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 **JULY 2021**

Temperature (°C)		Anomaly	Rank in the past **140** years		
Mean maximum	23.7	+0.5	29th highest		
Mean minimum	13.9	+1.1	4th highest		
Daily mean	18.8	+0.9	14th highest		
Highest maximum	31.3	on 20th	Lowest maximum	19.1	on 30th
Highest minimum	16.8	on 19th	Lowest minimum	10.4	on 16th
Mean grass minimum	11.7	+1.8	Lowest grass minimum	7.3	on 16th
Mean earth @30 cm	20.0	+1.1	Earth @100 cm	18.1	+1.2
Frost duration (hrs)	0.0		Rain duration (hrs)	40.2	
Rainfall total (mm)	61.3	130 %	47th highest		
Highest daily fall	20.9	on 5th	Highest rate mm/hr	203	on 6th

Number of: Dry days (<0.2mm) 16 Wet days (>0.9mm) 11 days ≥5mm 4

Sunshine total (hrs) 206.5 Daily mean 6.66 103 % Sunniest day 15.4 on 17th

Nº days with: Air frost 0 Ground frost 0 Snow falling 0 Snow lying 0

Thunder 3 Hail ≥5mm 0 Small hail/ice 1 Fog @09 0 Nil sun 0

Pressure MSL : Mean @09 GMT, mbar 1014.8 -1.1 Highest 1029.6 on 17th Lowest 992.5 on 6th

Relative humidity : Mean (%) 77.4 Lowest 30 on 20th Water vapour (g/kg), mean at 09 and 15 GMT 10.2, 9.9

Overall mean wind speed (mph) 5.5 Windiest day 10.7 on 30th Max gust 39 on 6th

Wind direction (days) N 4 NE 6 E 1 SE 0 S 4 SW 11 W 2 NW 3

Least windy day (mph) 2.4 on 18th Calm; less than 0.5 mph (minutes) 781

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

Notes: **Warm Overall, Especially by Night. Rainfall Above Average and Sunshine Near Average.**

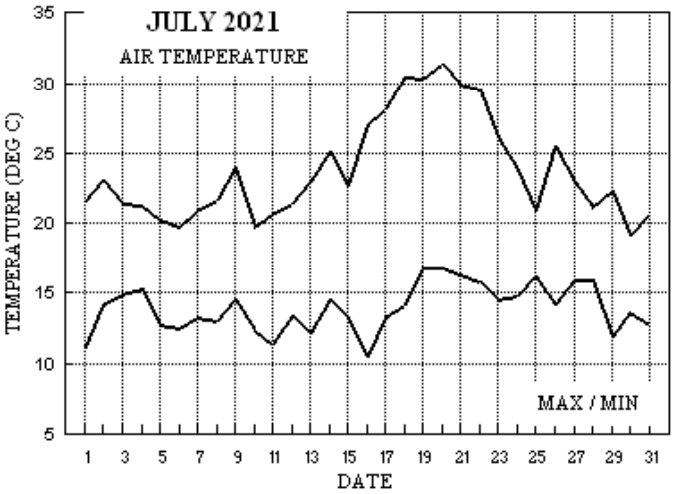
Temperature: The temperature this July was dominated by the heatwave between the 16th and 23rd, otherwise values were near or below normal. The mean maximum is lower than in 2019, as well as in 5 other Julys in this millennium, but the mean minimum ranks 4th highest in 140 years, with only 2018, 2006 and 1983 warmer in this respect. The resulting mean daily temperature is just in the very warm category, that is the top 10% of ranked values since 1882. The highest max is 2.6° above the median, but in 2020 we saw the highest July temperature, 36.9°, 5.6° higher than this months value. The lowest max is 2.2° above its median. The highest min is 0.3° above the median, but the lowest min is 3.4° above its median and 2nd highest after 2018 in the past 118 years. The mean and the lowest grass min are highest for July in the past 42 years. Earth temperature at both 30cm and 1m depth is just over 1° above average. Anomalies for daily max were above +4°from the 16th to the 22nd, with an extreme value of +8.6° on the 20th, and exceeded -4° only on the 30th. Anomalies for daily min were above +4° on the 19th and 20th, but did not exceed -4°at all, the extreme values being +4.5° on the 19th and -2.0° on the 16th. **Rainfall:** This July is wettest since 2017 and before that, 2012. The distribution of rainfall throughout the month shows a three way split, wet to the 11th and after the 22nd, and dry inbetween. As is normal for the height of summer, much of the rainfall occurred in heavy bursts, an exception being the 20.9 mm over 9.8 hours on the 5th. Rainfall rates exceeded the violent category (50mm/hr or more) on the 4th, 6th and 28th, with values of 203 mm/hr at 1505 GMT on the 6th and 126 mm/hr at 1415 GMT on the 28th. Worthy of mention is the violent rain shower on the 12th, which caused local flooding in east Wokingham, while no rain fell at the weather station in Emmbrook. There was thunder on the 24th, 27th and 28th, and ice pellets on the 6th. A 10 day dry spell ended on the 22nd. Daily accumulation compared with normal was 25 mm in surplus on the 11th which decreased to 9 mm on the 22nd, then increased slowly to 13mm by the 31st. **Sunshine:** This month's total is only slightly above average, and 5 other Julys this millenniun have been sunnier, the last in 2019. Much of the month was, in fact, rather dull, there being only 1 day up to the 15th having more than 36% on the maximum, similarly after the 23th only 1 day had more than 45%, but in the notably sunny period 16th to 23rd, during the heatwave, all 8 days had over 80%, and 5 over 90% of the maximum, giving a total of 114.7 hours sunshine, a daily mean of 14.3 hours. Daily accumulation compared to normal was 38 hours in deficit by the 15th which became a surplus of 22 hours by the 23rd, decreasing to 6 hours by the 31st. Overall there were 9 days with <3 hours, 12 with =>6 hrs, 10 with =>9 hrs, 8 with =>12 hrs and 1 with =>15 hrs. **Wind:** The mean speed for this July is 0.7 mph below average, and is equal lowest with 2018 and 2001 since 2000. The month's windiest day is slightly below average, but the highest gust is 4 mph above average, and apart from July 2020 is strongest since 2001. The duration of calm is most since 2011. Daily mean speeds were mostly light or moderate up to the 9th, but were fresh on the 6th, were mainly light from 10th to 26th, then mainly moderate but fresh on the 30th. Daily mean direction were between N and E on 1st, 12th, 16th, 17th and 21st to 25th, between W and N on 13th to 15th, 18th and 19th, otherwise between S and W.

