

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 2018

Temperature (°C)		Anomaly	Rank in the past 137 years
Mean maximum	23.5	+3.0	3 rd highest
Mean minimum	11.4	+0.9	10 th highest
Daily mean	17.5	+2.0	3 rd highest
Highest maximum	29.6	on 26 th	Lowest maximum 18.8 on 5 th
Highest minimum	16.4	on 19 th	Lowest minimum 6.5 on 13 th
Mean grass minimum	7.9	+0.3	Lowest grass minimum 2.1 on 22 nd
Mean earth @30 cm	18.4	+1.6	Earth @100 cm 15.9
Frost duration (hrs)	0.0		Rain duration (hrs) 2.0
Rainfall total (mm)	0.6	1 %	2 nd lowest
Highest daily fall	0.3	on 16 th	
Number of: Dry days (<0.2mm)	28	Wet days (>0.9mm)	0 days ≥5mm 0
Sunshine total (hrs) 251.8	Daily mean 8.39	131 %	Sunniest day 15.8 on 24 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 0
Pressure MSL: Mean @09 GMT, mbar 1020.1	+3.0	Highest 1031.7	on 22 nd Lowest 1009.3 on 14 th
Relative humidity : Mean (%) 69.3	Lowest 21	on 25 th	Water vapour (g/kg), mean at 09 and 15 GMT 8.1, 8.1
Overall mean wind speed (mph) 6.1	Windyest day 9.8	on 14 th	Max gust 30 on 14 th
Wind direction (days) N 2 NE 15 E 0 SE 0 S 0 SW 10 W 0 NW 3			
Least windy day (mph) 3.6	on 24 th	Calm; less than 0.5 mph (minutes)	427

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

Notes:

Exceptionally Dry, Very Warm, Sunny.

Temperature: In terms of the daily mean, this June ranks 3rd highest since before 1882, just 0.1° lower than June 2017, and before that, 1976. However, in terms of the mean maximum, this June is hottest since 1976, and before that, 1940. The mean minimum, while high, is lower than in 2017, 2016, 2007, and equal to 2005 and 2000 in this millennium. The highest max is 2.6° above the median while the lowest max is 4.0° above its median, and is highest in the past 106 years. The highest min is 1.5° above the median and the lowest min is 1.8° above its median. The mean grass min is only 0.3° above average. Earth temperature at 30 cm depth is 1.6° above average, and at 1 m depth about 1° above normal. The lowest value at 30 cm, 17.0°, is equal highest with 1982 in the past 39 years. Anomalies for daily max were generally +ve and up to the 24th and they reached +6° on the 3rd and 11th, with only 5 days having slightly -ve anomalies. After the 24th a hot spell saw anomalies over +6° each day, reaching +8° on the 26th. Anomalies for daily min were quite variable, reaching over +5° on the 1st, 2nd and 19th, but were over -3° on the 13th and 22nd, and were slightly -ve for the last 10 days. **Rainfall:** This has been an exceptionally dry month, with only 0.6 mm of rain recorded, the lowest total for June since 1925 when only 0.3 mm fell. Since 1882, there have been only 2 other months having less rain, February 1891, 0.0 mm, and March 1929, 0.5 mm. The number of dry days, 28, is also highest for June since 1925, when measurable rain fell on only one day. This June is also one of only 3 to have no wet days (falls of 1 mm or more), the others being 1962 and 1925. The estimated soil moisture deficit climbed throughout the month, the full value reaching 165 mm by the 29th, while unirrigated shallow rooted plants suffered severe stress from mid month onwards. **Sunshine:** This has been a sunny June overall, with the total 31 % above average, making it sunniest since 2006. However, the month was not sunny throughout, and the daily accumulation compared with normal was in deficit of 14 hours on the 20th. There then followed an outstandingly sunny period, when from the 21st to the 30th, there was 135.4 hours of sunshine, and average of 13.5 hours per day over the 10 day period, lifting the accumulation to a surplus of over 60 hours on the 30th. Over 90 % of the maximum was recorded on the 22nd, 24th to 26th and 29th. Overall there were 4 days with <3 hours, 18 with =>6 hours, 12 with =>9 hours, 11 with =>12 hours and 5 with => 15 hours. **Wind:** This month's mean speed is 0.2 mph below average. Daily mean winds from the NE accounted for 50 % of occasions. NE'ly winds blew from the 3rd to the 12th and again after the 25th. Winds were SW'ly before the 3rd and from the 13th to 20th, then N'ly from the 21st to the 25th. Speeds were mainly light until the 12th, but moderate on the 4th and 5th, and from the 13th to the 21st, temporarily fresh on the 14th, then mainly light after the 21st. **Pressure:** The month's lowest pressure is highest for June since before 1976.

