

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

SEPTEMBER 2018

		Anomaly	Rank in the past 137 years						
Temperature (°C)									
Mean maximum	20.5	+1.1	20 th highest						
Mean minimum	9.0	-1.0	53 rd lowest						
Daily mean	14.7	0.0	42 nd highest						
Highest maximum	25.3	on 17 th	Lowest maximum	12.3	on 22 nd				
Highest minimum	17.2	on 17 th	Lowest minimum	0.5	on 25 th				
Mean grass minimum	5.2	-1.5	Lowest grass minimum	-4.1	on 25 th				
Mean earth @30 cm	16.6	+0.2	Earth @100 cm	17.0					
Frost duration (hrs)	0.0		Rain duration (hrs)	34.1					
Rainfall total (mm)	42.2	79%	55 th lowest						
Highest daily fall	19.8	on 22 nd							
Number of: Dry days (<0.2mm)	22	Wet days (>0.9mm)	7	days ≥5mm	2				
Sunshine total (hrs)	198.3	Daily mean	6.61	139%	Sunniest day	12.5	on 1 st & 2 nd		
N° days with: Air frost	0	Ground frost	7	Snow falling	0	Snow lying	0		
Thunder	0	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0	Nil sun	1
Pressure MSL: Mean @09 GMT, mbar	1021.9	+5.2	Highest	1040.1	on 24 th	Lowest	996.9	on 20 th	
Relative humidity: Mean (%)	74.0	Lowest	20	on 26 th	Water vapour (g/kg), mean at 09 and 15 GMT	7.8,	7.0		
Overall mean wind speed (mph)	6.5	Windiest day	14.1	on 20 th	Max gust	50	on 20 th & 21 st		
Wind direction (days)	N 5	NE 1	E 0	SE 1	S 4	SW 15	W 2	NW 2	
Least windy day (mph)	2.3	on 29 th	Calm; less than 0.5 mph (minutes)	1204					

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

Notes:

Very Sunny with Below Average Rainfall and Average Mean Temperature.

Temperature: This has been a month of contrasts, often mild by day but with some cold nights., resulting in the mean maximum being 1° above average while the mean minimum is 1° below average. This gives a mean daily temperature range of 11.5°, highest for September since 2003 and 2nd highest in the past 43 years. This temperature distribution also resulted in the mean being exactly average. The highest max is 0.8° above the long-term median and the lowest max, 1.6° below the median, is lowest since 1994. The highest min is 2.0° above its median while the lowest min is 2.3° below the median and is lowest since 1959. The mean grass min is lowest only since 2015 but the lowest grass min is lowest in the past 39 years. The first ground frost of the season was on the 13th after 116 frost free days, and the number of ground frosts is most since 1986. Mean earth temperatures are close to normal. Anomalies for both daily max and min showed wide variations, for max reaching >+4° on the 2nd, 16th to 19th and 27th, and >-4° on the 12th, 22nd and 23rd, with extreme values of +6.4° on the 17th and -6.7° on the 22nd. For daily min, >+4° on the 11th and 17th to 23rd, and >-4° on the 7th, 13th, 24th to 30th except the 29th, with extreme values of +7.6° on the 17th and -8.4° on the 25th. **Rainfall:** Although the total this month is only 21% below average much of the month was dry, only 8 days having measurable rain, and nearly three quarters of the month's total fell on just 2 days, the 20th and 22nd. There were 2 dry spells, one of 8 days ended on the 5th and of 6 days on the 17th, also one unbroken at the end of the month after 7 days. There was no thunder or hail this month, but a violent rain shower on the 21st gave a rate of 88 mm/hr. After a very dry summer, the continuing mostly dry nature of this first autumn month led to the estimated soil moisture deficit continuing to increase, and shallow rooted plants would be severely stressed for most of the month unless irrigated. Daily accumulation compared with normal was in deficit of 26 mm by the 19th, but received a slight surplus on the 23rd, only to end the month 11 mm in deficit. **Sunshine:** This has been the sunniest September since 2003. The mean daily sunshine of 6.61 hours is 0.3 hours more than in August, and the total is 39% above average. There were 15 days having >50% of the maximum, and 7 of those had over 90%. The 6 day period 24th to 29th was outstanding with a mean of 10.8 hours per day. Overall there were 6 days with <3 hours, 17 with =>6 hours, 10 with =>9 hours and 2 with =>12 hours. Daily sunshine accumulation compared with normal was 28 hours in surplus by the 7th, decreasing to 17 hours by the 12th, increasing to 30 hours by the 17th, decreasing to 21 hours by the 23rd but finishing the month 55 hours in surplus. **Wind:** The mean speed is 0.7 mph above average and highest since 2012. The month's highest gust is 12 mph above average and is 2nd highest for September after 2017 since before 1988. Daily speeds were light or moderate throughout, except for the 18th to 21st when they increased to fresh on the 18th then strong. Directions were mainly SW'ly, but S'ly on 1st backing N'ly on 3rd, then W'ly on 6th, temporarily N'ly on the 12th and 28th, and NW'ly on the 23rd, 24th and 30th. **Pressure:** The mean pressure is highest since 2009, but the month's highest value is highest for September since before 1976. The total span of 43.2 mbar is 8.9 mbar above average.

