



SRC CLIMATE REFERENCE STATION DAILY DATA REPORT
SASKATOON STATION 4057180

52°09' N 106°36' W 497 m asl Estab. 1963

Preliminary **NOVEMBER 2019**

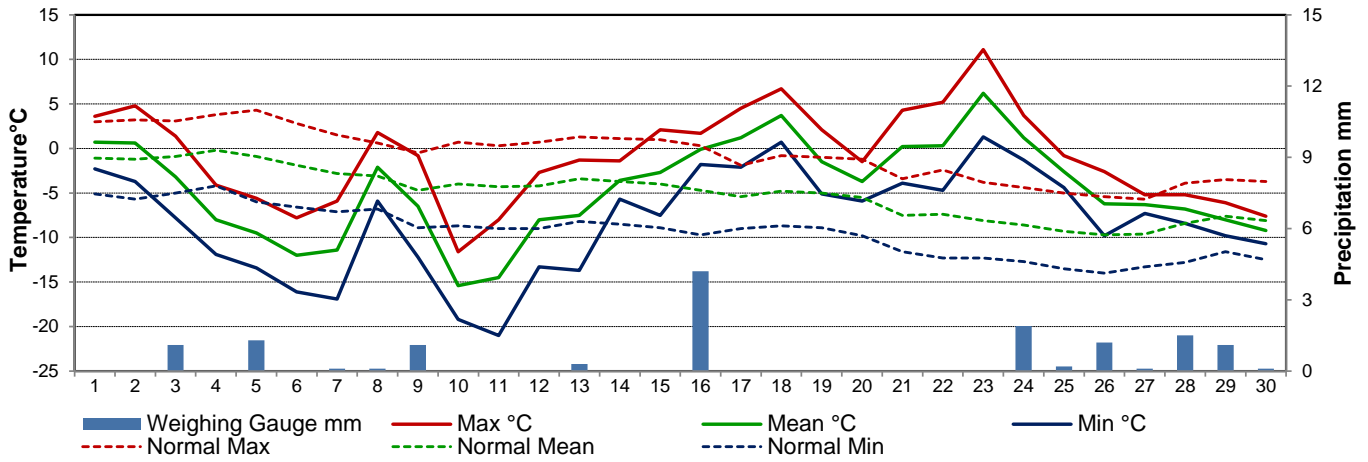
Day	Temperature						Degree-days			Precipitation			Relative Humidity		Station Pressure (sea level)	
	Max	Normal Max	Min	Normal Min	Mean	Normal Mean	Growing	Heating	Cooling	Weighing Gauge	Notes	Snow-on-Ground 0900h	Max ½ hr Avg	Min ½ hr Avg	Max ½ hr Avg	Min ½ hr Avg
	°C	1981-2010	°C	1981-2010	°C	1981-2010	5°C base	18°C base	18°C base	mm		cm	%	%	mbar	mbar
1	3.6	3.0	-2.3	-5.1	0.7	-1.1	0.0	17.3	0.0	0.0		3	90	70	1021	1017
2	4.8	3.2	-3.7	-5.7	0.6	-1.2	0.0	17.4	0.0	0.0		1	89	62	1017	1011
3	1.4	3.1	-7.8	-5.0	-3.2	-0.9	0.0	21.2	0.0	1.1	light snow	0	95	70	1020	1010
4	-4.1	3.8	-11.9	-4.2	-8.0	-0.2	0.0	26.0	0.0	0.0		0	84	53	1022	1020
5	-5.6	4.3	-13.4	-6.0	-9.5	-0.9	0.0	27.5	0.0	1.3	light snow	0	89	66	1031	1020
6	-7.8	2.8	-16.1	-6.6	-12.0	-1.9	0.0	30.0	0.0	0.0		2	85	62	1035	1025
7	-5.9	1.5	-16.9	-7.1	-11.4	-2.8	0.0	29.4	0.0	0.1		2	86	68	1026	1015
8	1.8	0.6	-5.9	-6.8	-2.1	-3.1	0.0	20.1	0.0	0.1	freezing rain	2	91	72	1014	1009
9	-0.8	-0.5	-12.2	-8.9	-6.5	-4.7	0.0	24.5	0.0	1.1	light snow	1	92	58	1027	1012
10	-11.6	0.7	-19.2	-8.7	-15.4	-4.0	0.0	33.4	0.0	0.0		2	78	59	1037	1028
11	-8.0	0.3	-21.0	-9.0	-14.5	-4.3	0.0	32.5	0.0	0.0		2	80	61	1036	1014
12	-2.7	0.7	-13.3	-9.0	-8.0	-4.2	0.0	26.0	0.0	0.0		3	87	68	1013	1008
13	-1.3	1.3	-13.7	-8.2	-7.5	-3.4	0.0	25.5	0.0	0.3	light snow	2	92	68	1017	1011
14	-1.4	1.1	-5.7	-8.5	-3.6	-3.7	0.0	21.6	0.0	0.0		2	93	67	1020	1013
15	2.1	1.0	-7.5	-8.9	-2.7	-4.0	0.0	20.7	0.0	0.0	fog am	3	96	80	1018	1002
16	1.7	0.3	-1.8	-9.7	-0.1	-4.7	0.0	18.1	0.0	4.2	freezing rain / snow	4	97	86	1016	1002
17	4.5	-1.9	-2.1	-9.0	1.2	-5.4	0.0	16.8	0.0	0.0	fog am	4	97	77	1016	998
18	6.7	-0.8	0.7	-8.7	3.7	-4.8	0.0	14.3	0.0	0.0		3	84	65	1007	998
19	2.1	-1.0	-5.1	-8.9	-1.5	-5.0	0.0	19.5	0.0	0.0		0	92	83	1016	1007
20	-1.5	-1.2	-5.9	-9.8	-3.7	-5.5	0.0	21.7	0.0	0.0		0	86	63	1021	1017
21	4.3	-3.4	-3.9	-11.6	0.2	-7.5	0.0	17.8	0.0	0.0		3	93	60	1019	1009
22	5.2	-2.4	-4.7	-12.3	0.3	-7.4	0.0	17.7	0.0	0.0		2	85	53	1009	1003
23	11.1	-3.8	1.3	-12.3	6.2	-8.1	1.2	11.8	0.0	0.0		0	75	39	1005	1000
24	3.7	-4.4	-1.3	-12.7	1.2	-8.6	0.0	16.8	0.0	1.9		1	96	67	1001	992
25	-0.8	-5.0	-4.4	-13.5	-2.6	-9.3	0.0	20.6	0.0	0.2		2	92	72	1008	1001
26	-2.6	-5.4	-9.8	-14.0	-6.2	-9.7	0.0	24.2	0.0	1.2		3	94	86	1018	1008
27	-5.2	-5.7	-7.3	-13.3	-6.3	-9.6	0.0	24.3	0.0	0.1		3	91	83	1029	1018
28	-5.2	-3.9	-8.4	-12.8	-6.8	-8.4	0.0	24.8	0.0	1.5		1	91	80	1029	1022
29	-6.1	-3.5	-9.8	-11.6	-8.0	-7.6	0.0	26.0	0.0	1.1		11	90	82	1021	1018
30	-7.6	-3.7	-10.7	-12.5	-9.2	-8.1	0.0	27.2	0.0	0.1		12	89	81	1022	1020
Total							1.2	674.7	0.0	14.3			Extreme / Date	Extreme / Date	Extreme / Date	Extreme / Date
Avg	-0.8	-0.6	-8.1	-9.4	-4.5	-5.0	1981-2010 Normal			13.4	Normal					
Extreme Date	11.1		-21.0				2.9	690.1	0.0	289.8	Cumulative		97	39	1037	992
	23		11							342.6	Cumulative Norm		16	23	10	24

