

# WOKINGHAM

# METEOROLOGICAL

# DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

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

## Monthly Means and Totals

## OCTOBER 2015

Temperature (°C / °F)			Anomaly	Rank in the past 134 years			
Mean maximum	15.4	59.7	+0.2	32 <sup>nd</sup> highest			
Mean minimum	7.5	45.5	+0.3	29 <sup>th</sup> highest			
Daily mean	11.4	52.5	+0.2	31 <sup>st</sup> highest			
Highest maximum	18.8	65.8	on 1 <sup>st</sup>	Lowest maximum	12.1	53.8	on 25 <sup>th</sup>
Highest minimum	13.3	55.9	on 7 <sup>th</sup>	Lowest minimum	1.2	34.2	on 25 <sup>th</sup>
Mean grass minimum	4.1	39.4	0.0	Lowest grass minimum	-3.5	25.7	on 25 <sup>th</sup>
Mean earth @30 cm	13.1	55.6	0.0	Earth @100 cm	14.2	57.6	
Frost duration (hrs)	0.0			Rain duration (hrs)	44.6		
Rainfall total (mm / in)	47.1	1.85	66 %	45 <sup>th</sup> lowest			
Highest daily fall	14.9	0.59	on 5 <sup>th</sup>				
Number of: Dry days (<0.2mm)	21	Wet days (>0.9mm)	7	days ≥5mm	3		
Sunshine total (hrs) 94.1	Daily mean 3.04	85%		Sunniest day 10.9	on 2 <sup>nd</sup>		
N <sup>o</sup> days with: Air frost 0	Ground frost 9	Snow falling 0	Snow lying 0				
Thunder 1	Hail ≥5mm 0	Small hail/ice 0	Fog @09 1	Nil sun 7			
Pressure MSL : Mean @09 GMT, mbar 1018.3	+4.0	Highest 1032.6	on 1 <sup>st</sup>	Lowest 993.9	on 6 <sup>th</sup>		
Relative humidity : Mean (%) 87.2	Lowest 46	on 1 <sup>st</sup>	Water vapour (g/kg), mean at 09 and 15 GMT 7.5, 7.4				
Overall mean wind speed (mph) 5.0	Windiest day 8.3	on 16 <sup>th</sup>	Max gust 29	on 24 <sup>th</sup>			
Wind direction (days) N 8 NE 5 E 2 SE 4 S 4 SW 4 W 4 NW 0							
Least windy day (mph) 1.6	on 9 <sup>th</sup>	Calm; less than 0.5 mph (minutes) 971					

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

Notes:

### Temperature Near Average, Rainfall and Sunshine below average.

**Temperature:** Both the mean maximum and mean minimum are slightly above the current climatological average. The resulting mean temperature is lowest since 2012, but since 2000 7 Octobers have been milder, one the same and 6 cooler than this year's. The highest max is 1.4° below the long-term median, but the lowest max is 2.7° above the median, indicating a reduced temperature range this month. The highest min is 0.2° above the median while the lowest min is 2.2° above its median. The mean grass min is exactly average, despite being equal lowest with 2010 since 2008. The lowest grass min is 1.2° above the average for the past 36 years. The mean earth temperature at 30 cm depth is also exactly average, but at 1 m depth it is around 0.5° below average. Along with 17 of the past 40 Octobers, there was no air frost, but the number of ground frosts is 2 above average. Anomalies for daily max were within 2.5° of normal until the 26<sup>th</sup>, but the 27<sup>th</sup> saw an anomaly of +4.5°, the highest of the month. Anomalies for daily min spanned a greater range, with -5° or more on the 8<sup>th</sup>, 9<sup>th</sup>, 25<sup>th</sup> and 26<sup>th</sup>, and +4° or more on the 6<sup>th</sup>, 7<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup>, 22<sup>nd</sup>, 24<sup>th</sup> and 30<sup>th</sup>, with extremes of -5.4° on the 25<sup>th</sup> and 26<sup>th</sup>, and +4.9° on the 6<sup>th</sup> and 7<sup>th</sup>. **Rainfall:** This is the driest October since 2011, and despite it being our wettest month of the year on average, it does sometimes throw up the odd exception, such as 1978 when only 3.4 mm of rain fell. This year much of the month was dry, with 2 dry spells, one of 10 days ending on the 3<sup>rd</sup> and another of 12 days ending on the 19<sup>th</sup>, separated by 2 wet days, the 5<sup>th</sup> and 6<sup>th</sup>, giving a total of 26.0 mm. After the 19<sup>th</sup> there was a scattering of wet days, the 20<sup>th</sup>, 24<sup>th</sup>, 27<sup>th</sup> and 29<sup>th</sup>, giving a total of 18.5 mm. There was no hail this month but thunder occurred on the 6<sup>th</sup>, and that was also the day with the highest rainfall rate of 45 mm/hr. The duration of measurable rain is 84% of average. The number of dry days is 5 more than average, and most since 2007. **Sunshine:** Rather a poor showing this month, and lowest for October since 2012. After a good start with both the 1<sup>st</sup> and 2<sup>nd</sup> having over 90 % of the maximum, the 5<sup>th</sup> to 7<sup>th</sup> were nearly sunless with a total of 0.6 hours, after which most days up to the 15<sup>th</sup> produced nearly average amounts, but from the 16<sup>th</sup> to the 24<sup>th</sup> only the 18<sup>th</sup> and 20<sup>th</sup> had worthwhile totals, but these did not exceed 40 % of the maximum, the remaining 7 days giving only 0.3 hours in total. The 25<sup>th</sup> and 31<sup>st</sup> were sunny, but otherwise this period had just 3 days with >20 % of the maximum. Overall there were 17 days with <3 hours, 5 with =>6 hours and 2 with =>9 hours. **Wind:** The mean wind speed this October is 1.4 mph below average and lowest since 2007. The highest gust is 15 mph below average, and lowest for October since before 1988. Winds from N and NE combined were 25 % more frequent, at the expense of S and SW winds, 24 % less frequent. Speeds were generally light or moderate, but fell very light on the 3<sup>rd</sup>, 9<sup>th</sup> and 25<sup>th</sup>. Directions were N or NE on the 1<sup>st</sup> and 2<sup>nd</sup>, also from the 9<sup>th</sup> to the 19<sup>th</sup>. SE'ly wind on the 4<sup>th</sup> veered SW'ly by the 8<sup>th</sup>, and W'ly wind on the 20<sup>th</sup> backed SE'ly by the 26<sup>th</sup>, temporarily becoming S'ly for the 28<sup>th</sup> and 29<sup>th</sup>.

