

# WOKINGHAM

# METEOROLOGICAL

# DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

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

## Monthly Means and Totals

## OCTOBER 2011

Temperature (°C / °F)			Anomaly	Rank in the past 130 years				
Mean maximum	17.7	63.9	+2.5	3 <sup>rd</sup> highest				
Mean minimum	8.6	47.5	+1.4	6 <sup>th</sup> highest				
Daily mean	13.1	55.6	+1.9	7 <sup>th</sup> highest				
Highest maximum	28.0	82.4	on 1 <sup>st</sup>	Lowest maximum	11.9	53.4	on 20 <sup>th</sup>	
Highest minimum	15.6	60.1	on 10 <sup>th</sup>	Lowest minimum	-0.6	30.9	on 20 <sup>th</sup>	
Mean grass minimum	5.2	41.4	+1.1	Lowest grass minimum	-6.0	21.2	on 20 <sup>th</sup>	
Mean earth @30 cm	14.2	57.6	+1.1	Earth @100 cm	15.5	59.9		
Frost duration (hrs)	0.9			Rain duration (hrs)	26.2			
Rainfall total (mm / in)	30.9	1.22	43 %	22 <sup>nd</sup> lowest				
Highest daily fall	6.1	0.24	on 25 <sup>th</sup>					
Number of: Dry days (<0.2mm)	19	Wet days (>0.9mm)	8	days ≥5mm	2			
Sunshine total (hrs)	154.2	Daily mean	4.97	138 %	Sunniest day	11.0	on 1 <sup>st</sup>	
N <sup>o</sup> days with: Air frost	2	Ground frost	8	Snow falling	0	Snow lying	0	
Thunder	0	Hail ≥5mm	0	Small hail/ice	1	Fog @09	1	
Pressure MSL : Mean @09 GMT, mbar	1017.9	+3.6	Highest	1032.1	on 14 <sup>th</sup>	Lowest	991.1	on 24 <sup>th</sup>
Relative humidity : Mean (%)	80.2	Lowest	34	on 2 <sup>nd</sup>	Water vapour (g/kg), mean at 09 and 15 GMT			7.9, 7.3
Overall mean wind speed (mph)	6.8	Windiest day	14.0	on 10 <sup>th</sup>	Max gust	46	on 6 <sup>th</sup>	
Wind direction (days)	N 0	NE 2	E 2	SE 3	S 5	SW 12	W 7	NW 0
Least windy day (mph)	2.5	on 1 <sup>st</sup>	Calm; less than 0.5 mph (minutes)				1122	

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

Notes:

**Very Mild,**

**Very Sunny,**

**Dry.**

**Temperature:** The heatwave of late September spilled over into the first 3 days of this month producing near record temperatures for the time of year. The mean maximum is highest since 1995 and 3<sup>rd</sup> highest since before 1882, the record being held by 1921. The mean minimum is highest only since 2006, and 2001 and 2005 also had a higher mean min in recent years. The resulting mean temperature is highest since 2006, which holds the record at 1.0° higher than this month's. The highest max is 2<sup>nd</sup> highest in 108 years, 0.6° below the record in 1921, and 7.8° above the October median. The lowest max is 2.6° above the median. The highest min is 2.5° above its median and is 5<sup>th</sup> highest in 99 years. The lowest min is a more normal 0.4° above the median. The 19.6° range of temperature on the 1<sup>st</sup> is highest for the month since before 1976. Earth temperatures at both 30 cm and 1 m depth are well above normal. The first air frost of the season was on the 15<sup>th</sup> after a frost free period of 163 days. **Rainfall:** This has been a dry October with less than half the average rainfall in what is normally the wettest month of the year. It is driest since 1995, though there were more dry days in 5 of those years. However, this is the first October since 1996 to have no daily fall exceeding 10 mm, and the highest daily fall of 6.1 mm is lowest for the month since 1978. The duration of measurable rain is also lowest since 1995 and is about half the average. The highest rainfall rate was 56 mm/hr at 0143 GMT on the 25<sup>th</sup>. An 8 day dry spell ended on the 3<sup>rd</sup> and another of 8 days ended on the 16<sup>th</sup>. **Sunshine:** This is the sunniest October since 2003 and is also one of the 7 sunniest in the past 104 years. The period 13<sup>th</sup> to the 24<sup>th</sup> was especially sunny and saw the accumulation rise from near average to a surplus of over 45 hours. Overall there were 11 days with <3 hours, 14 with =>6 hours and 6 with =>9 hours. **Commentary: From the 1<sup>st</sup> to the 13<sup>th</sup>:** Hot for the first 3 days, with large diurnal temperature swings giving anomalies for daily max of +10.7° on the 1<sup>st</sup> and 2<sup>nd</sup>, and -0.5° for the min on those days. For the rest of the period it was near or above normal, with anomalies for daily max of -1.4° on the 6<sup>th</sup> and +4.2° on the 9<sup>th</sup>. Although mainly dry, 3.5 mm fell on the 5<sup>th</sup> and small amounts on some other days. Sunny for the first 3 days and on the 6<sup>th</sup> and 13<sup>th</sup>, otherwise dull. Light S'ly winds on the 1<sup>st</sup> veered strong W'ly by the 6<sup>th</sup>, became moderate for the 7<sup>th</sup> and 8<sup>th</sup> before increasing strong again by the 10<sup>th</sup>, falling light on the 12<sup>th</sup> and veering NE'ly on the 13<sup>th</sup>. **From the 14<sup>th</sup> to the 22<sup>nd</sup>:** Temperatures were generally near normal by day, but there were several frosty nights, with anomalies of -7.5° for the min on the 15<sup>th</sup> and -7.0° on the 20<sup>th</sup>. 7.2 mm of rain fell, split evenly between the 17<sup>th</sup> and 19<sup>th</sup> with the other days dry. Generally sunny, unbroken on the 14<sup>th</sup> and 15<sup>th</sup>, and the poorest showing on the 17<sup>th</sup> with 29% of the maximum. Light E'ly winds on the 14<sup>th</sup> veered SW'ly by the 16<sup>th</sup>, became fresh for the 17<sup>th</sup> and 18<sup>th</sup>, backing moderate S'ly by the 22<sup>nd</sup>. **From the 23<sup>rd</sup> to the 31<sup>st</sup>:** Temperatures were near or above normal by day and night, with extreme anomalies of -1.1° for the min on the 26<sup>th</sup> and +8.0° for the min on the 31<sup>st</sup>. This period was the wettest, with 18.8 mm in total, the majority falling on the 24<sup>th</sup> and 25<sup>th</sup>, with the 28<sup>th</sup> and 29<sup>th</sup> the only dry days. Sunshine was variable, sunny on the 28<sup>th</sup>, but dull on the 27<sup>th</sup>, 30<sup>th</sup> and 31<sup>st</sup>. Light or moderate winds were mainly S'ly, temporarily backing NE'ly on the 28<sup>th</sup>.

