

Water-Data Report 2013

06906500 MISSOURI RIVER AT GLASGOW, MO

Missouri River Main Stem

LOCATION.--Lat 39°13'20", long 92°50'55" referenced to North American Datum of 1927, in NE ¼ NE ¼ NE ¼ sec.3, T.51 N., R.17 W., Howard County, MO, Hydrologic Unit 10300102, at bridge on State Highway 240 in Glasgow, 75 ft downstream from Chicago and Alton Railway bridge, 1 mi downstream from Little Chariton River, and at mile 226.8.

DRAINAGE AREA.--498,900 mi², the 3,959 mi² in Great Divide basin are not included.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 2000 to current year. Gage-height records collected at site 1878-99 in reports of the Missouri River Commission. Gage-height records collected from January 1929 to August 1950 in files of the Corps of Engineers, Kansas City District. August 1950 to September 2000 gage-height records collected in files of the U.S.G.S.

GAGE.--Water-stage recorder. Datum of gage 586.65 ft above North American Vertical Datum of 1988.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Some regulation from many upstream reservoirs upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 29, 1993 reached a stage of 39.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 305,000 ft³/s, June 2, gage height, 33.41 ft; minimum discharge, 22,200 ft³/s, Feb. 28, gage height, 6.22 ft.

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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	42,600	44,000	39,500	24,900	31,300	22,600	41,100	48,200	290,000	65,900	43,500	42,100
2	42,500	43,600	38,000	24,300	27,500	23,600	41,500	45,100	296,000	63,500	44,400	41,200
3	42,500	43,400	37,000	24,500	26,000	24,000	40,600	44,200	254,000	61,200	46,300	41,700
4	42,700	43,200	35,400	24,800	25,700	24,000	40,200	50,900	194,000	59,000	49,000	42,300
5	42,400	43,100	33,900	25,100	25,300	24,300	40,500	79,800	147,000	57,300	52,200	43,200
6	42,200	43,500	32,900	25,200	24,400	25,500	40,800	94,100	116,000	55,300	60,700	42,700
7	42,300	43,600	32,000	25,000	24,100	27,100	40,000	81,100	105,000	53,000	63,400	41,900
8	42,200	43,000	31,200	25,100	26,800	28,100	42,400	67,600	100,000	51,600	61,100	41,600
9	42,200	43,000	30,600	25,100	26,900	34,000	48,400	60,600	93,500	50,300	58,600	41,600
10	42,500	43,600	30,100	25,400	27,800	59,900	48,200	60,700	87,700	49,200	53,400	41,600
11	42,800	44,200	29,900	25,700	29,100	94,000	77,300	58,000	92,900	47,900	49,100	41,500
12	42,900	45,400	29,400	25,600	29,200	90,200	96,400	54,800	99,900	46,900	47,400	41,100
