

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 2018

		Anomaly	Rank in the past 137 years				
Temperature (°C)							
Mean maximum	15.9	+0.7	23 rd highest				
Mean minimum	6.8	-0.4	52 nd highest				
Daily mean	11.4	+0.2	32 nd highest				
Highest maximum	23.8	on 10 th	Lowest maximum	7.1	on 27 th		
Highest minimum	16.4	on 13 th	Lowest minimum	-2.7	on 31 st		
Mean grass minimum	2.8	-1.3	Lowest grass minimum	-8.0	on 31 st		
Mean earth @30 cm	13.1	0.0	Earth @100 cm	14.6			
Frost duration (hrs)	13.0		Rain duration (hrs)	45.7			
Rainfall total (mm)	67.4	94 %	61 st highest				
Highest daily fall	24.4	on 14 th	Highest rate mm/hr	77	on 14 th		
Number of: Dry days (<0.2mm)	19	Wet days (>0.9mm)	7	days ≥5mm	3		
Sunshine total (hrs)	152.0	Daily mean	4.90	136 %	Sunniest day	10.6 on 9 th	
N° days with: Air frost	2	Ground frost	12	Snow falling	0	Snow lying	0
Thunder	0	Hail ≥5mm	0	Small hail/ice	1	Fog @09	0
						Nil sun	4
Pressure MSL: Mean @09 GMT, mbar	1019.0	+4.7	Highest	1038.6	on 22 nd	Lowest	995.2 on 30 th
Relative humidity: Mean (%)	83.0	Lowest	40	on 1 st	Water vapour (g/kg), mean at 09 and 15 GMT 7.1, 7.1		
Overall mean wind speed (mph)	5.9	Windiest day	14.6	on 12	Max gust	43	on 12 th
Wind direction (days)	N 6	NE 2	E 1	SE 1	S 6	SW 3	W 9
							NW 3
Least windy day (mph)	1.8	on 19 th	Calm; less than 0.5 mph (minutes)		651		

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

Notes:

Temperature and Rainfall Near Average. Very Sunny.