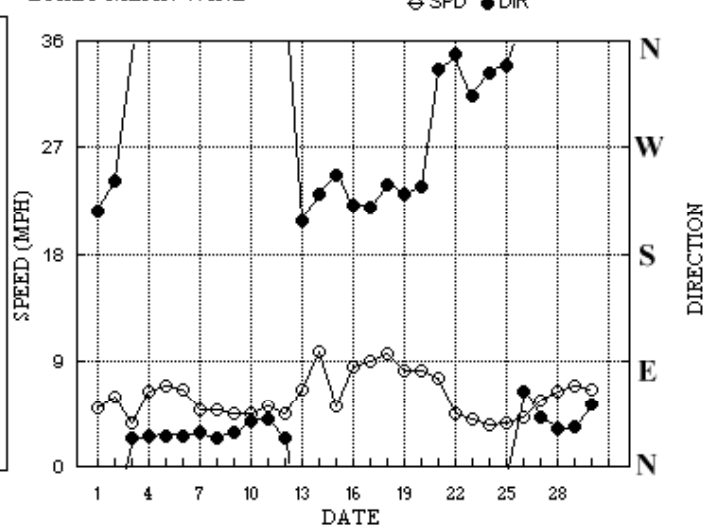
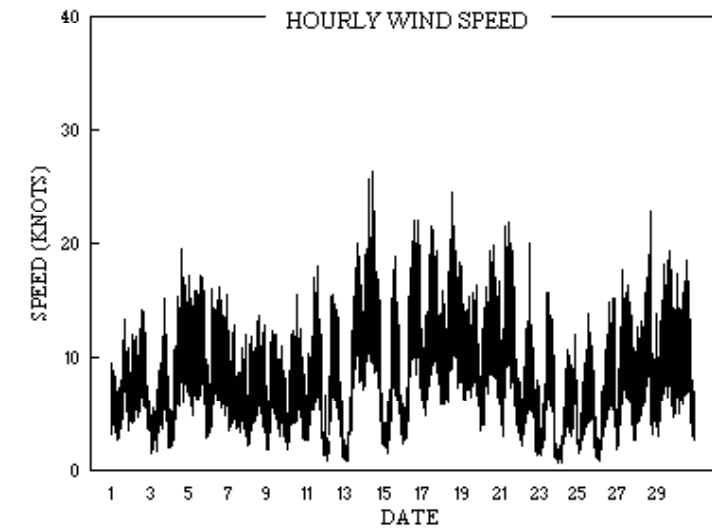
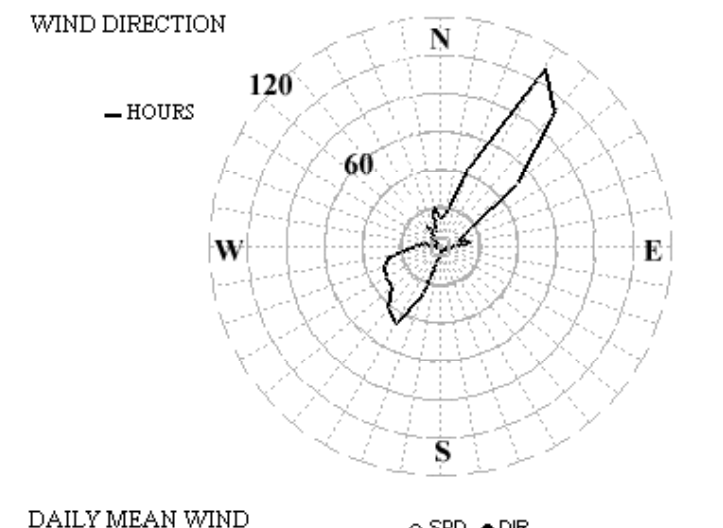
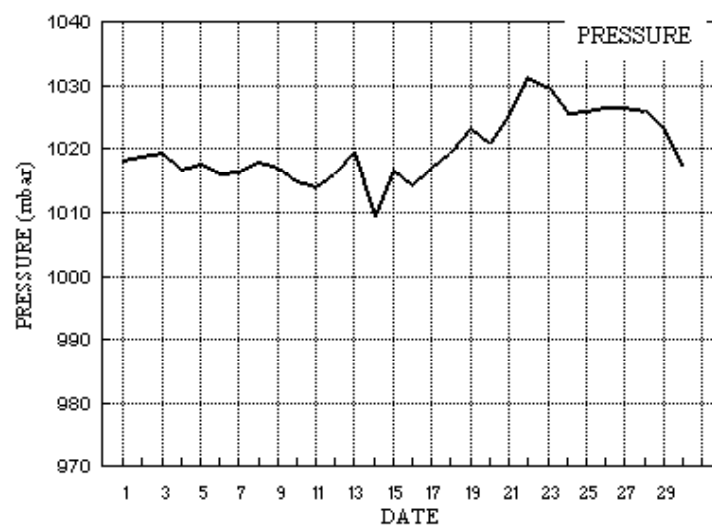
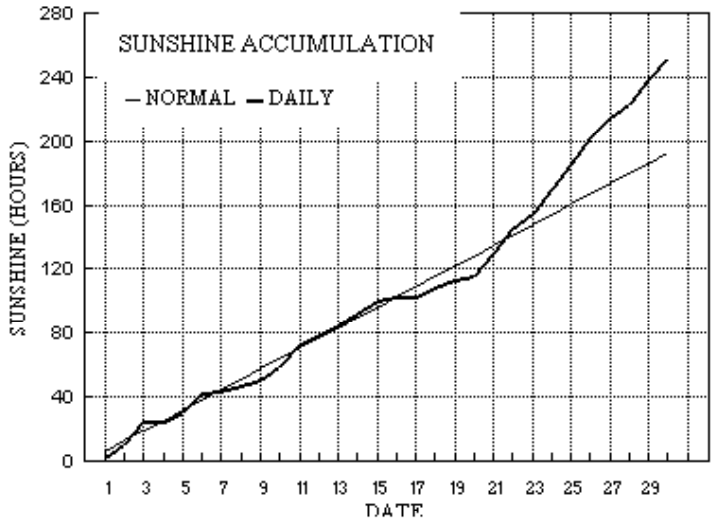
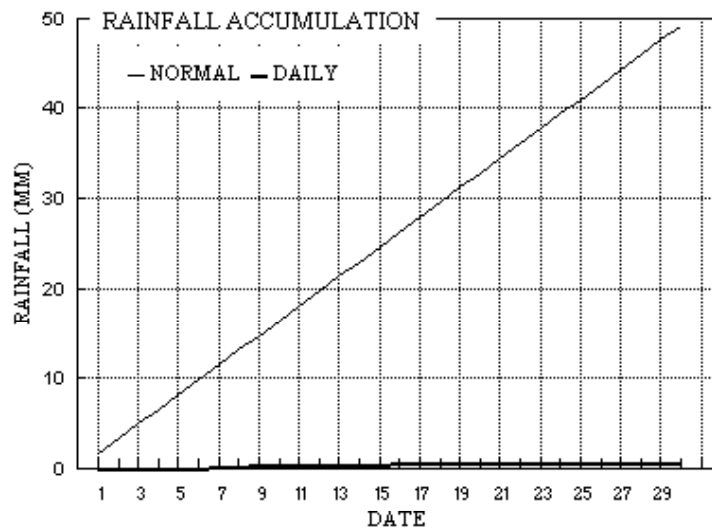
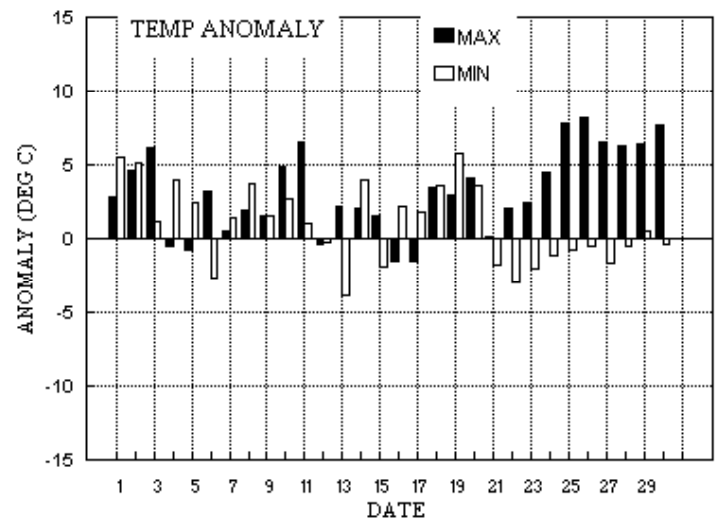
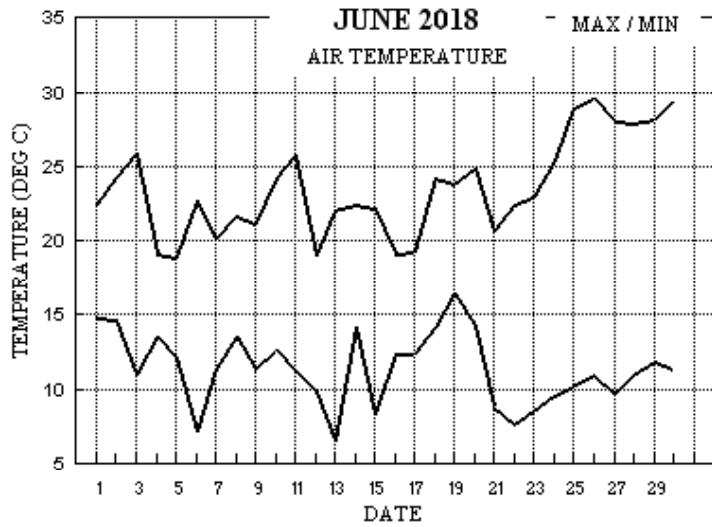
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 30 th			
+2.4°	+2.5°	2 %	92%	+1.9°	+1.6°	2%	90%	+5.2°	-1.2°	0%	211%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for June 2018



