

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
JANUARY 2016**

Date	Air Temp.		Cumul*		Precip	Cumul Precip.	Snow	Snow Frost		Soil Temperatures						Wind	Solar Radiation		
	Max.	Min.	HDD	HDD				Depth	Depth	2"		4"		8"				20"	40"
	° F							in.				° F							
1	21	0	54.5	1899.5	-	-	-	6		31	31	31	31	32	32	35	42	263	166
2	28	4	49.0	1948.5	-	-	-	6		31	31	31	31	32	32	35	42	206	140
3	29	6	47.5	1996.0	-	-	-	5		31	30	31	31	32	32	35	42	224	190
4	28	13	44.5	2040.5	-	-	-	5	7	31	31	31	31	32	32	35	42	154	111
5	22	14	47.0	2087.5	-	-	-	5		31	31	31	31	32	32	35	42	266	113
6	29	19	41.0	2128.5	-	-	-	5		31	31	31	31	32	31	35	42	415	195
7	33	26	35.5	2164.0	0.05	0.05	0.4	5		31	31	31	31	32	31	35	41	231	88
8	34	31	32.5	2196.5	0.14	0.19	1.6	6		32	31	32	31	32	32	35	41	144	62
9	33	3	47.0	2243.5	0.05	0.24	0.5	5		32	32	32	32	32	32	35	41	237	80
10	4	-14	70.0	2313.5	-	-	-	5		32	30	32	30	32	31	35	41	244	168
11	-1	-17	74.0	2387.5	-	-	-	5	9	30	29	30	29	31	30	35	41	132	206
12	12	-8	63.0	2450.5	0.01	0.25	0.3	5		29	28	29	29	30	30	34	41	233	135
13	12	-10	64.0	2514.5	-	-	-	5		29	28	29	28	30	29	34	41	189	208
14	25	11	47.0	2561.5	-	-	-	4		29	28	29	28	30	29	34	41	158	164
15	31	19	40.0	2601.5	T	-	0.1	4		30	29	30	29	30	30	34	41	220	199
16	21	-3	56.0	2657.5	-	-	-	4		30	28	30	28	31	30	34	41	253	114
17	3	-16	71.5	2729.0	-	-	-	4		28	26	28	26	30	28	34	40	227	181
18	-6	-20	78.0	2807.0	-	-	-	4	13	26	24	26	24	28	27	33	40	151	220
19	1	-18	73.5	2880.5	-	-	-	4		26	24	25	24	27	27	33	40	66	157
20	13	-9	63.0	2943.5	0.03	0.28	0.5	5		26	24	26	24	28	26	33	40	196	141
21	21	13	48.0	2991.5	-	-	-	5		28	26	28	26	29	28	32	40	206	101
22	24	18	44.0	3035.5	0.05	0.33	0.8	6		29	28	29	28	30	29	32	40	126	87
23	21	16	46.5	3082.0	0.02	0.35	0.2	6		29	29	29	29	30	29	32	40	177	149
24	27	16	43.5	3125.5	T	-	T	6		29	29	29	29	30	30	32	39	339	154
25	29	26	37.5	3163.0	-	-	-	6	14	30	29	30	29	30	30	32	39	171	107
26	29	22	39.5	3202.5	0.07	0.42	0.8	6		30	30	30	30	31	30	32	39	225	64
27	26	8	48.0	3250.5	T	-	0.1	6		30	29	30	29	31	30	32	39	154	167
28	37	14	39.5	3290.5	T	-	T	6		30	29	30	29	31	30	32	39	356	181
29	35	15	40.0	3330.0	-	-	-	5		31	30	31	30	31	31	32	39	186	137
30	33	22	37.5	3367.5	-	-	-	4		30	30	30	30	31	30	32	39	289	205
31	39	25	33.0	3400.5	0.03	0.45	-	3	13	31	30	31	30	31	31	32	39	174	148
Total	22.4	7.3	1555.5	3400.5	0.45	0.45	5.3			29.8	28.9	29.7	29.0	30.6	30.0			6612	4538
Avg.	14.8									29.3		29.4		30.3		33.5	40.5		
Dept. from Norma	+1.6		-51.5	-638.5	-0.80	-0.80	-4.2			+6.5		+5.1		+5.4		+1.5			-563