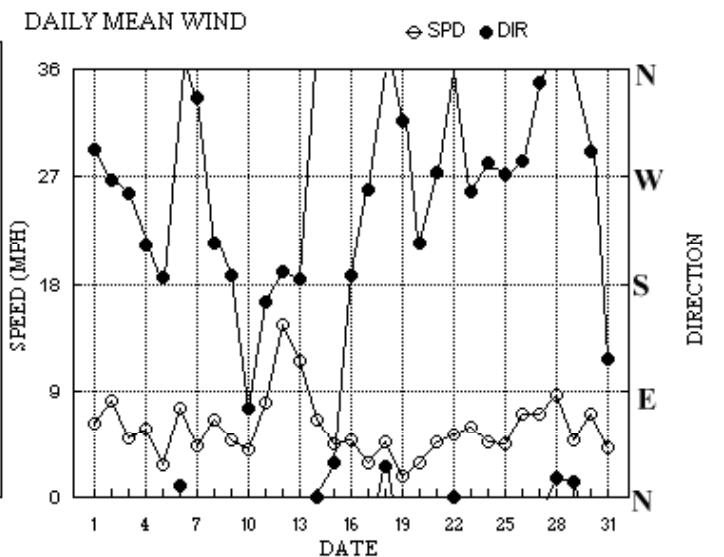
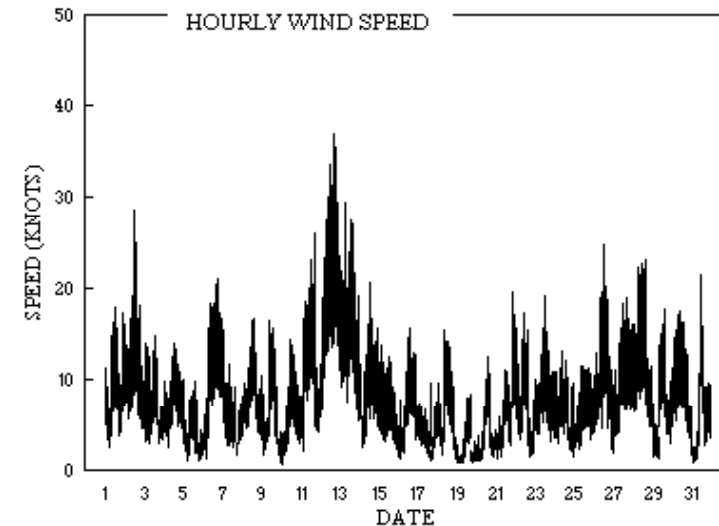
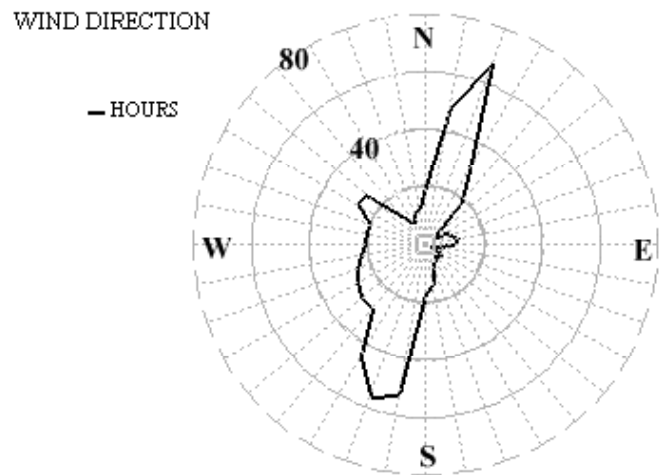
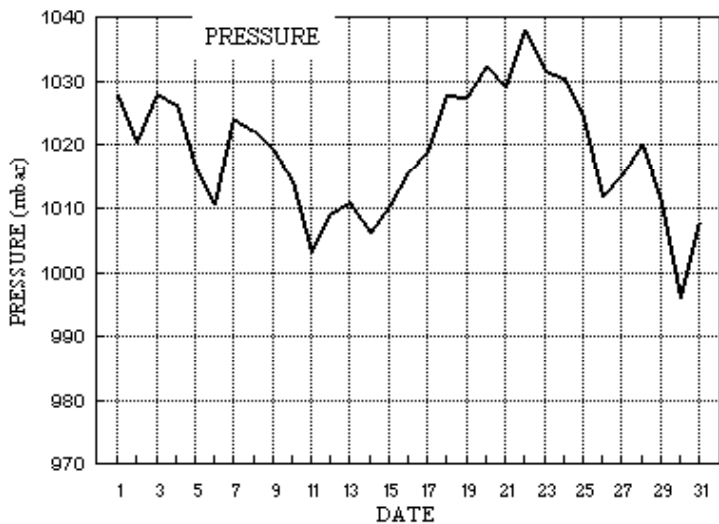
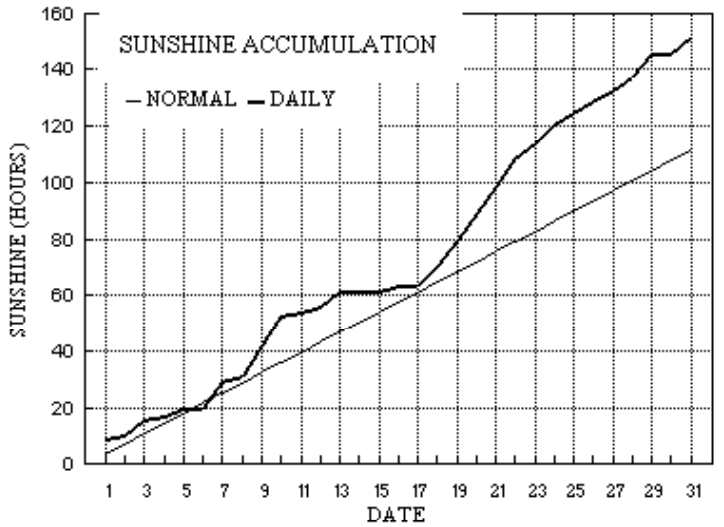
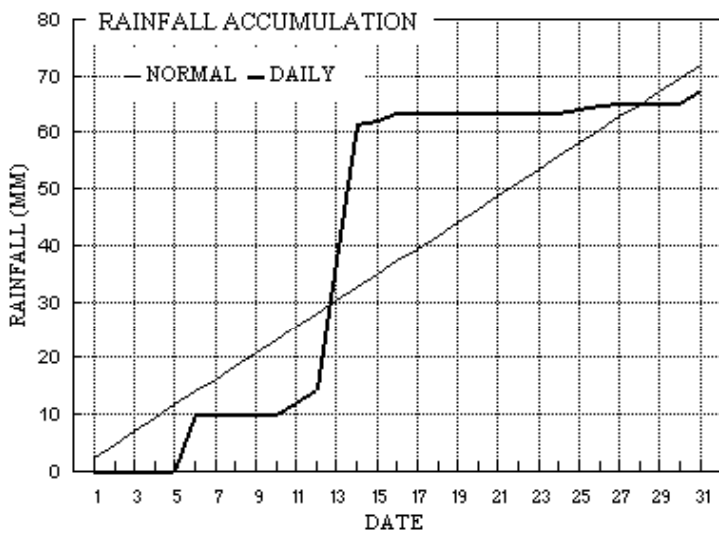
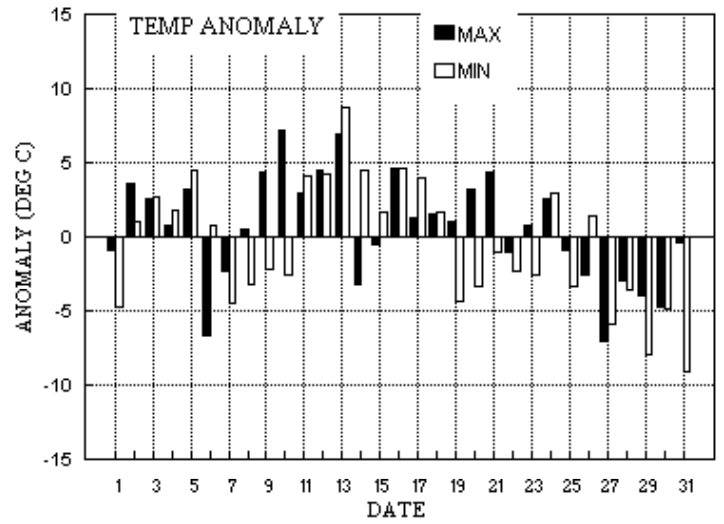
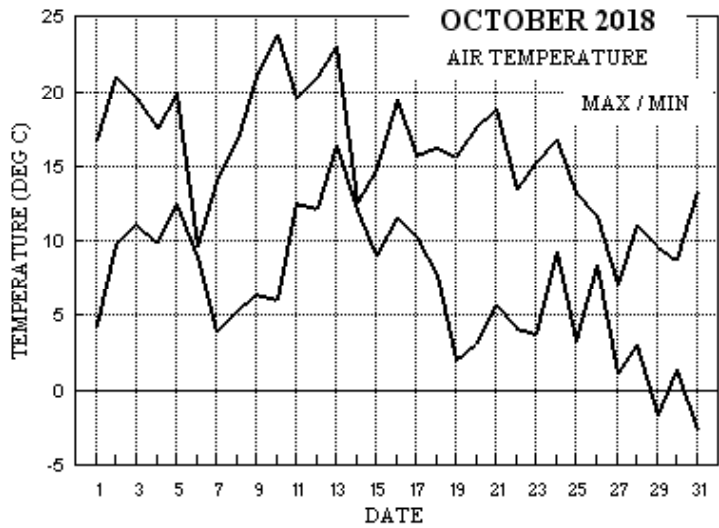
Temperature: This has been a month of quite wide variations in temperature. The mean this October is lower than last year's but higher than in 2016. As with each month since April this year, the anomaly for the mean maximum is positive, while the anomaly for mean minimum is negative or smaller positive, which converts to higher than average daily temperature range, anomalies from +3.7° in July to +1.1° in October. This points to less cloud than normal overall, giving sunnier days and clearer nights. The month's highest max is 3.6° above the median and ranks 10th highest in 115 years. The lowest max is 2.3° below the median and is 10th lowest in 106 years. The highest min, 16.4° on the 13th, is a new October high record and is 3.3° above the median, while the lowest min is 1.7° below its median. The lowest grass min. -8.0°, is lowest since 1997. Earth temperatures at both 30cm and 1 m depth are close to average. Much of the month was relatively mild with anomalies for daily max reaching +7° on the 10th and 13th. but it turned cooler after the 25th, with anomalies greater than -4° on the 27th, 29th and 30th, together with an isolated one over -6° on the 6th. Extreme anomalies were +7.2° on the 10th, and -7.1° on the 27th. For daily min, several days had anomalies over -4°, the 1st, 7th, 19th, 27th and 29th to 31st, with an extreme of -9.1° on the 31st, but also some over +4°, 5th, 11th to 14th, 16th and 17th, with an extreme +8.7° on the 13th. The first air frost of the season was on the 29th after 213 frost-free days. **Rainfall:** While the total is just a little below the average, and it is the wettest October since 2014, a good