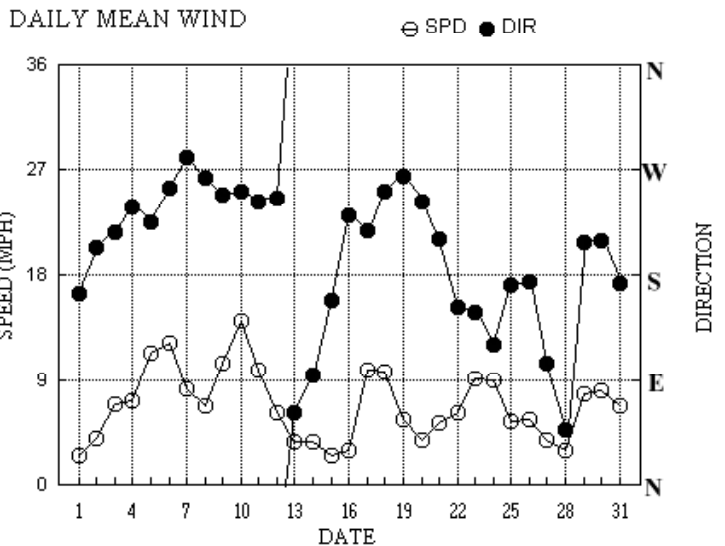
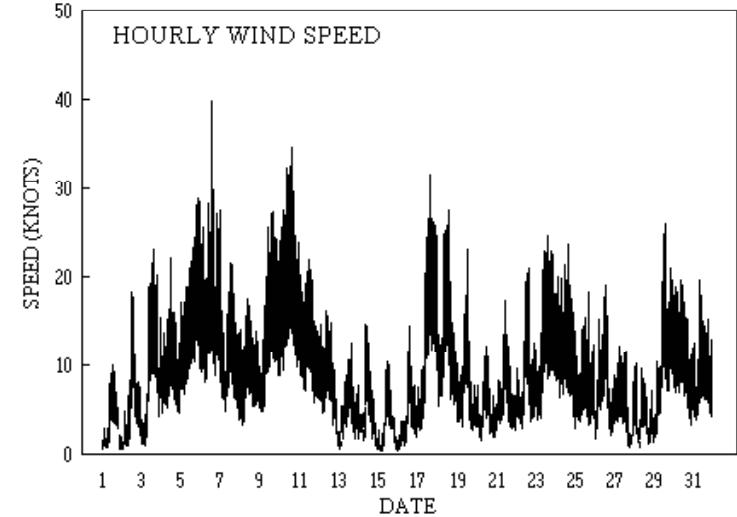
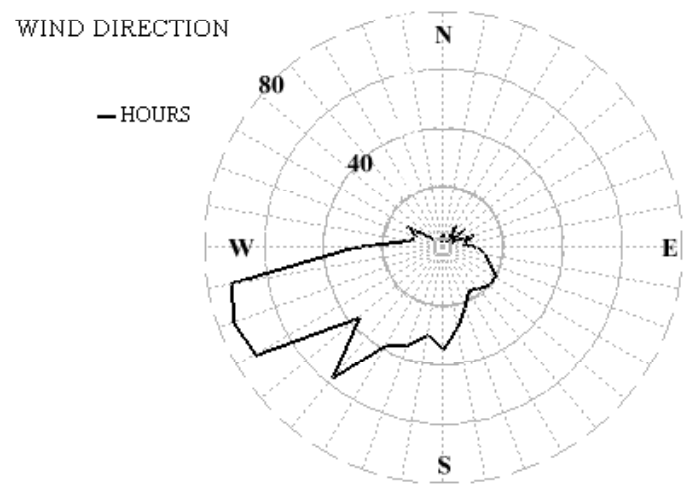
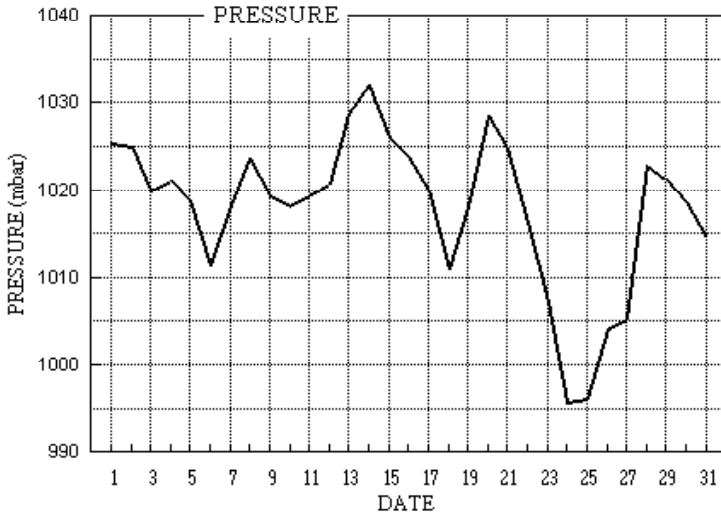
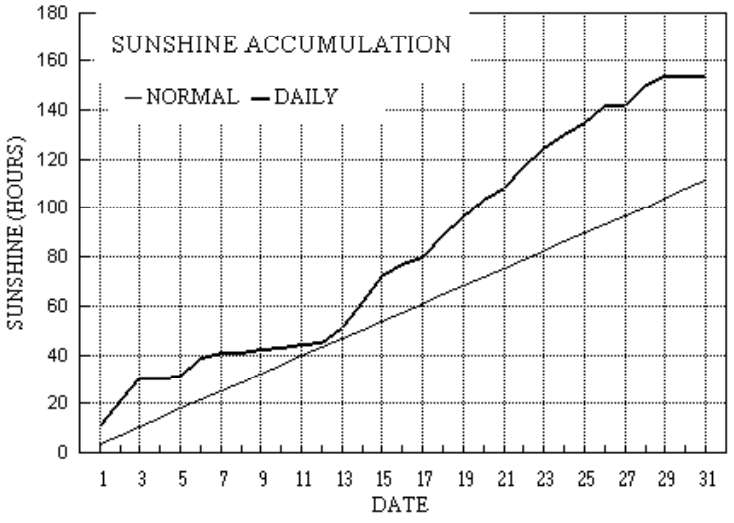
