoe County
Sept 8	Aspen
No date given other than 1988	Larimer County

3. First flood of 1989

Jan 10, 1989 — S. Platte R., Logan Co d/s Sterling — Ice Jam

2. Types of Floods

Snowmelt	May - June	Ice Jam
Perennial	May -	— Fountain Cr.
Flashy	May - Sept	— West Slope
Ice Jam	Jan - May	
Dam Failure		

4. CWCB
3rd annual Flood Awareness Poster Contest

This is Emergency Preparedness Awareness Week in Colorado
Apr 9-15

1. 4th 5th 6th

4th	5th	6th	
8	70+	16+	
10	85	30	= 125

2. 5 judges
2 hrs

FEMA - Cindy Croxdale
CWCB - Wes
Ft. Collins - Bob Smith
DODES - Bill Wold
WRC - Nancy Andrews

1.
2.
3.

3. Winners - will be awarded $35 check by GOV Romer tomorrow

4 - Denver
5 - Denver
6 - Colo Springs

display on Mall later this week

4. Loosers

Wednesday – 9:30 AM
~~Attend the~~ Governor Poster
Presentation – Try and ~~take~~
Mr Walker – 10 extra points
on your PACE!

See You! Thursday or
Friday.

POSTER CONTEST

STATE OF COLORADO

COLORADO WATER CONSERVATION BOARD
Department of Natural Resources
721 State Centennial Building
1313 Sherman Street
Denver, Colorado 80203
Phone: (303) 866-3441

NEWS RELEASE

FOR IMMEDIATE RELEASE: April 6, 1989

CONTACT: Mark Matulik, Colorado Water Conservation Board, 866-3441

POSTER CONTEST WINNERS CHOSEN ! ! !

The Colorado Water Conservation Board's poster contest which is a scheduled activity as part of Colorado Severe Flood and Storm Awareness Week was completed April 6, 1989.

Invitations to participate in the contest were mailed in early November, 1988, to schools across Colorado. Children in grades 4, 5, and 6 were requested to depict their current image(s) of severe storms and flooding and/or what impacts such events have on the citizenry of Colorado.

A panel consisting of public and private sector employees selected the winners. "We had a pretty rough time choosing among the very good drawings," said Mark Matulik contest organizer.

The winners of the poster contest are:

6th Grade - Jamieson Jones
Gorman Middle School
Colorado Springs, Colorado

5th Grade - Robin Harrington
Colorado Academy
Denver, Colorado

4th Grade - Jason Madama
Colorado Academy
Denver, Colorado

The first place winners in each grade 4, 5, and 6 will receive a $35.00 cash prize presented by Governor Roy Romer at 9:30 a.m. on Wednesday April 12, 1989, in the Governor' Executive Chambers.

9766E

By March 31, 1988, the CWCB would like to receive hand-drawn or computer-generated posters on paper 8 1/2" X 11" or larger which depict each child's current image of severe storms and flooding and/or what impacts such events have on the citizenry of Colorado. Due to printing costs, we request that colored posters contain no more than 4 colors.

721 State Centennial Building
1313 Sherman Street
Denver, Colorado 80203
Phone: (303) 866-3441

COLORADO FLOOD AWARENESS POSTER CONTEST

The Colorado Water Conservation Board (CWCB), the Colorado Division of Disaster Emergency Services (DODES) and the State Emergency Managers Association (SEMA) are sponsoring several activities scheduled to culminate in Colorado Emergency Preparedness Awareness Week, April 9-15, 1989. One such activity is the CWCB's annual Flood Awareness Poster Contest.

As a teacher of children in either the 4th, 5th or 6th grades, you have expressed an interest in having your class participate in the CWCB's annual poster contest. We would like to receive hand-drawn or computer-generated posters which typify current awareness by elementary school children about flooding and its impact on the citizens of Colorado. Posters should be on paper 8 1/2" X 11" or larger. Entries should be received by 5 p.m. March 31, 1989.

The first place winner in each grade will receive $35 cash prize if his/her poster is selected. The three winning posters will then be used for publicity purposes during the week of April 9-15, 1989. Additionally, the winners will be invited to receive their checks in Governor Romer's private chambers (with teachers and parents) the week of April 9, 1989. (You will be notified of the exact date and time we will meet with the Governor, as soon as his press secretary notifies us). Also, news media will attend the event for articles and photos.

Please send all entries to:

Mark D. Matulik
Colorado Water Conservation Board
721 State Centennial Building
1313 Sherman Street
Denver, Colorado 80203

If you have any questions, please contact Mr. Matulik at 866-3441.

/bj

9135E

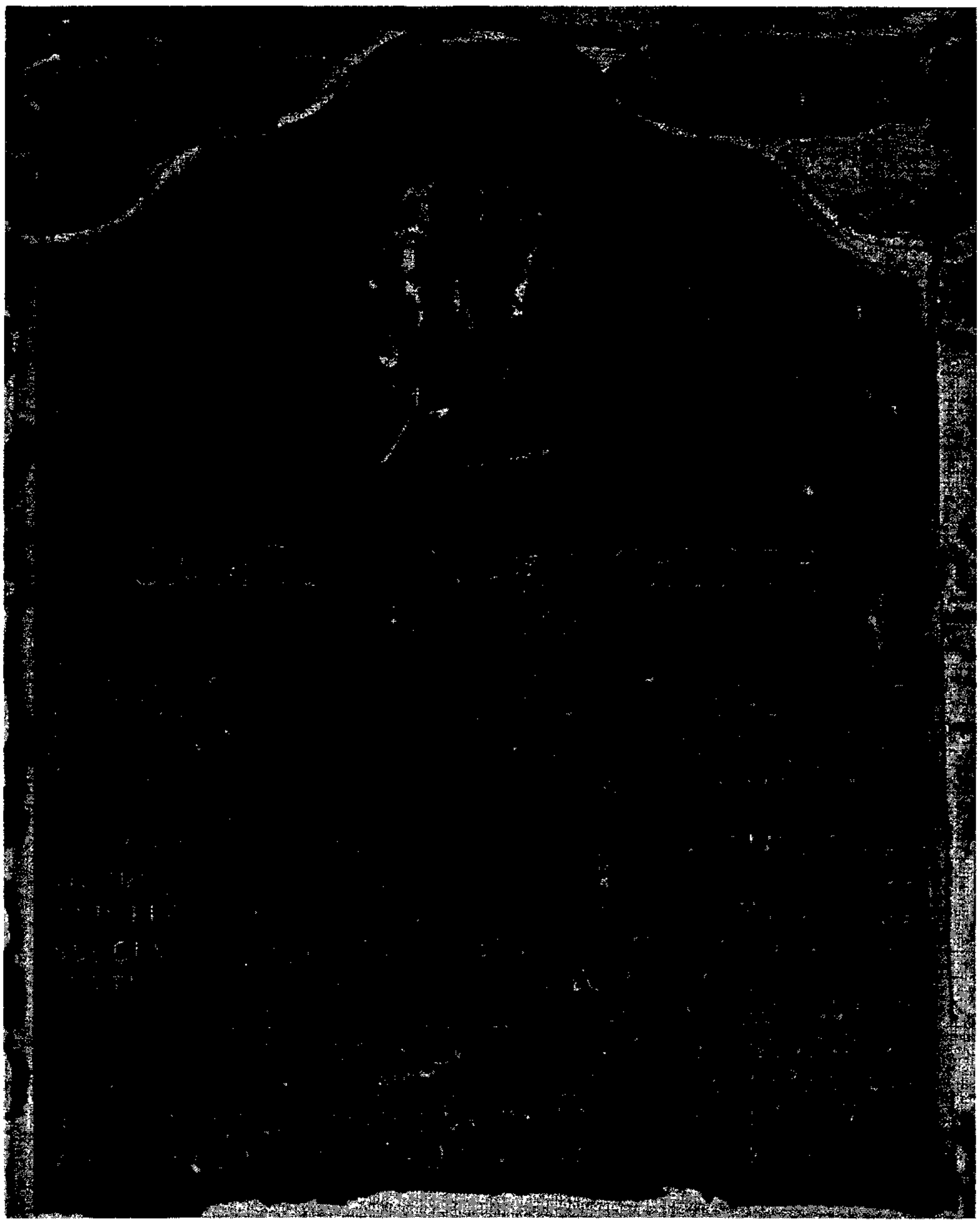
United States
Department of
Agriculture

**Soil
Conservation
Service**

Bill S. Nick #13

Colorado Water Supply Outlook

June 1, 1989



Foreword

How Forecasts Are Made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply outlook conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via radio telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

An error is associated with each forecast, and this error decreases as the season progresses and more data becomes available. To express the range of error that can be expected, "most probable" forecasts are issued along with a range representing a "reasonable minimum" and a "reasonable maximum". Actual streamflow can be expected to fall within this range in eight out of ten years. Additionally two specific scenarios are provided based on the assumption that subsequent precipitation will be "wet", above average, or "dry", below average.

For More Information

Copies of Monthly Water Supply Outlook Reports and other reports may be obtained from the states listed below. An annual snow survey data summary is published by the Soil Conservation Service for each of the western states. Historical snow survey data may be obtained at those same offices.

STATE	ADDRESS
Alaska	201 East 9th Ave., Suite 300, Anchorage, AK 99501-3687
Arizona	201 East Indianola Ave., Suite 200, Phoenix, AZ 85012
Colorado	2490 West 26th Ave., Building A, 3rd floor, Denver, CO 80211
Idaho	3244 Elder Street, Room 124, Boise, ID 83705
Montana	10 East Babcock, Room 443, Federal Building, Bozeman, MT 59715
Nevada	1201 Terminal Way, Room 219, Reno, NV 89502
New Mexico	517 Gold Ave. S.W., Room 3301, Albuquerque, NM 87102-3157
Oregon	1220 Southwest 3rd Ave., Room 1640, Portland, OR 97204
Utah	4402 Federal Building, 125 South State Street, Salt Lake City, UT 84147
Washington	W. 920 Riverside, Room 360, Spokane, WA 99201-1080
Wyoming	Federal Building, 100 "B" Street, Room 3124, Casper, WY 82601

In addition to state reports, a Water Supply Outlook for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

Water supply reports published by other agencies:

California — Snow Survey Branch, California Department of Water Resources, P.O. Box 388, Sacramento, CA 95802; British Columbia — The Ministry of Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia, V8V 1X5; Yukon Territory — Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory, Y1A3V1; Alberta, Environment Technical Services Division, 9820 106th St., Edmonton, Alberta T5K 2J6.

