Water-Data Report 2011

03503000 LITTLE TENNESSEE RIVER AT NEEDMORE, NC

Upper Tennessee Basin
Upper Little Tennessee Subbasin

LOCATION.--Lat 35°20′11″, long 83°31′37″ referenced to North American Datum of 1983, Swain County, NC, Hydrologic Unit 06010202, on left bank on Secondary Road 1113, 0.8 mi downstream of DeHart Creek, 0.8 mi north of Needmore, 2.4 mi downstream of Brush Creek, 6.3 mi downstream of Tellico Creek, and at river mile 92.9.

DRAINAGE AREA.--436 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1943 to December 1981, October 1983 to current year. Monthly discharge only for some periods, published in WSP 1306.

GAGE.--Water-stage recorder. Datum of gage is 1,761.19 ft above National Geodetic Vertical Datum of 1929 levels by Tennessee Valley Authority). Satellite telemetry at streamgage.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Considerable fluctuation caused by Porters Bend power plant at Lake Emory, 20 mi upstream. Minimum discharge for period of record also occurred November 8, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of October 1898 and August 30, 1940, reached stages of about 13 and 11.5 ft, respectively, from flood profiles by Tennessee Valley Authority.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 03503000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/03503000.2011.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	613	468	5,660	1,050	646	1,090	1,760	1,410	621	460	345	158
2	430	441	2,010	1,890	1,780	793	1,570	1,330	588	437	310	157
3	375	423	1,310	1,200	1,220	732	1,430	1,270	602	419	277	179
4	346	430	1,070	981	1,130	671	1,350	1,470	563	450	265	180
5	326	443	980	883	1,650	712	2,530	1,240	544	465	250	271
6	316	403	847	853	1,320	5,350	1,950	1,170	534	596	323	2,080
7	306	385	771	785	1,130	4,070	1,670	1,130	556	478	289	687
8	300	378	e702	766	1,020	2,150	1,520	1,120	557	591	276	437
9	294	375	e670	678	921	3,210	1,430	1,060	587	501	276	361
10	289	368	e647	724	877	4,990	1,350	1,030	599	543	256	318
11	285	361	634	705	827	3,280	1,270	999	581	436	236	287
12	278	356	683	653	780	2,440	1,480	964	596	432	222	269
13	289	353	669	e623	751	2,020	1,300	935	568	405	232	258
14	284	348	569	e612	731	1,760	1,210	916	507	399	290	251
15	272	365	e520	e603	704	1,960	1,200	895	541	399	254	236
16	268	476	e538	608	683	2,020	5,530	881	1,130	402	221	239
17	267	602	1,230	614	669	1,670	3,520	868	635	389	214	232
18	266	466	814	629	659	1,520	2,420	830	571	372	219	231
19	270	421	776	750	647	1,410	2,020	784	633	369	312	237
20	270	402	717	728	635	1,310	1,850	717	628	346	293	228
21	266	395	683	677	624	1,240	1,720	674	544	383	261	400
22	259	385	696	633	620	1,190	1,650	621	535	361	244	498
23	258	390	689	608	600	1,150	1,520	703	630	359	219	568
24	255	399	640	588	592	1,220	1,420	674	788	328	206	589
25	342	381	641	582	706	1,090	1,340	649	919	387	196	376
26	499	420	660	740	686	1,260	1,420	662	658	432	195	320
27	1,780	459	e610	779	615	3,040	1,320	1,450	566	352	186	324
28	1,620	395	e588	671	672	2,280	2,680	882	569	315	193	316
29	779	390	e580	642	---	1,970	1,860	731	564	295	183	283
30	590	2,100	e578	622	---	2,220	1,560	678	490	294	171	269
31	515	---	595	625	---	2,060	---	646	---	361	164	---
Total	13,507	13,978	28,777	23,502	23,895	61,878	54,850	29,389	18,404	12,756	7,578	11,239
Mean	436	466	928	758	853	1,996	1,828	948	613	411	244	375
Max	1,780	2,100	5,660	1,890	1,780	5,350	5,530	1,470	1,130	596	345	2,080
Min	255	348	520	582	592	671	1,200	621	490	294	164	157
Cfsm	1.00	1.07	2.13	1.74	1.96	4.58	4.19	2.17	1.41	0.94	0.56	0.86
In.	1.15	1.19	2.46	2.01	2.04	5.28	4.68	2.51	1.57	1.09	0.65	0.96

