

Missouri River at Sioux City, Iowa (06486000) - SUX

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
3/16/2019	1338	28.15	147,000	118,400	-28,600	24.2		
3/20/2019	1337	23.31	99,000	105,600	6,600	6.3		
3/25/2019	1302	20.85	73,900	85,000	11,100	13.1		
4/1/2019	1056	21.58	79,200	83,400	4,200	5.0		
4/8/2019	1117	22.21	78,500	84,400	5,900	7.0		
4/15/2019	1037	23.34	92,000	91,400	-600	0.7		
4/22/2019	1110	24.96	96,800	97,000	200	0.2	53.4	
4/29/2019	1100	24.35	90,600	93,200	2,600	2.8	51.3	55.4
5/6/2019	1115	23.83	86,500	90,200	3,700	4.1	54.1	
5/13/2019	1122	23.59	85,200	85,200	0	0.0	52.9	52.0
5/20/2019	1055	23.01	86,500	82,100	-4,400	5.4	60.8	
5/28/2019	1115	26.21	100,000	104,100	4,100	3.9		
6/3/2019	1250	29.36	125,900	117,300	-8,600	7.3		
6/10/2019	1100	25.58	95,500	100,400	4,900	4.9		
6/17/2019	1100	24.11	86,500	91,600	5,100	5.6	70.5	
6/19/2019	1115	23.82	87,500	90,000	2,500	2.8		
6/19/2019	1115	23.82	87,700	90,000	2,300	2.6		
6/24/2019	1030	23.59	86,100	86,200	100	0.1	68.0	
7/2/2019	1100	26.93	94,800	94,900	100	0.1	68.0	
7/8/2019	1040	23.95	87,000	88,300	1,300	1.5	77.0	
7/15/2019	1040	23.63	86,100	86,400	300	0.3	80.6	85.1
7/22/2019	1015	24.98	95,900	94,200	-1,700	1.8		
7/29/2019	1045	23.50	83,500	85,600	2,100	2.5	77.4	72.5
8/9/2019	1045	22.89	84,300	81,600	-2,700	3.3		
8/13/2019	1240	32.08	86,100	87,100	1,000	1.1	79.7	76.5
8/26/2019	1100	22.74	83,800	83,200	-600	0.7	76.5	72.5
9/3/2019	1035	22.24	82,200	81,000	-1,200	1.5		
9/10/2019	1120	21.55	78,100	78,300	200	0.3	73.0	
9/16/2019	1100	28.91	128,000	121,800	-6,200	5.1		

Missouri River at Decatur, Nebraska (06601200) - DENE

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
3/16/2019	1048	35.15	144,000	109,000	-35,000	32.1		
3/20/2019	1100	33.00	110,000	112,100	2,100	1.9		
3/25/2019	1110	29.53	76,400	79,000	2,600	3.3	41.9	39.9
4/1/2019	1342	29.56	81,500	76,900	-4,600	6.0		
4/8/2019	1329	29.86	82,200	83,600	1,400	1.7		
4/15/2019	1242	31.03	97,300	95,600	-1,700	1.8		
4/22/2019	1313	32.16	99,200	99,500	300	0.3	53.1	
4/29/2019	1300	31.64	94,400	95,000	600	0.6	52.3	57.7
5/6/2019	1345	31.11	91,600	90,900	-700	0.8	54.5	
5/14/2019	1338	30.98	91,300	89,800	-1,500	1.7	54.3	60.3
5/20/2019	1322	30.79	84,300	88,100	3,800	4.3	60.8	
5/28/2019	1335	32.80	105,000	106,700	1,700	1.6		
6/4/2019	1030	35.28	125,700	128,800	3,100	2.4		
6/10/2019	1230	33.38	98,900	106,100	7,200	6.8		
6/17/2019	1320	32.27	94,500	93,200	-1,300	1.4	70.9	
6/19/2019	1400	32.18	90,200	92,400	2,200	2.4	70.9	
6/24/2019	1232	32.03	89,000	89,200	200	0.2	69	
7/1/2019	1340	32.28	88,800	91,300	2,500	2.7	69	
7/8/2019	1240	32.28	90,000	89,000	-1,000	1.1	77.9	
7/15/2019	1320	32.19	88,200	88,300	100	0.1	81.5	88.7
7/22/2019	1220	33.17	96,800	95,900	-900	0.9		
7/29/2019	1245	32.26	88,400	88,800	400	0.5	78.4	74.5
8/7/2019	1016	32.20	87,600	88,100	500	0.6		
8/13/2019	1240	32.08	86,100	87,100	1,000	1.1	80.6	78.4
8/26/2019	1305	31.85	84,800	83,200	-1,600	1.9	74.1	77.7
9/3/2019	1240	31.35	81,400	80,900	-500	0.6		
9/10/2019	1325	31.08	78,700	79,400	700	0.9	73.8	
9/16/2019	1320	35.07	121,000	111,300	-9,700	8.7		
9/17/2019	1145	35.65	124,500	127,700	3,200	2.5	71	

