

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 2019

Temperature (°C)		Anomaly	Rank in the past 138 years		
Mean maximum	14.8	-0.4	64 th highest		
Mean minimum	7.3	+0.1	39 th highest		
Daily mean	11.0	-0.2	53 rd highest		
Highest maximum	19.7	on 1 st	Lowest maximum	10.1	on 28 th
Highest minimum	14.0	on 1 st	Lowest minimum	-1.2	on 28 th
Mean grass minimum	5.0	+0.9	Lowest grass minimum	-3.9	on 28 th
Mean earth @30 cm	13.5	+0.4	Earth @100 cm	14.7	
Frost duration (hrs)	6.1		Rain duration (hrs)	85.1	
Rainfall total (mm)	101.3	141 %	26 th highest		
Highest daily fall	15.6	on 12 th	Highest rate mm/hr	77	on 1st&17 th
Number of: Dry days (<0.2mm)	8	Wet days (>0.9mm)	18	days ≥5mm	7
Sunshine total (hrs)	101.1	Daily mean	3.26	87 %	Sunniest day
N° days with: Air frost	1	Ground frost	7	Snow falling	0
Thunder	2	Hail ≥5mm	0	Small hail/ice	0
				Fog @09	0
				Nil sun	7
Pressure MSL: Mean @09 GMT, mbar	1011.6	-2.7	Highest	1026.9	on 27 th
			Lowest	996.5	on 1 st
Relative humidity: Mean (%)	87.6	Lowest	48	on 22 nd	Water vapour (g/kg), mean at 09 and 15 GMT
					7.3, 7.3
Overall mean wind speed (mph)	6.2	Windiest day	11.9	on 26 th	Max gust
					44
Wind direction (days)	N 2	NE 4	E 3	SE 0	S 4
					SW 15
					W 2
					NW 1
Least windy day (mph)	2.1	on 23 rd	Calm; less than 0.5 mph (minutes)		
			1029		

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

Notes:

Wet with Near Average Temperature and Below Average Sunshine.

