

Water-Data Report 2012

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS

Neosho Basin
Lower Cottonwood Subbasin

LOCATION.--Lat 38°22'34", long 96°04'03" referenced to North American Datum of 1927, in SE ¼ SW ¼ SE ¼ sec.22, T.19 S., R.12 E., Lyon County, KS, Hydrologic Unit 11070203, on left downstream side of bridge on county road 150, 7.5 mi southeast of the intersection of U.S. Highway 50 and Interstate Highway 35 on the east side of Emporia, and at mile 1.6.

DRAINAGE AREA.--1,912 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 2009 to current year.

GAGE.--Acoustic velocity recorder. Datum of gage is 1,053.83 ft above NAVD of 1988.

REMARKS.--Records poor. Satellite telemeter at station.

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	37	21	70	283	125	1,250	927	379	110	50	19	48
2	42	39	65	241	125	2,640	829	455	114	47	e17	43
3	35	19	97	208	e202	1,310	761	585	130	46	18	39
4	37	23	107	207	1,200	661	707	462	131	43	23	37
5	32	34	66	208	2,510	470	731	397	125	40	e17	38
6	34	22	90	199	2,690	359	757	336	116	39	e17	36
7	32	26	67	202	1,500	332	958	277	110	37	e18	35
8	26	174	110	185	961	342	906	271	101	62	e18	48
9	27	127	104	184	594	333	693	319	95	40	e17	35
10	38	57	79	171	559	315	602	363	87	39	e17	34
11	33	201	66	167	512	319	576	267	82	37	e16	32
12	48	542	72	163	402	324	559	231	78	38	e16	30
13	43	277	67	153	338	330	536	216	74	37	e18	30
14	46	149	84	154	316	317	559	206	73	36	e25	39
15	50	87	89	139	370	320	612	198	100	34	e37	35
16	47	68	91	167	382	303	1,130	190	87	32	28	34
17	40	51	223	171	351	289	997	183	94	33	27	33
18	43	46	360	151	302	274	905	173	105	32	24	32
19	33	53	298	136	313	293	645	164	111	32	21	31
20	33	52	1,980	140	324	529	517	156	104	30	22	31
21	24	59	4,120	e113	324	1,350	432	147	139	26	25	30
22	37	59	5,350	e119	343	5,320	388	140	93	24	25	29
23	27	61	2,620	152	370	7,620	389	133	115	20	23	28
24	31	55	1,050	152	356	6,960	402	129	349	e18	23	28
25	35	57	669	144	330	3,690	398	126	209	e17	46	29
26	31	94	516	141	307	2,240	394	123	143	e17	102	103
27	29	74	466	133	277	1,700	356	117	109	e17	45	51
28	24	78	398	134	271	1,390	336	115	86	e18	44	38
29	28	65	297	125	300	1,210	336	111	71	e18	49	34
30	26	66	351	114	---	1,150	317	108	58	28	56	32
31	32	---	335	125	---	1,030	---	120	---	22	56	---
Mean	34.8	91.2	657	164	585	1,451	622	232	113	32.5	29.3	37.4
Max	50	542	5,350	283	2,690	7,620	1,130	585	349	62	102	103
Min	24	19	65	113	125	274	317	108	58	17	16	28
Ac-ft	2,140	5,430	40,380	10,080	33,630	89,200	37,000	14,280	6,740	2,000	1,800	2,230

