

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 2018

Temperature (°C)		Anomaly	Rank in the past 137 years
Mean maximum	28.0	+5.1	*Highest*
Mean minimum	14.0	+1.4	3 rd highest
Daily mean	21.0	+3.3	*Highest*
Highest maximum	34.1	on 26 th	Lowest maximum 20.9 on 29 th
Highest minimum	17.5	on 27 th	Lowest minimum 11.3 on 19 th
Mean grass minimum	10.3	+0.5	Lowest grass minimum 6.3 on 12 th
Mean earth @30 cm	21.4	+2.7	Earth @100 cm 18.9
Frost duration (hrs)	0.0		Rain duration (hrs) 8.6
Rainfall total (mm)	12.9	29 %	12 th lowest
Highest daily fall	5.4	on 28 th	
Number of: Dry days (<0.2mm)	27	Wet days (>0.9mm) 3	days ≥5mm 1
Sunshine total (hrs) 296.1	Daily mean 9.55	149 %	Sunniest day 15.7 on 2 nd
N° days with: Air frost 0	Ground frost 0	Snow falling 0	Snow lying 0
Thunder 1	Hail ≥5mm 0	Small hail/ice 0	Fog @09 0 Nil sun 1
Pressure MSL : Mean @09 GMT, mbar 1017.0	+0.4	Highest 1027.0 on 9 th	Lowest 1002.0 on 28 th
Relative humidity : Mean (%) 61.0	Lowest 20 on 2 nd	Water vapour (g/kg), mean at 09 and 15 GMT 9.1, 8.3	
Overall mean wind speed (mph) 5.5	Windiest day 12.1 on 28 th	Max gust 37 on 28 th	
Wind direction (days) N 3 NE 5 E 0 SE 1 S 7 SW 10 W 4 NW 1			
Least windy day (mph) 3.2 on 19 th	Calm; less than 0.5 mph (minutes) 541		

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

Notes:

Record Breaking Warmth with Many Hot Days. Very Dry. Very Sunny.

