



Natural  
Resources  
Conservation  
Service

# Arizona

## Basin Outlook Report

### March 15, 2006



Issued by

**Bruce I. Knight**  
Chief  
Natural Resources Conservation Service  
U.S. Department of Agriculture

Released by

**David L. McKay**  
State Conservationist  
Natural Resources Conservation Service  
Phoenix, Arizona



For more water supply and resource management information, contact:

**Larry P. Martinez**  
Water Supply Specialist  
230 N. First Avenue, Suite 509  
Phoenix, AZ 85003-1706  
**(602) 280-8841**  
Email: [Larry.Martinez@az.usda.gov](mailto:Larry.Martinez@az.usda.gov)

The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C., 20250, or call 1-800-245-6340 (voice) or (202)

# ARIZONA

## Water Supply Outlook Report as of March 15, 2006

A full range of Snow Survey and Water Supply Forecasting products is available on the Arizona NRCS Home Page

### Snow Survey Program

<http://www.az.nrcs.usda.gov/snow/index.html>

### Helpful Internet Sites

#### Defending Against Drought – NRCS

<http://www.nrcs.usda.gov/feature/highlights/drought.html>

- Ideas on water, land, and crop management for you to consider while creating your drought plan.

#### Arizona Agri-Weekly

<http://www.nass.usda.gov/az/cur-agwk.pdf>

- Provides an overview of Arizona's crop, livestock, range and pasture conditions as reported by local staffs of the USDA's Agricultural Statistic Service and University of Arizona, College of Agriculture.

## SUMMARY

Substantial snow fell in the mountain watersheds of Arizona during March 11-12. The precipitation was not enough to break the drought, but will provide moisture to temporarily help sustain the natural resources of the state particularly watershed vegetation and wildlife assets. While in-state reservoirs carried significant storage over from last year, snow water-equivalent values are still running below average for all basins covered in this report. As a result, inflow volume to the reservoirs will be much below the long-term median this year.

## SNOWPACK

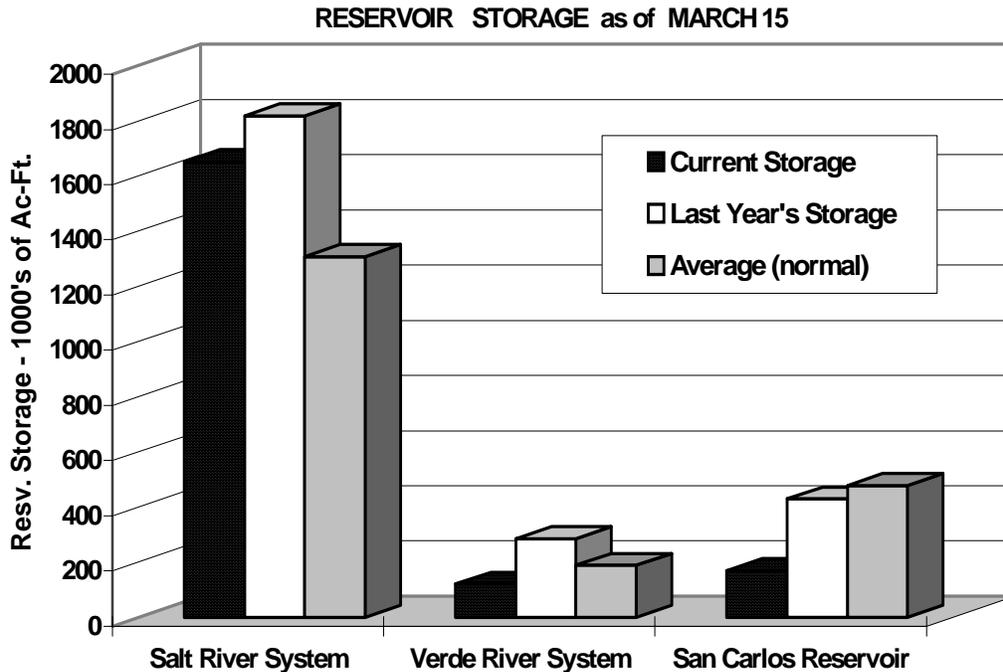
Watershed	Percent (%) of 30-Yr. Average Snowpack Levels as of March 15
Salt River Basin	56%
Verde River Basin	38%
Little Colorado River Basin	47%
San Francisco-Upper Gila River Basin	42%
<b>Other Points of Interest</b>	
Chuska Mountains	38%
Central Mogollon Rim	39%
Grand Canyon	33%
San Francisco Peaks	27%
Statewide Snowpack	40%

## PRECIPITATION

Substantial precipitation finally fell in the mountain watersheds of northern Arizona. Despite the recent moisture, water-year (Oct. 1-March 15) precipitation remains very low across the basins covered in this report.

River basin precipitation for the month of March will be illustrated in the April 1 report, which will be the final issue for this year.

## RESERVOIR



Key storage volumes displayed in thousands of acre-feet (1000 x ):

RESERVOIR	CURRENT STORAGE	LAST YEAR STORAGE	30-YEAR AVERAGE
Lyman Lake	8.1	5.4	16.2
Show Low Lake	---	6.2	3.6
Lake Pleasant	763.4	801.5	----
Lake Havasu	570.0	546.6	552.6
Lake Mohave	1660.6	1728.1	1694.0
Lake Mead	15414.0	16062.0	22090.0
Lake Powell	10763.0	8128.0	18366.0
Salt River System	1651.2	1817.3	1306.3
Verde River System	119.9	284.9	187.9
San Carlos Reservoir	168.8	428.2	476.9

## STREAMFLOW

Extremely low runoff is forecast for all basins covered in this report. While significant snow fell in the mountain watersheds of northern Arizona during March 11-12, dry soils will absorb a substantial amount of the snowmelt with less runoff reaching the streams and reservoirs.

