

# 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

## MARCH 2014

Temperature (°C / °F)			Anomaly	Rank in the past 133 years			
Mean maximum	13.6	56.5	+2.4	7th highest			
Mean minimum	2.6	36.7	-0.6	48th highest			
Daily mean	8.1	46.6	+0.9	15th highest			
Highest maximum	20.4	68.7	on 30 <sup>th</sup>	Lowest maximum	8.7	47.7	on 3 <sup>rd</sup>
Highest minimum	7.9	46.2	on 31 <sup>st</sup>	Lowest minimum	-2.6	27.3	on 24 <sup>th</sup>
Mean grass minimum	-1.1	30.0	-1.0	Lowest grass minimum	-7.5	18.5	on 24 <sup>th</sup>
Mean earth @30 cm	7.7	45.9	+0.6	Earth @100 cm	8.0	46.4	
Frost duration (hrs)	31.2			Rain duration (hrs)	25.5		
Rainfall total (mm / in)	28.8	1.13	63 %	44 <sup>th</sup> lowest			
Highest daily fall	8.8	0.35	on 2 <sup>nd</sup>				
Number of: Dry days (<0.2mm)	21	Wet days (>0.9mm)	8	days ≥5mm	2		
Sunshine total (hrs) 154.0	Daily mean 4.97	138 %		Sunniest day 11.5		on 16 <sup>th</sup>	
N <sup>o</sup> days with: Air frost 7	Ground frost 19	Snow falling 0	Snow lying 0				
Thunder 2	Hail ≥5mm 0	Small hail/ice 3	Fog @09 2	Nil sun 0			
Pressure MSL : Mean @09 GMT, mbar 1016.5	+0.6	Highest 1034.8	on 11 <sup>th</sup>	Lowest 981.7	on 2 <sup>nd</sup>		
Relative humidity : Mean (%) 76.9	Lowest 23	on 29 <sup>th</sup>	Water vapour (g/kg), mean at 09 and 15 GMT 5.4,	4.8			
Overall mean wind speed (mph) 6.7	Windiest day 13.0	on 20 <sup>th</sup>	Max gust 38	on 20 <sup>th</sup>			
Wind direction (days) N 1 NE 3 E 4 SE 2 S 5 SW 10 W 5 NW 1							
Least windy day (mph) 2.3	on 13 <sup>th</sup>	Calm; less than 0.5 mph (minutes) 654					

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

Notes:

**Mild, Especially by Day. Drier than Normal. Sunny.**

**Temperature:** This has been a predominantly mild March including a number of warm days, but also a scattering of cool nights, resulting in a mean diurnal temperature range 2.9° above average, 3<sup>rd</sup> highest after 2012 and 2003 in the past 39 years. This is illustrated by the difference in ranking between the mean maximum and mean minimum, 7<sup>th</sup> and 48<sup>th</sup> highest in the past 133 years respectively. The mean maximum is equal 2<sup>nd</sup> highest after 2012 in the past 39 years. The highest max is 3.7° above the median and the lowest max is 4.2° above its median and 8<sup>th</sup> highest in 102 years. The highest min is 0.9° below the median and the lowest min is 1.5° above its median. Daily max were above normal on all but 8 days, but were only significantly below on the 25<sup>th</sup> and 26<sup>th</sup>, anomaly near -3°. Notably warm periods were from the 7<sup>th</sup> to the 9<sup>th</sup>, 12<sup>th</sup> to 16<sup>th</sup> and 29<sup>th</sup> to 31<sup>st</sup>, with extreme anomalies over +8° on the 9<sup>th</sup> and 30<sup>th</sup>. Notably cold nights, with anomalies of -4° or more, were the 5<sup>th</sup>, 12<sup>th</sup>, 24<sup>th</sup> and 26<sup>th</sup>, the anomaly on these last two being near -6°. The lowest grass minimum, -7.5° on the 24<sup>th</sup>, is 2° above normal and highest since 1997. However, the number of ground frosts is 3 more than average, and the number of air frosts equals the average. Mean earth temperatures at 30 cm and 1 metre depth are around 0.5° above average. **Rainfall:** After the exceptionally wet winter we have just experienced, March has provided a much needed respite. Although the 2<sup>nd</sup> was a wet day, and the wettest in the month, it became dry after the 3<sup>rd</sup> and a 14 day dry spell ended on the 17<sup>th</sup>. Some rain fell from the 20<sup>th</sup> to the 25<sup>th</sup>, though the 22<sup>nd</sup> was dry, and it was mainly dry again thereafter. The month's total is 37 % below average, and in the past 10 years only 2013 and 2008 have had above average rainfall in March. The 8.8 mm on the wettest day is slightly below the median. The highest rainfall rate was 23 mm/hr on the 21<sup>st</sup>. Thunder occurred on the 23<sup>rd</sup> and 27<sup>th</sup>, and small hail fell on the 21<sup>st</sup> and 26<sup>th</sup>, and there were showers of snow pellets on the 23<sup>rd</sup>.