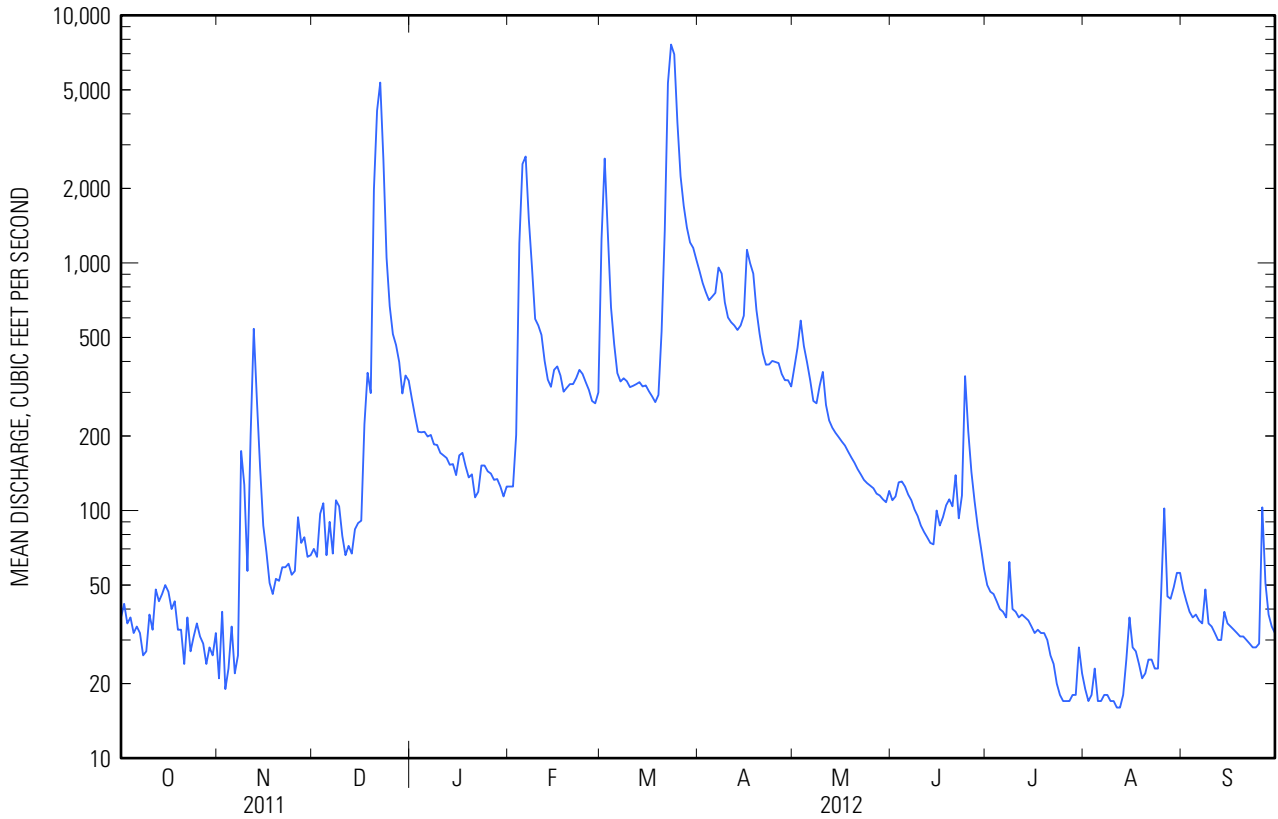
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2009 - 2012, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	337	453	513	295	615	1,255	817	804	1,510	1,012	148	519
Max	749	1,064	657	603	653	1,541	1,249	1,644	4,049	2,926	378	1,305
(WY)	(2010)	(2010)	(2012)	(2010)	(2010)	(2010)	(2010)	(2010)	(2010)	(2010)	(2010)	(2009)
Min	34.8	91.2	341	120	585	772	581	232	113	32.5	29.3	37.4
(WY)	(2012)	(2012)	(2011)	(2011)	(2012)	(2011)	(2011)	(2012)	(2012)	(2012)	(2012)	(2012)

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 2009 - 2012	
Annual mean	328		337		668	
Highest annual mean					1,340	2010
Lowest annual mean					327	2011
Highest daily mean	5,350	Dec 22	7,620	Mar 23	11,600	Jun 11, 2010
Lowest daily mean	15	Sep 5	16	Aug 11	15	Sep 5, 2011
Annual seven-day minimum	18	Sep 5	17	Aug 6	17	Aug 6, 2012
Maximum peak flow			8,100	Mar 24	12,000	Jun 10, 2010
Instantaneous low flow			-49	Nov 6	-55	Sep 2, 2011
Annual runoff (ac-ft)	237,300		244,900		483,600	
10 percent exceeds	738		676		1,480	
50 percent exceeds	124		110		310	
90 percent exceeds	29		26		34	



07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 2009 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 2009 to current year.

WATER TEMPERATURE: August 2009 to current year.

TURBIDITY (YSI 6136 sensor): August 2009 to current year.

INSTRUMENTATION.--Multiparameter water-quality monitor.

REMARKS.--Records good. Interruptions in record are due to ice conditions or malfunction of the recording instrument or sensors. Instruments used to measure turbidity conform to ISO 7027 standards and were made using Yellow Springs Instrument (YSI) 6136 sensor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,070 microsiemens/cm, Feb. 9, 2011; minimum, 150 microsiemens/cm, June 10, 2010.

WATER TEMPERATURE: Maximum, 33.6°C, Aug. 3, 2011; minimum, -0.1°C, Dec. 10, 2009.

TURBIDITY (YSI 6136 sensor): Maximum, 1,460 FNU, Apr. 10, 2011; minimum, 2.5 FNU, Feb. 4, 2011.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,040 microsiemens/cm, Nov. 14; minimum, 222 microsiemens/cm, Mar. 2.

WATER TEMPERATURE: Maximum, 33.0°C, July 20; minimum, -0.1°C, Jan. 13, 18, 21.

TURBIDITY (YSI 6136 sensor): Maximum, 1,200 FNU, Mar. 3; minimum, 4.2 FNU, Jan. 21.

