

UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
JANUARY 2013

Date	Air Temp.		HDD	Cumul* HDD	Precip	Cumul Precip.	Snow Snow	Snow Depth	Soil Temperatures						Wind	Solar Radiation		
	Max.	Min.							2"		4"		8"				20"	40"
----- °F-----						in.				° F-----				mi.	Langleys			
1	12	-16	67.0	2302.0	T		T	4	28	25	29	28	30	30	34	41	103	188
2	17	-12	62.5	2364.5	-		-	4	27	25	28	28	30	30	34	41	215	88
3	23	7	50.0	2414.5	T		T	4	28	26	29	28	30	30	34	40	174	134
4	15	4	55.5	2470.0	T		T	4	28	26	29	28	30	30	34	40	241	173
5	25	7	49.0	2159.0	-		-	3	28	26	29	28	30	30	33	40	164	193
6	22	5	51.5	2570.5	T		T	3	28	26	29	28	30	30	33	40	186	141
7	29	7	47.0	2617.5	-		-	3	27	26	29	28	30	29	33	40	277	199
8	33	13	42.0	2659.5	-		-	3	29	27	29	28	30	29	33	40	165	156
9	35	14	40.5	2700.0	T		T	3	29	25	29	28	30	29	33	39	272	147
10	37	23	35.0	2735.0	-		-	3	30	28	30	29	30	30	33	39	247	200
11	37	28	32.5	2767.5	0.22	0.22	-	2	32	29	31	30	31	30	33	39	277	107
12	41	15	37.0	2804.5	0.02	0.24	T	T	32	32	32	31	32	31	33	39	319	30
13	15	1	57.0	2861.5	T		T	T	32	17	32	28	31	31	33	39	266	116
14	9	1	60.0	2921.5	T		T	T	23	14	28	22	31	27	33	39	164	138
15	17	9	52.0	2973.5	T		T	T	26	16	26	22	28	27	33	39	172	194
16	31	13	43.0	3016.5	0.01	0.25	0.1	T	27	17	26	22	28	26	32	39	341	202
17	38	4	44.0	3060.5	0.02	0.27	T	T	30	17	27	23	29	28	32	39	201	88
18	31	6	46.5	3107.0	-		-	T	26	17	26	23	28	27	32	38	201	135
19	44	30	28.0	3135.0	-		-	T	31	25	30	26	30	27	32	38	215	177
20	40	-1	45.5	3180.5	T		T	T	31	14	30	22	30	28	32	38	328	146
21	10	-12	66.0	3246.5	T		T	T	23	6	24	17	28	24	32	38	263	175
22	-2	-11	71.5	3318.0	-		-	T	15	4	18	13	24	19	31	38	185	209
23	11	-10	64.5	3382.5	0.03	0.30	1.7	2	16	4	18	12	21	19	30	38	132	173
24	15	-5	60.0	3442.5	T		T	T	24	12	22	18	24	21	29	37	240	216
25	15	-3	59.0	3501.5	-		-	T	18	12	20	17	22	21	29	37	287	112
26	21	-2	55.5	3557.0	T		T	T	24	10	22	16	23	21	28	37	203	204
27	29	-1	51.0	3608.0	-		-	T	24	10	23	16	24	20	28	37	294	130
28	32	29	34.5	3642.5	0.28	0.58	T	T	28	24	27	23	27	24	29	36	106	19
29	33	30	33.5	3676.0	0.06	0.64	-	-	31	28	29	27	29	27	29	36	94	74
30	34	19	38.5	3714.5	T		T	T	31	30	30	29	30	29	30	36	278	48
31	19	-4	57.5	3772.0	T		T	T	30	15	30	22	30	26	30	36	313	73
Total	24.8	6.1	1537.0	3772.0	0.64	0.64	1.8		27.0	19.8	27.1	23.9	28.4	26.8			6923	4385
Avg.	15.4								23.4		25.5		27.6		31.7	38.5		
Dept. from Norma	+2.2		-70.0	+6.0	-0.61	-0.61	-7.7		+0.6		+1.3		+2.7		-0.3			-716