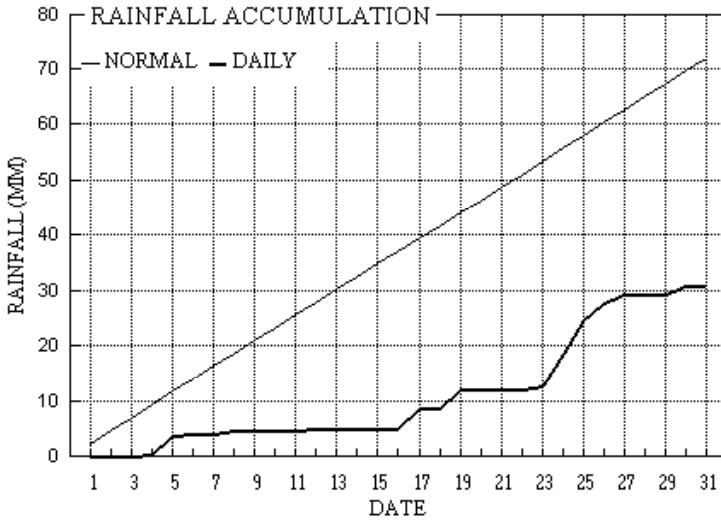
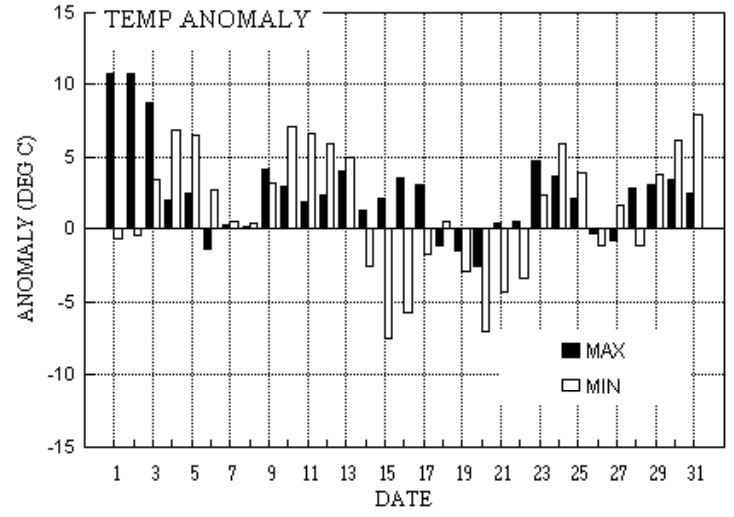
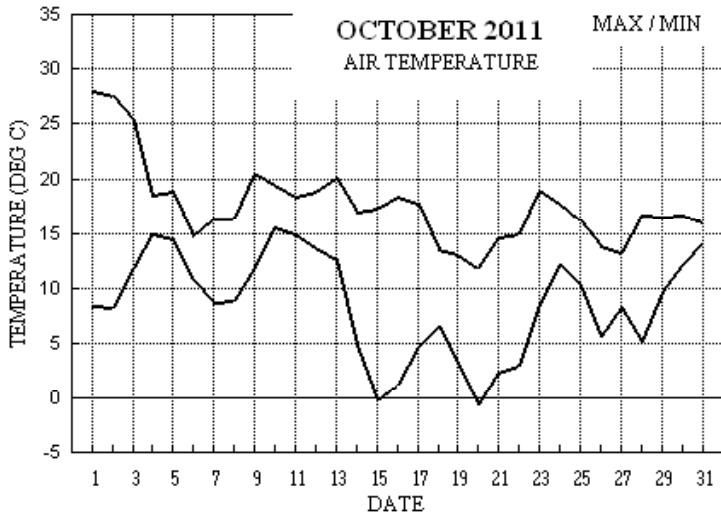
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

