

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

JUNE 2021

		Anomaly	Rank in the past 140 years						
Temperature (°C)									
Mean maximum	21.9	+0.9	15 th highest						
Mean minimum	11.9	+1.2	3 rd highest						
Daily mean	16.9	+1.1	9 th highest						
Highest maximum	27.8	on 16 th	Lowest maximum	13.7	on 18 th				
Highest minimum	16.7	on 17 th	Lowest minimum	5.2	on 23 rd				
Mean grass minimum	9.4	+1.6	Lowest grass minimum	1.2	on 23 rd				
Mean earth @30 cm	17.9	+0.9	Earth @100 cm	15.6	+0.7				
Frost duration (hrs)	0		Rain duration (hrs)	60.5					
Rainfall total (mm)	114.3	225. %	5 th highest						
Highest daily fall	36.9	on 27 th	Highest rate mm/hr	194	on 27 th				
Number of: Dry days (<0.2mm)	17	Wet days (>0.9mm)	9	days ≥5mm	4				
Sunshine total (hrs)	177.3	Daily mean	5.91	91 %	Sunniest day	15.6	on 13 th		
N° days with: Air frost	0	Ground frost	0	Snow falling	0	Snow lying	0		
Thunder	0	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0	Nil sun	4
Pressure MSL: Mean @09 GMT, mbar	1018.8	+2.0	Highest	1028.6	on 13 th	Lowest	1007.7	on 17 th	
Relative humidity: Mean (%)	77.1	Lowest	23	on 9 th	Water vapour (g/kg), mean at 09 and 15 GMT	9.0,	9.1		
Overall mean wind speed (mph)	5.2	Windiest day	8.2	on 21 st	Max gust	26	on 1 st		
Wind direction (days)	N 7	NE 5	E 1	SE 1	S 0	SW 10	W 2	NW 4	
Least windy day (mph)	3.0	on 23 rd	Calm; less than 0.5 mph (minutes)	702					

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

Notes:

Mild Overall and Very Wet with Below Average Sunshine

The outstanding feature of this June was the abrupt change from warm, mainly dry and quite sunny weather to cooler, very wet and dull conditions that occurred around the 17th. **Temperature:** Despite the cooler 2nd half of the month, the mean temperature ranks 9th highest in 141 years, 1.8° above the median, mainly due to the high ranking mean minimum, 3rd highest for June since before 1882 and only 0.5° below the record set in 2017. The highest max is 0.6° above the median and the lowest max is 1.1° below its median. The highest min is 1.7° above the median and the lowest min is 0.5° above its median. The mean grass min, while 1.6° above average, is highest only since 2017. The last June to have a ground frost was in 2015. Earth temperature at 30 cm and 1m depth are above average. Anomalies for daily max were above +5° on the 1st, 2nd, 9th, 11th and 13th to 16th, and exceeded -5° on the 18th and 21st, with extreme values of +8.4° on the 2nd and -7.1° on the 18th. Anomalies for daily min were above +5° on the 3rd, 10th, 11th and 17th, and exceeded -5° on just the 23rd, with extreme values of +6.3° on the 17th and -5.4° on the 23rd. **Rainfall:** While this June is wettest only since 2012, the total nevertheless ranks 5th highest for any June in the past 140 years. This is the 4th June this millennium to exceed 100 mm, and is 2nd highest after 2012 in that period. The month's rainfall was dominated by 3 very wet days, the 17th and 18th together receiving 58.1 mm, while another 36.9 mm was added on the 27th. Local flooding around the Emm occurred on both occasions. The rainfall rate reached 194 mm/hr at 1855 GMT on the 27th, and 18.8 mm fell during the hour to 1900 GMT. Conversely, the period up to the 16th was reasonably dry, with an 11 day dry spell ending on the 15th. Daily accumulation compared with normal showed a deficit of 22 mm on the 16th which became a surplus of 35 mm on the 19th, increasing to 63 mm by the 30th. Despite the torrential rainfall on the 27th, there was no thunder or hail here this month. **Sunshine:** This has been quite a dull June, a month with potentially the highest daily sunshine in the year. However, there were a number of sunny days especially before mid-month, bringing the total up to 177.3 hours, 22 hours less than in June last year, but 72 hours more than in June 2016, the duller on record. The 4 days to the 15th were especially sunny, producing a total of 52.9 hours, mean 13.23 hours per day, but after that only 1 day had over 35% of the maximum, and the 5 days to the 21st saw the sun for a total of only 0.2 hours, also 9 of the 14 days to the 30th had <10% of the maximum. Daily accumulation compared with normal saw a surplus of 40 hours on the 16th turn into a deficit of 18 hours by the 30th. **Wind:** The mean speed this month is 1.1 mph below average, and equal 2nd lowest for June in the past 34 years. The 8.2 mph mean on the month's windiest day is lowest for any June in that period, as also is the month's highest gust of 26 mph, 10 mph below average. Daily wind speeds were light or moderate throughout. Daily mean direction was between N and E on the 1st, 17th to 22nd and 26th to 30th, between E and S on the 2nd, between S and W on the 3rd, 5th to 11th, 13th, 16th, 24th and 25th, and between W and N on the 4th, 12th, 14th, 15th and 23rd.