deal of the month was dry, with only 3 days having significant rainfall, the 6th, 13th and 14th. There was a notable 48 hour total on this latter date, 47.2 mm, the 2nd highest such in October after 2000 (61.7 mm) since before 1976. The number of dry days is 3 above average, and there were 2 dry spells, the first of 12 days ended on the 5th and the second of 7 days on the 24th. Daily rainfall accumulation compared with normal was 13 mm in deficit on the 12th which became a surplus of 29 mm on the 14th, after which there was little rain, the accumulation ending up 4 mm in deficit on the 31st. **Sunshine:** Following on from a very sunny September, this October has continued in like manner, to give the sunniest October since 2011 and before that 2003. Compared with average we had 41.2 hours extra sunshine. Some days were outstanding, the 7th, 9th, 10th, 19th to 22nd and 29th all had over 80 % of the maximum, and the period 18th to 24th was notable, producing 57.8 hours, a daily mean of 8.3 hours per day. Daily accumulation compared with normal was about level pegging up to the 8th, becoming a surplus of 16 hours by the 10th but dropping back to a 2 hour surplus by the 17th, thereafter increasing to 31 hours by the 23rd and 40 hours by the 29th. Overall there were 12 days with <3 hours, 12 with =>6 hours and 8 with =>9 hours. **Wind:** The mean wind speed is 0.3 mph below average and the month's highest gust is average. Daily mean winds were light or moderate except for the 12th and 13th which were strong and fresh respectively. Directions were quite variable, the month having over 60 hours from 020° and nearly 60 from 200°. Dates with broadly W'ly winds were 1st to 3rd, 17th, 20th, 21st, 23rd to 26th and 30th, S'ly, on the 4th, 5th, 8th, 9th, 11th to 13th and 16th, E'ly on the 10th and 31st, N'ly on the 6th, 7th, 14th, 15th, 18th, 19th, 22nd, and 27th to 29th. **Pressure:** The month's highest pressure, 1038.6 mbar, is highest for October since 1985.

