

Water-Data Report 2012

**06923950 NIANGUA RIVER AT TUNNEL DAM NEAR MACKS CREEK, MO**

Lower Missouri Basin  
Osage Subbasin

LOCATION.--Lat 37°56'13.0", long 92°51'04.9" referenced to North American Datum of 1983, in SE ¼ SW ¼ SW ¼ sec.19, T.37 N., R.17 W., Camden County, MO, Hydrologic Unit 10290110, at left end of concrete structure on top of Tunnel Dam, 6.5 mi southeast of Macks Creek.

DRAINAGE AREA.--598 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--September 1995 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 691.57 ft above North American Vertical Datum of 1988.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Lake Niangua, capacity of 2,650 acre-ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,870 ft<sup>3</sup>/s, Mar. 22, gage height, 10.55 ft; minimum discharge, 0.49 ft<sup>3</sup>/s, June 19, Aug. 15.

## 06923950 NIANGUA RIVER AT TUNNEL DAM NEAR MACKS CREEK, MO—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	207	203	389	403	286	355	703	1,100	185	174	135	196
2	205	203	365	383	280	362	663	1,220	160	172	135	197
3	203	226	354	362	284	372	628	838	136	168	135	195
4	201	216	345	347	368	359	602	612	118	165	136	189
5	200	215	335	338	473	348	599	487	103	163	149	187
6	205	216	328	330	646	337	580	406	88	162	141	183
7	201	307	320	323	593	327	545	379	74	162	145	184
8	197	403	312	315	530	325	519	339	62	166	136	190
9	196	398	302	308	482	323	497	355	55	193	137	204
10	195	375	291	297	447	324	397	304	206	171	133	251
11	197	391	285	293	421	327	225	257	214	166	131	262
12	203	369	280	292	395	329	253	221	239	164	134	225
13	215	326	292	286	384	335	387	194	245	163	132	202
14	210	300	308	281	373	345	2,340	176	271	173	136	228
15	208	281	332	279	373	340	3,130	168	287	167	100	214
16	206	262	385	275	417	333	2,760	147	259	164	150	215
17	207	249	446	281	623	329	1,320	129	230	161	169	240
18	239	242	475	270	733	320	549	120	148	159	170	257
19	240	236	473	264	648	315	464	109	11	111	169	263
20	237	241	1,400	263	587	350	559	99	45	127	168	243
21	229	251	1,940	261	541	3,250	513	87	93	142	166	225
22	222	321	1,540	262	507	7,640	448	78	206	142	162	211
23	216	430	1,020	257	481	4,740	403	73	202	141	161	203
24	214	536	792	254	454	2,720	368	65	196	139	160	196
25	216	536	676	254	428	1,920	335	62	194	138	171	190
26	210	473	600	262	401	1,400	309	53	192	138	176	221
27	211	459	550	271	381	1,150	283	45	189	138	170	202
28	209	453	510	280	372	991	260	38	184	135	163	198
29	205	443	481	281	356	880	483	44	180	134	160	197
30	202	420	453	292	---	808	584	149	175	131	160	196
31	202	---	433	291	---	752	---	217	---	135	190	---
<b>Mean</b>	210	333	549	295	457	1,065	724	276	165	154	151	212
<b>Max</b>	240	536	1,940	403	733	7,640	3,130	1,220	287	193	190	263
<b>Min</b>	195	203	280	254	280	315	225	38	11	111	100	183
<b>In.</b>	0.40	0.62	1.06	0.57	0.83	2.05	1.35	0.53	0.31	0.30	0.29	0.40

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2012, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	289	355	317	459	548	749	738	794	370	224	205	279
<b>Max</b>	1,758	1,345	613	2,589	1,594	3,339	1,935	2,819	1,143	546	394	994
<b>(WY)</b>	(2010)	(1997)	(2005)	(2005)	(2008)	(2008)	(2008)	(2002)	(2008)	(2007)	(2011)	(2008)
<b>Min</b>	59.8	66.8	130	56.9	39.2	47.9	106	28.1	55.4	54.8	43.9	76.0
<b>(WY)</b>	(1998)	(1998)	(1998)	(1997)	(1996)	(1996)	(2000)	(1997)	(1996)	(1997)	(1996)	(2006)