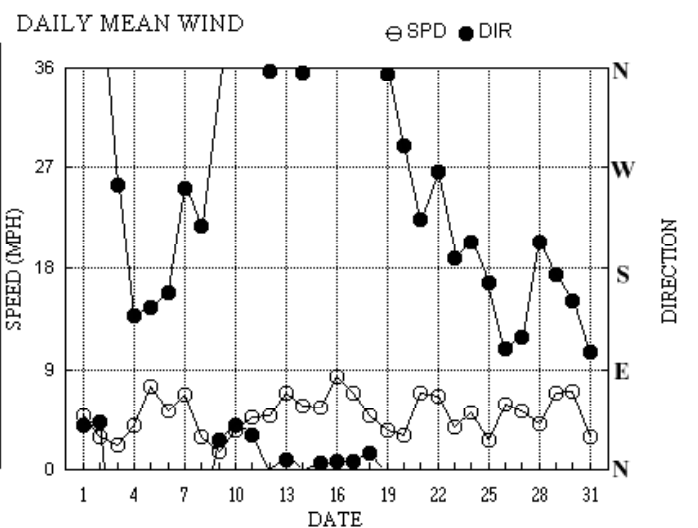
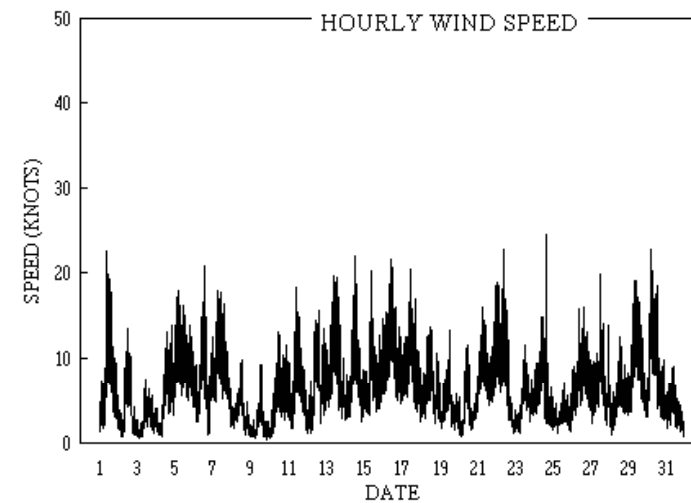
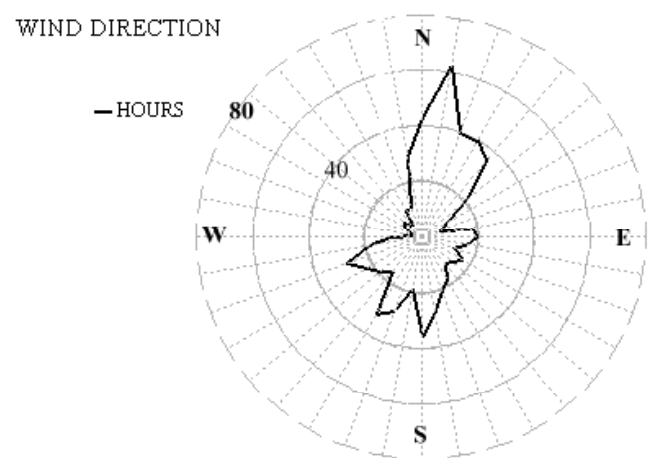
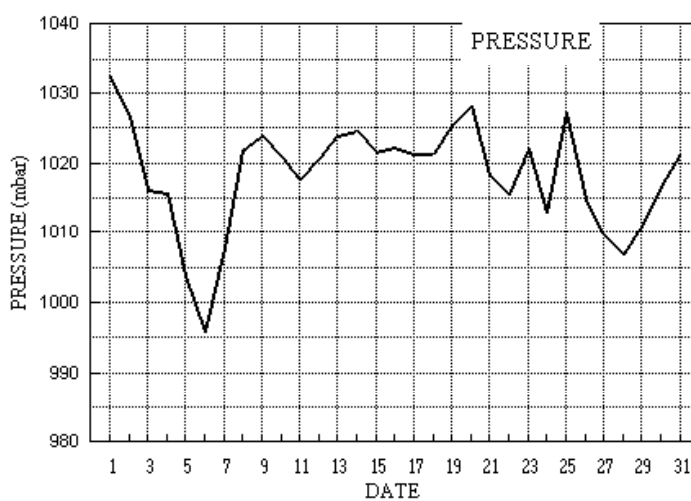
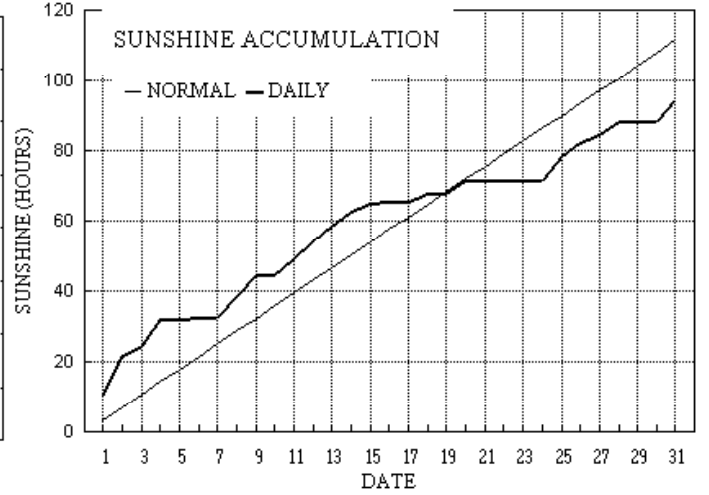
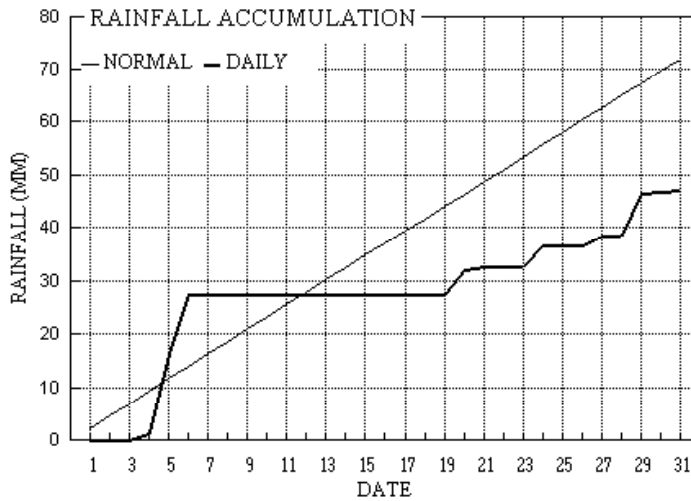
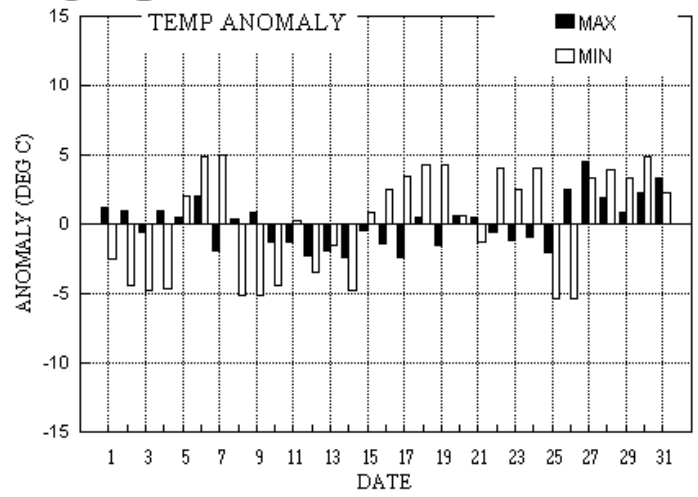
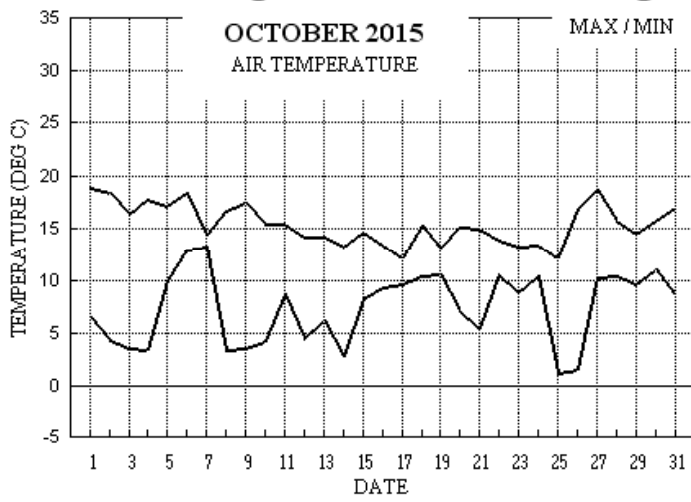
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 <sup>st</sup> to the 10 <sup>th</sup>				From the 11 <sup>th</sup> to the 20 <sup>th</sup>				From the 21 <sup>st</sup> to the 31 <sup>st</sup>			
+0.3°	-1.9°	121%	125%	-1.3°	+0.6°	22%	75%	+1.0°	+1.5°	60%	56%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