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 31 st			
+1.2°	-0.7°	43%	148%	+2.2°	+2.6°	233%	103%	-1.4°	-3.3°	13%	159%

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

Wokingham climatological graphs for October 2018



Month: OCTOBER 2018

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff HH	Rain hrs						
1	16.7	4.3	tr	-1.9	13.5	15.5	9.2	0.0	1028.0	0 1 0 0	0 0 0 0	0 0 0 0	293	4.5	5.4	346	18	1104	254	7	21	0.0	
2	20.9	9.7	0.0	7.7	13.6	15.3	1.4	0.0	1020.4	0 0 0 0	0 0 0 0	0 0 0 0	267	6.3	7.1	299	29	1143	308	10	13	0.0	
3	19.5	11.1	tr	5.9	14.2	15.2	5.3	0.0	1028.3	0 0 0 0	0 0 0 0	0 0 0 0	255	4.0	4.4	275	15	1350	266	7	13	0.0	
4	17.5	9.9	tr	4.1	14.3	15.1	1.4	0.0	1026.3	0 0 0 0	0 0 0 0	0 0 0 0	213	4.8	5.1	217	14	1308	199	8	14	0.0	
5	19.8	12.4	tr	10.7	14.7	15.1	2.7	0.0	1016.5	0 0 0 0	0 0 0 0	0 0 0 0	185	1.3	2.4	190	10	0058	324	4	14	0.0	
6	9.6	8.9	10.1	4.4	14.8	15.1	0.0	0.0	1010.5	0 0 0 0	0 0 0 0	0 0 0 0	10	5.9	6.6	11	21	1928	13	10	16	7.1	
7	13.9	3.9	0.0	-0.3	13.7	15.1	9.5	0.0	1024.3	0 1 0 0	0 0 0 0	0 0 0 0	335	1.7	3.8	8	16	0011	7	7	00	0.0	
8	16.8	5.3	0.0	1.3	13.2	15.0	1.9	0.0	1022.2	0 0 0 0	0 0 0 0	0 0 0 0	214	5.6	5.7	235	17	1500	218	9	14	0.0	
9	20.9	6.5	0.0	1.5	13.4	14.9	10.6	0.0	1019.1	0 0 0 0	0 0 0 0	0 0 0 0	187	3.7	4.2	201	17	0951	204	8	14	0.0	
10	23.8	6.1	0.0	1.5	13.3	14.8	10.5	0.0	1014.3	0 0 0 0	0 0 0 0	0 0 0 0	75	3.3	3.5	64	15	1155	115	6	12	0.0	
11	19.6	12.6	1.9	8.9	13.6	14.7	1.7	0.0	1003.1	0 0 0 0	0 0 0 0	0 0 0 0	165	6.7	7.0	227	26	1715	168	10	13	0.6	
12	20.9	12.2	2.4	7.7	13.9	14.7	1.9	0.0	1009.1	0 0 0 0	0 0 0 0	0 0 0 0	190	12.6	12.7	187	37	1729	196	17	18	0.9	
13	23.0	16.4	22.8	15.4	14.6	14.7	5.5	0.0	1010.9	0 0 0 0	0 0 0 0	0 0 0 0	184	9.9	10.0	182	30	0712	181	13	13	6.2	
14	12.5	12.1	24.4	12.0	15.1	14.7	0.0	0.0	1006.0	0 0 0 0	0 0 0 0	0 0 0 0	1	4.1	5.7	10	21	1429	13	9	14	17.0	
15	14.7	9.0	0.4	9.0	14.2	14.8	0.0	0.0	1010.4	0 0 0 0	0 0 0 0	0 0 0 0	30	3.8	4.0	23	14	0314	22	6	02	2.6	
16	19.4	11.5	1.4	8.7	14.1	14.8	1.7	0.0	1015.8	0 0 0 0	0 0 0 0	0 0 0 0	187	3.5	4.3	198	16	1326	186	9	13	2.4	
17	15.8	10.3	0.2	6.3	14.6	14.8	0.0	0.0	1019.0	0 0 0 0	0 0 0 0	0 0 0 0	259	0.6	2.6	21	10	1505	199	4	01	0.9	
18	16.2	7.7	0.0	2.8	14.7	14.8	7.0	0.0	1028.0	0 0 0 0	0 0 0 0	0 0 0 0	26	4.1	4.1	23	16	0937	21	7	10	0.0	
19	15.6	2.0	0.0	-1.4	13.9	14.8	9.3	0.0	1027.5	0 1 0 0	0 0 0 0	0 0 0 0	317	0.6	1.6	319	8	1604	320	3	15	0.0	
20	17.7	3.1	0.0	-0.1	13.0	14.8	9.7	0.0	1032.4	0 1 0 0	0 0 0 0	0 0 0 0	215	2.4	2.6	218	13	1335	239	6	13	0.0	
21	18.8	5.7	tr	1.6	12.8	14.7	9.2	0.0	1029.0	0 0 0 0	0 0 0 0	0 0 0 0	273	2.2	4.1	344	20	2044	354	8	21	0.2	
22	13.5	4.2	0.0	-2.3	13.0	14.5	9.9	0.0	1038.1	0 1 0 0	0 0 0 0	0 0 0 0	1	3.6	4.6	14	17	1155	14	8	10	0.0	
23	15.2	3.8	0.0	-1.9	12.2	14.4	5.8	0.0	1031.8	0 1 0 0	0 0 0 0	0 0 0 0	258	4.6	5.1	289	19	1257	295	9	12	0.0	
24	16.8	9.3	0.0	5.8	12.3	14.3	6.9	0.0	1030.5	0 0 0 0	0 0 0 0	0 0 0 0	281	3.7	4.0	291	13	0910	308	7	09	0.0	
25	13.2	3.2	0.4	-3.2	12.2	14.1	3.5	0.0	1024.3	0 1 0 0	0 0 0 0	0 0 0 0	272	3.5	3.9	304	12	0937	307	5	10	0.7	
26	11.7	8.3	0.7	7.9	12.3	14.0	4.1	0.0	1011.7	0 0 0 0	0 0 1 0	0 0 0 0	283	5.4	6.1	325	25	1250	299	10	14	0.4	
27	7.1	1.1	0.5	-4.8	11.6	13.9	4.2	0.0	1015.0	0 1 0 0	0 0 0 0	0 0 0 0	349	5.6	6.1	22	19	1707	350	8	11	1.4	
28	11.0	3.0	0.1	-0.3	10.8	13.8	4.5	0.0	1020.2	0 1 0 0	0 0 0 0	0 0 0 0	17	7.4	7.5	21	23	1506	17	10	14	0.5	
29	9.6	-1.7	tr	-7.4	10.3	13.6	8.5	5.3	1010.8	1 1 0 0	0 0 0 0	0 0 0 0	14	4.0	4.2	24	18	1458	27	8	12	0.1	
30	8.7	1.3	0.0	-5.5	9.7	13.4	0.1	0.0	996.0	0 1 0 0	0 0 0 0	0 0 0 0	291	4.8	6.2	287	18	1156	297	8	11	0.0	
31	13.3	-2.7	2.1	-8.0	9.6	13.1	6.0	7.7	1008.0	1 1 0 0	0 0 0 0	0 0 0 0	117	2.8	3.7	159	22	1203	153	10	11	4.7	
Total			67.4				152.0	13.0															45.7
Mean	15.9	6.8		2.8	13.1	14.6	4.90	0.4	1019.0					260	1.2	5.1							
Anom	+0.7	-0.4	94%	-1.3	+0.0	-0.1	137%				+4.7												
Daily mean		11.4																					
Anom		+0.2																					

