

Water-Data Report 2007

06813500 MISSOURI RIVER AT RULO, NE

Missouri-Nishnabotna Basin
Tarkio-Wolf Subbasin

LOCATION.--Lat 40°03'13", long 95°25'19" referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.17, T.1 N., R.18 E., Richardson County, NE, Hydrologic Unit 10240005, on right bank at downstream side of bridge on U.S. Highway 159 at Rulo, 3.2 mi upstream from Big Nemaha River, and 498.0 mi upstream from mouth.

DRAINAGE AREA.--414,900 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1949 to current year in reports of U.S. Geological Survey. Gage-height record collected at site 80 ft upstream January 1886 to December 1899 published in reports of Missouri River Commission; September 1929 to September 1950 in files of Kansas City office of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft above NGVD of 1929. October 1949 to September 12, 1950, nonrecording gage at site 80 ft upstream, and September 13, 1950 to April 19, 1983, recording gage on downstream end of middle pier, all at same datum.

REMARKS.--Records are considered good, except for those estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. Fort Randall Dam was completed in July 1952, with storage beginning in December 1952. Gavins Point Dam was completed in July 1955, with storage beginning in December 1955. U.S. Army Corps of Engineers data collection platform with satellite telemetry at the station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s, April 22, 1952, gage height, 25.60 ft; minimum daily discharge, 4,420 ft³/s, January 13, 1957; minimum gage height, -0.19 ft, December 25, 1990, result of freeze-up.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft, from floodmark, discharge not determined.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	33,800	17,300	19,400	23,800	20,600	39,000	49,000	58,800	68,500	37,800	33,400	45,400
2	33,200	17,800	19,800	25,700	20,600	38,500	53,700	53,500	77,400	36,700	34,200	40,200
3	32,800	17,800	18,800	25,200	20,900	36,000	57,200	49,400	63,900	36,100	34,300	38,100
4	32,100	17,700	18,400	23,700	21,100	33,300	56,100	47,000	59,100	35,800	34,600	37,100
5	31,400	17,700	19,100	22,400	21,800	31,000	55,100	47,900	e55,500	35,500	35,200	36,500
6	30,900	17,900	19,800	24,000	21,100	28,200	54,100	93,300	e52,800	35,000	34,200	35,700
7	30,800	17,800	19,400	25,800	20,600	26,200	53,200	201,000	52,700	34,600	34,800	39,600
8	30,300	17,800	20,200	25,300	21,000	26,200	51,700	167,000	51,700	33,600	46,400	44,500
9	29,800	17,600	20,900	24,400	21,300	28,400	49,500	145,000	49,600	33,400	69,000	38,100
10	29,500	17,600	20,300	24,300	21,300	33,300	46,400	134,000	48,100	33,600	46,500	35,100
11	29,400	17,600	19,600	24,400	21,300	42,600	45,600	119,000	46,900	33,600	44,900	33,000
12	29,300	17,700	20,400	24,300	21,400	50,100	46,300	102,000	46,100	34,100	40,400	32,100
13	27,500	17,900	22,300	24,500	21,200	55,200	44,300	89,400	45,200	34,500	39,600	32,000
14	25,800	18,200	22,800	22,100	20,900	68,000	42,900	79,100	45,200	34,400	40,500	32,300
15	24,700	17,900	21,600	17,700	21,000	78,200	42,200	75,800	47,800	34,300	39,600	31,400
16	23,100	17,900	21,800	14,200	21,000	75,100	41,000	75,300	48,800	33,700	38,200	30,400
17	21,100	18,100	22,300	12,900	20,800	68,200	39,700	72,800	50,400	33,900	36,800	29,700
