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 2023

Temperature (°C)   Anomaly   Rank in the past **142** years

Mean maximum	17.2	+1.7	10th highest			
Mean minimum	8.9	+1.4	9th highest			
Daily mean	13.1	+1.6	8th highest			
Highest maximum	24.0	on 8 & 9	Lowest maximum	11.5	on	29th
Highest minimum	15.6	on 2nd	Lowest minimum	-0.5	on	16th
Mean grass minimum	6.5	+2.2	Lowest grass minimum	-3.4	on	16th
Mean earth @30 cm	15.1	+1.7	Earth @100 cm	16.0	+1.3	
Frost duration (hrs)	3.4		Rain duration (hrs)	75.1		
Rainfall total (mm)	113.8	155 %	17th highest			
Highest daily fall	25.3	on 19th	Highest rate mm/hr	113	on	19th

Number of: Dry days (<0.2mm) 14   Wet days (>0.9mm) 14   days ≥5mm 8

Sunshine total (hrs) 139.2   Daily mean 4.49   122 %   Sunniest day 9.9 on 15th

N° days with: Air frost 1   Ground frost 2   Snow falling 0   Snow lying 0

Thunder 1   Hail ≥5mm 0   Small hail/ice 0   Fog @09 0   Nil sun 4

Pressure MSL : Mean @09 GMT, mbar 1007.6 -6.9   Highest 1027.4 on 15th   Lowest 974.4 on 20th

Relative humidity : Mean (%) 87.8   Lowest 45 on 15th   Water vapour (g/kg), mean at 09 and 15 GMT 8.3, 8.3

Overall mean wind speed (mph) 5.2   Windiest day 9.7 on 13th   Max gust 36 on 18th

Wind direction (days) N 0   NE 2   E 3   SE 1   S 8   SW 13   W 3   NW 1

Least windy day (mph) 2.8 on 9th   Calm; less than 0.5 mph (minutes) n/a

Anomaly = departure from 1991 to 2020 average (degrees C, percent and mbar).

Notes: **Very Mild and Wet but Quite Sunny**

Temperature: While the mean of 13.1° this October ranks 8th highest since before 1882, it is also 6th highest in this millennium and is 0.4°lower than in October last year. The highet max is 3.8° above the long-term median and is highest since 2011, while the lowest max is 2.0° above its median. The highest min is 2.4° above the median while the lowest min is 0.5°above its median. The mean grass min is highest since 2017, but there were 2 ground frosts this October, the first of the season was on the 15th after 147 frost-free days, followed on the next day by the first air frost after 173 days. In the past 48 Octobers, 27 have had at least one air frost. Mean earth temperature at both 30cm and 1m depth are new record highs in the past 35 years, and the highest daily value at both depths are likewise new highs, exceeding the previous highest by 0.2° at 30 cm depth and 0.3° at 1m depth. Both are over 2 standard deviations from normal. Anomalies for daily max were above +5°on the 7th, 8th and 9th, and exceeded -2° on the 15th, 16th and 29th, with extreme values of +7.9° on the 8th and 9th and -3.5° on the 15th. Anomalies for daily min were above +5° on the 1st, 2nd, 7th, 11th, 19th and 20th, and exceeded -4° on the 15th and 16th, with extreme values of +6.9° on 2nd and -7.2° on 16th. **Rainfall:** The total of 113.8 mm this October puts the month squarely in the wet category, but this total was exceeded as recently as 2020, and before that 2012, and in the longer term it ranks 17th wettest in the past 142 years, the record being 196.6mm in 1960. This October got off to a dry start, with an 8 day dry spell ending on the 10th, but thereafter it became increasingly rainy, with only one dry day after the 17th. Thunder was heard on the 2nd, but there was no hail this month. The rainfall rate exceeded the threshold for the violent category (50 mm/hr) on the 2nd and 19th, and came close on the 31st. Daily accumulation compared with normal was 17 mm in deficit on the 10th but was in surplus after the 18th, this reaching 20 mm on the 19th, and remained close to this value until the 27th, then increasing to 40 mm by the 31st. **Sunshine:** Despite all the wet weather during this October, it turned out to be quite a sunny month overall, and is the 6th sunniest October in this mellennium. Although there were 12 days having <25% of the maximum, including 4 sunless days, (average 4.7), there were 6 days with over 75%, including the 15th with 93% and the 22nd with 89%, which pushed the total to well above average. Daily accumulation compared with normal was in deficit until the 6th, then building a surplus of 20 hours by the 10th which continued with little change until the 31st. Overall there were 12 days <3 hours and 10 with =>6 hours. **Wind:** The ongoing intermittent outages of our sonic anemometer means that most of this month's wind data is based on an anemometer at Reading University, about 7 km distant. The overall mean speed of 5.2 mph is 1.0 mph below average and is lowest since 2016, as are the speed on the month's windiest day and the highest gust, 36 mph, 7mph below average. **Pressure:** The mean MSL pressure at 09 GMT is lowest since 2004, and the absolute lowest value is lowest for October since 2003.

