

# WATER SUPPLY OUTLOOK for the UPPER COLORADO

#### COLORADO BASIN RIVER FORECAST CENTER

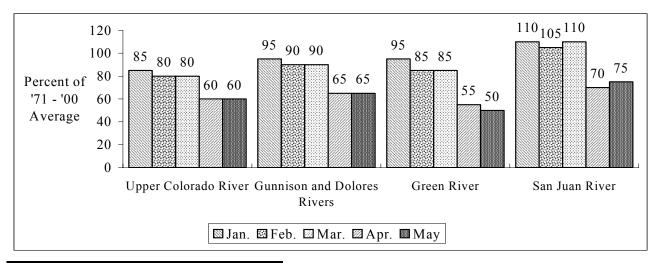
NATIONAL WEATHER SERVICE, SALT LAKE CITY, UT



# MAY 1, 2004

April precipitation was above to much above average over most of the basin. Exceptions were areas of near to much below average in portions of the Upper Colorado headwaters, portions of the Yampa/White drainages and portions of the Upper Green. April-July runoff forecasts were lowered slightly over much of the Green River Basin, raised a bit in the San Juan Basin with little change over most other areas.

# **APRIL - JULY VOLUME FORECASTS**

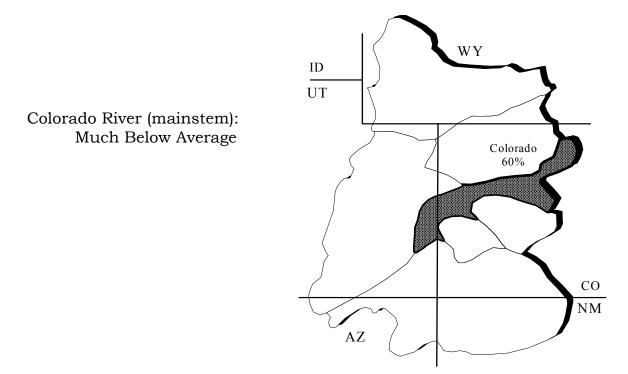


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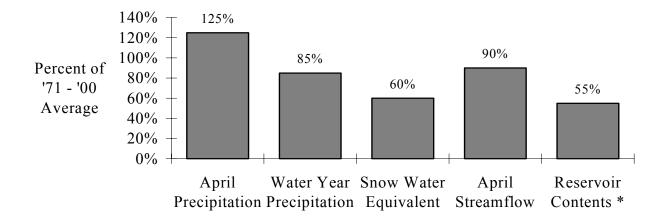
#### UPPER COLORADO MAINSTEM

Basin snowpack, as a percent of seasonal average, dropped just a bit during the month of April and continues much below average. While overall April precipitation was above average, subbasins above Dotsero came in below to much below average. April-July runoff forecasts were changed little from those issued last month.

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



# Basin Conditions - May 1, 2004



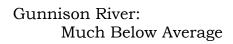
<sup>\*</sup> Percent usable capacity, not percent average contents.

Specific site forecasts are listed beginning on page 6.

#### GUNNISON AND DOLORES RIVERS

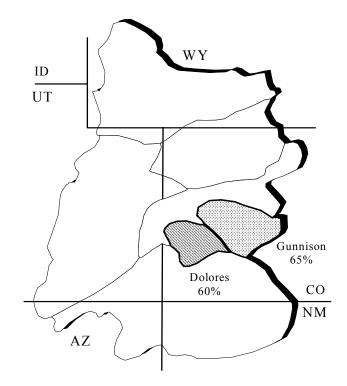
While April was very wet, overall snowpack improved very little and observed runoff was below normal (80%) in the Dolores Basin and near normal (90%) in the Gunnison Basin. Therefore, forecast runoff volumes did not change much from the April 1st forecasts. The April-July volume forecasts now range between 50% and 85% of average.

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

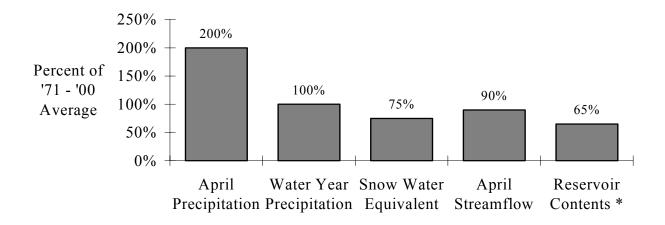


Dolores River:

Much Below Average



# Basin Conditions - MAY 1, 2004



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

Specific site forecasts are listed beginning on page 7.

