Water-Data Report 2013

05501000 NORTH RIVER AT PALMYRA, MO

Upper Mississippi Basin
North River Subbasin

LOCATION.--Lat 39°49'01.2", long 91°32'45.7" referenced to North American Datum of 1983, in SW ¼ SW ¼ SW ¼ sec.14, T.58 N., R.6 W., Marion County, MO, Hydrologic Unit 07110004, on the left downstream abutment of County Road 329 bridge, 1.5 mi north of Palmyra, and 8.6 mi upstream from mouth.

DRAINAGE AREA.--354 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--December 1934 to current year. Low-flow records not equivalent prior to Oct. 1, 2007, because of undetermined channel-flow loss between sites.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is unknown. Prior to Oct. 1, 1945, nonrecording gage at bridge 2 mi downstream; Oct. 1, 1945, to June 22, 1951, nonrecording gage at site 1.8 mi downstream; June 23, 1951 to Oct. 1, 2007 recording gage at site 1.8 mi downstream. Datum of these gages 464.81 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1934, about 28.0 ft, from floodmarks, date unknown, at site 2 mi downstream, former datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 11	0245	10,300	17.41
Apr 11	0745	9,260	16.46
Apr 18	1100	*38,500	*23.15
May 28	1700	12,100	18.70
May 31	2145	9,410	16.60

Minimum discharge, 1.6 ft^3/s, Sept. 16, gage height, 3.46 ft.

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 05501000, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/05501000.2013.pdf

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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	7.2	5.8	6.4	9.9	359	129	192	313	4,370	46	11	2.8
2	4.6	4.9	6.6	8.7	212	124	144	220	1,650	37	11	2.6
3	3.4	4.7	6.5	8.8	164	116	117	1,230	732	33	30	2.4
4	2.9	4.2	6.3	8.0	131	127	100	4,110	469	30	28	2.2
5	3.2	4.6	6.1	7.7	114	154	86	1,490	338	27	17	2.2
6	3.0	4.4	5.9	7.6	100	183	79	1,900	269	25	13	2.2
7	3.4	3.6	6.3	7.4	152	169	72	607	215	23	13	2.1
8	3.2	3.5	6.1	7.5	936	189	728	364	176	21	11	2.0
9	3.5	3.7	6.4	7.7	370	3,980	474	1,810	149	20	10	2.0
10	3.5	3.8	5.9	8.5	362	9,210	1,220	1,900	148	18	10	1.9
11	3.4	6.7	5.9	171	668	7,540	6,250	664	134	15	8.7	1.8
12	3.4	375	5.9	310	372	2,500	1,600	365	101	13	7.9	1.9
13	5.6	260	5.5	e243	215	1,230	667	253	78	13	12	2.1
14	268	90	5.5	e156	161	803	439	206	61	13	22	2.1
15	428	41	7.7	e74	132	741	718	168	56	12	13	1.9
16	110	26	7.9	e30	110	615	811	211	842	12	9.4	1.9
17	36	18	9.2	e19	96	459	1,780	169	257	12	7.8	2.1
18	22	13	11	22	94	377	24,300	120	170	11	6.8	2.1
19	17	12	8.5	19	323	334	10,100	96	90	9.8	6.3	2.2
20	13	11	8.8	18	205	257	3,510	132	58	9.2	5.8	5.5
21	12	10	50	e16	238	214	3,020	671	45	9.1	5.3	4.5
22	35	9.4	66	e13	249	193	2,200	170	35	28	4.9	3.3
23	624	8.8	58	e13	191	183	1,680	101	34	30	4.6	3.0
24	246	7.7	39	10	140	184	1,760	76	382	31	4.3	2.5
25	129	7.1	24	9.7	115	187	1,080	1,040	57	17	4.0	283
26	49	6.6	18	9.0	113	178	748	2,710	383	14	3.7	33
27	26	6.2	14	9.4	128	297	587	6,210	306	13	3.4	8.5
28	16	6.3	12	11	133	671	584	11,300	98	10	3.1	4.6
29	11	6.6	11	216	---	619	582	7,740	57	9.2	3.0	3.4
30	8.2	6.4	9.5	3,610	---	404	443	2,970	54	13	3.0	2.2
31	6.6	---	10	914	---	248	---	6,360	---	12	3.0	---
Mean	68.0	32.4	14.5	193	235	1,052	2,202	1,796	394	18.9	9.55	13.1
Max	624	375	66	3,610	936	9,210	24,300	11,300	4,370	46	30	283
Min	2.9	3.5	5.5	7.4	94	116	72	76	34	9.1	3.0	1.8
In.	0.22	0.10	0.05	0.63	0.69	3.43	6.94	5.85	1.24	0.06	0.03	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	153	176	173	186	325	445	508	497	315	252	114	141
Max	1,742	2,639	1,832	991	1,720	2,783	2,691	2,322	2,296	2,100	1,357	1,803
(WY)	(1987)	(1986)	(1983)	(1969)	(1982)	(1973)	(1973)	(2002)	(1947)	(1993)	(1970)	(2008)
Min	0.00	0.00	0.23	0.66	0.92	6.54	24.8	15.5	4.77	0.52	0.00	0.17
(WY)	(1957)	(1957)	(1957)	(1954)	(1954)	(1956)	(2000)	(1989)	(1936)	(1936)	(1936)	(1940)

