

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK

Arkansas-Keystone Basin
Lower Salt Fork Arkansas Subbasin

LOCATION.--Lat 36°40'19", long 97°18'33" referenced to North American Datum of 1927, in NW ¼ SE ¼ sec.4, T.25 N., R.1 W., Kay County, OK, Hydrologic Unit 11060004, on left bank near end of bridge on U.S. Highway 77 in Tonkawa, 4 mi downstream from Thompson Creek, 7.8 mi upstream from Chikaskia River, and at mile 33.8.

DRAINAGE AREA.--4,470 mi², from automated delineation using 10-meter National Elevation Dataset digital elevation model data dated 10/01/2006 and Watershed Boundary Dataset dated 10/01/2006, using Albers Equal-Area Projection, North American Datum 1983.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1903 to October 1905 (gage heights only), October 1935 to current year. Monthly discharge only for some periods, published as Arkansas River (Salt Fork) near Tonkawa 1903-04 and as "near Tonkawa" 1905.

REVISED RECORDS.--WDR 2012: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 930.22 ft above NGVD of 1929. September 1903 to October 1905, nonrecording gage near present site at different datum. Jan. 2, 1936 to Jan. 22, 1939, nonrecording gage, and Jan. 23, 1939 to June 20, 1960, water-stage recorder at site 100 ft upstream at same datum.

REMARKS.--Records fair, except estimate periods which are poor. Some regulation since June 1941 by Great Salt Plains Lake, 69.5 mi upstream (station 07150000). U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1923, reached a stage of 26.8 ft, from information by U.S. Army Corps of Engineers.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug 11	1330	*2,480	*8.22

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e61	24	29	e28	e23	68	34	130	142	29	490	131
2	46	25	29	e27	21	57	36	123	91	28	333	e115
3	38	24	29	e26	21	49	40	97	71	27	256	e100
4	e33	24	29	e26	21	42	46	88	70	e26	222	89
5	30	24	28	27	22	37	46	98	74	e26	193	79
6	28	23	28	26	23	33	45	122	72	24	149	72
7	28	22	28	e25	24	32	42	101	88	24	117	63
8	28	23	28	26	23	31	48	95	111	22	133	57
9	28	26	27	25	24	31	52	420	102	21	168	52
10	27	26	e25	28	25	34	70	843	96	20	705	47
11	26	30	e24	29	23	35	75	1,010	93	28	2,210	43
12	27	32	26	27	23	33	279	636	81	25	1,950	42
13	28	31	28	e26	26	30	354	361	77	21	1,740	39
14	28	32	29	e25	26	30	268	221	77	35	1,650	37
15	27	33	29	e25	26	30	186	178	72	47	1,590	34
16	26	31	28	e24	27	29	172	189	56	49	1,380	44
17	24	29	27	23	26	27	122	171	73	47	1,420	60
18	23	29	27	25	25	28	85	134	71	73	1,300	46
19	23	29	28	26	22	29	77	131	58	62	1,040	38
20	23	29	e26	24	23	28	126	119	63	43	875	35
21	23	29	e24	e23	e29	28	154	114	57	45	763	35
22	23	29	26	e24	e29	27	110	119	49	120	648	39
23	24	27	25	23	34	28	79	126	44	111	551	37
24	25	27	e24	22	36	29	88	318	45	189	466	31
25	24	28	e22	22	43	30	106	172	41	51	380	30
26	24	27	e22	23	55	33	133	103	38	36	317	29
27	24	27	e24	24	56	32	143	89	35	29	262	28
28	24	28	e25	25	67	32	133	98	36	28	230	39
29	24	28	e23	e26	---	32	114	92	33	30	201	46
30	23	28	e24	26	---	33	128	268	31	62	174	245
31	23	---	29	e25	---	35	---	277	---	187	150	---
Total	863	824	820	781	823	1,052	3,391	7,043	2,047	1,565	22,063	1,782
Mean	27.8	27.5	26.5	25.2	29.4	33.9	113	227	68.2	50.5	712	59.4
Max	61	33	29	29	67	68	354	1,010	142	189	2,210	245
Min	23	22	22	22	21	27	34	88	31	20	117	28
Ac-ft	1,710	1,630	1,630	1,550	1,630	2,090	6,730	13,970	4,060	3,100	43,760	3,530

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	880	767	423	409	592	1,095	1,339	1,704	1,630	951	655	673
Max	9,412	9,203	2,129	2,217	5,171	6,455	7,916	12,770	8,379	8,821	6,157	7,170
(WY)	(1987)	(1999)	(1998)	(2005)	(1949)	(2000)	(1973)	(1993)	(1995)	(1951)	(1995)	(2008)
Min	0.64	4.82	3.56	7.52	10.9	10.6	13.6	8.78	7.92	5.69	5.50	0.00
(WY)	(1957)	(1955)	(1955)	(1957)	(1957)	(1955)	(1955)	(1956)	(1956)	(1954)	(1956)	(1956)

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SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1942 - 2013	
Annual total	213,841		43,054			
Annual mean	584		118		927	
Highest annual mean					3,717	1999
Lowest annual mean					95.5	1954
Highest daily mean	^a 31,200	May 2	2,210	Aug 11	57,800	Oct 12, 1973
Lowest daily mean	^a 21	Sep 12	20	Jul 10	0.00	At times
Annual seven-day minimum	22	Sep 7	22	Feb 1	0.00	Aug 31, 1956
Maximum peak flow			2,480	Aug 11	97,300	Oct 11, 1973
Maximum peak stage			8.22	Aug 11	28.98	Oct 11, 1973
Annual runoff (ac-ft)	424,200		85,400		671,700	
10 percent exceeds	961		209		2,130	
50 percent exceeds	70		33		270	
90 percent exceeds	24		24		35	

^a Estimated