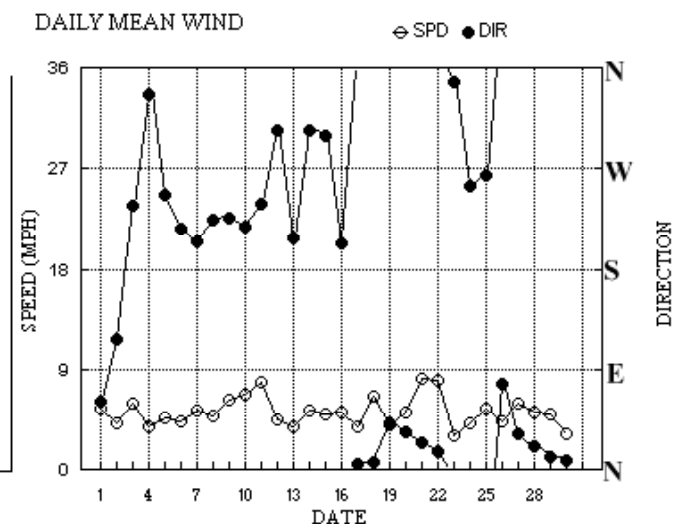
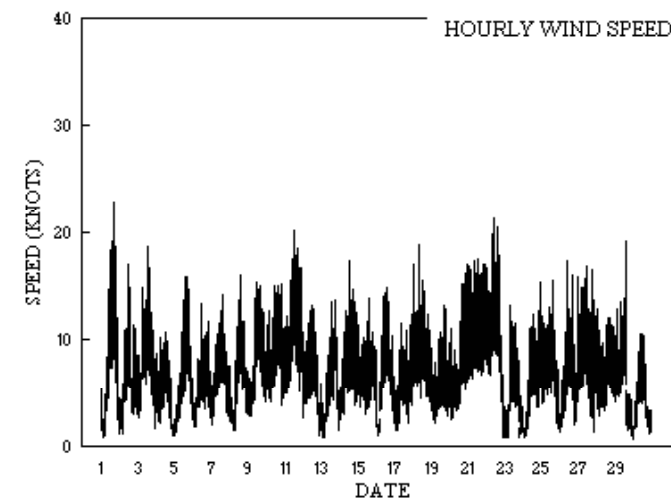
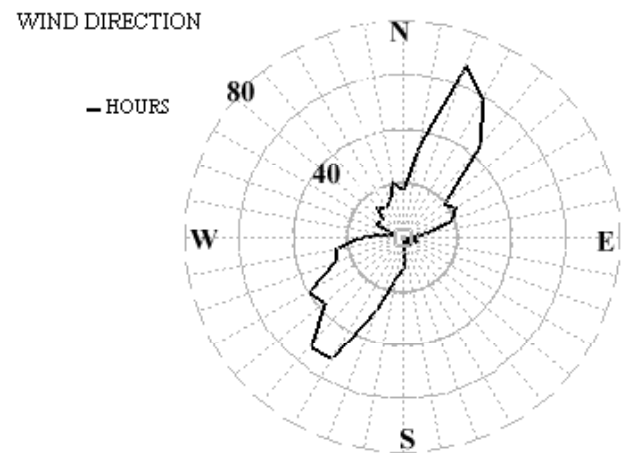
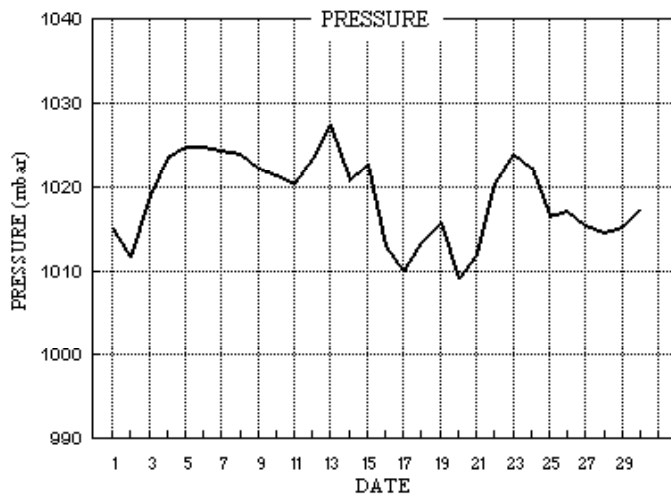
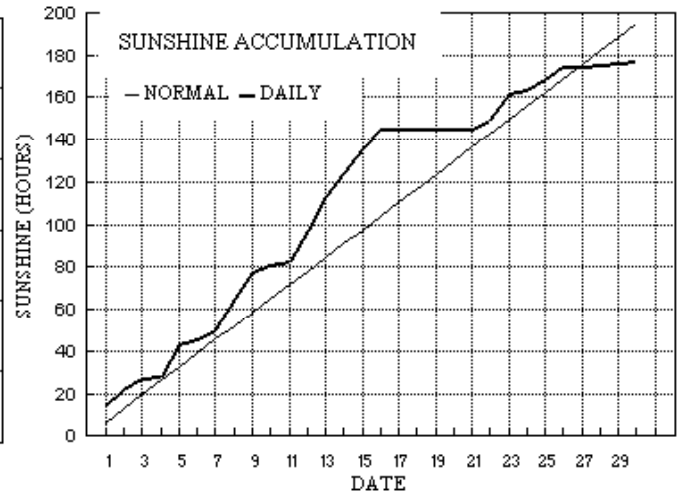
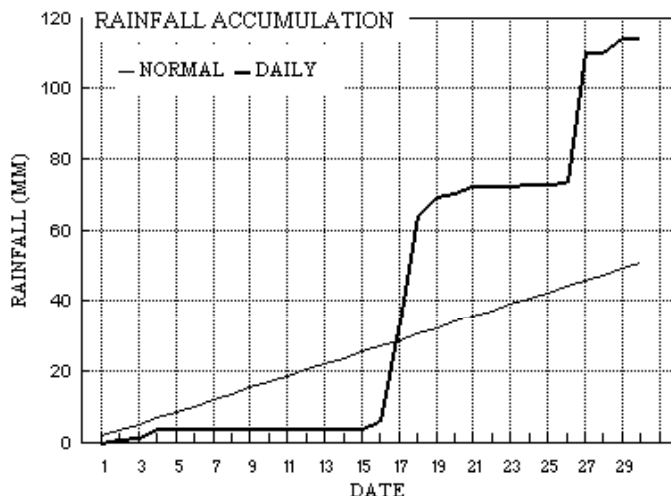