Missouri River at Omaha, Nebraska (06610000) - OMA

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
2/4/2019	1128	15.42	31,500	35,700	4,200	11.8	33.1	18.7
2/22/2019	1015	12.43	24,900	27,400	2,500	9.1	32.7	30.4
3/12/2019	1322	14.78	32,500	33,900	1,400	4.1		
3/16/2019	1010	33.30	162,000	138,600	-23,400	16.9		
3/18/2019	1458	34.04	189,000	174,700	-14,300	8.2		
3/22/2019	1015	30.40	139,400	124,300	-15,100	12.1	40.5	46.9
3/26/2019	1251	26.45	92,700	96,700	4,000	4.1		
4/2/2019	1155	25.16	88,400	88,700	300	0.3		
4/9/2019	1000	25.49	90,500	90,700	200	0.2		
4/16/2019	1410	26.38	108,000	96,200	-11,800	12.3		
4/23/2019	1010	27.29	104,600	104,600	0	0.0		
5/1/2019	1315	26.78	100,500	100,800	300	0.3	53.1	
5/7/2019	1005	26.58	94,900	99,400	4,500	4.5	54.1	48.7
5/15/2019	1040	26.48	97,600	94,300	-3,300	3.5	58.1	
5/21/2019	1320	26.15	94,800	93,400	-1,400	1.5	58.1	
5/29/2019	1010	29.56	115,000	123,900	8,900	7.2		
6/4/2019	945	31.81	142,400	145,000	2,600	1.8		
6/12/2019	1150	29.12	116,000	108,300	-7,700	7.1		
6/18/2019	1030	27.50	101,700	98,700	-3,000	3.0	69.8	
6/25/2019	1030	27.47	98,300	98,500	200	0.2		
7/1/2019	1100	26.93	98,800	94,900	-3,900	4.1		
7/9/2019	1205	27.25	97,900	97,000	-900	0.9	78.4	
7/17/2019	1410	27.21	96,400	96,700	300	0.3		
7/23/2019	915	27.75	99,600	100,500	900	0.9	78.3	75.6
7/30/2019	930	26.47	92,600	92,200	-400	0.4	77.7	73.0
8/6/2019	1300	26.01	87,200	89,200	2,000	2.2	78.8	83.3
8/12/2019	930	25.95	89,200	88,800	-400	0.5	76.5	
8/19/2019	1330	26.02	89,100	89,300	200	0.2		
8/27/2019	1257	25.80	85,700	86,500	800	0.9		
9/4/2019	1300	25.13	86,100	82,400	-3,700	4.5		
9/11/2019	1252	24.81	83,100	84,200	1,100	1.3	75.0	81.1
9/17/2019	950	28.30	109,000	106,000	-3,000	2.8		
9/20/2019	940	30.03	124,800	130,000	5,200	4.0		
9/23/2019	1342	30.49	130,500	136,500	6,000	4.4	73.9	

