

Water-Data Report 2010

06893000 MISSOURI RIVER AT KANSAS CITY, MO

Missouri River Main Stem

LOCATION.--Lat 39°06'42.2", long 94°35'17.3" referenced to North American Datum of 1983, in sec.32, T.50 N., R.33 W., Jackson County, MO, Hydrologic Unit 10300101, near right bank on downstream side of pier of Chicago, Burlington and Quincy Railroad Bridge at Kansas City, 1.4 mi downstream from Kansas River, and at mile 366.1.

DRAINAGE AREA.--484,100 mi², the 3,959 mi² in Great Divide basin are not included.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only, published in WSP 1310. Gage-height records collected at same site 1873-99 are contained in reports of the Missouri River Commission; those since 1900 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 706.40 ft above National Geodetic Vertical Datum of 1929. Prior to May 4, 1931, nonrecording gage; May 4, 1931, to Aug. 23, 1934, water-stage recorder, at present site and datum; Aug. 24, 1934, to May 15, 1947, water-stage recorder at site 200 ft upstream at same datum; May 16, 1947, to Feb. 28, 1948, nonrecording gage at present site; Feb. 29, 1948, to Oct. 1, 1989, at datum 10.00 ft higher.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573,000 ft³/s, July 14, 1951; gage height, 36.2 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1844, reached a stage of 48.0 ft, present datum; discharge, about 625,000 ft³/s, computed by the U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 212,000 ft³/s, June 18, gage height, 29.95 ft; minimum discharge, 28,100 ft³/s, Dec. 15, gage height, 6.02 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	45,200	65,900	48,500	38,200	54,200	39,800	110,000	77,700	79,400	145,000	127,000	90,100
2	45,000	63,300	47,800	38,600	51,700	39,400	113,000	87,700	85,100	139,000	120,000	98,300
3	45,300	61,000	47,200	37,900	49,500	39,800	115,000	82,700	118,000	135,000	117,000	100,000
4	45,300	59,700	45,900	36,600	48,200	40,500	111,000	78,600	110,000	136,000	115,000	97,200
5	45,600	58,100	44,000	36,800	46,600	41,700	110,000	77,200	94,700	151,000	120,000	86,300
6	45,800	56,100	43,400	37,100	47,000	46,700	108,000	76,700	94,200	178,000	131,000	81,700
7	45,800	55,200	42,800	35,000	46,300	56,500	113,000	74,500	112,000	178,000	136,000	79,700
8	47,100	54,900	41,900	34,000	45,600	73,100	106,000	78,300	103,000	162,000	139,000	78,800
9	47,900	54,200	41,400	36,000	45,300	81,300	101,000	82,900	104,000	156,000	138,000	78,200
10	46,600	54,100	37,600	35,600	43,800	97,400	96,800	77,000	110,000	144,000	135,000	77,700
11	45,300	53,600	33,700	35,000	42,100	118,000	92,000	82,900	109,000	143,000	131,000	78,100
12	45,000	53,100	32,000	34,500	41,600	136,000	89,800	90,300	118,000	147,000	131,000	77,000
13	44,700	51,100	32,200	34,700	41,700	144,000	87,900	120,000	136,000	141,000	133,000	76,600
14	44,100	49,900	31,300	36,100	41,400	133,000	84,200	121,000	172,000	134,000	134,000	81,900
15	43,600	49,300	28,700	38,400	41,100	129,000	80,600	112,000	178,000	131,000	132,000	88,800
16	44,200	49,100	30,500	39,500	39,300	127,000	79,200	106,000	183,000	141,000	130,000	89,500
17	44,600	54,800	34,500	39,800	37,800	124,000	77,400	96,800	207,000	144,000	128,000	85,500
18	44,800	67,500	37,900	40,400	37,600	120,000	75,200	92,800	210,000	137,000	123,000	83,700
19	45,400	68,100	36,600	42,000	38,900	123,000	72,700	88,800	196,000	129,000	118,000	87,900
20	45,700	58,900	35,800	48,200	42,100	126,000	70,900	100,000	185,000	127,000	116,000	89,500
21	45,600	53,300	37,700	55,600	44,500	128,000	69,900	116,000	183,000	138,000	118,000	99,000
22	47,800	52,100	39,100	57,300	44,600	130,000	70,400	118,000	186,000	136,000	108,000	107,000
23	52,400	51,300	40,200	59,100	41,300	134,000	76,700	102,000	186,000	133,000	101,000	99,400
24	62,100	50,900	41,100	83,400	39,200	136,000	88,800	92,700	183,000	127,000	96,300	96,000
25	67,200	53,500	44,400	93,200	38,800	144,000	98,800	89,600	186,000	128,000	93,400	95,300
26	68,200	62,400	45,800	82,600	39,200	151,000	92,100	88,000	185,000	128,000	92,100	96,300
27	62,400	59,800	42,200	82,000	39,500	142,000	86,300	87,400	179,000	129,000	90,600	97,200
28	57,900	54,100	43,200	73,200	39,900	134,000	78,600	90,600	170,000	130,000	86,900	101,000
29	56,400	51,200	40,800	e66,600	---	128,000	75,300	86,100	163,000	131,000	84,500	103,000
30	58,900	49,800	39,600	e62,900	---	118,000	75,100	81,600	153,000	130,000	82,800	102,000
31	61,200	---	38,700	58,300	---	111,000	---	79,800	---	129,000	81,700	---
Mean	49,910	55,880	39,560	49,310	43,170	106,200	90,190	91,470	149,300	139,900	115,800	90,090
Max	68,200	68,100	48,500	93,200	54,200	151,000	115,000	121,000	210,000	178,000	139,000	107,000
Min	43,600	49,100	28,700	34,000	37,600	39,400	69,900	74,500	79,400	127,000	81,700	76,600
In.	0.12	0.13	0.09	0.12	0.09	0.25	0.21	0.22	0.34	0.33	0.28	0.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2010^a, BY WATER YEAR (WY)