#### GREEN RIVER

The snowpack in the Green River Basin never recovered from the early season losses experienced in March. May 1st snowpack is generally less than 50% of average and in many areas below 9000 feet it has been depleted. April-July runoff forecasts were trended downward in all areas and now range from 25% to 65% of average.

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

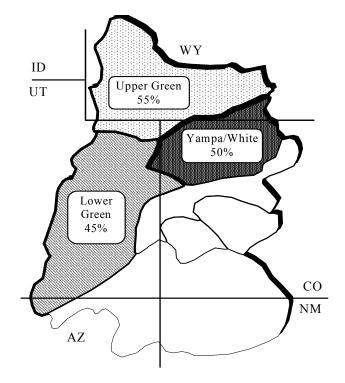
Upper Green River: Much Below Average

Yampa/White Rivers:

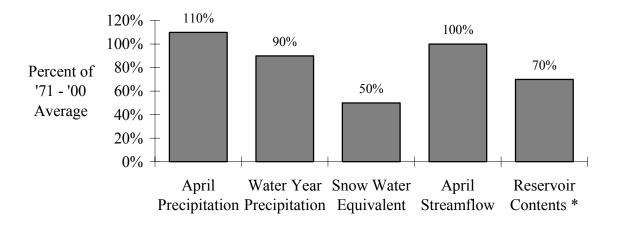
Much Below Average

Lower Green River (blo Flaming Gorge):

Much Below Average



# BASIN CONDITIONS - MAY 1, 2004



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

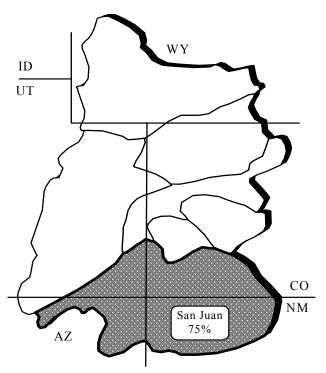
Specific site forecasts are listed beginning on page 8.

# San Juan River

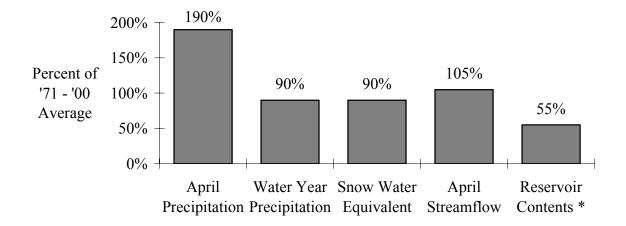
Runoff forecasts throughout the San Juan River Basin were raised slightly in response to a cool and very wet April. Basin total precipitation for April was 190% of average and snow is currently 92% of average. What remains of the snow is mostly above 10000 feet as all mid and lower elevation snow is gone. Monthly flow volumes were 105% of average. April-July runoff volumes are expected to range from 38% to 91% of average.

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

San Juan River: Below Average



# Basin Conditions - May 1, 2004



<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	130	58	152	111
	DOTSERO, NR	860	60	1190	540
	GLENWOOD SPRINGS, BLO	1330	62	1750	910
	CAMEO, NR	1400	58	1940	865
	CISCO, NR	2600	56	3580	1620
WILLOW CK	WILLOW CK RES, GRANBY, NR	27	53	40	16.4
FRASER	WINTER PARK	13	65	17.6	8.4
WILLIAMS FORK	WILLIAMS FORK RES, PARSHALL, N	62	65	78	48
MUDDY CK	WOLFORD MTN RES, BLO	28	47	34	23
BLUE	DILLON RES	100	60	128	72
	GREEN MTN RES	180	64	215	147
EAGLE	GYPSUM, BLO	220	66	270	179
FRYING PAN	RUEDI RES, BASALT, NR	80	57	109	59
ROARING FORK	GLENWOOD SPRINGS	450	63	580	335
PLATEAU CK	CAMEO, NR	75	65	143	8
MILL CK	MOAB, NR, SHELEY TUN, AT	1.75	35	3.7	0.75

