

# 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

## SEPTEMBER 2011

Temperature (°C / °F)				Anomaly	Rank in the past 130 years					
Mean maximum	20.5	68.9	+1.1	20 <sup>th</sup> highest						
Mean minimum	10.8	51.4	+0.8	10 <sup>th</sup> highest						
Daily mean	15.7	60.3	+1.0	9 <sup>th</sup> highest						
Highest maximum	27.3	81.1	on 30 <sup>th</sup>	Lowest maximum	15.6	60.1	on 18 <sup>th</sup>			
Highest minimum	15.7	60.3	on 10 <sup>th</sup>	Lowest minimum	4.5	40.1	on 15 <sup>th</sup>			
Mean grass minimum	8.0	46.4	+1.3	Lowest grass minimum	0.7	33.3	on 15 <sup>th</sup>			
Mean earth @30 cm	16.7	62.1	+0.3	Earth @100 cm	16.8	62.2				
Frost duration (hrs)	0.0			Rain duration (hrs)	26.0					
Rainfall total (mm / in)	36.2	1.43	67 %	42 <sup>nd</sup> lowest						
Highest daily fall	9.5	0.37	on 4 <sup>th</sup>							
Number of: Dry days (<0.2mm)	19	Wet days (>0.9mm)	9	days ≥5mm	3					
Sunshine total (hrs)	161.0	Daily mean	5.37	113 %	Sunniest day	11.3	on 14 <sup>th</sup>			
N <sup>o</sup> days with: Air frost	0	Ground frost	0	Snow falling	0	Snow lying	0			
Thunder	0	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0	Nil sun	2	
Pressure MSL : Mean @09 GMT, mbar	1013.8	-2.9	Highest	1029.6	on 27 <sup>th</sup>	Lowest	1000.1	on 12 <sup>th</sup>		
Relative humidity : Mean (%)	79.3	Lowest	32	on 30 <sup>th</sup>	Water vapour (g/kg), mean at 09 and 15 GMT				9.5,	8.4
Overall mean wind speed (mph)	6.9	Windiest day	14.6	on 12 <sup>th</sup>	Max gust	38	on 12 <sup>th</sup>			
Wind direction (days)	N 0	NE 0	E 1	SE 2	S 7	SW 20	W 0	NW 0		
Least windy day (mph)	2.6	on 15 <sup>th</sup>			Calm; less than 0.5 mph (minutes)			899		

