



Water-Data Report 2008

08100000 Leon River near Hamilton, TX

Little Basin
Leon Subbasin

LOCATION.--Lat 31°47'19", long 98°07'16" referenced to North American Datum of 1927, Hamilton County, TX, Hydrologic Unit 12070201, at downstream side of bridge on U.S. Highway 281, 2.2 mi upstream from Mesquite Creek, 3.6 mi downstream from Bear Creek, 5.9 mi north of Hamilton, and 172.9 mi upstream from mouth.

DRAINAGE AREA.--1,891 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Jan. 1925 to Sep. 1931, Sep. 1960 to Sep. 1996, Oct. 2007 to current year (daily mean discharge), Oct. 1996 to Sep. 2007 (peak discharges greater than base discharge).

REVISED RECORDS.--WDR TX-76-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.38 ft above NGVD of 1929. Jan. 7, 1925, to Sept. 30, 1931, nonrecording gage 1.4 mi downstream at datum 1.87 ft higher. Sept. 1 to Nov. 22, 1960, nonrecording gage at same site and at 5.00 ft higher datum. Nov. 22, 1960, to Sept. 30, 1972, recording gage at same site and at 5.00 ft higher datum. Satellite telemeter at station.

REMARKS.--Records good. Since water year 1954, at least 10% of contributing drainage area has been regulated. There are numerous diversions above station for irrigation, municipal supply, and industrial uses. At times flow is affected by discharge from floodwater-retarding structures controlling runoff from 43.9 mi². Some records listed in the "Period of Record" for surface water and water quality may not be available electronically.

AVERAGE DISCHARGE FOR PERIOD PRIOR TO REGULATION.--6 years (water years 1926-31) prior to regulation by Lake Leon, 130 ft³/s (94,200 acre-ft/yr).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1858, 38.4 ft in May 1908 and Dec. 1913; flood in Sept. 1911 reached a stage of 37.0 ft, all at present site and datum, from information by local residents. The flood in Oct. 1959 reached a stage of 34.1 ft, present datum.

EXTREMES FOR PERIOD PRIOR TO REGULATION.--WATER YEARS 1925-1931: Maximum discharge, 5,680 ft³/s, May 22, 1931, gage height, 20.00 ft; no flow at times.

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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	306	39	52	42	40	32	504	411	41	46	18	26
2	297	e47	51	42	39	32	489	407	41	42	18	24
3	273	50	49	42	39	38	480	400	39	36	24	27
4	237	51	48	43	39	38	462	399	37	32	25	24
5	203	50	49	44	37	48	431	392	35	34	23	22
6	177	46	48	43	42	48	378	355	41	37	5,820	21
7	156	43	47	43	44	43	338	327	41	36	6,420	19
8	141	43	45	42	43	41	302	296	38	37	1,020	20
9	127	41	45	41	41	42	253	258	36	39	271	49
10	116	41	45	40	39	42	243	198	36	30	150	56
11	102	43	46	40	38	40	162	127	37	28	105	67
12	91	41	47	40	38	40	143	120	38	28	83	64
13	80	40	52	39	37	39	115	119	35	25	70	47
14	75	43	57	38	39	39	106	84	32	28	60	30
15	89	41	55	38	39	39	102	73	32	23	53	20
16	93	42	53	41	39	37	98	85	32	19	48	17
17	88	44	51	41	40	37	95	74	32	17	47	21
18	81	44	52	41	42	41	98	66	31	21	97	23
19	72	42	49	42	41	201	105	64	32	20	427	23
20	73	43	49	42	40	245	90	61	41	19	228	23
21	67	42	48	42	39	335	65	58	48	28	184	22
22	60	39	46	41	38	533	58	55	57	30	106	22
23	56	41	45	40	37	556	48	54	48	24	64	21
24	64	48	44	40	37	559	50	51	45	18	53	21
25	55	66	46	43	36	564	81	50	40	15	47	19
26	49	84	46	44	33	558	69	50	38	14	39	18
27	47	84	45	48	34	546	186	49	34	14	38	18
28	45	68	44	50	32	532	225	47	33	14	35	18
29	43	58	44	46	32	530	224	43	34	13	36	16
30	41	54	43	42	---	527	274	41	40	14	35	15
31	40	---	42	40	---	512	---	42	---	18	30	---
Total	3,444	1,458	1,483	1,300	1,114	6,914	6,274	4,856	1,144	799	15,674	813
Mean	111	48.6	47.8	41.9	38.4	223	209	157	38.1	25.8	506	27.1
Max	306	84	57	50	44	564	504	411	57	46	6,420	67
Min	40	39	42	38	32	32	48	41	31	13	18	15
Ac-ft	6,830	2,890	2,940	2,580	2,210	13,710	12,440	9,630	2,270	1,580	31,090	1,610

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2008^{bz}, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	95.2	80.3	133	152	199	175	247	464	378	246	164	154
Max	719	823	2,581	1,839	2,121	1,036	1,524	4,284	1,780	1,395	1,298	1,238
(WY)	(1965)	(1992)	(1992)	(1992)	(1992)	(1992)	(1995)	(1990)	(1990)	(1992)	(1995)	(1962)
Min	0.04	0.04	0.04	1.49	1.43	0.58	0.38	1.16	2.09	0.26	3.76	1.63
(WY)	(1968)	(1983)	(1979)	(1981)	(1981)	(1986)	(1984)	(1984)	(1971)	(1964)	(1981)	(1960)

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SUMMARY STATISTICS

	Water Year 2008		Water Years 1960 - 2008^{hz}	
Annual total	45,273			
Annual mean	124		208	
Highest annual mean			1,219	1992
Lowest annual mean			3.92	1981
Highest daily mean	6,420	Aug 7	21,200	Dec 21, 1991
Lowest daily mean	13	Jul 29	0.00	Sep 9, 1960
Annual seven-day minimum	15	Jul 24	0.00	Aug 22, 1962
Maximum peak flow	14,600	Aug 6	32,100	Dec 20, 1991
Maximum peak stage	31.23	Aug 6	35.02	Dec 20, 1991
Annual runoff (ac-ft)	89,800		150,300	
10 percent exceeds	262		551	
50 percent exceeds	43		22	
90 percent exceeds	23		0.92	

^h See Period of Record paragraph.

^z Period of regulated streamflow.

