

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

JANUARY 2019

Temperature (°C)		Anomaly	Rank in the past 138 years						
Mean maximum	7.2	-0.6	68 th highest						
Mean minimum	1.1	-0.7	58 th lowest						
Daily mean	4.1	-0.7	59 th lowest						
Highest maximum	12.5	on 25 th	Lowest maximum	3.0	on 23 rd				
Highest minimum	8.5	on 13 th	Lowest minimum	-6.5	on 31 st				
Mean grass minimum	-2.3	-1.2	Lowest grass minimum	-10.0	on 31 st				
Mean earth @30 cm	6.3	+0.9	Earth @100 cm	8.3					
Frost duration (hrs)	85.0		Rain duration (hrs)	35.0					
Rainfall total (mm)	38.4	62 %	43 rd lowest						
Highest daily fall	11.3	on 31 st	Highest rate mm/hr	21	on 16 th				
Number of: Dry days (<0.2mm)	21	Wet days (>0.9mm)	6	days ≥5mm	3				
Sunshine total (hrs)	78.2	Daily mean	2.52	108 %	Sunniest day	8.4 on 28 th			
N° days with: Air frost	12	Ground frost	21	Snow falling	5	Snow lying	1		
Thunder	0	Hail ≥5mm	0	Small hail/ice	0	Fog @09	0	Nil sun	9
Pressure MSL : Mean @09 GMT, mbar	1019.4	+2.7	Highest	1044.7	on 2 nd	Lowest	983.7	on 31 st	
Relative humidity : Mean (%)	83.2	Lowest	44	on 28 th	Water vapour (g/kg), mean at 09 and 15 GMT	4.3, 4.5			
Overall mean wind speed (mph)	6.0	Windiest day	12.3	on 27 th	Max gust	38	on 27 th		
Wind direction (days)	N 4 NE 0 E 2 SE 1 S 2 SW 8 W 9 NW 5								
Least windy day (mph)	2.3	on 20 th	Calm; less than 0.5 mph (minutes)				557		

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

Notes:

Colder and Drier than Average, but Quite Sunny.

An anticyclone dominated the weather at the start of the month, and low pressure at the end, so that the whole of the month's rain fell after mid-month. **Temperature:** While the mean is 0.7° below the current climatological average, it is only 0.2° below the median for the past 138 years. Compared with recent Januaries, it is coldest since 2017 and 6th coldest this millennium. It is also the first month since last March to have a below average mean. The highest max is equal to the median while the lowest max is 2.0° above its median. The highest min is 0.1° above the median and the lowest min is 0.6° below its median. Earth temperatures at both 30 cm and 1 m depth are above average. There was one day more than average with air frost and 3 more with ground frost. The duration of air frost is 12 hours less than average. Anomalies for daily max were +ve on 12 days and -ve on 19, with extreme values of +5.2° on the 25th and -4.6° on the 23rd. Similarly, anomalies for daily min were +ve on 12 days and -ve on 19, with extreme values of +7.6° on the 13th and -8.3° on the 31st.

Rainfall: This January has been drier than average and driest since 2012, and in this millennium only 4 Januaries have been drier. In the longer-term, this month's total is 19 mm less than the 138 year median. The outstanding feature was the absence of rain before mid-month, with a 20 day dry spell ending on the 14th. Compared with normal the accumulation of daily falls was 28 mm in deficit on the 14th, and despite some rain on the 16th it increased to 34 mm by the 20th, thereafter rather more substantial rain reduced it to 23 mm by the 31st. Sleet fell on the 17th and 29th, and sleet and snow on the 22nd/23rd gave a 1cm covering at 0900 hours on the 23rd. Also, a substantial snowfall commenced in the evening of the 31st. The number of days with snow falling is most since 2015. There was no thunder or hail this month.

Sunshine: While the total this month is slightly above average, it is sunniest only since 2017. The month got off to a dull start with only one sunny day until the 8th. However, there were some good sunny days during the month, with over 80 % of the maximum on the 4th, 8th, 17th, 28th and 30th. Daily accumulation compared with normal was in deficit of 8 hours by the 7th but this reduced to nearly zero by the 9th, increasing to a deficit of 13 hours by the 16th, then slowly falling to zero by the 28th and becoming a surplus of 5 hours by the 31st. Overall there were 20 days with <3 hours and 6 with => 6 hours. **Wind:** The mean speed is 2.0 mph below average but is lowest only since 2017. The highest gust is 13 mph below average and is equal lowest with 2017 since 2010. Daily mean wind directions were from between W and N until the 17th, becoming E'ly by the 19th, veering S'ly on the 23rd and remaining between S and W until becoming E'ly on the 31st. Speeds were light or very light until the 6th then mainly moderate until the 22nd, but fresh on the 13th, and very light on the 20th. After the 22nd they were light or moderate but were fresh on the 26th and 27th. **Pressure:** The month's maximum pressure is highest for January since 1992, and 2nd highest since before 1976.

