Water-Data Report 2011

06897500 GRAND RIVER NEAR GALLATIN, MO

Lower Missouri Basin
Grand Subbasin

LOCATION.--Lat 39°55′37″, long 93°56′33″ referenced to North American Datum of 1927, in SW ¼ NW ¼ sec.16, T.59 N., R.27 W., Daviess County, MO, Hydrologic Unit 10280101, attached to bridge on State Highway 6, 50 ft downstream from Chicago, Rock Island and Pacific Railroad Company Bridge, 1.0 mi northeast of Gallatin, 6.0 mi upstream from Honey Creek, and at mile 90.0.

DRAINAGE AREA.--2,250 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 786: 1933-34. WSP 1280: 1922. WDR MO-82-1: 1981. WDR MO-92-1: 1991(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 707.56 ft above National Geodetic Vertical Datum of 1929. This figure supercedes figures published in reports from 1982 to 1992. Prior to Jan. 31, 1922, nonrecording gage at site 100 ft upstream at datum 5.00 ft lower; Jan. 31, 1922, to Nov. 15, 1936, nonrecording gage at site about 1,100 ft upstream at datum 4.83 ft lower; Nov. 16, 1936, to Nov. 14, 1937, nonrecording gage; Nov. 15, 1937, to Sept. 21, 1961, water-stage recorder on center pier of highway bridge at datum 5.00 ft lower; Sept. 22-27, 1961, nonrecording gage at railroad bridge 100 ft upstream at datum 5.00 ft lower; Sept. 28, 1961, to Mar. 4, 1964, water-stage recorder on downstream side of left bank pier of highway bridge and wire-weight gage for stages below 7.2 ft at datum 5.00 ft lower; Mar. 5, 1964, to Mar. 5, 1982, at present site at datum 5.00 ft. higher.

REMARKS.--Records fair except for Dec 12 to Feb. 17 and estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 45 ft, July 8, 1909, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 26	2115	*28,300	*27.19

Minimum discharge, 46 ft^3/s, Sept. 30, gage height, 2.79 ft.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 06897500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/06897500.2011.pdf

06897500 GRAND RIVER NEAR GALLATIN, MO—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	871	228	369	e300	e125	1,870	725	999	2,140	1,750	257	164
2	710	216	354	e310	e125	2,270	685	850	1,490	1,210	172	145
3	598	207	337	e275	e130	1,970	631	735	1,200	865	143	125
4	520	194	318	e260	e145	1,550	594	650	1,030	934	123	109
5	460	186	316	250	183	1,450	566	585	885	869	111	93
6	410	182	272	266	178	1,260	520	565	777	627	106	85
7	382	176	251	276	146	1,040	497	540	680	544	106	79
8	352	172	263	251	e115	999	649	500	625	482	120	74
9	338	170	288	217	140	2,740	5,320	450	598	459	128	71
10	309	170	280	e150	142	3,020	2,950	413	1,760	435	112	70
11	291	167	289	e145	147	2,240	1,730	383	641	377	103	67
12	274	202	e190	e140	e135	1,780	1,230	365	524	332	98	65
13	263	2,050	e220	e120	e140	1,430	937	2,850	474	310	101	63
14	253	6,140	e225	e140	184	1,200	785	2,700	440	681	105	62
15	230	3,310	e205	e150	416	1,040	786	2,640	417	398	103	60
16	220	1,630	e185	e150	e1,850	917	5,040	1,460	386	297	106	59
17	207	1,120	e200	e160	e8,800	844	8,930	1,090	406	254	107	60
18	196	880	e215	e155	14,000	797	3,760	1,010	392	228	117	60
19	192	720	229	e150	6,130	745	2,270	715	360	208	686	62
20	186	609	251	e140	3,110	694	6,390	604	428	189	916	64
21	180	555	261	e140	2,590	740	5,260	918	2,370	176	657	63
22	180	516	e225	e130	2,330	808	3,100	2,140	2,980	162	398	62
23	199	487	225	e125	1,710	790	4,880	3,040	1,430	152	254	59
24	902	460	e255	e130	1,350	1,050	2,940	2,130	902	144	228	56
25	1,450	440	221	e135	1,200	1,250	2,070	3,100	682	142	192	54
26	780	412	198	e135	1,010	1,040	1,830	23,200	579	136	156	53
27	498	376	e205	e140	980	1,270	2,370	18,900	7,860	131	133	50
28	380	380	243	e145	1,250	1,300	1,960	5,330	15,400	122	116	50
29	320	370	275	e140	---	1,060	1,570	3,140	7,980	118	104	49
30	273	375	329	e135	---	880	1,190	2,970	2,760	157	98	48
31	250	---	361	e135	---	778	---	4,440	---	302	134	---
Mean	409	770	260	177	1,741	1,317	2,406	2,884	1,953	426	203	72.7
Max	1,450	6,140	369	310	14,000	3,020	8,930	23,200	15,400	1,750	916	164
Min	180	167	185	120	115	694	497	365	360	118	98	48
In.	0.21	0.38	0.13	0.09	0.81	0.67	1.19	1.48	0.97	0.22	0.10	0.04

