

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

AUGUST 2018

Temperature (°C)	Anomaly	Rank in the past 137 years
Mean maximum	24.1	+1.5 12 th highest
Mean minimum	12.7	+0.3 17 th highest
Daily mean	18.4	+0.9 12 th highest
Highest maximum	31.8	on 3 rd Lowest maximum 18.0 on 26 th
Highest minimum	17.4	on 4 th Lowest minimum 6.4 on 11 th
Mean grass minimum	9.1	-0.2 Lowest grass minimum 1.4 on 11 th
Mean earth @30 cm	19.7	+1.0 Earth @100 cm 19.2
Frost duration (hrs)	0.0	Rain duration (hrs) 20.6
Rainfall total (mm)	43.6	87% 52 nd lowest
Highest daily fall	11.3	on 26 th
Number of: Dry days (<0.2mm)	19	Wet days (>0.9mm) 9 days ≥5mm 3
Sunshine total (hrs) 196.1	Daily mean 6.33	101% Sunniest day 14.8 on 5 th
N° days with: Air frost 0	Ground frost 0	Snow falling 0 Snow lying 0
Thunder 1	Hail ≥5mm 0	Small hail/ice 0 Fog @09 0 Nil sun 2
Pressure MSL: Mean @09 GMT, mbar 1017.5	+1.2	Highest 1025.3 on 5 th Lowest 1002.8 on 26 th
Relative humidity : Mean (%) 71.1	Lowest 20	on 6 th Water vapour (g/kg), mean at 09 and 15 GMT 9.0, 8.3
Overall mean wind speed (mph) 5.9	Windiest day 10.3	on 24 th Max gust 33 on 24 th
Wind direction (days) N 2 NE 0 E 1 SE 0 S 5 SW 16 W 5 NW 2		
Least windy day (mph) 2.5	on 30 th	Calm; less than 0.5 mph (minutes) 718

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

Notes:

Very Warm with Rainfall Below Average and Sunshine Near Average

Temperature: After the record breaking warmth of July, the mean this month shows a trend toward normality. It is 4th highest August this millennium, but is 0.1° cooler than in 2016, and is 1.6° below the record set in 1997. The mean maximum, however, is second highest after 2003 this millennium. Conversely, the mean minimum is 8th highest this millennium and is lower than in 2016. The highest max is 3.9° above the median, but is 5.1° below the record set in 2003. The lowest max and the highest min are 1.1° above their medians, but the lowest min is only 0.1° above its median. The lowest grass min is lowest since 2014, the last August to have a ground frost. Earth temperatures at at both 30cm and 1 m depth continue well above average. The month began with a heat wave, anomalies for daily max were above +6° on the 2nd, 3rd and 5th to 7th, reaching +8.7° on the 3rd. After this, anomalies for daily max fluctuated within +/- 3° except in a warm spell from the 19th to 21st, anomaly +4.9° on 21st. For daily min anomalies generally ranged between +/-4°, but were -6.3° on the 11th and -4.9° on the 25th. **Rainfall:** After a dry June and July, this August saw some welcome rain, although the total failed to reach the average, and although wetter than in 2016 was drier than other Augusts back to 2014. Both the number of dry days and number of days with =>5 mm are average. Thunder occurred on the 10th, and the rainfall rate in that storm reached 117 mm/hr at 1238 GMT, the highest rate since 2nd January this year. A dry spell of 9 days ended on the 7th and another of 5 days ended on the 21st. The daily accumulation of rain compared with normal was 13 mm in deficit by the 8th, where it remained until the 14th, decreasing to 2 mm by the 16th, but increasing to 12 mm by the 23rd, decreasing to 2 mm again by the 26th but ending the month 7 mm in deficit. The estimated soil moisture deficit indicates some slight amelioration following the rainfall this month, but unirrigated shallow rooted plants were under severe stress for most of the month. **Sunshine:** This August has been slightly sunnier than average, but by only 1%. Nevertheless, it is 6th sunniest this millennium. The month got off to a very sunny start, with each of the first 6 days having over 80% of the maximum, clocking up 83 hours, a mean of 13.8 hours per day. After the 6th no other day reached 80 % of the maximum, the best was 71 % on the 30th, and 18 days had less than 50 %. Daily accumulations compared with normal showed a surplus of 48 hours by the 8th, falling back to 21 hours by the 18th and zero by the 29th. Overall there were 10 days with <3 hours, 14 with =>6 hours, 8 with =>9 hours and 6 with =>12 hours. **Wind:** The mean speed this August is exactly average, and the months highest gust is slightly below average and lowest since 2013. Daily mean directions were generally between S and W, but were NW'y on the 3rd and 29th, N'y on the 4th and 30th, and E'y on the 31st. Speeds were light until the 6th then mainly moderate to the 27th, but light on the 9th, 21st, 22nd and 25th, and temporarily increased fresh on the 24th, falling light again on the 28th.

