

# WATER SUPPLY OUTLOOK for the UPPER COLORADO

# COLORADO BASIN RIVER FORECAST CENTER

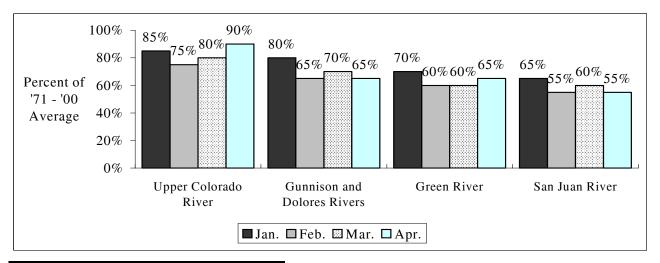
NATIONAL WEATHER SERVICE, SALT LAKE CITY, UT



# **A**PRIL 1, 2003

Seasonal precipitation for the 2003 water year, as of April 1, was near normal for most areas and just below normal in the San Juan Basin. Snowpack on April 1 increased about 10% of average over the Upper Colorado and Upper Green river basin with little change elsewhere. Changes in the spring volume forecasts generally reflected the snowpack changes and increased 5% to 10% over the Upper Colorado and Upper Green river basins and decreased around 5% elsewhere.

# **APRIL - JULY VOLUME FORECASTS**

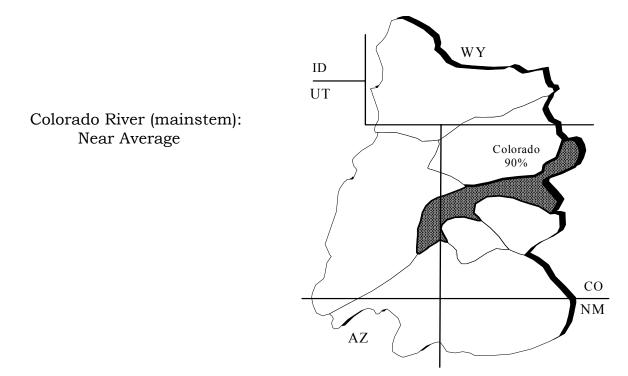


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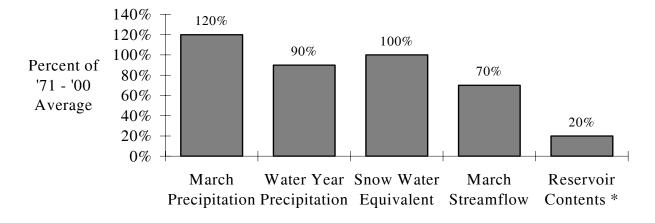
#### UPPER COLORADO MAINSTEM

Precipitation in March was above to much above average, especially in the Upper Colorado headwaters where 135% of average fell above Glenwood Springs. Snowpack, overall, increased about 10% of average. Forecasts were brought up about 10% gernerally, to reflect the improved snowpack conditions.

April-July streamflow forecasts for the Upper Colorado Mainstem are as follows:



# Basin Conditions - April 1, 2003



<sup>\*</sup> Percent usable capacity, not percent average contents.

Specific site forecasts are listed beginning on page 6.

#### GUNNISON AND DOLORES RIVERS

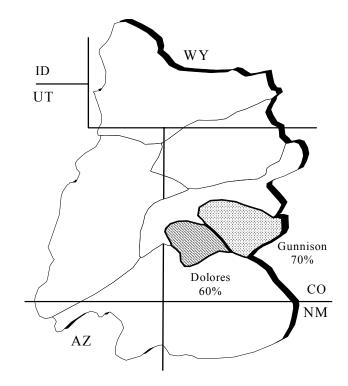
April 1 conditions in the Gunnison and Dolores river basins are largely unchanged from March 1. Precipitation during March was 90% of average over the Gunnison and 80% of average over the Dolores. There is very little change to the April-July streamflow forecasts which now range between 50% and 75% of average.