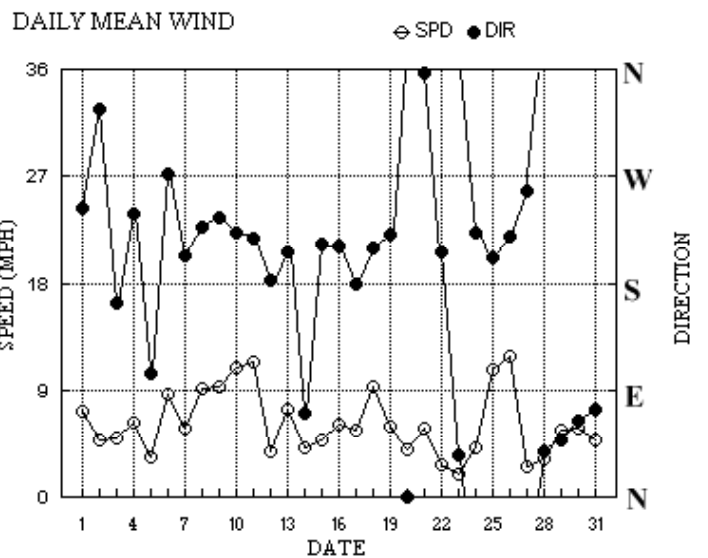
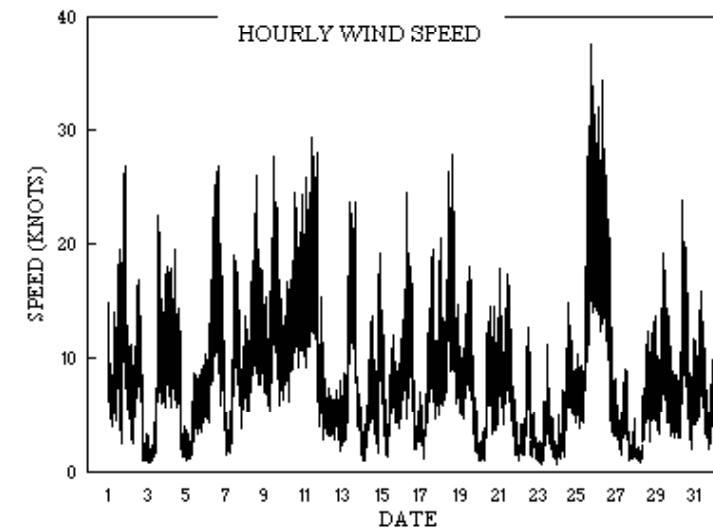
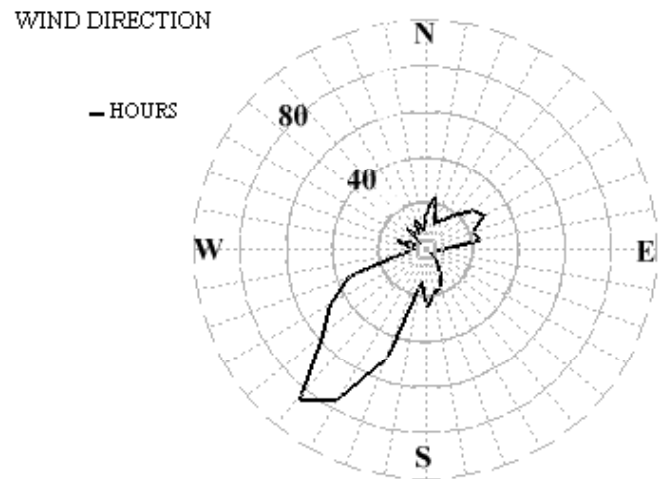
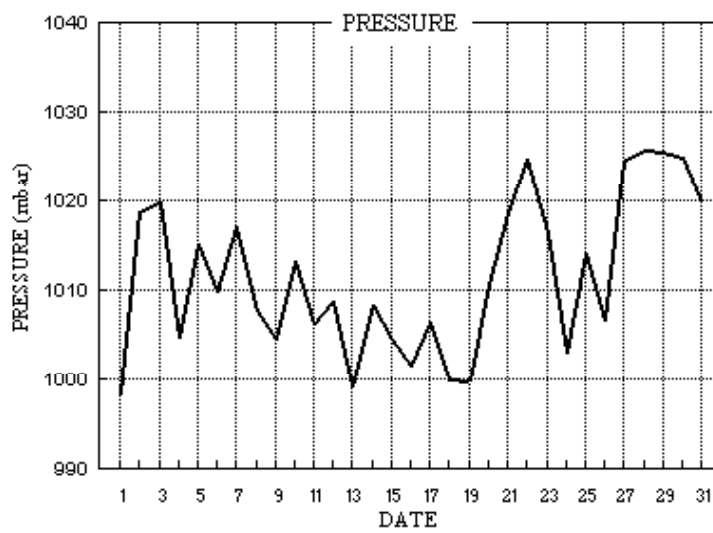
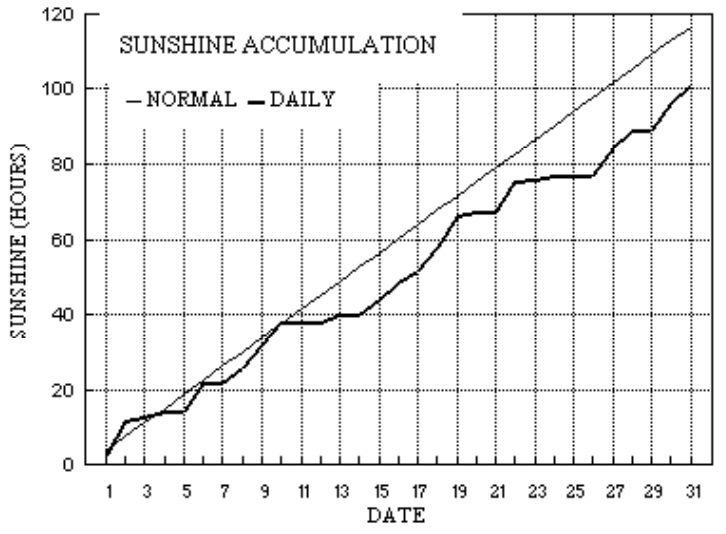
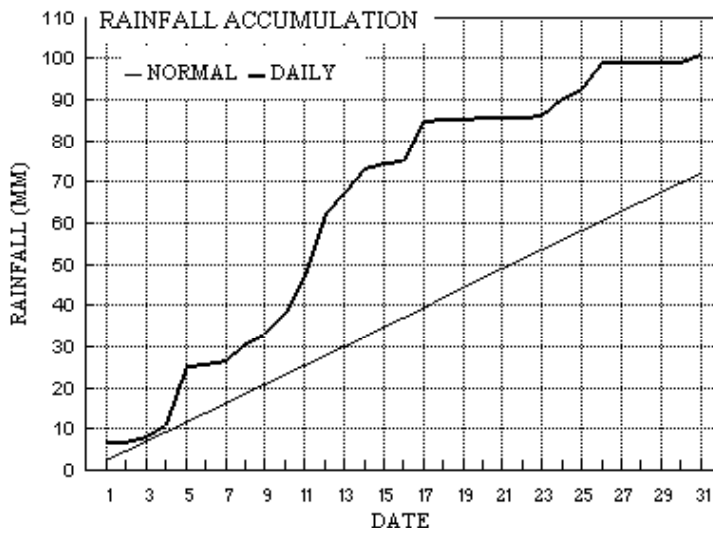
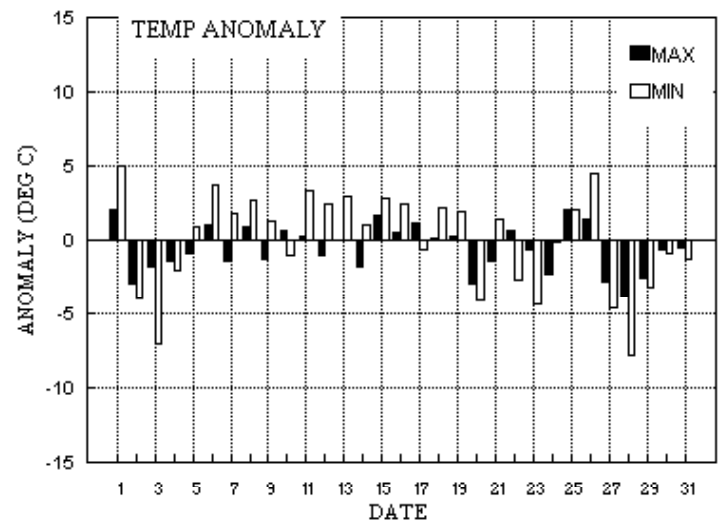
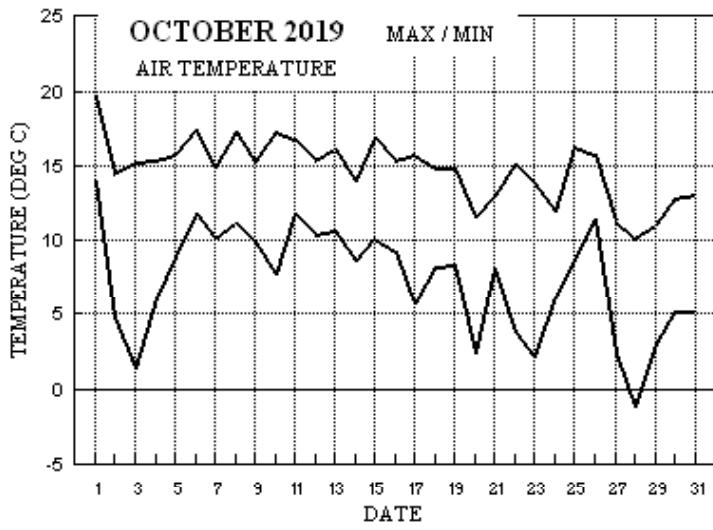
Temperature: This appears to have been a pretty standard October as regards temperature, the mean just 0.2° below the current 30 year average. However, since 2000 13 Octobers have been milder and just 6 the same or colder, and indeed the average for the past 20 years is 0.6° higher than that for the standard 1981 to 2010 period. Some of that increase is probably caused by the continuing urbanization, in addition to global warming. The mean earth temperature at 30 cm and 1 m depth is slightly above average. The first air frost of the season was on the 28th after 196 frost-free days. The highest max is 0.4° below the 116 year median and the lowest max is 0.7° above its median. The highest min is 0.9° above the median and the lowest min is 0.2° below its median. Anomalies for daily max were generally close to normal, with extremes of +2.1° on the 1st and -3.8° on the 28th. Anomalies for daily min were more variable, over +4° on the 1st and 26th and over -4° on the 20th, 23rd, and 27th, and over -7° on the 3rd and 28th, reaching -7.8° on the latter date. **Rainfall:** This has been a wet October, with 8 fewer dry days than the average 16, and a total just exceeding 100 mm. This is the lowest number of dry days since 2012, which had 7, and is equal 2nd lowest in the past 44 years. There was just one dry day before the 19th, but 4 consecutive ones to the 