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

From the 1st to the 10th				From the 11th to the 20th				From the 21st to the 31st			
+4.3°	+3.6°	15%	158%	+1.3°	+1.3°	268%	89%	+1.0°	+0.3°	181%	118%

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

Wokingham climatological graphs for October 2023

OCTOBER 2023
AIR TEMPERATURE
MAX / MIN

TEMP ANOMALY
■ MAX
□ MIN

RAINFALL ACCUMULATION
- · NORMAL — DAILY

SUNSHINE ACCUMULATION
- NORMAL — DAILY

PRESSURE

WIND DIRECTION
— HOURS

HOURLY WIND SPEED

DAILY MEAN WIND
○ SPD ● DIR

Daily meteorological data.   Emmbrook, WOKINGHAM, Berkshire.
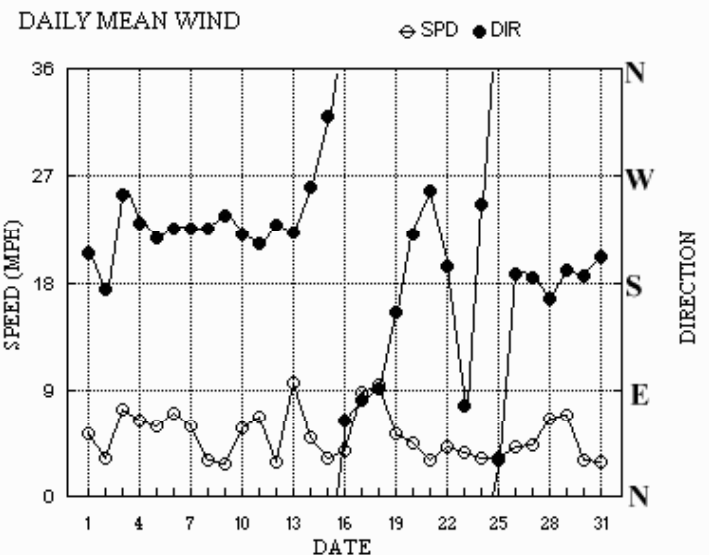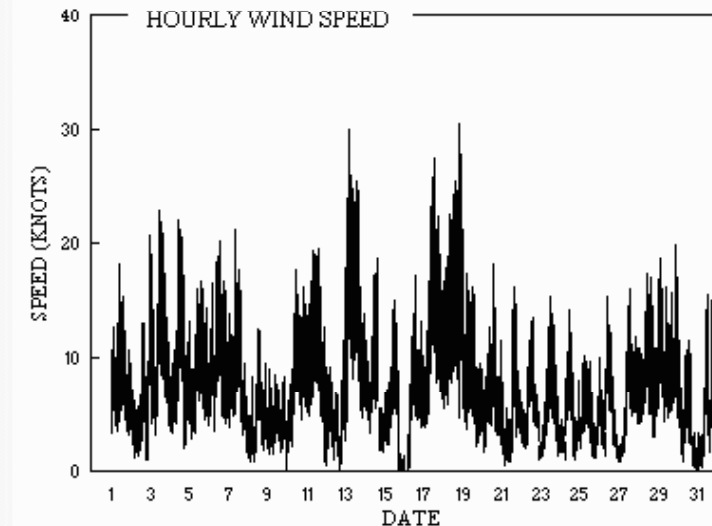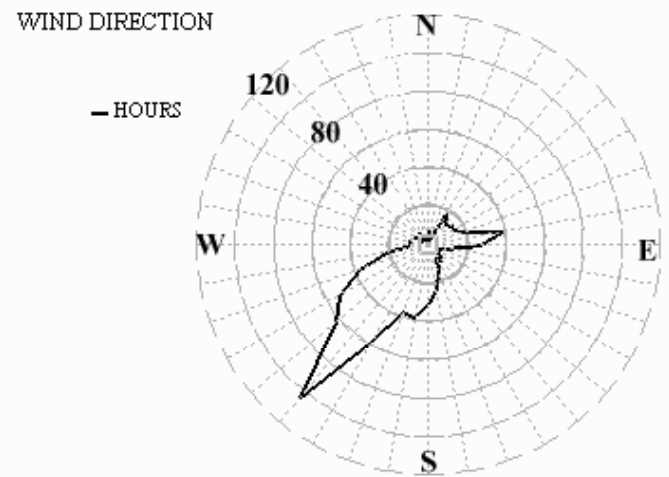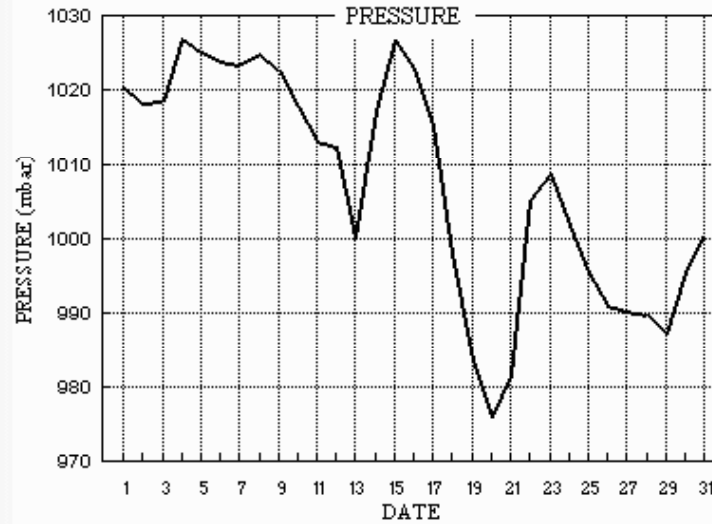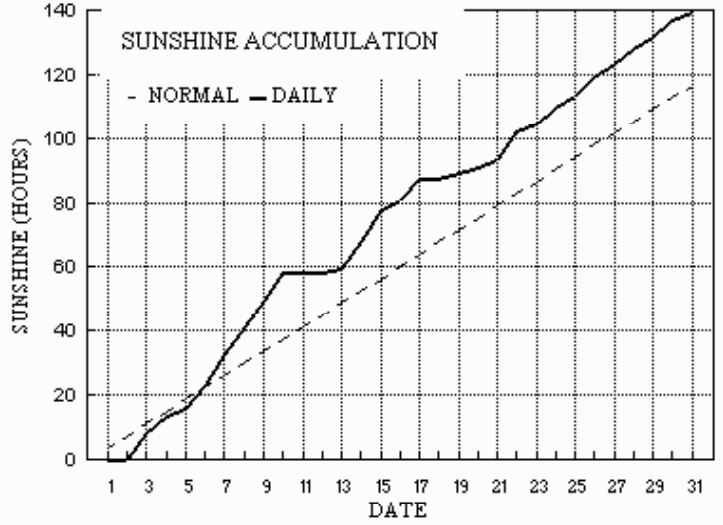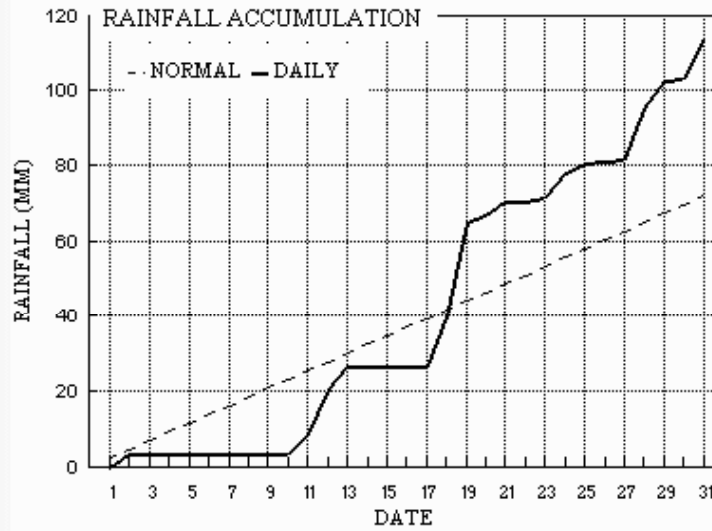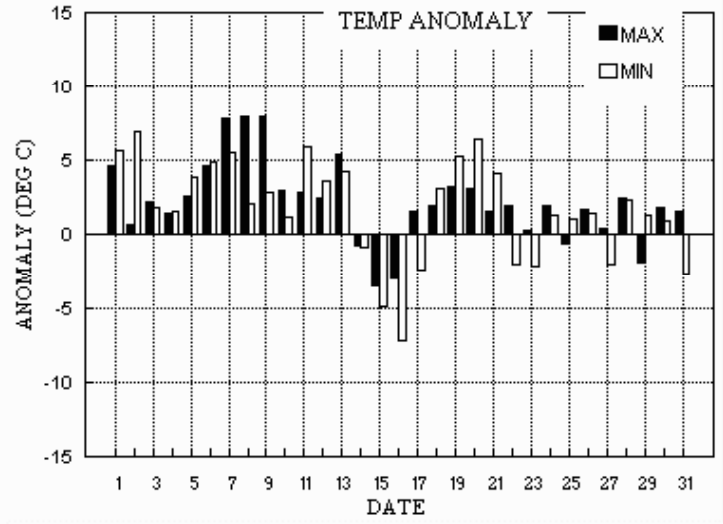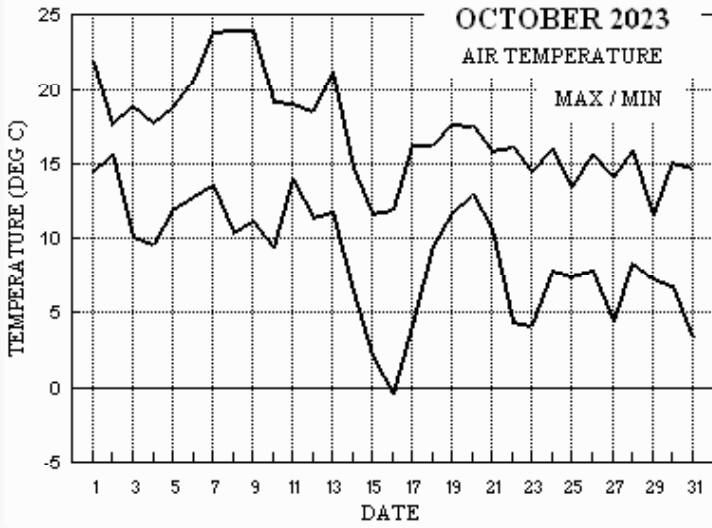
Month: OCTOBER 2023