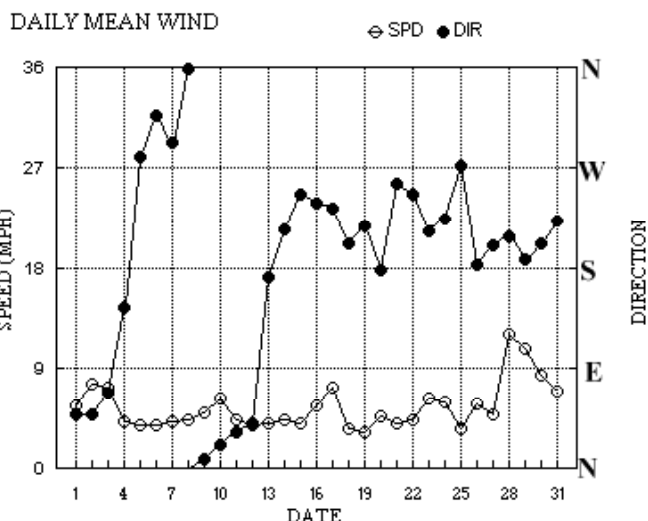
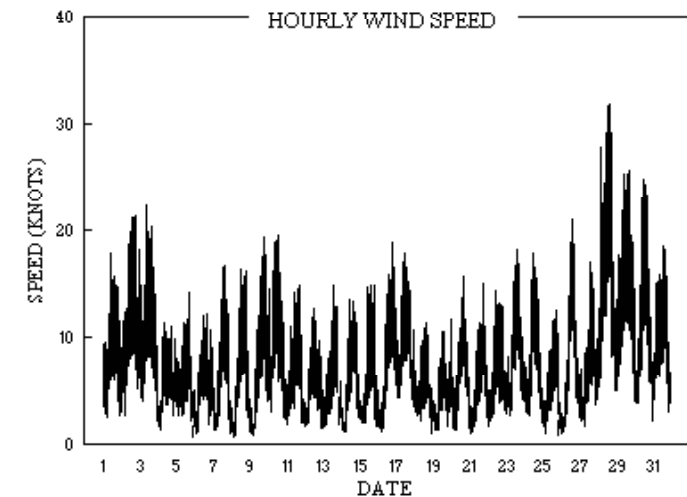
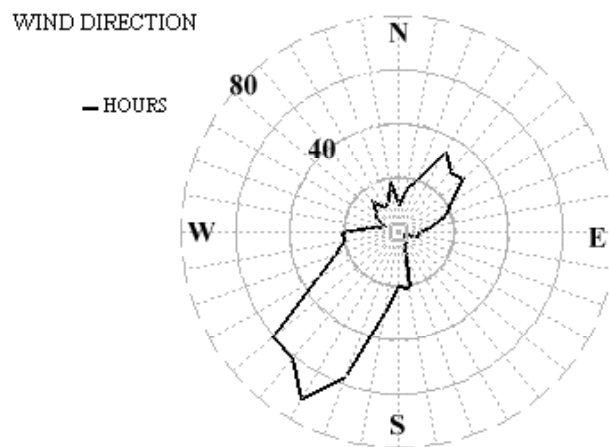
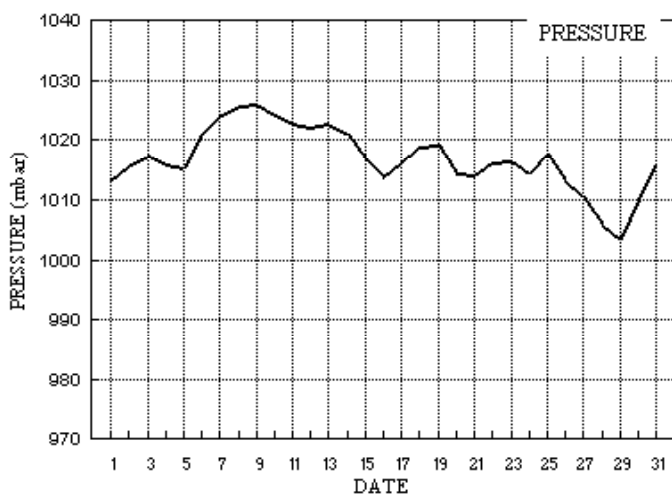
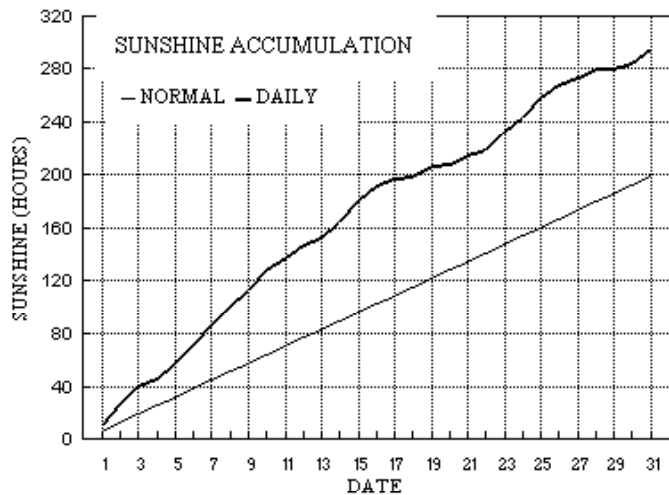
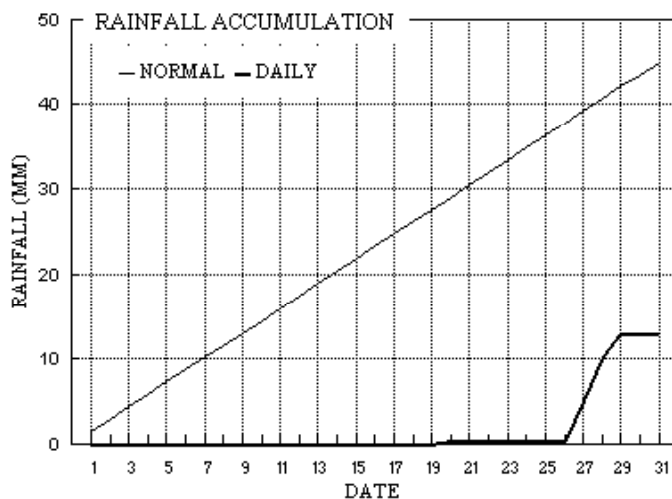
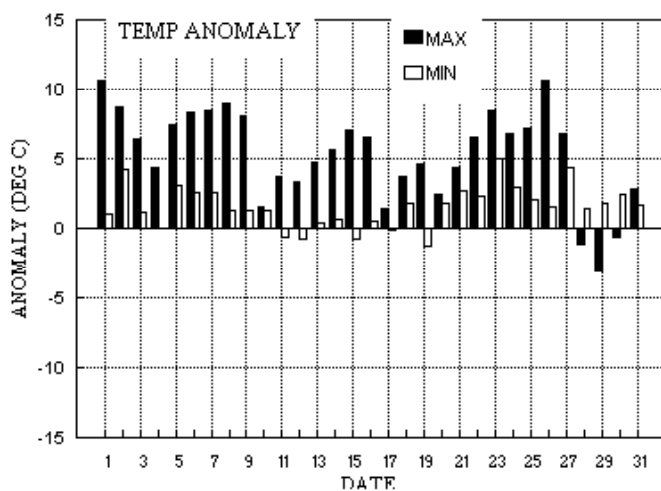
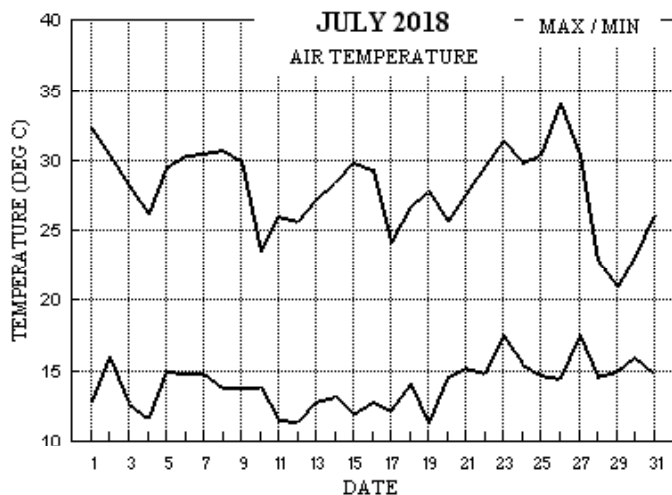
Temperature: Another record breaking month, the hottest July on record. The mean of 21.0° is also higher than in any month in the past 137 years, although it is only 0.1° above the value for July 2006. The mean maximum is also a new record for any month since before 1882. The mean minimum is 3rd highest after 2006 and 1983. The highest max is 5.5° above the median and 2nd highest after 2006 in 115 years. The lowest max is 4.1° above the median and 3rd highest in 106 years. The highest min is 1.0° above the median while the lowest min is 4.3° above its median and is a new record. The mean daily temperature range of 14.0° is highest for July since before 1976, and is 3.6° above average. In contrast, the mean grass min is just 0.6° above average, but the lowest grass min is 3.0° above average and is a new record. The mean earth temperature at 30cm depth is equal highest with 1983 since before 1980, and at 1 m depth is highest since before 1989. Anomalies for daily max were positive on all but the 28th to 30th, and exceeded +5° on 17 days, reaching +10.6° on the 1st and 26th. Anomalies for daily min were generally closer to zero, with extremes of over +4° on the 2nd, 23rd and 27th, and -1.3° on the 19th, but were negative on only 5 days. **Rainfall:** No rain fell before the 20th when a 33day dry spell was ended by a mere 0.4 mm. There were 6 more dry days before the first meaningful rain since the end of May, 12.6 mm which fell over the 3 days to the 29th of this month. The month's total makes this the driest July since 1994. Rainfall rate reached 58 mm/hr on the 28th, and there was thunder during the afternoon of the 27th. The number of dry days is equal highest with 1990, 1983 and 1979 since 1955. Estimated soil moisture deficit indicates that unirrigated shallow rooted plants suffered severe stress throughout the month. **Sunshine:** This July has been a very sunny month, the total highest since 2006, and 2nd highest this millennium. Daily accumulation compared with normal was in surplus throughout, and reached 86 hours by the 17th, falling to 75 hours by the 20th, but increasing to 100 hours by the 28th. Up to mid month, 8 days had over 80% of the maximum, and 5 over 90%, and the 15 day total was an outstanding 191 hours, a mean of 12.7 hours per day. After mid-month, just 2 days had over 80%. For the month as a whole, only 5 days had less than 30 % of the maximum. Overall there were 3 days with <3 hours, 22 days with =>6 hours, 19 with =>9 hours, 11 with =>12 hours and 4 with =>15 hours. **Wind:** The mean speed is 0.8 mph below average and is lowest since 2001. Daily speeds were light or moderate throughout, except for strong on the 28th and fresh on the 29th. Daily mean direction were NE'ly up to the 3rd, veering to N'ly by the 8th, then to NE'ly by the 12th, then were between S and W for the remainder of the month. **Humidity:** The mean relative humidity of 61.0 % is lowest for any month since before 1998.

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

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
+7.3°	+1.8°	0 %	200%	+4.3°	+0.2°	3 %	123%	+4.4°	+2.5°	79%	127%