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2011[a], BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	633	804	1,050	1,323	1,510	1,658	1,466	1,143	898	695	619	613
Max	2,557	2,169	2,500	2,570	3,718	3,372	2,746	2,573	2,061	2,206	1,670	2,817
(WY)	(1965)	(1980)	(2010)	(1946)	(1990)	(1990)	(1964)	(1976)	(1949)	(2005)	(1967)	(2004)
Min	192	274	368	349	573	596	553	453	342	238	213	201
(WY)	(1955)	(2009)	(1966)	(1981)	(2009)	(1988)	(1986)	(2007)	(2008)	(1986)	(1986)	(1999)

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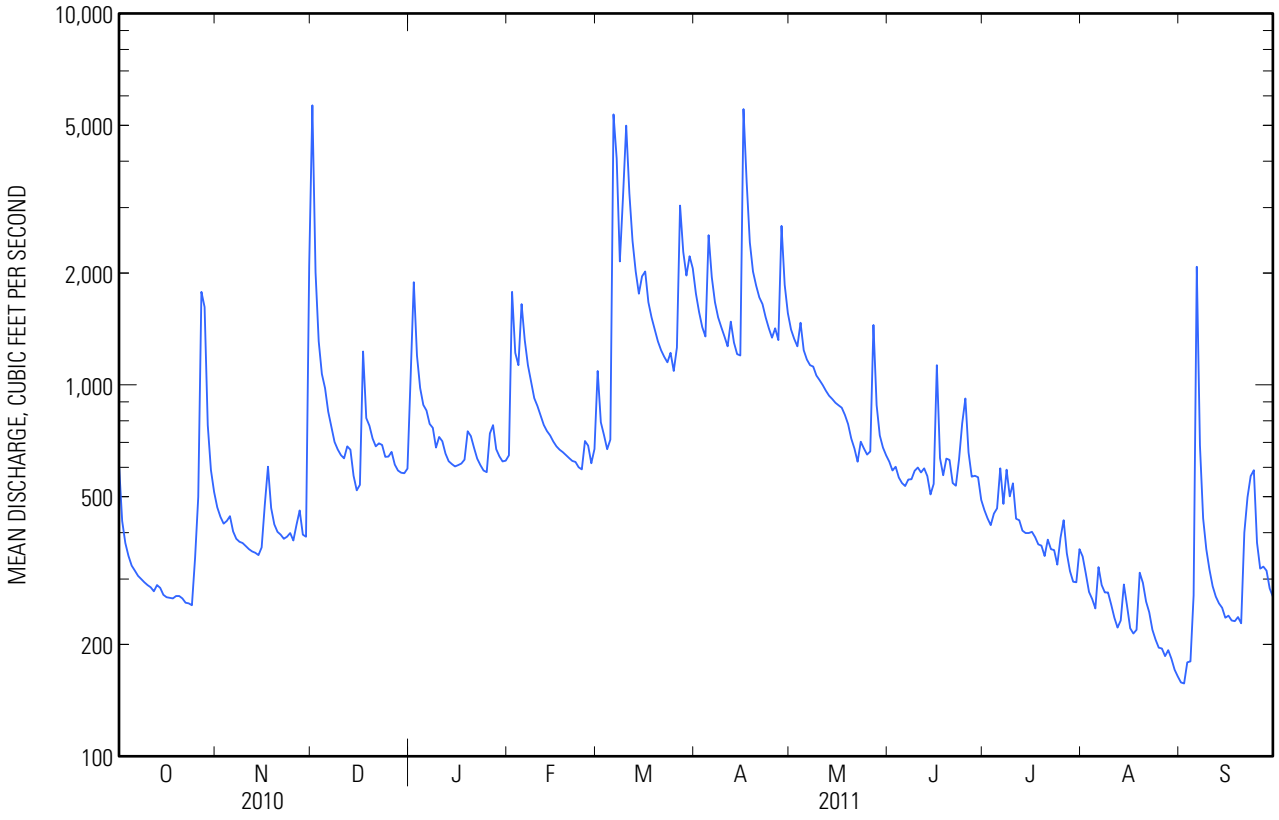
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1944 - 2011[a]	
Annual total	351,776		299,753			
Annual mean	964		821		1,034	
Highest annual mean					1,565	1973
Lowest annual mean					495	1986
Highest daily mean	6,850	Jan 25	5,660	Dec 1	17,200	Oct 5, 1964
Lowest daily mean	236	Sep 22	157	Sep 2	71	Nov 7, 1954
Annual seven-day minimum	245	Sep 19	170	Aug 29	142	Oct 2, 1986
Maximum peak flow			8,700	Mar 6	22,100	Oct 5, 1964
Maximum peak stage			7.30	Mar 6	12.87	Oct 5, 1964
Instantaneous low flow			152	Aug 31	[b]52	Nov 7, 1954
Annual runoff (cfsm)	2.21		1.88		2.37	
Annual runoff (inches)	30.01		25.58		32.23	
10 percent exceeds	1,790		1,660		1,880	
50 percent exceeds	737		612		796	
90 percent exceeds	289		266		348	