# SPECIFIC SITE FORECASTS

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

Stream	Station		Percent	Reas.	Reas.
		Probable	Avg.	Max	Min
TAYLOR	TAYLOR PARK RES	70	68	94	46
	ALMONT	107	65	147	67
EAST	ALMONT	130	68	165	95
GUNNISON	GUNNISON, NR	250	64	330	171
TOMICHI CK	GUNNISON	40	49	64	22
LAKE FORK	GATEVIEW	95	75	115	75
GUNNISON	MORROW POINT RES	500	64	690	310
	CRYSTAL RES	565	62	815	315
MUDDY CK	PAONIA RES, BARDINE, NR	60	60	76	46
NF GUNNISON	SOMERSET, NR	210	69	270	159
SURFACE CK	CEDAREDGE	12.5	73	16.6	9.4
UNCOMPAHGRE	RIDGWAY RES	85	83	107	67
	COLONA	105	76	138	76
	DELTA	80	68	120	40
GUNNISON	GRAND JUNCTION, NR	1000	64	1350	655
DOLORES	DOLORES	175	66	225	122
	MCPHEE RES	205	64	265	143
	CISCO, NR	270	49	455	85
SAN MIGUEL	PLACERVILLE, NR	100	76	132	68

 $<sup>\</sup>bullet$  = 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	160	60	196	123	
	GREEN RIVER, WY, NR	430	49	615	245	
	GREEN RIVER, UT	1400	44	2250	550	
PINE CK	FREMONT LK, ABV	69	66	82	56	
NEW FORK	BIG PINEY, NR	200	51	285	115	
BIG SANDY	FARSON, NR	38	66	52	24	
BLACKS FORK	ROBERTSON, NR	54	57	70	38	
EF SMITHS FORK	ROBERTSON, NR	<u> </u>				
HAMS FORK	FRONTIER, NR, POLE CK, BLO	33	51	44	24	
	VIVA NAUGHTON RES	40	45	59	21	
YAMPA	STAGECOACH RSVR, ABV	13	45	25	4.6	
	STEAMBOAT SPRINGS	155	55	194	118	
	MAYBELL, NR	490	49	685	295	
ELK	MILNER, NR	160	49	225	107	
ELKHEAD CK	ELKHEAD, NR	17	44	25	11.8	
	MAYNARD GULCH, BLO	29	49	46	12.3	
FORTIFICATION CK	• FORTIFICATION, NR					
LITTLE SNAKE	SLATER, NR	96	60	137	62	
	DIXON, NR	190	58	295	84	
	LILY, NR	205	56	315	95	

<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 A		Max	Min		
BIG BRUSH CK	VERNAL, NR, RED FLEET RES, ABV	/ERNAL, NR, RED FLEET RES, ABV 13 62					
ASHLEY CK	VERNAL, NR	45	19				
WF DUCHESNE	HANNA, NR	10	42	16.9	4.9		
ROCK CK	UPPER STILLWATER RES	48	59	66	30		
	MOUNTAIN HOME, NR	51	57	68	34		
DUCHESNE	TABIONA, NR	48	46	63	33		
	DUCHESNE, NR, KNIGHT DIV, ABV	85	45	128	42		
	MYTON	60	23	153	13		
	RANDLETT, NR	75	23	300	16		
STRAWBERRY	SOLDIER SPRINGS, NR	19	32	31	10		
	DUCHESNE, NR	42	34	72	12		
CURRANT CK	CURRANT CK RES	7.6	30	13.1	2.5		
LAKE FORK	MOON LAKE RES, MTN HOME, NR	AKE RES, MTN HOME, NR 46		60	32		
YELLOWSTONE	ALTONAH, NR 41		66	58	24		
WHITEROCKS	WHITEROCKS, NR	36	64	53	19.3		
WHITE	MEEKER, NR	160	55	215	120		
	WATSON, NR	160	52	265	110		
GOOSEBERRY CK	SCOFIELD, NR	OFIELD, NR 4.8					
PRICE	SCOFIELD RES, SCOFIELD, NR	17	37	24	10.2		
WHITE	BLO TABBYUNE CK, SOLDIER SUMMI	5	29	8.7	3.5		
HUNTINGTON CK	ELECTRIC LAKE	6.4	41	9.2	4.2		
	HUNTINGTON, NR	20	40	28	11.8		
SEELEY CK	JOES VLY RES, ORANGEVILLE, NR	30	52	47	13		
FERRON CK	FERRON, NR	20	51	28	11.8		
SEVEN MILE CK	FISH LAKE, NR	3.6	51	5.7	2		
MUDDY CK	EMERY, NR	9.8	49	15	4.6		

