

# 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

APRIL 2013

Temperature (°C / °F)			Anomaly	Rank in the past 132 years			
Mean maximum	13.4	56.1	-0.6	64 <sup>th</sup> highest			
Mean minimum	3.5	38.3	-0.9	56 <sup>th</sup> lowest			
Daily mean	8.5	47.3	-0.8	65 <sup>th</sup> highest			
Highest maximum	21.4	70.5	on 25 <sup>th</sup>	Lowest maximum	3.8	38.8	on 4 <sup>th</sup>
Highest minimum	9.6	49.3	on 15 <sup>th</sup>	Lowest minimum	-3.7	25.3	on 7 <sup>th</sup>
Mean grass minimum	-0.7	30.7	-1.4	Lowest grass minimum	-10.7	12.7	on 2 <sup>nd</sup>
Mean earth @30 cm	8.2	46.8	-1.7	Earth @100 cm	7.5	45.5	
Frost duration (hrs)	38.5			Rain duration (hrs)	31.0		
Rainfall total (mm / in)	37.6	1.48	78 %	57 <sup>th</sup> lowest			
Highest daily fall	12.6	0.50	on 10 <sup>th</sup>				
Number of: Dry days (<0.2mm)	20	Wet days (>0.9mm)	7	days ≥5mm	1		
Sunshine total (hrs)	162.3	Daily mean	5.41	101 %	Sunniest day	13.5	on 20 <sup>th</sup>
N° days with: Air frost	9	Ground frost	17	Snow falling	2	Snow lying	0
Thunder	1	Hail ≥5mm	0	Small hail/ice	3	Fog @09	0
Pressure MSL: Mean @09 GMT, mbar	1015.5	+0.5	Highest	1035.0	on 20 <sup>th</sup>	Lowest	991.7
Relative humidity: Mean (%)	69.4	Lowest	23	on 20 <sup>th</sup>	Water vapour (g/kg), mean at 09 and 15 GMT	4.9,	4.6
Overall mean wind speed (mph)	8.6	Windiest day	15.7	on 18 <sup>th</sup>	Max gust	45	on 18 <sup>th</sup>
Wind direction (days)	N 1	NE 8	E 3	SE 2	S 1	SW 11	W 2
Least windy day (mph)	4.6	on 20 <sup>th</sup>	Calm; less than 0.5 mph (minutes)		371		

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

Notes:

### Rather Cool Overall with Rainfall Below Average and Near Normal Sunshine

**Temperature:** March's cold weather continued into the first week of April, further delaying the onset of spring, and it was nearly mid-month before we saw temperatures above normal. Though 0.4° milder than last April, this has been the 2<sup>nd</sup> coldest in the past 13 years. However, in the longer term this month's mean equals the 132 year median, and is 2.7° above the coldest April on record, in 1917. The mean max is also 0.6° above that of last April, but again equals the long-term median. The month's highest max is 0.7° above the median while the lowest max is 3.8° below the median and, on the 4<sup>th</sup>, gave the coldest April day since 1989, and 5<sup>th</sup> lowest in 105 years. The highest min is 0.2° below the median while the lowest min is 1.8° below its median. The mean grass min is lowest since 1990. The mean earth temperature at 30 cm depth is lowest since 1986. A reading of 4.7° at this depth on the 2<sup>nd</sup> is a new April low for the past 34 years. The number of days with air frost is equal highest with 1968 in the past 58 years, however, air frost duration, while 22.4 hours above average, is highest only since 2003. **Rainfall:** After a wet March, April's total, at 22% below average, is rather more typical than the extremes we have had in recent years, with 2000 and 2012 the 2 wettest Aprils on record, and 2011 and 2007 the 3<sup>rd</sup> and 4<sup>th</sup> driest. There was a good deal of dry weather this month, the majority of the rain, 24.1 mm, falling on 4 days from the 10<sup>th</sup>. There were 3 more dry days than average, and a 15 day dry spell ended on the 7<sup>th</sup> and another of 5 days ended on the 23<sup>rd</sup>. Slight snow fell on the 1<sup>st</sup> and 4<sup>th</sup>, but did not lay. There was thunder and hail on the 18<sup>th</sup>, and small hail also on the 26<sup>th</sup> and 27<sup>th</sup>. Rainfall duration was 10.3 hours below average. The highest rainfall rate was 26 mm/hr on the 18<sup>th</sup>. **Sunshine:** Quite a good showing this month. Individual days were outstanding, with over 90% of the maximum on the 2<sup>nd</sup>, 20<sup>th</sup> and 23<sup>rd</sup>, but the period 8<sup>th</sup> to the 13<sup>th</sup> averaged only 6% of the maximum. Overall there were 9 days with =<6 hours, 12 with => 6 hours, 6 with =>9 hours and 4 with =>12 hours. **Wind:** The mean wind speed is 1.6 mph above average and highest for April since 1994. **Commentary: From the 1<sup>st</sup> to the 13<sup>th</sup>:** Temperatures were well below normal until the 6<sup>th</sup>, then near normal. Anomalies for daily max ranged from -8.3° on the 4<sup>th</sup> and +2.3° on the 13<sup>th</sup>, and for daily min, -7.2° on the 2<sup>nd</sup> and +2.7° on the 12<sup>th</sup>. Dry until the 7<sup>th</sup>, then wet. Some sunny days until the 7<sup>th</sup>, then dull. Moderate or fresh winds, temporarily light on the 7<sup>th</sup>, were NE'ly until the 9<sup>th</sup>, becoming SW'ly by the 12<sup>th</sup>. **From the 14<sup>th</sup> to the 30<sup>th</sup>:** There were 2 mild spells in this period, but it became cooler in the last week. Anomalies for daily max ranged from +4.0° on the 17<sup>th</sup> to -0.4° on the 22<sup>nd</sup> and +6.3° on the 25<sup>th</sup> to -3.0° on the 27<sup>th</sup>. For daily min, anomalies ranged between -7.1° on the 28<sup>th</sup> and +6.0° on the 15<sup>th</sup>. Apart from some rain on the 18<sup>th</sup>, 25<sup>th</sup> and 27<sup>th</sup>, this period was dry. Sunshine was generally near or above normal. Fresh SW'ly winds increased strong on the 18<sup>th</sup>, then became mainly moderate, veering E'ly by the 20<sup>th</sup>, back to SW'ly on the 21<sup>st</sup>, veering N'ly on the 27<sup>th</sup>, backing W'ly on the 28<sup>th</sup> and ending up NE'ly on the 30<sup>th</sup>.