Number of days with:

Air frost = 2 Ground frost = 12 Nil sun = 4
 Snow falling = 0 Snow lying = 0 Thunder = 0
 Hail=>5mm = 0 Hail<5mm or ice = 1 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 OCTOBER 2018

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	82	1	33	07	15	10.1	4.3	67	5.1	1028.0	2	019	03	0	0	1	8	5	0	1	81820	1	1Sc50 1Ci80 COTRA Cu fra		
2	84	8	26	09	19	16.7	12.5	76	8.8	1020.4	3	003	20	5	2	6	5	4	7	7	86618	83365	88272	2	
3	81	6	27	04	09	15.1	10.5	74	7.7	1028.3	2	016	02	2	2	6	8	4	0	1	81818	86633		3	1Ci80 COTRA Cu hum
4	20	8	21	04	10	12.5	11.6	94	8.3	1026.3	2	001	51	5	2	8	6	2	/	/	88704			4	
5	40	8	15	04	08	14.3	13.0	92	9.3	1016.5	7	007	05	2	2	8	6	2	/	/	88705			5	
6	58	8	01	08	19	8.9	8.3	96	6.8	1010.5	3	014	60	6	5	8	6	3	/	/	88706			6	
7	81	6	01	04	08	9.6	6.0	78	5.7	1024.3	2	017	02	2	2	0	0	9	0	1	86080			7	COTRA
8	82	7	20	07	11	11.4	8.6	83	6.9	1022.2	1	012	02	2	2	6	5	5	/	1	86628	86080		8	COTRA
9	70	2	20	06	10	14.5	11.1	80	8.1	1019.1	0	003	02	0	0	0	0	9	0	1	82080			9	COTRA
10	40	0	33	03	06	13.3	12.8	97	9.2	1014.3	7	005	10	0	0	0	0	9	0	0				10	
11	80	3	15	10	18	17.6	13.3	76	9.6	1003.1	0	002	01	1	1	2	1	4	3	1	82815			11	1Ac68 1Ci72 Cu hum
12	65	7	20	14	28	16.9	12.0	73	8.7	1009.1	2	013	15	6	2	4	5	4	7	/	81715	83625	87362	12	2Sc40 jpW
13	80	7	17	08	19	17.2	14.5	84	10.2	1010.9	0	012	25	8	2	7	8	4	6	/	81815	83640	87650	13	1Sc25 /Ac60 Cu fra Sc cas Rainbow part
14	50	8	32	04	11	12.3	12.0	98	8.7	1006.0	3	008	58	6	5	7	5	2	2	/	83705	85615	86635	14	8Ns50
15	70	8	36	03	07	11.5	11.2	98	8.3	1010.4	3	017	20	5	2	8	6	3	/	/	86706	88708		15	
16	30	7	17	04	07	14.6	14.3	98	10.1	1015.8	1	007	10	2	2	7	6	2	/	/	83705	87707		16	
17	40	8	22	02	05	13.2	12.7	97	9.1	1019.0	2	012	51	6	5	8	6	2	/	/	86704	88705		17	
18	62	7	03	06	12	10.4	9.9	97	7.5	1028.0	1	017	01	1	1	7	6	3	/	1	87708			18	/Ci80 COTRA
19	80	3	31	01	03	7.1	6.7	97	6.0	1027.5	2	012	03	0	0	3	0	9	8	0	83373			19	Ac flo vir
20	57	3	22	02	05	9.5	8.9	96	6.9	1032.4	2	006	10	1	1	2	0	9	7	1	82372			20	2Ci80 COTRA Ac vir
21	56	1	22	02	05	9.9	9.9	100	7.4	1029.0	2	003	10	4	0	1	6	1	0	0	81702			21	
22	80	0	01	06	12	9.4	3.8	68	4.8	1038.1	1	023	02	0	0	0	0	9	0	0				22	
23	80	8	25	06	13	9.3	5.8	79	5.6	1031.8	5	010	02	2	2	2	0	9	7	7	81363	88280		23	2Ac66 COTRA
24	70	7	30	05	13	12.5	10.6	88	7.8	1030.5	3	008	02	2	2	7	6	3	/	/	87709			24	
25	70	7	28	04	07	9.2	6.8	85	6.1	1024.3	2	001	02	2	2	7	5	4	/	/	87616			25	
26	70	7	29	05	19	8.4	6.9	90	6.1	1011.7	5	003	21	6	2	7	5	4	/	/	82715	84630	87650	26	Cld edge NW vv50k NW CF 0820
27	88	1	35	09	14	3.9	-0.7	72	3.6	1015.0	2	006	02	0	0	1	0	9	3	1	81362			27	1Ci72 Hoar slt
28	70	7	03	06	22	6.2	4.0	86	5.0	1020.2	2	021	60	6	2	7	5	4	/	/	83715	85630	87645	28	vv50k exSE
29	84	0	02	05	10	3.5	2.2	91	4.4	1010.8	7	014	02	0	0	0	0	9	0	0				29	Hoar slt
30	60	8	30	07	14	4.6	2.9	89	4.8	996.0	3	006	02	6	2	8	6	3	/	/	88708			30	
31	67	4	01	03	04	0.8	0.5	98	3.9	1008.0	2	010	01	1	1	4	5	6	3	0	81635	84650		31	1Sc42 1Ac65