30th. On average, October is our wettest month, and indeed this is the 6th October this millennium to have at least 100 mm, the last being in 2014. So a wet month overall, but note that its ranking in the past 138 years is only 26th wettest, the record being 196.6 mm in 1960. Rain duration is 166 % of average, and is 2nd highest after 2000 since before 1993. Thunder occurred on the 1st and 17th, but there was no hail this month. Rain rate exceeded 50 mm/hr on the 1st, 8th, 17th and 18th. Daily rainfall accumulation compared with normal was in surplus throughout the month, but only by 1 mm on the 3rd, increasing to 45 mm by the 17th, then decreasing to 29 mm by the 31st. **Sunshine:** Not a good month sun-wise, 13% below average, but 4 Octobers since 2011 have been duller. There were no notable sunny periods, though there was a scattering of sunny days, with the 2nd, 19th, 22nd, 27th and 30th all having over 70 % of the maximum. The 6 day period to the 26th was particularly dull, only one day having over 7 % of the maximum and 3 having no sunshine. Daily accumulation compared with normal was slightly in surplus on the 2nd, and it was level pegging on the 10th, but showed a deficit of 15 hours by the 14th which persisted with slight variations until the 31st. Overall there were 16 days with <3 hours, 9 with =>6 hours and 1 with =>9 hours. **Wind:** The mean wind speed is exactly average, as is the month's highest gust. Daily mean speeds were fresh on the 9th, 11th, 18th, 25th and 26th, otherwise light or moderate. Directions were mainly between S and W, except for between NW and N on 2nd, 20th and 21st, E'ly on the 5th and 14th, and NE'ly on the 23rd and from the 28th onward.