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 31 <sup>st</sup>			
+4.1°	+3.0°	22%	120%	+1.4°	-0.9°	30%	170%	+2.0°	+2.0°	73%	128%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

# Wokingham climatological graphs for October 2011



Month: OCTOBER 2011

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf SI	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff HH	Rain hrs	
1	28.0	8.4	0.0	4.5	16.2	16.5	11.0	0.0	1025.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	164 1.4 2.2	156 10 1342	164 4	14 0.0	
2	27.6	8.3	0.0	4.1	16.1	16.5	10.8	0.0	1025.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	203 3.1 3.4	208 19 1326	207 9	13 0.0	
3	25.4	11.9	tr	6.8	16.2	16.5	9.0	0.0	1020.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	216 5.7 6.0	210 23 1503	212 11	13 0.0	
4	18.5	14.9	0.3	11.5	16.5	16.5	0.3	0.0	1021.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	238 6.3 6.3	256 22 1216	246 9	12 0.3	
5	18.9	14.4	3.5	11.9	16.5	16.5	0.3	0.0	1018.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	225 9.8 9.8	201 29 2031	223 13	21 2.0	
6	14.8	10.8	0.1	7.9	16.5	16.5	7.9	0.0	1011.4	0 0 0 0	0 0 1 0	0 0 1 0	0 0 1 0	255 10.4 10.5	264 40 1424	256 13	13 0.1	
7	16.4	8.7	0.1	6.2	15.5	16.5	2.0	0.0	1018.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	281 6.7 7.1	292 22 1355	298 10	13 0.3	
8	16.4	8.8	0.7	5.8	15.0	16.4	0.1	0.0	1023.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	264 5.8 5.9	307 18 1035	286 8	10 1.8	
9	20.6	11.8	tr	12.0	15.1	16.3	1.0	0.0	1019.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	249 8.9 9.0	245 28 1653	255 13	15 0.0	
10	19.5	15.6	0.1	14.1	15.6	16.1	1.0	0.0	1018.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	251 12.2 12.2	266 35 1519	254 16	12 0.1	
11	18.4	14.9	tr	14.5	15.8	16.1	1.4	0.0	1019.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	243 8.4 8.5	227 23 0046	246 12	00 0.0	
12	18.8	13.7	0.1	12.1	15.9	16.1	0.5	0.0	1020.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	246 5.3 5.4	270 16 0908	252 7	11 0.0	
13	20.1	12.6	0.0	7.0	15.9	16.2	6.3	0.0	1028.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	62 2.7 3.1	80 13 1502	69 6	14 0.0	
14	17.0	4.9	0.0	-0.2	15.6	16.2	10.3	0.0	1032.0	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	94 2.8 3.2	107 15 0959	112 7	10 0.0	
15	17.3	-0.2	tr	-4.6	14.6	16.1	10.3	0.1	1026.0	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	158 1.6 2.2	177 11 1225	148 5	11 0.6	
16	18.3	1.2	0.0	-3.7	13.8	16.0	4.9	0.0	1023.9	0 1 0 0	0 0 0 0	0 0 0 1	0 0 0 1	231 2.5 2.6	252 15 1445	243 6	15 0.0	
17	17.7	4.6	3.6	-1.2	13.6	15.8	3.1	0.0	1020.0	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	218 8.5 8.5	226 32 1629	228 14	16 2.6	
18	13.5	6.5	0.0	3.7	13.7	15.6	8.8	0.0	1011.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	251 8.1 8.4	263 28 1448	258 14	12 0.0	
19	13.1	3.3	3.6	-2.7	12.9	15.4	7.8	0.0	1017.9	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	265 4.4 4.8	303 23 1354	283 9	13 1.1	
20	11.9	-0.6	0.0	-6.0	12.0	15.2	7.3	0.8	1028.6	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	243 2.7 3.3	267 12 1218	258 6	10 0.0	
21	14.7	2.3	tr	-2.7	11.6	15.0	4.8	0.0	1024.9	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	210 4.2 4.5	215 18 1044	231 9	11 0.0	
22	14.9	2.9	0.0	-1.5	11.5	14.7	8.3	0.0	1016.2	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	152 4.7 5.4	193 21 1600	165 10	13 0.0	
23	19.0	8.6	0.5	7.4	11.9	14.5	7.4	0.0	1007.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	148 7.6 7.9	161 25 1500	158 11	13 0.5	
24	17.8	12.1	6.0	10.4	12.6	14.4	5.7	0.0	995.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	120 7.7 7.8	115 24 1628	128 9	00 3.5	
25	16.2	10.3	6.1	7.8	13.0	14.3	4.9	0.0	996.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	171 4.4 4.7	189 19 1737	187 7	10 2.3	
26	13.8	5.6	3.1	1.8	12.7	14.3	6.6	0.0	1004.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	174 4.4 4.9	186 19 1337	184 9	12 5.7	
27	13.2	8.3	1.6	3.4	12.4	14.3	0.0	0.0	1005.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	104 2.4 3.4	74 12 0718	83 5	07 2.5	
28	16.6	5.2	tr	0.3	12.7	14.2	9.0	0.0	1022.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	47 1.4 2.6	10 10 0248	331 4	01 0.0	
29	16.5	9.7	tr	7.0	12.7	14.2	3.1	0.0	1021.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	208 6.5 6.7	221 26 1431	218 11	14 0.0	
30	16.7	12.1	1.3	10.8	13.1	14.1	0.1	0.0	1018.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	209 6.9 7.0	215 20 0923	210 9	10 2.1	
31	16.0	14.1	0.2	12.2	13.6	14.2	0.2	0.0	1014.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	173 5.6 5.8	185 20 0959	180 7	12 0.7	
Total			30.9				154.2	0.9										26.2
Mean	17.7	8.6		5.2	14.2	15.5	4.97	0.0	1017.9					220 3.8 5.9				
Anom	+2.5	+1.4	43%	+1.1	+1.1	+0.8	139%		+3.6									
Daily mean	13.1																	
Anom	+1.9																	

Number of days with:  
 Air frost = 2      Ground frost = 8      Nil sun = 1  
 Snow falling = 0      Snow lying = 0      Thunder = 0  
 Hail=>5mm = 0      Hail<5mm or ice = 1      Fog at 09GMT = 1

Abbreviations.

