

WOKINGHAM

METEOROLOGICAL

DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

Lat/Long 51°25'N 00°51'W NGR (SU)798701 Altitude 46m ASL.

Monthly Means and Totals

JULY 2011

Temperature (°C / °F)			Anomaly	Rank in the past 130 years				
Mean maximum	21.1	70.0	-1.8	53 rd lowest				
Mean minimum	11.0	51.8	-1.6	26 th lowest				
Daily mean	16.1	61.0	-1.6	42 nd lowest				
Highest maximum	25.0	77.0	on 5 th	Lowest maximum	18.1	64.6	on 20 th	
Highest minimum	14.4	57.9	on 16 th	Lowest minimum	6.6	43.9	on 25 th	
Mean grass minimum	8.0	46.4	-1.8	Lowest grass minimum	1.7	35.1	on 1 st	
Mean earth @30 cm	17.9	64.2	-0.8	Earth @100 cm	16.5	61.7		
Frost duration (hrs)	0.0			Rain duration (hrs)	24.4			
Rainfall total (mm / in)	39.6	1.56	88 %	48 th lowest				
Highest daily fall	9.6	0.38	on 16 th					
Number of: Dry days (<0.2mm)	19	Wet days (>0.9mm)	9	days ≥5mm	3			
Sunshine total (hrs)	171.0	Daily mean	5.52	86 %	Sunniest day	12.9	on 25 th	
N ^o days with: Air frost	0	Ground frost	0	Snow falling	0	Snow lying	0	
Thunder	2	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0	
Pressure MSL : Mean @09 GMT, mbar	1013.6	-3.0	Highest	1027.7	on 1 st	Lowest	992.1	on 17 th
Relative humidity : Mean (%)	70.4	Lowest	26	on 25 th	Water vapour (g/kg), mean at 09 and 15 GMT	7.8	7.6	
Overall mean wind speed (mph)	5.8	Windiest day	10.8	on 6 th	Max gust	38	on 8 th	
Wind direction (days)	N 8	NE 3	E 0	SE 0	S 5	SW 9	W 2	NW 4
Least windy day (mph)	3.0	on 3 rd	Calm; less than 0.5 mph (minutes)		802			

Anomaly = departure from 1981 to 2010 average (degrees C, percent and mbar).

Notes:

Temperature, Sunshine and Rainfall all Below Normal.