* Since Nov. 1, 2012

** Since Jan. 1, 2013

UNIVERSITY OF MINNESOTA
 SOUTHERN RESEARCH AND OUTREACH CENTER
 35838 120th Street
 Waseca, MN 56093-4521
 FEBRUARY 2013

Date	Air Temp.		Cumul*		Cumul**		Snow Depth	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.	HDD	HDD	Precip	Precip.		2"		4"		8"		20"	40"			
	----- °F-----						in.		° F-----								mi.	Langleys
1	-2	-11	71.5	3843.5	T		T	T	19	4	22	13	26	19	30	36	282	203
2	11	-11	65.0	3908.5	0.04	0.68	0.8	1	17	4	19	12	21	18	28	36	185	203
3	16	2	56.0	3964.5	0.04	0.72	0.5	1	20	16	22	19	23	21	27	35	169	209
4	15	4	55.5	4020.0	0.15	0.87	1.9	3	23	19	23	21	24	23	28	35	195	147
5	24	4	51.0	4071.0	0.09	0.96	1.5	4	24	22	24	23	25	24	28	35	207	274
6	31	0	49.5	4120.5	T		T	3	25	24	25	24	26	25	28	35	157	173
7	35	15	40.0	4160.5	-		-	3	26	24	26	25	27	25	29	35	217	181
8	26	20	42.0	4202.5	-		-	2	26	26	27	26	27	27	29	35	205	71
9	26	23	40.5	4243.0	-		-	2	27	26	27	27	28	27	29	35	280	145
10	32	26	36.0	4279.0	0.08	1.04	0.5	2	28	27	28	27	28	28	29	35	373	111
11	35	23	36.0	4315.0	0.58	1.62	2.2	4	31	28	30	28	29	28	30	35	261	78
12	23	15	46.0	4361.0	0.01	1.63	0.2	2	31	31	30	29	30	29	30	34	260	125
13	35	16	39.5	4400.5	-		-	2	31	31	30	30	30	30	30	34	190	306
14	38	21	35.5	4436.0	0.02	1.65	0.2	1	31	30	31	30	30	30	31	34	203	268
15	29	6	47.5	4483.5	-		-	1	31	26	31	29	30	30	31	34	199	218
16	15	6	54.5	4538.0	T		0.2	1	27	22	29	25	30	27	31	34	175	324
17	20	10	50.0	4588.0	0.02	1.67	0.2	1	26	22	26	25	27	27	30	34	161	293
18	33	16	40.5	4628.5	-		-	1	27	23	27	25	28	27	30	34	364	263
19	33	-3	50.0	4678.5	T		T	1	28	18	28	23	28	26	30	34	349	106
20	0	-9	69.5	4748.0	-		-	1	19	11	23	17	26	22	29	34	244	317
21	13	-8	62.5	4810.5	-		-	1	17	10	19	16	22	21	28	34	162	314
22	21	8	50.5	4861.0	0.35	2.02	4.8	5	21	14	21	18	23	21	27	34	302	227
23	25	10	47.5	4908.5	0.01	2.03	0.2	5	23	21	23	21	24	23	27	34	180	249
24	22	0	54.0	4962.5	-		-	4	24	23	24	23	25	24	28	34	110	328
25	28	6	48.0	5010.5	-		-	3	25	23	26	24	26	25	28	34	106	336
26	32	14	42.0	5052.5	-		-	2	26	25	26	26	27	26	28	34	101	213
27	33	21	38.0	5090.5	-		-	2	27	25	27	26	27	27	29	34	255	262
28	35	20	37.5	5128.0	-		-	2	28	27	28	27	28	27	29	34	215	239
Total	24.4	8.7	1356.0	5128.0	1.39	2.03	13.2		25.3	21.5	25.8	23.5	26.6	25.3			6107	6183
Avg.	16.6								23.4		24.7		25.9		29.0	34.5		
Dept. from Norma	-1.9		+53.5	-213.0	+0.39	-0.22	+4.2		-1.3		-1.1		+0.1		-1.8			-623

* Since Nov. 1, 2012

** Since Jan. 1, 2013

UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
MARCH 2013

Date	Air Temp.		Cumul*		Cumul**		Snow Depth	Soil Temperatures						Wind	Solar Radiation			
	Max.	Min.	HDD	HDD	Precip	Precip.		2"		4"		8"				20"	40"	
	----- °F -----				----- in. -----			Max Min		Max Min.		Max. Min.						
1	29	21	40.0	5168.0	T		T	2	28	27	28	27	28	28	29	34	188	132
2	28	4	49.0	5217.0	T		T	2	28	26	28	27	28	28	30	34	147	287
3	27	9	47.0	5264.0	-		-	1	27	25	27	27	28	28	30	34	117	402
4	31	21	39.0	5303.0	0.33	2.36	2.7	4	28	26	28	27	28	28	30	34	327	350
5	27	22	40.5	5343.5	0.54	2.90	5.5	8	28	27	28	28	28	28	30	34	239	154
6	26	16	44.0	5387.5	0.07	2.97	0.7	7	28	28	28	28	29	28	30	34	189	300
7	25	-1	53.0	5440.5	-		-	7	29	28	29	28	29	29	30	34	91	311
8	27	8	47.5	5488.0	-		-	7	28	28	28	28	29	29	30	34	251	406
9	35	19	38.0	5526.0	0.79	3.76	-	4	30	28	29	28	29	29	30	34	350	393
10	35	32	31.5	5557.5	0.62	4.38	0.2	3	31	30	30	29	30	29	30	34	254	57
11	34	25	35.5	5593.0	0.71	5.09	5.1	8	31	31	30	30	30	30	30	34	344	79
12	27	19	42.0	5635.0	0.01	5.10	0.2	7	31	31	31	30	30	30	31	34	215	241
13	25	9	48.0	5683.0	T		0.1	6	31	31	31	31	31	30	31	34	247	396
14	26	9	47.5	5730.5	0.04	5.14	0.8	6	31	30	31	30	31	31	31	34	192	464
15	39	24	33.5	5764.0	T		-	5	31	30	31	30	31	31	31	34	117	437
16	34	20	38.0	5802.0	0.05	5.19	-	4	31	31	31	31	31	31	31	34	232	211
17	25	9	48.0	5850.0	-		-	4	31	29	31	30	31	31	31	34	214	402
18	30	9	45.5	5895.5	0.24	5.43	3.1	6	30	28	30	30	31	30	31	34	379	456
19	30	6	47.0	594.5	0.02	5.45	0.5	6	30	27	30	29	30	30	31	34	359	325
20	20	5	52.5	5995.0	-		-	6	27	24	29	27	30	29	31	34	288	479
21	17	2	55.5	6050.5	-		-	5	26	22	27	25	29	27	31	34	211	502
22	24	4	51.0	6101.5	-		-	5	26	22	26	25	27	27	30	34	72	513
23	31	13	43.0	6144.5	-		-	4	28	22	27	25	28	27	30	34	72	492
24	34	20	38.0	6182.5	-		-	3	29	25	28	26	28	28	30	34	137	367
25	32	23	37.5	6220.0	-		-	3	30	27	29	28	29	28	30	34	251	291
26	34	19	38.5	6258.5	-		-	3	31	28	30	29	30	29	30	34	216	468
27	35	19	38.0	6296.5	-		-	2	31	29	30	29	30	30	30	34	80	507
28	38	24	34.0	6330.5	-		-	2	31	30	31	30	30	30	31	34	98	514
29	42	30	29.0	6359.5	-		-	1	31	31	31	30	31	30	31	34	172	393
30	51	34	22.5	6382.0	T		-	T	32	31	31	31	31	31	31	34	255	455
31	50	31	24.5	6406.5	0.13	5.58	-	T	36	32	31	31	31	31	31	34	183	275
Total	31.2	16.3	1278.5	6406.5	3.55	5.58	18.9		29.7	27.9	29.3	28.5	29.5	29.2			6487	11059
Avg.	23.8								28.8		28.9		29.4		30.4	34.0		
Dept. from Normal	-7.4		+230.5	+17.5	+1.06	+0.84	+8.7		-3.1		-2.8		-0.9		-2.0			+1302