Colorado
Water Supply Outlook

and

Federal-State-Private
Cooperative Snow Surveys

Issued by

Wilson Scaling
Chief
Soil Conservation Service
Washington, D. C.

Released by

Sheldon G. Boone
State Conservationist
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Denver, Colorado

Prepared by

Mike Gillespie
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Soil Conservation Service
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Denver, Colorado

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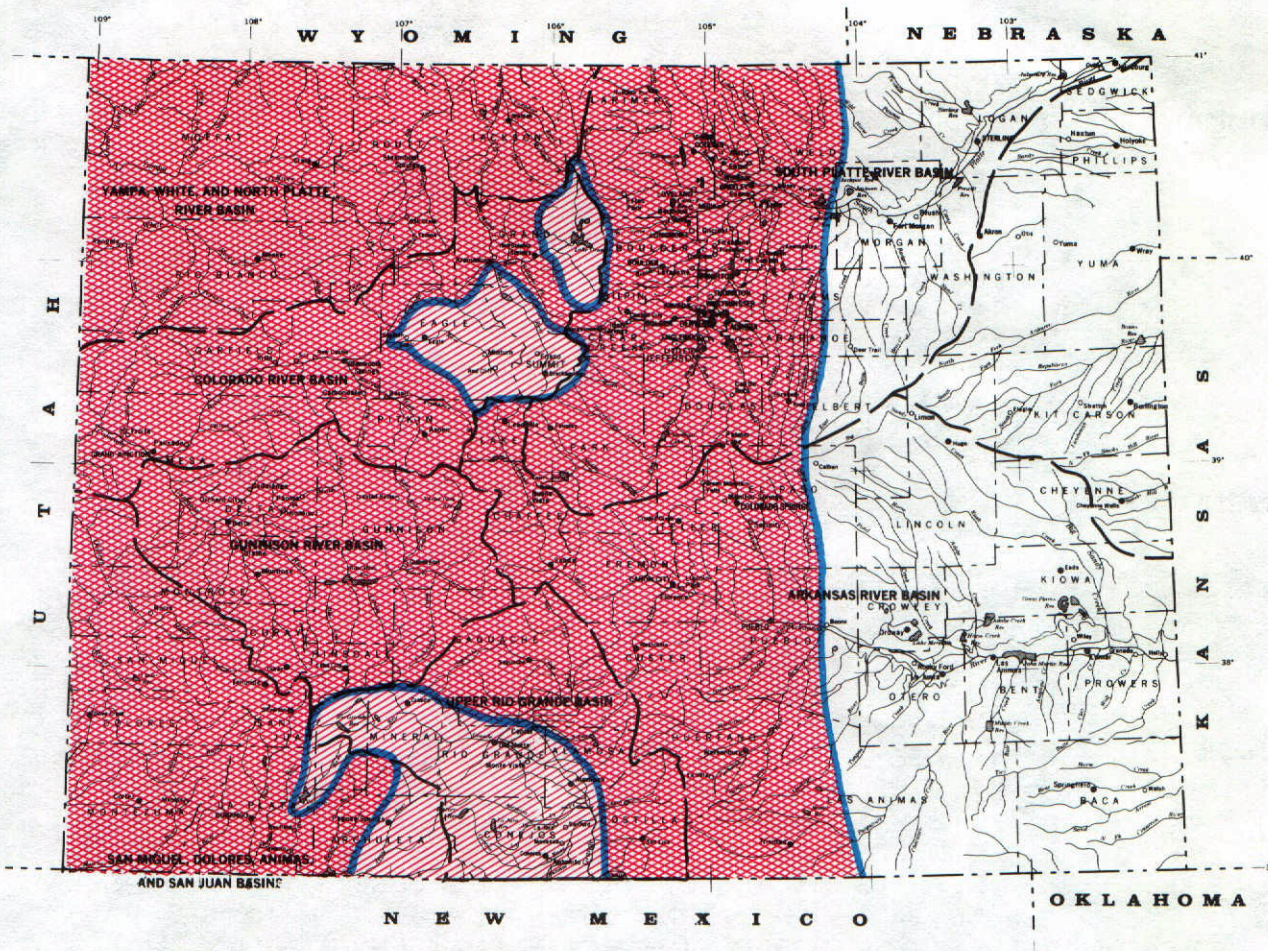
U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE



LEGEND

SPRING AND SUMMER PERIOD

- MUCH ABOVE AVERAGE
- ABOVE AVERAGE
- NEAR AVERAGE
- BELOW AVERAGE
- MUCH BELOW AVERAGE
- NOT FORECAST
- BASIN BOUNDARY

STREAMFLOW PROSPECTS
COLORADO

N

0 25 50 75 100 MI

0 50 100 150 KM

1

SOURCE: Data compiled by SCS Field Personnel.

REVISED JANUARY 1987 4-R-39356

GENERAL OUTLOOK

SUMMARY

THE UNUSUAL WARM AND DRY WEATHER CONDITIONS AT HIGHER ELEVATIONS CONTINUED THROUGH MAY ACROSS THE STATE. THE STATE'S SNOWPACK HAS DECLINED FOR THE THIRD CONSECUTIVE MONTH. STREAMFLOW FORECASTS HAVE DECREASED TO MUCH BELOW NORMAL VOLUMES NEARLY STATEWIDE. THIS HAS INCREASED THE RELIANCE UPON WATER STORED IN THE STATE'S RESERVOIRS, AND SPRING AND SUMMER RAINFALL TO ASSURE NORMAL CROP PRODUCTION THIS SEASON.

SNOWPACK

THE SNOWPACK STATISTICS IN COLORADO CONTINUED TO DECLINE DURING MAY. THE CURRENT READINGS ARE ONLY 32% OF AVERAGE, STATEWIDE. THIS YEAR'S JUNE SNOWPACK IS ONLY 51% OF LAST YEAR. WELL BELOW NORMAL READINGS WERE TAKEN ACROSS THE STATE. THE LOWEST MEASUREMENTS WERE IN THE YAMPA, WHITE, NORTH AND SOUTH PLATTE RIVER BASINS, WHERE THE SNOWPACK WAS LESS THAN 25% OF AVERAGE. THE RIO GRANDE AND COLORADO RIVER BASINS HAVE THE HIGHEST READINGS AT ONLY 39% OF AVERAGE. THESE LOW SNOWPACK FIGURES CAN BE ATTRIBUTED TO THE BELOW NORMAL PRECIPITATION AMOUNTS RECEIVED SINCE MARCH ACROSS THE STATE. THESE CONDITIONS HAVE BEEN ACCOMPANIED BY WARM TEMPERATURES. THE RESULT HAS BEEN THE LOSS OF THE LOW ELEVATION SNOWPACK SINCE APRIL, AND ADVANCED MELTING OF THE HIGHER ELEVATION SNOWPACK SINCE EARLY MAY. THE SNOWLINE ELEVATION IS NEAR 11,000 FEET AS OF JUNE 1.

PRECIPITATION

PRECIPITATION AMOUNTS RECEIVED AT LOWER ELEVATIONS WAS BELOW NORMAL THROUGHOUT MOST OF THE STATE. THE ONLY BASIN REPORTING NEAR NORMAL RAINFALL FOR THE MONTH WAS THE SOUTH PLATTE BASIN. SEVERAL ISOLOATED LOCATIONS EAST OF THE CONTINENTAL DIVIDE, RECEIVED PRECIPITATION AMOUNTS GREATER THAN 150% OF AVERAGE FOR MAY. THE LOWEST PRECIPITATION AMOUNTS WERE IN THE RIO GRANDE, SAN JUAN, DOLORES, ANIMAS, AND SAN MIGUEL BASINS. MOST STATIONS IN THESE AREAS RECEIVED LESS THAN 25% OF THE AVERAGE FOR THE MONTH. OTHER DRY LOCATIONS INCLUDE THE YAMPA, WHITE, COLORADO, AND GUNNISON BASINS, WHERE PRECIPITATION TOTALS WERE LESS THAN 75% OF AVERAGE FOR THE MONTH. TOTALS FOR THE WATER YEAR ARE SLIGHTLY BELOW NORMAL ACROSS THE STATE, WITH THE LOWEST ACCUMULATIONS IN THE RIO GRANDE, GUNNISON AND SOUTHWESTERN BASINS.

