

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 2020

Temperature (°C)		Anomaly	Rank in the past	139	years
Mean maximum	20.9	+1.5	15 th highest		
Mean minimum	9.8	-0.2	44 th highest		
Daily mean	15.4	+0.7	19 th highest		
Highest maximum	28.6	on 14 th	Lowest maximum	13.4	on 26 th
Highest minimum	16.0	on 16 th	Lowest minimum	4.3	on 1 st
Mean grass minimum	7.0	+0.3	Lowest grass minimum	0.1	on 25 th
Mean earth @30 cm	16.9	+0.5	Earth @100 cm	17.0	
Frost duration (hrs)	0.0		Rain duration (hrs)	15.9	
Rainfall total (mm)	26.1	49 %	28 th lowest		
Highest daily fall	8.9	on 23 rd	Highest rate mm/hr	42	on 23 rd
Number of: Dry days (<0.2mm)	22	Wet days (>0.9mm)	5	days ≥5mm	2
Sunshine total (hrs)	195.7	Daily mean	6.52	129 %	Sunniest day
N° days with: Air frost	0	Ground frost	0	Snow falling	0
Thunder	0	Hail ≥5mm	0	Small hail/ice	0
				Fog @09	0
				Nil sun	0
Pressure MSL: Mean @09 GMT, mbar	1017.8	+1.1	Highest	1029.7	on 17 th
			Lowest	993.0	on 24 th
Relative humidity: Mean (%)	76.5	Lowest	28	on 14 th Water vapour (g/kg), mean at 09 and 15 GMT	
				8.4,	8.1
Overall mean wind speed (mph)	6.0	Windiest day	11.6	on 25 th	Max gust
					38
Wind direction (days)	N 4	NE 5	E 1	SE 0	S 2
				SW 11	W 5
				NW 2	
Least windy day (mph)	2.1	on 1 st	Calm; less than 0.5 mph (minutes)		
				852	

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

Notes:

Dry with Mean Temperature and Sunshine Well Above Average.