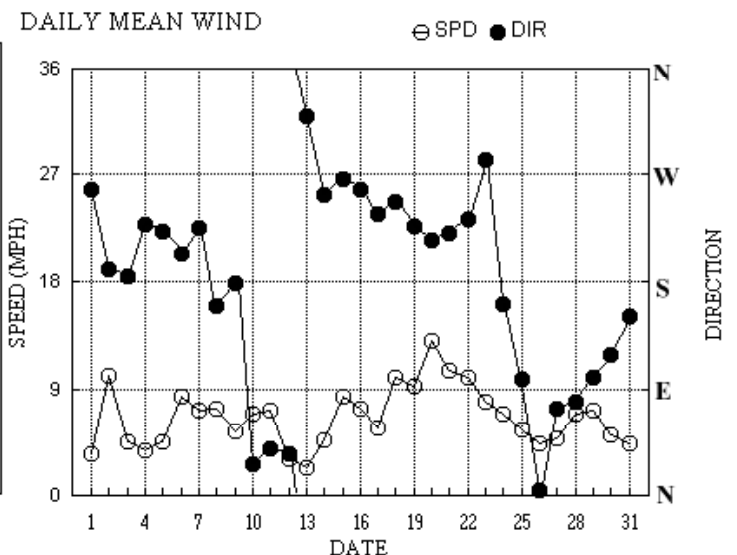
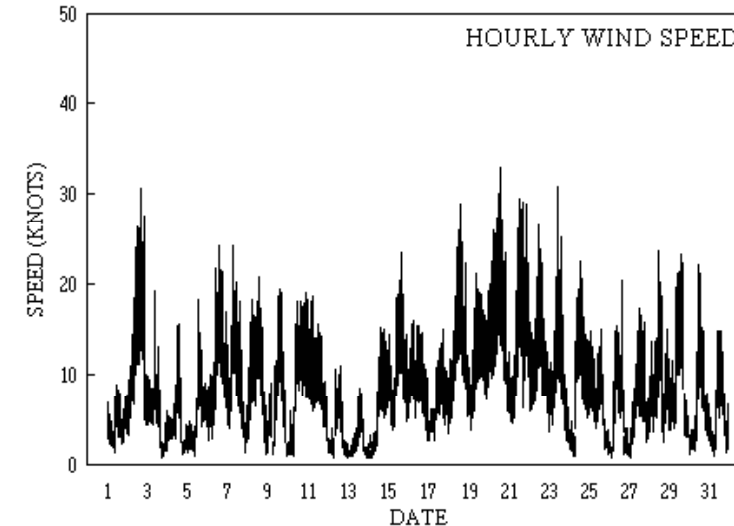
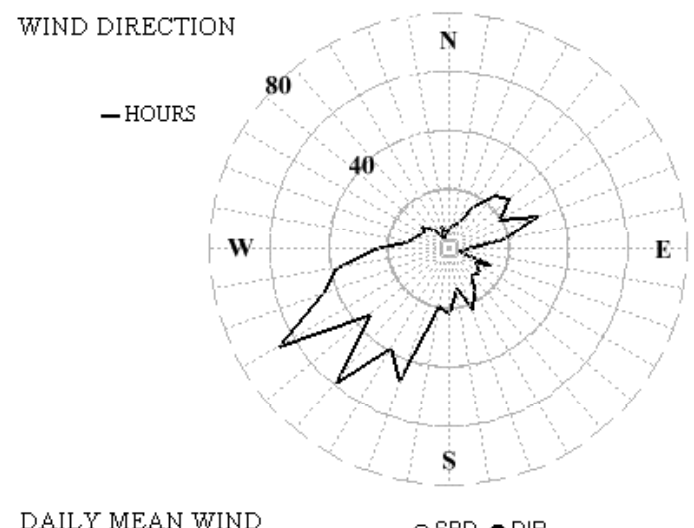
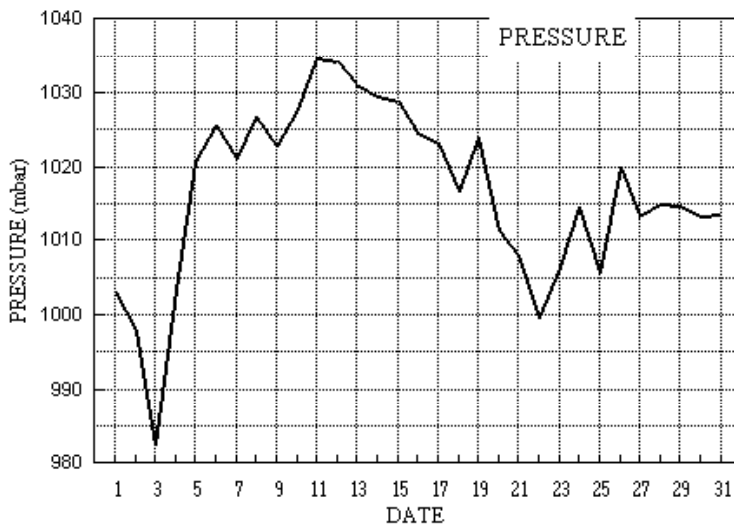
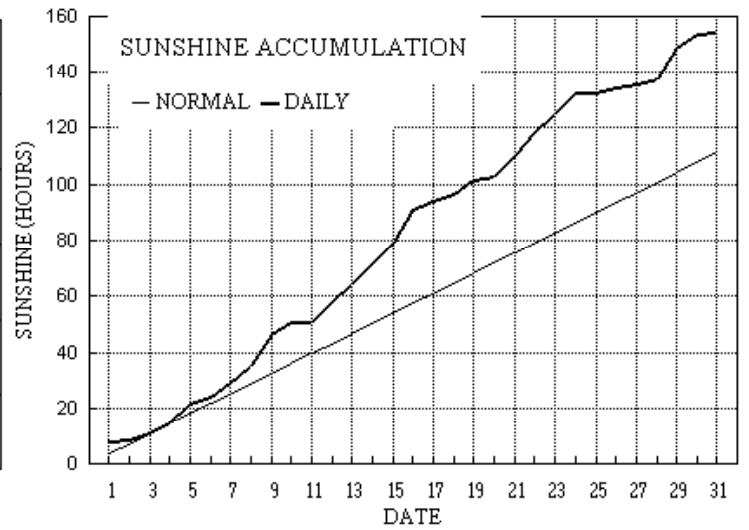
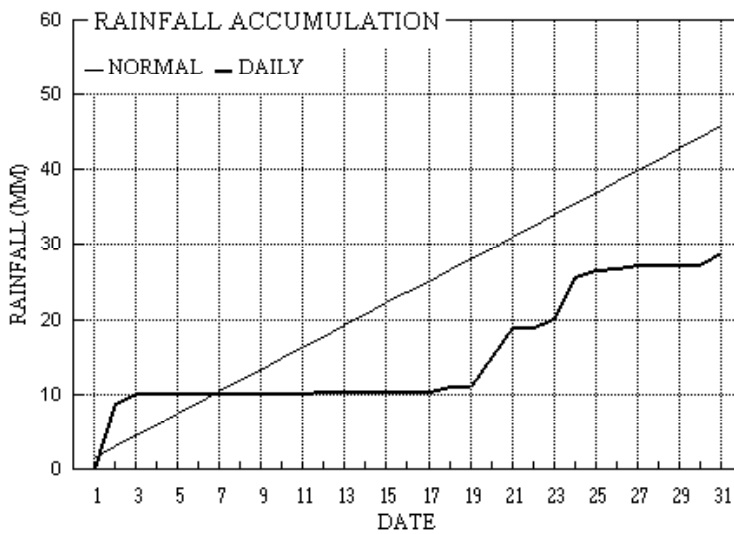
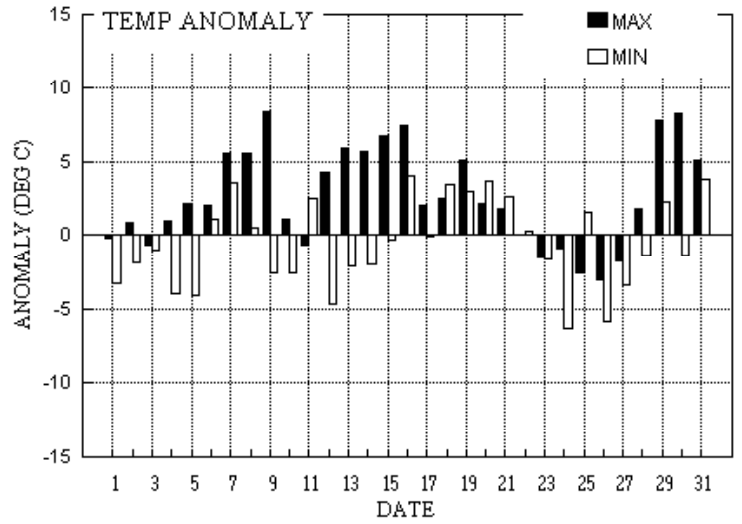
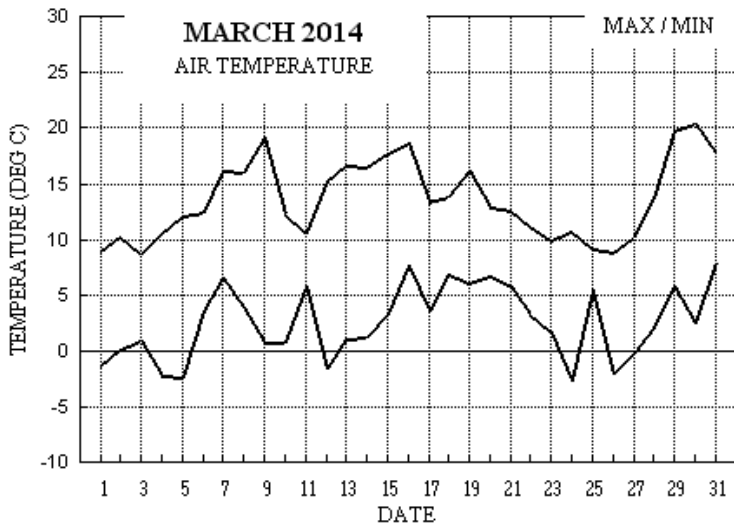
**Sunshine:** This has been quite a sunny March, though not as sunny as 2012, 2009, 2007 and 2003 in recent years. This is the first March since 1995 to have zero days with nil sun, the average being 5. Sunshine accumulation was close to normal up to the 6<sup>th</sup>, then above normal to the 16<sup>th</sup>, and from the 21<sup>st</sup> to 24<sup>th</sup>. The 25<sup>th</sup> to 31<sup>st</sup> was generally rather dull, apart from one sunny day on the 29<sup>th</sup>. Overall there were 11 days with <3 hours, 14 with =>6 hours and 3 with =>9 hours. **Wind:** After the strong winds in February, things calmed down markedly, and the mean speed for this March is 0.9 mph below average, also the highest gust of 38 mph is 7 mph below the normal.