* Since Nov. 1, 2015

** Since Jan. 1, 2016

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
FEBRUARY 2016**

Date	Air Temp.		Cumul*		Cumul**			Snow Depth	Frost Depth	Soil Temperatures								Wind	Solar Radiation
	Max.	Min.	HDD	HDD	Precip	Precip.	Snow			2"		4"		8"		20"	40"		
	----- °F-----		----- in.-----							----- ° F-----									
1	38	21	35.5	3436.0	-	-	-	3	13	32	31	31	31	31	31	33	39	110	216
2	31	21	39.0	3475.0	-	-	-	3		32	32	31	31	32	31	33	39	151	134
3	29	18	41.5	3516.5	0.65	1.10	6.5	7		32	32	32	31	32	32	33	39	431	63
4	20	2	44.0	3560.5	T		T	7		32	32	32	31	32	32	33	39	206	254
5	26	0	52.0	3612.5	0.03	1.13	0.5	7		32	31	31	31	32	32	33	39	106	180
6	27	6	48.5	3661.0	0.02	1.15	0.4	7		31	31	31	31	32	32	33	38	251	165
7	34	24	36.0	3697.0	T		-	6		31	31	31	31	32	32	33	38	361	196
8	39	11	40.0	3737.0	0.05	1.20	0.5	6	12	31	31	31	31	32	32	33	38	364	232
9	16	5	54.5	3791.5	T		T	6		31	30	31	30	32	31	33	38	334	200
10	16	1	56.5	3848.0	-	-	-	6		30	29	30	30	31	31	33	38	209	295
11	15	-5	60.0	3908.0	-	-	-	6		29	29	30	29	31	31	33	38	106	208
12	16	-4	59.0	3967.0	-	-	-	5		29	28	29	29	31	31	33	38	191	278
13	11	-8	63.5	4030.5	-	-	-	5		29	28	29	28	31	30	33	38	200	310
14	13	-10	63.5	4094.0	T		0.2	5		28	27	28	28	30	30	33	38	248	293
15	21	13	48.0	4142.0	0.03	1.23	0.6	6	13	29	28	29	28	31	30	33	38	307	146
16	34	21	37.5	4179.5	0.02	1.25	0.3	5		30	29	30	29	31	30	33	38	180	181
17	33	16	40.5	4220.0	-	-	-	5		31	30	31	30	31	31	33	38	143	128
18	30	19	40.5	4260.5	-	-	-	5		30	30	30	30	31	31	33	38	283	190
19	41	28	30.5	4291.0	-	-	-	3		31	30	31	30	31	31	33	38	469	192
20	44	33	26.5	4317.5	0.04	1.29	-	1		32	31	31	31	31	31	33	38	340	164
21	41	28	30.5	4348.0	-	-	-	T		32	32	31	31	32	31	33	38	168	207
22	37	27	33.0	4381.0	-	-	-	T	11	32	32	31	31	32	32	33	38	114	244
23	35	30	32.5	4413.5	T		-	T		32	32	32	31	32	32	33	38	117	171
24	39	32	29.5	4443.0	T		-	T		32	32	32	32	32	32	33	38	188	59
25	38	25	33.5	4476.5	-	-	-	T		32	32	32	32	32	32	33	38	228	151
26	34	24	36.0	4512.5	-	-	-	T		32	31	32	32	32	32	33	38	238	241
27	42	24	32.0	4544.5	-	-	-	T		33	31	32	32	32	32	33	38	223	349
28	57	33	20.0	4564.5	-	-	-	T		38	31	33	32	32	32	33	38	205	346
29	41	29	30.0	4594.5	0.01	1.30	T	-	0	35	32	33	32	32	32	33	38	275	80
Total	31.0	16.0	1194.0	4594.5	0.85	1.30	9.0			31.4	30.5	30.9	30.5	31.6	31.3			6746	5873
Avg.	23.5									30.9		30.7		31.4		33.0 38.2			
Dept. from Norma	+5.0		-108.0	-746.5	-0.15	-0.95	-0-			+6.2		+4.9		+5.6		+2.2			-933

* Since Nov. 1, 2015

** Since Jan. 1, 2016

57° on the 28th set new Highest Max Temp-old record 52° set in 1932

UNIVERSITY OF MINNESOTA
 SOUTHERN RESEARCH AND OUTREACH CENTER
 35838 120th Street
 Waseca, MN 56093-4521
 MARCH 2016

Date	Air Temp.		HDD	Cumul* HDD	Precip	Cumul**		Snow Depth	Frost Depth	Soil Temperatures						Wind	Solar Radiation		
	Max.	Min.				Precip.	Snow			2"		4"		8"				20"	40"
	----- ° F -----					----- in. -----				----- ° F -----									
1	39	13	39.0	4633.5	0.08	1.38	1.5	1								38	287	301	
2	22	4	52.0	4685.5	-		-	1								38	164	365	
3	27	5	49.0	4734.5	T		T	T								38	188	332	
4	33	24	36.5	4771.0	T		0.1	T								37	125	183	
5	38	28	32.0	4803.0	0.04	1.42	0.4	T								37	263	73	
6	36	30	32.0	4835.0	-		-	-								37	231	172	
7	57	34	19.5	4854.5	-		-	-	0							37	311	316	
8	63	44	11.5	4866.0	-		-	-								37	285	253	
9	70	36	12.0	4878.0	-		-	-								38	339	288	
10	43	29	29.0	4907.0	-		-	-								38	159	115	
11	47	29	27.0	4934.0	-		-	-								38	106	301	
12	68	33	14.5	4948.5	-		-	-								39	308	412	
13	68	40	11.0	4959.5	0.11	1.53	-	-								39	211	345	
14	53	46	15.5	4975.0	0.03	1.56	-	-	0							40	182	77	
15	60	49	10.5	4985.5	0.02	1.58	-	-								40	184	142	
16	56	40	17.0	5002.5	0.24	1.82	-	-								41	232	76	
17	49	33	24.0	5026.5	-		-	-								41	317	308	
18	44	27	29.5	5056.0	T		T	-								41	216	160	
19	36	28	33.0	5089.0	0.03	1.85	2.5	2								42	139	130	
20	36	26	34.0	5123.0	0.03	1.88	0.2	T								42	167	200	
21	42	26	31.0	5154.0	-		-	-	0							42	116	407	
22	56	26	24.0	5178.0	-		-	-								41	276	425	
23	59	36	17.5	5195.5	-		-	-								41	305	352	
24	37	28	32.5	5228.0	0.33	2.21	2.5	2								41	438	66	
25	44	23	31.5	5259.5	-		-	T								41	193	471	
26	47	24	29.5	5289.0	0.03	2.24	-	-								41	244	434	
27	52	38	20.0	5309.0	0.33	2.57	-	-								41	175	232	
28	43	29	29.0	5338.0	-		-	-	0							41	141	150	
29	59	28	21.5	5359.5	-		-	-								41	182	504	
30	65	39	13.0	5372.5	0.60	3.17	-	-								41	340	332	
31	53	42	17.5	5390.0	0.06	3.23	-	-								41	238	144	
Total	48.5	30.2	795.5	5390.0	1.93	3.23	7.2			-	-	-	-	-	-		7062	8066	
Avg.	39.3									-	-	-	-	-	-		39.7		
Dept. from																			
Normal	+8.1		-252.5	-999.0	-0.56	-1.51	-3.0											-1691	