# Wokingham climatological graphs for October 2015



Daily meteorological data.

Emmbrook, WOKINGHAM, Berkshire.

Month: OCTOBER 2015

Date	Max		Min		Rain	Grass	30cm	100cm	Sun	Frost	pp09	Af	Sf	Th	Ic	Vec mean			Max gust			High hr		Rain		
	C	C	C	C	mm	Min	C	C	hrs	hrs	mbar	Gf	Sl	Ha	Fg	ddd	ff	sp	ddd	gg	HHhh	ddd	ff	HH	hrs	
1	18.8	6.5	0.0	1.3	13.9	15.1	10.8	0.0	1032.3	0	0	0	0	0	0	39	4.2	4.3	55	23	1028	55	8	11	0.0	
2	18.3	4.3	0.0	-0.3	13.9	15.1	10.9	0.0	1026.8	0	1	0	0	0	0	43	2.2	2.6	25	14	1209	63	5	10	0.0	
3	16.4	3.6	0.0	-0.6	13.7	15.0	2.8	0.0	1016.1	0	1	0	0	0	0	255	0.6	1.9	21	8	1030	261	3	16	0.0	
4	17.8	3.4	1.4	-0.6	13.6	14.9	7.7	0.0	1015.7	0	1	0	0	0	0	137	2.5	3.4	93	14	2001	153	6	14	2.3	
5	17.2	10.0	14.9	7.2	13.8	14.8	0.0	0.0	1003.7	0	0	0	0	0	0	145	5.9	6.5	155	18	0418	131	8	04	12.5	
6	18.4	13.0	11.1	8.8	14.5	14.7	0.6	0.0	995.7	0	0	0	0	1	0	158	3.0	4.6	171	21	1324	173	8	11	4.5	
7	14.3	13.3	0.2	11.8	14.9	14.7	0.0	0.0	1007.7	0	0	0	0	0	0	251	5.8	5.9	237	18	0631	246	8	06	0.9	
8	16.7	3.4	0.0	-1.2	14.3	14.8	6.0	0.0	1021.7	0	1	0	0	0	0	218	2.3	2.5	274	10	1334	257	5	12	0.0	
9	17.4	3.6	0.0	-0.7	13.8	14.8	5.6	0.0	1023.8	0	1	0	0	0	1	27	0.7	1.4	26	9	1319	34	4	14	0.0	
10	15.4	4.2	0.0	0.1	13.3	14.7	0.2	0.0	1020.9	0	0	0	0	0	0	39	2.9	3.0	60	13	1149	27	5	22	0.0	
11	15.4	8.7	0.0	5.8	13.4	14.6	4.5	0.0	1017.5	0	0	0	0	0	0	30	4.0	4.1	67	18	1031	25	7	14	0.0	
12	14.2	4.5	0.0	-0.2	13.5	14.5	5.4	0.0	1020.5	0	1	0	0	0	0	357	4.0	4.1	3	16	1620	359	8	14	0.0	
13	14.1	6.2	0.0	2.4	13.0	14.4	4.1	0.0	1023.8	0	0	0	0	0	0	9	5.7	5.9	22	20	1010	18	10	10	0.0	
14	13.3	2.8	tr	-2.9	12.6	14.4	4.1	0.0	1024.6	0	1	0	0	0	0	356	4.8	4.9	1	22	1346	7	9	13	0.0	
15	14.7	8.2	tr	5.5	12.3	14.2	2.5	0.0	1021.5	0	0	0	0	0	0	6	4.5	4.8	26	20	0908	23	8	09	0.0	
16	13.4	9.4	tr	6.3	12.4	14.1	0.1	0.0	1022.2	0	0	0	0	0	0	7	7.1	7.2	24	22	1037	17	11	11	0.0	
17	12.1	9.7	tr	8.9	12.6	14.0	0.1	0.0	1021.2	0	0	0	0	0	0	8	6.0	6.0	23	21	1214	15	10	11	0.0	
18	15.2	10.4	tr	8.5	12.7	13.9	2.3	0.0	1021.2	0	0	0	0	0	0	15	4.2	4.3	22	14	1305	18	7	13	0.0	
19	13.1	10.6	tr	9.7	13.0	13.8	0.0	0.0	1025.2	0	0	0	0	0	0	354	2.9	3.0	20	14	1357	13	6	13	0.0	
20	15.1	7.1	4.6	1.9	12.9	13.8	3.9	0.0	1028.0	0	0	0	0	0	0	290	1.4	2.6	337	12	1217	329	5	10	6.5	
21	14.9	5.5	0.4	0.6	12.6	13.8	0.0	0.0	1018.3	0	0	0	0	0	0	224	5.9	6.0	223	16	0759	208	8	07	1.6	
22	13.9	10.6	0.0	9.2	12.9	13.8	0.1	0.0	1015.5	0	0	0	0	0	0	266	5.2	5.8	293	23	0951	254	9	01	0.0	
23	13.3	8.9	tr	6.8	12.9	13.7	0.0	0.0	1022.0	0	0	0	0	0	0	189	3.2	3.3	225	12	1218	213	6	12	0.1	
24	13.4	10.4	4.1	8.4	12.9	13.7	0.0	0.0	1012.8	0	0	0	0	0	0	203	2.8	4.4	310	25	1634	199	7	11	3.9	
25	12.1	1.2	0.0	-3.5	12.4	13.7	6.8	0.0	1027.1	0	1	0	0	0	0	167	1.5	2.3	173	7	1412	176	4	14	0.0	
26	16.8	1.6	0.0	-3.0	11.6	13.6	3.9	0.0	1014.8	0	1	0	0	0	0	108	4.7	5.1	149	16	1538	141	9	15	0.0	
27	18.7	10.3	2.0	8.2	11.9	13.5	2.3	0.0	1009.6	0	0	0	0	0	0	119	3.5	4.5	154	20	1340	149	9	13	2.3	
28	15.8	10.5	0.0	9.2	12.5	13.4	3.4	0.0	1006.8	0	0	0	0	0	0	203	2.9	3.5	207	13	1452	204	6	14	0.0	
29	14.4	9.6	7.8	4.8	12.4	13.4	0.3	0.0	1010.8	0	0	0	0	0	0	174	5.7	5.9	167	19	0959	173	9	11	8.7	
30	15.7	11.0	0.5	10.5	12.6	13.4	0.0	0.0	1016.7	0	0	0	0	0	0	151	5.7	6.1	147	23	0459	156	11	06	1.3	
31	17.0	8.6	0.1	4.2	12.8	13.4	5.7	0.0	1021.3	0	0	0	0	0	0	106	2.1	2.5	137	9	1039	165	5	10	0.0	
Total			47.1				94.1	0.0																	44.6	
Mean	15.4	7.5		4.1	13.1	14.2	3.04	0.0	1018.3							50	0.4	4.3								
Anom	+0.2	+0.3	66%	0.0	-0.0	-0.5	85%																		+4.0	
Daily mean		11.4																								
Anom		+0.2																								

Number of days with:

Air frost = 0            Ground frost = 9            Nil sun = 7  
 Snow falling = 0        Snow lying = 0            Thunder = 1  
 Hail=>5mm = 0        Hail<5mm or ice = 0        Fog at 09GMT = 1

Abbreviations.

Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT  
 Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).  
 Grass min = Lowest overnight temperature at grass tip level.  
 Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.  
 pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.  
 Af = Air frost. Gf = Ground frost. Sf = Snow falling. 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 OCTOBER 2015

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cl	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	68	1	05	06	16	13.9	10.5	80	7.9	1032.3	3	001	03	0	0	1	1	4	0	0	81818						1	Cu fra/hum	
2	59	0	03	04	09	12.2	10.3	88	7.8	1026.8	8	002	05	4	0	0	0	9	0	0							2		
3	56	5	33	02	04	11.1	9.0	87	7.1	1016.1	6	003	05	2	2	4	5	2	3	0	81705	84625					3	2Ac65	
4	50	2	18	03	05	10.0	7.8	86	6.6	1015.7	3	001	05	0	0	2	6	4	0	0	82710						4		
5	30	8	14	06	12	15.5	14.9	96	10.5	1003.7	8	002	58	6	5	8	7	2	/	/	83703	87705	88708				5		
6	57	8	11	05	09	16.1	15.6	97	11.0	995.7	7	018	80	9	8	7	2	2	/	/	83705	87810	88525				6		
7	70	8	26	07	17	13.3	12.0	92	8.7	1007.7	2	034	01	6	2	8	5	4	/	/	86710	88515					7		
8	80	1	24	03	06	10.2	8.1	87	6.7	1021.7	3	013	02	0	0	1	5	7	0	1	81650						8	1Ci80 COTRA	
9	06	5	29	02	03	7.3	7.2	99	6.3	1023.8	2	005	42	4	1	5	6	0	0	0	85701						9		
10	82	8	04	03	08	10.9	10.1	95	7.7	1020.9	8	003	03	2	2	3	5	4	0	7	81710	83650	88272				10	COTRA Halo 22° part Parhelia	
11	57	7	04	05	11	11.6	9.3	86	7.3	1017.5	1	007	05	2	2	7	0	9	7	/	87367						11		
12	62	8	01	03	08	9.4	6.5	82	6.0	1020.5	1	011	02	2	2	8	5	5	/	/	88625						12		
13	61	1	01	09	17	9.7	6.6	81	6.1	1023.8	0	014	01	1	1	1	1	4	0	0	81815						13	Cu fra	
14	70	3	36	06	11	10.1	6.3	77	5.9	1024.6	8	003	03	0	0	3	8	4	0	0	81818	83645					14	1Sc30 Cu fra	
15	61	2	02	09	14	11.0	7.7	80	6.5	1021.5	0	007	01	1	1	2	8	4	0	0	81815						15	1Sc45 Cu med	
16	60	8	01	07	17	11.3	8.9	85	7.1	1022.2	3	005	05	6	2	8	8	4	/	/	83813	83630	88645				16	Cu hum/fra	
17	65	7	01	06	13	10.7	7.2	79	6.3	1021.2	0	004	01	2	2	7	5	6	/	/	87645						17		
18	65	6	03	04	11	11.2	9.9	92	7.6	1021.2	2	013	02	2	2	1	8	5	0	8	81812	83270					18	1Sc30 1Sc50 3Ci75 COTRA Cu fra Halo 22° part	
19	61	8	01	04	08	11.3	9.9	91	7.6	1025.2	1	010	50	5	2	8	5	3	/	/	85708	87712	88640				19		
20	58	7	29	03	07	10.7	8.6	87	7.0	1028.0	2	010	05	2	2	7	5	7	/	/	87656						20		
21	56	8	22	07	15	10.6	9.8	95	7.5	1018.3	6	618	61	6	6	7	7	3	2	/	83706	87708	88520				21		
22	80	7	30	08	18	13.5	10.5	82	7.9	1015.5	3	016	25	8	2	7	8	4	/	/	81714	83820	87640				22	Cu med	
23	68	7	21	03	06	11.5	6.8	73	6.2	1022.0	7	003	02	2	2	7	5	6	/	/	87639						23		
24	61	8	19	07	11	12.5	10.9	90	8.1	1012.8	8	001	21	6	2	8	5	4	/	/	81712	86620	88635				24		
25	65	7	20	02	04	4.8	4.5	98	5.2	1027.1	1	012	02	2	2	0	0	9	0	2	83075	87080					25	COTRA	
26	58	1	08	05	10	10.3	9.2	93	7.2	1014.8	7	009	05	1	1	1	6	4	0	1	81710						26	1Ci80	
27	35	8	08	04	10	12.5	11.7	95	8.6	1009.6	2	001	10	2	2	8	6	2	/	/	88704						27		
28	57	7	23	03	05	10.9	10.4	97	7.9	1006.8	1	003	21	6	2	2	5	2	7	/	81704	87462					28	2Sc56 2Ac59 Cld edge & Cu tops SW	
29	65	7	18	09	16	13.9	11.6	86	8.5	1010.8	2	010	03	1	1	7	5	4	7	1	86712	84635	86365				29	/Ci75 COTRA	
30	58	8	17	08	19	14.0	13.2	95	9.4	1016.7	2	030	63	6	6	7	7	3	2	/	83707	87710	88525				30		
31	50	8	12	05	09	11.7	10.8	94	8.0	1021.3	1	015	10	2	2	8	6	2	/	/	85705	88707					31		