Note: Red numbers indicate manual calculation; Red cell indicate data not available

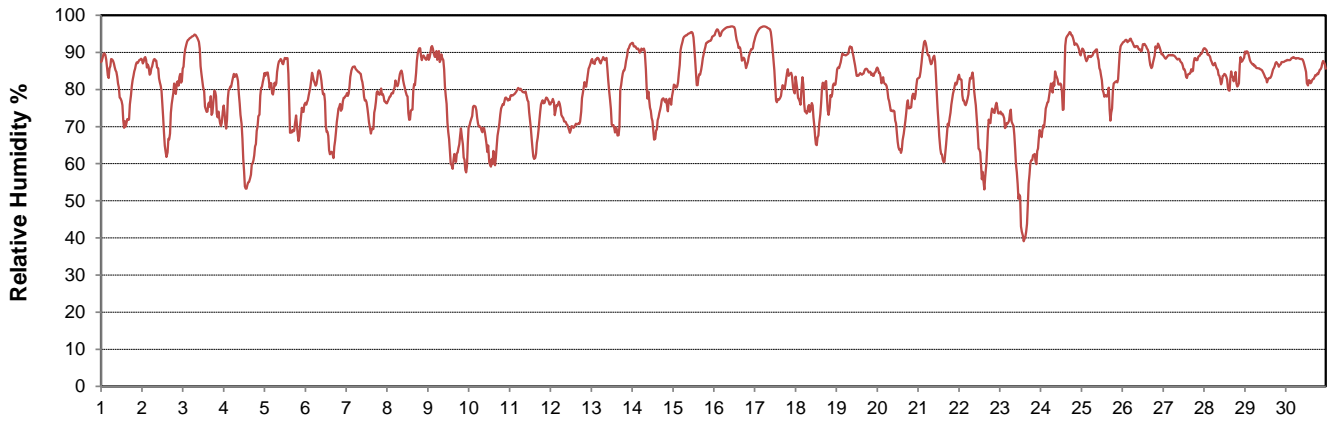
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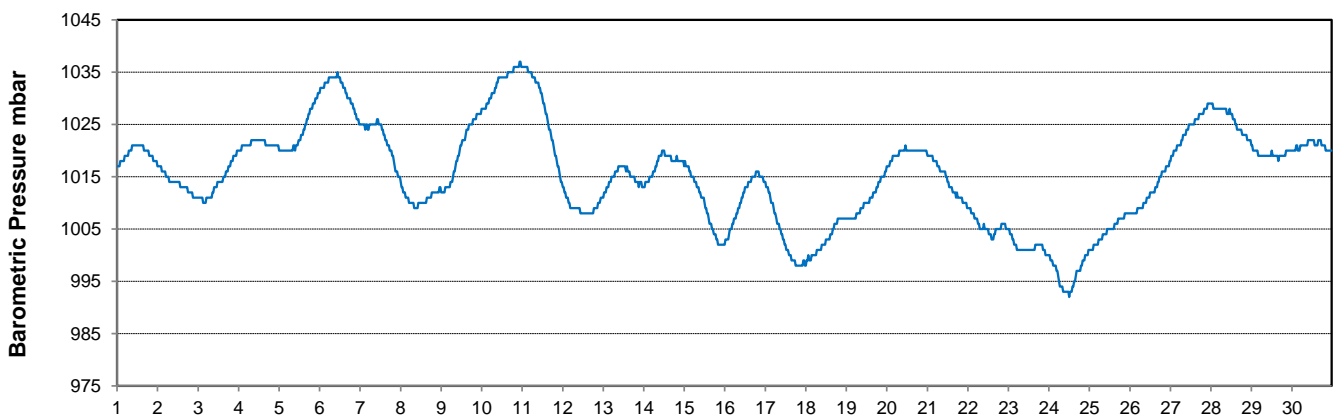
Temperature and Precipitation for November 2019