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

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for October 2011

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	N	Ch	shs	N	Ch	shs	Date	Remarks
1	50	5	04	02	05	17.0	15.4	90	10.8	1025.4	2	011	05	1	1	0	0	9	0	1	85080						1	COTRA	
2	59	2	21	02	07	18.0	15.3	84	10.7	1025.0	8	001	05	0	0	1	0	9	8	1	81368						2	2Ci80 COTRA Ac cas	
3	59	3	21	06	14	20.4	13.6	65	9.7	1020.0	8	005	05	1	1	3	0	9	3	0	83364						3		
4	45	8	23	09	15	15.5	13.3	87	9.4	1021.1	2	013	50	5	2	8	5	3	/	/	85708	87615	88635				4		
5	84	7	24	09	18	16.9	13.3	79	9.5	1018.8	2	003	03	2	2	7	5	5	/	/	81620	86635					5		
6	82	6	25	09	20	11.8	5.4	65	5.5	1011.4	2	019	02	2	2	1	8	5	0	8	81825	86075					6	1Sc30 2Cs70 COTRA Cu fra Halo 22° part	
7	84	7	26	06	14	11.4	7.1	75	6.2	1018.2	2	020	03	2	2	1	8	4	7	/	81818	83365	87468				7	1Sc30 Cu fra	
8	82	8	28	07	16	12.1	6.5	69	5.9	1023.6	0	005	02	6	2	8	5	6	/	/	82630	88656					8	2Sc40	
9	80	8	25	10	20	16.1	13.6	85	9.6	1019.4	3	007	02	6	2	6	5	4	7	/	86612	85362	88468				9		
10	70	7	25	13	27	16.9	12.0	73	8.6	1018.2	2	013	02	2	2	7	5	5	/	/	87623						10		
11	80	7	23	09	15	15.8	13.8	87	9.7	1019.4	1	011	21	6	5	6	5	3	/	1	82708	83612	86075				11	4Sc30 COTRA vv60k exS&SW	
12	80	7	25	06	14	15.5	12.2	81	8.8	1020.8	1	008	03	2	2	6	8	4	3	/	84712	83650					12	2Cu15 2Ac68 Cu med N	
13	62	7	03	04	08	14.2	12.8	91	9.1	1028.8	2	018	01	2	2	7	5	3	/	1	81708	85712	87618				13	/Ci80 COTRA	
14	63	2	06	02	06	11.1	9.3	88	7.1	1032.0	1	006	02	0	0	0	0	9	0	1	82080						14	COTRA	
15	59	0	12	01	04	9.5	8.4	93	6.7	1026.0	8	004	05	0	0	0	0	9	0	0							15		
16	05	7	27	02	04	5.6	5.4	98	5.5	1023.9	2	010	42	4	4	7	6	0	/	/	87701						16		
17	63	7	21	05	09	11.8	10.3	90	7.7	1020.0	7	011	03	1	1	4	8	4	0	1	81815	83620	87075				17	2Sc56 1Cc72 COTRA Cu med	
18	84	1	26	09	19	9.8	4.7	70	5.3	1011.0	2	014	01	1	1	1	5	7	3	1	81656						18	1Ac68 1Ci75 COTRA Ci edge S	
19	84	1	26	05	10	8.5	4.5	76	5.2	1017.9	2	022	02	0	0	1	5	6	0	0	81640						19		
20	82	7	25	03	07	5.3	4.1	92	5.0	1028.6	1	009	02	2	2	2	5	7	0	1	82650	87078					20	1Ci72 COTRA	
21	65	4	20	06	10	10.4	6.2	75	5.8	1024.9	8	001	01	1	1	2	5	6	7	1	82640	83080					21	1Ac60 1Ac65 COTRA	
22	62	6	11	04	07	8.6	5.8	83	5.7	1016.2	8	013	01	2	2	2	5	6	0	1	82630	85080					22	COTRA	
23	60	8	16	07	15	14.7	12.0	84	8.7	1007.2	8	004	05	2	2	2	6	4	0	1	82712	87080					23	COTRA	
24	65	7	11	08	20	13.6	9.9	78	7.7	995.8	7	010	02	2	2	1	6	4	3	1	81715	87080					24	2Ac65 1Cc72 2Ci75 COTRA	
25	68	3	18	05	10	13.0	10.9	87	8.2	996.1	2	016	15	1	1	2	8	5	0	2	81820						25	1Sc40 2Sc50 1Ci72 Cu med jpNW	
26	60	7	17	05	11	8.9	8.0	94	6.7	1004.1	3	015	25	8	2	4	9	5	6	3	83920	81825	85360				26	1Sc50 /Ci70 jpS	
27	64	8	10	05	10	11.1	10.3	95	7.8	1005.3	2	001	21	6	2	1	7	4	7	/	81710	86358	88462				27		
28	30	1	35	02	04	9.5	9.1	97	7.1	1022.8	1	023	10	0	0	1	0	9	3	0	81365						28	Absent 28&29 vv&cld est	
29	75	7	21	05	10	12.2	8.3	77	6.7	1021.3	0	007	01	2	2	5	5	6	0	1	82635	86070					29		
30	63	8	21	06	16	15.2	13.0	87	9.3	1018.6	1	012	02	2	2	8	5	4	/	/	85615	87620	88650				30		
31	58	7	19	07	14	15.0	13.8	92	14.4	1014.4	7	003	50	5	2	7	5	3	/	/	82706	86708	87650				31		

Mean vis = 20.9 km

Mean cloud = 5.6 70%

Mean wind speed = 5.8 kn

Mean gust = 12 kn

Mean TT = 12.8 °C

Mean TdTd = 9.9 °C

Mean RH = 83.5 %

Mean r = 7.9 g/kg

Mean PPP = 1017.9 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 October 2011