* Since Nov. 1, 2015

** Since Jan. 1, 2016

UNIVERSITY OF MINNESOTA
 SOUTHERN RESEARCH AND OUTREACH CENTER
 35838 120th Street
 Waseca, MN 56093-4521
 APRIL 2016

Date	Air Temp.		HDD	Cumul* HDD	Precip	Cumul** Precip.	Snow	Evap	Soil Temperatures								Wind	Solar Radiation		
	Max.	Min.							2"		4"		8"		20"	40"				
	----- °F -----								Max	Min	Avg	Max	Min.	Avg	Max.	Min.			----- ° F -----	
1	49	36	22.5	5412.5	0.36	3.86			-	-		-	-	-	-	42	152	186		
2	41	28	30.5	5443.0	0.02	3.88	T		-	-		-	-	-	-	42	315	416		
3	39	28	31.5	5474.5	-				-	-		-	-	-	-	42	296	506		
4	75	27	14.0	5488.5	-				-	-		-	-	-	-	42	318	470		
5	46	27	28.5	5517.0	T				-	-		-	-	-	-	42	181	334		
6	40	32	29.0	5546.0	0.05	3.93	T		-	-		-	-	-	-	42	348	100		
7	51	32	23.5	5569.5	0.03	3.96	0.1		-	-		-	-	-	-	42	214	206		
8	43	30	28.5	5598.0	0.03	3.99	T		-	-		-	-	-	-	42	211	178		
9	36	17	38.5	5636.5	0.02	4.01	0.4		40	34	37	40	34	37	-	-	-	42	246	301
10	47	20	31.5	5668.0	-		-		42	33	34.5	41	35	38	-	-	-	42	366	542
11	59	29	21.0	5689.0	T		T		48	37	42.5	46	38	42	-	-	-	42	245	327
12	45	18	33.5	5722.5	-		-		48	36	42	45	38	41.5	-	-	-	42	230	559
13	56	19	27.5	5750.0	0.03	4.04	-		45	35	40	44	37	40.5	-	-	-	42	296	374
14	76	46	4.0	5754.0	-		-		57	42	49.5	52	42	47	-	-	-	42	339	557
15	78	47	2.5	5756.5	-		-		60	48	54	55	47	51	-	-	-	42	370	509
16	79	48	1.5	5758.0	-		-		60	49	54.5	57	49	53	57	48	50	43	350	510
17	82	55	0.0	5758.0	-		-		65	53	59	60	53	56.5	67	51	48	43	309	493
18	82	56	0.0	5758.0	-		-		65	54	59.5	61	54	57.5	55	52	49	44	249	424
19	81	57	0.0	5758.0	0.07	4.11	-		66	57	61.5	62	57	59.5	57	54	50	44	221	327
20	61	51	9.0	5767.0	-		-		59	54	56.5	58	54	56	56	54	51	45	232	139
21	65	45	10.0	5777.0	0.24	4.35	-		58	51	54.5	56	52	54	54	53	51	46	176	199
22	66	45	9.5	5786.5	0.06	4.41	-		61	50	55.5	59	51	55	55	52	51	46	186	404
23	61	41	14.0	5800.5	-		-		66	50	58	61	53	57	55	53	51	47	180	538
24	76	44	5.0	5805.5	-		-		65	50	57.5	61	52	57.5	56	52	52	47	344	550
25	71	55	2.0	5807.5	0.43	4.84	-	1.15	61	55	58	59	56	57.5	56	55	52	47	263	172
26	70	46	7.0	5814.5	0.03	4.87	-		62	53	57.5	60	55	57.5	56	54	53	48	244	301
27	51	42	18.5	5833.0	-		-		54	46	50	55	49	52	55	51	52	48	294	145
28	49	38	21.5	5854.5	0.52	5.39	-		47	43	45	49	45	47	51	48	51	48	402	119
29	41	36	26.5	5881.0	0.08	5.47	-		44	41	42.5	45	43	44	48	46	49	48	219	83
30	56	37	18.5	5899.5	-		-	0.52	56	41	48.5	53	43	48	49	45	48	48	203	505
Total	59.1	37.7	509.5	5899.5	1.97	5.47	0.5	1.67	55.9	46.0		53.6	47.1		55.1	51.2			7999	10474
Avg.	48.4								50.9			50.4			53.2		50.5	44.1		
Dept. from Normal	+2.3		-61.5	-1060.5	-1.24	-2.48	-2.2		-			-			-		-			-1100