Relative Humidity for November 2019



Barometric Pressure Corrected to Sea Level for November 2019





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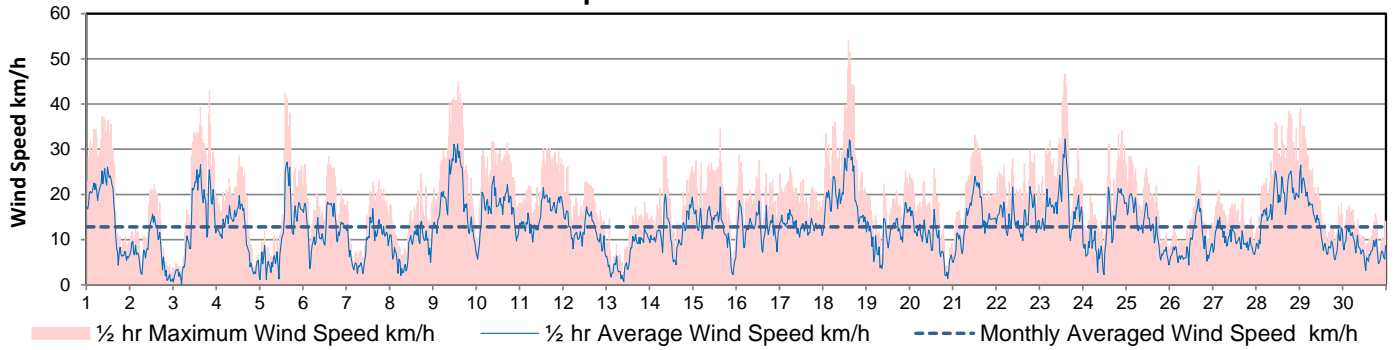
Day	Wind Gust			Soil Temperatures at 0900hrs								Radiation				
	Max	Direction	Time	Surface	5 cm	10 cm	20 cm	50 cm	100 cm	150 cm	300 cm	Bright Sunshine	Possible	% Possible	Global	Diffuse
	km/h			°C	°C	°C	°C	°C	°C	°C	°C	hours	hours		MJ/m ²	MJ/m ²
1	37.3	NW	8:58	1.0	0.0	0.5	1.5	4.5	7.5	8.5	9.5	2.7	9.6	28.1	4.6	3.0
2	22.2	WNW	13:45	-3.0	0.5	1.0	1.5	4.5	7.0	8.0	9.5	5.4	9.6	56.5	6.0	1.7
3	43.0	N	20:09	0.0	0.5	1.0	1.5	4.0	7.0	8.0	9.5	0.0	9.5	0.0	1.9	1.5
4	28.6	NW	12:48	-10.0	0.0	0.5	1.5	4.0	7.0	8.0	9.5	1.9	9.4	20.1	4.2	3.0
5	42.4	N	14:17	-8.5	-2.0	-0.5	0.5	4.0	7.0	8.0	9.0	1.1	9.4	11.7	3.3	2.2
6	28.4	W	14:04	-15.5	-3.0	-2.0	-0.5	3.5	6.5	8.0	9.0	8.3	9.3	89.2	7.3	2.3
7	23.2	S	18:21	-17.0	-5.0	-3.5	-1.5	3.0	6.5	7.5	9.0	5.9	9.3	63.8	7.3	2.5
8	24.5	WNW	17:26	-3.0	-3.0	-2.5	-2.0	2.5	6.5	7.5	9.0	0.0	9.2	0.0	2.3	1.9
9	45.0	N	14:01	-6.0	-2.0	-1.5	-1.0	2.5	6.0	7.5	9.0	1.4	9.1	15.3	4.0	2.9
10	31.7	N	8:42	-14.0	-4.0	-3.0	-1.5	2.5	6.0	7.5	9.0	3.9	9.1	43.0	4.7	3.1
11	30.3	SSW	15:29	-21.0	-7.0	-5.5	-3.0	2.0	6.0	7.0	9.0	8.4	9.0	93.1	7.5	1.3
12	26.5	SSW	21:06	-8.0	-6.5	-5.5	-4.0	1.0	5.5	7.0	9.0	0.0	9.0	0.0	2.6	2.1
13	18.2	S	0:10	-16.5	-7.0	-6.0	-4.0	1.0	5.5	7.0	8.5	0.9	8.9	10.1	3.3	2.3
14	28.5	NNE	9:00	-4.0	-4.5	-4.0	-3.5	0.5	5.0	7.0	8.5	4.1	8.9	46.3	4.1	1.4
15	34.4	SSE	15:26	-4.5	-4.0	-3.5	-2.5	0.5	5.0	6.5	8.5	0.1	8.8	1.1	2.2	1.8
16	28.7	NNW	1:45	-0.5	-2.0	-2.0	-2.0	1.0	5.0	6.5	8.5	0.0	8.8	0.0	1.4	1.2
17	26.0	S	5:37	-2.0	-1.5	-1.0	-1.0	1.0	4.5	6.5	8.5	0.6	8.7	6.9	3.1	2.4
18	54.0	NW	14:29	4.0	-0.5	-0.5	-0.5	1.5	4.5	6.5	8.5	0.4	8.7	4.6	2.2	1.7
19	25.3	NNE	21:53	-0.5	0.0	0.0	0.0	2.0	4.5	6.0	8.5	0.0	8.6	0.0	1.7	1.4
20	25.8	NW	13:53	-5.5	-0.5	0.0	0.0	2.0	4.5	6.0	8.0	4.7	8.6	55.0	4.4	1.2
21	33.1	SSW	12:27	-2.0	-1.0	-0.5	0.0	2.0	4.5	6.0	8.0	7.4	8.5	87.1	5.0	1.0
22	29.8	W	18:47	-4.5	-2.0	-1.0	0.0	2.0	4.5	6.0	8.0	5.4	8.5	63.8	3.9	1.4
23	46.7	NW	14:24	2.0	-1.0	-0.5	0.0	2.0	4.5	6.0	8.0	6.0	8.4	71.3	3.9	1.0
24	34.2	WNW	21:55	-0.5	-0.5	0.0	0.0	2.0	4.5	6.0	8.0	0.6	8.4	7.2	1.5	1.0
25	28.4	WNW	1:41	-5.0	-0.5	0.0	0.5	2.0	4.5	6.0	8.0	1.3	8.3	15.6	2.2	1.2
26	26.3	NNE	16:13	-4.5	-1.0	-0.5	0.0	2.0	4.5	6.0	8.0	0.0	8.3	0.0	1.6	1.2
27	21.0	NNE	3:41	-7.5	-1.0	-0.5	0.0	2.0	4.5	6.0	7.5	0.1	8.2	1.2	2.3	1.7
28	38.3	ESE	18:01	-8.0	-1.5	-1.0	0.0	2.0	4.5	5.5	7.5	0.3	8.2	3.7	2.0	1.6
29	39.1	SE	0:48	-6.5	-2.0	-1.5	-0.5	2.0	4.5	5.5	7.5	0.0	8.2	0.0	2.3	1.9
30	17.6	NE	3:50	-9.0	-1.5	-1.0	-0.5	2.0	4.5	5.5	7.5	0.0	8.1	0.0	1.9	1.6
Total												70.9	264.3	26.8	104.7	54.5
Mean				-6.0	-2.1	-1.5	-0.7	2.3	5.4	6.8	8.5	1981-2010 Normal for Radiation				
Extreme	54.0	NW	14:29	1971- 2000 Normal for Soil Temperatures								97.0	270.3	35.9	127.2	63.8
Date	18				-2.2	-1.7	-0.5	3.0	5.6	6.8	8.1	No. of Bright Sunshine days = 22				