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

Wokingham climatological graphs for July 2018



Month: JULY 2018

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff HH	Rain hrs	
1	32.2	12.8	0.0	8.5	20.6	17.4	11.1	0.0	1013.2	0 0 0 0	0 0 0 0	0 0 0 0	49	4.6	4.9	22 18 1022	87 7 16	0.0
2	30.3	15.9	0.0	12.5	21.0	17.6	15.7	0.0	1015.6	0 0 0 0	0 0 0 0	0 0 0 0	48	6.3	6.6	61 21 1806	68 9 18	0.0
3	28.2	12.7	0.0	8.5	21.0	17.7	14.5	0.0	1017.5	0 0 0 0	0 0 0 0	0 0 0 0	67	5.8	6.3	67 22 0859	59 9 09	0.0
4	26.2	11.6	0.0	7.3	20.9	17.9	4.4	0.0	1016.0	0 0 0 0	0 0 0 0	0 0 0 0	144	0.7	3.7	28 11 0713	210 6 17	0.0
5	29.4	15.0	0.0	11.3	20.9	18.0	12.0	0.0	1015.4	0 0 0 0	0 0 0 0	0 0 0 0	280	1.9	3.4	339 14 1747	296 5 16	0.0
6	30.3	14.8	0.0	10.3	21.0	18.1	14.1	0.0	1021.0	0 0 0 0	0 0 0 0	0 0 0 0	317	3.0	3.4	266 12 1635	278 6 16	0.0
7	30.5	14.8	0.0	10.7	21.3	18.2	14.8	0.0	1024.1	0 0 0 0	0 0 0 0	0 0 0 0	292	2.7	3.7	249 17 1445	263 7 12	0.0
8	30.8	13.8	0.0	9.4	21.5	18.3	15.1	0.0	1025.9	0 0 0 0	0 0 0 0	0 0 0 0	357	3.2	3.8	24 16 1206	345 7 15	0.0
9	30.0	13.8	0.0	9.7	21.7	18.4	11.8	0.0	1026.1	0 0 0 0	0 0 0 0	0 0 0 0	8	2.9	4.3	22 19 1810	21 10 18	0.0
10	23.5	13.8	0.0	10.2	21.7	18.6	14.9	0.0	1024.4	0 0 0 0	0 0 0 0	0 0 0 0	22	5.4	5.5	30 20 1216	15 9 10	0.0
11	26.0	11.5	0.0	7.0	21.5	18.7	9.2	0.0	1022.7	0 0 0 0	0 0 0 0	0 0 0 0	32	3.6	3.8	44 15 1605	47 6 14	0.0
12	25.7	11.4	0.0	6.3	21.3	18.8	9.2	0.0	1022.1	0 0 0 0	0 0 0 0	0 0 0 0	40	2.1	3.4	29 13 1225	20 5 14	0.0
13	27.2	12.8	0.0	8.4	21.4	18.9	5.7	0.0	1022.8	0 0 0 0	0 0 0 0	0 0 0 0	171	0.6	3.5	223 15 1436	204 7 14	0.0
14	28.4	13.2	0.0	8.6	21.3	18.9	12.9	0.0	1021.1	0 0 0 0	0 0 0 0	0 0 0 0	215	3.4	3.8	245 14 1133	218 7 16	0.0
15	29.8	11.9	0.0	7.2	21.4	19.0	15.1	0.0	1016.8	0 0 0 0	0 0 0 0	0 0 0 0	246	3.0	3.5	305 15 1914	311 6 19	0.0
16	29.3	12.8	0.0	8.2	21.6	19.0	11.3	0.0	1013.8	0 0 0 0	0 0 0 0	0 0 0 0	239	4.6	4.9	258 19 1851	238 9 18	0.0
17	24.1	12.2	0.0	8.5	21.5	19.1	5.8	0.0	1016.1	0 0 0 0	0 0 0 0	0 0 0 0	233	6.2	6.3	203 18 1212	223 9 15	0.0
18	26.6	14.1	0.0	11.6	21.1	19.2	1.0	0.0	1018.8	0 0 0 0	0 0 0 0	0 0 0 0	201	3.0	3.2	187 11 1453	217 5 17	0.0
19	27.8	11.3	0.0	7.2	20.9	19.2	7.4	0.0	1019.1	0 0 0 0	0 0 0 0	0 0 0 0	218	1.8	2.8	157 12 2332	160 6 23	0.0
20	25.7	14.5	0.4	10.1	21.2	19.2	1.4	0.0	1014.6	0 0 0 0	0 0 0 0	0 0 0 0	177	3.0	4.1	148 16 1500	165 8 17	1.2
21	27.5	15.2	tr	12.8	21.0	19.2	7.4	0.0	1014.1	0 0 0 0	0 0 0 0	0 0 0 0	256	2.6	3.6	231 15 1856	230 7 18	0.0
22	29.6	14.8	0.0	11.0	21.3	19.2	3.6	0.0	1016.3	0 0 0 0	0 0 0 0	0 0 0 0	246	3.0	3.8	277 14 1127	217 6 18	0.0
23	31.4	17.5	0.0	13.9	21.7	19.2	15.1	0.0	1016.6	0 0 0 0	0 0 0 0	0 0 0 0	213	5.3	5.4	239 18 1513	212 9 15	0.0
24	29.9	15.5	0.0	11.3	22.1	19.3	11.0	0.0	1014.4	0 0 0 0	0 0 0 0	0 0 0 0	224	5.0	5.1	243 18 1224	229 9 12	0.0
25	30.4	14.7	0.0	10.7	22.0	19.4	14.2	0.0	1017.8	0 0 0 0	0 0 0 0	0 0 0 0	272	1.7	3.1	267 13 1740	249 6 18	0.0
26	34.1	14.4	0.0	10.8	22.1	19.5	10.1	0.0	1013.2	0 0 0 0	0 0 0 0	0 0 0 0	183	4.2	5.1	190 21 1504	183 11 14	0.0
27	30.4	17.5	4.5	14.1	22.5	19.6	5.0	0.0	1010.5	0 0 0 0	1 0 0 0	0 0 0 0	200	3.6	4.2	169 17 1527	175 8 18	2.1
28	22.9	14.5	5.4	13.5	22.2	19.7	7.4	0.0	1005.9	0 0 0 0	0 0 0 0	0 0 0 0	208	10.1	10.5	202 32 1540	216 16 15	3.7
29	20.9	15.0	2.6	13.0	21.3	19.7	0.0	0.0	1003.5	0 0 0 0	0 0 0 0	0 0 0 0	188	9.0	9.4	214 26 1749	196 12 14	1.6
30	23.1	15.9	tr	15.5	20.7	19.8	3.2	0.0	1010.1	0 0 0 0	0 0 0 0	0 0 0 0	202	7.0	7.3	193 25 1313	215 12 17	0.0
31	26.1	14.8	0.0	12.4	20.5	19.7	11.7	0.0	1016.0	0 0 0 0	0 0 0 0	0 0 0 0	222	5.6	6.0	201 19 1318	218 10 16	0.0
Total			12.9				296.1	0.0										8.6
Mean	28.0	14.0		10.3	21.4	18.9	9.55	0.0	1017.0					220	1.5	4.8		
Anom	+5.1	+1.4	29%	+0.5	+2.7	+2.1	149%			+0.4								
Daily mean		21.0																
Anom		+3.3																

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 1
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.

