

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

APRIL 2019

Temperature (°C)	Anomaly		Rank in the past 138 years						
Mean maximum	15.9	+1.9	10 th highest						
Mean minimum	3.8	-0.6	69 th highest						
Daily mean	9.8	+0.6	23 rd highest						
Highest maximum	25.7	on 22 nd	Lowest maximum	9.3 on 4 th					
Highest minimum	8.6	on 23&24	Lowest minimum	-2.6 on 14 th					
Mean grass minimum	-0.6	-1.3	Lowest grass minimum	-6.7 on 14 th					
Mean earth @30 cm	10.5	+0.6	Earth @100 cm	9.8					
Frost duration (hrs)	22.3		Rain duration (hrs)	19.6					
Rainfall total (mm)	25.8	53 %	33 rd lowest						
Highest daily fall	8.5	on 4 th	Highest rate mm/hr	26 on 4 th					
Number of: Dry days (<0.2mm)	20	Wet days (>0.9mm)	7	days ≥5mm	2				
Sunshine total (hrs)	176.9	Daily mean	5.90	107 %	Sunniest day	13.6	on 20&21		
N° days with: Air frost	5	Ground frost	20	Snow falling	0	Snow lying	0		
Thunder	0	Hail ≥5mm	0	Small hail/ice	2	Fog @09	0	Nil sun	2
Pressure MSL: Mean @09 GMT, mbar	1014.5	-0.5	Highest	1031.7	on 20 th	Lowest	990.8	on 24 th	
Relative humidity : Mean (%)	75.1	Lowest	24	on 22 nd	Water vapour (g/kg), mean at 09 and 15 GMT			5.8, 5.5	
Overall mean wind speed (mph)	5.8	Windiest day	15.3	on 27 th	Max gust	53	on 27 th		
Wind direction (days)	N 2	NE 15	E 4	SE 2	S 2	SW 3	W 1	NW 1	
Least windy day (mph)	2.5	on 8 th	Calm; less than 0.5 mph (minutes)		1408				

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

Notes:

Mild Overall.

Dry.

Sunny.