Note: Red numbers indicate manual calculation; Red cell indicate data not available

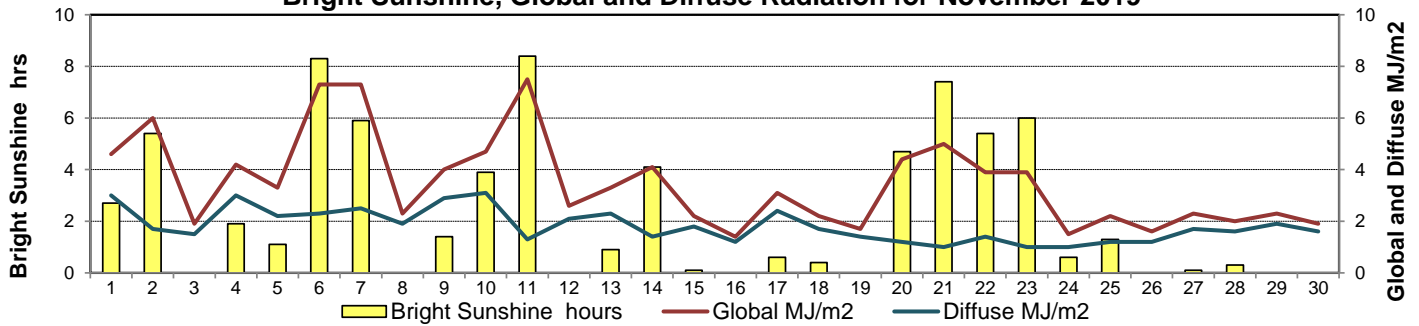
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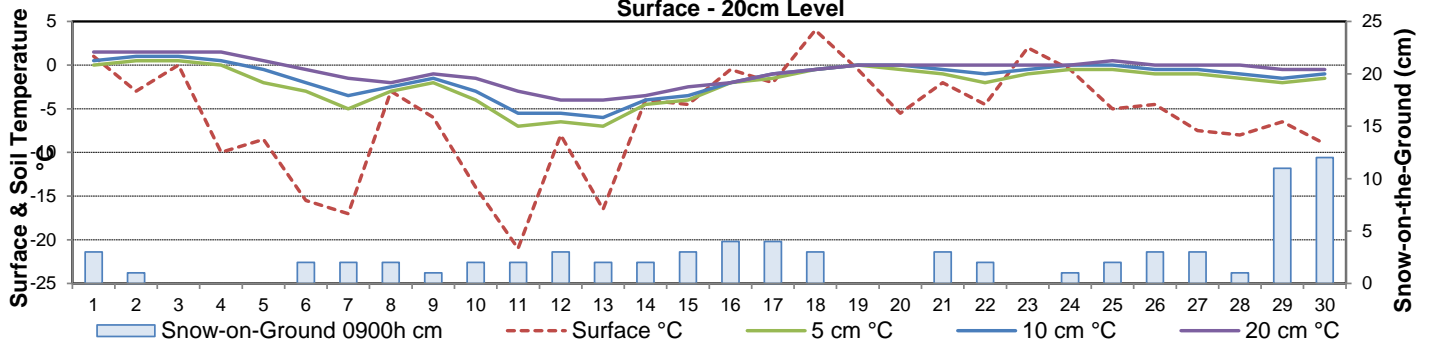
Wind Speed for November 2019



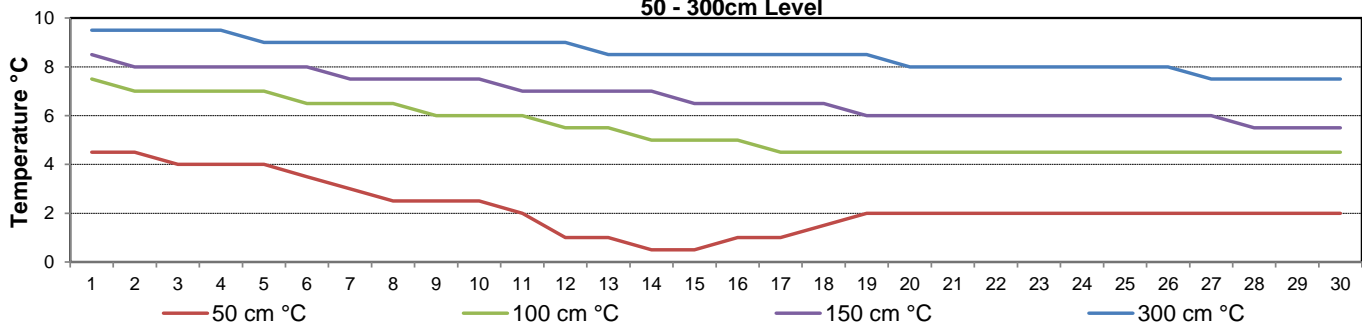
Bright Sunshine, Global and Diffuse Radiation for November 2019



Soil Temperatures for November 2019
Surface - 20cm Level



Soil Temperatures for November 2019
50 - 300cm Level





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Extreme Records for November

Max/Min Temperature °C			Precipitation - Monthly mm				Wind Monthly km/h				CRS Bright Sunshine - Monthly						
S'toon Area	Date	Site	S'toon CRS	Date	S'toon Area	Date	Site	S'toon CRS	Date	S'toon Airport	Date	S'toon CRS**	Date	Hours	Year	No. of Days	Year
21.7	03/1903	SE	20.0	06/2016	57.3	1940	SE	48.2	1973	100 ^W	17/1976	101	1976	188.5	1976	30	1976
-39.4	30/1893	SM	-33.5	24/1985	0.0	2002*	SWT*	0.4	2009					37.2	1972	10	1972