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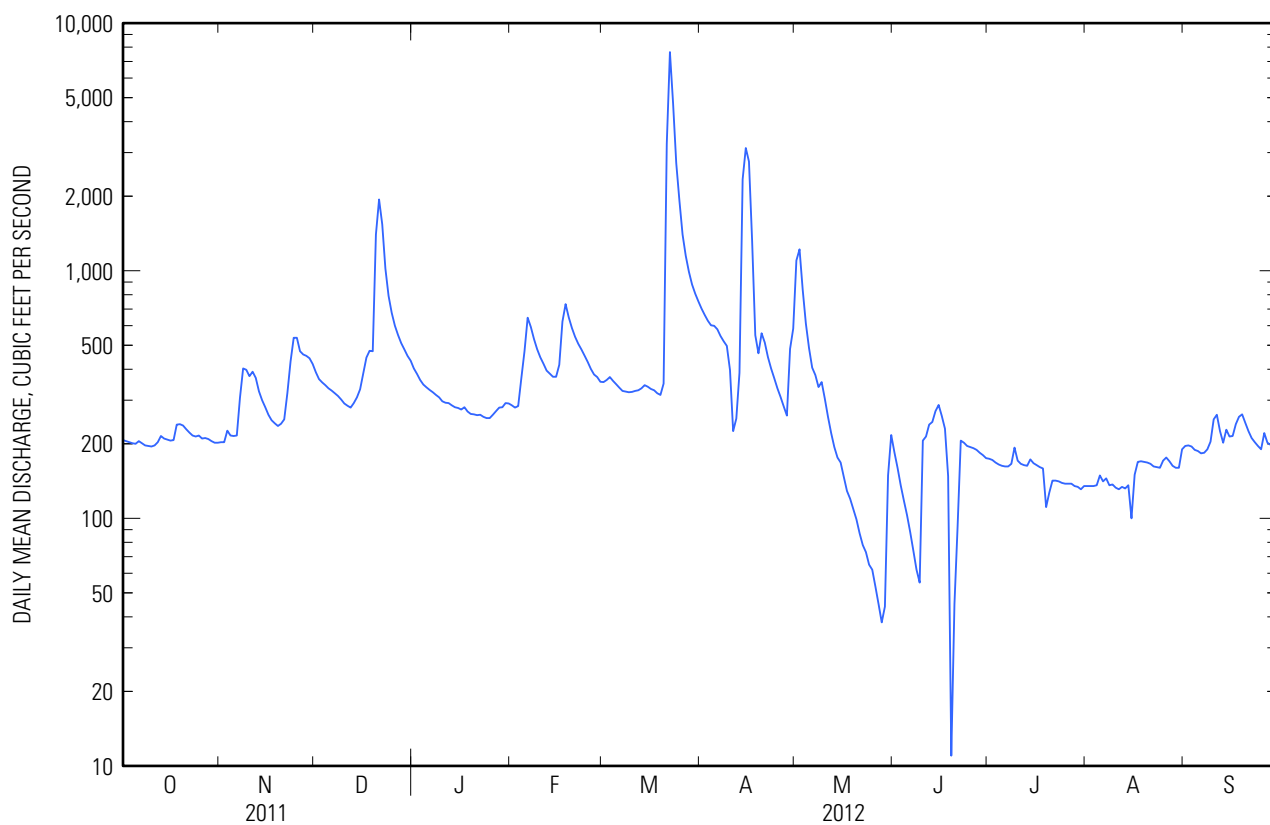
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1995 - 2012	
<b>Annual mean</b>	654		382		450	
<b>Highest annual mean</b>					993	2008
<b>Lowest annual mean</b>					143	2000
<b>Highest daily mean</b>	15,000	Apr 27	7,640	Mar 22	27,700	Mar 20, 2008
<b>Lowest daily mean</b>	195	Oct 10	11	Jun 19	0.00	Oct 18, 1997 <sup>a</sup>
<b>Annual seven-day minimum</b>	199	Oct 5	54	May 23	8.1	Sep 25, 1997
<b>Maximum peak flow</b>			8,870	Mar 22	32,600	Mar 19, 2008
<b>Maximum peak stage</b>			10.55	Mar 22	17.06	Mar 19, 2008
<b>Instantaneous low flow</b>			0.49	Jun 19 <sup>b</sup>	0.00	Oct 1, 1997 <sup>c</sup>
<b>Annual runoff (inches)</b>	14.85		8.71		10.23	
<b>10 percent exceeds</b>	1,250		589		764	
<b>50 percent exceeds</b>	361		257		214	
<b>90 percent exceeds</b>	215		136		96	