April-July streamflow forecasts for the Gunnison and Dolores Rivers are as follows:

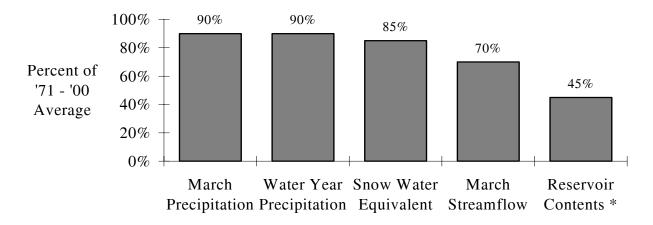
Gunnison River: Below Average

Dolores River:

Much Below Average



# Basin Conditions - April 1, 2003



<sup>\*</sup> Percent usable capacity, not percent average contents.

Specific site forecasts are listed beginning on page 7.

#### GREEN RIVER

Above average precipitation occurred over the Green River Basin in March. The snowpack varied from little change to 10% higher than was measured March 1. April 1 snowpack ranged from 80% to 100% of average in Upper Green, 75% to 115% in the Yampa/White, and 35% to 85% in the Duchesne. April-July runoff volumes are expected to range from 30% to 95% of average.

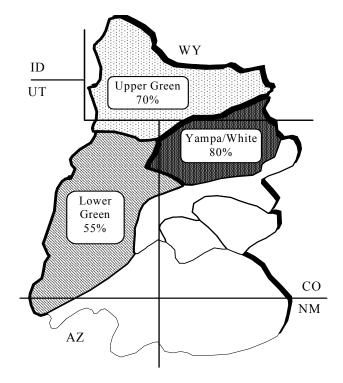
April-July streamflow forecasts for the Green River are as follows:

Upper Green River: Below Average

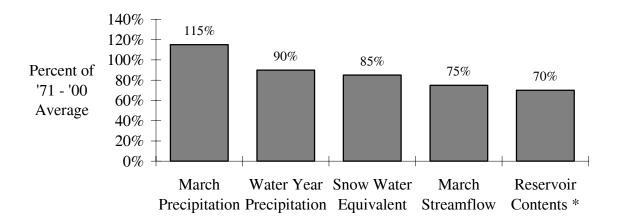
Yampa/White Rivers: Below Average

Lower Green River (blo Flaming Gorge):

Much Below Average



# Basin Conditions - April 1, 2003



<sup>\*</sup> Percent usable capacity, not percent average contents.

Specific site forecasts are listed beginning on page 8.

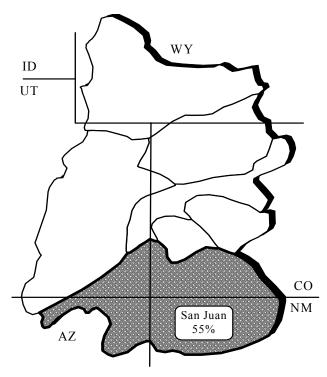
# San Juan River

As of April 1st, the Upper San Juan River basin precipitation has shifted back to much below average. March precipitation was only 62% of average above Navajo and 75% of average over the entire basin, this coming from lower basin rainfall. Snowpack decreased to 67% of average by April 1. Forecast flows for April-July runoff decreased from those issued March 1 and now range from 47% to 66% of average.

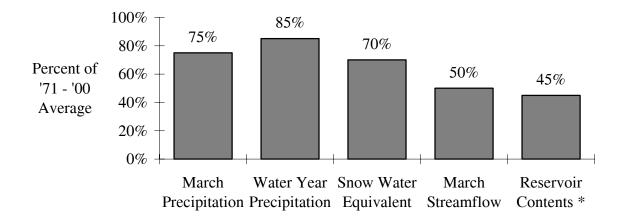
April-July streamflow forecasts for the San Juan Basin are as follows:

San Juan River:

Much Below Average



# Basin Conditions - April 1, 2003



<sup>\*</sup> Percent usable capacity, not percent average contents.

Specific site forecasts are listed beginning on page 10.