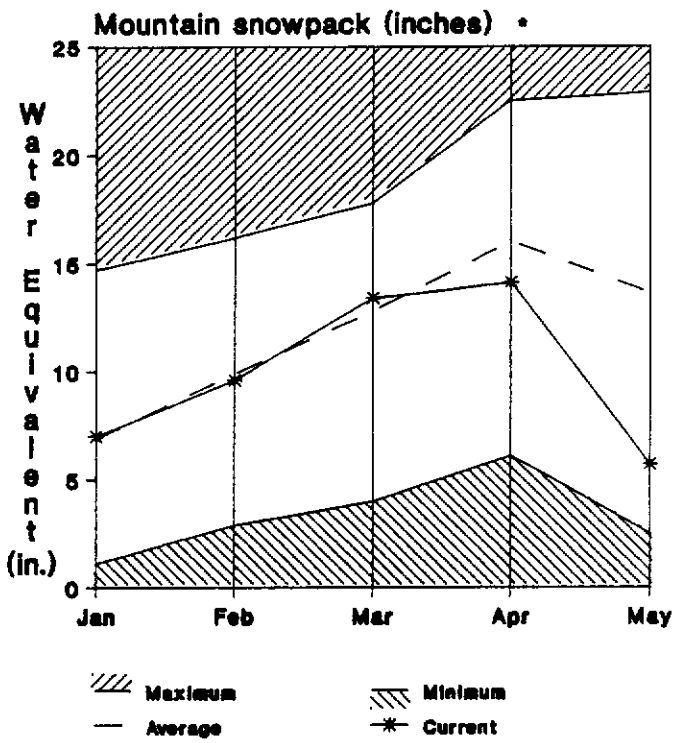
RESERVOIR

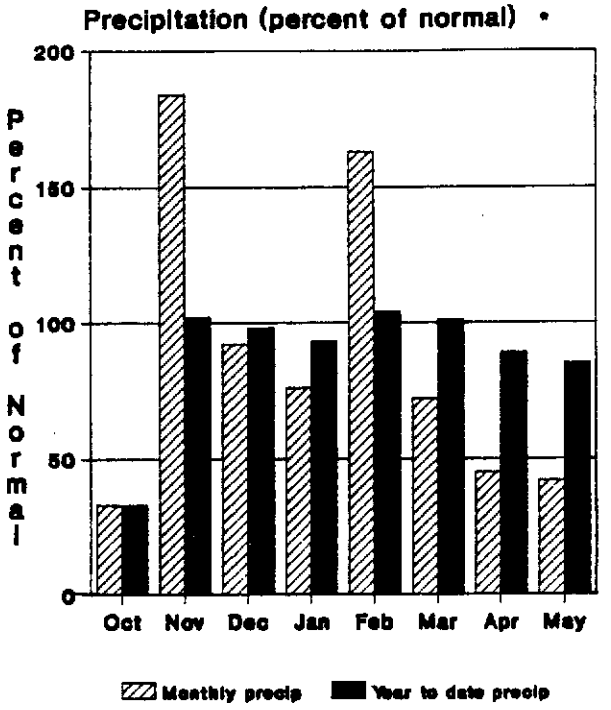
COLORADO'S RESERVOIRS CONTINUE TO STORE ABOVE NORMAL AMOUNTS. AS OF JUNE 1, THE MAJOR RESERVOIRS CONTAINED 120% OF THE LONG-TERM AVERAGE. WITH THE EXCEPTION OF THE SOUTH PLATTE BASIN, WHICH IS STORING 93% OF AVERAGE AMOUNTS, ALL OF THE BASINS IN COLORADO ARE STORING ABOVE NORMAL VOLUMES. THE HIGHEST STORAGE LEVELS ARE IN THE RIO GRANDE BASIN AT 147% OF AVERAGE. ALTHOUGH THESE VOLUMES ARE ABOVE THE LONG-TERM AVERAGE, MANY RESERVOIRS ARE STORING LESS THAN THE VOLUMES IN JUNE OF 1988. THE 12 RESERVOIRS IN THE ARKANSAS BASIN ARE ONLY STORING 54% OF LAST YEAR'S VOLUMES, WHILE THE STORAGE IN THE RIO GRANDE BASIN IS ONLY 84% OF LAST YEAR.

STREAMFLOW

PROJECTED STREAMFLOW VOLUMES FOR THIS SPRING AND SUMMER HAVE DECREASED AGAIN DURING MAY. BELOW NORMAL PRECIPITATION AND WARM TEMPERATURES IN MAY HAVE HELPED TO DECREASE THE POTENTIAL VOLUMES AT NEARLY ALL FORECAST POINTS IN COLORADO. FORECASTS OF LESS THAN 65% OF NORMAL VOLUMES ARE PROJECTED FOR THE GUNNISON, YAMPA, WHITE, ARKANSAS AND NORTH AND SOUTH PLATTE RIVER BASINS. THE REMAINING BASINS CAN EXPECT VOLUMES OF 65% TO 75% OF NORMAL, WITH THE HIGHEST FORECASTS IN THE HEADWATERS OF THE RIO GRANDE BASIN AT NEARLY 80% OF AVERAGE FLOWS. FORECASTS OF ONLY 50% OF NORMAL ARE PROJECTED FOR THE MAIN STEM OF THE GUNNISON AND ARKANSAS RIVERS.

Gunnison River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE GUNNISON BASIN HAS DECREASED FROM 46% OF AVERAGE ON MAY 1 TO 26% OF AVERAGE ON JUNE 1. THIS IS 38% OF LAST YEAR'S JUNE 1 READING. PRECIPITATION AT THE LOWER ELEVATIONS DURING MAY HAS BEEN LOW AS WELL, BETWEEN 35% AND 45% OF AVERAGE. FOR THE WATER YEAR IT IS BETWEEN 80% AND 90% OF AVERAGE. RESERVOIR STORAGE FOR THIS TIME OF YEAR IS 123% OF AVERAGE, SLIGHLTY LOWER THAN LAST YEAR'S 134%. STREAMFLOWS ARE FORECAST TO BE BETWEEN 40% TO 60% OF AVERAGE DURING THE REMAINDER OF THE FORECAST PERIOD.

For more information contact your local Soil Conservation Service office.

GUNNISON RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
TAYLOR RIVER blw Taylor Park Res 2	APR-SEP	75	64			90	66	118
EAST RIVER at Almont	APR-SEP	130	62			155	109	210
GUNNISON R INFLOW to Blue Mesa Res 2	APR-SEP	500	61			640	395	821
MUDDY CREEK inf to Paonia Res	APR-JUL	62	58			76	49	107
N.F. GUNNISON RIVER nr Somerset 2	APR-SEP	190	61			250	130	314
SURFACE CREEK at Cedaredge	APR-SEP	13.0	67			18.0	8.0	19.3
UNCOMPAHGRE RIVER inf to Ridgway Res	APR-JUL	43	44			54	32	98
UNCOMPAHGRE RIVER at Colona 2	APR-SEP	80	39			85	35	155
GUNNISON RIVER nr Grand Junction 2	APR-SEP	700	50			980	460	1405

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
BLUE MESA	830.0	525.0	404.0	448.1
CRAWFORD	14.3	13.7	14.1	12.4
FRUITGROWERS	4.3	3.0	3.8	3.9
FRUITLAND	9.2	1.6	3.4	5.0
MORROW POINT	121.0	117.0	114.0	109.6
TAYLOR PARK	106.0	73.3	81.6	90.7

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
UPPER GUNNISON BASIN	4	35	19
SURFACE CREEK BASIN	2	6	2
UNCOMPAHGRE BASIN	1	30	27

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
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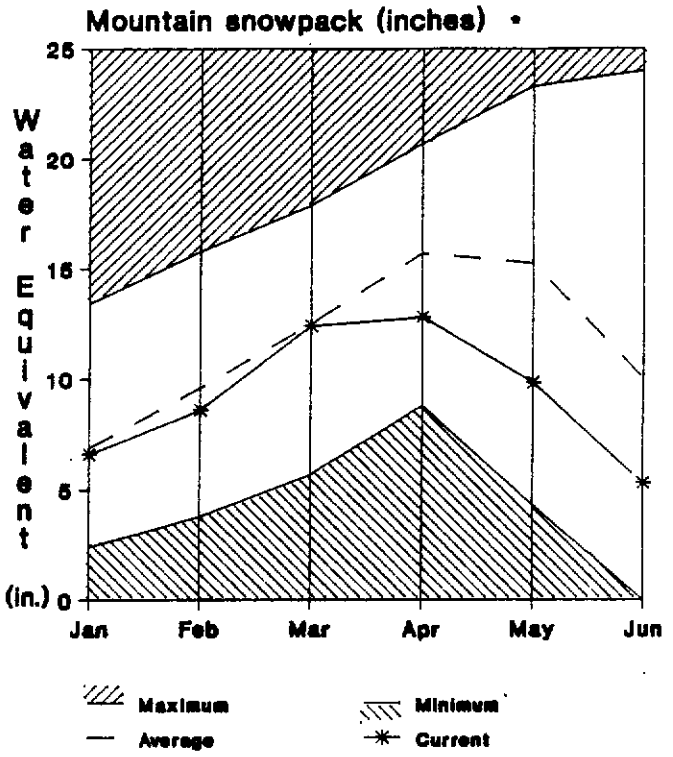
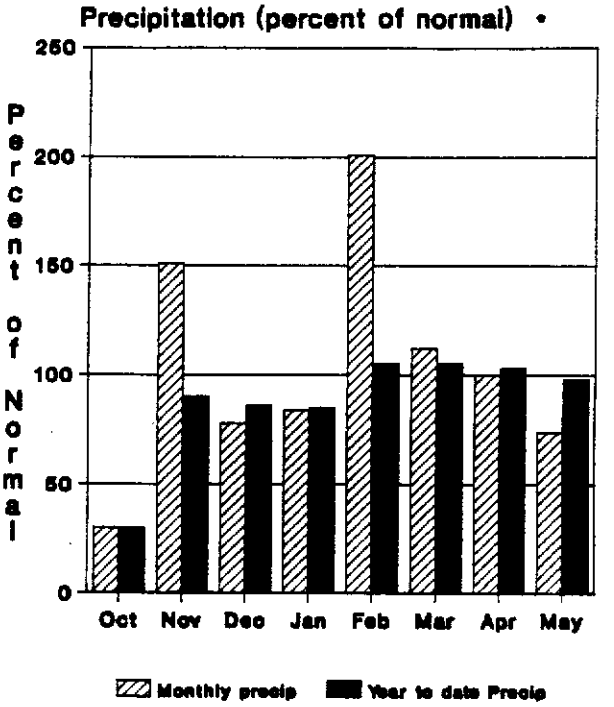
(2) - Corrected for upstream diversions or changes in reservoir storage.