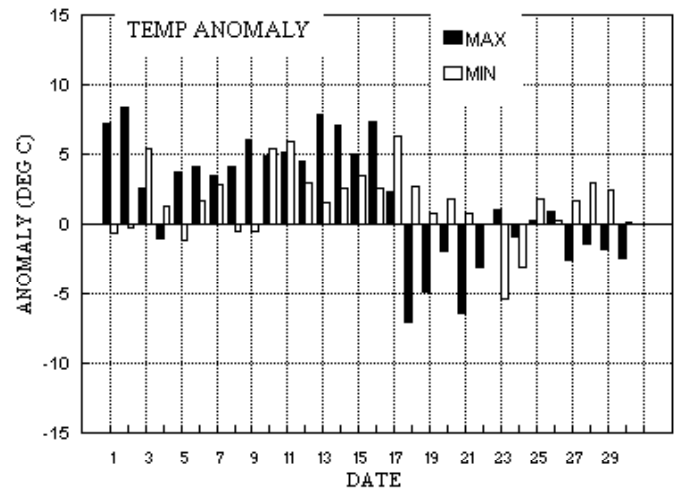
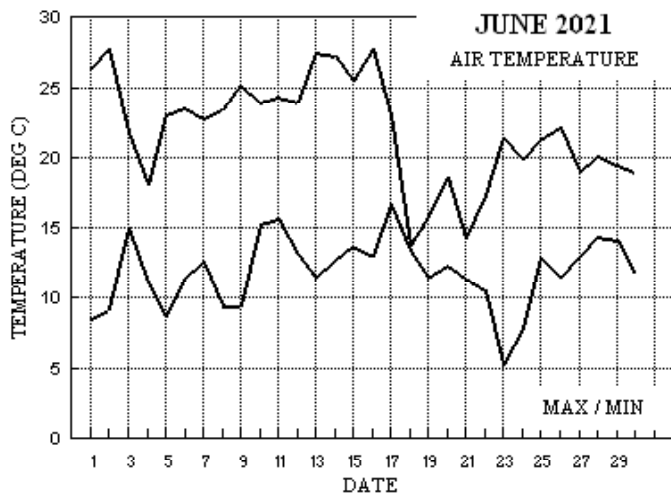
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
+4.3°	+1.3°	23%	125%	+2.5°	+3.0°	391%	99%	-1.7°	+0.2°	259%	49%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for June 2021