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	21.9	14.5	0.0	12.3	17.0	17.1	0.1	0.0	1020.6	0 0	0 0	0 0	0 0	205	4.5	4.6	205	18	0950	223	7	13	0.0
2	17.7	15.6	3.5	13.8	17.4	17.1	0.0	0.0	1018.4	0 0	0 0	1 0	0 0	174	1.1	2.8	308	21	2355	271	9	23	3.5
3	18.9	10.1	0.0	7.4	17.4	17.1	8.3	0.0	1018.5	0 0	0 0	0 0	0 0	254	6.0	6.4	241	23	1135	247	11	11	0.0
4	17.8	9.6	0.0	6.9	16.8	17.1	5.4	0.0	1027.1	0 0	0 0	0 0	0 0	231	5.4	5.6	236	22	1105	239	9	12	0.0
5	18.8	11.9	0.0	9.1	16.5	17.0	2.3	0.0	1025.3	0 0	0 0	0 0	0 0	218	5.1	5.2	231	17	1430	221	8	14	0.0
6	20.7	12.8	0.0	10.1	16.5	16.9	7.3	0.0	1023.9	0 0	0 0	0 0	0 0	226	6.1	6.2	249	20	1435	235	9	13	0.0
7	23.9	13.6	0.0	11.1	16.6	16.8	9.1	0.0	1023.5	0 0	0 0	0 0	0 0	226	5.0	5.1	243	21	0925	239	8	09	0.0
8	24.0	10.4	0.0	7.7	16.7	16.8	9.0	0.0	1024.9	0 0	0 0	0 0	0 0	225	2.6	2.7	219	13	1325	213	6	13	0.0
9	24.0	11.1	0.0	8.5	16.6	16.8	8.1	0.0	1022.7	0 0	0 0	0 0	0 0	236	2.3	2.4	228	9	0255	224	4	20	0.0
10	19.2	9.4	0.0	6.0	16.5	16.7	8.7	0.0	1017.9	0 0	0 0	0 0	0 0	220	5.0	5.1	226	18	1055	234	8	11	0.0
11	19.0	13.9	4.8	12.0	16.5	16.7	0.0	0.0	1013.3	0 0	0 0	0 0	0 0	212	5.8	5.9	216	20	1440	207	9	14	8.7
12	18.5	11.4	12.2	12.5	16.8	16.6	0.0	0.0	1012.5	0 0	0 0	0 0	0 0	229	0.6	2.6	200	12	2145	195	5	21	9.3
13	21.2	11.8	6.1	14.6	16.8	16.6	1.5	0.0	1000.0	0 0	0 0	0 0	0 0	222	6.8	8.4	210	30	0530	209	12	05	1.7
14	14.7	6.4	tr	2.9	16.4	16.6	8.4	0.0	1017.3	0 0	0 0	0 0	0 0	261	3.7	4.4	305	19	1600	294	7	12	0.0
15	11.6	2.1	0.0	-1.8	15.1	16.6	9.9	0.0	1026.7	0 1	0 0	0 0	0 0	320	2.0	2.8	358	15	1330	357	6	13	0.0
16	11.9	-0.5	0.0	-3.4	13.9	16.4	3.1	3.4	1023.0	1 1	0 0	0 0	0 0	64	3.3	3.4	75	17	1420	77	7	13	0.0
17	16.2	4.1	tr	5.3	13.6	16.0	6.5	0.0	1015.3	0 0	0 0	0 0	0 0	82	7.6	7.7	76	28	1435	84	12	11	0.0
18	16.3	9.5	13.3	5.6	13.7	15.7	0.0	0.0	998.0	0 0	0 0	0 0	0 0	91	5.2	8.3	215	31	2045	210	12	20	10.1
19	17.6	11.7	25.3	11.9	14.1	15.5	1.4	0.0	983.7	0 0	0 0	0 0	0 0	156	3.8	4.6	213	21	0020	213	9	00	8.5
20	17.5	13.0	1.6	13.0	14.8	15.4	2.1	0.0	976.0	0 0	0 0	0 0	0 0	221	3.1	4.0	192	18	1420	201	6	14	0.6
21	15.9	10.7	3.5	7.4	14.8	15.3	1.9	0.0	981.6	0 0	0 0	0 0	0 0	257	1.3	2.7	293	16	1640	299	6	16	2.8
22	16.1	4.4	0.0	0.8	14.5	15.3	9.1	0.0	1005.0	0 0	0 0	0 0	0 0	194	3.3	3.7	224	14	1412	211	7	12	0.0
23	14.5	4.2	1.0	0.6	13.8	15.3	2.3	0.0	1008.7	0 0	0 0	0 0	0 0	77	3.1	3.3	91	15	1127	98	6	11	1.1
24	16.0	7.8	6.6	3.1	13.8	15.1	5.3	0.0	1001.8	0 0	0 0	0 0	0 0	247	1.0	2.9	266	14	1148	235	6	13	7.3
25	13.4	7.5	2.7	4.4	13.7	15.0	3.8	0.0	995.3	0 0	0 0	0 0	0 0	31	2.5	2.8	18	10	0507	23	5	09	3.7
26	15.6	7.9	0.7	5.0	13.5	14.9	5.6	0.0	991.1	0 0	0 0	0 0	0 0	187	2.4	3.7	221	15	1116	229	7	09	0.7
27	14.1	4.4	0.3	1.9	13.5	14.7	4.1	0.0	990.2	0 0	0 0	0 0	0 0	184	3.3	3.9	230	16	1401	202	7	14	0.4
28	15.9	8.4	13.8	5.9	13.1	14.6	4.9	0.0	989.7	0 0	0 0	0 0	0 0	166	5.1	5.8	192	17	1200	188	9	11	4.7
29	11.5	7.3	7.4	4.3	13.2	14.5	3.2	0.0	987.1	0 0	0 0	0 0	0 0	191	5.8	6.0	182	20	2251	213	9	03	3.9
30	15.1	6.8	0.4	3.1	12.8	14.4	5.8	0.0	995.4	0 0	0 0	0 0	0 0	186	2.5	2.7	190	17	0015	189	7	00	0.6
31	14.7	3.2	10.6	0.1	12.5	14.2	2.0	0.0	1000.5	0 0	0 0	0 0	0 0	202	1.8	2.5	238	16	1315	234	7	13	7.5
Total			113.8				139.2	3.4															75.1
Mean	17.2	8.9		6.5	15.1	16.0	4.49	0.1	1007.6					204	2.2	5							
Anom	+1.7	+1.4	155%	+2.2	+1.7	+1.3	122%		-6.9														