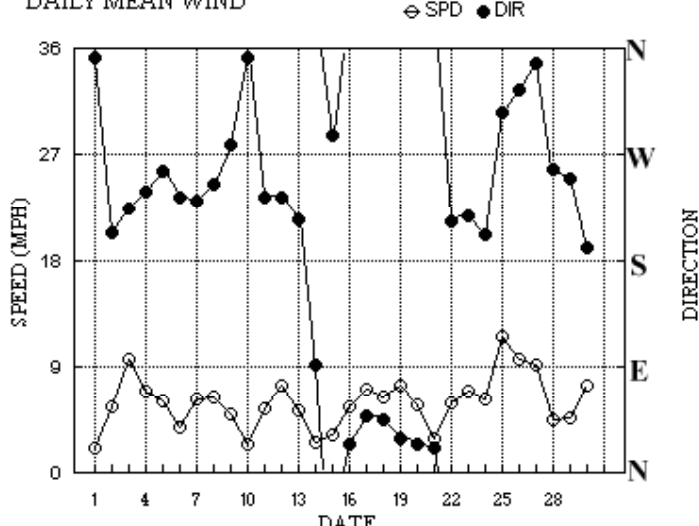
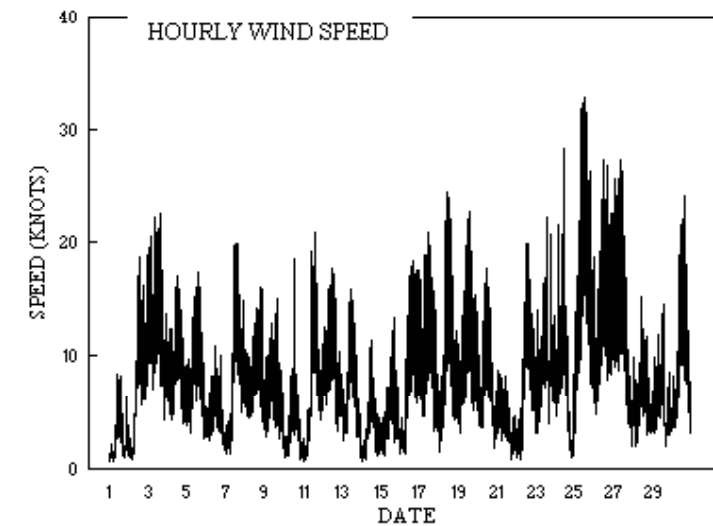
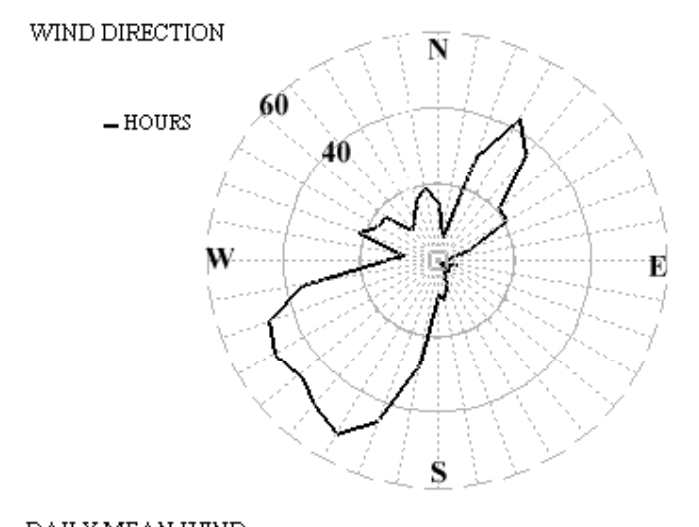
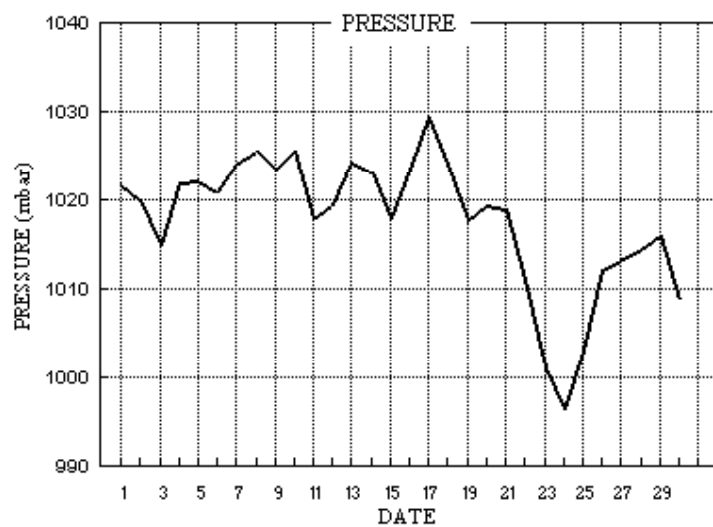
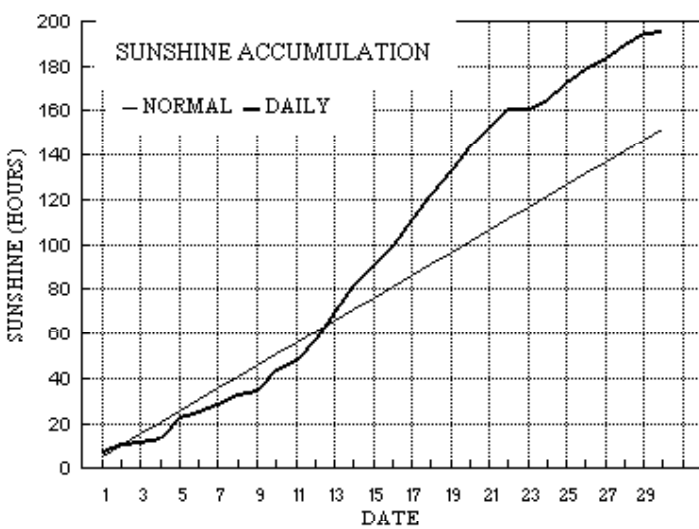
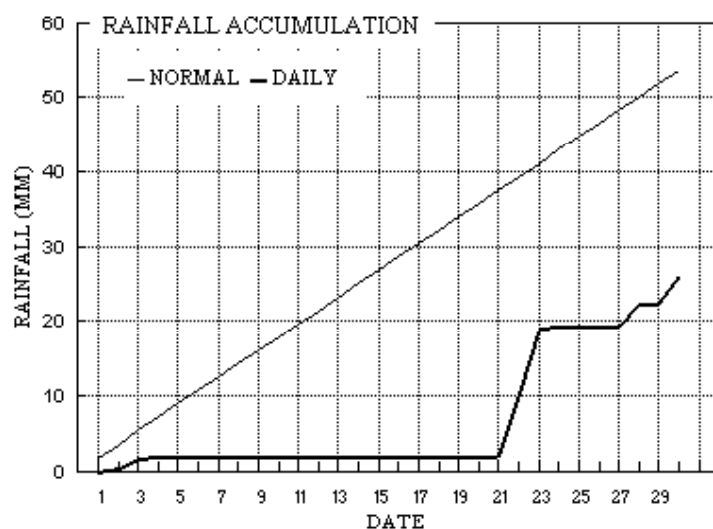
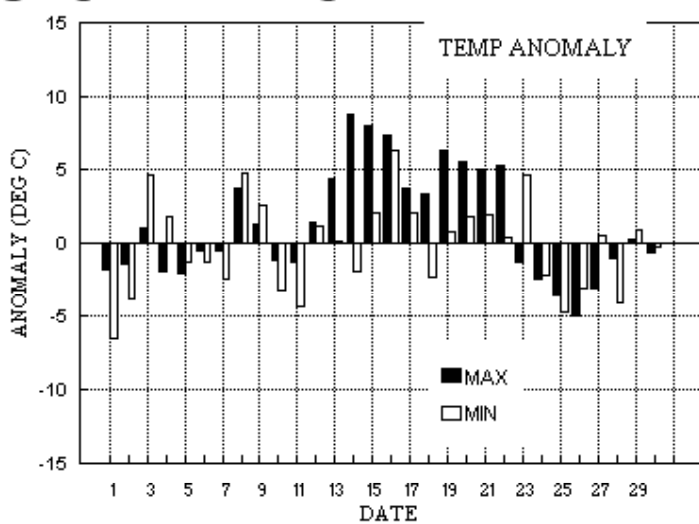
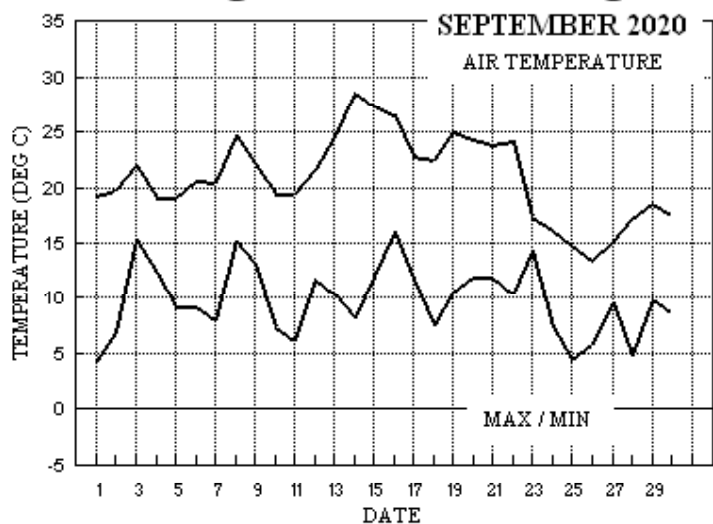
Temperature: The mean this September, while 0.7° above average, has been equaled or exceeded 8 times in this millennium, though the mean maximum has been exceeded only 5 times in this period. However, comparing this with the previous 20 years (1980 to 1999), this September's mean maximum was only exceeded once. The highest max is 4.1° above the median and the lowest max is 0.5° below its median. The highest min is 0.8° above the median while the lowest min is 1.4° above its median. Up to the 13th daily maximum temperatures were generally near normal, but from the 13th to 22nd there was a minor heat wave, followed by a cool snap. Anomalies for daily max exceeded +5° on the 14th to 16th and 19th to 22nd, with an extreme value of +8.8° on the 14th, but exceeded -3° on the 25th to 27th, reaching -5.0° on the 26th. Anomalies for daily min were more variable, exceeding -4° on the 1st, 11th, 25th and 28th, extreme value -6.5° on 1st, and exceeded +4° on the 3rd, 8th, 16th and 23rd, extreme value +6.2° on 16th. **Rainfall:** With just under half the average, this is the driest September since 2014, but in this millennium 2009, 2004, and 2003 were also drier. This month was dominated by a long dry spell