Month: JUNE 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	Rain HH hrs							
1	22.4	14.8	0.0	13.1	17.0	14.3	3.2	0.0	1018.2	0	0	0	0	216	4.2	4.3	226	13	1729	222	8	17	0.0	
2	24.2	14.7	0.0	12.6	17.2	14.4	8.0	0.0	1018.9	0	0	0	0	242	5.1	5.2	265	14	1302	228	7	17	0.0	
3	25.9	10.9	tr	7.1	17.7	14.5	14.1	0.0	1019.4	0	0	0	0	25	1.0	3.2	23	15	1830	18	5	18	0.0	
4	19.1	13.5	tr	9.5	18.5	14.7	0.4	0.0	1016.8	0	0	0	0	26	5.6	5.6	24	20	1532	19	8	16	0.0	
5	18.8	12.1	0.0	12.0	17.9	14.9	5.0	0.0	1017.8	0	0	0	0	27	6.0	6.0	20	17	0104	19	8	17	0.0	
6	22.7	7.2	tr	3.3	17.4	15.1	12.5	0.0	1016.2	0	0	0	0	27	5.6	5.7	69	16	1339	27	7	10	0.0	
7	20.1	11.4	0.1	8.1	18.1	15.2	0.4	0.0	1016.7	0	0	0	0	29	4.1	4.2	21	13	0729	27	6	07	0.2	
8	21.7	13.5	0.0	11.3	18.0	15.3	3.7	0.0	1018.1	0	0	0	0	24	4.1	4.2	24	14	1518	18	6	14	0.0	
9	21.2	11.4	0.2	7.0	18.2	15.4	3.4	0.0	1017.1	0	0	0	0	29	3.8	3.9	20	13	0756	27	6	07	0.6	
10	24.2	12.6	0.0	9.2	18.4	15.5	8.2	0.0	1015.2	0	0	0	0	39	3.7	4.0	31	16	1329	33	6	15	0.0	
11	25.7	11.2	0.0	7.5	18.6	15.6	14.7	0.0	1014.1	0	0	0	0	40	4.3	4.5	26	18	1450	37	7	14	0.0	
12	19.0	9.8	tr	5.9	18.8	15.7	6.2	0.0	1016.4	0	0	0	0	24	3.9	4.0	58	16	1016	16	8	12	0.0	
13	22.1	6.5	tr	2.5	18.0	15.9	5.8	0.0	1019.5	0	0	0	0	208	5.5	5.8	212	20	1740	208	10	17	0.0	
14	22.4	14.1	tr	13.0	18.1	16.0	6.2	0.0	1009.4	0	0	0	0	231	7.8	8.5	261	26	1142	254	12	11	0.0	
15	22.2	8.3	tr	3.7	17.9	16.1	9.2	0.0	1016.8	0	0	0	0	246	4.2	4.5	245	19	1402	245	8	13	0.0	
16	19.1	12.4	0.3	10.5	18.1	16.1	1.7	0.0	1014.6	0	0	0	0	220	7.2	7.4	247	22	1803	208	12	13	1.0	
17	19.2	12.4	tr	9.4	17.8	16.2	0.7	0.0	1017.1	0	0	0	0	219	7.6	7.8	227	22	1216	209	10	15	0.2	
18	24.2	14.2	tr	13.7	17.7	16.2	5.9	0.0	1019.5	0	0	0	0	239	8.2	8.4	261	25	1348	255	12	14	0.0	
19	23.8	16.4	tr	15.0	18.4	16.2	3.9	0.0	1023.3	0	0	0	0	230	6.8	7.1	252	18	0021	214	8	17	0.0	
20	24.8	14.3	0.0	10.5	18.5	16.3	3.2	0.0	1021.1	0	0	0	0	237	5.8	7.1	267	20	1744	223	10	12	0.0	
21	20.6	8.8	0.0	4.0	18.5	16.4	14.0	0.0	1025.6	0	0	0	0	336	6.4	6.6	330	22	1159	336	10	10	0.0	
22	22.4	7.7	0.0	2.1	18.2	16.5	15.5	0.0	1031.4	0	0	0	0	348	3.0	4.0	343	20	1308	351	6	13	0.0	
23	23.0	8.5	0.0	4.1	18.3	16.5	8.7	0.0	1029.5	0	0	0	0	313	2.5	3.5	270	16	1243	309	7	11	0.0	
24	25.3	9.6	0.0	5.5	18.3	16.6	15.8	0.0	1025.9	0	0	0	0	332	1.3	3.1	188	12	2058	185	6	20	0.0	
25	28.9	10.2	0.0	5.8	18.7	16.6	15.6	0.0	1026.2	0	0	0	0	339	1.4	3.3	330	14	1417	6	5	18	0.0	
26	29.6	10.9	0.0	5.8	19.2	16.7	15.7	0.0	1026.6	0	0	0	0	64	3.2	3.7	73	15	2036	71	6	16	0.0	
27	28.0	9.7	0.0	3.7	19.6	16.8	13.3	0.0	1026.7	0	0	0	0	42	4.9	5.0	29	18	0826	29	8	08	0.0	
28	27.9	11.0	0.0	6.5	19.9	16.9	8.0	0.0	1026.2	0	0	0	0	33	5.5	5.6	26	23	1738	23	9	16	0.0	
29	28.2	11.9	0.0	7.3	20.0	17.1	15.7	0.0	1023.0	0	0	0	0	35	5.9	6.0	24	19	1817	40	8	14	0.0	
30	29.4	11.4	0.0	7.0	20.3	17.2	13.1	0.0	1017.1	0	0	0	0	53	5.5	5.8	59	19	1551	69	8	13	0.0	
Total			0.6				251.8	0.0																2.0
Mean	23.5	11.4		7.9	18.4	15.9	8.39	0.0	1020.1					332	1.0	5.3								
Anom	+3.0	+0.9	1%	+0.3	+1.6	+1.3	131%																	+3.0
Daily mean		17.5																						
Anom		+2.0																						