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 31 <sup>st</sup>				
+2.6°	-1.4°	68%	142%	+4.1°	+0.7°	34%	145%	+1.4°	-0.9°	82%	131%

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

# Wokingham climatological graphs for March 2014



Month: MARCH 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	9.0	-1.2	tr	-5.8	6.8	7.6	8.3	2.2	1003.0	1 1 0 0	0 0 0 0	0 0 0 0	257	2.1 3.1	335 9 1234	208 5	21 0.0	
2	10.2	0.2	8.8	-4.5	6.2	7.6	0.5	0.0	997.9	0 1 0 0	0 0 0 0	0 0 0 0	190	8.6 8.7	194 31 1622	185 14	16 5.4	
3	8.7	0.9	1.5	-4.3	6.5	7.5	2.7	0.0	982.4	0 1 0 0	0 0 0 0	0 0 0 0	185	2.8 3.9	189 19 0939	162 7	09 0.8	
4	10.6	-2.2	0.0	-7.1	6.1	7.5	3.3	6.3	1003.2	1 1 0 0	0 0 0 0	0 0 0 0	228	3.0 3.3	263 16 1300	250 7	12 0.0	
5	12.2	-2.4	0.0	-6.7	5.9	7.4	6.8	7.8	1020.5	1 1 0 0	0 0 0 0	0 0 0 0	222	3.7 4.0	239 18 1344	238 8	13 0.0	
6	12.4	3.5	0.0	-1.6	6.0	7.3	2.7	0.0	1025.6	0 1 0 0	0 0 0 0	0 0 0 0	203	7.1 7.3	210 24 1437	213 13	14 0.0	
7	16.1	6.6	tr	2.3	6.6	7.3	4.9	0.0	1021.0	0 0 0 0	0 0 0 0	0 0 0 0	225	4.7 6.3	213 24 0652	214 12	06 0.0	
8	16.0	3.9	0.0	-2.0	7.0	7.3	6.4	0.0	1026.6	0 1 0 0	0 0 0 0	0 0 0 0	160	5.4 6.3	178 21 1325	200 11	13 0.0	
9	19.2	0.7	0.0	-4.1	7.2	7.4	10.7	0.0	1022.8	0 1 0 0	0 0 0 0	0 0 0 0	179	4.3 4.8	175 20 1445	192 9	14 0.0	
10	12.3	0.8	tr	-2.2	7.2	7.5	4.4	0.0	1027.6	0 1 0 0	0 0 0 0	0 0 0 0	27	5.2 5.9	37 19 2103	29 10	20 0.0	
11	10.6	5.7	0.0	5.3	7.3	7.6	0.1	0.0	1034.6	0 0 0 0	0 0 0 0	0 0 0 0	39	6.2 6.3	53 19 0544	31 8	01 0.0	
12	15.2	-1.5	0.1	-5.5	7.1	7.6	7.3	4.6	1034.2	1 1 0 0	0 0 0 0	0 0 0 0	35	2.1 2.6	37 11 1450	49 5	12 0.0	
13	16.6	1.0	0.1	-2.7	7.1	7.7	6.6	0.0	1031.2	0 1 0 0	0 0 0 1	0 0 0 1	319	1.3 2.0	321 9 1457	325 5	16 0.0	
14	16.5	1.3	0.0	-2.1	7.5	7.7	7.0	0.0	1029.6	0 1 0 0	0 0 0 1	0 0 0 1	253	4.0 4.1	271 15 1537	261 9	15 0.0	
15	17.7	3.2	0.0	4.6	7.9	7.8	7.8	0.0	1028.9	0 0 0 0	0 0 0 0	0 0 0 0	267	7.0 7.2	268 24 1624	274 11	16 0.0	
16	18.6	7.6	0.0	2.4	8.3	7.8	11.5	0.0	1024.6	0 0 0 0	0 0 0 0	0 0 0 0	258	6.2 6.4	263 16 0725	262 9	05 0.0	
17	13.4	3.5	tr	-1.4	8.6	8.0	2.9	0.0	1023.3	0 1 0 0	0 0 0 0	0 0 0 0	237	4.7 4.9	241 15 1716	237 8	17 0.0	
18	13.9	6.8	0.6	4.0	8.7	8.1	3.0	0.0	1016.7	0 0 0 0	0 0 0 0	0 0 0 0	247	8.5 8.6	259 29 1405	260 15	14 0.4	
19	16.1	6.1	0.0	2.4	8.8	8.2	4.6	0.0	1024.0	0 0 0 0	0 0 0 0	0 0 0 0	227	7.8 8.0	244 21 1043	241 11	10 0.0	
20	12.9	6.7	4.0	3.5	8.9	8.3	1.1	0.0	1011.2	0 0 0 0	0 0 0 0	0 0 0 0	215	11.2 11.3	206 33 1403	215 16	14 3.2	
21	12.6	5.7	3.8	3.1	9.1	8.4	7.3	0.0	1007.9	0 0 0 0	0 0 1 0	0 0 1 0	221	8.7 9.1	210 30 1359	221 14	14 1.8	
22	11.2	3.3	tr	0.1	9.0	8.5	8.5	0.0	999.4	0 0 0 0	0 0 0 0	0 0 0 0	233	8.6 8.6	233 27 1231	238 12	12 0.0	
23	10.0	1.7	1.2	-3.1	8.6	8.6	6.5	0.0	1006.3	0 1 0 0	1 0 1 0	1 0 1 0	283	5.8 6.9	298 31 1144	304 12	11 0.4	
24	10.8	-2.6	5.5	-7.5	8.0	8.6	7.6	5.7	1014.6	1 1 0 0	0 0 0 0	0 0 0 0	161	5.5 6.0	179 23 1404	166 10	14 8.3	
25	9.1	5.5	1.1	4.9	8.0	8.6	0.1	0.0	1005.7	0 0 0 0	0 0 0 0	0 0 0 0	98	3.8 4.8	66 15 1455	64 7	14 3.2	
26	8.8	-2.1	0.1	-6.8	7.8	8.5	1.6	4.5	1019.9	1 1 0 0	0 0 1 0	0 0 1 0	5	3.0 3.8	27 21 1534	9 9	09 0.1	
27	10.2	-0.1	0.4	-3.5	7.6	8.5	1.2	0.1	1013.3	1 1 0 0	1 0 0 0	1 0 0 0	73	3.7 4.2	78 17 1304	68 8	12 1.1	
28	13.7	2.0	tr	-1.9	7.7	8.4	2.1	0.0	1014.9	0 1 0 0	0 0 0 0	0 0 0 0	79	5.1 5.9	105 24 1219	119 11	13 0.0	
29	19.8	5.7	0.0	0.7	8.0	8.4	11.2	0.0	1014.8	0 0 0 0	0 0 0 0	0 0 0 0	99	5.6 6.2	104 23 1400	131 11	15 0.0	
30	20.4	2.5	0.0	-1.0	8.6	8.4	4.8	0.0	1013.4	0 1 0 0	0 0 0 0	0 0 0 0	119	3.7 4.4	168 22 1248	159 10	12 0.0	
31	17.8	7.9	1.6	5.4	9.3	8.4	0.5	0.0	1013.5	0 0 0 0	0 0 0 0	0 0 0 0	150	3.2 3.8	154 15 1500	165 8	12 0.8	
Total			28.8				154.0	31.2						213	2.4 5.8			25.5
Mean	13.6	2.6		-1.1	7.7	8.0	4.97	1.0	1016.5									
Anom	+2.4	-0.6	63%	-1.0	+0.6	+0.5	138%		+0.6									
Daily mean	8.1								Pressure, abs highest =	1034.8	on 11							
Anom	+0.9								Pressure, abs lowest =	981.7	on 2							

