

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

OCTOBER 2014

Temperature (°C / °F)			Anomaly	Rank in the past 133 years			
Mean maximum	16.8	62.2	+1.6	10 th highest			
Mean minimum	10.0	50.0	+2.8	4 th highest			
Daily mean	13.4	56.1	+2.2	5 th highest			
Highest maximum	22.0	71.6	on 31 st	Lowest maximum	12.7	54.9	on 14 th
Highest minimum	15.5	59.9	on 18 th	Lowest minimum	0.7	33.3	on 5 th
Mean grass minimum	6.7	44.1	+2.6	Lowest grass minimum	-3.7	25.3	on 5 th
Mean earth @30 cm	14.7	58.5	+1.6	Earth @100 cm	15.3	59.5	
Frost duration (hrs)	0.0			Rain duration (hrs)	65.9		
Rainfall total (mm / in)	104.6	4.12	145 %	21 st highest			
Highest daily fall	17.7	0.70	on 12 th				
Number of: Dry days (<0.2mm)	11	Wet days (>0.9mm)	17	days ≥5mm	8		
Sunshine total (hrs)	101.5	Daily mean	3.27	91 %	Sunniest day	9.0	on 28 th
N ^o days with: Air frost	0	Ground frost	1	Snow falling	0	Snow lying	0
Thunder	1	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0
				Fog @09	0	Nil sun	7
Pressure MSL : Mean @09 GMT, mbar	1012.4	-1.9	Highest	1029.7	on 2 nd	Lowest	992.4
			on 7 th	Water vapour (g/kg), mean at 09 and 15 GMT	8.3,	8.0	
Relative humidity : Mean (%)	85.2	Lowest	44	Max gust	48	on 21 st	
Overall mean wind speed (mph)	6.7	Windiest day	13.6	on 21 st	Max gust	48	on 21 st
Wind direction (days)	N 1	NE 2	E 0	SE 1	S 10	SW 14	W 3
				NW 0			
Least windy day (mph)	2.9	on 2 nd	Calm; less than 0.5 mph (minutes)				395

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

Notes: **Wet and Very Mild with Below Normal Sunshine**

Temperature: This has been a very mild October overall, with the mean temperature 5th highest in the past 133 years, and 0.7° below the record set in 2006. The mean maximum does not rank as highly, being only 10th highest in that period. Daily maxima were near or below normal from the 4th to the 15th, and the 21st to the 26th, with anomalies exceeding -3° on the 6th and 13th. Otherwise, anomalies over +5° occurred on the 3rd and 18th and reached +8.6° on the 31st. Daily minima were only significantly below normal on 2 days, the 5th, anomaly -7.2°, and the 12th, -4.1, otherwise very mild nights gave anomalies over +5° on the 4th, 17th to 19th, 21st, 24th 30th and 31st, with a peak anomaly of +9.5° on the 18th. The highest maximum of 22.0° is 1.8° above the median, but is remarkable as it occurred on the 31st, quite possibly the latest date ever recorded for such a temperature. Had it happened one day later it would have exceeded the November record by 1.6°. The lowest max is 3.5° above the median and is 6th highest in 102 years while the highest min is 2.4° above the median, and is 8th highest in the same period. The lowest min is 1.7° above its median. An air frost free October has occurred in about 1 year in 4 on average. The mean earth temperature at 30 cm depth is equal 2nd highest after 2006 in the past 35 years, and at 1m depth is well above normal.