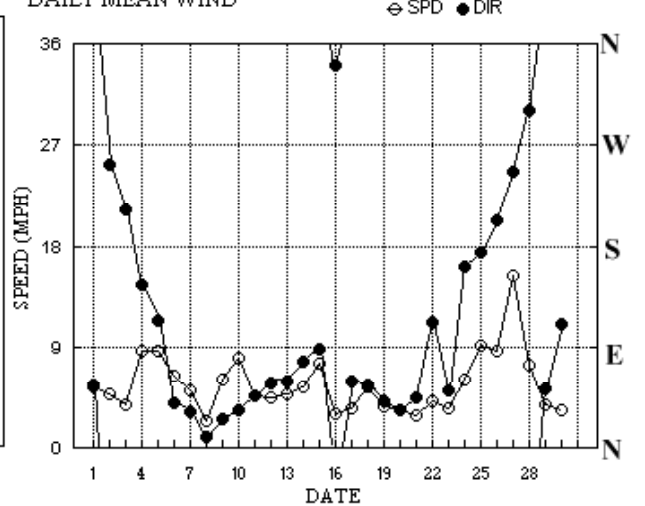
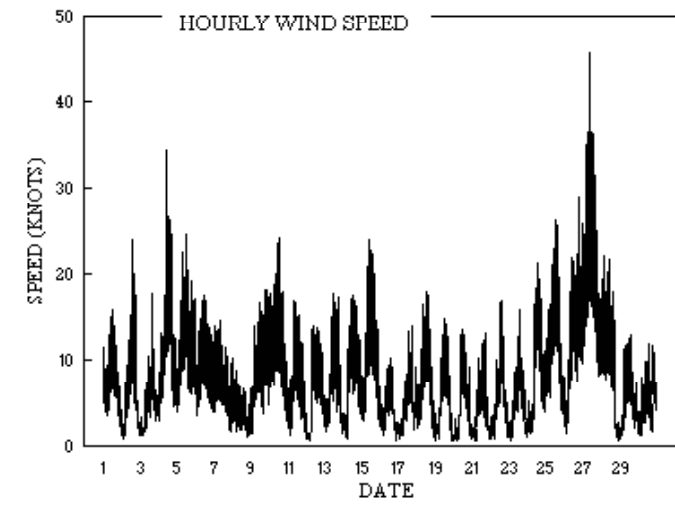
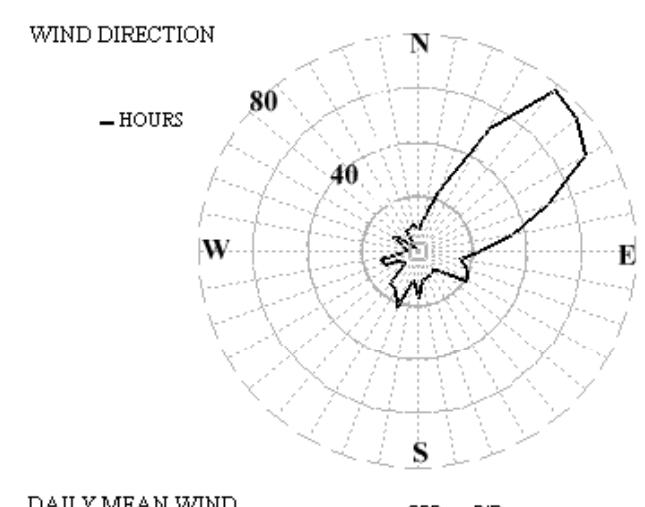
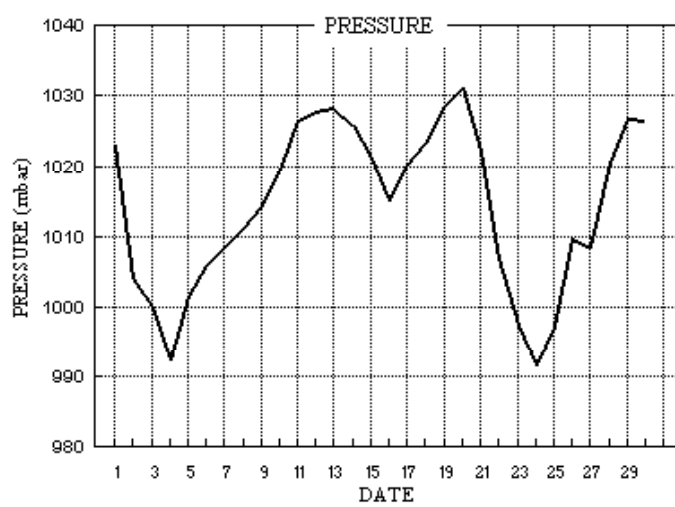
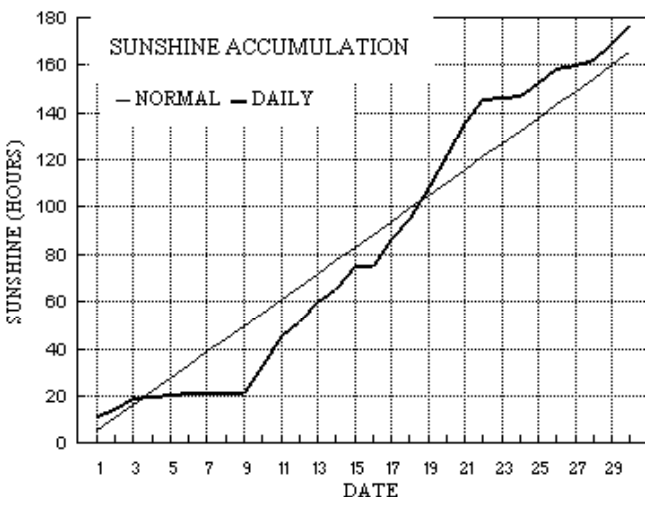
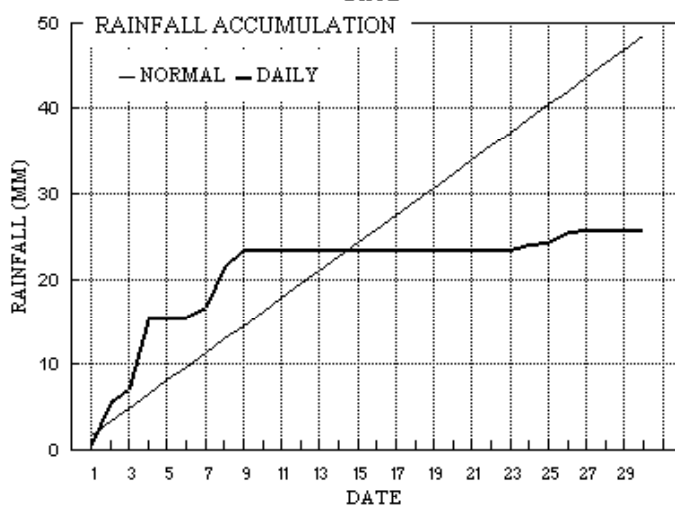
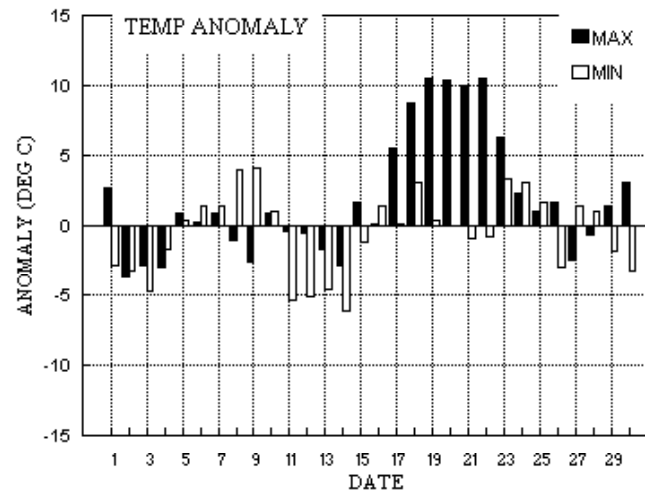
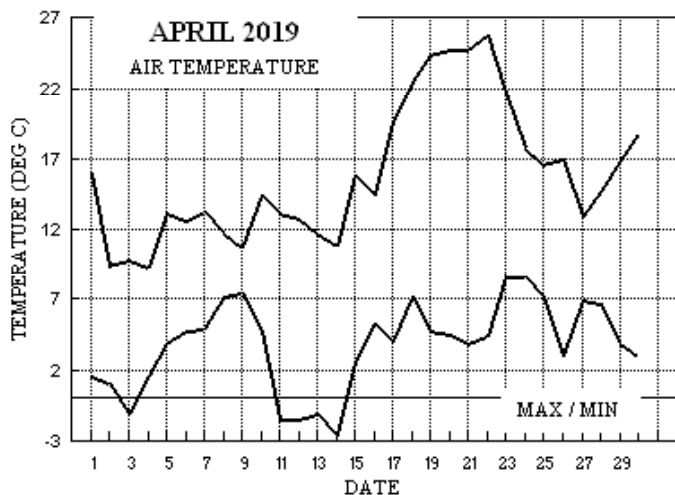
Temperature: The mean maximum is in the very mild category, ranking 10th highest in 138 years, but the mean minimum ranks 69th lowest and is thus equal to the long-term median. The resulting mean daily range of 12.1° is 2.3° above average. The highest max is 5.0° above the median and is 6th highest in 116 years while the lowest max is 1.3° above its median. The highest min is 1.2° below the median and the lowest min is 0.7° below its median. Earth temperatures at 30 cm and 1 m depth climbed quickly in response to the warm sunny weather after mid-month and ended up about half a degree above average. Air frost duration is 7.5 hours above average and most since 2013, and the number of days with ground frost is equal highest with 2017 and 1990 since 1984. Anomalies for daily max were near or below normal until the 16th and after the 23rd, with extreme values over -3° on the 2nd and 4th, but an exceptionally warm spell from the 17th to the 23rd saw daily anomalies over +10° for the 19th to 22nd inclusive. Anomalies for daily min exceeded -4° on the 3rd and from the 11th to 14th and +4° on the 8th and 9th, with extreme values of -6.2° on the 14th and +4.1° on the 9th. **Rainfall:** This has been a dry April with only about half the average rainfall, and a total 15.7 mm below the long-term median. Several recent Aprils have also been dry, notably 2017, 2011 and 2007 all having less than 10 mm, but in contrast, 2000 and 2012 each had over 100 mm. The duration of rain this April is