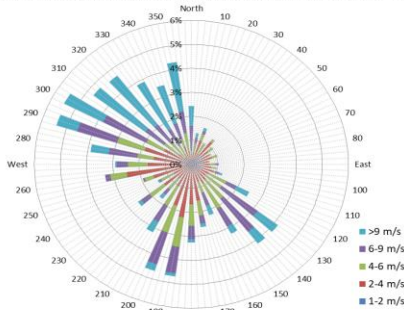
**1975 forward * more than one year

Notable Events for CRS Saskatoon - November						Saskatoon Area Stations			Glossary	
Element	Type	Day	New Record	Old Record	Year (day)	Station	Location	Operational Period	Term	Definition
Temperature	Highest Extreme	23	11.1	9.1	2011	SM	NWMP	c. 1892-1901	Normal	Trace of precipitation
	Maximum Daily	23	1.3	-0.5	1988	SE	Eby	1901-1941		
	Highest Extreme	23	6.2	3.0	1988	US	Univ. of Sask.	1915-1964	SOG	Depth of snow-on-the-ground in cm
	Minimum Daily	23	1.2	0		S	Saskatoon	1941-1942		
Growing Degree Days	Highest Mean Daily	23	1.2	0		SA	Saskatoon A	1942 -	na	not available
Heating Degree Days		23	11.8	15	1988	NRC	Nat. Res. Council	1952-1966		
						SRC	Sask. Res. Council	1963-	Degree-days	
						SWT	S'toon Water Treatment Plant	1974 -	Tm	Mean Temperature
						SC	S'toon Central Ave	1974-1989	Growing	(Tm-5°C); if Tm ≤ 5°C then GDD = 0
						S1	Saskatoon 1	1976-1978	Heating	(18°C-Tm); if Tm ≤ 18°C then HDD = 0
						S2	Saskatoon 2	1977-1990	Cooling	(Tm-18°C); if Tm ≥ 18°C then CDD = 0
						K	S'toon Kernen Farm	1993-2004	Extreme Cooling	(Tm-24°C); if Tm ≥ 24°C then CDD = 0
						KCS	S'toon Kernen Farm CS	1996-	Manual Snow Depths (average of 3 meter sticks located inside climate station compound)	
						RCS	Environment Canada	2008-		
						SF	Sutherland Forestry	1943-1970		

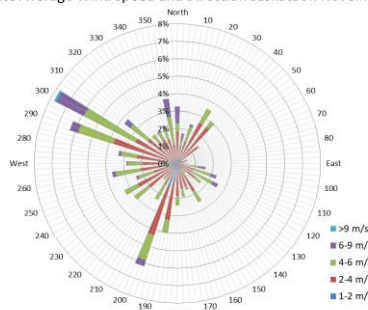
Nov 04 = 0 cm
 Nov 06 = 2 cm
 Nov 14 = 2 cm discontinuous cover
 Nov 20 = 0 cm