of 17 days ending on the 21st, and in fact only 1.9 mm fell before it turned somewhat wetter on the 22nd. The total on the month's wettest day, 8.9 mm, is 7.3 mm below the long-term median. The number of dry days is 3 more than average. No thunder or hail was recorded this month. Daily rainfall accumulation compared with normal was 36 mm in deficit by the 21st, decreasing to 22 mm on the 23rd, but increasing to 27 mm by the 30th. **Sunshine:** This has been a very sunny September, though in this millennium both 2003 and 2018 were sunnier. The period 12th to 22nd was outstanding, all days having over 70% of the maximum and 4 having over 90 %, and an 11 day mean of 10.3 hours. By comparison, during the first 11 days of the month, 8 had less than 50 % of the maximum and 5 had less than 25%. Daily accumulation compared with normal showed a deficit of 10 hours by the 9th which became a small surplus by the 13th, this building to a 50 hour surplus by the 22nd, thence decreasing slightly to 44 hours by the 30th. Overall there were 5 days with <3 hours, 17 with =>6 hours, 10 with =>9 hours and 1 with =>12 hours. **Wind:** This month's mean speed is just 0.2 mph above average and the highest gust of 38 mph is exactly average. Daily mean directions were N'y on 1st, 10th and 27th, NW'y on 25th and 26th, W'y on 9th, 15th 28th and 29th, SW'y on 2nd to 8th, 11th to 13th and 22nd to 24th, S'y on 30th, E'y on 14th and NE'y from 16th to 21st. Speeds were light or moderate throughout apart from an increase to fresh on the 25th.