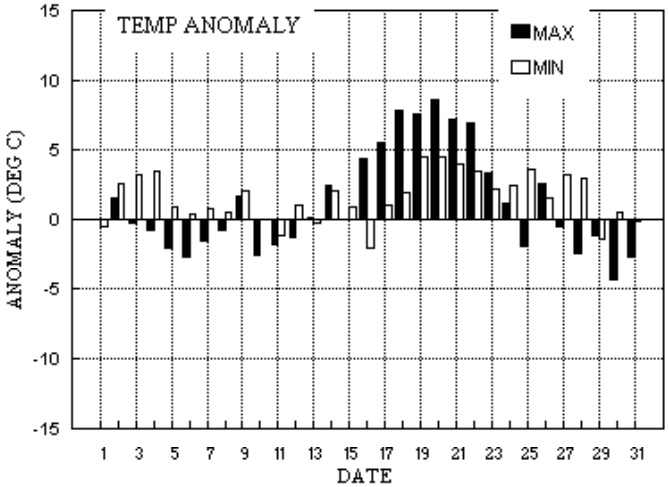
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

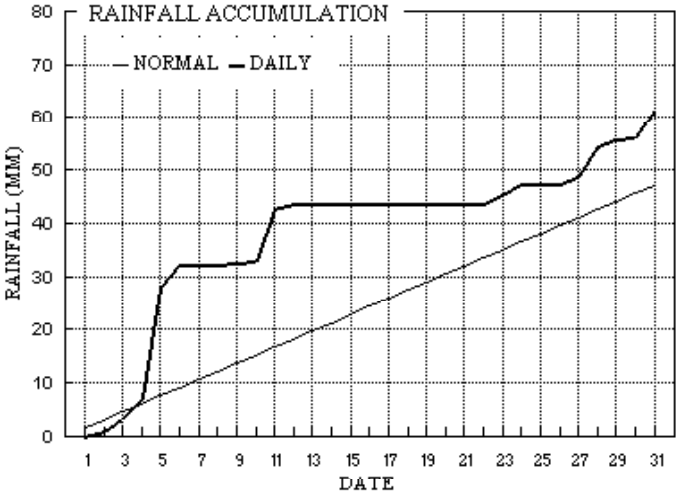
From the 1st to the 10th				From the 11th to the 20th				From the 21st to the 31st			
-0.8°	+1.3°	216%	56%	+3.3°	+1.2°	71%	148%	+0.7°	+2.0°	106%	105%

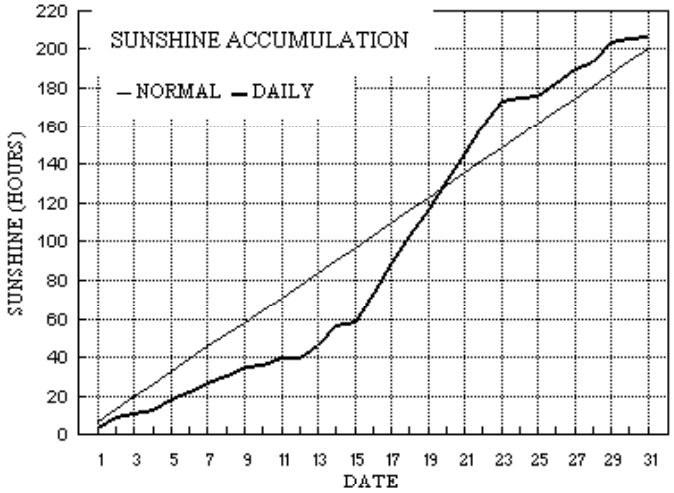
B J Burton FRMetS. Hon. Met. Officer to Wokingham Town Council.

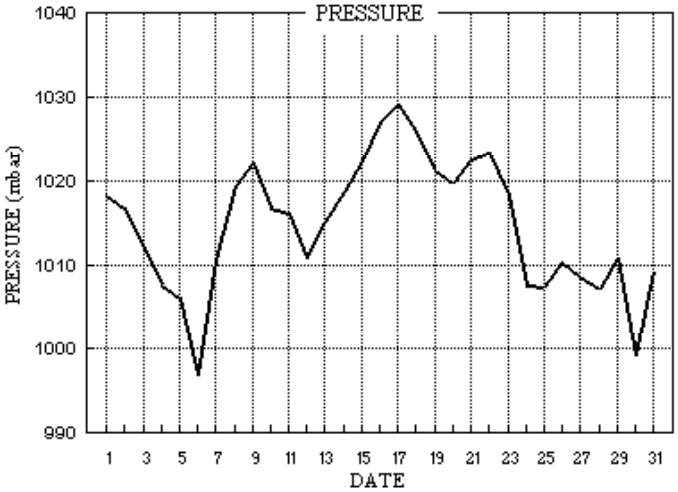
Wokingham climatological graphs for July 2021

