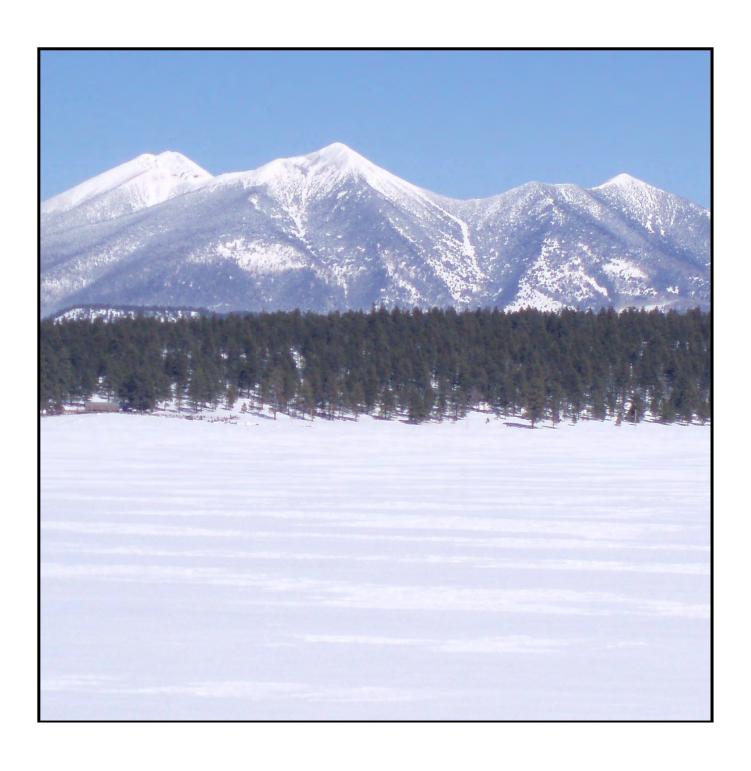


Natural Resources Conservation Service

# Arizona Basin Outlook Report February 1, 2021



#### Issued by

Kevin Norton Acting Chief Natural Resources Conservation Service U.S. Department of Agriculture

#### Released by

Keisha L. Tatem State Conservationist Natural Resources Conservation Service Phoenix, Arizona

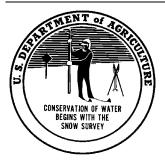
# Basin Outlook Reports And Federal – State – Private Cooperative Snow Surveys

#### How forecasts are made

Most of the annual streamflow in Arizona originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated Snow Telemetry (SNOTEL) sites, along with precipitation and streamflow values, are used in statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service (NRCS) the National Weather Service, and the Salt River Project.

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

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known. This is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or are concerned about having an adequate water supply, they may want to base their decisions on the 90% or 70% exceedance probability forecasts. On the other hand, if users anticipate receiving too much water, or are concerned about the threat of flooding, they may want to base their decisions on the 30% or 10% exceedance probability forecasts. Regardless of the forecast value users choose, they should be prepared to deal with either more or less water.



# For more water supply and resource management information, contact:

Travis Kolling Water Supply Specialist 230 N. First Ave., Suite 509 Phoenix, AZ 85003-1706 Phone: (602) 280-8834

Email: travis.kolling@az.usda.gov

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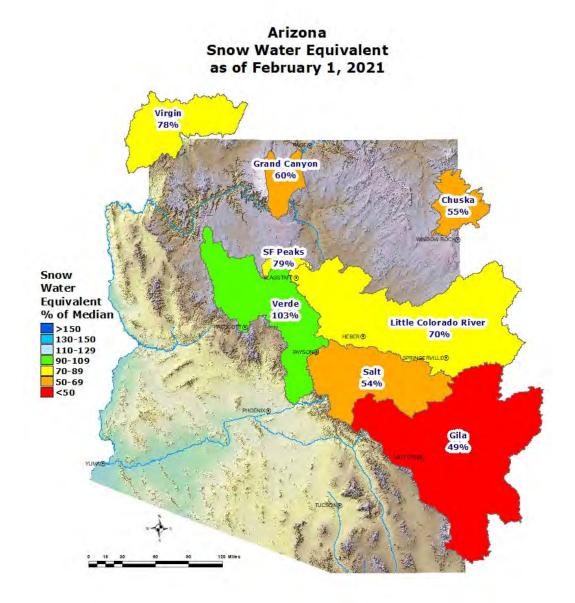
# ARIZONA Basin Outlook Report as of February 1, 2021

## **SUMMARY**

As of February 1, snowpack levels are well below normal to normal throughout the major basins of the state. Precipitation for the month of January was well below normal to well above normal in the major river basins. The Salt and Verde River reservoir system stands at 76 percent of capacity, while San Carlos Reservoir is at 2 percent of capacity. The forecast calls for well below normal runoff in all basins for the spring runoff period.

#### **SNOWPACK**

Snow water equivalent levels in the state's major river basins are well below normal to normal, ranging from 103 percent of median in the Verde River Basin to 49 percent of median in the Upper Gila River Basin. The statewide snowpack is below normal at 76 percent of median.

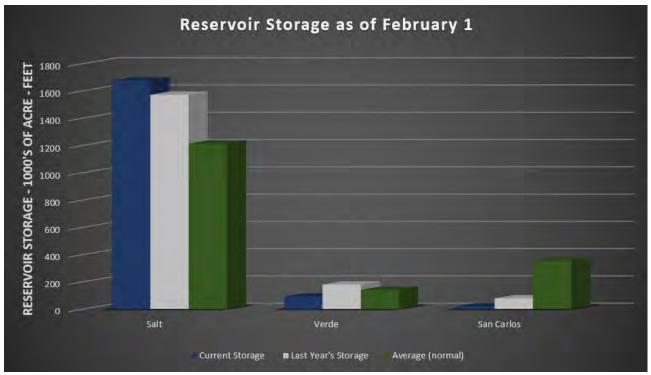


## **PRECIPITATION**

Mountain data from NRCS SNOTEL sites and NWS Cooperator gages show that precipitation for January was average in the major river basins. Cumulative precipitation since October 1 is well below normal throughout the basins. Please refer to the precipitation bar graphs found in this report for more information on precipitation levels in the basins.