Missouri River at Nebraska City, Nebraska (06807000) - NCNE

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge 1009	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
2/4/2019	1200	10.90	44,700	43,200	-1,500	3.5	33.1	23.0
2/14/2019	1240	8.68	34,600	34,700	100	0.3	32.5	31.3
2/22/2019	1040	8.63	33,700	34,500	800	2.3	33.8	25.2
3/11/2019	1359	9.91	40,200	39,500	-700	1.8		
3/15/2019	1400	29.25	275,600	297,000	21,400	7.2		
3/15/2019	1500	29.35	280,000	306,200	26,200	8.6		
3/18/2019	1120	29.99	305,000	327,400	22,400	6.8		
3/21/2019	1400	24.62	233,900	174,800	-59,100	33.8	38.3	
3/28/2019	1112	20.76	146,000	113,600	-32,400			
4/3/2019	1400	19.89	107,000	103,000	-4,000	3.9	46.4	
4/10/2019	1045	19.86	106,900	106,400	-500	0.5		
4/16/2019	1100	20.59	117,000	115,500	-1,500	1.3		
4/23/2019	1330	20.42	108,900	112,900	4,000	3.5		
5/1/2019	1230	20.24	108,500	110,000	1,500	1.4	51.8	52.7
5/6/2019	1115	20.07	108,800	108,600	-200	0.2	56.8	64.4
5/14/2019	1145	20.27	108,900	110,600	1,700	1.5	56.1	64.8
5/21/2019	1045	19.55	104,500	103,300	-1,200	1.2		
5/29/2019	1430	22.52	166,600	154,100	-12,500	8.1		
6/5/2019	1200	22.94	186,600	170,600	-16,000	9.4		
6/11/2019	1330	21.22	128,200	129,600	1,400	1.1	71.4	
6/19/2019	1245	20.31	112,000	111,800	-200	0.2	71.1	
6/26/2019	1130	20.84	118,100	121,900	3,800	3.1		
7/2/2019	1132	20.06	105,300	108,700	3,400	3.1		
7/10/2019	1100	20.03	110,500	108,300	-2,200	2.0	78.8	
7/17/2019	1105	20.76	120,000	120,300	300	0.2		
7/17/2019	1105	20.76	120,000	120,300	300	0.2		
7/30/2019	1200	19.58	104,900	105,300	400	0.4	78.8	80.6
8/6/2019	1050	19.17	102,000	101,000	-1,000	1.0	78.4	77.0
8/12/2019	1130	19.52	103,500	104,700	1,200	1.1	79.5	
8/19/2019	1040	19.75	105,300	105,900	600	0.6		
9/11/2019	958	18.69	92,400	97,100	4,700	4.8	75.2	79.5
9/17/2019	1340	20.72	118,000	121,000	3,000	2.5		
9/20/2019	1020	22.26	142,000	155,200	13,200	8.5	75.0	79.5
9/23/2019	1055	22.89	146,500	163,700	17,200	10.5	73.0	

Missouri River at Brownville, Nebraska - BVNE

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
4/24/2019	1229	36.21	114,000	104,600	-9,400	9.0		
5/8/2019	1229	36.30	118,000	114,700	-3,300	2.9		
6/12/2019	1200	37.82	146,100	137,300	-8,800	6.4		
7/17/2019	1200	36.20	120,000	137,300	17,300	12.6		
8/14/2019	1200	35.55	107,200	110,600	3,400	3.1		

Missouri River at Rulo, Nebraska (06813500) - RUNE

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
2/14/2019	1157	7.87	36,800	36,800	0	0.0		
3/11/2019	1112	11.09	46,700	53,000	6,300	11.9		
4/4/2019	1420	20.55	121,700	115,000	-6,700	5.8	58.0	
4/10/2019	1320	19.40	112,300	104,600	-7,700	7.4		
4/19/2019	1110	20.37	122,000	115,600	-6,400	5.5		
4/25/2019	1140	20.61	117,000	117,500	500	0.4		
5/3/2019	1115	20.30	117,000	115,100	-1,900	1.7	55.0	54.1
5/23/2019	1113	20.70	114,800	120,200	5,400	4.5	60.8	65.8
5/31/2019	1345	24.33	180,000	151,700	-28,300	18.7	66.4	
6/6/2019	1249	23.67	194,000	160,700	-33,300	20.7		
6/13/2019	1200	22.55	148,900	139,900	-9,000	6.4		
6/27/2019	1120	21.60	129,100	130,500	1,400	1.1	75.0	91.4
7/2/2019	1215	21.06	121,200	126,200	5,000	4.0		
7/9/2019	1240	20.61	115,400	117,600	2,200	1.9	80.6	72.5
7/18/2019	1205	20.93	119,000	120,000	1,000	0.8		
8/18/2019	1215	19.74	108,500	105,400	-3,100	2.9	80.6	
8/22/2019	1115	20.39	109,000	114,000	5,000	4.4	78.8	76.8
8/29/2019	1100	20.06	110,000	106,400	-3,600	3.4	75.2	83.5
9/5/2019	1050	19.46	104,400	105,200	800	0.8	76.3	81.0
9/13/2019	1205	18.75	100,500	99,800	-700	0.7	74.8	66.6
9/18/2019	1150	20.16	109,000	110,000	1,000	0.9		