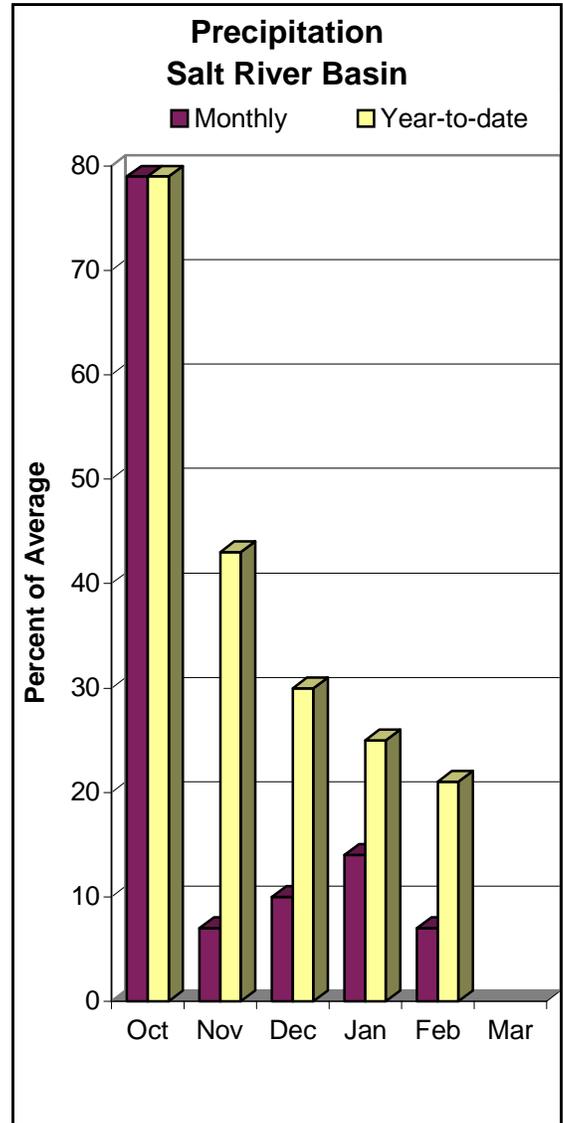
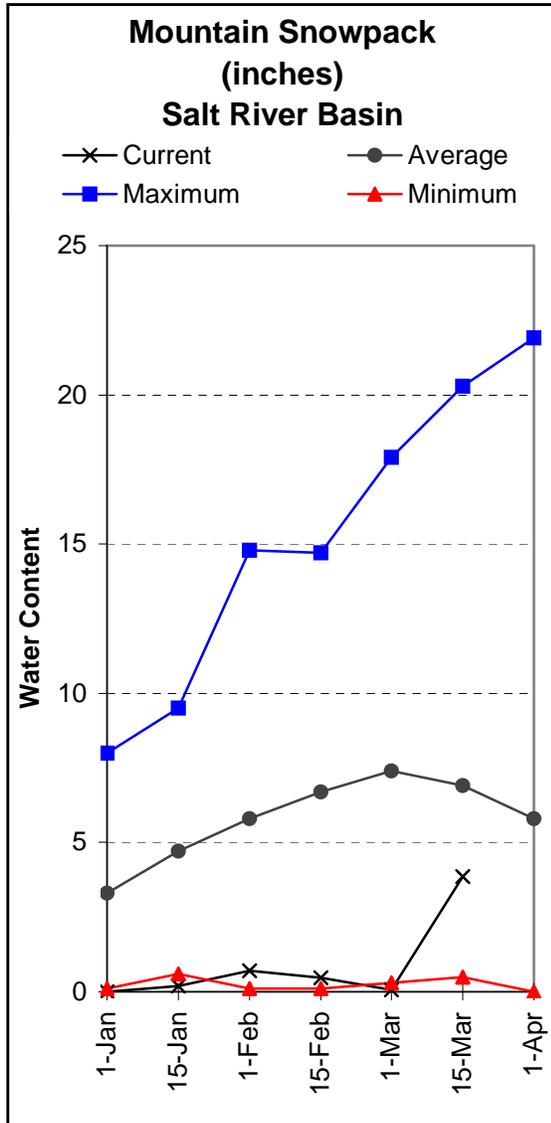
For more information regarding seasonal water supplies, please refer to the stream flow forecast tables found in the report.



## SALT RIVER BASIN as of March 15, 2006

Much below median runoff is forecast for the basin. In the Salt River, near Roosevelt, the forecast calls for 16 % of median stream flow volume from March 15-May, while at Tonto Creek, the forecast calls for 12 % of median stream flow volume from March 15-May.

Snow survey measurements show the basin snowpack to be at 56 % of the 30-year average, while combined reservoir storage in the Salt River system stands at 1,651,179 acre-feet.