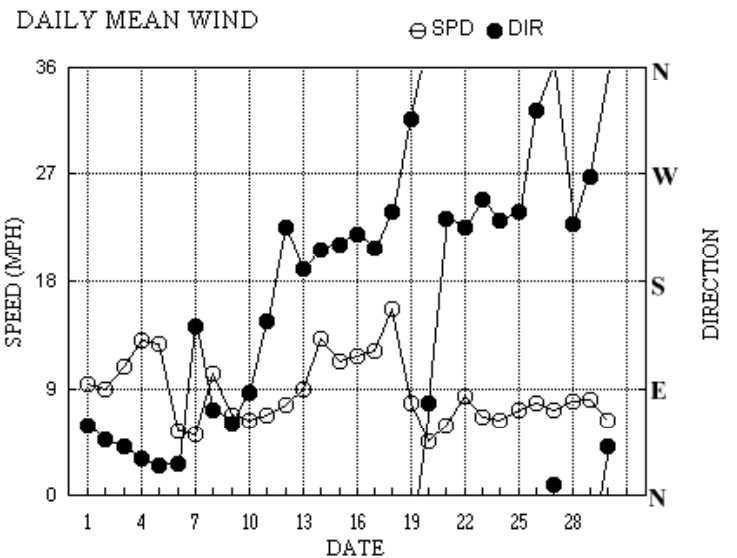
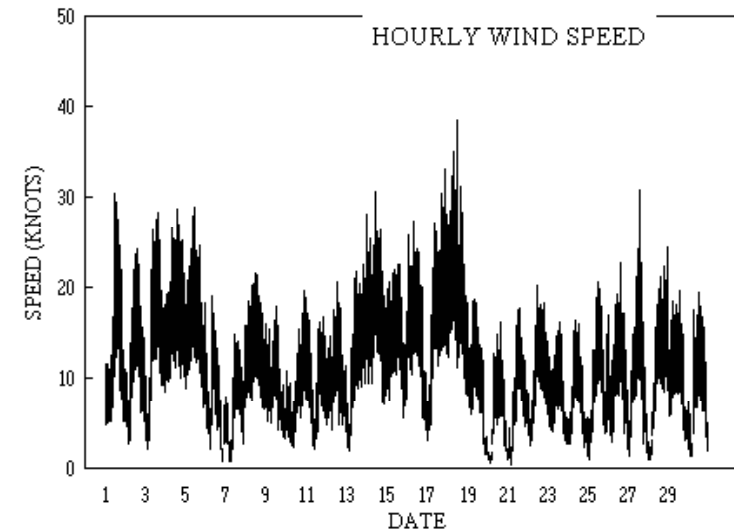
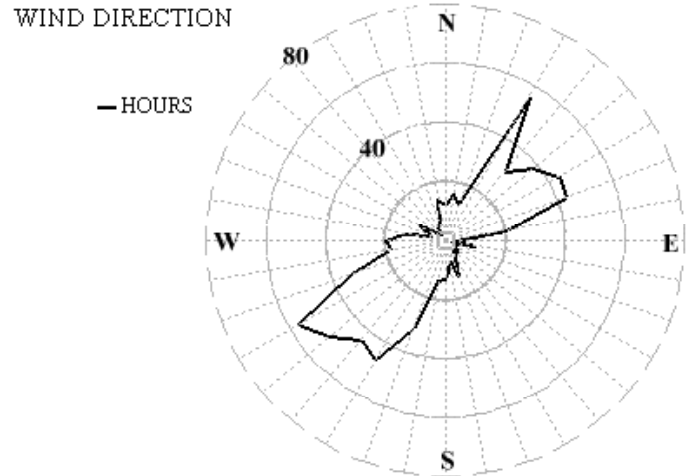
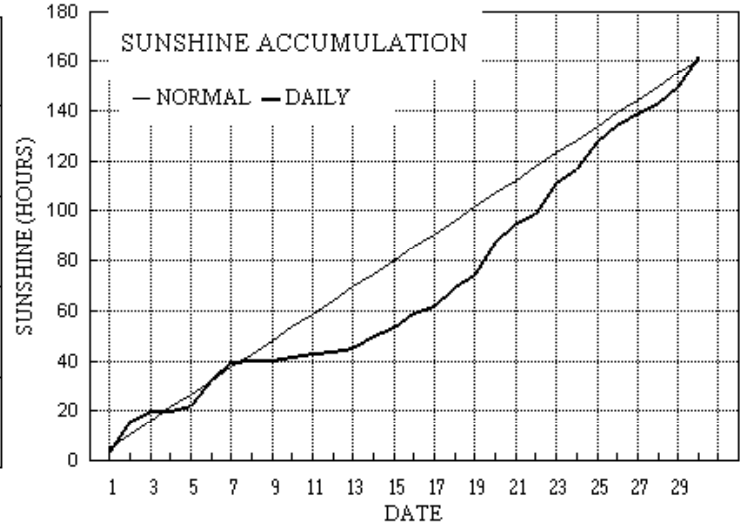
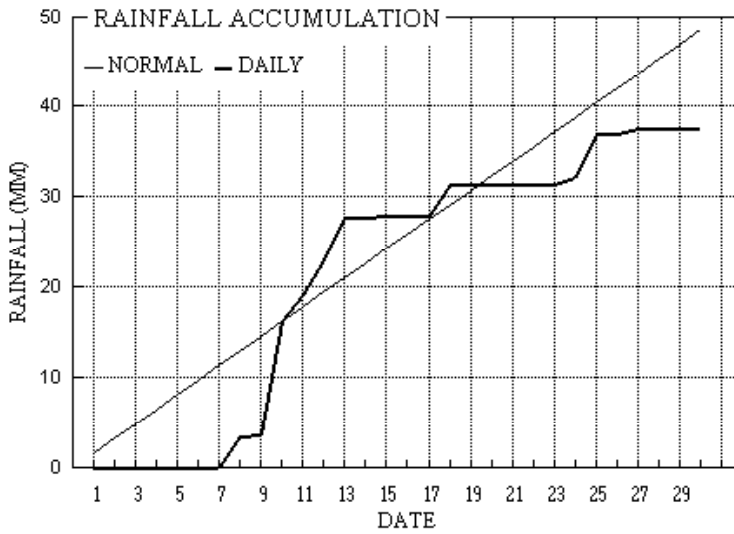
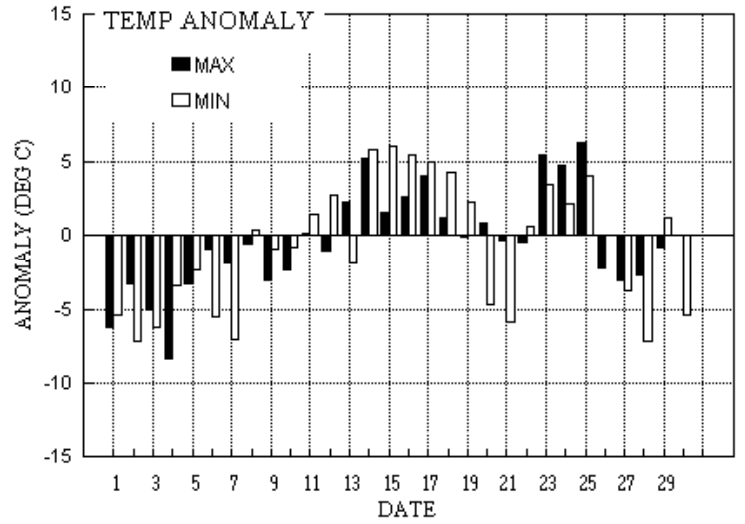
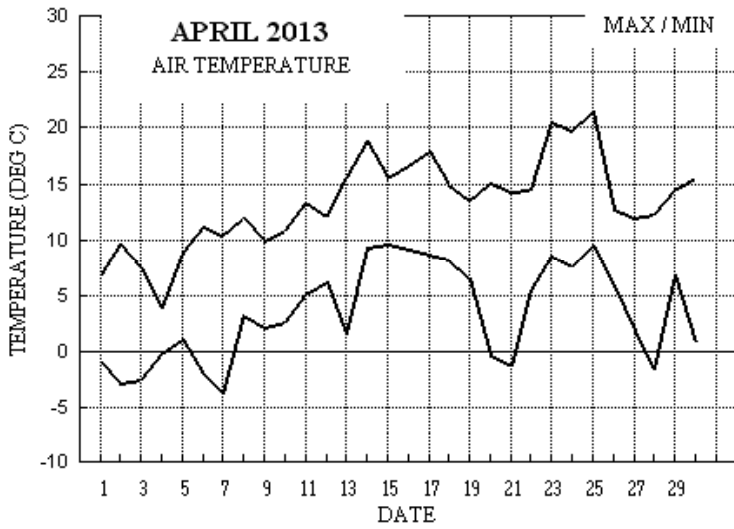
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 <sup>st</sup> to the 10 <sup>th</sup>				From the 11 <sup>th</sup> to the 20 <sup>th</sup>				From the 21 <sup>st</sup> to the 30 <sup>th</sup>			
-3.5°	-3.8°	101%	78%	+1.7°	+2.6°	93%	86%	+0.7°	-1.0°	38%	139%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