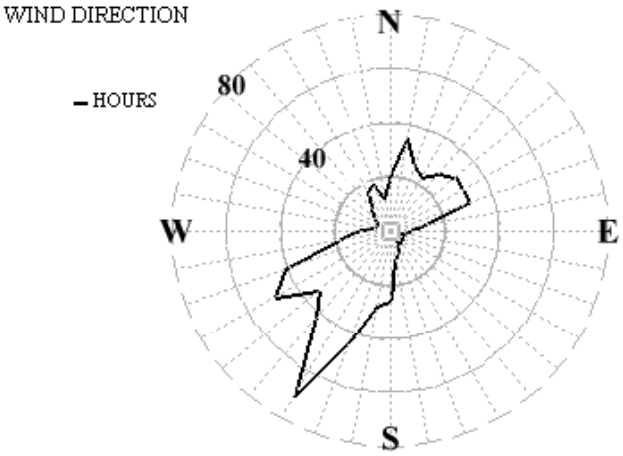


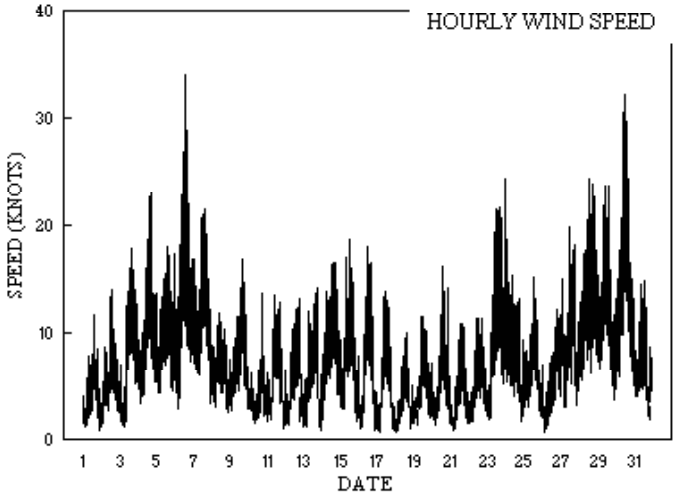


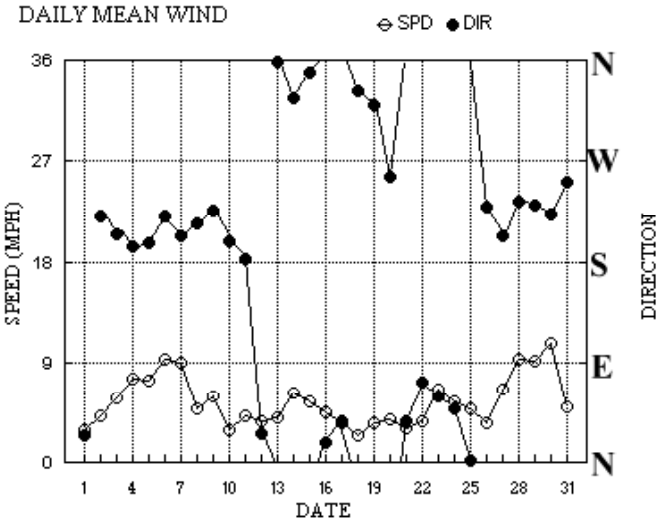












Daily meteorological data. Emmbrook, WOKINGHAM, Berkshire.