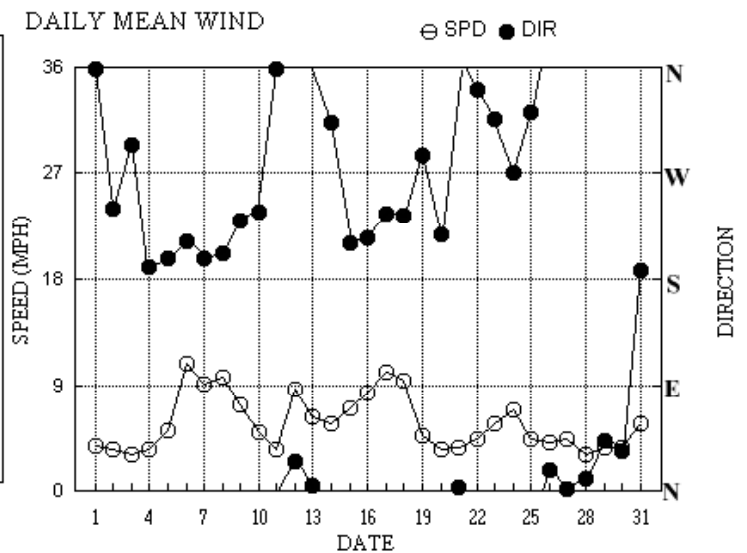
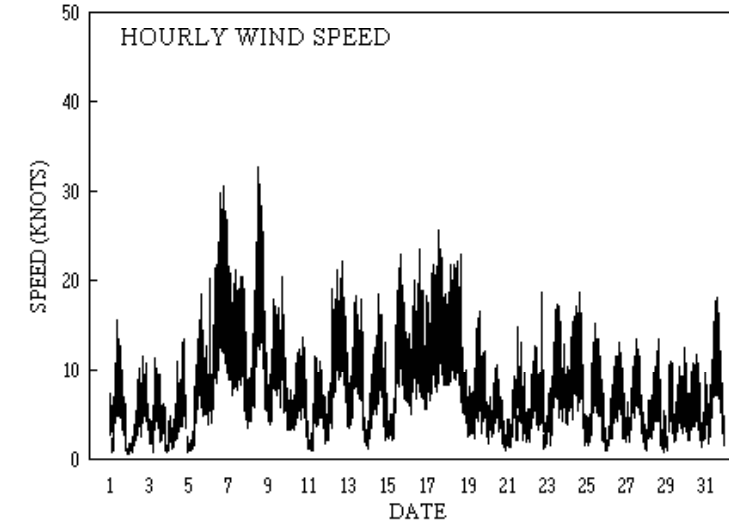
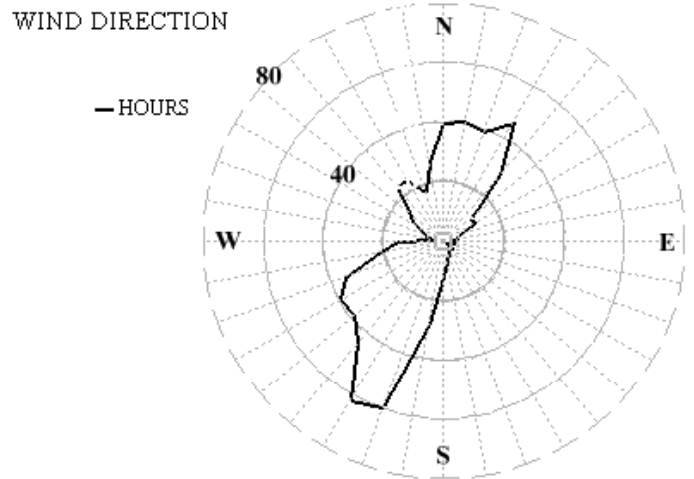
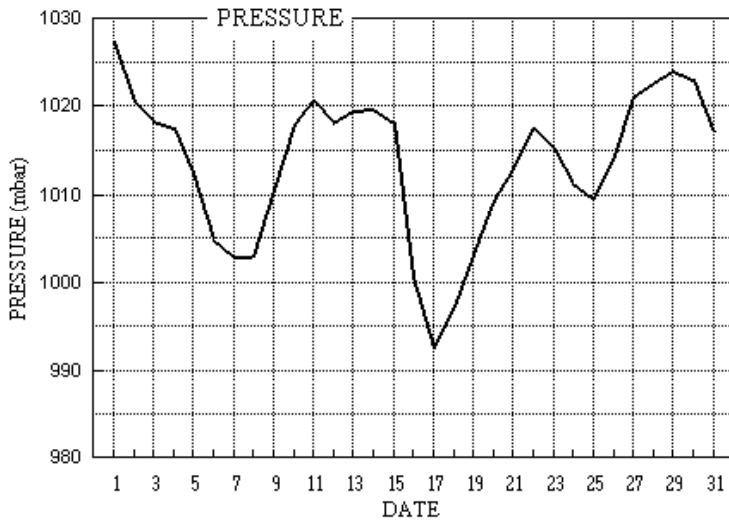
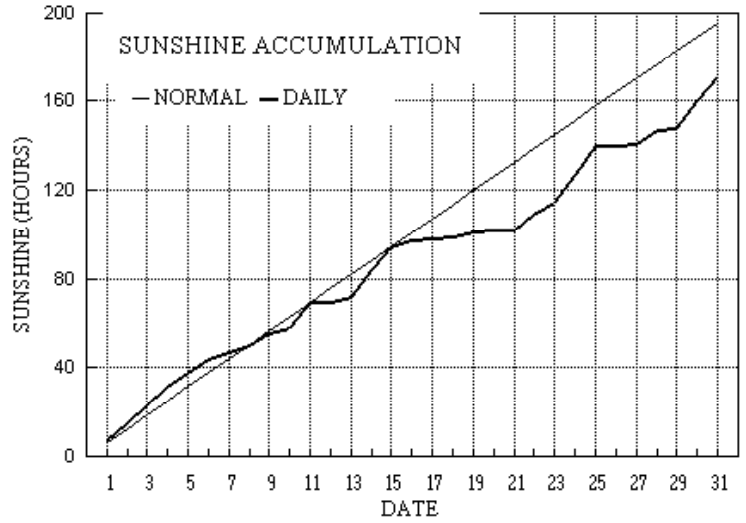
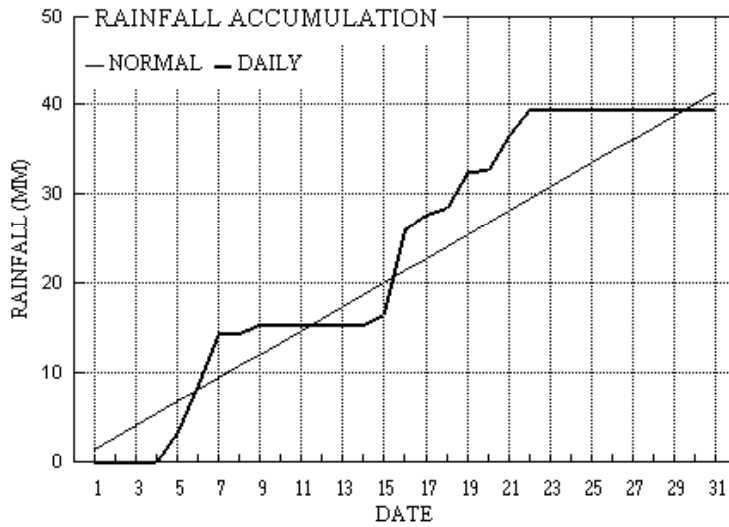
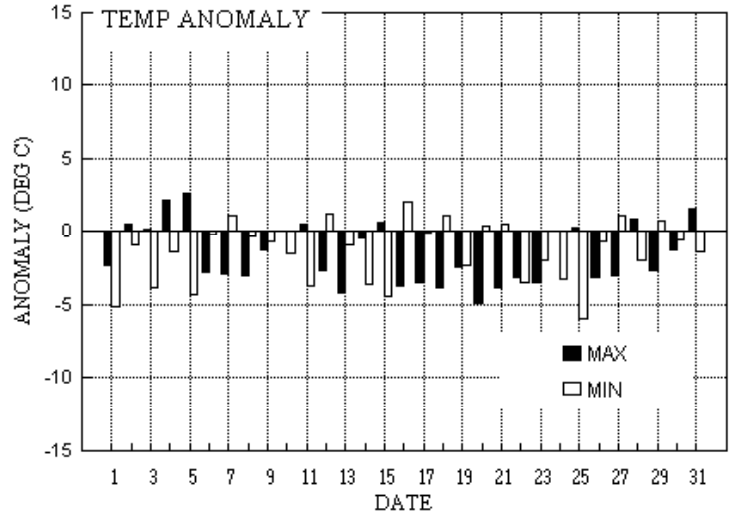
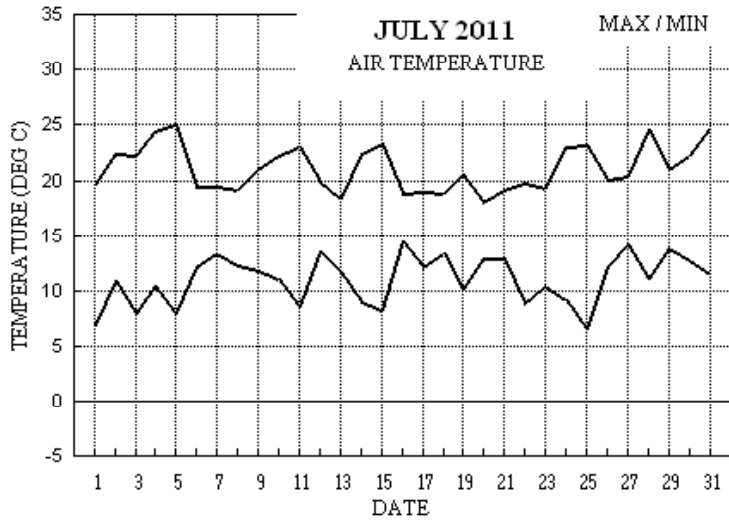
Temperature: This has been the coolest July in over 10 years with the mean min lowest since 1980, although the mean max is lowest only since 2007. The resulting mean temperature is equal lowest with 2000 since 1988. The highest max is lowest since 2007, and at 3.4° below the median is only 2.4° above the lowest on record, in 1920. The lowest max, however, is 1.8° above the median. The highest min is 1.9° below the median and is 6th lowest in 99 years. The lowest min is much closer to normal at 0.4° below the median. The mean grass min is lowest since 1984, and the lowest grass min is lowest since 1993. Earth temperatures are below normal. **Rainfall:** This has been quite a dry July, all the rain falling during 2 episodes, the 5th to the 9th, and the 15th to the 22nd. It is 2nd driest after last July since the very wet one in 2007. The rainfall on the wettest day is 6.3 mm below the median, but is lowest only since 2009. Rainfall duration of 24.4 hours is 3 hours below normal. The number of dry days is average. There were 3 dry spells, one of 6 days ending on the 4th, one of 5 days ending on the 14th and a 9 day spell was unbroken at the end of the month. Thunder was heard on the 17th and 18th. Violent rain showers on the 16th and 19th gave rainfall rates of 85 and 64 mm/hr respectively, the former being the highest for the month. **Sunshine:** For the 3rd July in a row, sunshine was well below normal, although this July's total is highest since 2008. Those who enjoy plenty of summer sunshine can look wistfully back to 2006, when the July total reached 302.3 hours, 131 hours more than this July. Overall there were 10 days with <3 hours, 15 with =>6 hours, 7 with =>9 hours and 4 with =>12 hours. **Commentary: From the 1st to the 15th :** Temperatures were generally near or below normal, with warm days on the 4th and 5th only. Anomalies for daily max ranged from +2.6° on the 5th to -3.0° on the 8th, and for min, +1.0° on the 7th and -5.1° on the 1st. It was dry until the 4th, then 15.4 mm fell during the next 5 days, then dry again until the 14th. Sunshine was slightly above normal until the 4th, then slightly below until the 10th, with sunny days on the 14th and 15th bringing the accumulation back to normal. Although only 5 days had >50 % of the max, only 5 days also had <30 % of the max. Winds were light N'y on the 1st, backing to S'ly by the 4th, increasing fresh on the 6th, veering SW'ly light by the 10th, then light to mod N'ly until the 14th, backing SW'ly on the 15th. **From the 16th to the 31st :** Temperatures were generally below or well below normal, with anomalies for daily max between +1.6° on the 31st and -4.9° on the 20th, the period 16th to 23rd being particularly cool, averaging 3.6° below normal. Daily min were also mainly below normal, with anomalies ranging from +1.2° on the 18th to -6.0° on the 25th. Rainy at first, with 23.1 mm up to the 22nd, but the remainder of the period was dry. Sunshine was very poor until the 21st, with 4 days having <10 % of the max, while 4 had >50 %. Light or moderate winds were SW'ly until the 20th, veering N'ly on the 21st, backing W'ly by the 24th, then light N'ly until to 30th, becoming S'ly on the 31st.

Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
-0.7°	-1.7°	103%	91%	-2.4°	-1.0°	117%	69%	-1.6°	-1.5°	41%	98%

B J Burton FRMetS. Hon. Met. Officer to Wokingham Town Council.