Mean vis = 12.4 km

Mean cloud = 5.8 72%

Mean wind speed = 5.1 kn

Mean gust = 11 kn

Mean TT = 11.4 °C

Mean TdTd = 9.5 °C

Mean RH = 88.5 %

Mean r = 7.5 g/kg

Mean PPP = 1018.3 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for OCTOBER 2015

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChshs	Date	Remarks
1	81	1	03	07	18	18.4	7.2	48	6.3	1029.4	7	018	01	0	0	1	1	6	0	0	81845		1	Cu hum	
2	67	0	04	05	11	17.9	9.0	56	7.1	1021.8	7	030	02	0	0	0	0	9	0	0			2		
3	60	3	25	03	05	14.9	8.2	64	6.7	1013.3	7	011	05	1	1	3	8	5	0	0	82828		3	2Sc35 Cu hum	
4	70	5	13	05	13	16.8	9.0	60	7.1	1012.2	7	018	03	1	1	1	1	6	0	1	81835	85078	4	Absent, vv&cld est	
5	30	8	17	06	13	16.7	15.9	95	11.2	1002.6	7	008	58	6	5	7	7	3	2	/	82704	87706	88510	5	
6	62	7	16	04	13	15.9	14.9	93	10.7	994.3	6	009	80	8	2	3	9	3	6	3	81708	83915	85362	6	1Cu20 2Sc40 /Ci70
7	75	8	26	07	12	14.1	10.9	81	8.1	1012.1	2	017	15	6	5	8	8	5	/	/	81820	86635	88645	7	Cu med jp S vv50k ex p
8	84	7	23	03	06	14.6	8.5	67	6.9	1021.8	1	001	02	1	1	7	8	5	/	/	81835	87650	8	Cu med	
9	82	6	05	04	09	15.0	7.3	60	6.4	1021.8	6	009	03	1	1	6	4	6	0	1	81835	85656	9	2Sc50 1Ci80 Cu med	
10	72	8	05	03	10	15.3	11.5	78	8.4	1018.1	7	014	02	2	2	3	8	5	1	7	83825	83468	88270	10	1Sc50 COTRA Cu med Ua/ cont
11	65	6	02	08	15	14.0	7.5	65	6.5	1016.3	6	008	02	2	2	6	0	9	3	/	86368		11		
12	70	1	36	08	15	13.9	5.0	55	5.4	1019.3	5	010	01	1	1	1	1	6	0	0	81835		12	Cu hum	
13	82	7	02	09	16	11.9	5.1	63	5.5	1024.2	3	003	02	2	2	7	8	6	/	/	82835	83645	87650	13	Cu med
14	82	3	36	07	15	11.6	7.1	74	6.3	1022.0	7	010	25	8	1	3	8	5	0	0	81825	83656	14	2Sc35 Cu med	
15	73	8	36	05	11	11.4	6.5	72	6.0	1021.5	7	002	02	8	2	8	8	5	/	/	81825	85635	88650	15	Cu hum
16	62	8	01	08	16	12.5	8.8	78	7.0	1022.0	2	002	02	2	2	8	8	4	/	/	82818	84635	88650	16	Cu hum
17	72	8	01	05	16	11.7	7.2	74	6.3	1019.7	7	010	02	2	2	8	8	5	/	/	82820	84630	88640	17	Cu hum
18	62	7	01	06	13	14.1	9.1	72	7.2	1021.0	5	002	15	2	2	5	8	5	0	1	81822	83640	87075	18	2Sc56 COTRA Cu med jp NW
19	58	8	01	04	10	11.8	10.9	94	8.1	1025.0	4	000	51	5	2	8	5	3	/	/	82706	87620	88640	19	
20	80	5	30	02	09	13.6	7.2	65	6.3	1026.5	6	012	03	1	1	1	8	6	0	6	81835	85078	20	1Sc50 2Cs75 COTRA Cu med Parhelion	
21	67	8	22	05	10	14.2	13.2	94	9.5	1015.1	7	014	01	5	2	8	5	3	/	/	82708	87713	88620	21	
22	82	7	30	06	16	13.6	5.7	59	5.7	1018.8	2	010	02	2	2	7	5	6	/	/	87637		22		
23	72	8	19	05	10	13.0	7.2	68	6.3	1019.4	7	019	02	2	2	8	5	6	/	/	83630	88635	23		
24	57	8	18	03	06	12.6	11.3	92	8.3	1012.5	3	001	50	6	5	8	5	3	/	/	83709	87712	88620	24	
25	84	8	16	04	07	11.5	3.8	59	5.0	1024.5	7	022	02	2	2	1	1	6	0	7	81830	88277	25	2Ci73 COTRA Halo 22° part Phelia Phelic circ part Cz arc l	
26	68	6	16	09	15	14.0	10.8	81	8.0	1011.9	6	014	03	1	1	6	5	4	0	0	86615		26		
27	70	7	14	06	14	16.2	11.8	75	8.6	1007.3	7	006	03	2	2	1	5	5	8	/	81625	83358	86363	27	1Sc56 Ac cas
28	82	2	20	08	13	15.1	9.2	68	7.2	1006.8	4	000	01	1	1	2	8	6	0	2	81830		28	1Sc50 1Ci72 Cu med	
29	56	8	18	07	15	14.0	13.2	95	9.4	1011.8	2	004	51	5	5	8	5	2	/	/	84704	87706	88612	29	
30	75	8	16	05	12	15.4	13.2	87	9.5	1018.6	3	007	02	6	2	2	5	4	7	/	81712	83362	88465	30	2Sc15 1Sc56
31	63	5	13	02	05	16.6	10.5	67	7.9	1021.8	3	001	02	1	1	0	0	9	0	1	85078		31	COTRA	

Mean vis = 23.0 km

Mean cloud = 6.1 76%

Mean wind speed = 5.5 kn

Mean gust = 12 kn

Mean TT = 14.3 °C

Mean TdTd = 9.2 °C

Mean RH = 72.9 %

Mean r = 7.4 g/kg

Mean PPP = 1017.2 mbar

**See appendix 2 below for full code details**

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation

trails present.