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	839	831	835	609	598	604	881	871	876	491	459	476
2	846	837	841	607	598	603	879	871	874	513	491	503
3	842	835	839	605	597	600	890	879	885	521	513	517
4	849	840	845	604	594	599	893	731	841	535	521	526
5	842	836	840	609	597	602	757	571	696	550	535	541
6	836	813	827	621	607	615	742	571	670	568	550	558
7	815	779	794	624	604	618	---	---	---	588	568	579
8	779	749	765	616	504	576	---	---	---	606	588	596
9	749	719	734	570	361	448	739	700	717	628	606	617
10	719	686	703	603	451	537	702	686	696	646	628	637
11	686	662	676	742	480	669	688	685	687	666	646	655
12	662	585	628	889	742	812	692	685	687	688	666	677
13	587	558	579	969	875	901	710	691	700	708	688	699
14	558	493	523	1,040	969	1,030	727	710	716	722	708	715
15	562	514	540	1,020	974	994	752	727	742	734	722	730
16	594	517	555	975	919	946	756	739	748	742	734	739
17	626	594	614	923	882	898	815	736	765	755	742	748
18	627	625	626	888	878	882	829	815	825	768	755	764
19	625	620	622	899	882	890	856	828	844	787	768	777
20	620	606	613	919	899	909	845	368	590	796	787	791
21	606	602	604	928	919	921	621	363	483	803	788	798
22	603	596	600	930	921	925	382	248	294	800	797	799
23	596	592	594	929	901	914	253	242	245	807	798	802
24	598	595	597	901	876	887	281	253	265	819	805	814
25	603	598	601	881	876	878	309	281	295	822	819	821
26	602	595	598	912	867	879	330	309	320	833	821	830
27	604	597	601	935	896	926	356	330	344	843	831	839
28	606	599	602	896	798	850	381	356	370	841	828	836
29	604	587	594	854	780	819	407	381	395	829	823	826
30	591	582	586	873	854	865	432	407	420	853	827	---
31	601	588	594	---	---	---	459	432	446	848	816	836
Month	849	493	664	1,040	361	787	---	---	---	853	459	---

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

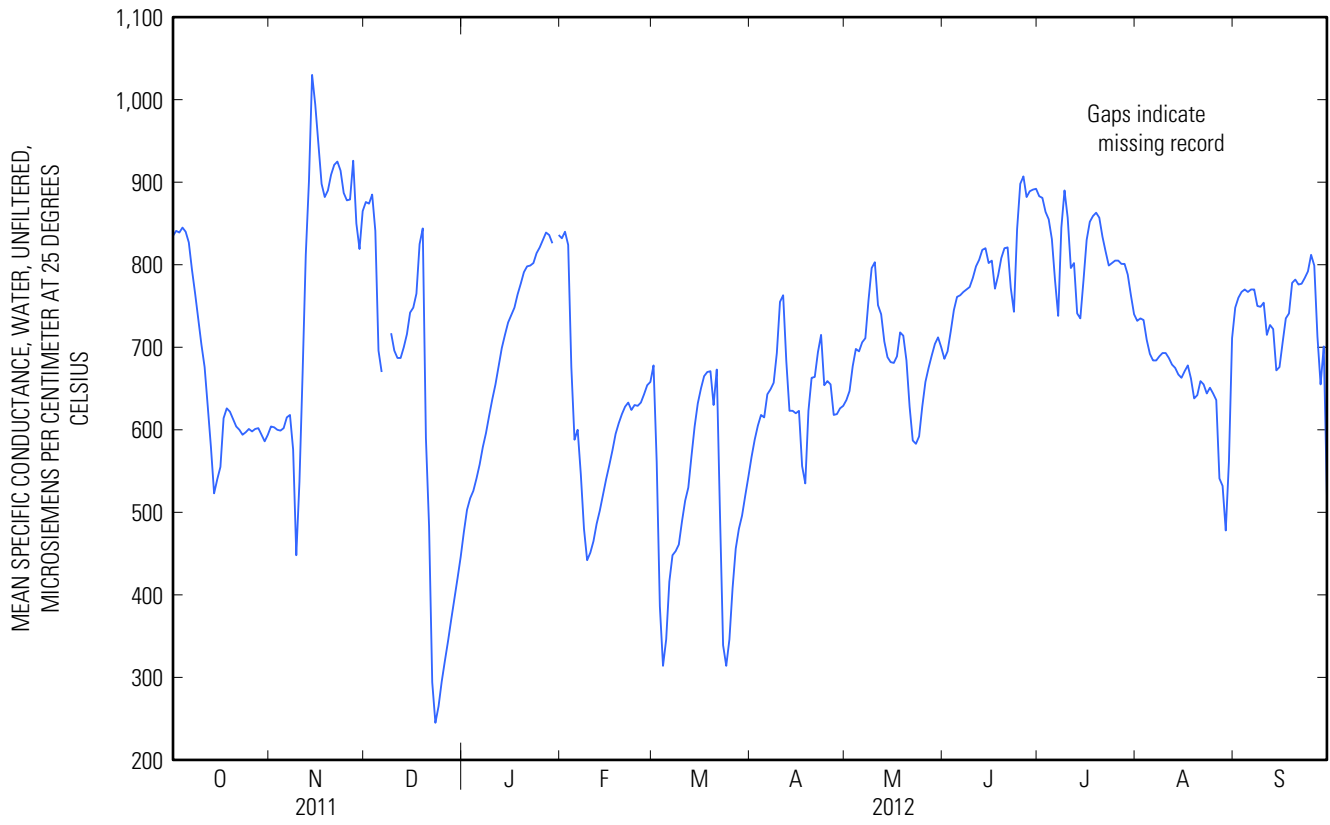
Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	839	823	832	749	650	678	578	557	567	643	625	636
2	848	830	840	853	222	561	597	578	588	661	625	647
3	838	778	824	597	330	386	613	597	605	695	661	677
4	778	513	676	330	308	314	630	612	618	710	681	698
5	681	524	588	377	318	346	642	536	615	705	685	695
6	650	539	600	441	377	416	648	637	643	708	704	706
7	607	483	546	455	440	448	653	646	649	730	702	711
8	538	442	480	460	447	453	667	651	657	791	729	757
9	448	438	442	476	449	461	730	667	693	803	786	796
10	457	448	451	501	476	489	771	730	755	822	778	803
11	473	457	465	525	500	514	785	721	763	778	737	751
12	495	473	486	544	524	530	721	657	683	743	733	740
13	508	495	502	584	544	568	657	607	623	733	686	707
14	531	508	521	623	584	604	628	614	623	691	685	688
15	549	531	540	640	623	632	630	593	620	686	679	682
16	565	549	557	662	640	650	636	600	623	682	679	681
17	585	565	575	668	661	665	638	495	556	705	680	689
18	600	585	595	677	667	670	593	493	535	726	705	718
19	612	600	608	678	664	671	644	593	623	727	697	714
20	623	611	619	670	594	630	686	642	663	699	659	684
21	634	623	628	693	642	673	692	637	664	659	597	628
22	638	627	633	642	387	501	712	654	694	597	574	587
23	629	621	624	387	310	339	730	688	715	588	574	583
24	642	623	630	354	299	314	688	630	654	598	585	592
25	634	625	629	379	315	346	668	635	659	649	597	628
26	638	628	633	436	378	408	669	629	655	667	645	658
27	651	638	643	475	435	456	629	614	618	684	666	675
28	657	651	654	486	473	480	624	615	619	696	683	690
29	663	655	658	508	483	496	638	618	626	714	690	704
30	---	---	---	533	508	520	642	605	629	716	699	712
31	---	---	---	557	533	543	---	---	---	706	694	700
Month	848	438	603	853	222	508	785	493	641	822	574	688