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for JULY 2018

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	84	5	04	06	12	23.6	13.2	52	9.4	1013.2	6	005	03	1	1	0	0	9	0	1	81075	85080					1	COTRA	
2	86	3	06	09	18	25.6	9.0	35	7.1	1015.6	0	002	02	0	0	0	0	9	0	1	83080						2	COTRA	
3	86	2	06	10	22	23.4	9.4	41	7.3	1017.5	8	003	02	0	0	2	0	9	8	0	81358						3	1Ac65	
4	80	5	03	04	11	19.1	11.7	62	8.5	1016.0	8	005	02	1	1	1	5	7	8	1	82650	83075					4	1Ac59 2Ac62 Ac cas	
5	75	6	30	02	06	24.1	14.2	54	10.0	1015.4	1	007	03	1	1	4	5	7	8	/	84656	83362					5	Ac cas	
6	72	5	36	05	10	22.9	13.4	55	9.4	1021.0	1	009	03	1	1	0	0	9	0	4	85080						6	COTRA	
7	70	5	29	03	07	24.7	15.1	55	10.5	1024.1	0	003	02	1	1	0	0	9	0	1	85080						7	COTRA	
8	65	3	34	04	08	25.4	13.6	48	9.5	1025.9	4	000	03	0	0	3	5	7	0	0	83650						8		
9	75	5	32	03	07	25.1	13.0	47	9.2	1026.1	8	007	02	1	1	1	8	7	0	1	81850	84080					9	1Sc56 COTRA Cu hum	
10	86	2	35	07	17	17.7	8.3	54	6.7	1024.4	8	009	01	1	1	2	4	6	3	0	82635						10	1Ac68	
11	68	5	36	03	09	17.5	12.0	70	8.6	1022.7	8	002	01	2	2	5	5	4	3	0	85615						11	1Ac65	
12	65	3	04	05	09	18.2	13.7	75	9.6	1022.1	0	002	01	1	1	3	1	4	0	0	83816						12	Absent vv&cld est	
13	63	8	09	03	08	18.9	14.0	73	9.8	1022.8	0	002	02	2	2	8	6	4	/	/	88713						13	Absent vv&cld est	
14	65	2	25	04	07	21.5	12.9	58	9.1	1021.1	8	003	03	0	0	2	8	6	0	1	82830						14	1Sc50 1Ci80 COTRA Cu med	
15	72	1	26	03	07	23.2	12.2	50	8.8	1016.8	8	008	03	0	0	1	1	6	0	0	81840						15	Cu hum	
16	80	5	21	02	06	23.7	11.4	46	8.3	1013.8	7	008	03	1	1	1	1	6	5	1	81845	84367					16	1Ac65 2Ci80 COTRA Cu hum	
17	84	5	27	06	16	18.6	10.4	59	7.8	1016.1	0	001	03	1	1	3	8	6	0	1	82830	84078					17	1Sc50 1Sc56 COTRA Cu med	
18	86	7	20	02	07	20.3	11.5	57	8.4	1018.8	0	002	03	2	2	1	2	6	3	/	81835	85357					18	Cu med	
19	75	7	23	04	07	22.3	12.5	54	8.9	1019.1	8	005	03	2	2	1	8	6	0	1	81835	87072					19	2Sc56 COTRA Parhelion	
20	81	7	17	02	08	22.5	9.6	44	7.4	1014.6	7	003	02	2	2	3	5	7	7	/	83656	87358					20		
21	57	5	34	02	06	20.4	15.0	71	10.5	1014.1	1	006	05	1	1	5	2	4	0	0	85815						21	Cu med	
22	62	7	29	03	07	21.9	14.5	63	10.2	1016.3	1	004	02	2	2	1	5	7	7	/	81656	87358					22		
23	86	1	29	03	07	27.2	14.9	47	10.5	1016.6	8	004	03	0	0	1	1	6	0	2	81840						23	1Ci75 Cu hum	
24	82	1	23	05	09	23.8	14.8	57	10.4	1014.4	8	009	03	0	0	1	1	6	8	0	81832						24	1Ac65 Cu hum Ac flo	
25	80	6	34	03	09	23.7	14.4	56	10.1	1017.8	1	003	03	1	1	3	8	6	0	1	81832	83645	85075				25	COTRA Cu hum	
26	65	3	14	04	08	26.9	14.6	47	10.3	1013.2	7	013	02	1	1	3	0	9	8	1	83360						26	1Ci80 COTRA Ac cas	
27	84	3	26	04	09	24.2	13.1	50	9.4	1010.5	8	005	02	1	1	2	5	7	3	0	82656						27	2Ac58	
28	84	4	21	11	23	18.3	8.6	53	6.9	1005.9	1	020	03	0	0	3	2	6	3	2	83835						28	1Ac65 2Ci72 Cu med	
29	50	8	16	11	22	15.9	14.8	93	10.5	1003.5	8	018	61	6	6	7	5	3	2	/	84708	86612	88540				29		
30	65	8	20	05	12	19.3	15.6	79	11.0	1010.1	2	009	60	6	2	7	8	4	7	/	83817	87630					30	1Ac65 Cu hum	
31	86	2	28	07	13	19.8	10.8	56	8.0	1016.0	1	020	03	0	0	2	1	6	0	1	82833						31	1Ci80 COTRA Cu hum	

Mean vis = 32.1 km

Mean cloud = 4.5 56%

Mean wind speed = 4.7 kn

Mean gust = 11 kn

Mean TT = 21.9 °C

Mean TdTd = 12.7 °C

Mean RH = 56.8 %

Mean r = 9.1 g/kg

Mean PPP = 1017.0 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for JULY 2018

