Water-Data Report 2012

09474000 GILA RIVER AT KELVIN, AZ

Middle Gila Basin
Middle Gila Subbasin

LOCATION.--Lat 33°06′10″, long 110°58′33″ referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.12, T.4 S., R.13 E., Pinal County, AZ, Hydrologic Unit 15050100, on left bank at Kelvin, 500 ft downstream from Mineral Creek, 18 mi downstream from San Pedro River, and 19 mi upstream from Ashurst-Hayden Dam.

DRAINAGE AREA.--18,011 mi^2, 12,866 mi^2 being above Coolidge Dam, and 5,125 mi^2 below Coolidge Dam (696 mi^2 of this area are in Mexico)

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Jan. 1911 to current year.

REVISED RECORDS.--WSP 329: 1911. WSP 609: 1916(M). WSP 629: 1914-17. WSP 1119: 1913, 1915, 1917(M), 1921(M), 1922-23, 1927(M). WSP 1283: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 1,745.02 ft above sea level. Prior to June 15, 1914, and Dec. 1, 1914, to Aug. 31, 1915, nonrecording gages at several sites within 2 mi of present site at different datums. Sept. 1, 1915, to Sept. 30, 1963, water-stage recorder at site 900 ft downstream at datum 1.80 ft lower. Jan. 16, 1985, to June 1990, supplementary water-stage recorder at same site and datum.

REMARKS.--Records poor. Large diversions above station for irrigation, of which about 90 percent is above Coolidge Dam. About 82,000 acres irrigated, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir 49 mi upstream since Nov. 15, 1928. (See sta 09469000.) San Pedro River contributes major portion of unregulated inflow.

AVERAGE DISCHARGE FOR PERIOD OF RECORD.--(adjusted for storage in San Carlos Reservoir) 101 years, 499 ft^3/s, 361,500 acre-ft/yr; median of yearly mean discharges, 305 ft^3/s, 221,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--

1911-1928: Maximum discharge, about 132,000 ft^3/s, Jan. 20, 1916, gage height, 19.5 ft, site and datum then in use, from rating curve extended above slope-area measurement at gage height, 16.2 ft for flood of Sept. 28, 1926; minimum, no flow, Feb. 25, 1913.

1929-Current year: Maximum discharge, 100,000 ft^3/s, Oct. 2, 1983, gage height, 33.0 ft from floodmark, from rating curve extended above 12,000 ft^3/s on basis of peak discharge computed by step-backwater method at Hayden Railroad Bridge, 17.8 mi upstream, and by flood-routing; minimum daily, minimum discharge, no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,130 ft^3/s, Aug. 23, gage height, 10.54 ft; minimum daily discharge, 0.00 ft^3/s, on many days.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.96	0.00	1.7	34	161	127	107	142	145	0.00	85	34
2	0.90	0.00	2.0	39	172	126	108	141	143	0.00	111	34
3	0.76	0.00	6.8	41	182	128	126	140	142	0.00	47	34
4	0.68	0.00	14	44	163	128	154	139	141	0.00	15	34
5	0.76	0.00	16	45	154	127	157	139	141	59	3.9	264
6	0.99	0.00	18	45	154	125	160	138	140	57	1.1	74
7	1.1	0.15	19	25	155	120	161	138	140	7.4	0.01	201
8	1.0	0.37	32	15	154	125	161	140	139	1.4	0.10	111
9	0.93	0.47	39	11	154	126	160	140	138	0.26	30	67
10	0.89	0.37	33	8.8	155	126	160	141	92	0.00	6.4	73
11	0.76	0.27	34	7.6	156	126	158	139	34	0.00	0.69	81
12	0.62	0.39	36	7.0	154	125	159	140	19	0.00	0.00	56
13	0.56	0.64	45	22	148	122	160	143	11	0.00	0.00	122
14	0.50	0.78	80	29	140	117	162	142	7.4	0.00	0.00	74
15	0.41	0.74	112	31	141	117	165	141	4.8	0.00	0.00	48
16	0.25	0.59	79	37	134	117	162	137	3.2	411	0.00	46
17	0.10	0.61	66	33	125	116	160	136	2.1	29	0.00	45
18	0.04	0.65	56	26	125	123	158	141	1.4	2.3	18	45
19	0.00	0.99	53	18	127	129	156	150	1.0	40	13	45
20	0.01	1.1	54	13	128	124	155	152	0.85	40	79	44
21	0.02	1.2	52	10	128	124	153	151	0.70	11	47	44
22	0.03	1.3	30	8.5	128	124	151	150	0.46	6.2	115	44
23	0.00	1.3	17	7.8	128	119	148	148	0.21	34	566	44
24	0.00	1.3	12	6.9	127	114	146	146	0.01	15	525	44
25	0.06	1.4	9.3	6.9	127	112	146	145	0.00	9.6	226	44
26	0.01	1.5	7.7	6.9	127	110	146	144	0.00	5.6	37	44
27	0.00	1.6	6.6	6.8	127	111	148	149	0.00	3.2	11	44
28	0.00	1.8	5.9	6.7	126	111	146	150	0.00	5.4	4.7	44
29	0.00	1.5	5.7	11	129	110	144	149	0.00	139	2.4	44
30	0.00	1.6	5.2	140	---	110	143	147	0.00	162	19	44
31	0.00	---	6.6	156	---	110	---	146	---	80	31	---
Total	12.34	22.62	954.5	898.9	4,129	3,729	4,520	4,444	1,447.13	1,118.36	1,994.30	1,972
Mean	0.40	0.75	30.8	29.0	142	120	151	143	48.2	36.1	64.3	65.7
Max	1.1	1.8	112	156	182	129	165	152	145	411	566	264
Min	0.00	0.00	1.7	6.7	125	110	107	136	0.00	0.00	0.00	34
Ac-ft	24	45	1,890	1,780	8,190	7,400	8,970	8,810	2,870	2,220	3,960	3,910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2012, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	259	132	425	618	525	702	541	402	442	672	818	434
Max	4,372	810	12,350	17,080	7,211	5,824	3,930	1,271	1,608	3,459	4,590	1,968
(WY)	(1984)	(1915)	(1915)	(1993)	(1993)	(1993)	(1915)	(1992)	(1992)	(1919)	(1921)	(1926)
Min	0.00	0.00	7.06	9.25	22.1	38.2	9.19	2.47	0.32	1.56	43.1	2.06
(WY)	(2004)	(2008)	(1957)	(1954)	(1957)	(1929)	(1957)	(1957)	(2002)	(2002)	(1956)	(1956)