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	697	671	686	888	878	883	735	728	732	759	735	748
2	704	683	695	889	870	881	740	731	735	764	757	760
3	739	704	719	879	847	864	740	722	733	769	762	767
4	750	739	745	870	820	855	730	690	709	774	766	770
5	767	748	761	850	790	831	700	682	692	770	762	767
6	771	756	763	804	714	781	690	673	684	773	766	770
7	772	759	767	754	715	738	691	676	684	778	753	770
8	775	767	770	894	751	845	694	681	689	763	738	750
9	781	766	773	896	874	890	700	687	693	757	744	749
10	798	777	784	874	830	857	704	683	693	757	747	754
11	802	788	798	830	781	796	696	674	687	748	691	715
12	812	791	806	819	767	802	687	667	679	740	706	727
13	822	812	818	767	722	741	678	672	675	740	696	722
14	826	815	820	752	725	735	674	660	667	696	662	672
15	819	797	802	805	752	781	669	659	663	692	663	676
16	815	761	805	849	805	830	677	666	671	724	692	706
17	791	740	771	859	845	852	683	670	678	742	724	735
18	799	771	787	866	854	859	675	644	662	763	728	741
19	816	799	808	869	859	863	648	630	638	788	763	778
20	832	814	820	869	844	857	653	633	642	788	777	782
21	832	813	821	850	821	834	667	651	659	781	771	776
22	827	709	772	824	804	816	669	638	655	782	773	777
23	790	691	743	807	791	799	647	639	644	789	781	784
24	862	786	843	803	799	802	655	646	651	802	787	792
25	917	862	898	810	802	805	661	595	644	822	802	812
26	923	870	907	809	800	805	648	616	636	820	767	799
27	886	869	882	804	796	801	617	481	541	813	584	713
28	895	877	889	808	796	801	553	491	532	737	582	655
29	896	887	891	797	774	788	552	424	478	743	611	701
30	896	883	892	777	750	763	675	440	561	611	480	521
31	---	---	---	750	729	740	735	675	711	---	---	---
Month	923	671	801	896	714	816	740	424	659	822	480	740