# SPECIFIC SITE FORECASTS

**Upper Colorado Mainstem:** April through July volume (kaf) forecasts (except where noted).

Stream	Station	Most	Percent	Reas.	Reas.
		Probable	Avg.	Max	Min
COLORADO	LAKE GRANBY, GRANBY, NR	225	100	295	172
	DOTSERO, NR	1400	97	1870	930
	GLENWOOD SPRINGS, BLO	1950	90	2540	1360
	CAMEO, NR	2150	89	2880	1420
	CISCO, NR	3600	77	4890	2310
WILLOWCK	WILLOW CK RES, GRANBY, NR	55	108	75	38
FRASER	WINTER PARK	19	95	24	13.6
WILLIAMS FORK	WILLIAMS FORK RES, PARSHALL, N	100	105	124	79
MUDDY CK	WOLFORD MTN RES, BLO	52	87	79	34
BLUE	DILLON RES	170	102	220	121
	GREEN MIN RES	300	107	350	255
EAGLE	GYPSUM, BLO	285	85	390	205
FRYING PAN	RUEDI RES, BASALT, NR	115	82	157	84
ROARING FORK	GLENWOOD SPRINGS	550	77	710	410
PLATEAU CK	CAMEO, NR	75	65	155	8
MILLCK	MOAB, NR, SHELEY TUN, AT	4	80	6.5	1.5

# SPECIFIC SITE FORECASTS

Gunnison and Dolores Basins: April through July volume (kaf) forecasts (except where noted).

Stream	Station	Most	Percent	Reas.	Reas.
		Probable	Avg.	Max	Min
TAYLOR	TAYLOR PARK RES	77	75	102	52
	ALMONT	119	72	162	76
EAST	ALMONT	145	76	186	104
GUNNISON	GUNNISON, NR	270	69	355	185
TOMICHI CK	GUNNISON	60	74	92	35
LAKE FORK	GATEVIEW	86	68	124	48
GUNNISON	MORROW POINT RES	555	71	770	340
	CRYSTAL RES	620	68	870	370
MUDDY CK	PAONIA RES, BARDINE, NR	68	68	95	46
NF GUNNISON	SOMERSET, NR	220	72	290	159
SURFACE CK	CEDAREDGE	12	70	16.8	8.6
UNCOMPAHGRE	RIDGWAYRES	67	66	89	50
	COLONA	78	56	112	50
	DELTA	60	51	100	30
GUNNISON	GRAND JUNCTION, NR	1050	67	1460	635
DOLORES	DOLORES	180	68	280	82
	MCPHEE RES	210	66	320	101
	CISCO, NR	270	49	510	55
SAN MIGUEL	PLACERVILLE, NR	95	72	145	45

 $<sup>\</sup>bullet$  = March - June forecast period.

Green River Basin: April through July volume (kaf) forecasts (except where noted).

Stream	Station	Most	Percent	Reas.	Reas.
		Probable	Avg.	Max	Min
GREEN	DANIEL, NR, WARREN BRIDGE, AT	235	89	280	190
	GREEN RIVER, WY, NR	650	74	865	435
	GREEN RIVER, UT	2150	68	3180	1120
PINE CK	FREMONT LK, ABV	93	89	108	78
NEW FORK	BIG PINEY, NR	300	76	405	195
BIG SANDY	FARSON, NR	41	71	58	24
BLACKS FORK	ROBERTSON, NR	62	65	85	39
EF SMITHS FORK	ROBERTSON, NR	18.8	61	24	14.9
HAMS FORK	FRONTIER, NR, POLE CK, BLO	45	69	63	30
	VIVA NAUGHTON RES	58	65	84	32
YAMPA	STAGECOACH RSVR, ABV	26	90	36	16.1
	STEAMBOAT SPRINGS	245	88	310	180
	MAYBELL, NR	820	83	1130	515
ELK	MILNER, NR	250	77	365	158
ELKHEAD CK	ELKHEAD, NR	30	77	57	15.7
	MAYNARD GULCH, BLO	50	85	70	30
FORTIFICATION CK	• FORTIFICATION, NR	6.4	85	10.6	2.2
LITTLE SNAKE	SLATER, NR	126	79	175	85
	DIXON, NR	260	79	370	150
	LILY, NR	285	78	400	171

<sup>• =</sup> March - June forecast period.