Colorado River Basin in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

MEASUREMENTS TAKEN IN THE COLORADO BASIN NEAR THE END OF MAY SHOW THE SNOWPACK TO BE 39% OF AVERAGE. THIS IS A SIGNIFICANT DECREASE FROM LAST MONTH'S READING OF 59% OF AVERAGE AND IS ONLY 55% OF LAST YEAR. PRECIPITATION DURING MAY WAS 74% OF AVERAGE AND IS 98% OF AVERAGE FOR THE WATER YEAR. RESERVOIR STORAGE IN THE COLORADO BASIN IS THE SECOND LOWEST IN THE STATE AT 112% OF AVERAGE. STREAMFLOWS ARE FORECAST TO BE WELL BELOW AVERAGE IN THIS WATERSHED, RANGING FROM 65% TO 75% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

UPPER COLORADO RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
COLORADO RIVER nr Granby 2	APR-JUL	160	74			197	123	216
WILLOW CK INF to Willow Creek Res	APR-JUL	35	70			57	13.5	50
WILLIAMS FORK near Parshall	APR-SEP	45	63			64	26	71
E. F. TROUBLESOME CR nr Troublesome	APR-SEP	12.0	62			18.0	6.0	19.4
BLUE RIVER blw Dillon 2	APR-SEP	135	75			160	110	180
BLUE RIVER blw Green Mountain Res 2	APR-JUL	185	74			225	163	264
EAGLE RIVER blw Gypsum 2	APR-SEP	245	72			270	220	341
COLORADO RIVER nr Dotsero 2	APR-SEP	1090	68			1340	835	1592
FRYINGPAN RIVER inf to Ruedi Res	APR-JUL	81	63			82	40	97
ROARING FORK at Glenwood Springs 2	APR-SEP	509	63			545	455	789
COLORADO RIVER nr Cameo 2	APR-SEP	1670	63			2020	1380	2661

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
DILLON	250.7	247.0	246.0	210.0
LAKE GRANBY	465.6	268.1	309.1	266.0
GREEN MOUNTAIN	139.0	64.6	70.0	69.9
HOMESTAKE	43.0	17.0	18.0	14.0
RUEDI	102.0	76.2	64.9	74.4
VEGA	32.0	26.9	24.5	26.8
WILLIAMS FORK	97.0	67.0	63.0	49.3
WILLOW CREEK	9.0	6.7	7.9	7.5

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BLUE RIVER BASIN	4	73	39
UPPER COLORADO RIVER BASI	11	52	34
PLATEAU CREEK BASIN	2	6	2
ROARING FORK BASIN	1	52	88
WILLIAMS FORK BASIN	0	0	0
WILLOW CREEK BASIN	2	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
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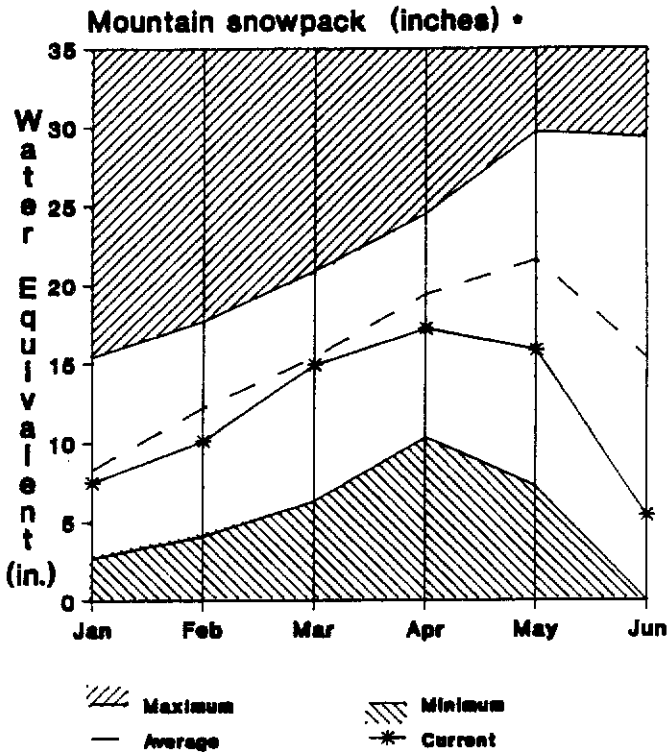
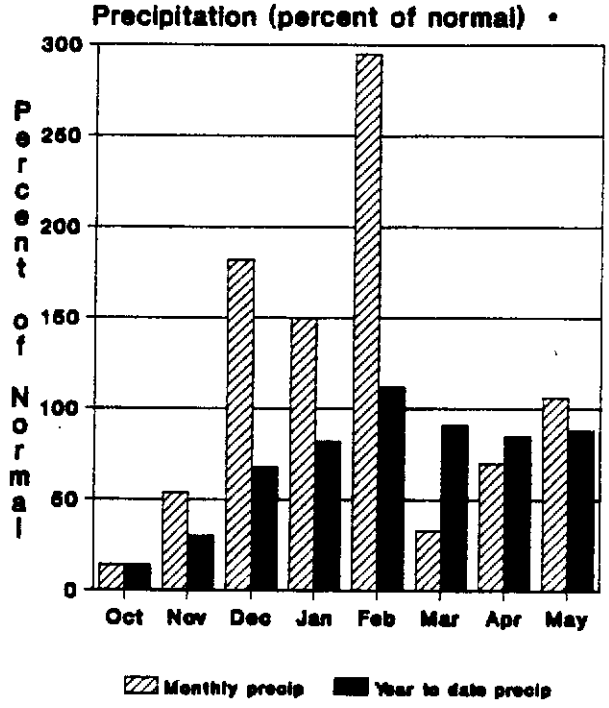
(2) - Corrected for upstream diversions or changes in reservoir storage.

South Platte River Basin in Colorado





• Based on selected stations

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE SOUTH PLATTE RIVER BASIN IS 24% OF AVERAGE, ACCORDING TO MEASUREMENTS TAKEN NEAR THE END OF MAY. THIS COMPARES TO 36% OF LAST YEAR, AND REPRESENTS A SIGNIFICANT DECREASE FROM LAST MONTH'S 57% OF AVERAGE READINGS. PRECIPITATION WAS 6% ABOVE AVERAGE FOR MAY, BUT IS ONLY 88% OF AVERAGE FOR THE WATER YEAR. RESERVOIR STORAGE IN THE SOUTH PLATTE BASIN IS THE LOWEST IN THE STATE AT 93% OF AVERAGE. STREAMFLOWS ARE FORECAST TO BE FROM 50% TO 60% OF AVERAGE DURING THE REMAINDER OF THE FORECAST PERIOD.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
SOUTH PLATTE RIVER at South Platte	APR-SEP	135	63			210	94	214
BEAR CREEK at Morrison	APR-SEP	13.8	46			27	9.9	30
CLEAR CREEK at Golden 2	APR-SEP	80	61					131
ST. VRAIN CREEK at Lyons	APR-SEP	48	60					80
SOUTH BOULDER CR nr Eldorado Springs	APR-SEP	25	60			38	21	42
BOULDER CREEK at Orodell	APR-SEP	30	63					48
BIG THOMPSON RIVER at Drake 2	APR-SEP	67	58					116
CACHE LA POUDRE R at Canyon Mouth 2	APR-SEP	150	52					288

RESERVOIR STORAGE (1000AF)

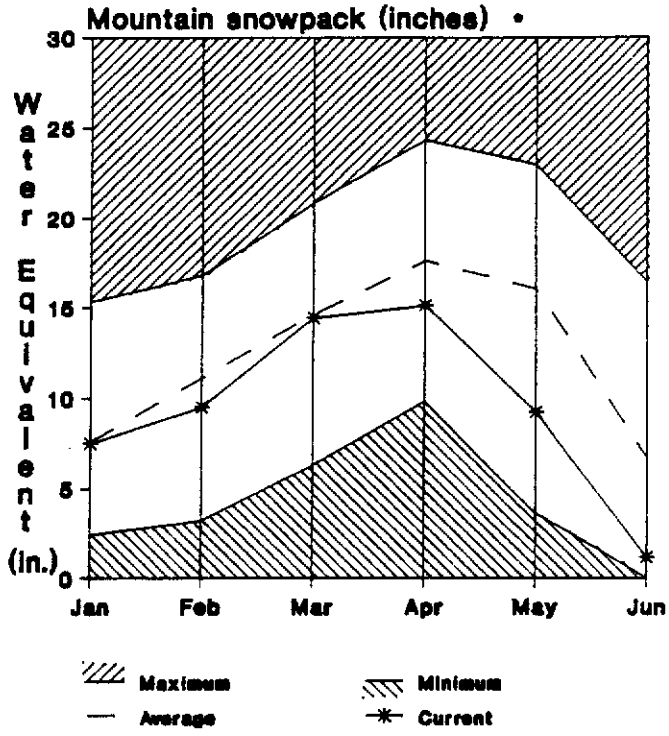
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
ANTERO	16.0	20.0	20.0	14.7
BARR LAKE	32.0	25.0	30.0	25.0
BLACK HOLLOW	8.0	4.0	5.0	4.4
BOYD LAKE	49.0	25.0	25.7	46.7
CACHE LA POUDRE	10.0	10.0	9.0	8.6
CARTER	113.5	84.0	96.2	101.4
CHAMBERS LAKE	9.0	3.0	4.0	5.5
CHEESMAN	79.0	60.0	60.0	56.6
COBB LAKE	34.0	11.0	15.0	14.2
ELEVEN MILE	97.8	90.0	90.0	90.3
EMPIRE	38.0	27.1	34.0	30.3
FOSSIL CREEK	12.0	9.0	9.0	7.3
GROSS	43.0	16.0	16.0	27.7
HALLIGAN	6.4	3.3	6.0	6.1
HORSECREEK	16.0	13.5	14.0	13.9
HORSETOOTH	143.5	111.3	127.2	123.0
JACKSON	35.0	30.7	34.3	32.4
JULESBURG	28.0	20.4	21.7	23.2
LAKE LOVELAND	14.0	10.5	11.3	10.6
LONE TREE	9.0	7.7	8.9	8.1
MARIANO	6.0	3.4	5.7	5.3
MARSHALL	10.0	7.8	9.4	8.7
MARSTON	18.0	13.0	8.0	16.3
MILTON	24.0	18.0	21.0	16.0
POINT OF ROCKS	70.0	64.0	71.7	65.3
PREWITT	33.0	28.0	28.0	24.0
RIVERSIDE	63.1	53.0	60.7	53.6
SPINNEY MOUNTAIN	48.0	36.0	36.0	---
STANDLEY	42.0	31.4	34.3	28.5
TERRY LAKE	8.0	7.3	8.0	6.4
UNION	13.0	7.4	11.3	11.4
WINDSOR	19.0	12.2	13.0	12.0