Total

Mean

Anom

Daily mean

Anom

Number of days with:

Air frost = 0

Snow falling = 0

Hail=>5mm = 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 JUNE 2018

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Cl	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	60	7	19	03	06	17.7	15.3	86	10.7	1018.2	1	006	01	2	2	7	6	4	/	1	87710						1	/Ci75	
2	82	7	25	05	10	18.0	13.5	75	9.5	1018.9	3	001	03	2	2	7	8	4	/	1	86815	84625					2	/Ci75	
3	75	7	11	02	06	20.5	14.2	67	9.9	1019.4	0	001	03	2	2	1	2	5	0	1	81823	87075					3	COTRA Cu med	
4	20	8	03	05	10	16.4	15.1	92	10.6	1016.8	2	002	50	5	2	8	6	2	/	/	86705	88708					4		
5	62	8	03	05	16	12.6	10.1	85	7.6	1017.8	1	006	20	5	2	8	6	4	/	/	87710	88712					5		
6	65	6	02	06	13	14.2	8.2	67	6.7	1016.2	6	005	01	2	2	1	5	4	0	1	81618	86080					6	COTRA	
7	75	8	03	05	11	15.4	10.8	74	8.0	1016.7	2	001	03	2	2	8	5	4	/	/	81618	88635					7	2Sc30	
8	70	7	02	06	10	16.6	10.0	65	7.6	1018.1	1	005	01	2	2	3	5	5	3	/	83625	87358					8		
9	61	7	04	05	11	14.2	10.6	79	7.9	1017.1	2	002	01	2	2	7	6	4	/	/	87712						9		
10	60	8	04	05	12	16.0	12.9	82	9.2	1015.2	6	003	05	2	2	8	5	4	/	/	86712	88615					10		
11	82	3	02	07	12	17.7	10.8	64	8.0	1014.1	8	003	01	1	1	3	0	9	3	1	83361						11	1Ci75	
12	75	5	04	07	16	16.9	10.5	66	7.8	1016.4	1	012	03	1	1	4	8	5	3	0	81820	84635					12	1Ac58 Cu hum	
13	84	1	24	03	09	17.9	8.7	55	6.9	1019.5	5	006	02	0	0	1	0	8	3	1	81357						13	1Ci75 COTRA	
14	65	8	21	12	21	15.5	13.2	86	9.4	1009.4	6	004	50	5	2	8	6	3	/	/	87708	88710					14		
15	75	7	21	03	07	18.4	8.7	53	6.9	1016.8	8	005	03	2	2	1	8	6	0	1	81832	87080					15	1Sc45 COTRA Cu hum	
16	84	7	22	09	14	17.2	8.4	56	6.8	1014.6	8	004	03	6	2	3	8	6	3	/	82830	86358					16	2Sc45 Cu med	
17	75	8	25	07	15	15.1	10.3	73	7.7	1017.1	1	007	21	6	2	3	8	4	7	/	83818	87358	88465				17	1Sc35 Cu hum	
18	82	7	25	09	17	16.5	11.9	74	8.5	1019.5	1	013	01	6	2	7	8	4	/	/	83818	87625					18	Cu hum	
19	86	7	26	08	14	20.1	14.7	71	10.2	1023.3	2	005	02	2	2	7	5	5	/	/	86620	87630					19		
20	82	7	23	07	14	17.6	14.1	80	9.9	1021.1	8	003	01	5	2	7	5	4	/	/	87611						20		
21	84	4	36	09	20	15.1	4.5	49	5.1	1025.6	2	014	03	1	1	1	1	6	0	1	81842	83080					21	COTRA Cu hum	
22	82	1	34	05	13	15.6	8.1	61	6.6	1031.4	0	003	03	0	0	1	1	6	0	0	81830						22	Cu hum	
23	86	6	28	03	08	18.9	2.3	33	4.4	1029.5	8	006	03	1	1	1	0	9	8	2	81365	85075					23	1Ci70 COTRA Ac flo vir Halo 22° part	
24	84	7	34	03	06	18.2	6.7	47	6.0	1025.9	1	002	02	2	2	0	0	9	0	1	87080						24	COTRA Halo 22° part	
25	82	1	32	03	07	22.5	9.6	44	7.3	1026.2	6	002	02	0	0	0	0	9	0	1	81081						25	COTRA	
26	68	1	06	02	08	22.5	12.7	54	9.0	1026.6	0	000	02	0	0	0	0	9	0	1	81080						26	Ci distant NE	
27	63	2	03	07	18	16.4	11.3	72	8.2	1026.7	8	001	01	1	1	2	5	4	0	1	82615						27	1Ci80 COTRA	
28	57	7	02	06	11	16.2	12.9	81	9.1	1026.2	0	002	05	2	2	7	6	4	/	/	87710						28		
29	72	1	02	07	15	19.8	12.3	62	8.8	1023.0	8	005	02	0	0	0	0	9	0	1	81081						29	COTRA	
30	73	0	05	05	14	18.7	10.8	60	8.0	1017.1	7	010	01	1	1	0	0	9	0	0							30		