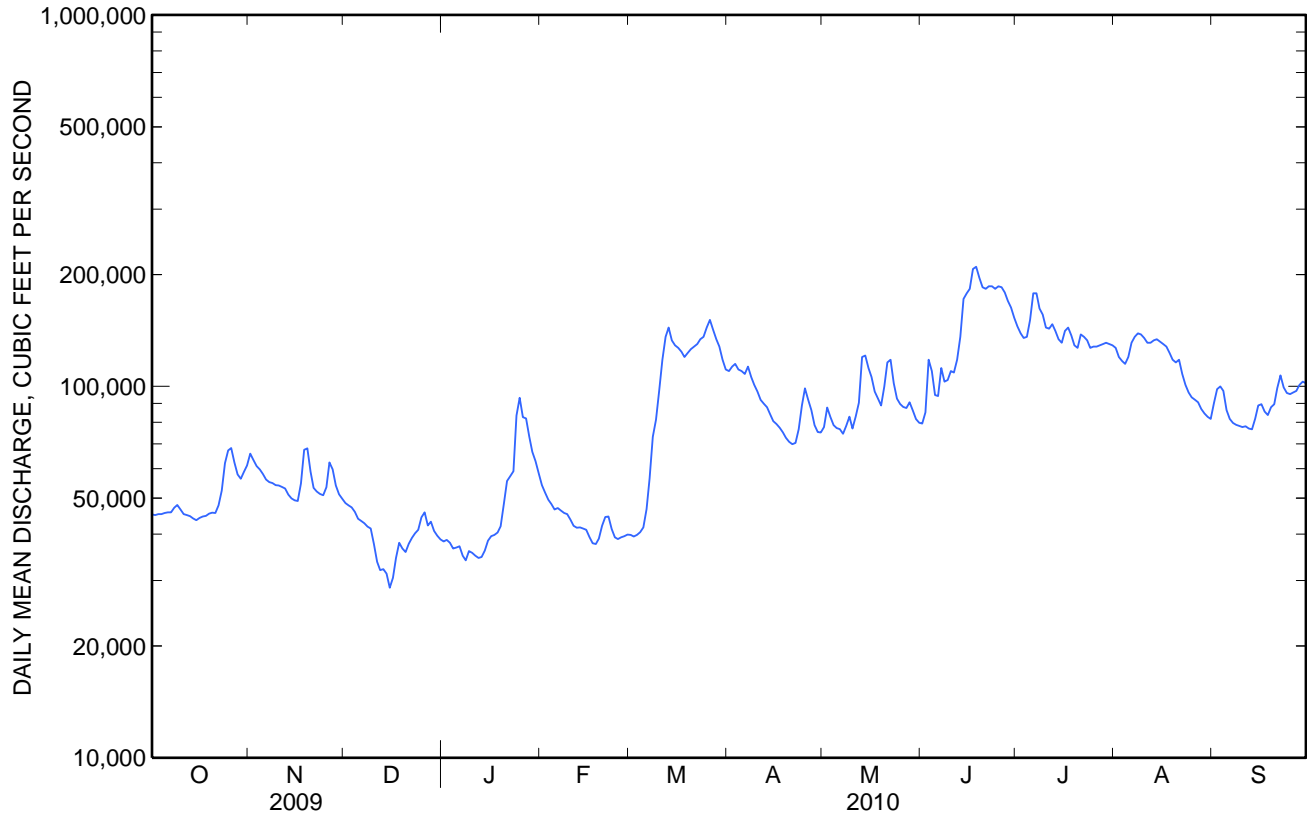
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	54,480	49,810	35,590	29,530	37,710	55,050	68,260	72,510	79,630	69,220	56,230	56,220
Max	135,200	103,200	75,370	60,980	77,690	133,700	148,900	145,800	173,800	288,300	144,300	115,600
(WY)	(1974)	(1999)	(1987)	(1973)	(1973)	(1979)	(1984)	(1995)	(1984)	(1993)	(1993)	(1993)
Min	29,810	20,420	12,970	13,800	16,610	20,190	36,370	37,230	37,470	33,690	32,980	34,510
(WY)	(2007)	(2007)	(1964)	(1963)	(1964)	(1964)	(1990)	(1989)	(2006)	(2002)	(2003)	(1991)