* Since Nov. 1, 2015

** Since Jan. 1, 2016

UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
MAY 2016

Date	Air Temp.		GDU	Cumul.* GDU	Precip.	Cumul.** Precip.	Evap.	Soil Temperatures								Wind mi.	Solar Radiation Langleys	
	Max.	Min.						2"		2"	4"		8"		20"			40"
	----- ° F -----							Max.	Min.	Avg	Max.	Min.	Max.	Min.	° F -----			
1	51	42	0.5	0.5	0.39	5.86	0.02	47	44	45.5	47	45	48	47	48	48	288	104
2	62	37	6.0	6.5	-		0.17	58	44	51	54	45	49	46	48	48	175	489
3	67	39	8.5	15.0	-			65	44	54.5	60	47	53	47	49	47	79	594
4	72	44	11.0	26.0	-			65	48	56.5	60	50	54	50	50	47	265	538
5	68	41	9.0	35.0	-			66	50	58	61	52	55	52	51	48	213	667
6	78	44	14.0	49.0	-			69	49	59	64	52	57	52	52	48	167	617
7	91	55	20.5	69.5	0.01	5.87		73	55	64	68	56	60	55	53	48	331	623
8	70	39	10.0	79.5	-			69	53	61	65	56	60	57	55	49	181	527
9	76	42	13.0	92.5	-		2.03	72	53	62.5	67	55	60	56	55	49	165	600
10	60	51	5.5	98.0	0.99	6.86		59	54	56.5	60	55	59	56	56	50	336	98
11	61	50	5.5	103.5	0.02	6.88		59	53	56	58	55	56	55	55	50	220	198
12	58	45	4.0	107.5	0.24	7.12		58	50	54	57	53	56	54	54	51	129	150
13	56	37	3.0	110.5	-			56	46	51	55	49	54	52	54	51	160	317
14	47	33	0.0	110.5	0.22	7.34		49	41	45	49	45	52	48	52	51	243	140
15	52	28	1.0	111.5	-			55	40	47.5	53	44	50	47	51	51	209	615
16	66	32	8.0	119.5	-		0.75	64	41	52.5	59	44	53	47	50	50	179	674
17	71	45	10.5	130.0	0.03	7.37		69	50	59.5	64	52	57	51	52	50	177	579
18	65	38	7.5	137.5	-			69	51	60	64	54	58	54	53	50	174	693
19	70	48	10.0	147.5	-			73	51	62	67	54	59	54	54	50	127	689
20	75	50	12.5	160.0	-			67	55	61	64	58	59	57	55	51	216	455
21	76	47	13.0	173.0	-			69	55	62	65	57	60	57	56	51	154	498
22	82	51	16.5	189.5	-			78	56	67	72	58	63	58	57	51	112	673
23	87	59	22.5	212.0	T		2.02	76	60	68	71	62	64	60	58	52	330	677
24	81	61	21.0	233.0	0.04	7.41		69	63	66	67	63	63	62	59	52	300	266
25	86	63	24.5	257.5	-			80	62	76	74	63	66	62	60	53	183	585
26	81	59	20.0	277.5	0.96	8.37		74	63	68.5	70	65	65	64	61	53	167	323
27	80	60	20.0	297.5	-			78	63	70.5	74	64	66	63	61	54	190	637
28	71	62	16.5	314.0	0.18	8.55		71	63	67	69	64	65	64	61	54	145	268
29	70	60	15.0	320.0	0.40	8.95		69	62	65.5	67	63	64	63	61	55	143	210
30	79	56	17.5	346.5	-		1.33	75	61	68	72	63	66	63	61	55	160	590
31	84	57	20.5	367.0	0.25	9.20	0.03	81	61	71	76	63	68	63	62	55	234	639
Totals	70.7	47.6	367.0	367.0	3.73	9.20	6.35	67.2	52.9		64.2	55.0	58.7	55.4		50.7	6152	14733
Avg.	59.2							60.0			59.6		57.0		55.0			
Dept. from normal	+0.5		+35.0	+35.0	-0.20	-2.68	-1.17	-0.4			+1.0		+1.2		+1.2			+354

* Since May 1, 2016 ** Since January 1, 2016

UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
JUNE 2016

Date	Air Temp.		GDU	Cumul.* GDU	Precip.	Cumul.** Precip.	Evap.	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.						2"		4"		8"		20"	40"			
	----- ° F -----							Max.	Min.	Avg	Max.	Min.	Max.	Min.	----- ° F -----			mi.
1	71	55	13.0	380.0	0.07	9.27	0.08	70	59	64.5	68	62	67	64	63	56	191	245
2	71	47	10.5	390.5	-			71	57	64	69	61	65	63	62	56	230	572
3	77	52	14.5	405.0				81	57	70	75	60	67	62	62	56	158	717
4	85	54	19.5	424.5	0.47	9.74		73	60	66.5	70	62	66	64	63	56	181	274
5	73	52	12.5	437.0	0.07	9.81		72	59	65.5	69	62	65	63	62	57	199	507
6	83	56	19.5	456.5	-		1.13	75	59	67	72	61	67	62	62	57	204	629
7	72	51	11.5	468.0	-			74	59	66.5	70	63	66	64	62	57	229	537
8	73	51	12.0	480.0	-			79	59	69	73	62	63	65	63	57	151	725
9	84	57	20.5	500.5	0.51	10.32		83	62	72.5	76	64	69	64	63	57	190	602
10	85	66	25.5	526.0	-			78	66	72	74	67	69	66	64	57	292	577
11	98	68	27.0	553.0	0.06	10.38		84	69	76.5	78	69	72	68	65	58	224	487
12	92	70	28.0	581.0	-			87	69	78	81	70	74	69	66	58	171	623
13	91	66	26.0	607.0	-		2.23	86	72	79	81	73	75	72	68	59	308	618
14	85	68	26.5	633.5	-			85	72	78.5	80	73	75	72	68	59	162	519
15	81	62	21.5	655.0	3.19	13.57		75	66	70.5	75	68	74	69	69	60	163	177
16	78	63	20.5	675.5	-			79	66	72.5	75	68	72	69	68	61	189	616
17	80	63	21.5	697.0	-			80	67	73.5	77	69	72	69	68	61	181	609
18	86	66	26.0	723.0	T			83	68	75.5	79	70	74	70	68	61	202	641
19	88	68	27.0	750.0	-			85	72	77.5	82	73	75	71	69	61	148	545
20	91	67	26.5	776.5	0.25	13.82	1.60	84	73	78.5	82	74	75	73	70	62	295	696
21	79	52	15.5	792.0	-			82	66	74	81	70	75	72	70	62	135	681
22	83	58	20.5	812.5	0.13	13.95		87	66	76.5	83	69	75	70	70	62	134	687
23	85	56	20.5	833.0	-			85	70	77.5	82	72	75	72	71	63	144	498
24	72	55	13.5	846.5	-			79	67	73	77	69	73	70	70	63	121	393
25	83	62	22.5	869.0	-			84	67	75.5	80	69	74	70	70	63	213	548
26	93	60	23.0	892.0	-			88	73	80.5	84	74	76	72	70	63	262	607
27	87	60	23.0	915.0	-		1.63	89	72	80.5	85	74	77	73	71	63	202	725
28	78	58	18.0	933.0	-			87	72	79.5	85	74	77	73	72	64	164	699
29	75	53	14.0	947.0	-			86	70	78	84	73	76	73	72	64	100	613
30	82	58	20.0	967.0	-		0.66	88	70	79	85	72	76	72	72	64	89	638
Totals	82.0	59.1	600.00	967.0	4.75	13.95	7.33	81.3	66.1		77.7	68.2	71.9	68.5			5632	17005
Avg.	70.6							73.7			73.0		70.2		67.1			
Dept. from normal	+2.1		+62.0	+97.0	-0.06	-2.62	-1.18	+1.9			+3.2		+3.3		+3.3			+1475