Mean vis = 28.8 km

Mean cloud = 5.4 68%

Mean wind speed = 5.6 kn

Mean gust = 12 kn

Mean TT = 17.3 °C

Mean TdTd = 10.8 °C

Mean RH = 67.1 %

Mean r = 8.1 g/kg

Mean PPP = 1020.1 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 2018

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	60	7	21	07	11	20.9	15.9	73	11.1	1017.5	8	005	15	2	2	6	8	5	7	1	84825	83650	86358	1	/Ci78 jpE&NW vv25k ex p
2	88	3	23	07	12	23.4	12.4	50	8.9	1017.7	6	010	02	0	0	3	1	6	0	1	83845			2	1Ci75 Cu hum
3	84	2	03	04	09	25.0	10.1	39	7.6	1016.7	8	018	02	1	1	1	2	7	0	1	81850			3	2Ci75 COTRA Cu med
4	64	7	02	09	16	18.1	12.8	71	9.1	1015.7	7	011	02	2	2	7	8	5	/	/	83824	87628		4	Cu hum
5	68	6	06	06	17	17.7	10.8	64	8.0	1016.2	8	011	01	2	2	5	5	5	3	2	85625			5	1Ac68 2Ci70
6	78	5	03	06	13	22.1	10.6	48	7.9	1014.2	7	008	02	1	1	0	0	9	0	1	81075	85080		6	COTRA
7	64	8	01	04	09	19.8	14.0	69	9.8	1016.2	6	007	21	6	2	8	8	5	/	/	81825	88630		7	Cu hum
8	72	7	36	07	13	21.1	12.8	59	9.1	1016.2	7	010	02	2	2	7	8	5	3	/	81828	83635	85645	8	1Ac59 Cu hum
9	75	7	03	05	10	20.8	11.7	56	8.5	1014.4	7	014	60	6	2	7	0	9	7	/	83361	87363		9	
10	72	5	04	05	12	23.3	14.6	58	10.3	1013.4	8	014	03	1	1	2	1	6	3	1	82833			10	2Ac60 2Ci75 Cu hum
11	86	1	03	05	11	24.7	10.2	40	7.7	1012.1	7	014	02	0	0	1	1	7	3	1	81850			11	1Ac62 1Ci75 Cu hum Cu con top dist NW
12	84	7	01	07	13	16.8	11.3	70	8.3	1017.9	0	007	02	6	2	7	8	5	/	/	83822	87640		12	Cu med
13	82	7	22	09	18	21.1	9.4	47	7.3	1016.8	6	013	03	2	2	1	8	6	0	6	81845	87275		13	1Sc56 Cu hum Halo 22°
14	80	5	27	09	18	21.9	10.1	47	7.7	1011.9	2	008	02	2	2	5	1	6	0	0	85845			14	Cu hum
15	83	7	25	07	19	20.0	7.4	44	6.4	1016.2	8	001	02	2	2	4	8	7	0	1	82850	83656	87080	15	Cu hum
16	86	8	20	09	20	17.2	11.9	71	8.6	1013.5	7	004	03	2	2	8	5	4	/	/	86618	88640		16	
17	84	8	22	09	19	16.7	11.6	72	8.4	1016.6	2	001	02	2	2	8	5	5	/	/	87620	88625		17	
18	80	5	25	10	22	23.7	13.0	51	9.2	1019.1	5	003	03	1	1	5	8	6	0	0	81835	85635		18	Cu hum Sc len
19	88	7	23	08	16	22.9	15.2	62	10.6	1022.6	7	006	02	2	2	7	8	5	/	/	84828	87638		19	Cu hum
20	86	6	24	09	17	23.5	15.5	61	10.9	1019.0	6	009	02	2	2	6	8	5	0	0	83827	84640		20	Cu med
21	84	3	35	07	14	19.2	3.0	34	4.6	1027.1	1	005	02	0	0	2	1	7	0	1	82856			21	2Ci80 COTRA Cu hum
22	82	1	02	06	13	21.8	6.1	36	5.7	1029.6	7	012	02	0	0	1	1	7	0	1	81850			22	1Ci80 Cu hum
23	86	7	33	06	14	22.8	6.1	34	5.8	1026.7	7	019	02	2	2	1	0	9	4	8	81368	87272		23	Halo 22°
24	84	7	13	02	10	24.4	4.2	27	5.1	1024.3	6	009	02	2	2	0	0	9	0	1	87080			24	COTRA
25	82	1	35	05	14	28.4	5.3	23	5.4	1024.8	7	005	02	0	0	0	0	9	0	1	81081			25	
26	72	0	06	06	13	29.3	10.4	31	7.7	1024.2	6	013	02	0	0	0	0	9	0	0				26	
27	82	0	04	06	16	27.2	10.4	35	7.7	1024.1	7	014	02	0	0	0	0	9	0	0				27	
28	72	2	04	07	17	26.3	13.8	46	9.7	1022.8	7	017	03	0	0	2	2	6	0	0	82848			28	Cu med
29	84	0	05	07	18	27.9	10.2	33	7.6	1019.4	7	019	02	0	0	0	0	9	0	0				29	
30	84	1	07	07	16	29.4	10.5	31	7.9	1013.4	7	016	02	0	0	0	0	9	0	1	81075			30	