SALT RIVER BASIN  
Streamflow Forecasts - March 15, 2006

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===>						30 Yr Med (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (1000AF) (% MED.)	30% (1000AF)	10% (1000AF)		
Salt River nr Roosevelt							
MAR15-MAY	20	25	35	16	56	101	225
MARCH	11.0	12.0	16.0	12	29	49	131
Tonto Creek ab Gun Creek nr Roosevelt							
MAR15-MAY	1.0	1.7	2.0	12	4.2	9.6	16.6
MARCH	0.7	0.9	1.3	8	7.6	11.7	16.9

\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average and median are computed for the 1971-2000 base period.

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

SALT RIVER BASIN  
Reservoir Storage (1000AF) Mid-March

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
SALT RIVER RES SYSTEM	2025.8	1651.2	1817.3	1306.3

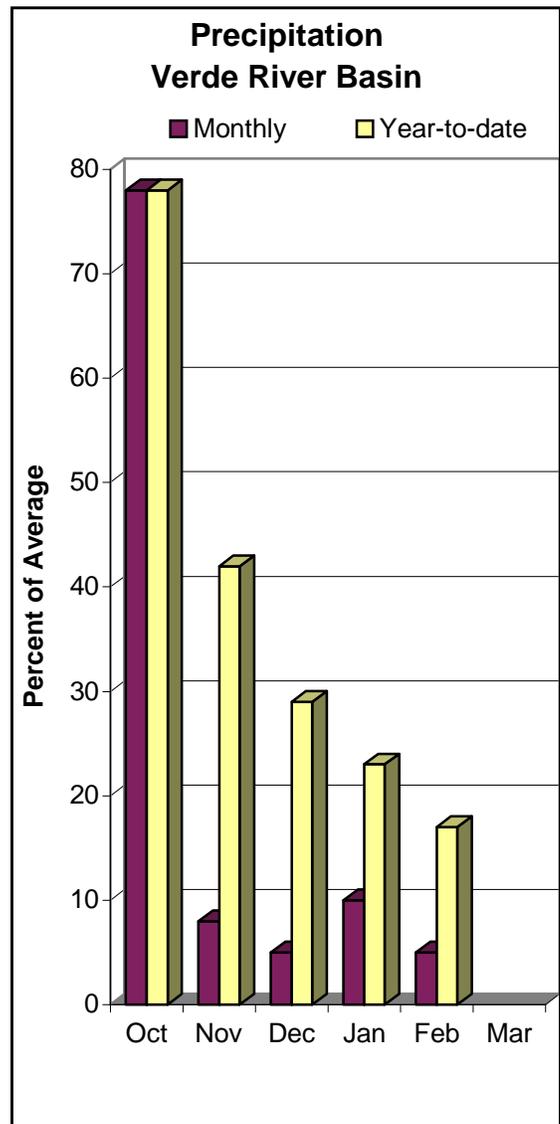
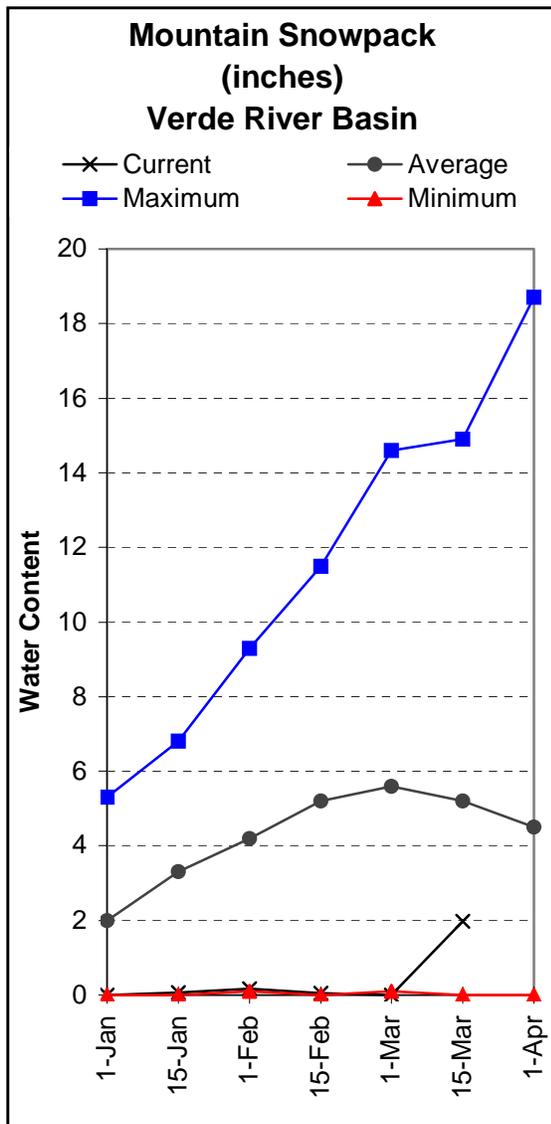
SALT RIVER BASIN  
Watershed Snowpack Analysis - March 15, 2006

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SALT RIVER BASIN	8	50	56

## VERDE RIVER BASIN as of March 15, 2006

Much below median runoff is forecast for the basin. In the Verde River, at Horseshoe Dam, the forecast calls for 35 % of median stream flow volume from March 15-May.

Snow survey measurements show the basin snowpack to be 38 % of the 30-year average, while combined reservoir storage for the Verde River system stands at 119,876 acre-feet.



