

JULY 2009

WATSON FORECAST JULY 2009:

- 1-3 Hot with passing storm.
- 4th of July-Hot and dry.
- 5-10 Sunny with a passing storm.
- 11-15 Sunny with scattered storms.
- 16-24 Fair skies with isolated storms.
- 25-26 Storms.
- 27-31 Sunny and hot.

Overall: Warmer and dry.

JULY WEATHER VALUES

Hottest temperature ever	105.4
Warmest monthly mean	77.8
Mean maximum temperature	82.2
Mean temperature	72.4
Mean minimum temperature	62.5
Cool est monthly mean	66.0
Lowest temperature	43.9

Mean days over 90 degrees	4
Mean days under 0 degrees	0

Mean monthly precipitation	4.45
Wettest month	13.07
Driest month	.53
Most prcp on one date	6.57
Most prcp 2 dates in a row	6.77

Mean monthly snowfall	0
Snowiest month	0
Least snowy month	0
Most snow on one date	0
Most snow 2 dates in a row	0

Mean no. days with thunder	7
Hail	.8
Sleet	0
Glaze	0
Dense fog	.2
Rainbow seen	.2
Mean no. dates with halo	2

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ASTRONOMICS

- | | |
|---------------------------------------|---|
| 1 Midday sun 63° elevation | 18 Venus 5.9° south of Moon, 11pm |
| 3 Earth at Aphelion | 21 Moon at Perigee: 222,163 miles |
| 4 Antares 0.3° south of Moon, 4am | 22 Solar Eclipse (Asia) |
| 7 Moon at Apogee: 252,472 miles | 25 Midday sun 60° elevation |
| 7 Penumbral Lunar Eclipse | 25 Saturn 5.9° north of Moon, 5am |
| 8 Midday sun 62° elevation | 27 Spica 3.2° north of Moon |
| 10 Jupiter 3.2° south of Moon, 2pm | 28 Delta Meteor shower, yellow in color |
| 14 Venus 3.1° north of Aldebaran, 3am | 29 Perseids meteor shower begins |
| 15 Midday sun 61° elevation | 30 Capricornids Meteor shower |
| 18 Mars 4.8° south of Moon, 4am | 30 Midday sun 59° elevation |

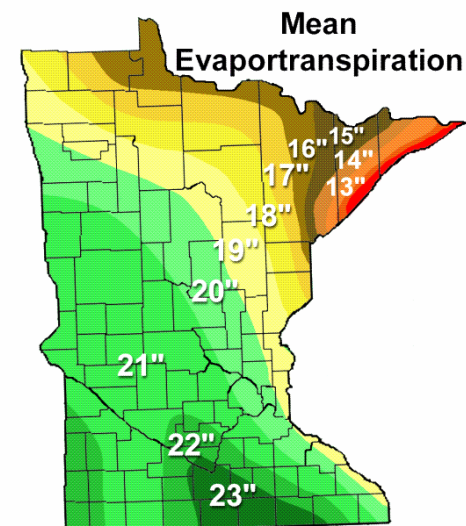
Visible Planets:

Morning: Venus, Mars, Jupiter, Uranus, Mercury 1-12
Evening: Saturn, Mercury 13-31