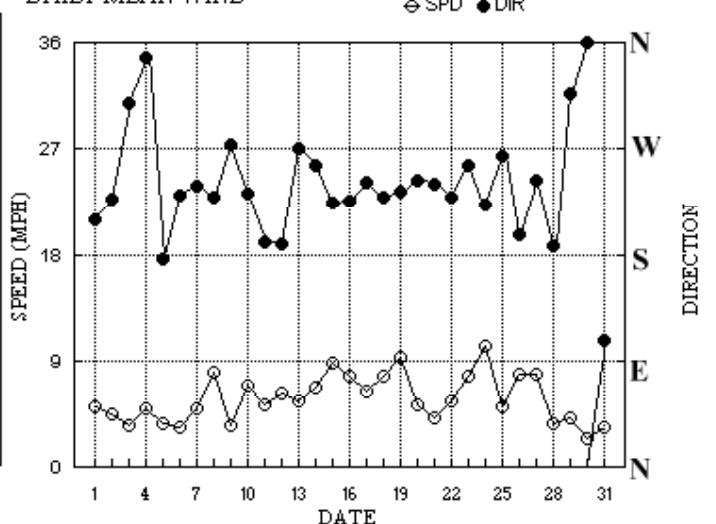
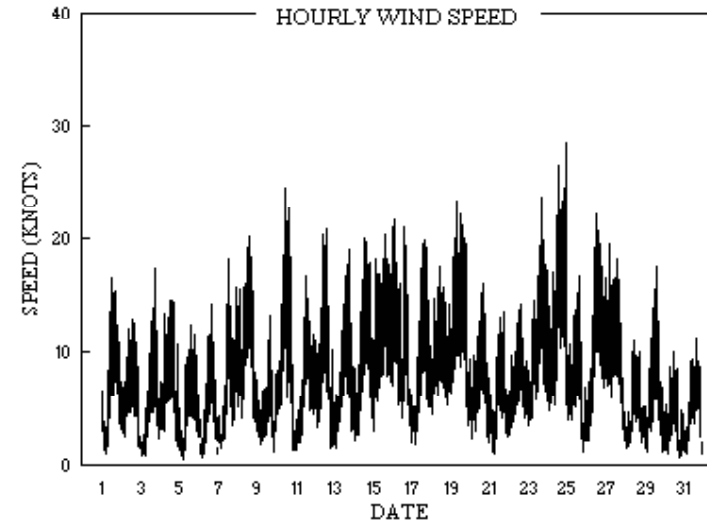
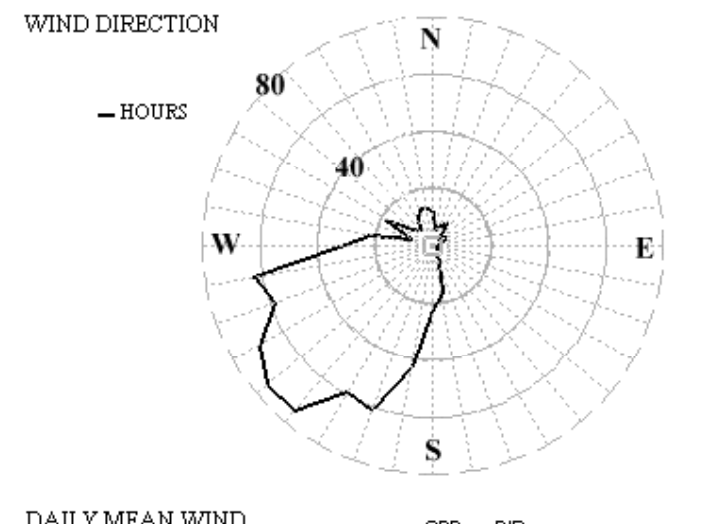
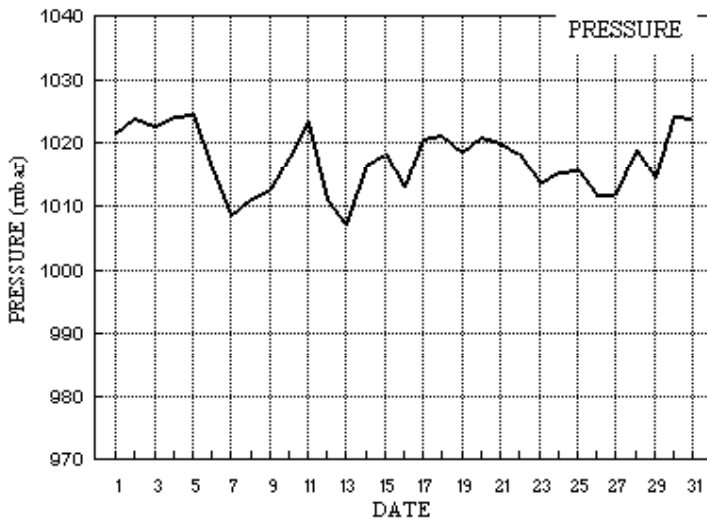
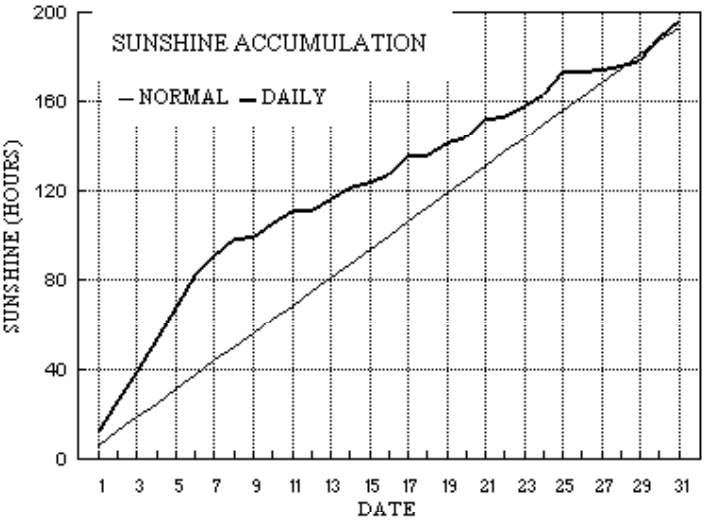
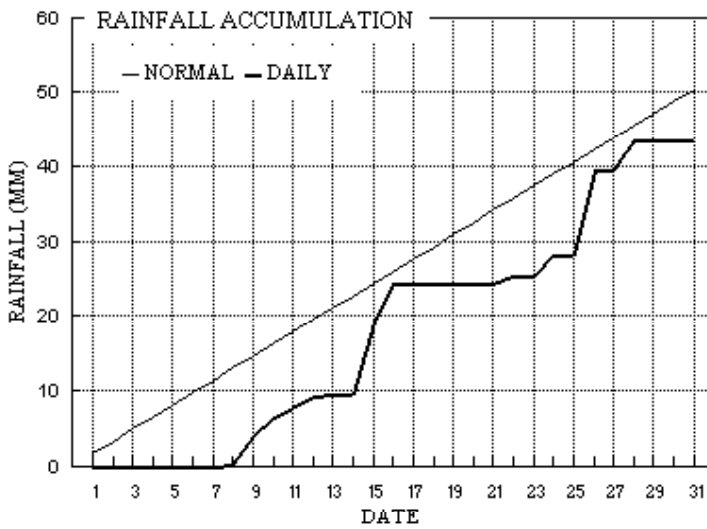
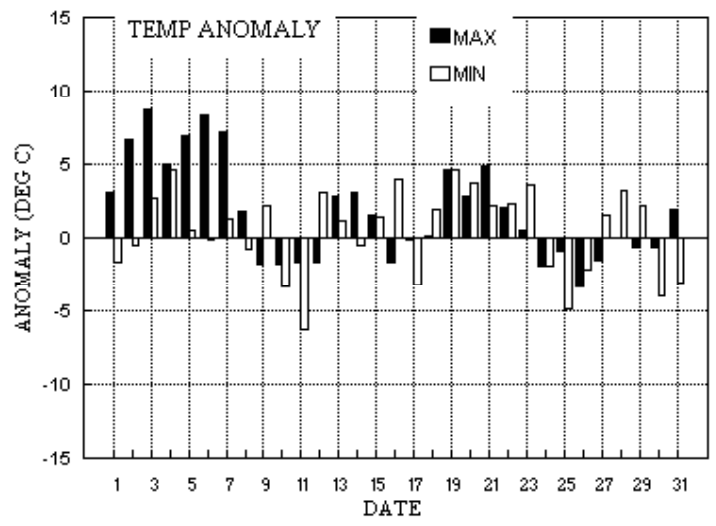
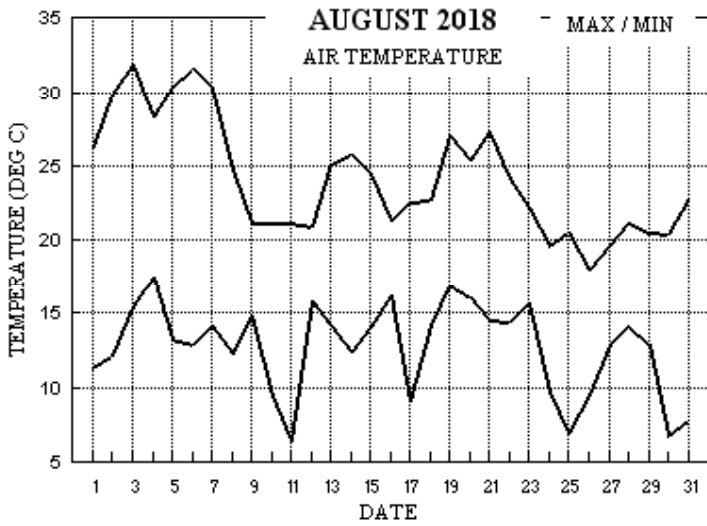
Table 1. Mean anomalies (max, min, rain, sun) for specified periods.