Nov 7, Snow depth instrument general maintenance

1/2 hr Maximum Wind Speed and Direction Saskatoon November 2019



10 minute Average Wind Speed and Direction Saskatoon November 2019



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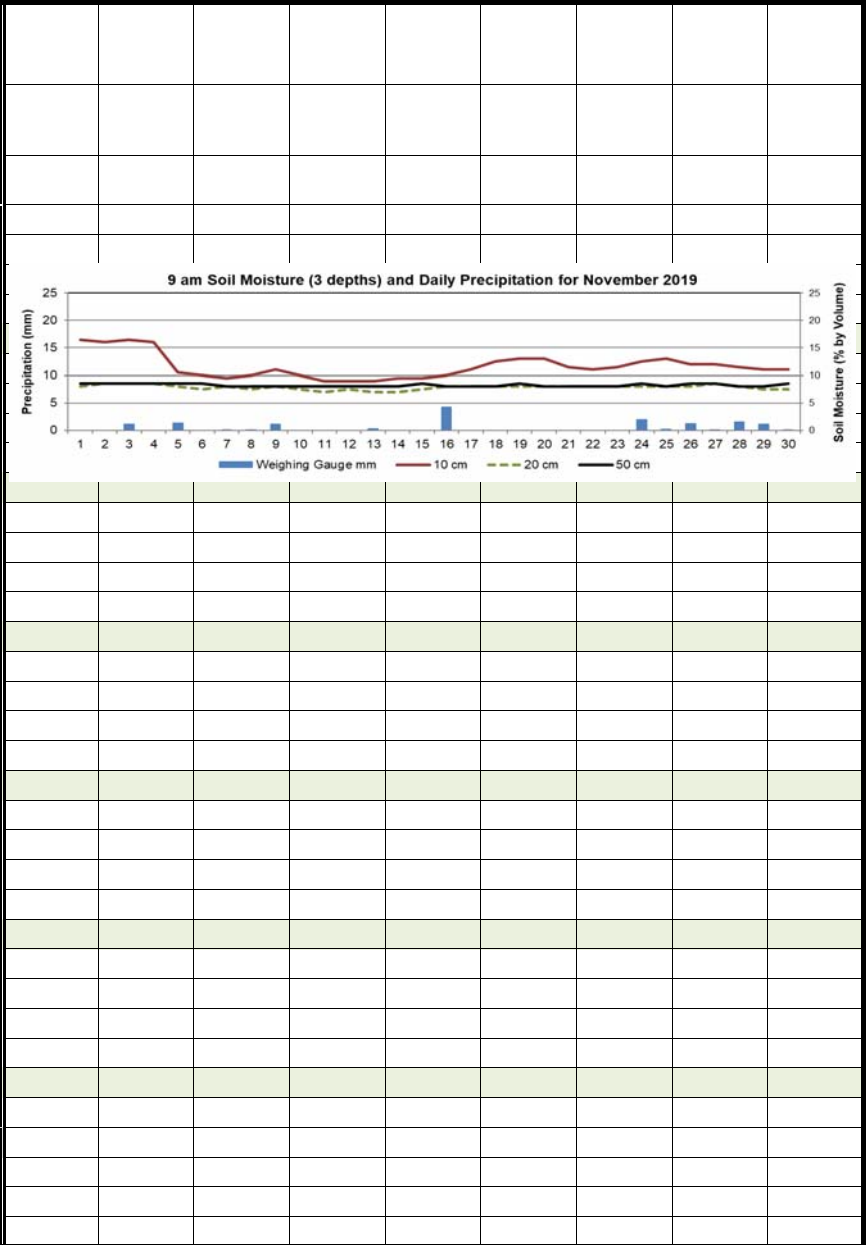
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Day	2 meter Wind Speed			Soil Moisture at 0900 hrs (rounded to the 0.5%)		
	Daily Average	Max ½ hr Avg	½ hr Extreme Max	10 cm	20 cm	50 cm
	km/h	km/h	km/h	% by volume (soil type is Loam (45.5% Sand, 41.1% Silt, 13.3% Clay))		
1	12.0	19.3	32	16.5	8.0	8.5
2	5.0	12.2	19	16.0	8.5	8.5
3	10.0	19.7	33	16.5	8.5	8.5
4	9.0	15.4	24	16.0	8.5	8.5
5	8.0	20.2	32	10.5	8.0	8.5
6	10.0	14.8	24	10.0	7.5	8.5
7	6.0	13.2	18	9.5	8.0	8.0
8	6.0	10.6	21	10.0	7.5	8.0
9	14.0	23.4	37	11.0	8.0	8.0
10	12.0	17.7	26	10.0	7.5	8.0
11	11.0	16.1	25	9.0	7.0	8.0
12	9.0	13.3	22	9.0	7.5	8.0
13	5.0	8.9	15	9.0	7.0	8.0
14	9.0	15.0	22	9.5	7.0	8.0
15	9.0	13.7	25	9.5	7.5	8.5
16	10.0	14.5	22	10.0	8.0	8.0
17	9.0	11.6	20	11.0	8.0	8.0
18	15.0	23.4	42	12.5	8.0	8.0
19	9.0	13.7	20	13.0	8.0	8.5
20	8.0	13.1	20	13.0	8.0	8.0
21	11.0	17.8	28	11.5	8.0	8.0
22	11.0	16.3	25	11.0	8.0	8.0
23	13.0	23.3	39	11.5	8.0	8.0
24	9.0	15.8	25	12.5	8.0	8.5
25	10.0	14.9	23	13.0	8.0	8.0
26	7.0	13.3	20	12.0	8.0	8.5
27	8.0	11.2	16	12.0	8.5	8.5
28	14.0	19.7	32	11.5	8.0	8.0
29	11.0	21.8	34	11.0	7.5	8.0
30	7.0	10.6	15	11.0	7.5	8.5
Total						
Mean				12	8	8.2
Extreme	15.0	23.4	41.9	16.5	8.5	8.5
Date	18	9	18	1	2	1