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SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1958 - 2010 ^a	
Annual mean	53,580		85,280		55,400	
Highest annual mean					102,100	1993
Lowest annual mean					34,130	2006
Highest daily mean	163,000	Apr 28	210,000	Jun 18	529,000	Jul 27, 1993
Lowest daily mean	25,900	Mar 5	28,700	Dec 15	4,730	Dec 18, 1963
Annual seven-day minimum	26,700	Jan 30	31,800	Dec 11	5,480	Dec 17, 1963
Maximum peak flow			212,000	Jun 18	541,000	Jul 27, 1993
Maximum peak stage			29.95	Jun 18	48.87	Jul 27, 1993
Instantaneous low flow			28,100	Dec 15	4,240	Dec 18, 1963
Annual runoff (inches)	1.50		2.39		1.55	
10 percent exceeds	75,100		138,000		93,400	
50 percent exceeds	50,600		80,600		47,100	
90 percent exceeds	31,200		39,400		24,400	

^a Period of Regulated Streamflow



06893000 MISSOURI RIVER AT KANSAS CITY, MO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Discrete suspended and bed material sediments: October 1947 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 2

[ft³/s, cubic feet per second; mg/L, milligrams per liter; mm, millimeters; °C, degrees Celsius]

Date	Sample start time	Medium name	Sample type	Discharge, instantaneous, ft ³ /s (00061)	Temperature, water, °C (00010)	Suspended sediment, fall diameter (deionized water), percent smaller than 0.0625 mm (70342)	Suspended sediment, fall diameter (deionized water), percent smaller than 0.125 mm (70343)	Suspended sediment, fall diameter (deionized water), percent smaller than 0.5 mm (70345)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)
12-21-2009	1435	Surface water	Regular	37,700	2.0	--	--	--	32
01-22-2010	1235	Surface water	Regular	57,000	2.0	68	72	99	--
01-27-2010	1340	Surface water	Regular	82,800	1.0	--	--	--	75
02-03-2010	1510	Surface water	Regular	49,400	1.0	--	--	--	38
03-09-2010	1345	Surface water	Regular	80,900	6.0	--	--	--	82
03-17-2010	1405	Surface water	Regular	123,000	5.0	78	86	99	--
03-22-2010	1350	Surface water	Regular	130,000	5.0	--	--	--	71
04-10-2010	1320	Surface water	Regular	96,200	19.0	--	--	--	83
04-15-2010	1025	Surface water	Regular	80,600	6.1	--	--	--	70
04-20-2010	1315	Surface water	Regular	70,700	17.0	--	--	--	60
04-27-2010	1435	Surface water	Regular	85,700	18.0	--	--	--	78
05-10-2010	1145	Surface water	Regular	76,700	15.0	--	--	--	68
05-21-2010	1305	Surface water	Regular	117,000	--	--	--	--	84
05-25-2010	1430	Surface water	Regular	89,700	24.0	--	--	--	66
06-07-2010	1420	Surface water	Regular	114,000	25.0	98	99	--	--
06-11-2010	1325	Surface water	Regular	109,000	24.0	--	--	--	82
06-17-2010	1430	Surface water	Regular	210,000	24.0	--	--	--	79
06-24-2010	1330	Surface water	Regular	182,000	27.0	--	--	--	75
07-07-2010	1435	Surface water	Regular	177,000	25.0	89	95	100	--
07-14-2010	1335	Surface water	Regular	132,000	28.0	--	--	--	78
07-20-2010	1340	Surface water	Regular	125,000	30.0	--	--	--	84
07-29-2010	1115	Surface water	Regular	129,000	28.0	--	--	--	84
08-04-2010	1330	Surface water	Regular	114,000	29.0	--	--	--	92
08-12-2010	1330	Surface water	Regular	131,000	30.0	--	--	--	67
08-18-2010	1345	Surface water	Regular	121,000	28.0	--	--	--	50
08-25-2010	1105	Surface water	Regular	93,300	27.0	--	--	--	83
09-01-2010	1320	Surface water	Regular	91,800	26.0	85	89	100	--
09-07-2010	1425	Surface water	Regular	79,500	25.0	--	--	--	45
09-14-2010	1310	Surface water	Regular	82,200	23.0	--	--	--	50
09-28-2010	1340	Surface water	Regular	102,000	19.0	--	--	--	57