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued



07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	18.9	17.3	18.3	12.9	11.0	11.9	5.3	4.6	5.0	3.6	2.8	3.4
2	18.8	17.2	18.1	13.0	11.4	12.6	5.2	4.5	4.9	2.8	2.0	2.5
3	19.0	17.2	18.2	11.4	9.4	10.2	6.3	5.2	5.8	2.5	1.6	2.1
4	19.6	17.7	18.8	9.6	8.4	9.2	6.0	5.3	5.6	3.2	2.1	2.6
5	19.6	18.1	18.9	10.2	9.0	9.6	5.4	3.6	4.3	3.4	2.3	2.8
6	19.3	18.2	18.8	11.1	9.9	10.5	---	---	---	4.1	2.9	3.4
7	20.0	18.1	19.0	11.0	10.5	10.8	---	---	---	3.8	3.0	3.4
8	20.5	18.9	19.7	11.2	10.4	11.1	---	---	---	4.2	2.9	3.5
9	20.7	19.4	20.0	10.5	9.6	10.0	3.0	2.5	2.8	4.1	2.9	3.5
10	20.5	19.6	20.1	9.6	8.4	8.9	2.9	2.0	2.4	4.2	2.7	3.4
11	20.3	19.1	19.8	9.9	8.2	8.9	3.2	2.3	2.7	3.9	2.6	3.2
12	20.4	19.1	19.8	9.3	8.3	8.8	3.9	3.2	3.6	2.6	0.6	1.5
13	19.9	18.4	19.0	9.4	8.5	9.0	4.2	3.9	4.1	1.1	-0.1	0.5
14	18.6	17.3	17.9	10.0	8.9	9.4	6.6	4.2	5.6	2.1	0.3	1.1
15	17.8	16.5	17.2	9.8	8.3	9.1	6.5	4.9	5.5	2.7	0.6	1.6
16	18.0	16.9	17.5	9.3	7.1	7.9	4.9	3.8	4.3	4.0	2.0	2.9
17	17.5	15.0	16.1	7.1	6.5	6.8	4.4	3.2	3.7	3.4	1.2	2.1
18	15.0	13.9	14.4	7.0	5.6	6.4	4.8	4.0	4.4	1.2	-0.1	0.6
19	13.9	12.0	12.8	8.7	7.0	7.9	5.0	4.3	4.7	1.4	0.2	0.8
20	12.0	10.6	11.2	8.3	6.3	7.0	4.4	3.7	4.0	0.9	0.0	0.5
21	12.1	10.4	11.3	6.8	6.3	6.5	4.1	3.5	3.8	0.4	-0.1	0.1
22	12.9	11.5	12.3	7.0	6.5	6.8	4.1	2.6	3.4	2.8	0.0	1.2
23	14.0	12.4	13.3	7.0	5.9	6.5	2.6	2.0	2.3	3.3	2.0	2.6
24	14.9	13.2	14.1	8.1	6.7	7.4	2.0	1.6	1.8	2.9	1.3	2.1
25	16.1	14.5	15.3	8.8	8.0	8.2	1.9	1.2	1.6	3.4	1.9	2.6
26	15.7	14.6	15.2	9.3	8.2	9.1	2.3	1.4	1.9	3.6	2.2	3.0
27	14.6	13.1	13.9	8.2	6.2	6.9	2.3	1.5	2.0	3.4	2.2	2.7
28	13.1	11.8	12.4	6.2	5.2	5.6	2.4	1.5	2.0	3.2	1.7	2.4
29	12.1	11.0	11.7	5.6	4.8	5.2	2.6	2.0	2.4	3.5	1.8	2.5
30	11.7	10.9	11.3	5.2	4.2	4.8	3.4	2.6	3.0	5.0	---	---
31	11.7	10.4	11.1	---	---	---	3.7	2.7	3.1	6.4	4.6	5.4
Month	20.7	10.4	16.0	13.0	4.2	8.4	---	---	---	6.4	---	---