Mean vis = 39.7 km

Mean cloud = 4.7 58%

Mean wind speed = 6.7 kn

Mean gust = 15 kn

Mean TT = 22.6 °C

Mean TdTd = 10.7 °C

Mean RH = 49.4 %

Mean r = 8.1 g/kg

Mean PPP = 1018.7 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 2018	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
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.45	0.00	0.00	0.36	0.00
	5	0.00	0.00	1.00	0.23	0.00	0.00	0.00	0.00	0.45	0.00	0.54	1.00	0.13	0.00	1.00	0.00
	6	0.00	0.00	1.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.98	1.00	1.00	0.00	1.00	0.31
	7	0.00	0.00	1.00	0.00	0.00	0.27	0.40	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.99
	8	0.15	0.17	1.00	0.00	0.00	1.00	0.00	0.04	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.23
	9	0.07	0.10	0.99	0.00	0.00	1.00	0.00	0.67	0.43	0.04	1.00	0.48	1.00	0.00	0.95	0.09
	10	0.23	0.01	0.97	0.00	0.00	1.00	0.00	0.94	1.00	0.49	1.00	0.11	0.64	0.01	0.50	0.00
	11	0.15	0.78	0.98	0.00	0.00	1.00	0.00	0.00	1.00	0.66	1.00	0.00	0.18	0.35	0.95	0.00
	12	0.00	0.66	1.00	0.00	0.00	1.00	0.00	0.01	0.49	0.85	1.00	0.00	0.30	0.48	0.82	0.01
	13	0.01	0.83	1.00	0.02	0.00	1.00	0.00	0.07	0.00	0.90	1.00	0.00	0.13	0.93	0.57	0.03
	14	0.00	0.79	0.99	0.12	0.34	1.00	0.00	0.42	0.00	0.99	1.00	0.02	0.10	0.40	0.38	0.00
	15	0.00	0.65	1.00	0.00	0.84	1.00	0.00	0.13	0.00	0.81	1.00	0.00	0.00	0.60	0.37	0.00
	16	0.89	0.98	1.00	0.00	0.87	1.00	0.00	0.78	0.00	0.67	1.00	0.00	0.28	0.98	0.07	0.02
	17	0.87	0.95	0.95	0.00	0.99	1.00	0.00	0.64	0.00	1.00	0.84	0.00	0.00	0.93	0.21	0.00
	18	0.76	1.00	0.78	0.00	1.00	1.00	0.00	0.00	0.00	1.00	0.89	0.01	0.00	0.57	0.00	0.00
	19	0.08	1.00	0.09	0.00	0.98	1.00	0.00	0.00	0.00	0.72	1.00	0.98	0.00	0.98	0.00	0.00
	20	0.00	0.03	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.03	0.04	0.14	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		3.19	7.95	14.13	0.38	5.00	12.47	0.41	3.70	3.38	8.15	14.74	6.19	5.77	6.23	9.19	1.68

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	0.11	0.00	0.43	0.52	0.49	0.50	0.46	0.48	0.00	0.00	0.43	0.00	0.17
5	0.00	0.00	0.89	0.00	0.25	1.00	1.00	1.00	0.98	1.00	0.00	0.00	1.00	0.00	0.38
6	0.00	0.00	0.36	0.00	0.81	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.42
7	0.31	0.00	0.86	0.00	0.99	1.00	1.00	1.00	1.00	1.00	0.94	0.00	1.00	0.81	0.55
8	0.00	0.00	0.39	0.01	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.53
9	0.17	0.35	0.01	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.54	1.00	1.00	0.56
10	0.21	0.93	0.02	0.09	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.60
11	0.01	1.00	0.02	0.16	1.00	0.98	0.31	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.58
12	0.00	1.00	0.01	0.10	1.00	1.00	0.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.57
13	0.00	0.94	0.01	0.66	0.91	0.98	0.84	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.59
14	0.00	0.82	0.00	0.02	0.53	1.00	0.02	1.00	1.00	1.00	1.00	0.74	1.00	1.00	0.52
15	0.00	0.12	0.01	0.20	0.71	0.93	0.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	0.51
16	0.00	0.32	0.46	0.11	0.97	1.00	0.00	1.00	1.00	1.00	1.00	0.71	1.00	1.00	0.60
17	0.00	0.26	0.55	0.32	1.00	0.91	0.44	1.00	1.00	1.00	1.00	0.47	1.00	1.00	0.61
18	0.00	0.12	0.15	0.88	1.00	1.00	0.41	1.00	1.00	1.00	0.99	0.03	1.00	1.00	0.55
19	0.00	0.00	0.01	0.61	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.49	1.00	1.00	0.53
20	0.00	0.00	0.00	0.02	0.37	0.16	0.00	0.34	0.11	0.20	0.31	0.17	0.22	0.26	0.08
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	0.71	5.86	3.86	3.17	13.96	15.48	8.73	15.84	15.55	15.68	13.25	8.04	15.65	13.07	251.41