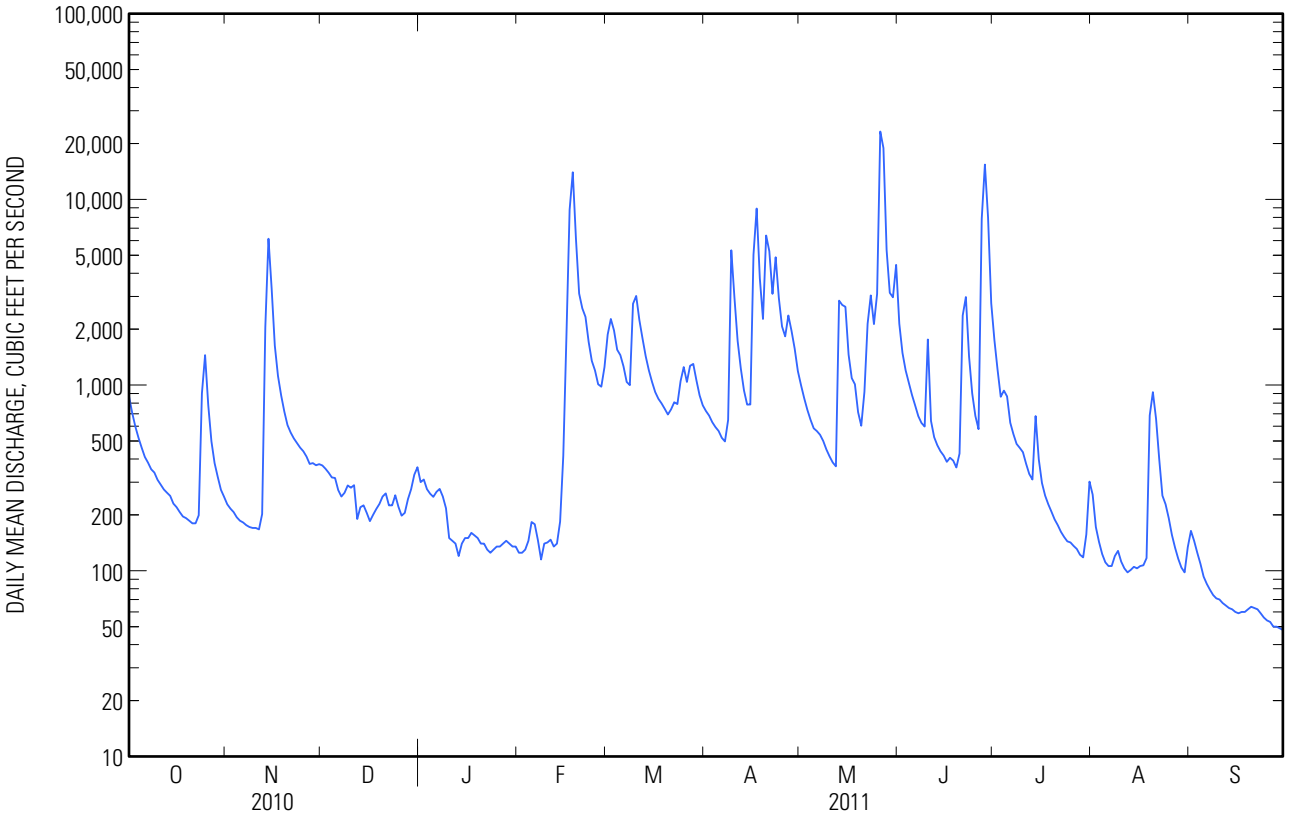
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	810	836	535	503	999	1,810	2,072	2,242	2,563	1,538	538	1,025
Max	8,965	8,613	5,463	4,212	6,196	8,760	7,906	14,820	22,670	33,930	4,136	11,610
(WY)	(1974)	(1929)	(1983)	(1932)	(1962)	(1979)	(1927)	(1995)	(1947)	(1993)	(1987)	(1926)
Min	3.09	8.18	6.15	3.94	5.61	18.7	12.0	15.4	51.9	13.3	7.05	10.2
(WY)	(1957)	(1939)	(1939)	(1940)	(1939)	(1938)	(1956)	(1956)	(1988)	(1936)	(1936)	(1955)

06897500 GRAND RIVER NEAR GALLATIN, MO—Continued

SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1921 - 2011	
Annual mean	3,207		1,043		1,290	
Highest annual mean					5,740	1993
Lowest annual mean					74.9	2003
Highest daily mean	38,500	May 14	23,200	May 26	85,500	Jul 24, 1993
Lowest daily mean	112	Aug 31	48	Sep 30	2.0	Aug 30, 1980
Annual seven-day minimum	126	Aug 26	51	Sep 24	2.6	Oct 23, 1956
Maximum peak flow			28,300	May 26	89,800	Jul 7, 1993
Maximum peak stage			27.19	May 26	41.50	Jul 7, 1993
Instantaneous low flow			46	Sep 30	2.0	Aug 30, 1980
Annual runoff (inches)	19.36		6.29		7.79	
10 percent exceeds	8,560		2,370		2,630	
50 percent exceeds	787		365		224	
90 percent exceeds	200		107		28	