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cf	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	75	7	08	06	15	30.5	12.4	33	8.9	1011.7	5	006	03	2	2	6	0	9	8	1	82358	85366					1	3Ci75 Ac cas	
2	82	2	07	08	20	29.8	8.2	26	6.7	1014.5	6	007	02	0	0	0	0	9	0	1	82080						2	COTRA	
3	83	2	09	07	20	27.6	6.9	27	6.2	1016.2	6	007	01	0	0	1	0	9	8	1	81357						3	2Ci80 COTRA	
4	75	7	23	04	10	24.8	13.4	49	9.5	1013.6	6	014	03	2	2	7	8	6	7	/	83842	87650					4	/Ac62 Cu med	
5	82	2	36	05	11	27.5	10.2	34	7.7	1015.1	8	001	03	1	1	2	2	7	6	0	82856						5	1Ac58 Cu med	
6	82	5	01	04	11	28.5	9.7	31	7.4	1020.6	5	002	02	2	2	1	1	7	0	1	81856	85080					6	COTRA Cu hum	
7	84	5	27	05	17	29.1	11.6	34	8.4	1022.7	6	008	02	1	1	1	2	7	0	1	81856	85080					7	COTRA Cu med	
8	86	1	35	05	15	30.6	10.6	29	7.8	1024.5	6	010	02	0	0	1	1	7	0	0	81856						8	Cu hum	
9	81	6	35	08	15	27.6	12.4	39	8.8	1023.2	7	012	02	2	2	2	2	7	6	1	82856	85080					9	1Ac58 Cu med	
10	84	1	03	06	16	22.7	8.8	41	6.9	1022.8	7	007	02	0	0	1	1	7	3	1	81850						10	1Ac60 1Ci75	
11	80	6	05	05	15	23.5	11.2	46	8.2	1020.3	7	011	02	1	1	6	8	6	/	/	83845	85650					11	Absent vv&cld est	
12	75	7	06	04	12	24.6	10.8	42	8.0	1020.5	7	013	03	1	1	4	8	7	3	/	82850	83656	87359				12	Absent vv&cld est	
13	80	7	21	07	15	23.3	13.8	55	9.7	1020.8	6	009	15	1	1	3	9	6	6	3	81945	83856	87363				13	/Ci75 jpSW Absent vv&cld est	
14	78	3	13	04	11	27.6	12.0	38	8.6	1018.0	7	018	02	0	0	3	2	7	6	0	83850						14	1Ac57 Cu med	
15	88	1	24	04	14	29.2	8.3	27	6.8	1014.2	6	015	02	0	0	1	1	7	0	1	81856						15	1Ci80 Cu hum	
16	82	7	24	06	15	26.8	10.1	35	7.6	1011.9	7	010	02	2	2	1	2	7	7	1	81856	85367					16	2Ac64 /Ci75 Cu med	
17	83	7	21	09	16	21.9	9.1	44	7.1	1016.0	4	000	02	2	2	2	8	6	7	/	81848	87357					17	2Sc50 Cu med	
18	83	7	23	05	11	24.7	8.2	35	6.7	1017.8	6	005	02	2	2	3	8	7	3	1	81850	83656	86358				18	/Ci78 Cu hum	
19	80	7	27	07	11	26.3	9.6	35	7.4	1016.9	7	013	03	2	2	3	2	7	7	1	83856	84368	85072				19	1Ac57 Cu med	
20	70	7	17	07	16	24.4	13.0	49	9.3	1013.0	7	008	15	2	2	5	8	6	7	/	83835	83656	86358				20	Cu med jpNW	
21	70	5	23	03	12	27.5	13.1	41	9.3	1013.6	6	007	02	1	1	3	8	6	0	1	82845	83078					21	1Sc56 Cu med	
22	84	7	26	06	13	28.2	11.3	35	8.3	1014.8	8	007	02	2	2	7	8	7	/	/	81850	87656					22	Cu hum	
23	82	1	21	09	17	30.7	12.1	32	8.7	1014.9	6	005	02	0	0	1	1	7	0	1	81856						23	1Ci80 COTRA Cu hum	
24	82	7	24	08	17	28.4	13.1	39	9.3	1013.2	8	005	02	1	1	5	2	7	7	1	85856	83357					24	2Ac65 /Ci75 Cu med	
25	82	5	18	05	12	29.5	11.1	32	8.2	1015.4	8	018	02	2	2	1	2	7	0	1	81856	85080					25	Cu med	
26	80	2	18	11	20	33.3	12.9	29	9.2	1010.8	6	010	01	1	1	1	2	7	8	0	81856						26	1Ac57 1Ac60 Cu med Ac flo	
27	65	8	20	07	16	25.4	16.5	58	11.7	1007.9	5	011	92	9	8	2	9	6	7	/	82945	86362					27	1Cu50 1Sc56 /As65 t 1444	
28	80	6	22	13	32	21.9	8.1	41	6.7	1006.9	3	007	03	1	1	6	8	7	3	0	85850						28	2Sc56 1Ac58 Cu med	
29	68	8	20	11	23	19.7	18.2	91	13.1	1003.3	3	006	51	6	5	8	5	3	/	/	84707	86711	88620				29		
30	84	7	22	14	25	21.6	13.0	58	9.3	1011.1	1	007	03	8	2	7	8	6	3	/	83830	87650					30	/Ac68 Cu med	
31	86	3	20	09	15	25.7	8.7	34	6.9	1016.8	1	002	02	0	0	3	8	7	0	1	83850						31	1Sc56 1Ci80 COTRA Cu med	

Mean vis = 37.6 km

Mean cloud = 5.0 63%

Mean wind speed = 6.8 kn

Mean gust = 16 kn

Mean TT = 26.5 °C

Mean TdTd = 11.2 °C

Mean RH = 40.0 %

Mean r = 8.3 g/kg

Mean PPP = 1015.6 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Wokingham Sunshine Hourly analysis	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
2018	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	0.39	0.36	0.46	0.21	0.00	0.32	0.31	0.29	0.35	0.20	0.00	0.30	0.00	0.26	0.27	0.27
	5	1.00	1.00	0.73	0.45	0.71	0.92	1.00	0.99	0.71	0.75	0.00	1.00	0.76	1.00	1.00	1.00
	6	1.00	1.00	1.00	0.62	1.00	1.00	1.00	1.00	0.93	0.92	0.00	1.00	0.09	1.00	1.00	1.00
	7	1.00	1.00	1.00	0.42	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.56	0.00	1.00	1.00	1.00
	8	1.00	1.00	1.00	1.00	0.83	1.00	1.00	0.96	1.00	0.96	0.81	0.91	0.00	0.97	1.00	0.72
	9	1.00	1.00	1.00	0.27	0.50	1.00	1.00	0.94	0.95	1.00	0.70	0.98	0.04	0.76	1.00	0.88
	10	1.00	1.00	0.66	0.29	1.00	1.00	1.00	1.00	0.52	0.94	0.70	0.84	0.90	0.37	1.00	1.00
	11	0.74	1.00	0.86	0.15	0.82	1.00	1.00	0.83	0.51	0.96	0.91	0.97	1.00	0.62	1.00	0.57
	12	1.00	1.00	0.61	0.46	0.62	1.00	0.97	1.00	0.49	1.00	0.92	1.00	0.85	0.83	0.97	0.71
	13	0.85	1.00	1.00	0.11	0.83	1.00	0.99	0.99	0.68	1.00	0.72	0.87	0.37	0.81	0.98	0.34
	14	0.26	1.00	1.00	0.05	0.61	1.00	0.77	1.00	0.64	1.00	0.36	0.14	0.01	0.48	1.00	0.36
	15	0.49	1.00	1.00	0.00	0.29	0.99	0.67	1.00	0.66	1.00	0.59	0.17	0.02	1.00	1.00	0.52
	16	0.63	1.00	1.00	0.00	0.77	0.82	0.94	1.00	0.51	1.00	0.70	0.21	0.08	0.92	1.00	0.89
	17	0.33	1.00	1.00	0.00	1.00	0.29	1.00	0.93	0.81	1.00	0.85	0.01	0.48	0.94	1.00	0.84
	18	0.09	1.00	1.00	0.16	1.00	0.72	0.97	0.99	1.00	1.00	1.00	0.00	0.82	0.93	0.76	0.78
	19	0.34	1.00	1.00	0.15	1.00	0.96	1.00	1.00	1.00	1.00	0.91	0.20	0.30	1.00	1.00	0.22
	20	0.00	0.34	0.18	0.00	0.00	0.10	0.21	0.18	0.02	0.13	0.00	0.00	0.00	0.05	0.12	0.15
	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		11.12	15.70	14.51	4.36	12.00	14.11	14.84	15.10	11.80	14.85	9.18	9.17	5.73	12.93	15.10	11.25
	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	0.28	0.00	0.17	0.00	0.00	0.00	0.28	0.42	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	5	1.00	0.08	0.99	0.02	0.12	0.00	1.00	1.00	1.00	0.30	0.76	0.00	0.00	0.00	0.64	0.64
	6	1.00	0.05	0.26	0.00	0.90	0.22	1.00	1.00	1.00	0.62	0.71	0.70	0.00	0.06	0.74	0.70
	7	1.00	0.00	0.96	0.50	1.00	0.24	1.00	1.00	1.00	0.76	1.00	1.00	0.00	0.18	0.84	0.76
	8	0.73	0.02	1.00	0.24	0.73	0.06	1.00	1.00	1.00	0.95	0.62	0.83	0.00	0.09	0.89	0.75
	9	0.72	0.32	0.63	0.00	0.46	0.03	1.00	1.00	0.95	0.70	0.23	0.73	0.00	0.00	0.98	0.67
	10	0.44	0.06	0.80	0.00	0.36	0.44	1.00	1.00	0.87	0.91	0.46	0.67	0.00	0.00	0.83	0.68
	11	0.14	0.00	0.79	0.00	0.43	1.00	1.00	0.93	0.52	0.79	0.66	0.47	0.00	0.03	0.72	0.66
	12	0.32	0.19	0.10	0.00	0.56	0.47	1.00	0.52	0.81	0.80	0.17	0.92	0.00	0.20	0.33	0.64
	13	0.01	0.00	0.47	0.00	1.00	0.16	0.95	0.22	1.00	0.20	0.37	0.62	0.00	0.00	0.68	0.59
	14	0.00	0.00	0.37	0.00	0.57	0.17	0.98	0.18	1.00	0.87	0.01	0.49	0.00	0.29	0.62	0.49
	15	0.02	0.18	0.30	0.10	0.82	0.03	1.00	0.11	1.00	1.00	0.00	0.45	0.00	0.01	0.73	0.52
	16	0.09	0.05	0.29	0.00	0.29	0.74	1.00	0.11	1.00	1.00	0.01	0.22	0.00	0.53	1.00	0.57
	17	0.04	0.00	0.23	0.37	0.00	0.00	1.00	0.82	1.00	1.00	0.00	0.04	0.00	0.85	1.00	0.58
	18	0.01	0.00	0.00	0.11	0.00	0.00	1.00	1.00	1.00	0.19	0.00	0.09	0.00	0.80	1.00	0.56
	19	0.00	0.00	0.00	0.00	0.13	0.04	0.88	0.64	0.75	0.00	0.00	0.17	0.00	0.20	0.68	0.50
	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	0.05
	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		5.81	0.97	7.36	1.35	7.38	3.60	15.10	10.96	14.22	10.10	5.02	7.40	0.00	3.24	11.69	295.89

