

Water-Data Report 2009

05106000 SPRAGUE CREEK NEAR SPRAGUE, MANITOBA

Lower Red Basin
Roseau Subbasin

LOCATION.--Lat 48°59'33", long 95°39'43" referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.34, T.164 N., R.39 W., Roseau County, MN, Hydrologic Unit 09020314, on left bank 0.5 mi south of international boundary, 3.5 mi south of Sprague, Manitoba, 8 mi upstream from mouth, and 10.5 mi northeast of Roseau, MN.

DRAINAGE AREA.--176 mi²; Prior to 1981, 169 mi²; prior to October 1958, 151 mi²; changes due to construction of drainage ditches within basin.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1928 to December 1981, October, 1999 to current year.

REVISED RECORDS.--WSP 1055: 1944. WSP 1308: 1931(M). WDR MN-81-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,038.40 ft above sea level, 1928 datum, (levels by Geodetic Survey of Canada). Prior to Mar. 15, 1929, non-recording gage at same site and datum.

REMARKS.--Records good to fair except those for estimated daily discharges, which are poor.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	46	101	40	7.9	e2.4	e1.6	e90	626	448	232	36	19
2	41	98	37	8.0	e2.3	e1.7	e95	632	392	187	33	15
3	38	98	36	7.8	e2.1	e1.9	e97	617	347	150	32	14
4	35	97	31	7.9	e2.0	e2.0	e97	566	306	121	28	14
5	35	105	28	7.9	e2.0	e2.1	e105	499	276	102	23	12
6	41	212	25	7.7	e2.0	e2.4	e108	454	247	93	19	10
7	121	376	22	7.7	e2.0	e2.0	e127	422	222	85	17	9.8
8	128	342	20	7.6	e2.0	e1.8	e164	389	206	78	16	9.5
9	113	297	18	e7.0	e2.1	e2.0	e192	366	232	73	18	31
10	99	251	17	e7.0	e2.6	e1.8	e228	352	236	68	20	46
11	90	214	16	e7.0	e3.2	e1.6	e332	339	225	61	19	39
12	170	207	14	e6.5	e3.5	e1.6	e553	321	224	52	15	42
13	392	175	14	e5.2	e3.7	e1.6	882	332	228	45	13	41
14	364	190	13	e4.6	e3.8	e1.5	1,080	413	210	42	13	33
15	289	170	12	e4.3	e3.9	e1.5	1,370	428	187	73	31	31
16	237	175	9.0	e4.1	e3.9	e1.8	1,410	441	164	85	107	25
17	202	136	6.7	e4.1	e3.8	e4.8	1,290	425	159	83	103	23
18	178	168	6.5	e4.1	e3.6	e18	1,200	383	153	78	89	21
19	160	215	5.9	e4.2	e3.3	e25	1,100	347	141	72	79	17
20	144	181	6.5	e4.3	e2.7	e30	960	314	131	64	78	16
21	128	151	e7.0	e4.3	e2.4	e42	796	287	115	57	79	15
22	116	107	e6.5	e4.3	e2.1	e72	679	265	105	50	75	13
23	117	82	e7.5	e4.0	e2.0	e231	606	264	98	51	66	12
24	114	65	e8.8	e3.7	e1.8	e685	551	253	95	51	58	11
25	110	58	8.8	e3.4	e1.8	e308	506	287	80	45	50	10
26	113	49	8.9	e3.3	e1.7	e135	466	970	73	40	45	9.5
27	126	45	9.0	e3.0	e1.7	e94	456	1,130	153	35	36	13
28	118	44	8.5	e2.7	e1.6	e84	473	1,070	331	34	32	19
29	111	42	9.1	e2.6	---	e81	455	854	308	34	30	17
30	110	40	8.7	e2.5	---	e81	507	649	278	31	25	15
31	106	---	8.2	e2.5	---	e83	---	531	---	31	22	---
Total	4,192	4,491	468.6	161.2	72.0	2,002.7	16,975	15,226	6,370	2,303	1,307	602.8
Mean	135	150	15.1	5.20	2.57	64.6	566	491	212	74.3	42.2	20.1
Max	392	376	40	8.0	3.9	685	1,410	1,130	448	232	107	46
Min	35	40	5.9	2.5	1.6	1.5	90	253	73	31	13	9.5
Ac-ft	8,310	8,910	929	320	143	3,970	33,670	30,200	12,630	4,570	2,590	1,200
Cfsm	0.77	0.85	0.09	0.03	0.01	0.37	3.21	2.79	1.21	0.42	0.24	0.11
In.	0.89	0.95	0.10	0.03	0.02	0.42	3.59	3.22	1.35	0.49	0.28	0.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	40.4	36.1	6.12	2.58	2.08	18.4	187	174	140	57.4	29.0	43.3
Max	259	460	30.1	12.8	9.10	193	633	709	1,238	320	160	419
(WY)	(1942)	(2001)	(2001)	(2006)	(2006)	(1945)	(1966)	(1950)	(2002)	(2005)	(1968)	(1941)
Min	0.95	1.10	0.20	0.23	0.13	0.53	7.16	2.21	0.11	0.03	0.09	0.39
(WY)	(1953)	(1977)	(1977)	(1977)	(1977)	(1964)	(1981)	(1980)	(1980)	(1980)	(1961)	(1934)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1929 - 2009	
Annual total	32,370.6		54,171.3			
Annual mean	88.4		148		66.2	
Highest annual mean					150	2002
Lowest annual mean					4.07	1980
Highest daily mean	522	Jun 13	1,410	Apr 16	8,070	Jun 11, 2002
Lowest daily mean	2.1	Mar 6	^a 1.5	Mar 14	^b 0.00	Apr 1, 1930
Annual seven-day minimum	2.2	Mar 3	1.6	Mar 10	0.00	Aug 7, 1936
Maximum peak flow			1,470	Apr 16	^c 8,440	Jun 11, 2002
Maximum peak stage			13.70	Apr 16	17.08	Jun 11, 2002
Instantaneous low flow			^d 1.5	Mar 14	^b 0.00	Apr 1, 1930
Annual runoff (ac-ft)	64,210		107,400		47,950	
Annual runoff (cfsm)	0.503		0.843		0.376	
Annual runoff (inches)	6.84		11.45		5.11	
10 percent exceeds	212		423		188	
50 percent exceeds	56		50		11	
90 percent exceeds	2.7		2.6		1.2	

^a Estimated daily-mean discharge, backwater from ice.

^b Many days, several years.

^c From rating curve extension above 2,560 ft³/s.

^d Estimated, minimum daily.

