Water-Data Report 2007

08279500 RIO GRANDE AT EMBUDO, NM

Upper Rio Grande Basin
Upper Rio Grande Subbasin

LOCATION.--Lat 36°12′20″, long 105°57′50.3″ referenced to North American Datum of 1983, Rio Arriba County, NM, Hydrologic Unit 13020101, on right bank 0.2 mi downstream from bridge at Embudo, 2.8 mi downstream from Embudo Creek, and at mile 1,643.1.

DRAINAGE AREA.--10,400 mi^2, approximately, including 2,940 mi^2 in closed basin in San Luis Valley, Colorado.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1889 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for Oct. 4 to Nov. 30, 1896, published in WSP 358, are unreliable and should not be used.

REVISED RECORDS.--WSP 358: 1900-02. WSP 828: drainage area. WSP 878: 1915-16. WSP 1512: 1892-99, 1904, 1916, 1931-32, 1939, 1944-45, 1950. WSP 1712: 1903(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 5,789.14 ft above NGVD of 1929. Jan. 1 to Feb. 28, 1889, nonrecording gage 1.2 mi upstream at different datum. Mar. 1889 to Dec. 1903, nonrecording gage 1,300 ft upstream at different datum. Sept. 1912 to June 1914, water-stage recorder on downstream end of bridge pier at site 200 ft upstream at present datum.

REMARKS.--Records good. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 40,000 acres in New Mexico. Several observations of water temperature were made during the year.

08279500 RIO GRANDE AT EMBUDO, NM—Continued

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	538	630	500	628	574	649	1,340	940	1,150	494	596	500
2	536	627	526	624	566	617	1,240	1,240	1,100	511	645	536
3	528	775	514	593	533	606	1,140	1,600	1,060	472	621	526
4	512	1,100	479	584	552	574	1,120	1,650	1,020	439	626	488
5	507	1,120	467	598	558	631	1,160	1,570	1,000	442	586	486
6	485	1,070	532	596	575	669	1,170	1,450	1,050	410	514	482
7	506	1,040	599	553	575	664	1,090	1,300	1,070	412	509	482
8	542	1,020	620	543	579	688	967	1,140	1,030	421	545	465
9	588	1,000	640	574	595	739	896	1,060	1,020	404	558	524
10	821	966	654	562	600	750	898	975	995	390	645	517
11	1,170	981	682	560	612	768	893	931	884	404	820	488
12	1,040	946	678	576	637	805	807	912	944	399	778	456
13	998	925	673	605	645	839	742	892	952	519	695	436
14	948	895	641	619	635	898	684	964	937	585	623	428
15	959	878	652	567	619	986	704	1,140	1,060	503	560	424
16	864	855	667	535	614	1,110	780	1,460	1,180	464	520	402
17	865	837	677	545	625	1,260	822	1,540	1,080	429	527	414
18	985	827	690	539	620	1,530	822	1,680	964	429	497	442
19	1,000	828	693	528	619	1,580	843	1,600	895	433	494	428
20	921	858	698	523	625	1,650	791	1,510	856	476	530	424
21	836	866	698	535	629	1,740	772	1,460	792	432	546	454
22	770	847	582	526	640	1,740	735	1,400	733	458	521	477
23	772	826	561	518	652	1,710	693	1,470	676	545	498	479
24	790	811	531	535	652	1,730	714	1,470	625	551	478	512
25	761	810	532	549	633	1,700	712	1,390	621	540	454	480
26	724	802	541	548	646	1,640	733	1,370	627	580	441	454
27	726	787	584	544	672	1,560	743	1,300	589	589	525	440
28	726	783	610	553	682	1,470	718	1,260	568	557	425	589
29	706	782	609	556	---	1,460	728	1,230	560	529	429	599
30	675	740	620	554	---	1,520	781	1,200	516	492	473	565
31	643	---	620	573	---	1,460	---	1,190	---	491	482	---
Total	23,442	26,232	18,770	17,443	17,164	35,743	26,238	40,294	26,554	14,800	17,161	14,397
Mean	756	874	605	563	613	1,153	875	1,300	885	477	554	480
Max	1,170	1,120	698	628	682	1,740	1,340	1,680	1,180	589	820	599
Min	485	627	467	518	533	574	684	892	516	390	425	402
Ac-ft	46,500	52,030	37,230	34,600	34,040	70,900	52,040	79,920	52,670	29,360	34,040	28,560