Missouri River at St. Joseph, Missouri (06818000) - STJ

Date	Time	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
3/18/2019	1052	26.05	209,900	227,500	17,600	7.7	37.2	
3/18/2019	1052	26.05	209,900	227,500	17,600	7.7	37.2	
3/21/2019	1917	30.27	289,600	319,900	30,300	9.5	41.4	
4/2/2019	1058	21.91	147,600	154,800	7,200	4.7	45.7	
4/12/2019	1022	18.61	113,600	112,700	-900	0.8	51.6	
4/23/2019	1034	19.36	120,400	121,700	1,300	1.1		
5/7/2019	1015	19.51	123,900	121,700	-2,200	1.8	60.3	
5/14/2019	1115	20.12	128,800	131,000	2,200	1.7	59.0	
6/7/2019	1017	26.42	195,000	217,100	22,100	10.2		
6/12/2019	1045	24.99	172,300	195,000	22,700	11.6		
6/18/2019	1020	22.59	145,100	141,400	-3,700	2.6		
7/2/2019	1118	20.75	129,000	123,600	-5,400	4.4		
7/12/2019	1038	19.57	129,000	116,400	-12,600	10.8	80.4	
7/30/2019	1030	19.36	112,000	116,100	4,100	3.5	79.0	
8/14/2019	1054	18.06	108,800	107,700	-1,100	1.0	80.6	
9/10/2019	1020	17.45	103,100	101,700	-1,400	1.4	75.0	

Missouri River at Kansas City, Missouri (06893000) - MKC

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
2/26/2019	1158	13.04	65,300	62,400	-2,900	4.6	33.4	
2/26/2019	1224	12.96	65,900	61,900	-4,000	6.5	33.4	
3/15/2019	1206	28.06	216,000	198,400	-17,600	8.9		
3/18/2019	1440	29.36	234,300	213,800	-20,500	9.6	39.9	
3/23/2019	1314	33.36	282,900	286,800	3,900	1.4		
4/3/2019	1225	25.72	169,400	184,900	15,500	8.4	47.8	
4/15/2019	1100	21.96	129,000	133,000	4,000	3.0	49.5	
4/23/2019	1410	21.62	127,500	125,900	-1,600	1.3		
5/6/2019	1241	22.41	131,500	133,300	1,800	1.4	60.8	
5/16/2019	1356	22.47	128,600	133,900	5,300	4.0	63.0	
5/22/2019	1001	31.78	235,000	237,900	2,900	1.2		
5/30/2019	1345	33.71	264,400	263,800	-600	0.2	68.0	
6/3/2019	1050	36.34	303,500	301,500	-2,000	0.7		
6/12/2019	1415	31.17	216,100	230,100	14,000	6.1		
6/18/2019	1035	25.80	165,500	160,500	-5,000	3.1		
6/28/2019	1241	33.03	251,600	246,000	-5,600	2.3		
7/2/2019	1425	26.85	180,000	171,600	-8,400	4.9		
7/12/2019	1038	25.84	165,800	160,900	-4,900	3.0	80.8	
7/10/2019	1116	22.47	134,300	132,000	-2,300	1.7	77.4	

Missouri River at Waverly, Missouri (06895500) - WVMO

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
3/12/2019	1404	17.53	106,500	96,800	-9,700	10.0	35.6	
3/19/2019	1305	27.21	230,700	242,800	12,100	5.0		
3/23/2019	1426	29.15	246,000	231,000	-15,000	6.5	44.8	
3/25/2019	1203	31.10	275,600	274,100	-1,500	0.5	44.8	
3/28/2019	1145	29.67	245,000	240,300	-4,700	2.0	47.8	
4/4/2019	1131	25.15	169,000	172,900	3,900	2.3	48.0	
4/16/2019	1312	21.73	132,500	134,300	1,800	1.3	52.5	
4/24/2019	1300	21.35	131,000	130,400	-600	0.5	58.8	
5/3/2019	1345	25.64	182,000	179,100	-2,900	1.6	56.8	
5/15/2019	1120	24.40	166,000	165,800	-200	0.1	61.5	
5/22/2019	1310	30.51	256,000	265,000	9,000	3.4		
6/6/2019	1025	30.61	226,000	266,800	40,800	15.3		
6/10/2019	1415	29.54	203,000	243,200	40,200	16.5		
6/19/2019	1035	25.80	165,500	167,200	1,700	1.0	75.2	
6/27/2019	1045	28.67	209,700	213,200	3,500	1.6	75.2	
7/15/2019	1416	24.46	157,300	158,500	1,200	0.8	75.2	
8/6/2019	1326	21.57	130,000	127,400	-2,600	2.0	80.6	
9/11/2019	1112	21.83	135,700	135,300	-400	0.3		