From the 1 st to the 10 th				From the 11 th to the 20 th				From the 21 st to the 31 st			
+4.4°	+0.5°	43%	168%	+1.0°	+1.0°	110%	63%	+0.1°	-0.1°	104%	75%

B J Burton FRMetS.

Hon. Met. Officer to Wokingham Town Council.

Wokingham climatological graphs for August 2018



Month: AUGUST 2018

Date	Max C	Min C	Rain mm	Grass Min	30cm C	100cm C	Sun hrs	Frost hrs	pp09 mbar	Af Gf	Sf Sl	Th Ha	Ic Fg	Vec ddd	mean ff sp	Max gust ddd gg HHhh	High hr ddd ff	Rain HH hrs
1	26.2	11.3	0.0	6.1	20.5	19.6	12.8	0.0	1021.7	0 0 0 0	0 0 0 0	0 0 0 0	210	4.3 4.4	253 17 1256	204 8	16 0.0	
2	29.8	12.1	0.0	8.0	20.6	19.6	13.9	0.0	1024.1	0 0 0 0	0 0 0 0	0 0 0 0	227	3.5 4.0	237 13 1302	239 6	09 0.0	
3	31.8	15.4	0.0	11.4	21.3	19.5	12.3	0.0	1022.8	0 0 0 0	0 0 0 0	0 0 0 0	309	2.3 3.2	313 17 1737	325 8	17 0.0	
4	28.3	17.4	0.0	12.8	21.8	19.5	14.8	0.0	1024.2	0 0 0 0	0 0 0 0	0 0 0 0	347	4.2 4.4	315 15 1316	344 6	13 0.0	
5	30.3	13.2	0.0	8.2	21.7	19.6	14.8	0.0	1024.7	0 0 0 0	0 0 0 0	0 0 0 0	176	2.6 3.2	221 13 1429	186 6	20 0.0	
6	31.6	12.9	0.0	7.7	21.9	19.6	14.4	0.0	1015.9	0 0 0 0	0 0 0 0	0 0 0 0	231	2.6 3.0	194 14 1552	229 6	17 0.0	
7	30.3	14.1	tr	9.1	22.0	19.7	7.8	0.0	1008.6	0 0 0 0	0 0 0 0	0 0 0 0	239	4.0 4.4	221 18 1300	229 8	12 0.1	
8	24.7	12.2	0.2	8.9	21.8	19.8	7.6	0.0	1011.3	0 0 0 0	0 0 0 0	0 0 0 0	229	6.7 7.0	227 20 1541	216 10	14 0.6	
9	21.2	14.8	3.8	13.0	21.5	19.8	1.1	0.0	1012.8	0 0 0 0	0 0 0 0	0 0 0 0	273	1.6 3.1	262 13 1619	284 6	16 2.5	
10	21.2	9.4	2.5	4.9	20.2	19.8	5.9	0.0	1017.8	0 0 0 0	1 0 0 0	0 0 0 0	232	5.0 6.0	244 25 1158	203 12	11 0.5	
11	21.2	6.4	1.2	1.4	19.3	19.7	6.2	0.0	1023.3	0 0 0 0	0 0 0 0	0 0 0 0	190	4.6 4.6	177 17 1217	194 8	12 1.5	
12	20.9	15.8	1.6	14.3	19.2	19.6	0.0	0.0	1010.9	0 0 0 0	0 0 0 0	0 0 0 0	189	5.3 5.4	186 21 1341	193 10	11 0.5	
13	25.1	14.1	0.3	10.5	19.2	19.5	4.8	0.0	1006.9	0 0 0 0	0 0 0 0	0 0 0 0	270	4.4 4.9	299 19 1812	296 9	18 0.1	
14	25.7	12.3	0.0	7.2	19.5	19.4	5.2	0.0	1016.5	0 0 0 0	0 0 0 0	0 0 0 0	255	5.7 5.9	270 20 1347	263 9	15 0.0	
15	24.4	14.0	9.6	9.9	19.7	19.3	2.1	0.0	1018.2	0 0 0 0	0 0 0 0	0 0 0 0	224	7.6 7.7	232 20 1453	222 11	15 2.8	
16	21.3	16.2	5.3	16.2	19.9	19.2	4.1	0.0	1012.9	0 0 0 0	0 0 0 0	0 0 0 0	226	6.4 6.7	204 22 0301	211 10	03 2.2	
17	22.5	9.0	tr	4.0	19.1	19.1	8.2	0.0	1020.6	0 0 0 0	0 0 0 0	0 0 0 0	242	5.2 5.6	271 20 1600	258 9	17 0.0	
18	22.7	14.2	tr	11.2	19.0	19.0	0.1	0.0	1021.4	0 0 0 0	0 0 0 0	0 0 0 0	229	6.5 6.7	252 18 1110	243 8	11 0.0	
19	27.0	17.0	tr	16.4	19.2	18.9	5.7	0.0	1018.6	0 0 0 0	0 0 0 0	0 0 0 0	233	7.6 8.1	218 23 0749	220 11	07 0.0	
20	25.4	16.0	tr	12.9	19.5	18.8	2.5	0.0	1021.0	0 0 0 0	0 0 0 0	0 0 0 0	243	4.5 4.6	263 16 1624	249 8	16 0.0	
21	27.2	14.5	tr	10.2	19.8	18.8	8.6	0.0	1020.1	0 0 0 0	0 0 0 0	0 0 0 0	240	3.4 3.6	260 14 1945	235 6	13 0.0	
22	24.1	14.4	0.8	10.0	20.2	18.9	0.4	0.0	1018.2	0 0 0 0	0 0 0 0	0 0 0 0	229	4.8 4.9	200 14 1415	239 7	15 0.8	
23	22.2	15.7	0.0	16.0	20.1	18.9	4.9	0.0	1013.5	0 0 0 0	0 0 0 0	0 0 0 0	255	6.0 6.8	262 24 1701	257 11	17 0.0	
24	19.6	9.7	3.0	5.5	19.6	18.9	5.7	0.0	1015.5	0 0 0 0	0 0 0 0	0 0 0 0	223	8.6 8.9	245 29 2258	208 13	13 1.2	
25	20.5	6.9	tr	2.6	18.5	18.9	9.7	0.0	1015.6	0 0 0 0	0 0 0 0	0 0 0 0	264	3.3 4.5	299 17 1506	345 8	16 0.0	
26	18.0	9.4	11.3	4.3	18.0	18.8	0.0	0.0	1011.9	0 0 0 0	0 0 0 0	0 0 0 0	197	6.0 6.8	181 22 1252	197 11	15 6.0	
27	19.6	12.9	0.0	10.3	17.7	18.7	0.9	0.0	1011.7	0 0 0 0	0 0 0 0	0 0 0 0	243	6.7 6.8	246 20 0459	253 9	14 0.0	
28	21.1	14.1	4.0	13.7	17.9	18.5	2.1	0.0	1018.9	0 0 0 0	0 0 0 0	0 0 0 0	188	3.1 3.3	204 11 1001	202 6	10 1.8	
29	20.5	12.9	0.0	9.5	18.1	18.4	2.5	0.0	1014.4	0 0 0 0	0 0 0 0	0 0 0 0	317	3.0 3.7	320 18 1442	298 7	13 0.0	
30	20.4	6.8	0.0	1.7	17.7	18.3	9.7	0.0	1024.2	0 0 0 0	0 0 0 0	0 0 0 0	360	1.6 2.2	24 10 1236	11 4	12 0.0	
31	22.8	7.8	0.0	2.9	17.5	18.2	7.3	0.0	1024.0	0 0 0 0	0 0 0 0	0 0 0 0	107	1.3 3.0	150 11 1649	182 5	17 0.0	
Total			43.6				196.1	0.0										20.6
Mean	24.1	12.7		9.1	19.7	19.2	6.33	0.0	1017.5					233	3.8 5.1			
Anom	+1.5	+0.3	87%	-0.2	+1.0	+1.6	101%			+1.2								
Daily mean		18.4																
Anom		+0.9																