* Since Nov. 1, 2012

** Since Jan. 1, 2013

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
APRIL 2013**

Date	Air Temp.		HDD	Cumul* HDD	Cumul** Precip	Snow Precip.	Snow Depth	Evap	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.							2"		4"		8"		20"	40"			
----- °F -----		----- in. -----						----- ° F -----								mi.	Langley		
1	38	18	37.0	6443.5	-	-	-		40	32	31	31	31	31	31	34	303	359	
2	33	18	39.5	6483.0	-	-	-		37	32	31	31	31	31	31	34	192	559	
3	36	22	36.0	6519.0	-	-	-		42	32	32	31	31	31	31	34	135	535	
4	45	27	29.0	6548.0	T	-	-		45	32	32	32	31	31	31	34	341	535	
5	49	28	26.5	6574.5	0.01	5.59	-	-	51	32	34	32	31	31	31	34	192	485	
6	41	30	29.5	6604.0	0.01	5.60	T	-	35	32	33	32	31	31	32	34	366	192	
7	60	33	18.5	6622.5	0.12	5.72	-	-	47	33	37	32	32	31	32	34	243	229	
8	52	33	22.5	6645.0	0.34	6.06	-	-	50	33	39	32	32	32	32	34	183	304	
9	55	37	19.0	6664.0	0.15	6.21	-	-	53	38	43	36	35	32	32	34	263	286	
10	39	29	31.0	6695.0	1.64	7.85	T	T	40	33	37	33	34	32	32	34	406	100	
11	34	30	33.0	6728.0	0.76	8.61	3.1	3	33	32	33	32	32	32	32	34	235	67	
12	34	27	34.5	6762.5	0.27	8.88	2.5	4	32	32	32	32	32	32	32	34	277	220	
13	34	27	34.5	6797.0	0.02	8.90	0.4	3	32	32	32	32	32	32	32	34	217	394	
14	36	28	33.0	6830.0	0.06	8.96	T	1	32	32	32	32	32	32	32	34	234	336	
15	43	31	28.0	6858.0	0.16	9.12	-	T	32	32	32	32	32	32	32	34	351	49	
16	41	30	29.5	6887.5	-	-	-	T	34	32	33	32	33	32	32	34	322	218	
17	45	31	27.0	6914.5	-	-	-	-	53	32	41	32	36	32	32	34	168	545	
18	38	32	30.0	6944.5	0.59	9.71	-	-	38	33	35	34	34	33	32	34	302	91	
19	33	28	34.5	6979.0	0.68	10.39	4.0	3	34	32	34	32	33	32	32	34	294	95	
20	35	19	38.0	7017.0	T	-	T	1	32	32	32	32	32	32	32	34	209	386	
21	40	23	33.5	7050.5	0.02	10.41	T	T	32	32	32	32	32	32	32	34	166	618	
22	54	35	20.5	7071.0	0.30	10.71	-	-	0.71	45	32	39	32	36	32	34	291	275	
23	37	26	33.5	7104.5	0.82	11.53	5.0	5	38	32	37	33	35	33	32	34	284	59	
24	37	24	34.5	7139.0	-	-	-	2	32	32	33	32	33	32	32	34	157	649	
25	48	29	26.5	7165.5	0.09	11.62	T	T	37	32	34	32	33	32	32	34	284	573	
26	52	30	24.0	7189.5	-	-	-	-	56	32	43	33	37	33	32	34	275	639	
27	72	40	9.0	7198.5	-	-	-	-	62	40	49	39	42	37	34	34	193	641	
28	73	47	5.0	7203.5	-	-	-	-	66	41	51	42	45	40	37	35	233	606	
29	80	50	0.0	7203.5	0.16	11.78	-	-	1.34	63	46	54	45	48	43	40	264	560	
30	76	54	0.0	7203.5	-	-	-	-	0.29	71	51	58	49	52	47	42	233	565	
Total	46.3	30.5	797.0	7203.5	6.20	11.78	15.0		2.34	43.1	34.0	37.2	33.8	34.7	33.2		7613	11170	
Avg.	38.4									38.6		35.5		33.9		32.7	34.1		
Dept. from																			
Normal	-7.7		+226.0	+243.5	+2.99	+3.83	+12.3			-7.5		-9.3		-8.5		-7.9			-404

*Since Nov. 1, 2012 **Since Jan. 1, 2013
 34° on the 11th and 12th tied Lowest Max Temp-old records set in 1982 and 2007 respectively, 33° on the 19th set new Lowest Max Temp-old record 37° set in 1953, 35° on the 20th set new Lowest Max Temp-old record 36° set in 2011, 19° on the 20th set new Lowest Min Temp-old record 20° set in 1934
 37° on the 23rd ties Lowest Max Temp record set in 1967, 37° on the 24th ties Lowest Max Temp record set in 1967