=====

VERDE RIVER BASIN  
Streamflow Forecasts - March 15, 2006

=====

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===>						30 Yr Med (1000AF)
	Chance of Exceeding * 90% 70% 50% 30% 10%						
	(1000AF)	(1000AF)	(1000AF)	(% MED.)	(1000AF)	(1000AF)	(1000AF)
Verde River abv Horseshoe Dam							
MAR15-MAY	21	30	35	35	50	80	100
MARCH	13.0	17.5	21	42	33	40	50

\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average and median are computed for the 1971-2000 base period.

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

=====

VERDE RIVER BASIN  
Reservoir Storage (1000AF) Mid-March

=====

Reservoir	Usable Capacity	***** This Year	***** Usable Storage Last Year	***** Average
VERDE RIVER RES SYSTEM	287.4	119.9	284.9	187.9

=====

VERDE RIVER BASIN  
Watershed Snowpack Analysis - March 15, 2006

=====

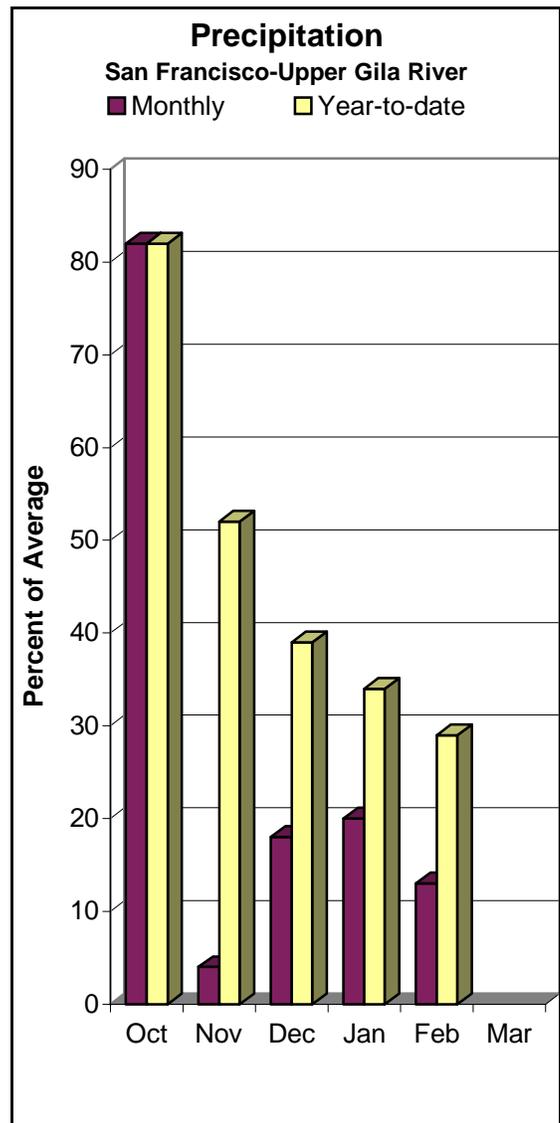
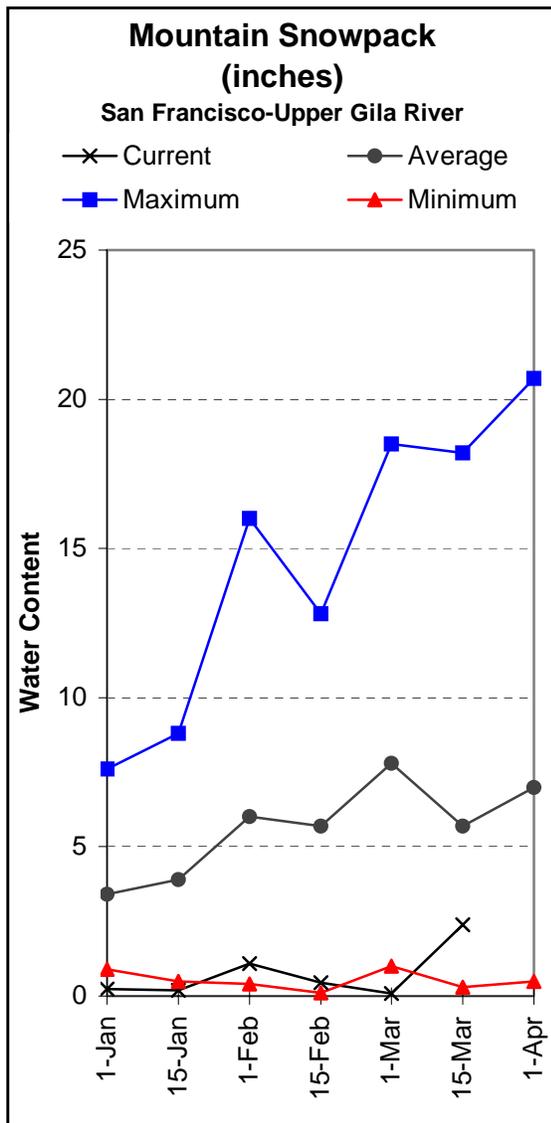
Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
VERDE RIVER BASIN	10	32	38
SAN FRANCISCO PEAKS	3	14	27

=====

## SAN FRANCISCO-UPPER GILA RIVER BASIN as of March 15, 2006

Much below median runoff is forecast for the basin. In the San Francisco River, at Clifton, the forecast calls for 29 % of median stream flow volume from March 15-May, while in the Gila River, near Solomon, the forecast calls for 23 % of median stream flow volume from March 15-May. At San Carlos Reservoir, inflow volume to the lake is forecast at 14 % of median for the forecast period March 15-May.