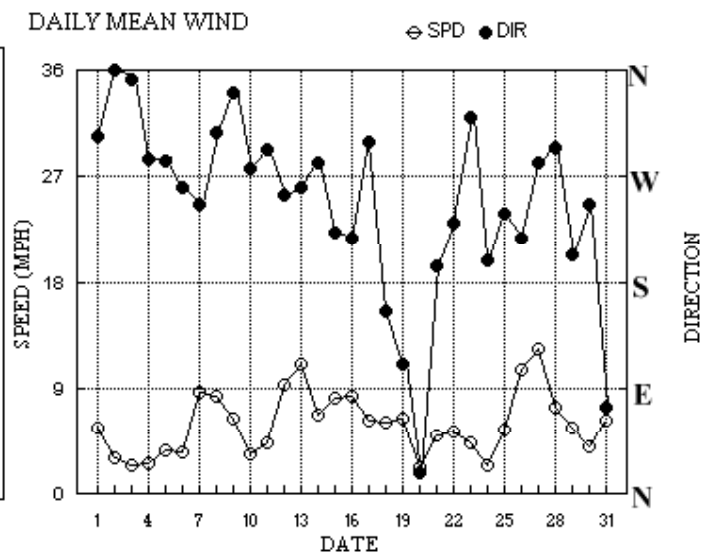
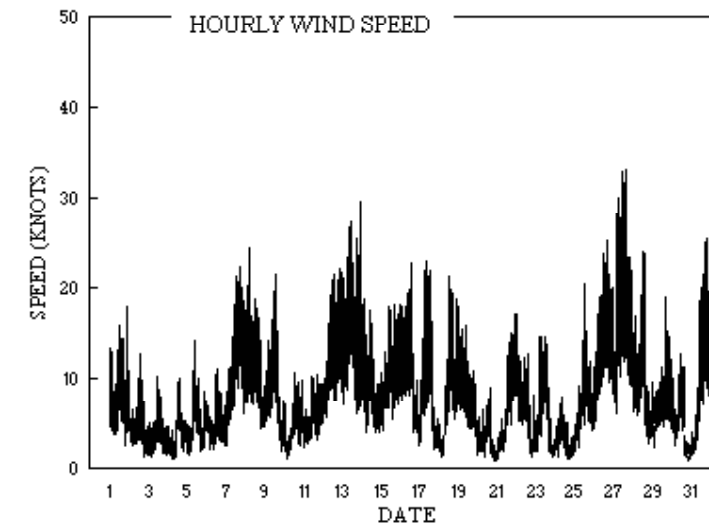
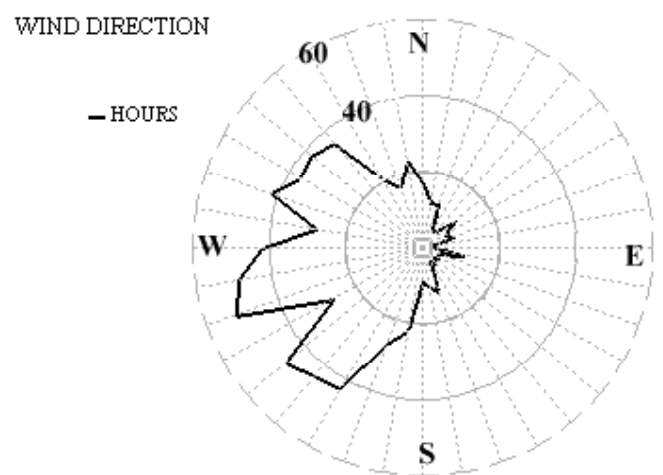
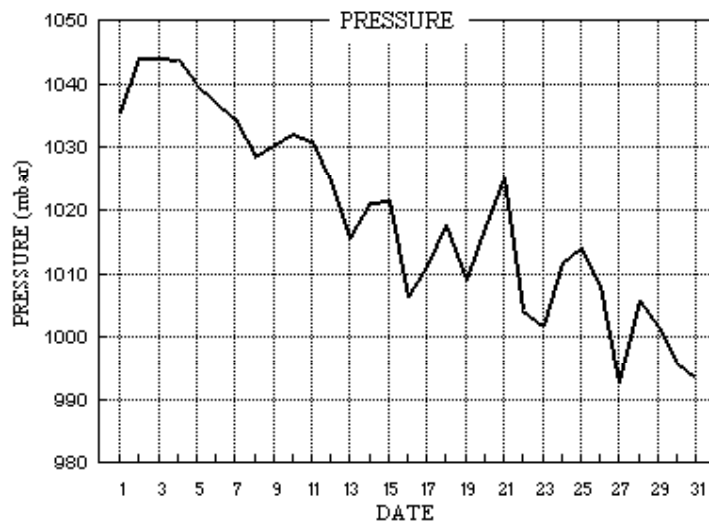
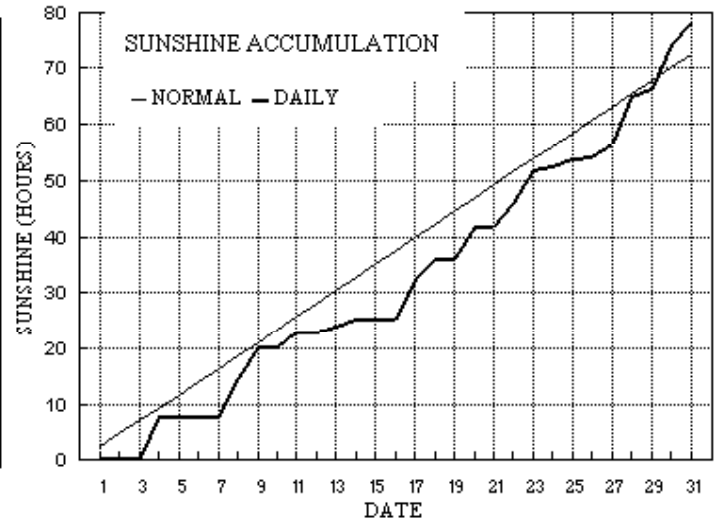
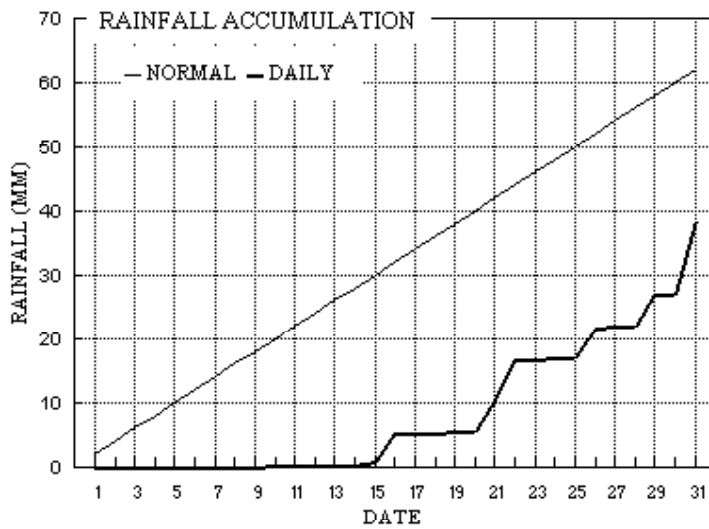