Mean vis = 22.2 km

Mean cloud = 5.3 67%

Mean wind speed = 5.4 kn

Mean gust = 12 kn

Mean TT = 10.8 °C

Mean TdTd = 8.6 °C

Mean RH = 87.0 %

Mean r = 7.1 g/kg

Mean PPP = 1019.0 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

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 2018

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	82	4	31	06	16	14.5	2.7	45	4.5	1027.0	7	008	02	1	1	3	4	6	3	1	81845	83650	1	2Ac63 1Ci80 Cu hum	
2	88	7	31	07	21	18.6	11.9	65	8.6	1021.1	3	008	02	2	2	7	8	5	/	1	85828	83635	2	/Ci75 COTRA Cu hum	
3	83	1	26	05	11	18.9	10.7	59	7.9	1026.9	8	017	01	1	1	1	1	6	0	0	81833		3	Cu hum	
4	72	6	20	08	14	17.1	12.4	74	8.8	1023.2	7	018	01	2	2	6	5	4	0	0	86615		4		
5	65	7	31	03	10	19.3	13.3	68	9.4	1013.0	6	021	03	2	2	3	8	5	3	1	83822	85369	5	2Sc30 3Ci73 COTRA Cu hum	
6	62	8	01	08	18	8.3	7.5	95	6.4	1012.1	1	010	58	6	6	7	5	4	2	/	82712	87615	88550	6	
7	86	7	32	04	09	12.9	4.6	57	5.2	1023.4	6	003	03	2	2	1	0	9	4	8	81365	87278	7	COTRA	
8	83	7	22	10	17	15.9	9.1	64	7.1	1020.5	5	010	02	2	2	7	5	6	/	1	87632		8	/Ci78	
9	84	0	20	08	16	20.4	8.1	45	6.7	1017.0	7	011	02	0	0	0	0	9	0	0				9	
10	73	0	09	07	14	23.5	12.5	50	9.0	1008.9	7	026	02	0	0	0	0	9	0	0				10	
11	68	7	17	09	20	18.1	14.6	80	10.4	1003.2	3	007	21	6	2	1	1	4	7	8	81815	83360	85465	11	2Ac57 7Cs70 Cu hum
12	80	7	18	13	31	19.9	13.1	65	9.4	1009.0	8	002	03	2	2	7	5	6	/	/	81630	87635		12	
13	82	7	19	14	28	22.5	15.1	63	10.7	1006.9	6	016	02	1	1	1	1	5	3	8	81828	87280		13	1Ac67
14	65	8	01	09	21	10.6	9.8	95	7.6	1007.1	1	012	61	6	6	6	5	3	2	/	82709	86612	88530	14	
15	18	8	02	05	11	12.8	12.5	98	9.0	1012.4	1	011	51	5	5	8	6	2	/	/	86703	88705		15	
16	59	7	19	06	16	17.1	14.6	85	10.2	1015.4	2	001	25	8	2	5	8	4	0	1	81812	84625	86075	16	2Sc40 Cu hum
17	75	8	01	02	04	15.2	12.9	86	9.1	1020.0	3	004	21	6	5	8	8	4	/	/	83815	88640		17	Cu med jp N & SW
18	81	7	03	06	14	14.8	9.2	69	7.1	1026.3	6	012	02	2	2	3	8	6	0	1	82830	87080		18	2Sc40 COTRA Cu hum
19	78	1	28	03	08	15.1	6.7	57	6.0	1026.2	6	006	02	0	0	1	8	6	0	0	81830			19	1Sc35 Cu hum
20	72	1	22	07	11	16.9	10.1	64	7.5	1030.2	8	015	03	0	0	1	0	8	3	1	81357			20	1Ci80 COTRA
21	80	1	25	06	11	18.0	10.6	62	7.8	1026.5	6	012	02	0	0	1	1	7	0	1	81656			21	1Ci80 COTRA
22	81	1	02	08	16	12.6	3.0	52	4.6	1037.4	7	005	02	0	0	0	0	9	0	1	81080			22	
23	78	7	27	08	15	14.8	7.4	61	6.3	1029.8	8	004	02	2	2	2	0	9	8	8	82360	86080		23	1Ac62 2Cs78 COTRA Ac cas Parheliion
24	81	6	26	06	12	15.9	9.1	64	7.1	1027.8	7	016	02	2	2	1	0	9	3	1	81370	86080		24	COTRA Parhelia
25	78	7	27	06	11	11.3	6.6	73	6.0	1020.8	6	017	03	2	2	7	5	5	7	/	87622			25	/Ac70
26	89	4	31	09	20	9.0	3.2	67	4.8	1011.5	2	006	25	8	1	4	8	6	6	3	83830			26	1Sc56 1Ac59 1Ci70 Cu med jpNW Cb top dist NW
27	68	7	34	08	17	5.1	3.1	87	4.7	1014.6	5	001	60	6	2	7	8	4	/	/	83815	87622		27	/Sc30
28	86	2	01	12	22	9.5	0.9	55	4.0	1018.5	7	012	01	1	1	1	8	6	6	0	81840			28	1Sc50 1Ac60 1Ac63 Cu med
29	86	1	03	08	18	8.0	1.2	62	4.2	1004.7	7	024	01	1	1	1	8	6	0	1	81835			29	1Sc40 1Ci75 Cu med
30	78	7	29	07	16	8.6	4.2	74	5.2	997.6	2	013	02	2	2	7	8	5	/	/	85820	87628		30	Cu hum
31	82	2	14	07	14	12.3	5.5	63	5.6	1006.3	6	010	02	1	1	1	8	6	3	1	81832			31	1Sc56 1Ac68 1Ci75 COTRA Cu hum