At San Carlos, reservoir storage stands at 168,800 acre-feet, while snow survey measurements show the basin snowpack to be at 42 % of the 30-year average.



SAN FRANCISCO - UPPER GILA RIVER BASIN  
Streamflow Forecasts - March 15, 2006

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===>						30 Yr Med (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (1000AF) (% MED.)	30% (1000AF)	10% (1000AF)		
Gila River at Gila MAR15-MAY	5.3	7.0	8.3	33	10.5	14.4	25
Gila River nr Virden MAR15-MAY	4.2	6.1	9.6	30	16.0	26	32
San Francisco River at Glenwood MAR15-MAY	1.4	2.2	3.4	28	4.9	7.8	12.3
San Francisco River at Clifton MAR15-MAY	3.9	6.0	8.7	29	15.0	21	30
Gila River nr Solomon MAR15-MAY	5.1	7.3	17.0	23	37	58	73
	MARCH		8.0	15			53
San Carlos Reservoir inflow MAR15-MAY	2.4	4.8	6.5	14	24	38	48

\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.  
The average and median are computed for the 1971-2000 base period.  
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SAN FRANCISCO - UPPER GILA RIVER BASIN  
Reservoir Storage (1000AF) Mid-March

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
SAN CARLOS	875.0	168.8	428.2	476.9

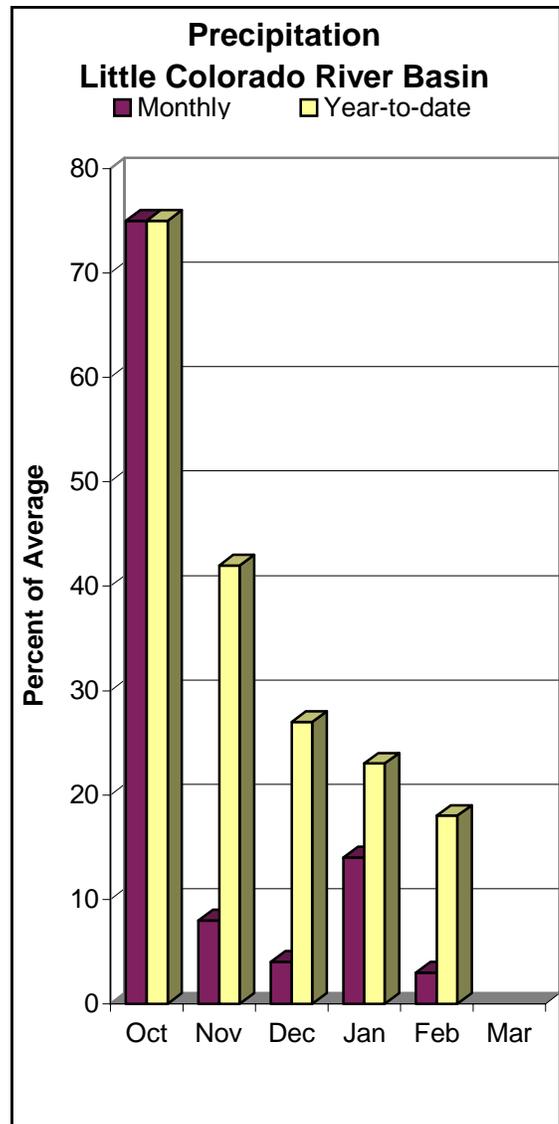
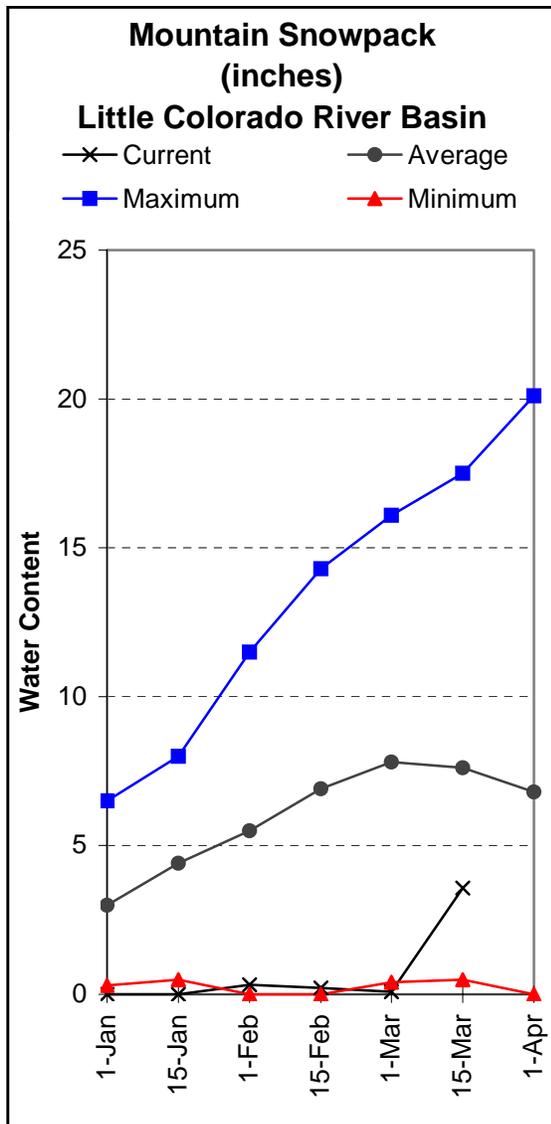
SAN FRANCISCO - UPPER GILA RIVER BASIN  
Watershed Snowpack Analysis - March 15, 2006

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SAN FRANCISCO - UPPER GILA R	9	35	42

## LITTLE COLORADO RIVER BASIN as of March 15, 2006

Much below median runoff is forecast for the basin. In the Little Colorado River, at Lyman Lake, the forecast calls for 10 % of median stream flow volume from March-June, while at Woodruff, the forecast calls for 5 % of median stream flow volume from March-May.