13	43,300	46,700	28,700	25,600	27,600	70,000	80,800	53,500	92,600	46,000	44,000	41,000
14	44,600	45,700	28,000	25,700	26,500	51,900	64,200	53,700	84,900	45,300	42,700	41,000
15	44,600	45,100	27,700	25,800	26,800	42,500	58,900	51,500	83,400	44,400	42,000	41,400
16	44,500	44,900	27,100	25,900	28,000	39,700	55,400	48,500	101,000	43,400	42,300	42,000
17	45,100	44,800	26,200	25,800	28,300	38,600	51,600	47,000	124,000	42,500	42,400	41,800
18	46,200	44,700	25,400	25,400	27,200	37,900	97,400	45,700	127,000	41,700	41,300	42,100
19	45,200	44,300	25,000	24,700	26,200	37,500	142,000	44,100	113,000	40,900	42,200	42,900
20	43,900	43,200	25,400	24,300	26,300	37,200	178,000	45,000	93,700	40,200	46,500	43,800
21	43,500	42,500	25,700	24,000	e25,300	36,100	178,000	52,900	84,200	39,800	48,300	47,500
22	43,400	42,700	26,300	24,000	e24,600	35,700	159,000	52,600	76,000	39,500	45,800	47,900
23	44,700	42,600	27,000	24,200	e24,600	36,000	136,000	49,900	71,600	39,000	44,400	44,100
24	45,200	42,700	27,100	24,100	e24,100	35,600	109,000	49,400	69,700	38,900	42,500	42,700
25	44,400	43,100	26,400	23,800	e23,900	35,000	81,400	46,300	64,200	39,400	40,800	41,800
26	43,500	43,300	25,700	23,300	e24,500	35,200	66,300	43,800	62,600	40,300	39,200	40,700
27	43,400	43,700	25,000	23,000	e24,000	36,200	60,200	58,600	65,200	40,700	38,200	39,900
28	43,800	43,300	24,700	22,900	22,300	37,000	57,300	108,000	69,400	40,700	38,800	39,500
29	44,500	42,500	24,900	23,400	---	37,600	55,500	144,000	70,600	40,800	40,300	38,900
30	44,700	41,300	25,400	27,500	---	38,500	51,900	209,000	67,100	41,000	42,300	38,800
31	44,300	---	25,600	32,600	---	40,500	---	252,000	---	41,900	42,800	---
Mean	43,630	43,690	28,940	25,050	26,220	39,870	76,010	70,990	113,200	46,690	46,320	42,010
Max	46,200	46,700	39,500	32,600	31,300	94,000	178,000	252,000	296,000	65,900	63,400	47,900
Min	42,200	41,300	24,700	22,900	22,300	22,600	40,000	43,800	62,600	38,900	38,200	38,800
In.	0.10	0.10	0.07	0.06	0.05	0.09	0.17	0.16	0.25	0.11	0.11	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2013^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	52,640	45,790	36,820	34,650	41,580	61,830	72,630	94,480	111,900	79,050	67,740	61,400
Max	94,420	79,430	63,780	64,150	69,750	132,200	111,200	173,800	201,800	228,200	203,500	134,800
(WY)	(2011)	(2011)	(2012)	(2010)	(2011)	(2010)	(2010)	(2007)	(2008)	(2011)	(2011)	(2011)
Min	32,060	21,740	24,460	21,660	23,540	26,810	38,960	51,840	40,810	35,950	32,520	36,670
(WY)	(2007)	(2007)	(2003)	(2003)	(2003)	(2003)	(2003)	(2006)	(2006)	(2006)	(2003)	(2002)