Number of days with:

Air frost = 7      Ground frost = 19      Nil sun = 0  
Snow falling = 0      Snow lying = 0      Thunder = 2  
Hail=>5mm = 0      Hail<5mm or ice = 3      Fog at 09GMT = 2

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 MARCH 2014

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	hshs	NChshs	Date	Remarks	
1	70	1	20	01	05	2.5	1.7	94	4.3	1003.0	7	003	02	0	0	1	0	9	3	0				81365	1	Hoar in shade slt	
2	81	7	19	09	19	8.3	5.5	82	5.7	997.9	8	017	02	8	2	7	8	4	/	1	82815	85625			2	2Sc40 /Ci72 COTRA Cu hum	
3	70	6	14	08	14	5.8	3.8	87	5.1	982.4	7	001	15	1	1	2	9	4	6	3	81915	81820	85070		3	1Sc30 1Ac62 CbSW jpSW-W	
4	65	7	23	02	05	3.5	3.0	96	4.7	1003.2	2	021	03	1	1	7	5	6	/	/	81640	87645			4		
5	59	5	26	01	02	5.1	4.2	94	5.1	1020.5	2	030	02	1	1	3	0	9	3	1	83364	84075			5	Hoar in shade slt	
6	60	7	21	07	12	7.5	5.4	86	5.5	1025.6	3	009	05	1	1	7	6	4	/	1	87710				6	/Ci75	
7	60	8	22	10	19	9.7	8.0	89	6.6	1021.0	3	015	50	5	2	8	5	3	/	/	87708	88615			7		
8	58	8	16	07	15	9.4	7.4	88	6.3	1026.6	6	003	05	2	2	8	6	3	/	7	85708	87712	88278		8		
9	50	0	20	03	05	10.5	8.0	84	6.6	1022.8	1	010	05	0	0	0	0	9	0	0						9	
10	58	6	36	04	07	10.4	7.2	80	6.2	1027.6	1	019	05	1	1	0	0	9	0	1	81075	86080			10	COTRA	
11	64	8	04	06	14	6.6	4.1	84	5.0	1034.6	2	008	02	5	2	8	6	4	/	/	88710				11		
12	57	8	05	04	07	4.5	3.8	95	4.9	1034.2	1	009	10	1	1	8	6	2	/	/	88705				12		
13	01	9	27	02	04	4.0	4.0	100	5.1	1031.2	2	011	45	4	4	9	/	/	/	/					13	vv110m	
14	01	9	23	02	04	3.2	3.2	100	4.8	1029.6	0	004	43	4	4	9	/	/	/	/					14	vv120m Sun disc visible	
15	75	7	30	08	10	10.2	5.1	70	5.4	1028.9	2	017	02	2	2	7	0	9	7	1	82357	83360	86665		15	/Ci75 Absent 15&16 vv&cldest	
16	82	1	27	05	12	12.4	5.3	62	5.5	1024.6	3	003	02	0	0	1	0	9	3	0	81365				16		
17	70	7	26	04	06	9.4	7.4	87	6.3	1023.3	0	004	03	1	1	7	5	6	/	/	87630				17		
18	84	6	25	09	18	9.7	5.2	73	5.4	1016.7	7	001	01	2	2	5	8	4	0	1	85818				18	1Sc25 2Ci75 COTRA Cu fra/hum	
19	72	7	24	07	18	8.3	4.7	78	5.2	1024.0	3	007	02	2	2	0	0	9	0	2	83072	87075			19	COTRA	
20	57	8	21	11	26	10.0	6.7	80	6.1	1011.2	7	025	05	2	2	8	5	4	/	/	86615	88620			20		
21	80	1	25	07	14	9.3	4.0	70	5.1	1007.9	1	019	01	1	1	1	1	5	0	0	81820				21	Cu fra/hum	
22	86	3	23	08	16	6.9	1.7	69	4.3	999.4	1	007	03	0	0	1	1	5	6	3	81820	83068			22	1Ac64 Cu hum. Cb tops SW-SE&N	
23	82	3	29	09	16	7.3	2.1	69	4.4	1006.3	1	019	25	8	1	2	8	5	7	1	81820				23	2Sc30 2Ac65 1Ci68 Cu hum	
24	60	2	16	07	14	6.3	1.5	71	4.2	1014.6	8	006	05	0	0	0	0	9	0	4	82080				24	COTRA	
25	58	8	11	05	09	6.8	6.0	95	5.8	1005.7	3	006	61	6	6	8	7	2	/	/	82705	87708	88712		25		
26	61	7	36	09	15	5.7	2.3	79	4.4	1019.9	1	008	03	2	2	2	8	4	3	1	82815	86072			26	1Sc30 2Ac62 COTRA Cu med Parhelion	
27	58	7	06	06	11	5.3	3.4	87	4.8	1013.3	1	005	05	2	2	7	8	3	/	/	83708	85812			27	1Sc50 /Ci75 COTRA Cu hum	
28	13	7	06	06	14	6.6	5.7	94	5.7	1014.9	3	008	28	6	4	5	6	2	3	1	85703	83365			28	1Sc40 /Ci75	
29	50	7	07	06	11	13.4	5.9	60	5.8	1014.8	0	000	05	2	2	0	0	9	0	1	87078				29	COTRA	
30	56	8	05	01	04	12.7	7.2	69	6.3	1013.4	2	006	05	2	2	1	0	9	3	7	81365	88270			30	Halo 22° part	
31	65	8	13	04	09	13.4	7.5	67	6.4	1013.5	2	008	02	2	2	4	0	9	7	7	82362	83465	88270		31		