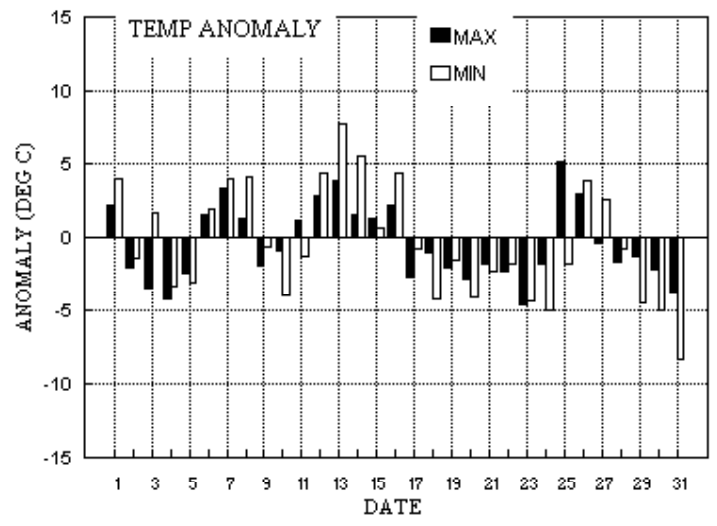
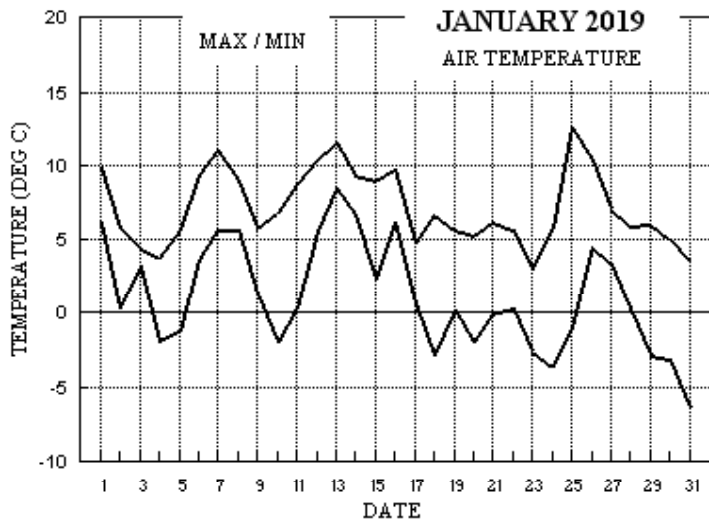
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
-0.7°	+0.3°	0%	85%	+0.4°	+1.0°	25%	94%	-1.1°	-2.5°	150%	141%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for January 2019