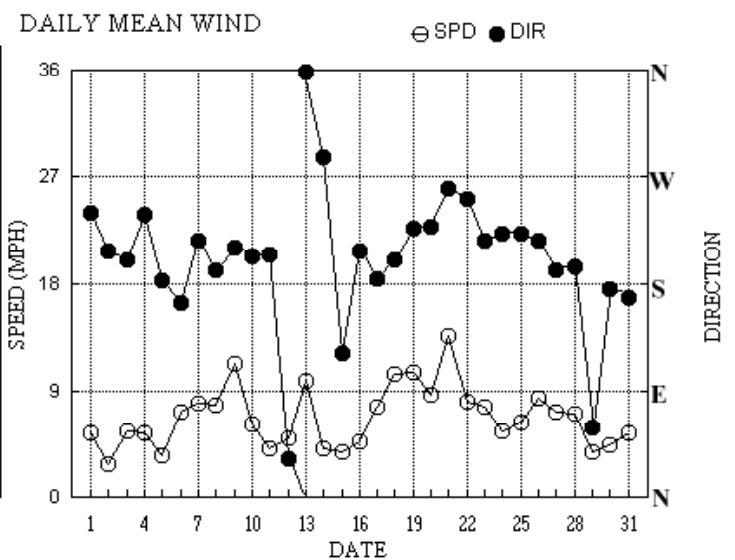
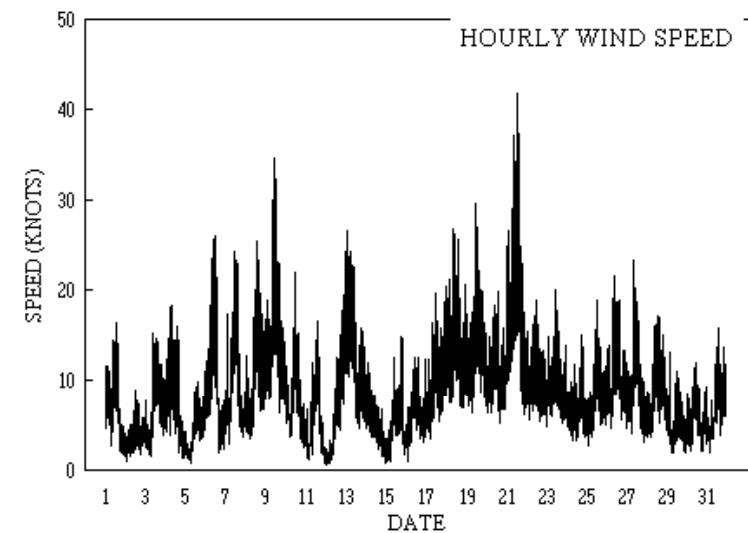
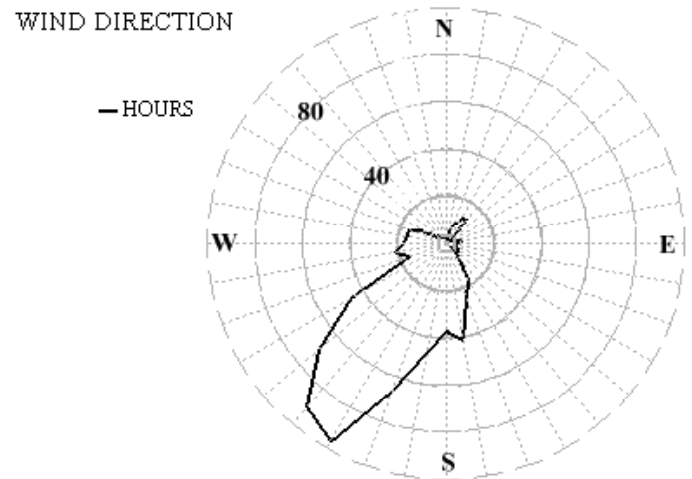
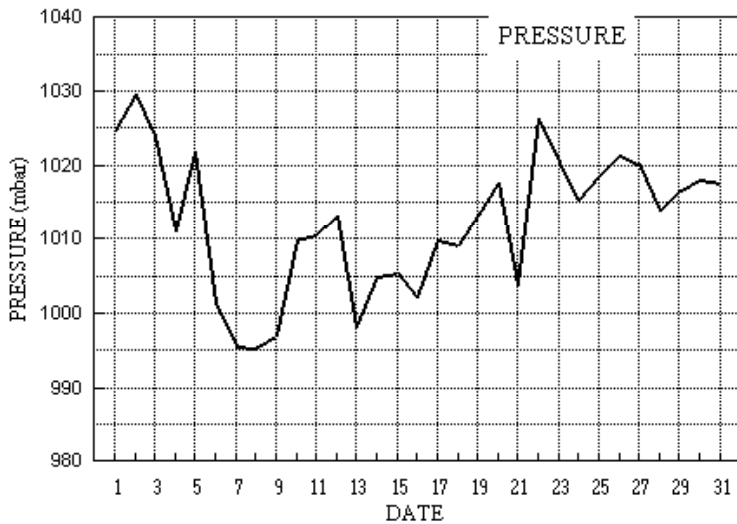
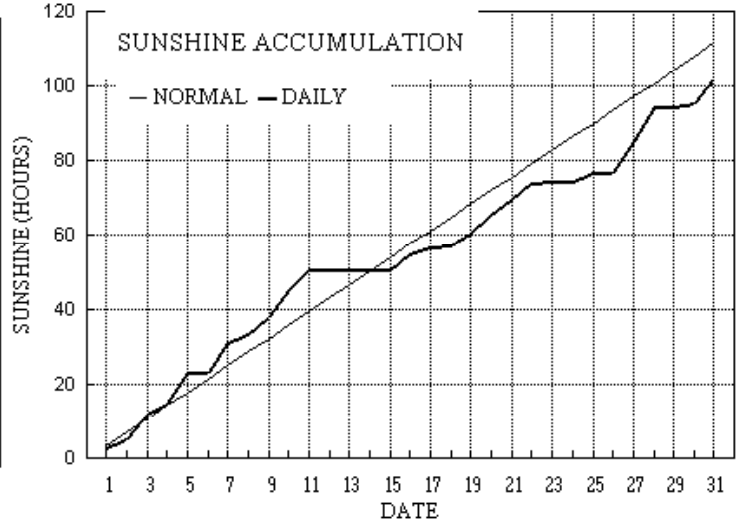
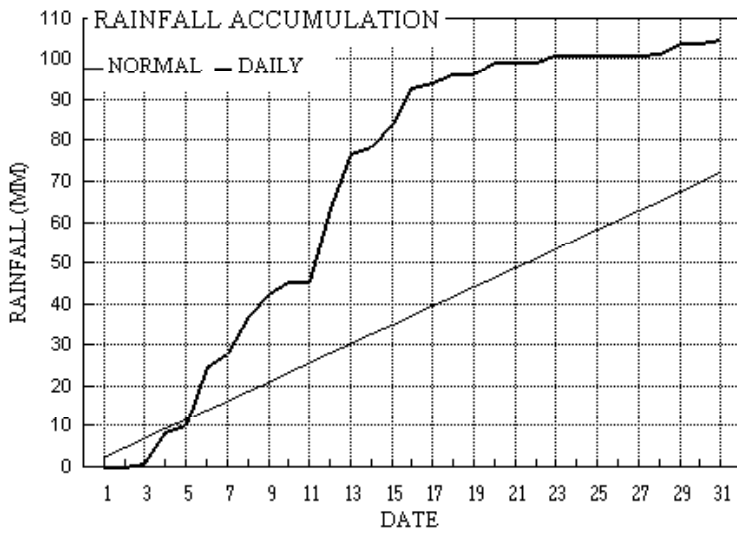
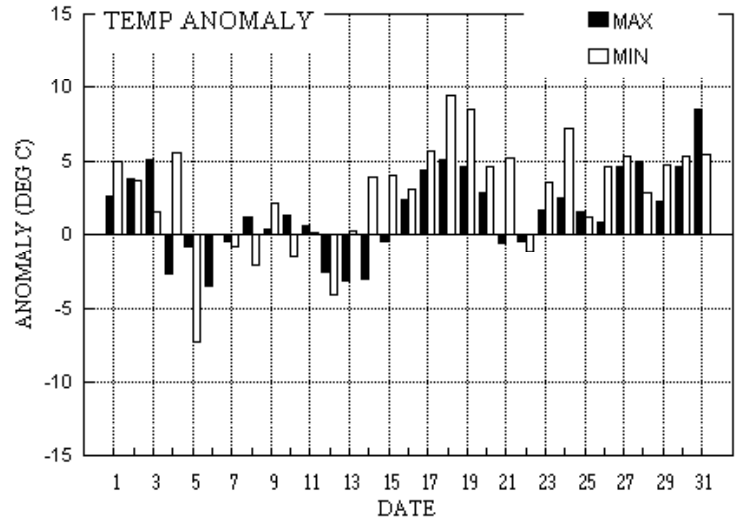
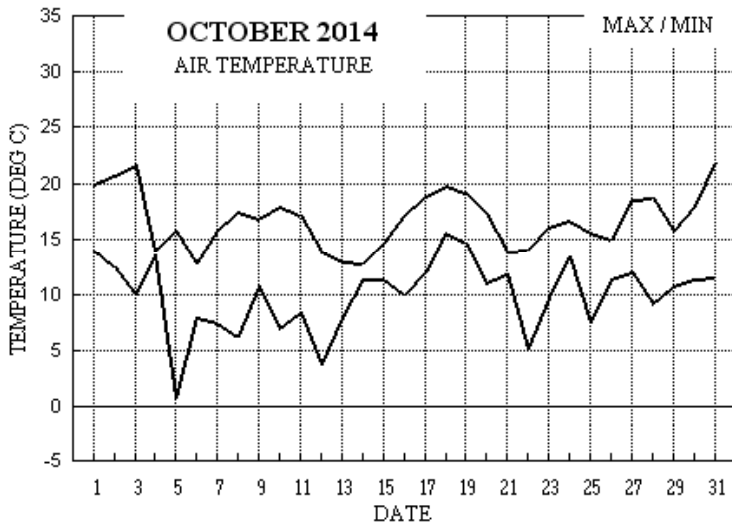
Rainfall: This month's total is in the wet category, and we join 9 other Octobers in the past 39 years to have had more than 100 mm of rain. Dry until the 3rd, then 2 weeks of wet weather took the accumulation to 54 mm above normal by the 17th. Although there was some further rain at times after this, the accumulation was below normal, and the surplus had dropped back to 33 mm by the 31st. There were only 3 dry days in the first half of the month, and 8 in the second half, and the number of dry days is 5 fewer than average. A rainfall rate of 89 mm/hr on the 8th is the highest for this month, though 76 mm/hr was recorded on the 16th. Thunder was recorded on the 8th, and there was no hail. **Sunshine:** While the daily mean sunshine this month is above that of the past two Octobers, it still falls short of the average. Thanks to 4 sunny days early in the month, the accumulation was in surplus by 10 hours by the 11th. Then 4 sunless days reduced this to a deficit by the 15th, and a further dull episode from the 23rd to the 26th increased this to -17 hours. Three subsequent sunny days only reduced this to -10 hours by the 31st. Overall there were 17 days with <3 hours, 7 with =>6 hours and 1 with =>9 hours. The sunniest day with 9.0 hours is equal lowest with 2005 since 2002. **Wind:** The mean wind speed is 0.4 mph above average but is lower than last October's. The highest gust is 2nd highest for this month after 2013 since 2002.

