

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 2012

Temperature (°C / °F)				Anomaly	Rank in the past 131 years			
Mean maximum	19.3	66.7	-0.1		47 th highest			
Mean minimum	8.3	46.9	-1.7		38 th lowest			
Daily mean	13.8	56.8	-0.9		54 th lowest			
Highest maximum	27.9	82.2	on 9 th		Lowest maximum	14.6	58.3	on 23 rd
Highest minimum	15.6	60.1	on 10 th		Lowest minimum	2.7	36.9	on 22 nd
Mean grass minimum	4.2	39.6	-2.5		Lowest grass minimum	-2.5	27.5	on 22 nd
Mean earth @30 cm	16.4	61.5	0.0		Earth @100 cm	16.7	62.1	
Frost duration (hrs)	0.0				Rain duration (hrs)	26.1		
Rainfall total (mm / in)	47.6	1.87	89 %		64 th lowest			
Highest daily fall	19.1	0.75	on 23 rd					
Number of: Dry days (<0.2mm)	18	Wet days (>0.9mm)	7		days ≥5mm	4		
Sunshine total (hrs)	183.7	Daily mean	6.12	128 %	Sunniest day	12.7	on 7 th	
N° days with: Air frost	0	Ground frost	5	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	1015.6	-1.1	Highest	1030.4	on 6 th	Lowest	984.3	on 24 th
Relative humidity : Mean (%)	75.6	Lowest	20	on 8 th	Water vapour (g/kg), mean at 09 and 15 GMT	7.6,	7.0	
Overall mean wind speed (mph)	6.4	Windiest day	11.1	on 10 th	Max gust	33	on 24 th	
Wind direction (days)	N 1	NE 1	E 1	SE 0	S 1	SW 15	W 10	NW 1
Least windy day (mph)	3.0	on 3 rd	Calm; less than 0.5 mph (minutes)	466				

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

Notes:

Very Sunny with Below Average Rainfall and Temperature

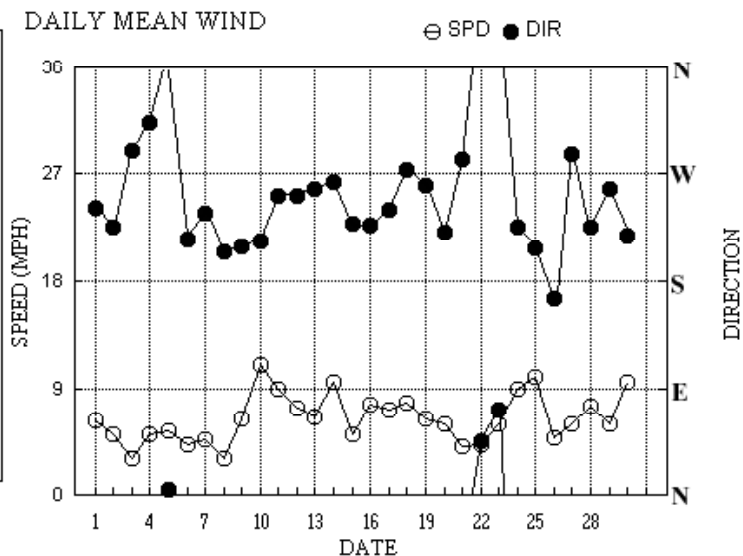
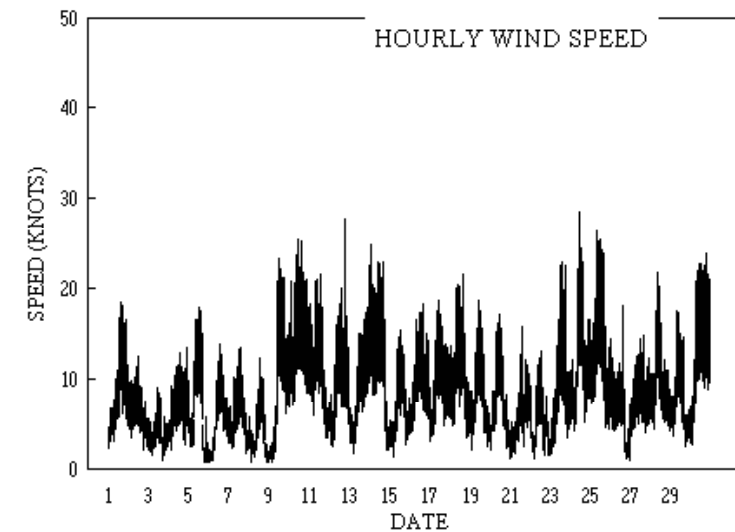
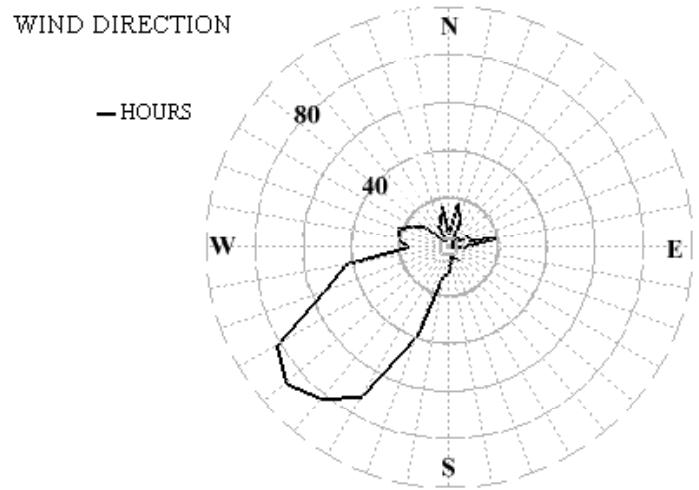
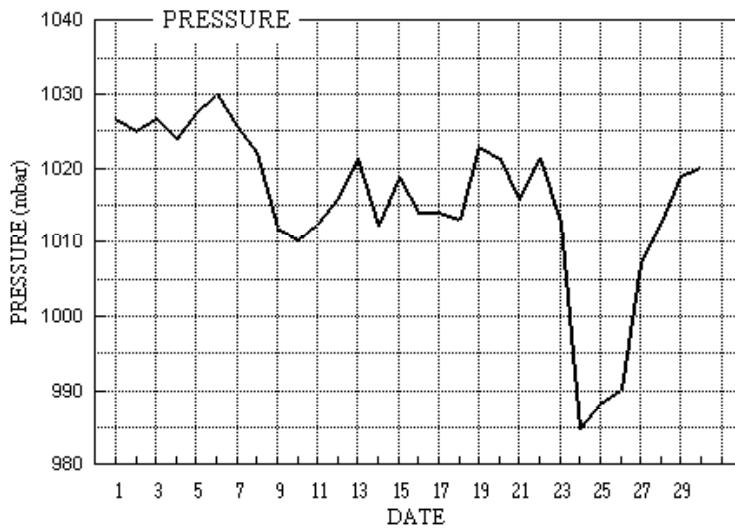
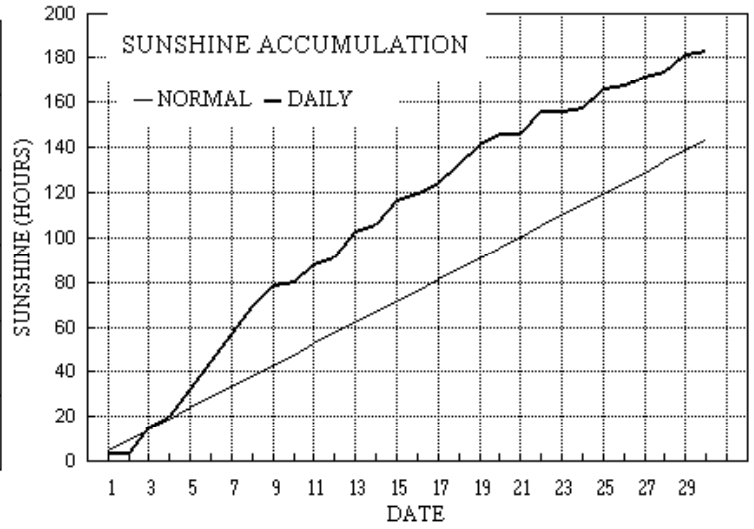
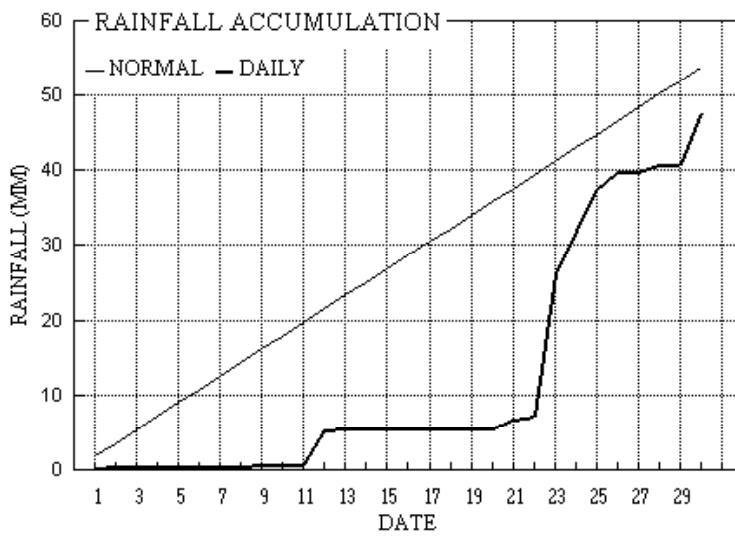
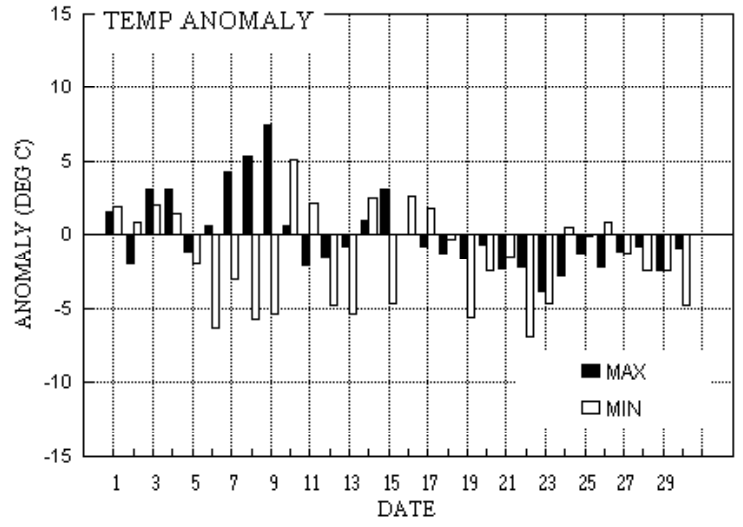
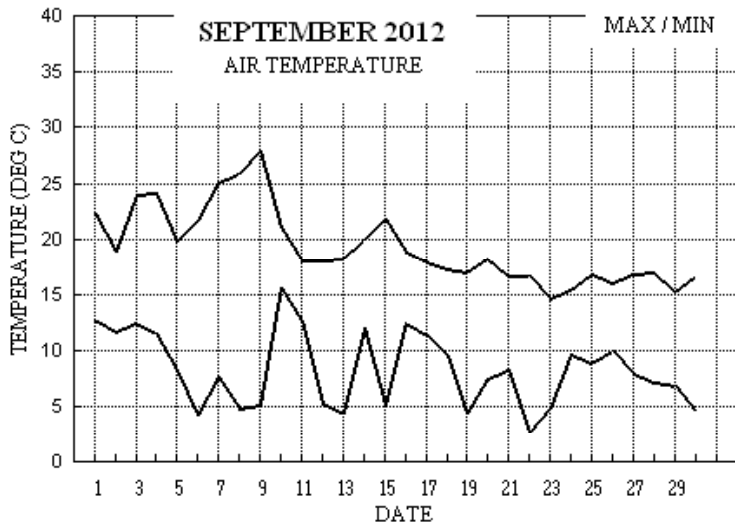
Temperature: In terms of the overall mean, this is the coolest September since 1996, although 2008 was only 0.1° milder. However, for the mean max 2010 was colder, and for the mean min, it was 2003. The highest max is 3.4° above the median and highest for the month since 2006. The lowest max is 0.7° above the median. The highest min is 0.4° above the median and the lowest min is equal to the median. The mean daily temperature range of 11.0° is 1.5° above the normal for the past 37 years, while the highest daily range of 22.7° on the 9th is a new September record, exceeding the previous highest in 2003 by 1.9°, and in fact equals the highest recorded for any month, which was on the 30th June 1995. The mean grass min is 2nd lowest after 1986 in 33 years., but the lowest grass min is lowest only since 2003. Earth temperatures at both 30cm and 1 m depth are close to normal. The number of ground frosts is most since 1987, and there have been 11 Septembers with none in that period. **Rainfall:** Despite a wet period in the final third of the month, the total is 11 % below average. Nevertheless it is the wettest September since 2008. The month's highest daily fall is 3.1 mm above the median. The duration of measurable rain is 10.5 hours less than the normal for the past 20 years. The number of dry days is close to average, and there were two dry spells, the first of 6 days ending on the 8th and the second of 8 days ending on the 20th. A rainfall rate of 205 mm/hr was the month's highest, recorded in a violent rain shower at 1921 GMT on the 12th, and 4.7 mm of rain fell in 4 minutes. Thunder and hail were absent this month. **Sunshine:** This has been a very sunny September, and sunniest since 2003. Based on the daily mean sunshine this month, surprisingly it is the sunniest month this year, and it