Month: JULY 2021

Date	Max	Min	Rain	Grass	30cm	100cm	Sun	Frost	pp09	Af	Sf	Th	Ic	Vec mean			Max gust			High hr			Rain
	C	C	mm	Min	C	C	hrs	hrs	mbar	Gf	Sl	Ha	Fg	ddd	ff	sp	ddd	gg	HHhh	ddd	ff	HH	hrs
1	21.5	11.1	0.1	8.3	18.1	16.7	4.4	0.0	1018.4	0 0 0 0		0 0 0 0		25	1.7	2.5	4	12	1508	12	5	13	0.2
2	23.1	14.2	0.7	12.9	18.8	16.7	5.2	0.0	1016.9	0 0 0 0		0 0 0 0		221	3.3	3.6	200	14	1358	239	6	13	1.2
3	21.4	14.9	2.6	14.9	19.3	16.9	2.0	0.0	1012.1	0 0 0 0		0 0 0 0		205	4.5	5.1	220	18	1516	213	9	17	1.8
4	21.3	15.3	3.7	13.3	19.2	17.0	2.1	0.0	1007.7	0 0 0 0		0 0 0 0		193	6.3	6.6	206	23	1724	217	12	17	1.7
5	20.2	12.8	20.9	10.8	19.2	17.3	5.3	0.0	1006.3	0 0 0 0		0 0 0 0		197	5.2	6.4	223	18	1438	205	9	14	9.8
6	19.8	12.5	4.2	11.9	18.9	17.3	3.4	0.0	996.9	0 0 0 0		0 0 1 0		221	7.0	8.0	236	34	1329	230	12	13	0.9
7	20.9	13.3	0.0	11.2	18.6	17.3	4.6	0.0	1010.6	0 0 0 0		0 0 0 0		204	7.8	7.8	198	22	1520	213	11	16	0.0
8	21.6	13.0	0.1	9.9	18.6	17.3	3.5	0.0	1019.5	0 0 0 0		0 0 0 0		214	4.0	4.3	232	12	1048	243	6	10	0.2
9	24.0	14.5	0.1	13.6	18.8	17.3	5.4	0.0	1022.1	0 0 0 0		0 0 0 0		225	5.0	5.1	225	17	1531	225	9	15	0.7
10	19.8	12.4	0.4	10.6	19.3	17.4	0.5	0.0	1016.8	0 0 0 0		0 0 0 0		199	1.5	2.6	269	14	1754	232	5	17	2.6
11	20.6	11.3	9.9	7.9	19.0	17.5	3.4	0.0	1016.2	0 0 0 0		0 0 0 0		182	3.4	3.7	172	14	0900	194	6	15	9.1
12	21.4	13.4	0.9	13.3	18.8	17.5	0.5	0.0	1010.9	0 0 0 0		0 0 0 0		26	2.0	3.2	107	13	1802	347	6	15	1.5
13	22.9	12.1	tr	9.8	19.0	17.5	5.9	0.0	1015.2	0 0 0 0		0 0 0 0		357	3.1	3.5	3	14	1810	6	6	15	0.1
14	25.1	14.5	0.0	11.6	19.3	17.5	10.2	0.0	1018.8	0 0 0 0		0 0 0 0		326	5.2	5.5	321	17	1756	338	8	17	0.0
15	22.7	13.3	0.0	10.2	19.4	17.6	2.5	0.0	1022.4	0 0 0 0		0 0 0 0		348	4.0	4.7	336	19	1350	335	7	08	0.0
16	27.0	10.4	0.0	7.3	19.2	17.7	14.9	0.0	1027.0	0 0 0 0		0 0 0 0		19	3.9	4.0	17	18	1240	16	8	12	0.0
17	28.1	13.3	0.0	10.2	19.8	17.7	15.4	0.0	1029.1	0 0 0 0		0 0 0 0		38	2.8	3.1	57	14	1142	28	7	10	0.0
18	30.4	14.2	0.0	11.1	20.5	17.9	14.1	0.0	1026.1	0 0 0 0		0 0 0 0		333	1.1	2.1	10	10	1424	2	4	12	0.0
19	30.3	16.8	0.0	13.9	21.3	18.1	13.9	0.0	1021.4	0 0 0 0		0 0 0 0		320	1.1	3.1	295	12	1059	305	6	11	0.0
20	31.3	16.8	0.0	13.7	21.7	18.4	14.5	0.0	1019.8	0 0 0 0		0 0 0 0		256	1.1	3.4	262	16	1427	248	7	14	0.0
21	29.9	16.3	0.0	13.3	22.0	18.7	14.3	0.0	1022.6	0 0 0 0		0 0 0 0		38	2.4	2.7	20	11	1441	24	5	17	0.0
22	29.6	15.8	0.0	12.9	22.3	19.0	14.6	0.0	1023.5	0 0 0 0		0 0 0 0		72	2.4	3.3	68	12	1729	123	5	18	0.0
23	26.1	14.5	1.6	11.0	22.4	19.2	13.0	0.0	1018.3	0 0 0 0		0 0 0 0		60	5.6	5.7	15	24	2354	68	9	17	0.5
24	23.8	14.8	2.2	13.3	22.3	19.4	2.1	0.0	1007.8	0 0 0 0		1 0 0 0		49	4.6	4.8	18	20	0003	36	7	03	0.3
25	20.9	16.2	tr	14.4	21.7	19.5	0.4	0.0	1007.6	0 0 0 0		0 0 0 0		2	4.0	4.2	328	15	1336	354	7	13	0.4
26	25.5	14.1	tr	10.4	21.2	19.5	6.9	0.0	1010.4	0 0 0 0		0 0 0 0		229	1.9	3.1	208	12	1950	213	6	20	0.0
27	22.9	15.9	1.4	15.0	21.3	19.5	7.0	0.0	1008.9	0 0 0 0		1 0 0 0		204	5.5	5.7	179	20	1257	207	9	16	0.7
28	21.1	15.9	5.5	14.6	21.1	19.5	4.2	0.0	1007.2	0 0 0 0		1 0 0 0		234	8.0	8.1	272	24	1419	254	11	17	1.6
29	22.3	11.8	1.3	9.8	20.4	19.5	9.7	0.0	1011.0	0 0 0 0		0 0 0 0		230	7.5	8.0	261	24	1438	245	11	10	2.8
30	19.1	13.6	0.5	12.1	20.3	19.4	2.0	0.0	999.2	0 0 0 0		0 0 0 0		222	6.5	9.3	253	32	1245	258	15	14	1.4
31	20.7	12.8	5.2	10.8	19.7	19.3	0.6	0.0	1009.5	0 0 0 0		0 0 0 0		251	3.9	4.4	254	15	1427	263	7	14	2.7
Total			61.3				206.5	0.0															40.2
Mean	23.7	13.9		11.7	20.0	18.1	6.66	0.0	1014.8					230	1.5	4.8							
Anom	+0.5	+1.1	130%	+1.8	+1.1	+1.2	103%		-1.1														