Missouri River at Boonville, Missouri (06909000) - BNMO

Date	Time (hhmm)	Gage Height (feet)	Measured Discharge (cfs)	Corps Discharge (cfs)	Discharge Difference (cfs) (-)	Percent Difference (%) (-)	Water Temp (F)	Air Temp (F)
2/21/2019	1047	9.30	57,300	62,300	5,000	8.0		
3/12/2019	1122	19.09	165,000	161,000	-4,000	2.5	39.4	
3/20/2019	1029	25.00	243,600	258,400	14,800	5.7	40.1	
3/26/2019	1120	27.88	274,000	301,100	27,100	9.0	45.7	
3/28/2019	1406	27.89	270,000	277,800	7,800	2.8	48.9	
4/1/2019	1145	29.01	290,000	300,700	10,700	3.6	47.5	
4/5/2019	1115	23.10	191,000	195,200	4,200	2.2	48.4	
4/17/2019	1030	18.42	136,000	138,400	2,400	1.7		
5/3/2019	1045	27.80	279,000	287,700	8,700	3.0	57.4	
5/13/2019	1300	25.16	227,900	236,400	8,500	3.6	57.9	
5/23/2019	402	31.44	344,000	357,900	13,900	3.9		
5/23/2019	403	31.51	350,000	359,500	9,500	2.6		
6/4/2019	1522	33.39	355,000	421,200	66,200	15.7		
7/15/2019	1107	22.56	169,000	153,900	-15,100	9.8	91.7	
8/6/2019	1052	18.90	136,600	126,900	-9,700	7.6	80.7	
8/15/2019	1015	18.57	131,500	127,700	-3,800	3.0		
8/22/2019	950	20.98	161,100	162,000	900	0.6	80.6	
9/3/2019	1140	23.01	195,000	191,400	-3,600	1.9		
9/11/2019	1023	19.78	141,700	146,200	4,500	3.1	79.9	
9/19/2019	1323	18.48	133,700	129,800	-3,900	3.0		

Missouri River at Hermann, Missouri (06934500) -HEMO

Date	Time (hhmm)	Height (feet)	Measured Discharge (cfs)	Discharge (cfs)	Difference (cfs) (-)	Difference (%) (-)	Temp (F)	Temp (F)
2/12/2019	1127	11.01	95,000	93,000	-2,000	2.2		
2/26/2019	1127	17.28	161,000	158,500	-2,500	1.6		
3/6/2019	956	11.32	89,600	95,800	6,200	6.5	35.4	
3/13/2019	1103	21.40	227,000	209,000	-18,000	8.6	38.4	
3/18/2019	1423	25.26	291,000	272,700	-18,300	6.7	40.8	
4/3/2019	1108	27.64	298,300	315,000	16,700	5.3	48.0	
4/8/2019	1151	20.87	207,000	203,200	-3,800	1.9		
4/23/2019	1238	18.63	175,000	171,800	-3,200	1.9		
5/3/2019	1110	29.50	341,500	358,300	16,800	4.7		
5/6/2019	1152	26.51	284,000	297,600	13,600	4.6	60.3	
5/6/2019	1152	26.51	284,000	297,600	13,600	4.6	60.3	
5/20/2019	1124	22.05	221,000	209,400	-11,600	5.5		
5/25/2019	1134	31.95	384,000	396,900	12,900	3.3		
6/4/2019	1130	31.82	382,000	393,900	11,900	3.0	71.4	
6/12/2019	917	31.26	356,000	381,000	25,000	6.6	75.0	
6/26/2019	1048	28.81	315,000	306,000	-9,000	2.9		
7/9/2019	1115	26.34	268,000	260,800	-7,200	2.8	81.3	
8/6/2019	1037	21.00	197,000	179,000	-18,000	10.1	80.8	
9/12/2019	911	20.10	181,000	187,400	6,400	3.4	78.4	