Daily mean   13.1   Pressure, abs highest =   1027.4 on 15
Anom   +1.6   Pressure, abs lowest =   974.4 on 20
Number of days with:
Air frost = 1   Ground frost = 2   Nil sun = 4
Snow falling = 0   Snow lying = 0   Thunder = 1
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.
Maximum daily rain rate in mm/hr
All temperatures in degrees Celsius.
Anomaly - Departure from the 1991 to 2020 climatological average

Weather observations.   Emmbrook, Wokingham, Berkshire.
Observations at 0900 GMT for OCTOBER 2023

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cm	Ch	NChshs	NChshs	NChshs	Date	Remarks
1	68	8	20	05	13	18.3	16.5	89	11.5	1020.6	3	001	02	2	2	8	6	3	/	/	88708			1	Wind est throughout
2	70	8	20	01	06	16.6	15.0	90	10.5	1018.4	8	004	02	2	2	8	6	2	/	/	88705			2	
3	88	1	25	06	10	13.2	10.4	83	7.8	1018.5	2	028	01	1	1	1	5	7	7	3	81656			3	1Ac60 1Ci70 Cb top W
4	80	6	21	07	12	12.6	10.3	86	7.7	1027.1	0	004	02	2	2	1	5	7	4	1	81650	86078		4	2Ac68 1Cc72 COTRA Halo 22° part Irisation
5	82	7	24	06	12	14.3	10.1	76	7.6	1025.3	2	010	01	2	2	7	0	9	8	8	85460	86365		5	/Cs70 COTRA Ac cas
6	80	7	23	09	16	15.1	13.0	87	9.2	1023.9	1	010	02	2	2	1	6	3	4	2	81708	87080		6	1Ac70 COTRA Ac len Ci spi
7	64	6	24	09	17	16.1	13.4	84	9.4	1023.5	1	015	02	2	2	3	6	4	0	1	83711	85080		7	COTRA
8	81	7	23	01	04	15.2	13.2	88	9.3	1024.9	3	001	02	2	2	1	0	9	3	2	81364	87075		8	COTRA CZ arc+u/a cont+parhelia
9	65	8	25	03	07	14.9	12.2	84	8.7	1022.7	2	010	02	2	2	0	0	9	0	7	88270			9	COTRA u/a cont
10	50	3	23	06	12	14.9	14.3	96	10.0	1017.9	8	002	10	0	0	1	6	2	4	1	81705			10	1Ac68 1Ci75 2Ci81 COTRA Irisation
11	63	8	21	09	19	17.6	15.6	88	11.0	1013.3	0	001	02	2	2	6	6	3	7		86708	88468		11	2Ac64
12	20	8	36	02	05	11.5	11.2	98	8.2	1012.5	2	013	51	5	6	8	7	2	/	/	88703			12	
13	56	8	21	10	24	17.4	16.3	93	11.6	1000.0	5	000	21	6	2	8	5	3	/	/	83708	86612	88620	13	
14	86	3	26	07	11	9.9	7.3	84	6.3	1017.3	2	024	03	0	0	3	5	6	4	0	81640	83650		14	1Ac59
15	89	1	29	04	10	6.6	4.3	85	5.1	1026.7	1	013	02	0	0	0	0	9	0	1	81080			15	Ci fib
16	84	7	08	04	07	4.2	3.6	96	4.9	1023.0	8	004	02	2	2	1	5	6	4	8	81645	83270	87075	16	1Ac68 COTRA Halo 22° part
17	82	7	09	10	23	11.5	6.6	72	6.0	1015.3	8	005	02	2	2	6	0	9	7	1	81359	86361		17	/Ci80 COTRA
18	75	8	09	09	21	11.9	8.9	82	7.2	998.0	8	029	60	2	2	8	0	9	7		81358	88463		18	1Ac60
19	62	7	17	06	14	16.3	14.8	91	10.8	983.7	2	002	25	8	2	6	5	4	/	1	83712	84640	85375	19	COTRA
20	84	7	23	06	09	13.4	12.8	96	9.5	976.0	2	011	01	5	2	5	5	3	7	/	83708	83625	87363	20	
21	59	3	07	01	04	12.0	11.8	99	8.9	981.6	2	014	15	8	1	2	9	2	6	3	81704	81915		21	1Sc30 1Ac65 1Ci68 1Cs72 Cb&jpE&SE Cs edge NW Prhe
22	70	1	19	03	05	8.7	8.1	96	6.7	1005.0	2	023	01	1	1	1	5	6	3	1	81645			22	1Ac62 1Ci80 COTRA
23	58	8	07	05	09	10.9	10.7	99	8.0	1008.7	7	004	10	2	2	3	6	3	3	7	83706	88273		23	2Ac57 COTRA
24	45	7	24	05	09	9.9	9.6	98	7.5	1001.8	2	007	10	2	2	7	6	0	/	1	82701	87702		24	/Ci75
25	59	7	03	05	10	10.3	10.0	98	7.7	995.3	2	003	10	6	2	7	5	4	3	/	83710	85618	87656	25	/Ac62
26	57	4	21	05	09	11.2	10.9	98	8.3	991.1	3	004	10	6	1	3	6	2	3	1	83705			26	1Sc15 2Ac68 1Ci70
27	56	7	22	02	05	9.2	9.2	99	7.4	990.2	1	005	21	6	4	2	8	3	2	3	81708	87463		27	1Cu12 2Sc50 1Ci70 Cu con tops S&SW
28	63	3	19	07	14	10.8	10.3	97	8.0	989.7	2	013	01	8	1	1	5	7	6	3	81656			28	1Ac62 2Ci70 COTRA Cb top E to SSW
29	72	6	16	04	09	10.0	8.8	92	7.2	987.1	1	009	15	1	1	1	8	6	7	2	81830	83362	86068	29	1Sc40 Cu med jp SE&SW Parhelion
30	63	5	17	04	06	10.1	9.9	99	7.7	995.4	2	014	02	2	2	1	0	9	6	3	81360	85073		30	1Ac65 1Ci70 Cb top W, SW-SE
31	35	7	32	01	03	7.5	7.4	99	6.4	1000.5	2	015	10	1	1	7	6	2	/	/	87703			31	

Mean vis = 23.4 km
Mean cloud = 5.9 74%
Mean wind speed = 5.2 kn
Mean gust = 11 kn
Mean TT = 12.3 °C
Mean TdTd = 10.9 °C
Mean RH = 91.0 %
Mean r = 8.3 g/kg
Mean PPP = 1007.6 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 2023