[a] See Period of Record.
[b] See Remarks.



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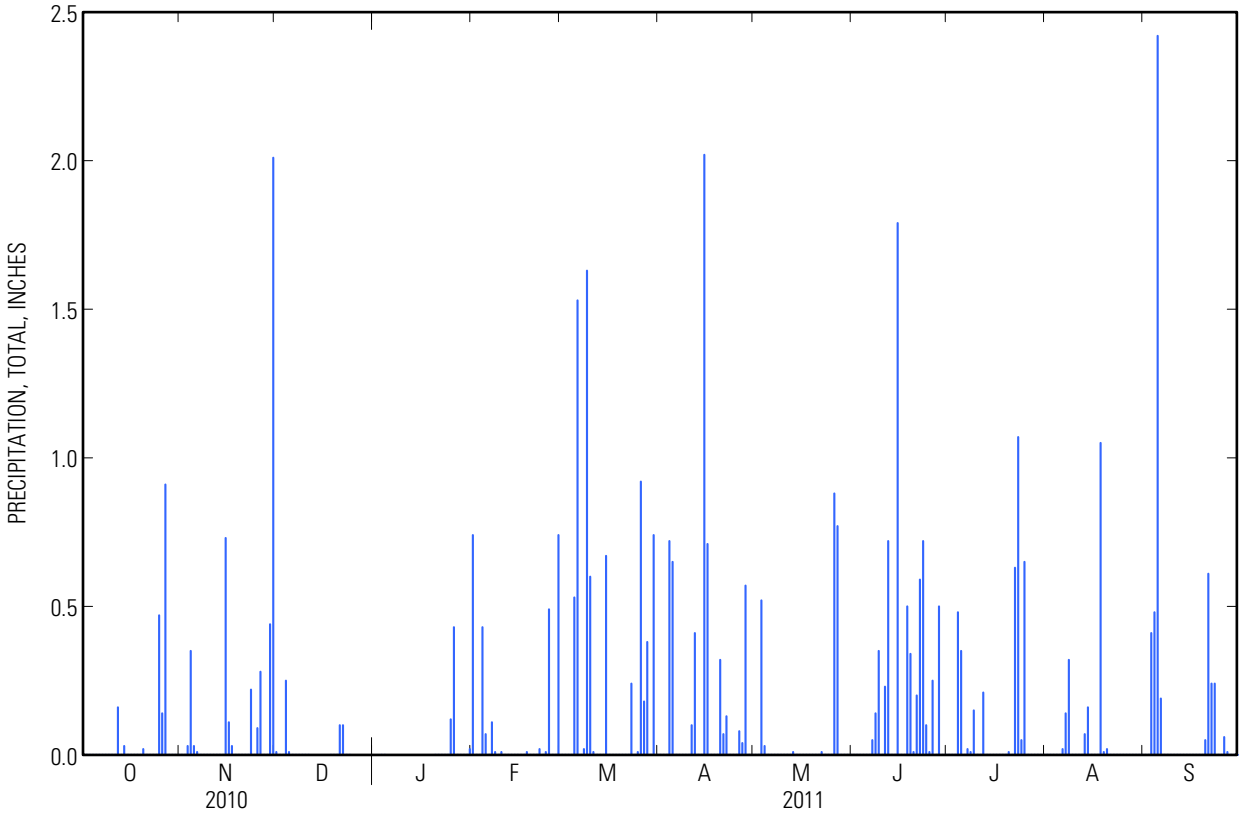
CLIMATOLOGICAL RECORDS