Month: JANUARY 2019

Date	Max		Rain	Grass	30cm		100cm		Sun	Frost	pp09	Af	Sf	Th	Ic	Vec mean			Max gust			High hr		Rain			
	C	C			mm	Min	C	C								hrs	hrs	mbar	Gf	Sl	Ha	Fg	ddd	ff	sp	ddd	gg
1	9.9	6.1	tr	-0.4	8.3	9.0	0.5	0.0	1035.6	0	1	0	0	0	0	0	304	3.4	4.9	31	18	2154	30	7	21	0.0	
2	5.8	0.3	tr	-5.2	7.9	9.1	0.0	0.0	1044.2	0	1	0	0	0	0	0	360	2.7	2.7	21	13	1357	10	5	12	0.0	
3	4.4	3.2	0.0	2.0	7.6	9.1	0.0	0.0	1044.0	0	0	0	0	0	0	0	352	1.9	2.1	35	10	1136	346	3	13	0.0	
4	3.7	-1.9	0.0	-5.8	7.3	9.1	7.3	2.8	1043.8	1	1	0	0	0	0	0	285	1.7	2.3	310	10	1414	312	5	13	0.0	
5	5.7	-1.2	0.0	-4.0	6.6	9.0	0.1	0.0	1040.1	1	1	0	0	0	0	0	283	2.7	3.3	314	14	1011	319	6	09	0.0	
6	9.3	3.6	0.0	3.5	6.7	8.9	0.1	0.0	1037.4	0	0	0	0	0	0	0	260	3.0	3.2	270	11	1424	272	5	14	0.0	
7	11.0	5.7	tr	3.1	7.1	8.8	0.0	0.0	1034.6	0	0	0	0	0	0	0	246	7.4	7.6	264	22	1743	255	12	17	0.0	
8	8.9	5.6	0.0	3.8	7.4	8.7	6.6	0.0	1028.7	0	0	0	0	0	0	0	307	6.8	7.2	274	25	0453	294	10	06	0.0	
9	5.8	1.3	0.0	-4.9	6.8	8.7	5.8	0.1	1030.4	0	1	0	0	0	0	0	340	5.4	5.7	13	22	1305	351	9	11	0.0	
10	6.8	-2.0	0.1	-6.2	6.1	8.7	0.0	6.3	1032.1	1	1	0	0	0	0	0	277	2.7	3.0	292	11	1443	295	5	14	0.0	
11	8.7	0.3	tr	0.8	6.1	8.6	2.7	0.0	1031.1	0	0	0	0	0	0	0	292	3.4	3.7	292	11	1837	306	5	12	0.0	
12	10.3	5.5	tr	0.1	6.5	8.5	0.0	0.0	1024.5	0	0	0	0	0	0	0	254	7.9	8.1	267	22	2101	267	11	21	0.1	
13	11.5	8.5	tr	7.5	6.9	8.4	0.9	0.0	1015.6	0	0	0	0	0	0	0	261	9.1	9.6	323	30	2319	256	14	11	0.0	
14	9.3	6.7	tr	3.2	7.1	8.4	1.4	0.0	1021.3	0	0	0	0	0	0	0	282	5.4	5.8	306	19	0332	288	9	01	0.0	
15	8.9	2.3	0.8	-4.4	6.8	8.4	0.0	0.0	1021.4	0	1	0	0	0	0	0	222	7.0	7.1	235	18	1850	231	9	12	2.0	
16	9.7	6.1	4.3	5.7	7.0	8.4	0.0	0.0	1006.4	0	0	0	0	0	0	0	218	6.8	7.3	285	23	1456	206	10	10	3.8	
17	4.8	0.7	0.0	-1.2	7.0	8.4	6.9	5.8	1011.1	0	1	1	0	0	0	0	299	4.6	5.5	346	23	0807	314	12	13	0.0	
18	6.6	-2.9	tr	-6.3	6.2	8.4	3.7	9.0	1017.5	1	1	0	0	0	0	0	155	5.1	5.4	184	21	1359	180	10	14	0.0	
19	5.7	0.1	0.2	-0.6	5.8	8.3	0.0	0.0	1008.9	0	1	0	0	0	0	0	111	5.1	5.6	163	18	0019	151	9	00	0.7	
20	5.2	-2.0	0.0	-7.4	6.0	8.2	5.9	5.7	1017.3	1	1	0	0	0	0	0	18	1.6	2.0	326	9	1538	351	4	15	0.0	
21	6.1	-0.1	4.9	-4.3	5.6	8.1	0.0	0.0	1025.0	1	1	0	0	0	0	0	193	4.3	4.4	175	17	2228	187	8	20	2.9	
22	5.6	0.3	6.3	-4.9	5.7	8.0	3.9	1.5	1004.1	0	1	1	0	0	0	0	231	4.1	4.6	230	17	0132	222	9	01	3.9	
23	3.0	-2.6	0.0	-6.5	5.4	7.9	6.1	12.1	1001.8	1	1	1	1	0	0	0	320	3.3	3.9	326	15	1219	332	8	11	0.0	
24	5.8	-3.7	0.4	-7.9	4.9	7.8	0.7	9.6	1011.6	1	1	0	0	0	0	0	198	1.9	2.1	202	8	0937	201	3	06	1.4	
25	12.5	-1.0	tr	-2.4	4.7	7.7	1.3	0.0	1014.2	1	1	0	0	0	0	0	238	4.3	4.8	264	21	1416	271	8	14	0.0	
26	10.3	4.5	4.7	-2.2	5.4	7.5	0.3	0.0	1008.1	0	1	0	0	0	0	0	218	9.2	9.2	213	25	1758	206	13	17	4.1	
27	7.0	3.4	0.2	2.2	6.0	7.5	2.6	0.0	992.6	0	0	0	0	0	0	0	282	9.6	10.7	305	33	1611	289	13	13	0.2	
28	5.9	0.3	0.0	-2.1	5.7	7.5	8.4	3.6	1005.7	0	1	0	0	0	0	0	294	5.5	6.4	330	24	1438	312	11	12	0.0	
29	6.0	-2.9	5.2	-7.8	4.9	7.5	1.4	4.5	1001.5	1	1	1	0	0	0	0	204	3.0	5.0	258	19	1810	259	6	18	4.8	
30	5.0	-3.2	0.0	-8.4	4.8	7.4	7.6	11.9	996.0	1	1	0	0	0	0	0	246	2.9	3.5	264	13	1257	267	6	15	0.0	
31	3.5	-6.5	11.3	-10.0	4.2	7.3	4.0	12.1	993.5	1	1	1	0	0	0	0	74	4.8	5.4	66	26	2000	62	12	19	11.1	
Total			38.4				78.2	85.0									260	2.9	5.2							35.0	
Mean	7.2	1.1		-2.3	6.3	8.3	2.52	2.7	1019.4																		
Anom	-0.6	-0.7	62%	-1.2	+0.9	+0.8	108%		+2.7																		
Daily mean	4.1																										
Anom		-0.7																									

Number of days with:

Air frost = 12 Ground frost = 21 Nil sun = 9
 Snow falling = 5 Snow lying = 1 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 JANUARY 2019