## **RESERVOIR STORAGE**

As of February 1, the Salt and Verde River reservoir system stands at 76 percent of capacity. San Carlos Reservoir is currently at 2 percent of capacity.



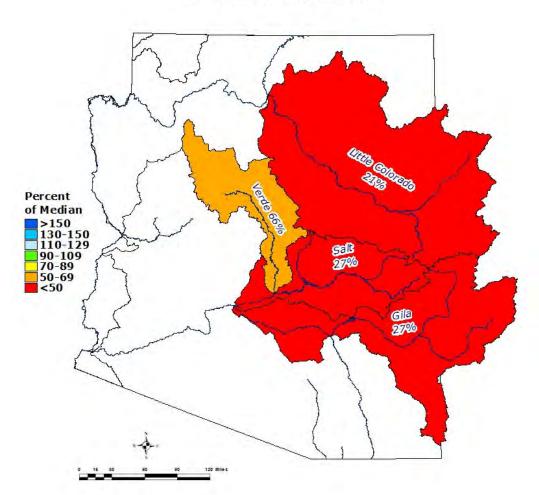
**Key storage volumes displayed in thousands of acre-feet (x1000):** 

Reservoir	Current <u>Storage</u>	Last Year <u>Storage</u>	30-Year <u>Average</u>	Storage <u>Capacity</u>
Salt River System	1674.5	1570.7	1181.0	2025.8
Verde River System	91.1	179.4	135.7	287.4
San Carlos Reservoir	19.9	78.1	324.9	875.0
Lyman Lake	7.5	8.7	11.8	30.0
Lake Havasu	579.6	553.0	562.7	619.0
Lake Mohave	1690.0	1653.0	1602.0	1810.0
Lake Mead	10524.0	11274.0	20297.0	26159.0
Lake Powell	9638.5	12280.7	17745.0	24322.0

## **STREAMFLOW**

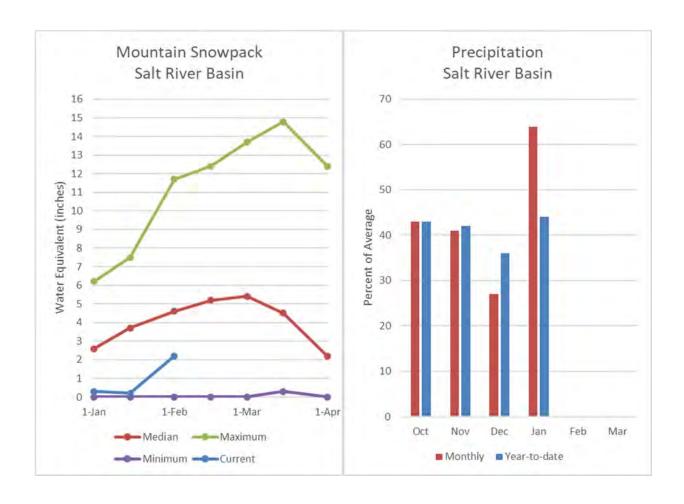
As of February 1, the forecast calls for well below normal streamflow for the spring runoff period, ranging from 21 percent of median in the Little Colorado River above Lyman Lake to 66 percent of median in the Verde River near above Horseshoe Dam. Total precipitation since the beginning of the water year has been well below average for the state, leaving soils dry and less than ideal conditions for runoff. Please refer to the basin forecast tables found in this report for more information regarding water supply forecasts.

Arizona
Spring Streamflow Forecasts
as of February 1, 2021



# **SALT RIVER BASIN** as of February 1, 2021

Well below streamflow levels are forecast for the basin. In the Salt River, near Roosevelt, the forecast calls for 27% of median streamflow through May, while at Tonto Creek, the forecast calls for 29% of median streamflow through May. Snow survey measurements show the Salt snowpack to be at 54% of median.



Salt
Streamflow Forecasts - February 1, 2021

		F			abilities for Risume will excee		nt	
Salt	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Salt R nr Roosevelt <sup>3</sup>								
	FEB			10.4	27%			39
	FEB-MAY	24	50	76	27%	109	175	285
	MAR-MAY	19.1	41	64	27%	93	151	240
Tonto Ck ab Gun Ck nr Roosevelt3								
	FEB			3.7	36%			10.3
	FEB-MAY	0.76	4.5	10	29%	18.7	39	35

<sup>1) 90%</sup> and 10% exceedance probabilities are actually 95% and 5%

54%

86%

Salt

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Salt River Reservoir System	1674.5	1570.7	1240.0	2025.8
Basin-wide Total	1674.5	1570.7	1240.0	2025.8
# of reservoirs	1	1	1	1
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median	