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NChshs	NChshs	NChshs	Date	Remarks
1	82	7	22	07	14	21.0	17.0	78	11.9	1019.0	7	012	01	2	2	7	8	5	/	9	83820	87625		1	/Sc40 /Cc73 Cu hum Wind est throughout
2	50	7	09	06	13	16.7	16.1	96	11.3	1012.4	8	049	91	9	2	2	7	2	9	/	82703	83358	85362	2	7As65
3	84	2	25	12	21	16.7	8.1	57	6.6	1022.0	2	016	02	1	1	2	8	6	0	0	82840			3	1Sc50 Cu med El hz lyr
4	86	7	24	09	18	17.7	9.8	60	7.4	1025.1	7	013	01	2	2	2	8	6	4	1	81832	86078		4	2Sc50 2Ac68 COTRA Cu med iridescence
5	86	7	22	07	17	17.0	11.9	72	8.5	1024.0	7	011	02	2	2	5	8	5	7	/	81828	85640	87367	5	Cu hum
6	85	6	24	09	20	20.1	13.1	64	9.2	1022.8	6	007	02	2	2	3	5	5	0	1	83629	85081		6	COTRA
7	81	7	24	07	16	23.1	14.4	58	10.1	1022.7	6	002	15	2	2	5	0	9	8	1	85366	87080		7	COTRA Ac cas vir
8	84	6	22	05	12	23.3	12.9	52	9.1	1023.3	6	017	02	2	2	1	0	9	0	1	81175	86080		8	COTRA Irisation
9	80	5	26	02	07	23.7	14.1	55	9.9	1020.7	6	013	02	2	2	0	0	9	0	1	81171	85081		9	COTRA
10	75	7	22	07	15	18.8	14.3	75	10.0	1016.0	6	010	03	1	1	3	0	9	8	1	83372	87078		10	COTRA Ac cas vir
11	65	8	21	09	19	17.4	14.1	81	10.0	1010.5	7	020	60	2	2	1	7	4	7	/	81715	86362	88465	11	2Ac59
12	59	8	28	03	07	14.1	13.0	93	9.3	1012.4	7	006	20	5	2	8	5	2	/	/	86705	88610		12	
13	84	7	22	12	25	18.0	15.3	84	10.9	998.7	5	009	25	8	2	7	8	4	3	2	86813			13	2Sc40 /Ac65 /Ci75
14	80	1	30	05	12	12.8	5.2	60	5.5	1019.5	2	009	15	8	0	1	8	6	6	0	81833			14	1Sc50 1Ac59 Cu med jpW-N vv80k ex p
15	89	5	02	05	12	10.4	0.2	49	3.8	1026.5	6	007	03	1	1	0	0	9	0	5	81280	85081		15	
16	84	8	08	07	17	11.5	5.9	70	5.7	1019.5	7	018	03	2	2	1	1	5	7	8	81825	87366		16	/Cs70 Cu hum
17	84	6	08	12	27	14.3	5.6	56	5.7	1011.6	7	021	03	1	1	2	7	7	3	2	82369	86081		17	1Ci78 COTRA Parhelion
18	50	8	07	11	25	11.7	11.1	96	8.4	988.3	7	054	61	6	2	7	7	3	2	/	87707	88530		18	
19	58	7	16	07	16	16.8	14.6	87	10.6	981.9	7	012	80	8	2	4	8	4	7	2	83813	84365	85072	19	2Sc40 Cu med
20	63	5	20	07	14	16.2	11.8	75	8.9	975.9	6	007	15	2	2	2	9	5	6	8	81920	81825		20	1Sc50 1Ac58 1Ci70 2Cs75 jpNW,N,SW Cs edge N vv 50k
21	45	8	34	07	14	11.3	10.7	96	8.2	986.4	3	032	58	8	2	8	5	3	/	/	82708	86612	88640	21	
22	84	2	21	05	14	14.6	7.9	64	6.6	1007.0	1	010	02	0	0	2	4	6	0	1	82830			22	1Sc48 1Ci80 Cu med
23	83	8	09	04	14	13.5	10.5	82	7.9	1005.1	8	017	03	2	2	1	1	5	7	/	81825	88463		23	1Ac60
24	80	5	24	05	09	14.1	7.9	66	6.7	1000.4	6	009	15	1	1	2	4	6	4	4	81832	83072		24	2Sc56 1Ac66 1Cc70 COTRA jpE&W vv70k ex p
25	82	3	03	03	06	11.9	8.7	81	7.1	995.3	8	006	02	1	1	1	4	5	4	2	81820	83073		25	1Sc25 1Ac69 Cu hum Ci spi Halo 22° part Parhelia
26	68	5	20	05	12	15.0	10.4	74	8.0	989.7	6	011	15	1	1	2	9	5	6	3	81925	81825	83068	26	1Sc50 2Ac65 jpNW, SW&S vv60k ex p
27	88	3	19	07	16	12.4	7.5	72	6.6	990.0	3	002	01	1	1	1	8	5	6	3	81820	83070		27	1Sc56 1Ac65 Cb tops all quads
28	62	7	12	04	11	12.5	11.2	92	8.5	986.9	8	027	25	8	1	7	8	5	7	2	82820	86656		28	2Sc45 /Ac61 /Ci70 Cu fra/con jp all quads
29	86	5	17	05	09	10.8	9.4	91	7.5	988.7	2	006	02	6	1	1	8	4	6	3	81810	84074		29	1Sc50 1Ac68 1Ci70 COTRA Cu fra Cb top NW&S
30	62	6	18	04	07	13.1	10.5	84	8.0	994.6	6	004	15	1	1	3	9	4	6	3	81915	82820	84070	30	jpS
31	50	7	22	04	14	11.8	10.4	91	7.9	1001.3	3	004	80	8	2	4	3	5	6	/	82915	81820	85358	31	2Sc30 Hvy rash 1439-45