Month: JUNE 2021

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	Rain HH hrs							
1	26.4	8.5	0.0	4.4	15.6	12.9	14.6	0.0	1015.1	0	0	0	0	62	4.5	4.7	68	23	1645	65	9	16	0.0	
2	27.7	9.1	0.7	5.0	16.3	13.2	7.7	0.0	1011.7	0	0	0	0	117	1.5	3.7	112	17	1226	96	7	12	0.8	
3	21.8	15.0	0.9	13.0	16.8	13.6	5.0	0.0	1019.0	0	0	0	0	236	4.8	5.2	267	19	1237	246	8	14	1.3	
4	18.1	11.1	2.3	7.2	17.1	13.9	1.1	0.0	1023.6	0	0	0	0	335	2.6	3.3	347	11	1253	327	5	12	4.3	
5	23.0	8.6	0.0	5.0	16.4	14.2	14.5	0.0	1025.0	0	0	0	0	246	3.5	4.1	268	16	1537	238	7	18	0.0	
6	23.5	11.5	0.0	7.2	17.0	14.3	2.8	0.0	1024.9	0	0	0	0	216	3.5	3.8	272	14	1141	210	6	19	0.0	
7	22.8	12.6	0.0	8.5	17.3	14.5	4.3	0.0	1024.6	0	0	0	0	205	4.5	4.6	237	14	1552	234	7	16	0.0	
8	23.4	9.4	0.0	5.0	17.3	14.7	15.2	0.0	1024.1	0	0	0	0	224	4.0	4.2	267	16	1512	226	7	15	0.0	
9	25.2	9.4	0.0	5.0	17.6	14.9	12.4	0.0	1022.3	0	0	0	0	225	5.2	5.5	208	16	1245	230	8	13	0.0	
10	23.9	15.2	0.0	13.5	18.2	15.1	3.8	0.0	1021.6	0	0	0	0	217	5.8	5.9	241	15	1934	214	8	16	0.0	
11	24.3	15.7	0.0	13.0	18.4	15.3	1.6	0.0	1020.5	0	0	0	0	239	6.7	6.9	226	20	1225	234	10	12	0.0	
12	23.9	13.1	0.0	9.0	18.4	15.4	14.4	0.0	1023.4	0	0	0	0	304	3.1	3.9	327	13	1133	326	6	13	0.0	
13	27.5	11.5	0.0	7.9	18.6	15.7	15.6	0.0	1027.6	0	0	0	0	208	2.1	3.4	191	14	1832	196	8	18	0.0	
14	27.2	12.7	0.0	8.6	19.0	15.9	10.7	0.0	1020.9	0	0	0	0	304	2.8	4.7	347	17	1348	307	7	14	0.0	
15	25.4	13.7	0.0	11.4	19.4	16.1	12.2	0.0	1022.8	0	0	0	0	299	0.3	4.3	251	14	1428	207	6	19	0.0	
16	27.8	13.0	2.0	8.6	19.6	16.4	9.3	0.0	1013.0	0	0	0	0	203	4.3	4.5	210	15	1525	219	7	12	2.4	
17	23.0	16.7	28.3	15.9	19.9	16.6	0.1	0.0	1010.0	0	0	0	0	6	2.3	3.4	13	12	2351	18	6	23	15.5	
18	13.7	13.3	29.8	13.9	19.6	16.8	0.0	0.0	1013.4	0	0	0	0	7	5.6	5.7	15	19	0841	19	8	08	10.2	
19	15.8	11.4	5.3	11.6	18.2	16.8	0.0	0.0	1015.9	0	0	0	0	42	3.1	3.5	71	13	1725	74	5	17	3.3	
20	18.6	12.3	1.0	12.9	17.9	16.7	0.1	0.0	1009.2	0	0	0	0	35	4.4	4.5	40	17	2230	23	7	15	3.7	
21	14.2	11.4	2.3	11.3	17.9	16.6	0.0	0.0	1011.9	0	0	0	0	24	7.1	7.1	21	18	1339	16	9	21	4.7	
22	17.3	10.6	0.0	10.0	17.4	16.5	4.2	0.0	1020.4	0	0	0	0	16	7.0	7.0	19	21	1011	20	9	09	0.0	
23	21.4	5.2	0.0	1.2	17.0	16.4	12.5	0.0	1024.2	0	0	0	0	347	2.0	2.6	324	13	0848	333	5	15	0.0	
24	19.8	7.7	0.5	4.0	17.3	16.3	1.9	0.0	1022.4	0	0	0	0	254	3.1	3.6	224	13	2131	227	6	22	1.5	
25	21.2	12.9	0.0	11.7	17.5	16.3	4.5	0.0	1016.7	0	0	0	0	264	3.8	4.8	298	16	1548	252	8	00	0.0	
26	22.1	11.4	0.5	8.2	17.9	16.3	5.8	0.0	1017.3	0	0	0	0	78	3.0	3.8	92	18	0958	123	7	13	0.8	
27	18.9	13.0	36.9	10.0	18.5	16.4	0.0	0.0	1015.6	0	0	0	0	32	5.0	5.1	58	17	1153	39	7	11	10.3	
28	20.1	14.4	tr	14.7	18.3	16.5	1.5	0.0	1014.7	0	0	0	0	22	4.5	4.5	26	13	0102	18	6	15	0.1	
29	19.5	14.1	3.8	14.3	18.3	16.6	0.7	0.0	1015.3	0	0	0	0	12	4.0	4.3	22	19	1457	22	8	14	1.6	
30	18.9	11.7	0.0	8.7	18.3	16.6	0.8	0.0	1017.6	0	0	0	0	8	2.2	2.8	6	11	0913	7	5	10	0.0	
Total			114.3				177.3	0.0																60.5
Mean	21.9	11.9		9.4	17.9	15.6	5.91	0.0	1018.8					315	0.9	4.5								
Anom	+0.9	+1.2	225%	+1.6	+0.9	+0.7	91%																	+2.0
Daily mean		16.9																						
Anom		+1.1																						

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 4
Snow falling = 0 Snow lying = 0 Thunder = 0
Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 0

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Maximum daily rain rate in mm/hr

All temperatures in degrees Celsius.