is also the first month since March to exceed the average. The period 5th to the 8th was outstanding with a daily mean of 12.4 hours, over 90 % of the maximum each day. Overall there were 9 days with <3 hours (anom -2), 14 with =>6 hours, 9 with =>9 hours (anom +4), and 4 with =>12 hours. **Humidity:** The lowest relative humidity of 20 % is the lowest for this month since before 1998, and the average lowest in that period is 34 %. **Pressure:** The month's lowest pressure is lowest for the month since 1995. **Commentary: From the 1st to the 9th:** Daily max temperatures were near or above normal with a 3 day hot spell from the 7th to the 9th. Anomalies were between +7.4° on the 9th and -2.0° on the 2nd. Daily minima were near or below normal, with cold nights from the 6th to the 9th. Anomalies were between -6.3° on the 6th to +2.0° on the 1st and 3rd. A little rain fell on just 3 days but only amounted to 0.6 mm. Apart from a sunless day on the 2nd, sunshine was plentiful, and a surplus of nearly 40 hours was reached by the 9th. Light or moderate winds were mainly SW'ly, temporarily N'ly on the 5th. **From the 10th to the 22nd:** Daily maxima were generally near normal with anomalies between +3.1° on the 15th and -2.3° on the 21st. Daily minima were more variable, with a scattering of cold nights, and anomalies between -6.9° on the 22nd and +5.1° on the 10th. Apart from a brief violent rain shower on the 12th there were 10 dry days and only 1.7 mm of rain, mostly on the 21st. Sunshine was quite variable but above normal overall. Winds were mostly moderate, but fresh on the 10th and generally SW'ly or W'ly, except NE'ly on the 22nd. **From the 23rd to the 30th:** Maxima were below normal with anomalies between -0.7° on the 28th and -3.8° on the 23rd. Minima were also mainly below normal, with anomalies of -4.8° on the 30th and +0.9° on the 26th. This period was quite wet, just 2 dry days and a fall of 19.1 mm on the 23rd contributing to a total of 40.5 mm. Apart from a couple of sunny days, sunshine was poor, 5 days having <20 % of the max. Moderate NE'ly winds on the 23rd backed fresh SW'ly on the 24th, decreasing light on the 26th and increasing moderate on the 28th.