only 49 % of average. There was no snow or thunder, but there were showers of ice pellets and snow pellets on the 2nd and 3rd. Nearly the whole of this month's rain fell before the 10th, there being a dry spell of 14 days ending on the 23rd, but there was only another 2.3 mm before the month's end. Daily accumulation compared with normal showed a surplus of 9 mm by the 9th, but this became a deficit of 23 mm by the 30th. **Sunshine:** This has been quite a sunny April, with a total 7 % above average. However several recent Aprils have been sunnier, notably 2007 which had a record mean of 8.09 hours per day, and in this millennium there have been 8 sunnier Aprils than this year's. The period 4th to 9th was particularly dull, with no day having more than 0.7 hours, around 5 % of the maximum. Conversely, the following 12 days saw 7 with over 10 hours, which is over 80% of the maximum, and the 3 day period 19th to 21st clocked up a total of 40.6 hours, near 95% of the maximum. Compared with normal, daily sunshine accumulation was 30 hours in deficit by the 9th, but this had reduced to zero by the 19th and reached a surplus of 23 hours by the 22nd, the month ending with a surplus of 11 hours. Overall there were 11 days with <3 hours, 13 days with =>6 hours, 9 days with =>9 hours and 4 days with =>12 hours. **Wind:** The mean speed of 5.8 mph is 1.1 mph below average. The windiest day is 2nd highest for April after 2013 since 1998, and the highest gust is highest for the month since 1999. Conversely the duration of calm is highest since 2007. Daily mean winds were light or moderate except for fresh on the 4th, 5th and 25th, and strong on the 27th. Directions were NE'ly on 1st, backing W'ly on 2nd, SE'ly by 5th, then remaining NE'ly until the 23rd, veering S'ly by 25th, NW'ly by 28th and E'ly by the 30th.

