

Water-Data Report 2009

07077500 CACHE RIVER AT PATTERSON, AR

White Basin
Cache Subbasin

LOCATION.--Lat 35°16'11", long 91°14'11" referenced to North American Datum of 1983, in SE ¼ SE ¼ sec.31, T.8 N., R.2 W., Woodruff County, AR, Hydrologic Unit 08020302, at bridge on U.S. Hwy 64 at Patterson, 10.9 mi upstream from Maple Slough, and at river mile 77.2.

DRAINAGE AREA.--1,040 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Oct 1927 to Sep 1931, Feb 1937, Aug 1937 to Sep 1960, Oct 1965 to Sep 1977, and Oct 1997 to current year in reports of the U.S. Geological Survey. Monthly discharge only for some periods, published in WSP 1311 and WSP 1731. Jan 1947 to Dec 1963 in reports of Mississippi River Commission. Jan 1964 to current year in reports of U.S. Army Corps of Engineers, Memphis District. Gage height records Jul 11, 1916 to Dec 31, 1931, are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 182.96 ft above NGVD of 1929. Prior to Oct 1966, nonrecording and recording gages at or within 1,000 ft of old U.S. Hwy 64 crossing, 1.4 mi downstream as follows: Prior to 1931, nonrecording gage at datum 183.17 ft above NGVD of 1929; Jan 1937 to Oct 1949, nonrecording gage; and Oct 1949 to Dec 1950, water-stage recorder at mean Gulf level, or 0.24 ft below sea level; Jan 1950 to Oct 1966, water-stage recorder at present datum.

COOPERATION.--U.S. Army Corps of Engineers.

REMARKS.--Water-discharge records fair except estimated daily discharges, which are poor. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr 19, 1927, reached a stage of 16.1 ft, present datum, from floodmarks, discharge, 24,500 ft³/s, because of break in White River levee.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,690 ft³/s, May 4, gage height, 11.37 ft; minimum discharge, 4.4 ft³/s, Nov 10, 11, gage height, 2.66 ft.

07077500 CACHE RIVER AT PATTERSON, AR—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	329	17	5.7	1,520	e1,750	905	2,100	4,330	3,180	256	5,090	493
2	253	25	5.1	1,750	e2,370	789	1,760	5,490	2,720	193	4,170	522
3	195	24	5.2	e1,690	e3,170	712	1,400	6,500	2,170	157	3,260	565
4	150	19	8.1	1,370	e3,260	651	1,100	6,630	1,810	136	2,540	598
5	118	15	18	e1,080	e3,240	605	855	6,370	1,890	137	2,560	618
6	93	12	23	e768	3,190	586	693	6,340	2,510	133	2,690	608
7	84	8.9	25	640	3,060	588	564	6,270	3,120	124	2,370	587
8	72	6.6	48	530	2,920	591	470	5,790	3,330	125	1,930	601
9	62	5.3	119	442	2,770	568	377	5,490	2,800	125	1,740	642
10	57	4.6	238	353	2,810	524	314	5,670	2,020	123	1,650	683
11	60	4.9	307	281	2,970	503	259	5,610	1,420	114	1,480	689
12	85	6.7	296	236	3,240	504	215	5,370	1,080	125	1,320	677
13	127	6.6	316	200	3,200	590	424	5,000	870	195	1,220	723
14	155	7.2	467	e179	3,410	729	650	4,820	890	e351	1,050	802
15	158	5.7	703	e157	3,730	792	674	4,970	1,360	604	910	978
16	144	5.7	980	e133	3,800	863	745	4,960	2,090	787	845	3,110
17	118	7.0	1,140	e110	3,790	922	1,120	4,700	2,140	1,040	797	5,330
18	88	7.5	1,030	e94	3,740	883	1,570	4,410	1,700	1,200	759	5,320
19	64	7.5	849	e83	e3,630	759	1,800	4,180	1,340	1,180	753	5,440
20	55	7.6	768	e61	3,440	623	1,700	4,030	1,390	1,240	734	5,600
21	71	7.7	769	e47	3,310	502	1,420	3,930	1,720	1,680	713	5,520
22	88	39	790	e25	3,200	411	1,310	3,820	1,890	2,350	685	5,330
23	89	55	886	e11	2,860	336	1,670	3,730	1,910	2,470	683	4,800
24	82	49	e1,260	e6.0	2,420	281	2,250	3,920	1,840	2,350	724	4,520
25	69	38	1,800	e14	1,920	426	2,450	4,800	1,570	2,920	790	4,480
26	54	26	1,840	e25	1,490	741	2,290	5,570	1,180	3,510	843	3,720
27	38	16	1,440	e46	1,240	1,260	1,840	5,370	848	3,720	821	2,910
28	27	10	1,220	e286	1,060	2,190	1,870	4,850	647	3,810	742	2,600
29	20	7.9	1,290	e513	---	2,600	3,130	e4,400	481	3,900	645	2,710
30	15	6.6	1,360	e1,090	---	2,520	3,770	e3,840	351	4,100	559	2,780
31	12	---	1,370	1,320	---	2,330	---	3,510	---	4,950	504	---
Total	3,032	459.0	21,376.1	15,060.0	80,990	27,284	40,790	154,670	52,267	44,105	45,577	73,956
Mean	97.8	15.3	690	486	2,892	880	1,360	4,989	1,742	1,423	1,470	2,465
Max	329	55	1,840	1,750	3,800	2,600	3,770	6,630	3,330	4,950	5,090	5,600
Min	12	4.6	5.1	6.0	1,060	281	215	3,510	351	114	504	493
Ac-ft	6,010	910	42,400	29,870	160,600	54,120	80,910	306,800	103,700	87,480	90,400	146,700