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°	+0.7°	194%	125%	+1.1°	+3.6°	233%	56%	+2.8°	+4.0°	22%	92%

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

Wokingham climatological graphs for October 2014



Month: OCTOBER 2014

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff	Rain HH hrs					
1	19.9	14.0	0.0	11.1	17.1	16.4	2.8	0.0	1024.5	0 0 0 0	0 0 0 0	0 0 0 0	240	4.3	4.6	264	17 1307	261	8	12	0.0	
2	20.7	12.5	0.0	8.7	17.2	16.5	2.2	0.0	1029.5	0 0 0 0	0 0 0 0	0 0 0 0	207	1.1	2.5	186	9 1234	222	4	15	0.0	
3	21.7	10.0	0.9	4.8	17.0	16.5	7.0	0.0	1023.8	0 0 0 0	0 0 0 0	0 0 0 0	200	4.6	4.8	179	15 0955	208	8	16	0.6	
4	13.8	13.6	7.8	9.7	17.0	16.5	2.9	0.0	1011.0	0 0 0 0	0 0 0 0	0 0 0 0	239	2.6	4.7	265	19 0822	207	8	07	3.7	
5	15.7	0.7	1.6	-3.7	15.8	16.5	8.3	0.0	1021.8	0 1 0 0	0 0 0 0	0 0 0 0	183	2.7	3.1	164	10 2239	147	5	22	2.3	
6	12.7	8.0	14.4	1.4	15.2	16.4	0.1	0.0	1001.3	0 0 0 0	0 0 0 0	0 0 0 0	164	5.7	6.2	164	26 1231	162	12	12	6.4	
7	15.7	7.4	3.4	0.8	14.7	16.2	7.9	0.0	995.6	0 0 0 0	0 0 0 0	0 0 0 0	217	6.1	6.8	227	25 1135	236	12	13	1.2	
8	17.4	6.3	8.9	1.1	14.4	16.0	2.4	0.0	995.3	0 0 0 0	1 0 0 0	0 0 0 0	192	5.9	6.8	183	26 1430	205	12	14	1.5	
9	16.8	10.7	5.6	6.8	14.4	15.8	4.5	0.0	996.9	0 0 0 0	0 0 0 0	0 0 0 0	210	9.6	9.7	251	35 1100	212	15	13	1.8	
10	17.9	7.0	2.6	1.3	14.3	15.7	7.1	0.0	1009.9	0 0 0 0	0 0 0 0	0 0 0 0	203	5.2	5.3	242	22 1206	218	9	12	2.1	
11	17.1	8.4	0.1	4.1	14.3	15.5	5.3	0.0	1010.5	0 0 0 0	0 0 0 0	0 0 0 0	205	3.2	3.5	216	17 1509	229	7	15	0.1	
12	13.8	3.7	17.7	0.1	14.0	15.4	0.0	0.0	1013.1	0 0 0 0	0 0 0 0	0 0 0 0	32	4.1	4.3	20	25 2346	29	11	23	11.8	
13	12.9	7.9	13.7	10.0	13.9	15.3	0.0	0.0	998.0	0 0 0 0	0 0 0 0	0 0 0 0	358	6.6	8.5	25	27 0222	22	13	05	9.0	
14	12.7	11.4	1.7	11.4	13.9	15.1	0.0	0.0	1005.0	0 0 0 0	0 0 0 0	0 0 0 0	287	3.3	3.5	294	12 0315	296	5	04	3.5	
15	14.7	11.3	5.6	10.0	14.0	15.0	0.0	0.0	1005.4	0 0 0 0	0 0 0 0	0 0 0 0	122	2.7	3.3	154	15 1815	158	6	20	5.2	
16	17.1	10.0	9.0	5.3	14.2	14.9	4.1	0.0	1002.2	0 0 0 0	0 0 0 0	0 0 0 0	207	3.7	4.1	197	13 1513	232	6	10	3.0	
17	18.9	12.0	1.2	7.4	14.4	14.9	2.0	0.0	1009.9	0 0 0 0	0 0 0 0	0 0 0 0	184	6.0	6.6	162	20 2355	159	10	23	1.6	
18	19.7	15.5	2.0	14.7	14.8	14.8	0.6	0.0	1009.2	0 0 0 0	0 0 0 0	0 0 0 0	200	8.9	9.1	212	27 0958	210	12	11	1.4	
19	19.2	14.7	0.0	12.9	15.2	14.8	3.4	0.0	1013.1	0 0 0 0	0 0 0 0	0 0 0 0	227	9.1	9.2	234	30 1229	234	12	12	0.0	
20	17.3	11.0	3.2	7.4	15.2	14.9	4.7	0.0	1017.5	0 0 0 0	0 0 0 0	0 0 0 0	229	7.4	7.4	234	20 1506	226	10	10	2.1	
21	13.8	11.8	tr	8.9	15.0	15.0	4.2	0.0	1003.8	0 0 0 0	0 0 0 0	0 0 0 0	261	10.7	11.8	273	42 1341	273	17	13	0.0	
22	14.0	5.2	tr	0.0	14.2	15.0	4.2	0.0	1026.2	0 0 0 0	0 0 0 0	0 0 0 0	252	6.7	6.9	263	19 1114	266	9	11	0.0	
23	16.0	9.7	1.4	6.8	13.8	14.9	0.8	0.0	1020.3	0 0 0 0	0 0 0 0	0 0 0 0	216	6.6	6.7	202	20 1026	222	9	12	1.5	
24	16.7	13.4	tr	11.8	14.2	14.8	0.0	0.0	1015.1	0 0 0 0	0 0 0 0	0 0 0 0	223	4.5	4.8	246	15 1809	254	7	18	0.0	
25	15.6	7.5	0.0	1.5	14.2	14.7	2.2	0.0	1018.6	0 0 0 0	0 0 0 0	0 0 0 0	223	5.4	5.5	242	19 1232	235	8	13	0.0	
26	15.0	11.3	0.0	8.6	14.0	14.7	0.0	0.0	1021.4	0 0 0 0	0 0 0 0	0 0 0 0	216	7.0	7.2	217	22 0914	223	10	09	0.0	
27	18.6	12.0	tr	8.4	13.9	14.6	8.5	0.0	1020.2	0 0 0 0	0 0 0 0	0 0 0 0	191	6.1	6.2	181	24 0926	193	12	09	0.0	
28	18.7	9.2	0.5	4.6	13.8	14.6	9.0	0.0	1013.9	0 0 0 0	0 0 0 0	0 0 0 0	194	5.9	6.1	199	17 1325	191	9	13	1.4	
29	15.7	10.7	2.7	10.4	13.9	14.5	0.0	0.0	1016.5	0 0 0 0	0 0 0 0	0 0 0 0	58	1.7	3.3	314	13 0314	2	5	04	4.8	
30	17.9	11.3	0.0	12.4	14.1	14.5	1.1	0.0	1018.0	0 0 0 0	0 0 0 0	0 0 0 0	175	3.5	3.8	216	12 1243	197	6	12	0.0	
31	22.0	11.6	0.6	7.9	14.2	14.5	6.2	0.0	1017.6	0 0 0 0	0 0 0 0	0 0 0 0	168	4.7	4.7	170	16 1415	170	7	15	0.9	
Total			104.6				101.5	0.0														65.9
Mean	16.8	10.0		6.7	14.7	15.3	3.27	0.0	1012.4					213	4.0	5.8						
Anom	+1.6	+2.8	145%	+2.6	+1.6	+0.6	91%															
Daily mean		13.4																				
Anom		+2.2																				

Number of days with:

Air frost = 0 Ground frost = 1 Nil sun = 7
 Snow falling = 0 Snow lying = 0 Thunder = 1
 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

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	www	W1	W2	Nh	Cl	h	Cr	Cf	NChs	shs	NChs	shs	Date	Remarks
1	75	4	25	05	09	16.8	13.6	81	9.5	1024.5	2	012	01	6	1	1	8	4	0	1	81812	84075		1	1Sc25 COTRA Cu fra	
2	59	7	13	03	05	16.3	13.0	81	9.1	1029.5	2	001	05	2	2	3	6	4	3	/	83712	86357		2		
3	50	3	20	05	09	15.5	15.1	97	10.5	1023.8	7	003	10	4	1	2	6	2	0	1	82705			3	1Ci70 2Ci80 COTRA	
4	65	8	26	05	19	13.7	12.2	90	8.8	1011.0	3	011	60	6	2	7	5	5	2	/	81620	87630	88550	4	vv30k exE. CF 0835	
5	72	6	20	03	05	9.0	7.9	93	6.6	1021.8	3	001	03	1	1	0	0	9	0	1	86078			5	COTRA	
6	61	8	17	11	24	11.7	9.4	86	7.4	1001.3	8	020	63	6	2	3	7	3	2	/	82708	88540		6	2Sc30	
7	86	1	23	08	18	10.0	7.0	81	6.3	995.6	2	016	02	0	0	1	8	4	3	3	81812			7	1Sc50 1Ac65 1Ci70 Cu fra Cb top S&SW	
8	57	5	18	05	09	13.7	12.8	94	9.3	995.3	7	019	25	8	2	2	8	5	7	0	81820	84362		8	2Sc50 1Ac58 Cu ned	
9	65	2	20	13	24	15.6	9.3	66	7.4	996.9	2	010	03	0	0	2	8	5	0	3	82825			9	1Sc50 1Ci70 Cu med Cb top E	
10	65	4	19	06	10	13.7	11.1	84	8.2	1009.9	1	013	03	0	0	2	8	5	7	0	81820	83359		10	1Sc45 2Sc56	
11	58	3	18	02	07	12.3	11.9	98	8.7	1010.5	2	002	10	6	1	1	6	1	7	3	81702	83357		11	1Sc45 1Ac62 1Ci70 Cb top SW vv30k ex NW Irisation	
12	56	7	05	02	04	7.9	7.8	99	6.6	1013.1	0	000	28	4	2	1	6	2	1	8	81705	83465	87270	12	COTRA Cld edge NW U/a cont	
13	56	8	01	12	21	11.6	10.7	94	8.1	998.0	0	003	61	6	5	8	5	3	/	/	87709	88612		13		
14	30	8	27	04	09	11.5	11.0	97	8.2	1005.0	2	019	50	5	2	8	7	2	/	/	86704	88706		14		
15	35	8	10	04	08	12.4	12.1	98	8.8	1005.4	8	004	10	4	2	8	6	2	/	/	83705	88708		15		
16	80	1	24	06	11	13.3	12.8	97	9.3	1002.2	2	020	03	1	1	1	8	4	3	0	81810			16	1Sc30 1Ac62 Cu fra	
17	59	5	21	07	17	15.9	14.8	93	10.5	1009.9	1	024	05	2	2	5	6	4	0	1	85710			17	1Ci75 COTRA	
18	65	8	20	08	15	17.8	15.0	84	10.6	1009.2	1	014	60	6	2	8	5	4	/	/	84615	88620		18		
19	75	6	23	08	15	16.2	13.9	86	9.8	1013.1	2	019	01	2	2	4	5	4	3	0	84615	83365		19		
20	65	5	23	07	17	14.2	10.7	79	8.0	1017.5	3	005	02	1	1	3	8	4	0	1	81812	83635		20	2Ci72 Cu fra/hum	
21	86	5	27	14	31	12.0	4.9	62	5.4	1003.8	3	027	25	8	6	5	8	5	0	0	83825	83640		21	Cu med	
22	65	3	26	08	17	10.1	5.2	71	5.4	1026.2	0	008	03	0	0	1	0	9	4	1	81359	83080		22	COTRA	
23	70	7	20	08	15	13.9	9.5	75	7.3	1020.3	8	004	02	2	2	3	8	4	7	/	81818	83635	86360	23	Cu fra	
24	82	8	21	05	09	14.6	13.7	94	9.7	1015.1	1	005	03	2	2	8	5	3	/	/	82708	86710	88615	24		
25	84	6	22	04	10	11.6	7.7	77	6.5	1018.6	2	014	01	2	2	6	5	6	0	1	86640			25	2Ci80 COTRA	
26	81	8	22	10	19	13.7	7.4	66	6.3	1021.4	0	007	02	2	2	8	5	6	/	/	88630			26		
27	84	1	19	09	16	14.9	10.7	76	7.9	1020.2	7	003	02	0	0	1	1	4	0	1	81818			27	1Ci81 Cu fra COTRA	
28	65	1	19	06	12	14.3	12.7	90	9.1	1013.9	7	006	02	0	0	1	0	9	4	0	81368			28		
29	62	8	03	02	04	11.5	9.7	88	7.4	1016.5	3	016	60	6	2	8	6	3	/	/	88706			29		
30	35	2	18	04	09	15.7	15.1	96	10.6	1018.0	1	012	10	1	1	1	6	3	0	1	81708			30	1Sc15 1Ci75	
31	50	7	16	03	06	14.7	14.0	95	9.8	1017.6	1	002	10	2	2	1	0	9	3	1	81362	87078		31	COTRA	