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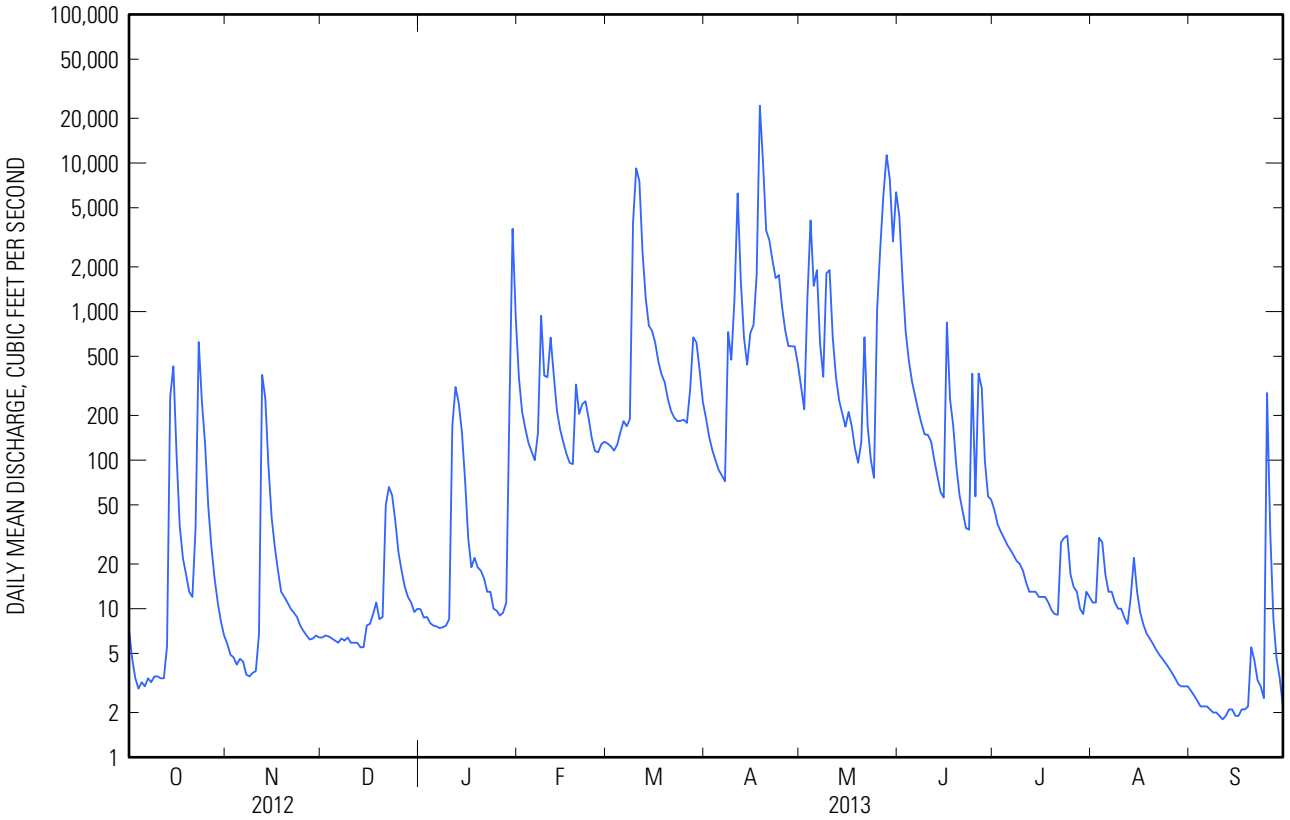
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1935 - 2013	
Annual mean	62.4		503		271	
Highest annual mean					775	2010
Lowest annual mean					22.1	1989
Highest daily mean	2,040	May 1	24,300	Apr 18	32,600	Apr 21, 1973
Lowest daily mean	0.19	Aug 25[a]	1.8	Sep 11	0.00	Several Years
Annual seven-day minimum	0.20	Sep 20	1.9	Sep 10	0.00	Several Years
Maximum peak flow			38,500	Apr 18	57,400	Apr 21, 1973
Maximum peak stage			23.15	Apr 18	29.70	Apr 21, 1973
Instantaneous low flow			1.6	Sep 16	0.00	Several Years
Annual runoff (inches)	2.40		19.29		10.39	
10 percent exceeds	130		823		483	
50 percent exceeds	10		30		39	
90 percent exceeds	0.27		3.4		3.3	