# Wokingham climatological graphs for April 2013



Month: APRIL 2013

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 ddd	mean ff	sp	Max gust ddd	gg	HHhh	High hr ddd	ff	HH	Rain hrs				
1	6.9	-1.0	tr	-7.0	5.0	6.1	3.8	3.1	1011.1	1	1	1	0	0	0	0	58	8.0	8.1	66	31	1226	61	13	16	0.0	
2	9.6	-2.9	0.0	-10.7	4.7	6.1	12.3	7.8	1014.7	1	1	0	0	0	0	0	47	7.7	7.7	67	25	1444	55	12	15	0.0	
3	7.5	-2.5	0.0	-10.1	4.8	6.1	4.0	6.7	1018.6	1	1	0	0	0	0	0	41	9.1	9.4	57	29	1643	57	14	16	0.0	
4	3.8	-0.1	tr	-4.1	4.9	6.1	0.0	0.1	1014.7	1	1	1	0	0	0	0	30	11.3	11.3	32	29	1325	27	13	14	0.0	
5	8.8	1.0	0.0	-1.8	4.8	6.1	2.2	0.0	1015.1	0	1	0	0	0	0	0	25	10.9	11.0	27	29	1015	26	14	09	0.0	
6	11.2	-2.1	0.0	-9.6	4.9	6.0	10.3	4.3	1024.5	1	1	0	0	0	0	0	26	4.0	4.7	27	19	0843	40	9	09	0.0	
7	10.4	-3.7	0.0	-10.2	5.1	6.0	7.5	7.2	1022.6	1	1	0	0	0	0	0	142	3.2	4.5	73	16	2352	178	7	13	0.0	
8	12.0	3.3	3.5	-2.7	5.5	6.1	0.3	0.0	1005.6	0	1	0	0	0	0	0	71	8.8	8.9	66	22	1154	64	11	09	4.0	
9	10.0	2.2	0.2	-2.6	6.0	6.1	0.0	0.0	995.2	0	1	0	0	0	0	0	60	5.7	5.9	66	18	1230	67	9	12	0.7	
10	10.9	2.6	12.6	-0.3	6.3	6.2	1.6	0.0	1006.2	0	1	0	0	0	0	0	87	3.0	5.5	65	20	2241	59	10	22	10.8	
11	13.4	5.1	2.7	5.8	7.0	6.3	1.2	0.0	998.5	0	0	0	0	0	0	0	146	1.5	5.9	62	17	0159	211	9	16	1.4	
12	12.1	6.2	4.0	5.2	7.4	6.5	0.9	0.0	992.8	0	0	0	0	0	0	0	226	4.9	6.6	246	21	1309	253	9	13	2.0	
13	15.5	1.6	4.8	-1.8	7.7	6.7	1.1	0.0	1012.4	0	1	0	0	0	0	0	190	7.4	7.7	205	23	2111	207	12	20	6.0	
14	18.8	9.3	tr	10.1	7.9	6.9	4.7	0.0	1012.7	0	0	0	0	0	0	0	206	11.2	11.4	193	31	1027	198	16	10	0.0	
15	15.6	9.6	0.1	7.5	8.7	7.1	3.6	0.0	1017.7	0	0	0	0	0	0	0	211	9.6	9.8	227	23	1510	215	12	14	0.1	
16	16.7	9.2	0.1	6.9	9.1	7.3	6.0	0.0	1014.2	0	0	0	0	0	0	0	220	9.9	10.2	216	28	0948	208	13	03	0.2	
17	17.9	8.7	0.0	6.1	9.5	7.6	2.6	0.0	1015.4	0	0	0	0	0	0	0	208	10.1	10.6	221	33	2111	217	15	18	0.0	
18	14.9	8.3	3.4	5.8	9.8	7.8	7.4	0.0	1012.3	0	0	0	1	0	1	0	238	13.4	13.6	266	39	1249	231	17	07	0.9	
19	13.6	6.5	0.0	3.2	9.6	8.0	4.9	0.0	1025.6	0	0	0	0	0	0	0	316	4.0	6.7	340	19	1051	329	10	09	0.0	
20	15.1	-0.3	0.0	-6.1	9.5	8.2	13.5	0.8	1034.6	1	1	0	0	0	0	0	77	3.5	4.0	20	16	1608	73	7	12	0.0	
21	14.3	-1.3	tr	-7.5	9.6	8.4	7.8	3.9	1023.0	1	1	0	0	0	0	0	233	4.7	5.1	251	18	1628	241	9	16	0.0	
22	14.5	5.5	0.0	-1.6	9.7	8.5	3.0	0.0	1017.1	0	1	0	0	0	0	0	226	7.1	7.2	232	20	1334	231	12	13	0.0	
23	20.6	8.6	0.0	3.7	10.0	8.6	12.9	0.0	1020.3	0	0	0	0	0	0	0	248	5.6	5.7	255	16	1601	264	9	16	0.0	
24	19.8	7.6	0.8	3.1	10.8	8.7	5.6	0.0	1024.5	0	0	0	0	0	0	0	231	5.2	5.5	247	17	0902	242	9	08	1.1	
25	21.4	9.5	4.9	5.3	11.4	8.9	11.2	0.0	1022.4	0	0	0	0	0	0	0	239	5.0	6.2	241	21	1227	239	11	15	3.6	
26	12.8	5.9	tr	5.9	11.9	9.1	6.0	0.0	1016.7	0	0	0	0	0	1	0	324	6.1	6.7	312	23	1559	321	10	13	0.0	
27	12.0	1.8	0.5	-4.3	11.4	9.4	5.2	0.0	1015.2	0	1	0	0	0	1	0	9	5.4	6.2	27	31	1455	23	11	16	0.2	
28	12.3	-1.6	tr	-7.3	11.7	9.6	4.2	4.6	1018.8	1	1	0	0	0	0	0	228	6.7	6.9	226	25	2329	231	12	15	0.0	
29	14.4	6.8	0.0	4.0	10.6	9.6	6.2	0.0	1016.6	0	0	0	0	0	0	0	268	6.6	7.0	254	20	1446	261	10	11	0.0	
30	15.6	0.8	0.0	-5.1	10.5	9.6	12.3	0.0	1025.5	0	1	0	0	0	0	0	41	4.8	5.5	29	20	1355	36	9	13	0.0	
Total			37.6				162.3	38.5																			31.0
Mean	13.4	3.5		-0.7	8.2	7.5	5.41	1.3	1015.5								237	0.8	7.5								
Anom	-0.6	-0.9	78%	-1.4	-1.7	-1.7	101%																				
Daily mean		8.5																									
Anom		-0.8																									
Number of days with:																											
Air frost = 9																											
Ground frost = 17																											
Nil sun = 2																											
Snow falling = 2																											
Snow lying = 0																											
Thunder = 1																											
Hail=>5mm = 0																											
Hail<5mm or ice = 3																											
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, &lt;.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 =&gt;5mm. Ic = Hail &lt;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 april 2013

