

Water-Data Report 2013

08220000 RIO GRANDE NEAR DEL NORTE, CO

Rio Grande Headwaters Basin
Rio Grande Headwaters Subbasin

LOCATION.--Lat 37°41'19.0", long 106°27'35.5" referenced to North American Datum of 1983, in NW ¼ NW ¼ sec.29, T.40 N., R.5 E., Rio Grande County, CO, Hydrologic Unit 13010001, on right bank 40 ft downstream from county highway bridge, 5.0 mi upstream from Pinos Creek, and 6.0 mi west of Del Norte.

DRAINAGE AREA.--1,320 mi², approximately.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1889 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 763: Drainage area. WSP 1312: 1889, 1901, 1913-14 (monthly discharge and runoff).

GAGE.--Water-stage recorder with satellite telemetry. Datum of gage is 7,980.25 ft above NGVD of 1929. Prior to May 16, 1908, nonrecording gage at site 4 mi downstream at different datum. May 16, 1908 to Nov. 8, 1910, nonrecording gages on bridge at present site and datum.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

REMARKS.--Records good except for the period from Nov. 11 to Dec. 8, which is fair, and estimated daily discharges, which are poor. Natural flow of stream affected by storage reservoirs, transmountain diversions from Colorado River Basin, diversions for irrigation and municipal use, groundwater withdrawals, return flows from irrigated areas, and flows from sewage-treatment plants. Flow regulated by Beaver Creek Reservoir since 1910, Santa Maria Reservoir since 1912, Rio Grande Reservoir since 1912, and Continental Reservoir since 1925, combined capacity, 126,100 acre-ft, and by several smaller reservoirs.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage of Oct. 5, 1911, is the greatest since at least 1873, from information obtained from local residents in 1959.

08220000 RIO GRANDE NEAR DEL NORTE, CO—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	229	207	188	e130	e130	e135	297	1,910	1,910	379	373	602
2	223	233	181	e125	e130	e145	305	1,780	1,520	359	361	599
3	226	222	183	e125	e130	e160	301	1,510	1,560	349	415	601
4	219	186	171	e125	e130	e160	294	1,520	1,510	330	505	555
5	220	184	158	e120	e135	e145	321	1,630	1,510	318	576	519
6	216	189	184	e120	e135	e155	337	1,740	1,400	321	693	499
7	221	184	174	e120	e135	e165	343	1,410	1,290	306	796	498
8	222	180	152	e125	e135	e155	316	1,220	1,250	311	1,210	483
9	219	191	e135	e125	e130	e145	330	1,050	1,180	313	1,130	452
10	217	238	e125	e125	e130	e150	336	953	1,090	308	1,010	465
11	218	148	e135	e125	e125	e160	311	903	1,030	308	1,070	710
12	228	105	e140	e120	e125	e170	316	890	973	314	978	792
13	286	116	e145	e120	e125	e185	285	994	898	335	956	1,340
14	271	174	e150	e120	e130	e200	294	1,340	832	330	927	1,710
15	275	189	e155	e120	e135	e215	299	1,790	749	358	818	2,200
16	253	190	e155	e120	e135	e230	330	2,150	688	350	738	2,020
17	240	202	e150	e125	e140	e235	349	2,660	663	328	667	1,690
18	229	207	e155	e125	e135	e235	312	3,050	623	319	621	1,580
19	224	199	e150	e125	e130	225	275	2,720	583	392	633	1,910
20	226	186	e135	e125	e135	211	293	2,170	539	414	606	1,760
21	219	185	e130	e125	e135	221	273	1,890	502	383	578	1,670
22	218	181	e135	e125	e130	220	325	1,960	480	366	583	1,580
23	214	173	e135	e125	e125	e188	467	2,620	459	334	554	2,640
24	212	171	e140	e125	e125	e150	518	3,000	433	311	526	2,420
25	207	167	e140	e130	e130	e160	556	3,040	410	305	656	2,090
26	183	166	e135	e130	e125	e184	622	2,860	378	281	946	1,880
27	170	151	e135	e135	e130	217	662	2,650	346	263	1,010	1,820
28	182	142	e130	e140	e130	231	826	2,430	341	355	896	1,860
29	194	162	e125	e135	---	247	1,140	2,500	353	440	761	1,810
30	195	178	e130	e130	---	259	1,570	2,290	364	392	697	1,650
31	194	---	e135	e130	---	279	---	2,060	---	388	638	---
Total	6,850	5,406	4,591	3,895	3,665	5,937	13,203	60,690	25,864	10,560	22,928	40,405
Mean	221	180	148	126	131	192	440	1,958	862	341	740	1,347
Max	286	238	188	140	140	279	1,570	3,050	1,910	440	1,210	2,640
Min	170	105	125	120	125	135	273	890	341	263	361	452
Ac-ft	13,590	10,720	9,110	7,730	7,270	11,780	26,190	120,400	51,300	20,950	45,480	80,140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1890 - 2013, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	486	282	203	186	193	274	775	2,532	3,045	1,357	760	511
Max	2,451	804	420	340	300	646	1,999	4,449	6,240	3,451	1,800	2,001
(WY)	(1912)	(1917)	(1926)	(1912)	(1928)	(1910)	(1895)	(1922)	(1921)	(1957)	(1999)	(1927)
Min	134	114	99.2	89.8	111	153	317	505	222	142	117	135
(WY)	(1957)	(1957)	(2003)	(1977)	(1977)	(1965)	(1951)	(2002)	(2002)	(2002)	(2002)	(1956)

08220000 RIO GRANDE NEAR DEL NORTE, CO—Continued

SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		Water Years 1890 - 2013	
Annual total	205,167		203,994			
Annual mean	561		559		888	
Highest annual mean					1,482	1987
Lowest annual mean					227	2002
Highest daily mean	2,930	May 7	3,050	May 18	14,000	Oct 6, 1911
Lowest daily mean	105	Nov 12	105	Nov 12	74	Nov 16, 1956
Annual seven-day minimum	133	Dec 25	121	Jan 10	76	Dec 29, 1976
Maximum peak flow			3,360	May 18	^a 18,000 Oct 5, 1911	
Maximum peak stage			3.63	May 18	6.80	Oct 5, 1911
Annual runoff (ac-ft)	406,900		404,600		643,400	
10 percent exceeds	1,700		1,640		2,460	
50 percent exceeds	262		275		356	
90 percent exceeds	150		130		162	

^a From rating curve extended above 12,900 ft³/s.