Green River Basin continued: April through July volume (kaf) forecasts (except where noted).

Stream	Station	Most	Percent	Reas.	Reas.
		Probable	Avg.	Max	Min
BIG BRUSH CK	VERNAL, NR, RED FLEET RES, ABV	16.5	79	24	9.8
ASHLEY CK	VERNAL, NR	69	53	19.4	
WF DUCHESNE	HANNA, NR	11	46	18.3	5.5
ROCK CK	UPPER STILLWATER RES	49	60	70	28
	MOUNTAIN HOME, NR	51	57	70	32
DUCHESNE	TABIONA, NR	54	51	76	32
	DUCHESNE, NR, KNIGHT DIV, ABV	98	52	150	46
	MYTON	78	30	179	18
	RANDLETT, NR	100	31	340	19
STRAWBERRY	SOLDIER SPRINGS, NR	24	41	40	11.9
	DUCHESNE, NR	49	40	70	28
CURRANT CK	CURRANT CK RES	8.5	34	14.4	2.6
LAKE FORK	MOON LAKE RES, MTN HOME, NR	40	59	56	24
YELLOWSTONE	ALTONAH, NR	36	58	55	17
WHITEROCKS	WHITEROCKS, NR	35	62	54	16.3
WHITE MEEKER, NR		180	62	255	127
	WATSON, NR	190	62	315	65
GOOSEBERRY CK	SCOFIELD, NR	7.8	66	10.6	5
PRICE	SCOFIELD RES, SCOFIELD, NR	32	70	40	24
WHITE	BLO TABBYUNE CK, SOLDIER SUMMI	9.6	55	15.5	5.1
HUNTINGTON CK	ELECTRIC LAKE	10.6	68	14.9	7.2
	HUNTINGTON, NR	32	64	41	23
SEELEY CK	JOES VLY RES, ORANGEVILLE, NR	34	59	51	16.7
FERRON CK	FERRON, NR	26	67	34	18.9
SEVEN MILE CK	FISH LAKE, NR	6.8	97	10.5	3.1
MUDDY CK	EMERY, NR	14	70	20	7.5

San Juan River Basin: April through July volume (kaf) forecasts (except where noted).

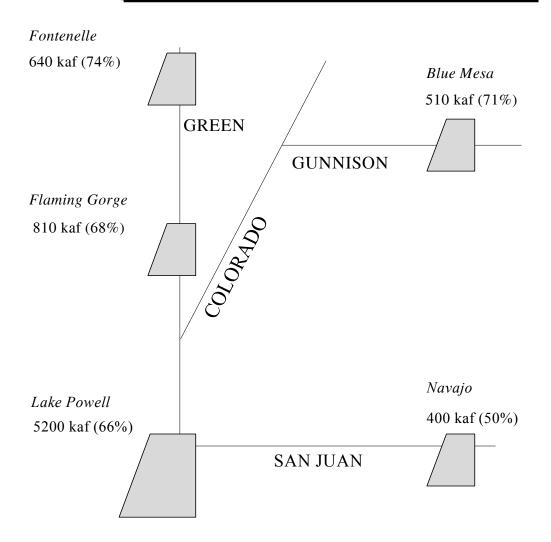
Stream	Station	Most	Percent	Reas.	Reas.
		Probable	Avg.	Max	Min
SAN JUAN	PAGOSA SPRINGS	135	60	210	90
	CARRACAS, NR	240	59	375	135
	FARMINGTON	585	48	1100	385
	BLUFF, NR	580	47	945	215
RIO BLANCO	PAGOSA SPRINGS, NR, BLANCO DAM	34	64	51	17
NAVAJO	CHROMO, NR, OSO DIV DAM, BLO	41	59	63	19
PIEDRA	ARBOLES, NR	110	48	171	49
LOS PINOS	VALLECITO RES, BAYFIELD, NR	115	56	175	55
ANIMAS	DURANGO	265	60	375	154
FLORIDA	LEMON RES, DURANGO, NR	31	53	51	11
LA PLATA	HESPERUS	16.5	66	23	9.8
MANCOS	MANCOS, NR	25	62	43	7.4
SOUTH CK	◆ LLOYD'S RSVR NR MONTICELLO, AB	0.8	61	1.7	0.23
RECAPTURE CK	♦ BLANDING, NR, JOHNSON CK, BLO	3.4	56	7.1	0.3

<sup>♦ =</sup> March - July forecast period.