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	59	8	06	07	17	2.3	-1.9	73	3.3	1011.1	2	005	85	8	2	8	8	5	/ /	82825	83635	88640	1	Cu med Pptn v slit	
2	80	1	05	10	18	5.0	-2.1	60	3.2	1014.7	2	010	03	0	0	1	1	5	0	0	81825			2	Cu fra/hum Hoar slit in shade
3	65	7	05	12	26	2.9	-3.4	63	2.9	1018.6	2	008	03	1	1	7	8	5	/ /	81825	87628		3	Cu hum	
4	60	8	03	12	25	2.7	-2.8	67	3.1	1014.7	0	001	05	2	2	4	8	5	7	/	82825	83645	85360	4	8As65
5	68	7	03	11	28	3.7	-2.7	63	3.1	1015.1	2	014	02	2	2	7	8	5	/ /	81820	83630	86650	5	/Ci75 Absent 5-6 inc vvc&cldest	
6	75	4	03	08	19	5.7	-1.4	60	3.4	1024.5	2	010	03	1	1	4	8	5	0	0	82825	83635		6	
7	60	8	28	02	06	5.6	0.1	68	3.8	1022.6	6	005	05	2	2	0	0	9	0	7	88271			7	COTRA Halo 22° part + U/a cont
8	59	8	07	10	20	6.7	-0.2	62	3.8	1005.6	8	009	05	2	2	1	0	9	3	7	81357	88270		8	COTRA Halo 22° part
9	20	8	05	07	14	5.4	4.6	95	5.4	995.2	7	001	61	6	6	8	5	3	/ /	83706	87708	88625	9		
10	22	7	20	02	06	5.6	3.0	84	4.7	1006.2	1	005	05	2	2	7	6	3	/ /	83706	87708		10	Dirn variable	
11	30	8	07	02	07	6.3	5.5	95	5.7	998.5	1	022	20	5	2	8	6	2	/ /	84705	88708		11		
12	60	7	24	09	18	8.9	7.3	90	6.5	992.8	3	017	80	8	2	7	8	4	/ /	82812	85818	86640	12	Cu fra&med	
13	67	7	19	07	15	9.4	5.7	78	5.7	1012.4	1	012	03	1	1	1	4	5	/	81815	83357	86360	13		
14	84	7	19	13	23	15.2	7.2	59	6.3	1012.7	0	003	15	2	2	6	0	9	8	1	81358	83360	85362	14	2Ci70 6Ci78 COTRA Ac cas Rainbow part jpW
15	61	7	23	11	22	12.2	7.9	75	6.6	1017.7	0	011	01	1	1	4	1	4	0	1	84818	86078		15	COTRA Cu hum
16	68	7	23	11	24	12.4	7.2	70	6.3	1014.2	2	014	03	2	2	3	8	5	3	1	83820	83368		16	1Sc35 2Ci72 COTRA Cu med
17	66	8	21	12	22	12.5	10.3	86	7.7	1015.4	7	011	20	6	5	7	5	4	8	7	85610	87620	88270	17	/Ac62 Ac cas
18	75	5	24	15	35	11.8	3.1	55	4.7	1012.3	2	018	02	1	1	5	8	6	0	0	85835	81645		18	Cu hum
19	86	4	30	10	19	9.7	2.3	60	4.4	1025.6	2	029	01	6	1	4	8	5	0	1	83828			19	2Sc45 1Ci72 Cu hum
20	70	1	07	06	10	9.3	2.4	62	4.4	1034.6	7	005	03	0	0	1	1	5	0	1	81825			20	1Ci78 COTRA Cu hum
21	70	7	26	05	09	8.6	2.1	64	4.4	1023.0	8	019	02	1	1	0	0	9	0	1	82075	87080		21	COTRA
22	61	7	23	06	11	10.8	5.7	71	5.6	1017.1	0	000	03	1	1	1	8	4	3	1	81818	87075		22	1Sc20 2Ac65 COTRA Cu hum
23	64	3	25	05	10	13.3	6.9	65	6.1	1020.3	2	020	02	1	1	3	1	5	0	0	83822			23	Cu hum
24	65	7	24	10	16	11.8	8.9	82	7.0	1024.5	3	011	03	1	1	7	6	3	/ /	83709	87712		24		
25	58	4	19	08	13	15.1	10.7	75	7.9	1022.4	7	005	05	1	1	1	6	4	3	1	81712	83075		25	2Ac68 Ac str vir
26	68	7	34	08	14	9.2	5.3	77	5.5	1016.7	7	004	01	2	2	3	2	4	0	8	83818	83269	86073	26	Cu med CiCs edge NW
27	63	7	36	06	16	6.2	1.1	70	4.1	1015.2	1	012	03	2	2	7	8	5	/ /	83820	87635		27	Cu med	
28	80	6	19	06	10	9.3	1.4	58	4.2	1018.8	8	003	03	1	1	3	0	9	2	6	83465	85270		28	1Cc73 U/a+L/a cont Irisation
29	80	2	29	09	17	9.8	0.5	52	3.9	1016.6	2	019	03	0	0	2	1	6	0	0	82835			29	Cu hum
30	84	1	02	08	18	10.4	1.9	56	4.3	1025.5	1	004	03	0	0	1	1	6	0	2	81832			30	1Ci75 Cu hum