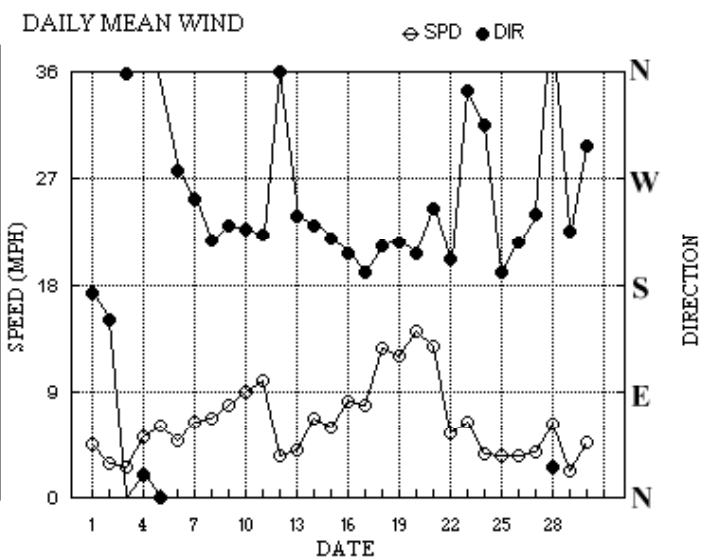
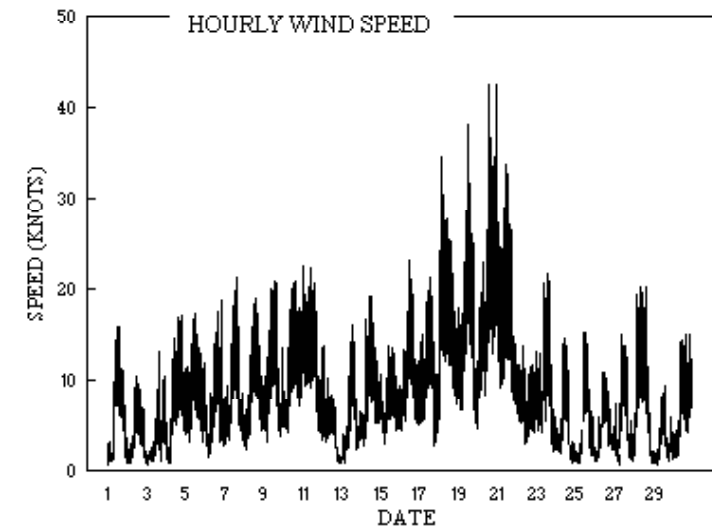
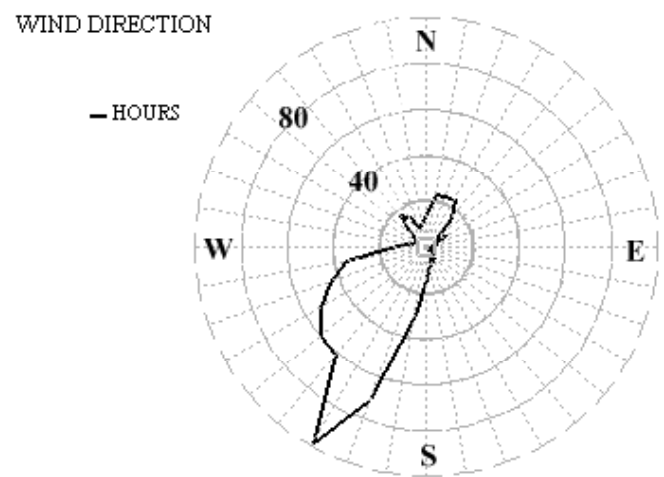
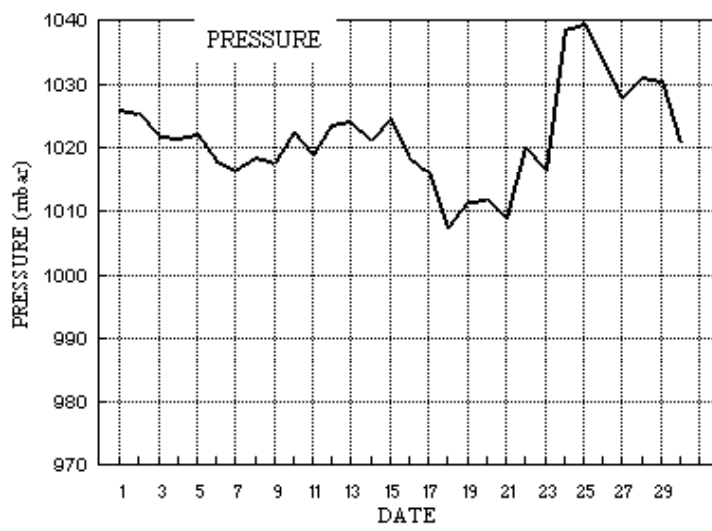
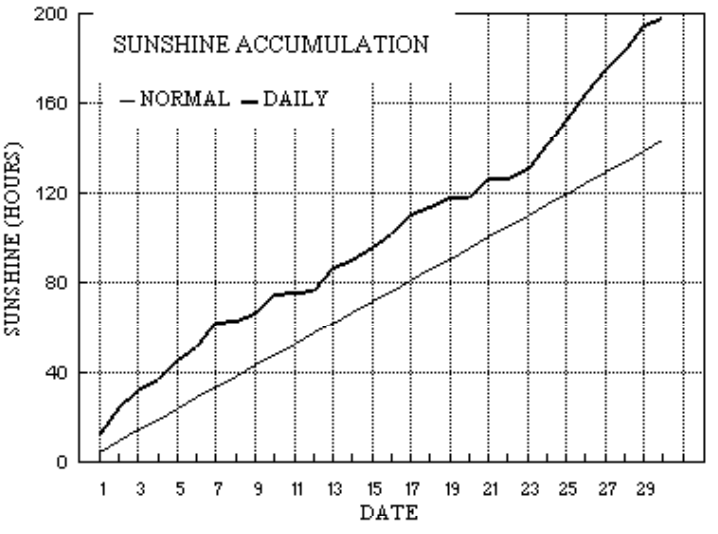
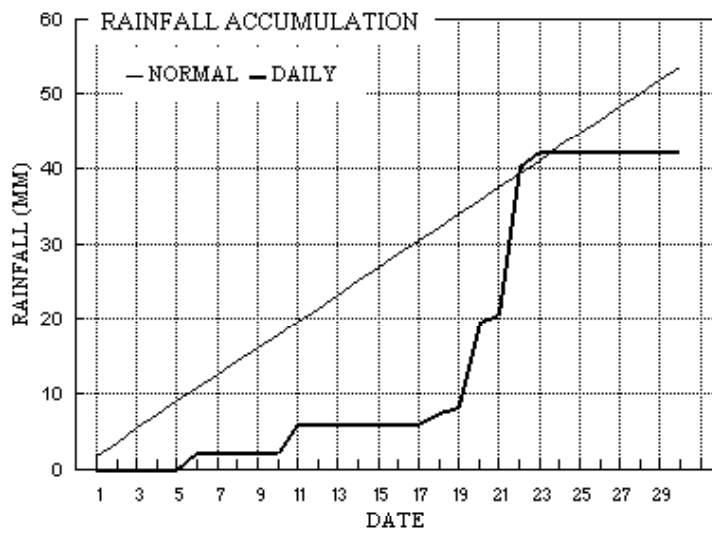
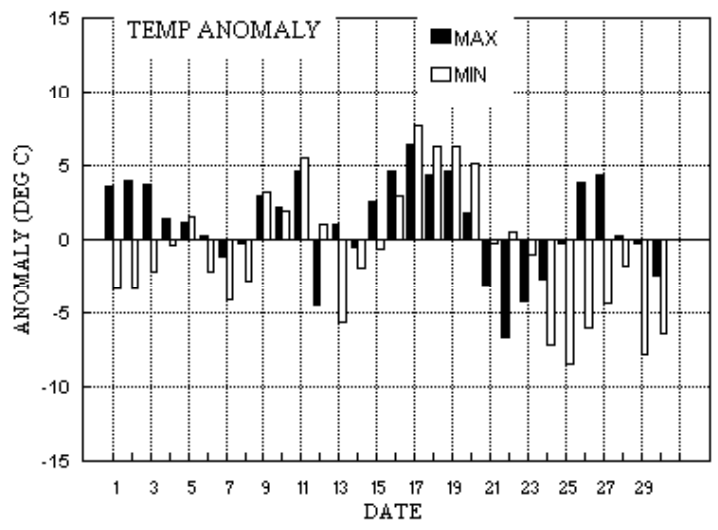
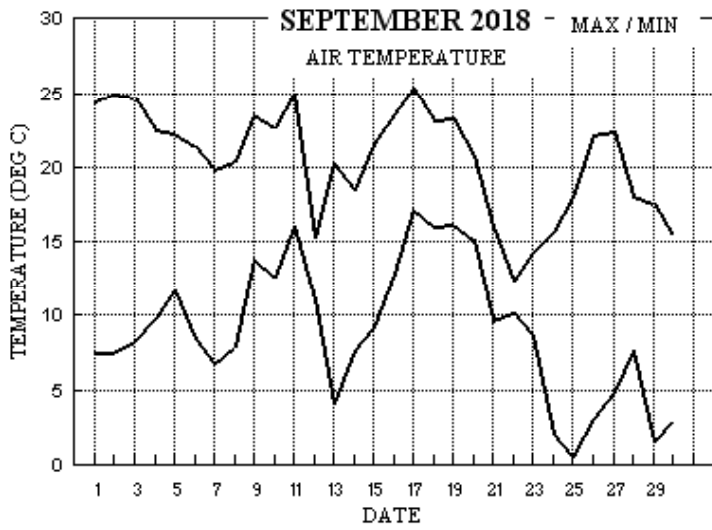
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the			
+1.8°	-1.2°	11%	159%	+2.5°	+2.6°	95%	90%	-1.1°	-4.3°	128%	168%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for September 2018