# FLOOD CONTROL FORECASTS

#### MOST PROBABLE FORECASTS 2003 APRIL - JULY INFLOW VOLUMES

(% OF '71 - '00 AVERAGE)

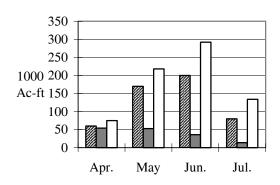


NOTE: Colorado River flood control forecasts account for a smaller set of upstream adjustments than water supply forecast points.

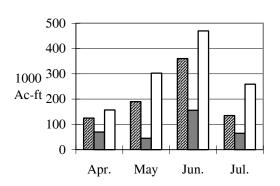
# RESERVOIR MONTHLY INFLOW FORECASTS

2003 Forecast 2002 Observed 30 Year Average

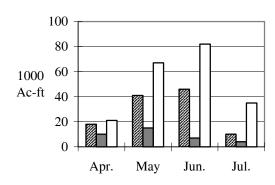
#### Blue Mesa Reservoir Inflow



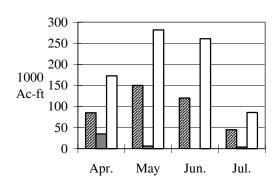
#### Flaming Gorge Reservoir Inflow



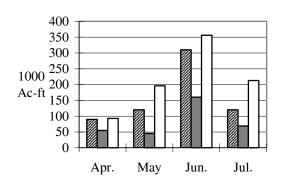
#### Vallecito Reservoir Inflow



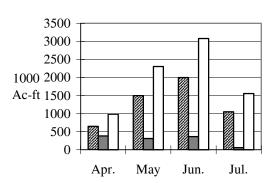
Navajo Reservoir Inflow



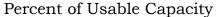
#### **Fontenelle Reservoir Inflow**

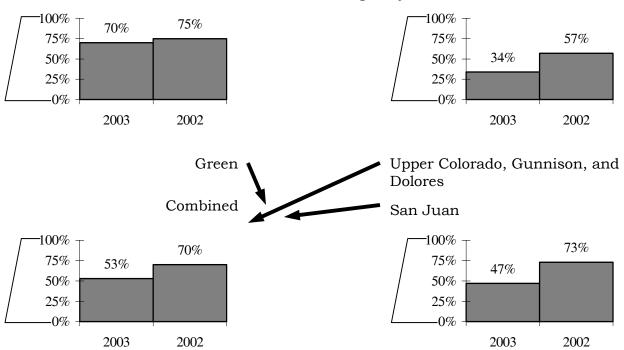


#### Lake Powell Inflow



# END OF MONTH RESERVOIR CONTENTS





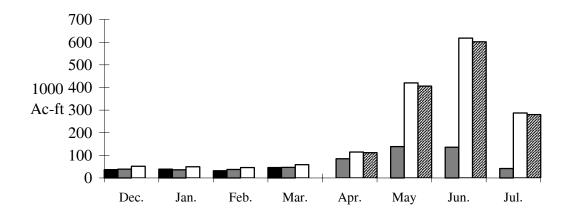
RESERVOIR	Reservoir	Usable	EOM Usable	Percent Usable
(vol. in 1000 ac-ft)	status	Capacity	Contents	Capacity
Fontenelle	1,4	344.8	185.7	54
Flaming Gorge	1,4	3749	2631.2	70
Strawberry	1,4	1105.9	812.6	73
Starvation	1,4	165.3	148.8	90
Lake Granby	2,4	490.3	40.8	8
Dillon	2,4	254	120.8	48
Green Mountain	2,4	146.9	36.1	25
Taylor Park	2,4	106.2	39.2	37
Blue Mesa	2,4	829.5	310.3	37
Ridgway	2,4	83.2	65.5	79
McPhee	2,4	381.1	173	45
Vallecito	3,4	125.4	42.4	34
Navajo	3,4	1696	813.3	48
Lake Powell	4	24322	12443.6	51