Snowpack levels at the southern headwaters of the Little Colorado River and along the central Mogollon Rim were measured at 47 % and 39 % of the 30-year average, respectively.



LITTLE COLORADO RIVER BASIN  
Streamflow Forecasts - March 15, 2006

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===>						30 Yr Med (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (1000AF) (% MED.)	30% (1000AF)	10% (1000AF)		
Little Colorado River abv Lyman Lake							
MAR-JUN	0.19	0.31	0.62	10	1.14	2.33	6.30
Little Colorado River at Woodruff							
MAR-MAY	0.04	0.09	0.11	5	0.33	0.77	2.20
Blue Ridge Reservoir inflow							
MAR-MAY	0.2	0.9	1.7	13	2.7	4.5	12.8
Lake Mary inflow							
MAR-MAY	0.04	0.17	0.35	9	0.62	1.24	4.10

\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.  
The average and median are computed for the 1971-2000 base period.  
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
(2) - The value is natural volume - actual volume may be affected by upstream water management.

LITTLE COLORADO RIVER BASIN  
Reservoir Storage (1000AF) Mid-March

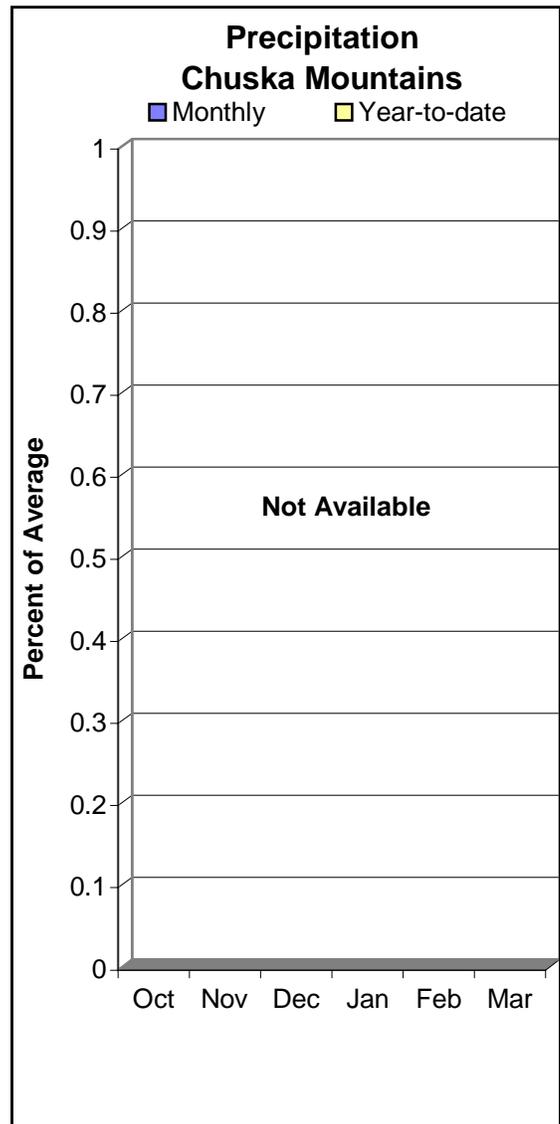
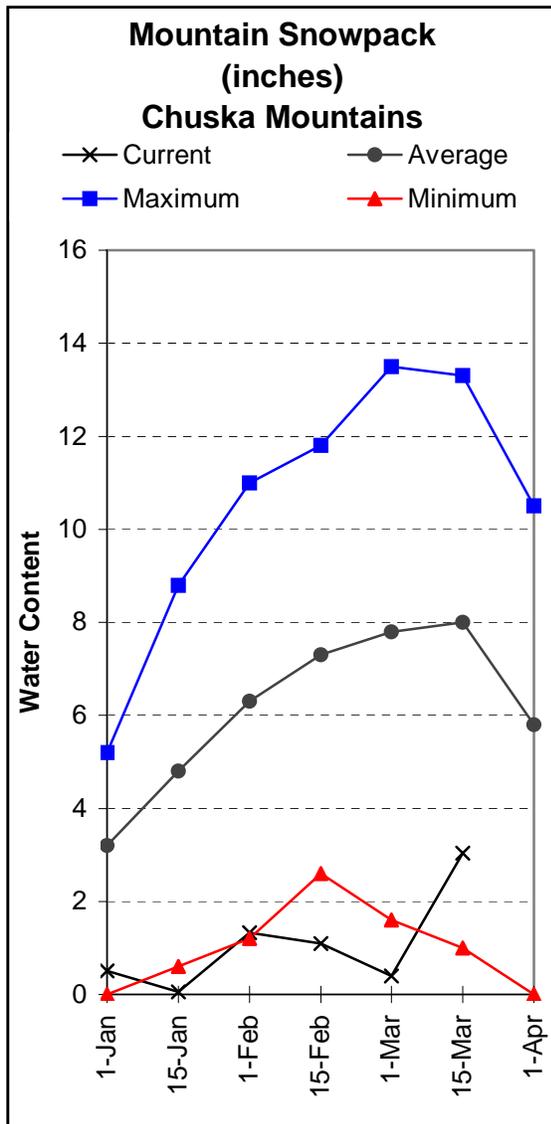
Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
LYMAN RESERVOIR	30.0	8.1	5.4	16.2
SHOW LOW LAKE		NO REPORT		