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			
-0.8°	0.0°	145%	60%	+3.2°	-1.8°	0 %	162%	+3.3°	+0.1°	14%	99%

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

Wokingham climatological graphs for April 2019



Month: APRIL 2019

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff HH	Rain hrs								
1	16.0	1.5	0.5	-3.8	9.7	9.2	11.7	0.0	1022.9	0	1	0	0	0	57	4.4	4.7	53	16	1201	50	7	11	0.5	
2	9.4	1.0	5.2	-3.5	9.7	9.3	3.0	0.0	1004.2	0	1	0	0	0	253	3.6	4.2	266	24	1439	251	9	16	2.6	
3	9.9	-1.1	1.3	-5.8	9.2	9.3	4.8	2.7	1000.1	1	1	0	0	0	212	1.5	3.3	200	18	1617	212	8	16	0.7	
4	9.3	1.6	8.5	-2.4	9.1	9.3	0.7	0.0	992.3	0	1	0	0	0	146	6.8	7.5	169	35	1040	160	13	13	4.8	
5	13.2	3.8	tr	-1.9	8.9	9.3	0.7	0.0	1001.4	0	1	0	0	0	114	6.3	7.6	147	25	1243	157	12	12	0.0	
6	12.6	4.8	tr	-1.5	9.0	9.3	0.2	0.0	1005.9	0	1	0	0	0	41	5.6	5.7	27	18	1159	29	8	12	0.0	
7	13.3	4.9	1.2	-1.4	9.1	9.2	0.0	0.0	1008.5	0	1	0	0	0	33	4.3	4.5	32	15	0848	30	6	03	0.9	
8	11.8	7.1	4.7	7.4	9.5	9.2	0.2	0.0	1011.3	0	0	0	0	0	11	1.6	2.2	31	10	0000	46	4	00	3.9	
9	10.7	7.4	2.1	3.2	9.8	9.3	0.3	0.0	1014.3	0	0	0	0	0	27	5.4	5.4	28	18	1934	35	8	20	3.1	
10	14.4	4.7	0.0	1.1	9.7	9.3	11.3	0.0	1019.3	0	0	0	0	0	35	6.9	7.0	23	24	1322	33	10	13	0.0	
11	13.2	-1.5	0.0	-6.7	9.8	9.4	13.1	4.5	1026.6	1	1	0	0	0	47	3.7	4.1	66	17	0857	53	8	09	0.0	
12	12.8	-1.5	0.0	-5.7	9.6	9.4	5.7	5.2	1027.7	1	1	0	0	0	58	3.7	3.9	41	14	1057	60	7	15	0.0	
13	11.7	-1.1	tr	-5.9	9.6	9.5	8.3	3.0	1028.2	1	1	0	0	0	59	4.1	4.3	60	18	1248	51	7	12	0.0	
14	10.9	-2.6	0.0	-6.7	9.3	9.5	5.2	6.9	1025.9	1	1	0	0	0	78	4.6	4.8	73	18	1208	77	8	10	0.0	
15	15.8	2.5	0.0	-2.9	9.0	9.5	10.3	0.0	1021.3	0	1	0	0	0	89	6.2	6.6	121	24	1123	113	11	11	0.0	
16	14.4	5.2	tr	2.3	9.2	9.4	0.0	0.0	1015.1	0	0	0	0	0	340	2.1	2.7	283	10	1427	304	5	14	0.0	
17	19.5	4.0	0.0	-0.9	9.9	9.4	11.0	0.0	1020.2	0	1	0	0	0	60	2.1	3.1	72	14	1746	30	6	14	0.0	
18	22.5	7.2	0.0	2.4	10.5	9.5	8.8	0.0	1023.3	0	0	0	0	0	57	4.6	4.7	71	18	1346	72	9	13	0.0	
19	24.4	4.7	0.0	-0.3	11.1	9.6	13.4	0.0	1028.6	0	1	0	0	0	43	2.9	3.3	66	15	1112	48	7	11	0.0	
20	24.7	4.5	0.0	-1.1	11.5	9.8	13.6	0.0	1031.1	0	1	0	0	0	35	2.5	2.9	28	14	1147	48	6	11	0.0	
21	24.8	3.8	0.0	-1.7	11.9	10.0	13.6	0.0	1022.2	0	1	0	0	0	46	1.9	2.6	60	13	1732	48	5	17	0.0	
22	25.7	4.3	0.0	-0.7	12.2	10.2	9.5	0.0	1007.0	0	1	0	0	0	112	2.4	3.7	161	17	1551	152	9	15	0.0	
23	21.7	8.6	tr	3.7	12.5	10.4	0.9	0.0	997.5	0	0	0	0	0	52	3.0	3.1	59	16	1513	58	7	14	0.0	
24	17.7	8.6	0.6	5.4	12.7	10.6	1.2	0.0	991.6	0	0	0	0	0	161	3.4	5.4	213	21	1330	212	11	13	0.5	
25	16.6	7.2	0.2	3.7	12.3	10.8	5.4	0.0	997.2	0	0	0	0	0	174	7.0	7.9	191	26	1247	192	13	16	0.2	
26	17.0	3.0	1.4	-1.6	12.1	10.9	5.6	0.0	1009.6	0	1	0	0	0	203	7.2	7.6	188	29	2055	203	11	11	2.3	
27	12.9	6.9	0.1	4.7	11.9	11.0	1.6	0.0	1008.3	0	0	0	0	0	246	12.9	13.3	255	46	0931	248	18	08	0.1	
28	14.7	6.6	tr	4.1	11.5	11.1	2.7	0.0	1020.4	0	0	0	0	0	301	5.3	6.5	284	22	0435	278	9	04	0.0	
29	16.8	3.8	0.0	-0.7	11.5	11.1	6.3	0.0	1026.8	0	1	0	0	0	54	3.2	3.3	60	13	1454	43	6	12	0.0	
30	18.8	3.0	0.0	-1.9	11.9	11.0	7.8	0.0	1026.5	0	1	0	0	0	110	1.7	3.0	65	12	1403	205	6	20	0.0	
Total			25.8				176.9	22.3																	19.6
Mean	15.9	3.8		-0.6	10.5	9.8	5.90	0.7	1014.5						73	1.5	5.0								
Anom	+1.9	-0.6	53%	-1.3	+0.6	+0.6	110%																		-0.5
Daily mean		9.8																							
Anom		+0.6																							

Number of days with:

Air frost = 5 Ground frost = 20 Nil sun = 2
 Snow falling = 0 Snow lying = 0 Thunder = 0
 Hail=>5mm = 0 Hail<5mm or ice = 2 Fog at 09GMT = 0

Abbreviations.

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

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

Grass min = Lowest overnight temperature at grass tip level.

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

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

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

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

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

Sp = 24 hour mean wind speed in knots.

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

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

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

Anom = Departure from 1981-2010 climatological average.