Anomaly - Departure from the 1991 to 2020 climatological average

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for JUNE 2021

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	62	3	06	05	08	20.7	12.9	61	9.2	1015.1	8	012	02	0	0	0	0	9	0	1	83080	1	COTRA		
2	73	5	06	05	09	22.2	13.0	56	9.3	1011.7	7	006	02	1	1	0	0	9	0	2	81172	85075	2	COTRA Ci cas	
3	59	7	22	07	13	15.9	12.5	80	8.9	1019.0	1	013	05	2	2	7	6	3	/	/	87709		3		
4	45	8	33	04	07	13.2	11.3	88	8.2	1023.6	1	010	63	6	2	6	5	4	2	/	81717	86640	88557	4	
5	86	1	33	02	06	17.9	9.5	58	7.3	1025.0	0	002	03	0	0	1	1	6	0	0	81830			5	Cu hum
6	82	7	21	03	08	18.0	13.1	73	9.2	1024.9	4	000	03	2	2	5	8	4	7	/	83815	83640	87365	6	Cu hum
7	65	7	20	06	11	16.5	13.0	80	9.2	1024.6	2	004	01	2	2	7	6	4	3	/	87713			7	/Ac60
8	84	6	23	04	08	19.0	11.6	62	8.3	1024.1	8	003	03	1	1	1	1	6	0	1	81830	86075		8	COTRA Cu hum
9	75	1	23	05	10	19.3	11.6	61	8.4	1022.3	8	002	03	0	0	1	1	5	3	1	81825			9	1Ac62 1Ci80 COTRA Cu hum
10	84	7	21	05	11	19.0	14.5	75	10.1	1021.6	1	004	02	2	2	7	5	4	/	/	87613			10	
11	84	7	21	09	16	20.1	15.5	75	10.8	1020.5	2	002	01	2	2	7	8	4	/	1	85815	86625		11	/Ci75 Cu hum
12	75	6	34	05	12	18.2	12.0	67	8.6	1023.4	1	008	03	2	2	3	2	5	0	1	83822	85080		12	COTRA Cu med
13	86	0	07	03	07	21.7	12.5	56	8.9	1027.6	8	006	02	0	0	0	0	9	0	0				13	
14	82	2	28	06	13	23.1	13.0	53	9.2	1020.9	7	012	03	0	0	1	1	6	4	1	81835			14	1Ac60 2Ci80 COTRA Cu hum
15	83	7	03	04	10	18.3	10.4	60	7.7	1022.8	8	002	01	2	2	1	5	6	0	1	81635	87080		15	COTRA
16	61	1	23	06	10	20.7	14.4	67	10.1	1013.0	8	004	03	0	0	1	1	5	0	0	81825			16	Cu fra
17	58	8	32	04	12	17.0	15.7	92	11.1	1010.0	2	015	61	6	2	7	7	3	2	/	87708	88540		17	
18	40	8	02	07	19	13.3	12.7	96	9.1	1013.4	7	007	63	6	6	7	7	3	2	/	83706	87708	88515	18	
19	84	8	08	03	07	13.5	11.9	90	8.6	1015.9	5	002	02	5	2	8	5	4	/	/	82710	86614	88618	19	
20	30	8	05	03	07	13.4	12.8	96	9.2	1009.2	1	009	58	6	5	8	7	2	/	/	83703	88704		20	
21	60	8	02	08	17	12.1	0.7	91	8.0	1011.9	2	011	61	6	6	2	7	4	2	/	82712	88556		21	1Sc40
22	82	7	02	08	19	13.8	8.6	71	6.9	1020.4	2	007	03	2	2	2	2	5	7	8	82822	85270		22	2Ac58 1As62 Cu med Halo 22° part. Cs edge NE-SW ovhr
23	83	1	33	05	13	13.7	8.7	59	6.9	1024.2	8	005	03	0	0	1	1	6	0	1	81830			23	1Ci75 Cu hum
24	62	7	32	03	07	18.1	12.1	68	8.7	1022.4	7	006	03	1	1	7	8	5	/	/	81820	83635	87645	24	Cu hum
25	82	7	27	04	09	16.9	13.0	78	9.3	1016.7	8	001	01	6	2	7	8	4	/	/	84815	87630		25	Cu med
26	75	4	05	05	11	18.4	12.8	70	9.1	1017.3	4	000	03	1	1	3	2	5	0	1	83825			26	2Ci75 Cu med
27	56	8	04	06	14	16.4	14.8	90	10.4	1015.6	7	004	05	2	2	8	6	3	/	/	88707			27	
28	61	8	04	03	09	15.5	15.0	97	10.6	1014.7	3	010	50	6	5	8	6	2	/	/	88704			28	
29	62	8	03	05	10	17.1	12.8	76	9.2	1015.3	1	007	01	2	2	7	8	4	/	2	82812	87625		29	/Ci75
30	63	7	35	04	09	14.8	11.4	80	8.3	1017.6	2	003	02	2	2	7	8	4	/	/	83815	87620		30	Cu hum

Mean vis = 26.6 km

Mean cloud = 5.7 72%

Mean wind speed = 4.9 kn

Mean gust = 11 kn

Mean TT = 17.3 °C

Mean TdTd = 12.1 °C

Mean RH = 74.2 %

Mean r = 9.0 g/kg

Mean PPP = 1018.8 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 JUNE 2021