Daily mean 18.8 Pressure, abs highest = 1029.6 on 17

Anom +0.9 Pressure, abs lowest = 992.5 on 6

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 0

Snow falling = 0 Snow lying = 0 Thunder = 3

Hail=>5mm = 0 Hail<5mm or ice = 1 Fog at 09GMT = 0

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

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 JULY 2021

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cm	Ch	NChshs	NChshs	NChshs	Date	Remarks
1	62	6	04	03	08	18.6	12.8	69	9.1	1018.4	3	001	03	1	1	5	8	4	0	1		83818	83630		1	/Ci75 Cu hum
2	50	8	21	04	06	16.9	14.4	85	10.1	1016.9	0	002	05	2	2	8	6	3	/	/		87708	88710		2	
3	62	7	18	05	08	19.0	15.5	80	10.9	1012.1	4	000	01	2	2	5	5	4	7	/		85610	85360		3	
4	70	7	21	05	11	16.9	15.4	91	10.9	1007.7	7	008	25	8	6	7	8	3	/	/		84809	87615		4	/Sc50
5	81	5	22	07	13	17.9	11.7	67	8.6	1006.3	8	002	03	1	1	2	2	5	3	1		82822	83075		5	2Ac58 Cu med
6	80	3	25	09	19	16.5	13.4	82	9.7	996.9	1	041	03	6	5	2	8	4	3	1		82816			6	1Sc30 1Ac68 1Ci72 COTRA Cu med
7	75	7	21	06	12	17.3	13.8	80	9.8	1010.6	2	019	25	8	2	7	8	4	/	/		85815	87620		7	/Sc50 Cu med
8	.72	5	26	05	10	17.2	12.7	75	9.1	1019.5	1	007	03	2	2	5	8	5	0	0		82822	84656		8	Cu con
9	57	7	23	05	10	17.0	14.3	84	10.0	1022.1	1	006	05	2	2	7	6	3	/	/		87707			9	
10	65	8	12	02	03	14.7	11.8	83	8.6	1016.8	7	004	61	6	2	6	8	5	2	/		81820	86640	88558	10	Cu fra/hum
11	80	6	17	07	14	17.9	13.6	76	9.6	1016.2	8	002	03	4	1	6	8	4	0	0		85813	83625		11	Cu med
12	82	7	02	04	08	16.8	14.4	86	10.2	1010.9	7	005	03	6	2	6	1	3	3	/		83808	83360		12	Cu hum
13	62	7	02	02	11	17.8	14.5	81	10.2	1015.2	1	006	02	2	2	7	5	4	/	/		87611			13	
14	64	7	33	05	12	18.3	13.8	75	9.7	1018.8	1	006	03	1	1	7	5	4	/	/		87615			14	
15	63	7	32	08	17	18.9	14.6	76	10.2	1022.4	2	007	03	1	1	7	5	4	/	/		87613			15	2Sc35
16	82	0	35	05	10	19.7	13.4	67	9.4	1027.0	0	002	02	0	0	0	0	9	0	0					16	
17	89	0	03	05	09	21.9	13.8	60	9.6	1029.1	0	001	02	0	0	0	0	9	0	0					17	
18	84	1	35	02	06	24.7	15.3	56	10.7	1026.1	8	002	03	0	0	0	0	9	0	2		81075			18	Ci flo
19	68	1	23	02	06	25.6	18.0	63	12.7	1021.4	7	005	02	0	0	0	0	9	0	1		81080			19	
20	64	1	23	03	06	25.0	17.7	64	12.5	1019.8	8	001	02	0	0	1	0	9	3	0		81360			20	
21	70	2	04	03	05	24.7	16.7	61	11.6	1022.6	0	003	02	0	0	2	8	7	0	0		81856			21	2Sc57 Cu hum
22	58	0	04	03	07	24.0	17.7	68	12.4	1023.5	7	004	05	0	0	0	0	9	0	0					22	
23	68	6	05	06	14	21.1	15.4	70	10.8	1018.3	8	010	01	2	2	1	1	4	0	2		81817	86075		23	COTRA Cu hum
24	59	8	04	04	12	17.0	15.2	89	10.7	1007.8	8	005	05	2	2	8	6	3	/	/		86709	88711		24	
25	59	8	35	04	09	17.9	15.9	88	11.2	1007.6	1	004	21	6	2	8	5	3	/	/		83706	86710	88625	25	
26	68	6	01	03	05	20.8	14.5	67	10.2	1010.4	0	002	01	2	2	1	2	5	3	/		81820	86367		26	Cu med
27	84	7	21	06	11	19.4	14.0	71	10.0	1008.9	6	003	03	6	2	4	8	5	7	/		82820	83650	86359	27	/Ac63 Cu med
28	83	7	25	09	17	18.7	13.1	70	9.4	1007.2	1	003	03	8	2	3	8	5	7	/		82825	87360		28	2Sc50 Cu med
29	86	4	24	10	21	17.1	10.5	65	7.9	1011.0	1	009	03	0	0	4	2	5	0	1		84827			29	1Ci75 Cu med
30	58	7	18	10	18	15.8	13.1	84	9.5	999.2	7	028	80	6	5	7	8	4	/	/		82710	85813	87640	30	Cu med
31	84	7	28	05	11	17.5	13.2	76	9.4	1009.5	0	006	03	6	2	6	8	4	7	/		85815	86358		31	2Sc25 Cu hum

Mean vis = 24.6 km
Mean cloud = 5.2 65%
Mean wind speed = 5.1 kn
Mean gust = 11 kn
Mean TT = 19.1 °C
Mean TdTd = 14.3 °C
Mean RH = 74.5 %
Mean r = 10.2 g/kg
Mean PPP = 1014.8 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 JULY 2021