Mean vis = 16.8 km

Mean cloud = 5.9 74%

Mean wind speed = 5.7 kn

Mean gust = 11 kn

Mean TT = 7.9 °C

Mean Td = 4.9 °C

Mean RH = 81.9 %

Mean r = 5.4 g/kg

Mean PPP = 1016.5 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

Td = 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 MARCH 2014

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChs	NChs	Date	Remarks
1	84	2	33	02	07	8.7	-1.0	51	3.6	1001.6	7	008	02	0	0	2	2	6	6	0	82840					1	1Ac57 Cu med
2	59	8	19	12	25	8.1	5.9	86	5.9	990.6	7	056	60	6	2	8	5	4	/	/	87610	88618				2	
3	65	7	19	03	10	7.2	2.7	73	4.7	985.8	3	020	80	8	2	2	9	4	7	3	81915	81820	83465		3	1Sc40 1Ac62 5Ci70 jpSW vv60k ex p	
4	84	7	22	06	11	10.2	2.7	60	4.6	1003.6	1	004	03	2	2	3	8	6	0	6	81830	83650	87272		4	Cu med Halo 22° part	
5	80	6	23	05	11	11.9	2.9	54	4.6	1022.4	2	009	03	1	1	1	1	6	3	6	81840	86275			5	2Ac63 Cu hum Halo 22°	
6	68	7	21	11	24	11.2	4.9	65	5.3	1023.6	6	012	02	2	2	6	5	5	3	1	86625	87075			6	2Ac65	
7	86	3	27	08	18	16.2	7.4	56	6.3	1024.2	1	016	01	8	1	2	1	6	0	1	82835				7	2Ci78 Cu hum	
8	62	6	19	07	19	15.6	1.4	38	4.1	1022.9	7	022	02	2	2	0	0	9	0	1	86080				8	COTRA	
9	68	0	19	10	20	18.8	2.3	33	4.4	1021.0	6	014	02	0	0	0	0	9	0	0						9	
10	70	6	02	10	16	11.1	5.9	70	5.7	1029.1	3	002	01	2	2	6	5	5	/	/	86622				10	/Ci75	
11	57	8	04	07	15	10.1	6.0	76	5.7	1033.2	6	008	05	2	2	8	5	4	/	/	85616	88620			11		
12	56	6	04	05	11	14.8	6.5	57	5.9	1030.7	6	025	05	2	2	0	0	9	0	1	86080				12	COTRA U/a cont+parhelion	
13	50	6	34	05	09	15.4	7.0	57	6.1	1028.8	6	019	05	2	2	0	0	9	0	1	86080				13	COTRA	
14	56	4	26	09	12	16.3	4.4	45	5.1	1025.8	6	023	05	1	1	0	0	9	0	1	84075				14	Absent 14 to 16 vv&clcd est	
15	82	4	27	10	19	16.1	4.3	46	5.1	1026.0	7	013	02	1	1	3	0	9	8	1	81362	83365			15	/Ci75	
16	84	1	25	07	15	18.3	4.5	40	5.2	1022.8	6	017	02	0	0	1	0	9	3	0	81365				16		
17	80	7	25	07	13	12.4	5.3	62	5.5	1020.7	6	018	03	1	1	1	5	6	7	1	81630	83364	86368		17	/Ci75	
18	80	7	26	16	29	13.6	5.0	56	5.4	1014.5	5	005	03	6	2	7	8	6	/	/	83832	85645			18	Cu med	
19	75	7	24	11	19	15.3	5.4	51	5.5	1021.8	8	014	01	2	2	0	0	9	0	1	81075	87078			19	COTRA	
20	80	7	22	11	33	12.3	5.7	64	5.7	1005.2	7	024	02	2	2	3	8	5	3	1	83825	85368	87075		20	1Sc35 Cu hum	
21	82	5	21	16	27	11.9	-0.9	41	3.6	1006.4	7	014	15	1	1	4	8	6	6	0	83845				21	2Sc56 1Ac58 Cu ned. jpNW vv70k ex p	
22	82	3	23	09	21	10.7	-1.1	44	3.6	998.3	6	008	15	1	1	2	9	6	6	3	81945	82848			22	1Ac57 1Ci70 jpW vv70k ex p	
23	60	5	31	09	21	9.1	-0.1	52	3.8	1009.3	3	005	16	1	1	5	9	6	0	3	82930	83835			23	1Ci70 jpNW-N vv70k ex p	
24	86	7	16	10	23	10.1	-1.2	45	3.5	1010.4	6	020	03	1	1	2	1	6	0	6	82844	83272	86078		24	COTRA Cu hum Halo 22° part, parhelion, U/a cont	
25	75	8	07	08	15	8.3	5.3	81	5.5	1008.1	2	016	25	8	6	8	5	4	/	/	82818	87630			25	/Sc50	
26	80	7	07	01	12	7.7	1.1	63	4.1	1016.4	7	021	27	8	2	2	2	5	6	8	82825	87272			26	1Ac57 2Ac68 Cu con jp NE&S	
27	60	8	11	06	17	9.1	-0.1	53	3.8	1011.2	5	010	29	9	8	2	9	6	2	/	82935	88465			27	1Cu40 jpSW tISW 1502	
28	65	8	12	10	19	11.7	-0.6	42	3.6	1014.2	7	006	15	8	2	3	8	6	2	/	83845	88462			28	1Sc56 Cu med. jp all quads	
29	84	6	11	10	23	18.8	-1.5	25	3.4	1011.7	6	015	02	2	2	0	0	9	0	1	86078				29	COTRA	
30	82	8	15	09	19	18.4	1.0	31	4.1	1012.1	7	006	03	2	2	3	0	9	1	7	83467	88270			30	U/a cont Parhelia	
31	68	7	16	09	15	17.2	6.0	48	5.8	1011.4	6	017	03	2	2	5	8	6	7	1	81840	85656	86363		31	/Ci75 Cu hum	