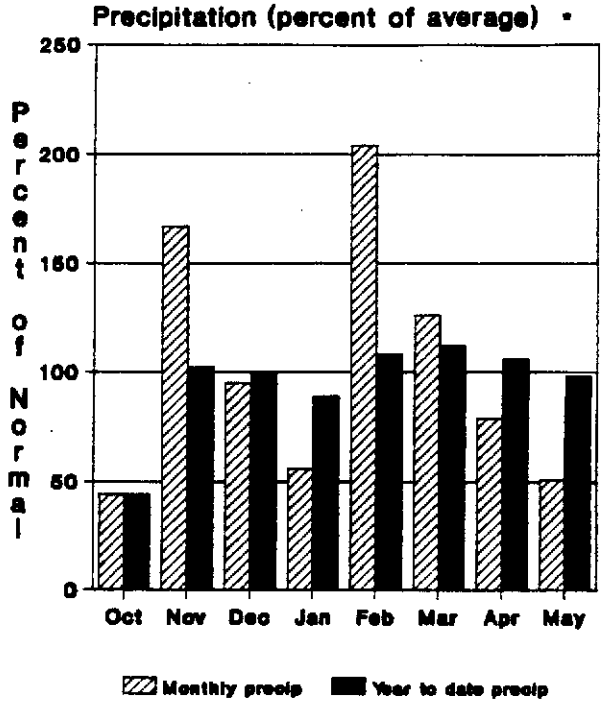
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
BIG THOMPSON BASIN	2	59	21
BOULDER CREEK BASIN	3	0	0
CACHE LA POUDRE BASIN	3	29	25
CLEAR CREEK BASIN	1	53	53
SAINT VRAIN BASIN	1	0	0
UPPER SOUTH PLATTE BASIN	0	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

Yampa, White and North Platte River Basins in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

SNOWPACKS IN THE YAMPA, WHITE AND NORTH PLATTE RIVER BASINS DECREASED DRAMATICALLY DURING MAY. THE YAMPA AND WHITE BASINS ARE 11% OF AVERAGE THIS MONTH ACCORDING TO THE MEASUREMENTS TAKEN NEAR THE END OF MAY. THIS COMPARES TO 16% OF LAST YEAR'S READINGS. THE NORTH PLATTE'S SNOWPACK IS SLIGHTLY HIGHER AT 20% OF AVERAGE, WHICH IS 25% OF LAST YEAR. PRECIPITATION DURING MAY FOR THESE BASINS WAS ONLY 51% OF AVERAGE, AND FOR THE WATER YEAR IS 98% OF AVERAGE. STREAMFLOWS IN THESE BASINS ARE FORECAST TO BE BETWEEN 50% TO 65% OF AVERAGE FOR THE REMAINDER OF THE IRRIGATION SEASON.

For more information contact your local Soil Conservation Service office.

YAMPA, WHITE, AND NORTH PLATTE RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
LARAMIE RIVER near Woods 2	APR-SEP	75	54	82	68	106	44	139
NORTH PLATTE RIVER near Northgate	APR-SEP	155	55	186	121	210	99	280
YAMPA RIVER at Steamboat Springs	APR-SEP	190	63			225	157	302
ELK RIVER at Clark	APR-SEP	140	65			162	119	215
YAMPA RIVER nr Maybell	APR-SEP	580	57			705	455	1026
LITTLE SNAKE nr Slater, CO	APR-SEP	90	53			132	48	169
LITTLE SNAKE RIVER nr Dixon	APR-SEP	170	49			255	83	349
LITTLE SNAKE RIVER at Lily	APR-SEP	200	51			280	122	390
WHITE RIVER near Meeker	APR-SEP	215	85			260	172	329

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY:	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
LARAMIE RIVER BASIN	1	5	5
NORTH PLATTE RIVER BASIN	3	39	28
ELK RIVER BASIN	0	0	0
YAMPA RIVER BASIN	3	15	15
WHITE RIVER BASIN	2	5	5
LITTLE SNAKE RIVER BASIN	1	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
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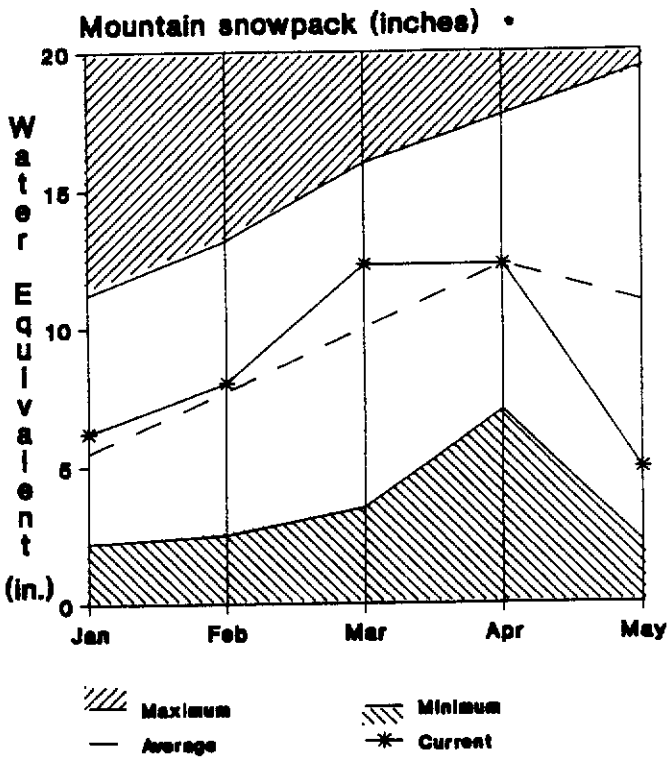
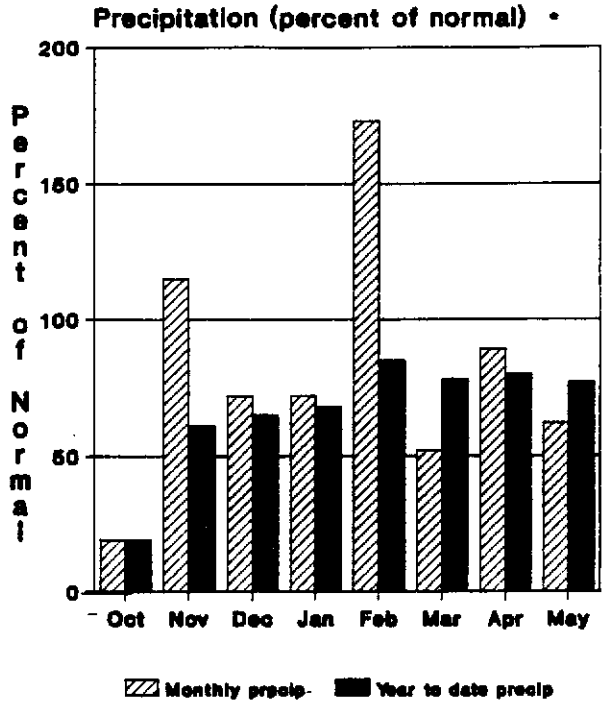
Arkansas River Basin in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

THE SNOWPACK IN THE ARKANSAS BASIN IS WELL BELOW AVERAGE FOR JUNE 1 AT 25% OF AVERAGE. THIS IS 48% OF LAST YEAR'S JUNE 1 READINGS. PRECIPITATION DURING MAY WAS THE SECOND HIGHEST IN THE STATE, BUT WAS STILL BELOW THE LONG-TERM AVERAGE. WATER YEAR PRECIPITATION IS BELOW NORMAL AS WELL. RESERVOIR STORAGE IN THE BASIN'S MAJOR RESERVOIRS IS THE SECOND HIGHEST IN THE STATE AT 144% OF AVERAGE. HOWEVER, THIS IS ONLY 54% OF LAST YEAR'S STORAGE. GREAT PLAINS RESERVOIR IS ONLY 6% OF LAST YEAR AND JOHN MARTIN RESERVOIR AND TRINIDAD LAKE ARE 33% OF LAST YEAR. STREAMFLOW FORECASTS FOR THE REMAINDER OF THE FORECAST PERIOD REMAIN THE SAME AS LAST MONTH'S FORECASTS.

For more information contact your local Soil Conservation Service office.

ARKANSAS RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
CHALK CREEK nr Nathrop	APR-SEP	13.5	61			23	4.5	22
ARKANSAS RIVER at Salida 2	APR-SEP	195	63			305	87	310
GRAPE CREEK nr Westcliffe	APR-SEP	11.0	61			26	4.3	18.0
ARKANSAS RIVER abv Pueblo 2	APR-SEP	155	50			315	65	312
HUERFANO RIVER nr Redwing	APR-SEP	10.0	63			13.0	7.0	16.0
CUCHARAS RIVER nr La Veta	APR-SEP	6.0	62			14.0	3.3	13.0
PURGATOIRE RIVER blw Trinidad Lake 2	APR-SEP	28	68			43	12.8	41

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	++ USEABLE STORAGE ++ THIS YEAR	LAST YEAR	AVG.
ADOBE	70.0	13.9	41.9	13.2
CLEAR CREEK	11.0	4.0	6.2	5.4
GREAT PLAINS	150.0	3.2	55.7	32.8
HOLBROOK	7.0	2.8	4.7	3.2
HORSE CREEK	28.0	3.7	9.8	5.2
JOHN MARTIN	616.0	94.1	258.6	38.4
LAKE HENRY	8.0	4.3	4.4	4.8
MEREDITH	42.0	6.7	32.6	8.3
PUEBLO	354.0	188.1	243.1	99.3
TRINIDAD	167.0	15.3	46.5	33.9
TURQUOISE	126.6	85.0	118.3	43.1
TWIN LAKES	86.0	55.1	50.0	38.7

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	THIS YEAR AS % OF AVERAGE
UPPER ARKANSAS BASIN	4	48	25
CUCHARAS & HUERFANO RIVER	0	0	0
PURGATOIRE RIVER BASIN	0	0	0