Month: SEPTEMBER 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 ddd	ff	sp	Max gust ddd	gg HHhh	High hr ddd	ff	HH	Rain hrs	
1	24.4	7.5	0.0	2.7	17.5	18.1	12.5	0.0	1026.0	0	0	0	0	173	3.2	3.9	169	16	1301	179	8	11	0.0
2	24.9	7.5	0.0	2.7	17.5	17.9	12.5	0.0	1025.6	0	0	0	0	151	1.7	2.5	181	10	1105	167	5	09	0.0
3	24.7	8.2	0.0	3.4	17.6	17.8	6.9	0.0	1021.8	0	0	0	0	357	1.1	2.2	17	13	1534	350	5	20	0.0
4	22.5	9.8	0.0	4.7	17.9	17.7	5.8	0.0	1021.5	0	0	0	0	20	4.2	4.4	24	17	2047	19	7	18	0.0
5	22.3	11.7	0.0	6.5	18.0	17.7	7.9	0.0	1022.2	0	0	0	0	1	5.2	5.3	20	17	1133	17	8	09	0.0
6	21.4	8.4	2.3	2.6	18.0	17.6	6.3	0.0	1018.0	0	0	0	0	276	3.7	4.2	354	19	2018	254	9	16	1.1
7	19.9	6.7	tr	1.1	17.6	17.6	10.3	0.0	1016.7	0	0	0	0	253	5.4	5.6	262	22	1437	260	9	14	0.0
8	20.4	7.9	tr	2.3	17.0	17.6	0.8	0.0	1018.6	0	0	0	0	217	5.8	5.9	222	19	1531	229	9	15	0.0
9	23.5	13.8	0.0	11.6	17.2	17.4	3.9	0.0	1017.6	0	0	0	0	230	6.3	6.8	242	21	1409	237	11	13	0.0
10	22.7	12.6	0.0	8.9	17.4	17.3	8.7	0.0	1022.6	0	0	0	0	227	7.6	7.8	215	21	1502	227	11	14	0.0
11	24.9	16.0	3.8	14.5	17.7	17.3	0.8	0.0	1018.9	0	0	0	0	222	8.3	8.6	216	23	0040	222	11	00	9.0
12	15.2	11.1	tr	11.6	18.0	17.3	0.4	0.0	1023.8	0	0	0	0	359	2.5	3.2	338	14	0301	321	5	01	0.0
13	20.2	4.1	0.0	-0.5	16.9	17.3	10.5	0.0	1024.4	0	1	0	0	239	3.1	3.5	235	16	1341	250	7	13	0.0
14	18.5	7.6	tr	2.3	16.5	17.2	2.7	0.0	1021.4	0	0	0	0	230	5.6	5.8	255	19	1308	238	10	11	0.0
15	21.5	9.1	0.0	4.0	16.3	17.1	5.9	0.0	1024.5	0	0	0	0	219	4.8	5.1	266	14	1049	204	7	17	0.0
16	23.6	12.8	0.0	10.8	16.6	17.0	6.0	0.0	1018.7	0	0	0	0	207	7.0	7.2	237	23	1149	223	11	14	0.0
17	25.3	17.2	tr	15.5	17.2	16.9	9.0	0.0	1016.2	0	0	0	0	191	6.5	6.8	190	21	1436	195	11	14	0.0
18	23.1	16.0	1.3	10.3	17.5	16.8	3.1	0.0	1007.3	0	0	0	0	213	10.8	11.1	209	35	0418	224	14	08	0.8
19	23.3	16.2	0.9	14.7	17.8	16.9	4.3	0.0	1011.5	0	0	0	0	216	10.4	10.5	198	38	1201	226	17	13	2.0
20	20.7	15.1	11.2	14.8	17.9	16.9	0.2	0.0	1011.8	0	0	0	0	206	12.2	12.2	219	43	1458	201	17	23	3.9
21	16.0	9.6	1.1	7.7	17.6	16.9	8.4	0.0	1008.8	0	0	0	0	244	11.0	11.1	264	43	0041	229	16	00	1.0
22	12.3	10.1	19.8	7.4	16.5	17.0	0.0	0.0	1020.0	0	0	0	0	202	1.3	4.8	247	14	0923	243	6	09	14.7
23	14.3	8.6	1.8	8.7	15.9	16.9	3.7	0.0	1016.7	0	0	0	0	344	4.7	5.6	319	22	1539	324	10	15	1.6
24	15.6	2.0	0.0	-2.6	14.8	16.8	11.3	0.0	1038.5	0	1	0	0	314	1.7	3.2	327	15	1101	335	6	09	0.0
25	17.9	0.5	0.0	-4.1	14.2	16.6	10.8	0.0	1039.6	0	1	0	0	190	2.7	3.2	224	15	1421	200	8	14	0.0
26	22.1	3.0	0.0	-1.2	13.9	16.3	11.4	0.0	1033.9	0	1	0	0	216	3.0	3.1	242	11	1348	235	6	10	0.0
27	22.4	4.8	tr	-1.1	14.2	16.1	11.4	0.0	1028.0	0	1	0	0	240	2.9	3.4	272	15	1057	231	7	12	0.0
28	18.1	7.6	0.0	2.4	14.4	15.9	8.3	0.0	1031.0	0	0	0	0	26	5.3	5.5	28	20	1503	31	9	12	0.0
29	17.6	1.5	0.0	-3.3	14.1	15.7	11.3	0.0	1030.6	0	1	0	0	226	1.2	2.0	301	10	1529	204	4	13	0.0
30	15.4	2.9	0.0	-3.0	13.7	15.6	3.2	0.0	1020.8	0	1	0	0	298	3.4	4.1	329	15	1634	305	7	13	0.0
Total			42.2				198.3	0.0															34.1
Mean	20.5	9.0		5.2	16.6	17.0	6.61	0.0	1021.9					230	3.3	5.6							
Anom	+1.1	-1.0	79%	-1.5	+0.2	+0.2	139%			+5.2													