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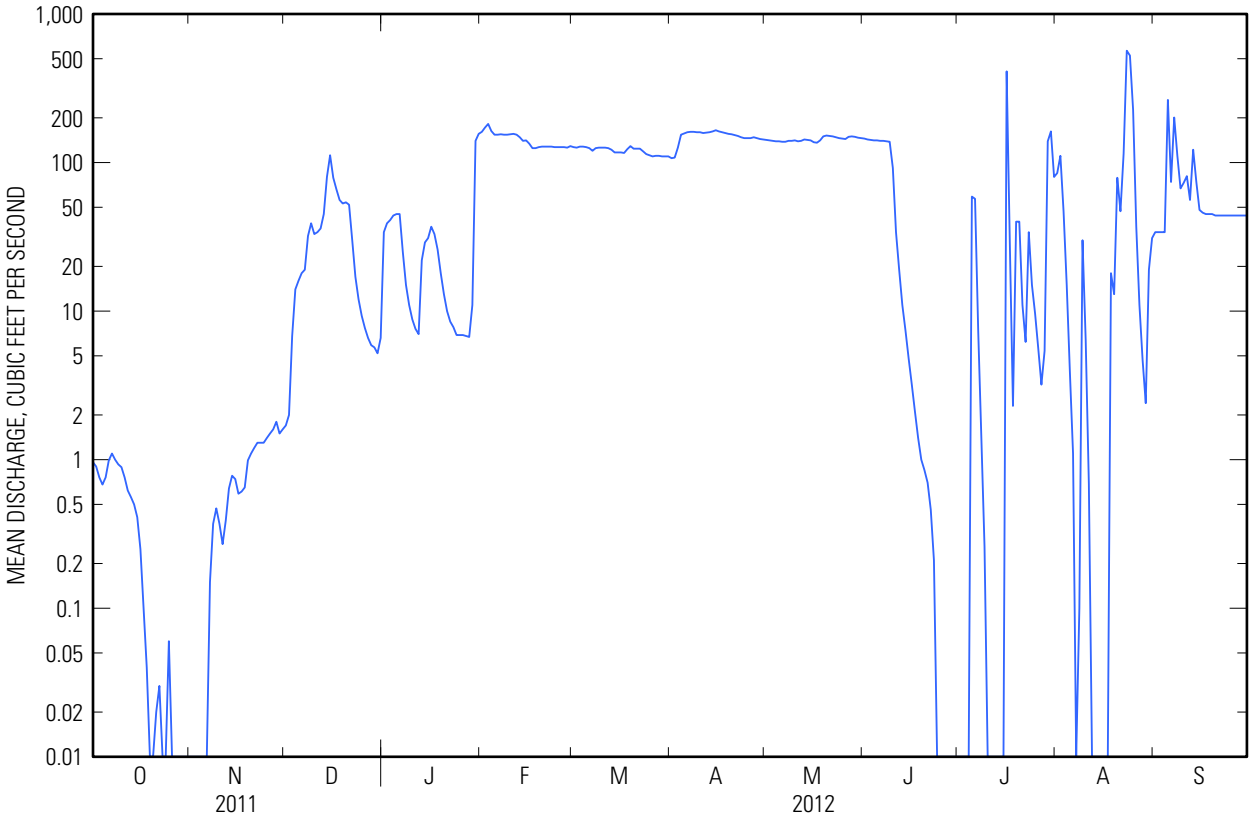
SUMMARY STATISTICS

	Calendar Year 2011		Water Year 2012		Water Years 1911 - 2012	
Annual total	69,493.36		25,242.15			
Annual mean	190		69.0		498	
Highest annual mean					3,281	1993
Lowest annual mean					69.0	2012
Highest daily mean	576	Jul 5	566	Aug 23	105,000	Jan 20, 1916
Lowest daily mean	0.00	Oct 19	0.00	Oct 19	0.00	Jun 29, 1913
Annual seven-day minimum	0.00	Oct 27	0.00	Oct 27	0.00	Jun 29, 1913
Annual runoff (ac-ft)	137,800		50,070		361,100	
10 percent exceeds	438		154		976	
50 percent exceeds	162		44		258	
90 percent exceeds	0.67		0.01		20