Number of days with:

Air frost = 0 Ground frost = 0 Nil sun = 2
Snow falling = 0 Snow lying = 0 Thunder = 1
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 AUGUST 2018

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	ppp	ww	W1	W2	Nh	Cl	h	Cr	Ch	NCh	shs	NCh	shs	NCh	shs	Date	Remarks
1	84	5	15	05	08	21.1	10.3	50	7.7	1021.7	0	002	02	1	1	2	1	6	0	1	82835	84080					1	COTRA Cu hum
2	81	1	24	04	09	21.4	13.8	62	9.7	1024.1	1	006	02	1	1	1	8	5	0	1	81825						2	1Sc56 1Ci80 COTRA Cu hum
3	82	1	25	03	06	25.3	16.7	59	11.7	1022.8	7	008	03	0	0	1	1	6	0	1	81830						3	1Ci80 COTRA Cu hum
4	82	7	36	05	12	22.5	14.4	60	10.0	1024.2	1	010	02	2	2	1	5	6	0	1	81645	87078				4	COTRA U/a cont	
5	86	1	18	05	09	23.8	11.5	46	8.3	1024.7	8	003	03	0	0	1	1	6	0	2	81835						5	1Ci70 Cu hum Ci cas dist N
6	80	5	22	03	04	24.8	12.7	47	9.1	1015.9	8	012	02	1	1	0	0	9	0	1	85081						6	COTRA
7	80	5	24	03	06	24.3	11.9	46	8.7	1008.6	8	012	02	2	2	0	0	9	0	1	85075						7	COTRA U/a cont+parhelia EIHz lyr
8	86	6	24	09	16	18.5	10.3	59	7.8	1011.3	1	008	03	1	1	2	8	6	3	0	82830	85367					8	1Sc50 Cu med
9	80	7	34	03	07	15.4	11.6	78	8.4	1012.8	8	001	60	6	2	1	5	6	7	/	81640	87460					9	2Ac57 vv60k NW Cld edge WNW
10	75	7	23	10	19	17.9	8.5	54	6.8	1017.8	8	003	15	1	1	3	8	6	7	/	81830	83656	87361			10	Cu med jpNW	
11	88	6	21	03	08	18.2	7.6	50	6.4	1023.3	8	005	03	1	1	1	8	6	0	4	81835	86080					11	1Sc56 COTRA Cu hum
12	65	8	19	06	14	18.7	15.0	79	10.6	1010.9	8	014	61	6	2	1	5	4	7	/	81712	87357	88465			12	1Sc40	
13	65	8	28	06	11	17.6	15.8	89	11.2	1006.9	1	009	60	8	2	7	5	4	/	/	84710	86625	87656			13		
14	84	6	25	06	10	19.9	13.1	65	9.3	1016.5	1	005	03	2	2	6	8	5	3	0	81822	85645				14	1Ac65 Cu med	
15	80	7	23	08	17	20.3	14.2	68	10.0	1018.2	8	001	03	1	1	7	8	5	/	/	85820	87625				15	Cu hum	
16	35	8	24	04	16	16.2	15.4	95	10.8	1012.9	3	002	63	6	6	5	7	2	2	/	82705	84708	88520			16	Hvy ra in past hr	
17	82	6	27	06	12	17.9	10.0	60	7.6	1020.6	1	010	03	1	1	1	8	5	0	1	81825	86078				17	1Sc50 COTRA Cu hum	
18	72	7	24	08	16	18.7	13.8	73	9.7	1021.4	2	007	02	5	2	7	8	4	/	/	81815	87632				18	Cu hum	
19	68	8	23	08	19	18.5	15.2	81	10.6	1018.6	5	001	02	2	2	8	5	4	/	/	88612					19		
20	67	7	23	05	11	20.4	16.4	78	11.5	1021.0	2	003	03	2	2	7	8	4	/	/	83813	86635				20	Cu hum	
21	84	7	24	03	06	20.2	15.6	75	10.9	1020.1	4	000	03	2	2	7	8	4	/	/	84815	87625				21	Cu med	
22	80	8	23	06	10	17.8	14.9	83	10.4	1018.2	2	005	20	5	2	8	5	4	/	/	88612					22		
23	80	7	32	06	14	16.3	14.7	90	10.3	1013.5	3	007	21	6	5	7	7	3	3	/	87709					23	/Sc56 /Ac59	
24	84	4	26	08	15	16.3	7.8	57	6.8	1015.5	1	002	03	0	0	1	8	6	0	1	81830	83075				24	1Sc56 Cu hum U/a cont	
25	84	1	30	06	12	14.3	7.8	65	6.5	1015.6	1	009	03	0	0	1	8	5	0	0	81825					25	1Sc56 Cu hum	
26	75	8	16	06	13	15.4	9.7	69	7.5	1011.9	7	019	60	6	2	1	8	5	7	/	81820	87358	88462			26	1Sc50 Cu hum	
27	82	7	25	08	16	16.1	10.6	70	7.9	1011.7	2	019	03	2	2	7	8	5	/	/	82822	87635				27	Cu hum	
28	80	8	16	04	06	16.9	11.0	68	8.1	1018.9	2	002	03	2	2	8	8	5	/	/	81822	88635				28	Cu hum	
29	68	7	30	04	11	14.9	11.9	82	8.6	1014.4	3	005	01	6	2	1	5	3	7	8	81708	87272				29	1Sc50 1Ac64 2Ac68	
30	82	5	01	04	09	14.8	8.7	67	6.9	1024.2	1	004	02	2	2	1	0	9	3	1	81365	85075				30	1Cc71 COTRA Halo 22° part+parhelion	
31	70	5	04	03	05	16.4	12.6	78	8.9	1024.0	0	002	03	1	1	5	8	4	0	0	81815	85656				31	Cu med	