All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for APRIL 2019

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	NChs	Date	Remarks
1	62	1	05	07	13	8.1	4.3	77	5.1	1022.9	7	009	03	0	0	1	1	4	0	1	81815			1	1Ci75 Cu fra	
2	20	8	30	05	11	5.9	5.2	95	5.5	1004.2	7	016	58	6	5	7	7	2	2	/	87705	88520		2		
3	58	6	25	03	05	2.9	2.6	98	4.6	1000.1	0	001	10	4	2	6	6	3	/	/	86707			3		
4	65	7	12	09	17	6.8	4.1	83	5.2	992.3	7	008	60	6	2	4	5	4	2	2	82615	83625	86458	4	/Ci70	
5	82	7	13	09	17	9.1	5.3	77	5.6	1001.4	2	019	60	6	2	6	8	4	/	2	81815	85635	86072	5	3Sc56 Cu fra	
6	57	8	02	08	17	8.0	5.8	86	5.8	1005.9	0	007	05	2	2	8	6	3	/	/	83709	88712		6		
7	25	8	04	05	15	8.6	6.7	88	6.1	1008.5	3	009	05	2	2	8	6	3	/	/	88708			7		
8	23	8	01	02	05	8.2	7.6	96	6.5	1011.3	0	005	60	6	2	8	6	2	/	/	87705	88708		8		
9	35	8	02	07	14	7.7	7.4	98	6.4	1014.3	1	009	21	6	5	8	6	2	/	/	86705	88707		9		
10	68	4	05	10	20	9.0	2.8	65	4.6	1019.3	2	010	03	1	1	1	1	5	0	2	81828	83070		10	COTRA Cu hum U/a cont	
11	80	1	06	08	17	8.0	0.5	59	3.9	1026.6	1	008	02	0	0	1	5	6	0	0	81633			11		
12	80	1	05	06	14	8.0	0.9	61	4.0	1027.7	0	001	03	0	0	1	8	5	0	1	81825			12	1Sc35 1Ci75 COTRA Cu hum	
13	67	1	07	07	14	7.7	1.5	65	4.2	1028.2	4	000	03	0	0	1	8	6	0	1	81835			13	1Sc56 1Ci75 Cu med	
14	72	7	06	07	13	5.2	1.7	78	4.2	1025.9	1	001	03	1	1	6	8	5	/	2	81825	83645	86656	14	2Ci250 Cu hum	
15	58	5	10	10	19	10.9	2.2	55	4.4	1021.3	8	013	05	2	2	1	0	9	3	1	81363	85080		15	COTRA	
16	40	8	32	03	07	10.2	6.7	79	6.1	1015.1	2	009	05	2	2	8	0	9	7	/	81358	85360	88462	16		
17	50	5	02	03	07	11.6	7.5	76	6.4	1020.2	2	007	05	1	1	0	0	9	0	1	85075			17	COTRA	
18	40	7	06	07	14	14.2	10.0	76	7.5	1023.3	1	003	05	4	2	0	0	9	0	1	87073			18	COTRA Sky turbid	
19	58	5	02	04	10	15.8	7.8	59	6.5	1028.6	1	008	05	2	2	0	0	9	0	1	85078			19	COTRA L/a cont	
20	59	3	01	05	08	17.0	8.9	59	7.0	1031.1	8	004	05	0	0	0	0	9	0	1	83080			20	COTRA	
21	59	0	01	04	07	16.2	8.9	62	7.0	1022.2	8	019	05	0	0	0	0	9	0	0				21		
22	56	7	06	04	08	14.7	7.7	63	6.6	1007.0	7	021	05	2	2	6	0	9	7	1	83365	85367	86072	22		
23	58	7	03	04	09	15.2	9.3	68	7.4	997.5	8	006	05	2	2	2	0	9	3	2	82362	87075		23	Sky turbid, el hz lyr	
24	56	7	05	03	07	15.4	10.6	73	8.1	991.6	6	009	05	6	2	3	5	6	7	/	81645	83656	87358	24		
25	75	7	19	10	19	12.6	7.3	70	6.4	997.2	3	017	25	8	2	6	8	5	1	/	84822	83650	87465	25	Cu med	
26	80	7	20	08	18	12.7	7.6	71	6.5	1009.6	1	010	80	1	1	7	8	4	0	1	84818	86645		26	1Ci75 Cu hum	
27	70	7	25	20	37	10.1	2.7	60	4.6	1008.3	3	016	01	6	2	7	5	6	/	/	86635	83650		27		
28	81	7	30	09	20	10.4	4.8	68	5.3	1020.4	2	017	02	8	2	7	5	5	/	8	87623	86270		28		
29	59	6	33	03	07	8.8	6.8	87	6.0	1026.8	1	006	05	1	1	6	6	3	/	/	86709			29		
30	50	6	03	03	06	10.3	6.4	77	5.9	1026.5	7	002	05	4	2	5	6	3	0	1	85708	83080		30	COTRA	

Mean vis = 13.3 km

Mean cloud = 5.6 70%

Mean wind speed = 6.4 kn

Mean gust = 13 kn

Mean TT = 10.3 °C

Mean TdTd = 5.7 °C

Mean RH = 74.3 %

Mean r = 5.8 g/kg

Mean PPP = 1014.5 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 APRIL 2019