Daily mean 14.7 Pressure, abs highest = 1040.1 on 24
 Anom +0.0 Pressure, abs lowest = 996.9 on 20

Number of days with:
 Air frost = 0 Ground frost = 7 Nil sun = 1
 Snow falling = 0 Snow lying = 0 Thunder = 0
 Hail=>5mm = 0 Hail<5mm or ice = 0 Fog at 09GMT = 0

Abbreviations.
 Max/min = highest and lowest air temperature at 1.2m in 24 hour period ending at 09 GMT
 Rain = total rainfall and melted snowfall in 24 hour period ending at 09 GMT, millimetres. (Tr = trace, <.05mm).
 Grass min = Lowest overnight temperature at grass tip level.
 Sun = hours of bright sunshine, measured electronically. Frost = Number of hours with air temp below 0 deg C.
 pp09 = Air pressure corrected to mean sea level at 0900 GMT, millibars.
 Af = Air frost. Gf = Ground frost. Sf = Snow falling. Sl = Snow lying at 09 GMT.
 Th = Thunder. Ha = Hail =>5mm. Ic = Hail <5mm or ice. Fg = Fog at 09 GMT.
 Vec mean = 24 hour mean wind vector, ddd = direction in degrees from true north, ff = speed in knots.
 Sp = 24 hour mean wind speed in knots.
 Max gust = Highest gust in 24 hours, gg = speed in knots, HHhh = Time, hours and minutes, GMT.
 High hr = Highest hourly mean wind, HH = hour commencing. Rain Hrs = Duration of rain, 24 hours to 09 GMT. Excludes snow/hail.
 30cm and 100 cm are earth temperatures at those depths, read at 09 GMT.
 Anom = Departure from 1981-2010 climatological average.
 All temperatures in degrees Celsius.