* Since May 1, 2016 ** Since January 1, 2016

UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
JULY 2016

Date	Air Temp.		GDU	Cumul.* GDU	Cumul.**			Soil Temperatures								Wind mi.	Solar Radiation Langleys	
	Max.	Min.			Precip.	Precip.	Evap.	2"		4"		8"		20"	40"			
	----- ° F -----				----- in. -----			----- ° F -----										
1	77	54	15.5	982.5	0.58	14.53	0.36	80	64	72	79	68	74	71	72	64	148	465
2	73	54	13.5	996.0	-			84	64	74	80	67	73	69	71	65	86	659
3	79	55	17.0	1013.0	-			87	67	77	83	69	75	69	70	65	88	661
4	78	56	17.0	1030.0	-		0.69	88	69	78.5	84	71	76	71	71	65	119	713
5	78	60	19.0	1049.0	-			83	70	76.5	81	72	75	72	71	65	150	466
6	87	64	25.0	1074.0	0.74	15.27	0.50	88	70	79	84	72	77	72	72	65	182	526
7	85	65	25.0	1099.0	3.03	18.30	0.67	84	70	77	82	72	76	72	72	65	19	629
8	82	62	22.0	1121.0	0.13	18.43		85	68	79.5	81	71	75	72	72	65	108	519
9	77	58	17.5	1138.5	-			80	67	73.5	79	70	74	71	71	65	142	669
10	82	64	23.0	1161.5	0.95	19.38		89	67	78	85	70	77	71	71	66	139	688
11	80	64	22.0	1183.5	0.18	19.56	1.05	79	70	74.5	77	72	75	72	71	66	193	323
12	87	66	26.0	1209.5	0.10	19.66		75	71	73	73	71	72	70	71	65	-	-
13	83	69	26.0	1235.5	-			88	73	80.5	85	73	74	73	72	66	214	670
14	82	59	20.5	1256.0	0.12	19.78		85	70	77.5	83	73	76	73	72	66	144	513
15	73	61	17.0	1273.0	0.06	19.84		80	69	74.5	79	71	75	72	72	66	181	463
16	77	55	16.0	1289.0	-			87	68	77.5	83	70	76	71	72	66	72	604
17	81	60	20.0	1309.5	1.77	21.61	1.73	87	69	78	83	71	77	72	72	66	177	621
18	84	61	22.5	1332.0	-		0.31	83	69	76	81	71	75	72	72	67	129	658
19	85	63	24.0	1356.0	-			91	68	79.5	86	71	77	71	72	67	85	676
20	84	70	27.0	1383.0	0.23	21.84		89	75	82	85	76	78	75	73	67	166	518
21	90	71	28.5	1411.5	0.02	21.86		87	75	81	84	76	78	75	74	67	203	519
22	92	77	31.5	1443.0	-			94	78	86	89	78	82	76	74	67	112	541
23	93	77	31.5	1474.5	-			94	80	87	89	81	83	79	76	68	106	434
24	81	73	27.0	1501.5	0.83	22.69		81	76	78.5	82	77	81	77	76	68	183	230
25	82	61	21.5	1523.0	-		1.53	86	71	78.5	83	74	79	76	75	69	99	577
26	85	64	24.5	1547.5	-			91	70	80.5	86	73	80	74	75	69	73	669
27	87	67	26.5	1574.0	-			93	74	83.5	88	76	82	76	75	69	100	643
28	84	66	25.0	1599.0	0.16	22.85		87	73	80	83	75	80	76	76	69	132	405
29	76	64	20.0	1619.0	0.02	22.87		77	70	76.5	76	72	76	73	75	69	111	232
30	79	61	20.0	1639.0	-			85	70	77.5	81	72	76	73	74	69	82	484
31	82	65	23.5	1662.5	0.01	22.88	1.16	89	72	80.5	84	73	79	73	74	69	98	556
Totals	82.1	63.4	695.0	1662.5	8.93	22.88	8.00	85.7	70.5		82.5	72.5	76.9	72.9			3841	16331
Avg.	72.8							78.1			77.5		74.9		72.8			
Dept. from normal	+0.8		+40.0	+137.5	+4.51	+1.89	+0.10	-0.5			+0.8		+1.0		+1.90			-307