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cm	Ch	NChshs	NChshs	NChshs	Date	Remarks
1	65	7	02	05	10	19.9	13.4	66	9.5	1017.3	7	006	02	2	2	6	8	6	/	8		83833	84650	87270	1	Cu med
2	75	6	21	05	10	23.0	13.5	55	9.5	1015.8	7	010	02	1	1	1	2	6	0	2		81835	86078		2	Cu med
3	84	7	20	06	16	19.9	14.7	72	10.4	1011.2	6	006	25	8	2	7	8	4	/	/		83815	87625		3	
4	82	7	18	09	18	18.8	14.9	78	10.6	1005.4	6	009	25	8	2	7	8	4	6	/		82818	86656		4	2Sc35 /Ac62 Cu med jpE&NE
5	83	8	21	08	18	19.2	10.5	57	7.9	1004.3	7	010	03	2	2	2	8	6	1	/		82835	88466		5	1Sc50 Cu med
6	30	7	24	08	24	16.6	12.6	77	9.1	1003.6	2	030	81	8	2	7	3	5	/	/		87920			6	rain rate 203 mm/hr at 1505
7	80	6	20	11	21	20.1	13.1	64	9.3	1013.0	1	009	01	8	2	6	8	5	0	0		83825	85650		7	Cu med
8	80	7	17	04	10	18.6	15.1	80	10.5	1020.3	1	006	25	8	2	3	8	5	7	/		82825	87358		8	2Sc40 Cu med
9	81	6	22	08	14	21.8	12.6	56	9.0	1019.6	7	013	02	1	1	2	8	6	0	1		82840	85080		9	1Sc56 1Cc75 Cu med
10	80	7	31	03	05	18.5	12.5	68	8.9	1015.5	7	005	15	6	2	5	3	4	7	/		81915	84645	85359	10	2Cu18 Cb cal. jpSW
11	84	7	18	06	12	19.7	12.2	62	8.8	1014.4	8	013	02	2	2	6	8	5	3	/		83822	85630	86363	11	
12	84	7	36	04	10	20.9	14.8	68	10.4	1009.8	6	005	03	2	2	5	8	5	7	/		83825	86359		12	1Sc40 2Sc50 Cu med
13	82	7	36	07	13	21.8	14.7	64	10.3	1015.8	2	001	02	2	2	7	8	6	/	/		82832	86645		13	/Sc56 Cu med
14	80	3	33	08	17	24.7	13.6	50	9.6	1018.3	7	003	02	1	1	2	2	6	0	1		82840			14	1Ci80 Cu med
15	84	7	36	07	16	21.4	13.8	62	9.7	1023.3	3	005	02	2	2	7	8	6	/	/		82833	87642		15	Cu hum
16	84	1	02	08	15	26.4	14.2	47	9.9	1026.3	8	004	02	0	0	1	1	6	0	0		81845			16	Cu hum
17	88	0	06	04	13	27.4	12.6	40	8.9	1027.1	7	009	02	0	0	0	0	9	0	0					17	
18	83	1	01	03	10	28.1	16.4	49	11.4	1023.5	7	012	02	0	0	1	2	7	0	0		81850			18	Cu med
19	80	2	36	05	10	29.7	16.5	45	11.6	1019.3	7	011	01	1	1	2	2	7	6	3		82856			19	1Ac58 1Ci78 Cu con Cb top dist SE
20	80	2	25	07	16	31.1	12.5	32	8.9	1018.3	6	006	02	0	0	2	2	8	0	0		82857			20	Cu med/con
21	80	3	08	04	11	29.9	16.7	45	11.7	1021.6	6	003	02	0	0	3	2	7	0	0		83850			21	Cu med
22	82	2	04	06	10	28.9	13.6	39	9.5	1021.0	6	016	02	0	0	1	2	7	0	1		81856			22	1Ci80 Cu hum/med
23	78	7	06	10	21	25.0	15.9	57	11.2	1013.9	6	021	03	2	2	1	1	6	0	2		81838	87075		23	1Cc72 COTRA Cu hum
24	58	7	06	05	12	22.2	17.1	75	12.2	1007.9	8	007	20	5	2	7	8	4	/	/		83818	86630		24	/Sc50 Cu med
25	60	8	36	06	12	19.3	16.0	81	11.3	1008.0	1	004	05	6	2	8	5	4	/	/		86611	88620		25	
26	75	4	20	04	07	24.9	13.5	49	9.6	1009.1	7	007	01	1	1	4	8	6	0	0		83835			26	2Sc56 Cu med
27	80	6	21	08	15	21.0	15.5	71	11.0	1007.0	6	009	15	9	8	2	9	5	6	3		81920	82825	83360	27	1Sc50 3Ci72 jpNW,N,E. vv50k ex p
28	70	6	23	07	24	16.7	14.3	86	10.2	1006.9	6	001	25	9	8	3	9	5	6	3		81920	82825	85359	28	1Sc50 1Ci68 jpE&W vv50k ex p
29	86	4	24	09	24	21.0	8.9	46	7.1	1010.0	8	004	02	1	1	5	8	7	0	2		82850	83073		29	1Sc56 COTRA Cu med
30	84	6	26	15	30	17.9	13.0	73	9.4	1001.7	2	035	25	8	2	3	9	4	7	1		81915	85358		30	2Cu20 2Sc50 2Ci72 CbNE
31	80	7	27	06	15	19.4	12.9	66	9.2	1009.7	4	000	15	8	2	7	8	5	7	/		83825	85645	87358	31	Cu med/con jpNE&SE vv50k ex p

Mean vis = 34.8 km
Mean cloud = 5.3 67%
Mean wind speed = 6.6 kn
Mean gust = 15 kn
Mean TT = 22.4 °C
Mean TdTd = 13.9 °C
Mean RH = 60.6 %
Mean r = 9.9 g/kg
Mean PPP = 1014.2 mbar