Wokingham Climatological Graphs for July 2011



Month: July 2011

Date	Max		Rain	Grass	30cm	100cm	Sun	Frost	pp09	Af	Sf	Th	Ic	Vec mean			Max gust			High hr			Rain	
	C	C												mm	Min	C	C	hrs	hrs	mbar	Gf	Sl		Ha
1	19.6	6.8	0.0	1.7	17.4	16.1	8.2	0.0	1027.3	0	0	0	0	0	359	3.0	3.3	8	16	0844	16	7	09	0.0
2	22.4	10.9	0.0	7.4	17.6	16.1	7.2	0.0	1020.5	0	0	0	0	0	240	0.3	3.1	151	12	1629	179	6	20	0.0
3	22.3	7.9	0.0	4.0	17.8	16.1	7.9	0.0	1018.3	0	0	0	0	0	294	1.4	2.6	247	12	0759	257	5	08	0.0
4	24.4	10.4	0.0	6.2	17.8	16.2	8.2	0.0	1017.6	0	0	0	0	0	190	2.7	3.0	210	14	1823	212	7	18	0.0
5	25.0	7.9	3.2	4.1	18.0	16.2	6.5	0.0	1012.4	0	0	0	0	0	198	3.7	4.4	229	19	1438	235	8	14	2.3
6	19.5	12.2	5.5	9.9	18.0	16.3	6.1	0.0	1004.8	0	0	0	0	0	212	9.2	9.4	219	31	1743	219	13	14	2.6
7	19.5	13.4	5.8	12.5	17.8	16.3	3.4	0.0	1003.0	0	0	0	0	0	197	7.8	7.9	197	21	0855	201	11	15	4.6
8	19.2	12.3	tr	10.0	17.7	16.4	3.1	0.0	1002.9	0	0	0	0	0	202	8.2	8.3	211	33	1255	208	13	12	0.1
9	21.0	11.9	0.9	7.5	17.5	16.4	5.4	0.0	1010.6	0	0	0	0	0	230	6.2	6.4	225	21	1706	236	9	17	0.4
10	22.3	11.0	0.0	6.9	17.6	16.4	2.0	0.0	1017.9	0	0	0	0	0	237	3.9	4.3	224	14	1822	225	7	18	0.0
11	23.0	8.5	0.0	4.3	17.9	16.4	11.7	0.0	1020.7	0	0	0	0	0	358	2.3	3.1	7	12	0957	355	5	16	0.0
12	19.9	13.5	0.0	9.3	18.3	16.4	0.2	0.0	1018.1	0	0	0	0	0	25	7.5	7.5	24	22	1750	25	11	17	0.0
13	18.4	11.7	0.0	8.9	17.9	16.5	2.0	0.0	1019.5	0	0	0	0	0	5	5.3	5.5	29	19	0940	14	9	10	0.0
14	22.4	9.0	0.0	3.5	17.5	16.5	12.6	0.0	1019.6	0	0	0	0	0	313	4.5	4.9	293	19	1353	329	8	14	0.0
15	23.4	8.3	1.1	3.3	17.7	16.5	9.9	0.0	1018.2	0	0	0	0	0	211	6.0	6.1	233	23	1533	219	10	15	3.1
16	18.9	14.4	9.6	14.4	18.1	16.5	3.3	0.0	1000.6	0	0	0	0	0	215	6.9	7.3	215	24	1432	223	10	14	3.5
17	19.0	12.2	1.6	9.6	17.6	16.6	0.8	0.0	992.6	0	0	0	1	0	236	8.5	8.7	257	26	1308	251	11	15	1.9
18	18.9	13.4	0.9	12.5	17.6	16.6	0.3	0.0	997.2	0	0	0	1	0	234	8.0	8.1	256	23	1642	237	10	06	1.8
19	20.6	10.2	4.0	7.0	17.5	16.6	3.0	0.0	1003.1	0	0	0	0	0	286	2.8	4.1	301	17	1649	304	7	16	0.7
20	18.1	13.0	0.2	9.9	17.9	16.5	0.1	0.0	1009.3	0	0	0	0	0	218	2.0	3.0	238	11	1226	244	5	11	0.3
21	19.1	13.0	3.9	12.1	18.0	16.6	0.0	0.0	1012.9	0	0	0	0	0	3	3.0	3.2	352	15	1420	359	6	14	1.9
22	19.7	8.9	2.9	5.1	17.5	16.6	7.5	0.0	1017.5	0	0	0	0	0	341	3.2	3.8	332	19	1934	18	6	09	1.2
23	19.3	10.4	0.0	9.5	17.7	16.6	5.2	0.0	1015.2	0	0	0	0	0	316	4.2	4.9	348	18	1352	329	8	11	0.0
24	23.0	9.2	0.0	5.6	17.6	16.6	12.4	0.0	1011.2	0	0	0	0	0	270	5.3	5.9	261	19	1736	259	9	17	0.0
25	23.2	6.6	0.0	1.9	17.7	16.6	12.9	0.0	1009.5	0	0	0	0	0	322	3.0	3.8	304	15	1051	312	7	12	0.0
26	20.1	12.1	0.0	8.8	18.2	16.6	0.5	0.0	1014.5	0	0	0	0	0	17	3.3	3.5	6	13	1519	12	6	15	0.0
27	20.4	14.2	0.0	13.5	18.3	16.7	0.1	0.0	1021.1	0	0	0	0	0	2	3.7	3.8	324	14	1300	319	6	13	0.0
28	24.6	11.1	0.0	7.5	18.1	16.8	6.9	0.0	1022.7	0	0	0	0	0	10	2.0	2.7	30	14	1518	30	5	16	0.0
29	21.0	13.8	tr	11.4	18.5	16.8	0.1	0.0	1024.0	0	0	0	0	0	43	2.7	3.2	51	13	2352	47	5	06	0.0
30	22.2	12.7	0.0	11.9	18.3	16.9	12.5	0.0	1023.0	0	0	0	0	0	33	2.5	3.2	5	12	1322	358	5	13	0.0
31	24.7	11.6	0.0	6.7	18.5	16.9	11.0	0.0	1016.9	0	0	0	0	0	188	4.9	5.0	208	18	1407	194	8	12	0.0
Total			39.6				171.0	0.0																24.4
Mean	21.1	11.0		8.0	17.9	16.5	5.52	0.0	1013.6						253	1.8	5.0							
Anom	-1.8	-1.6	88%		-0.8	-0.3	86%																	
Daily mean		16.1																						
Anom		-1.6																						

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 1
 Snow falling = 0 Snow lying = 0 Thunder = 2
 Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 0

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT
 Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).
 Grass min = Lowest overnight temperature at grass tip level.
 Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.
 pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.
 Af = Air frost. Gf = Ground frost. Sf = Snow falling. Sl = Snow lying at 09 GMT.
 Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.
 Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.
 Sp = 24 hour mean wind speed in knots.
 Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.
 High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.
 30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.
 Anom = Departure from 1981-2010 climatological average.
 All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for JULY 2011