Wokingham Sunshine Hourly analysis  2015	Hour	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.61	0.58	0.00	0.23	0.00	0.00	0.00	0.00	0.34	0.00	0.20	0.00	0.00	0.00	0.22	0.00	0.00
7	1.00	1.00	0.55	1.00	0.00	0.00	0.00	0.00	1.00	0.15	0.01	0.62	0.24	0.54	1.00	0.06	0.00
8	1.00	1.00	0.43	0.91	0.00	0.00	0.00	0.00	1.00	0.88	0.00	0.10	0.00	1.00	0.94	0.73	0.00
9	0.92	1.00	0.23	0.52	0.00	0.01	0.00	0.00	1.00	1.00	0.00	0.87	0.00	1.00	0.88	0.57	0.00
10	0.85	1.00	0.08	0.85	0.00	0.01	0.00	0.00	1.00	1.00	0.00	1.00	0.34	0.39	0.08	0.76	0.00
11	0.87	1.00	0.00	0.83	0.00	0.30	0.00	0.99	0.57	0.00	0.80	0.60	0.63	0.09	0.42	0.01	0.00
12	1.00	1.00	0.49	0.93	0.00	0.09	0.00	0.65	0.34	0.00	0.97	0.85	0.10	0.16	0.00	0.00	0.00
13	1.00	1.00	0.46	0.86	0.00	0.21	0.00	0.00	1.00	0.00	0.03	0.96	0.00	0.18	0.00	0.00	0.00
14	1.00	1.00	0.23	0.92	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.02	1.00	0.05	0.22	0.00	0.00
15	1.00	1.00	0.30	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.06	1.00	0.04	0.31	0.00	0.00	0.00
16	1.00	1.00	0.07	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.40	0.40	0.00	0.00	0.00	0.00
17	0.55	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Tot</b>	<b>10.80</b>	<b>10.89</b>	<b>2.84</b>	<b>7.70</b>	<b>0.00</b>	<b>0.62</b>	<b>0.00</b>	<b>6.04</b>	<b>5.56</b>	<b>0.22</b>	<b>4.45</b>	<b>5.40</b>	<b>4.14</b>	<b>4.05</b>	<b>2.53</b>	<b>0.01</b>	
	Hour	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	Mean
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
7	0.00	0.06	0.00	0.00	0.00	0.11	0.00	0.00	0.42	0.89	0.00	0.00	0.11	0.00	0.00	0.28	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	1.00	0.00	0.00	0.15	0.00	0.00	0.30	0.00
9	0.01	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.54	0.69	0.00	0.00	0.00	0.00	0.00	0.30	0.00
10	0.01	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.94	0.00	0.16	0.09	0.00	0.00	0.28	0.31	0.00
11	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.00	1.00	0.00	0.68	0.15	0.00	0.00	1.00	0.35	0.00
12	0.00	0.35	0.00	0.87	0.00	0.00	0.00	0.00	0.97	0.08	0.99	0.45	0.00	0.00	1.00	0.36	0.00
13	0.00	0.69	0.00	0.66	0.00	0.00	0.00	0.00	0.82	0.90	0.49	0.48	0.00	0.00	1.00	0.35	0.00
14	0.00	0.80	0.00	0.27	0.00	0.00	0.00	0.00	1.00	0.33	0.00	0.70	0.00	0.00	1.00	0.30	0.00
15	0.00	0.33	0.00	0.14	0.00	0.00	0.00	0.00	0.91	0.00	0.00	1.00	0.00	0.00	1.00	0.25	0.00
16	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.50	0.00	0.00	0.44	0.14	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Tot</b>	<b>0.02</b>	<b>2.27</b>	<b>0.00</b>	<b>3.86</b>	<b>0.00</b>	<b>0.11</b>	<b>0.00</b>	<b>0.00</b>	<b>6.84</b>	<b>3.90</b>	<b>2.33</b>	<b>3.36</b>	<b>0.27</b>	<b>0.00</b>	<b>5.72</b>	<b>93.95</b>	