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	N	Ch	shs	N	Ch	shs	Date	Remarks
1	70	7	18	05	10	27.3	12.1	39	8.7	1023.5	6	008	02	2	2	0	0	9	0	1	81075	87080						1	COTRA
2	75	1	22	08	18	26.3	10.7	38	7.9	1022.5	7	010	02	0	0	1	0	9	8	1	81368							2	1Ci80 COTRA Ac flo vir
3	72	1	21	09	21	24.5	10.9	42	8.1	1016.9	8	021	02	0	0	0	0	9	0	9	81175							3	1Ci80 COTRA
4	65	7	25	07	16	17.2	13.2	77	9.3	1020.6	6	004	50	5	2	7	5	4	/	/	87616	87625						4	
5	65	7	22	10	22	18.3	14.0	76	9.9	1015.8	7	022	25	8	2	7	8	4	7	/	81718	83625	85650				5	2Cu50 /Ac60 Cu med jpW vv40k exW	
6	82	1	25	10	32	12.8	4.8	58	5.3	1011.8	6	011	25	8	1	1	9	6	6	0	81935							6	1Cu40 1Ac60 Cb E&NW
7	80	3	30	09	21	15.5	6.3	54	6.0	1019.5	3	001	15	1	1	2	9	6	6	0	81935	81840					7	2Sc56 1Ac62 jpW-N vv50k ex p Rainbow	
8	82	7	25	06	15	14.7	9.0	69	7.0	1021.3	7	018	02	2	2	7	5	5	/	/	87625	87650						8	
9	86	7	26	12	23	19.3	14.0	71	9.8	1017.8	5	008	01	2	2	1	5	5	4	2	81620	83366	87072					9	
10	82	7	26	17	30	18.0	12.0	68	8.6	1018.0	5	002	02	2	2	7	5	5	/	2	87628							10	/Ci75
11	83	7	26	10	19	17.5	12.9	74	9.1	1019.5	0	000	02	2	2	7	8	5	/	1	84822	86640						11	/Ci75 Cu hum
12	75	7	25	06	14	17.9	13.5	75	9.5	1020.6	3	003	21	6	2	7	8	5	/	/	81820	87630						12	/Sc56 Cu hum
13	67	2	07	06	11	17.6	12.1	70	8.5	1029.1	5	000	02	0	0	1	8	5	0	1	81822							13	1Sc40 2Ci80
14	75	1	14	04	09	15.8	4.1	46	5.1	1029.2	6	014	02	0	0	0	0	9	0	1	81080							14	COTRA
15	75	0	18	03	07	16.4	6.1	50	5.8	1023.3	7	015	02	0	0	0	0	9	0	0								15	
16	83	4	25	07	15	17.6	11.5	68	8.3	1022.4	6	009	02	1	1	2	8	5	0	1	82825	83080						16	1Sc50 COTRA Cu med
17	82	7	22	11	27	15.8	10.5	71	7.9	1014.1	7	032	15	2	2	4	8	5	7	8	84822	87272						17	1Sc50 1Ac65 1Ac68 COTRA Cu med jpS
18	86	2	27	11	28	12.3	0.2	43	3.9	1011.1	5	002	02	0	0	1	2	7	0	9	81850							18	2C72 1Ci75 COTRA Cu hum/med
19	62	5	26	07	18	9.9	3.3	63	4.9	1020.2	2	012	25	8	1	4	9	5	6	0	82925	81835	83360				19	2Sc50 jpN&NW vv50k ex p Rainbow part	
20	82	7	27	05	11	11.5	1.9	51	4.2	1027.2	7	012	03	1	1	1	8	6	0	1	81838	87078						20	1Sc50 COTRA Cu hum.med Parhelia faint
21	80	7	22	06	13	13.0	6.1	63	5.8	1022.7	6	012	03	2	2	7	8	6	/	/	81830	83635	87640				21	Cu hum	
22	75	1	16	08	17	13.1	5.3	59	5.5	1011.0	7	021	02	0	0	1	1	6	0	1	81832							22	1Ci80 COTRA Cu hum
23	72	6	16	12	25	17.5	7.1	50	6.3	1004.0	7	017	02	2	2	1	0	9	7	1	81361	86080						23	COTRA
24	73	7	11	06	19	16.2	9.0	63	7.3	992.1	6	023	03	2	2	6	0	9	7	8	82360	85468	87275				24		
25	60	6	17	04	10	12.8	10.0	83	7.8	996.2	2	002	80	8	1	4	9	4	6	3	81815	82920	84070				25	1Cu25 1Sc50 2Ac60 vv50k ex p	
26	62	2	19	08	17	12.6	7.3	70	6.4	1004.9	2	007	15	8	1	2	9	5	6	0	81920	81825						26	1Sc50 2Ac62 1Ac65 jpNW vv60k ex NW
27	72	8	19	03	12	12.7	11.2	90	8.3	1006.7	3	012	21	6	2	7	5	4	7	/	82618	87645	88360				27	Absent 27-29 vv&cld est	
28	75	2	09	02	08	14.9	8.1	63	6.6	1022.7	7	007	02	0	0	0	0	9	0	1	82078							28	
29	80	7	22	10	26	14.3	8.0	66	6.6	1018.8	5	009	02	2	2	4	8	5	3	1	82825	83640	85358				29	/Ci75	
30	58	7	21	07	17	15.9	14.1	89	9.9	1017.4	7	010	50	5	2	7	5	3	/	/	84708	87630						30	vv30k W
31	68	7	17	07	13	14.8	11.4	80	8.4	1010.8	7	022	01	5	2	2	5	4	3	1	81715	83365	87075				31	2Sc35 COTRA	

Mean vis = 27.9 km

Mean cloud = 4.8 60%

Mean wind speed = 7.6 kn

Mean gust = 18 kn

Mean TT = 16.3 °C

Mean TdTd = 9.1 °C

Mean RH = 63.8 %

Mean r = 7.3 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

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present.