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1	W2	Nh	Cl	h	Cr	Ci	NChs	hshs	NChs	Date	Remarks
1	86	1	02	08	16	16.3	6.1	51	5.5	1027.3	8	001	03	0	0	1	1	6	0	1	81835		1	1Ci75 Cu hum
2	80	2	36	02	06	18.8	7.1	47	6.1	1020.5	8	007	03	1	1	2	8	6	0	1	82838		2	1Sc50 1Ci81 COTRA Cu med
3	82	1	26	04	10	19.2	9.1	52	7.0	1018.3	0	001	03	0	0	1	8	6	0	1	81835		3	1Sc56 1Ci81 COTRA Cu hum
4	70	5	17	03	06	20.9	9.2	47	7.2	1017.6	0	001	02	1	1	1	5	7	0	1	81656	85080	4	COTRA Sc edge N
5	72	5	18	05	11	21.2	11.6	54	8.4	1012.4	7	016	03	1	1	3	0	9	8	1	81361	83363	5	1Cc69 3Ci75 COTRA Ac cas
6	84	5	23	10	22	16.9	9.8	63	7.4	1004.8	0	001	03	2	2	3	2	5	3	1	83825		6	2Ac65 2Ci72 Cu med
7	70	7	21	10	22	14.5	12.0	85	8.8	1003.0	2	009	21	6	2	2	2	4	7	2	82812	86362 85465	7	2Ac57 /Ci70 Cu med vv30kNW
8	68	7	20	09	19	15.1	12.9	87	9.1	1002.9	2	001	21	6	2	5	8	4	3	8	81712	83818	8	1Sc35 3Sc50 3Ac65 3Cs70 Cu med
9	80	7	23	09	17	16.9	10.9	68	8.0	1010.6	2	016	03	1	1	6	8	5	5	/	84822	83650	9	3Ac58 Cu med
10	61	7	23	03	07	15.9	12.8	81	9.2	1017.9	0	004	03	2	2	3	8	4	7	/	82812	87358	10	2Sc50 Cu hum
11	82	4	35	05	09	18.8	9.3	54	7.1	1020.7	1	002	03	0	0	1	1	6	0	1	81832	84080	11	COTRA Cu hum
12	80	7	03	09	17	16.7	10.9	68	7.9	1018.1	8	006	02	2	2	7	0	9	7	/	82365	87466	12	Cld edge distant N
13	80	7	36	06	17	14.7	8.3	65	6.6	1019.5	0	002	03	2	2	6	8	5	0	2	83825	84645 87075	13	Cu med
14	80	2	35	05	12	16.4	7.5	55	6.4	1019.6	8	001	03	0	0	1	1	6	4	2	81832		14	1Ac68 2Ci75 COTRA Parhelion+U/a+L/a cont
15	75	4	17	04	08	18.8	9.4	54	7.4	1018.2	8	006	02	1	1	4	0	9	8	1	81365	84367	15	1Ci80 COTRA Ac cas Ac str vir
16	30	8	20	08	20	15.7	14.6	93	10.5	1000.6	7	037	58	6	5	8	7	2	/	/	82705	87707 88712	16	
17	70	7	21	08	22	15.6	11.0	74	8.3	992.6	8	009	60	6	2	6	8	5	7	/	85820	87360	17	2Sc40 Cu fra/hum
18	84	7	23	10	17	15.1	11.2	78	8.3	997.2	2	012	02	2	2	7	8	4	3	/	82815	83625 85635	18	/Sc50 /Ac62 Cu fra/hum
19	70	7	24	03	07	14.5	11.3	81	8.5	1003.1	1	011	01	2	2	7	5	3	/	/	81708	87610	19	
20	81	8	23	04	09	15.5	10.5	72	8.0	1009.3	2	002	03	2	2	8	8	5	/	/	81820	88645	20	Cu med
21	59	8	01	04	09	14.6	11.5	81	8.4	1012.9	1	016	50	5	2	8	5	4	/	/	81712	83635 88645	21	2Sc30
22	82	1	36	05	11	15.4	9.5	68	7.1	1017.5	0	002	03	0	0	1	1	5	8	0	81820		22	1Ac57 Cu hum
23	84	2	35	06	12	14.8	7.8	63	6.5	1015.2	8	001	03	0	0	2	2	5	0	4	82825		23	1Ci75 Cu med
24	80	3	30	09	16	17.6	9.6	59	7.4	1011.2	8	007	03	0	0	3	1	6	0	0	83830		24	Absent 24th&25th VV&cld est
25	84	7	30	06	13	17.3	6.2	48	5.9	1009.5	8	002	02	1	1	1	1	6	3	1	81840	87075	25	1Ac62
26	70	8	04	04	08	17.7	11.5	67	8.4	1014.5	2	013	03	2	2	2	8	5	7	/	81822	88362	26	2Sc50
27	78	7	01	06	09	16.1	12.2	78	8.8	1021.1	3	004	03	2	2	7	8	4	/	/	84815	86622 87645	27	Cu hum
28	59	1	25	03	06	17.1	12.7	75	8.9	1022.7	7	002	05	1	1	1	6	4	0	2	81712		28	1Sc50 1Ci75
29	58	8	04	04	11	14.9	12.3	84	8.8	1024.0	1	005	05	2	2	7	5	4	7	/	82710	83645 86656	29	/Ac58
30	82	1	07	04	10	16.2	7.8	58	6.5	1023.0	8	001	03	1	1	1	8	6	0	0	81830		30	1Sc45 Cu hum
31	80	5	15	05	11	18.9	10.7	59	8.0	1016.9	8	004	01	2	2	1	5	7	8	1	81656	84365	31	1Ac62 1Ci80 COTRA Ac cas

Mean vis = 29.0 km

Mean cloud = 5.1 64%

Mean wind speed = 5.8 kn

Mean gust = 13 kn

Mean TT = 16.7 °C

Mean TdTd = 10.2 °C

Mean RH = 66.7 %

Mean r = 7.8 g/kg

Mean PPP = 1013.6 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

dd = Direction from which wind is blowing, tens of degrees true

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

r = Humidity mixing ratio at 1.2 m, g/kg

PPP = Air pressure reduced to sea level, mbar

a = Characteristic of pressure tendency (Code FM12-0200)

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)- covers past 3 hours.

Nh = Amount of low cloud present, oktas

Cl = Type of low cloud (Code Fm12-0513)

h = Height of low cloud (Code FM12-1600)

Cm = Type of medium cloud (Code FM12-0515)

Ch = Type of high cloud (Code FM12-0509)

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs = Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for July 2011

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	82	6	01	04	11	18.4	5.5	43	6.0	1025.7	7	012	02	2	2	4	8	7	0	1	82850	83656	85075			1	COTRA Cu hum	
2	78	6	18	02	09	21.0	5.9	37	5.8	1018.4	7	011	02	1	1	2	8	7	6	/	81850	86357			2	2Sc56 Cu med		
3	82	8	06	01	04	21.1	8.2	44	6.7	1017.3	7	005	02	2	2	8	8	7	/	/	81850	88656			3	Cu hum		
4	70	7	18	04	09	23.2	9.7	42	7.3	1015.9	7	010	02	2	2	7	8	7	/	/	81850	87656			4	Cu hum		
5	59	8	24	09	18	16.0	14.0	88	9.9	1010.5	3	001	63	6	2	1	5	6	7	/	81645	83558	87360		5	8As65		
6	70	6	21	13	30	17.4	9.9	61	7.5	1005.6	3	008	25	8	2	4	8	5	6	1	82828	83650			6	3Ac59 1Ac68 2Ci72 Cu con jpNE&E vv40k ex p		
7	83	4	20	09	20	19.3	9.4	52	7.3	1002.6	8	005	02	8	1	3	8	6	4	1	83835				7	1Sc50 1Ac60 2Ci75 Cu med		
8	80	7	21	14	31	17.3	11.1	67	8.2	1004.5	2	012	03	1	1	5	8	5	7	2	83825	83650	85358		8	/Ci75 Cu con		
9	81	6	23	08	15	19.1	11.1	59	8.3	1013.0	2	011	25	8	2	2	8	6	6	0	81832	85358			9	2Sc56 Cu med		
10	81	7	26	05	12	20.4	10.8	54	7.8	1017.3	2	001	02	2	2	2	8	6	3	/	82838	87358			10	1Sc56 Cu med		
11	84	7	32	06	11	23.0	8.5	39	6.5	1019.4	7	004	03	2	2	2	8	7	6	1	81850	85358	87075		11	1Sc56 COTRA Cu med		
12	84	8	02	09	18	19.0	10.7	58	8.2	1016.9	7	004	02	2	2	2	2	6	1	/	82832	88465			12	Cu med		
13	82	7	01	06	15	17.6	4.5	42	5.2	1019.6	2	004	02	2	2	4	8	7	0	2	82850	83656	87070		13	COTRA Halo 22+U/a cont		
14	82	7	31	06	16	21.1	4.5	34	5.6	1017.8	6	007	02	2	2	1	1	7	0	8	81856	87075			14	2Cs70 COTRA U/a cont		
15	80	7	20	09	18	22.5	7.6	38	6.3	1015.2	7	016	02	2	2	1	1	7	7	1	81856	84368	85075		15	1Ac66 COTRA Cu hum		
16	80	6	22	11	24	17.7	12.7	72	9.3	996.5	7	021	25	8	6	3	8	5	6	/	82822	84358			16	2Sc45 Cu con jpW&E vv70k ex p		
17	75	7	26	09	22	17.4	11.5	68	8.5	993.6	3	011	25	9	8	6	9	4	6	3	81918	81822	85650		17	3Ac62 /Ci72 jpE vv40k ex E		
18	60	7	23	07	19	17.0	13.8	81	9.9	998.0	2	005	29	9	8	3	9	4	7	3	81715	83918	85362		18	1Cu20 2Ac58 jpE quad		
19	58	7	32	05	12	18.8	11.7	63	8.6	1004.2	3	005	80	8	2	3	9	4	6	3	81715	82922	86360		19	2Cu28 1Ci72 jpNW&SE		
20	80	8	21	02	09	16.5	10.4	67	7.7	1009.2	0	002	21	6	2	3	8	5	7	/	81825	83650	88357		20	Cu med jpSW		
21	50	8	01	05	14	15.1	13.8	91	9.8	1013.7	3	008	81	8	2	6	8	5	7	/	82820	84650	88360		21	2Sc35 Cu con Mod rash		
22	86	7	33	04	09	18.9	6.1	43	5.6	1016.3	8	007	03	2	2	4	8	7	7	/	82850	83656	87358		22	Cu med		
23	82	7	30	08	17	18.5	6.7	46	6.3	1013.0	8	014	03	2	2	2	1	6	3	8	82845	84365	87272		23	Absent 23rd to 25th VV&cld est		
24	82	6	24	09	17	21.6	12.1	55	8.8	1009.0	6	012	03	1	1	6	8	6	/	1	82840	85650			24	/Ci75		
25	86	6	31	07	13	22.6	6.7	36	6.1	1008.6	6	003	02	2	2	1	1	7	8	2	81856	83365	85075		25	Ac flo		
26	70	7	01	06	12	20.0	9.9	52	7.6	1016.1	2	005	02	2	2	7	8	6	/	/	82835	84645	87656		26	Cu med		
27	83	7	01	07	13	19.5	11.1	58	8.0	1020.7	8	003	02	2	2	7	8	6	/	/	82838	87645			27	Cu hum		
28	75	5	01	04	10	24.3	10.2	41	7.7	1021.6	8	007	02	2	2	4	8	7	3	1	81850	83657			28	2Ac59 1Ci73 Cu med		
29	65	8	03	03	09	18.5	13.7	73	9.5	1023.0	5	005	80	8	2	8	8	5	/	/	85825	88645			29			
30	81	3	01	04	10	21.3	8.9	45	7.1	1020.6	7	012	02	1	1	1	4	6	0	1	81848	83075			30	1Sc50 Cu hum		
31	81	5	19	06	18	23.7	10.2	42	7.7	1014.3	6	013	02	1	1	1	1	7	3	0	81850	85362			31			