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

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
+2.3°	-1.1°	3 %	170%	-0.4°	-1.4°	27%	138%	-2.0°	-2.3°	235%	80%

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

Wokingham climatological graphs for September 2012



Month: SEPTEMBER 2012

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff	Rain HH hrs						
1	22.3	12.8	0.2	12.4	17.6	17.6	4.3	0.0	1026.8	0 0 0 0	0 0 0 0	0 0 0 0	242	5.2	5.4	256	19	1507	259	9	16	0.2	
2	18.8	11.7	0.2	8.5	17.8	17.5	0.0	0.0	1025.1	0 0 0 0	0 0 0 0	0 0 0 0	225	4.4	4.5	237	13	1203	234	7	11	0.6	
3	24.0	12.4	0.0	8.8	17.8	17.4	11.0	0.0	1026.7	0 0 0 0	0 0 0 0	0 0 0 0	290	1.8	2.6	274	9	1151	308	4	11	0.0	
4	24.1	11.6	0.0	7.5	18.2	17.4	4.8	0.0	1024.0	0 0 0 0	0 0 0 0	0 0 0 0	313	2.9	4.5	13	14	2201	14	6	22	0.0	
5	19.8	8.2	0.0	2.4	18.3	17.4	12.7	0.0	1027.5	0 0 0 0	0 0 0 0	0 0 0 0	5	4.5	4.8	25	18	1221	1	9	12	0.0	
6	21.6	4.2	0.0	0.0	17.7	17.4	12.2	0.0	1029.9	0 0 0 0	0 0 0 0	0 0 0 0	215	3.6	3.7	209	14	1455	224	8	14	0.0	
7	25.1	7.6	0.0	2.4	17.4	17.4	12.7	0.0	1025.5	0 0 0 0	0 0 0 0	0 0 0 0	237	3.7	4.0	262	14	1419	265	7	14	0.0	
8	25.9	4.9	0.0	-0.1	17.4	17.3	12.1	0.0	1022.1	0 1 0 0	0 0 0 0	0 0 0 0	205	2.6	2.7	206	13	1439	217	5	16	0.0	
9	27.9	5.2	0.2	0.9	17.2	17.3	9.0	0.0	1012.0	0 0 0 0	0 0 0 0	0 0 0 0	209	4.9	5.6	208	24	1349	215	11	13	0.4	
10	21.0	15.6	tr	13.3	17.6	17.2	1.7	0.0	1010.4	0 0 0 0	0 0 0 0	0 0 0 0	213	9.5	9.6	218	26	1234	208	12	16	0.0	
11	18.1	12.6	0.0	9.5	17.8	17.2	7.9	0.0	1012.4	0 0 0 0	0 0 0 0	0 0 0 0	252	7.3	7.7	243	22	1427	257	11	15	0.0	
12	18.1	5.3	4.8	-0.5	17.2	17.2	3.3	0.0	1016.0	0 1 0 0	0 0 0 0	0 0 0 0	251	4.8	6.3	340	28	1921	244	9	12	0.5	
13	18.3	4.3	0.1	-1.1	16.7	17.1	11.0	0.0	1021.4	0 1 0 0	0 0 0 0	0 0 0 0	257	5.1	5.7	249	18	2353	234	9	23	0.2	
14	19.9	12.0	0.0	11.5	16.8	17.0	3.2	0.0	1012.1	0 0 0 0	0 0 0 0	0 0 0 0	263	7.4	8.3	247	25	0225	247	11	02	0.0	
15	21.9	5.1	0.0	0.4	16.5	16.9	11.4	0.0	1018.8	0 0 0 0	0 0 0 0	0 0 0 0	229	4.1	4.4	207	16	1333	239	8	15	0.0	
16	18.8	12.4	0.0	7.5	16.7	16.8	2.5	0.0	1014.1	0 0 0 0	0 0 0 0	0 0 0 0	227	6.5	6.6	246	19	1645	228	9	13	0.0	
17	18.0	11.4	tr	5.2	16.8	16.8	4.7	0.0	1014.0	0 0 0 0	0 0 0 0	0 0 0 0	240	6.0	6.2	237	19	1109	245	8	13	0.0	
18	17.3	9.5	tr	5.2	16.7	16.7	8.4	0.0	1013.1	0 0 0 0	0 0 0 0	0 0 0 0	273	5.9	6.8	285	22	1733	298	10	16	0.0	
19	17.0	4.3	0.0	-2.1	15.9	16.7	8.6	0.0	1022.9	0 1 0 0	0 0 0 0	0 0 0 0	261	5.1	5.5	286	19	1125	277	9	11	0.0	
20	18.2	7.5	0.0	2.6	15.6	16.6	4.5	0.0	1021.4	0 0 0 0	0 0 0 0	0 0 0 0	221	5.1	5.3	222	17	1302	221	9	13	0.0	
21	16.7	8.3	1.3	5.3	15.7	16.4	0.1	0.0	1015.7	0 0 0 0	0 0 0 0	0 0 0 0	282	1.5	3.6	290	16	1632	12	6	20	1.3	
22	16.7	2.7	0.3	-2.5	15.6	16.3	10.3	0.0	1021.2	0 1 0 0	0 0 0 0	0 0 0 0	45	2.9	3.7	30	13	1409	46	6	11	0.3	
23	14.6	4.9	19.1	0.3	15.2	16.2	0.0	0.0	1012.6	0 0 0 0	0 0 0 0	0 0 0 0	71	5.2	5.3	76	23	1410	74	9	17	10.1	
24	15.4	9.7	5.7	9.8	14.8	16.1	1.4	0.0	984.7	0 0 0 0	0 0 0 0	0 0 0 0	226	4.1	7.7	250	29	1246	247	12	12	2.4	
25	16.9	8.9	5.5	5.6	14.6	15.9	8.6	0.0	988.2	0 0 0 0	0 0 0 0	0 0 0 0	207	8.4	8.6	221	27	0956	213	13	12	3.3	
26	16.0	10.0	2.5	6.7	14.6	15.8	1.2	0.0	990.1	0 0 0 0	0 0 0 0	0 0 0 0	165	3.7	4.2	201	18	1602	159	6	09	2.1	
27	16.9	8.0	0.0	3.6	14.7	15.6	4.3	0.0	1007.0	0 0 0 0	0 0 0 0	0 0 0 0	287	3.5	5.2	251	15	1603	272	7	13	0.0	
28	17.0	7.1	0.7	2.4	14.7	15.5	1.9	0.0	1012.7	0 0 0 0	0 0 0 0	0 0 0 0	225	6.3	6.4	235	22	1016	230	11	10	0.3	
29	15.3	6.9	0.0	0.3	14.5	15.5	8.0	0.0	1019.0	0 0 0 0	0 0 0 0	0 0 0 0	258	4.5	5.2	303	18	0943	298	9	11	0.0	
30	16.7	4.6	7.0	0.9	14.0	15.4	1.9	0.0	1020.1	0 0 0 0	0 0 0 0	0 0 0 0	218	8.2	8.3	211	24	1927	233	11	13	4.4	
Total			47.6				183.7	0.0															26.1
Mean	19.3	8.3		4.2	16.4	16.7	6.12	0.0	1015.6					238	3.7	5.6							
Anom	-0.1	-1.7	89%	-2.5	+0.0	-0.1	128%																
Daily mean		13.8																					
Anom		-0.9																					

Total

Mean

Anom

Daily mean

Anom

Number of days with:

Air frost = 0

Ground frost = 5

Nil sun = 2

Snow falling = 0

Snow lying = 0

Thunder = 0

Hail=>5mm = 0

Hail<5mm or ice = 0

Fog at 09GMT = 0

Abbreviations.

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

Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).

Grass min = Lowest overnight temperature at grass tip level.

Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.

pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.

Af = Air frost. Gf = Ground frost. Sf = Snow falling. Sl = Snow lying at 09 GMT.

Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.

Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.

Sp = 24 hour mean wind speed in knots.

Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.

High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.