Mean vis = 33.6 km

Mean cloud = 4.9 62%

Mean wind speed = 7.3 kn

Mean gust = 16 kn

Mean TT = 14.8 °C

Mean TdTd = 8.6 °C

Mean RH = 67.9 %

Mean r = 7.1 g/kg

Mean PPP = 1017.6 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

Wokingham Sunshine Hourly analysis 2018	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
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.63	0.00	0.12	0.00	0.00	0.00	0.43	0.00	0.34	0.22	0.00	0.00	0.00	0.00	0.00	0.00
	7	1.00	0.12	0.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.14	0.00	0.06	0.00	0.00	0.00
	8	1.00	0.10	0.19	0.00	0.00	0.00	1.00	0.04	1.00	1.00	0.53	0.47	0.00	0.00	0.00	0.00
	9	1.00	0.00	0.72	0.00	0.00	0.00	1.00	0.43	1.00	1.00	0.74	0.01	0.45	0.00	0.00	0.20
	10	0.98	0.33	0.00	0.00	0.19	0.00	1.00	0.38	1.00	1.00	0.07	0.01	0.68	0.00	0.00	0.79
	11	0.99	0.50	0.01	0.03	0.66	0.00	1.00	0.01	1.00	1.00	0.02	0.04	0.25	0.00	0.00	0.14
	12	0.93	0.24	0.18	0.00	0.95	0.00	1.00	0.39	1.00	1.00	0.00	0.34	0.72	0.00	0.00	0.21
	13	0.58	0.00	0.68	0.01	0.43	0.00	1.00	0.37	1.00	1.00	0.10	0.90	0.96	0.00	0.00	0.04
	14	0.44	0.00	0.86	0.12	0.23	0.00	1.00	0.26	1.00	1.00	0.11	0.16	1.00	0.00	0.00	0.03
	15	0.88	0.00	1.00	0.56	0.08	0.00	0.51	0.01	1.00	1.00	0.01	0.01	1.00	0.00	0.00	0.33
	16	0.19	0.00	1.00	0.68	0.19	0.00	0.54	0.00	1.00	1.00	0.00	0.00	0.32	0.00	0.00	0.00
	17	0.53	0.09	0.55	0.00	0.00	0.00	0.00	0.00	0.29	0.24	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
	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		9.15	1.38	5.30	1.39	2.71	0.00	9.48	1.90	10.64	10.46	1.71	1.93	5.45	0.00	0.00	1.74

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
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.01	0.02	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
7	0.00	0.22	1.00	1.00	0.41	1.00	0.00	0.00	0.00	0.00	0.86	0.08	0.63	0.00	0.00	0.31
8	0.00	0.00	0.55	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.09	0.35
9	0.00	0.67	0.86	1.00	1.00	1.00	0.58	0.31	0.44	0.11	1.00	0.15	1.00	0.00	1.00	0.51
10	0.00	0.98	1.00	1.00	1.00	1.00	0.97	1.00	0.99	0.77	1.00	0.35	1.00	0.00	1.00	0.60
11	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.35	0.36	0.35	1.00	0.01	1.00	0.54
12	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.52	0.00	0.71	1.00	0.00	0.44	0.57
13	0.00	0.95	1.00	1.00	1.00	1.00	0.72	1.00	0.09	0.57	0.00	0.57	0.41	0.03	0.47	0.51
14	0.00	0.98	1.00	1.00	1.00	1.00	0.57	1.00	0.00	0.58	0.00	0.81	0.96	0.00	0.95	0.52
15	0.00	0.42	1.00	1.00	1.00	1.00	0.95	1.00	0.00	0.68	0.00	1.00	0.94	0.00	0.93	0.53
16	0.00	0.75	0.83	0.82	0.83	0.79	0.00	0.60	0.00	0.52	0.00	0.45	0.54	0.06	0.11	0.36
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	0.05
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
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	0.00	6.99	9.25	9.82	9.24	9.88	5.77	6.91	3.47	4.11	4.22	4.47	8.47	0.11	6.00	151.98