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

Notes: **Sunny and Very Warm with Below Normal Rainfall**

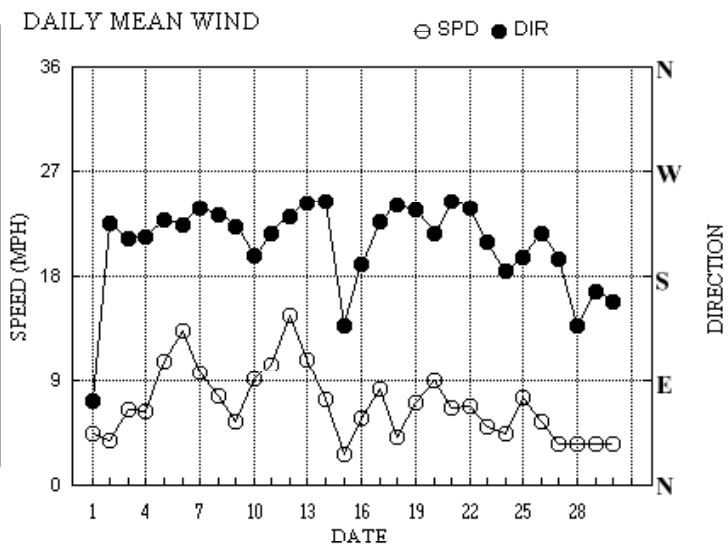
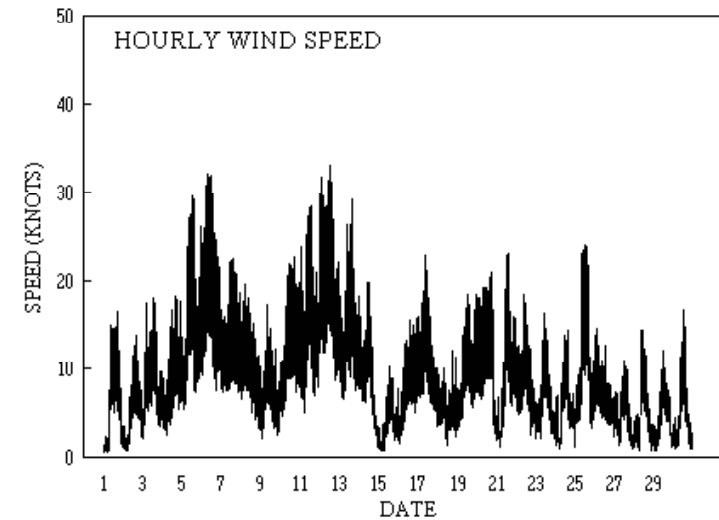
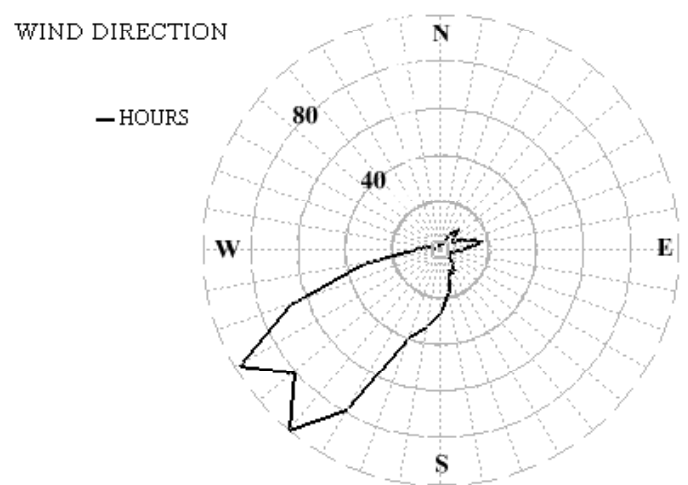
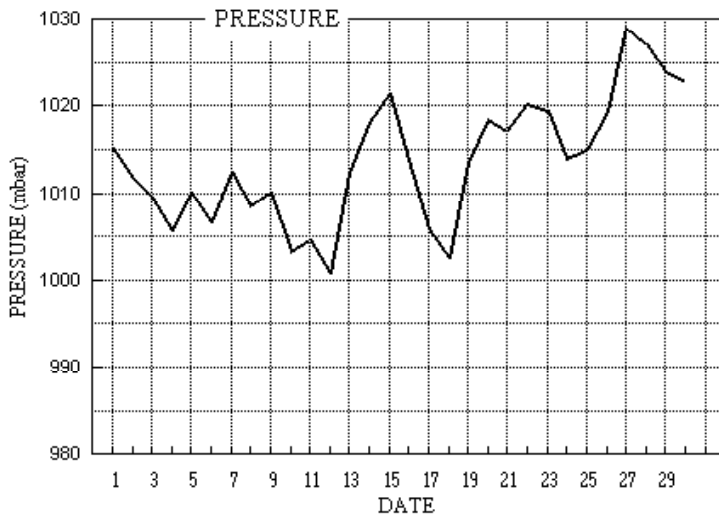
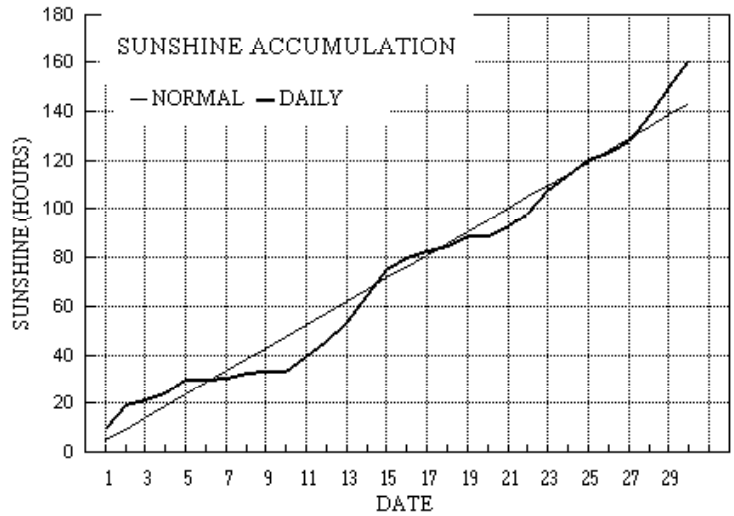
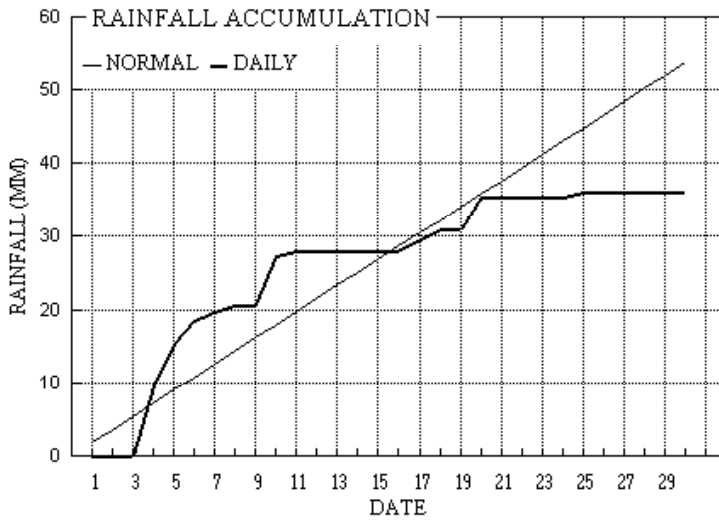
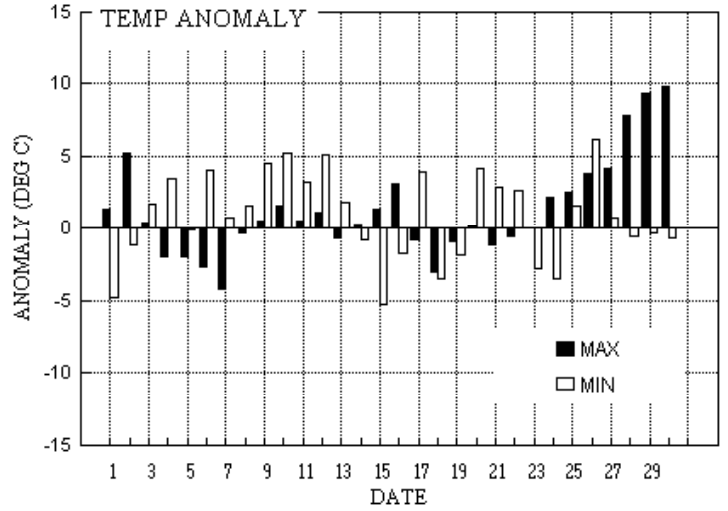
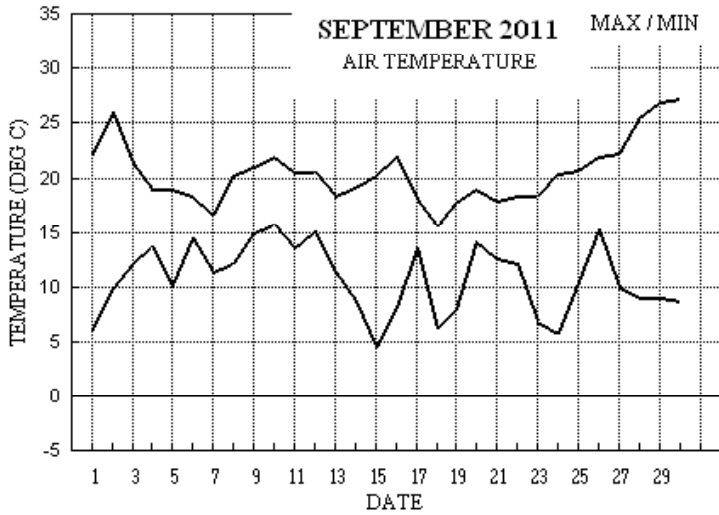
**Temperature:** This has been the mildest September since the record breaking 2006, though this month's mean is 2.3° below that one. Both Septembers 2004 and 2005 were also milder than this one, though only 5 were so in the past 36 years. The highest max is 2.8° above the long-term median, and is the 5<sup>th</sup> highest temperature this year. The lowest max is 2.7° above its median. The highest min is 0.5° above the median and the lowest min is 1.7° above its median. The mean grass min is highest since 2006, and this was a ground frost free September, one of 13 in the past 32 years. Earth temperatures are above normal at 30 cm depth, but near normal at 1 m depth. **Rainfall:** This has not been a wet month overall, although the 8 day period 4<sup>th</sup> to the 11<sup>th</sup> had only one dry day. Conversely, the 10 days 21<sup>st</sup> to 30<sup>th</sup> had 9 dry days. In recent years, since 1990, 14 Septembers have been wetter than this one, and 6 drier. The highest daily fall is lowest since 2004. The maximum recorded rain rate was 64 mm/hr at 0110 GMT on the 11<sup>th</sup>. The number of dry days is about normal, and a dry spell of 5 days ended on the 16<sup>th</sup>, though another was unbroken at the end of the month after 5 days. **Sunshine:** This is the sunniest September since 2004, though 2009 had only 1.2 hours less than this month's. The daily mean sunshine this month is actually 0.67 hours more than in August this year, which admittedly was unusually dull. Overall there were 11 days with <3 hours, 13 with =>6 hours and 8 with =>9 hours. **Commentary: From the 1<sup>st</sup> to the 