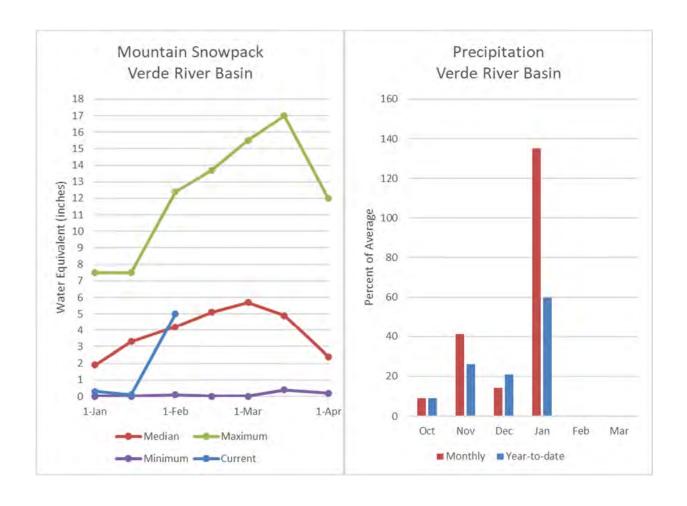
10

<sup>2)</sup> Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

<sup>3)</sup> Median value used in place of average

# **VERDE RIVER BASIN as of February 1, 2021**

Well below normal streamflow levels are forecast for the basin. In the Verde River above Horseshoe Dam, the forecast calls for 66% of median streamflow through May. Snow survey measurements show the Verde snowpack to be at 103% of median.



# Verde

Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment

		Chance that actual volume will exceed forecast						
Verde	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Verde R bl Tangle Ck ab Horseshoe Dam <sup>3</sup>								
	FEB			24	69%			35
	FEB-MAY	28	59	90	66%	131	210	136

<sup>1) 90%</sup> and 10% exceedance probabilities are actually 95% and 5%

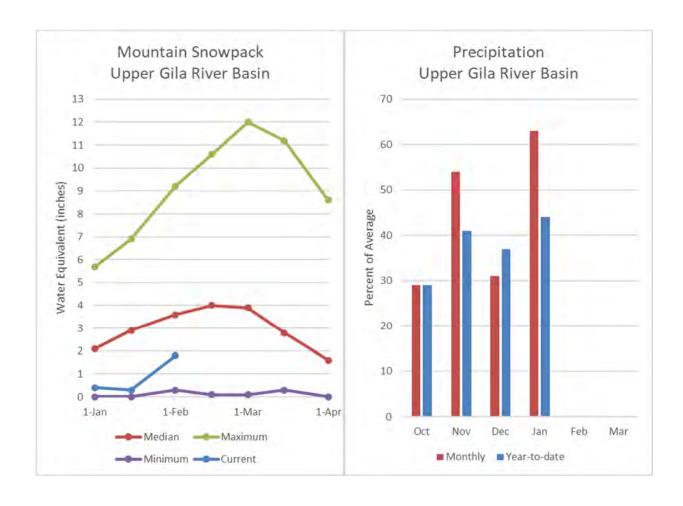
<sup>3)</sup> Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Verde River Reservoir System	91.1	179.4	154.4	287.4
Basin-wide Total	91.1	179.4	154.4	287.4
# of reservoirs	1	1	1	1
Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median	
Verde	8	103%	116%	

<sup>2)</sup> Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

# SAN FRANCISCO-UPPER GILA RIVER BASIN as of February 1, 2021

Well below normal streamflow levels are forecast for the basin. In the San Francisco River, at Clifton, the forecast calls for 31% of median streamflow levels through May. In the Gila River, near Solomon, the forecast calls for 27% of median streamflow levels through May. At San Carlos Reservoir, inflow to the lake is forecast at 25% of median through May. Snow survey measurements show the snowpack for this basin to be at 49% of median.



# San Francisco-Upper Gila Streamf<u>low Forecasts - February 1, 2021</u>

San Francisco-Upper Gila		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Gila R at Gila <sup>3</sup>								
	FEB-MAY	6	12.1	18	36%	26	40	50
Gila R bl Blue Ck nr Virden <sup>3</sup>								
	FEB-MAY	1.48	10.4	21	33%	35	63	63
San Francisco R at Glenwood <sup>3</sup>								
	FEB-MAY	0.96	3.1	5.6	31%	9.2	16.8	18.2
San Francisco R at Clifton <sup>3</sup>								
	FEB-MAY	0.88	7.5	15.8	31%	27	49	51
Gila R nr Solomon <sup>3</sup>								
	FEB			11	48%			23
	FEB-MAY	1.4	15.2	33	27%	58	106	123
San Carlos Reservoir Inflow <sup>3</sup>								
	FEB-MAY	0.66	7.6	20	25%	41	95	81

<sup>1) 90%</sup> and 10% exceedance probabilities are actually 95% and 5%

<sup>3)</sup> Median value used in place of average

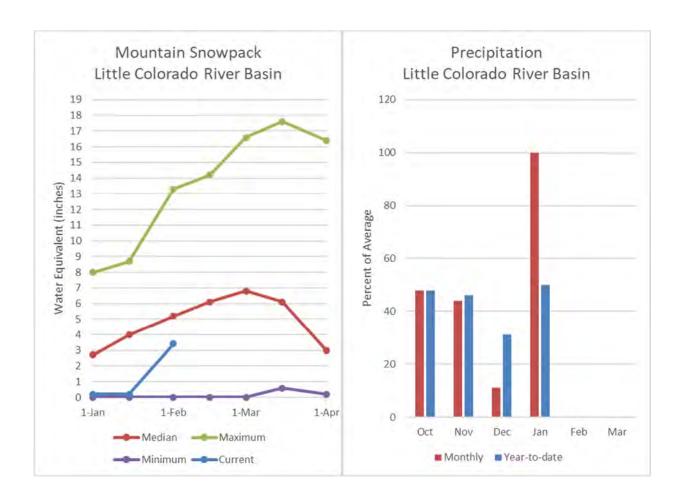
Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
San Carlos Reservoir	19.9	76.6	366.8	875.0
Basin-wide Total	19.9	76.6	366.8	875.0
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
San Francisco-Upper Gila	8	49%	79%

<sup>2)</sup> Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

# LITTLE COLORADO RIVER BASIN as of February 1, 2021

Well below normal streamflow levels are forecast for the basin. In the Little Colorado River, above Lyman Lake, the forecast calls for 21% of median streamflow through June. At Blue Ridge (C.C. Cragin) Reservoir, inflow to the lake is forecast at 58% of median through May. Snowpacks along the southern headwaters of the Little Colorado River, and along the central Mogollon Rim, were measured at 70% and 103% of median, respectively.