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
MAY 2013**

Date	Air Temp.		GDU	Cumul.* GDU	Cumul.**			Evap.	Soil Temperatures								Wind mi.	Solar Radiation Langleys
	Max.	Min.			Precip.	Precip.	Snow		2"		4"		8"		20"	40"		
	----- ° F -----				----- in. -----				----- ° F -----									
1	70	40	10.0	10.0	0.49	12.27		0.35	71	48	60	52	54	51	45	37	228	415
2	40	32	0.0	10.0	1.45	13.72	9.0		48	35	52	40	51	42	46	38	212	55
3	40	32	0.0	10.0	0.03	13.75	0.4		39	34	40	37	42	38	43	39	197	430
4	34	30	0.0	10.0	0.12	13.87	0.5		39	34	38	36	38	38	41	40	321	242
5	50	33	0.0	10.0	0.01	13.88			49	34	43	36	41	37	40	40	219	274
6	61	39	5.5	15.5	-			0.75	65	41	52	41	46	41	41	40	116	550
7	73	40	11.5	27.0	-				73	43	58	45	51	44	43	40	75	621
8	76	49	13.0	40.0	-				72	48	60	50	54	48	45	40	108	556
9	76	55	15.5	55.5	0.13	14.01			70	51	60	52	55	51	47	41	177	397
10	57	38	3.5	59.0	0.03	14.04			57	43	55	48	54	50	49	42	121	333
11	66	39	8.0	67.0	-				73	42	60	47	54	49	48	42	187	698
12	52	32	1.0	68.0	T				66	40	57	47	53	49	49	43	255	630
13	58	36	4.0	72.0	-			3.25	72	40	59	47	53	48	49	44	153	709
14	77	41	13.5	85.5	-				67	45	58	49	54	50	49	44	303	419
15	102	53	19.5	105.0	-				81	52	67	54	59	53	50	44	274	538
16	76	49	13.0	118.0	0.03	14.07			79	55	66	58	60	57	52	45	106	467
17	86	53	19.5	137.5	0.59	14.66			88	55	71	58	63	57	54	46	161	607
18	67	55	11.0	148.5	0.52	15.18			70	58	64	59	62	59	55	46	296	280
19	80	59	19.5	168.0	0.10	15.28			74	58	66	59	61	58	55	47	254	513
20	78	61	19.5	187.5	1.24	16.52		1.78	72	61	66	62	63	60	56	48	275	377
21	70	57	13.5	201.0	0.16	16.68			69	57	64	59	61	59	57	48	254	347
22	62	50	6.0	207.0	0.02	16.70			63	55	60	57	59	57	56	49	169	178
23	52	46	1.0	208.0	0.20	16.90			57	48	57	53	58	54	55	49	272	113
24	62	42	6.0	214.0	-				68	45	61	52	57	54	54	50	239	740
25	68	45	9.0	223.0	0.07	16.97			72	45	62	51	58	53	54	50	276	581
26	54	49	2.0	225.0	0.07	17.04			56	49	56	52	56	53	54	50	328	132
27	54	47	2.0	227.0	0.13	17.17		0.76	54	49	53	51	53	53	53	50	322	137
28	58	53	5.5	232.5	0.49	17.66			57	52	55	52	54	53	52	50	268	121
29	61	53	7.0	239.5	0.03	17.69			62	54	57	54	55	53	53	50	111	127
30	75	60	17.5	257.0	0.38	18.07			69	55	62	55	58	55	53	50	286	282
31	73	60	16.5	273.5	0.17	18.24		0.42	68	58	63	59	60	58	55	50	345	270
Totals	64.8	46.1	273.5	273.5	6.46	18.24	9.9	7.31	65.2	47.9	58.1	50.7	54.7	51.0	44.9	6908	12139	
Avg.	55.4								56.5		54.4		52.9		50.1			
Dept. from normal	-3.3		-58.5	-58.5	+2.53	+6.36	+9.9	-0.21	-3.9		-4.2		-2.9		-3.7			-2240

* Since May 1, 2013 ** Since January 1, 2013 **102° on the 15th set new Highest Max Temp-old record 96° set in 2001**

UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
JUNE 2013

Date	Air Temp.		GDU	Cumul.* GDU	Precip.	Cumul.** Precip.	Evap.	Soil Temperatures								Wind mi.	Solar Radiation Langleys
	Max.	Min.						2"		4"		8"		20"	40"		
	----- ° F -----							Max.	Min.	Max.	Min.	Max.	Min.	----- ° F -----			
1	77	53	15.0	288.5	0.15	18.39	0.37	74	56	65	59	61	58	56	50	304	629
2	69	49	9.5	298.0				72	52	63	56	60	57	56	50	220	308
3	65	46	7.5	305.5	0.03	18.42	0.35	78	52	66	56	61	56	56	51	128	681
4	71	50	10.5	316.0	0.02	18.44		76	52	66	57	62	57	56	51	206	560
5	59	53	6.0	322.0	0.27	18.71		60	55	61	56	60	57	57	51	242	129
6	68	54	11.0	333.0	-			71	55	62	56	59	57	56	52	138	283
7	56	52	4.0	337.0	T			60	54	58	56	58	56	56	52	142	134
8	65	53	9.0	346.0	-			69	54	62	56	59	56	56	52	83	336
9	67	57	12.0	358.0	0.55	19.26		67	55	62	57	59	57	56	52	262	294
10	69	55	12.0	370.0	0.51	19.77	0.73	66	57	62	58	60	58	56	52	179	234
11	72	56	14.0	384.0	-			73	57	65	58	61	58	57	52	74	310
12	85	61	23.0	407.0	0.02	19.79		79	58	70	60	64	59	58	52	185	514
13	79	57	18.0	425.0	0.14	19.93		82	58	71	62	66	63	59	53	253	366
14	78	59	18.5	443.5	-			84	58	73	62	66	62	60	53	165	707
15	78	63	20.5	464.0	0.78	20.71		78	63	71	65	67	64	61	54	299	445
16	78	56	17.0	481.0	0.08	20.79		76	60	70	64	66	65	61	54	101	368
17	85	59	22.0	503.0	-		1.50	84	60	74	64	68	64	62	55	143	713
18	82	58	20.0	523.0	0.46	21.25		89	62	77	65	70	65	63	55	191	662
19	76	59	17.5	540.5	-			82	62	73	66	69	66	63	56	163	572
20	85	63	24.0	564.5	-			88	62	76	65	70	65	64	56	241	659
21	89	65	25.5	590.0	0.12	21.37		88	68	78	69	72	68	65	56	361	553
22	83	64	23.5	613.5	1.65	23.02		82	66	75	69	71	69	66	57	232	329
23	87	65	25.5	639.0	0.70	23.72		86	66	76	68	71	68	66	57	273	535
24	81	64	22.5	661.5	0.02	23.74	2.40	81	66	74	69	71	69	66	58	191	493
25	76	65	20.5	682.0	1.00	24.74		74	66	71	68	69	68	66	58	192	214
26	85	67	26.0	708.0	0.05	24.79		84	66	75	67	71	67	66	59	159	516
27	85	66	25.5	733.5	0.05	24.84		85	68	78	71	72	70	66	59	120	484
28	84	62	23.0	756.5	-			93	68	81	71	74	70	67	60	184	700
29	77	63	20.0	776.5	0.07	24.91		82	67	77	70	73	70	68	60	247	498
30	76	56	16.0	792.5	-			83	62	75	68	71	69	68	60	226	468
Totals	76.2	58.3	519.0	792.5	6.67	24.91	5.35	78.2	60.2	70.2	62.9	66.0	62.9			5904	13694
Avg.	67.3							69.2		66.6		64.5		61.1	54.6		
Dept. from normal	-1.2		-19.0	-77.5	+1.98	+8.34	-1.56	-2.6		-3.2		-2.4		-2.7			-1836