10<sup>th</sup>:** The first two days were warm, with the anomaly for the max on the 2<sup>nd</sup> of +5.2°, but it then became much cooler, with anomalies for daily max between -0.4° on the 8<sup>th</sup> and -4.1° on the 7<sup>th</sup>. A cold night on the 1<sup>st</sup> gave an anomaly of -4.7°, otherwise minima were generally above normal with an anomaly of +5.2° on the 10<sup>th</sup>. Dry until the 4<sup>th</sup>, then wet every day with the exception of the 9<sup>th</sup>, and a total for the period of 27.3 mm. Sunshine was good until the 3<sup>rd</sup>, then mainly poor, with 4 days having <10% of the maximum. Apart from a light E'yly on the 1<sup>st</sup>, winds were SW'yly mainly light or moderate, but fresh on the 5<sup>th</sup> and 6<sup>th</sup>. **From the 11<sup>th</sup> to the 23<sup>rd</sup>:** Temperatures by day were generally near normal, with extreme anomalies of +3.1° on the 16<sup>th</sup> and -3.0° on the 18<sup>th</sup>. Night-time temperatures were more variable, with anomalies between +5.1° on the 12<sup>th</sup> and -5.2° on the 15<sup>th</sup>. There was little rainfall until the 17<sup>th</sup>, then 7.5 mm over 4 days, followed by a return to dry weather. Sunshine was above normal until the 15<sup>th</sup> and again after the 23<sup>rd</sup>, otherwise near or below normal. Winds were fresh SW'yly on the 11<sup>th</sup>, increasing strong on the 12<sup>th</sup>, falling back to moderate by the 14<sup>th</sup>, temporarily backing SE'yly on the 15<sup>th</sup>. **From the 24<sup>th</sup> to the 30<sup>th</sup>:** The 24<sup>th</sup> saw the start of a heatwave, with daily maxima climbing each day until the end of the month. Anomalies for daily max ranged from +2.2° on the 24<sup>th</sup> to +9.7° on the 30<sup>th</sup>. Temperatures by night were close to normal, except for the 26<sup>th</sup> which had an anomaly of +6.1°. Apart from 0.7 mm of rain on the 25<sup>th</sup>, this period was dry. Sunshine was near normal at first but the last 3 days had over 90% of the maximum. Winds were light or moderate and mainly S'yly.