Mean vis = 19.0 km  
 Mean cloud = 5.9 74%  
 Mean wind speed = 8.3 kn  
 Mean gust = 17 kn  
 Mean TT = 8.6 °C  
 Mean TdTd = 3.2 °C  
 Mean RH = 69.8 %  
 Mean r = 4.9 g/kg  
 Mean PPP = 1015.5 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 april 2013

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	Nh	Cl	h	Cr	Cf	NChshs	NChshs	NChshs	Date	Remarks		
1	68	3	06	13	26	6.0	-5.5	44	2.5	1010.8	8	005	01	1	1	3	1	6	0	0	83845	1	Cu hum		
2	83	1	06	11	25	9.3	-7.1	31	2.2	1014.9	2	003	02	0	0	1	1	7	0	0	81856	2	Cu hum		
3	68	5	05	13	24	6.0	-5.1	45	2.6	1016.5	7	012	02	2	2	5	8	6	0	0	82845	84648	3	Cu hum	
4	56	8	03	13	27	2.9	-0.9	76	3.6	1013.7	7	009	71	7	2	8	5	4	/	/	82715	85620	88630	4	Absent 4-6 inc vv&cld est
5	82	7	03	13	24	7.7	-5.8	38	2.5	1015.6	3	001	02	2	2	2	5	7	3	/	82650	87362	5	5	
6	81	1	02	04	14	10.1	-5.1	34	2.6	1023.9	8	010	02	0	0	1	1	7	0	1	81850	6	1Ci78		
7	75	8	19	07	14	9.1	-7.5	30	2.2	1016.6	7	031	02	2	2	2	0	9	1	7	82468	88272	7	COTRA Halo 22° + parhelia	
8	65	8	08	09	18	9.7	-4.0	38	2.9	1002.7	7	012	15	2	2	4	8	6	7	/	81845	84656	85358	8	8As65 Cu hum jp SE&W
9	65	8	09	04	16	8.5	3.9	73	5.1	996.6	2	015	02	6	2	8	8	4	/	/	81715	86630	88650	9	2Cu20 Cu med
10	57	8	14	06	13	9.8	3.3	64	4.8	1004.1	8	014	05	2	2	2	8	5	1	/	81828	88459	10	2Sc35	
11	62	7	20	05	10	12.0	7.0	71	6.3	997.3	8	017	03	8	2	6	8	5	3	1	85822	11	2Sc45 1Ac62 1Ci75 Cu med		
12	60	7	28	05	16	9.2	6.7	84	6.2	999.1	3	036	81	8	2	7	9	4	/	/	82918	82822	86645	12	Sy mod vv30k ex p
13	57	8	18	08	19	10.3	9.1	92	7.2	1009.5	7	020	63	6	6	7	7	3	2	/	83708	87712	88530	13	13
14	83	7	20	15	25	16.1	8.8	62	7.0	1012.1	5	000	03	8	2	6	5	5	3	1	86628	83362	14	/Ci78	
15	68	6	20	12	23	14.8	7.5	61	6.4	1017.7	8	003	02	2	2	6	8	5	0	0	83828	84645	15	Cu med	
16	78	5	22	11	24	15.5	4.2	47	5.1	1015.4	1	003	02	2	2	4	4	6	3	1	82845	83650	16	1Ac68 1Ci75 Cu hum	
17	81	7	20	15	24	17.2	7.7	53	6.5	1011.6	7	023	01	2	2	1	4	6	7	1	81835	87073	17	1Sc45 1Ac62 1Ac68 Cu hum U/a cont	
18	80	3	23	12	24	11.8	6.5	70	6.0	1014.8	0	013	25	9	8	3	9	5	6	3	81925	83830	18	1Ac65 1Ci70 CbS Rainbow vv60k exS	
19	86	5	35	07	16	12.0	-0.4	42	3.6	1028.6	2	014	02	1	1	1	2	7	6	0	81850	85358	19	2Ac57 Cu med	
20	86	1	05	06	12	14.4	-2.5	31	3.1	1030.6	7	022	02	0	0	1	1	7	0	1	81856	20	1Ci80 COTRA Cu hum		
21	81	7	25	08	18	12.6	0.6	44	3.9	1018.0	7	023	03	1	1	1	4	7	7	8	81850	85362	87270	21	1Sc50 1Ac65 COTRA
22	84	8	21	10	18	12.5	5.4	62	5.5	1015.1	7	007	02	2	2	8	8	6	/	/	81832	87635	88645	22	Cu hum
23	68	5	23	06	14	19.6	8.2	48	6.7	1020.2	8	010	02	1	1	1	1	6	0	1	81845	85080	23	COTRA Cu hum	
24	72	7	23	08	13	19.0	11.1	60	8.1	1023.4	7	007	03	1	1	5	0	9	7	1	82361	84367	87075	24	Absent vv&cld est
25	65	3	24	11	20	20.7	8.8	46	7.0	1018.1	7	016	02	0	0	1	1	6	0	9	81848	25	1Ci70 2Cc72 1Ci78 COTRA		
26	80	6	31	08	18	11.2	-0.8	43	3.6	1013.9	7	014	15	8	1	3	9	6	6	0	81945	83850	26	2Ac58 2Ac60 jp all quads. vv80k ex p	
27	70	6	03	15	31	8.2	1.3	62	4.2	1015.7	7	003	27	8	1	5	9	6	6	0	82930	83840	27	1Sc56 2Ac62 jp all quads. vv60k ex p	
28	89	8	24	11	20	11.5	-1.9	39	3.3	1014.9	8	018	02	2	2	1	8	7	7	/	81850	83357	86359	28	1Sc56 8As62 Cu med
29	88	7	27	08	20	13.2	-1.0	37	3.5	1018.2	0	006	02	2	2	7	8	7	/	/	82850	86656	29	Cu med	
30	88	2	05	09	18	14.1	-0.3	37	3.7	1024.3	7	008	02	0	0	2	1	7	0	1	82850	30	1Ci75 Cu hum		