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			
-0.3°	-0.5°	11%	87%	+4.7°	+0.5°	0%	198%	-0.7°	-0.6°	135%	102%

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

Wokingham climatological graphs for September 2020



Daily meteorological data.

Emmbrook, WOKINGHAM, Berkshire.

Month: SEPTEMBER 2020

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec mean ddd ff sp	Max gust ddd gg HHhh	High hr ddd ff	Rain HH hrs							
1	19.3	4.3	0.0	1.0	16.9	17.7	7.6	0.0	1021.7	0	0	0	0	352	0.6	1.8	62	8	1049	320	4	13	0.0	
2	19.7	6.9	0.4	3.6	16.9	17.5	4.0	0.0	1020.0	0	0	0	0	203	4.8	4.9	204	19	2345	204	9	23	0.7	
3	22.0	15.4	1.2	14.2	17.1	17.4	0.1	0.0	1014.9	0	0	0	0	224	8.0	8.3	230	23	1442	224	11	14	1.0	
4	19.1	12.3	0.3	10.1	17.4	17.3	1.8	0.0	1021.9	0	0	0	0	239	5.9	6.0	259	17	1329	250	8	13	0.6	
5	19.1	9.3	tr	4.9	17.4	17.3	9.1	0.0	1022.2	0	0	0	0	256	5.0	5.3	262	18	1330	253	8	15	0.0	
6	20.6	9.3	0.0	5.2	16.9	17.2	3.0	0.0	1021.0	0	0	0	0	234	3.0	3.3	260	11	1133	255	5	12	0.0	
7	20.5	8.1	tr	4.4	17.0	17.2	3.3	0.0	1024.0	0	0	0	0	230	5.3	5.5	263	20	1543	250	10	13	0.0	
8	24.6	15.1	0.0	15.2	17.3	17.1	3.9	0.0	1025.5	0	0	0	0	245	5.6	5.6	271	16	1818	246	8	15	0.0	
9	22.1	13.1	0.0	9.6	17.9	17.1	1.7	0.0	1023.5	0	0	0	0	278	2.6	4.4	325	15	1500	335	7	15	0.0	
10	19.5	7.3	0.0	2.8	17.6	17.2	9.5	0.0	1025.5	0	0	0	0	351	1.1	2.2	232	19	1425	255	4	14	0.0	
11	19.4	6.1	0.0	1.9	17.1	17.2	3.9	0.0	1017.9	0	0	0	0	233	4.5	4.8	263	21	1513	229	9	11	0.0	
12	21.7	11.7	0.0	8.9	17.0	17.1	10.0	0.0	1019.5	0	0	0	0	233	6.1	6.4	242	18	1112	252	8	13	0.0	
13	24.5	10.4	0.0	6.6	17.1	17.1	12.1	0.0	1024.4	0	0	0	0	215	4.4	4.6	199	16	1255	230	8	12	0.0	
14	28.6	8.2	0.0	4.6	17.1	17.0	11.7	0.0	1023.2	0	0	0	0	92	1.6	2.3	102	11	1249	98	5	12	0.0	
15	27.4	11.9	tr	8.6	17.3	17.0	9.4	0.0	1017.9	0	0	0	0	286	1.2	2.8	264	13	1601	266	5	15	0.0	
16	26.6	16.0	0.0	13.7	18.0	17.0	8.2	0.0	1023.4	0	0	0	0	25	4.5	4.9	19	19	1705	19	10	16	0.0	
17	22.9	11.7	0.0	10.1	18.2	17.1	11.8	0.0	1029.4	0	0	0	0	48	5.9	6.1	65	21	1200	62	8	13	0.0	
18	22.4	7.5	0.0	2.6	17.6	17.2	11.1	0.0	1024.2	0	0	0	0	46	5.4	5.6	56	25	1051	64	11	12	0.0	
19	25.1	10.6	0.0	6.8	17.2	17.2	11.2	0.0	1017.7	0	0	0	0	30	6.4	6.4	59	23	1502	39	9	12	0.0	
20	24.3	11.9	0.0	8.5	17.2	17.1	10.8	0.0	1019.4	0	0	0	0	25	5.0	5.0	64	18	1210	21	8	13	0.0	
21	23.9	12.0	0.0	7.8	17.3	17.1	8.6	0.0	1019.1	0	0	0	0	21	1.5	2.6	10	9	0219	22	4	04	0.0	
22	24.1	10.4	8.3	7.1	17.3	17.1	8.5	0.0	1011.2	0	0	0	0	213	5.2	5.2	224	20	1455	208	10	14	1.7	
23	17.4	14.4	8.9	13.4	17.5	17.1	0.2	0.0	1001.1	0	0	0	0	218	5.7	6.0	202	22	1456	238	9	18	3.0	
24	16.2	7.4	0.3	5.3	16.9	17.1	3.6	0.0	996.4	0	0	0	0	201	4.7	5.4	241	28	1157	224	9	11	0.6	
25	14.9	4.5	0.0	0.1	15.8	17.0	7.5	0.0	1003.1	0	0	0	0	305	9.9	10.1	337	33	1342	316	16	13	0.0	
26	13.4	5.9	tr	3.2	15.0	16.7	6.2	0.0	1012.3	0	0	0	0	324	8.0	8.4	331	27	1240	334	11	13	0.0	
27	15.2	9.5	0.0	9.6	14.6	16.4	4.9	0.0	1013.2	0	0	0	0	346	7.8	7.9	338	27	0916	347	11	00	0.0	
28	17.2	4.8	2.9	1.1	14.5	16.1	6.2	0.0	1014.5	0	0	0	0	257	3.2	4.0	318	15	1150	287	7	13	4.1	
29	18.5	9.9	tr	13.4	15.1	15.9	4.9	0.0	1016.1	0	0	0	0	249	3.0	4.1	262	15	1443	241	7	14	0.0	
30	17.5	8.8	3.8	5.4	15.3	15.9	0.9	0.0	1008.9	0	0	0	0	191	6.2	6.4	183	24	1625	192	10	16	4.2	
Total			26.1				195.7	0.0																15.9
Mean	20.9	9.8		7.0	16.9	17.0	6.52	0.0	1017.8					262	1.9	5.2								
Anom	+1.5	-0.2	49%	+0.3	+0.5	+0.2	129%																	+1.1
Daily mean		15.4							Pressure, abs highest =															1029.7 on 17
Anom		+0.7							Pressure, abs lowest =															993.0 on 24

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 30
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 2020