Wokingham Sunshine Hourly analysis	Hour	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct
2011	0	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	1	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	2	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	3	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	4	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	5	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	6	0.50	0.51	0.17	0.00	0.02	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.23	x
	7	1.00	1.00	0.16	0.01	0.23	x	0.00	0.03	0.05	0.00	0.00	0.00	0.00	1.00	1.00	x
	8	1.00	1.00	0.85	0.01	0.04	x	0.00	0.00	0.00	0.05	0.02	0.18	0.02	1.00	1.00	x
	9	1.00	1.00	0.60	0.00	0.02	x	0.00	0.08	0.00	0.00	0.08	0.00	0.53	1.00	1.00	x
	10	1.00	1.00	0.92	0.03	0.00	x	0.00	0.00	0.00	0.10	0.83	0.07	0.85	1.00	1.00	x
	11	1.00	1.00	1.00	0.10	0.00	x	0.35	0.00	0.00	0.18	0.47	0.03	0.95	1.00	1.00	x
	12	1.00	1.00	1.00	0.12	0.00	x	0.87	0.00	0.00	0.55	0.02	0.08	0.73	1.00	1.00	x
	13	1.00	1.00	1.00	0.00	0.00	x	0.38	0.00	0.35	0.18	0.00	0.07	0.57	1.00	1.00	x
	14	1.00	1.00	1.00	0.00	0.00	x	0.13	0.00	0.36	0.00	0.00	0.00	0.79	1.00	1.00	x
	15	1.00	1.00	1.00	0.00	0.00	x	0.17	0.00	0.28	0.00	0.00	0.00	1.00	1.00	1.00	x
	16	1.00	1.00	1.00	0.00	0.00	x	0.00	0.00	0.02	0.00	0.00	0.08	0.88	1.00	1.00	x
	17	0.52	0.29	0.29	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	x
	18	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	19	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	20	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	21	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	22	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
	23	0.00	0.00	0.00	0.00	0.00	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	x
<b>Tot</b>		<b>11.03</b>	<b>10.80</b>	<b>8.98</b>	<b>0.27</b>	<b>0.31</b>	<b>7.91</b>	<b>1.90</b>	<b>0.12</b>	<b>1.07</b>	<b>1.07</b>	<b>1.42</b>	<b>0.52</b>	<b>6.32</b>	<b>10.27</b>	<b>10.26</b>	<b>4.86</b>

Hour	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	Mean	
0	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	
7	x	0.80	0.93	0.38	0.76	0.41	0.22	0.00	0.40	0.00	0.00	0.80	0.00	0.00	0.00	0.33	
8	x	1.00	1.00	1.00	1.00	0.64	0.47	0.42	1.00	0.28	0.00	1.00	0.02	0.00	0.00	0.46	
9	x	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.63	0.00	1.00	0.27	0.00	0.00	0.54	
10	x	1.00	1.00	1.00	0.76	1.00	0.60	1.00	0.47	0.50	0.00	1.00	1.00	0.00	0.00	0.58	
11	x	1.00	0.98	0.97	0.75	1.00	1.00	1.00	0.68	1.00	0.00	1.00	0.50	0.00	0.00	0.61	
12	x	0.88	0.95	0.48	0.02	1.00	1.00	1.00	0.15	1.00	0.00	1.00	0.85	0.00	0.03	0.56	
13	x	0.98	0.90	0.43	0.38	1.00	1.00	0.78	0.68	0.90	0.00	1.00	0.40	0.00	0.00	0.54	
14	x	0.84	0.36	0.98	0.16	0.96	1.00	0.05	0.15	0.97	0.00	1.00	0.02	0.00	0.00	0.46	
15	x	1.00	0.38	0.82	0.00	0.85	1.00	0.45	0.44	0.98	0.00	1.00	0.00	0.02	0.12	0.48	
16	x	0.40	0.32	0.30	0.00	0.43	0.12	0.00	0.00	0.38	0.00	0.18	0.02	0.00	0.03	0.29	
17	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
18	x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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	x	0.00	0.00	0.00	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>3.06</b>	<b>8.90</b>	<b>7.82</b>	<b>7.37</b>	<b>4.83</b>	<b>8.28</b>	<b>7.40</b>	<b>5.70</b>	<b>4.89</b>	<b>6.65</b>	<b>0.00</b>	<b>8.98</b>	<b>3.07</b>	<b>0.02</b>	<b>0.18</b>	<b>154.23</b>