30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for SEPTEMBER 2012

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ci	NChs	shs	NChs	shs	NChs	shs	Date	Remarks
1	61	7	24	05	09	15.6	12.6	82	8.9	1026.8	7	004	02	2	2	8	5	4	/	/	81712	87625	87650			1		
2	56	8	21	04	10	14.9	13.4	91	9.3	1025.1	2	010	21	6	5	8	5	2	/	/	81705	83708	88612			2		
3	65	3	30	03	06	17.5	12.6	73	9.1	1026.7	0	000	01	1	1	0	0	9	0	1						3	COTRA U/a cont	
4	65	4	26	04	11	17.2	13.4	78	9.4	1024.0	2	002	01	1	1	1	6	4	8	9						4	1Ac68 2Cc73 2Ci80 COTRA Ac vir	
5	70	2	36	08	14	14.9	7.3	60	6.3	1027.5	1	005	02	0	0	1	1	5	3	9						5	1Ac68 2Cc72 COTRA Cu fra Irridescence	
6	70	6	19	03	05	15.1	9.6	69	7.3	1029.9	7	005	02	2	2	0	0	9	0	1						6	COTRA Parheliion	
7	61	1	25	05	10	16.8	11.9	73	8.3	1025.5	3	003	02	0	0	0	0	9	0	1						7	COTRA	
8	68	5	22	01	03	16.7	11.4	71	8.2	1022.1	7	005	03	1	1	0	0	9	0	1						8	COTRA Parheliion	
9	68	1	15	02	05	18.1	12.2	68	8.8	1012.0	7	013	03	0	0	0	0	9	0	4						9	COTRA Ci edge WNW	
10	60	7	22	09	21	18.9	14.3	75	10.1	1010.4	2	007	15	2	2	6	8	4	/	1						10	COTRA jpNW U/a cont	
11	89	3	27	11	21	15.6	5.9	52	5.8	1012.4	2	020	03	0	0	1	1	6	0	1						11	COTRA Cu hum Parheliion U/a cont	
12	65	7	24	06	16	12.8	8.1	73	6.6	1016.0	5	003	15	1	1	7	8	4	/	/						12	1Sc40 Cu fra jp NW vv40k ex NW	
13	82	4	27	04	07	12.2	7.1	71	6.0	1021.4	0	005	02	0	0	1	0	9	3	1						13	COTRA Parhelia.	
14	75	7	24	09	17	15.8	13.8	88	9.8	1012.1	8	003	21	6	5	7	5	4	/	/						14		
15	70	2	26	05	08	14.5	10.2	75	7.5	1018.8	1	002	03	0	0	0	0	9	0	1						15	COTRA Ci flo	
16	84	7	22	09	15	15.7	10.7	72	7.9	1014.1	7	002	03	2	2	6	8	5	/	1						16	COTRA Cu hum	
17	80	7	26	09	17	15.4	7.5	59	6.5	1014.0	0	010	03	2	2	1	8	5	0	1						17	1Sc40 2Ci77 COTRA Cu hum Parheliion	
18	82	1	27	09	16	13.9	7.2	64	6.3	1013.1	1	015	03	0	0	1	8	5	0	2						18	1Sc50 1Ci75 Cu fra/med	
19	86	1	26	06	13	12.3	6.1	65	5.8	1022.9	1	012	03	0	0	1	8	5	0	0						19	1Sc050 Cu fra	
20	86	8	23	08	15	13.7	7.9	68	6.6	1021.4	8	002	01	2	2	1	0	8	3	7						20	COTRA Halo 22° part Parheliion.	
21	80	8	21	03	06	12.4	8.8	78	7.1	1015.7	5	003	02	2	2	4	0	9	8	7						21	Ac cas U/a cont	
22	84	2	02	06	09	10.1	6.9	80	6.3	1021.2	1	010	02	0	0	1	6	4	0	1						22	2Ci75 COTRA	
23	60	8	08	06	12	10.2	7.7	84	6.5	1012.6	8	017	62	6	2	8	0	7	2	/						23		
24	20	8	10	05	10	14.5	14.2	98	10.3	984.7	6	019	63	6	2	7	7	2	2	/						24		
25	88	3	21	12	22	14.1	7.5	65	6.6	988.2	2	003	03	0	0	1	9	5	6	1						25	1Sc40 1Ac60 Cu fra Cb SE-SW	
26	80	7	17	05	10	12.4	10.9	91	8.2	990.1	2	019	15	8	2	4	8	4	7	9						26	1Sc50 /Ac65 /Cc70 Cu fra/med jpS	
27	62	7	32	06	11	11.5	9.6	88	7.4	1007.0	2	029	02	6	2	7	8	4	/	1						27	/Sc40 /Ci75 Cu hum	
28	84	7	23	08	18	14.2	10.5	78	7.9	1012.7	2	001	03	1	1	2	8	4	7	1						28	1Sc20 COTRA Cu fra	
29	84	1	27	08	15	12.1	7.7	75	6.4	1019.0	2	026	03	0	0	1	1	4	0	0						29	Cu fra	
30	80	7	24	10	21	13.1	8.8	75	7.0	1020.1	0	000	03	2	2	7	5	5	/	8						30		