06893000 MISSOURI RIVER AT KANSAS CITY, MO—Continued

**WATER-QUALITY DATA
WATER YEAR OCTOBER
2009 TO SEPTEMBER
2010**

Part 2 of 2

[ft³/s, cubic feet per
second; mg/L, milligrams
per liter; mm, millimeters;
°C, degrees Celsius]

Date	Suspended sediment concentration, mg/L (80154)
12-21-2009	270
01-22-2010	638
01-27-2010	1,440
02-03-2010	320
03-09-2010	2,250
03-17-2010	2,880
03-22-2010	1,900
04-10-2010	1,100
04-15-2010	381
04-20-2010	353
04-27-2010	1,080
05-10-2010	898
05-21-2010	1,200
05-25-2010	517
06-07-2010	2,680
06-11-2010	1,840
06-17-2010	1,670
06-24-2010	881
07-07-2010	1,010
07-14-2010	802
07-20-2010	623
07-29-2010	553
08-04-2010	464
08-12-2010	486
08-18-2010	614
08-25-2010	303
09-01-2010	919
09-07-2010	557
09-14-2010	467
09-28-2010	634

06893000 MISSOURI RIVER AT KANSAS CITY, MO—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 2

[ft³/s, cubic feet per second]

Date	Sample start time	Medium name	Sample type	Discharge, instantaneous, ft ³ /s (00061)	Bed sediment, dry sieved, sieve diameter, percent smaller than 16 millimeters (80172)	Bed sediment, dry sieved, sieve diameter, percent smaller than 2 millimeters (80169)	Bed sediment, dry sieved, sieve diameter, percent smaller than 4 millimeters (80170)	Bed sediment, dry sieved, sieve diameter, percent smaller than 8 millimeters (80171)	Bed sediment, fall diameter (deionized water), percent smaller than 0.0625 millimeters (80158)
01-22-2010	1216	Bottom material	Regular	57,000	--	70	81	100	.0
01-22-2010	1221	Bottom material	Regular	57,000	--	--	--	--	.0
01-22-2010	1223	Bottom material	Regular	57,000	--	--	--	--	.0
01-22-2010	1226	Bottom material	Regular	57,000	--	98	98	100	.0
07-07-2010	1405	Bottom material	Regular	177,000	--	--	--	--	.0
07-07-2010	1408	Bottom material	Regular	177,000	--	47	66	100	.0
07-07-2010	1411	Bottom material	Regular	177,000	100	23	48	83	.0
07-07-2010	1415	Bottom material	Regular	177,000	100	22	65	96	.0

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 2

[ft³/s, cubic feet per second]

Date	Bed sediment, fall diameter (deionized water), percent smaller than 0.125 millimeters (80159)	Bed sediment, fall diameter (deionized water), percent smaller than 0.25 millimeters (80160)	Bed sediment, fall diameter (deionized water), percent smaller than 0.5 millimeters (80161)	Bed sediment, fall diameter (deionized water), percent smaller than 1 millimeter (80162)	Bed sediment, fall diameter (deionized water), percent smaller than 2 millimeters (80163)
01-22-2010	.0	.0	7	63	70
01-22-2010	.0	43	98	100	--
01-22-2010	.0	75	98	99	--
01-22-2010	10	45	72	90	98
07-07-2010	.0	72	96	98	--
07-07-2010	.0	8	31	46	47
07-07-2010	.0	18	24	25	25
07-07-2010	.0	2	11	20	23
07-07-2010	.0	.0	1	1	22