Mean vis = 19.7 km
 Mean cloud = 5.3 66%
 Mean wind speed = 6.4 kn
 Mean gust = 13 kn
 Mean TT = 13.4 °C
 Mean TdTd = 11.1 °C
 Mean RH = 86.1 %
 Mean r = 8.3 g/kg
 Mean PPP = 1012.4 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

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks			
1	75	8	25	07	13	18.8	12.0	65	8.6	1025.4	3	003	03	2	2	7	8	6 / 8	83830	87645	1	/Cs78 Cu med U/a cont	
2	77	6	20	03	06	19.6	12.8	65	9.0	1026.9	7	012	03	1	1	5	8	6 6 /	84830	83358	2	2Sc56 Cu con Crepuscular rays	
3	82	2	23	07	14	20.5	11.2	55	8.2	1019.8	6	024	01	1	1	2	1	6 0 1	82838		3	1Ci80 Cu hum	
4	84	2	31	07	16	13.4	8.5	72	6.9	1015.3	3	017	01	6	1	2	2	5 7 0	82820		4	1Ac58 Cu med Ac edge E	
5	84	7	20	04	10	15.1	5.5	53	5.6	1017.9	7	024	02	1	1	1	1	6 0 8	81840	87078	5	2Cs72 COTRA Cu hum Parheliion	
6	35	8	15	05	16	12.0	11.4	96	8.5	998.5	7	016	58	6	5	8	5 2 / /	87705	88615	6			
7	65	6	23	12	23	14.1	4.6	53	5.4	998.7	3	017	15	1	1	4	9	6 6 3	82935	83070	7	1Cu40 1Sc50 1Ac62 jp all quads vv60k ex p Rainbow	
8	60	6	21	12	26	16.2	9.8	66	7.7	992.6	6	011	80	8	1	4	9	5 6 /	83920	82825	84362	8	1Sc50 vv30k ex p
9	75	6	22	12	23	14.6	9.7	72	7.6	999.6	1	015	15	8	2	3	9	4 6 3	81918	81820	83357	9	2Sc50 2Ci70 jp SE&W
10	84	5	21	06	15	16.3	11.1	71	8.2	1009.6	6	002	02	8	1	2	8	5 6 3	82825		10	1Sc50 2Ac59 1Ac62 1Ci70 2Ci78 Cu med Cb top SE	
11	75	2	21	06	16	16.3	8.3	59	6.8	1010.3	5	001	15	1	1	2	9	5 6 3	81925	82830	11	1Sc50 1Ac58 1Ci70 jpN CbN&NW vv60k ex N	
12	86	8	03	05	12	12.9	10.0	83	7.7	1008.2	6	028	03	2	2	1	8	4 2 /	81818	88560	12	1Sc40 Cu fra/hum	
13	35	8	32	04	11	12.6	11.9	96	8.8	997.4	1	004	63	6	5	7	7	2 2 /	83705	88807	88515	13	
14	57	8	32	04	07	12.3	11.9	97	8.7	1006.1	2	002	20	5	2	8	7 3 / /	83706	88708	14			
15	56	8	11	04	09	13.9	12.6	92	9.1	1002.3	7	021	63	6	2	3	5	4 2 /	81710	83645	88557	15	
16	65	8	22	05	12	16.5	13.5	82	9.7	1002.9	1	001	15	8	2	4	8	4 1 7	81815	83656	88272	16	2As69 COTRA Cu med jp NW&SE
17	65	8	18	06	14	17.5	13.7	78	9.7	1009.7	8	007	03	2	2	2	8	5 7 /	82820	88465	17	1Sc40 1Ac63 Cu med	
18	75	7	21	10	26	19.3	14.1	72	10.0	1010.9	1	009	01	5	2	1	1	5 7 1	81820	86365	18	3Ci75 COTRA Cu hum	
19	82	5	24	11	23	17.7	11.1	65	8.2	1013.1	4	000	02	1	1	5	2	6 0 0	85830		19	Cu med	
20	58	7	24	09	18	14.8	9.7	71	7.4	1015.0	6	014	16	2	2	7	8	5 / /	83825	83640	86650	20	Cu med jp W-N
21	84	5	28	14	34	12.2	2.7	52	4.6	1010.9	2	037	80	8	1	5	8	6 0 3	84840		21	2Sc50 1Ci68 Cb top N	
22	65	8	26	06	16	12.9	6.1	63	5.8	1024.7	8	010	60	6	2	1	1	6 7 /	81830	86359	88462	22	Pptn v slt
23	82	7	21	08	16	15.5	11.9	79	8.6	1018.0	7	014	02	2	2	7	5 4 / /	85614	87620	23			
24	81	8	20	05	08	16.4	13.9	85	9.8	1012.6	6	015	21	6	2	7	8	4 7 /	83815	87625	24	/Ac58 Cu med	
25	84	5	24	07	15	14.4	7.4	63	6.3	1018.5	7	005	01	2	2	5	8	6 0 1	81830	84635	25	1Sc45 1Ci75 Cu hum Iridescence	
26	84	7	24	08	19	14.9	7.0	59	6.2	1020.4	7	007	02	2	2	7	5 6 / 1	87635	87080	26			
27	70	1	19	08	17	17.4	12.4	72	8.9	1018.0	6	010	01	0	0	1	5	5 0 0	81620		27		
28	75	2	18	05	13	18.2	11.5	65	8.4	1011.1	6	012	03	0	0	1	0	9 5 4	81365		28	2Ci72 Cld edge NW	
29	35	8	07	04	11	12.9	12.6	98	9.0	1016.5	7	001	51	6	5	8	7 2 / /	86703	88705	29			
30	58	7	17	04	09	17.9	14.2	79	10.0	1017.6	8	007	05	2	2	7	5 4 / /	87615		30	/Sc56		
31	78	6	16	07	16	20.9	10.9	53	8.1	1014.6	6	021	01	2	2	1	0	9 3 1	81362	86078	31	1Ci75 COTRA Parheliion	