OCTOBER 2015	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	
1	12.06	19.0	1331	5.9	540	77.1	97.7	600	45.7	1544	7.69	6.43	8.4	958	5.5	541	1030.76	1032.6	30	1028.6	1719	
2	10.39	18.6	1432	3.8	614	82.2	97.8	743	49.2	1406	7.05	6.21	8.0	921	4.7	615	1024.17	1028.9	8	1019.7	2359	
3	9.25	16.3	1336	3.0	315	86.0	99.0	2306	57.4	1347	6.79	6.16	7.8	11	4.5	313	1015.38	1019.8	1	1013.1	1506	
4	11.11	18.4	1357	3.4	623	83.5	99.0	10	51.3	1320	8.11	6.75	8.8	1126	4.8	623	1013.29	1016.1	909	1008.2	2359	
5	15.51	17.4	1139	12.1	0	96.1	99.8	2341	86.1	249	14.91	10.66	12.0	1126	7.9	0	1003.21	1008.3	0	999.2	2358	
6	15.44	18.7	1136	13.0	623	97.3	99.0	632	78.5	1311	15.00	10.75	12.1	1005	9.6	2320	996.45	999.9	2357	993.9	1552	
7	12.76	14.7	241	5.9	2358	90.5	99.0	2349	71.0	1708	11.21	8.38	10.2	241	5.7	2357	1009.59	1018.0	2355	999.8	7	
8	9.61	17.0	1237	3.4	613	89.0	99.0	644	45.9	1240	7.60	6.49	8.8	1104	4.8	608	1021.34	1023.6	2242	1017.9	0	
9	8.61	17.6	1441	3.6	416	90.9	99.6	904	48.9	1425	7.26	6.32	9.0	1119	4.9	416	1022.75	1023.9	909	1021.3	1643	
10	10.63	15.7	1425	4.2	248	91.4	99.3	329	73.9	1355	9.41	7.36	9.2	1317	5.1	248	1019.67	1022.5	13	1017.2	2245	
11	11.24	15.7	1219	7.4	2347	83.5	97.6	610	60.6	1220	8.50	6.87	8.3	1038	5.7	2312	1017.23	1018.6	2325	1016.1	1501	
12	9.68	14.5	1358	4.5	533	79.8	97.9	539	53.1	1359	6.17	5.83	6.7	1834	5.1	1528	1019.88	1021.3	2149	1018.1	114	
13	9.31	14.2	1210	5.9	2359	78.9	95.9	2141	54.9	1502	5.70	5.63	6.9	1141	4.8	1502	1023.77	1026.1	2121	1021.0	28	
14	8.38	13.6	1306	2.8	428	85.6	98.5	458	60.6	1306	6.07	5.79	6.9	1411	4.6	428	1023.52	1025.9	53	1021.3	2341	
15	10.27	15.0	1124	8.2	636	84.5	94.0	527	53.1	1129	7.71	6.47	7.4	1036	5.3	1232	1021.63	1022.9	2033	1020.5	356	
16	11.52	13.7	1114	10.0	0	83.0	89.9	7	71.4	1116	8.72	6.92	7.6	1041	6.5	2225	1022.03	1022.9	2114	1021.3	526	
17	10.97	12.4	1039	9.7	706	80.9	91.9	2349	68.3	1233	7.78	6.51	7.4	2358	5.9	1238	1020.54	1022.2	39	1019.3	1522	
18	12.03	15.6	1300	10.4	206	87.6	97.3	537	65.8	1300	9.97	7.54	8.2	1255	6.9	1319	1021.08	1023.3	2251	1019.0	340	
19	11.50	13.4	1237	10.3	2359	90.2	94.6	1610	79.4	1206	10.02	7.53	8.4	1611	7.0	2150	1024.97	1026.8	2257	1022.9	42	
20	9.97	15.4	1342	5.7	2135	87.2	98.1	449	54.6	1350	7.93	6.54	7.7	1049	5.6	2135	1026.66	1028.3	925	1024.6	2316	
21	12.20	15.2	1643	8.2	6	94.2	96.4	1031	91.4	2110	11.51	8.45	10.0	1618	6.4	19	1017.54	1024.7	0	1013.6	2357	
22	12.69	14.2	841	9.7	2358	75.4	94.5	8	54.1	1440	8.32	6.82	9.1	0	5.3	1440	1017.58	1022.9	2358	1013.4	22	
23	11.42	13.6	1330	9.0	615	78.7	93.7	615	56.8	1041	7.75	6.50	7.1	951	5.2	1041	1020.47	1023.0	28	1016.0	2352	
24	10.89	13.7	1033	5.0	2236	89.3	99.0	2252	79.8	336	9.28	7.28	8.9	1556	5.3	2348	1015.19	1023.0	2350	1011.8	1052	
25	5.56	12.4	1414	1.3	624	90.5	99.0	708	56.3	1449	4.17	5.07	6.6	1036	4.2	624	1024.58	1027.3	1006	1020.3	2358	
26	10.27	17.1	1353	1.9	0	91.4	99.4	12	68.7	1409	9.01	7.22	10.0	1314	4.4	2	1014.05	1020.3	0	1010.9	2339	
27	13.94	19.0	1247	10.8	412	88.7	98.6	425	65.9	1332	12.17	8.83	10.7	1210	8.1	412	1008.65	1011.4	26	1007.0	2221	
28	11.92	16.2	1232	9.7	2222	91.2	98.8	444	62.8	1443	10.67	8.01	9.9	1206	7.0	1450	1007.40	1009.4	2225	1006.2	1324	
29	12.59	14.7	1015	9.7	53	93.6	97.7	209	84.3	953	11.78	8.60	9.8	1408	7.4	53	1011.66	1015.3	2257	1008.8	136	
30	13.96	16.0	1337	11.0	2348	92.9	99.7	210	81.9	2118	12.81	9.15	10.4	1146	7.8	2025	1017.34	1020.5	2222	1013.3	420	
31	11.85	17.3	1416	6.8	2359	91.2	99.1	333	64.8	1411	10.58	7.86	9.4	1245	6.1	2359	1022.16	1027.0	2359	1019.2	357	
Total																						
Mean	11.21	15.69		6.98		87.2	97.45		64.40		9.09	7.26	8.75		5.87		1017.89	1021.19		1014.96		
Max	15.51	19.04		13.04		97.3	99.80		91.40		15.00	10.75	12.05		9.55		1030.76	1032.55		1028.60		
Min	5.56	12.38		1.27		75.4	89.90		45.68		4.17	5.07	6.62		4.18		996.45	999.90		993.91		

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  
 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



## **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 2020. 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 1981 to 2010 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/wwp1.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 of 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.