06897500 GRAND RIVER NEAR GALLATIN, MO—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
OBSERVATION AT 0800
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	5.87	3.85	3.91	4.48	4.06	7.40	4.88	5.88	8.51	7.91	4.08	e3.58
2	5.40	3.80	3.89	4.38	4.07	8.19	4.78	5.54	e7.20	6.84	3.62	e3.48
3	5.14	3.75	3.80	4.90	---	7.76	4.65	5.25	6.55	5.90	e3.47	e3.35
4	4.88	3.69	3.68	4.93	e4.21	6.80	4.55	5.02	6.20	5.93	3.36	e3.26
5	4.69	3.65	3.70	e5.50	4.06	6.51	4.46	5.01	5.84	6.04	3.26	e3.16
6	4.55	3.63	3.53	5.20	4.18	6.18	4.31	4.79	e5.55	5.28	3.24	e3.11
7	4.44	3.59	3.30	4.84	3.96	5.66	4.21	4.76	e5.27	5.00	3.23	e3.07
8	4.35	3.47	3.31	4.20	---	5.45	4.24	4.65	e5.11	4.82	e3.27	e3.03
9	4.26	3.56	3.55	4.26	e3.92	8.58	13.08	4.51	e4.93	4.71	e3.38	e2.99
10	4.17	3.47	3.35	---	3.94	9.54	9.53	4.39	8.97	e4.66	3.27	e2.99
11	4.10	3.56	3.64	---	4.02	8.15	7.25	4.39	5.17	4.47	e3.22	e2.96
12	4.04	3.56	e3.24	4.27	e3.95	7.32	6.15	e4.25	4.80	e4.30	e3.17	e2.94
13	3.99	7.84	e3.34	3.84	e3.85	6.52	5.46	9.52	e4.64	4.15	3.21	e2.93
14	3.93	13.59	e3.34	3.66	4.05	6.03	5.05	8.46	e4.49	5.74	e3.22	e2.91
15	3.85	10.34	e3.26	3.54	4.89	5.66	4.88	9.51	e4.44	4.60	3.22	e2.91
16	3.79	7.19	e3.16	3.54	6.54	5.36	8.09	7.29	e4.34	4.18	3.24	e2.90
17	3.74	6.01	e3.14	3.66	15.02	5.18	17.23	6.22	4.42	e3.98	3.24	e2.91
18	3.71	5.39	e3.23	3.64	20.53	5.06	10.77	6.28	e4.35	e3.88	e3.31	e2.91
19	3.68	5.06	3.19	---	13.89	4.94	8.25	5.42	e4.24	3.79	5.06	e2.92
20	3.65	4.69	3.29	e3.75	9.72	4.77	12.74	e4.97	4.39	e3.69	6.22	e2.93
21	3.62	4.51	3.28	e3.75	8.43	4.77	13.11	5.84	4.48	e3.64	5.38	e2.94
22	3.59	4.41	3.42	e3.81	8.29	5.09	9.10	8.33	10.12	3.56	4.52	e2.93
23	3.73	4.32	3.29	e3.85	7.16	5.03	12.32	9.01	7.22	3.50	e4.00	e2.91
24	4.04	4.12	3.59	e3.87	6.30	5.64	9.45	8.61	5.94	e3.46	e3.85	e2.88
25	7.27	4.15	3.24	3.75	6.04	6.28	8.06	8.19	e5.28	e3.44	e3.73	e2.86
26	5.67	4.08	3.09	3.69	5.48	5.56	7.27	24.39	4.96	3.43	e3.53	e2.85
27	4.88	3.97	3.36	e3.95	5.47	5.99	8.67	25.31	10.35	e3.39	e3.41	e2.83
28	4.45	3.91	3.06	3.94	5.80	6.29	7.72	12.90	20.67	e3.35	e3.31	e2.82
29	4.23	3.90	3.47	3.98	---	5.72	7.21	10.03	16.40	3.31	e3.23	e2.83
30	4.07	3.93	3.74	e3.90	---	5.29	6.31	8.80	9.63	3.44	e3.15	2.80
31	3.95	---	4.07	e4.05	---	5.03	---	12.45	---	3.98	e3.38	---
Mean	4.38	4.83	3.43	---	---	6.19	7.79	8.06	6.82	4.46	3.64	3.00
Max	7.27	13.59	4.07	---	---	9.54	17.23	25.31	20.67	7.91	6.22	3.58
Min	3.59	3.47	3.06	---	---	4.77	4.21	4.25	4.24	3.31	3.15	2.80