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

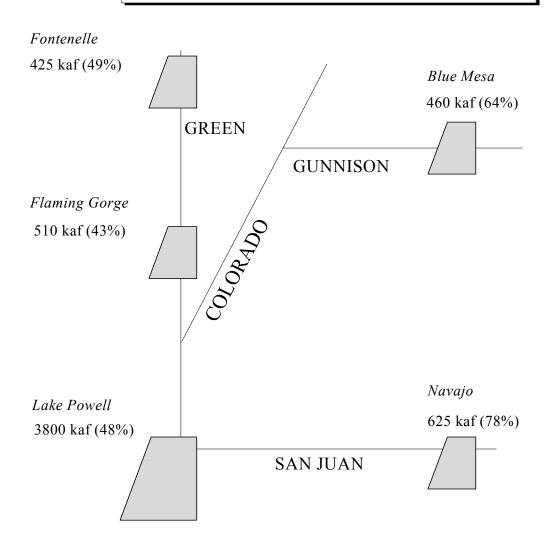
Stream	Station	Most	Percent	Reas.	Reas.
		Probable	Avg.	Max	Min
SAN JUAN	PAGOSA SPRINGS	170	76	215	126
	CARRACAS, NR	310	77	430	210
	FARMINGTON	920	76	1140	695
	BLUFF, NR	925	75	1170	685
RIO BLANCO	PAGOSA SPRINGS, NR, BLANCO DAM	43	81	56	30
NAVAJO	CHROMO, NR, OSO DIV DAM, BLO	56	81	73	39
PIEDRA	ARBOLES, NR	190	83	220	162
LOS PINOS	VALLECITO RES, BAYFIELD, NR	170	83	235	103
ANIMAS	DURANGO	350	80	470	230
FLORIDA	LEMON RES, DURANGO, NR	53	91	64	42
LA PLATA	HESPERUS	18	72	22	14.4
MANCOS	MANCOS, NR	28	70	42	14
SOUTH CK	LLOYD'S RSVR NR MONTICELLO, AB	0.65	50	1.39	0.38
RECAPTURE CK	BLANDING, NR, JOHNSON CK, BLO	2.3	38	5.2	1.41

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

# FLOOD CONTROL FORECASTS

#### MOST PROBABLE FORECASTS 2004 APRIL - JULY INFLOW VOLUMES

(% OF '71 - '00 AVERAGE)

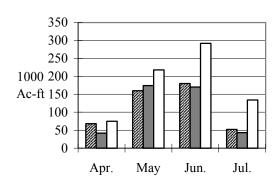


NOTE: Colorado River flood control forecasts account for a smaller set of upstream adjustments than water supply forecast points.