OCTOBER 2018	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	10.30	15.2	1428	4.2	618	66.8	94.9	620	40.4	1230	4.0	5.0	5.6	2010	4.0	1225	1026.01	1028.8	1013	1022.8	1	0
2	15.37	21.1	1209	9.6	157	74.2	89.2	638	58.3	1210	10.7	8.0	9.4	1212	5.1	2	1021.47	1024.2	2359	1019.8	654	0
3	14.67	19.6	1346	10.0	2355	77.6	95.2	2358	54.1	1347	10.6	7.8	8.6	1246	7.1	2354	1027.06	1028.8	1141	1024.0	7	0
4	13.78	17.6	1503	9.8	4	86.5	96.1	26	70.5	1447	11.5	8.3	9.5	1115	7.0	4	1024.31	1027.6	12	1020.3	2339	0
5	14.75	19.9	1453	9.6	2359	85.7	96.7	2346	64.0	1251	12.3	8.8	10.2	1200	7.2	2359	1015.10	1020.4	0	1011.1	2356	0
6	9.05	11.7	711	6.7	2358	93.3	97.8	446	83.5	2248	8.0	6.7	8.3	712	5.1	2358	1012.51	1019.0	2308	1008.9	529	10.6
7	8.37	14.0	1404	3.8	629	76.0	92.0	534	49.9	1301	4.1	5.1	6.4	1031	4.4	629	1022.96	1024.6	943	1018.6	0	0
8	11.35	16.8	1337	5.3	36	79.1	93.1	524	61.1	1338	7.7	6.5	7.7	1129	4.7	125	1021.17	1023.3	0	1019.7	2322	0
9	13.11	20.9	1357	6.5	648	78.2	98.5	705	41.1	1400	8.7	7.0	8.4	853	5.8	1102	1018.29	1020.0	2	1016.8	1517	0
10	14.32	23.9	1406	6.1	554	82.2	98.0	755	47.1	1513	10.8	8.2	10.5	1040	5.6	529	1011.35	1017.6	6	1004.4	2328	0
11	15.72	19.6	1147	12.2	2150	85.8	97.7	315	69.0	1148	13.2	9.5	10.6	1451	8.6	2150	1004.09	1007.9	2352	1002.1	406	1.9
12	17.62	20.9	1310	12.9	210	72.9	94.5	0	54.0	1213	12.5	9.0	10.9	2222	7.8	1212	1009.19	1011.6	2153	1007.4	547	0
13	19.89	23.0	1446	16.3	2356	72.9	90.0	114	62.0	1444	14.8	10.5	11.5	1334	9.1	544	1008.71	1011.4	837	1006.0	1541	2.6
14	11.64	16.3	23	9.0	2004	95.0	98.0	2359	82.5	245	10.8	8.1	10.3	7	6.9	2004	1007.10	1009.7	2208	1004.6	631	44.5
15	11.84	13.1	1310	9.6	5	98.4	99.1	2340	97.6	946	11.6	8.5	9.2	2359	7.3	5	1011.41	1015.3	2314	1007.3	341	3.6
16	14.74	19.4	1256	12.0	2144	91.4	99.9	325	74.3	1258	13.3	9.5	11.1	1203	7.8	2118	1015.81	1017.7	2218	1014.2	333	0.1
17	13.11	15.8	1242	10.3	244	93.5	98.4	739	79.9	1246	12.1	8.7	9.5	944	7.5	217	1020.02	1025.1	2352	1016.9	317	1.7
18	10.78	16.2	1325	5.1	2351	88.1	99.4	752	63.9	1326	8.8	6.9	8.3	13	5.3	2350	1026.72	1028.1	920	1024.9	0	0
19	7.81	15.6	1406	2.0	628	88.0	100.0	714	56.0	1441	5.6	5.6	6.9	1058	4.3	628	1027.33	1030.0	2351	1025.8	1355	0
20	9.94	17.7	1245	3.1	616	88.2	99.6	620	59.0	1320	7.8	6.5	8.1	1149	4.6	616	1031.05	1033.0	946	1029.3	224	0
21	11.93	18.8	1438	5.7	557	84.7	100.0	845	57.9	1429	9.2	7.2	8.8	2032	5.5	558	1028.66	1032.3	2352	1026.1	1520	0
22	8.46	13.5	1258	3.8	2210	75.2	96.6	2220	50.1	1421	4.0	4.9	6.2	6	4.4	1517	1036.85	1038.6	2017	1032.1	0	0
23	10.71	15.2	1252	4.9	318	76.9	92.9	330	54.1	1248	6.6	6.0	7.3	1953	4.8	313	1031.65	1036.8	9	1029.3	1505	0
24	11.87	16.8	1333	5.7	2348	83.5	97.0	2118	60.0	1319	9.0	7.0	7.9	1100	5.4	2348	1028.72	1030.8	939	1026.3	2354	0
25	8.92	13.2	1231	3.2	240	84.3	99.8	320	67.3	1232	6.3	5.9	6.6	1136	4.6	240	1022.12	1026.4	8	1016.4	2356	0
26	8.02	11.9	1156	2.3	2305	76.8	91.8	758	55.5	1157	4.1	5.1	6.8	804	3.9	2338	1012.73	1016.5	0	1010.5	1224	1.1
27	3.69	7.1	1120	1.1	115	83.6	95.4	132	63.9	1121	1.1	4.1	4.8	1504	3.5	840	1015.22	1017.4	2315	1014.1	20	0.7
28	5.55	11.0	1319	1.4	2358	81.4	94.0	2335	50.2	1512	2.4	4.5	5.4	1040	3.6	1512	1018.35	1020.4	921	1016.2	2358	0.1
29	3.34	9.6	1237	-1.7	706	84.1	100.0	803	54.7	1251	0.6	4.0	4.9	956	3.3	706	1007.52	1016.4	25	998.8	2358	0
30	5.27	8.7	1337	0.8	2358	83.0	95.4	2359	72.9	1450	2.6	4.6	5.4	1325	3.8	2356	998.28	1004.9	2359	995.2	650	0.1
31	5.37	13.3	1212	-2.7	617	85.8	98.9	359	58.8	1215	2.9	4.9	6.7	2350	3.1	518	1006.48	1008.1	849	1004.4	2315	0
Total																						67.0
Mean	11.01	16.04		6.08		83.0	96.45		61.72		7.99	6.85	8.12		5.52		1018.33	1021.70		1015.30		
Max	19.89	23.85		16.26		98.4	100.00		97.60		14.80	10.48	11.48		9.05		1036.85	1038.57		1032.12		
Min	3.34	7.14		-2.71		66.8	89.20		40.38		0.64	4.00	4.77		3.05		998.28	1004.89		995.15		

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, 1st January to 31st 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°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% 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.