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			
-0.5°	+0.1°	165%	102%	-0.2°	+1.4°	205%	78%	-1.0°	-1.6°	61%	81%

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

Wokingham climatological graphs for October 2019



Month: OCTOBER 2019

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	19.7	14.0	6.8	11.2	16.2	16.4	2.5	0.0	998.3	0 0 0 0	1 0 0 0	0 0 0 0	0 0 0 0	243 1.8 6.3	26 27 2004	20 12	20 1.8	
2	14.4	4.8	0.0	0.3	16.0	16.4	9.2	0.0	1018.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	326 3.6 4.2	298 17 1308	305 8	14 0.0	
3	15.2	1.4	1.4	-1.0	14.8	16.3	1.2	0.0	1019.8	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	163 3.6 4.4	192 23 1345	184 11	14 1.5	
4	15.3	6.0	3.0	6.6	14.5	16.1	1.4	0.0	1004.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	238 5.1 5.4	265 20 1054	256 9	10 0.9	
5	15.8	8.8	14.1	4.5	14.6	15.9	0.0	0.0	1015.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	105 2.0 2.9	155 10 2302	144 5	23 6.5	
6	17.4	11.8	0.5	11.2	14.9	15.7	7.6	0.0	1009.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	272 5.9 7.5	293 27 1507	281 11	11 1.0	
7	14.9	10.1	1.1	6.6	14.9	15.6	0.1	0.0	1017.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	204 4.7 5.0	200 19 1127	193 10	13 1.6	
8	17.2	11.2	4.0	7.5	15.0	15.5	4.1	0.0	1007.8	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	227 8.0 8.0	272 26 1409	228 11	13 0.6	
9	15.2	9.9	2.5	6.2	14.6	15.5	6.1	0.0	1004.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	235 7.9 8.0	257 28 1243	256 13	12 1.1	
10	17.3	7.7	4.8	4.7	14.1	15.4	6.0	0.0	1013.3	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	222 9.4 9.5	251 25 1430	219 12	15 5.6	
11	16.8	11.8	8.7	13.4	14.4	15.2	0.0	0.0	1006.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	217 9.8 9.9	226 29 1133	215 14	12 9.5	
12	15.4	10.4	15.6	10.1	14.6	15.1	0.0	0.0	1008.7	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	183 2.8 3.3	200 8 0305	146 4	20 19.0	
13	16.1	10.7	4.9	10.9	14.4	14.9	1.8	0.0	999.2	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	207 4.5 6.4	191 24 1013	210 11	11 5.2	
14	13.9	8.6	6.2	5.4	14.1	14.9	0.0	0.0	1008.4	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	71 1.3 3.7	248 19 2257	241 9	23 3.5	
15	16.9	10.1	1.2	10.3	14.0	14.9	4.0	0.0	1004.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	213 3.9 4.3	234 14 0008	235 7	02 1.7	
16	15.3	9.3	0.5	5.7	14.0	14.8	4.7	0.0	1001.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	211 3.9 5.4	251 25 0752	249 9	12 0.2	
17	15.7	5.7	9.8	1.1	13.8	14.6	3.1	0.0	1006.5	0 0 0 0	1 0 0 0	0 0 0 0	0 0 0 0	179 4.6 4.9	194 20 1505	210 9	13 3.1	
18	14.8	8.2	0.4	5.7	13.4	14.5	6.1	0.0	1000.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	209 7.8 8.1	226 28 1439	219 12	14 0.3	
19	14.9	8.3	tr	3.3	13.1	14.4	8.4	0.0	999.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	220 5.0 5.2	237 18 1351	240 8	11 0.0	
20	11.5	2.4	0.2	-1.5	12.5	14.3	1.2	0.0	1010.6	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	1 3.0 3.5	5 15 1951	12 7	12 1.4	
21	13.0	8.1	0.1	8.2	12.4	14.2	0.0	0.0	1018.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	356 5.0 5.1	10 18 0116	9 8	01 0.3	
22	15.1	3.8	0.0	-0.4	12.5	14.1	8.1	0.0	1024.8	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	206 1.8 2.4	214 13 1346	228 6	13 0.0	
23	13.8	2.1	0.3	-1.5	12.0	14.0	0.5	0.0	1016.4	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	36 1.6 1.8	65 11 1205	58 4	12 1.3	
24	11.9	6.2	4.5	10.1	12.3	13.9	0.7	0.0	1003.0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	223 3.1 3.7	239 15 1330	226 6	13 3.0	
25	16.2	8.6	2.4	4.0	12.2	13.8	0.0	0.0	1014.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	201 9.1 9.3	185 38 1830	205 16	18 4.6	
26	15.7	11.4	6.5	13.8	12.7	13.7	0.0	0.0	1006.6	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	219 8.3 10.3	201 34 0804	211 15	02 6.1	
27	11.3	2.3	0.0	-1.5	12.6	13.7	7.9	0.0	1024.5	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	257 1.6 2.3	321 9 1213	333 4	12 0.0	
28	10.1	-1.2	0.0	-3.9	11.4	13.6	4.3	6.1	1025.8	1 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	39 2.2 2.8	30 13 2221	27 5	14 0.0	
29	11.0	3.0	0.0	2.1	11.0	13.4	0.2	0.0	1025.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	48 4.8 4.9	60 19 1153	56 8	12 0.0	
30	12.8	5.2	0.0	-0.2	11.1	13.2	7.0	0.0	1024.9	0 1 0 0	0 0 0 0	0 0 0 0	0 0 0 0	65 4.9 5.0	65 24 1153	79 9	11 0.0	
31	13.1	5.1	1.8	0.8	10.8	13.1	4.9	0.0	1019.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	74 4.0 4.3	97 16 0916	75 7	09 5.3	
Total			101.3				101.1	6.1										85.1
Mean	14.8	7.3		5.0	13.5	14.7	3.26	0.2	1011.6					217 2.6 5.4				
Anom	-0.4	+0.1	141%	+0.9	+0.4	+0.0	87%											
Daily mean		11.0																
Anom		-0.2																

Number of days with:

Air frost = 1 Ground frost = 7 Nil sun = 7
Snow falling = 0 Snow lying = 0 Thunder = 2
Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 0