# Little Colorado

Streamflow Forecasts - February 1, 2021

Forecast Exceedance Probabilities for Risk Assessment

			Chance th	at actual volu	ıme will excee	d forecast		]
Little Colorado	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Little Colorado R ab Lyman Lake <sup>3</sup>								
	FEB-JUN	0.34	0.85	1.4	21%	2.1	3.6	6.6
Rio Nutria nr Ramah <sup>3</sup>								
	FEB-MAY	0	0.08	0.3	21%	0.73	1.92	1.4
Zuni R ab Black Rock Reservoir <sup>3</sup>								
2	FEB-MAY	0	0.01	0.15	39%	0.67	2.6	0.38
Blue Ridge Reservoir Inflow <sup>3</sup>	555 MANY				=00/			40.0
	FEB-MAY	2.2	5.7	9.5	58%	14.7	25	16.3
Lake Mary Reservoir Inflow <sup>3</sup>	FED 144)/	4.00	0.0	0.0	770/	4.0	-	4.0
	FEB-MAY	1.22	2.3	3.3	77%	4.6	/	4.3

<sup>1) 90%</sup> and 10% exceedance probabilities are actually 95% and 5%

<sup>3)</sup> Median value used in place of average

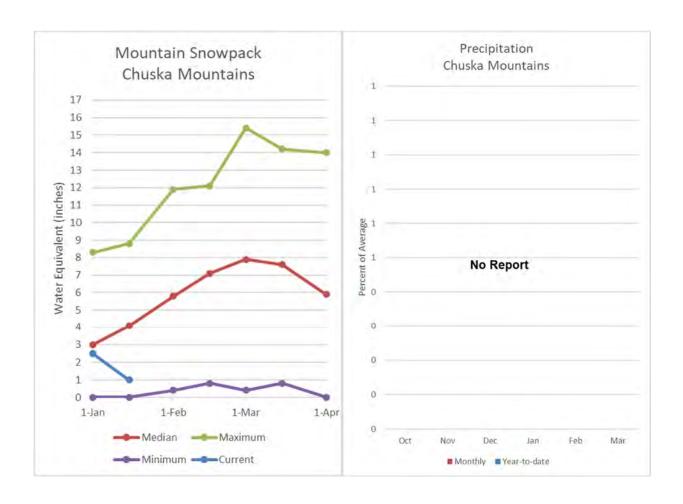
Reservoir Storage	Current	Last Year	Average	Capacity
End of January, 2021	(KAF)	(KAF)	(KAF)	(KAF)
Lyman Reservoir	7.5	8.7	12.3	30.0
Basin-wide Total	7.5	8.7	12.3	30.0
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Little Colorado	15	70%	105%
Central Mogollon Rim	3	103%	103%

<sup>2)</sup> Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

# **CHUSKA MOUNTAINS as of February 1, 2021**

Partial snow survey measurements conducted by staff of the Navajo Nation Water Management Branch show the Chuska snowpack to be estimated at 55% of median. The forecast calls for well below normal runoff for Wheatfields Creek, Captain Tom Wash, and Bowl Canyon Creek.



# Chuska-Defiance

# Streamflow Forecasts - February 1, 2021 Forecast Exceedance Probabilities for Risk Assessment

	L	Chance that actual volume will exceed forecast						
Chuska-Defiance	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Captain Tom Wash nr Two Gray Hills								
	MAR-MAY	0.02	0.23	0.63	24%	1.35	3.2	2.6
Wheatfields Ck nr Wheatfields								
	MAR-MAY	0.07	0.34	0.65	31%	1.06	1.84	2.1
Bowl Canyon Ck ab Asaayi Lake								
	MAR-MAY	0.1	0.32	0.55	42%	0.84	1.37	1.3

<sup>1) 90%</sup> and 10% exceedance probabilities are actually 95% and 5%

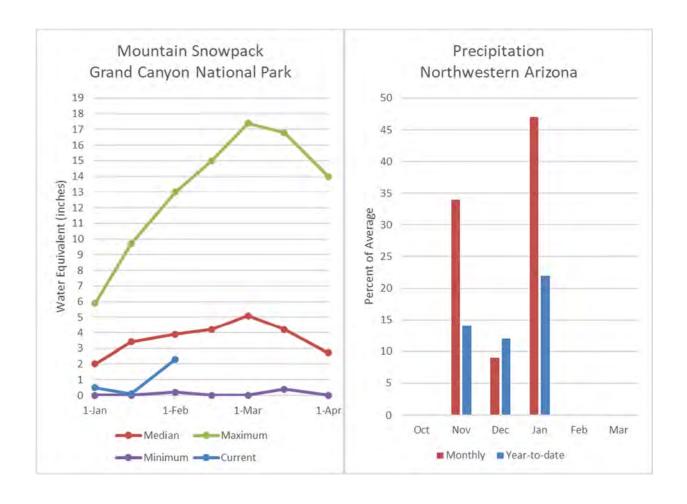
<sup>3)</sup> Median value used in place of average

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Chuska-Defiance	0		
Chuska Mountains	0		
Defiance Plateau	0		

<sup>2)</sup> Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

# NORTHWESTERN ARIZONA as of February 1, 2021

On the Colorado River, well below normal inflow to Lake Powell is forecast at 42% of the 30-year average for the forecast period April-July. At the Grand Canyon, measurements conducted by park rangers show the snowpack to be at 60% of median.