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

From the 1 <sup>st</sup> to the 10 <sup>th</sup>				From the 11 <sup>th</sup> to the 20 <sup>th</sup>				From the 21 <sup>st</sup> to the 30 <sup>th</sup>			
-0.2°	+1.5°	151%	71%	+0.1°	+0.5°	45%	117%	+3.8°	+0.6°	6%	151%

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

# Wokingham climatological graphs for September 2011



Month: September 2011

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 HH	Rain hrs						
1	22.1	6.1	0.0	2.8	16.9	16.9	10.2	0.0	1015.1	0 0 0 0	0 0 0 0	0 0 0 0	72	3.5	3.8	70	17	1728	70	7	17	0.0	
2	26.0	9.8	0.0	6.6	17.0	16.9	9.4	0.0	1011.7	0 0 0 0	0 0 0 0	0 0 0 0	226	2.7	3.4	220	14	1753	218	6	17	0.0	
3	21.3	12.1	0.1	7.7	17.7	16.9	2.1	0.0	1009.5	0 0 0 0	0 0 0 0	0 0 0 0	212	5.5	5.6	207	18	1329	213	9	13	0.1	
4	19.0	13.7	9.5	10.0	17.7	17.0	2.5	0.0	1005.7	0 0 0 0	0 0 0 0	0 0 0 0	213	5.0	5.5	244	18	1627	214	9	18	2.7	
5	19.0	10.1	5.7	6.6	17.4	17.0	5.8	0.0	1010.1	0 0 0 0	0 0 0 0	0 0 0 0	228	9.1	9.3	237	30	1319	237	14	11	5.2	
6	18.3	14.5	3.1	13.1	17.3	17.0	0.0	0.0	1006.6	0 0 0 0	0 0 0 0	0 0 0 0	224	11.3	11.5	218	32	0802	223	15	11	2.0	
7	16.7	11.3	1.2	8.3	16.8	17.0	0.8	0.0	1012.5	0 0 0 0	0 0 0 0	0 0 0 0	238	8.3	8.4	264	23	1519	233	10	10	2.0	
8	20.2	12.2	1.0	11.7	16.7	16.9	2.0	0.0	1008.6	0 0 0 0	0 0 0 0	0 0 0 0	232	6.5	6.6	221	20	0550	241	8	10	1.7	
9	21.0	15.0	tr	14.1	16.9	16.9	0.5	0.0	1010.2	0 0 0 0	0 0 0 0	0 0 0 0	222	4.2	4.7	248	18	0907	236	7	12	0.0	
10	21.9	15.7	6.7	12.8	17.4	16.8	0.5	0.0	1003.3	0 0 0 0	0 0 0 0	0 0 0 0	197	7.3	7.9	212	23	1812	209	10	13	2.2	
11	20.6	13.6	0.7	11.9	17.4	16.9	6.0	0.0	1004.6	0 0 0 0	0 0 0 0	0 0 0 0	217	8.9	9.0	229	29	1445	214	13	12	2.1	
12	20.6	15.1	tr	13.3	17.5	17.0	6.2	0.0	1000.7	0 0 0 0	0 0 0 0	0 0 0 0	231	12.3	12.7	250	33	1211	250	16	14	0.0	
13	18.4	11.4	tr	8.6	17.4	17.0	7.7	0.0	1012.2	0 0 0 0	0 0 0 0	0 0 0 0	243	9.2	9.4	267	29	1534	264	14	15	0.0	
14	19.1	8.7	0.0	4.2	16.7	17.0	11.3	0.0	1018.2	0 0 0 0	0 0 0 0	0 0 0 0	244	6.1	6.4	271	20	1300	254	9	11	0.0	
15	20.2	4.5	tr	0.7	16.4	17.0	10.6	0.0	1021.5	0 0 0 0	0 0 0 0	0 0 0 0	137	1.6	2.3	211	10	1312	145	5	16	0.1	
16	21.9	8.1	tr	5.0	16.4	16.9	4.9	0.0	1013.8	0 0 0 0	0 0 0 0	0 0 0 0	190	2.5	5.0	213	16	1512	209	7	14	0.0	
17	18.0	13.5	1.7	11.5	16.6	16.8	2.6	0.0	1005.9	0 0 0 0	0 0 0 0	0 0 0 0	227	7.0	7.2	206	23	0948	225	10	09	1.5	
18	15.6	6.3	1.4	3.5	16.0	16.8	2.2	0.0	1002.6	0 0 0 0	0 0 0 0	0 0 0 0	242	2.9	3.5	318	12	1926	308	5	19	0.7	
19	17.7	8.0	tr	4.4	15.7	16.7	4.1	0.0	1013.4	0 0 0 0	0 0 0 0	0 0 0 0	237	6.0	6.1	255	19	1305	243	9	14	0.0	
20	19.0	14.1	4.4	13.7	16.1	16.6	0.0	0.0	1018.5	0 0 0 0	0 0 0 0	0 0 0 0	217	7.6	7.7	209	21	1831	215	9	14	5.4	
21	17.9	12.6	tr	12.4	16.3	16.6	4.2	0.0	1017.2	0 0 0 0	0 0 0 0	0 0 0 0	244	5.4	5.7	255	23	1506	250	10	13	0.0	
22	18.4	12.2	0.0	9.4	16.5	16.6	4.7	0.0	1020.3	0 0 0 0	0 0 0 0	0 0 0 0	239	5.6	5.8	287	19	1023	260	9	11	0.0	
23	18.4	6.8	0.0	3.0	16.2	16.6	9.9	0.0	1019.5	0 0 0 0	0 0 0 0	0 0 0 0	209	4.1	4.3	209	17	1144	223	8	11	0.0	
24	20.4	5.7	0.0	1.9	15.9	16.6	6.2	0.0	1014.1	0 0 0 0	0 0 0 0	0 0 0 0	185	3.1	3.8	221	15	1529	202	7	13	0.0	
25	20.7	10.5	0.7	7.3	15.8	16.5	6.3	0.0	1015.0	0 0 0 0	0 0 0 0	0 0 0 0	196	6.2	6.4	203	24	1224	214	12	15	0.2	
26	22.0	15.2	tr	12.8	16.1	16.5	2.3	0.0	1019.3	0 0 0 0	0 0 0 0	0 0 0 0	217	4.4	4.8	207	15	0400	207	7	03	0.1	
27	22.2	10.0	0.0	5.8	16.4	16.5	5.0	0.0	1029.1	0 0 0 0	0 0 0 0	0 0 0 0	194	2.6	3.0	196	11	1249	203	5	14	0.0	
28	25.5	9.0	0.0	5.5	16.4	16.5	10.9	0.0	1027.1	0 0 0 0	0 0 0 0	0 0 0 0	137	2.2	3.1	139	15	1058	176	7	12	0.0	
29	27.0	9.1	0.0	5.3	16.3	16.5	11.1	0.0	1024.0	0 0 0 0	0 0 0 0	0 0 0 0	167	2.1	3.1	205	12	1242	197	6	13	0.0	
30	27.3	8.7	0.0	5.0	16.3	16.5	11.0	0.0	1022.8	0 0 0 0	0 0 0 0	0 0 0 0	158	1.9	3.0	179	17	1423	195	8	14	0.0	
Total			36.2				161.0	0.0															26.0
Mean	20.5	10.8		8.0	16.7	16.8	5.37	0.0	1013.8					220	4.9	6.0							
Anom	+1.1	+0.8	67%	+1.3	+0.3	-0.0	113%																-2.9
Daily mean		15.7																					
Anom		+1.0																					

Total

Mean

Anom

Daily mean

Anom

Number of days with:

Air frost = 0

Snow falling = 0

Hail=&gt;5mm = 0

Ground frost = 0

Snow lying = 0

Hail&lt;5mm or ice = 0

Nil sun = 2

Thunder = 0

Fog at 09GMT = 0

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT

Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, &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 September 2011