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 0900 GMT for SEPTEMBER 2018

Date	VV	N	dd	ff	gg	TT	Td	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	shs	NChs	hNChs	Date	Remarks
1	65	1	14	06	10	18.8	12.8	68	9.0	1026.0	1	007	03	0	0	1	5	7	0	1	81656			1	1Ci75
2	61	1	16	04	07	19.4	12.2	63	8.7	1025.6	0	000	02	0	0	1	5	7	0	0	81650			2	
3	59	7	08	01	03	15.0	10.6	75	7.8	1021.8	0	001	05	2	2	1	0	9	3	8	81357	84270	87075	3	COTRA
4	61	3	01	07	13	16.7	11.4	71	8.3	1021.5	0	002	01	1	1	3	8	4	0	0	81815	83650		4	Cu fra
5	65	4	01	07	14	16.8	11.5	71	8.3	1022.2	0	000	01	1	1	3	1	4	3	0	83815			5	2Ac62 Cu hum
6	84	1	28	03	08	16.2	8.2	59	6.7	1018.0	6	009	03	0	0	1	0	9	4	4	81360			6	1Ci75
7	89	1	27	05	11	13.6	6.9	64	6.1	1016.7	0	008	03	0	0	1	1	5	0	2	81822			7	1Ci75 Cu hum
8	82	7	22	06	13	15.9	10.9	72	8.0	1018.6	0	000	01	6	2	2	5	4	7	8	81718	83360	86468	8	2Sc50 3Ac65 /Cs72 COTRA
9	75	7	22	09	15	17.4	13.3	77	9.4	1017.6	3	003	03	2	2	7	5	4	7	/	87617			9	/Ac62
10	75	7	25	06	14	17.0	10.1	64	7.6	1022.6	2	010	03	2	2	2	8	5	3	1	81820	83365	86075	10	2Sc35 COTRA Cu hum
11	82	7	22	10	20	19.1	14.8	76	10.3	1018.9	1	002	02	2	2	7	5	4	/	/	87615			11	/Sc30
12	82	8	03	03	08	12.9	11.0	88	8.0	1023.8	3	018	01	6	2	7	8	4	2	/	83810	85630	87650	12	/As65 Cu hum
13	78	1	28	02	06	13.1	9.7	80	7.4	1024.4	1	002	02	0	0	0	0	9	0	1	81080			13	
14	84	7	24	06	10	14.6	9.2	70	7.1	1021.4	2	002	15	2	2	7	8	5	/	/	81820	83630	87650	14	Cu hum jpE
15	72	3	20	04	09	15.6	11.6	77	8.3	1024.5	0	009	01	1	1	1	6	4	0	1	81710	83075		15	1Sc56 Absent vv&cld est
16	80	7	20	08	13	18.0	13.1	73	9.3	1018.7	4	000	02	2	2	4	0	9	3	8	84367	87272		16	Absent Cld&vis est
17	75	7	20	10	19	19.3	14.1	72	10.0	1016.2	8	002	01	2	2	7	8	4	/	1	85815	83625		17	/Ci80 COTRA Cu hum
18	75	7	23	14	28	18.4	13.1	71	9.3	1007.3	3	024	01	5	2	7	5	4	/	2	87618			18	/Ci75
19	68	7	21	13	23	19.5	15.0	75	10.5	1011.5	7	003	15	2	2	5	8	4	0	1	85818	87075		19	1Sc35 COTRA Cu med jpSE
20	61	8	21	10	19	18.2	15.1	82	10.6	1011.8	0	001	21	6	2	8	5	4	/	/	82712	85615	88620	20	jp NW&W
21	84	3	25	11	19	12.3	6.4	67	6.0	1008.8	2	036	03	0	0	3	2	5	0	1	83825			21	1Ci70 Cu med
22	68	8	24	04	11	12.0	8.8	81	7.0	1020.0	3	003	61	6	2	4	8	5	2	/	82825	83640	88556	22	Cu med
23	40	8	33	04	09	9.1	8.5	96	6.8	1016.7	3	032	63	6	6	7	5	3	2	/	83708	86612	88540	23	
24	84	3	32	05	09	11.1	6.0	71	5.7	1038.5	2	019	02	1	1	0	0	9	0	1	83080			24	COTRA
25	75	3	06	02	04	8.6	6.4	86	5.8	1039.6	1	009	02	0	0	0	0	9	0	1	83080			25	COTRA
26	82	2	23	03	05	12.8	8.5	75	6.7	1033.9	1	005	02	0	0	0	0	9	0	1	82080			26	COTRA
27	70	0	23	04	07	13.8	9.8	77	7.4	1028.0	8	005	02	0	0	0	0	9	0	0				27	
28	80	5	03	09	18	13.4	8.0	70	6.5	1031.0	1	025	01	5	2	2	1	5	0	1	82820	84078		28	1Ci70 COTRA Cu hum
29	78	6	01	02	03	9.1	6.7	85	6.0	1030.6	8	010	02	2	2	0	0	9	0	1	86081			29	COTRA
30	75	7	26	03	05	9.8	7.2	84	6.3	1020.8	7	002	03	1	1	7	5	6	/	1	87633			30	/Ci75 COTRA