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JULY LAST YEAR 2008

- 1 Hot. Breezy afternoon. Evening storms Lake of the Woods. Gas 3.95.
- 2 3/4" hail Brainerd and Ogilvie. Cottonwood seeds blowing.
- 3 Embarrass 34°, Crane Lake 39°. Minnesota strawberries available.
- 4 Afternoon cumulus most of state. Winds light. Dew points low.
- 5 Sunny with afternoon cumulus. Very windy with gusts near 30 mph.
- 6 Vivid lightning late evening. 93° MSP. 2.32" pcp Eau Claire.
- 7 Thunderstorms southern MN. Truck damages Stillwater lift bridge.
- 8 Sunny with gusts into low 30's. 2nd batch of Robins gone.
- 9 Cool morning. Mostly sunny and dry. Severe storms northern MN.
- 10 **EF0 Tornado near Welch & Vermillion.** Trees down Lakeville.
- 11 **EF1 Tornado Mahnomon County,** damages farm.
- 12 Strong winds. Evening sprinkle. Lillie Pads blossoms on White Bear
- 13 2 1/2 days of windy weather ends. Gas 3.95
- 14 Brief **Tornado 5mi. north of Virginia.** Belgian brewer buys Bud.
- 15 Warm, 90's in metro. Severe storms southeast Minnesota late.
- 16 Towering evening cumulus. 4" rains near Alexander with flooding.
- 17 Midday storms. Heavy rains SE MN in late morning.
- 18 Tropical Storm Cristobal off of Carolina coast. Oil 128.88
- 19 Severe afternoon storms. Heavy rains. **Tornado Big Lake.**
- 20 Morning clouds give way to mostly sunny skies. Storms out-state MN.
- 22 Fair weather cumulus most of day with mostly clear evening.
- 23 Hurricane Dolly comes ashore just north of Brownsville, TX.
- 24 Passing showers from Brainerd to Duluth in Morning.
- 25 A series of 3 storms hit TwinPlex with rain and high winds.
- 26 Mix of sun and clouds. Peppers plentiful in garden.
- 27 Passing midday showers southern TwinPlex. Gas 3.71
- 28 Dew Points near 70. Storms hit NW Minn. Gas 3.68. Oil 124.73.
- 29 Steamy morning. 94° at MSP. State hit with overnight severe storms.
- 30 Sunny and warm. Mid to upper 80's. 89° MSP, 86° White Bear Lake.
- 31 Heavy rains and strong winds in morning hit southern half of state.

Summary: We experienced 9 days into the 90s. Temperatures finished 2° warmer than normal. Rainfall totals were down again totaling 3.67".

Sunday

Monday

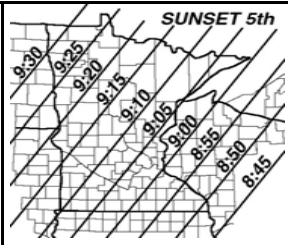
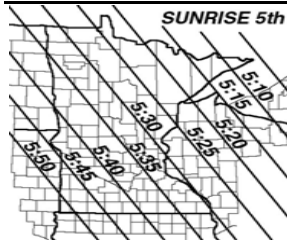
Tuesday

Wednesday

Thursday

Friday

Saturday



Key
 LRA: Longrange average
 1820-1970
 30 YR: 30 year average
 1971-2000
 hi: Avg.High lo: Avg.Low
 av: Daily Average
 P: precipitation
 S: snow

LRA 30YR **1**
 hi 81.3 80.8
 lo 60.8 60.9 Rise Set
 av 71.1 70.9 S 5:30 9:03
 records M 4:15p 1:12a
 hi 94.6 2002
 lo 46.0 1969
 P 4.02 1997

LRA 30YR **2**
 hi 81.3 81.2
 lo 61.2 61.1 Rise Set
 av 71.2 71.1 S 5:30 9:03
 records M 5:22p 1:39a
 hi 93.9 1974
 lo 50.0 1980
 P 2.11 1992

LRA 30YR **3**
 hi 81.3 81.7
 lo 61.5 61.4 Rise Set
 av 71.4 71.6 S 5:31 9:02
 records M 6:25p 2:12a
 hi 102.6 1990
 lo 48.0 1967
 P 1.43 1993

LRA 30YR **4**
 hi 81.5 82.3
 lo 60.8 60.9 Rise Set
 av 71.2 71.6 S 5:32 9:02
 records M 7:23p 2:52a
 hi 95.5 1988
 lo 43.9 1972
 P 0.71 1994