JULY 2018	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	
1	22.49	32.4	1414	12.7	359	52.7	83.6	400	27.5	1415	11.5	8.4	12.1	1247	6.7	9	1013.06	1014.5	1	1011.3	1557	
2	22.69	30.4	1353	15.7	440	40.6	65.7	439	19.6	1202	7.6	6.5	8.8	823	4.8	1136	1015.51	1018.1	2233	1013.7	22	
3	20.60	28.3	1407	12.5	415	46.4	73.3	333	23.4	1452	7.7	6.5	8.5	804	5.4	1452	1017.07	1018.1	717	1015.3	1640	
4	19.20	26.3	1407	11.5	312	67.3	90.7	314	39.4	1240	12.5	9.0	11.1	2302	7.1	0	1015.06	1017.7	7	1012.7	1918	
5	22.08	29.5	1553	14.9	358	58.4	95.5	401	24.2	1751	12.1	8.8	11.4	712	5.7	1754	1015.39	1018.2	2355	1013.9	243	
6	22.70	30.4	1642	14.7	346	54.7	88.5	347	27.0	1642	12.0	8.7	10.5	1017	6.9	1702	1020.55	1023.1	2345	1018.0	0	
7	22.74	30.6	1358	14.6	346	56.0	89.0	351	28.9	1638	12.5	8.9	11.1	859	7.1	1850	1023.48	1024.8	2357	1022.3	1715	
8	22.94	30.9	1502	13.7	407	56.4	93.9	446	27.2	1415	12.5	8.9	11.5	806	7.2	1415	1025.31	1026.7	2354	1024.1	1753	
9	22.26	30.2	1449	13.7	429	60.1	91.4	430	31.7	1435	13.2	9.3	11.2	1744	7.9	1412	1024.96	1027.0	653	1022.3	1727	
10	18.44	23.7	1533	13.6	2352	59.7	86.0	425	34.8	1247	9.8	7.5	10.3	1	5.7	1151	1023.71	1025.4	404	1021.7	1722	
11	18.15	26.1	1354	11.3	257	67.8	95.1	308	37.3	1540	11.5	8.3	9.7	1009	7.3	1735	1021.63	1023.1	651	1019.7	1739	
12	18.48	25.8	1443	11.2	429	70.0	97.0	451	36.8	1330	12.1	8.7	10.4	1101	7.0	1415	1021.47	1022.4	729	1020.0	1656	
13	19.16	27.4	1329	12.7	434	70.7	96.5	527	36.6	1330	13.3	9.4	11.0	1157	7.7	1318	1021.77	1023.0	703	1020.2	1810	
14	20.97	28.5	1507	13.1	443	62.3	95.9	433	32.9	1624	12.5	9.0	11.1	804	7.5	1624	1019.63	1021.8	9	1017.2	1837	
15	21.30	29.9	1548	11.8	426	55.3	95.2	510	23.3	1553	10.4	7.8	10.2	832	5.8	1651	1015.76	1018.3	47	1013.0	1751	
16	21.14	29.4	1201	12.7	418	55.0	89.8	419	24.6	1026	10.5	7.9	10.2	2007	5.4	1026	1013.45	1015.0	15	1011.1	1701	
17	18.38	24.3	1209	12.1	450	61.8	89.0	453	35.0	1209	10.4	7.8	9.3	713	6.4	1204	1016.11	1018.0	2332	1014.6	205	
18	19.16	26.8	1453	13.9	2330	62.0	88.9	454	30.2	1454	11.0	8.1	9.7	721	6.2	1513	1018.29	1019.4	2357	1017.6	23	
19	20.41	27.9	1426	11.2	403	58.6	94.9	405	31.0	1405	10.9	8.1	9.7	757	6.5	2359	1017.90	1019.7	619	1015.9	1854	
20	20.30	25.8	1232	14.4	428	59.4	92.8	2350	41.2	759	11.8	8.7	10.9	2353	6.3	13	1014.11	1016.5	26	1012.2	1838	
21	20.62	27.7	1400	15.0	412	68.7	96.8	425	38.4	1452	14.0	9.9	11.7	846	8.5	1622	1013.98	1015.8	2358	1012.8	305	
22	22.19	29.7	1622	14.6	318	58.0	92.0	325	29.5	1431	12.5	9.0	10.8	1036	7.1	1933	1015.55	1016.6	2310	1014.2	1735	
23	24.41	31.6	1342	17.4	455	54.9	86.9	510	25.2	1847	13.5	9.7	12.5	754	5.5	1859	1015.70	1017.1	612	1014.3	1724	
24	22.78	30.1	1446	15.3	445	61.4	94.4	316	32.9	1447	14.1	10.0	11.6	738	8.4	1843	1014.33	1015.9	2339	1012.7	1728	
25	22.39	30.5	1522	14.6	411	57.0	91.8	415	29.9	1522	12.4	8.9	11.2	918	6.7	2012	1016.18	1018.0	819	1014.3	1726	
26	24.60	34.3	1225	14.3	337	52.5	80.9	352	27.1	1226	13.3	9.5	11.5	1148	7.8	2	1012.70	1015.9	17	1009.8	1637	
27	21.85	30.5	1256	17.3	503	67.7	93.6	2043	35.1	1259	15.0	10.6	13.7	1534	8.7	1028	1009.20	1012.3	11	1006.2	2357	
28	18.08	23.0	1352	14.4	616	66.8	92.7	401	31.8	1210	11.2	8.4	11.6	401	5.4	1227	1006.39	1009.3	2103	1002.0	417	
29	17.48	20.2	1528	15.0	609	87.3	94.6	1334	71.4	132	15.3	11.0	13.6	1510	8.2	37	1005.33	1008.9	0	1002.4	1144	
30	19.10	23.3	1435	16.6	234	76.3	93.3	512	52.5	1434	14.6	10.4	11.8	734	9.0	1801	1010.60	1013.4	2339	1008.3	59	
31	19.24	26.2	1455	14.0	2357	64.1	91.9	406	31.6	1418	11.5	8.4	10.5	403	6.3	1418	1016.21	1020.1	2356	1011.9	315	
Total																						
Mean	20.85	28.12		13.88		61.0	90.37		32.83		12.03	8.77	10.94		6.83		1016.46	1018.52		1014.38		
Max	24.60	34.30		17.37		87.3	97.00		71.40		15.31	10.95	13.73		8.97		1025.31	1027.03		1024.15		
Min	17.48	20.21		11.18		40.6	65.65		19.58		7.55	6.48	8.50		4.79		1005.33	1008.85		1002.00		