Date	VV	N	dd	ff	gg	TT	Td	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	Date	Remarks
1	75	1	06	06	13	15.3	4.1	47	5.0	1016.8	7	032	02	0	0	0	0	9	0	1	81075				1		
2	62	6	25	04	24	6.1	3.4	83	4.9	1002.9	5	011	27	8	6	3	9	4	6	3	83915	81825	83065		2	2Ac60 jpE Rainbow vv60k ex E	
3	58	7	31	07	13	5.6	1.5	75	4.3	997.7	5	012	80	8	1	6	9	6	6	/	84935	82845			3	/Ac58 sn pel 1451 jp all quads vv30k ex p	
4	62	8	17	11	25	8.0	3.5	73	4.9	993.9	2	010	21	6	2	4	8	4	2	/	83818	88460			4	2Sc45 Cu med jpW	
5	86	7	15	07	18	11.9	-0.9	41	3.6	1002.6	2	003	03	2	2	1	8	6	7	/	81848	87465			5	1Sc50 2Ac60 Cu hum	
6	67	8	03	06	15	9.2	6.5	83	6.0	1005.1	6	003	20	5	2	8	5	4	/	/	85613	88616			6		
7	40	8	02	06	11	12.5	8.6	77	6.9	1008.9	4	000	05	2	2	8	6	4	/	/	88711				7		
8	50	8	30	02	05	11.1	8.3	83	6.8	1011.5	2	001	05	2	2	8	5	4	/	/	82713	83630	88656		8		
9	22	8	02	04	11	8.4	8.0	97	6.6	1014.5	8	003	61	6	6	3	5	6	2	/	81711	83635	88550		9		
10	80	1	03	09	22	13.3	3.1	50	4.7	1019.9	3	002	01	0	0	1	4	6	0	0	81645				10		
11	72	0	05	05	15	12.8	2.4	49	4.4	1025.1	7	012	02	0	0	0	0	9	0	0					11		
12	75	7	06	05	12	10.5	0.0	48	3.7	1025.7	8	012	02	2	2	7	8	6	/	/	83845	87650			12	Cu hum	
13	70	7	07	09	17	7.4	1.9	68	4.3	1026.8	5	005	80	1	1	7	8	6	/	/	83835	86657			13		
14	75	7	09	08	14	9.5	-2.1	44	3.2	1024.5	0	004	02	2	2	6	8	6	3	8	81845	83650	85656		14	/Ac65 /Ci70 Cu hum	
15	64	7	10	08	22	14.7	-1.0	34	3.5	1016.0	7	023	03	1	1	1	7	0	8		81856	87275			15	COTRA Cu hum U/a cont	
16	50	8	29	04	10	13.7	7.9	68	6.6	1015.5	1	006	21	6	2	8	5	6	/	/	84635	88650			16		
17	58	8	04	05	14	17.8	7.5	51	6.4	1018.5	7	011	05	2	2	2	1	6	0	7	82845	88273			17	Cu hum Sky turbid	
18	67	7	07	08	17	20.3	8.3	46	6.7	1021.9	6	005	02	2	2	0	0	9	0	8	85271	87075			18	COTRA Halo 22° part	
19	68	3	06	06	14	24.4	6.7	32	6.0	1027.8	8	003	02	0	0	1	7	0	1		81856	83077			19	Cu hum	
20	67	1	04	05	12	24.1	8.1	36	6.6	1027.8	8	018	02	0	0	0	0	9	0	1	81080				20		
21	64	0	35	03	12	24.2	4.6	28	5.2	1016.4	7	026	02	0	0	0	0	9	0	0					21		
22	70	3	16	07	16	25.1	4.3	26	5.2	1001.5	7	028	03	1	1	1	1	9	0	2	81858	83075			22	Cu hum	
23	72	8	06	06	14	20.8	9.1	47	7.3	995.1	6	014	02	2	2	2	0	9	3	7	82368	88275			23	Sky turbid, El hz lyr	
24	84	7	21	11	21	12.9	7.8	71	6.7	994.5	2	030	02	8	2	6	8	5	7	/	83825	84635	87358		24	Cu med	
25	84	4	19	13	24	15.8	5.4	50	5.6	1000.0	1	020	02	1	1	3	2	6	0	1	83840				25	2Ci75 Cu med	
26	62	8	23	08	20	12.2	9.2	82	7.2	1010.1	2	006	80	8	2	8	5	4	/	/	85815	88635			26	Cu med	
27	82	7	25	17	32	11.9	2.6	53	4.6	1011.9	2	014	25	8	2	7	8	6	/	/	85845	86650			27	Cu med jpS	
28	81	7	33	07	16	14.3	5.4	55	5.5	1021.5	1	005	02	8	2	7	8	6	/	1	82835	86650			28	/Ci75 Cu med	
29	80	6	07	06	13	15.6	6.6	55	6.0	1025.5	6	010	02	2	2	6	8	6	0	0	82835	85640			29	Cu hum	
30	78	7	33	04	12	17.1	7.5	53	6.3	1022.7	6	020	02	2	2	1	1	6	0	1	81845	87075			30	COTRA Cu hum	