* Since May 1, 2013 ** Since January 1, 2013

UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
JULY 2013

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	79	57	18.0	810.5	-		0.23	89	62	78	67	72	67	67	61	155	647
2	83	62	22.5	833.0	-			92	65	80	69	74	69	67	61	134	610
3	82	59	20.5	853.5	-			94	68	81	71	75	70	68	61	146	682
4	83	63	23.0	876.5	-			96	68	83	72	76	71	69	61	118	704
5	88	65	25.5	902.0	-			94	71	83	74	76	73	70	62	248	665
6	87	71	28.5	930.5	T			87	72	79	74	75	74	70	62	311	478
7	92	71	28.5	959.0	-			90	72	82	74	77	73	71	62	275	553
8	91	67	26.5	985.5	0.31	25.22	2.17	98	73	85	76	79	75	71	63	134	591
9	89	70	28.0	1013.5	0.26	25.48		97	73	85	76	79	75	72	63	116	676
10	84	61	22.5	1036.0	0.36	25.84		88	67	81	73	77	74	73	64	196	596
11	79	57	18.0	1054.0	-			90	67	81	72	76	73	72	64	121	697
12	85	62	23.5	1077.5	-			95	67	83	72	77	72	72	64	191	683
13	87	63	24.5	1102.0	1.61	27.45		95	71	84	74	78	74	72	64	314	666
14	76	61	18.5	1120.5	1.11	28.56		76	67	76	70	76	71	72	65	236	261
15	83	65	24.0	1144.5	-		2.45	84	67	77	70	74	71	71	65	142	627
16	86	68	27.0	1171.5	-			95	68	83	71	77	72	71	65	142	620
17	90	70	28.0	1199.5	-			98	75	86	76	80	75	72	65	119	585
18	91	72	29.0	1228.5	-			103	76	89	78	82	77	74	65	136	636
19	92	71	28.5	1257.0	0.38	28.94		101	77	89	81	83	79	75	66	278	659
20	81	61	21.0	1278.0	-			90	70	84	75	80	77	75	66	121	665
21	81	64	22.5	1300.5	0.07	29.01		92	70	84	75	79	75	75	67	92	485
22	80	64	22.0	1322.5	-		1.93	88	70	80	74	77	75	74	67	150	385
23	85	58	21.5	1344.0	-			95	69	84	74	78	74	73	67	160	568
24	75	57	16.0	1360.0	-			94	69	83	74	78	74	74	67	102	642
25	77	58	17.5	1377.5	T			89	69	81	73	77	73	73	67	90	447
26	82	60	21.0	1398.5	1.18	30.19		87	67	78	71	75	72	73	67	114	407
27	70	48	10.0	1408.5	0.01	30.20		78	57	74	65	72	69	72	67	155	476
28	63	48	6.5	1415.0	T			69	55	68	63	69	66	70	67	120	353
29	70	55	12.5	1427.5	-		1.43	86	55	75	62	70	65	68	67	77	633
30	75	55	15.0	1442.5	-			89	61	77	66	72	67	68	66	113	595
31	74	58	16.0	1458.5	T		0.26	80	67	75	70	72	70	69	66	56	219
Totals	81.9	62.0	666.0	1458.5	5.29	30.20	8.47	90.3	67.9	80.9	72.0	76.2	72.3			4862	17511
Avg.	72.0							79.1		76.5		74.3		71.4			
Dept. from normal	0.0		+11.0	-66.5	+0.87	+9.21	+0.57	+0.5		-0.2		+0.4		+0.5			+878