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

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.

Appendix 2.

Explanation and decode for code figures used in the Wokingham 0900 and 1500 GMT observations

VV : Visibility.

Code figures 00 to 50 are in km and tenths e.g. 01 = 0.1 km = 100 m, 33 = 3.3 km, 50 = 5.0 km

Code figures 60 to 80. Subtract 50 to obtain visibility in km. e.g. 56 = 6 km, 65 = 15 km, 77 = 27 km.

Code figures 81 to 89. Subtract 50 and add 5 for every one above 80. e.g. 83 = 45 km, 86 = 60 km.

Code figure 89 = visibility above 70 km.

N : Total cloud amount in okta (eighths of sky covered). 9 = sky obscured (e.g. by fog or snow)

dd : Wind direction in tens of degrees from true north. Wind is measured at a height of 10 m, and the direction is the mean over a period of 10 minutes ending at the observation time.

ff : Wind speed in knots, measured at 10 m, and is the mean over a period of 10 minutes ending at observation time.

gg : Wind gust in knots at 10 m. The highest gust in the 60 minutes up to observation time.

TT : Air temperature at 1.2m, degrees C and tenths.

TdTd : Dew point temperature at 1.2m, degrees C and tenths.

RH : Relative humidity at 1.2m, %.

r : Humidity mixing ratio (amount of water vapour per kg of air), grams and tenths.

PPP : Air pressure reduced to MSL, millibars and tenths.

a : Characteristic of pressure tendency during the past 3 hours.

Code figures 0 to 3, pressure higher than 3 hours ago, 5 to 8, pressure lower than 3 hours ago

Code figure 0 = Increasing then decreasing, pressure the same as or higher than 3 hours ago

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

3 = Decreasing or steady then increasing, or increasing then increasing more rapidly

4 = Steady, pressure the same as 3 hours ago

5 = Decreasing then increasing, pressure lower than 3 hours ago

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

8 = Steady or increasing then decreasing, or decreasing then decreasing more rapidly

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

04 = Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes.

05 = Haze, visibility reduced by extremely small dry particles (RH less than appx. 95 %)

06 = Widespread dust in suspension, not raised by the wind near the station at the time of the observation

07 = Dust or sand raised by the wind at or near the station at the time of the observation, but no well-developed dust whirls or sand whirls, and no duststorm or sandstorm seen: In marine environments, blowing spray at the station.

08 = Well-developed dust or sand whirls seen at or near the station during the preceding hour or at the time of the observation, but no duststorm or sandstorm.

09 = Duststorm or sandstorm within sight at the time of the observation, or at the station during the preceding hour

10 = Mist
11 = Patches of shallow fog not deeper than 2 metres on land
12 = More or less continuous shallow fog not deeper than 2 metres on land
13 = Lightning visible, no thunder heard
14 = Precipitation within sight, not reaching the ground
15 = Precipitation within sight, reaching the ground more than 5 km from the station
16 = Precipitation within sight, reaching the ground, near to but not at the station
17 = Thunderstorm, but no precipitation at the time of the observation
18 = Squalls at or within sight of the station at the time of the observation or during the preceding hour
19 = Funnel cloud(s) at or within sight of the station at the time of the observation or during the preceding hour

20 = Drizzle (not freezing) at the station during the preceding hour but not at the time of the observation
21 = Rain (not freezing) at the station during the preceding hour but not at the time of the observation
22 = Snow at the station during the preceding hour but not at the time of the observation
23 = Rain and snow or ice pellets at the station during the preceding hour but not at the time of the observation
24 = Freezing drizzle or freezing rain at the station during the preceding hour but not at the time of the observation
25 = Shower(s) of rain at the station during the preceding hour but not at the time of the observation
26 = Shower(s) of snow or rain and snow at the station during the preceding hour but not at the time of the observation
27 = Shower(s) of hail or rain and hail at the station during the preceding hour but not at the time of the observation
28 = Fog or ice fog at the station during the preceding hour but not at the time of the observation
29 = Thunderstorm, with or without precipitation at the station during the preceding hour but not at the time of the observation

30 = Slight or moderate duststorm or sandstorm has decreased during the preceding hour
31 = Slight or moderate duststorm or sandstorm with no appreciable change during the past hour
32 = Slight or moderate duststorm or sandstorm has begun or increased during the past hour
33 = Severe duststorm or sandstorm has decreased during the preceding hour
34 = Severe duststorm or sandstorm with no appreciable change during the past hour
35 = Severe duststorm or sandstorm has begun or increased during the past hour
36 = Slight or moderate drifting snow generally below eye level
37 = Heavy drifting snow generally below eye level
38 = Slight or moderate blowing snow generally above eye level
39 = Heavy blowing snow generally above eye level

40 = Fog or ice fog at a distance at the time of the observation, but not at the station during the preceding hour, the fog extending to a level above that of the observer.
41 = Fog or ice fog in patches
42 = Fog or ice fog, sky visible has become thinner during the past hour
43 = Fog or ice fog, sky invisible has become thinner during the past hour
44 = Fog or ice fog, sky visible no appreciable change during the past hour
45 = Fog or ice fog, sky invisible no appreciable change during the past hour
46 = Fog or ice fog, sky visible has begun or become thicker during the past hour
47 = Fog or ice fog, sky invisible has begun or become thicker during the past hour
48 = Fog, depositing rime, sky visible
49 = Fog depositing rime, sky invisible

50 = Drizzle, not freezing, intermittent slight at time of observation
51 = Drizzle, not freezing, continuous slight at time of observation
52 = Drizzle, not freezing, intermittent moderate at time of observation
53 = Drizzle, not freezing, continuous moderate at time of observation
54 = Drizzle, not freezing, intermittent heavy at time of observation
55 = Drizzle, not freezing, continuous heavy at time of observation
56 = Drizzle, freezing, slight
57 = Drizzle, freezing, moderate or heavy (dense)
58 = Drizzle and rain, slight
59 = Drizzle and rain, moderate or heavy