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks												
1	82	1	35	02	04	14.5	9.1	70	7.1	1021.7	7	003	03	0	0	1	8	5	0	0	81820	1	1Sc50	Cu	med							
2	84	6	20	06	10	16.7	10.1	65	7.6	1020.0	4	000	03	1	1	1	1	5	3	1	81825	86369	2	2Ci75	Cu	hum	Ac	str	vir			
3	68	8	20	09	22	19.3	17.1	87	12.0	1014.9	1	004	21	6	2	8	5	3	/	/	82706	86608	88645	3								
4	72	7	22	06	10	16.3	13.0	81	9.2	1021.9	0	006	21	6	2	2	5	4	7	1	81712	83362	4	2Sc45	2Ac68	4Ci72	COTRA					
5	84	5	27	08	14	15.2	8.7	65	6.9	1022.2	1	009	03	1	1	1	8	5	4	0	81828	85369	5	1Sc35	Cu	hum/med						
6	82	3	25	03	08	14.7	10.3	75	7.7	1021.0	2	003	01	1	1	3	8	5	3	0	81820	83656	6	1Ac58	Cu	med						
7	70	6	19	04	07	14.9	13.4	91	9.4	1024.0	0	002	02	2	2	4	0	9	7	2	84366	83080	7	2Ci72	COTRA							
8	82	8	25	05	09	18.4	16.0	86	11.1	1025.5	1	013	02	2	2	8	5	3	/	/	87709	88645	8									
9	65	8	26	07	12	16.9	14.5	86	10.2	1023.5	1	009	02	2	2	8	6	3	/	/	88708		9									
10	82	2	06	03	06	14.0	8.2	68	6.7	1025.5	1	005	03	0	0	2	5	6	0	1	82645		10	1Ci80								
11	80	7	19	03	05	13.7	9.9	78	7.5	1017.9	7	002	02	2	2	7	5	6	/	8	87637		11	/Cs80								
12	82	7	25	07	16	16.8	11.9	73	8.6	1019.5	2	017	03	2	2	5	8	4	0	8	85818	85280	12	1Sc50	COTRA	Cu	hum					
13	86	4	23	07	13	17.4	12.7	74	9.0	1024.4	1	009	02	1	1	0	0	9	0	1	84080		13	COTRA								
14	75	0	05	03	05	15.7	14.7	94	10.3	1023.2	0	003	02	4	1	0	0	9	0	0			14	El	hz	lyr	SE					
15	58	6	05	02	06	20.1	15.5	75	10.9	1017.9	0	004	05	1	1	0	0	9	0	1	81075	86080	15	COTRA								
16	60	6	03	04	10	19.3	14.8	75	10.3	1023.4	2	016	05	2	2	6	0	9	7	/	81362	86366	16	Clearance	NW							
17	67	1	04	05	16	16.1	11.1	72	8.0	1029.4	0	001	03	0	0	1	8	4	0	0	81818		17	1Sc22	Cu	hum						
18	82	1	05	06	15	15.4	10.6	73	7.8	1024.2	3	003	03	0	0	1	1	5	0	1	81820		18	1Ci78	Cu	hum	El	hz	lyr			
19	82	7	03	06	16	16.9	12.2	74	8.8	1017.7	4	000	02	2	2	1	0	9	8	1	81362	87080	19	COTRA	Ac	cas						
20	75	1	03	08	15	17.4	12.7	74	9.1	1019.4	1	007	02	0	0	1	0	8	4	0	81357		20	1Ac62								
21	58	7	01	04	07	14.1	12.5	90	8.9	1019.1	1	006	05	2	2	7	6	3	/	/	87706		21									
22	63	0	01	04	07	18.6	12.6	68	9.0	1011.2	8	009	02	0	0	0	0	9	0	0			22									
23	70	8	20	07	12	16.1	14.1	88	10.1	1001.1	7	006	01	2	2	1	5	4	7	7	81710	88270	23	1Sc40	1Ac58	2Ac68	COTRA	Halo	22°	part		
24	82	4	23	08	17	11.9	8.0	77	6.8	996.4	1	010	15	1	1	1	8	4	6	3	81815	83360	24	1Sc50	1Ci70	jpSE	Distant	cb	top	NW		
25	88	5	30	09	22	9.3	4.7	73	5.3	1003.1	2	034	01	6	2	1	1	4	7	2	81818	83368	85072	25	Cu	hum	Ac	str	vir			
26	89	1	34	09	19	9.5	1.9	59	4.3	1012.3	1	006	03	0	0	1	5	7	3	1	81650		26	1Ac63	1Ci70							
27	81	7	36	10	26	11.1	5.2	67	5.5	1013.2	2	004	01	5	2	7	5	5	/	/	87625		27									
28	80	7	29	04	07	9.9	5.9	76	5.7	1014.5	1	006	02	2	2	1	0	9	3	1	81368	87080	28	COTRA	Parhelia	+U/a	cont					
29	50	8	31	06	12	14.4	13.0	91	9.2	1016.1	2	015	05	6	2	8	7	2	/	/	82705	86706	88710	29								
30	70	7	18	05	09	13.9	10.9	82	8.1	1008.9	8	019	03	2	2	1	8	5	7	8	81825	86465	87270	30	1Sc35	1Ac63	COTRA	Cu	hum	Cs	edge	E

Mean vis = 31.5 km

Mean cloud = 4.9 62%

Mean wind speed = 5.7 kn

Mean gust = 12 kn

Mean TT = 15.3 °C

Mean TdTd = 11.2 °C

Mean RH = 76.9 %

Mean r = 8.4 g/kg

Mean PPP = 1017.8 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for SEPTEMBER 2020