Mean vis = 31.1 km  
 Mean cloud = 5.7 72%  
 Mean wind speed = 9.4 kn  
 Mean gust = 19 kn  
 Mean TT = 11.8 °C  
 Mean TdTd = 1.7 °C  
 Mean RH = 52.1 %  
 Mean r = 4.6 g/kg  
 Mean PPP = 1014.5 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	Hour	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
Sunshine	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
Hourly analysis	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
2013	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	0.04	0.05	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.00	0.00	0.33	0.02	0.25	0.00
	6	0.00	1.00	1.00	0.00	0.00	0.48	1.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28	0.58	0.18
	7	0.00	1.00	0.99	0.00	0.54	0.81	1.00	0.00	0.00	0.00	0.00	0.03	0.38	0.89	0.52	0.74
	8	0.00	1.00	0.09	0.00	0.00	0.79	0.96	0.00	0.00	0.00	0.00	0.23	0.13	0.23	0.17	0.20
	9	0.00	0.93	0.14	0.00	0.00	0.65	1.00	0.00	0.00	0.06	0.00	0.00	0.00	0.99	0.34	0.43
	10	0.00	0.82	0.14	0.00	0.00	0.29	1.00	0.00	0.00	0.96	0.00	0.00	0.00	1.00	0.02	0.24
	11	0.00	1.00	0.08	0.00	0.00	0.67	1.00	0.00	0.00	0.55	0.00	0.08	0.00	0.38	0.01	0.00
	12	0.00	0.98	0.04	0.00	0.01	0.86	0.56	0.00	0.00	0.00	0.00	0.08	0.00	0.70	0.29	0.14
	13	0.04	1.00	0.68	0.00	0.00	0.90	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.90
	14	0.40	1.00	0.23	0.00	0.00	0.98	0.07	0.00	0.00	0.00	0.12	0.17	0.00	0.12	0.47	0.73
	15	0.93	1.00	0.37	0.00	0.02	1.00	0.08	0.00	0.00	0.00	0.11	0.15	0.00	0.02	0.00	0.11
	16	0.97	1.00	0.16	0.00	0.58	1.00	0.30	0.10	0.00	0.00	0.84	0.13	0.00	0.09	0.04	0.87
	17	1.00	1.00	0.03	0.00	0.62	1.00	0.12	0.22	0.00	0.00	0.18	0.00	0.00	0.00	0.11	0.87
	18	0.46	0.55	0.00	0.00	0.41	0.58	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.63	0.62
	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		<b>3.79</b>	<b>12.31</b>	<b>4.01</b>	<b>0.00</b>	<b>2.18</b>	<b>10.32</b>	<b>7.47</b>	<b>0.32</b>	<b>0.00</b>	<b>1.57</b>	<b>1.24</b>	<b>0.89</b>	<b>1.12</b>	<b>4.73</b>	<b>3.64</b>	<b>6.03</b>

Hour	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	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	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.09	0.01
5	0.00	0.47	0.00	0.61	0.88	0.61	0.29	0.50	0.00	0.00	0.00	1.00	0.44	1.00	0.24
6	0.00	1.00	0.09	1.00	1.00	0.68	1.00	0.94	0.59	0.00	0.42	1.00	1.00	1.00	0.48
7	0.00	0.93	0.24	1.00	1.00	0.39	1.00	1.00	1.00	0.00	0.41	1.00	1.00	1.00	0.56
8	0.00	0.80	0.47	1.00	1.00	0.78	0.74	0.40	1.00	0.35	0.11	0.99	0.96	0.99	0.45
9	0.00	0.28	0.62	1.00	1.00	0.50	1.00	0.00	0.65	0.60	0.02	0.05	0.23	0.94	0.38
10	0.00	0.19	0.47	1.00	1.00	0.00	0.90	0.06	0.61	0.44	0.00	0.00	0.21	0.95	0.34
11	0.45	0.08	0.45	1.00	0.99	0.00	0.98	0.03	0.68	0.73	0.02	0.00	0.19	0.79	0.34
12	0.25	0.15	0.09	1.00	0.60	0.05	1.00	0.62	1.00	0.50	0.65	0.00	0.24	0.80	0.35
13	0.09	0.32	0.32	1.00	0.05	0.00	1.00	0.84	0.99	0.39	0.27	0.00	0.33	0.73	0.34
14	0.24	0.47	0.49	1.00	0.02	0.00	1.00	0.17	1.00	0.26	0.54	0.00	0.23	0.80	0.35
15	0.43	0.54	0.45	1.00	0.04	0.00	1.00	0.90	1.00	0.58	0.86	0.00	0.22	0.84	0.39
16	0.98	0.48	0.96	1.00	0.07	0.00	1.00	0.16	1.00	0.98	0.77	0.00	0.06	0.76	0.48
17	0.11	0.91	0.27	1.00	0.00	0.00	1.00	0.00	1.00	0.44	0.19	0.00	0.17	0.67	0.36
18	0.00	0.83	0.00	0.89	0.17	0.00	0.95	0.00	0.65	0.58	0.85	0.00	0.79	0.91	0.33
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.13	0.00	0.14	0.03	0.01
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
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
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
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
Tot	<b>2.55</b>	<b>7.43</b>	<b>4.93</b>	<b>13.49</b>	<b>7.81</b>	<b>3.01</b>	<b>12.87</b>	<b>5.61</b>	<b>11.17</b>	<b>5.97</b>	<b>5.25</b>	<b>4.18</b>	<b>6.19</b>	<b>12.29</b>	<b>162.37</b>