Mean vis = 32.1 km

Mean cloud = 6.6 83%

Mean wind speed = 6.5 kn

Mean gust = 15 kn

Mean TT = 19.6 °C

Mean TdTd = 9.7 °C

Mean RH = 54.5 %

Mean r = 7.6 g/kg

Mean PPP = 1012.8 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

dd = Direction from which wind is blowing, tens of degrees true

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

r = Humidity mixing ratio at 1.2 m, g/kg

PPP = Air pressure reduced to sea level, mbar

a = Characteristic of pressure tendency (Code FM12-0200)

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)-

covers past 3 hours.

Nh = Amount of low cloud present, oktas

Cl = Type of low cloud (Code Fm12-0513)

h = Height of low cloud (Code FM12-1600)

Cm = Type of medium cloud (Code FM12-0515)

Ch = Type of high cloud (Code FM12-0509)

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

Wokingham Sunshine Hourly analysis	Hour	01-Jul	02-Jul	03-Jul	04-Jul	05-Jul	06-Jul	07-Jul	08-Jul	09-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
2011	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.44	0.42	0.43	0.20	0.31	0.00	0.00	0.00	0.43	0.00	0.40	0.00	0.00	0.10	0.41	0.00
	5	0.97	0.51	1.00	1.00	0.93	0.53	0.02	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
	6	1.00	0.83	1.00	1.00	1.00	0.33	0.00	0.00	0.45	0.00	1.00	0.04	0.00	0.75	1.00	0.00
	7	1.00	1.00	1.00	1.00	1.00	0.67	0.00	0.00	0.17	0.00	1.00	0.00	0.36	1.00	1.00	0.00
	8	1.00	1.00	1.00	1.00	0.75	0.81	0.00	0.14	0.61	0.00	1.00	0.00	0.00	1.00	1.00	0.00
	9	0.71	0.75	1.00	1.00	0.93	0.52	0.00	0.16	0.00	0.00	1.00	0.00	0.40	1.00	1.00	0.00
	10	0.16	0.86	0.70	0.55	1.00	0.39	0.10	0.43	0.00	0.03	0.99	0.00	0.45	0.93	0.82	0.00
	11	0.16	0.90	0.00	0.03	0.55	0.25	0.09	0.24	0.06	0.03	0.77	0.00	0.07	0.78	0.61	0.00
	12	0.18	0.76	0.00	0.00	0.01	0.45	0.08	0.24	0.19	0.05	0.55	0.00	0.00	0.81	0.75	0.07
	13	0.36	0.00	0.00	0.01	0.00	0.69	0.10	0.00	0.25	0.02	0.45	0.00	0.01	0.71	0.28	0.02
	14	0.25	0.17	0.00	0.00	0.00	0.22	0.64	0.01	0.06	0.18	0.36	0.00	0.22	0.54	0.28	0.09
	15	0.42	0.00	0.00	0.00	0.00	0.67	0.99	0.23	0.32	0.00	0.09	0.11	0.16	0.63	0.83	0.17
	16	0.21	0.02	0.00	0.74	0.00	0.49	0.82	0.40	0.52	0.00	0.98	0.01	0.27	0.66	0.58	0.07
	17	0.64	0.00	0.07	0.97	0.00	0.04	0.53	0.76	0.68	0.32	0.98	0.00	0.05	0.84	0.29	1.00
	18	0.56	0.00	1.00	0.72	0.00	0.00	0.00	0.47	0.54	1.00	1.00	0.00	0.00	1.00	0.00	1.00
	19	0.15	0.00	0.75	0.00	0.00	0.00	0.00	0.02	0.13	0.34	0.13	0.00	0.00	0.89	0.00	0.89
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		8.21	7.21	7.94	8.22	6.47	6.05	3.35	3.11	5.39	1.98	11.71	0.16	1.99	12.63	9.86	3.32
Hour	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	Mean	
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	4	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.40	0.42	0.00	0.00	0.00	0.26	0.00	0.15	
	5	0.02	0.00	0.00	0.00	0.00	1.00	0.30	1.00	1.00	0.31	0.00	0.00	1.00	0.19	0.44	
	6	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.97	0.43	0.44	
	7	0.00	0.00	0.00	0.00	0.00	1.00	0.89	1.00	1.00	0.16	0.00	0.22	0.00	1.00	0.45	0.48
	8	0.00	0.00	0.27	0.00	0.00	0.97	0.83	0.95	1.00	0.00	0.00	1.00	0.00	1.00	0.94	0.53
	9	0.00	0.01	0.16	0.09	0.00	0.95	0.87	0.96	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.50
	10	0.00	0.04	0.61	0.00	0.00	0.60	0.40	0.75	1.00	0.02	0.00	0.62	0.00	0.62	1.00	0.42
	11	0.22	0.01	0.05	0.00	0.00	0.78	0.38	0.85	0.99	0.00	0.00	0.25	0.01	0.53	1.00	0.31
	12	0.29	0.00	0.31	0.00	0.00	0.20	0.00	0.88	1.00	0.00	0.00	0.35	0.03	0.82	1.00	0.29
	13	0.08	0.00	0.37	0.00	0.00	0.19	0.08	0.54	0.99	0.00	0.06	0.49	0.05	0.77	0.95	0.24
	14	0.07	0.12	0.01	0.00	0.00	0.13	0.14	0.14	0.75	0.00	0.00	0.45	0.00	0.82	0.88	0.21
	15	0.02	0.12	0.49	0.00	0.00	0.02	0.00	0.38	1.00	0.00	0.00	0.67	0.00	1.00	1.00	0.30
	16	0.13	0.02	0.70	0.00	0.00	0.00	0.00	0.63	1.00	0.00	0.00	0.87	0.05	1.00	1.00	0.36
	17	0.00	0.00	0.02	0.00	0.00	0.20	0.04	0.95	0.80	0.00	0.00	0.99	0.00	1.00	0.89	0.39
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.00	0.00	0.00	0.00	0.01	0.00	0.74	0.29	0.30
	19	0.00	0.00	0.03	0.00	0.00	0.00	0.17	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.14
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		0.84	0.32	3.01	0.10	0.00	7.45	5.20	12.37	12.95	0.49	0.07	6.91	0.15	12.52	11.02	171.00