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks						
1	85	7	32	04	08	18.5	6.7	46	6.0	1019.8	6	005	02	1	1	7	8	6	/ /	82848	86656	1	Cu hum			
2	65	8	23	06	19	16.4	12.9	80	9.2	1018.6	5	002	61	6	2	3	8	6	2	/	81835	83656	88559	2		
3	20	8	23	11	23	19.7	17.7	88	12.5	1015.5	2	007	58	6	5	8	7	3	/ /	86706	88709		3			
4	82	7	24	08	16	18.2	10.8	62	8.0	1020.8	8	009	02	2	2	4	8	6	8	8	82832	83645	85363	4	2Ac59 7Cs70 Cu hum	
5	86	5	27	05	15	17.7	6.6	48	6.0	1021.4	7	007	02	2	2	5	8	6	0	1	81842	85656		5	2Sc50 1Ci78 Cu med	
6	84	5	25	04	09	19.9	10.3	54	7.7	1020.4	7	003	02	1	1	5	8	6	0	1	83837	83656		6	1Sc50 1Ci75 Cu med	
7	86	8	25	08	19	19.4	11.9	62	8.6	1023.0	4	000	03	2	2	7	5	6	7	/	84632	86650	88462	7	/Ac58	
8	88	2	25	08	14	24.4	17.2	64	12.0	1023.9	7	010	01	1	1	2	8	5	0	0	82822			8	1Sc45 Cu med	
9	84	7	32	06	15	21.3	15.8	71	11.0	1022.5	5	003	03	2	2	7	8	5	/ /	81820	85825	87640	9	Cu fra/med Adj CF		
10	82	4	26	05	19	18.3	7.1	48	6.2	1021.6	6	019	02	1	1	4	4	6	0	1	82848	83650		10	1Ci80 Cu hum El hz lyr	
11	84	7	26	09	17	17.7	8.3	54	6.8	1016.5	6	006	02	2	2	5	5	6	0	8	85637	85280		11		
12	85	4	25	08	16	20.8	9.1	47	7.1	1020.5	2	004	02	1	1	1	4	6	0	1	81848	84080		12	1Sc50 COTRA	
13	88	1	23	06	14	24.5	12.8	48	9.1	1022.9	7	010	02	0	0	1	1	6	0	0	81835			13	Cu hum	
14	84	0	18	04	11	28.4	9.7	31	7.4	1019.2	7	019	02	0	0	0	0	9	0	0					14	El hz lyr
15	65	7	28	05	10	27.1	15.8	50	11.1	1017.2	6	003	03	1	1	3	0	9	3	8	83369	87272		15	Halo 22° part	
16	70	1	02	08	18	26.3	13.8	46	9.7	1023.4	6	006	03	0	0	1	1	6	3	1	81835			16	1Ac68 1Ci75 Cu hum	
17	80	0	07	09	18	22.5	10.0	45	7.5	1026.0	7	026	02	0	0	0	0	9	0	0					17	El hz lyr
18	86	4	06	08	22	21.3	7.9	42	6.5	1020.4	6	016	03	0	0	0	0	9	0	4	84078			18		
19	82	3	05	07	20	24.4	9.6	39	7.4	1015.1	6	012	01	1	1	2	0	9	3	1	82359			19	2Ci80 COTRA	
20	82	3	03	05	14	23.1	12.4	51	8.9	1017.8	6	007	02	0	0	2	0	8	8	0	81357			20	2Ac59 1Ac62 Ac cas	
21	72	0	36	02	06	23.5	11.9	48	8.6	1016.0	7	017	02	0	0	0	0	9	0	0					21	
22	81	6	22	12	20	21.3	13.5	61	9.6	1007.1	7	018	03	1	1	6	8	6	/ /	83830	84635		22	Cu hum		
23	56	7	20	12	22	16.9	14.2	84	10.2	997.7	8	023	21	6	2	7	3	4	7	/	82910	83815	85630	23	/Ac62 jpW-N (CF)	
24	89	7	18	07	15	12.9	7.6	70	6.6	994.5	8	017	02	8	2	3	8	5	7	8	82825	83364	87270	24	2Sc50 3As67 Cu med	
25	88	2	32	14	32	14.8	1.3	40	4.2	1006.4	2	017	01	1	1	2	4	7	0	1	82850			25	1Sc50 1Ci75 Cu hum	
26	84	7	32	11	24	12.6	3.5	54	4.9	1012.3	3	001	21	6	1	7	5	6	/ /	87638			26			
27	80	3	35	09	21	14.6	6.4	58	6.0	1013.3	8	002	01	1	1	3	5	6	0	1	83632			27	1Sc40 1Ci78	
28	84	7	24	05	10	17.1	11.2	68	8.2	1012.9	6	008	21	6	2	1	5	5	7	/	81625	83362	87365	28		
29	81	1	25	06	15	18.3	8.3	52	6.8	1015.4	7	009	01	1	1	1	8	6	0	0	81835			29	1Sc56 Cu med	
30	61	8	20	10	22	14.8	12.5	86	9.0	1004.2	6	024	60	6	2	4	5	4	2	/	82715	83640	88556	30		