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks						
1	80	5	05	09	18	25.9	9.7	36	7.5	1012.5	6	012	02	1	1	0	0	9	0	1	85080	1				
2	62	8	21	05	14	22.2	14.6	62	10.3	1011.6	3	007	60	6	2	3	8	6	7	/	81835	83656	86358	2	8As62 Cu med	
3	82	5	24	08	17	21.4	12.5	57	8.9	1019.3	7	001	03	1	1	1	6	5	2		81835	83360		3	/Ac65 3Ci70 COTRA Cu hum	
4	70	8	01	05	10	15.6	12.9	84	9.1	1023.4	7	004	01	6	2	8	8	4	/	/	85813	88620		4	Cu hum	
5	88	2	21	08	13	22.5	10.3	46	7.7	1023.4	7	009	02	0	0	2	1	7	0	2		82850			5	1Ci75 Cu hum
6	86	6	20	03	09	22.5	12.2	52	8.7	1024.0	7	010	01	2	2	2	8	6	3	0		82835	86359		6	1Sc45 Cu med
7	81	5	18	05	12	22.4	14.0	59	9.8	1023.2	7	009	03	1	1	1	2	6	3	5		81830	84077		7	1Ac58 1Cs72 COTRA Cu med
8	84	5	20	06	15	22.8	11.2	48	8.2	1022.2	7	011	02	2	2	1	4	6	0	1		81840	85080		8	1Sc40 Cu hum
9	84	1	23	07	15	24.5	11.8	45	8.5	1020.7	7	008	03	0	0	1	8	6	4	0		81645			9	1Cu50 1Ac62 Cu hum Edge Sc sheet W
10	84	7	20	08	13	22.5	15.6	65	10.9	1020.3	6	006	02	2	2	7	8	5	/	/	83825	84635	87650	10	Cu med	
11	84	7	26	08	18	22.6	13.4	56	9.5	1019.3	5	001	02	2	2	7	8	6	4	2		82835	87645		11	/Ac68 /Ci72 Cu med
12	82	2	30	05	13	23.5	10.2	43	7.6	1024.0	2	003	02	0	0	1	4	6	0	1		81845			12	1Sc45 1Ci80 COTRA Cu hum
13	81	2	22	05	11	25.9	14.4	49	10.0	1024.6	7	017	02	0	0	2	4	6	0	0		81845			13	2Sc45 Cu hum
14	84	7	31	07	14	26.1	15.2	51	10.6	1019.5	5	004	03	1	1	6	8	6	/	5		82843	85650		14	3Cs78 Cu hum Cs edge NW
15	82	6	27	05	14	24.1	11.8	46	8.5	1019.1	7	023	02	2	2	1	1	6	0	1		81845	86080		15	COTRA Cu hum
16	81	6	19	07	14	26.6	15.0	49	10.6	1009.4	7	015	03	1	1	2	2	6	8	2		82842	85075		16	1Ac62 Cu med Ac cas
17	65	8	06	04	10	20.4	16.8	80	11.9	1011.5	3	011	15	2	2	6	8	5	7	/		83820	84640	88358	17	Cu med jp NW&SW
18	58	8	01	05	13	13.4	12.5	94	9.0	1012.6	6	005	58	6	6	8	5	3	/	/		86708	88615		18	vv15k NW
19	80	8	05	05	10	15.6	12.7	83	9.1	1013.5	7	019	02	2	2	8	5	4	/	/		85616	88622		19	
20	62	7	04	05	12	17.2	14.1	82	10.0	1008.4	8	003	01	2	2	7	8	4	/	/		85813	86625	87650	20	
21	62	8	02	07	15	13.4	12.1	92	8.8	1013.8	1	009	61	6	2	7	8	4	2	/		81815	87650	88557	21	1Sc30 Cu med
22	82	7	36	07	21	15.6	7.9	60	6.5	1021.4	1	007	02	2	2	7	8	6	4	8		82833	83645	86650	22	/Ac60 /Cs75 Cu hum
23	80	4	35	04	09	21.2	6.3	38	5.9	1022.6	7	009	02	1	1	3	4	7	0	1		81850	83650		23	2Ci78 Cu hum
24	81	8	25	05	09	19.5	13.7	69	9.6	1021.1	8	006	02	2	2	8	5	5	/	/		87623	88630		24	
25	82	3	29	07	12	20.8	11.2	54	8.2	1014.9	7	010	02	1	1	3	8	6	0	2		83833			25	1Sc40 1Ci72 Cu med
26	88	7	12	06	12	20.8	10.6	52	7.9	1017.2	8	001	02	2	2	1	2	6	7	8		81840	87270		26	2Ac58 1Ac69 Cu med Halo 22° part
27	57	8	03	05	12	18.4	15.6	84	11.0	1014.5	7	007	60	6	2	8	5	4	/	/		83715	86625	88650	27	
28	60	6	02	06	11	19.4	16.6	84	11.7	1015.0	8	003	05	2	2	5	8	3	3	/		84809	83359		28	2Sc15 Cu hum
29	65	8	03	10	19	14.6	12.2	75	8.7	1016.1	3	008	60	6	2	8	8	5	/	/		81822	88640		29	2Sc33 Cu med
30	72	7	36	03	10	16.8	10.4	66	7.8	1017.9	2	003	01	2	2	1	8	5	7	/		81825	87364		30	1Sc30 Cu hum