60 = Rain, not freezing, intermittent slight at time of observation
61 = Rain, not freezing, continuous slight at time of observation
62 = Rain, not freezing, intermittent moderate at time of observation
63 = Rain, not freezing, continuous moderate at time of observation
64 = Rain, not freezing, intermittent heavy at time of observation
65 = Rain, not freezing, continuous heavy at time of observation
66 = Rain, freezing, slight
67 = Rain, freezing, moderate or heavy
68 = Rain or drizzle and snow, slight
69 = Rain or drizzle and snow, moderate or heavy

70 = Intermittent fall of snowflakes slight at time of observation
71 = Continuous fall of snowflakes slight at time of observation
72 = Intermittent fall of snowflakes moderate at time of observation
73 = Continuous fall of snowflakes moderate at time of observation
74 = Intermittent fall of snowflakes heavy at time of observation
75 = Continuous fall of snowflakes heavy at time of observation
76 = Diamond dust (with or without fog)
77 = Snow grains (with or without fog)
78 = Isolated star-like snow crystals (with or without fog)
79 = Ice pellets

80 = Rain shower(s), slight
81 = Rain shower(s), moderate or heavy
82 = Rain shower(s), violent
83 = Shower(s) of rain and snow mixed, slight
84 = Shower(s) of rain and snow mixed, moderate or heavy
85 = Snow shower(s), slight
86 = Snow shower(s), moderate or heavy
87 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, slight
88 = Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, moderate or heavy
89 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, slight
90 = Shower(s) of hail, with or without rain or rain and snow mixed, not associated with thunder, moderate or heavy

91 = Slight rain at time of observation, thunderstorm during the past hour but not at time of observation
92 = Moderate or heavy rain at time of observation, thunderstorm during the past hour but not at time of observation
93 = Slight snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
94 = Moderate or heavy snow, or rain and snow mixed, or hail at time of observation, thunderstorm during the past hour but not at time of observation
95 = Thunderstorm, slight or moderate, without hail but with rain and or snow at time of observation
96 = Thunderstorm, slight or moderate, with hail at time of observation
97 = Thunderstorm, heavy, without hail but with rain and or snow at time of observation
98 = Thunderstorm combined with duststorm or sandstorm at time of observation
99 = Thunderstorm, heavy, with hail at time of observation

Hail includes large hail, small hail and snow pellets.

W1, W2 : Past weather (for 0900 and 1500 GMT observations, the period covered is 3 hours)

Code figures:

- 0 = Cloud covering half or less of the sky throughout the period
- 1 = Cloud covering more than half the sky during only part of the period
- 2 = Cloud covering more than half the sky throughout the period
- 3 = Sandstorm, duststorm or blowing snow
- 4 = Fog or ice fog or thick haze (visibility less than 1000 m)
- 5 = Drizzle
- 6 = Rain
- 7 = Snow or rain and snow mixed
- 8 = Shower(s)
- 9 = Thunderstorm(s) with or without precipitation

Nh : Amount of low cloud, or medium cloud if no low cloud present, okta

Cl : Type of low cloud

- 0 = No low cloud
- 1 = Cumulus with little vertical extent and seemingly flattened, or ragged Cumulus other than bad weather, or both
- 2 = Cumulus of moderate or strong vertical extent, either accompanied or not by other Cumulus or Stratocumulus all having their bases at the same level
- 3 = Cumulonimbus whose summits, at least partially, lack sharp outline, but are neither clearly fibrous (cirriform), nor in the form of an anvil; Cumulus, Stratocumulus or Stratus may also be present
- 4 = Stratocumulus formed by the spreading out of Cumulus; Cumulus may also be present
- 6 = Stratus in a more or less continuous sheet or layer, or ragged shreds, or both, but no Stratus fractus of bad weather
- 7 = Stratus fractus of bad weather or Cumulus fractus of bad weather or both (pannus), usually below Altostratus or Nimbostratus
- 8 = Cumulus and Stratocumulus other than that formed by the spreading out of Cumulus, the bases of the Cumulus and Stratocumulus are not at the same level.
- 9 = Cumulonimbus, the upper part of which is clearly fibrous (cirriform), often in the form of an anvil, either accompanied or not by any other type(s) of low cloud
- / = Types of low cloud invisible due to darkness, fog, blowing dust or sand or other similar phenomena.

'Bad weather' denotes the conditions which generally exist during precipitation and a short time before and after.

Cm : Type of medium cloud.

- 0 = No medium cloud.
- 1 = Altostratus, the greater part of which is semi-transparent; through this part the sun or moon may be weakly visible, as through ground glass
- 2 = Altostratus, the greater part of which is sufficiently dense to hide the sun or moon, or Nimbostratus
- 3 = Altocumulus, the greater part of which is semi-transparent; the various elements of the cloud change only slowly and are all at a single level
- 4 = Altocumulus in patches (often in the form of almonds or fishes), the greater part of which is semi-transparent ; the clouds occur at one or more levels and the elements are continually changing in appearance
- 5 = Altocumulus in bands semi-transparent, of Altocumulus in one or more fairly continuous layers (semi-transparent or opaque), progressively invading the sky; these Altocumulus clouds generally thicken as a whole
- 6 = Altocumulus resulting from the spreading out of Cumulus (or Cumulonimbus)
- 7 = Altocumulus in two or more layers, usually opaque in places, and not progressively invading the sky; or opaque layer of Altocumulus not progressively invading the sky; or Altocumulus together with Altostratus or Nimbostratus
- 8 = Altocumulus with sproutings in the form of small towers or battlements, or Altocumulus having the appearance of cumuliform tufts
- 9 = Altocumulus of a chaotic sky, generally at several levels
- / = Types of medium cloud invisible owing to darkness, fog, blowing dust or sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

Ch : Type of high cloud

0 = No high cloud

1 = Cirrus in the form of filaments, strands or hooks, not progressively invading the sky.

2 = Dense cirrus, in patches or entangled sheaves, which usually do not increase and sometimes seem to be the remains of the upper part of a Cumulonimbus; or Cirrus with sproutings in the form of small turrets or battlements, or Cirrus having the appearance of cumuliform tufts

3 = Dense Cirrus, often in the form of an anvil, being the remains of the upper part of Cumulonimbus, or where the rest of the Cumulonimbus is below the horizon

4 = Cirrus in the form of hooks or filaments, or both, progressively invading the sky; they generally become denser as a whole

5 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole, but the continuous veil does not reach 45 degrees above the horizon.

6 = Cirrus (often in bands converging towards one or two opposite points on the horizon) and Cirrostratus, or Cirrostratus alone; in either case they are progressively invading the sky, and generally growing denser as a whole; the continuous veil extends more than 45 degrees above the horizon, without the sky being totally covered

7 = Veil of Cirrostratus covering the celestial dome.

8 = Cirrostratus not progressively invading the sky and not completely covering the celestial dome

9 = Cirrocumulus alone, or accompanied by Cirrus or Cirrostratus, or both, but Cirrocumulus is predominant.

/ = Types of high cloud invisible owing to darkness, fog, blowing dust of sand or other similar phenomena, or more often because of the presence of a continuous layer of lower clouds.

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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