* Since May 1, 2013 ** Since January 1, 2013

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
AUGUST 2013**

Date	Air Temp.		GDU	Cumul.* GDU	Cumul.**			Soil Temperatures								Wind	Solar Radiation
	Max.	Min.			Precip.	Precip.	Evap.	2"		4"		8"		20"	40"		
	° F				in.			° F									
1	78	51	14.5	1473.0	T		0.17	88	64	78	69	73	70	69	66	79	471
2	83	54	18.5	1491.5	-			94	64	81	69	75	70	70	66	78	631
3	75	49	12.5	1504.0	-			85	64	79	70	75	72	71	66	67	437
4	76	49	13.0	1517.0	-			91	63	79	69	74	71	71	66	64	568
5	74	53	13.5	1530.5	0.55	30.75	0.72	81	64	75	70	73	71	70	66	107	345
6	79	56	17.5	1548.0	0.01	30.76		81	64	75	69	72	70	70	66	90	384
7	84	58	21.0	1569.0	0.16	30.92		83	64	76	68	72	69	70	66	125	551
8	73	52	12.5	1581.5	-			83	60	75	67	72	69	69	66	82	574
9	71	55	13.0	1594.5	T			78	60	72	66	70	68	69	66	68	330
10	75	50	12.5	1607.0	-			89	62	77	67	72	68	69	66	92	616
11	75	53	14.0	1621.0	0.35	31.27		90	63	78	68	73	69	69	66	87	535
12	74	61	17.5	1638.5	T		1.09	77	65	74	69	72	70	70	66	58	242
13	76	56	16.0	1654.5	-			83	62	76	68	72	69	69	66	94	582
14	72	48	11.0	1665.5	-			88	61	77	67	72	68	69	66	65	573
15	75	51	13.0	1678.5	-			86	60	76	67	72	68	69	66	79	528
16	77	50	13.5	1692.0	-			90	62	77	67	73	68	69	66	72	521
17	77	52	14.5	1706.5	-			86	63	77	68	73	69	69	66	82	533
18	80	55	17.5	1724.0	-			89	64	78	69	74	70	70	66	123	575
19	81	57	19.0	1743.0	-		1.36	89	65	79	70	74	70	70	66	142	546
20	85	62	23.5	1766.5	-			90	68	80	71	75	71	70	66	179	488
21	88	70	28.0	1794.5	-			90	73	82	74	77	73	71	66	177	479
22	82	67	24.5	1819.0	1.00	32.27		83	73	78	75	76	74	72	66	110	245
23	81	60	20.5	1839.5	T			86	66	79	71	75	73	72	66	75	484
24	79	62	20.5	1860.0	-			84	66	77	70	74	72	71	67	156	505
25	85	69	27.0	1887.0	-			90	69	80	72	76	72	71	67	250	484
26	91	75	30.5	1917.5	-		1.36	96	74	84	75	78	74	72	67	267	545
27	91	74	30.0	1947.5	-			96	76	85	77	80	76	73	67	206	458
28	89	73	29.5	1977.0	-			101	77	88	78	82	77	74	67	118	538
29	89	73	29.5	2006.5	-			100	78	89	80	83	79	76	68	121	504
30	91	71	28.5	2035.0	-			100	78	89	81	83	80	76	68	140	528
31	81	63	22.0	2057.0	-		1.10	97	73	77	68	75	72	75	69	80	435
Totals	80.2	59.0	598.5	2057.0	2.07	32.27	5.80	88.5	66.6	79.0	70.6	74.7	71.4			3533	15235
Avg.	69.6							77.6		74.8		73.0		70.8			
Dept. from normal	-0.2		+1.5	-65.0	-2.68	+6.53	-0.57	+2.10		+0.3		+0.4		-0.1			+1060

* Since May 1, 2013 ** Since January 1, 2013 75° on the 26th set new Highest Min.Temp-old record 72° set in 1921, 74° on the 27th set new Highest Min. Temp-old record 71° set in 1973, 73° on the 28th set new Highest Min.Temp-old record 72° set in 1990

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120TH STREET
WASECA, MINNESOTA 56093-4521
SEPTEMBER 2013**

Date	Air Temp.		GDU	Cumul.* GDU	Cumul.** Precip.	Precip.	Evap.	Soil Temperatures						Wind	Solar Radiation		
	Max.	Min.						2"		4"		8"				20"	40"
	° F							° F						mi.	Langleys		
1	85	64	24.5	2081.5	0.15	32.42	0.06	98	73	87	77	81	78	76	69	95	510
2	75	51	13.0	2094.5	-		0.22	85	65	81	73	79	75	76	69	133	408
3	65	44	7.5	2102.0	-			85	60	77	68	75	72	75	70	69	411
4	76	44	13.0	2115.0	-			88	60	78	67	74	70	73	70	58	514
5	86	57	21.5	2136.5	-			92	66	81	70	76	71	72	69	92	451
6	85	63	24.0	2160.5	0.02	32.44		94	71	83	74	78	74	73	69	122	468
7	88	67	26.5	2187.0	-			92	73	83	75	78	75	74	69	159	481
8	89	66	26.0	2213.0	T			96	74	85	76	80	75	74	69	123	454
9	79	68	23.5	2236.5	-		1.46	85	74	80	76	78	76	75	69	164	235
10	94	63	24.5	2261.0	-			92	73	83	75	79	75	74	69	149	431
11	79	62	20.5	2281.5	0.01	32.45		84	71	80	75	77	76	74	69	59	242
12	83	52	17.5	2299.0	-			89	66	81	72	77	74	74	69	104	407
13	74	45	12.0	2311.0	-			84	62	78	69	75	72	73	69	126	466
14	69	45	9.5	2320.5	-			86	61	77	68	73	70	72	69	83	508
15	73	46	11.5	2332.0	1.13	33.58		76	60	72	66	71	68	71	69	169	318
16	65	44	7.5	2339.5	-		1.11	67	52	67	60	68	65	70	69	118	174
17	67	44	8.5	2348.0	-			75	52	68	60	66	63	68	68	116	453
18	64	49	7.0	2355.0	0.14	33.72		63	53	62	59	64	63	66	68	201	192
19	79	64	21.5	2376.5	-			75	62	69	62	67	63	66	67	172	220
20	78	52	15.0	2391.5	0.28	34.00		76	60	71	65	69	67	66	67	143	257
21	64	41	7.0	2398.5	0.01	34.01		69	51	66	58	67	62	66	66	113	259
22	65	40	7.5	2406.0	-			72	50	66	57	64	61	65	66	88	467
23	75	48	12.5	2418.5	-		0.79	77	52	68	58	65	60	64	66	212	446
24	73	49	11.5	2430.0	-			77	56	68	60	65	62	64	65	195	437
25	75	49	12.5	2442.5	-			79	55	70	60	66	62	64	65	106	426
26	74	50	12.0	2454.5	-			80	57	70	61	67	63	65	65	165	433
27	81	55	18.0	2472.5	-			81	59	71	63	68	64	65	64	249	418
28	85	64	24.5	2497.0	-			79	65	71	66	69	66	66	64	260	235
29	68	42	9.0	2506.0	0.18	34.19		66	50	68	58	68	62	66	64	134	109
30	75	43	12.5	2518.5	-		1.17	74	50	66	57	64	61	65	64	215	424
Totals	76.3	52.4	461.5	2518.5	1.92	34.19	4.81	81.2	61.1	73.8	66.2	71.6	68.2			4192	11254
Avg.	64.3							71.2		70.0		69.9		69.7			
Dept. from normal	+3.0		+113.5	+48.5	-1.75	+4.78	-0.10	+6.0		+5.1		+5.8		+4.4			+538