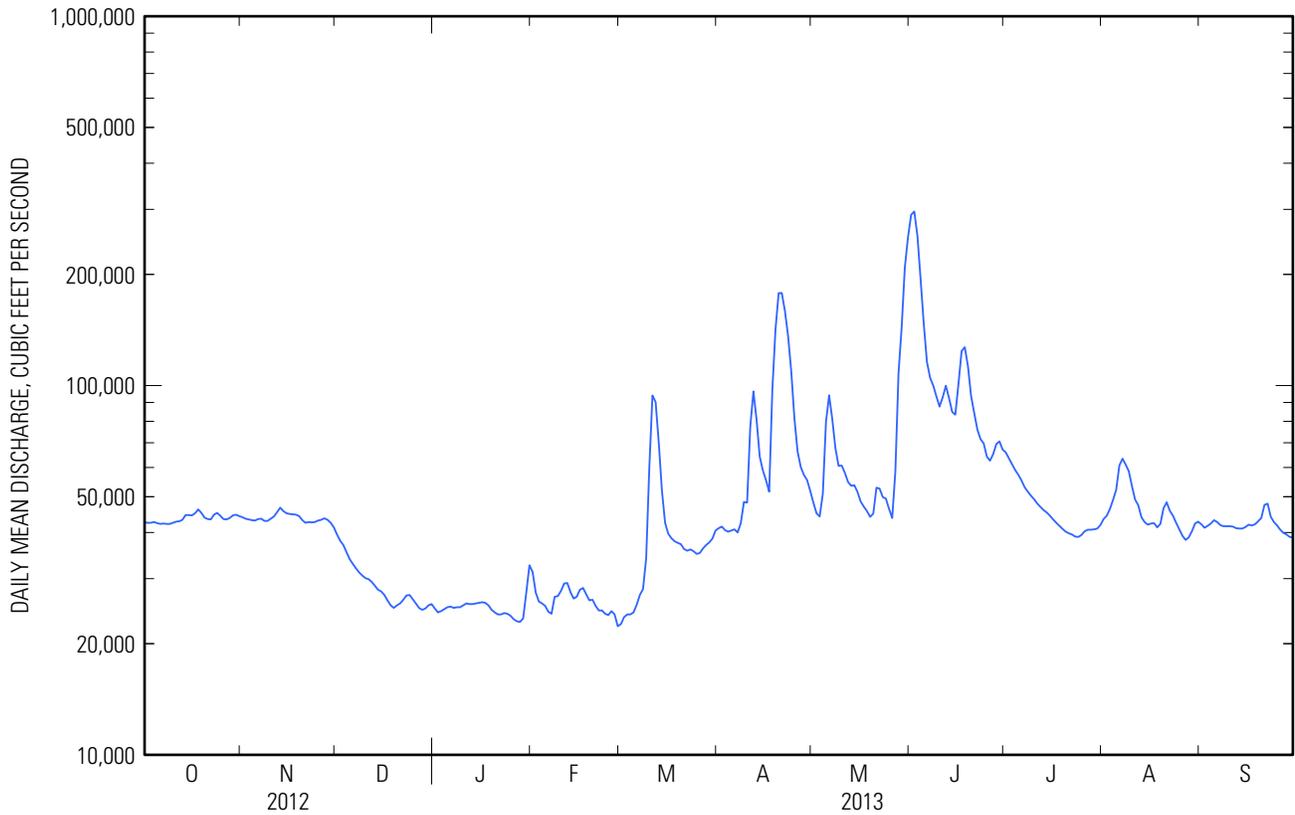
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SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 2001 - 2013 ^a	
Annual mean	49,910		50,210		63,430	
Highest annual mean					118,100	2011
Lowest annual mean					35,890	2006
Highest daily mean	117,000	Apr 18	296,000	Jun 2	317,000	May 10, 2007
Lowest daily mean	24,700	Dec 28	22,300	Feb 28	18,400	Dec 20, 2000
Annual seven-day minimum	25,400	Dec 25	23,500	Jan 23	19,900	Dec 19, 2000
Maximum peak flow			305,000	Jun 2	322,000	May 10, 2007
Maximum peak stage			33.41	Jun 2	34.30	May 10, 2007
Instantaneous low flow			^b 22,200	Feb 28	18,300	Dec 20, 2000
Annual runoff (inches)	1.36		1.37		1.73	
10 percent exceeds	66,300		82,200		124,000	
50 percent exceeds	44,900		42,500		46,100	
90 percent exceeds	40,600		25,100		26,300	