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for OCTOBER 2019

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	62	7	21	07	14	16.3	13.8	85	9.9	998.3	6	006	60	6	1	7	5	4	3	/	85612	86650	1	/Ac58	
2	84	1	35	06	11	9.7	4.9	72	5.3	1018.8	2	033	02	0	0	1	5	7	0	0	81650		2		
3	57	8	02	02	04	6.0	5.6	97	5.6	1019.8	7	009	10	2	2	6	5	6	7	/	86642	88465	3	/Ac62	
4	60	7	24	07	15	13.6	11.1	85	8.3	1004.8	0	003	21	6	2	7	5	4	/	/	83715	83635	87656	4	
5	64	8	04	02	06	12.2	11.7	97	8.5	1015.1	3	017	02	2	2	8	5	4	/	/	81712	83628	88650	5	
6	81	2	27	09	20	14.0	11.0	82	8.1	1009.8	1	018	01	1	1	1	1	4	3	1	81818			6	2Ac080 1Ci200 Cu fra
7	67	8	17	03	06	11.3	10.0	92	7.6	1017.0	0	000	60	6	2	6	5	7	2	/	86656	88458		7	
8	61	4	23	09	17	14.0	12.0	83	8.8	1007.8	7	005	02	1	1	1	1	4	0	9	81812	84172		8	1Ci75 COTRA Cu fra
9	82	5	24	08	15	12.4	8.7	78	7.0	1004.5	7	003	25	8	2	2	8	4	6	3	82815	83362		9	1Sc40 2Ci70 Cu med
10	70	5	23	10	17	11.9	9.3	84	7.2	1013.3	2	019	03	1	1	1	8	4	4	1	81815	83075		10	1Sc50 2Ac63 COTRA Cu fra Parhelion
11	75	8	21	14	25	14.9	13.6	92	9.7	1006.2	7	007	61	6	5	2	7	4	2	/	82712	88558		11	1Sc20
12	59	8	20	02	07	10.9	10.4	97	7.9	1008.7	2	011	63	6	6	1	7	4	2	/	81715	88556		12	
13	62	8	19	10	21	15.4	14.3	93	10.2	999.2	7	018	15	6	2	7	5	4	2	/	83615	87630	88458	13	jpNW
14	62	8	05	04	09	11.1	10.9	99	8.1	1008.4	8	013	61	6	6	7	5	3	2	/	81708	83630	86640	14	8Ns56
15	50	8	14	02	04	11.3	10.4	94	7.9	1004.6	3	010	10	5	2	8	6	2	/	/	85705	88708		15	
16	65	7	24	06	16	12.7	11.4	92	8.5	1001.6	1	020	21	6	5	7	5	4	7	/	84710	87625		16	/Ac62
17	65	5	17	04	09	10.3	9.8	97	7.6	1006.5	8	003	03	1	1	1	1	3	7	0	81706	8535981	Cu35	17	
18	80	4	23	09	17	11.4	8.6	83	7.0	1000.0	1	014	03	1	1	1	5	7	6	3	81650	83072		18	1Ac60 1Ci68 Cb tops S
19	84	1	23	08	14	11.1	8.7	85	7.1	999.9	1	014	02	0	0	1	6	3	7	8	81708			19	1Sc40 1Ac68 1Cs75 COTRA Cb top dist W
20	63	7	36	04	07	8.1	7.5	96	6.4	1010.6	1	016	02	2	2	7	5	3	/	/	81708	86628		20	/Sc50
21	70	8	36	08	14	11.5	9.4	87	7.3	1018.5	2	020	21	6	2	7	5	4	2	/	85712	87618	88458	21	
22	57	1	35	02	03	8.0	7.7	98	6.4	1024.8	0	009	10	4	0	1	5	6	0	0	81640			22	
23	56	7	34	02	06	6.0	5.7	98	5.7	1016.4	7	012	10	2	2	7	0	9	7	/	83359	87362		23	
24	20	8	28	01	07	11.4	11.1	98	8.3	1003.0	8	006	10	5	2	8	5	2	/	/	82705	87625	88656	24	
25	65	8	18	04	09	11.4	10.3	93	7.8	1014.1	0	004	03	2	2	2	8	4	7	/	81815	83358	88460	25	2Sc56 Cu med S
26	65	8	21	14	34	15.6	12.2	80	8.8	1006.6	5	002	02	5	2	8	5	4	/	/	86618	88625		26	
27	89	6	23	02	03	4.6	4.2	97	5.0	1024.5	1	025	02	2	2	0	0	9	0	8	82275	86080		27	COTRA Halo 22° part+parhelion
28	57	5	22	01	02	3.0	2.9	99	4.6	1025.8	0	001	10	2	2	1	0	9	3	1	81368	85073		28	COTRA Hoar mod in shade
29	82	7	05	05	14	7.6	4.7	82	5.2	1025.5	2	010	03	2	2	4	5	6	7	/	81640	84650	87365	29	
30	58	6	05	05	11	8.0	6.0	87	5.7	1024.9	0	004	05	2	2	1	0	9	7	1	81362	86080		30	COTRA Parhelion
31	56	7	07	07	14	8.7	6.0	83	5.7	1019.9	0	005	05	2	2	1	0	8	3	1	81357	87075		31	COTRA

Mean vis = 19.5 km

Mean cloud = 6.1 77%

Mean wind speed = 5.7 kn

Mean gust = 12 kn

Mean TT = 10.8 °C

Mean TdTd = 9.2 °C

Mean RH = 89.8 %

Mean r = 7.3 g/kg

Mean PPP = 1011.6 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for OCTOBER 2019