[a] Also Sep 22, 23, 25, 26



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GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
OBSERVATION AT 0800

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4.10	4.04	3.97	4.07	5.52	4.73	5.30	5.53	10.98	4.50	3.90	3.57
2	4.00	4.00	3.98	4.02	5.09	4.70	5.13	5.27	8.08	4.43	3.90	3.56
3	3.94	4.00	3.99	4.06	4.89	4.68	5.04	5.14	6.54	4.38	3.90	3.55
4	3.92	3.97	3.98	4.01	4.76	4.73	4.94	12.53	6.00	4.35	4.20	3.52
5	3.97	4.02	3.97	4.02	4.66	4.79	4.89	7.76	5.68	4.31	4.02	3.53
6	4.04	4.06	3.96	4.02	4.59	4.95	4.85	8.99	5.53	4.27	3.94	3.53
7	4.03	4.05	3.96	4.01	4.58	4.90	4.80	6.24	5.37	4.24	3.89	3.52
8	4.05	4.04	3.97	4.01	7.04	4.95	5.99	5.66	5.25	4.21	3.88	3.51
9	4.13	4.08	3.97	4.03	5.56	6.52	6.04	6.12	5.15	4.20	3.86	3.50
10	4.21	4.13	3.96	4.03	5.18	16.17	5.65	8.67	5.12	4.17	3.87	3.50
11	4.23	4.01	4.03	4.18	6.31	17.02	16.42	6.37	5.11	4.11	3.83	3.49
12	4.22	4.92	3.96	5.56	5.63	9.23	7.93	5.68	4.97	4.07	3.80	3.50
13	4.26	5.45	3.93	5.03	5.08	7.35	6.37	5.35	4.88	4.05	3.79	3.51
14	4.95	4.81	3.94	---	4.87	6.64	5.85	5.20	4.78	4.04	4.11	3.52
15	5.94	4.51	4.03	---	4.75	6.52	6.50	5.08	4.74	4.01	3.94	3.50
16	4.94	4.36	4.04	---	4.65	6.31	6.56	5.17	7.41	4.00	3.85	3.48
17	4.53	4.25	4.03	---	4.58	5.95	6.15	5.09	5.49	4.00	3.81	3.50
18	4.38	4.17	4.11	4.28	4.54	5.76	22.14	4.90	5.27	3.98	3.77	3.51
19	4.40	4.14	4.05	4.25	5.61	5.70	18.65	4.78	4.94	3.95	3.76	3.51
20	4.30	4.12	4.04	4.24	5.09	5.50	10.17	4.73	4.77	3.93	3.74	3.70
21	4.35	4.10	4.07	---	5.16	5.33	9.66	6.87	4.67	3.89	3.71	3.68
22	4.25	4.08	4.49	---	5.22	5.28	8.61	e7.52	4.59	3.99	3.69	3.61
23	6.54	4.05	4.61	4.13	4.90	5.24	7.76	4.82	4.52	4.24	3.68	3.58
24	5.30	4.03	4.50	4.07	4.71	5.24	8.12	4.69	5.95	4.33	3.66	3.55
25	4.98	4.01	4.30	4.08	4.58	5.27	7.07	4.59	4.76	4.08	3.64	3.95
26	4.62	3.99	4.24	4.05	4.58	5.23	6.50	9.13	4.59	4.00	3.64	4.44
27	4.46	3.97	4.16	4.06	4.68	5.42	6.18	10.58	6.02	3.98	3.62	4.07
28	4.30	3.98	4.14	4.10	4.75	6.43	6.06	17.83	4.81	3.91	3.60	3.89
29	4.20	3.98	4.12	4.16	---	6.33	6.11	16.69	4.59	3.88	3.59	3.85
30	4.13	3.99	4.02	12.17	---	5.88	5.87	9.60	4.51	3.99	3.58	3.76
31	4.06	---	4.08	6.89	---	5.45	---	11.47	---	3.96	3.58	---
Mean	4.44	4.18	4.08	---	5.06	6.39	7.71	7.36	5.50	4.11	3.80	3.63
Max	6.54	5.45	4.61	---	7.04	17.02	22.14	17.83	10.98	4.50	4.20	4.44
Min	3.92	3.97	3.93	---	4.54	4.68	4.80	4.59	4.51	3.88	3.58	3.48