Mean vis = 21.6 km

Mean cloud = 5.8 73%

Mean wind speed = 6.9 kn

Mean gust = 16 kn

Mean TT = 14.2 °C

Mean Td = 4.9 °C

Mean RH = 56.8 %

Mean r = 5.5 g/kg

Mean PPP = 1013.4 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

Td = 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 2019	Hour	01-Apr	02-Apr	03-Apr	04-Apr	05-Apr	06-Apr	07-Apr	08-Apr	09-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr	16-Apr
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.44	0.48	0.50	0.00	0.00
	6	0.91	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.10	1.00	1.00	1.00	1.00	0.23	0.00
	7	1.00	0.00	0.00	0.18	0.32	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.81	0.00
	8	1.00	0.00	0.31	0.39	0.09	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.48	1.00	0.00
	9	1.00	0.00	0.34	0.06	0.00	0.00	0.00	0.00	0.00	0.74	1.00	1.00	0.72	0.75	1.00	0.00
	10	1.00	0.00	0.49	0.00	0.00	0.14	0.00	0.00	0.00	0.74	1.00	0.94	0.20	0.78	1.00	0.00
	11	1.00	0.00	0.20	0.02	0.00	0.10	0.00	0.00	0.00	1.00	1.00	0.18	0.72	0.08	1.00	0.00
	12	1.00	0.09	0.57	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.10	0.09	0.18	1.00	0.00
	13	1.00	0.33	1.00	0.00	0.30	0.00	0.00	0.00	0.00	1.00	1.00	0.01	0.58	0.11	1.00	0.00
	14	1.00	0.18	0.62	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.01	0.54	0.00	1.00	0.00
	15	1.00	0.97	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.03	0.12	0.10	1.00	0.00
	16	1.00	0.64	0.55	0.00	0.00	0.00	0.00	0.16	0.08	1.00	1.00	0.00	1.00	0.17	1.00	0.00
	17	0.77	0.75	0.19	0.00	0.00	0.00	0.00	0.01	0.17	1.00	1.00	0.00	0.46	0.01	0.30	0.00
	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.60	0.00	0.40	0.01	0.00	0.00
	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tot		11.68	2.95	4.76	0.71	0.71	0.24	0.00	0.17	0.25	11.27	13.05	5.70	8.30	5.16	10.34	0.00

Hour	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr	23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr	30-Apr	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	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.00
5	0.01	0.00	0.70	0.78	0.83	0.37	0.00	0.00	0.00	0.96	0.00	0.00	1.00	0.25	0.23
6	1.00	0.23	1.00	1.00	1.00	0.90	0.05	0.07	0.01	0.99	0.00	0.00	0.83	0.09	0.41
7	1.00	0.66	1.00	1.00	1.00	0.81	0.20	0.00	0.23	0.73	0.04	0.00	0.00	0.00	0.47
8	1.00	1.00	1.00	1.00	1.00	0.75	0.10	0.00	0.03	0.70	0.12	0.20	0.18	0.22	0.49
9	1.00	0.87	1.00	1.00	1.00	0.63	0.56	0.00	0.20	0.34	0.12	0.01	0.56	1.00	0.50
10	1.00	0.80	1.00	1.00	1.00	0.49	0.00	0.00	0.30	0.72	0.00	0.35	0.42	1.00	0.48
11	1.00	1.00	1.00	1.00	1.00	0.98	0.00	0.00	0.55	0.54	0.00	0.48	0.37	0.60	0.46
12	1.00	0.98	1.00	1.00	1.00	0.97	0.00	0.00	0.62	0.21	0.00	0.18	0.10	0.92	0.43
13	1.00	1.00	1.00	1.00	1.00	0.93	0.00	0.00	0.48	0.16	0.09	0.03	0.45	0.88	0.48
14	0.84	0.83	1.00	1.00	1.00	1.00	0.00	0.00	0.12	0.00	0.15	0.27	0.41	0.85	0.43
15	0.76	0.44	1.00	1.00	1.00	1.00	0.00	0.02	0.33	0.00	0.02	0.14	0.25	0.52	0.41
16	0.62	1.00	1.00	1.00	1.00	0.68	0.00	0.25	0.69	0.14	0.26	0.65	0.86	0.86	0.52
17	0.71	0.00	1.00	1.00	1.00	0.00	0.00	0.78	0.76	0.08	0.19	0.15	0.43	0.62	0.38
18	0.00	0.00	0.69	0.77	0.75	0.00	0.00	0.07	1.00	0.00	0.58	0.30	0.37	0.00	0.21
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	10.95	8.82	13.39	13.55	13.59	9.50	0.90	1.19	5.37	5.58	1.58	2.74	6.27	7.83	176.51

