

Water-Data Report 2007

06191000 GARDNER RIVER NEAR MAMMOTH, YELLOWSTONE NATIONAL PARK

Upper Yellowstone Basin
Yellowstone Headwaters Subbasin

LOCATION.--Lat 44°59'33", long 110°41'26" referenced to North American Datum of 1927, Park County, MT, Hydrologic Unit 10070001, Yellowstone National Park, on left bank at Wyoming-Montana state line, 400 ft upstream from highway bridge, 0.5 mi downstream from Boiling River (formerly Hot River), 1.5 mi north of Mammoth, and at river mile 2.9.

DRAINAGE AREA.--202 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1938 to September 1972, April 1984 to current year. Prior to October 1959, published as Gardiner River near Mammoth.

REVISED RECORDS.-- Water Supply Paper 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,623.97 ft, referenced to the National Geodetic Vertical Datum of 1929 (levels by National Park Service).

REMARKS.--Records are good. No regulation or diversion occurs upstream 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 Several unpublished observations of water temperature and specific conductance were made during the year.

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	118	98	98	102	88	88	118	486	265	162	114	97
2	121	111	102	103	78	80	119	527	276	159	113	95
3	151	120	99	97	95	81	111	586	285	155	111	93
4	132	116	103	96	93	99	110	468	290	152	110	93
5	127	115	104	96	92	91	115	390	295	150	115	98
6	128	117	108	92	94	93	121	334	333	147	125	104
7	156	127	107	93	94	95	123	321	327	145	112	100
8	143	148	105	102	94	95	132	356	283	147	108	96
9	137	142	105	100	94	92	154	413	264	143	105	96
10	130	119	105	100	94	92	141	466	256	139	105	96
11	131	118	106	89	97	92	128	521	255	136	104	94
12	127	112	104	81	95	99	121	556	249	133	101	93
13	124	107	103	91	93	111	121	601	242	135	99	92
14	123	110	102	94	92	112	129	604	240	138	99	93
15	123	110	109	93	92	103	144	535	239	134	99	92
16	136	112	90	95	88	100	150	503	235	131	98	92
17	130	115	76	97	89	103	183	502	236	128	107	92
18	122	115	86	95	92	109	194	502	226	125	112	95
19	125	112	95	97	92	111	181	506	214	119	109	95
20	128	113	101	98	83	116	163	504	206	117	104	93
21	124	115	98	98	89	115	162	508	202	116	107	92
22	119	113	106	96	91	113	160	441	197	115	103	92
23	121	112	100	96	91	113	171	390	191	116	105	95
24	121	100	103	94	86	113	178	352	186	118	106	100
25	120	108	102	92	90	121	193	325	181	124	102	96
26	114	110	105	93	90	133	217	295	179	135	99	93
27	119	110	103	88	88	142	224	284	176	148	97	91
28	117	107	102	85	90	135	274	309	174	127	97	90
29	116	87	99	92	---	117	373	299	169	121	96	91
30	112	90	87	91	---	115	476	278	165	117	95	91
31	93	---	97	95	---	116	---	268	---	116	96	---
Total	3,888	3,389	3,110	2,931	2,544	3,295	5,186	13,430	7,036	4,148	3,253	2,830
Mean	125	113	100	94.5	90.9	106	173	433	235	134	105	94.3
Max	156	148	109	103	97	142	476	604	333	162	125	104
Min	93	87	76	81	78	80	110	268	165	115	95	90
Ac-ft	7,710	6,720	6,170	5,810	5,050	6,540	10,290	26,640	13,960	8,230	6,450	5,610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2007, BY WATER YEAR (WY) *

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	126	112	102	96.7	92.8	93.9	143	510	693	294	159	135
Max	175	151	135	134	128	128	304	1,067	1,354	662	236	190
(WY)	(1969)	(1998)	(1998)	(1998)	(1998)	(1998)	(1990)	(1997)	(1971)	(1943)	(1943)	(1968)
Min	94.9	85.5	79.3	77.6	75.0	75.4	84.1	283	212	133	103	93.4
(WY)	(2002)	(1940)	(1941)	(1941)	(1940)	(1942)	(1945)	(1960)	(1987)	(1988)	(1988)	(1988)

* During periods of record (October 1938 to September 1972, April 1984 to present).

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1939 - 2007*	
Annual total	81,576		55,040			
Annual mean	223		151		213	
Highest annual mean					324	1997
Lowest annual mean					138	1988
Highest daily mean	1,250	May 21	604	May 14	1,830	May 29, 1956
Lowest daily mean	76	Dec 17	76	Dec 17	53	Dec 15, 1988
Annual seven-day minimum	90	Feb 14	87	Feb 25	61	Feb 1, 1989
Maximum peak flow			672	May 14	^b 2,080	Jun 4, 1956
Maximum peak stage			3.35	May 14	5.03	Jun 2, 1997
Instantaneous low flow			^a 58	Oct 31	^c 35	Mar 28, 1942
Annual runoff (ac-ft)	161,800		109,200		154,600	
10 percent exceeds	551		283		498	
50 percent exceeds	124		112		121	
90 percent exceeds	94		92		87	

* During periods of record (October 1938 to September 1972, April 1984 to present).

^a Gage height, 1.81 ft, result of freezeup.

^b Gage height, 4.46 ft.

^c Gage height, 1.08 ft.