^a Period of Regulated Streamflow

^b Minimum computed, may have been less during the period of estimated record.



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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	11.12	11.24	10.36	6.99	9.06	6.30	11.05	12.53	32.40	14.96	11.09	10.89
2	11.09	11.19	10.02	6.76	7.99	6.61	11.21	11.90	33.16	14.61	11.25	10.65
3	11.06	11.12	9.83	6.83	7.45	6.82	10.97	11.61	31.29	14.28	11.60	10.74
4	11.13	11.08	9.49	6.93	7.35	6.81	10.89	12.27	27.50	13.93	12.07	10.86
5	11.07	11.05	9.15	7.04	7.24	6.86	10.90	16.41	23.71	13.65	12.55	11.06
6	11.03	11.13	e8.88	7.10	6.99	7.20	10.97	18.98	20.63	13.33	13.97	11.01
7	11.01	11.18	e8.72	7.02	6.82	7.70	10.92	17.57	19.76	12.93	14.60	10.83
8	10.98	11.04	8.55	7.03	7.60	8.00	11.06	15.72	19.18	12.69	14.23	10.75
9	10.97	10.99	8.39	7.03	7.70	8.67	12.34	14.52	18.54	12.43	13.94	10.74
10	11.03	11.11	8.28	7.12	7.97	13.33	12.52	14.54	17.63	12.25	13.08	10.72
11	11.11	11.20	8.25	7.23	8.30	18.58	15.63	14.13	17.83	12.00	12.26	10.74
12	11.12	11.44	8.13	7.23	8.46	18.74	18.96	13.62	19.16	11.82	11.97	10.65
13	11.17	11.74	7.97	7.21	8.03	16.46	17.71	13.35	18.43	11.62	11.34	10.60
14	11.52	11.57	7.79	7.24	7.61	13.51	15.23	13.45	17.40	11.52	10.96	10.63
15	11.44	11.43	7.74	7.29	7.65	11.59	14.20	13.04	17.02	11.32	10.88	10.68
16	11.37	11.38	7.60	7.30	8.00	10.86	13.80	12.54	18.30	11.13	10.82	10.83
17	11.49	11.38	7.37	7.30	8.18	10.65	12.93	12.23	21.67	10.94	10.98	10.76
18	11.74	11.35	7.12	7.20	7.88	10.49	18.17	12.04	21.84	10.80	10.67	10.85
19	11.63	11.32	6.98	6.98	7.54	10.33	22.93	11.73	20.88	10.60	10.78	10.94
20	11.30	11.09	7.10	6.85	7.54	10.31	26.18	11.65	18.56	10.46	11.55	11.20
21	11.20	10.90	7.18	6.76	e7.38	10.02	26.23	13.24	17.43	10.36	12.14	11.66
22	11.18	10.91	7.33	6.74	e7.27	9.90	25.12	13.28	16.39	10.32	11.62	12.16
23	11.37	10.91	7.56	6.81	e7.23	9.96	23.16	12.67	15.51	10.19	11.35	11.31
24	11.54	10.89	7.67	6.80	e7.16	9.89	20.84	12.72	15.60	10.16	10.98	11.01
25	11.41	10.91	7.43	6.70	e7.09	9.76	17.62	12.18	14.75	10.23	10.61	10.83
26	11.20	10.95	7.21	6.58	e7.23	9.80	15.49	11.59	14.41	10.44	10.29	10.60
27	11.14	10.98	6.99	6.46	e7.03	9.98	14.51	12.30	14.75	10.55	10.02	10.41
28	11.20	10.97	6.85	6.41	e6.68	10.23	13.97	19.18	15.24	10.51	10.11	10.28
29	11.33	10.85	6.95	6.44	---	10.32	13.67	22.60	15.68	10.58	10.36	10.20
30	11.40	10.71	7.09	7.50	---	10.43	13.17	27.30	15.10	10.62	10.88	10.16
31	11.33	---	7.22	9.21	---	10.90	---	29.95	---	10.74	10.99	---
Mean	11.25	11.13	7.97	7.04	7.59	10.36	15.74	14.87	19.66	11.68	11.61	10.82
Max	11.74	11.74	10.36	9.21	9.06	18.74	26.23	29.95	33.16	14.96	14.60	12.16
Min	10.97	10.71	6.85	6.41	6.68	6.30	10.89	11.59	14.41	10.16	10.02	10.16

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WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: February 2012 to current year.

INSTRUMENTATION.--Water temperature sensor. Electronic data logger with 15-minute recording interval and U.S.G.S. satellite telemeter at station.

REMARKS.--Interruptions and periods of missing record may be due to instrument failure, malfunction, or fouling of the temperature sensor. Detailed records of the procedures employed for specific periods of record have been included with the station analysis and are kept on file. In some cases partial daily maximum or minimum values were included with the record and were rated poor because no corresponding daily mean or median values were reported for these days. These values were reported because they are representative of stream conditions at the time and are a valid part of the record.

WATER TEMPERATURE: Many days missing (>183 days) due to equipment removal and gage relocation. Existing record rated excellent.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum recorded, 32.0 °C, July 7, 2012, but may have been higher during periods of missing record; minimum recorded, 1.8 °C, Feb. 1, 2013, but may have been lower during periods of missing record.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 31.5 °C, Jul. 25, 2012, but may have been higher during periods of missing record; minimum daily, 2.1 °C, Feb. 1, 2013, but may have been lower during periods of missing record.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 24.7 °C, Sep. 19, 2013, but may have been higher during periods of missing record; minimum recorded 1.8 °C, Feb. 1, 2013, but may have been lower during periods of missing record.