Mean vis = 28.5 km

Mean cloud = 4.9 61%

Mean wind speed = 6.0 kn

Mean gust = 12 kn

Mean TT = 14.9 °C

Mean TdTd = 10.4 °C

Mean RH = 74.7 %

Mean r = 7.8 g/kg

Mean PPP = 1021.9 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for SEPTEMBER 2018

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks												
1	80	2	21	07	14	24.1	8.9	38	7.0	1024.6	8	006	02	0	0	1	1	6	4	1	81848	1	2Ac57	1Ci75	Cu	hum						
2	75	1	08	03	09	24.6	5.4	29	5.5	1022.1	7	014	02	0	0	1	5	7	0	0	81650	2										
3	72	7	36	06	11	24.6	10.8	42	8.0	1019.0	8	013	02	2	2	1	8	6	0	1	81848	87075	3	1Sc56	COTRA	Cu	hum					
4	64	6	02	07	13	22.5	11.6	50	8.4	1020.4	8	002	02	2	2	1	1	6	8	/	81835	86361	4	1Ac59	Cu	hum	Ac	cas				
5	80	6	34	07	14	21.2	10.4	50	7.7	1019.9	6	010	03	1	1	2	1	6	3	1	82838	85078	5	2Ac62	COTRA	Cu	hum	parhelia				
6	82	8	25	07	14	19.5	10.5	56	7.9	1014.3	8	018	15	2	2	8	8	6	/	/	84835	88643	6	Cu	hum	jp	N&W					
7	84	3	29	08	22	17.5	4.5	42	5.2	1016.3	8	001	02	1	1	3	4	7	0	0	81850	83650	7	Cu	hum							
8	84	7	23	08	18	20.3	10.4	53	7.8	1017.4	6	005	60	6	2	4	8	6	7	/	84835	83362	87468	8	1Sc45	3Ac64	Cu	med				
9	82	6	26	09	21	22.9	11.6	49	8.4	1016.9	7	004	01	1	1	2	8	6	0	2	82842	85078	9	1Sc56	1Cc75	COTRA	Cu	hum	irisation			
10	81	7	24	12	21	21.8	8.7	43	6.9	1020.7	7	009	02	2	2	1	1	6	3	8	81848	84275	86078	10	2Ac61	COTRA	Cu	hum				
11	84	7	21	11	21	22.5	16.3	68	11.4	1018.8	7	003	02	2	2	7	8	5	/	1	83822	86635	11	/Ci75	Cu	hum						
12	84	7	01	04	08	14.7	8.9	68	7.0	1024.3	7	004	01	2	2	1	8	6	7	/	81830	87468	12	1Sc50	2Ac62	Cu	hum	Cld	edge	NNW		
13	82	2	26	07	14	19.3	5.7	41	5.6	1022.0	8	011	02	0	0	2	4	7	0	1	81850		13	2Sc50	1Ci75	Cu	hum					
14	84	7	25	08	19	17.0	10.1	64	7.6	1020.3	6	006	25	8	2	7	8	6	/	/	82830	87650	14	Absent	vv&cld	est						
15	82	7	25	07	14	19.6	8.9	50	7.0	1023.1	7	009	03	1	1	2	4	6	1	8	81842	85468	87272	15	2Sc50	Absent	vv&cld	est				
16	82	5	21	10	21	22.2	12.7	55	9.1	1016.7	7	010	01	1	1	4	8	6	0	1	81832	84645	16	1Ci80	COTRA	Cu	hum					
17	86	4	19	11	21	24.3	7.4	34	6.4	1011.6	7	023	02	0	0	0	0	9	0	1	81080	84081	17	COTRA								
18	80	6	22	14	25	20.8	13.7	64	9.7	1011.9	1	012	02	2	2	6	8	5	0	1	82822	85650	18	3Ci78	Cu	med						
19	65	7	22	12	32	21.2	12.6	58	9.1	1011.7	3	002	03	2	2	6	8	6	/	1	85830		19	2Sc40	/Ci75	Cu	hum					
20	72	8	21	17	43	20.2	13.9	67	9.9	1007.9	8	022	02	2	2	7	8	5	/	7	83827	85640	88270	20	Cu	med						
21	80	5	25	17	32	15.8	7.6	58	6.5	1012.1	1	021	15	8	1	5	8	6	0	0	84835		21	2Sc56	Cu	med	jp	S				
22	56	8	11	04	11	10.9	9.8	93	7.5	1017.0	7	025	63	6	6	5	2	2	2	/	82705	84808	88545	22	Cu	med						
23	86	4	32	09	21	14.1	4.4	52	5.1	1022.1	2	026	02	1	1	4	8	6	0	0	84838		23	1Sc50	Cu	med						
24	86	2	35	06	14	15.3	-0.1	35	3.7	1037.8	8	006	02	0	0	1	1	7	3	2	81850		24	1Ac69	2Ci75	COTRA	Cu	hum				
25	86	2	20	08	15	17.0	4.3	43	5.0	1036.0	6	023	02	0	0	1	4	6	0	1	81648		25	2Ci80	COTRA							
26	86	1	23	05	10	22.1	2.8	28	4.5	1031.3	7	016	03	0	0	1	5	6	0	1	81640		26	1Ci80								
27	86	1	25	06	13	22.4	5.4	33	5.5	1023.8	6	019	02	0	0	0	0	9	0	1	81075		27	COTRA	El	hz	lyr	S				
28	84	3	03	09	18	17.0	4.0	42	4.9	1030.8	6	004	01	0	0	1	4	7	0	1	81850	83080	28	1Sc50	COTRA	Cu	hum					
29	83	5	27	04	09	17.1	4.4	43	5.1	1025.4	7	027	02	1	1	1	4	7	0	1	81650	85080	29	COTRA								
30	86	7	31	06	13	15.0	6.0	55	5.8	1019.1	7	006	02	2	2	7	8	6	3	2	82832	87648	30	/Ac65	/Ci72	Cu	med					