LITTLE COLORADO RIVER BASIN  
Watershed Snowpack Analysis - March 15, 2006

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
LITTLE COLORADO - SOUTHERN H	9	46	47
CENTRAL MOGOLLON RIM	4	37	39

## CHUSKA MOUNTAINS as of March 15, 2006

Snow survey measurements conducted by staff of the Navajo Tribe show the Chuska snowpack to be 38 % of average, while much below average runoff is forecast for Captain Tom Wash, Wheatfields Creek, and Bowl Canyon Creek from March-May.



CHUSKA MOUNTAINS  
Streamflow Forecasts - March 15, 2006

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===>						30 Yr Avg (1000AF)
	Chance of Exceeding *						
	90% (1000AF)	70% (1000AF)	50% (1000AF) (% AVG.)	30% (1000AF)	10% (1000AF)		
Captain Tom Wash nr Two Gray Hills							
MAR-MAY	0.08	0.37	0.75	27	1.98	3.88	2.83
Wheatfields Creek nr Wheatfields							
MAR-MAY	0.09	0.38	0.77	27	2.07	3.97	2.90
Bowl Canyon Creek abv Assayi Lake							
MAR-MAY	0.03	0.13	0.28	28	0.73	1.38	1.00

\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

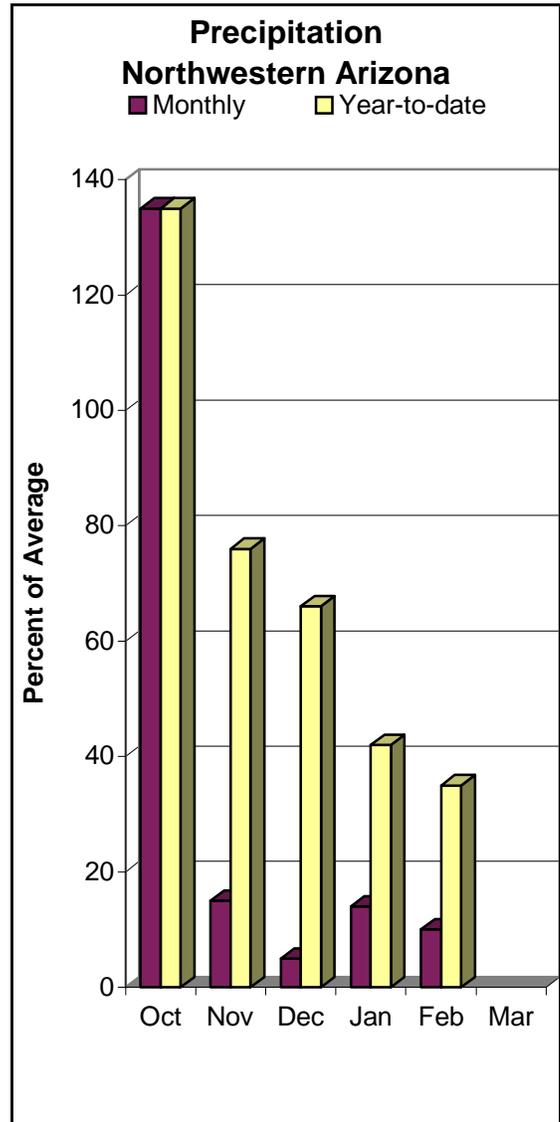
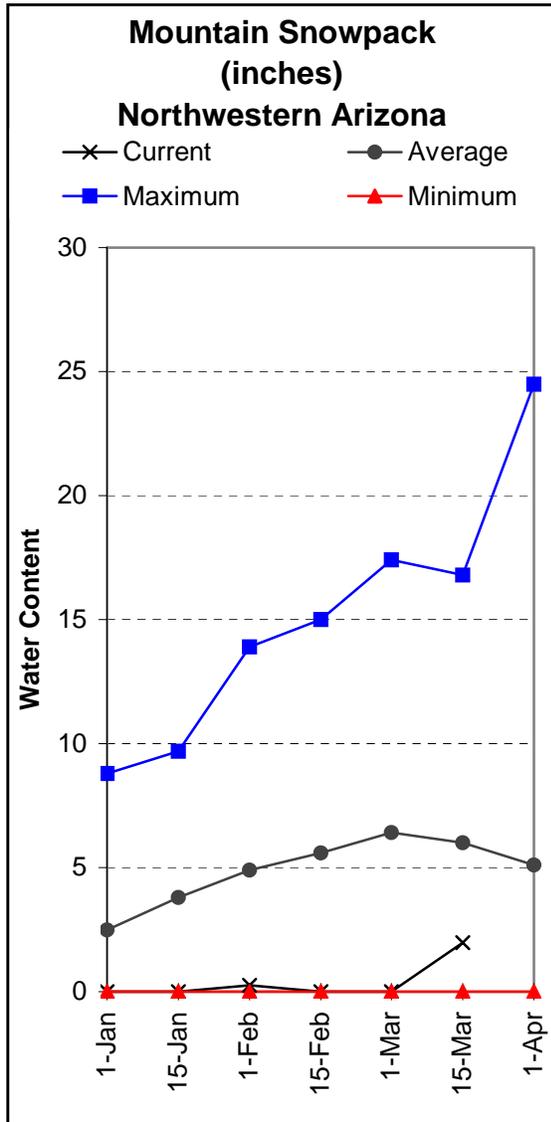
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