* Since May 1, 2016 ** Since January 1, 2016

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
August 2016**

Date	Air Temp.		GDU	Cumul.* GDU	Cumul.** Precip.	Precip.	Evap.	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.						2"		4"		8"		20"	40"			
	° F							Max.	Min.	Avg	Max.	Min.	Max.	Min.	° F			
1	84	66	25.0	1687.5	-		0.22	88	73	80.5	85	75	79	75	74	69	161	564
2	85	68	26.5	1714.0	0.42	23.30		85	73	79	82	75	78	76	75	69	139	417
3	86	69	27.5	1741.5	-			87	73	80	84	74	78	75	74	69	75	512
4	88	70	28.0	1769.5	-			91	75	83	87	76	80	76	75	69	138	545
5	85	59	22.0	1791.5	0.27	23.57		85	69	77	83	73	79	75	75	69	109	390
6	77	54	15.5	1807.0	-			81	68	74.5	80	71	76	73	75	69	99	552
7	81	57	19.0	1826.0	-			87	67	77	83	70	77	72	74	69	68	606
8	82	59	20.5	1846.5	-		1.29	86	71	78.5	82	73	77	74	74	69	56	438
9	83	63	23.0	1869.5	-			88	70	79	84	73	78	74	74	69	129	571
10	87	69	27.5	1897.0	0.14	23.71		86	74	80	82	76	77	75	74	69	105	83
11	91	67	26.5	1923.5	4.09	27.80	1.67	89	73	81	86	75	80	77	75	69	225	510
12	84	67	25.5	1949.0	0.13	27.93		85	72	78.5	83	74	78	75	75	69	73	430
13	81	61	21.0	1970.0	1.04	28.97		81	68	74.5	80	71	77	73	75	70	77	252
14	82	60	21.0	1991.0	-			82	68	75	80	70	76	72	74	70	78	599
15	81	60	20.5	2011.5	-		0.73	87	68	77.5	84	71	78	72	74	70	56	604
16	82	63	22.5	2034.0	-			88	70	79	84	73	78	73	74	70	79	540
17	84	64	24.0	2058.0	0.58	29.55	0.60	91	72	81.5	86	75	80	75	75	70	103	533
18	86	65	25.5	2083.5	-			87	71	79	84	74	79	75	75	70	46	592
19	87	66	26.0	2109.5	1.90	31.45	0.50	85	71	78	83	73	78	74	75	70	123	386
20	79	64	21.5	2131.0	0.29	31.74		77	69	73	76	71	75	73	74	71	90	198
21	73	52	12.5	2143.5	0.32	32.06		74	62	68	73	65	73	69	73	71	126	325
22	75	52	13.5	2157.0	-		0.46	76	61	68.5	74	64	71	68	71	71	107	562
23	83	60	21.5	2178.5	-			81	63	72	77	66	73	68	71	70	259	547
24	85	67	26.0	2204.5	1.53	33.59	0.63	81	68	74.5	78	70	74	70	71	70	195	372
25	81	58	19.5	2224.0	-			78	66	72	76	69	73	71	71	69	79	311
26	74	52	13.0	2237.0	-			77	64	70.5	75	67	72	69	71	69	91	447
27	74	53	13.5	2250.5	0.50	34.09		77	63	70	75	66	71	68	70	69	71	366
28	74	61	17.5	2268.0	0.22	34.31		71	64	67.5	71	66	70	68	70	69	84	152
29	85	62	23.5	2291.5	-		0.65	80	64	72	77	66	72	67	69	69	113	504
30	86	67	26.5	2318.0	0.27	34.58		83	69	76	79	70	74	70	70	69	123	409
31	80	56	18.0	2336.0	-		0.43	80	65	72.5	78	68	74	71	71	68	85	444
Totals	82.1	61.6	673.5	2336.0	11.70	34.58	7.18	83.0	68.5		80.4	71.0	76.0	72.4			3362	13761
Avg.	71.9							75.8			75.7		74.2		73.2			
Dept. from normal	+2.1		+76.5	+214.0	+6.95	+8.84	+0.81	+0.3			+1.2		+1.6		+2.3			-414

* Since May 1, 2016 ** Since January 1, 2016

UNIVERSITY OF MINNESOTA
 SOUTHERN RESEARCH AND OUTREACH CENTER
 35838 120TH STREET
 WASECA, MINNESOTA 56093-4521
 SEPTEMBER 2016

Date	Air Temp.		GDU	Cumul.* GDU	Precip.	Cumul.** Precip.	Evap.	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.						2"		4"		8"		20"	40"			
----- ° F -----			----- in. -----			----- ° F -----										mi.	Langley's	
1	80	57	18.5	2354.5	-		0.25	83	64	73.5	79	67	73	69	71	68	80	525
2	78	55	16.5	2371.0	-			83	65	74	79	68	74	69	71	68	111	521
3	78	56	17.0	2388.0	-			81	65	73	77	67	73	69	71	68	154	493
4	80	59	19.5	2407.5	-			80	65	72.5	76	67	72	69	70	68	180	453
5	80	61	20.5	2428.0	0.51	34.82	0.72	76	66	71	74	68	72	69	70	68	249	323
6	82	66	24.0	2452.0	0.42	35.24	0.15	75	68	71.5	73	69	71	70	70	68	197	202
7	82	67	24.5	2476.5	1.14	36.38		74	69	71.5	74	70	72	71	70	68	114	195
8	80	61	20.5	2497.0	0.05	36.43		76	68	72	74	70	72	70	70	68	83	218
9	79	61	20.0	2517.0	0.85	37.28		79	66	72.5	76	68	72	70	70	68	105	497
10	72	55	13.5	2530.5	0.25	37.53		72	62	67	70	65	70	67	70	68	123	179
11	73	52	12.5	2543.0	-			70	60	65	70	63	68	65	69	68	123	439
12	80	55	17.5	2560.5	-		1.12	76	59	67.5	72	62	68	64	68	68	245	486
13	84	57	20.5	2581.0	-			77	63	70	74	65	70	66	68	68	180	365
14	66	50	8.0	2589.0	-			70	61	65.5	70	64	69	66	68	67	112	267
15	75	50	12.5	2601.5	-			79	60	69.5	74	63	69	65	68	67	107	477
16	78	60	19.0	2620.5	0.99	38.52		73	64	68.5	71	65	69	66	68	67	161	228
17	80	55	17.5	2638.0	-			73	61	67	71	64	68	66	67	67	146	364
18	73	54	13.5	2651.5	-			68	59	63.5	67	61	66	64	67	67	122	211
19	85	58	21.5	2673.0	T		1.12	74	59	66.5	71	61	67	63	66	67	209	409
20	83	54	18.5	2691.5	T			78	63	70.5	74	65	69	66	67	66	71	328
21	85	57	21.0	2712.5	2.52	41.04	0.64	73	63	68	71	64	68	65	67	66	127	274
22	88	64	25.0	2737.5	7.64	48.68		76	66	71	73	67	70	67	67	66	254	363
23	75	63	19.0	2756.5	0.19	48.87		71	65	68	79	66	68	67	67	66	154	156
24	69	64	16.5	2773.0	0.02	48.89		68	65	66.5	68	66	67	67	67	66	228	125
25	82	65	23.5	2796.5	0.20	49.09		73	65	69	71	66	68	66	67	66	235	303
26	70	48	10.0	2806.5	0.02	49.11	1.72	69	55	62	69	59	67	63	67	66	194	238
27	71	41	10.5	2817.0	-			66	52	59	65	56	63	60	65	66	202	439
28	69	42	9.5	2826.5	T			67	51	59	65	55	62	59	64	66	198	407
29	66	48	8.0	2834.5	-			64	55	59.5	63	58	61	60	63	65	159	201
30	70	48	10.0	2844.5	-			71	54	62.5	67	57	63	59	63	65	107	413
Totals	77.1	56.1	508.5			14.80		73.8	61.9		71.7	64.2	68.7	65.9			4730	10099
Avg.	66.6							67.9			67.9		67.3		67.9			
Dept. from normal																		