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ci	NChs	hshs	NChs	hshs	Date	Remarks
1	65	1	09	08	15	16.8	12.2	74	9.1	1015.1	5	002	03	0	0	1	1	4	0	0	81818				1	Cu hum
2	58	7	26	03	07	16.2	13.3	83	9.5	1011.7	3	006	05	2	2	1	0	9	3	1	81365	87075			2	COTRA U/a cont
3	59	7	23	06	14	17.3	13.6	79	9.7	1009.5	5	001	05	2	2	7	5	4	/	/	83615	87620			3	
4	75	8	19	06	11	18.1	15.2	83	10.8	1005.7	7	002	02	6	2	7	5	4	7	/	81715	83620	86630		4	/Ac57
5	80	7	24	12	25	15.8	9.8	68	7.7	1010.1	3	018	03	1	1	7	8	5	/	/	83825	86630			5	Cu hum
6	58	8	21	14	32	15.5	14.4	93	10.2	1006.6	6	018	58	6	5	7	5	3	2	/	83708	87612	88520		6	
7	75	7	24	08	17	14.2	10.7	80	8.0	1012.5	2	015	03	2	2	7	8	4	/	2	83818	87640			7	/Ci75
8	70	8	23	08	17	15.2	11.2	77	8.3	1008.6	0	001	03	2	2	6	8	4	2	/	81818	86625	88465		8	/Sc50 Cu fra
9	86	8	25	07	14	19.3	16.3	83	11.6	1010.2	3	011	02	2	2	7	5	4	/	1	81712	87615			9	/Ci75
10	65	7	21	09	17	20.5	17.0	81	12.2	1003.3	5	000	01	2	2	6	2	4	3	1	81710	86812			10	3Ac65 /Ci78 Cu med COTRA
11	70	3	22	08	19	17.5	13.5	77	9.7	1004.6	0	009	03	1	1	1	2	4	7	1	81815	83075			11	1Ac63 1Cs72 COTRA Cu fra/med
12	60	7	22	13	29	19.4	15.9	80	11.3	1000.7	3	005	21	6	5	7	8	4	/	/	81815	87820			12	2Sc40 /Sc50 Cu fra/med jpNW vv40k exNW
13	70	1	23	07	19	16.2	10.5	69	7.9	1012.2	2	007	03	1	1	1	1	5	3	0	81820				13	1Ac65 Cu fra
14	82	3	25	06	14	14.8	10.4	75	7.8	1018.2	2	013	03	0	0	3	1	4	0	0	83815				14	Cu hum/fra
15	80	7	02	01	04	13.5	10.0	79	7.4	1021.5	2	007	02	2	2	1	5	6	0	1	81630	87080			15	COTRA Parhelion
16	65	5	10	05	11	16.8	12.0	73	8.6	1013.8	7	016	21	6	2	5	0	9	8	0	84358				16	2Ac65 Ac cas/flo vir
17	80	4	22	11	20	16.6	11.2	70	8.2	1005.9	8	012	25	8	1	1	8	5	3	2	81820				17	1Sc56 2Ac59 2Ci75 Cu med jpSE
18	75	7	23	05	10	12.1	10.5	90	7.8	1002.6	8	001	21	6	1	7	7	4	7	/	87710				18	/Ac58
19	75	5	26	08	15	14.9	11.6	80	8.2	1013.4	2	013	03	1	1	1	1	4	8	1	81812	83365			19	1Ac62 3Ci72 Cu fra Ac flo vir
20	70	8	22	08	19	16.6	13.5	82	9.6	1018.5	3	013	02	2	2	8	5	4	/	/	87715	88618			20	
21	65	8	24	03	07	13.9	13.1	95	9.3	1017.2	1	001	20	5	2	8	8	3	/	/	83706	88620			21	1Cu10 Cu med
22	63	7	24	07	12	14.6	11.4	81	8.3	1020.3	2	013	03	2	2	4	8	4	8	1	82812	83656			22	2Ac68 3Ci78 COTRA Cu fra/hum Ac flo vir
23	62	7	22	05	11	13.0	10.6	85	7.9	1019.5	1	003	03	2	2	1	6	3	7	1	81708	87078			23	1Ac64 2Ac66 COTRA Cz arc
24	58	7	16	04	09	15.1	13.4	90	9.6	1014.1	8	003	05	2	2	1	5	3	0	1	81708	87075			24	1Sc45 2Ci70 COTRA U/a cont
25	60	6	19	08	16	17.7	14.3	81	10.1	1015.0	0	001	05	2	2	1	6	4	3	1	81712	86080			25	1Cu15 2Ac60 COTRA Cu hum
26	65	7	23	04	10	17.7	15.9	89	11.3	1019.3	2	022	01	5	2	7	5	3	/	/	82709	86712	87618		26	
27	50	8	15	02	04	15.2	14.7	96	10.2	1029.1	3	009	10	2	2	8	5	2	/	/	81703	85705	88615		27	
28	56	1	16	02	05	17.7	17.0	95	11.9	1027.1	7	004	05	4	0	0	0	9	0	1	81075				28	COTRA
29	57	0	15	04	06	18.9	16.9	88	11.8	1024.0	0	004	05	4	0	0	0	9	0	0					29	
30	40	0	06	02	05	17.3	16.1	92	11.1	1022.8	2	007	05	0	0	0	0	9	0	0					30	

Mean vis = 18.2 km  
 Mean cloud = 5.6 70%  
 Mean wind speed = 6.5 kn  
 Mean gust = 14 kn  
 Mean TT = 16.3 °C  
 Mean TdTd = 13.2 °C  
 Mean RH = 82.3 %  
 Mean r = 9.5 g/kg  
 Mean PPP = 1013.8 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)  
 N = Total cloud amount, oktas  
 dd = Direction from which wind is blowing, tens of degrees true  
 ff = 10 minute mean wind speed, knots  
 gg = Highest gust in past hour, knots  
 TT = Air temperature at 1.2 m, deg Celsius  
 TdTd = Dew point temperature at 1.2 m, deg Celsius  
 RH = Relative humidity at 1.2 m  
 r = Humidity mixing ratio at 1.2 m, g/kg  
 PPP = Air pressure reduced to sea level, mbar  
 a = Characteristic of pressure tendency (Code FM12-0200)  
 ppp = 3 hr pressure tendency, tenths of mbar  
 ww = Present weather code (Code FM12-4677)  
 W1, W2 = Past weather code (Code FM12-4561)-  
 covers past 3 hours.  
 Nh = Amount of low cloud present, oktas  
 Cl = Type of low cloud (Code Fm12-0513)  
 h = Height of low cloud (Code FM12-1600)  
 Cm = Type of medium cloud (Code FM12-0515)  
 Ch = Type of high cloud (Code FM12-0509)  
 8 groups. 8 = indicator for cloud detail  
 N = Amount of cloud, oktas  
 C = Type of cloud (FM12-0500)  
 hshs= Height of cloud (FM12-1677)  
 Remarks : COTRA = persistent condensation  
 trails present.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for September 2011