# **Grand Canyon**

# Streamflow Forecasts - February 1, 2021

		F						
Grand Canyon	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lake Powell Inflow <sup>2</sup>								
	APR-JUL	1240	2190	3000	42%	3930	5530	7160

<sup>1) 90%</sup> and 10% exceedance probabilities are actually 95% and 5%

<sup>3)</sup> Median value used in place of average

Reservoir Storage End of January, 2021	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
Lake Havasu	579.6	553.0	556.4	619.0
Lake Mohave	1690.0	1653.0	1676.0	1810.0
Lake Mead	10524.0	11265.0	20452.0	26159.0
Lake Powell	9638.5	12280.7	17338.0	24322.0
Basin-wide Total	22432.1	25751.7	40022.4	52910.0
# of reservoirs	4	4	4	4

Watershed Snowpack Analysis February 1, 2021	# of Sites	% Median	Last Year % Median
Grand Canyon	2	60%	97%

<sup>2)</sup> Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

Basinwide Summary: February 1, 2021 (Averages/Medians based on 1981-2010 reference period)

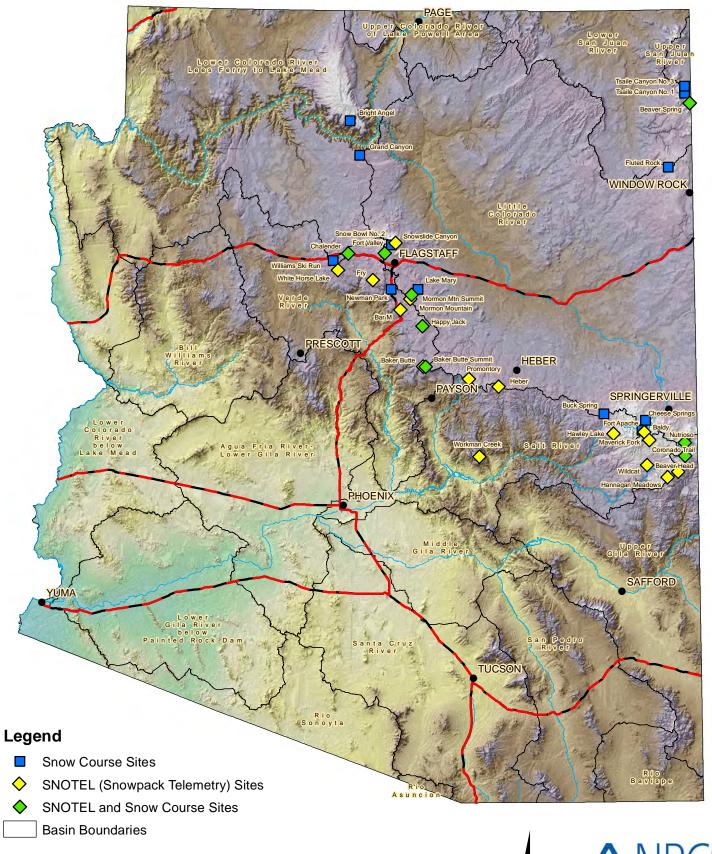
Snowpack Summary for February 1, 2021

Call	Notwork	Elevation	Depth	SWE	Median	%	Last Year	Last Year
Salt	Network	(ft)	(in)	(in)	(in)	Median	SWE (in)	% Median
Baldy	SNOTEL	9125	9	1.9	6.4	30%	6.8	106%
Beaver Head	SNOTEL	7990	5	1.8	3.4	53%	1.3	38%
Buck Spring	SC	7400	10	2.4	2.0	120%	0.4	20%
Coronado Trail	SC	8350	5	1.1	2.0	55%		
Coronado Trail	SNOTEL	8400	3	1.0	3.2	31%	3.4	106%
Fort Apache	SC	9160	17	2.6	6.8	38%	7.6	112%
Hannagan Meadows	SNOTEL	9020	11	3.2	8.3	39%	8.6	104%
Hawley Lake	SNOTEL	8300	25	5.1			9.2	
Heber	SNOTEL	7640			4.6		4.0	87%
Maverick Fork	SNOTEL	9200	10	1.6	6.8		7.0	103%
Promontory	SNOTEL	7930		6.9	7.2	96%	6.5	90%
Wildcat	SNOTEL	7850		1.5	3.0	50%	3.0	100%
Workman Creek	SNOTEL	6900	19	5.1	4.5	113%	0.0	0%
Basin Index						54%		86%
# of sites						10		10
		Elevetion	Donth	CME	Madian	0/	Last Year	Loot Voor
Verde	Network	Elevation (ft)	(in)	(in)	Median (in)	% Median	SWE (in)	Last Year % Median
Baker Butte	SNOTEL	7300	26	5.4	. ,		3.8	88%
Baker Butte No. 2	SC	7700	37	6.6	4.3 6.9	96%	8.6	125%
Baker Butte Smt	SNOTEL	7700	40	8.4	0.9	30 /0	10.3	12570
Bar M	SNOTEL	6393	40	3.9			0.0	
Chalender	SNOTEL	7100	15	2.9			4.1	
Chalender	SC	7100	10	2.5	1.8		2.0	111%
Fort Valley	SNOTEL	7350	13	2.6	1.0		0.0	11170
Fort Valley	SC	7350	10	2.0	1.8		0.0	0%
Fry	SNOTEL	7200	24	5.2	5.0	104%	8.4	168%
Happy Jack	SC	7630	25	4.2	3.2	131%	1.6	50%
Happy Jack	SNOTEL	7630	27		3.8	126%	4.1	108%
Mormon Mountain	SNOTEL	7500	25	5.5	4.0	138%	4.4	110%
Mormon Mountain Summit #2	SC	8470	20	0.0	7.7	10070	8.2	106%
Mormon Mtn Summit	SNOTEL	8500	25	5.2			6.7	10070
Newman Park	SC	6750	20	0.2	2.0		1.4	70%
Snow Bowl #2	SC	11200	43	7.2	11.6	62%	14.8	128%
White Horse Lake	SNOTEL	7180	21	4.5	3.4	132%	3.3	97%
Williams Ski Run	SC	7720		1.0	5.6	10270	0.0	0.70
Basin Index						103%		116%
# of sites						8		8
		Elevation	Donth	C/V/E	Modios	0/	Loct Voca	Last Year
San Francisco Peaks	Network	(ft)	(in)	(in)	Median (in)	% Median	SWE (in)	
Snow Bowl #2	SC	11200	43	7.2			14.8	128%
Snowslide Canyon	SNOTEL	9730	43	9.8	10.0	98%	15.4	154%
Basin Index						79%		140%
# of sites						2		2
	NI-4	Elevation	Depth	SWE	Median	%	Last Year	Last Year
San Francisco-Upper Gila	Network	(ft)	(in)	(in)	(in)		SWE (in)	
		` '	` '	. ,	` '		` '	