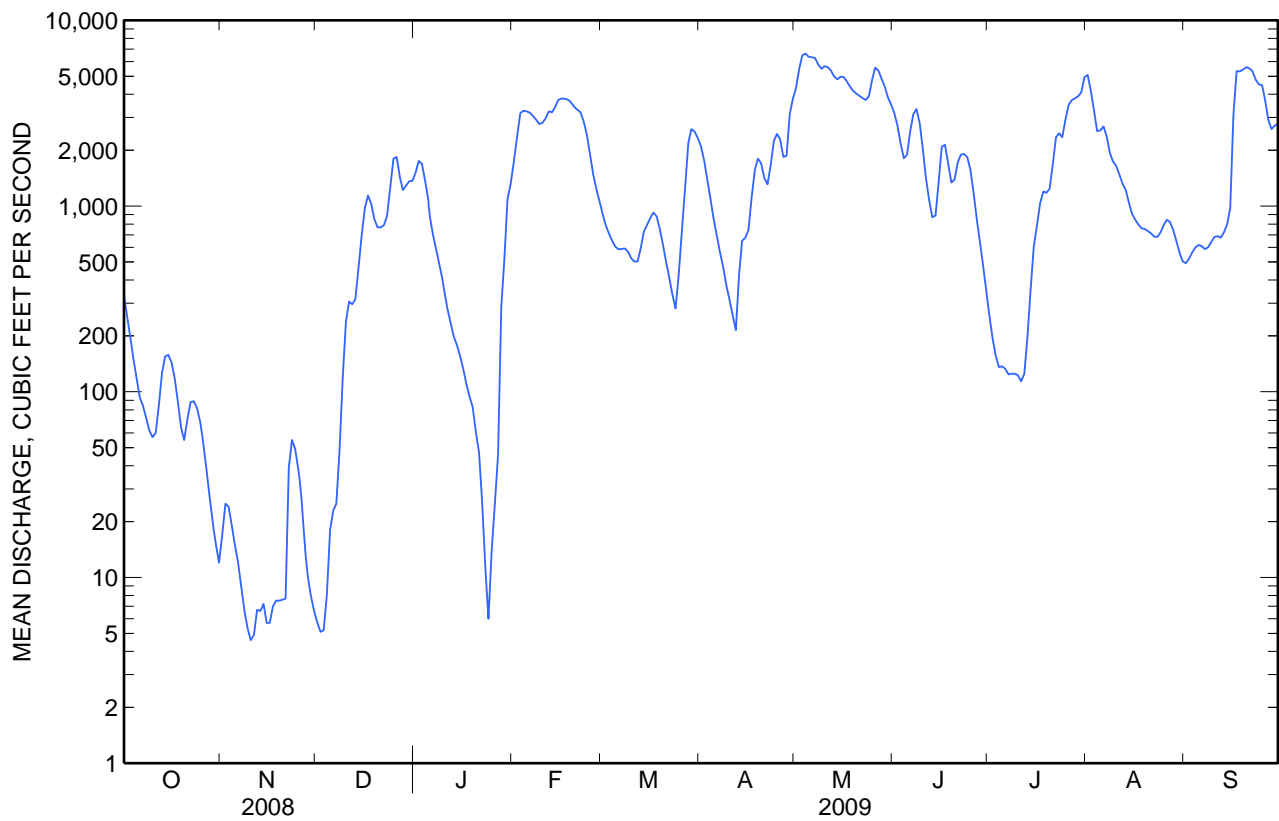
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	422	743	1,540	1,922	2,115	2,170	1,960	1,602	856	516	487	486
Max	3,100	5,297	6,168	8,809	8,817	5,770	7,586	6,075	5,890	2,093	3,009	2,465
(WY)	(1985)	(1958)	(1958)	(1950)	(1950)	(1945)	(1979)	(1973)	(1928)	(1945)	(1998)	(2009)
Min	8.32	11.3	25.5	37.8	68.6	168	121	150	67.7	57.6	47.1	45.5
(WY)	(1988)	(2006)	(2006)	(1964)	(1963)	(1941)	(2006)	(1941)	(1941)	(1954)	(1944)	(1943)