July 2011	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	14.47	19.9	1544	7.0	354	60.8	93.6	504	36.2	1511	6.42	5.91	7.3	2355	4.8	1422	1025.80	1027.7	801	1023.0	2359	0.0
2	16.57	22.2	1144	11.1	113	61.0	88.5	118	30.0	1154	8.33	6.78	8.7	1144	4.8	1152	1019.74	1023.2	16	1017.2	1851	0.0
3	16.72	22.1	1051	8.3	416	63.6	93.9	509	39.0	1528	9.17	7.19	9.0	2342	6.1	1528	1017.62	1018.6	721	1016.6	1700	0.0
4	18.24	24.4	1631	10.3	441	62.8	95.6	514	37.4	1312	10.30	7.74	9.8	1351	6.5	834	1016.61	1017.8	718	1015.2	1631	0.0
5	15.92	25.1	1129	8.2	434	77.8	97.0	532	35.0	1129	11.33	8.39	10.2	1446	6.5	434	1011.26	1015.9	27	1006.6	2359	2.6
6	15.60	19.8	1308	12.2	333	70.7	94.6	446	43.4	1308	9.95	7.69	9.9	4	6.0	1303	1004.87	1006.7	3	1003.4	2355	0.9
7	15.29	19.8	1502	12.4	2318	77.2	92.8	815	48.6	1535	11.08	8.28	9.9	1110	6.8	1627	1002.79	1003.7	0	1002.1	1640	5.0
8	15.06	19.4	1202	12.4	519	79.3	94.3	340	56.8	1640	11.31	8.39	9.8	1119	7.5	1641	1004.20	1007.1	2345	1002.6	618	5.1
9	15.86	21.1	1523	11.6	2345	75.0	94.5	433	51.4	1710	11.18	8.24	10.3	1119	7.5	1853	1011.80	1016.9	2358	1006.9	6	0.8
10	16.28	22.6	1414	10.9	248	74.2	96.0	428	43.3	1412	11.22	8.23	9.7	1001	7.0	1702	1017.74	1019.8	2318	1016.7	6	0.0
11	16.93	23.1	1428	8.8	412	65.0	97.9	532	36.1	1704	9.38	7.27	8.7	716	6.0	1540	1019.70	1020.9	720	1018.4	1732	0.0
12	16.31	20.0	1542	12.9	2359	69.9	88.9	325	54.1	1547	10.68	7.93	9.0	307	6.9	2357	1017.95	1019.4	0	1016.2	1546	0.0
13	14.65	18.7	1403	9.5	2359	63.0	85.5	2359	37.3	1643	7.26	6.32	7.4	648	4.7	1604	1019.60	1021.0	2311	1018.5	1	0.0
14	16.82	22.8	1544	9.3	13	54.9	87.7	15	30.4	1545	6.88	6.14	7.6	1107	4.9	1254	1018.91	1020.6	47	1017.3	1729	0.0
15	16.75	23.6	1505	8.6	404	65.5	95.4	411	29.6	1404	9.24	7.27	9.8	2359	4.9	1655	1016.30	1019.2	10	1010.7	2359	0.3
16	15.33	18.9	1347	12.3	2220	85.2	96.3	454	54.1	1904	12.75	9.35	12.2	1249	6.3	1904	1000.04	1011.0	1	994.9	1835	9.3
17	14.99	19.4	1604	12.1	153	79.5	89.8	1324	58.7	1606	11.41	8.54	11.2	1340	7.3	26	993.97	995.9	2359	992.1	1049	1.9
18	14.66	18.9	1151	12.0	2359	80.3	92.7	2358	60.8	1127	11.24	8.40	10.5	1457	7.8	355	997.56	1000.3	2306	995.5	343	1.0
19	15.40	21.0	1619	10.0	319	76.9	96.7	335	52.0	1649	11.10	8.28	10.5	1306	7.3	2359	1003.84	1008.8	2348	999.9	14	3.8
20	14.87	17.9	1023	12.8	144	75.8	92.5	2359	50.2	1052	10.52	7.92	9.1	1338	6.2	1052	1009.28	1010.9	2351	1008.2	9	0.2
21	14.55	18.8	1325	10.5	2319	86.3	97.1	2325	60.2	1347	12.19	8.82	10.4	1646	7.5	2320	1013.16	1016.8	2341	1010.2	319	3.6
22	14.36	20.1	1311	8.8	431	74.0	97.5	201	38.1	1513	9.00	7.14	8.8	2251	5.3	1513	1016.69	1017.9	715	1015.4	1818	2.3
23	15.18	19.5	1801	10.3	556	65.6	96.5	17	40.2	1806	8.09	6.74	8.7	42	5.3	1052	1013.84	1015.8	1	1011.5	1917	0.5
24	16.48	23.0	1655	9.2	421	65.3	95.4	2344	35.6	1312	9.29	7.33	9.5	1524	5.6	1156	1010.35	1012.7	29	1007.9	1650	0.0
25	16.20	23.3	1704	6.8	439	59.6	95.7	539	25.6	1714	7.01	6.29	8.3	3	4.3	1221	1009.47	1011.6	2358	1008.3	1716	0.0
26	16.71	20.2	1501	12.4	127	69.3	86.2	414	49.8	1510	10.85	8.04	9.4	835	7.1	1521	1015.30	1019.6	2359	1011.4	2	0.0
27	16.72	20.6	1535	12.0	2358	71.7	93.6	2359	51.2	1518	11.41	8.29	9.3	1042	7.5	1518	1020.79	1022.3	2357	1019.4	8	0.0
28	17.44	24.7	1554	11.4	202	71.5	96.6	223	36.5	1626	11.50	8.35	10.2	1049	6.7	1626	1022.23	1023.0	712	1020.7	1637	0.0
29	16.47	20.8	1342	13.7	547	75.8	91.6	301	57.8	1349	12.08	8.66	10.1	1301	6.4	2359	1023.20	1024.2	955	1022.2	1740	0.0
30	16.49	22.3	1625	11.7	2252	61.2	88.4	2336	39.4	1626	8.65	6.90	8.8	1057	6.2	722	1021.33	1023.7	4	1018.6	2343	0.0
31	18.35	24.9	1437	12.6	4	63.7	94.0	414	38.5	1438	10.74	7.99	9.7	1055	6.8	1916	1015.84	1018.9	11	1013.5	1726	0.0
Total																						37.3
Mean	15.99	21.25		10.71		70.4	93.45		43.78		10.05	7.70	9.47		6.27		1013.28	1015.87		1011.00		
Max	18.35	25.05		13.70		86.3	97.90		60.83		12.75	9.35	12.20		7.79		1025.80	1027.69		1023.04		
Min	14.36	17.91		6.84		54.9	85.50		25.59		6.42	5.91	7.28		4.26		993.97	995.92		992.12		

Wokingham Automatic Weather Station
 AWS samples taken every 0.5 seconds
 x and n refer to maximum and minimum respectively

Readings taken at Wokingham Climatological Station, Emmbrook, Berkshire
Lat 51.425 N, Long 0.853 W, NGR (SU) 798701
Altitude 45 m ASL.

Tmn = 00 to 24 GMT mean air temperature at 1.2 m, deg C
 RHmn = 00-24 GMT mean relative humidity at 1.2 m, percent
 TDmn = 00-24 GMT mean dew point at 1.2 m, deg C
 rmn = 00-24 GMT mean humidity mixing ratio, g/kg
 pmn = 00-24 GMT mean air pressure reduced to mean sea level, mbar
 Rtot = 00-24 GMT rainfall total from AWS tipping bucket raingauge, mm
 Time = hours and minutes in GMT of extreme values

Appendix 1.

Explanation and definition of some of the terms used in the Wokingham Weather Reports.

Average: Generally refers to the 30 year climatological average, currently 1971 to 2000. This will be next updated in 2010. For some parameters, notably wind, the climatological average is not available, and if the word average is used in the context of wind, it refers to the average for the period for which data is held, namely 1988 to present.

For sunshine, there was a change, in July 1999, in the type of instrument used to detect sunshine amount, making the climatological average based on the old instrument of little use. In general, the new instrument produces higher values in the winter half year, and lower ones in the summer half, than the old type, due to a combination of faster reaction and higher sensitivity than the old type. The average used in this case is based on a theoretical equivalent 1971 to 2000 average, drawn from comparison with the Met Office published tables of departure from climatological average sunshine in the months since 2000 for their area 'Southern England'. Users of the Wokingham Monthly Weather reports should be aware of this, and regard anomalies for sunshine published therein as a guide only, until such time has elapsed since the introduction of the new instrument that a genuine average becomes available.

Mean: The mean of the data under discussion, often the monthly mean of daily data. The mean is obtained by summation of the individual values and dividing by the number of values. The term 'daily mean' in respect of temperature is defined as '(max + min) / 2'. A true daily 24 hour (00 to 24 GMT) mean temperature is available from the Automatic Weather Station (AWS), and is currently published on page 7 of the Wokingham Monthly Weather report, on the Wokingham Weather web site, page 1. <http://www.woksat.info/wwwp1.html>

Anomaly: When a value is given for anomaly, this will have one of the following meanings:

- a): The departure of a mean from the current climatological average.
- b): The departure of a value on a particular day from the average for that day, (this need not be a climatological average).

When the word anomaly is used in respect of temperature, any values given are in °C. In respect of rainfall or sunshine, percent. In respect of wind, mph. In respect of pressure, millibars (hpa).