Beaver Head	SNOTEL	7990	5	1.8	3.4	53%	1.3	38%
Coronado Trail	SC	8350	5	1.1	2.0	55%		
Coronado Trail	SNOTEL	8400	3	1.0	3.2	31%	3.4	106%
Frisco Divide	SNOTEL	8000	7	1.1	2.5	44%	2.4	96%
Hannagan Meadows	SNOTEL	9020	11	3.2	8.3	39%	8.6	104%
Lookout Mountain	SNOTEL	8500	6	1.5	2.3	65%	0.3	13%
Nutrioso	SC	8500	4	0.8	1.2	67%	0.0	0%
Nutrioso	SNOTEL	8500	3	0.9			0.0	
Signal Peak	SNOTEL	8360	6	1.7	3.9	44%	0.0	0%
Silver Creek Divide	SNOTEL	9000	16	4.1	6.1	67%	8.5	139%
State Line	SC	8000			1.8			
Basin Index						49%		79%
# of sites						8		8
Little Colorado	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Baker Butte	SNOTEL	7300	26	5.4	4.3	126%	3.8	88%
Baker Butte No. 2	SC	7700	37	6.6		96%	8.6	125%
Baker Butte Smt	SNOTEL	7700	40	8.4			10.3	
Baldy	SNOTEL	9125	9	1.9	6.4	30%	6.8	106%
Boon	SC	8140	13	2.2	4.6	48%	2.8	61%
Buck Spring	SC	7400	10	2.4	2.0	120%	0.4	20%
Cheese Springs	SC	8700	13	2.1	4.2	50%	4.4	105%
Dan Valley	SC	7640	8	1.2		39%	1.8	58%
Fort Apache	SC	9160	17	2.6	6.8	38%	7.6	112%
Fort Valley	SNOTEL	7350	13	2.6			0.0	
Fort Valley	SC	7350			1.8		0.0	0%
Heber	SNOTEL	7640			4.6		4.0	87%
Lake Mary	SC	6930			3.0		1.2	40%
Maverick Fork	SNOTEL	9200	10	1.6	6.8	24%	7.0	103%
Mcgaffey	SC	8120	9	1.2		44%	1.6	59%
Mormon Mountain	SNOTEL	7500	25	5.5	4.0	138%	4.4	110%
Mormon Mountain Summit #2	SC	8470			7.7		8.2	106%
Mormon Mtn Summit	SNOTEL	8500	25	5.2			6.7	
Nutrioso	SC	8500	4	0.8	1.2	67%	0.0	0%
Nutrioso	SNOTEL	8500	3	0.9			0.0	
Promontory	SNOTEL	7930		6.9		96%	6.5	90%
Snow Bowl #2	SC	11200	43	7.2		62%	14.8	128%
Snowslide Canyon	SNOTEL	9730	43	9.8		98%	15.4	154%
Basin Index						70%		105%
# of sites						15		15
Central Mogollon Rim	Network	Elevation	Depth	SWE	Median	%	Last Year	Last Year
	INCIMOLE	(ft)	(in)	(in)	(in)	Median	SWE (in)	% Median
Baker Butte	SNOTEL	7300	26	5.4	4.3	126%	3.8	88%
Baker Butte No. 2	SC	7700	37	6.6	6.9	96%	8.6	125%
Baker Butte Smt	SNOTEL	7700	40	8.4			10.3	
Heber	SNOTEL	7640			4.6		4.0	87%
Promontory	SNOTEL	7930		6.9	7.2	96%	6.5	90%
Basin Index						103%		103%
# of sites						3		3
		Floyation	Donth	<b>S</b> \\/⊏	Median	0/.	Last Voor	Last Voor
Chuska-Defiance	Network	Elevation (ft)	Deptn (in)	(in)	iviedian (in)	% Median	SWE (in)	Last Year % Median
		\ '/	` '	` /	` /		( )	