October 2011	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	16.97	27.7	1401	8.8	549	76.7	98.1	727	35.7	1537	11.88	8.59	12.0	1006	6.7	549	1024.48	1025.8	2310	1023.4	1440	0.0
2	17.34	27.2	1242	8.6	531	72.7	98.0	726	34.3	1232	11.38	8.30	11.4	943	6.6	531	1023.71	1025.6	3	1021.7	2349	0.0
3	18.17	25.3	1322	12.1	49	73.2	95.5	356	40.5	1424	12.58	9.00	10.6	2005	7.8	1501	1018.97	1021.9	33	1015.7	1627	0.0
4	16.08	18.5	1225	14.5	2229	82.4	89.6	1116	66.7	1323	13.07	9.26	10.5	1200	8.5	1324	1020.40	1021.6	1109	1018.9	140	0.2
5	16.87	18.9	1330	15.1	651	82.3	92.5	2358	68.9	1209	13.80	9.75	10.9	2359	8.8	1120	1016.27	1020.0	0	1009.1	2359	1.9
6	12.50	16.7	10	10.1	2007	66.0	93.3	30	43.2	1323	6.08	6.04	11.0	21	4.4	1323	1010.80	1013.4	2354	1007.7	210	1.7
7	11.37	16.6	1309	8.7	522	71.7	83.4	651	48.8	1331	6.32	5.90	6.7	1117	5.3	1526	1018.95	1023.6	2324	1013.1	1	0.0
8	12.62	15.5	1927	8.7	56	76.1	90.1	2334	64.1	1303	8.47	6.87	8.9	2358	5.6	56	1022.17	1023.8	919	1019.8	2354	0.5
9	16.85	20.8	1406	13.9	1	83.3	92.6	418	66.8	1407	13.95	9.82	10.6	1406	8.8	4	1018.74	1020.0	0	1017.4	1334	0.3
10	16.79	19.7	1247	15.6	225	74.7	85.9	248	60.3	1255	12.25	8.79	9.8	19	8.2	2356	1018.42	1020.0	2112	1016.9	539	0.0
11	16.13	18.4	1155	14.5	2324	80.3	90.8	822	71.8	1245	12.73	9.06	10.8	1016	8.2	37	1019.60	1021.3	2221	1017.7	405	0.0
12	15.56	18.9	1349	12.6	2305	83.2	95.7	2335	67.6	1352	12.70	9.04	10.1	1826	8.0	500	1021.31	1024.7	2330	1019.7	358	0.1
13	14.05	19.3	1242	9.7	2200	86.5	97.0	406	60.4	1309	11.69	8.40	9.5	923	6.9	2200	1028.57	1031.5	2253	1024.5	5	0.0
14	9.85	16.5	1321	3.1	2359	77.6	97.3	735	44.0	1512	5.61	5.59	7.6	5	4.4	0	1030.14	1032.1	835	1027.9	2358	0.0
15	7.79	16.9	1419	0.5	617	81.8	97.3	652	47.8	1323	4.38	5.19	7.2	924	3.7	618	1025.06	1028.0	0	1022.8	1611	0.0
16	8.80	18.0	1509	1.7	142	89.3	98.7	927	64.7	1512	7.01	6.33	9.9	1341	4.1	143	1023.12	1024.1	925	1022.2	1438	0.1
17	11.74	17.6	1249	4.7	336	80.3	97.6	621	59.9	1252	8.25	6.80	8.7	937	5.0	337	1016.39	1022.8	9	1007.4	2358	0.0
18	9.39	14.2	27	5.7	2319	70.8	93.5	440	39.0	1343	3.87	5.09	8.4	43	3.5	1333	1010.99	1013.4	2316	1007.2	25	3.4
19	6.62	13.1	1224	2.0	2359	80.2	93.4	2354	42.1	1343	3.15	4.73	5.4	1622	3.8	1346	1019.24	1026.1	2359	1013.1	12	3.3
20	5.26	12.0	1217	-0.4	609	82.9	97.6	631	50.2	1505	2.27	4.42	6.0	1032	3.5	609	1027.60	1028.9	1046	1026.0	2	0.2
21	9.63	14.7	1330	3.7	0	78.2	94.4	20	56.6	1430	5.86	5.71	6.6	2044	4.5	552	1023.76	1027.0	0	1020.4	2356	0.0
22	9.76	13.9	1149	3.4	654	73.4	94.5	738	46.5	1212	4.98	5.42	6.4	2359	4.4	647	1014.06	1020.5	1	1008.9	2359	0.0
23	14.44	18.8	1325	10.2	11	72.0	91.4	411	46.0	1327	9.15	7.27	8.8	901	6.2	1335	1005.05	1009.0	1	999.4	2358	0.0
24	14.27	17.6	1304	12.1	642	75.0	93.0	2352	57.2	1358	9.79	7.67	9.4	2355	6.8	1640	994.46	999.8	3	991.1	2202	1.4
25	11.50	15.5	1150	6.4	2357	88.7	95.2	536	63.3	1151	9.63	7.59	9.5	124	5.7	2357	996.12	1000.4	2349	991.6	15	7.8
26	9.34	13.6	1216	5.4	331	88.3	97.0	444	66.5	1423	7.43	6.47	8.0	2352	5.4	331	1004.29	1007.1	2246	1000.2	0	3.4
27	11.75	13.3	1408	10.2	49	94.1	97.4	2254	88.2	1249	10.83	8.10	8.7	2220	7.4	41	1007.38	1014.5	2359	1004.6	713	3.2
28	11.33	15.6	1411	5.4	733	87.0	98.3	826	60.7	1428	9.10	7.14	8.4	5	5.4	649	1021.64	1023.9	1942	1014.4	1	0.1
29	13.07	16.2	1246	11.3	709	81.5	95.4	419	59.2	1247	9.85	7.51	9.0	2356	6.3	1215	1019.75	1022.8	1	1017.5	2356	0.0
30	15.07	16.8	1008	13.7	5	88.9	96.0	2158	80.0	1018	13.25	9.40	10.1	2210	8.8	704	1017.65	1018.7	1041	1016.3	2350	1.2
31	14.52	16.0	1229	13.4	1725	88.2	95.9	12	77.9	1311	12.58	9.06	10.1	37	8.1	2044	1012.28	1016.4	0	1006.9	2349	0.1
Total																						28.9
Mean	12.76	17.54		8.56		80.2	94.40		57.38		9.16	7.36	9.06		6.16		1017.14	1020.28		1013.66		
Max	18.17	27.73		15.59		94.1	98.70		88.20		13.95	9.82	11.97		8.80		1030.14	1032.06		1027.89		
Min	5.26	12.02		-0.44		66.0	83.40		34.30		2.27	4.42	5.44		3.49		994.46	999.76		991.09		

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

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

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

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

**Mean:** The mean of the data under discussion, often the monthly mean of daily data. The mean is obtained by summation of the individual values and dividing by the number of values. The term 'daily mean' in respect of temperature is defined as '(max + min) / 2'. A true daily 24 hour (00 to 24 GMT) mean temperature is available from the Automatic Weather Station (AWS), and is currently published on page 7 of the Wokingham Monthly Weather report, on the Wokingham Weather web site, page 1. <http://www.woksat.info/www1.html>

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

**Month:** Calendar month.

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

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

**Frost:** An air frost day is recorded when the minimum temperature read at 0900 GMT on that day is  $-0.1^{\circ}\text{C}$  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% snow cover at the 0900 GMT observation.

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

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

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

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

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

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

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

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

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

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

## Appendix 2.

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

**VV** : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

**RH** : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

**ppp** : 3 hour pressure tendency in tenths of a millibar

**ww** : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

**Cl** : Type of low cloud

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

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

**Cm** : Type of medium cloud.

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

**Ch :** Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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

**8 Groups**

**N** = Amount of cloud reported by C, okta.

**C** = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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