Mean vis = 34.3 km

Mean cloud = 5.9 74%

Mean wind speed = 5.4 kn

Mean gust = 11 kn

Mean TT = 18.7 °C

Mean TdTd = 12.4 °C

Mean RH = 67.8 %

Mean r = 9.0 g/kg

Mean PPP = 1017.5 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Weather observations. Emmbrook, Wokingham, Berkshire.

Observations at 1500 GMT for AUGUST 2018

Date	VV	N	dd	ff	gg	TT	TdTd	RH	r	PPP	a	pppww	W1W2	NhCl	hCrCl	NChshs	NChshs	NChshs	Date	Remarks												
1	84	5	21	06	15	25.6	8.6	34	6.9	1020.2	7	007	02	1	1	1	7	0	1	81850	85080	1	1Ci75	COTRA	Cu	hum						
2	84	2	20	05	11	29.1	15.6	44	10.9	1022.0	7	010	02	0	0	2	4	6	0	0	81845		2	2Sc48	Cu	hum						
3	81	3	33	05	14	31.2	14.4	36	10.1	1020.4	8	011	03	0	0	2	1	7	0	5	82850		3	2Cs70	COTRA	Cu	hum	Cs	edge	NW		
4	83	6	33	05	15	27.9	10.6	34	7.8	1023.0	6	007	02	2	2	1	1	7	0	1	81850	86080	4	COTRA	Cu	hum						
5	86	1	19	05	13	29.5	10.1	30	7.6	1020.5	8	023	02	0	0	1	1	7	8	0	81856		5	1Ac69	Cu	hum	Ac	cas				
6	84	1	23	05	11	31.2	7.0	22	6.2	1012.4	6	016	03	0	0	1	0	9	8	0	81365		6	Ac	flo	ElHz	lyr					
7	80	7	20	08	12	27.0	14.1	45	10.0	1006.4	5	006	25	8	1	1	1	7	8	2	81850	83365	85072	7	2As62	Cu	hum	Ac	cas			
8	84	5	21	11	20	23.8	9.0	39	7.1	1012.0	2	003	15	2	2	3	2	6	7	1	83848		8	2Ac57	1Ac65	1Ci75	COTRA	Cu	med	jpNW		
9	80	7	28	06	11	19.3	7.7	47	6.5	1013.0	6	005	15	6	2	1	8	6	7	8	81845	85465	87270	9	1Sc56	2Ac60	Cu	con	jpE	vv60k	ex	E
10	80	5	23	07	16	19.3	11.3	60	8.3	1016.3	1	003	15	9	8	3	2	6	6	3	83830		10	2Ac60	1Ci70	Cu	con	jpNE&SE	vv60k	ex	p	
11	84	8	19	08	14	18.5	12.3	67	8.8	1020.9	8	011	03	2	2	8	8	5	/	/	85825	83640	88650	11	Cu	hum						
12	82	8	19	07	14	18.8	14.1	74	10.0	1008.8	8	013	21	6	2	8	5	4	/	/	85618	88625		12								
13	82	4	26	08	17	24.7	12.3	46	8.9	1007.3	0	000	01	1	1	4	8	6	0	0	82838	83656		13	Absent	vv&slid	est					
14	82	7	25	10	17	24.1	13.0	50	9.3	1016.4	5	003	02	2	2	7	8	6	/	/	83840	85645		14	Cu	hum						
15	84	7	24	11	20	24.2	13.4	51	9.5	1016.6	7	013	02	2	2	7	8	6	/	/	83832	86638		15	Cu	hum						
16	84	6	24	09	15	20.3	9.8	51	7.5	1013.7	8	002	02	6	2	1	8	5	3	8	81825	86273		16	1Sc45	1Ac68	COTRA	Cu	med			
17	84	6	25	07	18	21.1	9.7	48	7.4	1019.7	8	007	02	2	2	3	1	6	4	1	83848	85078		17	1Ac63	COTRA	Cu	hum				
18	80	7	24	07	15	21.6	14.0	62	9.8	1020.5	8	011	01	5	2	7	5	6	/	/	87633			18								
19	84	2	26	10	21	26.5	15.2	50	10.7	1017.3	6	004	01	1	1	2	1	6	4	1	82838			19	1Ac62	1Ci81	COTRA	Cu	hum			
20	82	7	24	06	15	23.5	16.3	64	11.4	1019.7	8	003	02	8	2	7	8	5	/	/	83825	83640	87650	20	Cu	med						
21	86	1	24	04	11	26.3	12.0	41	8.6	1017.6	8	015	01	1	1	1	1	6	0	1	81845			21	1Ci80	COTRA	Cu	hum				
22	86	8	23	07	14	23.0	15.3	62	10.8	1016.2	7	014	02	2	2	8	5	5	/	/	86628	88632		22								
23	83	8	27	08	17	21.3	9.5	47	7.4	1012.0	8	007	03	1	1	2	8	6	5	7	82845	88275		23	1Sc50	1Ac62	COTRA	Cu	hum			
24	84	7	25	13	24	18.2	6.7	47	6.1	1012.5	7	018	03	2	2	3	8	6	7	8	82842	83360	87270	24	2Sc56	Cu	med.	Absent	vv&cld	est		
25	86	2	26	06	15	20.3	3.1	32	4.7	1015.0	7	006	02	1	1	2	2	7	6	0	82850			25	1Ac57	Cu	med	El	hz	lyr		
26	50	8	19	11	20	16.1	15.1	94	10.7	1004.0	6	049	63	6	6	7	7	3	2	/	83708	87712	88540	26								
27	86	7	25	10	18	19.1	10.4	57	7.8	1014.2	1	010	02	2	2	7	8	6	/	/	81835	85640		27	4Sc45	Cu	hum					
28	81	7	17	05	10	20.8	10.6	52	7.9	1015.9	8	020	01	2	2	3	5	6	0	1	83638	87078		28	COTRA	U/a	cont+parhelia	El	hz	lyr		
29	82	7	33	06	18	18.7	10.3	58	7.7	1016.9	3	016	02	2	2	7	8	6	/	/	81835	83640	87650	29	Cu	med						
30	82	7	04	03	08	19.8	5.5	39	5.5	1022.8	8	005	01	2	2	1	4	7	3	1	81650	87073		30	1Ac68							
31	80	4	10	04	09	21.9	8.8	43	6.9	1022.4	7	008	02	1	1	4	8	7	0	0	83850			31	2Sc56	Cu	med					