- 1 = Green River reservoir status
- 2 = Upper Colorado River reservoir status
- 3 = San Juan River reservoir status
- 4 = Combined reservoir status

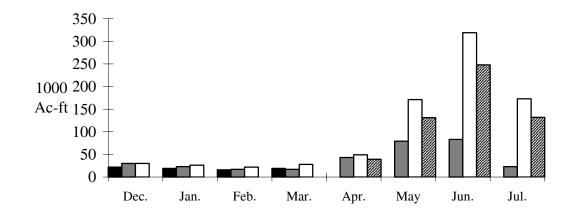
# MONTHLY STREAMFLOWS

■ 2003 Water Year ■ 2002 Water Year □ 30 Year Average ■ 2003 Forecast

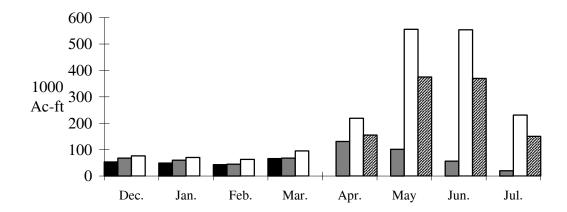
# Colorado - Dotsero, nr:



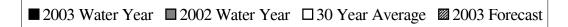
# Roaring Fork - Glenwood Springs:



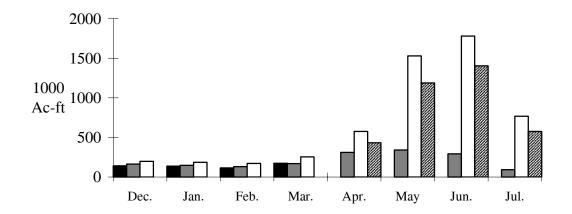
# Gunnison - Grand Junction, nr:



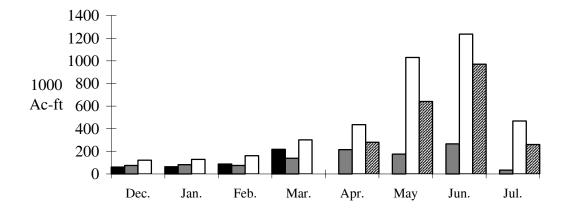
<sup>\*</sup> Data Not Available



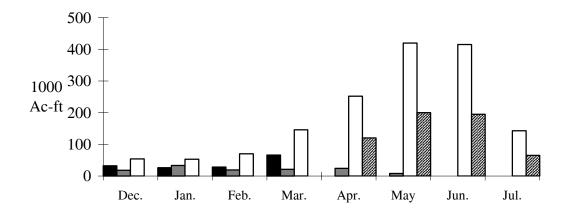
# Colorado - Cisco, nr:



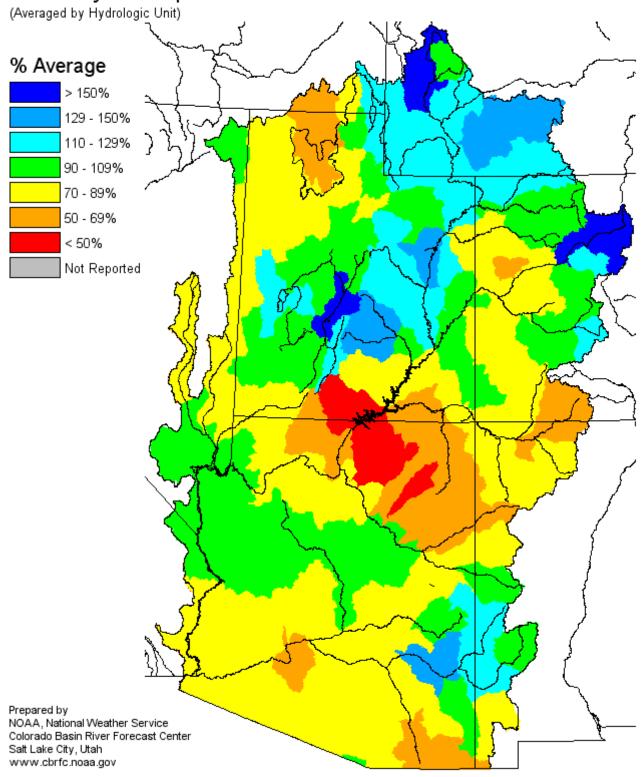
# Green - Green River, UT:



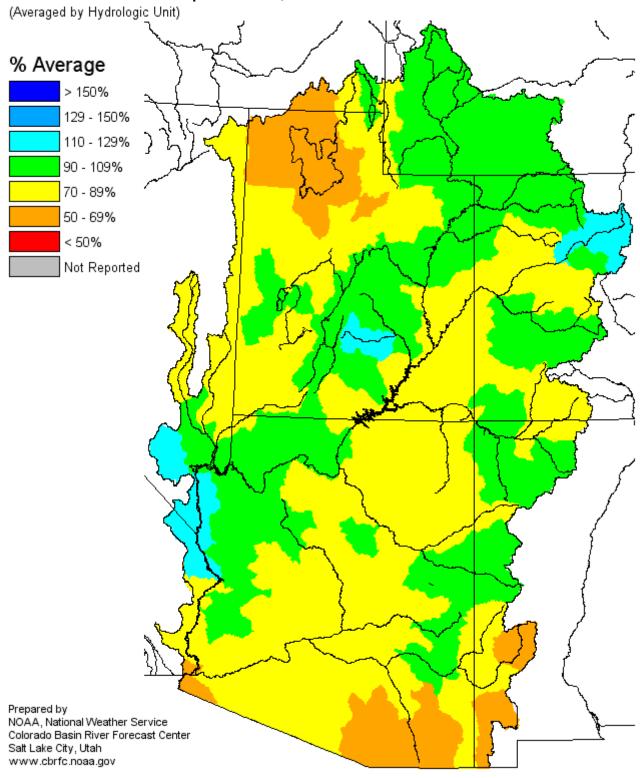
# San Juan - Bluff, nr:



# Monthly Precipitation for March 2003



# Seasonal Precipitation, October 2002 - March 2003



#### Additional Information

Water supply forecasts take into consideration present hydrometeorological conditions and use average basin temperatures and precipitation for the forecast period. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty becomes known and monthly forecasts become more accurate.

Volume forecasts represent adjusted flows; that is, observed flows with upstream water use taken into account. Adjusted flows will closely approximate natural or unimpaired flows. However, not all upstream diversions or impoundments are measured or quantifiable. For specific adjustments used with each forecast point, consult the Guide to Water Supply Forecasting.

The Water Supply Outlook is issued monthly January through May by the Colorado Basin River Forecast Center, National Weather Service. It represents a coordinated effort between the National Weather Service, Natural Resources Conservation Service, Bureau of Reclamation, U.S. Geological Survey and local water district managers.

#### **DEFINITIONS:**

Acre-Foot:

The volume equal to one acre covered one foot deep (43,560 cubic feet).

Average:

The arithmetic mean. The sum of the values divided by the number of values.

Categories:

Much above Average Above Average Near Average Below Average Much Below Average-Greater than 130% 111-130% 90-110% 70-89% Less than 70%

Forecast Period:

The period from April 1 through July 31.

Median:

The middle value. One half of the observed values are higher and half of the values are lower than this.

Most Probable Forecast:

Given the current hydrometeorological conditions to date, this is the best estimate of what the runoff volume will be this season.

Reasonable Maximum Forecast:

Given the current hydrometeorological conditions, the seasonal runoff that has a ten percent (10%) chance of being exceeded.

Reasonable Minimum Forecast:

Given the current hydrometeorological conditions, the seasonal runoff that has a ninety percent (90%) chance of being exceeded.

Water Year:

The period from October 1 through September 30.

NOTE: Data used in this report are provisional and are subject to revision.

For more information, or to be included on the mailing list, please contact:

Colorado Basin River Forecast Center, National Weather Service

2442 West North Temple, Salt Lake City, UT 84116