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	82	7	19	03	10	16.8	14.3	85	10.2	997.5	3	005	03	8	2	1	8	4	7	3	81815	83465	87070	1	1Sc30 1Ac60 Cu med
2	86	2	31	07	17	14.1	3.6	49	4.9	1019.9	0	005	01	1	1	1	4	6	0	1	81835			2	1Sc45 1Ci80 Cu hum
3	82	7	19	12	21	14.8	5.9	55	5.7	1014.0	7	032	02	2	2	3	8	6	8	/	82835	86363		3	1Sc45 Cu hum Ac cas
4	70	7	25	07	15	14.8	12.1	84	8.8	1005.3	0	002	80	8	6	7	8	4	/	/	83812	83625	86640	4	Cu fra/hum
5	82	8	10	03	07	15.2	11.2	77	8.2	1014.6	5	006	02	2	2	8	8	5	/	/	81820	88650		5	Cu med
6	83	2	29	11	24	16.1	7.3	56	6.4	1011.6	2	010	01	8	1	2	8	6	0	0	81840			6	2Sc50 Cu med
7	57	8	19	09	18	13.8	12.4	91	8.9	1012.4	7	025	50	6	5	8	6	3	/	/	87706	88710		7	
8	75	5	22	09	26	13.3	11.9	91	8.7	1005.5	5	007	25	8	1	3	9	5	7	1	81920	81825	83360	8	2Sc50 1Ci75 pR2 1408
9	70	6	24	12	21	14.2	6.3	59	6.0	1005.5	0	002	15	8	2	3	9	5	6	3	82925	83363	85068	9	1Cu30 1Sc50 jp NW S-W vv 60k ex p
10	78	7	23	13	25	16.0	9.0	63	7.1	1012.1	8	007	03	2	2	5	5	6	3	1	85635	83362	85075	10	COTRA
11	65	8	22	14	26	16.8	13.7	82	9.8	1004.4	7	013	20	5	2	8	5	4	/	/	87615	88620		11	
12	58	8	18	03	06	12.6	11.8	95	8.6	1008.4	7	007	63	6	6	7	8	2	2	/	83805	86618	88545	12	Cu med
13	84	6	24	12	24	15.4	11.8	79	8.6	1004.1	2	032	03	8	1	6	8	4	7	/	85815			13	2Sc30 2Ac65 Cu med
14	56	8	09	04	11	12.2	11.9	98	8.7	1001.5	7	034	20	5	6	8	6	3	/	/	87706	88710		14	
15	84	2	23	06	11	15.4	10.6	73	8.0	1003.8	6	006	02	1	1	2	8	5	4	1	81825			15	1Sc45 1Ac65 1Ci75 Cu med
16	82	6	25	07	15	14.5	6.6	59	6.1	1003.6	1	006	01	2	2	1	8	6	8	2	81835	85072		16	1Sc45 1Ac60 2Ac63 Cu hum Ac cas
17	60	7	21	06	17	14.0	9.0	72	7.2	1004.0	6	009	25	8	2	8	6	5	6	/	83825	84645	85360	17	Cu con jpSW
18	60	4	21	12	28	13.6	8.7	72	7.0	1000.1	0	000	80	8	1	2	9	5	6	3	82925	81830		18	1Sc50 1Ac60 2Ci68 Rainbow
19	86	2	22	05	17	13.8	7.3	65	6.4	1001.6	2	013	02	8	1	2	8	6	0	3	81830			19	1Sc50 1Ci70 Cu med Cb top dist W
20	75	7	01	04	15	11.1	7.4	78	6.4	1011.9	3	008	02	2	2	7	8	4	/	1	82818	87650		20	/Ci75 Cu med
21	82	8	36	05	14	12.5	8.6	77	6.9	1020.5	2	009	25	8	2	8	8	5	/	/	82825	85640	88656	21	Cu med
22	88	5	22	05	11	13.7	5.1	56	5.4	1022.8	6	013	03	1	1	5	8	6	0	0	81840	85656		22	Cu hum
23	58	8	06	03	07	13.0	10.9	87	8.1	1010.2	7	031	05	2	2	2	5	7	7	8	82650	87358		23	/Cs72
24	61	7	23	06	11	11.0	10.4	96	7.9	1005.4	1	011	21	6	2	7	5	2	7	/	85704	83620		24	4Sc50 4Ac60
25	60	8	21	13	28	15.5	13.3	87	9.5	1009.3	6	019	60	6	5	8	5	4	/	/	81712	84618	86625	25	/Sc50
26	25	8	20	10	22	15.1	14.3	95	10.2	1005.0	6	005	58	6	5	7	7	2	2	/	84705	87708	88520	26	
27	89	5	31	03	09	10.5	3.8	63	4.9	1024.5	6	005	02	2	2	0	0	9	0	8	81280	85081		27	COTRA Halo 22° part+parhelia
28	80	7	03	04	11	9.4	5.9	79	5.7	1024.1	6	009	02	2	2	1	1	4	7	1	81818	85465	87367	28	/Ci72 COTRA Cu hum Parhelia
29	82	7	06	06	15	10.4	6.4	76	5.9	1024.8	6	003	03	2	2	5	8	6	7	/	82835	84645	87365	29	Cu med
30	80	7	07	09	20	11.4	3.7	59	4.9	1022.6	6	015	03	2	2	1	0	9	7	2	81365	85072		30	4Ci75 Ci flo
31	58	6	06	04	11	11.2	7.1	76	6.2	1018.0	7	015	05	2	2	3	5	6	3	1	83630	84360		31	/Ci75