06906500 MISSOURI RIVER AT GLASGOW, MO—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	20.1	19.5	19.8	11.4	10.7	11.1	7.3	6.7	7.0	---	---	---
2	19.8	18.9	19.3	11.2	10.8	11.0	7.6	7.1	7.3	---	---	---
3	19.9	19.0	19.4	10.8	10.4	10.6	8.4	7.4	7.9	---	---	---
4	19.6	19.0	19.4	10.6	10.1	10.3	8.6	8.1	8.3	---	---	---
5	19.0	17.9	18.5	10.4	10.2	10.3	8.3	7.8	8.1	---	---	---
6	17.9	16.7	17.3	10.3	10.1	10.2	8.0	7.8	7.9	---	---	---
7	16.8	16.1	16.5	10.5	10.0	10.3	8.0	7.9	8.0	---	---	---
8	16.2	15.6	15.9	10.5	9.8	10.2	7.9	7.5	7.7	---	---	---
9	16.0	15.3	15.6	10.9	10.1	10.5	---	7.0	---	---	---	---
10	15.9	15.1	15.5	11.7	10.9	11.3	---	---	---	---	---	---
11	15.4	14.9	15.2	11.9	10.9	11.6	---	---	---	---	---	---
12	15.2	14.8	15.0	10.9	9.9	10.4	---	---	---	---	---	---
13	15.1	14.7	14.9	10.2	9.6	9.9	---	---	---	---	---	---
14	15.5	15.0	15.2	10.3	9.8	10.0	---	---	---	---	---	---
15	15.6	14.8	15.2	9.9	9.5	9.7	---	---	---	---	---	---
16	15.8	15.0	15.4	9.8	9.3	9.6	---	---	---	---	---	---
17	15.6	15.3	15.5	9.7	9.2	9.4	---	---	---	---	---	---
18	15.3	14.2	14.8	9.3	8.9	9.1	---	---	---	---	---	---
19	14.2	13.4	13.7	9.3	8.9	9.1	---	---	---	---	---	---
20	13.9	13.2	13.5	9.2	8.7	8.9	---	---	---	---	---	---
21	14.4	13.5	13.9	9.0	8.4	8.7	---	---	---	---	---	---
22	15.1	14.3	14.6	9.4	8.7	9.0	---	---	---	---	---	---
23	16.2	15.1	15.7	9.2	8.4	8.9	---	---	---	---	---	---
24	17.1	16.0	16.5	8.4	7.8	8.1	---	---	---	---	---	---
25	16.9	15.9	16.6	8.1	7.6	7.8	---	---	---	---	---	---
26	15.9	14.5	15.2	7.8	7.2	7.5	---	---	---	---	---	---
27	14.5	13.4	13.9	7.2	6.5	6.8	---	---	---	---	---	---
28	13.4	12.7	13.0	6.7	6.2	6.5	---	---	---	---	---	---
29	12.7	11.9	12.2	6.8	6.3	6.5	---	---	---	---	---	---
30	11.9	11.4	11.7	7.0	6.4	6.7	---	---	---	---	---	---
31	11.5	11.0	11.2	---	---	---	---	---	---	4.9	2.5	3.8
Month	20.1	11.0	15.5	11.9	6.2	9.3	---	---	---	---	---	---

06906500 MISSOURI RIVER AT GLASGOW, MO—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	2.5	1.8	2.1	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	5.9	---	---	---	---	---	---	---	---	---	---	---
12	5.3	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

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TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	24.7	23.9	24.3
20	---	---	---	---	---	---	---	---	---	24.6	24.1	24.4
21	---	---	---	---	---	---	---	---	---	24.1	23.5	23.8
22	---	---	---	---	---	---	---	---	---	23.6	22.9	23.2
23	---	---	---	---	---	---	---	---	---	23.2	22.6	22.9
24	---	---	---	---	---	---	---	---	---	22.7	22.1	22.4
25	---	---	---	---	---	---	---	---	---	22.6	22.0	22.3
26	---	---	---	---	---	---	---	---	---	22.8	22.0	22.4
27	---	---	---	---	---	---	---	---	---	23.0	22.2	22.6
28	---	---	---	---	---	---	---	---	---	22.8	22.1	22.4
29	---	---	---	---	---	---	---	---	---	22.2	21.6	21.9
30	---	---	---	---	---	---	---	---	---	21.9	21.2	21.6
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06906500 MISSOURI RIVER AT GLASGOW, MO—Continued