Mean vis = 27.4 km

Mean cloud = 5.8 73%

Mean wind speed = 8.5 kn

Mean gust = 18 kn

Mean TT = 12.8 °C

Mean Td = 3.1 °C

Mean RH = 53.7 %

Mean r = 4.8 g/kg

Mean PPP = 1015.0 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

Td = 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-Mar	02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar	16-Mar
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	0.00	0.00	0.00	0.00	0.00	0.11	0.03	0.00	0.12	0.00	0.00	0.00	0.40
7	0.78	0.21	0.80	0.97	0.96	0.95	0.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
8	1.00	0.02	0.93	0.46	1.00	0.40	0.00	0.00	1.00	1.00	0.00	0.30	0.00	0.00	0.00	0.00	1.00
9	1.00	0.22	0.11	0.09	0.90	0.09	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.05	0.84	1.00	
10	1.00	0.05	0.00	0.96	0.13	0.00	0.02	0.03	1.00	0.20	0.00	0.00	0.08	1.00	1.00	1.00	
11	0.97	0.00	0.05	0.55	0.00	0.01	0.59	0.80	1.00	0.00	0.00	0.40	1.00	1.00	1.00	1.00	
12	0.72	0.00	0.05	0.23	0.04	0.27	0.91	0.87	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	
13	0.22	0.00	0.40	0.01	0.95	0.43	0.61	1.00	1.00	0.00	0.00	1.00	1.00	0.74	1.00	1.00	
14	0.47	0.00	0.00	0.00	0.98	0.45	0.63	1.00	1.00	0.00	0.00	1.00	1.00	0.96	0.75	1.00	
15	0.58	0.00	0.00	0.00	0.94	0.13	0.93	1.00	1.00	0.90	0.00	1.00	1.00	1.00	0.59	1.00	
16	1.00	0.00	0.00	0.00	0.94	0.00	0.90	1.00	1.00	0.29	0.00	1.00	1.00	1.00	1.00	1.00	
17	0.54	0.00	0.38	0.05	0.00	0.00	0.25	0.75	0.64	0.00	0.00	0.50	0.53	0.28	0.64	1.00	
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	0.06
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
<b>Tot</b>	<b>8.28</b>	<b>0.50</b>	<b>2.72</b>	<b>3.31</b>	<b>6.84</b>	<b>2.73</b>	<b>4.85</b>	<b>6.45</b>	<b>10.74</b>	<b>4.42</b>	<b>0.00</b>	<b>7.32</b>	<b>6.61</b>	<b>7.03</b>	<b>7.82</b>	<b>11.47</b>	

Hour	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	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	0.39	0.00	0.00	0.00	0.00	0.58	0.45	0.66	0.00	0.00	0.00	0.00	0.45	0.16	0.00	0.11
7	0.89	0.39	0.00	0.00	0.69	1.00	0.30	1.00	0.00	0.55	0.02	0.00	0.99	0.88	0.00	0.50
8	0.00	0.55	0.00	0.00	1.00	1.00	0.77	1.00	0.00	0.63	0.10	0.00	1.00	0.02	0.00	0.42
9	0.01	0.16	0.00	0.00	0.89	0.80	0.58	1.00	0.00	0.05	0.01	0.00	1.00	0.43	0.06	0.36
10	0.02	0.40	0.00	0.00	0.72	0.35	0.16	1.00	0.00	0.00	0.22	0.11	1.00	1.00	0.03	0.37
11	0.10	0.09	0.00	0.30	0.52	0.90	0.09	0.84	0.00	0.18	0.28	0.26	1.00	0.99	0.00	0.45
12	0.29	0.01	0.40	0.43	0.92	0.91	0.00	0.57	0.00	0.03	0.12	0.26	1.00	0.99	0.15	0.49
13	0.34	0.43	0.67	0.30	0.76	0.71	0.87	0.74	0.00	0.00	0.21	0.41	1.00	0.29	0.09	0.52
14	0.59	0.45	0.50	0.08	0.76	0.78	0.90	0.50	0.00	0.05	0.25	0.25	1.00	0.00	0.01	0.50
15	0.00	0.18	1.00	0.02	0.26	0.71	0.37	0.32	0.00	0.13	0.00	0.00	1.00	0.08	0.00	0.46
16	0.16	0.17	1.00	0.00	0.18	0.66	0.98	0.00	0.03	0.00	0.00	0.00	1.00	0.00	0.03	0.46
17	0.07	0.15	1.00	0.00	0.58	0.00	1.00	0.00	0.00	0.00	0.00	0.79	0.73	0.00	0.16	0.32
18	0.00	0.00	0.03	0.00	0.04	0.10	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
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
<b>Tot</b>	<b>2.86</b>	<b>2.99</b>	<b>4.59</b>	<b>1.11</b>	<b>7.34</b>	<b>8.48</b>	<b>6.49</b>	<b>7.63</b>	<b>0.03</b>	<b>1.62</b>	<b>1.21</b>	<b>2.09</b>	<b>11.17</b>	<b>4.83</b>	<b>0.54</b>	<b>154.05</b>