Note: Red numbers indicate manual calculation; Red cell indicate data not available

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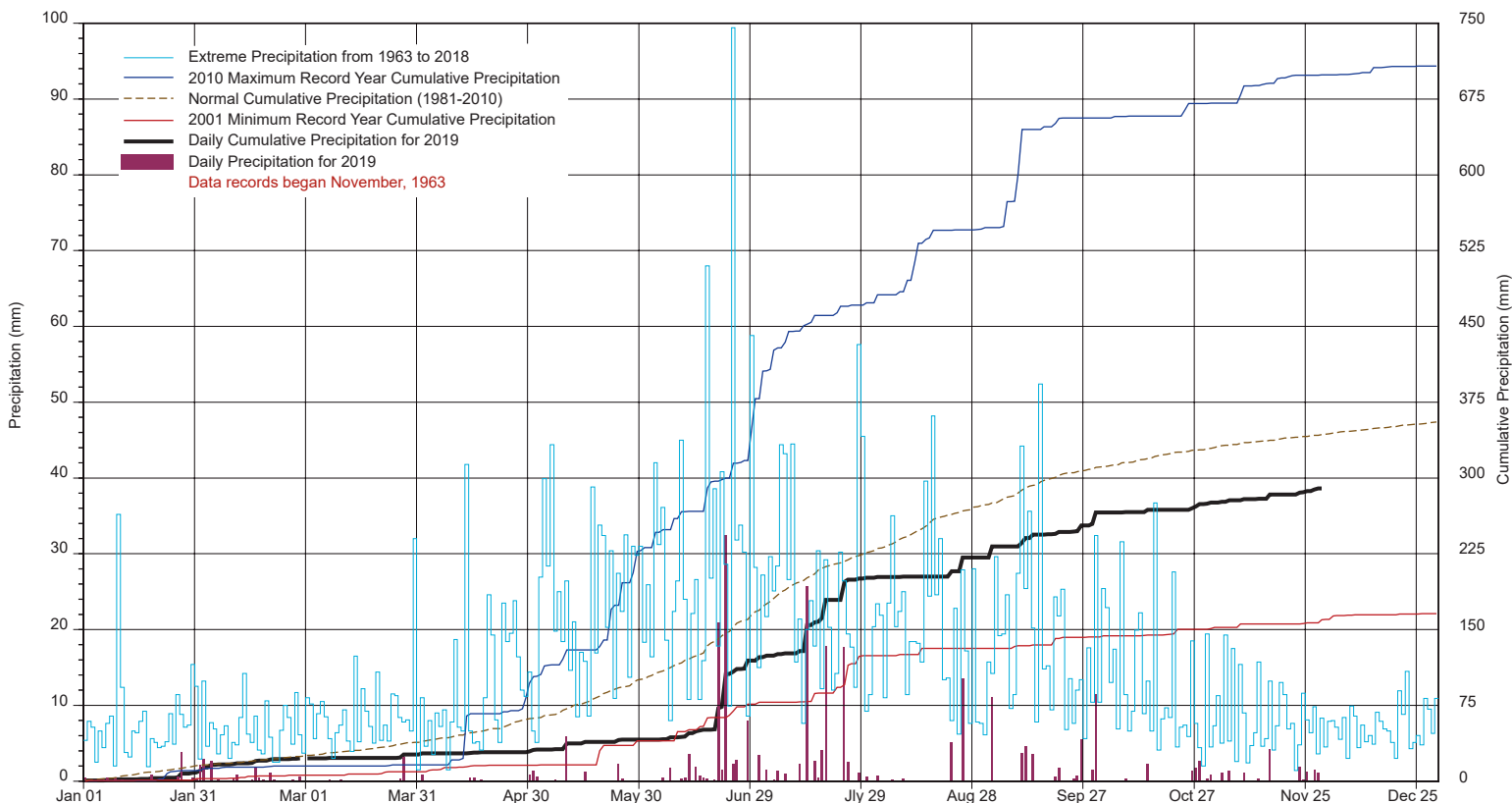