Mean vis = 29.8 km

Mean cloud = 6.2 78%

Mean wind speed = 7.3 kn

Mean gust = 17 kn

Mean TT = 13.6 °C

Mean TdTd = 9.1 °C

Mean RH = 75.3 %

Mean r = 7.3 g/kg

Mean PPP = 1010.6 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 2019	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	0.02	0.65	0.04	0.00	0.00	0.15	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.77	1.00	0.08	0.50	0.00	0.88	0.00	0.10	0.25	1.00	0.00	0.00	0.00	0.00	0.00	0.00
	8	0.53	1.00	0.00	0.00	0.00	1.00	0.00	0.99	0.96	1.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	0.00	1.00	0.00	0.02	0.00	1.00	0.00	0.44	0.57	0.66	0.00	0.00	0.00	0.00	0.00	0.15
	10	0.18	1.00	0.00	0.00	0.00	0.98	0.05	0.00	0.77	0.90	0.00	0.00	0.00	0.00	0.07	0.44
	11	0.63	0.72	0.01	0.00	0.00	0.78	0.00	0.00	0.69	0.45	0.00	0.00	0.00	0.00	0.95	0.46
	12	0.33	0.39	0.04	0.00	0.00	0.26	0.00	0.61	0.80	0.54	0.00	0.00	0.00	0.00	0.69	0.41
	13	0.00	0.28	0.65	0.00	0.00	0.65	0.00	0.18	0.52	0.35	0.00	0.00	0.00	0.00	0.52	0.52
	14	0.00	0.80	0.25	0.25	0.00	0.66	0.00	0.19	0.69	0.17	0.00	0.00	0.10	0.00	0.61	0.84
	15	0.00	0.90	0.15	0.55	0.00	0.93	0.00	0.69	0.35	0.46	0.00	0.00	0.52	0.00	0.64	0.93
	16	0.04	1.00	0.00	0.02	0.00	0.18	0.00	0.76	0.44	0.12	0.00	0.00	1.00	0.00	0.47	0.90
	17	0.00	0.47	0.00	0.03	0.00	0.17	0.00	0.18	0.00	0.00	0.00	0.00	0.14	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		2.50	9.21	1.22	1.38	0.00	7.62	0.05	4.13	6.05	5.98	0.00	0.00	1.77	0.00	3.95	4.65

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	0.09	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
7	0.51	0.63	0.86	0.46	0.00	1.00	0.00	0.00	0.00	0.00	0.02	0.79	0.00	0.29	0.00	0.29
8	0.33	1.00	1.00	0.69	0.00	1.00	0.00	0.00	0.00	0.00	0.91	1.00	0.12	1.00	0.63	0.42
9	0.01	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.09	1.00	1.00	0.35
10	0.00	0.83	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.50	1.00	0.35
11	0.00	0.20	0.81	0.00	0.00	1.00	0.39	0.00	0.00	0.00	1.00	0.46	0.02	1.00	1.00	0.34
12	0.36	0.08	0.10	0.00	0.00	1.00	0.09	0.00	0.00	0.00	1.00	0.00	0.00	0.95	0.80	0.27
13	0.42	0.72	0.80	0.00	0.00	1.00	0.06	0.00	0.00	0.00	1.00	0.00	0.00	0.99	0.34	0.29
14	0.31	0.52	1.00	0.00	0.00	0.86	0.00	0.05	0.00	0.00	1.00	0.01	0.00	0.99	0.09	0.30
15	0.46	1.00	1.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.98	0.00	0.00	0.25	0.02	0.33
16	0.61	0.11	0.85	0.00	0.00	0.12	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
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
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	3.10	6.07	8.43	1.15	0.00	8.09	0.53	0.66	0.00	0.00	7.91	4.26	0.22	6.99	4.86	100.81