APRIL 2013	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	2.19	7.4	1517	-1.3	2359	65.7	83.4	4	39.7	1529	-3.88	2.87	3.6	901	2.3	1538	1011.33	1012.9	2345	1010.3	1637	0.0
2	3.11	10.1	1356	-2.9	445	57.3	88.7	536	24.9	1519	-5.49	2.54	3.5	832	1.7	1519	1015.15	1018.8	2329	1012.7	4	0.0
3	2.38	7.9	1441	-2.5	301	62.4	90.4	546	39.8	1353	-4.52	2.71	3.6	754	2.3	2116	1017.56	1018.7	848	1016.1	2358	0.0
4	2.04	3.8	1353	-0.0	327	68.9	81.8	433	49.1	1951	-3.17	3.01	3.8	1514	2.3	1950	1014.53	1016.2	6	1013.3	1601	0.0
5	3.92	8.8	1251	1.0	7	58.7	78.8	2357	31.0	1559	-3.82	2.86	3.3	2338	2.0	1641	1016.15	1021.4	2357	1013.0	433	0.0
6	4.04	11.2	1446	-2.1	557	62.2	91.8	601	30.4	1601	-3.37	2.94	3.6	720	2.3	1705	1023.93	1025.7	2257	1021.2	0	0.1
7	4.10	10.4	1153	-3.7	531	59.1	92.3	609	24.0	1358	-4.28	2.77	3.9	837	1.8	1358	1019.04	1025.5	27	1011.0	2358	0.0
8	6.33	12.0	1255	3.3	321	57.8	78.4	2354	33.8	1431	-1.76	3.38	4.2	1056	2.5	1537	1004.51	1011.0	0	999.7	2356	0.0
9	5.93	10.0	1250	2.2	140	83.8	94.9	904	68.4	1332	3.34	4.92	6.3	1050	3.8	57	997.24	1002.0	2359	995.0	830	3.4
10	6.49	10.9	1124	2.6	607	80.5	95.9	2358	58.4	1218	3.20	4.84	5.8	2359	4.1	611	1002.96	1006.6	927	995.4	2356	9.2
11	8.28	13.6	1625	5.4	655	86.1	96.7	422	59.3	1623	5.96	5.88	6.9	1441	5.4	655	996.87	999.0	1031	994.3	154	2.4
12	8.70	12.1	1203	6.8	2343	86.3	94.4	710	73.2	1255	6.53	6.12	7.5	1131	5.0	2343	998.14	1008.8	2358	991.7	648	5.8
13	8.55	11.7	2356	1.6	441	89.0	96.2	600	68.6	1029	6.79	6.25	8.0	2356	4.0	441	1010.76	1012.6	910	1008.6	1	3.9
14	14.05	18.8	1250	10.7	2344	69.6	94.5	4	49.6	1252	8.39	6.84	8.2	40	6.0	2101	1012.72	1014.8	2357	1011.5	1344	0.0
15	12.03	15.6	1425	9.2	2251	74.5	85.0	40	58.9	1430	7.56	6.43	7.2	1339	5.8	2319	1016.59	1018.4	1304	1013.9	210	0.0
16	12.29	16.7	1424	8.9	2358	69.1	90.0	551	43.1	1416	6.46	5.99	7.0	754	4.9	1513	1015.39	1019.2	2220	1012.2	440	0.1
17	13.05	17.9	1439	8.7	49	75.3	95.1	732	51.5	1456	8.51	6.91	8.2	801	5.4	2332	1013.28	1018.7	17	1008.1	1747	0.0
18	10.10	14.9	1227	6.7	1256	62.4	81.8	1320	37.6	1738	3.08	4.75	6.3	1427	3.2	1738	1013.89	1019.8	2344	1009.3	44	2.9
19	9.17	13.6	1605	3.0	2359	64.8	89.4	2358	33.2	1647	2.40	4.48	5.6	744	3.0	1649	1026.77	1033.6	2359	1019.5	0	0.3
20	7.43	15.1	1436	-0.3	453	61.1	96.7	614	22.8	1308	-1.05	3.50	5.5	745	2.1	1308	1032.03	1035.0	611	1028.1	2356	0.0
21	7.38	14.3	1227	-1.3	445	66.3	94.7	549	32.9	1304	0.78	4.02	5.3	2359	3.1	1304	1021.16	1028.2	8	1017.0	2317	0.0
22	10.04	14.5	1237	5.5	441	75.5	91.8	444	47.0	1229	5.64	5.66	7.0	2354	4.5	1209	1016.02	1017.5	756	1014.4	1801	0.0
23	13.71	20.6	1538	8.6	526	69.3	94.8	411	41.2	1551	7.64	6.45	7.6	1515	5.6	1254	1020.01	1023.7	2240	1015.6	203	0.0
24	13.23	19.8	1601	7.6	313	78.7	93.1	535	56.6	1602	9.40	7.27	9.0	1555	5.8	313	1023.87	1025.2	2042	1022.8	357	0.7
25	14.49	21.4	1450	9.5	339	73.5	96.8	352	41.6	1452	9.38	7.27	9.1	1059	6.0	2352	1020.48	1024.7	5	1017.3	1606	0.1
26	8.75	12.8	1306	4.5	2358	64.0	93.7	543	30.0	1652	1.54	4.35	6.2	2	2.6	1703	1015.48	1018.2	209	1013.0	1756	4.5
27	5.73	12.0	1649	1.0	2355	73.5	90.2	2357	47.7	1645	1.19	4.13	5.3	1439	3.6	2347	1015.97	1020.3	2221	1013.0	146	0.5
28	6.55	12.3	1436	-1.6	503	66.6	96.6	521	32.9	1409	0.01	3.82	5.5	2359	2.7	1409	1016.61	1020.1	153	1012.9	2244	0.1
29	9.68	14.4	1517	4.0	2356	57.7	87.8	220	33.6	1356	1.16	4.16	5.7	202	3.2	1304	1017.35	1023.0	2356	1012.5	147	0.0
30	8.77	15.6	1451	0.8	453	62.9	94.1	601	31.6	1552	1.27	4.12	5.0	1928	3.2	1552	1024.84	1027.1	2307	1022.7	57	0.0