Mean vis = 26.6 km
 Mean cloud = 6.1 76%
 Mean wind speed = 6.9 kn
 Mean gust = 16 kn
 Mean TT = 15.7 °C
 Mean TdTd = 10.5 °C
 Mean RH = 72.0 %
 Mean r = 8.0 g/kg
 Mean PPP = 1011.7 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 2014	Hour	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct
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	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	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	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	0.00
4	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	0.00
5	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	0.00
6	0.00	0.00	0.00	0.00	0.58	0.00	0.09	0.00	0.12	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.11
7	0.00	0.00	0.51	0.03	1.00	0.00	1.00	0.00	0.81	0.54	0.08	0.00	0.00	0.00	0.00	0.00	0.56
8	0.55	0.14	1.00	0.01	1.00	0.00	1.00	0.32	0.95	1.00	0.72	0.00	0.00	0.00	0.00	0.00	1.00
9	0.83	0.86	0.33	0.00	1.00	0.00	1.00	0.01	0.39	0.64	0.99	0.00	0.00	0.00	0.00	0.00	1.00
10	1.00	0.43	0.13	0.00	1.00	0.00	0.92	0.01	0.48	0.65	0.05	0.00	0.00	0.00	0.00	0.00	0.66
11	0.30	0.30	0.95	0.00	0.81	0.00	0.66	0.17	0.46	0.79	0.07	0.00	0.00	0.00	0.00	0.00	0.47
12	0.07	0.16	0.44	0.00	0.57	0.00	0.61	0.31	0.67	0.35	0.66	0.00	0.00	0.00	0.00	0.00	0.29
13	0.07	0.02	0.70	0.00	0.79	0.00	0.97	0.73	0.15	0.96	0.20	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.08	0.87	0.64	0.88	0.00	0.55	0.63	0.31	0.56	0.57	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.14	0.85	0.80	0.64	0.00	0.20	0.00	0.17	0.67	0.99	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.10	0.91	1.00	0.00	0.05	0.60	0.03	0.00	0.47	0.76	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.29	0.46	0.00	0.01	0.34	0.15	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
18	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	0.00
19	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	0.00
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	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	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	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	0.00
Tot	2.83	2.23	6.98	2.93	8.26	0.06	7.93	2.39	4.50	7.09	5.26	0.00	0.00	0.00	0.00	0.00	4.08

Hour	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	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	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	0.00	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
5	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
6	0.10	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	0.05
7	0.22	0.00	0.02	0.99	0.16	0.90	0.00	0.00	0.00	0.00	0.75	0.83	0.00	0.00	0.00	0.27
8	0.95	0.00	0.05	0.84	0.27	1.00	0.31	0.00	0.00	0.00	1.00	1.00	0.00	0.35	0.00	0.43
9	0.09	0.00	0.32	0.74	0.65	1.00	0.28	0.00	0.24	0.00	1.00	1.00	0.00	0.66	0.22	0.43
10	0.32	0.00	0.18	0.84	0.21	0.91	0.21	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.35
11	0.09	0.00	0.29	0.08	0.31	0.15	0.03	0.00	0.00	0.00	0.78	1.00	0.00	0.00	1.00	0.28
12	0.21	0.00	0.81	0.29	0.84	0.28	0.00	0.00	0.38	0.00	0.93	1.00	0.00	0.00	1.00	0.32
13	0.00	0.01	0.87	0.26	0.76	0.01	0.00	0.00	0.52	0.00	0.82	1.00	0.00	0.00	1.00	0.32
14	0.00	0.32	0.63	0.14	0.27	0.00	0.00	0.00	0.22	0.00	0.74	1.00	0.00	0.10	1.00	0.31
15	0.00	0.25	0.08	0.41	0.54	0.00	0.00	0.00	0.83	0.00	1.00	0.86	0.00	0.00	1.00	0.30
16	0.00	0.03	0.11	0.14	0.22	0.00	0.00	0.00	0.00	0.00	0.47	0.28	0.00	0.00	0.00	0.17
17	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	0.05
18	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
19	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
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	1.98	0.62	3.37	4.74	4.23	4.24	0.84	0.00	2.18	0.00	8.48	8.97	0.00	1.11	6.22	101.52

