

Water-Data Report 2008

**06295000 YELLOWSTONE RIVER AT FORSYTH, MT**

Lower Yellowstone Basin  
Lower Yellowstone-Sunday Subbasin

LOCATION.--Lat 46°15'58", long 106°41'24" referenced to North American Datum of 1927, in NE ¼ NW ¼ NW ¼ sec.23, T.6 N., R.40 E., Rosebud County, MT, Hydrologic Unit 10100001, on right bank 0.3 mi downstream from U.S. Highway 12 bridge, at Forsyth, and at river mile 238.2.

DRAINAGE AREA.--40,146 mi<sup>2</sup> of which 691 mi<sup>2</sup> probably is noncontributing.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--July 1921 to September 1923 (no winter records), October 1977 to current year. Miscellaneous discharge measurements were made in 1974 to 1976 and are available in files at the USGS Water Science Center located in Helena, Montana.

REVISED RECORDS.-- Water Data Report MT-04-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,504.62 ft, referenced to the National Geodetic Vertical Datum of 1929, from nearby elevation determined by City of Forsyth. July 1921 to March 1922, nonrecording gage on discontinued highway bridge 10 ft downstream from gage at different elevation. March 1922 to September 1923, nonrecording gage on discontinued highway bridge 10 ft downstream from gage at elevation 2 ft higher.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Diversions for irrigation include about 838,000 acres upstream from station. Flow is regulated to some extent by Bighorn Lake, usable capacity, 1,312,000 acre-ft, on Bighorn River. Small diversion dam is located about 4,200 ft downstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1918 reached a stage of about 20 ft, elevation used in 1921, information from local residents.

## 06295000 YELLOWSTONE RIVER AT FORSYTH, MT—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	4,220	5,760	e5,000	e4,500	e4,300	e4,800	3,930	3,710	29,400	46,800	12,800	6,110
2	4,170	5,830	e4,900	e4,700	e4,400	e4,900	4,020	4,010	31,500	47,700	11,900	7,010
3	4,130	5,870	e4,500	e4,700	e4,600	e4,900	3,980	5,280	34,000	48,500	11,400	7,740
4	4,000	5,710	e4,400	e4,700	e4,600	e4,800	4,020	5,370	37,600	46,300	10,900	8,180
5	4,080	5,610	e5,300	e4,700	e4,500	e4,800	4,050	5,000	41,500	44,800	10,500	8,050
6	4,520	5,520	e5,900	e5,200	e4,500	e4,600	4,030	4,660	41,400	45,300	9,970	7,860
7	5,250	5,610	e5,500	e5,500	e4,600	e4,500	4,060	4,620	39,900	45,900	9,540	7,800
8	5,700	5,720	e5,300	e5,400	e4,600	e4,500	4,050	5,200	39,100	42,800	9,110	7,980
9	5,620	5,660	e5,000	e5,300	e4,500	e4,500	4,110	7,150	36,500	38,600	8,950	8,110
10	5,650	5,610	e4,800	e4,700	e4,500	e4,500	4,070	8,310	32,400	36,000	8,930	8,020
11	5,440	5,560	e4,600	e4,500	e4,400	4,080	4,050	8,200	29,700	33,800	9,180	8,060
12	5,340	5,520	e4,500	e4,500	e4,400	4,310	4,070	8,180	29,800	32,000	9,180	9,030
13	5,280	5,460	e4,500	e4,800	e4,400	4,270	4,040	7,450	30,300	30,700	8,780	9,640
14	5,470	5,390	e4,400	e4,800	e4,600	4,180	4,020	7,330	29,100	27,800	8,340	9,140
15	5,430	5,360	e4,400	e4,700	e4,700	4,190	3,940	7,590	27,800	25,500	8,040	8,770
16	5,250	5,290	e4,500	e4,700	e4,600	4,170	3,900	7,180	27,400	23,600	7,790	8,460
17	5,250	5,320	e4,500	e4,500	e4,600	4,150	3,960	7,230	29,600	22,100	7,700	8,200
18	5,360	5,220	e4,500	e4,200	e4,600	4,130	4,360	7,380	33,700	21,400	7,510	7,910
19	5,370	5,300	e4,700	e4,100	e4,700	4,090	4,570	10,500	39,200	20,900	7,130	7,810
20	5,360	5,510	e5,000	e4,100	e4,700	4,060	4,290	16,400	44,400	20,500	6,660	7,670
21	5,510	5,630	e5,200	e4,200	e4,700	4,040	4,390	22,500	47,100	19,600	6,590	7,540
22	5,530	5,710	e5,400	e3,900	e4,700	4,100	4,590	28,600	47,000	18,700	6,640	7,400
23	6,110	5,240	e5,300	e3,900	e4,700	4,120	4,520	34,700	46,800	18,100	6,520	7,310
24	6,230	5,350	e4,800	e4,000	e4,700	4,030	4,500	36,500	49,200	18,500	6,410	7,310
25	5,860	4,900	e4,600	e4,100	e4,600	3,950	4,330	34,900	51,800	18,500	6,460	7,310
26	5,690	e4,500	e4,900	e4,200	e4,600	3,930	4,300	32,100	52,600	18,000	6,180	7,360
27	5,680	e4,700	e5,000	e4,200	e4,600	3,980	4,330	31,500	53,200	16,800	5,980	7,360
28	5,780	e5,000	e4,900	e4,400	e4,700	4,060	4,320	30,600	53,000	15,900	5,770	7,210
29	5,890	e5,200	e4,700	e4,600	e4,800	4,070	4,010	28,900	50,600	15,100	5,870	7,160
30	5,810	e5,100	e4,500	e4,700	---	3,980	3,790	27,700	48,300	14,400	5,880	7,120
31	5,700	---	e4,500	e4,500	---	3,970	---	29,100	---	13,600	5,910	---
<b>Total</b>	164,680	162,160	150,000	141,000	132,900	132,660	124,600	477,850	1,183,900	888,200	252,520	234,630
<b>Mean</b>	5,312	5,405	4,839	4,548	4,583	4,279	4,153	15,410	39,460	28,650	8,146	7,821
<b>Max</b>	6,230	5,870	5,900	5,500	4,800	4,900	4,590	36,500	53,200	48,500	12,800	9,640
<b>Min</b>	4,000	4,500	4,400	3,900	4,300	3,930	3,790	3,710	27,400	13,600	5,770	6,110
<b>Ac-ft</b>	326,600	321,600	297,500	279,700	263,600	263,100	247,100	947,800	2,348,000	1,762,000	500,900	465,400