Total																						34.0
Mean	8.08	13.33		3.19		69.4	90.99		43.08		2.30	4.71	5.92		3.68		1015.02	1018.89		1011.53		
Max	14.49	21.36		10.65		89.0	96.80		73.20		9.40	7.27	9.10		6.05		1032.03	1034.99		1028.07		
Min	2.04	3.81		-3.73		57.3	78.40		22.80		-5.49	2.54	3.32		1.72		996.87	999.04		991.72		

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

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

## 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 1981 to 2010. 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 instrument used to detect sunshine amount in July 1999, and the data produced by the new instrument is not strictly comparable with that obtained prior to July 1999, 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 of instrument, due to a combination of faster reaction and higher sensitivity than the old type. Thus the average used in this case is for a theoretical equivalent average for the 1981 to 2010 climatological period for this new instrument, based on comparisons with Met Office published tables of departure from the 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 the 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 "half (max+min)". A true daily 24 hour (00 to 24 GMT) mean temperature is available from the AWS, and is currently published on page 7 of the Wokingham Monthly Weather Report on the Wokingham Weather Web Site, page1. <http://www.woksat.info/wwp1.html>

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

- a): The departure of a mean from the current climatological average.
- b): The departure of a value from the a long-term average for a particular day.

When the word anomaly is used in respect to temperature, any values given are in degrees C. In respect to rainfall, percent. In respect of sunshine, percent. In respect to wind, mph. In respect to 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 mild/cold are used in the winter half year, and warm/cool in the summer half.

The term normal is defined as being 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 for sunshine follow the same rules as for temperature.

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

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

The term wet is used for values lying between 10% and 30% below the highest value in the ranked series.

the term very wet is used for values lying within 10% of the highest value in the ranked series.

The term dry is used for values lying between 10% and 30% of the lowest value in the ranked series.

The term very dry is used for values lying 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 the records of various station in the Wokingham area in the years prior to the establishment of a weather station at Emmbrook in 1976.

In the case of monthly max, min and mean temperature and of rainfall total the 'long-term' goes from the present back to 1882. For extremes of temperature, highest max and lowest min are back to 1904, and for 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 values of the entire series. The central value in the ranked series is known as the median. This value may be different from the 'average' if the population of values is skewed. Also, as the median considers all values in the series, and the average refers to a 30 year climatological period, during periods of climatic change, the median will also be expected to differ from the average.

**Month:** Calendar month.

**Season:** Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

The year number given when discussing 'winter' is usually the year in which the majority of the period lies, i.e. January/February

**Annual or Year :** The calendar year, 1<sup>st</sup> January to 31<sup>st</sup> December.

**The climatological day :** runs from 09 to 09 GMT. The max temperature and rainfall read at 0900 are attributed to the previous day, as is the duration of measurable rain calculated up to 0900 GMT. The min temperature and grass min read at 0900 are attributed to the day of reading. Pressure is read at 0900 GMT, and the monthly mean pressure is the mean of the 0900 readings. Sunshine data, wind data, rainfall rates and 24 hour data from the AWS use the normal 00 to 24 GMT day.

**Frost:** An air frost day is recorded when the minimum temperature read at 0900 GMT on that day is  $-0.1^{\circ}\text{C}$  or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is  $-0.1^{\circ}\text{C}$  or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below  $0.0^{\circ}\text{C}$ , 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 % cover of snow at the 0900 GMT observation.

**Hail :** A day of hail is recorded if hailstones of 5 mm diameter or more are observed or recorded on the hail pad on 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. Note, various types of other ice meteors such as ice pellets, snow grains, and some types of snow pellets are included in this category.

**Fog:** A day of 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.

**Rainfall :** Rainfall is given in mm and tenths. "tr" ( trace) is entered when: a) precipitation has occurred but there is no water in the gauge. b) There is water in the gauge but it is less than 0.05 mm.

**Dry Spell :** A dry spell, for the purposes of the Wokingham climatological data and reports, is defined as a period of 5 or more consecutive dry days. A dry day is defined as one where the 24 hour precipitation measured at 09 GMT is not greater than 0.1 mm.

**Wind:** The following abbreviations may be used to denote wind directions :

Degrees are from true north

N = North =  $360^{\circ}$  and  $22.5^{\circ}$  either side.

NE = NorthEast =  $045^{\circ}$  and  $22.5^{\circ}$  either side.

E = East =  $090^{\circ}$  and  $22.5^{\circ}$  either side.

SE = SouthEast =  $135^{\circ}$  and  $22.5^{\circ}$  either side.

S = South =  $180^{\circ}$  and  $22.5^{\circ}$  either side.

SW = SouthWest =  $225^{\circ}$  and  $22.5^{\circ}$  either side.

W = West =  $270^{\circ}$  and  $22.5^{\circ}$  either side.

NW = NorthWest =  $315^{\circ}$  and  $22.5^{\circ}$  either side.

**Wind – terms for speed used in monthly reports:** When the following terms are used in the monthly reports, they will be based on the following unofficial criteria, (the day runs from 00 to 24 GMT) :

Term	Daily mean speed, knots		Highest hourly mean speed, knots		24 hour maximum gust, knots
Very light	3 or less	and	4 or less	and	8 or less
Light	3 to 6	or	4 to 8	or	8 to 16
Moderate	6 to 9	or	8 to 12	or	16 to 24
Fresh	9 to 12	or	12 to 16	or	24 to 32
Strong	12 to 15	or	16 to 20	or	32 to 40
Very strong	15 to 18	or	20 to 24	or	40 to 48
Near gale	18 to 21	or	24 to 28	or	48 to 56
Gale	21 to 24	or	28 to 32	or	56 to 64
Severe gale	24 to 27	or	32 to 36	or	64 to 72

B.J.Burton. 3 August 2009  
 Updated 8 Sept 2009,  
 4 Nov 2011

## 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.