April 2019	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	8.12	16.0	1356	1.5	611	73.2	96.5	614	42.7	1440	3.1	4.7	5.8	1210	4.0	611	1019.40	1025.7	3	1011.3	2358	0
2	4.63	9.4	1344	1.0	407	88.0	98.5	2358	58.5	1625	2.7	4.6	5.5	1318	4.0	406	1004.42	1011.3	0	1001.2	2358	5.6
3	3.19	9.9	1357	-1.1	538	86.2	100.0	601	46.8	1357	0.8	4.1	5.2	1032	3.4	1345	998.82	1001.4	28	995.8	2359	0.9
4	5.13	8.6	1312	1.7	219	89.0	96.0	2021	72.2	1512	3.4	5.0	5.9	1130	3.9	158	994.59	998.4	2359	991.9	926	8.3
5	8.55	13.2	1335	3.8	210	71.3	97.1	112	39.4	1554	3.1	4.8	5.7	903	3.4	1659	1001.56	1004.6	2315	998.2	46	0.8
6	7.80	12.6	1120	4.8	417	85.5	96.9	422	63.2	1113	5.4	5.6	6.1	1116	5.1	157	1005.42	1006.5	2225	1004.2	4	0
7	8.97	13.3	1446	4.9	25	89.4	97.0	132	75.2	1447	7.3	6.4	7.6	1445	5.1	25	1008.49	1010.4	2348	1006.1	147	0
8	9.05	11.8	1621	7.1	522	92.5	98.6	400	78.9	1623	7.9	6.6	7.1	1730	6.1	535	1011.15	1012.6	2355	1009.7	213	1.8
9	8.22	10.7	1611	5.2	2240	92.8	99.4	632	77.4	1820	7.1	6.3	7.5	1611	4.6	2218	1014.36	1016.8	2311	1011.6	47	6.3
10	7.97	14.4	1417	1.8	2338	69.6	87.1	103	44.9	1546	2.4	4.5	5.4	1307	3.5	2357	1019.99	1025.0	0	1016.7	37	0
11	5.87	13.2	1357	-1.5	508	68.9	95.6	518	41.1	1542	0.1	3.8	4.9	1356	3.2	508	1025.96	1027.9	2359	1024.8	154	0
12	5.67	12.8	1214	-1.5	508	70.0	97.0	559	41.4	1216	0.1	3.8	4.7	1210	3.2	522	1027.00	1027.9	43	1025.4	1522	0
13	4.58	11.7	1407	-1.1	547	73.7	95.5	440	42.9	1705	-0.0	3.7	4.7	1406	3.1	1705	1027.28	1028.6	709	1025.8	1828	0
14	4.29	10.8	1517	-2.6	503	71.7	96.9	559	39.1	1606	-1.0	3.5	4.7	933	2.8	1615	1025.36	1026.6	4	1023.7	1233	0
15	8.99	15.8	1406	2.7	229	67.4	91.6	243	32.4	1355	2.6	4.6	5.3	1157	3.4	1528	1019.13	1025.4	9	1014.7	2359	0
16	10.04	14.4	1631	5.2	327	79.9	92.1	2345	56.8	1621	6.6	6.1	7.1	1431	5.0	252	1015.56	1018.5	2346	1013.5	337	0
17	11.63	19.5	1533	4.0	530	76.0	99.0	625	43.7	1533	7.0	6.2	7.4	1340	4.9	530	1019.51	1022.3	2359	1018.1	1702	0
18	13.43	22.5	1320	7.2	320	71.1	98.2	403	36.4	1616	7.5	6.4	8.4	1251	5.2	1729	1023.22	1026.3	0	1021.6	1431	0
19	14.19	24.4	1459	4.7	506	65.1	96.6	546	29.7	1547	6.5	5.9	7.7	1042	5.0	1547	1028.35	1031.3	2341	1026.2	35	0
20	14.81	24.7	1441	4.5	508	64.1	97.9	559	29.0	1542	6.8	6.1	7.9	1449	5.0	1620	1029.39	1031.7	732	1026.5	1811	0
21	14.16	24.8	1415	3.8	526	62.7	97.3	552	25.0	1415	5.8	5.7	7.8	1644	4.7	1427	1019.51	1026.8	3	1013.1	2357	0
22	14.98	25.7	1354	4.3	421	59.0	92.1	525	23.7	1333	5.7	5.8	8.3	1120	4.5	1332	1005.38	1013.2	1	1000.4	2349	0
23	14.25	21.7	1414	8.6	454	70.4	93.5	532	41.3	1416	8.5	7.0	8.8	1257	6.1	2140	996.81	1000.8	1	994.2	2348	0
24	11.77	17.7	1006	7.6	2251	79.6	93.8	500	61.0	1732	8.3	7.0	10.0	1056	5.7	1826	994.04	997.8	2101	990.8	1013	0.6
25	11.70	16.6	1506	7.0	2342	73.1	94.8	2347	42.1	1640	6.6	6.2	7.0	943	4.7	1640	999.26	1006.3	2342	994.8	416	0.4
26	10.01	17.0	1133	3.0	454	79.8	100.0	611	45.5	1240	6.3	6.0	7.7	1340	4.6	454	1008.87	1010.4	1950	1006.0	8	1.3
27	9.19	12.9	1436	6.8	2359	65.5	89.8	12	40.2	1445	2.8	4.7	6.3	0	3.6	1445	1010.65	1016.6	2359	1005.5	428	0.4
28	9.99	14.7	1535	6.5	2300	67.5	91.5	2310	52.4	1651	4.1	5.1	5.9	1120	4.1	355	1020.79	1025.0	2350	1016.5	0	0
29	10.28	16.8	1645	3.8	456	75.8	98.6	559	44.1	1627	5.8	5.7	6.8	1403	4.8	1627	1025.95	1027.0	816	1024.8	2	0
30	11.08	18.8	1610	3.0	452	73.5	98.7	635	41.7	1421	5.9	5.7	7.0	1246	4.5	452	1024.10	1026.7	804	1021.0	1830	0
Total																						26.4
Mean	9.42	15.88		3.56		75.1	95.92		46.96		4.64	5.37	6.67		4.38		1014.14	1017.66		1011.14		
Max	14.98	25.70		8.56		92.8	100.00		78.90		8.55	7.03	9.96		6.15		1029.39	1031.67		1026.52		
Min	3.19	8.63		-2.55		59.0	87.10		23.70		-1.01	3.49	4.68		2.82		994.04	997.76		990.82		

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

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

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

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

Appendix 1.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

/ = Types of high cloud invisible owing to darkness, fog, blowing dust 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.