Mean vis = 29.8 km

Mean cloud = 5.0 62%

Mean wind speed = 6.3 kn

Mean gust = 12 kn

Mean TT = 14.4 °C

Mean TdTd = 9.9 °C

Mean RH = 74.6 %

Mean r = 7.6 g/kg

Mean PPP = 1015.6 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 2012

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	hCr	Cf	NCh	shs	NCh	shs	Date	Remarks
1	82	7	24	08	17	21.8	13.4	59	9.3	1024.1	7	012	02	2	2	1	1	6	8	8	81832	87272	1	2Ac68 COTRA Cu hum Ac cas Halo 22 part	
2	75	8	23	05	09	18.2	15.4	84	10.7	1024.4	8	003	20	5	2	8	5	4	/ /	86612	88615	2			
3	86	3	23	04	07	23.3	11.4	47	8.1	1024.6	8	018	02	0	0	1	1	6	0	1	81845	83080	3	Cu hum	
4	72	7	35	04	10	22.6	15.7	65	11.1	1022.7	7	007	03	1	1	7	8	5	3	1	85828	86635	4	/Ac150 /Ci300 COTRA Cu hum	
5	72	0	36	08	18	19.5	8.3	48	6.6	1027.0	5	003	02	0	0	0	0	9	0	0	0	0	5		
6	82	7	22	07	14	20.9	7.3	41	6.4	1026.9	7	019	02	2	2	0	0	9	0	2	87075		6	COTRA	
7	81	1	25	07	14	24.8	8.1	34	6.4	1023.5	6	011	02	0	0	0	0	9	0	1	81080		7	COTRA	
8	82	5	20	06	13	25.4	6.6	30	6.0	1018.5	7	016	02	1	1	0	0	9	0	2	83075	83080	8	COTRA Ci flo	
9	80	7	21	08	21	23.8	7.7	36	6.4	1008.8	6	008	03	1	1	1	0	9	8	8	81360	83272	87075	9	1Ac65 COTRA Ac cas Halo 22° part
10	82	7	21	12	23	19.7	14.2	71	10.0	1009.7	8	005	25	8	2	2	8	5	3	8	82820	83272	87078	10	1Sc40 1Ac65 COTRA Cu med Parhelia U/a cont
11	89	7	25	08	22	16.9	3.4	41	4.8	1014.2	0	002	03	1	1	3	2	7	6	1	83850	86075	11	1Ac57 Cu med	
12	70	7	23	06	18	16.8	10.7	67	8.0	1013.2	8	012	25	8	2	7	8	5	3	/	81828	84835	87650	12	/Ac58 Cuu med jp SE&W vv60k ex jp
13	84	3	25	07	15	18.3	6.8	47	6.0	1019.2	7	014	02	0	0	3	0	9	8	0	81368	83370	13	COTRA Ac cas vir Ac len	
14	84	6	29	09	21	18.5	6.5	45	5.9	1013.4	2	007	02	2	2	6	8	6	0	0	81845	86650	14	Cu hum	
15	70	5	24	08	14	21.6	10.1	48	7.4	1015.9	8	018	02	1	1	1	1	6	0	2	81840	85075	15	COTRA	
16	86	7	22	08	18	17.6	9.5	59	7.4	1011.7	7	011	02	2	2	7	5	6	/	1	87632		16	/Ci75	
17	81	7	25	08	17	17.3	7.1	51	6.3	1012.3	8	011	02	2	2	7	8	6	/	1	82840	86650	17	/Ci80 COTRA	
18	88	2	32	09	16	15.4	3.7	46	4.9	1014.5	3	009	25	8	1	2	8	6	0	0	82845		18	1Sc56 Cu med	
19	88	5	27	07	17	15.7	3.6	44	4.7	1022.6	5	004	02	1	1	3	8	6	6	0	82848	84357	19	1Sc56 Cu med	
20	88	8	23	08	16	16.5	6.5	52	6.0	1019.4	6	014	02	2	2	3	8	6	0	7	81840	83656	88270	20	1Sc50
21	70	7	24	04	10	16.2	8.2	59	6.8	1013.2	8	014	03	2	2	1	8	6	3	8	81830	86272	21	1Sc45 1Ac65 COTRA Cu med Parhelia U/a cont	
22	83	6	07	04	13	16.1	3.7	43	4.8	1019.5	7	011	01	2	2	1	1	6	0	1	81848	86078	22	COTRA Cz arc Parhelia U/a cont	
23	75	8	08	11	23	10.2	9.4	94	7.3	1004.1	6	053	21	6	2	5	7	4	2	/	82712	88545	23	Absent vv&cldest	
24	82	7	24	12	25	14.1	8.9	71	7.2	989.9	1	015	01	5	2	7	8	5	/	8	82820	86640	24	/Ci70	
25	80	7	21	12	24	15.0	8.8	66	7.2	987.9	8	001	25	8	2	2	9	5	6	3	81925	81830	86075	25	1Sc40 1Ac65 2Ci70 COTRA jpSE,S&N Rainbow Parhelia
26	75	6	17	06	11	15.1	10.4	74	8.0	992.4	3	009	15	8	2	5	9	5	6	/	82920	83825	26	2Ac58 Cu con jpSW vv50k ex SW	
27	82	3	28	05	13	15.3	7.2	58	6.3	1009.6	1	008	15	1	1	3	8	6	6	0	82835		27	1Sc56 1Ac58 Cu med jpW	
28	65	7	23	07	16	12.9	9.8	81	7.5	1012.2	1	004	21	8	6	7	8	4	/ /	81712	84630	87650	28	2Cu020 Cu med jp S-E vv60k NW	
29	83	5	27	06	14	14.2	3.4	48	4.8	1019.7	2	004	02	1	1	5	4	6	0	0	81845	85650	29	Cu hum	
30	75	7	23	09	20	15.6	10.2	70	7.7	1017.1	6	017	02	2	2	6	5	5	8	8	86625	87275	30	/Ac63 /Ac66 COTRA	

Mean vis = 39.5 km

Mean cloud = 5.7 72%

Mean wind speed = 7.4 kn

Mean gust = 16 kn

Mean TT = 18.0 °C

Mean TdTd = 8.5 °C

Mean RH = 56.0 %

Mean r = 7.0 g/kg

Mean PPP = 1014.4 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

dd = Direction from which wind is blowing, tens of degrees true

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

W1, W2 = Past weather code (Code FM12-4561)-

covers past 3 hours.

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs = Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

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
2012		4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		5	0.00	0.00	0.00	0.00	0.32	0.40	0.24	0.17	0.14	0.00	0.00	0.11	0.09	0.00	0.00	0.00
		6	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.02	0.79	1.00	0.84	0.00	0.77	0.00
		7	0.00	0.00	0.97	0.18	1.00	1.00	1.00	1.00	1.00	0.60	1.00	1.00	0.79	0.00	1.00	0.02
		8	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.41	0.88	0.22	0.77	0.00	1.00	0.48
		9	0.00	0.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	0.11	0.98	0.00	1.00	0.08	1.00	0.13
		10	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.21	0.90	0.27	0.98	0.42	0.95	0.00
		11	0.11	0.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.01	0.97	0.34	1.00	0.07	1.00	0.00
		12	1.00	0.00	1.00	0.46	1.00	0.99	1.00	1.00	1.00	0.04	0.59	0.32	0.99	0.47	1.00	0.03
		13	0.54	0.00	1.00	0.05	1.00	0.70	1.00	0.98	1.00	0.14	0.41	0.02	1.00	0.10	0.98	0.15
		14	0.36	0.00	1.00	0.04	1.00	1.00	1.00	0.96	0.62	0.15	0.55	0.00	0.77	0.32	0.78	0.02
		15	0.50	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.15	0.02	0.54	0.00	0.95	0.66	1.00	0.72
		16	0.85	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00	0.14	0.03	0.98	0.51	1.00	0.70
		17	0.72	0.00	0.97	0.00	1.00	1.00	1.00	0.88	0.06	0.00	0.11	0.00	0.84	0.54	0.95	0.30
		18	0.21	0.00	0.06	0.10	0.36	0.10	0.46	0.13	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
		19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot			4.30	0.00	11.00	4.81	12.68	12.16	12.70	12.12	8.96	1.70	7.87	3.31	11.00	3.17	11.42	2.55