JUNE 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	R tot
1	18.03	22.5	1630	14.7	438	84.7	98.2	449	61.7	1640	15.3	10.7	12.4	1044	10.0	2354	1017.64	1018.7	2126	1015.9	42	0
2	18.40	24.4	1444	13.8	2359	72.4	94.0	8	42.5	1439	12.9	9.2	11.4	1434	7.5	1302	1018.37	1019.5	2359	1017.2	1739	0
3	19.10	26.0	1601	10.8	409	69.0	97.4	439	34.4	1511	12.6	9.0	11.3	1315	6.9	1516	1017.97	1019.7	807	1015.8	1811	0
4	15.50	19.3	1442	12.8	2302	86.5	97.3	419	63.8	1422	13.2	9.4	10.9	915	8.0	2349	1016.48	1017.4	2232	1015.4	1619	0
5	13.64	18.9	1447	8.5	2356	80.5	93.4	2357	57.1	1450	10.2	7.7	9.2	1417	6.3	2345	1016.84	1018.0	836	1015.3	1734	0
6	15.38	22.8	1528	7.1	313	69.8	95.4	316	40.3	1435	9.4	7.3	9.8	1344	5.9	313	1015.53	1017.0	2	1013.7	1745	0
7	15.86	20.3	1442	11.3	239	76.4	88.6	240	63.9	1443	11.7	8.5	10.8	1442	7.1	215	1016.48	1017.5	2307	1015.6	159	0
8	16.80	21.9	1419	12.0	2359	71.8	91.2	2359	53.7	1724	11.5	8.4	11.0	1426	7.0	906	1016.87	1018.4	836	1015.3	1711	0
9	15.76	21.3	1502	11.2	59	79.5	94.4	113	51.3	1238	12.0	8.7	10.8	1501	7.3	1238	1015.93	1017.4	818	1014.1	1558	0.2
10	17.69	24.3	1632	12.5	255	77.7	97.0	339	51.5	1425	13.5	9.6	11.9	1601	8.6	255	1014.53	1015.6	616	1012.8	1752	0
11	18.02	25.8	1607	11.1	312	65.4	95.3	314	32.6	1335	10.5	7.9	10.3	935	6.0	1152	1013.62	1015.2	37	1011.5	1615	0
12	14.21	19.1	1128	8.7	2358	78.9	97.1	453	57.4	919	10.4	7.8	9.6	1401	6.4	2358	1017.06	1020.6	2353	1014.2	238	0
13	15.28	22.2	1333	6.4	411	70.2	97.9	506	41.6	1245	9.2	7.2	9.2	1120	5.8	411	1017.92	1020.6	14	1014.0	2355	0
14	16.97	22.5	1508	11.5	2350	70.4	91.2	734	40.5	1552	11.1	8.2	10.8	1102	6.5	1552	1012.25	1016.6	2342	1009.3	858	0
15	15.84	22.3	1316	8.2	353	63.8	97.3	511	35.0	1515	8.2	6.7	8.7	1009	5.5	1522	1016.45	1017.8	653	1015.5	1731	0
16	15.33	19.2	1202	12.3	245	68.4	81.8	514	53.5	820	9.5	7.4	9.2	1617	6.3	1951	1014.38	1016.0	12	1012.6	1719	0
17	14.95	19.3	1059	12.2	11	78.9	95.1	2339	53.6	1100	11.2	8.3	10.2	2358	6.8	7	1016.34	1017.3	847	1015.0	255	0.2
18	18.41	24.4	1327	14.0	326	73.9	94.8	0	41.6	1231	13.3	9.4	10.8	1601	7.2	1217	1019.10	1021.2	2330	1016.5	112	0.1
19	19.55	24.0	1659	15.1	2359	75.6	92.8	2357	58.2	1147	15.0	10.5	12.5	1311	9.5	1022	1022.50	1023.6	837	1020.9	8	0
20	18.22	24.9	1347	13.8	2356	77.8	97.0	443	55.1	1343	14.1	10.0	12.9	1346	5.7	2356	1020.39	1022.3	1	1018.5	1644	0
21	14.82	20.7	1538	8.7	339	51.8	84.5	340	29.6	1657	4.4	5.1	6.4	1403	4.0	1657	1026.24	1030.5	2352	1021.7	2	0
22	15.27	22.6	1420	7.6	403	59.9	87.9	436	31.6	1517	6.8	6.1	8.0	1046	5.0	1511	1030.31	1031.7	742	1029.0	1751	0
23	16.59	23.1	1358	8.4	416	58.4	95.6	316	26.2	848	7.1	6.2	7.8	2208	3.4	854	1028.10	1030.5	619	1025.6	1938	0
24	17.89	25.4	1638	9.5	422	55.0	94.9	346	22.0	1150	7.1	6.2	8.0	2034	3.6	1150	1025.15	1026.2	0	1023.3	1730	0
25	20.38	29.0	1616	10.1	352	52.8	91.1	354	20.6	1420	8.8	7.0	9.3	1226	4.9	1420	1025.57	1026.5	653	1024.0	1713	0
26	20.43	29.8	1524	10.8	415	58.0	96.5	442	21.6	1302	10.4	7.8	11.2	1050	4.9	1302	1025.64	1027.1	750	1023.8	1631	0
27	18.75	28.1	1538	9.6	241	62.7	93.5	417	27.7	1348	10.3	7.7	9.9	1509	6.0	1348	1025.35	1027.1	715	1022.7	1706	0
28	18.65	28.1	1535	10.9	320	68.4	91.4	325	38.0	1616	12.1	8.7	11.6	1154	6.9	135	1024.30	1026.4	757	1021.4	1741	0.1
29	20.06	28.3	1525	11.8	423	62.4	95.4	440	26.8	1727	11.5	8.4	10.4	1018	6.2	1727	1021.15	1024.0	0	1017.7	1805	0
30	19.93	29.5	1500	11.3	140	57.4	91.9	145	26.0	1423	10.1	7.7	10.3	1127	5.7	2119	1015.87	1019.5	30	1013.0	1657	0
Total																						0.6
Mean	17.19	23.66		10.88		69.3	93.66		41.98		10.78	8.09	10.22		6.36		1019.48	1021.32		1017.37		
Max	20.43	29.80		15.13		86.5	98.20		63.88		15.26	10.70	12.93		9.96		1030.31	1031.71		1029.03		
Min	13.64	18.94		6.43		51.8	81.80		20.61		4.43	5.15	6.41		3.37		1012.25	1015.24		1009.30		

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

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

Tmn = 00 to 24 GMT mean air temperature at 1.2 m, deg C
 RHmn = 00-24 GMT mean relative humidity at 1.2 m, percent
 Tdmn = 00-24 GMT mean dew point at 1.2 m, deg C
 rmn = 00-24 GMT mean humidity mixing ratio, g/kg
 pmn = 00-24 GMT mean air pressure reduced to mean sea level, mbar
 Time = hours and minutes in GMT of extreme values

Temperature and humidity are from an aspirated Vaisala HMP45 unit
 Pressure is from a Setra CS100 sensor
 Data is logged on a Campbell Scientific CR10X measurement and control system

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

Average: Generally refers to the 30 year climatological average, currently 1981 to 2010. This will be next updated in 2020. For some parameters, notably wind, the climatological average is not available, and if the word average is used in the context of wind, it refers to the average for the period for which data is held, namely 1988 to present.