* Since May 1, 2016

** Since January 1, 2016

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
October 2016**

Date	Air Temp.		GDU	Cumul* GDU	Precip	Cumul** Precip.	Snow Depth	Soil Temperatures								Wind mi.	Solar Radiation Langleys	
	Max.	Min.						2"		4"		6"	8"					
	----- °F -----							Max	Min	Max	Min.	Avg	Max.	Min.	20"			40"
					----- in. -----													
					----- ° F -----													
1	74	51	12.5	2857.0	-			71	56	68	58	62.5	64	60	63	65	106	368
2	76	49	13.0	2870.0	-			76	60	71	62	65.5	66	63	64	64	94	374
3	79	49	14.5	2884.5	-			76	69	71	61	65	66	62	64	64	82	398
4	78	56	17.0	2901.5	-			74	60	70	62	65.3	66	63	64	64	220	382
5	79	56	17.5	2919.0	0.86	50.24		70	61	68	63	65	65	64	65	64	239	207
6	69	50	9.5	2928.5	-			68	54	66	57	62	64	61	64	64	146	367
7	67	39	8.5	2937.0	0.57	50.81		60	51	60	54	58	61	57	63	64	197	230
8	52	31	1.0	2938.0	-			58	45	58	49	54.5	57	54	61	64	134	384
9	58	32	FREEZE		-			57	45	56	48	53	55	53	59	63	72	268
10	65	32			-			60	44	57	47	52.8	55	52	58	63	155	369
11	74	49			0.02	50.83		63	50	60	52	55.5	57	53	58	62	267	299
12	75	44			0.03	50.86		66	54	64	56	59.3	60	57	59	62	216	300
13	52	28			-			58	45	57	49	54.3	58	53	59	61	145	204
14	57	28			-			57	44	56	48	52.5	54	52	57	61	177	355
15	65	42			-			57	47	56	49	53	55	52	56	61	351	189
16	72	44			T			61	51	60	54	56.8	58	55	57	60	142	75
17	75	44			T			63	51	61	53	57	59	55	58	60	206	276
18	76	50			0.13	50.99		65	56	63	58	60.3	61	59	59	60	130	107
19	68	43			-			65	52	63	54	58.5	60	57	59	60	112	326
20	58	40			-			59	49	58	51	55	57	54	59	60	131	241
21	54	30			-			58	45	57	48	53	55	52	58	60	103	317
22	60	29			-			54	44	53	47	51	53	51	56	60	16	171
23	69	36			-			60	46	58	48	52.8	54	51	56	60	12	99
24	61	36			-			58	47	57	50	53.3	54	52	56	59	27	177
25	60	36			-			56	45	55	48	51.8	53	51	55	59	120	298
26	49	43			1.34	52.33		49	46	50	48	49.8	51	50	55	59	283	49
27	47	42			0.03	52.36		49	46	50	48	49.3	50	49	54	58	102	59
28	50	43			-			51	46	50	48	49.3	50	49	53	58	194	98
29	74	48			-			57	46	55	48	51.3	53	49	53	57	219	213
30	61	43			0.14	52.50		54	48	54	50	52.3	53	52	54	57	167	97
31	46	40			-			50	45	50	47	49.5	52	49	53	57	131	63
Total	64.5	41.4	93.5	2938.0	3.12	52.50	0.0	60.6	49.9	59.1	52.1		57.3	54.5			4696	7360
Avg.	53.0							55.3		55.6			55.9		58.4	61.0		
Dept. from Normal	+4.8		+73.5	+448.0	+0.45	+20.42		+5.5		+5.1			+5.1		+4.0			-62