CHUSKA MOUNTAINS  
Watershed Snowpack Analysis - March 15, 2006

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
CHUSKA MOUNTAINS	7	32	38
DEFIANCE PLATEAU	2	227	83

## NORTHWESTERN ARIZONA as of March 15, 2006

On the Colorado River, inflow volume to Lake Powell is forecast at 93 % of the 30-year average for the forecast period April through July; while at the Grand Canyon, snow measurements conducted by staff of the National Park Service show the snowpack to be 33 % of the 30-year average.



NORTHWESTERN ARIZONA  
Streamflow Forecasts - March 15, 2006

Forecast Pt Forecast Period	<=== Drier === Future Conditions === Wetter ===>						30 Yr Avg (1000AF)
	Chance of Exceeding *						
	90%	70%	50%	30%	10%		
	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)	
Lake Powell inflow							
APR-JUL	5038	6444	7400	93	8354	9759	7930

\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

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

NORTHWESTERN ARIZONA  
Reservoir Storage (1000AF) Mid-March

Reservoir	Usable	***** Usable Storage *****		
	Capacity	This Year	Last Year	Average
LAKE HAVASU	619.0	570.0	546.6	552.6
LAKE MOHAVE	1810.0	1660.6	1728.1	1694.0
LAKE MEAD	26159.0	15414.0	16062.0	22090.0
LAKE POWELL	24322.0	10763.0	8128.0	18366.0

NORTHWESTERN ARIZONA  
Watershed Snowpack Analysis - March 15, 2006

Watershed	Number of	This Year as Percent of	
	Data Sites	Last Year	Average
GRAND CANYON	1	0	33

S N O W   S U R V E Y   D A T A

MARCH 15, 2006

SNOW COURSE	ELEV.	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
ARBABS FOREST (AK)	7680	3/14	9	1.8	.4	1.3
BAKER BUTTE SNOTEL	7330	3/15	9	2.4	4.8	5.6
BAKER BUTTE #2	7700	3/16	14	3.4	16.9	13.7
BALDY SNOTEL	9220	3/15	16	3.4	10.8	8.1
BEAVER HEAD	8000	3/15	11	1.6	0.8	2.1
BEAVER HEAD SNOTEL	7990	3/15	10	2.3	6.1	2.6
BEAVER SPRING	9220	3/14	17	3.7	12.6	9.9
BRIGHT ANGEL	8400	3/17	15	3.7	15.0	11.3
BUCK SPRING	7400	3/15	17	3.1	.0	3.1
CHALENDER	7100	3/16	8	1.2	0.4	2.8
CHEESE SPRINGS	8600	3/14	19	3.4	6.0	5.8
CORONADO TRL SNOTEL	8400	3/15	9	2.1	2.4	2.2
CORONADO TRAIL	8400	3/15	8	1.4	0.7	2.3
FLUTED ROCK	7800	3/14	8	1.6	1.1	2.8
FORT APACHE	9160	3/14	21	3.6	9.6	8.1
FORT VALLEY	7350	3/15	8	1.6	2.4	1.9
FRY SNOTEL	7220	3/15	10	2.1	9.6	5.5
GRAND CANYON	7500				0.3	1.3
HANNAGAN MDWS SNOTEL	9020	3/15	-	3.3	19.5	12.3
HAPPY JACK	7630	3/13	13	2.0	5.9	4.4
HAPPY JACK SNOTEL	7630	3/15	11	2.3	9.3	6.3
HEBER SNOTEL	7640	3/15	21	3.8	.8	4.1
LAKE MARY	6970	3/15	8	2.1	0.8	1.4
MAVERICK FORK SNOTEL	9200	3/15	18	3.5	13.6	9.5
MORMON MTN SNOTEL	7500	3/15	12	2.5	8.6	6.4
MORMON MT. SUMMIT #2	8470	3/16	15	3.6	20.5	15.0
NEWMAN PARK	6750	3/15	8	1.9	0.9	1.2
NUTRIOSO	8500	3/15	8	1.6	.0	1.2
PROMONTORY SNOTEL	7900	3/15	20	4.4	15.1	12.9
SNOW BOWL #1 ALT.	10260	3/15	18	3.2	27.0	16.1
SNOW BOWL #2	11000	3/15	29	3.4	34.8	20.5
SNOWSLIDE CYN SNTL	9750	3/15	24	7.0	37.0	13.5
TSAILE CANYON #1	8160	3/15	11	2.5	6.2	6.2
TSAILE CANYON #3	8920	3/15	14	3.1	11.3	9.5
WHITE HORSE SNOTEL	7180	3/15	9	1.6	2.6	4.6
WILDCAT SNOTEL	7850	3/15	11	2.3	.0	3.7
WILLIAMS SKI RUN	7720	3/15	20	3.0	11.0	9.9
WORKMAN CREEK SNOTEL	6900	3/15	29	5.3	.0	4.2