OCTOBER 2019	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	14.76	19.7	1155	10.3	2359	89.1	96.1	426	70.6	1247	12.9	9.4	11.2	1059	6.4	2352	1000.52	1010.5	2359	996.5	1247	7.7
2	8.69	14.4	1440	2.9	2353	77.8	97.8	2358	48.9	1133	4.6	5.2	6.4	0	4.5	1133	1018.53	1023.1	2016	1010.4	1	0
3	8.54	15.2	1438	1.4	510	86.0	99.1	618	54.6	1500	6.0	5.9	9.2	2359	4.1	510	1015.69	1022.6	47	1003.8	2357	1.3
4	12.27	15.3	1437	8.8	2139	90.9	98.9	2238	78.9	924	10.8	8.1	9.5	10	6.9	2139	1006.08	1010.9	2332	1003.4	901	3.9
5	12.69	15.8	1318	9.6	16	90.1	99.0	31	73.0	1417	11.0	8.1	8.9	1328	7.3	17	1013.89	1015.6	1046	1010.8	0	5.6
6	14.07	17.4	1336	11.9	4	77.5	98.0	451	53.9	1515	9.9	7.6	9.4	457	6.3	1501	1011.67	1017.0	2341	1007.6	428	10.3
7	12.93	14.9	1237	10.1	41	89.9	96.8	2102	72.5	1132	11.3	8.3	10.2	1956	6.8	40	1013.94	1017.6	727	1008.9	2331	1.8
8	12.82	17.2	1249	10.0	2356	84.5	95.4	648	61.3	1351	10.2	7.8	9.4	0	6.4	2354	1007.11	1009.3	43	1005.0	1351	4.5
9	11.21	15.2	1422	8.2	2357	80.2	94.8	2309	56.2	1232	7.8	6.6	7.2	942	5.9	1232	1005.65	1008.1	2358	1004.3	917	2.8
10	12.78	17.3	1330	7.7	606	82.4	94.9	110	55.4	1331	9.7	7.5	9.4	2200	6.1	606	1011.25	1013.7	948	1007.9	0	0.3
11	14.63	16.8	1458	10.7	2355	90.1	95.9	2039	81.4	1113	13.0	9.4	9.9	1422	7.3	2233	1006.44	1009.8	42	1004.1	1505	12.3
12	11.33	13.0	1353	10.4	643	96.4	98.4	2338	93.2	1250	10.8	8.1	8.9	1352	7.5	14	1008.03	1009.5	1037	1006.5	2344	14.8
13	12.43	16.1	944	8.7	2121	91.4	99.2	628	70.5	1550	11.0	8.3	10.5	1043	6.6	2121	1004.59	1011.4	2315	998.8	918	4.7
14	11.26	13.9	1850	8.6	38	98.2	98.9	2003	96.5	2356	11.0	8.2	9.8	1850	6.7	38	1005.18	1011.3	33	999.1	1940	8.4
15	12.00	16.9	1354	9.3	2242	88.8	96.9	518	66.1	1354	10.1	7.7	8.8	1204	6.9	2241	1004.16	1006.0	2117	1001.9	0	0
16	12.21	15.3	1415	8.1	1909	84.8	97.4	738	56.4	1442	9.5	7.5	10.3	746	5.8	1303	1003.14	1006.9	2359	999.3	658	1.2
17	10.28	15.7	1339	5.7	640	91.2	99.4	755	68.9	1341	8.8	7.1	8.8	1227	5.6	640	1004.98	1007.3	221	1000.3	2354	5.5
18	11.10	14.8	1341	8.2	659	84.9	95.7	342	62.2	1408	8.6	7.0	7.9	1227	6.4	1414	999.33	1001.4	1	997.0	339	5.4
19	10.05	14.9	1146	4.2	2350	84.3	97.0	2357	62.5	1408	7.4	6.5	7.2	1012	5.0	2359	1001.27	1006.5	2351	998.0	326	0
20	8.02	11.4	1300	2.4	347	90.2	98.7	408	77.8	1418	6.4	6.0	6.8	1012	4.4	347	1011.05	1015.1	2309	1006.4	0	0.1
21	10.97	13.0	1303	8.9	2210	84.7	93.8	2356	73.0	1309	8.5	6.8	7.4	1016	6.4	2152	1019.33	1023.6	2359	1014.6	53	0.4
22	8.62	15.1	1255	3.8	639	85.9	98.8	810	48.4	1419	6.0	5.8	7.2	1011	4.8	639	1023.28	1025.3	814	1021.2	2358	0
23	8.33	13.8	1326	2.1	402	95.0	99.0	557	81.3	1328	7.6	6.6	8.3	1323	4.3	402	1013.15	1021.3	2	1005.3	2340	0.2
24	10.87	11.9	1048	9.3	2258	96.5	98.5	539	93.0	1336	10.3	7.8	8.4	1014	6.8	2258	1005.96	1011.9	2359	1002.7	923	4.7
25	12.79	16.2	1818	8.6	454	91.1	96.7	507	77.3	1816	11.3	8.4	9.9	1347	6.6	454	1010.96	1014.4	743	1007.5	2345	2.6
26	12.52	15.9	237	6.2	2359	89.1	96.1	1750	79.3	1028	10.7	8.2	10.3	1531	5.4	2359	1008.84	1018.7	2351	1004.4	1351	6.7
27	5.49	11.3	1239	0.6	2357	87.5	98.8	2333	58.7	1241	3.4	4.8	5.7	1137	3.8	2358	1023.92	1026.9	2216	1018.6	0	0.1
28	4.68	10.1	1331	-1.2	635	90.5	99.6	601	73.3	1338	3.2	4.8	6.0	1019	3.4	635	1025.08	1026.5	13	1023.8	1612	0
29	7.97	11.0	1146	5.3	628	82.5	89.8	607	72.6	1149	5.1	5.4	6.0	1432	4.9	616	1025.11	1026.4	2100	1024.0	221	0
30	8.06	12.8	1413	5.1	2217	79.9	94.5	2301	54.6	1213	4.6	5.2	6.0	940	4.7	1213	1023.67	1026.0	4	1021.2	2347	0
31	8.65	12.6	1242	6.2	29	84.8	92.3	2359	67.3	1231	6.2	5.8	6.7	2357	5.2	704	1018.42	1021.4	0	1012.7	2359	0
Total																						105.3
Mean	10.74	14.67		6.84		87.6	96.97		69.01		8.64	7.10	8.43		5.79		1011.30	1015.35		1007.29		
Max	14.76	19.70		11.85		98.2	99.60		96.50		13.01	9.42	11.16		7.52		1025.11	1026.85		1024.01		
Min	4.68	10.07		-1.21		77.5	89.80		48.37		3.16	4.77	5.67		3.39		999.33	1001.42		996.52		

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 or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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