LRA 30YR **5**
 hi 81.7 82.3
 lo 61.9 62.4 Rise Set
 av 71.8 72.3 S 5:32 9:02
 records M 8:12p 3:40a
 hi 99.9 1988
 lo 45.0 1979
 P 2.03 1987

LRA 30YR **6**
 hi 81.9 82.6
 lo 62.1 62.6 Rise Set
 av 72.0 72.6 S 5:33 9:01
 records M 8:53p 4:35a
 hi 100.2 1988
 lo 48.9 1972
 P 0.86 1978

LRA 30YR **7**
 hi 82.0 82.6
 lo 62.2 62.7 Rise Set
 av 72.1 72.6 S 5:34 9:01
 records M 9:27p 5:36a
 hi 99.9 2007
 lo 46.4 1984
 P 2.09 1971

LRA 30YR **8**
 hi 82.4 82.4
 lo 62.6 62.7 Rise Set
 av 72.5 72.6 S 5:35 9:01
 records M 9:54p 6:39a
 hi 99.0 1974
 lo 51.4 2004
 P 1.16 1990

LRA 30YR **9**
 hi 82.6 82.2
 lo 62.8 62.7 Rise Set
 av 72.7 72.5 S 5:35 9:00
 records M 10:17p 7:44a
 hi 100.0 1976
 lo 51.8 1997
 P 2.60 2000

LRA 30YR **10**
 hi 82.8 82.2
 lo 63.0 62.7 Rise Set
 av 72.9 72.5 S 5:36 9:00
 records M 10:37p 8:48a
 hi 96.1 1980
 lo 49.0 1968
 P 1.97 2002

LRA 30YR **11**
 hi 82.9 82.3
 lo 63.1 62.7 Rise Set
 av 73.0 72.5 S 5:37 8:59
 records M 10:56p 9:52a
 hi 95.9 1980
 lo 52.2 1978
 P 2.28 1981

LRA 30YR **12**
 hi 83.1 82.5
 lo 63.3 62.7 Rise Set
 av 73.2 72.6 S 5:38 8:58
 records M 11:15p 10:56a
 hi 95.5 1987
 lo 48.4 1975
 P 2.67 1992

LRA 30YR **13**
 hi 82.8 82.8
 lo 63.3 62.9 Rise Set
 av 73.0 72.8 S 5:39 8:58
 records M 11:34a 12:01p
 hi 103.1 1995
 lo 46.8 1990
 P 2.01 1997

LRA 30YR **14**
 hi 82.8 83.1
 lo 63.3 63.2 Rise Set
 av 73.0 73.1 S 5:40 8:57
 records M 11:55p 1:09p
 hi 96.4 1995
 lo 52.0 1987
 P 2.58 1970

LRA 30YR **15**
 hi 82.6 83.5
 lo 63.1 63.4 Rise Set
 av 72.9 73.4 S 5:40 8:56
 records M 2:20p
 hi 103.5 1988
 lo 52.9 1973
 P 1.41 1980

LRA 30YR **16**
 hi 81.9 83.6
 lo 62.4 63.6 Rise Set
 av 72.1 73.6 S 5:41 8:56
 records M 12:21a 3:33p
 hi 97.0 1991
 lo 52.7 1985
 P 0.91 1983

LRA 30YR **17**
 hi 81.5 83.3
 lo 62.1 63.5 Rise Set
 av 71.8 73.4 S 5:42 8:55
 records M 12:53a 4:49p
 hi 96.6 2005
 lo 51.8 1979
 P 1.16 2001

LRA 30YR **18**
 hi 81.3 83.1
 lo 61.9 63.5 Rise Set
 av 71.6 73.3 S 5:43 8:54
 records M 1:35a 6:02p
 hi 96.8 1991
 lo 51.1 2000
 P 1.20 1970

LRA 30YR **19**
 hi 81.7 82.9
 lo 61.9 63.5 Rise Set
 av 71.8 73.2 S 5:44 8:53
 records M 2:29a 7:08p
 hi 97.5 1977
 lo 52.0 1971
 P 0.76 1986