Mean vis = 34.2 km
Mean cloud = 5.9 74%
Mean wind speed = 6.5 kn
Mean gust = 15 kn
Mean TT = 15.6 °C
Mean TdTd = 10.8 °C
Mean RH = 74.5 %
Mean r = 8.3 g/kg
Mean PPP = 1006.4 mbar

See appendix 2 below for full code details

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

Wokingham Sunshine Hourly analysis

2023

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	0.00	0.00	0.20	0.00	0.00	0.11	0.40	0.00	0.00	0.37	0.00	0.00	0.00	0.22	0.22	0.00
7	0.00	0.00	1.00	0.00	0.00	0.12	1.00	0.00	0.01	1.00	0.00	0.00	0.00	1.00	1.00	0.01
8	0.00	0.00	1.00	0.60	0.13	0.46	1.00	0.99	0.00	1.00	0.00	0.00	0.00	0.96	1.00	0.65
9	0.00	0.00	1.00	0.96	0.82	0.69	1.00	1.00	0.93	1.00	0.00	0.00	0.00	0.89	1.00	1.00
10	0.00	0.00	0.94	1.00	0.22	0.60	1.00	0.91	1.00	1.00	0.00	0.00	0.19	0.67	1.00	0.80
11	0.00	0.00	0.51	0.66	0.08	0.83	1.00	1.00	1.00	1.00	0.01	0.00	0.23	0.59	1.00	0.66
12	0.00	0.00	0.18	0.17	0.53	0.99	1.00	1.00	1.00	1.00	0.00	0.00	0.39	0.80	1.00	0.00
13	0.00	0.00	0.72	0.08	0.14	1.00	0.94	1.00	1.00	0.68	0.00	0.00	0.38	0.59	1.00	0.00
14	0.00	0.00	0.68	0.84	0.22	1.00	0.56	1.00	1.00	1.00	0.00	0.00	0.28	0.89	1.00	0.00
15	0.00	0.00	0.68	0.99	0.00	0.65	0.14	1.00	1.00	0.63	0.00	0.00	0.00	0.84	1.00	0.00
16	0.14	0.00	0.98	0.05	0.16	0.76	1.00	0.91	1.00	0.00	0.00	0.00	0.00	0.93	0.65	0.00
17	0.00	0.00	0.37	0.00	0.00	0.08	0.09	0.15	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	**0.14**	**0.00**	**8.26**	**5.35**	**2.31**	**7.29**	**9.13**	**8.97**	**8.05**	**8.69**	**0.01**	**0.00**	**1.48**	**8.38**	**9.86**	**3.11**

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	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
7	0.41	0.00	0.00	0.00	0.04	0.97	0.00	0.00	0.00	0.00	0.00	0.08	0.04	0.16	0.00	0.22
8	0.00	0.00	0.12	0.00	0.15	1.00	0.47	0.01	0.21	0.42	0.00	0.82	0.57	0.97	0.26	0.41
9	0.63	0.00	0.63	0.00	0.77	1.00	0.83	0.55	0.27	0.79	0.00	1.00	0.10	1.00	0.17	0.58
10	1.00	0.00	0.00	0.00	0.65	1.00	0.56	0.77	0.04	0.98	0.51	0.97	0.00	1.00	0.53	0.56
11	1.00	0.00	0.00	0.00	0.24	1.00	0.39	0.89	0.51	0.77	0.98	0.95	0.00	1.00	0.00	0.53
12	1.00	0.00	0.30	0.03	0.01	1.00	0.00	0.91	0.74	0.57	0.57	0.51	0.00	1.00	0.49	0.49
13	1.00	0.00	0.16	0.66	0.00	0.95	0.00	0.91	0.05	1.00	0.22	0.05	0.26	0.69	0.48	0.45
14	1.00	0.00	0.20	0.36	0.00	0.94	0.00	0.98	0.89	0.66	0.99	0.48	1.00	0.00	0.00	0.51
15	0.46	0.00	0.00	0.85	0.00	0.98	0.00	0.27	0.93	0.00	0.35	0.00	1.00	0.00	0.00	0.38
16	0.00	0.00	0.00	0.24	0.00	0.22	0.08	0.00	0.17	0.38	0.43	0.00	0.18	0.00	0.00	0.27
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	**6.50**	**0.00**	**1.42**	**2.13**	**1.86**	**9.07**	**2.32**	**5.29**	**3.81**	**5.59**	**4.06**	**4.86**	**3.15**	**5.82**	**1.95**	**138.82**