Mean vis = 43.7 km

Mean cloud = 5.5 69%

Mean wind speed = 7.2 kn

Mean gust = 15 kn

Mean TT = 23.0 °C

Mean TdTd = 11.2 °C

Mean RH = 49.2%

Mean r = 8.3 g/kg

Mean PPP = 1016.0 mbar

See appendix 2 below for full code details

VV = Visibility code (Code FM12-4377)

N = Total cloud amount, oktas

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

ff = 10 minute mean wind speed, knots

gg = Highest gust in past hour, knots

TT = Air temperature at 1.2 m, deg Celsius

TdTd = Dew point temperature at 1.2 m, deg Celsius

RH = Relative humidity at 1.2 m

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

PPP = Air pressure reduced to sea level, mbar

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

ppp = 3 hr pressure tendency, tenths of mbar

ww = Present weather code (Code FM12-4677)

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

Nh = Amount of low cloud present, oktas

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

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

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

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

8 groups. 8 = indicator for cloud detail

N = Amount of cloud, oktas

C = Type of cloud (FM12-0500)

hshs= Height of cloud (FM12-1677)

Remarks : COTRA = persistent condensation trails present

Wokingham Sunshine Hourly analysis 2018	Hour	01-Aug	02-Aug	03-Aug	04-Aug	05-Aug	06-Aug	07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug
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	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	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	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	0.00
4	0.00	0.29	0.24	0.21	0.12	0.27	0.00	0.01	0.00	0.13	0.15	0.00	0.00	0.07	0.00	0.00	0.00
5	0.37	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.00	0.69	1.00	0.00	0.03	0.16	0.00	0.00	0.00
6	0.63	0.42	1.00	0.97	1.00	1.00	1.00	0.80	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
7	1.00	1.00	1.00	0.99	1.00	1.00	1.00	0.33	0.00	0.97	1.00	0.00	0.00	0.00	0.00	0.27	0.00
8	0.94	1.00	1.00	1.00	1.00	1.00	1.00	0.05	0.00	0.70	1.00	0.00	0.00	0.54	0.59	0.00	0.00
9	0.49	1.00	0.99	1.00	1.00	1.00	1.00	0.69	0.00	0.01	1.00	0.00	0.30	0.71	0.31	0.00	0.00
10	0.96	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.00	0.00	0.99	0.00	0.44	0.36	0.00	0.00	0.00
11	0.87	1.00	0.99	0.97	1.00	1.00	0.94	0.37	0.00	0.02	0.05	0.00	0.32	0.39	0.00	0.00	0.00
12	1.00	0.96	1.00	1.00	1.00	1.00	0.49	0.43	0.00	0.18	0.00	0.00	0.27	0.45	0.08	0.00	0.00
13	1.00	0.99	1.00	1.00	1.00	1.00	0.01	0.45	0.08	0.21	0.00	0.00	0.28	0.44	0.10	0.16	0.00
14	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.61	0.07	0.15	0.00	0.00	1.00	0.18	0.08	0.71	0.00
15	1.00	0.85	0.83	0.96	1.00	1.00	0.41	0.75	0.01	0.19	0.00	0.00	0.84	0.33	0.08	0.95	0.00
16	1.00	0.88	0.50	1.00	1.00	1.00	0.00	0.84	0.32	0.75	0.00	0.00	0.71	0.02	0.00	0.27	0.00
17	1.00	0.82	0.00	1.00	1.00	1.00	0.00	0.41	0.45	0.25	0.00	0.00	0.11	0.39	0.48	0.67	0.00
18	1.00	1.00	0.18	1.00	1.00	0.99	0.00	0.11	0.00	0.30	0.00	0.00	0.48	0.98	0.11	1.00	0.00
19	0.55	0.70	0.59	0.67	0.66	0.17	0.00	0.00	0.17	0.38	0.00	0.00	0.00	0.14	0.00	0.35	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	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	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	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	0.00
Tot		12.81	13.91	12.32	14.77	14.78	14.42	7.80	7.57	1.10	5.94	6.19	0.00	4.76	5.16	2.10	4.11

Hour	17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	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	0.05	
5	0.89	0.00	0.00	0.15	0.25	0.00	0.00	0.72	0.70	0.00	0.00	0.00	0.00	0.15	0.34	0.40	
6	1.00	0.00	0.00	0.32	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	0.93	1.00	0.45	
7	1.00	0.00	0.00	0.92	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.50	
8	1.00	0.00	0.00	0.24	0.00	0.00	0.00	0.98	1.00	0.00	0.25	0.00	0.00	1.00	0.44	0.48	
9	0.93	0.00	0.00	0.18	0.02	0.00	0.02	0.76	0.73	0.00	0.00	0.00	0.00	1.00	0.13	0.43	
10	0.75	0.00	0.00	0.00	0.69	0.00	0.19	0.53	0.37	0.00	0.00	0.00	0.68	0.97	0.08	0.44	
11	0.24	0.00	0.01	0.06	0.75	0.00	0.89	0.52	0.24	0.00	0.00	0.00	0.15	0.95	0.20	0.38	
12	0.23	0.00	0.24	0.06	1.00	0.00	0.71	0.04	0.75	0.00	0.00	0.00	0.17	0.77	0.92	0.41	
13	0.29	0.00	0.68	0.00	1.00	0.33	0.78	0.12	0.64	0.00	0.00	0.07	0.37	0.42	1.00	0.43	
14	0.50	0.03	0.98	0.10	1.00	0.04	0.46	0.03	0.94	0.00	0.01	0.64	0.00	1.00	0.87	0.50	
15	0.44	0.09	0.91	0.01	1.00	0.00	0.28	0.00	0.77	0.00	0.20	0.75	0.00	0.77	0.66	0.49	
16	0.34	0.00	1.00	0.15	1.00	0.00	0.90	0.00	0.66	0.00	0.46	0.33	0.12	0.43	0.00	0.44	
17	0.43	0.00	1.00	0.32	1.00	0.00	0.55	0.00	0.25	0.00	0.00	0.26	1.00	0.21	0.41	0.42	
18	0.15	0.00	0.91	0.01	0.92	0.00	0.13	0.00	0.62	0.00	0.00	0.00	0.00	0.09	0.20	0.36	
19	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	
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		8.22	0.13	5.72	2.52	8.64	0.37	4.92	5.69	9.67	0.00	0.93	2.06	2.50	9.68	7.27	196.08