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks					
1	72	7	24	03	08	7.7	4.8	82	5.2	1035.6	2	014	02	2	2	7	5	5	/ /	87620	1				
2	75	8	35	03	07	3.9	-0.3	74	3.6	1044.2	3	013	02	2	2	8	5	6	/ /	81630	88635	2			
3	82	7	36	02	05	3.5	-1.8	68	3.2	1044.0	2	008	02	2	2	7	5	6	/ /	87635		3			
4	57	5	22	01	03	-1.1	-1.7	96	3.3	1043.8	3	009	10	1	1	0	0	9	0	1	85080		4	COTRA Hoar slt	
5	62	8	31	06	11	3.6	0.0	77	3.7	1040.1	3	003	02	2	2	8	5	5	/ /	88620		5			
6	61	8	24	02	04	5.6	3.6	87	4.8	1037.4	3	008	02	2	2	8	5	6	/ /	88633		6			
7	67	7	24	08	15	8.2	5.3	82	5.4	1034.6	6	010	02	2	2	7	5	4	/ /	83618	87622	7	/Ci72		
8	75	6	29	08	14	5.7	2.5	80	4.5	1028.7	2	011	02	1	1	1	0	9	3	1	81368	86075	8	COTRA	
9	80	1	35	07	15	2.2	-0.9	80	3.5	1030.4	3	008	01	1	1	1	5	6	0	1	81645		9	1Ci75 COTRA Hoar slt Gnd frzn	
10	50	7	21	02	03	0.3	-0.4	95	3.6	1032.1	1	006	10	2	2	1	5	7	7	/	81650	85358	87368	10	Ac vir Hoar slt
11	58	7	30	04	06	6.0	4.3	89	5.1	1031.1	3	011	05	2	2	7	5	5	/ /	81625	83635	87650	11	/Ci75	
12	75	7	25	09	16	8.5	6.1	85	5.8	1024.5	6	009	01	2	2	4	6	4	1	6	83712	83465	87272	12	1Sc45 1Ac68
13	72	7	25	11	25	9.5	6.4	81	5.9	1015.6	7	001	02	2	2	1	5	4	7	8	81615	87362	87270	13	
14	84	6	29	06	13	7.1	2.6	73	4.5	1021.3	3	022	01	1	1	6	5	5	0	1	86528			14	1Ci75
15	75	7	21	07	12	6.1	3.9	86	5.0	1021.4	7	001	02	2	2	7	5	5	/ /	81625	87632		15		
16	58	8	21	08	18	8.4	7.8	96	6.6	1006.4	6	016	50	6	5	8	5	3	/ /	84706	86708	88612	16		
17	80	3	33	06	23	0.7	-0.3	93	3.7	1011.1	3	045	26	8	1	1	8	4	7	0	81812	83358		17	1Sc35 jpS vv70k exS sleet 0805-30
18	65	7	14	05	09	0.1	-2.1	85	3.2	1017.5	7	007	02	2	2	8	0	9	7	2	83460	87070		18	1Ac62 COTRA Parhelion Hoar mod Gnd frzn
19	61	8	11	06	13	4.0	2.7	91	4.6	1008.9	5	001	21	6	2	8	5	3	/ /	87707	88615		19		
20	57	7	32	01	03	0.1	-0.5	96	3.6	1017.3	2	028	10	2	2	7	5	4	/ /	87617			20	Hoar slt	
21	40	8	20	02	04	2.0	0.8	92	4.0	1025.0	2	003	05	2	2	8	5	6	/ /	88630			21		
22	82	1	22	04	08	0.5	-0.5	93	3.7	1004.1	5	003	02	0	0	1	0	9	6	3	81365			22	1Ci70 Ice on grass
23	62	4	36	04	09	0.2	-0.4	96	3.7	1001.8	2	027	01	1	1	4	6	3	0	0	84709			23	1Sc25 snly 1cm 90%
24	40	7	24	02	08	-1.0	-1.3	98	3.5	1011.6	1	010	10	2	2	2	5	5	7	/	81620	84358	87368	24	2Sc35 Hoar mod Slnly<1cm10% Gnd frzn
25	20	8	21	05	08	5.8	5.5	98	5.6	1014.2	3	003	10	5	2	8	6	2	/ /	88703			25		
26	82	8	23	11	19	7.4	5.4	87	5.6	1008.1	7	021	20	5	2	7	5	3	/ /	82707	85615	87625	26	/Ci75 COTRA	
27	82	6	31	12	29	4.1	0.3	76	3.9	992.6	1	051	01	6	2	1	1	5	7	1	81822	85465		27	2Ac61 3Ci70 Cu fra
28	80	0	29	07	13	1.2	-1.7	81	3.4	1005.7	3	027	02	0	0	0	0	9	0	0				28	Hoar slt
29	65	7	17	05	08	1.9	-0.7	83	3.6	1001.5	7	030	02	2	2	1	5	7	3	8	81656	87270		29	1Ac62 COTRA Halo 22° part Hoar slt
30	80	2	20	03	06	-1.5	-2.1	96	3.3	996.0	0	003	03	0	0	1	0	9	6	3	81362			30	2Ci68 Hoar mod icy patches
31	25	6	05	03	06	-4.7	-5.0	98	2.7	993.5	7	017	40	1	1	1	6	0	0	1	81701	86075		31	COTRA jf N&NW Hoar thk