Mean vis = 40.8 km

Mean cloud = 5.0 63%

Mean wind speed = 8.3 kn

Mean gust = 18 kn

Mean TT = 19.6 °C

Mean TdTd = 8.4 °C

Mean RH = 50.1 %

Mean r = 7.0 g/kg

Mean PPP = 1020.5 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

Wokingham Sunshine Hourly analysis 2018	Hour	01-Sep	02-Sep	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
	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	0.36	0.42	0.38	0.01	0.00	0.14	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	1.00	1.00	0.79	0.49	0.00	1.00	1.00	0.00	0.10	0.00	0.00	0.00	0.86	0.08	0.71	0.00
	7	1.00	1.00	0.00	0.06	0.73	1.00	1.00	0.00	0.00	0.12	0.01	0.00	1.00	0.13	0.68	0.00
	8	1.00	1.00	0.00	0.95	0.99	1.00	1.00	0.00	0.00	0.91	0.00	0.03	1.00	0.06	0.51	0.06
	9	1.00	1.00	0.00	1.00	0.77	1.00	1.00	0.38	0.00	0.37	0.00	0.00	1.00	0.04	1.00	0.03
	10	0.95	1.00	0.38	0.13	0.89	1.00	0.88	0.02	0.27	0.66	0.00	0.00	1.00	0.11	0.79	0.21
	11	0.90	1.00	1.00	0.10	0.78	0.93	0.95	0.00	0.42	0.86	0.01	0.00	1.00	0.00	0.29	0.41
	12	0.86	1.00	1.00	0.00	0.49	0.10	0.57	0.09	0.38	1.00	0.00	0.00	1.00	0.00	0.47	1.00
	13	0.83	1.00	1.00	0.00	0.72	0.17	0.50	0.00	0.59	0.91	0.23	0.00	0.96	0.17	0.55	1.00
	14	1.00	1.00	1.00	0.50	0.73	0.00	0.71	0.20	0.38	1.00	0.49	0.00	0.95	0.02	0.54	0.82
	15	1.00	1.00	1.00	0.92	0.86	0.00	0.72	0.10	0.78	0.88	0.01	0.00	0.43	0.48	0.30	0.79
	16	1.00	1.00	0.33	0.61	0.49	0.00	0.75	0.00	0.76	0.94	0.00	0.00	0.67	0.41	0.00	0.65
	17	1.00	0.99	0.01	0.83	0.43	0.00	0.64	0.00	0.23	1.00	0.00	0.07	0.56	1.00	0.00	0.96
	18	0.59	0.09	0.00	0.25	0.04	0.00	0.37	0.00	0.00	0.05	0.00	0.34	0.07	0.18	0.00	0.03
	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		12.48	12.50	6.88	5.83	7.93	6.33	10.29	0.78	3.91	8.71	0.76	0.44	10.50	2.67	5.87	5.98

Hour	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep	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	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
6	0.00	0.00	0.28	0.00	0.63	0.00	0.00	0.64	0.63	0.61	0.61	0.00	0.62	0.29	0.38
7	0.00	0.00	0.68	0.04	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.98	0.48
8	0.12	0.00	0.65	0.00	0.95	0.00	0.00	1.00	1.00	1.00	1.00	0.72	1.00	0.33	0.54
9	0.74	0.12	0.09	0.00	0.50	0.00	0.00	0.98	1.00	1.00	1.00	0.89	1.00	0.69	0.55
10	0.98	0.00	0.30	0.00	0.86	0.00	0.00	0.86	0.93	1.00	1.00	0.53	1.00	0.66	0.55
11	1.00	0.51	0.38	0.00	0.47	0.00	0.00	1.00	0.45	1.00	1.00	0.68	1.00	0.00	0.54
12	1.00	0.64	0.71	0.00	0.28	0.00	0.53	1.00	0.89	1.00	1.00	0.81	1.00	0.00	0.56
13	1.00	0.28	0.37	0.03	0.68	0.00	0.77	1.00	0.99	1.00	1.00	0.89	1.00	0.01	0.59
14	1.00	0.50	0.37	0.03	0.39	0.00	0.38	1.00	1.00	1.00	1.00	1.00	1.00	0.06	0.60
15	1.00	0.18	0.02	0.05	0.78	0.00	0.57	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.60
16	1.00	0.15	0.43	0.00	0.91	0.00	0.75	1.00	1.00	1.00	1.00	1.00	1.00	0.13	0.57
17	1.00	0.74	0.00	0.00	0.92	0.00	0.72	0.81	0.86	0.83	0.79	0.73	0.64	0.00	0.53
18	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
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
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	8.98	3.13	4.28	0.16	8.38	0.00	3.71	11.30	10.75	11.44	11.40	8.25	11.26	3.17	198.06