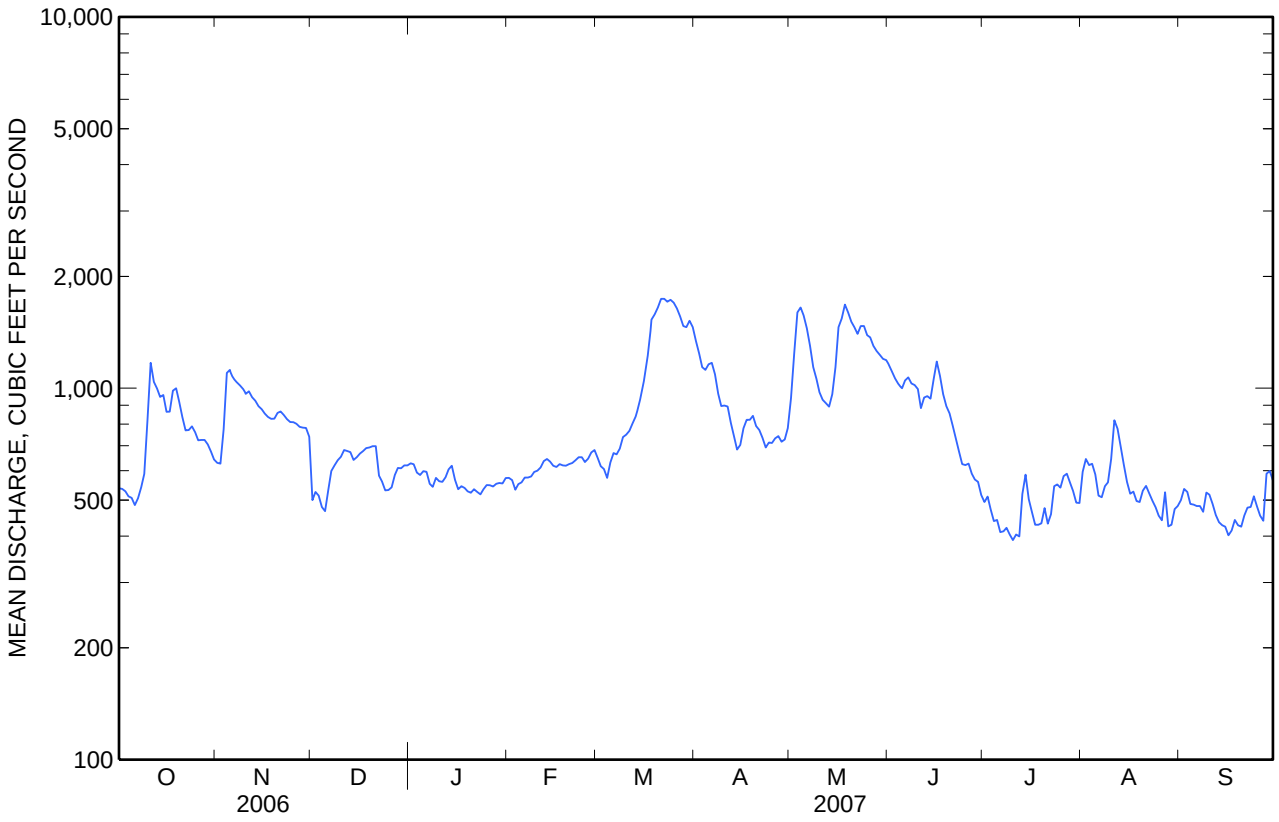
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	427	552	518	509	575	712	976	1,984	1,887	752	449	384
Max	1,795	1,611	1,052	799	888	1,290	3,544	7,228	6,837	3,540	1,699	1,178
(WY)	(1942)	(1942)	(1942)	(1942)	(1987)	(1989)	(1942)	(1941)	(1941)	(1995)	(1957)	(1999)
Min	182	243	269	300	323	286	274	189	180	163	151	171
(WY)	(1957)	(1957)	(1957)	(1957)	(1957)	(1957)	(1981)	(2002)	(2002)	(2002)	(2002)	(1956)

08279500 RIO GRANDE AT EMBUDO, NM—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1931 - 2007	
Annual total	193,692		278,238			
Annual mean	531		762		[a]811	
Highest annual mean					2,077	1942
Lowest annual mean					301	2002
Highest daily mean	1,170	Oct 11	1,740	Mar 21	11,700	May 16, 1941
Lowest daily mean	303	Jul 31	390	Jul 10	145	Aug 15, 2002
Annual seven-day minimum	316	Jul 21	406	Jul 6	147	Aug 13, 2002
Maximum peak flow			1,790	Mar 21	[b]16,200	Jun 19, 1903
Maximum peak stage			5.28	Mar 21	15.90	Jun 19, 1903
Instantaneous low flow			373	Dec 2	130	Jun 30, 1902
Annual runoff (ac-ft)	384,200		551,900		587,300	
10 percent exceeds	788		1,230		1,570	
50 percent exceeds	491		643		510	
90 percent exceeds	358		477		257	

[a] Average discharge for 41 years (water years 1890-1930), 1,238 ft³/s, 896,900 acre-ft/yr.

[b] A flood of about 14,000 ft³/s occurred between May 20 and June 10, 1905, from a comparison of records for Lobatos and Otowi Bridge. Another major flood occurred Sept. 29 or 30, 1904.