Categories: Reference may be made in the reports to 'categories'. Each category has a strict statistical range, as outlined below.

Temperature: The terms cold/mild are used in the winter half year, and cool/warm in the summer half. The term 'normal' is used when the individual mean (monthly, seasonal or annual) value is within 20 % of the median of all ranked values for that month/season/year.

Mild/warm: The value lies between 10 % and 30 % below the highest value in the ranked series.

Very mild/very warm: The value lies within 10 % of the highest value in the ranked series.

Cold/cool: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very cold/very cool: The value lies within 10 % of the lowest value in the ranked series.

Sunshine: The terms for sunshine are very sunny, sunny, normal, dull and very dull.

The definition of these terms follow the same rules as for temperature.

Rainfall: The terms for rainfall are very dry, dry, normal, wet and very wet.

The definition of the term 'normal' follows the same rule as for temperature and sunshine.

Wet: The value lies between 10 % and 30% of the highest value in the ranked series.

Very wet: The value lies within 10 % of the highest value in the ranked series.

Dry: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very dry: The value lies within 10 % of the lowest value in the ranked series.

Long-term: Mention may be made in the reports to the 'long-term'. The long-term record comprises a temperature/rainfall/sunshine data series compiled from records of various weather stations in the Wokingham area in the years prior to the establishment of the weather station at Emmbrook in 1976 together with data from this station.

In the case of monthly max, min and mean temperature and of rainfall total the series starts in 1882. For temperature extremes, the highest max and lowest min go back to 1904, and lowest max and highest min to 1913.

Rank: The word rank refers to the position of a value for a particular month/season/year in the ranked series, and may be expressed relative to either the highest or lowest value in the series. The central value in the ranked series is known as the **median**. This value may be different from the average of the whole series if the population is skewed. It can also be different from the climatological average which only refers to a 30 year period.

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

When discussing 'winter', if a single year is given this refers to the year in which the January/February fall.

Annual or Year: The calendar year, 1st January to 31st December.

The climatological day: runs from 0900 to 0900 GMT. The max temperature and rainfall read at 0900 hours are attributed to the previous day (thrown back), as is the duration of measurable rain. The min temperature and grass min read at 0900 hours are attributed to the day of reading. Pressure read at 0900 GMT, and the monthly mean pressure is the mean of the 0900 GMT readings. Sunshine data, wind data, rainfall rate data and 24 hour data from the AWS use the normal 00-24 GMT day.

Frost: An air frost day is recorded when the minimum temperature read at 0900 GMT on that day is -0.1°C or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is -0.1°C or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below 0.0°C , and the day runs from midnight to midnight.

Snow: A day with snow falling is triggered if snow falls at any time in the 24 hours from midnight on that day. A day with snow lying is entered if there is at least 50% snow cover at the 0900 GMT observation.

Snow depth is the depth of undrifted snow. Snow that collects in the raingauge funnel is melted and the amount recorded as rainfall.

Hail: A day of hail is recorded if hailstones 5 mm or more in diameter are observed or recorded on the hail pad in a 24 hour period starting at midnight.

A day of small hail is recorded if hailstones less than 5 mm diameter are observed or recorded in a 24 hour period starting at midnight. The term small hail also includes various other types of ice meteor such as ice pellets, snow grains and some types of snow pellets.

Fog: A day with fog is recorded if the horizontal visibility at 0900 GMT is below 1000 m.

Thunder: A day of thunder is recorded if thunder is heard in the 24 hour period from midnight on that day. The appearance of lightning without thunder being heard does not qualify as a thunder day.

Trace of rainfall: A trace of rain, entered as 'tr' in the daily log, is recorded if rain is observed to fall but is of insufficient quantity to collect in the raingauge, or if the amount of rain in the gauge is less than 0.05 mm.

Dry spell: A dry spell is defined as a period of 5 or more consecutive dry days.

Dry day: A dry day is one with less than 0.2 mm of rainfall.

Rain day: A rain day is one with 0.2 mm or more of rainfall.

Wet day: A wet day is one having 1.0 mm or more of rainfall.

Appendix 2.

Explanation and decode for code figures used in the Wokingham 0900 and 1500 GMT observations

VV : Visibility.

Code figures 00 to 50 are in km and tenths e.g. 01 = 0.1 km = 100 m, 33 = 3.3 km, 50 = 5.0 km

Code figures 60 to 80. Subtract 50 to obtain visibility in km. e.g. 56 = 6 km, 65 = 15 km, 77 = 27 km.

Code figures 81 to 89. Subtract 50 and add 5 for every one above 80. e.g. 83 = 45 km, 86 = 60 km.

Code figure 89 = visibility above 70 km.

N : Total cloud amount in okta (eighths of sky covered). 9 = sky obscured (e.g. by fog or snow)

dd : Wind direction in tens of degrees from true north. Wind is measured at a height of 10 m, and the direction is the mean over a period of 10 minutes ending at the observation time.

ff : Wind speed in knots, measured at 10 m, and is the mean over a period of 10 minutes ending at observation time.

gg : Wind gust in knots at 10 m. The highest gust in the 60 minutes up to observation time.

TT : Air temperature at 1.2m, degrees C and tenths.

TdTd : Dew point temperature at 1.2m, degrees C and tenths.

RH : Relative humidity at 1.2m, %.

r : Humidity mixing ratio (amount of water vapour per kg of air), grams and tenths.

PPP : Air pressure reduced to MSL, millibars and tenths.

a : Characteristic of pressure tendency during the past 3 hours.

Code figures 0 to 3, pressure higher than 3 hours ago, 5 to 8, pressure lower than 3 hours ago

Code figure 0 = Increasing then decreasing, pressure the same as or higher than 3 hours ago

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

3 = Decreasing or steady then increasing, or increasing then increasing more rapidly

4 = Steady, pressure the same as 3 hours ago

5 = Decreasing then increasing, pressure lower than 3 hours ago

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

8 = Steady or increasing then decreasing, or decreasing then decreasing more rapidly

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

04 = Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes.

05 = Haze, visibility reduced by extremely small dry particles (RH less than appx. 95 %)

06 = Widespread dust in suspension, not raised by the wind near the station at the time of the observation

07 = Dust or sand raised by the wind at or near the station at the time of the observation, but no well-developed dust whirls or sand whirls, and no duststorm or sandstorm seen: In marine environments, blowing spray at the station.

08 = Well-developed dust or sand whirls seen at or near the station during the preceding hour or at the time of the observation, but no duststorm or sandstorm.

09 = Duststorm or sandstorm within sight at the time of the observation, or at the station during the preceding hour

10 = Mist
11 = Patches of shallow fog not deeper than 2 metres on land
12 = More or less continuous shallow fog not deeper than 2 metres on land
13 = Lightning visible, no thunder heard
14 = Precipitation within sight, not reaching the ground
15 = Precipitation within sight, reaching the ground more than 5 km from the station
16 = Precipitation within sight, reaching the ground, near to but not at the station
17 = Thunderstorm, but no precipitation at the time of the observation
18 = Squalls at or within sight of the station at the time of the observation or during the preceding hour
19 = Funnel cloud(s) at or within sight of the station at the time of the observation or during the preceding hour

20 = Drizzle (not freezing) at the station during the preceding hour but not at the time of the observation
21 = Rain (not freezing) at the station during the preceding hour but not at the time of the observation
22 = Snow at the station during the preceding hour but not at the time of the observation
23 = Rain and snow or ice pellets at the station during the preceding hour but not at the time of the observation
24 = Freezing drizzle or freezing rain at the station during the preceding hour but not at the time of the observation
25 = Shower(s) of rain at the station during the preceding hour but not at the time of the observation
26 = Shower(s) of snow or rain and snow at the station during the preceding hour but not at the time of the observation
27 = Shower(s) of hail or rain and hail at the station during the preceding hour but not at the time of the observation
28 = Fog or ice fog at the station during the preceding hour but not at the time of the observation
29 = Thunderstorm, with or without precipitation at the station during the preceding hour but not at the time of the observation

30 = Slight or moderate duststorm or sandstorm has decreased during the preceding hour
31 = Slight or moderate duststorm or sandstorm with no appreciable change during the past hour
32 = Slight or moderate duststorm or sandstorm has begun or increased during the past hour
33 = Severe duststorm or sandstorm has decreased during the preceding hour
34 = Severe duststorm or sandstorm with no appreciable change during the past hour
35 = Severe duststorm or sandstorm has begun or increased during the past hour
36 = Slight or moderate drifting snow generally below eye level
37 = Heavy drifting snow generally below eye level
38 = Slight or moderate blowing snow generally above eye level
39 = Heavy blowing snow generally above eye level