18	20,000	17,800	22,200	14,300	20,400	62,200	38,900	68,100	49,300	33,700	35,800	29,400
19	19,600	18,100	21,200	16,700	20,400	61,400	38,500	62,800	47,700	33,300	35,500	32,000
20	19,600	18,100	20,500	17,200	21,400	61,800	37,700	57,800	46,500	34,200	35,200	35,600
21	19,400	18,800	20,300	19,000	24,000	59,700	37,400	54,400	45,300	34,600	35,000	36,100
22	19,300	18,400	20,500	21,300	26,500	54,600	36,600	52,200	44,300	34,600	36,700	34,800
23	19,600	18,200	21,000	22,800	28,100	51,300	36,400	51,600	44,800	34,000	38,700	34,400
24	19,100	18,100	22,800	23,400	39,800	48,700	36,300	70,600	44,900	34,400	52,500	33,900
25	18,900	18,300	23,000	23,200	53,800	47,700	51,600	86,800	43,700	33,300	69,100	33,500
26	18,800	18,400	22,000	23,000	54,300	47,400	79,200	73,700	42,400	32,400	63,800	35,600
27	18,800	18,200	21,300	23,500	48,900	45,500	90,900	69,500	42,000	31,700	50,400	34,900
28	18,500	18,700	20,900	23,200	43,700	44,200	81,900	60,500	42,000	33,100	44,700	32,700
29	17,800	18,800	20,000	22,800	---	43,000	72,200	58,400	40,400	32,200	41,800	31,600
30	17,700	18,900	20,100	22,400	---	42,200	65,700	54,900	39,100	32,700	44,600	31,300
31	17,600	---	21,300	21,400	---	43,000	---	51,300	---	33,000	49,000	---
Total	760,200	541,100	644,000	678,900	739,200	1,470,200	1,531,300	2,482,900	1,482,100	1,057,800	1,315,400	1,047,000
Mean	24,520	18,040	20,770	21,900	26,400	47,430	51,040	80,090	49,400	34,120	42,430	34,900
Max	33,800	18,900	23,000	25,800	54,300	78,200	90,900	201,000	77,400	37,800	69,100	45,400
Min	17,600	17,300	18,400	12,900	20,400	26,200	36,300	47,000	39,100	31,700	33,400	29,400
Ac-ft	1,508,000	1,073,000	1,277,000	1,347,000	1,466,000	2,916,000	3,037,000	4,925,000	2,940,000	2,098,000	2,609,000	2,077,000
Cfsm	0.06	0.04	0.05	0.05	0.06	0.11	0.12	0.19	0.12	0.08	0.10	0.08
In.	0.07	0.05	0.06	0.06	0.07	0.13	0.14	0.22	0.13	0.09	0.12	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	43,340	39,560	26,750	22,680	28,160	40,190	50,250	51,860	55,690	49,480	43,960	44,050
Max	80,050	83,880	57,380	42,280	53,140	79,590	106,100	97,280	130,600	164,800	78,730	76,410
(WY)	(1998)	(1998)	(1998)	(1973)	(1997)	(1979)	(1997)	(1997)	(1984)	(1993)	(1996)	(1997)
Min	24,520	17,000	9,953	10,800	13,220	15,380	21,820	33,790	33,710	29,650	29,320	31,510
(WY)	(2007)	(1962)	(1956)	(1957)	(1957)	(1957)	(1957)	(1956)	(1956)	(2002)	(2003)	(2005)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1953 - 2007 ^a	
Annual total	10,551,700		13,750,100			
Annual mean	28,910		37,670		41,360	
Highest annual mean					71,880	1997
Lowest annual mean					26,340	1957
Highest daily mean	48,000	Sep 19	201,000	May 7	289,000	Jul 24, 1993
Lowest daily mean	17,300	Nov 1	12,900	Jan 17	4,420	Jan 13, 1957
Annual seven-day minimum	17,700	Oct 30	16,000	Jan 15	5,560	Nov 30, 1955
Maximum peak flow			245,000	May 7	307,000	Jul 24, 1993
Maximum peak stage			25.09	May 7	25.37	Jul 24, 1993
Instantaneous low flow			12,800	Jan 17		
Annual runoff (ac-ft)	20,930,000		27,270,000		29,970,000	
Annual runoff (cfsm)	0.070		0.091		0.100	
Annual runoff (inches)	0.95		1.23		1.35	
10 percent exceeds	39,300		60,900		65,700	
50 percent exceeds	30,500		33,900		38,000	
90 percent exceeds	18,800		18,500		19,100	

^a Post regulation.