Mean vis = 41.9 km

Mean cloud = 4.6 58%

Mean wind speed = 7.4 kn

Mean gust = 17 kn

Mean TT = 19.9 °C

Mean TdTd = 10.6 °C

Mean RH = 56.6 %

Mean r = 8.1 g/kg

Mean PPP = 1016.2 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 2020	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	0.46	0.33	0.00	0.00	0.39	0.20	0.20	0.00	0.03	0.18	0.00	0.00	0.06	0.00	0.00	0.00
	6	1.00	1.00	0.00	0.19	1.00	0.00	0.26	0.00	0.00	1.00	0.32	0.03	0.84	0.52	0.77	0.12
	7	1.00	1.00	0.00	0.05	1.00	0.12	0.05	0.00	0.00	1.00	0.00	0.64	1.00	1.00	1.00	0.07
	8	1.00	0.40	0.00	0.22	1.00	0.74	0.99	0.00	0.00	1.00	0.00	0.70	1.00	1.00	1.00	0.00
	9	1.00	0.69	0.00	0.78	0.84	0.43	1.00	0.07	0.00	1.00	0.00	0.75	1.00	1.00	1.00	0.19
	10	1.00	0.38	0.00	0.36	0.45	0.00	0.42	0.00	0.00	0.78	0.37	0.89	1.00	1.00	1.00	1.00
	11	1.00	0.06	0.01	0.09	0.13	0.00	0.07	0.01	0.00	0.58	0.60	0.92	1.00	1.00	1.00	1.00
	12	0.46	0.07	0.00	0.00	0.28	0.10	0.00	0.13	0.04	0.77	0.77	1.00	1.00	1.00	1.00	1.00
	13	0.00	0.00	0.00	0.00	0.52	0.05	0.20	0.50	0.08	0.79	0.90	1.00	1.00	1.00	1.00	1.00
	14	0.06	0.00	0.00	0.03	0.63	0.73	0.01	0.73	0.00	0.47	0.39	1.00	1.00	1.00	0.85	1.00
	15	0.53	0.02	0.00	0.06	0.73	0.43	0.00	1.00	0.25	0.37	0.58	1.00	1.00	1.00	0.80	1.00
	16	0.08	0.01	0.00	0.00	0.70	0.01	0.03	1.00	0.65	0.92	0.00	1.00	1.00	1.00	0.00	1.00
	17	0.00	0.00	0.00	0.00	1.00	0.21	0.05	0.51	0.29	0.60	0.00	1.00	1.00	1.00	0.00	0.84
	18	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.35	0.00	0.00	0.08	0.15	0.12	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		7.59	3.96	0.01	1.79	9.11	3.01	3.26	3.94	1.69	9.46	3.93	10.02	12.05	11.65	9.42	8.22

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	0.06
6	0.75	0.72	0.70	0.66	0.00	0.59	0.00	0.34	0.00	0.64	0.00	0.64	0.00	0.13	0.41
7	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.09	1.00	0.00	1.00	0.00	0.80	0.56
8	1.00	1.00	1.00	1.00	0.00	1.00	0.02	0.26	0.33	1.00	0.03	1.00	0.00	0.00	0.56
9	1.00	1.00	1.00	1.00	0.72	1.00	0.13	1.00	1.00	1.00	0.49	1.00	0.00	0.00	0.67
10	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.55	0.85	0.74	0.15	1.00	0.00	0.00	0.60
11	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.10	0.42	0.92	0.37	0.91	0.70	0.00	0.56
12	1.00	1.00	0.92	1.00	1.00	1.00	0.00	0.00	0.58	0.80	0.68	0.54	0.72	0.00	0.56
13	1.00	1.00	0.92	0.91	1.00	1.00	0.00	0.00	0.86	0.06	0.23	0.07	1.00	0.00	0.54
14	1.00	1.00	1.00	0.87	1.00	0.86	0.06	0.14	0.80	0.02	0.35	0.00	1.00	0.00	0.53
15	1.00	0.88	1.00	1.00	1.00	0.00	0.01	0.00	0.93	0.00	0.99	0.00	1.00	0.00	0.55
16	1.00	0.88	1.00	1.00	1.00	0.00	0.00	0.07	0.99	0.00	0.92	0.00	0.51	0.00	0.49
17	1.00	0.66	0.68	0.38	0.82	0.00	0.00	0.16	0.66	0.00	0.69	0.00	0.00	0.00	0.38
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
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	11.76	11.13	11.22	10.81	8.55	8.46	0.22	3.63	7.52	6.19	4.89	6.16	4.92	0.92	195.47