	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	0.05
	6	0.48	0.48	0.73	0.00	0.00	0.69	0.00	0.00	0.57	0.01	0.00	0.00	0.46	0.34	0.41
	7	0.68	1.00	1.00	0.04	0.00	1.00	0.00	0.00	1.00	0.32	0.00	0.64	1.00	0.93	0.61
	8	1.00	1.00	1.00	0.96	0.00	1.00	0.00	0.00	1.00	0.02	0.00	0.21	1.00	0.34	0.61
	9	0.93	0.74	0.99	1.00	0.00	0.99	0.00	0.00	0.87	0.02	0.41	0.27	1.00	0.00	0.58
	10	0.84	0.30	0.92	0.88	0.00	1.00	0.00	0.00	0.71	0.00	0.41	0.23	1.00	0.14	0.57
	11	0.33	0.55	0.83	0.40	0.00	1.00	0.00	0.00	0.81	0.00	0.45	0.02	0.90	0.01	0.53
	12	0.00	0.69	0.49	0.41	0.00	1.00	0.00	0.00	0.80	0.24	0.41	0.00	0.64	0.15	0.52
	13	0.00	0.53	0.47	0.82	0.00	1.00	0.00	0.00	0.40	0.12	0.52	0.00	0.13	0.01	0.44
	14	0.09	0.54	0.48	0.00	0.02	1.00	0.00	0.00	0.85	0.39	0.84	0.00	0.14	0.00	0.43
	15	0.37	0.67	0.77	0.00	0.05	1.00	0.00	0.22	0.82	0.06	0.49	0.04	0.29	0.00	0.48
	16	0.00	0.95	0.83	0.00	0.00	0.64	0.00	0.61	0.42	0.00	0.07	0.03	0.99	0.00	0.46
	17	0.00	0.97	0.12	0.00	0.00	0.00	0.00	0.54	0.32	0.00	0.65	0.46	0.47	0.00	0.40
	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	0.05
	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	4.73	8.44	8.62	4.52	0.06	10.32	0.00	1.37	8.57	1.18	4.26	1.91	8.01	1.92	183.65

September 2012	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	16.31	22.3	1437	12.7	2347	70.6	86.7	812	34.1	1621	10.70	7.92	10.3	1437	5.3	1621	1025.87	1028.5	35	1023.8	1616	0.0
2	15.29	18.8	1535	11.7	302	90.5	96.1	2245	81.5	1536	13.74	9.69	11.3	1801	7.5	30	1024.84	1026.5	2306	1023.6	328	0.5
3	17.33	23.8	1546	12.3	541	77.1	96.2	2358	37.0	1615	12.74	9.03	10.8	0	6.5	1615	1025.73	1027.4	656	1024.3	1734	0.0
4	17.35	24.6	1400	11.7	339	80.0	97.4	354	57.6	1223	13.64	9.64	12.0	1358	6.7	2351	1023.86	1025.7	2332	1022.4	1558	0.0
5	13.75	20.1	1409	7.3	2357	70.7	95.0	2359	43.5	1411	7.93	6.53	7.4	1406	5.6	1147	1027.43	1030.3	2248	1025.4	4	0.0
6	13.54	21.5	1414	4.8	445	71.3	97.7	649	33.4	1224	7.46	6.37	8.3	829	4.9	1224	1028.13	1030.4	153	1025.2	1753	0.0
7	16.24	25.3	1418	8.0	523	66.9	97.3	638	25.8	1716	8.75	6.97	9.4	1240	4.5	1716	1024.51	1026.3	0	1022.8	1600	0.0
8	14.65	25.9	1440	5.5	528	68.7	97.2	632	20.5	1158	7.25	6.32	9.5	1009	3.7	1158	1020.15	1023.7	12	1016.1	2359	0.0
9	15.98	28.0	1310	5.4	522	72.2	97.6	656	27.4	1344	9.76	7.65	10.0	2359	5.3	522	1011.22	1016.2	0	1008.4	1618	0.0
10	17.62	21.2	1053	15.5	427	79.0	93.4	147	62.5	1055	13.89	9.87	11.6	1258	8.9	2138	1009.76	1010.6	934	1008.9	310	0.2
11	14.53	18.3	1440	8.7	2227	60.6	85.1	620	32.7	1541	6.47	6.17	9.4	31	3.9	1610	1013.12	1017.0	2229	1008.7	121	0.0
12	12.31	18.1	1250	5.3	504	75.4	93.8	549	52.1	1250	7.93	6.67	8.7	1920	5.0	504	1014.95	1017.0	2359	1011.9	1807	4.1
13	12.60	18.5	1459	4.6	608	70.6	96.5	623	42.4	1436	6.92	6.17	7.7	2340	4.9	546	1019.17	1021.9	812	1015.1	2349	0.0
14	15.42	20.2	1254	8.4	2332	68.6	91.4	828	40.3	1513	9.33	7.35	10.3	949	5.6	1513	1014.02	1018.2	2347	1011.6	1009	0.1
15	13.82	22.1	1506	5.4	558	75.2	96.8	635	43.9	1507	8.98	7.12	8.4	2359	5.3	558	1017.27	1019.1	748	1015.4	1710	0.0
16	15.27	19.1	1257	12.9	134	74.9	91.5	354	52.9	1258	10.67	7.97	8.8	418	6.9	1306	1012.96	1015.8	3	1011.1	1716	0.0
17	14.85	18.3	1400	11.3	308	71.6	95.5	525	43.7	1128	9.32	7.34	9.0	357	5.3	1024	1012.41	1014.2	925	1010.9	2350	0.0
18	12.58	17.6	1329	7.6	2357	64.8	91.2	556	33.1	1549	5.52	5.71	7.5	743	3.7	1700	1014.42	1020.5	2353	1010.5	404	0.0
19	10.86	17.3	1351	4.4	300	66.1	91.9	313	37.8	1235	4.18	5.07	6.1	931	4.2	1151	1022.46	1023.7	2300	1020.4	5	0.0
20	12.52	18.2	1310	7.6	209	71.2	89.8	2330	43.9	1311	7.13	6.23	7.0	1156	5.4	1400	1020.54	1023.3	2	1018.3	2359	0.0
21	11.79	16.7	1424	8.4	359	82.4	94.5	420	55.3	1328	8.71	6.97	8.4	1811	6.1	1328	1015.49	1018.5	12	1012.7	1537	1.2
22	9.51	16.2	1342	3.0	541	74.9	97.2	707	39.1	1514	4.74	5.29	6.6	7	4.3	1514	1019.69	1021.6	945	1017.0	1	0.1
23	9.18	11.4	2350	5.2	242	93.0	97.2	2357	81.7	839	8.10	6.80	8.3	2350	5.0	58	1007.58	1018.7	6	994.3	2335	16.3
24	12.25	15.5	1538	9.8	2313	87.4	98.3	706	61.8	1540	10.10	7.92	10.5	915	6.3	2313	988.95	994.4	0	984.3	910	6.4
25	12.01	16.5	1101	8.8	550	76.0	89.2	2346	54.2	1228	7.77	6.72	7.7	1340	6.1	533	988.15	989.2	4	987.3	1102	0.2
26	11.37	16.0	1427	7.9	2315	90.1	97.7	2359	71.8	1436	9.76	7.67	9.5	1254	6.5	2038	992.20	999.9	2353	987.5	414	5.7
27	12.22	17.0	1442	9.1	11	80.4	97.7	126	51.8	1422	8.68	7.02	8.0	425	5.9	1422	1007.79	1013.7	2337	999.7	4	0.9
28	11.67	17.3	1148	7.0	333	83.2	94.0	530	66.9	1102	8.85	7.08	8.9	1249	5.7	332	1012.98	1014.5	2233	1011.7	1148	0.6
29	10.49	15.5	1241	5.1	2303	74.8	95.5	622	44.5	1631	5.69	5.68	7.2	819	4.5	1631	1018.76	1022.3	2355	1014.2	1	0.0
30	12.01	16.8	1346	4.6	319	80.3	94.7	332	62.4	1233	8.58	6.95	8.2	2359	4.9	319	1018.35	1022.2	7	1013.9	2359	0.0
Total																						36.3
Mean	13.51	19.27		7.99		75.6	94.47		47.84		8.78	7.13	8.89		5.49		1015.09	1018.37		1011.92		
Max	17.62	27.99		15.49		93.0	98.30		81.70		13.89	9.87	11.99		8.86		1028.13	1030.38		1025.39		
Min	9.18	11.44		2.97		60.6	85.10		20.48		4.18	5.07	6.11		3.74		988.15	989.23		984.33		