Beaver Spring	SC	9220			7.7		8.1	105%
Beaver Spring	SNOTEL	9200	20	4.2			8.3	
Bowl Canyon	SC	8980			5.8		7.6	131%
Fluted Rock	SC	7800			2.6		3.2	123%
Hidden Valley	SC	8480	16	2.8			6.8	
Missionary Spring	SC	7940			3.6		2.3	64%
Navajo Whiskey Ck	SNOTEL	9050	20				8.7	
Tsaile Canyon #1	SC	8160			4.8		5.6	117%
Tsaile Canyon #3	SC	8920			6.3		7.4	117%
Whiskey Creek	SC	9050			6.3		7.4	121%
Basin Index	- 50	9030			0.5		7.0	12170
# of sites						0		0
# 01 31165						U		U
		□laatia.a	Danth	CVVE	Maalia.	0/	l ==+ V===	Last Vaan
Chuska Mountains	Network	Elevation	•		Median	% Median	Last Year	Last Year
·		(ft)	(in)	(in)	(in)	wedian	. ,	% Median
Beaver Spring	SC	9220			7.7		8.1	105%
Beaver Spring	SNOTEL	9200	20	4.2			8.3	
Bowl Canyon	SC	8980			5.8		7.6	131%
Hidden Valley	SC	8480	16	2.8			6.8	
Missionary Spring	SC	7940			3.6		2.3	64%
Navajo Whiskey Ck	SNOTEL	9050	20				8.7	
Tsaile Canyon #1	SC	8160			4.8		5.6	117%
Tsaile Canyon #3	SC	8920			6.3		7.4	117%
Whiskey Creek	SC	9050			6.3		7.6	121%
Basin Index								
# of sites						0		0
" of sites						Ū		ŭ
		Elevetion	Donth	CME	Madian	0/	Loot Voor	Loot Voor
Defiance Plateau	Network	Elevation			Median	% Modian		Last Year
		(ft)	Depth (in)	SWE (in)	(in)	% Median	SWE (in)	% Median
Fluted Rock	Network SC							
Fluted Rock  Basin Index		(ft)			(in)	Median	SWE (in)	% Median 123%
Fluted Rock		(ft)			(in)		SWE (in)	% Median
Fluted Rock  Basin Index		(ft)			(in)	Median	SWE (in)	% Median 123%
Fluted Rock  Basin Index # of sites	SC	(ft) 7800 Elevation		(in)	(in)	Median	SWE (in) 3.2 Last Year	% Median 123%
Fluted Rock  Basin Index		(ft) 7800	(in)	(in)	(in) 2.6	Median 0	SWE (in) 3.2 Last Year	% Median 123% 0
Fluted Rock  Basin Index # of sites	SC	(ft) 7800 Elevation	(in)	(in)	(in) 2.6  Median (in)	Median 0	SWE (in) 3.2 Last Year	% Median 123% 0 Last Year
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel	SC Network	(ft) 7800 Elevation (ft)	Depth (in)	SWE (in)	(in) 2.6  Median (in)	Median 0 % Median	SWE (in)  3.2  Last Year SWE (in)  6.3	% Median 123%  0  Last Year % Median 117%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon	SC  Network  SC	(ft) 7800  Elevation (ft) 8400	Depth (in)	(in) SWE (in)	(in) 2.6 Median (in) 5.4	% Median 56% 70%	SWE (in) 3.2  Last Year SWE (in) 6.3 1.2	% Median 123%  0  Last Year % Median 117% 52%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index	SC  Network  SC	(ft) 7800  Elevation (ft) 8400	Depth (in)	SWE (in)	(in) 2.6 Median (in) 5.4	Median 0 % Median 56%	SWE (in) 3.2  Last Year SWE (in) 6.3 1.2	% Median 123%  0  Last Year % Median 117%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon	SC  Network  SC	(ft) 7800  Elevation (ft) 8400	Depth (in)	SWE (in)	(in) 2.6 Median (in) 5.4	% Median 56% 70% <b>60%</b>	SWE (in) 3.2  Last Year SWE (in) 6.3 1.2	% Median 123%  0  Last Year % Median 117% 52% 97%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index	SC  Network  SC	(ft) 7800 Elevation (ft) 8400 7500	Depth (in)	SWE (in) 3.0 1.6	(in) 2.6 Median (in) 5.4 2.3	% Median 56% 70% 60% 2	SWE (in) 3.2  Last Year SWE (in) 6.3 1.2	% Median 123%  0  Last Year % Median 117% 52% 97% 2
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index	SC  Network  SC	(ft) 7800  Elevation (ft) 8400 7500  Elevation	Depth (in)  14 10  Depth	SWE (in) 3.0 1.6	Median (in) 5.4 2.3	% Median 56% 70% 60% 2	SWE (in) 3.2  Last Year SWE (in) 6.3 1.2  Last Year	% Median 123%  0  Last Year % Median 117% 52% 97% 2  Last Year
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin	SC  Network  SC SC  Network	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft)	Depth (in)  14 10  Depth (in)	SWE (in) 3.0 1.6 SWE (in)	Median (in) 5.4 2.3  Median (in)	% Median 56% 70% 60% 2	Last Year SWE (in) 6.3 1.2 Last Year SWE (in)	% Median 123%  0  Last Year % Median 117% 52% 97% 2  Last Year % Median
Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak	SC  Network  SC SC  Network  SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322	Depth (in)  Depth (in)  Depth (in)  24	SWE (in) 3.0 1.6 SWE (in) 4.9	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2	% Median 56% 70% 60% 2 % Median 68%	Last Year SWE (in) 6.3 1.2  Last Year SWE (in) 9.2	% Median 123%  0  Last Year % Median 117% 52% 97% 2  Last Year % Median 128%
Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak	SC  Network  SC SC  Network  SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763	Depth (in)  Depth (in)  Depth (in)  24 24	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8	% Median 56% 70% 60% 2 % Median 68% 96%	Last Year SWE (in) 6.3 1.2 Last Year SWE (in) 9.2 8.0	% Median 123%  0  Last Year % Median 117% 52% 97% 2  Last Year % Median 128% 167%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat	SC  Network  SC SC  Network  SNOTEL SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792	Depth (in)  Depth (in)  Depth (in)  24  24  11	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5	% Median 56% 70% 60% 2 % Median 68% 96% 77%	Last Year SWE (in) 6.3 1.2 Last Year SWE (in) 9.2 8.0 7.8	% Median 123%  0  Last Year % Median 117% 52%  97% 2  Last Year % Median 128% 167% 223%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob	SC  Network  SC SC  Network  SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263	Depth (in)  Depth (in)  Depth (in)  24  24  11  41	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80%	SWE (in)  3.2  Last Year SWE (in)  6.3  1.2  Last Year SWE (in)  9.2  8.0  7.8  15.0	% Median 123%  0  Last Year % Median 117% 52%  97% 2  Last Year % Median 128% 167% 223% 143%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob Little Grassy	SC  Network  SC SC  Network  SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263 6065	Depth (in)  Depth (in)  Depth (in)  24  24  11  41  13	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4 2.9	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5 1.9	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80% 153%	SWE (in)  3.2  Last Year SWE (in)  6.3 1.2  Last Year SWE (in)  9.2 8.0 7.8 15.0 1.2	% Median 123%  0  Last Year % Median 117% 52% 97% 2  Last Year % Median 128% 167% 223% 143% 63%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob	SC  Network  SC SC  Network  SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263 6065 7982	Depth (in)  Depth (in)  Depth (in)  24  24  11  41	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80% 153% 68%	SWE (in)  3.2  Last Year SWE (in)  6.3  1.2  Last Year SWE (in)  9.2  8.0  7.8  15.0	% Median 123%  0  Last Year % Median 117% 52%  97% 2  Last Year % Median 128% 167% 223% 143% 63% 150%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob Little Grassy	SC  Network  SC SC  Network  SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263 6065	Depth (in)  Depth (in)  Depth (in)  24  24  11  41  13	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4 2.9	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5 1.9	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80% 153%	SWE (in)  3.2  Last Year SWE (in)  6.3 1.2  Last Year SWE (in)  9.2 8.0 7.8 15.0 1.2	% Median 123%  0  Last Year % Median 117% 52% 97% 2  Last Year % Median 128% 167% 223% 143% 63%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob Little Grassy Long Flat	SC  Network  SC SC  Network  SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263 6065 7982	Depth (in)  Depth (in)  Depth (in)  24  24  11  41  13  17	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4 2.9 3.0	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5 1.9 4.4	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80% 153% 68%	SWE (in)  3.2  Last Year SWE (in)  6.3 1.2  Last Year SWE (in)  9.2 8.0 7.8 15.0 1.2 6.6	% Median 123%  0  Last Year % Median 117% 52%  97% 2  Last Year % Median 128% 167% 223% 143% 63% 150%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob Little Grassy Long Flat Long Valley Jct	SC  Network  SC SC  Network  SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263 6065 7982 7465	Depth (in)  Depth (in)  Depth (in)  24  24  11  41  13  17  15	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4 2.9 3.0 2.3	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5 1.9 4.4 2.6	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80% 153% 68% 88%	SWE (in)  3.2  Last Year SWE (in)  6.3 1.2  Last Year SWE (in)  9.2 8.0 7.8 15.0 1.2 6.6 5.7	% Median 123%  0 Last Year % Median 117% 52% 97% 2 Last Year % Median 128% 167% 223% 143% 63% 150% 219%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob Little Grassy Long Flat Long Valley Jct Midway Valley	SC  Network  SC SC  Network  SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263 6065 7982 7465 9827	Depth (in)  Depth (in)  Depth (in)  24  24  11  41  13  17  15  45	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4 2.9 3.0 2.3 8.7	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5 1.9 4.4 2.6 12.9	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80% 153% 68% 88% 67%	SWE (in)  3.2  Last Year SWE (in)  6.3  1.2  Last Year SWE (in)  9.2  8.0  7.8  15.0  1.2  6.6  5.7  15.3  12.4	% Median 123%  0 Last Year % Median 117% 52% 97% 2 Last Year % Median 128% 167% 223% 143% 63% 150% 219% 119%
Fluted Rock  Basin Index # of sites  Grand Canyon  Bright Angel Grand Canyon  Basin Index # of sites  Virgin  Gardner Peak Gutz Peak Harris Flat Kolob Little Grassy Long Flat Long Valley Jct Midway Valley Webster Flat	SC  Network  SC SC  Network  SNOTEL	(ft) 7800  Elevation (ft) 8400 7500  Elevation (ft) 8322 6763 7792 9263 6065 7982 7465 9827	Depth (in)  Depth (in)  Depth (in)  24  24  11  41  13  17  15  45	SWE (in) 3.0 1.6  SWE (in) 4.9 4.6 2.7 8.4 2.9 3.0 2.3 8.7	(in) 2.6  Median (in) 5.4 2.3  Median (in) 7.2 4.8 3.5 10.5 1.9 4.4 2.6 12.9	% Median 56% 70% 60% 2 % Median 68% 96% 77% 80% 153% 68% 88% 67% 73%	SWE (in)  3.2  Last Year SWE (in)  6.3 1.2  Last Year SWE (in)  9.2 8.0 7.8 15.0 1.2 6.6 5.7 15.3 12.4	% Median 123%  0  Last Year % Median 117% 52%  97% 2  Last Year % Median 128% 167% 223% 143% 63% 150% 219% 119% 165%

# **Arizona Snow Survey Data Sites**



**ONTITUDE**Natural Resources Conservation Service