OCTOBER 2023	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	18.06	21.9	1234	15.2	0	85.1	94.7	2253	73.7	1234	15.5	10.9	12.4	1251	9.2	0	1019.96	1021.7	29	1018.5	1558	0
2	16.38	17.7	1105	12.3	2359	94.4	98.6	2156	86.5	1118	15.5	10.9	11.7	2202	8.3	2359	1015.42	1019.7	12	1009.0	2209	3.4
3	13.58	18.9	1344	10.1	649	79.6	95.4	709	52.2	1440	9.9	7.5	8.3	2	6.5	1511	1019.86	1027.1	2358	1010.6	0	0
4	13.36	17.8	1455	9.6	550	80.4	95.9	443	56.8	1228	9.8	7.4	8.2	1020	7.0	1229	1026.08	1027.4	24	1024.5	2354	0
5	14.35	18.8	1220	11.9	524	78.5	87.7	2258	60.3	1223	10.6	7.8	8.8	1359	7.3	527	1024.31	1025.9	1032	1023.2	1606	0
6	15.91	20.7	1347	12.8	203	82.2	93.7	642	60.4	1358	12.8	9.0	10.1	1136	8.1	159	1023.33	1024.5	1023	1022.4	1632	0
7	17.26	23.9	1259	13.1	2311	79.7	96.7	2318	51.4	1318	13.5	9.5	10.5	1147	8.6	326	1023.19	1025.2	2252	1021.6	411	0
8	16.18	24.0	1345	10.4	614	81.8	98.2	623	47.2	1312	12.6	9.0	10.1	1147	7.5	614	1024.05	1025.5	1101	1022.5	2340	0
9	16.12	24.0	1415	11.1	607	84.0	97.0	123	53.0	1351	13.1	9.3	11.1	1621	7.8	613	1021.53	1023.3	845	1020.2	2325	0
10	14.75	19.2	1154	9.4	643	89.7	99.4	753	72.2	1154	13.0	9.3	10.6	1022	7.1	644	1017.16	1020.5	1	1014.6	2357	0
11	16.36	19.0	1223	14.4	0	88.1	97.9	2348	76.5	1421	14.4	10.1	11.1	913	9.3	0	1012.54	1015.0	23	1009.9	1510	3
12	13.93	16.1	307	11.7	733	96.9	98.6	823	92.3	1614	13.4	9.6	11.1	307	8.3	733	1011.53	1013.2	1055	1007.5	2357	6.9
13	15.57	21.2	1153	8.6	2235	88.6	97.6	0	70.5	1356	13.6	10.0	12.5	1050	5.9	2333	1002.04	1009.8	2359	998.0	1553	11.6
14	8.75	14.7	1251	3.9	2336	82.6	97.6	2342	52.9	1526	5.7	5.7	6.5	949	4.8	1526	1017.98	1023.7	2356	1009.6	0	0.2
15	5.64	11.6	1314	1.4	2346	81.5	98.4	609	45.4	1418	2.2	4.4	5.2	852	3.6	1145	1026.06	1027.4	1025	1023.5	6	0
16	6.28	11.9	1127	-0.5	357	85.8	99.2	529	64.3	1108	3.9	5.0	6.4	2330	3.6	357	1021.42	1025.8	16	1017.5	2351	0
17	11.25	16.2	1318	8.2	124	73.4	93.4	129	49.1	1329	6.4	6.0	6.4	1421	5.4	1204	1013.14	1017.6	2	1007.0	2357	0
18	12.29	16.2	2009	9.7	120	89.4	98.7	1928	77.6	10	10.6	8.2	11.5	2003	6.0	8	993.29	1007.2	0	980.7	1944	9.5
19	15.16	17.6	1429	13.2	2338	93.7	98.6	2359	84.4	1431	14.1	10.3	11.7	1252	8.7	20	982.86	986.3	114	979.6	2346	20.6
20	13.46	17.5	1333	10.7	2308	93.4	98.7	25	73.0	1431	12.4	9.2	10.0	1218	8.1	2308	976.59	979.8	0	974.4	444	3.1
21	11.24	15.9	1113	6.7	2358	94.9	99.4	910	80.3	1141	10.4	8.1	10.2	1037	5.9	2357	985.50	997.9	2359	978.4	208	4.7
22	9.15	15.9	1233	4.1	707	84.8	96.9	742	46.0	1246	6.4	6.0	7.3	1722	4.9	707	1005.44	1010.5	2358	997.8	0	0.1
23	9.92	14.5	1153	4.2	136	92.7	99.7	741	76.8	1330	8.7	7.1	9.1	1041	5.0	136	1006.82	1010.5	3	1002.8	2359	0
24	10.38	16.0	1243	7.5	2058	90.1	98.7	914	59.3	1248	8.6	7.0	8.1	948	6.3	1318	1000.81	1002.9	8	998.0	2358	2.3
25	9.76	13.4	1206	7.9	2005	94.3	98.8	855	74.5	1435	8.8	7.2	8.0	1204	6.6	2005	995.80	998.2	2	994.1	2358	4.2
26	10.86	15.6	1419	5.5	2358	92.3	99.0	2309	68.6	1420	9.6	7.6	8.9	1100	5.6	2359	990.87	994.2	2	989.4	1638	2.3
27	9.29	14.1	1152	4.4	213	92.4	99.8	906	66.2	1435	8.0	6.8	8.8	1047	5.2	213	990.00	990.6	1800	989.2	2359	0.9
28	11.26	15.9	1243	8.4	626	93.2	98.2	806	68.4	1245	10.1	7.9	8.9	2113	6.8	626	986.80	990.2	1003	981.8	2253	11.7
29	9.59	11.5	1531	7.3	748	92.1	97.1	810	86.3	1433	8.4	7.0	7.7	0	6.2	748	988.30	993.7	2346	982.3	0	6
30	9.66	15.1	1234	4.3	2355	91.7	99.3	848	71.1	1236	8.3	6.9	8.3	1123	5.1	2355	995.20	998.3	2359	993.3	36	0.8
31	8.89	14.7	1327	3.2	154	95.4	99.9	956	72.7	1333	8.1	6.9	8.5	1030	4.8	154	1000.11	1001.7	1636	998.1	0	6.8
Total																						98.1
Mean	12.41	17.14		8.40		87.8	97.51		66.77		10.27	7.99	9.28		6.57		1007.03	1010.81		1003.22		
Max	18.06	23.99		15.24		96.9	99.90		92.30		15.49	10.86	12.47		9.28		1026.08	1027.45		1024.46		
Min	5.64	11.48		-0.53		73.4	87.70		45.41		2.21	4.39	5.19		3.56		976.59	979.80		974.36		

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
R tot = Rainfall from TBR, uncorrected

Appendix 1.

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

Average: Generally refers to the 30 year climatological average, currently 1981 to 2010. This will be next updated in 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.

B J Burton. 3 August 2009. Updated 4 May 2014.

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 of 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.