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
NOVEMBER 2016**

Date	Air Temp.		Cumul*		Cumul**		Snow Depth	Soil Temperatures								Wind	Solar Radiation		
	Max.	Min.	HDD	HDD	Precip	Precip.		2"		4"		6"	8"		20"			40"	
	----- °F-----				----- in.-----				----- ° F-----								mi.	Langleys	
1	58	42	15.0	15.0	0.01	52.51			51	45	51	47	49.5	51	49	53	57	247	38
2	68	40	11.0	26.0	-				55	46	53	48	50.8	52	50	53	57	95	226
3	68	39	11.5	37.5	T				56	45	54	48	51.0	52	50	53	56	81	216
4	73	39	9.0	46.5	-				55	44	53	46	49.8	51	49	53	56	85	263
5	72	40	9.0	55.5	-				56	43	53	45	49.3	51	48	52	56	119	256
6	74	44	6.0	61.5	-				57	45	54	46	50.3	52	49	52	56	121	252
7	70	46	7.0	68.5	-				57	47	54	48	51.3	53	50	52	56	210	249
8	63	42	12.5	81.0	-				54	47	53	49	51	52	50	53	56	194	178
9	63	31	18.0	99.0	-				54	42	53	45	49.8	52	49	53	56	133	250
10	60	30	20.0	119.0	-				52	41	50	44	47.8	50	47	52	55	238	245
11	68	39	11.5	130.5	-				55	44	52	45	49	51	48	51	55	195	237
12	52	26	26.0	156.5	-				51	39	50	42	46.8	49	46	51	55	133	242
13	55	29	23.0	179.5	-				48	38	46	41	44.8	47	45	50	55	353	239
14	65	39	13.0	192.5	-				51	41	49	43	46.5	48	46	49	55	224	228
15	49	32	24.5	217.0	-				46	41	46	43	45.5	47	46	49	54	104	84
16	59	31	20.0	237.0	-				49	40	48	43	45.8	47	45	49	54	142	170
17	62	32	18.0	255.0	-				50	39	48	41	45	47	44	49	54	231	211
18	61	45	12.0	267.0	0.03	52.54			51	45	50	46	48	49	47	49	53	217	124
19	48	29	26.5	293.5	0.17	52.71	0.2	T	47	38	47	40	44.8	48	44	49	53	372	26
20	31	20	39.5	333.0	-				39	34	40	37	40.5	44	41	48	53	195	202
21	34	22	37.0	370.0	-				35	33	37	35	38	41	39	46	53	162	183
22	40	22	34.0	404.0	0.04	52.75			34	33	35	35	36.8	39	38	45	52	284	195
23	36	33	30.5	434.5	0.72	53.47	T		36	34	36	35	36.8	38	38	44	52	268	21
24	37	33	30.0	464.5	0.02	53.49	T		38	35	38	36	37.8	39	38	43	51	142	47
25	38	33	29.5	494.0	0.01	53.50			39	36	39	37	38.8	40	39	43	51	117	47
26	41	31	29.0	523.0	-				39	35	39	37	38.8	40	39	43	50	145	64
27	47	29	27.0	550.0	-				41	35	40	36	38.5	40	38	43	50	130	190
28	53	29	24.0	574.0	0.34	53.84			43	35	42	36	39.3	41	38	43	49	368	87
29	54	33	21.5	595.5	0.27	54.11	T		46	38	45	40	42.3	43	41	43	49	350	85
30	37	33	30.0	625.5	0.02	54.13	T		38	37	40	38	40	42	40	44	49	319	36
Total	54.5	33.8	625.5	625.5	1.63	54.13	0.2		47.4	39.8	46.5	41.7		46.5	44.4			5974	4891
Avg.	44.2								43.6		44.1			45.5		48.6 53.6			
Dept. from Normal																			

* Since Nov. 1, 2016

** Since Jan. 1, 2016

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
DECEMBER 2016**

Date	Air Temp.		Cumul*		Cumul**		Snow Depth	Frost Depth	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.	HDD	HDD	Precip	Precip.			2"		4"		8"		20"	40"			
	----- °F-----				----- in.-----				-----		-----		----- ° F-----		-----				mi.
1	37	33	30.0	655.5	0.16	54.29	T		0	39	37	40	38	40	40	43	49	187	49
2	36	31	31.5	687.0	T		-			38	36	39	37	40	39	43	49	158	32
3	31	27	36.0	723.0	T		T	T		36	35	37	36	39	38	42	49	137	36
4	33	27	35.0	758.0	0.13	54.42	0.8	1		35	34	36	35	38	37	42	48	168	88
5	37	30	31.5	789.5	-		-		1	37	34	37	35	38	37	41	48	200	47
6	39	23	33.0	822.5	-		-			36	34	37	35	38	37	41	48	348	54
7	24	13	45.5	868.0	T		T			35	32	36	34	38	36	41	47	467	77
8	20	12	49.0	917.0	T		0.2	T		32	31	34	32	36	35	40	47	358	106
9	20	9	50.5	967.5	0.02	54.44	0.5	T		31	31	32	32	35	34	39	47	235	100
10	16	0	56.5	1024.0	T		0.2	T		31	30	32	32	34	34	39	47	149	164
11	19	4	54.5	1078.5	0.49	54.93	5.6	6		31	30	32	31	34	33	38	46	205	70
12	22	-10	57.5	1136.0	0.03	54.96	0.5	5	6	31	31	32	32	33	33	38	46	182	71
13	7	-15	68.5	1204.5	-		-	5		31	31	32	32	33	33	38	45	137	191
14	9	-16	68.5	1273.0	-		-	4		31	31	32	32	33	33	37	45	253	188
15	7	-14	67.0	1340.0	-		-	3		31	31	32	32	33	33	37	45	236	182
16	10	-14	67.5	1407.5	0.07	55.03	1.6	4	8	31	30	32	31	33	33	37	44	167	144
17	13	7	55.0	837.0	0.26	55.29	3.5	7		31	31	32	31	33	33	37	44	225	73
18	7	-28	75.5	912.5	0.01	55.30	0.2	6		31	31	32	32	33	33	37	44	190	109
19	5	-27	76.0	988.5	-		-	5	10	31	30	32	31	33	33	37	44	277	172
20	27	5	49.0	1037.5	-		-	5		31	30	32	31	33	33	37	44	431	153
21	35	19	38.0	1075.5	-		-	5.0		31	31	32	32	33	33	36	43	251	191
22	39	14	38.5	1114.0	-		-	4.0		31	31	32	32	33	33	36	43	255	113
23	34	14	41.0	1155.0	T		T	4.0		31	31	32	32	33	33	36	43	276	174
24	35	24	35.5	1190.5	0.25	55.55	1.8	6		31	31	32	32	33	33	36	43	180	45
25	32	25	36.5	1227.0	0.01	55.56	-	5		32	31	32	32	33	33	36	43	226	94
26	42	21	33.5	1260.5	0.68	56.24	-	3		32	32	32	32	33	33	36	42	547	25
27	22	19	44.5	1305.0	-		-	3	8	32	32	32	32	33	33	35	42	461	98
28	32	20	39.0	1344.0	-		-	3		32	32	32	32	33	33	36	42	231	175
29	36	27	33.5	1377.5	-		-	3		32	32	32	32	33	33	36	42	324	174
30	32	17	40.5	1418.0	T		T	3		32	32	32	32	33	33	36	42	276	137
31	34	20	38.0	1456.0	-	56.24	-	3	9	32	32	32	32	33	33	36	42	241	88

Total	25.5	10.2	1456.0		2.11		14.9			32.5	31.8	33.3	32.7	34.5	34.2			7978	3420
Avg.	17.9									32.2		33.0		34.4		38.0	44.9		
Dept. from Norma																			

* Since Nov. 1, 2016 ** Since Jan. 1, 2016