SEPTEMBER 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	16.12	24.6	1418	7.4	515	69.9	97.9	714	36.9	1457	9.7	7.4	9.9	833	6.1	515	1025.26	1026.4	2236	1024.2	1611	0
2	16.13	25.0	1504	7.4	523	65.9	96.9	603	28.6	1459	8.3	6.7	9.8	845	5.2	1327	1023.90	1026.3	104	1021.2	1747	0
3	16.28	24.9	1442	8.1	513	72.3	96.8	609	37.3	1346	10.5	7.9	10.3	1955	6.4	513	1020.69	1022.5	0	1018.7	1627	0
4	15.75	22.6	1459	9.7	436	75.0	97.7	626	46.9	1444	10.9	8.1	9.1	1506	7.0	1100	1021.19	1022.3	2353	1020.2	1448	0
5	17.01	22.4	1429	11.6	458	66.1	91.2	501	46.4	1429	10.4	7.7	9.1	1055	6.1	2252	1020.93	1022.6	742	1018.9	1800	0
6	14.71	21.6	1137	8.3	544	72.9	94.0	2147	40.2	1138	9.4	7.4	10.2	1738	5.9	433	1016.64	1019.7	100	1013.6	1556	2.4
7	12.73	20.0	1426	6.6	515	68.1	94.9	537	34.0	1436	6.3	5.9	7.3	1009	4.6	1440	1016.74	1018.8	2233	1015.2	29	0.2
8	14.75	20.6	1458	7.8	119	75.4	93.0	126	51.9	1459	10.2	7.7	9.1	2353	6.0	101	1018.14	1019.3	201	1017.0	1817	0
9	17.65	23.6	1325	13.7	519	70.8	89.0	59	39.3	1615	11.9	8.6	10.1	1007	6.6	1610	1018.00	1020.7	2358	1016.7	1444	0
10	16.87	22.8	1352	12.5	557	70.0	91.9	417	38.6	1355	10.8	8.0	9.9	2345	6.2	1154	1021.11	1022.7	901	1019.4	2359	0
11	18.73	25.0	1438	15.3	2358	80.5	96.0	2240	58.2	1438	15.2	10.7	12.3	1840	9.4	148	1019.15	1020.3	2210	1018.3	530	1.7
12	12.26	15.5	0	6.3	2357	87.1	97.3	2352	63.4	1622	10.1	7.6	10.3	0	5.7	2356	1023.33	1025.1	2240	1019.4	29	2.2
13	11.78	20.3	1322	4.0	525	72.4	98.2	719	34.1	1227	6.0	5.8	7.8	919	4.6	1227	1023.20	1024.7	21	1021.3	1632	0
14	13.41	18.6	1532	7.5	53	75.6	93.4	232	57.0	1113	9.0	7.1	8.5	1320	5.8	218	1021.23	1022.7	15	1019.9	1552	0
15	15.08	21.6	1300	9.0	602	74.8	96.8	617	43.7	1444	10.2	7.6	9.0	916	6.5	1552	1023.33	1024.9	955	1021.9	2359	0
16	17.68	23.7	1313	12.7	240	73.2	89.7	515	38.6	1233	12.4	8.9	10.8	2346	6.9	1233	1018.41	1022.2	9	1016.4	1540	0
17	19.60	25.4	1331	15.9	1944	64.0	88.7	242	29.7	1525	11.8	8.8	11.0	259	5.5	1526	1013.13	1018.0	1	1006.2	2351	0
18	18.89	23.2	1347	16.0	25	72.1	85.0	648	50.3	1156	13.6	9.7	10.9	408	8.1	1049	1008.92	1012.6	2324	1004.2	412	0
19	18.49	23.4	1303	15.0	2211	77.5	94.8	2343	49.9	1302	14.2	10.1	11.2	855	8.3	1416	1012.32	1014.8	2101	1010.4	1243	2.1
20	18.20	20.8	1428	15.9	0	81.0	94.0	0	63.1	1425	14.8	10.5	11.6	1042	9.4	1421	1008.34	1013.6	0	996.9	2352	4.8
21	12.79	17.6	0	9.5	600	70.5	93.3	28	48.5	1125	7.4	6.5	11.6	15	5.3	1622	1009.72	1019.2	2359	996.9	30	8.7
22	10.86	12.4	904	9.9	39	88.8	97.0	2351	76.8	1033	9.0	7.1	7.9	1201	6.2	3	1017.50	1020.5	1011	1013.3	2146	7.8
23	9.68	14.5	1447	4.7	2339	83.0	97.1	10	44.8	1618	6.6	6.1	7.7	110	4.3	1618	1020.69	1033.5	2353	1013.1	338	15.1
24	8.19	15.7	1423	1.9	611	73.9	97.8	659	28.8	1552	2.8	4.6	6.0	852	2.9	1628	1037.62	1040.1	2325	1033.3	2	0
25	8.65	18.0	1404	0.3	545	75.9	97.7	705	36.8	1405	3.9	4.9	6.4	1005	3.7	545	1037.64	1039.7	839	1034.9	2326	0
26	12.11	22.2	1459	2.9	527	70.3	97.0	537	20.3	1519	5.5	5.6	7.7	958	3.2	1519	1032.75	1035.3	4	1030.7	1618	0
27	13.12	22.5	1457	4.7	623	70.3	97.6	712	24.9	1608	6.6	6.0	8.5	1047	4.0	1608	1026.58	1031.1	1	1023.1	1618	0
28	11.78	18.3	1245	3.9	2353	69.9	93.0	120	35.8	1408	6.0	5.8	7.7	401	4.3	1431	1030.38	1033.5	2048	1026.3	0	0
29	8.79	17.7	1418	1.4	556	78.3	97.4	656	40.7	1339	4.5	5.2	6.8	1014	4.0	558	1027.96	1033.1	33	1022.6	2356	0
30	9.53	15.5	1332	2.8	526	75.1	97.5	731	52.9	1034	4.9	5.4	7.0	924	4.4	526	1020.87	1022.9	2357	1019.0	1458	0

Total	Mean	Max	Min																			
	14.25	20.66		8.42		74.0	94.75		43.27		9.10	7.31	9.19		5.75		1021.19	1024.30		1017.77		45.0
	19.60	25.38		16.03		88.8	98.20		76.80		15.22	10.68	12.28		9.44		1037.64	1040.06		1034.89		
	8.19	12.40		0.34		64.0	85.00		20.26		2.84	4.57	6.01		2.92		1008.34	1012.58		996.89		

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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