See appendix 2 below for full code details

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

Wokingham Sunshine Hourly analysis

2021

Hour	01-Jul	02-Jul	03-Jul	04-Jul	05-Jul	06-Jul	07-Jul	08-Jul	09-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
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	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.34	0.14	0.33
5	0.16	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.00	1.00	0.69	1.00
6	0.44	0.00	0.00	0.00	0.99	0.00	0.00	0.11	0.00	0.00	1.00	0.00	0.16	0.80	0.37	1.00
7	0.70	0.00	0.00	0.00	0.98	0.45	0.00	0.87	0.00	0.00	1.00	0.00	0.40	0.58	0.08	1.00
8	0.94	0.00	0.08	0.00	0.82	0.61	0.00	0.31	0.00	0.00	0.57	0.20	0.15	0.29	0.23	1.00
9	0.33	0.00	0.00	0.35	0.59	0.49	0.06	0.38	0.46	0.00	0.08	0.10	0.21	0.10	0.00	1.00
10	0.02	0.00	0.41	0.16	0.50	0.18	0.00	0.19	0.71	0.00	0.00	0.03	0.00	0.54	0.00	1.00
11	0.00	0.37	0.02	0.24	0.28	0.12	0.00	0.00	0.69	0.00	0.00	0.02	0.05	0.27	0.01	1.00
12	0.04	0.98	0.00	0.56	0.02	0.38	0.26	0.00	0.74	0.02	0.00	0.03	0.80	0.42	0.07	1.00
13	0.00	0.97	0.19	0.11	0.00	0.10	0.00	0.00	0.60	0.00	0.00	0.09	0.08	0.57	0.34	1.00
14	0.25	0.99	0.00	0.11	0.00	0.28	0.05	0.00	0.55	0.15	0.05	0.00	0.15	0.80	0.05	1.00
15	0.03	0.40	0.00	0.24	0.00	0.09	0.84	0.14	0.33	0.20	0.00	0.00	0.36	0.70	0.03	1.00
16	0.00	0.85	0.39	0.00	0.00	0.00	0.98	1.00	0.83	0.05	0.00	0.00	0.50	0.92	0.00	1.00
17	0.57	0.61	0.69	0.00	0.00	0.13	1.00	0.43	0.19	0.00	0.00	0.00	1.00	0.76	0.00	0.75
18	0.94	0.00	0.08	0.22	0.00	0.26	0.98	0.06	0.20	0.00	0.00	0.00	1.00	1.00	0.00	1.00
19	0.00	0.00	0.00	0.13	0.00	0.32	0.40	0.00	0.05	0.04	0.00	0.00	0.85	1.00	0.44	0.81
20	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.12	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot	**4.43**	**5.17**	**1.95**	**2.12**	**5.26**	**3.40**	**4.57**	**3.49**	**5.36**	**0.50**	**3.40**	**0.48**	**5.93**	**10.20**	**2.45**	**14.89**

Hour	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul	31-Jul	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	0.35	0.35	0.33	0.32	0.31	0.20	0.31	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.12
5	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.00	0.00	0.00	0.00	0.00	1.00	0.50	0.04	0.42
6	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.00	0.00	0.00	0.13	0.08	1.00	0.00	0.00	0.42
7	1.00	1.00	1.00	1.00	1.00	1.00	0.28	0.00	0.00	0.78	0.49	0.36	0.99	0.05	0.00	0.48
8	1.00	1.00	1.00	1.00	0.93	1.00	1.00	0.00	0.00	1.00	0.43	0.16	0.68	0.07	0.03	0.47
9	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.96	0.10	0.00	0.61	0.00	0.01	0.41
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.67	0.78	0.20	0.75	0.05	0.00	0.43
11	1.00	1.00	0.92	0.98	1.00	1.00	1.00	0.00	0.00	0.03	0.67	0.25	0.62	0.20	0.00	0.38
12	1.00	0.89	0.73	0.98	0.70	1.00	1.00	0.02	0.00	0.01	0.33	0.00	0.54	0.02	0.07	0.41
13	1.00	0.95	0.72	0.83	0.85	1.00	1.00	0.00	0.00	0.19	0.04	0.48	0.80	0.36	0.26	0.40
14	1.00	0.90	0.61	1.00	0.83	0.96	0.98	0.12	0.00	0.42	0.71	0.15	0.69	0.39	0.17	0.43
15	1.00	0.99	0.93	0.94	0.95	0.87	0.75	0.71	0.00	0.25	0.67	0.18	0.50	0.24	0.00	0.43
16	1.00	1.00	0.94	0.94	1.00	0.85	0.98	0.74	0.00	0.74	0.82	0.97	0.77	0.00	0.00	0.56
17	1.00	1.00	0.93	1.00	1.00	1.00	0.85	0.53	0.23	0.79	1.00	0.73	0.29	0.08	0.00	0.53
18	1.00	1.00	0.93	0.88	1.00	1.00	0.67	0.01	0.17	0.98	0.87	0.45	0.01	0.00	0.00	0.48
19	1.00	0.06	0.82	0.62	0.73	0.76	0.40	0.00	0.00	0.10	0.00	0.22	0.00	0.00	0.03	0.28
20	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
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	**15.42**	**14.14**	**13.86**	**14.50**	**14.29**	**14.64**	**12.96**	**2.12**	**0.40**	**6.91**	**7.04**	**4.21**	**9.66**	**1.98**	**0.62**	**206.37**