Mean vis = 19.8 km

Mean cloud = 6.1 76%

Mean wind speed = 5.3 kn

Mean gust = 11 kn

Mean TT = 3.4 °C

Mean TdTd = 1.4 °C

Mean RH = 86.9 %

Mean r = 4.3 g/kg

Mean PPP = 1019.4 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

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 JANUARY 2019

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	N	Ch	shs	N	Ch	shs	N	Ch	shs	Date	Remarks	
1	81	7	30	06	10	9.7	7.3	85	6.2	1035.5	3	001	21	6	2	7	8	5	/	/	81825	87635								1	Cu med
2	81	7	01	03	08	5.3	-0.1	68	3.6	1044.0	5	001	02	8	2	7	8	5	/	/	81828	87632								2	Cu hum
3	81	7	32	04	07	4.1	-2.5	62	3.1	1043.5	5	001	02	2	2	7	5	6	/	/	87633									3	
4	58	6	31	05	10	2.5	-2.2	71	3.1	1042.0	6	008	05	2	2	1	5	5	0	1	81625	86080								4	COTRA
5	62	8	28	05	10	4.6	1.1	78	4.0	1039.1	6	007	02	2	2	8	5	5	/	/	88620									5	
6	77	8	27	03	11	9.2	5.4	77	5.4	1036.8	6	002	02	2	2	8	5	6	/	/	88632									6	
7	72	8	24	10	21	10.1	8.5	90	6.8	1030.6	6	023	21	6	2	8	5	3	/	/	86708	88612								7	
8	65	1	33	07	18	8.0	1.8	65	4.2	1028.9	5	003	02	0	0	1	0	9	3	0	81363									8	
9	82	7	35	05	17	4.9	0.1	71	3.7	1030.2	5	003	03	2	2	7	8	5	/	1	82825	87630								9	/Ci80 Cu hum
10	61	8	30	06	11	4.3	0.8	78	3.9	1030.6	6	011	03	6	2	7	5	4	7	/	85712	87645								10	
11	65	7	30	05	09	7.7	4.5	80	5.1	1031.0	5	004	02	2	2	1	8	4	0	1	81815	87072								11	1Sc50 COTRA Cu hum Parhelia+U/a cont
12	84	8	28	09	22	10.0	5.4	73	5.5	1022.0	6	009	02	2	2	1	8	5	7	/	81825	87362	88466							12	1Sc40 2Ac59
13	62	8	25	11	21	10.4	7.6	83	6.5	1012.6	6	019	15	2	2	8	5	4	/	/	86615	88622								13	jpNW
14	82	7	28	08	15	8.7	2.3	64	4.4	1022.5	2	004	02	8	2	7	8	6	/	/	83833	87645								14	Cu hum
15	50	8	24	07	13	8.7	6.7	87	6.0	1018.2	6	017	51	5	2	8	5	3	/	/	83708	86612	88625							15	
16	15	8	27	12	23	7.8	5.6	86	5.7	1002.2	5	016	81	8	6	7	7	2	2	/	87705	88515								16	CF ovhd
17	86	1	31	09	19	4.4	-3.8	55	2.8	1015.4	1	016	03	0	0	1	1	6	0	4	81835									17	1Ci80 COTRA Cu hum
18	84	7	18	09	19	5.6	-1.5	60	3.4	1014.4	6	018	03	2	2	5	8	6	7	8	81830	85656	86270							18	4Ac60 Cu hum
19	28	8	09	04	09	5.1	4.7	97	5.3	1007.8	6	008	51	5	5	8	7	2	/	/	85703	88705								19	
20	59	1	36	04	08	4.8	-1.2	65	3.4	1019.6	3	006	05	0	0	1	1	5	3	1	81820									20	1Ac57 1Ci80 COTRA
21	75	8	21	07	13	4.5	-0.5	70	3.6	1020.4	7	030	02	2	2	8	5	5	/	/	83624	88628								21	
22	15	8	25	03	13	1.9	0.6	91	4.0	1000.5	6	023	73	7	6	8	7	3	/	/	88707									22	
23	63	1	32	06	14	2.4	-0.2	83	3.8	1005.2	3	015	03	0	0	1	1	4	0	4	81815									23	1Ci75 Cu hum Parhelion Slnly<1cm30%
24	57	7	18	01	05	4.2	2.7	90	4.6	1011.8	5	003	05	6	2	7	5	5	7	/	82620	87625	87358							24	slnly<1 10% Thaw
25	82	7	27	07	21	11.4	8.3	81	6.8	1014.0	7	001	25	8	2	7	8	5	/	/	81820	87656								25	Cu hum
26	80	7	21	12	23	9.8	6.9	82	6.2	998.5	7	059	50	5	2	7	5	4	/	/	82715	85625	85640							26	
27	68	7	29	13	31	6.0	-0.3	64	3.8	996.2	2	015	80	8	1	7	8	6	/	/	83830	87650								27	
28	84	1	33	10	24	5.1	-4.2	51	2.8	1008.9	1	011	02	0	0	1	4	6	0	0	81840									28	1Sc45 Cu hum
29	67	8	15	05	10	5.9	1.6	74	4.3	994.4	7	037	03	2	2	1	8	4	1	/	81818	88459								29	1Sc30 1Sc56 Cu hum
30	80	5	26	04	09	4.8	-1.2	65	3.5	995.8	5	000	15	1	1	5	8	5	0	0	85828									30	1Sc50 Cu con jpN vv50k exN
31	70	8	09	08	20	3.4	-0.2	77	3.8	987.8	7	036	03	2	2	2	1	5	1	/	82820	88460								31	Cu hum