07077500 CACHE RIVER AT PATTERSON, AR—Continued

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1928 - 2009	
Annual total	477,886.1		559,566.1			
Annual mean	1,306		1,533		1,236	
Highest annual mean					2,984	
Lowest annual mean					308	
Highest daily mean	9,460	Apr 6	6,630	May 4	12,100	Jun 27, 1928
Lowest daily mean	4.6	Nov 10	4.6	Nov 10	0.00	Oct 27, 1956
Annual seven-day minimum	5.9	Nov 9	5.9	Nov 9	0.00	Oct 24, 1978
Maximum peak flow			6,690	May 4	13,200	Jan 24, 1937
Maximum peak stage			11.37	May 4	^a 13.21	Jan 24, 1937
Instantaneous low flow			4.4	Nov 10 ^b	0.00	Oct 27, 1956
Annual runoff (ac-ft)	947,900		1,110,000		895,100	
10 percent exceeds	4,660		4,130		3,590	
50 percent exceeds	470		821		459	
90 percent exceeds	27		25		65	

^a At present datum^b Also Nov 11

07077500 CACHE RIVER AT PATTERSON, AR—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Oct 1952 to May 1955 and Oct 1975 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 4

[Remark codes: <, less than; E, estimated.]

Date	Time	Baro- metric pres- sure, mm Hg (00025)	Instan- taneous dis- charge, ft ³ /s (00061)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd std units (00400)	Specif- ic conduc- tance, wat unf μS/cm @ 25 degC (00095)	Temper- ature, deg C (00010)	Stream width, feet (00004)	Vel- city at point in stream, ft/s (81904)	Sampler type, code (84164)
Nov 13...	1110	765	6.5	5.2	49	7.4	344	12.6	60.0	<1.50	Grab sample
Jan 26...	1245	760	E25	9.2	71	6.7	264	4.1	60.0	<1.50	Grab sample
Mar 04...	1250	771	602	10.7	85	7.2	166	6.2	100	<1.50	Grab sample
Apr 13...	1015	758	400	7.9	76	7.3	127	13.1	100	<1.50	Grab sample

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 4

[Remark codes: <, less than; E, estimated.]

Date	Sam- pling method, code (82398)	Dis- solved solids dried @ 180degC wat flt mg/L (70300)	Hard- ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)	Sodium adsorp- tion ratio (00931)	Sodium frac- tion of cations percent (00932)	Sodium, water, fltrd, mg/L (00930)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)
Nov 13...	Grab sample(dip)	204	120	30.6	10.5	7.08	.6	21	15.9	17.7	.19
Jan 26...	Grab sample(dip)	170	82	21.2	7.16	7.59	.6	24	13.1	16.6	.15
Mar 04...	Grab sample(dip)	115	53	13.6	4.68	5.64	.6	25	9.34	7.80	.14
Apr 13...	Grab sample(dip)	90	40	9.90	3.62	3.55	.4	23	6.15	4.79	.12

07077500 CACHE RIVER AT PATTERSON, AR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 3 of 4

[Remark codes: <, less than; E, estimated.]

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)			Nitrate + nitrite water, fltrd, mg/L as N (00631)			Nitrate water, fltrd, mg/L as N (00618)			Nitrite water, fltrd, mg/L as N (00613)		Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phosphate, water, fltrd, mg/L (00660)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L as P (00666)
	Sulfate water, fltrd, mg/L (00945)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrite water, fltrd, mg/L (71856)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L (71856)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phosphate, water, fltrd, mg/L (00660)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L as P (00666)
Nov 13...	18.4	.67	--	<.020	<.04	--	--	--	--	<.002	--	--	.209	.068	.06
Jan 26...	19.3	1.0	.13	.101	.12	.499	.11	.011	.003	.90	.217	.071	.09		
Mar 04...	9.87	1.6	.21	.163	.17	.716	.16	.037	.011	1.5	.157	.051	.06		
Apr 13...	7.74	1.2	.05	.040	.20	.886	.20	.013	.004	1.2	.163	.053	.07		

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 4 of 4

[Remark codes: <, less than; E, estimated.]

Date	Phos-phorus, water, unfltrd mg/L as P (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Suspnd. sediment sieve diametr percent <0.0625 mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
	Phos-phorus, water, unfltrd mg/L as P (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Suspnd. sediment sieve diametr percent <0.0625 mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
Nov 13...	.16	--	160	140	99	28	.49
Jan 26...	.24	1.1	77	83	92	37	E2.5
Mar 04...	.35	1.8	85	58	99	219	356
Apr 13...	.31	1.5	1,300	510	96	142	153