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NChshs	NChshs	NChshs	Date	Remarks
1	72	3	06	06	15	21.5	10.9	51	7.9	1012.2	6	015	03	0	0	1	1	6	3	0	81838	83360	1	Cu hum	
2	81	4	25	04	11	25.4	13.7	48	9.4	1010.1	7	005	02	1	1	1	2	6	0	1	81845	83075	2	1Cc70 COTRA Cu med	
3	75	7	22	07	17	20.4	13.1	63	9.7	1008.3	8	007	02	2	2	6	5	5	0	1	86628	83078	3	1Cc72 COTRA	
4	84	5	24	08	14	19.1	12.1	64	8.8	1006.1	0	002	01	6	2	2	8	5	7	8	81825	83270	4	2Sc40 1Ac65 2As65 /Ci75 Cu med	
5	58	7	24	09	29	14.7	12.0	83	8.8	1012.8	3	014	80	8	2	4	8	6	5	6	82830	83650	5	/Cs72 Cu con pR 1438	
6	50	8	23	07	29	16.4	14.9	91	10.5	1004.8	5	001	61	8	6	6	8	3	2	/	82708	84815	6	2Sc40 vv5kSE, 30kNW	
7	80	8	25	09	19	15.8	10.1	69	7.7	1012.2	5	001	02	8	2	3	8	5	7	/	82825	88359	7	2Sc50 2Ac57 Cu med	
8	86	7	24	04	12	18.5	13.3	72	9.7	1008.2	6	002	01	2	2	7	8	5	3	1	81825	87628	8	/Ac65 /Ci75 Cu hum	
9	86	8	22	05	12	20.4	15.6	74	11.0	1009.9	8	005	02	2	2	8	8	5	/	/	81822	88625	9	Cu hum	
10	80	7	21	09	21	19.3	15.3	77	10.9	1002.9	0	004	21	6	2	7	8	5	/	/	82822	83635	87640	10	Absent, vv&cld est
11	62	5	23	10	29	18.8	9.9	56	7.6	1004.7	3	001	15	1	1	5	8	6	0	0	83835	83650	11	Cu med jpW&N vv40k ex p	
12	70	2	25	14	31	19.5	9.5	52	7.5	1005.4	1	017	02	0	0	2	1	6	0	0	82840		12	Cu hum	
13	80	3	27	13	27	17.5	6.8	50	6.2	1011.9	5	006	02	8	1	3	8	6	0	0	82840		13	1Sc50 Cu med	
14	81	1	27	07	16	18.5	4.6	40	5.4	1018.0	8	003	01	0	0	1	4	7	0	1	81850		14	1Sc50 1Ci75 Cu hum	
15	80	6	16	04	10	19.3	7.5	46	6.5	1019.2	7	011	02	2	2	1	4	6	0	1	81645	86080	15	2Cs75 COTRA	
16	72	5	22	07	16	20.4	11.7	57	8.5	1009.1	6	017	02	1	1	3	2	6	3	1	83835	83075	16	1Ac65 Cu med	
17	70	7	22	07	17	13.3	10.3	82	7.8	1004.5	8	007	25	8	2	5	9	5	6	/	83925	85360	17	1Cu30 2Sc50 jp all quads vv60k exSE	
18	84	7	26	03	07	14.7	11.0	78	8.3	1003.0	2	007	25	8	2	2	8	4	7	2	81712	86357	18	1Cu20 2Sc50 /Ci70 Cu med jpW	
19	82	7	24	08	18	16.6	11.3	70	8.3	1014.6	2	003	02	2	2	7	5	5	3	1	85625	84656	19	3Ac58 /Ci70	
20	82	8	21	10	19	17.8	13.7	77	9.7	1017.5	8	009	02	2	2	7	8	4	2	/	84816	87625	20	/Ac65 Cu hum	
21	82	6	25	09	21	17.8	7.7	51	6.7	1016.1	8	004	02	2	2	5	4	6	0	1	82840	85645	21	2Ci78 COTRA Cu hum	
22	75	7	25	06	15	17.5	10.0	62	7.4	1019.8	7	002	03	2	2	5	8	6	7	/	82830	84656	85366	22	7As68 Cu med
23	75	7	21	04	13	18.2	9.1	55	7.3	1016.4	7	020	01	2	2	1	4	6	3	1	81635	87080	23	1Ac68 COTRA	
24	70	6	19	06	13	19.0	10.7	59	8.0	1013.1	5	004	02	2	2	6	8	6	0	1	81833	86650	24	1Ci78 COTRA Cu med	
25	80	6	22	10	24	19.0	13.1	69	9.4	1014.9	7	002	01	2	2	3	8	5	4	1	81825	83650	86075	25	1Ac58 COTRA Cu med Halo 22° part
26	75	7	25	05	11	20.7	13.0	61	9.1	1021.7	2	008	15	2	2	6	8	6	7	/	82830	85650	85368	26	1Ac59 Cu med jpW vv40k exW
27	70	1	22	06	11	21.9	14.5	63	10.0	1028.1	8	013	02	1	1	1	1	5	0	1	81828		27	1Ci78 Cu hum	
28	80	0	15	05	11	25.1	13.1	47	9.3	1024.3	7	016	02	0	0	0	0	9	0	0			28		
29	75	0	18	05	11	26.5	10.9	37	8.0	1022.0	6	009	02	0	0	0	0	9	0	0			29		
30	75	1	19	08	17	26.7	9.5	34	7.3	1021.3	6	007	03	0	0	0	0	9	0	2	81075		30		

Mean vis = 29.6 km  
 Mean cloud = 5.2 65%  
 Mean wind speed = 7.2 kn  
 Mean gust = 17 kn  
 Mean TT = 19.3 °C  
 Mean TdTd = 11.3 °C  
 Mean RH = 61.3 %  
 Mean r = 8.4 g/kg  
 Mean PPP = 1013.1 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)  
 N = Total cloud amount, oktas  
 dd = Direction from which wind is blowing, tens of degrees true  
 ff = 10 minute mean wind speed, knots  
 gg = Highest gust in past hour, knots  
 TT = Air temperature at 1.2 m, deg Celsius  
 TdTd = Dew point temperature at 1.2 m, deg Celsius  
 RH = Relative humidity at 1.2 m  
 r = Humidity mixing ratio at 1.2 m, g/kg  
 PPP = Air pressure reduced to sea level, mbar  
 a = Characteristic of pressure tendency (Code FM12-0200)  
 ppp = 3 hr pressure tendency, tenths of mbar  
 ww = Present weather code (Code FM12-4677)  
 W1, W2 = Past weather code (Code FM12-4561)-  
 covers past 3 hours.  
 Nh = Amount of low cloud present, oktas  
 Cl = Type of low cloud (Code Fm12-0513)  
 h = Height of low cloud (Code FM12-1600)  
 Cm = Type of medium cloud (Code FM12-0515)  
 Ch = Type of high cloud (Code FM12-0509)  
 8 groups. 8 = indicator for cloud detail  
 N = Amount of cloud, oktas  
 C = Type of cloud (FM12-0500)  
 hshs= Height of cloud (FM12-1677)  
 Remarks : COTRA = persistent condensation  
 trails present.