OCTOBER 2014	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	
1	16.69	20.0	1133	13.0	2352	81.1	94.6	452	55.4	1136	13.27	9.36	11.1	457	7.6	1109	1025.21	1028.8	2359	1022.4	454	
2	15.51	20.9	1315	11.0	2357	84.0	97.4	150	58.5	1421	12.61	8.92	10.2	1200	7.8	2357	1027.94	1029.7	825	1025.5	2353	
3	15.40	21.8	1353	10.2	35	84.3	99.6	730	50.8	1354	12.42	8.88	11.6	925	7.4	36	1021.48	1025.6	0	1015.1	2359	
4	11.86	17.2	813	4.0	2320	90.3	97.8	2330	67.1	1510	10.28	7.94	10.8	609	4.8	2301	1014.69	1021.2	2357	1009.5	725	
5	8.43	15.8	1416	1.0	611	80.6	99.5	636	49.0	1402	4.90	5.39	6.8	928	4.0	611	1018.77	1022.1	814	1011.1	2358	
6	10.99	12.8	1633	8.4	8	87.5	98.7	2257	64.6	650	8.91	7.23	9.0	1603	5.3	17	1001.64	1011.2	0	997.4	2358	
7	9.51	15.7	1350	6.4	2324	82.8	99.0	206	44.1	1337	6.40	6.07	7.2	254	4.7	1318	998.01	1003.0	2135	993.4	353	
8	12.03	17.6	1416	6.3	52	86.9	97.9	814	60.5	1439	9.84	7.72	10.0	956	5.6	52	995.80	1002.5	4	992.4	1414	
9	12.96	16.9	1029	10.7	20	80.4	92.6	2254	54.6	1037	9.58	7.52	8.6	1156	6.4	1037	998.87	1005.8	2359	995.0	4	
10	12.38	18.0	1205	6.9	624	84.4	98.2	727	56.1	1210	9.65	7.48	8.8	1302	6.0	623	1009.46	1011.8	904	1005.6	0	
11	11.18	17.2	1255	5.2	2359	87.3	99.3	609	53.7	1526	8.92	7.14	9.4	936	5.4	2359	1011.12	1013.8	2316	1009.8	442	
12	8.97	14.0	1331	3.8	216	94.5	99.6	826	76.6	1340	8.08	6.81	8.5	1133	4.9	216	1009.90	1013.7	216	1002.2	2359	
13	11.64	13.0	1325	10.5	536	95.3	97.1	2239	92.7	1204	10.92	8.21	8.9	1319	7.6	55	998.73	1002.5	1	997.2	1329	
14	11.91	12.8	1547	11.3	839	96.8	98.4	2349	95.8	321	11.43	8.44	8.9	1547	8.1	839	1005.06	1007.7	2137	1000.3	0	
15	12.61	14.8	1340	11.1	123	96.5	99.3	640	86.6	1342	12.07	8.82	9.7	2044	8.1	123	1003.61	1007.5	5	999.2	2245	
16	13.72	17.2	1218	9.8	631	92.8	99.6	702	73.9	1220	12.53	9.11	10.3	2156	7.6	631	1002.16	1004.8	2359	999.3	1	
17	15.50	19.0	1200	11.8	527	89.5	98.9	538	69.9	1314	13.71	9.77	10.7	2359	8.4	527	1008.78	1010.7	1101	1004.4	13	
18	17.51	19.8	1447	15.9	4	83.6	94.6	0	70.8	1456	14.70	10.39	11.1	1057	9.6	1634	1010.15	1013.0	2038	1007.1	353	
19	16.00	19.3	1322	12.7	2343	81.7	95.7	336	58.5	1323	12.77	9.18	11.3	330	7.6	2342	1013.23	1016.7	2320	1010.4	402	
20	13.41	17.4	1219	10.9	656	81.5	92.6	713	59.0	1221	10.23	7.71	8.5	1524	7.0	1339	1015.42	1018.6	901	1009.9	2359	
21	11.63	14.0	557	6.5	2349	67.1	92.8	637	44.2	1315	5.44	5.81	9.0	638	4.0	2226	1010.09	1023.2	2359	1000.9	611	
22	9.99	13.5	1230	5.3	406	73.6	85.3	454	57.2	1322	5.38	5.54	6.7	1851	4.1	33	1024.73	1026.5	832	1022.5	2347	
23	13.82	16.1	1125	11.0	0	80.4	93.8	1842	70.8	1129	10.49	7.89	9.6	1843	6.3	402	1019.28	1022.8	0	1016.1	2346	
24	14.13	16.8	1332	8.5	2354	90.3	96.8	614	82.3	2118	12.56	9.05	10.2	1329	6.5	2354	1014.59	1016.7	2359	1012.2	1616	
25	11.63	15.7	1246	7.3	136	78.1	96.9	338	57.1	1312	7.76	6.51	7.0	541	5.9	1059	1018.71	1021.5	2339	1016.2	245	
26	13.26	15.1	1401	11.4	150	69.6	79.0	2358	55.0	1450	7.79	6.51	7.5	1151	5.7	1453	1021.15	1021.9	955	1020.1	1508	
27	14.41	18.7	1145	9.9	2302	83.3	99.0	2309	63.5	1147	11.50	8.37	9.1	1444	7.3	2	1019.22	1021.5	7	1016.6	2348	
28	14.49	18.8	1315	9.1	656	84.8	99.3	732	56.1	1253	11.74	8.56	10.0	2359	7.0	657	1013.12	1016.7	0	1010.7	1610	
29	12.69	15.3	0	10.5	603	94.9	99.4	2305	81.7	443	11.90	8.66	10.2	235	6.8	504	1016.07	1018.0	2055	1012.6	1	
30	14.83	18.0	1402	11.4	1958	93.5	99.5	53	77.8	1454	13.76	9.72	10.8	907	8.2	1958	1017.85	1018.9	2012	1016.7	558	
31	16.02	22.1	1333	12.4	351	82.5	98.7	516	48.6	1425	12.72	9.10	10.3	1017	7.8	1427	1016.18	1018.3	24	1013.9	2353	
Total																						
Mean	13.07	16.94		9.17		85.2	96.48		64.28		10.46	7.99	9.41		6.56		1012.29	1016.02		1008.57		
Max	17.51	22.09		15.86		96.8	99.60		95.80		14.70	10.39	11.58		9.62		1027.94	1029.74		1025.51		
Min	8.43	12.78		1.00		67.1	79.00		44.11		4.90	5.39	6.67		3.98		995.80	1002.46		992.42		

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
 Time = hours and minutes in GMT of extreme values

Temperature and humidity are from an aspirated Vaisala HMP45 unit
 Pressure is from a Setra CS100 sensor
 Data is logged on a Campbell Scientific CR10X measurement and control system

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

Average: Generally refers to the 30 year climatological average, currently 1981 to 2010. This will be next updated in 2020. 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 1981 to 2010 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/wwp1.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.