AUGUST 2018	T mn	Tx	Time	Tn	Time	RHmn	RH x	Time	RH n	Time	Tdmn	r mn	r x	Time	r n	Time	p mn	p x	Time	p n	Time	R tot
1	18.64	26.3	1503	11.2	423	64.1	96.8	438	31.2	1451	10.7	7.9	9.4	730	6.2	1340	1021.06	1022.4	2343	1019.9	0	0
2	21.43	30.0	1551	12.0	359	66.3	94.0	411	39.5	1502	14.1	9.9	11.8	1202	8.0	221	1022.82	1024.2	830	1021.5	1625	0
3	23.33	31.9	1418	15.3	452	65.9	96.5	535	31.8	1418	15.6	10.9	12.8	745	8.9	1428	1022.04	1023.7	607	1019.7	1646	0
4	22.12	28.5	1513	16.5	2343	60.8	91.9	437	30.2	1538	13.2	9.4	11.6	4	7.0	1538	1023.34	1025.0	2359	1022.0	251	0
5	22.20	30.4	1610	13.1	441	59.9	96.8	541	27.8	1607	12.5	8.9	11.4	712	7.2	1501	1022.14	1025.3	630	1018.3	1900	0
6	22.71	31.7	1456	12.7	457	54.8	94.8	536	19.6	1511	11.1	8.3	10.6	800	5.5	1642	1014.45	1019.4	12	1011.0	1849	0
7	21.66	30.4	1237	14.0	455	62.0	94.6	459	35.6	1237	13.4	9.6	11.1	1742	7.6	2148	1007.95	1011.7	0	1004.8	1755	0
8	18.31	24.9	1421	12.1	505	59.9	84.2	505	31.4	1246	9.8	7.6	8.9	15	5.7	1249	1011.30	1014.2	2334	1007.2	56	0
9	15.43	21.3	1655	9.7	2345	78.1	97.2	2132	34.4	1655	11.3	8.3	9.6	1821	5.4	1655	1013.99	1017.9	2359	1012.6	916	4.5
10	14.60	21.3	1625	9.1	2359	74.1	95.2	1	40.5	1641	9.7	7.5	11.1	1305	5.9	1731	1018.15	1022.3	2359	1015.1	1149	2.7
11	14.72	21.3	1050	6.3	440	78.3	97.2	506	36.3	1128	10.3	7.9	10.8	1721	5.4	1128	1021.28	1023.9	744	1016.0	2357	1.2
12	17.34	21.0	1020	14.3	2347	83.0	95.6	2358	55.5	1022	14.3	10.1	11.2	905	8.5	1022	1010.19	1016.1	0	1006.0	2359	1.1
13	18.89	25.2	1615	13.9	256	76.1	97.2	319	41.0	1629	14.0	10.0	11.9	914	8.0	1633	1007.79	1013.2	2358	1005.1	343	1.3
14	18.97	25.9	1345	12.2	418	67.8	93.9	430	41.0	1255	12.4	8.9	10.4	831	7.4	1054	1016.39	1018.8	2324	1013.0	7	0
15	19.70	24.5	1455	13.9	109	69.0	90.9	112	49.2	1507	13.7	9.7	10.9	1213	8.7	57	1017.19	1018.7	17	1014.8	2353	0
16	16.98	21.4	1510	11.5	2355	77.3	95.5	854	41.6	1534	12.6	9.2	11.7	806	6.3	1534	1014.21	1017.6	2346	1012.3	759	15.8
17	16.13	22.6	1555	8.9	431	69.6	97.8	613	39.2	1207	9.9	7.5	9.1	803	6.1	1149	1019.88	1021.6	2317	1017.3	3	0
18	18.34	22.8	1522	14.1	34	74.3	87.6	557	55.4	1522	13.6	9.6	10.6	2055	8.2	26	1020.91	1021.8	1204	1020.1	354	0
19	20.31	27.1	1423	16.9	448	73.4	86.1	2231	48.7	1425	15.2	10.6	12.7	1251	9.7	425	1018.71	1020.8	0	1017.0	1442	0
20	20.62	25.5	1418	15.9	503	74.8	93.8	536	51.1	1619	15.8	11.1	12.9	1240	10.1	1619	1020.07	1021.2	838	1018.8	1727	0
21	20.84	27.3	1559	14.4	515	68.8	96.1	530	37.2	1416	14.3	10.0	11.6	933	8.0	1416	1018.91	1020.4	745	1016.6	1719	0
22	18.93	24.3	1326	14.3	303	78.1	94.4	412	56.9	1327	14.9	10.4	11.8	1325	9.3	303	1017.07	1018.7	24	1015.3	2358	0
23	17.94	22.3	1356	13.2	2355	71.9	93.7	750	42.1	1253	12.4	9.1	11.9	730	6.1	2242	1013.13	1015.5	2	1011.2	1557	0.8
24	13.50	19.7	1133	8.4	2359	69.5	93.7	2144	33.5	1154	7.5	6.4	7.8	1836	4.7	1154	1013.91	1015.8	830	1011.7	1805	3.3
25	12.68	20.6	1455	6.8	354	71.5	94.7	349	30.3	1503	6.9	6.2	7.7	817	4.4	1504	1015.30	1016.9	2121	1013.3	1	0.2
26	14.18	18.2	1747	9.3	359	87.5	94.3	1423	66.2	852	12.1	9.0	12.1	1928	6.6	35	1009.05	1016.6	0	1002.8	1812	11.7
27	16.11	19.8	1607	12.9	428	72.4	91.4	438	54.7	1611	11.0	8.2	9.9	8	7.2	638	1012.70	1018.8	2357	1005.7	6	0
28	16.55	21.2	1453	14.0	508	72.5	89.9	2150	48.1	1456	11.3	8.3	9.1	2152	7.0	1116	1017.00	1018.9	859	1014.0	2358	0.1
29	15.27	20.6	1343	9.5	2358	78.6	95.1	536	48.8	1345	11.3	8.3	10.2	1117	6.4	2316	1016.52	1022.8	2357	1013.0	112	4.4
30	13.60	20.5	1504	6.7	518	69.9	97.0	619	32.8	1517	7.5	6.4	8.0	1201	4.6	1453	1023.34	1024.4	815	1022.3	1749	0
31	15.01	22.9	1432	7.7	526	75.3	97.6	636	38.5	1457	10.1	7.6	10.1	841	6.2	526	1023.45	1024.9	2339	1022.1	1539	0
Total																						47.1
Mean	17.97	24.24		11.95		71.1	94.05		40.97		12.02	8.80	10.67		6.97		1016.91	1019.79		1014.21		
Max	23.33	31.94		16.87		87.5	97.80		66.15		15.84	11.08	12.94		10.05		1023.45	1025.33		1022.34		
Min	12.68	18.16		6.31		54.8	84.20		19.58		6.89	6.17	7.74		4.41		1007.79	1011.73		1002.84		

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

WOKINGHAM METEOROLOGICAL DATA

Wokingham Climatological Station, Emmbrook, Berkshire.