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

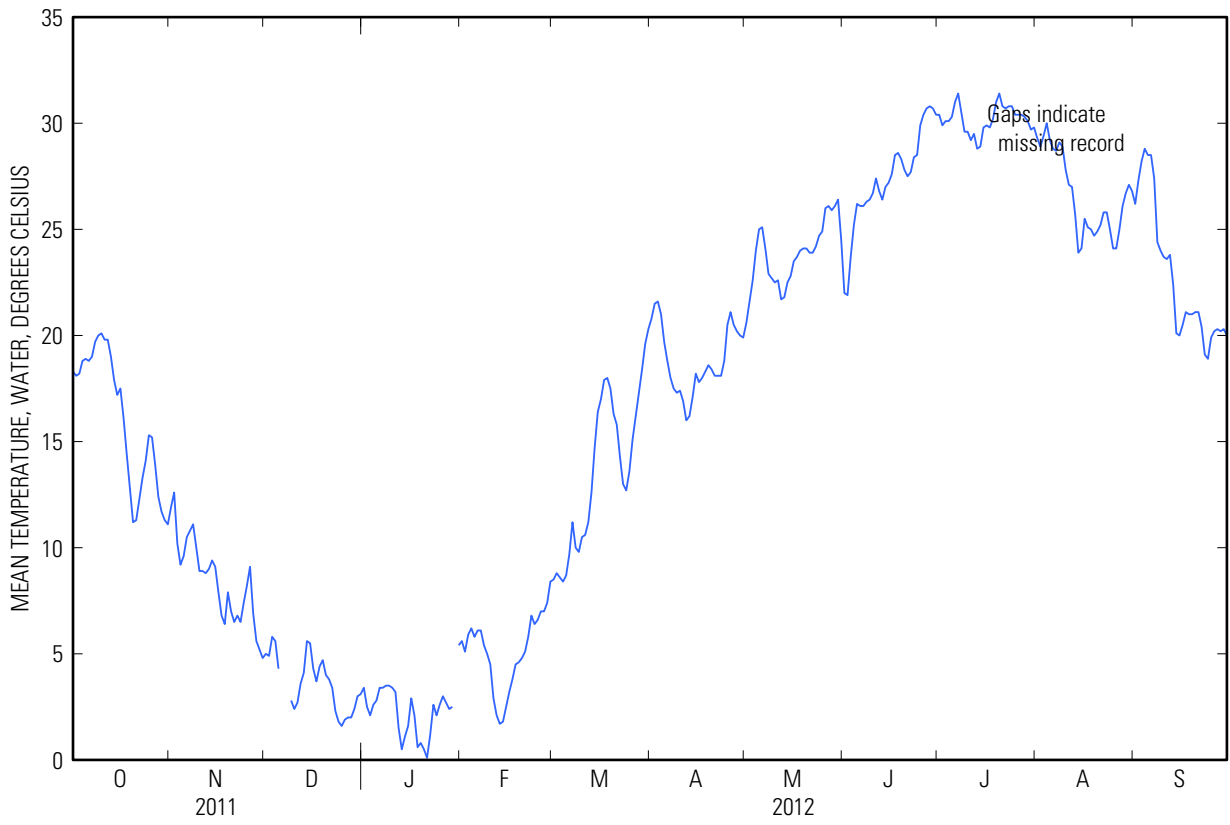
Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	6.3	4.9	5.6	9.4	7.4	8.5	22.0	19.6	20.8	21.7	19.9	20.6
2	5.9	4.3	5.1	9.3	8.3	8.8	22.5	20.3	21.5	22.6	21.0	21.6
3	6.3	5.4	5.9	9.0	8.1	8.6	22.3	20.6	21.6	23.8	21.3	22.6
4	6.7	5.8	6.2	9.4	7.3	8.4	22.0	20.7	21.0	25.2	22.7	24.0
5	6.1	5.5	5.8	9.4	7.7	8.7	20.7	19.1	19.7	26.2	23.7	25.0
6	6.6	5.7	6.1	10.6	8.8	9.7	19.6	17.9	18.8	25.6	24.6	25.1
7	6.4	5.6	6.1	12.0	10.4	11.2	19.0	17.6	18.0	25.1	23.0	24.1
8	5.6	5.3	5.4	11.1	9.3	10.0	18.5	16.3	17.5	24.2	21.9	22.9
9	5.3	4.8	5.0	11.0	8.9	9.8	18.1	16.0	17.3	23.6	22.0	22.7
10	4.9	3.7	4.5	11.4	10.0	10.5	18.1	16.4	17.4	23.6	21.3	22.5
11	3.7	2.2	2.9	11.0	10.2	10.6	17.7	16.1	16.9	23.0	22.1	22.6
12	2.9	1.5	2.1	12.8	10.0	11.2	17.0	15.7	16.0	22.3	21.3	21.7
13	2.1	1.4	1.7	13.8	11.8	12.6	17.5	15.1	16.2	23.6	20.3	21.8
14	2.5	1.2	1.8	16.4	13.2	14.7	18.1	16.1	17.1	23.6	21.3	22.5
15	2.9	2.1	2.5	17.0	15.8	16.4	19.0	17.5	18.2	24.7	21.1	22.8
16	3.9	2.5	3.2	17.9	16.4	17.0	18.5	16.8	17.8	25.4	21.8	23.5
17	4.5	2.9	3.8	18.3	17.4	17.9	19.2	16.8	18.0	25.6	21.7	23.7
18	4.9	3.9	4.5	18.2	17.6	18.0	19.7	17.0	18.3	25.6	22.4	24.0
19	5.2	3.9	4.6	18.0	16.9	17.5	19.5	17.7	18.6	25.6	22.5	24.1
20	5.0	4.6	4.8	16.9	16.0	16.3	19.2	17.4	18.4	25.4	22.7	24.1
21	5.8	4.5	5.1	16.0	15.1	15.8	19.1	16.7	18.1	25.5	22.1	23.9
22	6.6	5.2	5.8	15.1	13.4	14.3	18.9	16.9	18.1	25.2	22.2	23.9
23	7.3	6.2	6.8	13.4	12.8	13.0	19.1	16.8	18.1	25.5	22.7	24.2
24	7.0	5.8	6.4	13.0	12.3	12.7	20.0	17.7	18.8	25.8	23.4	24.7
25	7.2	6.2	6.6	14.6	12.9	13.6	21.8	19.6	20.5	25.9	23.7	24.9
26	7.9	6.3	7.0	16.2	14.2	15.1	21.6	20.5	21.1	26.8	25.2	26.0
27	7.4	6.7	7.0	16.7	15.9	16.2	21.1	20.1	20.5	26.7	25.4	26.1
28	8.5	6.4	7.4	18.1	16.6	17.3	21.1	19.6	20.2	27.0	24.7	25.9
29	9.3	7.7	8.4	19.7	17.4	18.4	20.3	19.6	20.0	26.8	25.0	26.1
30	---	---	---	20.8	18.6	19.6	20.7	19.6	19.9	26.9	25.7	26.4
31	---	---	---	21.6	19.0	20.3	---	---	---	26.0	23.3	24.5
Month	9.3	1.2	5.1	21.6	7.3	13.6	22.5	15.1	18.8	27.0	19.9	23.8