Mean vis = 23.8 km

Mean cloud = 6.4 79%

Mean wind speed = 6.7 kn

Mean gust = 15 kn

Mean TT = 6.3 °C

Mean TdTd = 2.1 °C

Mean RH = 74.9 %

Mean r = 4.5 g/kg

Mean PPP = 1018.1 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Wokingham Sunshine Hourly analysis 2019	Hour	01-Jan	02-Jan	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan
	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	8	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.26	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	9	0.00	0.00	0.00	1.00	0.04	0.00	0.00	0.45	1.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00
	10	0.47	0.00	0.00	1.00	0.00	0.11	0.00	1.00	1.00	0.00	0.13	0.00	0.00	0.53	0.00	0.00
	11	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.59	0.00	0.00	0.00
	12	0.06	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.98	0.00	0.28	0.00	0.32	0.20	0.00	0.00
	13	0.01	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.55	0.00	0.90	0.00	0.00	0.00	0.00	0.00
	14	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.75	0.00	1.00	0.00	0.00	0.00	0.00	0.00
	15	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.89	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00
	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	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	0.00	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		0.53	0.00	0.00	7.28	0.04	0.11	0.00	6.60	5.81	0.00	2.74	0.00	0.91	1.38	0.00	0.00

Hour	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan	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	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.26	0.00	0.00	0.00	0.27	0.19	0.00	0.00	0.00	0.36	0.78	0.36	0.86	0.87	0.17
9	0.95	0.50	0.00	0.00	0.00	0.96	0.39	0.00	0.20	0.02	0.74	1.00	0.61	1.00	1.00	0.34
10	1.00	0.06	0.00	0.97	0.00	1.00	0.28	0.00	0.58	0.00	0.59	1.00	0.43	1.00	1.00	0.39
11	1.00	0.98	0.00	1.00	0.00	1.00	0.96	0.00	0.00	0.00	0.53	1.00	0.00	1.00	0.98	0.39
12	1.00	1.00	0.00	1.00	0.00	0.69	1.00	0.00	0.00	0.29	0.05	1.00	0.00	1.00	0.14	0.35
13	1.00	0.55	0.00	1.00	0.00	0.00	1.00	0.00	0.48	0.00	0.32	1.00	0.00	0.76	0.00	0.31
14	1.00	0.24	0.00	1.00	0.00	0.00	0.98	0.00	0.08	0.01	0.00	1.00	0.00	0.59	0.00	0.28
15	0.97	0.07	0.00	0.93	0.00	0.00	1.00	0.67	0.01	0.00	0.00	0.93	0.00	0.85	0.00	0.25
16	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.06	0.00	0.00	0.00	0.65	0.00	0.50	0.00	0.05
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	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	6.92	3.65	0.00	5.90	0.00	3.92	6.06	0.73	1.33	0.32	2.59	8.36	1.40	7.56	3.99	78.13