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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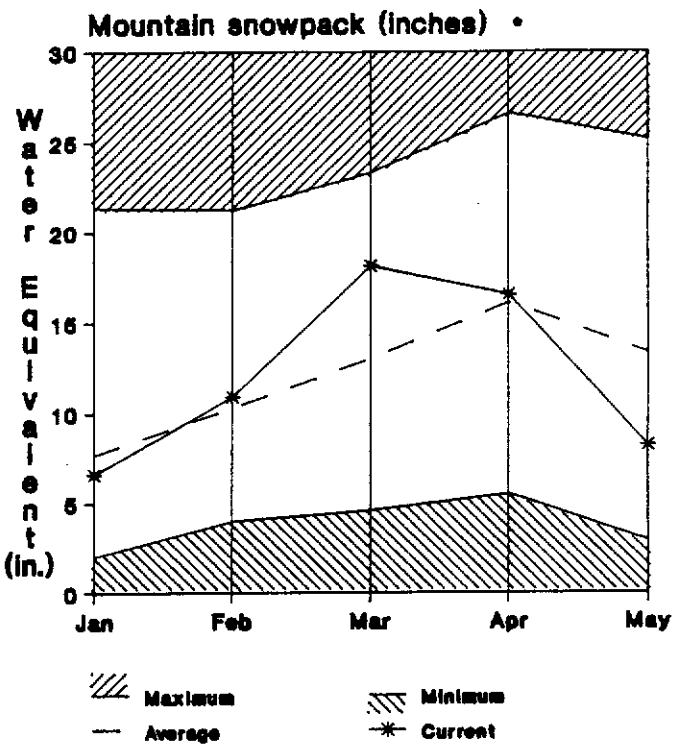
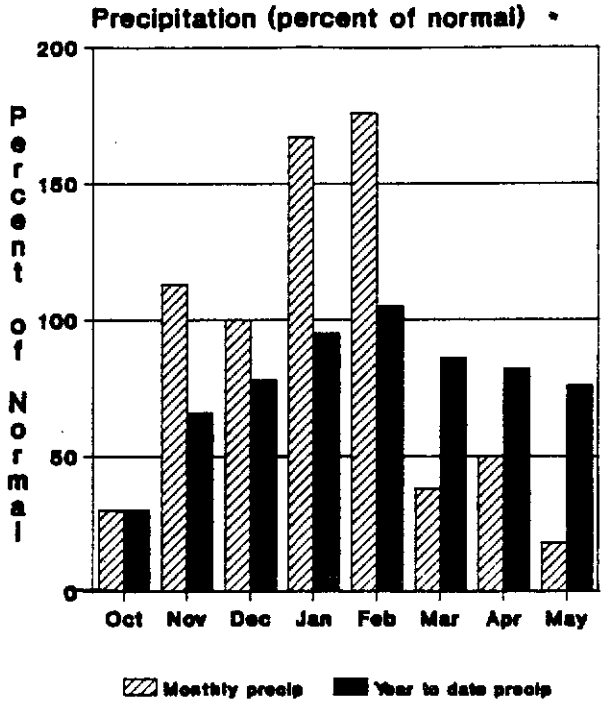
(2) - Corrected for upstream diversions or changes in reservoir storage.

Rio Grande Basin in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

LATE MAY SNOWPACK MEASUREMENTS IN THE RIO GRANDE BASIN SHOW A VERY SIGNIFICANT DROP FROM MEASUREMENTS TAKEN AT THE END OF APRIL. JUNE 1 READINGS ARE 39% OF AVERAGE COMPARED TO MAY 1 READINGS OF 62% OF AVERAGE. PRECIPITATION DURING MAY AT THE LOWER ELEVATIONS HAS BEEN BELOW NORMAL AS WELL, RANGING FROM 10% TO 15% OF AVERAGE FOR THE BASIN. WATER YEAR PRECIPITATION IS BELOW NORMAL ALSO, AVERAGING BETWEEN 70% AND 80% OF AVERAGE. RESERVOIR STORAGE IN THE RIO GRANDE BASIN IS THE HIGHEST IN THE STATE AT 147% OF AVERAGE. THIS COMPARES TO 84% OF AVERAGE LAST YEAR ON JUNE 1. STREAMFLOWS ARE FORECAST TO BE BELOW AVERAGE DURING THE REMAINDER OF THE FORECAST PERIOD, RANGING FROM 61% TO 81% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
RIO GRANDE at Thirty Mile Bridge 2	APR-SEP	108	81			131	85	133
RIO GRANDE at Wagon Wheel Gap 2	APR-SEP	260	81			340	180	322
SOUTH FORK RIO GRANDE at South Fork	APR-SEP	102	77			130	74	132
RIO GRANDE nr Del Norte 2	APR-SEP	400	78			500	300	510
SAGUACHE CREEK nr Saguache	APR-SEP	28	81			39	8.1	33
ALAMOSA CREEK abv Terrace Res	APR-SEP	55	79			74	36	70
LA JARA CREEK nr Capulin	MAR-JUL	7.5	82			10.5	4.5	9.2
TRINCHERA WATER SUPPLY 2	APR-JUL	16.0	82			27	9.0	29
CONEJOS RIVER blw Platoro Res 2	APR-SEP	52	79			63	41	66
CONEJOS RIVER nr Mogote 2	APR-SEP	160	78			205	115	204
SAN ANTONIO RIVER at Ortiz	APR-SEP	13.8	85			16.7	10.9	16.3
LOS PINOS nr Ortiz	APR-SEP	62	84			72	52	74
CULEBRA CREEK at San Luis 2	APR-SEP	13.8	85			25	5.6	21

RESERVOIR STORAGE (1000AF)

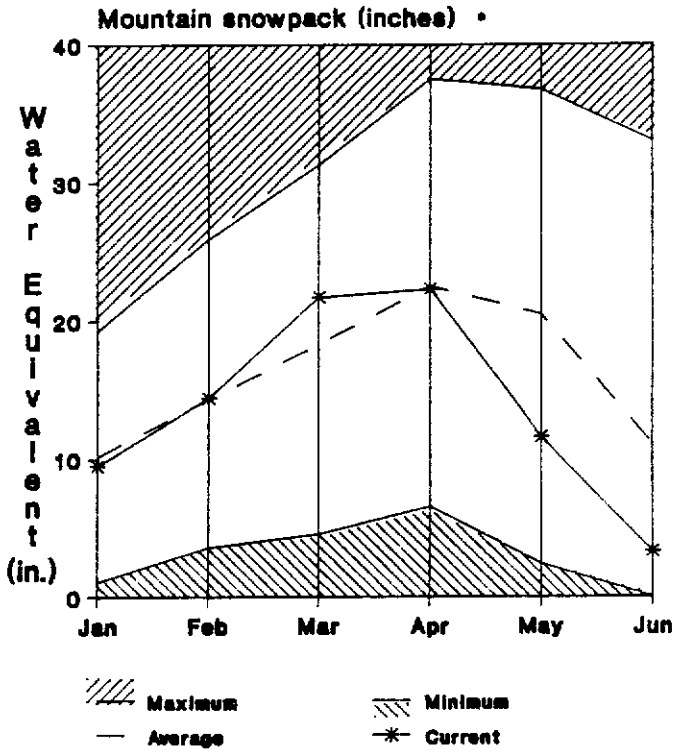
RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
CONTINENTAL	27.0	7.1	13.2	7.3
PLATORO	60.0	33.5	45.0	13.2
RIO GRANDE	51.0	26.4	14.7	23.7
SANCHEZ	103.0	29.7	39.2	15.1
SANTA MARIA	45.0	18.2	15.4	9.9
TERRACE	18.0	8.6	8.0	7.8

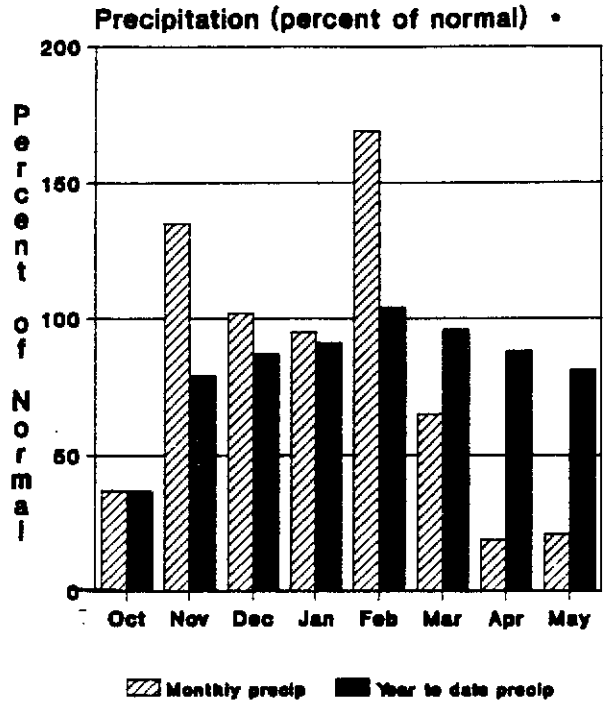
WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
ALAMOSA CREEK BASIN	1	0	0
CONEJOS & RIO SAN ANTONIO	0	0	0
CULEBRA & TRINCHERA CREEK	0	0	0
UPPER RIO GRANDE BASIN	2	89	50

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
REAS. MAX. and REAS. MIN. forecasts are for 10% and 90% exceedance levels with the exception of (1) below.
(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
(2) - Corrected for upstream diversions or changes in reservoir storage.

San Miguel, Dolores, Animas and San Juan Basins in Colorado





• **Based on selected stations**

WATER SUPPLY OUTLOOK

SNOWPACK MEASUREMENTS IN THE DOLORES, SAN JUAN, SAN MIGUEL AND ANIMAS BASINS SHOW A DECREASE SINCE LAST MONTH TO 33% OF AVERAGE. THIS IS 62% OF LAST YEAR'S JUNE 1 MEASUREMENT. PRECIPITATION DURING MAY WAS WELL BELOW AVERAGE OVER THE AREA AND IS BELOW AVERAGE FOR THE WATER YEAR AS WELL. RESERVOIR STORAGE IN THESE BASINS IS 34% ABOVE THE LONG-TERM AVERAGE AND IS THE THIRD HIGHEST IN THE STATE. STREAMFLOWS ARE FORECAST TO BE WELL BELOW AVERAGE FOR THE REST OF THE FORECAST PERIOD, RANGING FROM 65% TO 70% OF AVERAGE.

For more information contact your local Soil Conservation Service office.

SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN RIVER BASINS

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	MOST PROBABLE (1000AF)	MOST PROBABLE (% AVG.)	WET SUBS. (1000AF)	DRY SUBS. (1000AF)	REAS. MAX. (1000AF)	REAS. MIN. (1000AF)	25 YR. AVG. (1000AF)
DOLORES RIVER at Dolores 2	APR-SEP	190	69			225	154	277
DOLORES RIVER inf to McPhee Res 2	APR-JUL	195	67			265	129	293
SAN MIGUEL RIVER nr Placerville	APR-SEP	100	68			128	72	146
BEAVER CREEK nr Norwood	MAY-JUL	13.0	43					29
WEST NATURITA CREEK at Upper Station	MAY-JUL	4.5	45					9.5
SAN JUAN RIVER nr Carracus	APR-SEP	300	70			395	205	430
PIEDRA RIVER nr Arboles	APR-SEP	155	66			186	127	236
LOS PINOS RIVER inf to Vallecito Res	APR-SEP	160	71			189	137	226
SAN JUAN RIVER nr Archuleta 2	APR-JUL	500	65			705	330	764
ANIMAS RIVER at Durango	APR-SEP	325	67			375	275	486
FLORIDA RIVER inf to Lemon Res	APR-JUL	46	81			56	36	57
FLORIDA RIVER at Bondad 2	APR-SEP	20	53			26	14.7	38
LA PLATA RIVER at Hesperus	APR-SEP	16.0	67			23	12.9	27
MANCOS RIVER nr Towaoc 2	MAR-JUL	14.0	50			17.6	10.4	28

RESERVOIR STORAGE (1000AF)

RESERVOIR	USEABLE CAPACITY	** USEABLE STORAGE ** THIS YEAR	LAST YEAR	AVG.
GROUNDHOG	21.7	18.3	17.1	19.2
JACKSON GULCH	10.0	10.0	10.0	9.0
LEMON	40.0	34.0	34.0	28.4
NARRAGUINNEP	19.0	19.0	19.0	16.4
NAVAJO	1696.0	1440.0	—	1051.0
VALLECITO	126.0	101.2	100.0	87.0

WATERSHED SNOWPACK ANALYSIS

WATERSHED	NO. COURSES AVG'D	THIS YEAR AS % OF LAST YR.	AVERAGE
ANIMAS RIVER BASIN	4	25	17
DOLORES RIVER BASIN	2	0	0
SAN MIGUEL RIVER BASIN	0	0	0
SAN JUAN RIVER BASIN	2	101	47

WET SUBS. and DRY SUBS. represent 130 and 70 percent subsequent precipitation events respectively.
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(1) - REAS. MAX. and REAS. MIN. forecasts are for 5% and 95% exceedance levels.
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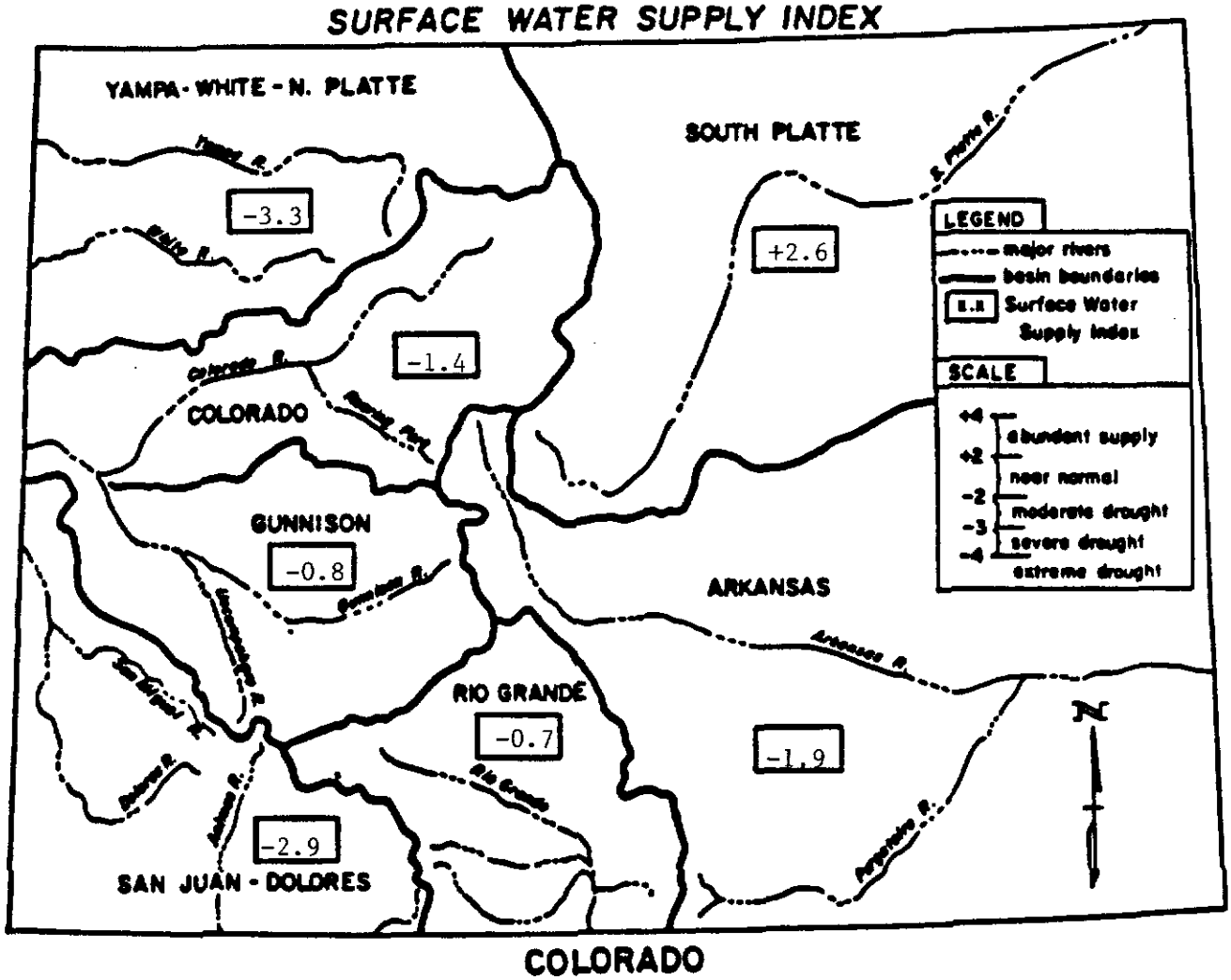
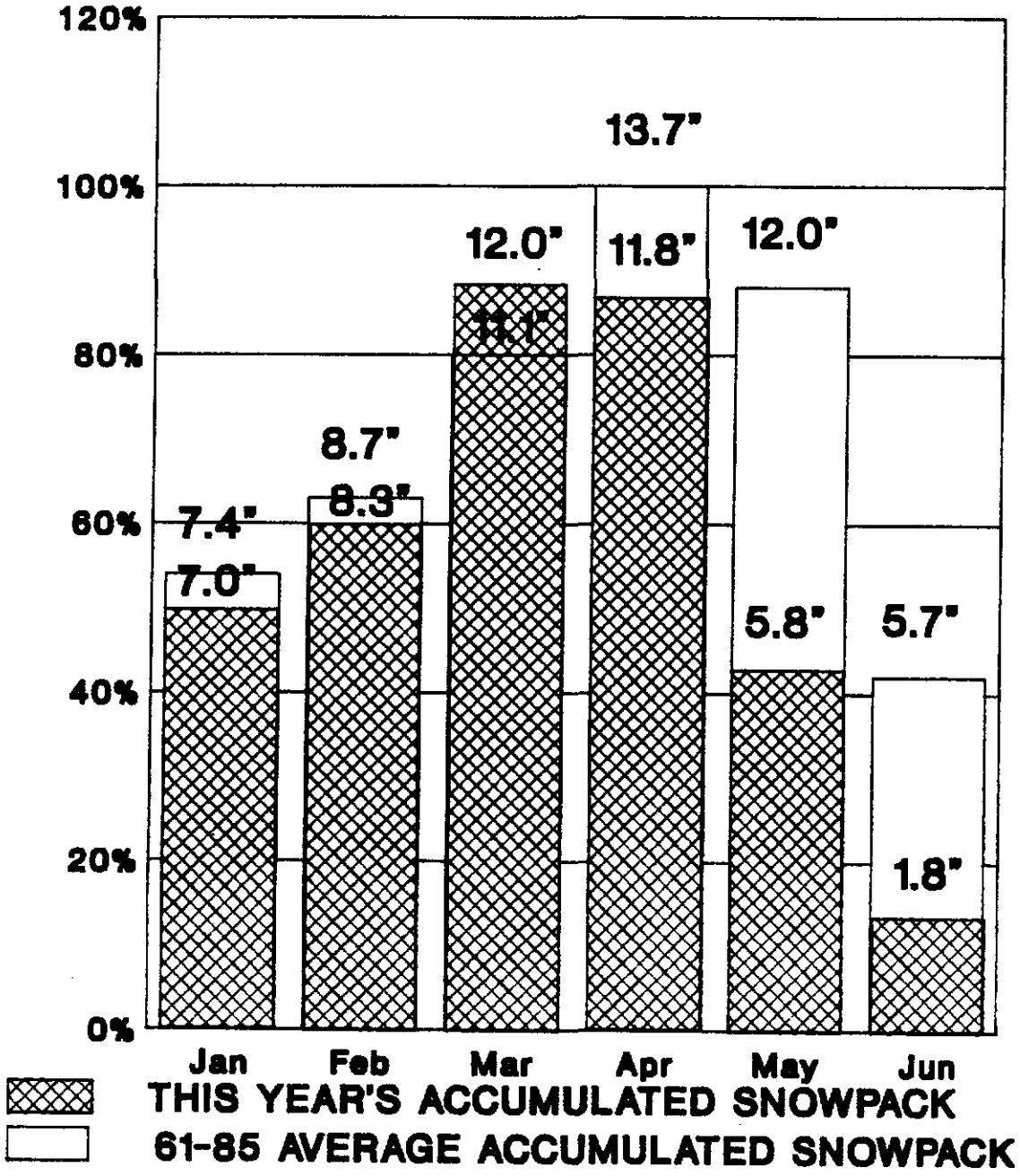
Date: JUNE 1, 1989

SURFACE WATER SUPPLY INDEX



The Surface Water Supply Index (SWSI) is a weighted value derived for each major basin which generally expresses the potential availability of the forthcoming season's water supply. The components used in computing the index are reservoir storage, snowpack water equivalent, and precipitation. The SWSI number for each basin ranges from a -4.00 (prospective water supplies extremely poor) to a +4.00 (prospective water supplies plentiful). The SWSI number is only a general indicator of surface water supply conditions. Further data analyses may be required in specific situations to more fully understand the impacts of abnormally dry or wet conditions suggested by the SWSI. Development of the SWSI has been a cooperative effort between the Colorado State Engineers' Office and the Soil Conservation Service.