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	23.3	21.1	22.0	31.0	29.4	30.4	30.6	28.4	29.3	27.1	25.0	26.2
2	24.0	20.4	21.9	30.8	28.9	29.9	29.7	27.9	28.9	28.4	26.1	27.3
3	24.9	22.6	23.7	31.3	29.0	30.1	31.6	27.9	29.4	29.2	26.9	28.2
4	27.0	23.7	25.2	31.3	28.8	30.1	31.1	29.0	30.0	29.8	27.8	28.8
5	27.2	24.9	26.2	31.7	28.8	30.3	30.6	27.7	29.2	29.3	27.5	28.5
6	27.2	25.2	26.1	32.3	29.6	31.0	30.8	26.9	28.8	29.5	27.4	28.5
7	26.7	25.3	26.1	32.9	29.9	31.4	30.4	27.1	28.7	28.5	25.6	27.4
8	26.9	25.4	26.3	31.5	29.9	30.5	30.8	27.6	29.1	25.6	23.4	24.4
9	27.1	25.6	26.4	30.7	28.7	29.6	30.1	27.6	28.9	24.8	22.9	24.0
10	27.2	26.0	26.7	30.5	28.5	29.6	29.1	26.7	27.8	24.8	22.4	23.7
11	28.5	26.5	27.4	30.5	27.9	29.2	28.8	25.6	27.1	24.7	22.4	23.6
12	27.5	25.8	26.8	30.4	28.4	29.5	28.5	25.5	27.0	25.1	22.7	23.8
13	27.4	25.3	26.4	29.6	28.1	28.8	27.3	24.9	25.7	24.0	20.7	22.4
14	28.2	25.7	27.0	30.9	27.2	28.9	24.9	23.1	23.9	20.7	19.5	20.1
15	28.1	26.1	27.2	31.5	28.3	29.8	25.9	22.1	24.1	20.3	19.7	20.0
16	28.3	26.8	27.6	30.8	28.9	29.9	26.6	24.8	25.5	21.1	20.1	20.5
17	29.7	27.4	28.5	31.1	28.5	29.8	26.8	23.8	25.1	22.3	20.2	21.1
18	29.4	27.6	28.6	31.5	28.8	30.2	26.5	23.8	25.0	21.8	19.9	21.0
19	29.0	27.5	28.3	32.9	29.4	31.0	26.3	23.4	24.7	22.0	19.9	21.0
20	28.6	27.1	27.8	33.0	30.0	31.4	26.9	23.0	24.9	22.0	20.1	21.1
21	28.8	26.3	27.5	32.5	29.3	30.8	27.4	23.4	25.2	21.8	20.1	21.1
22	28.5	26.4	27.7	32.8	29.0	30.7	27.6	24.3	25.8	21.2	19.6	20.4
23	29.3	27.6	28.4	32.7	29.1	30.8	27.2	24.5	25.8	19.8	18.4	19.1
24	30.0	27.0	28.5	32.4	29.3	30.8	25.5	24.5	25.0	19.9	17.9	18.9
25	31.4	28.8	29.9	32.0	29.0	30.4	24.5	23.9	24.1	20.6	19.2	19.9
26	32.2	28.6	30.4	32.4	28.6	30.4	24.7	23.8	24.1	20.4	19.9	20.2
27	31.8	29.4	30.7	32.4	28.7	30.4	26.3	23.9	25.0	20.4	20.0	20.3
28	31.5	29.9	30.8	32.2	28.5	30.3	27.2	24.9	26.1	20.7	19.8	20.2
29	31.7	29.8	30.7	31.5	29.1	30.1	27.7	25.5	26.7	20.9	19.5	20.3
30	31.6	29.2	30.4	31.0	28.8	29.7	28.0	26.2	27.1	20.4	19.4	20.0
31	---	---	---	30.8	29.0	29.8	27.4	26.2	26.8	---	---	---
Month	32.2	20.4	27.4	33.0	27.2	30.2	31.6	22.1	26.6	29.8	17.9	22.7

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued



07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	26	18	22	30	23	26	9.0	8.1	8.5	53	38	46
2	31	15	22	38	27	32	11	7.0	8.0	41	33	37
3	30	18	22	36	21	27	16	6.6	10	34	28	31
4	31	13	21	23	16	19	20	13	15	30	23	26
5	41	12	17	23	18	20	25	14	19	24	21	22
6	35	13	21	27	20	23	24	8.8	15	22	19	20
7	25	18	21	33	24	28	---	---	---	23	18	20
8	23	17	20	61	33	48	---	---	---	22	19	21
9	27	20	23	85	43	61	12	9.7	11	---	---	---
10	32	24	28	57	29	40	12	11	12	---	---	---
11	34	27	30	60	22	31	12	10	11	19	13	15
12	42	29	35	59	37	46	11	9.9	10	14	9.6	12
13	40	25	34	38	28	33	13	11	12	10	8.1	9.5
14	30	23	26	33	23	29	21	13	16	9.3	6.7	7.8
15	30	25	28	31	21	24	23	18	20	12	6.1	7.5
16	31	26	29	26	16	20	21	14	18	---	---	---
17	29	22	25	23	14	17	68	14	21	---	---	---
18	25	20	23	19	13	15	73	23	37	7.9	5.3	6.2
19	25	20	23	28	14	19	100	19	33	6.3	4.9	5.8
20	23	19	21	27	14	18	670	88	390	---	---	---
21	24	19	21	18	14	16	1,160	510	780	5.5	4.2	4.8
22	32	23	28	20	13	16	1,160	740	1,060	8.1	4.4	5.8
23	38	29	33	18	12	14	760	400	560	7.3	5.8	6.4
24	41	31	35	23	16	19	420	310	370	11	5.0	6.5
25	36	30	33	25	21	23	340	270	290	5.9	4.9	5.4
26	42	32	37	41	22	29	280	210	240	9.9	5.6	6.6
27	40	30	35	26	19	22	220	150	180	8.4	5.8	6.4
28	35	24	30	23	16	19	150	100	120	7.0	5.4	6.0
29	32	24	26	20	12	15	100	73	87	7.9	5.9	6.3
30	30	24	26	13	8.7	10	76	59	66	8.9	---	---
31	27	23	24	---	---	---	---	---	---	12	8.7	10
Month	42	12	26	85	8.7	25	---	---	---	---	---	---