Wokingham		Hour	01-Sep	02-Sep	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
Sunshine		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hourly analysis		1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011		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	0.17	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
		6	1.00	0.09	0.00	0.00	0.98	0.00	0.08	0.00	0.00	0.02	0.14	0.00	0.38	0.98	0.88	0.03
		7	1.00	0.99	0.00	0.06	0.78	0.00	0.32	0.00	0.40	0.00	0.67	0.00	0.58	1.00	0.99	0.02
		8	1.00	1.00	0.00	0.00	0.52	0.00	0.12	0.00	0.05	0.00	0.87	0.01	1.00	0.94	1.00	0.38
		9	1.00	1.00	0.02	0.00	0.50	0.00	0.00	0.00	0.00	0.28	0.60	0.06	0.94	0.70	1.00	0.95
		10	0.91	1.00	0.02	0.00	0.57	0.00	0.02	0.00	0.00	0.00	0.56	0.38	0.50	0.71	1.00	0.57
		11	0.63	1.00	0.34	0.00	0.50	0.00	0.00	0.00	0.00	0.01	0.77	0.80	0.08	0.91	0.63	0.48
		12	0.55	1.00	0.07	0.00	0.44	0.00	0.00	0.00	0.00	0.04	0.68	0.51	0.13	0.98	0.97	0.31
		13	0.80	1.00	0.42	0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.92	0.71	0.40	1.00	1.00	0.48
		14	0.96	1.00	0.10	0.26	0.29	0.00	0.00	0.00	0.00	0.01	0.72	0.85	0.88	1.00	0.98	0.57
		15	0.18	0.83	0.68	0.54	0.00	0.00	0.01	0.27	0.00	0.01	0.06	1.00	0.83	1.00	0.85	0.71
		16	0.57	0.46	0.13	0.76	0.00	0.00	0.21	0.84	0.03	0.03	0.03	1.00	1.00	1.00	0.95	0.41
		17	1.00	0.06	0.37	0.80	0.00	0.00	0.06	0.75	0.00	0.03	0.00	0.84	0.82	0.94	0.29	0.00
		18	0.45	0.00	0.00	0.11	0.00	0.00	0.00	0.08	0.00	0.04	0.00	0.00	0.18	0.06	0.00	0.00
		19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot			<b>10.22</b>	<b>9.42</b>	<b>2.14</b>	<b>2.52</b>	<b>5.82</b>	<b>0.00</b>	<b>0.82</b>	<b>1.95</b>	<b>0.48</b>	<b>0.47</b>	<b>6.03</b>	<b>6.17</b>	<b>7.72</b>	<b>11.30</b>	<b>10.56</b>	<b>4.93</b>

	Hour	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep	Mean
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.02
	6	0.04	0.57	0.50	0.00	0.00	0.31	0.41	0.13	0.58	0.00	0.00	0.23	0.50	0.48	0.28
	7	0.20	0.00	0.46	0.00	0.00	0.56	0.88	0.35	1.00	0.02	0.00	1.00	1.00	1.00	0.44
	8	0.42	0.04	0.91	0.00	0.00	0.30	1.00	0.94	1.00	0.07	0.00	1.00	1.00	1.00	0.49
	9	0.49	0.04	0.97	0.00	0.00	0.78	0.99	1.00	0.62	0.10	0.00	1.00	1.00	1.00	0.50
	10	0.54	0.15	0.40	0.00	0.35	0.47	0.91	0.81	0.47	0.21	0.00	1.00	1.00	1.00	0.45
	11	0.33	0.12	0.12	0.00	0.43	0.90	0.97	0.39	0.66	0.74	0.00	1.00	1.00	1.00	0.46
	12	0.05	0.00	0.01	0.00	0.64	0.55	0.99	0.00	0.33	0.48	0.31	1.00	1.00	1.00	0.40
	13	0.29	0.02	0.02	0.00	0.78	0.25	1.00	0.18	0.00	0.22	1.00	1.00	1.00	1.00	0.48
	14	0.00	0.44	0.25	0.00	0.71	0.03	1.00	0.44	0.05	0.45	1.00	1.00	1.00	1.00	0.50
	15	0.08	0.21	0.15	0.00	0.68	0.00	1.00	0.49	0.57	0.00	1.00	1.00	1.00	1.00	0.47
	16	0.00	0.26	0.24	0.00	0.44	0.00	0.75	0.86	0.84	0.00	1.00	1.00	1.00	1.00	0.49
	17	0.16	0.38	0.06	0.00	0.17	0.50	0.00	0.59	0.23	0.00	0.66	0.71	0.58	0.54	0.35
	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	0.03
	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
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Tot	<b>2.61</b>	<b>2.22</b>	<b>4.08</b>	<b>0.00</b>	<b>4.20</b>	<b>4.66</b>	<b>9.91</b>	<b>6.19</b>	<b>6.34</b>	<b>2.29</b>	<b>4.97</b>	<b>10.94</b>	<b>11.08</b>	<b>11.02</b>	<b>161.01</b>