Mean vis = 33.8 km

Mean cloud = 6.0 75%

Mean wind speed = 6.0 kn

Mean gust = 13 kn

Mean TT = 20.6 °C

Mean TdTd = 12.6 °C

Mean RH = 62.0 %

Mean r = 9.1 g/kg

Mean PPP = 1017.9 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-Jun	02-Jun	03-Jun	04-Jun	05-Jun	06-Jun	07-Jun	08-Jun	09-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun
2021	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	0.48	0.48	0.21	0.00	0.51	0.00	0.27	0.59	0.56	0.00	0.00	0.47	0.52	0.51	0.00	0.57
	5	1.00	1.00	0.03	0.00	1.00	0.00	0.15	1.00	1.00	0.02	0.00	1.00	1.00	1.00	0.23	0.98
	6	1.00	1.00	0.02	0.00	1.00	0.00	0.00	1.00	1.00	0.48	0.00	1.00	1.00	1.00	0.00	1.00
	7	1.00	1.00	0.09	0.00	1.00	0.01	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.13	1.00
	8	1.00	1.00	0.02	0.00	1.00	0.13	0.00	1.00	1.00	0.01	0.07	0.96	1.00	1.00	0.96	1.00
	9	1.00	0.97	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.06	0.10	0.77	1.00	1.00	1.00	1.00
	10	1.00	1.00	0.51	0.00	0.97	0.00	0.04	1.00	1.00	0.53	0.00	0.47	1.00	1.00	0.99	0.96
	11	0.73	0.61	0.76	0.00	0.91	0.00	0.07	0.81	1.00	0.41	0.00	0.77	1.00	1.00	0.85	0.94
	12	1.00	0.42	0.87	0.00	0.95	0.01	0.04	0.68	1.00	0.37	0.26	0.90	1.00	0.97	0.97	0.25
	13	1.00	0.06	0.82	0.00	0.95	0.19	0.74	0.93	1.00	0.00	0.53	0.94	0.99	0.81	0.98	0.18
	14	1.00	0.00	0.98	0.00	0.85	0.37	0.95	1.00	1.00	0.16	0.23	1.00	1.00	0.23	0.94	0.62
	15	1.00	0.00	0.62	0.00	0.93	0.67	0.99	1.00	1.00	0.02	0.08	1.00	1.00	0.35	1.00	0.64
	16	1.00	0.00	0.04	0.00	1.00	0.79	0.00	1.00	0.16	0.22	0.00	1.00	1.00	0.15	1.00	0.20
	17	1.00	0.00	0.00	0.00	0.79	0.46	0.25	1.00	0.01	0.91	0.01	1.00	1.00	0.31	1.00	0.00
	18	1.00	0.16	0.00	0.29	1.00	0.00	0.23	1.00	0.44	0.25	0.06	1.00	1.00	0.34	1.00	0.00
	19	0.36	0.00	0.00	0.84	0.66	0.13	0.56	1.00	0.17	0.29	0.22	1.00	1.00	0.00	1.00	0.00
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.07	0.00	0.13	0.09	0.00	0.12	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		14.58	7.69	4.96	1.13	14.51	2.75	4.31	15.17	12.35	3.80	1.56	14.40	15.59	10.67	12.18	9.33

Hour	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	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
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
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
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
4	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.20
5	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.24	0.00	0.00	0.00	0.00	0.39
6	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.03	0.00	0.35	0.00	0.00	0.00	0.00	0.36
7	0.00	0.00	0.00	0.00	0.00	0.08	1.00	0.16	0.00	0.54	0.00	0.00	0.00	0.02	0.37
8	0.00	0.00	0.00	0.00	0.00	0.56	1.00	0.05	0.01	0.75	0.00	0.00	0.00	0.00	0.42
9	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.04	0.00	0.56	0.00	0.00	0.62	0.00	0.40
10	0.00	0.00	0.00	0.00	0.00	0.14	0.43	0.00	0.00	0.83	0.00	0.00	0.02	0.00	0.40
11	0.02	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.28	0.69	0.00	0.00	0.00	0.00	0.39
12	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.43	0.73	0.00	0.00	0.02	0.00	0.38
13	0.06	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.58	0.00	0.00	0.07	0.00	0.00	0.38
14	0.00	0.00	0.00	0.00	0.00	0.14	0.64	0.00	0.71	0.00	0.00	0.47	0.00	0.00	0.41
15	0.00	0.00	0.00	0.06	0.00	0.44	0.92	0.00	0.84	0.00	0.00	0.32	0.00	0.00	0.43
16	0.00	0.00	0.00	0.00	0.00	0.74	0.72	0.00	0.85	0.46	0.00	0.22	0.00	0.07	0.35
17	0.00	0.00	0.00	0.00	0.00	0.28	1.00	0.00	0.64	0.58	0.00	0.12	0.00	0.75	0.37
18	0.00	0.00	0.00	0.00	0.00	0.59	0.83	0.04	0.15	0.05	0.00	0.35	0.00	0.00	0.33
19	0.00	0.00	0.00	0.00	0.00	1.00	0.56	0.18	0.03	0.00	0.00	0.00	0.00	0.00	0.30
20	0.00	0.00	0.00	0.00	0.00	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
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
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
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
Tot	0.09	0.00	0.00	0.06	0.00	4.15	12.45	1.93	4.51	5.78	0.00	1.54	0.67	0.84	177.00