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	12	9.0	11	240	31	120	59	47	51	57	29	40
2	15	8.3	9.9	1,200	210	680	52	42	45	56	39	44
3	53	11	29	1,200	860	1,060	44	36	40	55	43	49
4	390	53	180	920	540	730	65	35	---	47	38	41
5	560	280	340	550	260	400	85	36	50	54	36	42
6	400	330	370	260	160	190	52	36	40	47	35	40
7	420	240	330	160	140	150	62	38	46	95	36	46
8	260	180	220	150	120	140	50	36	42	54	36	41
9	180	120	140	130	100	110	41	31	34	60	37	45
10	120	81	98	120	91	100	34	26	29	57	39	48
11	82	59	71	96	80	86	29	24	26	58	35	39
12	62	45	53	85	69	76	31	24	27	48	34	39
13	48	37	43	98	72	81	37	29	33	41	32	37
14	38	30	35	99	---	---	51	30	39	41	32	36
15	32	26	29	---	---	---	80	30	52	43	31	36
16	27	22	24	---	---	---	92	39	66	41	30	36
17	23	19	21	---	---	---	85	47	56	50	31	37
18	24	20	21	74	65	69	85	41	61	42	30	36
19	23	20	21	86	65	70	41	32	36	39	29	34
20	28	20	23	110	74	88	38	30	34	44	32	38
21	28	23	24	300	93	140	35	23	30	43	34	38
22	28	22	25	940	300	680	32	20	25	55	37	41
23	40	26	30	900	580	720	28	17	23	48	34	40
24	47	28	32	590	330	480	23	14	20	40	32	35
25	42	30	32	330	220	250	21	14	18	43	30	37
26	37	30	32	230	---	---	23	14	19	47	35	41
27	42	29	32	---	---	---	25	16	22	52	35	43
28	42	28	30	---	84	---	29	17	22	46	38	42
29	88	31	40	93	70	78	34	18	27	48	39	43
30	---	---	---	80	61	67	36	23	29	55	38	44
31	---	---	---	67	55	58	---	---	---	57	44	50
Month	560	8.3	81	---	---	---	92	14	---	95	29	41

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	50	35	42	37	21	28	39	26	34	58	29	41
2	47	37	41	55	27	39	44	26	34	48	29	37
3	51	43	47	51	27	36	45	24	34	44	29	35
4	59	47	52	50	27	36	43	27	33	42	26	34
5	74	47	55	51	34	41	52	23	32	42	26	35
6	71	48	56	---	---	---	49	24	34	40	27	33
7	69	48	52	---	---	---	60	24	35	79	33	36
8	89	49	54	---	---	---	59	22	35	46	31	39
9	55	44	49	---	---	---	47	31	37	49	24	33
10	56	47	51	---	---	---	59	31	39	40	30	34
11	67	47	52	52	33	43	49	32	37	45	---	---
12	66	45	51	57	30	40	42	28	35	---	27	---
13	76	46	53	57	32	41	47	33	39	38	28	32
14	49	43	46	52	31	41	58	38	44	40	31	35
15	68	43	52	53	28	39	54	40	46	38	30	34
16	65	41	48	52	29	38	60	40	46	33	26	30
17	57	41	47	53	28	39	59	34	43	39	28	32
18	56	38	46	54	26	38	51	35	41	37	24	30
19	51	37	44	58	27	38	54	35	42	34	26	29
20	49	36	42	52	28	40	50	28	39	34	26	30
21	55	35	45	69	29	42	42	31	36	35	27	30
22	53	34	42	57	33	45	42	30	35	36	23	32
23	77	39	46	67	28	36	48	32	38	34	25	29
24	100	46	76	54	26	33	47	34	38	32	25	28
25	73	36	53	56	25	32	78	38	49	32	22	27
26	63	31	42	60	20	31	70	37	51	62	26	38
27	50	28	38	49	18	30	71	38	47	34	27	30
28	46	28	35	50	26	36	54	32	43	30	23	26
29	47	25	32	---	---	---	76	38	50	30	23	25
30	41	20	30	---	---	---	76	31	45	31	24	27
31	---	---	---	40	27	34	52	33	42	---	---	---
Month	100	20	47	---	---	---	78	22	40	---	---	---

07182280 COTTONWOOD RIVER NEAR NEOSHO RAPIDS, KS—Continued