JULY 2021	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	16.76	21.5	1431	11.1	254	79.4	97.6	308	59.7	1235	13.0	9.2	10.6	1603	7.9	254	1017.64	1018.5	618	1016.4	1830	0
2	18.14	23.1	1454	14.2	410	78.1	96.0	422	50.7	1448	14.0	9.9	10.7	1430	8.6	1448	1015.92	1017.3	1110	1013.9	2343	0.1
3	17.80	21.4	1036	14.9	332	81.3	95.7	443	65.5	1039	14.4	10.2	11.7	1009	9.3	56	1011.68	1014.2	6	1010.2	1736	0.6
4	16.82	21.3	1257	14.4	2118	85.0	95.3	651	63.9	1221	14.2	10.1	12.3	1140	9.0	1828	1007.15	1010.4	2	1004.5	1715	6
5	15.90	20.2	1152	12.8	500	79.0	96.4	2141	50.8	1026	11.9	8.7	9.9	2349	7.3	1403	1004.04	1006.9	741	996.1	2355	8.5
6	14.99	19.8	1315	12.5	425	84.2	97.6	540	53.6	1252	12.2	8.9	10.3	1531	7.4	1248	1000.19	1007.2	2319	992.5	535	15.5
7	16.74	20.9	1542	13.0	2257	78.2	92.4	214	56.9	1625	12.7	9.1	10.2	1405	8.4	1625	1011.81	1017.3	2336	1007.0	129	0
8	17.42	21.6	1714	13.5	348	79.8	95.2	405	56.5	1111	13.7	9.7	10.8	1552	8.5	1055	1019.60	1021.9	2310	1016.9	108	0.1
9	17.87	24.0	1423	13.2	2358	74.6	92.1	522	45.8	1424	12.9	9.2	11.0	1050	8.0	1738	1020.57	1022.3	835	1019.0	1637	0
10	15.12	19.8	1621	12.4	141	82.7	94.8	2303	59.7	1523	12.1	8.7	9.8	1513	7.7	839	1016.56	1019.2	23	1014.8	1621	0.6
11	15.39	20.6	1419	11.3	403	84.8	98.0	559	62.0	1425	12.6	9.0	9.9	1412	8.0	402	1015.15	1016.6	153	1012.6	2357	2.8
12	16.53	21.4	1557	13.4	411	86.6	98.1	659	62.8	1214	14.1	10.0	11.5	1209	9.3	1224	1011.24	1012.9	1	1009.7	1504	7.4
13	17.55	22.9	1324	12.1	417	80.4	98.5	540	55.7	1320	13.8	9.8	11.3	1239	8.6	417	1015.19	1017.6	2303	1012.4	0	0.1
14	19.19	25.1	1536	14.5	456	70.7	93.4	203	47.6	1642	13.4	9.5	10.7	1253	8.4	2359	1018.58	1020.8	2258	1017.1	126	0
15	17.57	22.7	1342	13.0	2359	77.9	95.9	2346	58.0	1343	13.5	9.5	10.9	1302	8.4	346	1022.96	1026.2	2357	1020.4	1	0
16	18.88	27.0	1518	10.4	420	72.6	97.9	531	46.1	1523	13.2	9.3	11.4	1350	7.5	420	1026.89	1028.9	2358	1025.9	33	0
17	20.89	28.1	1619	13.3	414	69.8	95.5	506	40.0	1624	14.5	10.1	11.7	1501	8.9	1339	1027.93	1029.6	731	1026.2	1716	0
18	22.87	30.4	1419	14.2	437	70.1	97.4	530	38.6	1614	16.3	11.4	13.3	1346	9.5	437	1024.58	1026.9	42	1021.9	1838	0
19	23.86	30.3	1306	16.8	429	68.7	96.1	455	35.9	1258	16.9	11.9	13.5	1025	9.2	1257	1020.46	1022.5	31	1018.4	1739	0
20	23.81	31.3	1442	16.8	445	67.3	97.2	509	29.9	1457	16.2	11.4	13.8	1011	8.0	1457	1019.51	1021.0	2344	1018.1	1542	0
21	23.15	29.9	1517	16.3	442	70.8	96.7	521	42.7	1424	16.9	11.8	13.5	1056	10.5	1904	1022.04	1023.5	2335	1020.8	38	0
22	22.73	29.6	1441	15.8	427	68.3	96.1	342	33.4	1257	15.7	11.0	13.2	921	8.1	1257	1022.11	1024.0	559	1019.5	1740	0
23	19.47	26.1	1427	14.5	423	73.9	95.3	511	49.5	1329	14.4	10.1	11.8	1141	9.0	2134	1016.13	1020.8	0	1008.8	2356	0
24	17.90	23.8	1549	14.8	625	85.7	97.4	2339	63.2	1551	15.4	10.9	12.9	1541	9.0	9	1008.15	1010.5	112	1006.3	1805	3.7
25	18.24	20.6	1807	16.2	417	86.0	97.4	105	72.7	1900	15.8	11.2	12.1	1208	10.7	2004	1008.01	1009.9	2357	1006.8	308	0.1
26	20.00	25.5	1604	14.1	344	73.1	96.5	414	48.4	1502	14.6	10.4	11.9	1334	8.8	949	1009.66	1010.7	744	1008.2	1809	0
27	18.70	22.9	1158	15.9	509	76.9	93.1	2346	57.6	1151	14.4	10.2	12.5	1404	9.0	416	1008.04	1010.0	251	1006.2	1738	1.2
28	16.59	21.1	1135	12.7	2358	79.6	92.6	0	58.7	1140	13.0	9.4	11.0	1056	7.4	1833	1007.21	1009.0	2343	1006.2	59	5.4
29	16.67	22.3	1340	11.8	338	68.0	89.5	511	40.1	1303	10.3	7.8	8.8	1543	6.3	1303	1009.79	1011.1	847	1007.3	2359	0
30	15.90	19.1	1448	13.6	507	80.9	95.2	340	63.5	1731	12.5	9.1	10.6	1241	8.1	1914	1003.05	1008.1	2356	997.2	1048	2.1
31	16.10	20.7	1341	12.8	315	84.8	96.9	2126	60.3	1423	13.4	9.6	11.4	1335	8.5	49	1009.48	1010.7	2153	1007.9	3	5.3
Total																						59.5
Mean	18.37	23.71		13.75		77.4	95.74		52.58		13.94	9.90	11.45		8.49		1014.56	1017.00		1011.92		
Max	23.86	31.27		16.78		86.6	98.50		72.70		16.94	11.88	13.76		10.69		1027.93	1029.64		1026.20		
Min	14.99	19.09		10.43		67.3	89.50		29.89		10.32	7.81	8.75		6.28		1000.19	1006.91		992.55		

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

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

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

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.