For sunshine, there was a change, in July 1999, in the type of instrument used to detect sunshine amount, making the climatological average based on the old instrument of little use. In general, the new instrument produces higher values in the winter half year, and lower ones in the summer half, than the old type, due to a combination of faster reaction and higher sensitivity than the old type. The average used in this case is based on a theoretical equivalent 1981 to 2010 average, drawn from comparison with the Met Office published tables of departure from climatological average sunshine in the months since 2000 for their area 'Southern England'. Users of the Wokingham Monthly Weather reports should be aware of this, and regard anomalies for sunshine published therein as a guide only, until such time has elapsed since the introduction of the new instrument that a genuine average becomes available.

Mean: The mean of the data under discussion, often the monthly mean of daily data. The mean is obtained by summation of the individual values and dividing by the number of values. The term 'daily mean' in respect of temperature is defined as '(max + min) / 2'. A true daily 24 hour (00 to 24 GMT) mean temperature is available from the Automatic Weather Station (AWS), and is currently published on page 7 of the Wokingham Monthly Weather report, on the Wokingham Weather web site, page 1. <http://www.woksat.info/wwp1.html>

Anomaly: When a value is given for anomaly, this will have one of the following meanings:

- a): The departure of a mean from the current climatological average.
- b): The departure of a value on a particular day from the average for that day, (this need not be a climatological average).

When the word anomaly is used in respect of temperature, any values given are in °C. In respect of rainfall or sunshine, percent. In respect of wind, mph. In respect of pressure, millibars (hpa).

Categories: Reference may be made in the reports to 'categories'. Each category has a strict statistical range, as outlined below.

Temperature: The terms cold/mild are used in the winter half year, and cool/warm in the summer half. The term 'normal' is used when the individual mean (monthly, seasonal or annual) value is within 20 % of the median of all ranked values for that month/season/year.

Mild/warm: The value lies between 10 % and 30 % below the highest value in the ranked series.

Very mild/very warm: The value lies within 10 % of the highest value in the ranked series.

Cold/cool: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very cold/very cool: The value lies within 10 % of the lowest value in the ranked series.

Sunshine: The terms for sunshine are very sunny, sunny, normal, dull and very dull.

The definition of these terms follow the same rules as for temperature.

Rainfall: The terms for rainfall are very dry, dry, normal, wet and very wet.

The definition of the term 'normal' follows the same rule as for temperature and sunshine.

Wet: The value lies between 10 % and 30% of the highest value in the ranked series.

Very wet: The value lies within 10 % of the highest value in the ranked series.

Dry: The value lies between 10 % and 30 % above the lowest value in the ranked series.

Very dry: The value lies within 10 % of the lowest value in the ranked series.

Long-term: Mention may be made in the reports to the 'long-term'. The long-term record comprises a temperature/rainfall/sunshine data series compiled from records of various weather stations in the Wokingham area in the years prior to the establishment of the weather station at Emmbrook in 1976 together with data from this station.

In the case of monthly max, min and mean temperature and of rainfall total the series starts in 1882. For temperature extremes, the highest max and lowest min go back to 1904, and lowest max and highest min to 1913.

Rank: The word rank refers to the position of a value for a particular month/season/year in the ranked series, and may be expressed relative to either the highest or lowest value in the series. The central value in the ranked series is known as the **median**. This value may be different from the average of the whole series if the population is skewed. It can also be different from the climatological average which only refers to a 30 year period.

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

When discussing 'winter', if a single year is given this refers to the year in which the January/February fall.

Annual or Year: The calendar year, 1st January to 31st December.

The climatological day: runs from 0900 to 0900 GMT. The max temperature and rainfall read at 0900 hours are attributed to the previous day (thrown back), as is the duration of measurable rain. The min temperature and grass min read at 0900 hours are attributed to the day of reading. Pressure read at 0900 GMT, and the monthly mean pressure is the mean of the 0900 GMT readings. Sunshine data, wind data, rainfall rate data and 24 hour data from the AWS use the normal 00-24 GMT day.

Frost: An air frost day is recorded when the minimum temperature read at 0900 GMT on that day is -0.1°C or below. A ground frost day is recorded when the grass minimum temperature read at 0900 GMT on that day is -0.1°C or lower.

Duration of air frost is defined as the number of minutes that the AWS one minute average temperature is below 0.0°C , and the day runs from midnight to midnight.

Snow: A day with snow falling is triggered if snow falls at any time in the 24 hours from midnight on that day. A day with snow lying is entered if there is at least 50% snow cover at the 0900 GMT observation.

Snow depth is the depth of undrifted snow. Snow that collects in the raingauge funnel is melted and the amount recorded as rainfall.

Hail: A day of hail is recorded if hailstones 5 mm or more in diameter are observed or recorded on the hail pad in a 24 hour period starting at midnight.

A day of small hail is recorded if hailstones less than 5 mm diameter are observed or recorded in a 24 hour period starting at midnight. The term small hail also includes various other types of ice meteor such as ice pellets, snow grains and some types of snow pellets.

Fog: A day with fog is recorded if the horizontal visibility at 0900 GMT is below 1000 m.

Thunder: A day of thunder is recorded if thunder is heard in the 24 hour period from midnight on that day. The appearance of lightning without thunder being heard does not qualify as a thunder day.

Trace of rainfall: A trace of rain, entered as 'tr' in the daily log, is recorded if rain is observed to fall but is of insufficient quantity to collect in the raingauge, or if the amount of rain in the gauge is less than 0.05 mm.

Dry spell: A dry spell is defined as a period of 5 or more consecutive dry days.

Dry day: A dry day is one with less than 0.2 mm of rainfall.

Rain day: A rain day is one with 0.2 mm or more of rainfall.

Wet day: A wet day is one having 1.0 mm or more of rainfall.

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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