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	7,083	6,683	5,850	5,480	5,799	6,667	7,326	16,870	28,730	17,190	7,516	6,548
<b>Max</b>	10,720	10,490	8,927	7,796	10,210	15,120	13,270	27,850	63,710	34,430	17,570	11,320
<b>(WY)</b>	(1983)	(1983)	(1983)	(1983)	(1997)	(1979)	(1997)	(1997)	(1997)	(1982)	(1997)	(1978)
<b>Min</b>	3,519	4,186	3,624	3,242	3,511	3,223	4,153	7,570	14,690	5,523	2,742	2,723
<b>(WY)</b>	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2008)	(2004)	(1987)	(2007)	(2001)	(2001)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1978 - 2008	
<b>Annual total</b>	2,717,880		4,045,100			
<b>Annual mean</b>	7,446		11,050		10,150	
<b>Highest annual mean</b>					17,590	1997
<b>Lowest annual mean</b>					6,026	2001
<b>Highest daily mean</b>	34,200	Jun 9	53,200	Jun 27	97,000	May 21, 1978
<b>Lowest daily mean</b>	3,340	Aug 30	3,710	May 1	1,400	Nov 23, 1977
<b>Annual seven-day minimum</b>	3,420	Aug 29	3,990	Mar 26	2,030	Aug 26, 2001
<b>Maximum peak flow</b>			53,700	Jun 27	106,000	May 21, 1978
<b>Maximum peak stage</b>			9.18	Jun 27	14.53	May 21, 1978
<b>Annual runoff (ac-ft)</b>	5,391,000		8,023,000		7,356,000	
<b>10 percent exceeds</b>	18,100		32,000		21,500	
<b>50 percent exceeds</b>	5,220		5,400		6,920	
<b>90 percent exceeds</b>	3,960		4,090		4,200	