Lat 51°25'N 00°51'W NGR (SU)798701 Altitude 46m ASL

Seasonal Means and Totals

SUMMER 2018

Temperature (°C)					Rank in the past 137 years				
Mean maximum	25.2	(+3.2)			* Highest *				
Mean minimum	12.7	(+0.9)			4 th highest				
Daily mean	19.0	(+2.1)			* Highest *				
Rainfall total (mm)	57.1	(39%)			4 th lowest				
Sunshine total (hours)	744.0	(127%)							
N° of:	Dry days	74 (+16)	Wet days	12 (-12)					
Days with:	Air frost	0 (0)	Ground frost	0 (-1)	Snow falling	0 (0)	Snow lying	0 (0)	
Thunder	2 (-5)	Hail ≥5mm	0 (0)	Small hail/ice	0 (0)	Fog @09 GMT	0 (0)	Nil sun	3 (0)
Air pressure MSL : Mean @09 GMT (mbar)	1018.2	(+1.6)							

Departure from 1981 to 2010 average shown in brackets.

Notes: **Record Heat, Very Dry, Very Sunny.**

Temperature: This has been a remarkable summer, often hot, especially by day. Both the mean maximum and daily mean are new record highs, both pushing 1976 off the top spot, when the daily mean was 0.4° lower than this summer's. Each of the summer months this year had a mean maximum above average, in August this was +1.5°, but in June it was +3.0°, and in July an amazing +5.1°. June was the only month when the temperature failed to reach 30°, though it did reach 29.6° on the 26th. In July, 30° was reached on 10 days, and a further 4 in August. The highest max of 34.1° was on the 26th July, 3.8° above the median, but 2.8° below the record set in 2003. The lowest max was 18.0° on the 26th August, 3.5° above the median and a new record high, exceeding the previous highest in 2003 by 0.4°. The highest min was 17.5° on the 27th July, 0.4° above the median, while the lowest min of 6.4° was on the 11th August, 2.1° above the median. The mean grass min was 9.1°, 0.2° above average, and the lowest grass min of 1.4° was on the 11th August. Mean earth temperature of 19.8° at 30 cm and 18.0° at 1 m are both new record highs for the past 38 years. Another indication of the extreme nature of this summer is the number of degree days above and below the long-term average, for the daily maximum this summer these are 416 and 17, compared with the average of 181 and 92 for the past 42 years. In 1976, these were 409 and 37. **Rainfall:** This has been a very dry summer, driest since 1995 and 4th lowest rainfall in 137 years. August was the wettest month, accounting for 76 % of the season's total, and June was exceptionally dry with only 0.6 mm. In the 56 days ending on the 25th July only 1.0 mm was recorded. The wettest day was the 26th August, 11.3 mm. The total rainfall duration was 31.2 hours, lowest since before 1993. The highest rainfall rate was 117 mm/hr on the 10th August. Thunder was heard on the 27th July and 10th August. The estimated soil moisture deficit showed that unirrigated shallow rooted plants suffered severe stress from mid June to near the end of August. An index of stress for shallow rooted plants was 1077 this summer, (42 year median 621), highest since 1995, but 1976, 1989 and 1990 were also higher than this summer's. **Sunshine:** This has been a very sunny summer, with a daily mean sunshine of 8.09 hours, highest since 1989. July was the sunniest month, mean 9.55 hours, and August the least sunny, mean 6.33 hours per day. The sunniest day was the 24th June, 15.8 hours, but 15.7 hours was recorded on the 26th and 29th June and the 2nd July. There were some notably sunny spells, the 21st June to the 10th July had a total of 263.8 hours, a mean of 13.19 hours over this 20 day period. Also the 7 day period 31st July to the 6th August had a mean of 13.53 hours per day. There were a few dull days throughout the season, though these were generally single days, but the 4 day period 25th to 29th August was fairly poor with a daily mean of 1.38 hours. Overall there were 17 days with <3 hours, 54 with =>6 hours, 39 with =>9 hours, 28 with =>12 hours and 9 with =>15 hours. **Wind:** The mean wind speed this summer was 5.8 mph, 0.4 mph below average. July 28th was the windiest day, mean 12.1 mph, and the season's highest gust of 37 mph was also on that day. The 30th August was the least windy day, mean 2.5 mph, and there were 1686 calm minutes. Daily mean direction/number of days: N,7 NE,20 E,1 SE,1 S,12 SW,36 W,9 NW,6. The number with NE is equal highest with 2013 since before 1988. Compared with average, winds from NE were 14.4% more frequent and for SW 3.9% more frequent, while W, NW and N combined were 10.4% less frequent, and E and SE combined 7.4% less frequent. **Humidity:** The overall mean relative humidity was 67.1% and the lowest was 20% on the 2nd July and 6th August. The mean water vapour content per kg of air was 8.7 g at 0900 GMT and 8.2 g at 1500 GMT. **Pressure:** The highest recorded air pressure was 1031.7 mbar on the 22nd June and the lowest was 1002.0 mbar on the 28th July, a span of 29.7 mbar, 5.7 mbar below average. **June:** Exceptionally dry, very warm, sunny. 3rd warmest June in 137 years. Mean maximum highest since 1976. The lowest max highest in 106 years. Only 0.6 mm of rain, lowest for June since 1925. Most dry days since 1925. 31% more sunshine than average. **July:** Record breaking warmth with many hot days. Very dry and very sunny. The hottest July on record. The mean max higher than for any month since before 1882. The highest max is 2nd highest in 115 years. The lowest max is 3rd highest in 106 years. The lowest min is a new record high. No rain fell before the 20th after a 33 day dry spell. First meaningful rain since the end of May fell on the last 3 days of the month. Driest July since 1994. Sunshine 49% above average. **August:** Very warm with rainfall below average and sunshine near average. Mean maximum 2nd highest this millennium.

Month	Mean Max	Anom	Mean Min	Anom	Rain mm	Anom	Sun hrs	Anom	Mean Wind mph	Max gust	Mean pressure	Anom
June	23.5°	+3.0°	11.4°	+0.9°	0.6	1%	251.8	131%	6.1	30	1020.1	+3.0
July	28.0°	+5.1°	14.0°	+1.4°	12.9	29%	296.1	149%	5.5	37	1017.0	+0.4
August	24.1°	+1.5°	12.7°	+0.3°	43.6	87%	196.1	101%	5.9	33	1017.5	+1.2

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.