Colorado Snowpack Progress
1989



Each month's statewide snow water equivalent as compared to the 1961-1985 average, and the percent of maximum seasonal accumulation.

S N O W C O U R S E D A T A

JUNE 1989

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-85
COLORADO						
APISHAPA SNOTEL	10000	6/01/89	---	.0	.0	.0
ARROW SNOTEL	9900	6/01/89	---	.0	2.1	3.9
BEAR LAKE SNOTEL	9500	6/01/89	---	.0	1.1	12.5
BEARTOWN SNOTEL	11600	6/01/89	---	.0	2.1	3.9
BERTHOUD SUM SNOTEL	11300	6/01/89	---	2.0	15.1	12.5
BERTHOUD SUMMIT	11300	5/30/89	21	7.9	15.0	15.0
BISON LAKE SNOTEL	10880	6/01/89	---	17.0	21.6	24.0
BOULDER FALLS	10000	6/01/89	0	.0	.0	--
BRUMLEY SNOTEL	10600	6/01/89	---	.0	.5	5.4
BURRO MTN SNOTEL	9000	6/01/89	---	.0	.0	3.0
BUTTE SNOTEL	10000	6/01/89	---	.0	.0	6.1
CAMERON PASS	10300	5/30/89	15	7.0	17.4	24.0
CASCADE SNOTEL	8850	6/01/89	---	.0	.0	.0
CASCADE	8850	5/30/89	0	.0	.0	--
CATHEDRAL BLF SNOTEL	8500	6/01/89	---	.2	.0	2.4
COLUMBINE SNOTEL	9300	6/01/89	---	.0	.0	2.6
COLUMBINE LODGE	9300	5/31/89	0	.0	.0	2.0
COLUMBINE PS SNOTEL	9400	6/01/89	---	.0	.0	.0
COPELAND LAKE SNOTEL	8600	6/01/89	---	.0	.0	.0
COPPER MTN SNOTEL	10450	6/01/89	---	.0	.0	4.3
CROSHO SNOTEL	9500	6/01/89	---	.0	.0	.0
CULEBRA #2 SNOTEL	10000	6/01/89	---	.0	.0	.0
CUMBRES TRESTLE SNTL	10000	6/01/89	---	.0	.0	3.8
DEADMAN HILL SNOTEL	10200	6/01/89	---	.7	13.2	11.3
DRY LAKE SNOTEL	8200	6/01/89	---	.0	.0	3.4
EL DIENTE PK SNOTEL	10000	6/01/89	---	.0	1.4	10.1
ELK RIVER SNOTEL	8600	6/01/89	---	.0	.0	7.6
FREMONT PASS SNOTEL	11400	6/01/89	---	17.7	17.1	16.9
FREMONT PASS	11400	5/31/89	11	4.3	8.4	11.0
GRIZZLY PEAK SNOTEL	11100	6/01/89	---	.0	1.8	10.1
GRIZZLY PEAK	11100	5/31/89	19	7.9	8.4	12.5
HAGERMAN TNL SNOTEL	11150	6/01/89	---	14.1	20.7	25.3
HOOSIER PASS SNOTEL	11400	6/01/89	---	.0	.2	10.2
IDARADO SNOTEL	9800	6/01/89	---	.0	.0	6.3
INDEPENDENCE PS SNTL	10600	6/01/89	---	.0	.0	5.6
JOE WRIGHT SNOTEL	10000	6/01/89	---	1.7	17.2	18.6
JOE WRIGHT	10000	5/30/89	14	6.8	19.8	22.7
KILN SNOTEL	9600	6/01/89	---	.0	.0	4.2
LAKE ELDORA SNOTEL	10500	6/01/89	---	.0	.0	.0
LAKE IRENE SNOTEL	10600	6/01/89	---	.0	13.0	13.9
LILY POND SNOTEL	10650	6/01/89	---	.0	.0	3.6
LIZARD HD PS SNOTEL	10300	6/01/89	---	.0	.9	3.0
LONE CONE SNOTEL	9950	6/01/89	---	.0	.0	.0
LYNX PASS SNOTEL	8900	6/01/89	---	.0	.0	.0
MC CLURE PASS SNOTEL	9500	6/01/89	---	.0	.0	6.3
MESA LAKES SNOTEL	10000	6/01/89	---	.0	.0	12.0
MESA LAKES	10000	5/26/89	0	.0	.6	4.0
MIDDLE CREEK SNOTEL	11250	6/01/89	---	.0	.0	10.8

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1981-85
MILNER PASS	10100	5/29/89	0	.0	3.3	4.0
MINERAL CREEK SNOTEL	10300	6/01/89	---	.0	.1	1.2
MINERAL CREEK	10300	5/30/89	0	.0	.0	[illegible]
MOLAS LAKE SNOTEL	10500	6/01/89	---	.0	.0	3.4
NAST LAKE SNOTEL	8700	6/01/89	---	.0	.0	.0
NAVAL OILSHALE SNOTL	8800	6/01/89	---	.0	.0	.0
NIWOT SNOTEL	9910	6/01/89	---	.0	.0	3.0
NORTH LOST TR SNOTEL	9200	6/01/89	---	.0	.0	.0
PARK CONE SNOTEL	9600	6/01/89	---	.0	.0	3.4
PARK RESERV SNOTEL	9900	6/01/89	---	.9	11.0	16.9
PARK RESERVOIR	9900	5/26/89	1	.4	5.3	10.3
PARK VIEW	9200	5/30/89	0	.0	.0	--
PHANTOM VALLY SNOTEL	9050	6/01/89	---	.0	.0	1.0
PORPHYRY CK SNOTEL	10700	5/31/89	0	.0	.0	3.2
RABBIT EARS SNOTEL	9550	6/01/89	---	.0	3.4	24.0
RABBIT EARS	9550	5/31/89	7	3.4	11.1	17.0
RED MTN PASS SNOTEL	11200	6/01/89	---	.0	5.6	10.5
RED MOUNTAIN PASS	11100	5/30/89	13	5.7	18.7	20.9
RIPPLE CK PS SNOTEL	10340	6/01/89	---	1.0	12.4	11.1
ROACH SNOTEL	9400	6/01/89	---	.0	4.3	7.4
SCHOFIELD PS SNOTEL	10700	6/01/89	---	5.9	11.3	6.7
SCOTCH CREEK SNOTEL	9100	6/01/89	---	.0	.0	.0
SLUMGULLION SNOTEL	11550	6/01/89	---	.0	.0	5.1
SPUD MOUNTAIN SNOTEL	10700	6/01/89	---	.0	.4	12.7
SPUD MOUNTAIN	10700	5/30/89	3	1.7	4.3	13.0
STILLWATER CK SNOTEL	8720	6/01/89	---	.0	.0	.0
STUMP LAKES SNOTEL	11200	6/01/89	---	.0	6.7	8.5
SUMMIT RANCH SNOTEL	10000	6/01/89	---	.0	.0	3.3
TENNESSEE PASS	10200	5/31/89	0	.0	.0	.2
TENNESSEE PASS #2	10260	5/31/89	0	.0	.0	.5
TOWER SNOTEL	10000	6/01/89	---	26.2	43.5	31.5
TRAPPER LAKE SNOTEL	9700	6/01/89	---	.0	3.2	9.4
TWO MILE	10500	5/30/89	15	5.4	9.0	13.0
UNIVERSITY CAMP SNTL	10300	6/01/89	---	3.4	7.2	8.0
UNIVERSITY CAMP	10300	6/01/89	0	.0	2.5	9.0
UPPR RIO GRND SNOTEL	9350	6/01/89	---	.0	.0	--
UPPER SAN JUAN SNTL	10200	6/01/89	---	.0	1.0	7.6
UPPER SAN JUAN	10200	5/31/89	0	.0	.0	9.0
VAIL MOUNTAIN SNOTEL	10200	6/01/89	---	.0	9.3	7.3
VALLECITO SNOTEL	10800	6/01/89	---	.0	.2	9.7
W FK PARACHUTE SNTL	7800	6/01/89	---	.0	.0	--
WHISKEY CREEK SNOTEL	10200	6/01/89	---	.0	.0	--
WILLOW CK PS SNOTEL	9500	6/01/89	---	.0	1.2	1.6
WILLOW CREEK PASS	9500	5/30/89	0	.0	.5	1.0
WILLOW PARK SNOTEL	10700	6/01/89	---	.0	5.2	13.7
WOLF CK SUMMIT SNTL	11000	6/01/89	---	18.2	15.3	23.9
WOLF CREEK SUMMIT	11000	5/31/89	35	16.4	18.3	26.0

The Following Organizations Cooperate With The Soil Conservation Service in Snow Survey Work.

State	Colorado State Engineer
	Colorado State Soil Conservation Board
	University of Colorado, INSTARR
	Colorado State University Experiment Station
	Rocky Mountain Forest and Range Experiment Station
Federal	U.S. Department of Agriculture
	Forest Service
	Soil Conservation Service
	U.S. Department of the Interior
	Bureau of Reclamation
	Geologic Survey
	National Park Service
	U.S. Department of Commerce
	NOAA, National Weather Service
	NOAA, National Environmental Satellite Service
	U.S. Department of Defense
	Army Engineer Corps
	National Aeronautics and Space Administration
	Goddard Space Flight Center
Local	
	Colorado Public Service Company
	Idarado Mining Corporation
	City of Denver
	City of Boulder
	City of Greeley
	City of Fort Collins
	Vail Associates, Inc.
	Arkansas Valley Ditch Association
	Colorado River Water Conservation District
	Formers Reservoir and Irrigation Company
	San Luis Irrigation District
	Santa Maria Reservoir Company
	Taylor Lumber and Land Company
	Montezuma Irrigation Company
	Uncompahgre Valley Water Users Association
	Twin Lakes Reservoir and Canal Company
	Trinchera Irrigation Company
	Aspen Skiing Corporation
	Colorado Fuel and Iron Corporation
	Climax Molybednum Corporation
	Copper Mountain Ski Area
	Lake Eldora Corporation
Private	Otto Goemmer, Colorado

Other organizations and individuals furnish information for the snow survey reports. Their cooperation is gratefully acknowledged.

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