LRA 30YR **20**
 hi 82.2 82.5
 lo 62.4 63.2 Rise Set
 av 72.3 72.9 S 5:45 8:52
 records M 3:38a 9:02p
 hi 91.2 2004
 lo 50.0 1970
 P 1.06 1988

LRA 30YR **21**
 hi 82.8 82.3
 lo 63.0 63.1 Rise Set
 av 72.9 72.7 S 5:46 8:51
 records M 4:58a 8:44p
 hi 95.2 2004
 lo 50.5 1992
 P 0.70 1994

LRA 30YR **22**
 hi 82.9 81.9
 lo 63.1 62.9 Rise Set
 av 73.0 72.4 S 5:47 8:50
 records M 6:23a 9:17p
 hi 92.5 1984
 lo 49.6 1985
 P 3.41 1972

LRA 30YR **23**
 hi 82.9 81.9
 lo 63.1 62.9 Rise Set
 av 73.0 72.4 S 5:48 8:49
 records M 7:47a 9:44p
 hi 93.4 1999
 lo 51.4 1992
 P 6.57 1987

LRA 30YR **24**
 hi 83.7 81.5
 lo 63.9 62.7 Rise Set
 av 73.8 72.1 S 5:49 8:48
 records M 9:08a 10:08p
 hi 96.6 1999
 lo 51.4 1992
 P 1.40 1985

LRA 30YR **25**
 hi 85.1 81.4
 lo 65.3 62.6 Rise Set
 av 75.2 72.0 S 5:50 8:47
 records M 10:25a 10:30p
 hi 95.7 1999
 lo 52.9 1991
 P 0.61 1993

LRA 30YR **26**
 hi 85.5 81.2
 lo 65.7 62.3 Rise Set
 av 75.6 71.8 S 5:52 8:46
 records M 11:40a 10:52p
 hi 96.8 2007
 lo 52.3 1991
 P 3.63 1990

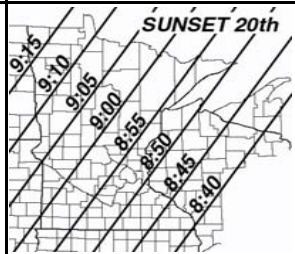
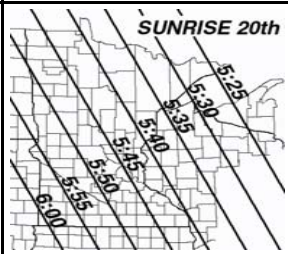
LRA 30YR **27**
 hi 85.1 81.2
 lo 65.3 62.2 Rise Set
 av 75.2 71.7 S 5:53 8:45
 records M 12:53p 11:15p
 hi 98.2 1988
 lo 51.6 1981
 P 0.84 1991

LRA 30YR **28**
 hi 84.7 81.1
 lo 64.9 61.9 Rise Set
 av 74.8 71.5 S 5:54 8:44
 records M 2:04p 11:42p
 hi 97.2 1988
 lo 52.2 1981
 P 1.87 2002

LRA 30YR **29**
 hi 83.3 81.3
 lo 63.5 61.6 Rise Set
 av 73.4 71.5 S 5:55 8:43
 records M 3:13p
 hi 98.8 2006
 lo 48.9 1971
 P 0.89 1989

LRA 30YR **30**
 hi 83.1 81.4
 lo 63.0 61.4 Rise Set
 av 73.0 71.4 S 5:56 8:41
 records M 4:18p 12:13a
 hi 98.4 1995
 lo 46.9 1971
 P 1.92 1968

LRA 30YR **31**
 hi 83.1 81.4
 lo 62.6 61.5 Rise Set
 av 72.9 71.4 S 5:57 8:40
 records M 5:18p 12:51p
 hi 105.4 1988
 lo 52.0 1971
 P 0.50 1993



JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

July 2009