MARCH 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	3.85	9.1	1502	-1.1	703	80.0	96.8	750	48.2	1600	0.41	3.96	4.8	948	3.3	1600	1002.69	1004.4	16	1001.1	1611
2	6.56	10.3	1040	0.3	213	86.4	94.8	235	67.9	1057	4.40	5.33	6.2	2024	3.6	213	993.10	1001.7	13	981.7	2019
3	4.11	8.9	1322	-0.0	2352	89.5	97.3	2241	72.1	1334	2.48	4.67	5.6	1312	3.7	2351	986.27	997.1	2359	982.1	141
4	3.64	10.7	1241	-2.0	653	85.0	98.4	724	55.5	1522	1.05	4.16	5.6	1044	3.2	653	1003.98	1012.2	2356	997.1	4
5	5.37	12.3	1452	-2.1	559	79.1	97.7	630	50.7	1427	1.62	4.28	5.2	919	3.1	600	1020.48	1025.1	2250	1012.1	2
6	8.01	12.6	1302	3.5	151	81.0	95.7	350	59.8	1302	4.80	5.28	6.0	1002	4.5	152	1024.09	1025.8	929	1021.7	2347
7	10.02	16.3	1501	4.9	2208	78.1	91.3	2224	50.8	1538	6.20	5.85	7.3	1206	4.6	2358	1023.19	1028.5	2216	1019.2	614
8	9.26	16.1	1448	2.7	2356	73.6	95.3	505	35.0	1451	4.09	5.07	6.7	901	3.7	1601	1024.69	1028.8	50	1021.3	2359
9	9.46	19.3	1327	0.9	631	68.4	96.2	723	31.0	1549	2.76	4.61	6.7	858	3.8	504	1022.12	1023.6	2248	1020.8	257
10	6.77	12.4	955	1.0	623	81.9	96.4	659	64.0	1551	3.77	4.95	6.6	955	3.8	608	1028.48	1033.3	2240	1023.1	18
11	7.21	10.7	1603	3.5	2359	82.3	91.0	2353	74.8	1605	4.37	5.09	6.0	1549	4.3	2359	1033.54	1034.8	927	1032.5	1703
12	5.79	15.3	1600	-1.1	614	86.0	97.1	617	54.9	1602	3.36	4.82	6.6	1303	3.3	613	1032.28	1034.3	838	1029.7	1705
13	6.84	16.8	1429	1.1	115	87.6	98.5	1059	43.7	1429	4.64	5.25	8.0	1246	3.8	115	1030.17	1031.3	1013	1028.5	1622
14	7.63	16.5	1507	1.3	205	81.0	98.4	1021	37.8	1643	4.01	5.03	7.4	1134	3.9	205	1027.87	1030.8	111	1024.6	1713
15	11.25	17.7	1411	6.8	43	65.5	84.9	54	31.1	1412	4.47	5.16	5.9	2006	3.7	1350	1026.92	1029.2	921	1025.4	1635
16	12.16	18.7	1425	7.2	2357	65.4	92.1	2355	33.3	1356	5.12	5.42	6.3	2037	4.1	1052	1023.97	1026.1	7	1021.9	1609
17	8.66	13.6	1349	3.5	536	79.5	97.3	722	58.1	1415	5.11	5.42	6.4	905	4.6	536	1021.72	1024.1	6	1019.0	2358
18	9.76	14.0	1448	6.7	124	74.4	87.9	1258	53.2	1510	5.29	5.50	6.9	1258	5.0	1510	1017.38	1022.3	2359	1013.8	1356
19	9.51	16.2	1529	6.1	625	74.9	90.0	2338	46.2	1534	5.00	5.37	6.3	1716	4.9	1317	1022.27	1024.2	918	1018.5	2359
20	9.84	13.0	1322	7.4	0	80.3	92.2	2049	57.8	1323	6.49	6.03	7.0	2046	5.3	1252	1009.39	1018.6	0	1004.1	1700
21	8.33	12.8	1354	5.6	711	70.8	90.9	134	38.5	1358	2.95	4.75	5.9	6	3.4	1409	1005.29	1008.2	1111	998.8	2358
22	6.37	11.3	1506	3.0	2358	71.6	89.2	105	37.7	1526	1.24	4.22	5.4	1	3.0	1530	999.53	1002.9	2358	997.8	232
23	5.23	10.1	1138	1.6	506	71.4	89.4	113	47.3	1722	0.24	3.89	4.7	809	3.3	1916	1008.26	1015.0	2303	1002.7	0
24	5.03	10.9	1315	-2.5	606	71.3	96.6	705	38.6	1511	-0.36	3.73	5.1	2327	2.9	1524	1012.18	1015.5	702	1007.9	2344
25	5.95	9.2	1409	0.5	2310	89.8	95.7	2355	75.1	1616	4.38	5.24	6.4	1252	3.7	2310	1008.78	1017.0	2353	1005.0	523
26	3.56	8.9	1536	-1.9	504	84.3	97.8	520	47.3	1527	0.93	4.05	5.2	816	3.2	509	1017.55	1020.0	923	1014.4	2359
27	4.84	10.3	1206	0.0	252	81.2	96.6	343	46.5	1438	1.59	4.27	5.6	1035	3.4	1445	1012.73	1014.4	0	1011.0	1443
28	7.33	13.8	1342	2.1	220	77.0	95.8	811	36.6	1416	3.12	4.77	6.4	1031	3.4	1416	1014.49	1015.7	951	1013.2	18
29	12.13	20.0	1313	5.8	619	59.9	93.0	645	23.0	1508	3.09	4.79	6.5	923	3.0	1508	1013.56	1015.3	24	1011.3	1424
30	12.18	20.5	1237	2.7	525	60.7	95.8	715	28.4	1300	3.44	4.89	7.1	931	3.9	1453	1012.65	1013.6	915	1011.3	1643
31	12.95	17.9	1419	7.9	613	66.5	93.4	2359	43.7	1420	6.55	6.03	7.3	2358	5.3	48	1012.28	1013.6	908	1010.8	1620
Total																					
Mean	7.73	13.74		2.43		76.9	94.31		48.01		3.44	4.90	6.23		3.84		1015.87	1019.60		1012.34	
Max	12.95	20.54		7.93		89.8	98.50		75.10		6.55	6.03	8.00		5.32		1033.54	1034.81		1032.55	
Min	3.56	8.86		-2.51		59.9	84.90		22.99		-0.36	3.73	4.70		2.88		986.27	997.11		981.72	

Wokingham Automatic Weather Station

AWS samples taken every 0.5 seconds

x and n refer to maximum and minimum respectively

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

Readings taken at Wokingham Climatological Station, Emmbrook, Berkshire

Lat 51.425 N, Long 0.853 W, NGR (SU) 798701

Altitude 45 m ASL.

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.