JANUARY 2019	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	7.86	9.9	1042	3.1	2342	80.7	89.2	2028	73.4	315	4.7	5.2	6.3	1421	3.6	2355	1036.32	1041.3	2358	1034.1	548	0
2	3.92	5.8	1315	0.3	303	75.4	92.8	319	64.7	1350	-0.1	3.7	3.9	1315	3.4	252	1043.54	1044.7	1023	1041.2	0	0
3	3.56	4.4	1054	2.7	1741	69.2	80.2	26	58.1	1103	-1.6	3.3	3.9	23	2.8	1341	1043.50	1044.2	1010	1042.7	2159	0
4	1.56	3.7	1327	-1.9	821	81.2	96.4	826	65.5	1313	-1.4	3.3	3.6	2358	3.1	1408	1042.55	1043.9	850	1041.1	2359	0
5	3.96	5.3	2234	2.1	0	79.8	85.2	0	73.6	1041	0.8	3.9	4.3	2355	3.6	1041	1039.46	1041.2	7	1037.7	2351	0
6	7.07	9.3	1442	5.0	26	81.7	88.8	2247	75.5	1321	4.1	5.0	5.5	1740	4.3	29	1037.27	1038.0	2243	1036.4	638	0
7	9.12	11.0	1713	7.7	118	84.3	89.7	1501	78.3	500	6.6	5.9	6.8	1547	5.2	513	1032.53	1037.6	2	1027.7	2151	0
8	6.38	8.9	1328	2.1	2359	74.0	90.3	2357	61.5	1312	2.0	4.3	5.4	0	3.9	2359	1028.92	1030.3	2259	1027.4	456	0
9	2.73	5.8	1251	-0.1	2053	82.0	94.1	112	67.8	1247	-0.1	3.7	3.9	2	3.4	2022	1030.42	1031.8	2132	1029.3	615	0
10	2.55	6.8	2355	-2.0	515	89.7	98.3	546	75.2	1357	1.0	4.0	5.5	2230	3.1	515	1031.10	1032.3	1037	1029.9	1841	0
11	6.86	8.4	1318	5.5	734	83.7	90.8	736	74.2	2019	4.3	5.0	5.4	1053	4.6	2021	1030.69	1031.8	1017	1029.5	2358	0
12	8.79	10.3	2354	7.1	235	79.5	87.9	1051	71.2	1619	5.4	5.5	6.3	1136	4.7	15	1023.47	1029.6	4	1019.0	2329	0
13	10.03	11.5	1209	8.7	2238	78.2	87.8	442	61.1	2317	6.4	6.0	6.5	1608	4.3	2350	1015.09	1019.5	1	1012.0	1738	0.1
14	7.23	9.3	1214	2.6	2257	69.2	87.2	2325	60.4	5	1.9	4.3	4.8	1211	3.8	2239	1021.15	1023.9	2025	1015.8	16	0
15	6.55	8.9	1335	2.3	451	85.2	92.7	516	76.4	1944	4.2	5.1	6.2	1414	3.9	240	1019.39	1023.7	0	1013.3	2354	0
16	7.01	9.7	1357	2.3	2329	93.2	98.8	2354	83.5	1457	6.0	5.9	7.0	1257	4.4	2329	1005.81	1013.4	1	1001.3	1440	4.1
17	2.18	4.8	1257	-1.8	2327	81.9	98.5	7	52.1	1315	-0.8	3.6	4.9	144	2.8	1315	1012.38	1019.9	2344	1002.7	51	1
18	1.88	6.6	1324	-2.9	703	79.3	97.9	752	56.8	1401	-1.5	3.4	3.9	1317	3.0	637	1015.90	1019.9	46	1011.5	2357	0
19	4.30	5.7	1329	2.6	2355	90.0	96.9	1721	74.4	7	2.8	4.7	5.3	1338	3.8	1	1009.44	1012.0	2359	1007.7	1438	0.2
20	1.36	5.2	1326	-2.0	552	87.4	98.3	615	64.4	1445	-0.6	3.6	4.1	10	3.2	552	1018.43	1024.9	2357	1011.9	0	0
21	3.10	5.8	2330	0.4	132	86.2	94.6	134	67.5	1359	1.0	4.0	5.3	2359	3.6	1414	1020.76	1025.2	931	1008.0	2359	0.7
22	2.17	6.1	118	-0.8	2358	92.3	100.0	2357	71.9	1223	1.0	4.1	5.5	118	3.6	2359	1001.99	1008.0	0	997.7	2325	10
23	-0.16	3.0	1336	-2.6	307	93.9	100.0	217	79.8	1341	-1.1	3.5	3.9	1228	3.1	2311	1003.45	1009.9	2338	997.7	35	0
24	0.51	4.3	1505	-3.7	544	96.4	99.3	111	88.8	1154	-0.0	3.8	4.7	1528	2.9	544	1012.00	1014.9	2352	1009.8	1	0
25	7.14	12.5	1346	2.3	30	91.8	98.8	137	77.5	1350	5.8	5.8	7.1	1240	4.4	30	1014.29	1015.0	134	1013.6	719	0.4
26	7.98	10.3	1311	4.5	24	88.3	97.9	31	76.7	1313	6.1	5.9	6.7	1750	5.0	17	1001.87	1014.1	5	985.6	2357	1.8
27	5.20	7.6	47	3.0	2348	74.7	94.2	404	57.8	2038	0.9	4.2	5.9	110	2.9	2038	993.41	1001.0	2357	984.4	259	3.1
28	1.90	5.9	1339	-2.9	2315	70.6	92.6	2317	44.5	1401	-3.1	3.0	3.4	934	2.5	1401	1006.77	1011.0	2023	1000.9	0	0
29	2.11	6.0	1421	-2.1	0	84.3	97.0	1937	68.5	1303	-0.3	3.8	4.8	1716	2.9	132	999.59	1009.7	0	993.2	1655	4.8
30	0.36	5.0	1231	-3.4	2335	87.0	98.5	2319	63.2	1502	-1.7	3.4	3.9	1227	2.9	2335	996.09	997.2	2137	995.2	0	0
31	-1.24	3.5	1315	-6.5	658	89.5	98.9	942	66.1	1640	-2.8	3.2	4.1	1142	2.3	658	990.72	996.9	0	983.7	2357	1.7
Total																						27.9
Mean	4.32	7.13		1.01		83.2	93.99		68.72		1.61	4.33	5.12		3.57		1018.65	1022.81		1014.26		
Max	10.03	12.46		8.67		96.4	100.00		88.80		6.61	5.95	7.10		5.19		1043.54	1044.75		1042.65		
Min	-1.24	2.95		-6.46		69.2	80.20		44.48		-3.09	3.04	3.45		2.30		990.72	996.92		983.74		

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

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

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

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

Appendix 1.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Month: Calendar month.

Season: Spring, March to May.

Summer, June to August

Autumn, September to November

Winter, December to February.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix 2.

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

VV : Visibility.

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

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

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

Code figure 89 = visibility above 70 km.

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

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

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

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

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

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

RH : Relative humidity at 1.2m, %.

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

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

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

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

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

1 = Increasing then steady or increasing more slowly

2 = Increasing steadily or unsteadily

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

4 = Steady, pressure the same as 3 hours ago

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

6 = Decreasing then steady or decreasing more slowly

7 = Decreasing steadily or unsteadily

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

ppp : 3 hour pressure tendency in tenths of a millibar

ww : Present weather code figures, 00 to 99.

Present weather decode:

00 = Cloud development not observed or not observable

01 = Clouds generally dissolving or becoming less developed

02 = State of sky on the whole unchanged

03 = Clouds generally increasing or becoming more developed

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hail includes large hail, small hail and snow pellets.

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

Code figures:

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

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

Cl : Type of low cloud

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

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

Cm : Type of medium cloud.

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

Ch : Type of high cloud

0 = No high cloud

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

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

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

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

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

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

7 = Veil of Cirrostratus covering the celestial dome.

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

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

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

8 Groups

N = Amount of cloud reported by C, okta.

C = Type of cloud

0 = Cirrus (Ci)

1 = Cirrocumulus (Cc)

2 = Cirrostratus (Cs)

3 = Altocumulus (Ac)

4 = Altostratus (As)

5 = Nimbostratus (Ns)

6 = Stratocumulus (Sc)

7 = Stratus (St)

8 = Cumulus (Cu)

9 = Cumulonimbus (Cb)

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

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

00 to 50 = Height in hundreds of feet

51 to 55 Not used

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

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