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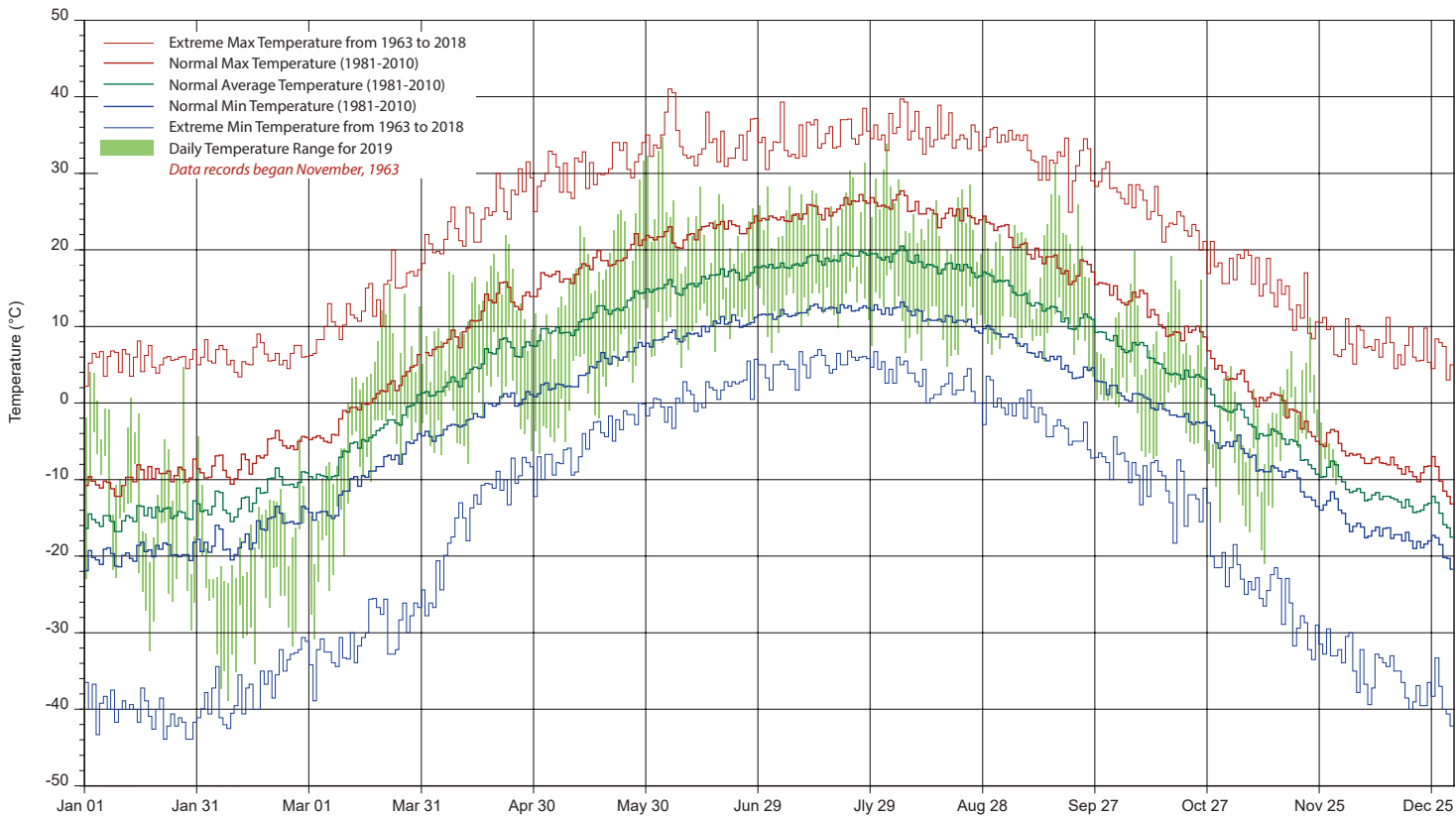
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SASKATCHEWAN RESEARCH COUNCIL SASKATOON CLIMATE REFERENCE STATION 2019 PRECIPITATION AND NORMALS



2019 TEMPERATURES AND NORMALS



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