SEPTEMBER 2020	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	12.30	19.3	1214	4.3	500	74.3	98.3	607	38.2	1122	7.1	6.2	7.6	852	5.0	1124	1020.87	1022.2	559	1019.2	1701	0
2	14.21	19.7	1018	6.9	511	80.1	98.2	632	53.9	1346	10.5	7.9	9.8	2239	6.0	512	1018.78	1020.3	6	1016.0	2355	0.4
3	17.85	22.0	1202	14.0	2359	86.1	94.1	1542	74.6	1204	15.5	10.9	12.9	1255	8.5	2226	1016.14	1020.3	2359	1014.3	453	1.4
4	15.30	19.1	1417	12.3	506	76.6	93.2	511	54.4	1842	11.0	8.1	9.5	913	6.2	1842	1021.05	1022.2	754	1019.9	28	0.3
5	13.73	19.1	1529	9.3	525	72.3	94.1	532	46.3	1320	8.4	6.8	7.9	5	5.7	1254	1021.46	1022.5	1105	1020.5	1730	0
6	14.30	20.6	1518	9.3	118	76.8	95.8	2354	48.1	1502	10.0	7.5	8.3	1500	6.7	1051	1021.13	1023.1	2357	1020.0	506	0
7	14.74	20.5	1354	8.1	517	82.1	98.4	601	56.0	1355	11.4	8.3	10.0	2020	6.5	520	1023.39	1024.3	806	1022.5	1628	0
8	19.15	24.6	1425	15.4	225	82.2	95.5	317	62.3	1514	15.9	11.1	12.9	1400	9.7	5	1024.37	1025.6	1017	1023.3	1709	0
9	16.41	22.1	1328	10.4	2359	81.7	92.8	111	67.3	1307	13.2	9.4	11.8	1325	6.6	2344	1023.52	1026.2	2206	1022.2	1419	0
10	13.06	19.5	1416	7.3	547	72.6	97.2	644	41.1	1407	7.7	6.4	7.1	924	5.6	1310	1023.15	1025.9	13	1019.7	2350	0
11	13.02	19.4	1358	6.1	439	75.2	97.8	516	49.9	1348	8.3	6.8	8.0	951	5.6	440	1017.38	1019.9	0	1015.8	1752	0
12	16.23	21.7	1327	11.7	156	70.0	92.3	2359	40.8	1328	10.3	7.7	8.9	915	6.5	1329	1019.77	1023.0	2213	1015.9	245	0
13	16.87	24.5	1507	10.4	423	76.9	98.1	459	44.3	1310	12.2	8.7	10.1	1139	7.5	422	1023.41	1024.7	934	1022.3	0	0
14	17.44	28.6	1430	8.2	448	74.3	98.8	628	28.2	1431	11.5	8.4	11.1	1028	6.5	1431	1021.17	1023.9	21	1018.6	1618	0
15	20.12	27.4	1333	11.9	604	74.2	97.8	633	47.5	1335	14.8	10.5	12.0	1250	8.3	604	1018.11	1020.4	2320	1017.0	1634	0
16	19.87	26.6	1429	14.9	2358	74.2	94.5	645	43.8	1417	14.7	10.3	11.9	2	8.5	2358	1023.90	1029.2	2359	1020.1	42	0
17	15.79	22.9	1338	9.7	2357	67.7	88.2	2359	40.1	1708	9.3	7.2	8.5	1241	5.2	1731	1027.84	1029.7	837	1025.5	1735	0
18	14.69	22.4	1338	7.5	400	70.8	96.4	403	38.6	1416	8.7	6.9	8.5	954	5.9	1639	1022.29	1025.9	0	1019.4	1654	0
19	17.13	25.1	1442	10.6	353	67.2	93.9	356	37.0	1454	10.2	7.7	9.1	1101	6.5	1742	1017.24	1019.6	0	1014.9	1513	0
20	17.16	24.3	1427	11.9	530	73.8	94.9	533	45.5	1441	11.9	8.6	9.3	1256	8.1	1602	1018.63	1019.8	2200	1017.5	1530	0
21	16.64	23.9	1400	11.8	116	77.3	93.7	130	45.8	1453	12.2	8.8	9.7	1906	7.7	1044	1017.31	1019.7	26	1014.6	2356	0
22	16.73	24.1	1330	10.4	550	79.4	97.7	558	45.9	1104	12.7	9.2	10.7	1340	7.6	551	1009.23	1014.8	9	1004.1	2357	0
23	14.32	17.4	1323	7.5	2335	89.7	96.4	638	77.6	1402	12.6	9.3	10.6	342	5.9	2335	1000.22	1004.3	0	997.2	1708	14.4
24	9.84	16.2	1102	4.9	2359	84.1	97.6	2318	53.0	1107	7.1	6.4	7.4	546	5.3	2359	995.76	1000.3	120	993.0	1735	3.1
25	10.23	14.9	1501	4.5	59	68.9	97.7	117	39.5	1505	4.2	5.2	5.9	426	4.1	1559	1003.97	1011.0	2354	994.7	13	0.1
26	9.93	13.4	1253	5.9	534	66.7	81.6	248	49.1	1253	3.9	5.0	5.7	1818	4.3	855	1012.40	1014.3	2235	1010.8	2	0
27	11.49	15.2	1400	7.5	2347	67.5	89.7	2353	56.5	1541	5.6	5.6	6.3	1234	5.0	404	1013.60	1015.0	2321	1012.5	520	0
28	12.16	17.2	1556	4.8	601	80.5	94.5	2358	57.7	1136	8.8	7.2	9.9	2353	4.7	552	1013.97	1014.9	23	1012.8	1452	0.2
29	15.07	18.5	1507	11.1	2352	82.7	97.5	421	47.7	1507	11.9	8.7	10.4	430	6.0	1604	1015.11	1016.6	1001	1013.6	405	2.7
30	12.99	17.5	1113	8.8	523	90.2	96.9	609	67.8	1130	11.4	8.4	9.9	1348	6.8	523	1006.56	1014.2	3	1000.0	2355	3.8

Total																						26.4
Mean	14.96	20.92		9.25		76.5	95.12		49.94		10.43	7.97	9.40		6.42		1017.06	1019.79		1014.60		
Max	20.12	28.56		15.38		90.2	98.80		77.60		15.90	11.08	12.86		9.70		1027.84	1029.68		1025.45		
Min	9.84	13.39		4.31		66.7	81.60		28.22		3.86	5.00	5.70		4.07		995.76	1000.25		992.97		

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

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

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

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

Appendix 1.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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