PERIOD OF RECORD.--October 1998 to current year.

INSTRUMENTATION.--Tipping-bucket raingage and electronic datalogger. Satellite telemetry at station.

REMARKS.--Gage is operated in cooperation with Tennessee Valley Authority. Precipitation data collected during freezing periods may not be accurately reflected in daily record.

PRECIPITATION, TOTAL, INCHES
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY SUM VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.00	0.01	---	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.41
4	0.00	0.35	0.25	0.00	0.43	0.00	0.72	0.03	0.00	0.48	0.00	0.48
5	0.00	0.03	0.01	---	0.07	0.53	0.65	0.00	0.00	0.35	0.00	2.42
6	0.00	0.01	0.00	---	0.00	1.53	0.00	0.00	0.00	0.00	0.02	0.19
7	0.00	0.00	0.00	---	0.11	0.00	0.00	0.00	0.05	0.02	0.14	0.00
8	0.00	0.00	0.00	---	0.01	0.02	0.00	0.00	0.14	0.01	0.32	0.00
9	0.00	0.00	0.00	---	0.00	1.63	0.00	0.00	0.35	0.15	0.00	0.00
10	0.00	0.00	0.00	---	0.01	0.60	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	---	0.00	0.01	0.10	0.00	0.23	0.00	0.00	0.00
12	0.16	0.00	---	---	0.00	0.00	0.41	0.00	0.72	0.21	0.00	0.00
13	0.00	0.00	---	---	0.00	0.00	0.00	0.01	0.00	0.00	0.07	0.00
14	0.03	0.00	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00
15	0.00	0.73	---	---	0.00	0.67	2.02	0.00	1.79	0.00	0.00	0.00
16	0.00	0.11	---	---	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.00
17	0.00	0.03	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	---	0.01	0.00	0.00	0.00	0.50	0.00	1.05	0.00
19	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.34	0.00	0.01	0.00
20	0.02	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.01	0.01	0.02	0.05
21	0.00	0.00	0.10	0.00	0.00	0.00	0.07	0.00	0.20	0.00	0.00	0.61
22	0.00	0.00	0.10	0.00	0.02	0.00	0.13	0.01	0.59	0.63	0.00	0.24
23	0.00	0.22	0.00	0.00	0.00	0.24	0.00	0.00	0.72	1.07	0.00	0.24
24	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.10	0.05	0.00	0.00
25	0.47	0.09	---	0.12	0.49	0.01	0.00	0.00	0.01	0.65	0.00	0.00
26	0.14	0.28	---	0.43	0.00	0.92	0.08	0.88	0.25	0.00	0.00	0.06
27	0.91	0.00	---	0.00	0.00	0.18	0.04	0.77	0.00	0.00	0.00	0.01
28	0.00	0.00	---	0.00	0.74	0.38	0.57	0.00	0.50	0.00	0.00	0.00
29	0.00	0.44	---	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	2.01	---	0.00	---	0.74	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	---	0.02	---	0.00	---	0.00	---	0.00	0.00	---
Total	1.73	4.33	---	---	2.64	7.46	5.82	2.22	6.50	3.63	1.79	4.71

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