September 2011	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	14.05	22.2	1453	6.5	510	77.8	97.9	641	49.1	1334	9.80	7.57	9.9	1131	5.8	510	1013.68	1015.9	1	1011.4	1822	0.0
2	17.48	26.2	1510	9.9	510	75.9	97.3	603	41.8	1508	12.60	9.12	11.4	1111	7.3	510	1010.79	1011.9	5	1009.8	1722	0.0
3	16.99	21.4	1228	12.2	132	79.7	95.9	152	58.3	1547	13.28	9.50	11.0	1226	8.4	132	1008.62	1010.6	3	1006.6	1854	0.0
4	15.87	19.3	1457	11.8	2359	83.2	96.1	1203	46.8	1640	12.84	9.34	11.9	1055	5.9	1640	1006.35	1008.1	2355	1005.1	1049	9.1
5	14.47	19.1	1249	10.2	428	74.2	88.1	331	49.1	1323	9.77	7.53	9.5	1536	6.4	1145	1011.30	1015.3	2012	1007.8	210	2.3
6	15.24	18.4	1343	11.8	2325	83.1	93.3	926	67.4	1842	12.36	9.02	11.1	1159	7.1	2044	1007.16	1013.4	14	1003.8	1739	5.6
7	13.46	16.6	1248	11.3	447	79.4	89.3	2202	62.3	1303	9.93	7.59	8.5	1209	6.8	232	1011.42	1012.7	1602	1008.1	3	1.3
8	16.08	20.2	1602	12.9	1	79.5	94.8	2352	64.8	1251	12.48	9.06	10.9	2355	7.7	110	1008.88	1011.3	19	1007.6	1717	0.2
9	18.21	21.0	1307	15.4	241	86.3	95.9	348	72.4	1532	15.82	11.18	12.6	1056	10.2	2033	1009.39	1010.7	931	1007.5	2355	0.7
10	18.49	22.0	935	15.2	2307	82.1	93.0	18	66.8	956	15.30	10.92	12.8	926	8.8	2135	1003.74	1007.6	1	1002.2	702	0.1
11	16.19	20.6	1256	13.7	251	78.5	94.0	329	49.1	1426	12.26	8.92	10.0	858	7.2	1437	1004.78	1006.6	1911	1002.6	430	6.4
12	17.30	20.8	1046	13.0	2355	71.6	92.7	656	48.4	1510	11.86	8.84	12.0	704	6.7	1807	1004.57	1010.2	2355	1000.1	653	0.3
13	14.01	18.4	1024	10.4	2358	69.1	84.8	603	43.2	1612	8.23	6.79	8.5	1327	5.0	1612	1012.56	1016.4	2335	1009.9	0	0.0
14	13.33	19.1	1411	7.6	2352	69.8	94.0	2359	37.7	1453	7.39	6.36	8.2	922	4.9	1453	1018.18	1020.7	0	1016.0	9	0.0
15	11.99	20.1	1347	4.9	539	78.0	97.6	721	41.0	1353	7.66	6.48	8.0	1004	5.1	539	1019.97	1021.6	838	1018.3	2359	0.0
16	15.65	22.0	1443	9.2	115	75.9	97.3	509	49.1	1101	10.98	8.15	9.4	1428	6.8	115	1012.28	1018.3	2	1008.4	1633	0.0
17	13.22	18.0	1106	8.1	2357	79.6	93.6	2359	50.9	1129	9.63	7.50	8.7	857	6.1	1140	1005.69	1010.1	1	1003.3	2359	1.7
18	11.14	15.7	1506	6.3	518	88.4	97.0	620	71.0	1126	9.24	7.34	9.1	1403	5.7	518	1004.05	1008.7	2358	1002.1	1141	1.5
19	13.53	17.7	1431	8.1	539	81.3	94.7	110	60.3	1200	10.26	7.79	9.3	2044	6.2	539	1013.74	1017.0	2152	1008.7	1	0.1
20	16.28	19.1	1042	13.9	2353	82.1	96.3	2359	72.6	1044	13.21	9.37	10.3	1035	8.4	156	1017.63	1018.6	857	1016.2	7	3.1
21	14.54	18.1	1452	12.5	428	78.0	96.9	456	48.6	1414	10.40	7.87	9.6	51	5.9	1404	1017.06	1018.0	116	1016.0	1449	0.4
22	14.22	18.5	1241	9.9	2358	74.7	90.3	2359	45.5	1204	9.59	7.37	8.9	945	5.7	1204	1019.68	1021.1	1958	1017.4	0	0.0
23	12.60	18.4	1422	6.9	519	80.2	97.1	533	52.2	1402	8.94	7.07	8.4	1244	5.9	513	1017.84	1020.4	2	1015.4	2359	0.0
24	13.15	20.6	1405	5.8	504	81.5	97.8	745	54.3	1406	9.71	7.52	9.8	848	5.5	504	1014.22	1015.6	17	1012.9	1523	0.0
25	16.01	20.9	1237	10.5	145	81.8	96.4	217	56.7	1237	12.72	9.11	10.4	932	7.5	145	1015.26	1016.5	1934	1014.3	340	0.0
26	17.03	21.8	1325	11.9	2359	83.7	96.2	2354	58.1	1419	14.11	9.92	11.6	850	8.1	2359	1020.63	1026.0	2355	1015.7	308	0.5
27	15.49	22.3	1505	10.2	219	88.5	98.0	546	61.1	1506	13.42	9.43	11.3	1246	7.4	219	1028.28	1029.6	1010	1025.8	0	0.1
28	16.43	25.4	1409	9.2	553	81.5	98.7	727	44.7	1454	12.64	9.03	12.4	954	7.0	553	1025.89	1028.6	11	1023.3	1701	0.1
29	17.50	27.0	1424	9.4	604	76.1	98.2	716	34.3	1426	12.32	8.84	12.2	854	7.0	604	1023.19	1024.6	8	1021.7	1542	0.0
30	17.04	27.3	1354	9.0	552	76.5	98.1	718	32.0	1447	11.84	8.59	12.3	931	6.9	611	1022.43	1023.9	2352	1021.0	1514	0.0
Total																						33.5
Mean	15.23	20.61		10.25		79.3	95.04		52.98		11.35	8.44	10.33		6.78		1013.64	1016.34		1011.31		
Max	18.49	27.27		15.43		88.5	98.70		72.60		15.82	11.18	12.82		10.17		1028.28	1029.58		1025.81		
Min	11.14	15.74		4.87		69.1	84.80		32.02		7.39	6.36	8.00		4.93		1003.74	1006.62		1000.09		

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

## Appendix 1.

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

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

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

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