40 = Fog or ice fog at a distance at the time of the observation, but not at the station during the preceding hour, the fog extending to a level above that of the observer.
41 = Fog or ice fog in patches
42 = Fog or ice fog, sky visible has become thinner during the past hour
43 = Fog or ice fog, sky invisible has become thinner during the past hour
44 = Fog or ice fog, sky visible no appreciable change during the past hour
45 = Fog or ice fog, sky invisible no appreciable change during the past hour
46 = Fog or ice fog, sky visible has begun or become thicker during the past hour
47 = Fog or ice fog, sky invisible has begun or become thicker during the past hour
48 = Fog, depositing rime, sky visible
49 = Fog depositing rime, sky invisible

50 = Drizzle, not freezing, intermittent slight at time of observation
51 = Drizzle, not freezing, continuous slight at time of observation
52 = Drizzle, not freezing, intermittent moderate at time of observation
53 = Drizzle, not freezing, continuous moderate at time of observation
54 = Drizzle, not freezing, intermittent heavy at time of observation
55 = Drizzle, not freezing, continuous heavy at time of observation
56 = Drizzle, freezing, slight
57 = Drizzle, freezing, moderate or heavy (dense)
58 = Drizzle and rain, slight
59 = Drizzle and rain, moderate or heavy

60 = Rain, not freezing, intermittent slight at time of observation
61 = Rain, not freezing, continuous slight at time of observation
62 = Rain, not freezing, intermittent moderate at time of observation
63 = Rain, not freezing, continuous moderate at time of observation
64 = Rain, not freezing, intermittent heavy at time of observation
65 = Rain, not freezing, continuous heavy at time of observation
66 = Rain, freezing, slight
67 = Rain, freezing, moderate or heavy
68 = Rain or drizzle and snow, slight
69 = Rain or drizzle and snow, moderate or heavy

70 = Intermittent fall of snowflakes slight at time of observation
71 = Continuous fall of snowflakes slight at time of observation
72 = Intermittent fall of snowflakes moderate at time of observation
73 = Continuous fall of snowflakes moderate at time of observation
74 = Intermittent fall of snowflakes heavy at time of observation
75 = Continuous fall of snowflakes heavy at time of observation
76 = Diamond dust (with or without fog)
77 = Snow grains (with or without fog)
78 = Isolated star-like snow crystals (with or without fog)
79 = Ice pellets

80 = Rain shower(s), slight
81 = Rain shower(s), moderate or heavy
82 = Rain shower(s), violent
83 = Shower(s) of rain and snow mixed, slight
84 = Shower(s) of rain and snow mixed, moderate or heavy
85 = Snow shower(s), slight
86 = Snow shower(s), moderate or heavy
87 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, slight
88 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, moderate or heavy
89 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, slight
90 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, moderate or heavy

91 = Slight rain at time of observation, thunderstorm during the past hour but not at time of observation
92 = Moderate or heavy rain at time of observation, thunderstorm during the past hour but not at time of observation
93 = Slight snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
94 = Moderate or heavy snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
95 = Thunderstorm, slight or moderate, without hail but with rain and or snow at time of observation
96 = Thunderstorm, slight or moderate, with hail at time of observation
97 = Thunderstorm, heavy, without hail but with rain and or snow at time of observation
98 = Thunderstorm combined with duststorm or sandstorm at time of observation
99 = Thunderstorm, heavy, with hail at time of observation

Hail includes large hail, small hail and snow pellets.

W1, W2 : Past weather (for 0900 and 1500 GMT observations, the period covered is 3 hours)

Code figures:

- 0 = Cloud covering half or less of the sky throughout the period
- 1 = Cloud covering more than half the sky during only part of the period
- 2 = Cloud covering more than half the sky throughout the period
- 3 = Sandstorm, duststorm or blowing snow
- 4 = Fog or ice fog or thick haze (visibility less than 1000 m)
- 5 = Drizzle
- 6 = Rain
- 7 = Snow or rain and snow mixed
- 8 = Shower(s)
- 9 = Thunderstorm(s) with or without precipitation

Nh : Amount of low cloud, or medium cloud if no low cloud present, okta

Cl : Type of low cloud

- 0 = No low cloud
- 1 = Cumulus with little vertical extent and seemingly flattened, or ragged Cumulus other than bad weather, or both
- 2 = Cumulus of moderate or strong vertical extent, either accompanied or not by other Cumulus or Stratocumulus all having their bases at the same level
- 3 = Cumulonimbus whose summits, at least partially, lack sharp outline, but are neither clearly fibrous (cirriform), nor in the form of an anvil; Cumulus, Stratocumulus or Stratus may also be present
- 4 = Stratocumulus formed by the spreading out of Cumulus; Cumulus may also be present
- 6 = Stratus in a more or less continuous sheet or layer, or ragged shreds, or both, but no Stratus fractus of bad weather
- 7 = Stratus fractus of bad weather or Cumulus fractus of bad weather or both (pannus), usually below Altostratus or Nimbostratus
- 8 = Cumulus and Stratocumulus other than that formed by the spreading out of Cumulus, the bases of the Cumulus and Stratocumulus are not at the same level.
- 9 = Cumulonimbus, the upper part of which is clearly fibrous (cirriform), often in the form of an anvil, either accompanied or not by any other type(s) of low cloud
- / = Types of low cloud invisible due to darkness, fog, blowing dust or sand or other similar phenomena.

'Bad weather' denotes the conditions which generally exist during precipitation and a short time before and after.

Cm : Type of medium cloud.

- 0 = No medium cloud.
- 1 = Altostratus, the greater part of which is semi-transparent; through this part the sun or moon may be weakly visible, as through ground glass
- 2 = Altostratus, the greater part of which is sufficiently dense to hide the sun or moon, or Nimbostratus
- 3 = Altocumulus, the greater part of which is semi-transparent; the various elements of the cloud change only slowly and are all at a single level
- 4 = Altocumulus in patches (often in the form of almonds or fishes), the greater part of which is semi-transparent ; the clouds occur at one or more levels and the elements are continually changing in appearance
- 5 = Altocumulus in bands semi-transparent, of Altocumulus in one or more fairly continuous layers (semi-transparent or opaque), progressively invading the sky; these Altocumulus clouds generally thicken as a whole
- 6 = Altocumulus resulting from the spreading out of Cumulus (or Cumulonimbus)
- 7 = Altocumulus in two or more layers, usually opaque in places, and not progressively invading the sky; or opaque layer of Altocumulus not progressively invading the sky; or Altocumulus together with Altostratus or Nimbostratus
- 8 = Altocumulus with sproutings in the form of small towers or battlements, or Altocumulus having the appearance of cumuliform tufts
- 9 = Altocumulus of a chaotic sky, generally at several levels
- / = Types of medium cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

Ch : Type of high cloud

0 = No high cloud

1 = Cirrus in the form of filaments, strands or hooks, not progressively invading the sky.

2 = Dense cirrus, in patches or entangled sheaves, which usually do not increase and sometimes seem to be the remains of the upper part of a Cumulonimbus; or Cirrus with sproutings in the form of small turrets or battlements, or Cirrus having the appearance of cumuliform tufts

3 = Dense Cirrus, often in the form of an anvil, being the remains of the upper part of Cumulonimbus, or where the rest of the Cumulonimbus is below the horizon

4 = Cirrus in the form of hooks or filaments, or both, progressively invading the sky; they generally become denser as a whole

5 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole, but the continuous veil does not reach 45 degrees above the horizon.

6 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole; the continuous veil extends more than 45 degrees above the horizon, without the sky being totally covered

7 = Veil of Cirrostratus covering the celestial dome.

8 = Cirrostratus not progressively invading the sky and not completely covering the celestial dome

9 = Cirrocumulus alone, or accompanied by Cirrus or Cirrostratus, or both, but Cirrocumulus is predominant.

/ = Types of high cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

/ = Cloud type not visible owing to darkness, fog, duststorm, or other analogous phenomena.

hshs = Height of cloud above station level reported by type C

00 to 50 = Height in hundreds of feet

51 to 55 Not used

56 to 80 = Subtract 50 to obtain cloud height in thousands of feet

81 to 88 = Height of cloud between 35000 and 70000 ft in 5000 ft steps.