* Since May 1, 2013 ** Since January 1, 2013

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
OCTOBER 2013**

Date	Air Temp.		GDU	Cumul* GDU	Precip	Cumul** Precip.	Snow Depth	Soil Temperatures								Wind	Solar Radiation
	Max.	Min.						2"		4"		8"		20"	40"		
	° F							Max	Min	Max	Min.	Max.	Min.	° F			
1	78	57	17.5	2536.0	-			77	56	68	60	65	62	64	64	280	391
2	76	43	13.0	2549.0	-			80	55	71	61	67	63	64	64	88	397
3	78	48	14.0	2563.0	1.11	35.30		76	55	68	60	65	62	64	64	180	357
4	63	56	9.5	2572.5	0.35	35.65		64	59	64	62	64	63	64	64	106	57
5	63	51	7.0	2579.5	0.73	36.38		62	58	62	60	63	62	63	64	202	71
6	57	42	3.5	2583.0	0.01	36.39		64	51	61	56	62	59	63	63	95	245
7	53	39	1.5	2584.5	0.08	36.47		60	46	58	53	59	57	61	63	75	142
8	68	39	9.0	2593.5	-			69	46	61	52	59	55	60	63	87	379
9	76	50	13.0	2606.5	-			65	49	60	54	59	56	60	62	244	350
10	75	49	12.5	2619.0	-			73	53	64	56	61	58	60	62	169	359
11	76	49	13.0	2632.0	-			74	52	65	57	62	58	60	62	194	341
12	74	45	12.0	2644.0	0.14	36.61		68	52	63	58	62	60	61	61	274	216
13	60	30	5.0	2649.0	-			62	42	59	51	60	56	60	61	145	327
14	61	30	FREEZE		-			66	42	59	50	57	54	59	61	73	366
15	56	42			0.87	37.48		54	46	54	51	55	54	58	61	245	96
16	53	43			0.06	37.50		52	48	53	51	54	53	57	61	198	42
17	51	35			0.02	37.56		53	41	52	47	53	51	56	60	82	114
18	58	35			0.04	37.60		58	41	53	46	52	50	55	60	145	233
19	51	33			-			57	39	53	46	52	50	54	59	121	313
20	47	27			0.05	37.65		50	37	49	43	50	47	54	59	118	180
21	52	29			0.03	37.68		49	38	47	43	48	46	52	58	216	149
22	39	21			T			44	34	45	40	47	44	51	57	116	193
23	39	25			T		T	42	34	42	39	44	43	50	57	112	165
24	36	29			T		T	40	35	41	39	43	42	49	56	138	93
25	44	22			-			45	34	43	39	44	42	48	56	101	201
26	57	22			-			49	33	45	38	45	41	47	55	308	289
27	47	25			-			51	35	47	41	46	44	48	54	155	295
28	62	27			-			53	35	47	40	46	43	48	54	244	292
29	44	32			T			48	37	46	42	45	44	48	54	236	249
30	49	35			0.02	37.70		49	39	46	42	46	44	# 48	53	189	129
31	54	41			0.05	37.75		50	44	48	45	48	46	48	53	121	47
Total	58.0	37.1	130.5	2649.0	3.56	37.75	0.0	58.2	44.1	54.6	49.1	54.3	51.9			5057	7078
Avg.	47.5							51.1		51.9		53.1		55.9	59.5		
Dept. from Norma	-0.7		+110.5	+159.0	+0.89	+5.67	-0.6	+1.3		+1.4		+2.3		+1.5			-344

** Since Jan. 1, 2013

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
NOVEMBER 2013**

Date	Air Temp.		Cumul*		Cumul**		Snow Depth	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.	HDD	HDD	Precip	Precip.		2"		4"		8"		20"	40"			
	----- °F-----							----- in.-----		----- ° F-----								mi.
1	41	38	25.5	25.5	0.01	37.76			46	42	48	45	48	46	49	53	176	53
2	51	32	23.5	49.0	T				52	38	48	44	47	46	49	53	145	217
3	48	32	25.0	74.0	-				51	37	47	42	46	45	49	53	143	261
4	54	35	20.5	94.5	-				49	37	46	42	46	44	48	53	436	224
5	48	26	28.0	122.5	0.09	37.85			47	35	46	41	47	44	48	52	113	50
6	42	26	31.0	153.5	0.48	38.33	2.0	1	41	35	42	39	44	42	47	52	230	77
7	37	28	32.5	186.0	-			T	43	35	41	38	42	41	46	52	161	259
8	37	24	34.5	220.5	-				43	34	41	38	41	40	45	52	143	220
9	46	28	28.0	248.5	0.02	38.35			40	34	40	37	41	39	45	51	303	86
10	44	31	27.5	276.0	-				43	35	42	38	42	41	45	51	240	111
11	41	24	32.5	308.5	0.03	38.38	0.5	T	43	35	41	38	41	40	44	50	201	165
12	25	6	49.5	358.0	-			T	36	28	39	35	40	38	44	50	156	160
13	26	8	48.0	406.0	-			T	31	28	35	33	38	36	43	50	219	248
14	49	26	27.5	433.5	-				32	31	34	33	36	36	42	49	322	238
15	48	28	27.0	460.5	0.02	38.40			33	32	35	34	36	36	41	49	124	81
16	56	30	22.0	482.5	T				42	32	38	34	39	36	41	48	275	214
17	55	37	19.0	501.5	0.02	38.42			45	38	42	38	41	39	42	48	237	24
18	42	28	30.0	531.5	T				41	35	41	38	41	40	43	48	309	53
19	35	21	37.0	568.5	-				39	32	39	36	40	38	42	48	179	215
20	45	28	28.5	597.0	-				38	32	38	36	39	38	42	48	461	188
21	41	26	31.5	628.5	-				40	37	40	38	40	39	42	48	239	56
22	27	7	48.0	676.5	T		0.8	T	37	32	39	36	40	38	42	47	204	19
23	31	4	47.5	724.0	T			T	32	27	36	34	38	36	41	47	222	223
24	16	1	56.5	780.5	-		T	T	31	23	34	32	36	35	41	47	99	213
25	28	11	45.5	826.0	-			T	30	23	32	31	35	34	39	47	445	206
26	40	18	36.0	862.0	-				31	29	32	32	34	34	39	46	268	151
27	22	3	52.5	914.5	-				31	24	32	31	34	33	38	46	209	145
28	23	4	51.5	966.0	-				30	24	31	31	33	33	38	46	135	173
29	29	9	46.0	1012.0	-				31	24	31	30	33	32	37	45	94	195
30	33	15	41.0	1053.0	-				30	24	31	30	32	32	37	45	284	149
Total	38.7	21.1	1053.0	1053.0	0.67	38.42	3.3		38.6	31.7	38.7	36.1	39.7	38.4			6772	4674
Avg.	29.9								35.2		37.4		39.0		43.0	49.1		
Dept. from																		
Norma	-2.8		+84.0	+84.0	-1.49	+4.18	-4.5		-0.3		+0.3		+1.0		-0.7			+189