Wokingham Automatic Weather Station
 AWS samples taken every 0.5 seconds
 x and n refer to maximum and minimum respectively

Readings taken at Wokingham Climatological Station, Emmbrook, Berkshire
Lat 51.425 N, Long 0.853 W, NGR (SU) 798701
Altitude 45 m ASL.

Tmn = 00 to 24 GMT mean air temperature at 1.2 m, deg C
 RHmn = 00-24 GMT mean relative humidity at 1.2 m, percent
 Tdmn = 00-24 GMT mean dew point at 1.2 m, deg C
 rmn = 00-24 GMT mean humidity mixing ratio, g/kg
 pmn = 00-24 GMT mean air pressure reduced to mean sea level, mbar
 Rtot = 00-24 GMT rainfall total from AWS tipping bucket raingauge, mm
 Time = hours and minutes in GMT of extreme values

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

Appendix 1.

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

Average: Generally refers to the 30 year climatological average, currently 1981 to 2010. This will be next updated in 2010. For some parameters, notably wind, the climatological average is not available, and if the word average is used in the context of wind, it refers to the average for the period for which data is held, namely 1988 to present.

For sunshine, there was a change in instrument used to detect sunshine amount in July 1999, and the data produced by the new instrument is not strictly comparable with that obtained prior to July 1999, making the climatological average based on the old instrument of little use. In general, the new instrument produces higher values in the winter half year, and lower ones in the summer half, than the old type of instrument, due to a combination of faster reaction and higher sensitivity than the old type. Thus the average used in this case is for a theoretical equivalent average for the 1981 to 2010 climatological period for this new instrument, based on comparisons with Met Office published tables of departure from the climatological average sunshine in the months since 2000 for their area 'Southern England'. Users of the Wokingham Monthly Weather reports should be aware of this, and regard the anomalies for sunshine published therein as a guide only, until such time has elapsed since the introduction of the new instrument that a genuine average becomes available.

Mean: The mean of the data under discussion, often the monthly mean of daily data. The mean is obtained by summation of the individual values and dividing by the number of values. The term 'daily mean' in respect of temperature is defined as "half (max+min)". A true daily 24 hour (00 to 24 GMT) mean temperature is available from the AWS, and is currently published on page 7 of the Wokingham Monthly Weather Report on the Wokingham Weather Web Site, page1. <http://www.woksat.info/wwp1.html>

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

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

When the word anomaly is used in respect to temperature, any values given are in degrees C. In respect to rainfall, percent. In respect of sunshine, percent. In respect to wind, mph. In respect to pressure, millibars/hpa.

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

Temperature: The terms mild/cold are used in the winter half year, and warm/cool in the summer half.

The term normal is defined as being when the individual mean (monthly, seasonal or annual) value is within 20% of the median of all ranked values for that month/season/year.

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

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

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

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

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

The definition for sunshine follow the same rules as for temperature.

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

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

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

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

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

The term very dry is used for values lying within 10% of the lowest value in the ranked series.

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

In the case of monthly max, min and mean temperature and of rainfall total the 'long-term' goes from the present back to 1882. For extremes of temperature, highest max and lowest min are back to 1904, and for lowest max and highest min, to 1913.

Rank : The word rank refers to the position of a value for a particular month/season/year in the ranked values of the entire series. The central value in the ranked series is known as the median. This value may be different from the 'average' if the population of values is skewed. Also, as the median considers all values in the series, and the average refers to a 30 year climatological period, during periods of climatic change, the median will also be expected to differ from the average.

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

Annual or Year : The calendar year, 1st January to 31st December.

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

Frost: An air frost day is recorded when the minimum temperature read at 0900 GMT on that day is -0.1°C or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is -0.1°C or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below 0.0°C , and the day runs from midnight to midnight.

Snow : A day with snow falling is triggered if snow falls at any time in the 24 hours from midnight on that day. A day with snow lying is entered if there is at least 50 % cover of snow at the 0900 GMT observation.

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

A day of small hail is recorded if hailstones less than 5 mm diameter are observed or recorded in a 24 hour period starting at midnight. Note, various types of other ice meteors such as ice pellets, snow grains, and some types of snow pellets are included in this category.

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

Thunder: A day of thunder is recorded if thunder is heard in the 24 hour period from midnight on that day.

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

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

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

Degrees are from true north

N = North = 360° and 22.5° either side.

NE = NorthEast = 045° and 22.5° either side.

E = East = 090° and 22.5° either side.

SE = SouthEast = 135° and 22.5° either side.

S = South = 180° and 22.5° either side.

SW = SouthWest = 225° and 22.5° either side.

W = West = 270° and 22.5° either side.

NW = NorthWest = 315° and 22.5° either side.

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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