<sup>a</sup> Also Oct 19, 1997

<sup>b</sup> Also Aug 15

<sup>c</sup> Also Oct 17-19, 29, 1997, Mar 7, Apr 18, 1998



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**GAGE HEIGHT, FEET**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**  
**OBSERVATION AT 0800**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>1</b>	2.14	2.12	2.52	2.56	2.30	2.44	2.98	3.40	2.05	2.02	1.92	2.08
<b>2</b>	2.13	2.12	2.48	2.50	2.28	2.46	2.92	3.87	1.97	2.01	1.91	2.07
<b>3</b>	2.12	2.19	2.43	2.46	2.28	2.48	2.85	3.26	1.89	2.00	1.92	2.08
<b>4</b>	2.12	2.17	2.42	2.43	2.42	2.45	2.80	2.84	1.84	1.99	1.93	2.06
<b>5</b>	2.12	2.16	2.41	2.40	2.64	2.43	2.77	2.61	1.78	1.99	1.97	2.06
<b>6</b>	2.12	2.16	2.39	2.39	3.01	2.42	2.76	2.43	1.73	1.98	1.94	2.04
<b>7</b>	2.12	2.33	2.37	2.37	2.91	2.39	2.70	2.38	1.67	1.98	1.96	2.04
<b>8</b>	2.10	2.50	2.35	2.36	2.80	2.38	2.65	2.26	1.62	1.99	1.91	2.06
<b>9</b>	2.11	2.60	2.33	2.34	2.70	2.38	2.60	2.33	1.57	2.10	1.92	2.09
<b>10</b>	2.10	2.50	2.30	2.32	2.63	2.37	2.57	2.20	2.11	2.01	1.92	2.15
<b>11</b>	2.11	2.54	2.29	2.31	2.58	2.37	1.94	2.09	2.14	1.99	1.90	2.26
<b>12</b>	2.11	2.52	2.28	2.32	2.53	2.39	2.04	1.99	2.19	1.99	1.90	2.17
<b>13</b>	2.17	2.43	2.30	2.30	2.51	2.39	2.47	1.91	2.21	1.99	1.90	2.10
<b>14</b>	2.14	2.39	2.34	2.28	2.47	2.41	4.93	1.85	2.20	2.01	1.91	2.24
<b>15</b>	2.14	2.32	2.36	2.26	2.46	2.41	6.16	1.83	2.30	2.01	1.92	2.11
<b>16</b>	2.13	2.27	2.48	2.26	2.53	2.40	5.54	1.78	2.24	2.00	1.93	2.13
<b>17</b>	2.13	2.24	2.59	2.29	2.74	2.38	4.10	1.87	2.17	1.99	2.00	2.18
<b>18</b>	2.21	2.23	2.69	2.25	3.14	2.36	2.79	1.84	2.14	1.99	2.00	2.23
<b>19</b>	2.21	2.22	2.63	2.24	3.00	2.35	2.20	1.80	1.29	1.87	2.00	2.24
<b>20</b>	2.21	2.21	4.24	2.23	2.88	2.39	2.71	1.77	1.44	1.77	2.00	2.21
<b>21</b>	2.19	2.23	4.61	2.23	2.80	5.30	---	1.73	1.48	1.93	1.99	2.16
<b>22</b>	2.18	2.35	4.37	2.24	2.75	9.59	2.51	1.69	2.10	1.93	1.98	2.12
<b>23</b>	2.16	2.57	3.63	2.22	2.70	7.80	2.39	1.65	2.09	1.93	1.97	2.10
<b>24</b>	2.15	2.77	3.26	2.21	2.65	5.60	2.34	1.64	2.07	1.92	1.97	2.07
<b>25</b>	2.16	2.82	3.06	2.21	2.59	4.78	2.26	1.62	2.06	1.92	1.97	2.06
<b>26</b>	2.15	2.68	2.92	2.23	2.56	4.08	2.21	1.58	2.06	1.92	2.02	2.23
<b>27</b>	2.15	2.64	2.83	2.25	2.51	3.70	2.14	1.54	2.06	1.91	2.01	2.09
<b>28</b>	2.14	2.64	2.76	2.27	2.47	3.47	2.08	1.54	2.04	1.91	1.99	2.08
<b>29</b>	2.14	2.63	2.69	2.27	2.43	3.28	2.25	1.50	2.03	1.91	1.97	2.08
<b>30</b>	2.12	2.59	2.64	2.30	---	3.16	2.59	1.82	2.02	1.90	1.97	2.07
<b>31</b>	2.12	---	2.60	2.31	---	3.07	---	2.15	---	1.92	2.12	---
<b>Mean</b>	2.14	2.40	2.76	2.31	2.63	3.29	---	2.09	1.95	1.96	1.96	2.12
<b>Max</b>	2.21	2.82	4.61	2.56	3.14	9.59	---	3.87	2.30	2.10	2.12	2.26
<b>Min</b>	2.10	2.12	2.28	2.21	2.28	2.35	---	1.50	1.29	1.77	1.90	2.04