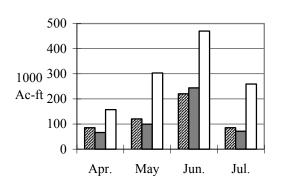
# RESERVOIR MONTHLY INFLOW FORECASTS

2004 Forecast 2003 Observed 30 Year Average

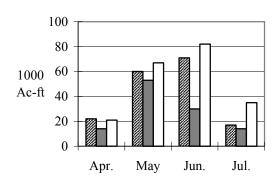
#### **Blue Mesa Reservoir Inflow**



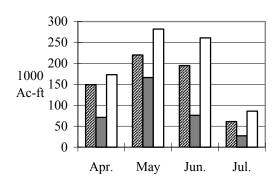
#### Flaming Gorge Reservoir Inflow



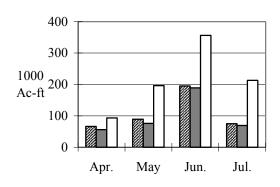
#### Vallecito Reservoir Inflow



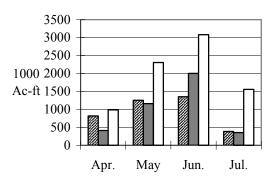
Navajo Reservoir Inflow



#### **Fontenelle Reservoir Inflow**

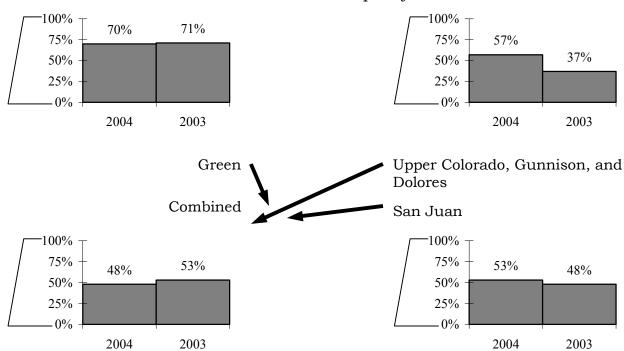


#### Lake Powell Inflow



# END OF MONTH RESERVOIR CONTENTS

# Percent of Usable Capacity



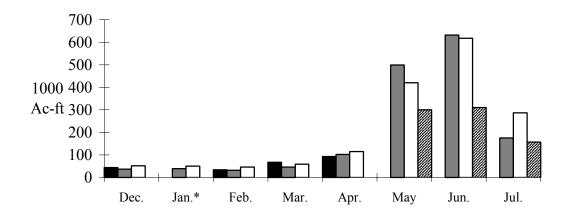
RESERVOIR	Reservoir	Usable	EOM Usable	Percent Usable
(vol. in 1000 ac-ft)	status	Capacity	Contents	Capacity
Fontenelle	1,4	344.8	187.1	54
Flaming Gorge	1,4	3749	2638.3	70
Strawberry	1,4	1105.9	787.7	71
Starvation	1,4	165.3	157.6	95
Lake Granby	2,4	490.3	187.8	38
Dillon	2,4	254	209.5	82
Green Mountain	2,4	146.9	75.8	52
Taylor Park	2,4	106.2	77.8	73
Blue Mesa	2,4	829.5	453.9	55
Ridgway	2,4	83.2	71	85
McPhee	2,4	381.1	229.4	60
Vallecito	3,4	125.4	89.7	72
Navajo	3,4	1696	869.1	51
Lake Powell	4	24322	10192.6	42

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

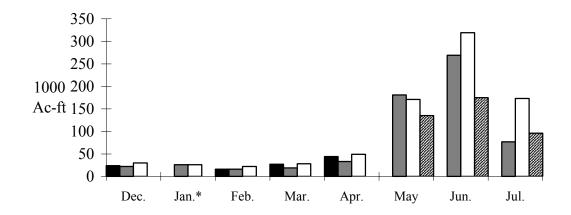
# MONTHLY STREAMFLOWS

■ 2004 Water Year ■ 2003 Water Year □ 30 Year Average ■ 2004 Forecast

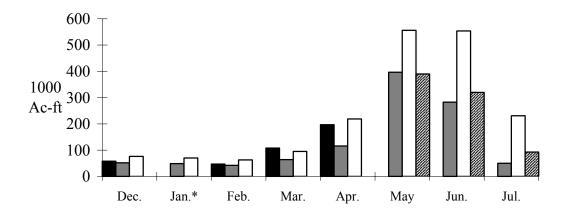
# Colorado - Dotsero, nr:



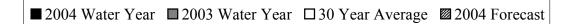
# Roaring Fork - Glenwood Springs:



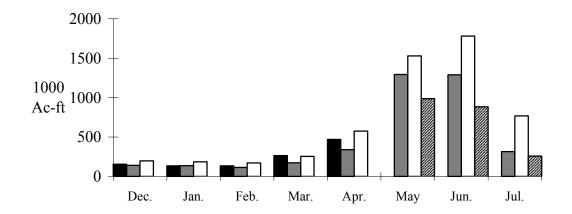
# Gunnison - Grand Junction, nr:



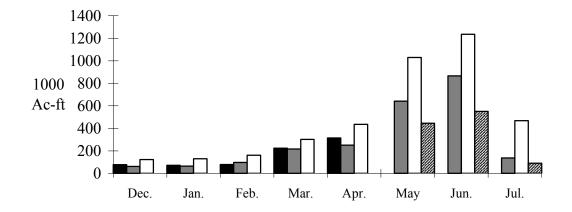
<sup>\*</sup> Data Not Available



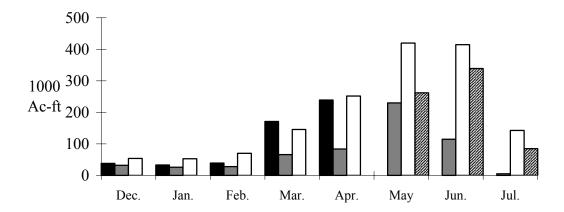
# Colorado - Cisco, nr:



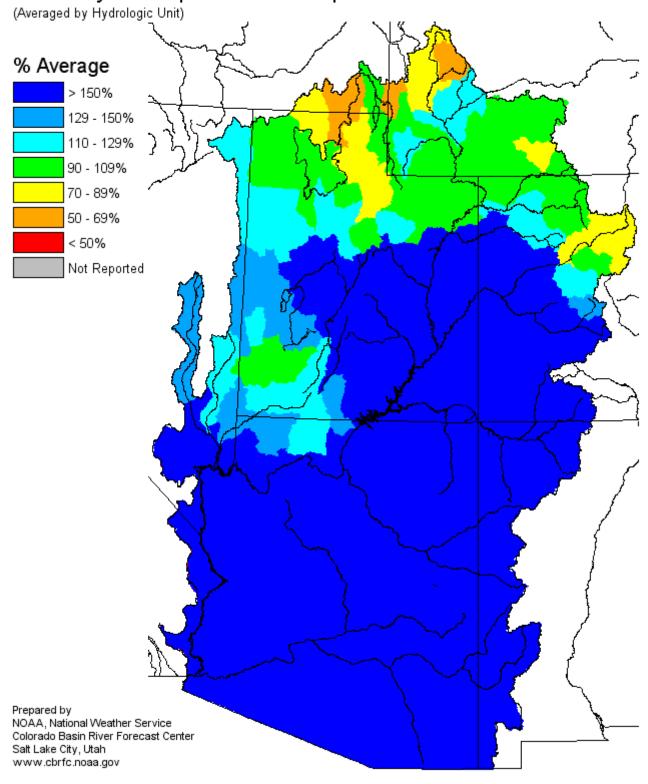
Green - Green River, UT:



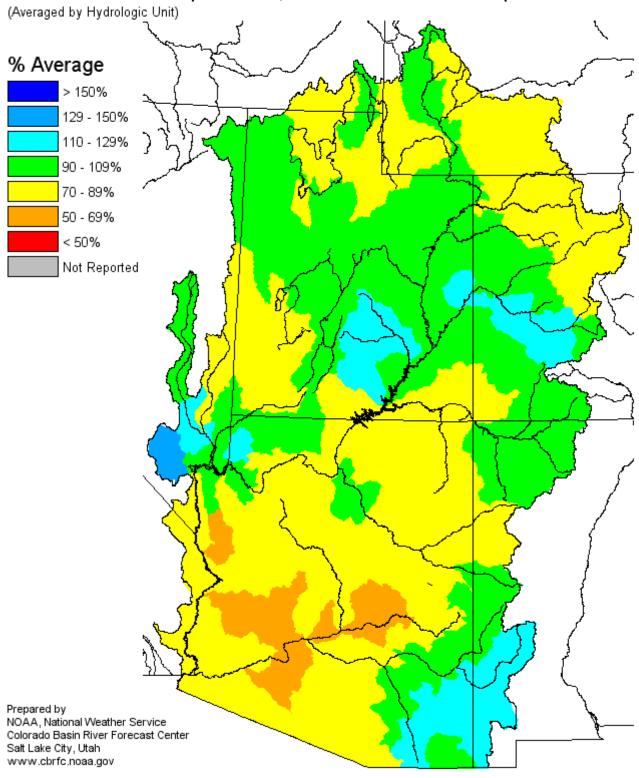
# San Juan - Bluff, nr:



# Monthly Precipitation for April 2004



# Seasonal Precipitation, October 2003 - April 2004



#### 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