June 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	17.85	26.4	1408	8.5	400	61.4	94.6	411	30.4	1436	9.4	7.3	10.3	928	6.2	1436	1014.50	1017.9	6	1012.1	1801	0
2	18.54	27.7	1218	9.1	411	69.3	90.8	448	32.6	1333	12.2	9.0	12.1	1834	6.3	44	1012.55	1015.3	2313	1010.7	1125	0.7
3	17.39	21.8	1503	13.1	2326	75.8	93.2	2333	53.3	1504	12.9	9.2	11.0	19	7.9	2359	1018.83	1022.0	2359	1015.0	10	0
4	13.70	16.3	1846	10.6	2341	85.0	97.8	2356	69.1	542	11.2	8.2	9.7	1450	6.5	509	1023.29	1024.8	2331	1021.6	124	3.2
5	16.30	23.0	1449	8.6	440	68.0	98.6	345	36.3	1547	9.4	7.2	8.5	1232	5.6	1025	1024.43	1025.4	2240	1023.2	1633	0
6	17.04	23.5	1539	11.5	139	76.9	95.4	333	47.3	1627	12.6	9.0	10.1	1537	7.7	137	1024.48	1025.5	132	1022.9	1733	0
7	16.78	22.8	1505	12.6	233	78.8	95.6	242	54.7	1507	12.8	9.1	10.2	1413	8.4	1620	1023.81	1024.9	1008	1022.6	1708	0
8	17.05	23.4	1531	9.4	359	69.7	97.9	506	43.4	1443	10.9	8.0	9.3	1328	7.0	743	1023.21	1024.5	525	1021.6	1846	0
9	17.90	25.2	1526	9.4	409	68.0	96.1	416	23.0	1057	10.9	8.1	10.4	1838	3.8	1057	1021.73	1022.9	15	1020.1	1701	0.0
10	18.87	23.9	1241	15.2	422	78.8	92.4	524	57.0	1252	14.9	10.4	11.6	1141	9.7	422	1020.77	1021.8	1020	1019.5	1754	0
11	19.09	24.3	1402	15.7	347	75.6	94.1	427	53.3	1437	14.4	10.1	11.3	1401	9.0	1453	1019.98	1021.5	2353	1019.0	1429	0
12	18.19	23.9	1452	13.1	432	68.1	92.8	211	42.2	1500	11.6	8.4	9.3	1343	7.4	1432	1023.74	1026.7	2307	1021.2	21	0
13	19.96	27.5	1523	11.5	402	64.9	94.3	405	43.2	1524	12.6	8.9	11.4	1531	7.3	647	1025.74	1028.6	611	1022.4	2359	0
14	20.69	27.2	1318	12.7	310	65.2	92.8	313	43.8	1320	13.5	9.5	11.7	1539	8.2	436	1020.83	1023.2	46	1019.0	1549	0
15	19.40	25.4	1637	13.7	407	59.8	83.1	2359	37.3	1607	11.1	8.2	10.5	1254	6.2	400	1020.28	1023.5	747	1016.4	2338	0
16	20.51	27.8	1446	13.0	411	72.9	96.4	503	46.1	1447	15.0	10.6	12.7	1328	8.8	406	1011.59	1016.6	0	1008.2	1818	1.2
17	18.13	23.0	1328	15.7	2348	89.5	97.4	2309	66.6	1328	16.3	11.5	12.6	1404	10.7	2348	1010.89	1014.5	2201	1007.7	424	10.2
18	13.48	15.7	0	11.7	2357	95.5	97.3	120	92.8	2021	12.8	9.2	10.7	3	8.0	2357	1013.67	1015.3	2251	1012.3	1600	44.5
19	13.28	15.8	1438	11.4	414	91.2	97.3	2349	79.4	1140	11.9	8.6	9.5	1856	7.7	259	1013.85	1016.5	514	1009.3	2358	4.3
20	14.36	18.6	1533	12.3	402	91.8	98.2	457	76.4	1533	13.0	9.3	10.7	1531	8.6	2350	1008.87	1010.1	2202	1008.0	1652	0.2
21	12.50	13.9	1301	11.4	635	88.6	93.2	1012	84.2	1546	10.7	8.0	8.8	1431	7.1	554	1013.17	1018.1	2358	1009.3	155	2.9
22	12.79	17.3	1646	7.0	2356	72.6	94.3	2359	49.5	1629	7.7	6.5	7.4	1046	5.5	1857	1020.96	1024.2	2342	1017.9	0	0.1
23	13.94	21.4	1456	5.2	356	69.2	97.6	535	35.3	1456	7.5	6.4	7.8	1104	5.2	1400	1023.51	1024.9	713	1022.1	1715	0
24	15.56	19.8	1740	7.7	320	80.0	97.8	534	64.8	940	11.9	8.7	10.5	2146	6.2	320	1021.48	1023.3	230	1018.6	2345	0
25	16.37	21.2	1623	12.1	2354	71.2	93.6	653	50.1	1624	10.9	8.1	10.3	753	6.3	48	1016.31	1018.9	10	1014.4	1616	0.5
26	16.98	22.1	1717	11.4	34	73.8	94.1	48	42.3	1255	11.7	8.5	10.5	1951	6.6	1005	1017.34	1018.4	2120	1016.4	55	0.5
27	16.53	18.9	1603	13.7	27	89.6	97.6	2227	80.2	1315	14.8	10.4	11.9	1820	8.5	0	1015.34	1018.1	43	1013.7	1725	32.9
28	16.23	20.1	1522	14.4	125	92.3	98.1	533	74.8	1635	14.9	10.5	12.2	1435	9.6	2327	1014.51	1015.7	1242	1012.6	342	0.8
29	15.40	19.5	959	12.3	2347	86.2	97.8	2355	61.2	1121	13.0	9.2	10.0	1118	8.3	1504	1015.60	1017.3	2059	1014.1	156	3.8
30	14.31	18.5	1723	11.4	2356	84.2	98.4	120	62.7	1728	11.5	8.4	9.3	1926	7.6	1036	1017.64	1018.8	2255	1016.8	10	0

Total																						105.8
Mean	16.64	21.87		11.50		77.1	95.29		54.44		12.13	8.82	10.40		7.40		1018.43	1020.64		1016.28		
Max	20.69	27.83		15.73		95.5	98.60		92.80		16.31	11.51	12.73		10.74		1025.74	1028.60		1023.19		
Min	12.50	13.93		5.21		59.8	83.10		22.96		7.49	6.38	7.39		3.84		1008.87	1010.09		1007.69		

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
 Rtot = 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.

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altcumulus (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.