* Since Nov. 1, 2013

** Since Jan. 1, 2013

**UNIVERSITY OF MINNESOTA
SOUTHERN RESEARCH AND OUTREACH CENTER
35838 120th Street
Waseca, MN 56093-4521
DECEMBER 2013**

Date	Air Temp.		Cumul*		Cumul**		Snow Depth	Soil Temperatures								Wind	Solar Radiation	
	Max.	Min.	HDD	HDD	Precip	Precip.		2"	4"		8"		20"	40"				
	----- °F-----				----- in.-----		° F-----								mi.	Langleys		
1	44	22	32.0	1085.0	-		-	31	28	31	31	32	32	37	45	135	199	
2	35	25	35.0	1120.0	T		T	31	31	31	31	33	32	37	44	127	72	
3	38	31	30.5	1150.5	0.08	38.50	T	-	32	31	32	31	33	33	37	44	230	56
4	35	31	32.0	1182.5	0.16	38.66	T	-	32	32	32	32	33	33	37	44	169	25
5	32	4	47.0	1229.5	0.15	38.81	0.2	T	32	29	32	32	33	33	37	44	-	11
6	8	-6	64.0	1293.5	-		-	T	29	19	32	28	33	32	37	43	-	180
7	3	-10	68.5	1362.0	-		-	T	22	13	28	22	32	30	36	43	136	185
8	8	-10	66.0	1428.0	0.06	38.87	0.7	1	20	13	24	22	30	28	35	43	116	178
9	13	-6	61.5	1489.5	0.11	38.98	1.6	2	25	20	27	24	29	28	35	43	143	92
10	16	-7	60.5	1550.0	0.01	38.99	0.3	2	24	22	27	26	29	28	34	42	298	194
11	15	-9	62.0	1612.0	T		0.2	2	24	22	26	25	28	27	34	42	226	160
12	9	-9	65.0	1677.0	-		-	1	23	21	25	24	27	26	33	42	203	188
13	21	9	50.0	1727.0	-		-	1	25	22	26	24	27	26	33	41	90	161
14	18	11	50.5	1777.5	0.03	39.02	0.3	2	26	24	27	26	28	27	33	41	258	121
15	13	-1	59.0	1836.5	0.03	39.05	0.4	2	26	24	27	26	28	27	33	41	177	107
16	8	0	61.0	1897.5	0.07	39.12	1.2	3	25	24	26	25	27	26	32	41	104	115
17	31	8	45.5	1943.0	0.02	39.14	0.4	3	27	25	27	26	28	27	32	40	220	90
18	27	6	48.5	1991.5	-		-	3	27	26	28	27	28	28	32	40	209	163
19	37	19	37.0	2028.5	-		-	2	28	26	28	27	29	28	32	40	142	139
20	21	16	46.5	2075.0	T		0.1	2	27	27	28	28	29	29	32	40	300	100
21	19	13	49.0	2121.0	T		T	1	27	27	28	28	29	28	32	39	69	53
22	21	12	48.5	2172.5	-		-	1	28	27	28	28	29	28	32	39	193	68
23	15	-11	63.0	2235.5	T		0.2	1	27	23	28	26	29	27	32	39	223	93
24	-6	-11	73.5	2309.0	-		-	1	23	20	26	23	27	25	32	39	159	162
25	19	-10	60.5	2369.5	0.38	39.52	3.8	5	24	20	25	23	26	25	32	39	288	102
26	28	6	48.0	2417.5	0.02	39.54	0.4	4	26	24	27	25	27	26	31	39	155	99
27	28	16	43.0	2460.5	-		-	4	27	26	28	27	28	27	31	38	29	109
28	37	20	36.5	2497.0	-		-	3	28	27	28	28	29	28	31	38	183	145
29	41	0	44.5	2541.5	T		-	2	29	28	29	28	29	29	31	38	291	184
30	0	-14	72.0	2613.5	-		-	2	28	23	29	26	29	27	32	38	135	184
31	4	-15	70.5	2684.0	0.13	39.67	1.8	4	24	23	26	26	27	27	31	38	82	95
Total	20.6	4.2	1631.0	2684.0	1.25	39.67	11.6		26.7	24.1	27.9	26.6	29.2	28.3			5090	3830
Avg.	12.4								25.4		27.3		28.7		33.4	40.9		
Dept. from Norma	-5.4		+168.0	+252.0	-0.23	+3.95	-1.4		-1.4		-11.2		-1.2		-2.6			-132

* Since Nov. 1, 2013

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